```
Program PWSCF v.5.1 starts
     This program is part of the open-source Quantum ESPRESSO suite
     for quantum simulation of materials; please cite
         "P. Giannozzi et al., J. Phys.:Condens. Matter 21 395502 (2009);
          URL http://www.quantum-espresso.org",
     in publications or presentations arising from this work. More details at
     http://www.quantum-espresso.org/quote
     Parallel version (MPI), running on
                                            8 processors
     R & G space division: proc/nbgrp/npool/nimage =
                                                            8
     Waiting for input...
     Reading input from standard input
Warning: card &IONS ignored
Warning: card ION_DYNAMICS = 'BFGS' ignored
Warning: card / ignored
     Current dimensions of program PWSCF are:
     Max number of different atomic species (ntypx) = 10
     Max number of k-points (npk) = 40000
     Max angular momentum in pseudopotentials (lmaxx) = 3
     Atomic positions and unit cell read from directory:
     ./tmp-hetero/A.save/
               file C.pbe-rrkjus.UPF: wavefunction(s) 2S 2P renormalized
     Subspace diagonalization in iterative solution of the eigenvalue problem:
     scalapack distributed-memory algorithm (size of sub-group: 2* 2 procs)
     Parallelization info
     sticks: dense smooth
                                PW
                                        G-vecs:
                                                                       PW
                                                  dense
                                                           smooth
                                                  256124
                                                                     9013
     Min
              1118
                        446
                                119
                                                            64802
     Max
               1119
                         447
                                120
                                                  256141
                                                            64831
                                                                     9030
               8947
                                                 2049049
                        3571
                                955
                                                           518527
     Sum
                                                                    72155
     Generating pointlists ...
     new r_m : 0.0595 (alat units) 1.0721 (a.u.) for type new r_m : 0.0595 (alat units) 1.0713 (a.u.) for type
                                                                1
                                                                2
     new r_m : 0.0595 (alat units) 1.0713 (a.u.) for type
     bravais-lattice index =
     lattice parameter (alat) =
                                      18.0060 a.u.
                       = 15167.1375 (a.u.)^3
     unit-cell volume
     number of atoms/cell
                              =
                                           63
     number of atomic types =
                                            3
     number of electrons =
                                       251.00
     number of Kohn-Sham states=
                                          151
     kinetic-energy cutoff =
                                      40.0000 Ry
     charge density cutoff
Exchange-correlation
                                     400.0000 Ry
                               = PBE (1 4 3 4 0)
     celldm(1) = 18.006000 celldm(2) =
                                         0.000000 celldm(3)=
                                                                3.000000
     celldm(4) = 0.000000 celldm(5) =
                                         0.000000 celldm(6)=
                                                                0.000000
     crystal axes: (cart. coord. in units of alat)
               a(1) = (1.000000 0.000000
                                                0.000000)
               a(2) = (-0.500000 \quad 0.866025
                                                0.000000)
```

```
a(3) = (
                      0.000000
                                  0.000000
                                              3.000000)
reciprocal axes: (cart. coord. in units 2 pi/alat)
          b(1) = (1.000000 0.577350 - 0.000000)
          b(2) = (0.000000 1.154701 0.000000)
          b(3) = (0.000000 - 0.000000 0.333333)
PseudoPot. # 1 for C read from file:
./pseudo/C.pbe-rrkjus.UPF
MD5 check sum: 00fb224312de0c5b6853bd333518df6f
Pseudo is Ultrasoft, Zval = 4.0
Generated by new atomic code, or converted to UPF format
Using radial grid of 627 points, 4 beta functions with:
           l(1) =
                   0
           l(2) =
                     0
           l(3) =
                     1
           l(4) =
                     1
Q(r) pseudized with 0 coefficients
PseudoPot. # 2 for B read from file:
./pseudo/B.pbe-n-rrkjus psl.0.1.UPF
MD5 check sum: 82e190d381d3269bb317afd43cf1db29
Pseudo is Ultrasoft + core correction, Zval = 3.0
Generated using "atomic" code by A. Dal Corso (Quantum ESPRESSO distribution)
Using radial grid of 1059 points, 4 beta functions with:
           l(1) =
           l(2) =
           l(3) =
                     1
           l(4) =
Q(r) pseudized with 0 coefficients
PseudoPot. # 3 for N read from file:
./pseudo/N.pbe-n-rrkjus psl.0.1.UPF
MD5 check sum: c8986a496cba5b831c7822586319e126
Pseudo is Ultrasoft + core correction, Zval = 5.0
Generated using "atomic" code by A. Dal Corso (Quantum ESPRESSO distribution)
Using radial grid of 1085 points, 4 beta functions with:
           l(1) =
           l(2) =
                     0
           l(3) =
                     1
           1(4) =
                     1
Q(r) pseudized with 0 coefficients
atomic species
                  valence
                                       pseudopotential
                              mass
   C
                   4.00
                            12.01000
                                          C(1.00)
                                          B( 1.00)
   В
                   3.00
                            10.81000
   Ν
                   5.00
                            14.01000
                                           N( 1.00)
Starting magnetic structure
atomic species
                 magnetization
   C
                 0.500
   В
                 1.000
                 0.000
   N
No symmetry found
```

```
isym = 1
                     identity
          s(1) = (
                         0
                                     1
                                                 0
                                                        )
                         0
                                     0
          s(1) = (1.0000000 0.0000000 0.0000000)
 cart.
                      0.0000000 1.0000000 0.0000000 )
                      0.0000000 0.0000000 1.0000000 )
     point group C_1 (1)
     there are 1 classes
     the character table:
       Ε
       1.00
Α
     the symmetry operations in each class:
   Cartesian axes
     site n.
                  atom
                                         positions (alat units)
                                  1) = (
                                          -0.3722366
                                                        0.7921448
                                                                     1.5717944
         1
                          tau(
         2
                      C
                          tau(
                                  2) = (
                                          -0.2473910
                                                        0.7200609
                                                                     1.5623360
                      C
         3
                          tau(
                                  3) = (
                                          -0.2474691
                                                        0.5756022
                                                                     1.5610312
                      C
         4
                          tau(
                                  4) = (
                                          -0.1224131
                                                        0.5034014
                                                                     1.5544232
                      C
         5
                          tau(
                                  5) = (
                                          -0.1223507
                                                        0.3591490
                                                                     1.5624812
                      C
                          tau(
                                  6) = (
                                           0.0027140
                                                        0.2869869
                                                                     1.5670464
         7
                      C
                          tau(
                                  7) = (
                                           0.1277598
                                                        0.3591986
                                                                     1.5678954
                      C
         8
                          tau(
                                  8) = (
                                           0.2525712
                                                        0.2870861
                                                                     1.5787682
                      C
                                  9) = (
         9
                          tau(
                                           0.1278261
                                                        0.5033923
                                                                     1.5585775
                      C
                                 10) = (
                                                        0.5755650
        10
                          tau(
                                           0.0027784
                                                                     1.5496533
                      C
                                           0.0026970
                                                        0.7201590
        11
                          tau(
                                 11) = (
                                                                     1.5516657
                      C
        12
                                 12) = (
                                          -0.1223559
                                                        0.7923673
                                                                     1.5590329
                          tau(
                      C
                                 13) = (
        13
                          tau(
                                           0.1277243
                                                        0.7922839
                                                                     1.5584105
                      C
                                 14) = (
        14
                                                        0.7200073
                          tau(
                                           0.2527637
                                                                     1.5635029
                      C
                                 15) = (
        15
                          tau(
                                           0.2527600
                                                        0.5755851
                                                                     1.5658214
                      C
                          tau(
                                 16) = (
                                           0.3775331
                                                        0.5035898
        16
                                                                     1.5780416
                      C
                                 17) = (
                                           0.3776073
        17
                          tau(
                                                        0.3592204
                                                                     1.5826716
        18
                      C
                          tau(
                                 18) = (
                                           0.5027720
                                                        0.2869211
                                                                     1.5823397
        19
                      C
                          tau(
                                 19) = (
                                           0.3776161
                                                        0.7921545
                                                                     1.5714407
                      C
                                           0.5026977
                                 20) = (
                                                        0.7200094
                                                                     1.5742757
        20
                          tau(
                      C
                                 21) = (
                                           0.5027163
                                                        0.5757032
                                                                     1.5773054
        21
                          tau(
                      C
        22
                          tau(
                                 22) = (
                                           0.6278477
                                                        0.5035633
                                                                     1.5734387
                      C
        23
                                 23) = (
                                           0.6277604
                                                        0.3591888
                                                                     1.5767155
                          tau(
                      C
        24
                          tau(
                                 24) = (
                                           0.7527168
                                                        0.2870625
                                                                     1.5705363
                      C
        25
                          tau(
                                 25) = (
                                           0.7526731
                                                        0.1426533
                                                                     1.5707759
        26
                      C
                          tau(
                                 26) = (
                                           0.8776915
                                                        0.0704882
                                                                     1.5715804
                      C
                                 27) = (
                                           0.6276478
        27
                          tau(
                                                        0.0704597
                                                                     1.5677269
        28
                      C
                                 28) = (
                                           0.5027069
                                                        0.1426034
                                                                     1.5746730
                          tau(
        29
                          tau(
                                 29) = (
                                           0.3777180
                                                        0.0703653
                                                                     1.5713549
                      C
        30
                          tau(
                                 30) = (
                                           0.2527097
                                                        0.1426003
                                                                     1.5773581
        31
                      C
                                 31) = (
                                           0.1277070
                                                        0.0704739
                                                                     1.5750269
                          tau(
                      C
        32
                          tau(
                                 32) = (
                                           0.0026672
                                                        0.1427206
                                                                     1.5735489
                      В
        33
                          tau(
                                 33) = (
                                          -0.3723011
                                                        0.7921796
                                                                     0.7500309
                      N
        34
                          tau(
                                 34) = (
                                          -0.2461847
                                                        0.7193662
                                                                     0.7499639
                      В
        35
                          tau(
                                 35) = (
                                          -0.2428711
                                                        0.5746819
                                                                     0.7500392
        36
                          tau(
                                 36) = (
                                          -0.1133046
                                                        0.5034055
                                                                     0.7499748
        37
                          tau(
                                 37) = (
                                          -0.1218726
                                                        0.3594202
                                                                     0.7500545
```

```
38
             N
                        38) = (
                                   0.0071152
                                                0.2948555
                                                             0.7499757
                  tau(
                        39) = (
39
             В
                  tau(
                                   0.1276926
                                                0.3823671
                                                             0.7499907
                                                0.2948563
40
             N
                  tau(
                        40) = (
                                   0.2482812
                                                             0.7499761
                        41) = (
                                                             0.7499910
41
             В
                  tau(
                                   0.0227395
                                                0.5641029
                        42) = (
                                                0.7122660
42
             Ν
                                   0.0072803
                                                             0.7499745
                  tau(
             В
                        43) = (
43
                  tau(
                                  -0.1192267
                                                0.7888341
                                                             0.7500393
44
             В
                  tau(
                        44) = (
                                   0.1276920
                                                0.7916782
                                                             0.7500547
                                                0.7122564
                                                             0.7499754
45
             N
                        45) = (
                                   0.2481032
                  tau(
             В
                        46) = (
                                   0.2326013
                                                0.5640775
                                                             0.7499908
46
                  tau(
                                                             0.7499761
             N
                  tau(
                        47) = (
                                   0.3686860
                                                0.5033988
47
48
             В
                  tau(
                        48) = (
                                   0.3772666
                                                0.3594145
                                                             0.7500536
49
             Ν
                  tau(
                        49) = (
                                   0.5022326
                                                0.2872664
                                                             0.7499647
                                                             0.7500385
50
             В
                  tau(
                        50) = (
                                   0.3746145
                                                0.7888222
51
             N
                  tau(
                        51) = (
                                   0.5015730
                                                0.7193626
                                                             0.7499646
             В
52
                  tau(
                        52) = (
                                   0.4982326
                                                0.5746846
                                                             0.7500385
                                   0.6276871
                                                0.5042160
53
             N
                  tau(
                        53) = (
                                                             0.7499734
                                   0.6276989
54
             В
                  tau(
                        54) = (
                                                0.3595746
                                                             0.7500331
                                                0.2872632
55
             N
                  tau(
                        55) = (
                                   0.7531637
                                                             0.7499646
             В
                                   0.7530631
                                                0.1424499
56
                  tau(
                        56) = (
                                                             0.7500344
             N
                        57) = (
                                   0.8783197
                                                0.0701337
                                                             0.7499731
57
                  tau(
58
             N
                  tau(
                        58) = (
                                   0.6277023
                                                0.0699528
                                                             0.7499645
59
             В
                  tau(
                        59) = (
                                   0.5023447
                                                0.1424555
                                                             0.7500334
60
             N
                  tau(
                        60) = (
                                   0.3770736
                                                0.0701437
                                                             0.7499734
61
             В
                  tau(
                        61) = (
                                   0.2513216
                                                0.1470238
                                                             0.7500386
             N
                  tau(
                        62) = (
                                   0.1276966
                                                0.0717912
                                                             0.7499647
62
63
                  tau(
                        63) = (
                                   0.0040635
                                                0.1470100
                                                             0.7500383
```

Crystallographic axes

```
site n.
             atom
                                     positions (cryst. coord.)
                 C
                                      0.0851085
                                                 0.9146901
                                                             0.5239315
                     tau(
                             1) = (
    2
                 C
                     tau(
                             2) = (
                                      0.1683364
                                                 0.8314548
                                                             0.5207787
    3
                 C
                             3) = (
                                      0.0848550
                                                 0.6646481
                     tau(
                                                             0.5203437
                 C
    4
                     tau(
                             4) = (
                                      0.1682258
                                                 0.5812779
                                                             0.5181411
                 C
                                      0.0850041
    5
                             5) = (
                                                 0.4147095
                     tau(
                                                             0.5208271
                 C
                                      0.1684059
                             6) = (
                                                 0.3313840
                                                             0.5223488
    6
                     tau(
                 C
                                      0.3351432
                     tau(
                             7) = (
                                                 0.4147669
                                                             0.5226318
                 С
    8
                     tau(
                             8) = (
                                      0.4183205
                                                 0.3314984
                                                             0.5262561
                 C
                                      0.4184598
    9
                     tau(
                             9) = (
                                                 0.5812674
                                                             0.5195258
                 C
                                      0.3350811
   10
                     tau(
                            10) = (
                                                 0.6646053
                                                             0.5165511
                 C
   11
                     tau(
                            11) = (
                                      0.4184810
                                                 0.8315680
                                                             0.5172219
                 C
                     tau(
                            12) = (
                                      0.3351176
                                                 0.9149469
   12
                                                             0.5196776
                 C
   13
                     tau(
                            13) = (
                                      0.5851496
                                                 0.9148507
                                                             0.5194702
                 C
   14
                     tau(
                            14) = (
                                      0.6684601
                                                 0.8313928
                                                             0.5211676
                 C
   15
                     tau(
                            15) = (
                                      0.5850742
                                                 0.6646284
                                                             0.5219405
   16
                 C
                     tau(
                            16) = (
                                      0.6682808
                                                 0.5814954
                                                             0.5260139
                                                 0.4147920
                 C
   17
                     tau(
                            17) = (
                                      0.5850033
                                                             0.5275572
                 C
   18
                     tau(
                            18) = (
                                      0.6684259
                                                 0.3313080
                                                             0.5274466
                 C
                            19) = (
                                      0.8349667
   19
                     tau(
                                                 0.9147012
                                                             0.5238136
                 C
                            20) = (
                                      0.9183954
   20
                     tau(
                                                 0.8313952
                                                             0.5247586
   21
                 C
                     tau(
                            21) = (
                                      0.8350987
                                                 0.6647648
                                                             0.5257685
                 C
                            22) = (
                                      0.9185801
                                                 0.5814648
                                                             0.5244796
   22
                     tau(
   23
                 C
                            23) = (
                                      0.8351382
                                                  0.4147555
                                                             0.5255718
                     tau(
   24
                     tau(
                            24) = (
                                      0.9184524
                                                 0.3314712
                                                             0.5235121
   25
                     tau(
                            25) = (
                                      0.8350340
                                                  0.1647218
                                                             0.5235920
                 C
   26
                     tau(
                            26) = (
                                      0.9183879
                                                 0.0813927
                                                             0.5238601
                 C
   27
                     tau(
                            (27) = (
                                      0.6683277
                                                  0.0813598
                                                             0.5225756
                 C
                                      0.5850391
   28
                     tau(
                            28) = (
                                                  0.1646643
                                                             0.5248910
                 C
   29
                            29) = (
                     tau(
                                      0.4183435
                                                  0.0812509
                                                             0.5237850
                 C
   30
                     tau(
                            30) = (
                                      0.3350401
                                                  0.1646607
                                                             0.5257860
   31
                     tau(
                            31) = (
                                      0.1683951
                                                  0.0813763
                                                             0.5250090
                                     0.0850669
                                                 0.1647995
   32
                     tau(
                            32) = (
                                                             0.5245163
```

```
33
                                     0.0850640
                                                 0.9147302
                                                             0.2500103
                 В
                     tau(
                            33) = (
                            34) = (
   34
                 N
                     tau(
                                     0.1691416
                                                 0.8306526
                                                             0.2499880
   35
                 В
                     tau(
                            35) = (
                                     0.0889216
                                                 0.6635855
                                                             0.2500131
   36
                 N
                     tau(
                            36) = (
                                     0.1773367
                                                 0.5812827
                                                             0.2499916
                 В
                           37) = (
                                     0.0856388
                                                0.4150228
                                                             0.2500182
                     tau(
   37
                 N
                           38) = (
                                     0.1773501
                                                0.3404698
                     tau(
                                                             0.2499919
   38
   39
                 В
                     tau(
                           39) = (
                                     0.3484523
                                                 0.4415195
                                                             0.2499969
                 N
                           40) = (
                                     0.4185166
                                                0.3404708
                                                             0.2499920
   40
                     tau(
                 В
                           41) = (
                                     0.3484244
                                                 0.6513699
                                                             0.2499970
   41
                     tau(
                 N
                     tau(
                           42) = (
                                     0.4185072
                                                 0.8224539
                                                             0.2499915
   42
                 В
                     tau(
                           43) = (
                                     0.3362069
                                                 0.9108671
                                                             0.2500131
   43
   44
                 В
                     tau(
                           44) = (
                                     0.5847677
                                                 0.9141513
                                                             0.2500182
   45
                Ν
                     tau(
                           45) = (
                                     0.6593247
                                                 0.8224429
                                                             0.2499918
   46
                 В
                     tau(
                           46) = (
                                     0.5582716
                                                 0.6513406
                                                             0.2499969
                                     0.6593235
   47
                N
                     tau(
                           47) = (
                                                 0.5812749
                                                             0.2499920
                 В
                                     0.5847747
                                                 0.4150161
   48
                     tau(
                           48) = (
                                                             0.2500179
   49
                Ν
                     tau(
                           49) = (
                                     0.6680860
                                                 0.3317067
                                                             0.2499882
                 В
                           50) = (
                                     0.8300412
                                                 0.9108534
   50
                     tau(
                                                             0.2500128
                Ν
                                     0.9168972
                                                 0.8306483
   51
                     tau(
                           51) = (
                                                             0.2499882
                 В
                                     0.8300269
                                                 0.6635886
                                                             0.2500128
   52
                     tau(
                           52) = (
                 N
                     tau(
                            53) = (
                                     0.9187963
                                                 0.5822185
                                                             0.2499911
   53
   54
                 В
                     tau(
                            54) = (
                                     0.8352994
                                                 0.4152010
                                                             0.2500110
   55
                 N
                     tau(
                            55) = (
                                     0.9190152
                                                 0.3317030
                                                             0.2499882
                 В
                     tau(
                            56) = (
                                     0.8353066
                                                 0.1644870
                                                             0.2500115
   56
   57
                 N
                     tau(
                            57) = (
                                     0.9188114
                                                 0.0809834
                                                             0.2499910
   58
                 N
                     tau(
                            58) = (
                                     0.6680895
                                                 0.0807745
                                                             0.2499882
   59
                 В
                     tau(
                            59) = (
                                     0.5845914
                                                 0.1644935
                                                             0.2500111
   60
                 N
                     tau(
                            60) = (
                                     0.4175711
                                                 0.0809950
                                                             0.2499911
                                     0.3362059
   61
                 В
                     tau(
                            61) = (
                                                 0.1697685
                                                             0.2500129
                                                 0.0828974
   62
                     tau(
                            62) = (
                                     0.1691453
                                                             0.2499882
                                     0.0889398
                                                 0.1697525
   63
                     tau(
                           63) = (
                                                             0.2500128
number of k points=
                       200 Marzari-Vanderbilt smearing, width (Ry)= 0.0010
                   cart. coord. in units 2pi/alat
         1) = (
                   0.0000000
                                0.0000000
                                             0.0000000), wk =
                                                                 0.0100000
   k(
                                             0.0000000), wk =
         2) =
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                               -0.0160375
                                                                 0.0100000
   k(
                                            0.0000000), wk =
   k(
         3) =
                   0.0000000
                               -0.0320750
                                                                 0.0100000
                                            0.0000000), wk =
         4) =
                   0.0000000
                               -0.0481125
                                                                 0.0100000
   k(
         5) =
                                            0.0000000), wk =
                   0.0000000
                               -0.0641500
                                                                 0.0100000
   k(
                               -0.0801875
                                             0.0000000), wk =
         6) = (
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                                                                 0.0100000
   k(
         7) = (
                   0.0000000
                               -0.0962250
                                             0.0000000), wk =
                                                                 0.0100000
   k(
         8) = (
                               -0.1122626
                                             0.0000000), wk =
   k(
                   0.0000000
                                                                 0.0100000
         9) = (
                   0.0000000
                               -0.1283001
                                             0.0000000), wk =
                                                                 0.0100000
   k(
        10) = (
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                                             0.0000000), wk =
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   k(
        11) = (
                   0.0000000
                               -0.1603751
                                             0.0000000), wk =
                                                                 0.0100000
   k(
        12) = (
                   0.0000000
                               -0.1764126
                                             0.0000000), wk =
                                                                 0.0100000
   k(
   k(
        13) = (
                   0.0000000
                               -0.1924501
                                             0.0000000), wk =
                                                                 0.0100000
                               -0.2084876
        14) = (
                   0.0000000
                                             0.0000000), wk =
                                                                 0.0100000
   k(
                               -0.2245251
                                             0.0000000), wk =
        15) = (
                   0.0000000
                                                                 0.0100000
   k(
        16) =
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   k(
        17) =
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                               -0.2566001
                                             0.0000000), wk =
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   k(
                                             0.0000000), wk =
        18) =
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                               -0.2726376
   k(
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        19) =
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                               -0.2886751
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   k(
   k(
        20) =
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   k(
        21) =
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   k(
        22) =
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                                             0.0000000), wk =
                                                                 0.0100000
   k(
        23) = (
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                               -0.3528252
                                             0.0000000), wk =
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   k(
        24) = (
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   k(
        25) = (
                   0.0000000
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                                             0.0000000), wk =
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   k(
        26) = (
                               -0.4009377
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   k(
        (27) = (
                   0.0000000
                               -0.4169752
                                             0.0000000), wk =
                                                                 0.0100000
                   0.0000000
        28) = (
                               -0.4330127
                                             0.0000000), wk =
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29) = (
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                           -0.4490502
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                                                              0.0100000
k(
     30) = (
k(
                0.0000000
                           -0.4650877
                                         0.0000000), wk =
                                                              0.0100000
     31) = (
                0.0000000
                           -0.4811252
                                         0.0000000), wk =
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     32) = (
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                           -0.4971627
                                         0.0000000), wk =
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                                         0.0000000), wk =
     33) = (
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k(
     34) = (
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k(
     35) = (
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                                         0.0000000), wk =
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k(
     36) = (
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k(
     37) = (
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k(
     38) =
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                                         0.0000000), wk =
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k(
     39) =
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k(
k(
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                                         0.0000000), wk =
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                                         0.0000000), wk =
k(
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k(
     42) = (
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                                         0.0000000), wk =
k(
     43) = (
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     44) =
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                           -0.5773522
                                                              0.0100000
               0.1269829
k(
     45) =
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     46) =
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k(
               0.1428557
     47) =
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                                                              0.0100000
k(
     48) =
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                           -0.5773533
                                         0.0000000), wk =
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k(
     49) =
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                           -0.5773536
                                         0.0000000), wk =
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k(
k(
     50) =
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                                         0.0000000), wk =
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k(
     51) =
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                                         0.0000000), wk =
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k(
     52) =
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                                         0.0000000), wk =
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k(
     53) =
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     54) =
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     55) =
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                           -0.5773552
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     56) =
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                                         0.0000000), wk =
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     57) =
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                           -0.5773558
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     58) =
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     59) =
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     60) =
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                           -0.5498629
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     61) =
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                0.3015843
                                         0.0000000), wk =
     62) =
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     63) =
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     64) =
                                         0.0000000), wk =
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                0.2777750
                                         0.0000000), wk =
     65) =
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k (
                                         0.0000000), wk =
     66) =
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                           -0.4673835
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k(
                                         0.0000000), wk =
     67) =
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                           -0.4536369
                                                              0.0100000
k(
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                                         0.0000000), wk =
     68) =
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k(
     69) =
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                                         0.0000000), wk =
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k(
     70) =
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                           -0.4123972
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k(
                                                              0.0100000
     71) =
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                           -0.3986506
                                         0.0000000), wk =
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k(
k(
     72) = (
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                                         0.0000000), wk =
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     73) = (
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                                         0.0000000), wk =
                                                              0.0100000
k(
     74) = (
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                                         0.0000000), wk =
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k(
                           -0.3436643
k(
     75) = (
                0.1984107
                                         0.0000000), wk =
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               0.1904743
                           -0.3299177
     76) = (
                                         0.0000000), wk =
                                                              0.0100000
k(
     77) =
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                           -0.3161712
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                                                              0.0100000
k(
     78) =
                0.1746014
                           -0.3024246
                                         0.0000000), wk =
                                                              0.0100000
k(
k(
     79) =
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                           -0.2886780
                                         0.0000000), wk =
                                                              0.0100000
     = (08)
                0.1587286
                           -0.2749314
k(
                                         0.0000000), wk =
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     81) =
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                            -0.2611849
                                         0.0000000), wk =
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k(
k(
     82) =
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k(
     83) =
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                                         0.0000000), wk =
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k(
     84) =
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                            -0.2199452
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k(
     85) =
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                                         0.0000000), wk =
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k(
     86) = (
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k(
     87) = (
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                           -0.1787054
                                         0.0000000), wk =
                                                              0.0100000
k(
     88) = (
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                                         0.0000000), wk =
                                                              0.0100000
k(
     89) = (
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                                         0.0000000), wk =
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                0.0793643
     90) = (
                           -0.1374657
                                         0.0000000), wk =
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91) = (
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                                         0.0000000), wk =
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k(
                           -0.1237192
     92) = (
k(
                0.0634914
                           -0.1099726
                                         0.0000000), wk =
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     93) = (
                0.0555550
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                                         0.0000000), wk =
                                                              0.0100000
     94) = (
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                                         0.0000000), wk =
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     95) = (
                                         0.0000000), wk =
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                           -0.0687329
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k(
     96) = (
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                                         0.0000000), wk =
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k(
     97) = (
k(
               0.0238093
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                                         0.0000000), wk =
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     98) = (
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                           -0.0274931
                                         0.0000000), wk =
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k(
     99) = (
               0.0079364
                           -0.0137466
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k(
    100) = (
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                            0.0000000
                                         0.0000000), wk =
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k(
    101) =
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                            0.0000000
                                         0.0000000), wk =
                                                             0.0100000
k(
k(
    102) =
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                                         0.0000000), wk =
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                                         0.0000000), wk =
k(
    103) = (
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                           -0.0320750
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    104) = (
                                         0.0000000), wk =
k(
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                           -0.0641500
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k(
    105) =
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                                                             0.0100000
    106) =
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k(
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               0.000000
k(
    107) =
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    108) =
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k(
    109) =
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k(
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k(
    111) =
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k(
k(
    112) =
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k(
    113) =
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    114) =
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k(
    115) =
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                           -0.2245251
                                         0.0000000), wk =
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k(
    116) =
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                                         0.0000000), wk =
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    117) =
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    118) =
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    119) =
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    120) =
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    122) =
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    124) =
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    125) =
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    126) =
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    127) =
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k (
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k(
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k(
    130) =
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k(
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k(
    132) =
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k(
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k(
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k(
    135) =
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k(
    136) =
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k(
k(
    137) =
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k(
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k(
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k(
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k(
k(
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k(
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k(
    146) =
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k(
    147) =
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k(
    148) = (
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                                                              0.0100000
k(
    149) = (
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k(
    150) = (
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    151) = (
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    152) = (
                0.2380929
                           -0.5773544
                                         0.0000000), wk =
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```

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0.2539657
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    153) = (
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    154) = (
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                            -0.5773549
                                          0.0000000), wk =
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    155) = (
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                                          0.0000000), wk =
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    156) = (
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                0.3015843
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    157) = (
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                                         0.0000000), wk =
                            -0.5773558
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k(
    158) = (
k(
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k(
    159) = (
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    160) = (
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k(
    161) = (
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k(
    162) = (
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k(
    163) = (
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k(
k(
    164) = (
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                                          0.0000000), wk =
k(
    165) = (
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    166) = (
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k(
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k(
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    168) = (
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k(
                0.2539657
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k(
    169) = (
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k(
    172) =
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k(
    173) =
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k(
k(
    174) =
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    175) =
k(
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    176) =
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    178) =
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    179) =
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    180) =
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    182) =
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    183) =
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    184) =
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                                          0.0000000), wk =
    187) =
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                                          0.0000000), wk =
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    190) =
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k(
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k(
    193) =
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k(
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k(
    195) = (
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k(
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k(
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k(
k(
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                                          0.0000000), wk =
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    200) = (
                             0.0000000
                                          0.0000000), wk =
                0.0000000
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                cryst. coord.
k(
      1) = (
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                             0.0000000
                                          0.0000000), wk =
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                                          0.0000000), wk =
      2) =
                0.0000000
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                                                              0.0100000
k(
      3) =
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k(
k(
      4) =
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                                          0.0000000), wk =
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k(
      5) =
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      6) = (
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                                          0.0000000), wk =
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k(
k(
      7) = (
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                                          0.0000000), wk =
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k(
      8) = (8)
                0.0000000
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                                          0.0000000), wk =
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      9) = (
k(
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     10) = (
                0.0000000
k(
                            -0.1250000
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k(
     11) = (
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                                          0.0000000), wk =
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     12) = (
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                            -0.1527778
                                          0.0000000), wk =
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     14) = (
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     15) = (
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                                         0.0000000), wk =
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     16) = (
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                                         0.0000000), wk =
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                                         0.0000000), wk =
     17) = (
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                           -0.2222222
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k(
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                                         0.0000000), wk =
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k(
     19) = (
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k(
     20) = (
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k(
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     21) = (
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k(
     22) =
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k(
     23) =
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k(
k(
     24) =
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                                         0.0000000), wk =
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                                         0.0000000), wk =
k(
     25) =
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                                         0.0000000), wk =
k(
     26) =
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                           -0.3472222
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                                         0.0000000), wk =
k(
     27) =
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                           -0.3888889
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k(
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k(
     32) =
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k(
     33) =
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k(
k(
     34) =
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                           -0.4583333
                                         0.0000000), wk =
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k(
     35) =
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                           -0.4861111
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k(
     37) =
k(
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k(
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k(
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                                         0.0000000), wk =
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     40) =
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k(
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k (
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                           -0.6031767
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k(
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k(
     52) =
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k(
     53) =
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                                         0.0000000), wk =
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k(
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     54) =
                           -0.6349233
                                         0.0000000), wk =
k(
                                                              0.0100000
     55) =
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                                         0.0000000), wk =
                                                              0.0100000
k(
     56) =
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                                         0.0000000), wk =
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k(
     57) = (
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k(
     58) = (
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k(
k(
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k(
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k(
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k(
     63) =
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k(
     64) =
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k(
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k(
k(
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k(
     67) =
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k(
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k(
     69) =
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     70) = (
k(
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k(
     71) = (
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k(
     72) = (
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k(
     73) = (
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     74) = (
                0.2063471
                           -0.4127005
                                         0.0000000), wk =
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k(
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     77) = (
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     78) = (
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     79) = (
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k(
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k(
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k(
     83) = (
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k(
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k(
     85) = (
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k(
k(
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k(
     87) =
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                           -0.2063502
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k(
     = (88)
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k(
     89) =
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     90) =
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k(
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k(
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     93) =
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k(
     94) =
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k(
     95) =
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k(
k(
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     97) =
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k(
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                            0.0000000
                                         0.0000000), wk =
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    106) =
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    107) =
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    108) =
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k (
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k(
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k(
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k(
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k(
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k(
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k(
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k(
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k(
k(
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k(
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k(
    124) =
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k(
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k(
k(
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k(
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k(
    130) =
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k(
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k(
    132) =
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                            -0.4305556
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k(
    133) = (
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k(
    134) = (
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                                         0.0000000), wk =
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k(
    135) = (
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                           -0.4722222
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                           -0.4861111
                                         0.0000000), wk =
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k(
    137) = (
    138) = (
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    139) = (
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    140) = (
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    141) = (
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                                         0.0000000), wk =
                           -0.5317467
                                                              0.0100000
k(
    142) = (
k(
               0.0793643
                           -0.5396833
                                         0.0000000), wk =
                                                              0.0100000
    143) = (
k(
               0.0952371
                           -0.5476200
                                         0.0000000), wk =
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    144) = (
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k(
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k(
    146) = (
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                                                              0.0100000
k(
    147) = (
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                                         0.0000000), wk =
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k(
k(
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    149) = (
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k(
               0.1904743
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    150) = (
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k(
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k(
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k(
    156) =
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k(
    157) =
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k(
k(
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                                         0.0000000), wk =
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    160) =
                0.3174571
                           -0.6349238
                                         0.0000000), wk =
                                                              0.0100000
k(
    161) =
                0.3095207
                           -0.6190507
                                         0.0000000), wk =
                                                              0.0100000
    162) =
                0.3015843
                           -0.6031776
                                         0.0000000), wk =
                                                              0.0100000
    163) =
                0.2936479
                           -0.5873045
                                         0.0000000), wk =
                                                              0.0100000
    164) =
                                         0.0000000), wk =
                0.2857114
                           -0.5714314
                                                              0.0100000
    165) =
                0.2777750
                           -0.5555583
                                         0.0000000), wk =
                                                              0.0100000
    166) =
                0.2698386
                           -0.5396852
                                         0.0000000), wk =
                                                              0.0100000
    167) =
                0.2619021
                           -0.5238121
                                         0.0000000), wk =
                                                              0.0100000
    168) =
                0.2539657
                           -0.5079390
                                         0.0000000), wk =
                                                              0.0100000
    169) =
                0.2460293
                           -0.4920660
                                         0.0000000), wk =
                                                              0.0100000
    170) =
                                         0.0000000), wk =
                0.2380929
                           -0.4761929
                                                              0.0100000
    171) =
                                         0.0000000), wk =
                0.2301564
                           -0.4603198
                                                              0.0100000
    172) =
               0.2222200
                            -0.4444467
                                         0.0000000), wk =
                                                              0.0100000
    173) =
                                         0.0000000), wk =
                0.2142836
                           -0.4285736
                                                              0.0100000
k (
    174) =
                                         0.0000000), wk =
                0.2063471
                           -0.4127005
                                                              0.0100000
k(
    175) =
                0.1984107
                                         0.0000000), wk =
                            -0.3968274
                                                              0.0100000
k(
    176) =
                0.1904743
                           -0.3809543
                                         0.0000000), wk =
                                                              0.0100000
k(
    177) =
               0.1825379
                           -0.3650812
                                         0.0000000), wk =
                                                              0.0100000
k(
    178) =
                0.1746014
                           -0.3492081
                                         0.0000000), wk =
                                                              0.0100000
k(
    179) =
                0.1666650
                           -0.3333350
                                         0.0000000), wk =
                                                              0.0100000
k(
k(
    180) =
                0.1587286
                           -0.3174619
                                         0.0000000), wk =
                                                              0.0100000
    181) =
                0.1507921
                           -0.3015888
                                         0.0000000), wk =
                                                              0.0100000
k(
    182) =
                0.1428557
                           -0.2857157
                                         0.0000000), wk =
                                                              0.0100000
k(
k(
    183) =
                0.1349193
                           -0.2698426
                                         0.0000000), wk =
                                                              0.0100000
    184) =
                0.1269829
                           -0.2539695
                                         0.0000000), wk =
                                                              0.0100000
k(
    185) =
                0.1190464
                           -0.2380964
                                         0.0000000), wk =
                                                              0.0100000
k(
    186) =
                0.1111100
                           -0.222233
                                         0.0000000), wk =
k(
                                                              0.0100000
    187) =
k(
                0.1031736
                           -0.2063502
                                         0.0000000), wk =
                                                              0.0100000
    188) =
                0.0952371
                           -0.1904771
                                         0.0000000), wk =
k(
                                                              0.0100000
    189) =
                0.0873007
                           -0.1746040
                                         0.0000000), wk =
                                                              0.0100000
k(
k(
    190) =
                0.0793643
                           -0.1587310
                                         0.0000000), wk =
                                                              0.0100000
k(
    191) =
                0.0714279
                           -0.1428579
                                         0.0000000), wk =
                                                              0.0100000
k(
    192) =
                0.0634914
                           -0.1269848
                                         0.0000000), wk =
                                                              0.0100000
k(
    193) =
                0.0555550
                           -0.1111117
                                         0.0000000), wk =
                                                              0.0100000
k(
    194) = (
                0.0476186
                           -0.0952386
                                         0.0000000), wk =
                                                              0.0100000
k(
    195) = (
                0.0396821
                           -0.0793655
                                         0.0000000), wk =
                                                              0.0100000
                0.0317457
k(
    196) = (
                           -0.0634924
                                         0.0000000), wk =
                                                              0.0100000
    197) = (
                0.0238093
                           -0.0476193
                                         0.0000000), wk =
                                                              0.0100000
                0.0158729
    198) = (
                           -0.0317462
                                         0.0000000), wk =
                                                              0.0100000
```

```
k(199) = (
                  0.0079364
                            -0.0158731
                                          0.0000000), wk =
                                                              0.0100000
      200) = (
                              0.0000000
  k(
                  0.0000000
                                          0.0000000), wk =
                                                              0.0100000
Dense grid: 2049049 G-vectors
                                    FFT dimensions: ( 120, 120, 360)
                                    FFT dimensions: ( 75, 75, 225)
Smooth grid: 518527 G-vectors
Largest allocated arrays
                             est. size (Mb)
                                                dimensions
                                  18.71 Mb
                                                    8119, 151)
  Kohn-Sham Wavefunctions
  NL pseudopotentials
                                  62.44 Mb
                                                    8119, 504)
  Each V/rho on FFT grid
                                  19.78 Mb
                                                  648000,
                                                            2)
  Each G-vector array
                                  1.95 Mb
                                                  256128)
  G-vector shells
                                   0.06 Mb
                                                    7983)
                                                dimensions
Largest temporary arrays
                             est. size (Mb)
                                74.83 Mb
  Auxiliary wavefunctions
                                                    8119, 604)
  Each subspace H/S matrix
                                  1.39 Mb
                                                     302, 302)
  Each <psi_i|beta_j> matrix
                                   1.16 Mb
                                                     504, 151)
                                                      0.000000
Check: negative/imaginary core charge=
                                        -0.000004
The potential is recalculated from file :
./tmp-hetero/A.save/charge-density.dat
negative rho (up, down): 7.044E-04 7.241E-04 Starting wfc are 252 randomized atomic wfcs
Band Structure Calculation
Davidson diagonalization with overlap
Computing kpt #:
c bands: 1 eigenvalues not converged
total cpu time spent up to now is
                                       543.3 secs
Computing kpt #:
c bands: 1 eigenvalues not converged
total cpu time spent up to now is
                                      1128.9 secs
Computing kpt #:
c_bands: 1 eigenvalues not converged
total cpu time spent up to now is
                                      1718.1 secs
Computing kpt #:
total cpu time spent up to now is
                                      2200.5 secs
Computing kpt #:
total cpu time spent up to now is
                                      2697.8 secs
Computing kpt #:
total cpu time spent up to now is
                                      3137.5 secs
Computing kpt #:
total cpu time spent up to now is
                                      3577.7 secs
Computing kpt #:
total cpu time spent up to now is
                                      4040.0 secs
Computing kpt #:
total cpu time spent up to now is
                                      4487.3 secs
Computing kpt #:
                   10
total cpu time spent up to now is
                                     4924.2 secs
```

	kpt #: 11					
·	time spent up	to	now	İS	5360.4	secs
Computing total cpu	<pre>kpt #: 12 time spent up</pre>	to	now	is	5802.1	secs
	<pre>kpt #: 13 time spent up</pre>	to	now	is	6239.1	secs
	kpt #: 14 time spent up	to	now	is	6691.8	secs
	<pre>kpt #: 15 time spent up</pre>	to	now	is	7156.2	secs
	<pre>kpt #: 16 time spent up</pre>	to	now	is	7594.6	secs
	kpt #: 17 time spent up	to	now	is	8029.8	secs
	kpt #: 18 time spent up	to	now	is	8486.9	secs
	kpt #: 19 time spent up	to	now	is	8922.2	secs
	<pre>kpt #: 20 time spent up</pre>	to	now	is	9360.2	secs
	<pre>kpt #: 21 time spent up</pre>	to	now	is	9796.2	secs
	<pre>kpt #: 22 time spent up</pre>	to	now	is	10239.2	secs
	<pre>kpt #: 23 time spent up</pre>	to	now	is	10718.9	secs
	kpt #: 24 time spent up	to	now	is	11199.6	secs
	<pre>kpt #: 25 time spent up</pre>	to	now	is	11637.1	secs
	<pre>kpt #: 26 time spent up</pre>	to	now	is	12036.8	secs
Computing total cpu	<pre>kpt #: 27 time spent up</pre>	to	now	is	12436.2	secs
	kpt #: 28 time spent up	to	now	is	12837.6	secs
	kpt #: 29 time spent up	to	now	is	13245.4	secs
Computing total cpu	<pre>kpt #: 30 time spent up</pre>	to	now	is	13696.1	secs
Computing	kpt #: 31					

total cpu time spent up to now is 14139.6 secs Computing kpt #: 32 total cpu time spent up to now is 14581.9 secs Computing kpt #: 33 total cpu time spent up to now is 15191.1 secs Computing kpt #: 34 total cpu time spent up to now is 15644.4 secs Computing kpt #: 35 total cpu time spent up to now is 16109.3 secs Computing kpt #: 36 total cpu time spent up to now is 16554.9 secs Computing kpt #: 37 total cpu time spent up to now is 17003.9 secs Computing kpt #: 38 total cpu time spent up to now is 17523.9 secs Computing kpt #: total cpu time spent up to now is 17989.3 secs Computing kpt #: total cpu time spent up to now is 18450.1 secs Computing kpt #: total cpu time spent up to now is 18903.2 secs Computing kpt #: total cpu time spent up to now is 19364.9 secs Computing kpt #: 19833.6 secs total cpu time spent up to now is Computing kpt #: total cpu time spent up to now is 20342.0 secs Computing kpt #: total cpu time spent up to now is 20834.8 secs Computing kpt #: 46 total cpu time spent up to now is 21333.9 secs Computing kpt #: total cpu time spent up to now is 21799.6 secs Computing kpt #: 48 total cpu time spent up to now is 22259.7 secs Computing kpt #: total cpu time spent up to now is 22719.3 secs Computing kpt #: total cpu time spent up to now is 23222.4 secs Computing kpt #: total cpu time spent up to now is 23702.6 secs Computing kpt #: total cpu time spent up to now is 24225.0 secs Computing kpt #: 53 total cpu time spent up to now is 24703.4 secs Computing kpt #: 54 total cpu time spent up to now is 25180.9 secs Computing kpt #: 55 total cpu time spent up to now is 25656.8 secs Computing kpt #: 56 total cpu time spent up to now is 26117.7 secs Computing kpt #: 57 total cpu time spent up to now is 26569.8 secs Computing kpt #: 58 total cpu time spent up to now is 27025.5 secs Computing kpt #: total cpu time spent up to now is 27458.7 secs Computing kpt #: total cpu time spent up to now is 27909.6 secs Computing kpt #: c bands: 1 eigenvalues not converged total cpu time spent up to now is 28506.6 secs Computing kpt #: total cpu time spent up to now is 29025.3 secs Computing kpt #: 63 total cpu time spent up to now is 29502.2 secs Computing kpt #: total cpu time spent up to now is 29959.4 secs Computing kpt #: 65 total cpu time spent up to now is 30410.0 secs Computing kpt #: total cpu time spent up to now is 30861.8 secs Computing kpt #: 67 total cpu time spent up to now is 31315.3 secs Computing kpt #: 68 total cpu time spent up to now is 31844.8 secs Computing kpt #: c bands: 1 eigenvalues not converged total cpu time spent up to now is 32461.4 secs Computing kpt #: 70 c bands: 1 eigenvalues not converged total cpu time spent up to now is 33075.9 secs Computing kpt #: 71 total cpu time spent up to now is 33579.2 secs Computing kpt #: 72 total cpu time spent up to now is 34054.4 secs Computing kpt #: 73 total cpu time spent up to now is 34498.4 secs Computing kpt #: 74 total cpu time spent up to now is 34944.8 secs Computing kpt #: 75 total cpu time spent up to now is 35391.8 secs Computing kpt #: 76 total cpu time spent up to now is 35832.7 secs Computing kpt #: 77 total cpu time spent up to now is 36284.8 secs 78 Computing kpt #: total cpu time spent up to now is 36745.5 secs Computing kpt #: total cpu time spent up to now is 37220.9 secs Computing kpt #: total cpu time spent up to now is 37676.6 secs Computing kpt #: total cpu time spent up to now is 38123.9 secs Computing kpt #: total cpu time spent up to now is 38567.3 secs Computing kpt #: total cpu time spent up to now is 39028.7 secs Computing kpt #: total cpu time spent up to now is 39493.9 secs Computing kpt #: 85 total cpu time spent up to now is 40022.9 secs Computing kpt #: total cpu time spent up to now is 40653.6 secs Computing kpt #: 87 c bands: 1 eigenvalues not converged total cpu time spent up to now is 41263.7 secs Computing kpt #: 88 c_bands: 1 eigenvalues not converged total cpu time spent up to now is 41869.3 secs Computing kpt #: total cpu time spent up to now is 42377.1 secs Computing kpt #: total cpu time spent up to now is 42837.2 secs Computing kpt #: total cpu time spent up to now is 43298.3 secs Computing kpt #: 92 total cpu time spent up to now is 43736.6 secs Computing kpt #: 93 total cpu time spent up to now is 44215.8 secs Computing kpt #: 94 total cpu time spent up to now is 44661.1 secs Computing kpt #: 95 total cpu time spent up to now is 45113.0 secs Computing kpt #: 96 total cpu time spent up to now is 45661.6 secs Computing kpt #: 97 c_bands: 1 eigenvalues not converged total cpu time spent up to now is 46263.9 secs Computing kpt #: total cpu time spent up to now is 46857.2 secs Computing kpt #: c_bands: 1 eigenvalues not converged total cpu time spent up to now is 47440.9 secs Computing kpt #: 100 c bands: 1 eigenvalues not converged total cpu time spent up to now is 48051.2 secs Computing kpt #: 101 c bands: 1 eigenvalues not converged total cpu time spent up to now is 48646.2 secs Computing kpt #: 102 c_bands: 1 eigenvalues not converged total cpu time spent up to now is 49256.9 secs Computing kpt #: 103 c_bands: 1 eigenvalues not converged total cpu time spent up to now is 49848.8 secs Computing kpt #: 104 total cpu time spent up to now is 50441.9 secs Computing kpt #: 105 total cpu time spent up to now is 51033.7 secs Computing kpt #: 106 c_bands: 1 eigenvalues not converged total cpu time spent up to now is 51671.1 secs Computing kpt #: 107 total cpu time spent up to now is 52214.5 secs Computing kpt #: 108 total cpu time spent up to now is 52668.9 secs Computing kpt #: 109 total cpu time spent up to now is 53140.6 secs

Computing total cpu	<pre>kpt #: 110 time spent up</pre>	to now	is	53605.2	secs
Computing	kpt #: 111 time spent up			54041.8	
Computing total cpu	kpt #: 112 time spent up	to now	is	54492.8	secs
Computing	kpt #: 113 time spent up			54998.3	secs
	kpt #: 114 time spent up	to now	is	55509.3	secs
	kpt #: 115 time spent up	to now	is	55962.3	secs
Computing total cpu	kpt #: 116 time spent up	to now	is	56446.9	secs
	kpt #: 117 time spent up	to now	is	56924.7	secs
	kpt #: 118 time spent up	to now	is	57414.0	secs
	kpt #: 119 time spent up	to now	is	57852.5	secs
	kpt #: 120 time spent up	to now	is	58284.5	secs
	kpt #: 121 time spent up	to now	is	58716.2	secs
	kpt #: 122 time spent up	to now	is	59105.0	secs
	kpt #: 123 time spent up	to now	is	59500.9	secs
Computing total cpu	kpt #: 124 time spent up	to now	is	59905.7	secs
	kpt #: 125 time spent up	to now	is	60289.9	secs
	kpt #: 126 time spent up	to now	is	60640.7	secs
Computing total cpu	kpt #: 127 time spent up	to now	is	60987.2	secs
	kpt #: 128 time spent up	to now	is	61340.0	secs
	kpt #: 129 time spent up	to now	is	61690.9	secs
Computing total cpu	kpt #: 130 time spent up	to now	is	62077.5	secs

	kpt #: 131 time spent up	to	now	is	62470.6	secs
	kpt #: 132 time spent up	to	now	is	62867.9	secs
	kpt #: 133 time spent up	to	now	is	63381.5	secs
	kpt #: 134 time spent up	to	now	is	63776.2	secs
	<pre>kpt #: 135 time spent up</pre>	to	now	is	64165.8	secs
	<pre>kpt #: 136 time spent up</pre>	to	now	is	64567.2	secs
	<pre>kpt #: 137 time spent up</pre>	to	now	is	64967.7	secs
	<pre>kpt #: 138 time spent up</pre>	to	now	is	65359.9	secs
	kpt #: 139 time spent up	to	now	is	65752.1	secs
	kpt #: 140 time spent up	to	now	is	66143.1	secs
	kpt #: 141 time spent up	to	now	is	66545.5	secs
	kpt #: 142 time spent up	to	now	is	66951.5	secs
	kpt #: 143 time spent up	to	now	is	67345.1	secs
	kpt #: 144 time spent up	to	now	is	67741.2	secs
Computing total cpu	kpt #: 145 time spent up	to	now	is	68134.0	secs
Computing total cpu	kpt #: 146 time spent up	to	now	is	68523.2	secs
	kpt #: 147 time spent up	to	now	is	68927.0	secs
	kpt #: 148 time spent up	to	now	is	69332.0	secs
Computing total cpu	kpt #: 149 time spent up	to	now	is	69731.4	secs
	kpt #: 150 time spent up	to	now	is	70126.0	secs
Computing	kpt #: 151					

total cpu time spent up to now is 70514.1 secs Computing kpt #: 152 total cpu time spent up to now is 70920.7 secs Computing kpt #: 153 total cpu time spent up to now is 71322.2 secs Computing kpt #: 154 total cpu time spent up to now is 71721.7 secs Computing kpt #: 155 total cpu time spent up to now is 72089.3 secs Computing kpt #: 156 total cpu time spent up to now is 72454.3 secs Computing kpt #: 157 total cpu time spent up to now is 72827.8 secs Computing kpt #: 158 total cpu time spent up to now is 73184.1 secs Computing kpt #: 159 total cpu time spent up to now is 73601.5 secs Computing kpt #: 160 total cpu time spent up to now is 74128.9 secs Computing kpt #: 161 total cpu time spent up to now is 74639.2 secs Computing kpt #: 162 c bands: 1 eigenvalues not converged total cpu time spent up to now is 75253.0 secs Computing kpt #: 163 total cpu time spent up to now is 75822.2 secs Computing kpt #: 164 total cpu time spent up to now is 76331.1 secs Computing kpt #: 165 total cpu time spent up to now is 76802.5 secs Computing kpt #: 166 total cpu time spent up to now is 77266.3 secs Computing kpt #: 167 total cpu time spent up to now is 77677.1 secs Computing kpt #: 168 total cpu time spent up to now is 78126.2 secs Computing kpt #: 169 total cpu time spent up to now is 78622.0 secs Computing kpt #: 170 total cpu time spent up to now is 79128.1 secs Computing kpt #: 171 total cpu time spent up to now is 79637.2 secs Computing kpt #: 172 total cpu time spent up to now is 80095.8 secs Computing kpt #: 173 total cpu time spent up to now is 80566.8 secs Computing kpt #: 174 total cpu time spent up to now is 81032.3 secs Computing kpt #: 175 total cpu time spent up to now is 81486.9 secs Computing kpt #: 176 total cpu time spent up to now is 81904.9 secs Computing kpt #: 177 total cpu time spent up to now is 82364.6 secs Computing kpt #: 178 total cpu time spent up to now is 82833.4 secs Computing kpt #: 179 total cpu time spent up to now is 83254.2 secs Computing kpt #: 180 total cpu time spent up to now is 83709.0 secs Computing kpt #: 181 total cpu time spent up to now is 84170.3 secs Computing kpt #: 182 total cpu time spent up to now is 84616.5 secs Computing kpt #: 183 total cpu time spent up to now is 85069.5 secs Computing kpt #: 184 85529.1 secs total cpu time spent up to now is Computing kpt #: 185 total cpu time spent up to now is 86001.4 secs Computing kpt #: 186 total cpu time spent up to now is 86544.0 secs Computing kpt #: 187 total cpu time spent up to now is 87093.6 secs Computing kpt #: 188 total cpu time spent up to now is 87683.5 secs Computing kpt #: 189 c bands: 1 eigenvalues not converged total cpu time spent up to now is 88282.3 secs Computing kpt #: c bands: 1 eigenvalues not converged total cpu time spent up to now is 88890.4 secs Computing kpt #: 191 total cpu time spent up to now is 89393.0 secs

```
Computing kpt #:
                      192
   total cpu time spent up to now is
                                       89879.9 secs
   Computing kpt #:
                      193
   total cpu time spent up to now is 90332.3 secs
   Computing kpt #:
                      194
   total cpu time spent up to now is
                                       90790.5 secs
   Computing kpt #:
                      195
   total cpu time spent up to now is
                                       91238.8 secs
   Computing kpt #:
                     196
   total cpu time spent up to now is
                                       91780.4 secs
   Computing kpt #:
                     197
   c_bands: 1 eigenvalues not converged
   total cpu time spent up to now is
                                      92394.5 secs
   Computing kpt #:
                      198
   c bands: 1 eigenvalues not converged
   total cpu time spent up to now is
                                       92997.1 secs
   Computing kpt #:
   c bands: 1 eigenvalues not converged
   total cpu time spent up to now is
                                       93603.9 secs
   Computing kpt #:
   c bands: 1 eigenvalues not converged
   total cpu time spent up to now is
                                       94209.7 secs
   ethr = 3.98E-10, avg # of iterations = 60.9
   total cpu time spent up to now is
                                       94209.7 secs
   End of band structure calculation
----- SPIN UP -----
        k = 0.0000 \ 0.0000 \ 0.0000 \ (64705 \ PWs)
                                               bands (ev):
  -21.6709 -21.3588 -20.5147 -20.5145 -20.4876 -20.3768 -20.3765 -20.0556
  -19.8100 -19.8092 -19.8082 -19.8046 -19.8038 -19.8031 -18.5262 -18.5261
  -18.3553 -18.3549 -18.2160 -18.2158 -18.2020 -18.0847 -16.8104 -16.8094
  -16.8086 -16.8084 -16.8059 -16.8043 -15.6474 -15.6420 -15.6400 -14.9364
  -14.9359 -14.9343 -12.8504 -12.5930 -12.5928 -12.5393 -11.8096 -11.8028
  -11.7958 -11.7935 -11.7877 -11.7835 -11.2663 -11.2334 -11.2331 -10.9139
  -10.9136 -10.5296 -10.5278 -10.5256 -10.5248 -10.5223 -10.5205 -10.1775
  -9.5481 -9.5479 -9.4573 -9.3738 -9.2472 -9.1547 -8.9379 -8.9378
  -8.6555 -8.6497 -8.6457 -8.6447 -8.6441 -8.6351 -8.4681 -8.3362
  -8.3361 -8.0100 -8.0098 -7.7685 -7.7661 -7.7596 -7.5129
                                                               -7.5127
  -7.4941
          -7.4869 -7.4851 -7.4816 -7.4804 -7.4799 -7.4769 -7.4605
  -7.3789
          -7.3786
                   -7.0247
                            -6.8919 -6.8763 -6.8763
                                                      -6.2803
                                                               -6.2798
  -6.2780
          -6.2779
                   -6.2722
                            -6.2712
                                     -6.2424
                                              -6.2363
                                                       -6.2362
                                                                -5.7228
  -4.7099
          -4.7099
                   -4.6666
                            -4.6665
                                     -4.5299
                                              -4.5295
                                                       -4.3785
                                                                -4.3134
  -4.2686
          -4.2685
                   -4.0686
                            -4.0658
                                     -4.0410
                                              -4.0397
                                                       -4.0370
                                                               -4.0337
  -4.0324
          -4.0290
                   -3.5975 -3.5959 -3.5948
                                              -1.2788
                                                       0.6735
                                                                0.6739
   0.6759
           1.2457
                   1.7100 1.7101
                                     1.7480
                                              1.9636
                                                        1.9780
                                                                 2.0027
   2.0198
            2.0211
                     2.0311
                             2.0399
                                      2.0497
                                               2.1470
                                                        2.1500
                                                                 2.4536
                                      3.1242
                                               3.1243
   2.6934
            2.8053
                     2.9812
                             2.9814
                                                        3.3638
```

```
k = 0.0000 - 0.0160 \ 0.0000 \ (64649 \ PWs)
                                                      bands (ev):
-18.3559 -18.3529 -18.2166 -18.2161 -18.2014 -18.0818 -16.8693 -16.8664
-16.8082 -16.8077 -16.7486 -16.7455 -15.6509 -15.6493 -15.6421 -14.9338
-14.9319 -14.9264 -12.8510 -12.5926 -12.5924 -12.5371 -11.8539 -11.8458
-11.7982 -11.7981 -11.7463 -11.7401 -11.2846 -11.2353 -11.2173 -10.9137
-10.9126 -10.5788 -10.5752 -10.5228 -10.5213 -10.4726 -10.4690 -10.1773
 -9.5595
           -9.5477
                     -9.4455
                                -9.3735
                                          -9.2482
                                                    -9.1544
                                                              -8.9360
                                                                         -8.9349
 -8.7416
           -8.6959
                     -8.6918
                               -8.6007
                                          -8.5959
                                                    -8.5489
                                                               -8.4900
                                                                         -8.3406
                                                                         -7.5251
 -8.3189
           -8.0065
                     -8.0053
                                -7.7695
                                          -7.7658
                                                    -7.7605
                                                               -7.5324
                                          -7.4609
                                                               -7.4547
                                                                         -7.4304
 -7.5165
           -7.5085
                     -7.5052
                               -7.4943
                                                    -7.4576
                                                                         -6.2995
 -7.3745
           -7.3675
                     -7.0223
                               -6.8938
                                          -6.8765
                                                    -6.8737
                                                               -6.3153
 -6.2921
           -6.2619
                     -6.2612
                                -6.2542
                                          -6.2397
                                                    -6.2369
                                                               -6.2180
                                                                         -5.7231
                                          -4.5320
 -4.7107
           -4.7101
                     -4.6738
                                -4.6731
                                                     -4.5245
                                                               -4.3699
                                                                         -4.3121
 -4.2694
           -4.2688
                     -4.1037
                                -4.0983
                                          -4.0692
                                                     -4.0664
                                                               -4.0359
                                                                         -4.0348
                                                    -1.2785
 -3.9728
           -3.9672
                     -3.5983
                                -3.5972
                                          -3.5953
                                                                0.6742
                                                                          0.6755
  0.6776
            1.2461
                      1.7106
                                 1.7114
                                           1.7484
                                                      1.9259
                                                                1.9504
                                                                          1.9643
  2.0093
            2.0209
                       2.0501
                                 2.0838
                                           2.1010
                                                      2.1467
                                                                2.1496
                                                                           2.4540
                       2.9740
  2.6938
            2.8006
                                 2.9762
                                           3.1291
                                                      3.1337
                                                                3.3411
        k = 0.0000 - 0.0321 \ 0.0000 \ (64699 \ PWs)
                                                      bands (ev):
-21.6699 -21.3576 -20.5327 -20.5218 -20.4949 -20.3677 -20.3530 -20.0512 -19.8909 -19.8485 -19.8477 -19.7630 -19.7623 -19.7196 -18.5379 -18.5351 -18.3578 -18.3472 -18.2187 -18.2166 -18.1995 -18.0736 -16.9289 -16.9261 -16.8073 -16.8069 -16.6876 -16.6844 -15.6763 -15.6554 -15.6482 -14.9262 -14.9243 -14.8997 -12.8527 -12.5915 -12.5911 -12.5304 -11.9079 -11.9000 -11.8086 -11.8078 -11.6966 -11.6900 -11.3146 -11.2415 -11.1944 -10.9135 -10.9090 -10.6287 -10.6250 -10.5128 -10.5109 -10.4166 -10.4131 -10.1767
                               -9.3728
                                         -9.2509
                                                              -8.9306
 -9.5848
           -9.5466
                     -9.4196
                                                    -9.1533
                                                                         -8.9265
 -8.8372
                                -8.5529
                                          -8.5481
                                                    -8.5372
           -8.7438
                     -8.7397
                                                               -8.4537
                                                                         -8.3533
           -7.9957
                     -7.9928
                                -7.7722
                                          -7.7650
                                                    -7.7633
                                                               -7.5820
 -8.2861
                                                                         -7.5531
 -7.5328
           -7.5296
                     -7.5263
                                -7.4968
                                          -7.4620
                                                     -7.4313
                                                               -7.4283
                                                                         -7.3789
 -7.3628
           -7.3411
                     -7.0151
                                -6.8981
                                          -6.8772
                                                     -6.8675
                                                               -6.3525
                                                                         -6.3210
 -6.3137
           -6.2833
                     -6.2459
                                -6.2389
                                          -6.2381
                                                     -6.2016
                                                               -6.1975
                                                                         -5.7242
 -4.7132
           -4.7109
                     -4.6928
                                -4.6919
                                          -4.5365
                                                     -4.5121
                                                               -4.3474
                                                                         -4.3084
 -4.2721
           -4.2691
                     -4.1685
                                -4.1631
                                          -4.0724
                                                     -4.0691
                                                               -4.0354
                                                                         -4.0343
 -3.9072
           -3.9017
                     -3.6043
                                -3.5983
                                          -3.5961
                                                     -1.2778
                                                                0.6760
                                                                          0.6777
  0.6851
            1.2472
                      1.7121
                                 1.7155
                                           1.7497
                                                      1.8545
                                                                1.8771
                                                                           1.9663
                                           2.1484
  2.0073
            2.0188
                       2.0512
                                 2.1456
                                                      2.1551
                                                                2.1745
                                                                           2.4552
                                           3.1409
                                                      3.1582
  2.6952
            2.7868
                       2.9546
                                 2.9645
                                                                3.2972
        k = 0.0000 - 0.0481 \ 0.0000 \ (64743 \ PWs)
                                                      bands (ev):
-21.6687 -21.3561 -20.5534 -20.5297 -20.4988 -20.3575 -20.3305 -20.0458
-19.9322 -19.8684 -19.8676 -19.7402 -19.7394 -19.6754 -18.5511 -18.5460
-18.3604 -18.3391 -18.2223 -18.2174 -18.1963 -18.0608 -16.9882 -16.9854
-16.8059 -16.8055 -16.6262 -16.6230 -15.7151 -15.6651 -15.6582 -14.9137
-14.9120 -14.8587 -12.8552 -12.5893 -12.5888 -12.5198 -11.9636 -11.9558
-11.8255 -11.8239 -11.6478 -11.6411 -11.3469 -11.2516 -11.1746 -10.9136
-10.9022 -10.6765 -10.6727 -10.4963 -10.4939 -10.3587 -10.3553 -10.1757
           -9.5452
                     -9.3890
                                          -9.2547
                                                     -9.1516
                                                              -8.9329
 -9.6145
                                -9.3717
                                                                         -8.9218
 -8.9133
           -8.7916
                     -8.7875
                                -8.5930
                                          -8.5053
                                                     -8.5004
                                                               -8.3727
                                                                         -8.3585
                                -7.7769
                                          -7.7680
                                                     -7.7633
                                                               -7.6311
 -8.2561
           -7.9758
                     -7.9737
                                                                         -7.5876
           -7.5532
                     -7.5401
                                -7.5017
                                          -7.4640
                                                     -7.4042
                                                               -7.4012
 -7.5565
                                                                         -7.3460
           -7.3083
                     -7.0034
                                -6.9034
                                          -6.8785
                                                     -6.8590
                                                               -6.3894
                                                                         -6.3443
 -7.3268
           -6.3060
                     -6.2424
                                -6.2316
                                          -6.2238
                                                     -6.1775
                                                               -6.1632
                                                                         -5.7258
 -6.3372
                                                    -4.4969
 -4.7204
           -4.7191
                     -4.7173
                                -4.7123
                                          -4.5405
                                                               -4.3163
                                                                         -4.3027
 -4.2758
          -4.2696
                     -4.2332
                               -4.2277
                                          -4.0781
                                                    -4.0729
                                                               -4.0346
                                                                         -4.0334
```

```
-3.8415
           -3.8359
                      -3.6149
                                -3.5995
                                          -3.5974
                                                     -1.2765
                                                                0.6791
                                                                           0.6808
                      1.7147
  0.6981
            1.2491
                                 1.7224
                                           1.7517
                                                     1.7816
                                                                1.8034
                                                                           1.9697
                                                                2.2484
  2.0039
            2.0153
                      2.0531
                                 2.1436
                                           2.1466
                                                      2.2280
                                                                           2.4572
  2.6974
            2.7650
                      2.9278
                                 2.9512
                                           3.1552
                                                      3.1915
                                                                3.2491
        k = 0.0000 - 0.0642 \ 0.0000 \ (64775 \ PWs)
                                                      bands (ev):
-21.6669 -21.3540 -20.5778 -20.5394 -20.5025 -20.3447 -20.3055 -20.0382
-19.9729 -19.8877 -19.8870 -19.7167 -19.7159 -19.6307 -18.5676 -18.5609
-18.3633 -18.3299 -18.2273 -18.2183 -18.1915 -18.0443 -17.0469 -17.0442 -16.8039 -16.8035 -16.5643 -16.5611 -15.7638 -15.6783 -15.6715 -14.8969 -14.8954 -14.8068 -12.8586 -12.5860 -12.5857 -12.5057 -12.0208 -12.0131 -11.8481 -11.8461 -11.6000 -11.5934 -11.3801 -11.2651 -11.1599 -10.9142
-8.8959
           -8.8394
                     -8.8352
                               -8.6516
                                          -8.4578
                                                    -8.4527
                                                               -8.3968
                                                                         -8.2636
                                                    -7.7612
                                          -7.7745
                                                                         -7.6249
                     -7.9458
                               -7.7833
 -8.2349
           -7.9500
                                                               -7.6796
                               -7.5084
                                          -7.4667
 -7.5794
           -7.5760
                     -7.5560
                                                    -7.3765
                                                               -7.3734
                                                                         -7.3258
           -7.2732
                               -6.9095
                                                               -6.4259
                                                                         -6.3694
 -7.2740
                     -6.9871
                                          -6.8802
                                                    -6.8484
                     -6.2471
                               -6.2191
                                          -6.2112
                                                    -6.1581
                                                               -6.1245
                                                                         -5.7281
 -6.3625
           -6.3293
                                -4.7141
                                          -4.5430
                                                               -4.2979
 -4.7555
           -4.7496
                     -4.7232
                                                    -4.4820
                                                                         -4.2976
 -4.2921
           -4.2821
                     -4.2777
                                -4.2688
                                          -4.0864
                                                    -4.0780
                                                               -4.0334
                                                                         -4.0322
           -3.7700
                                          -3.5992
 -3.7757
                      -3.6295
                                -3.6013
                                                    -1.2748
                                                                0.6834
                                                                          0.6851
                                           1.7297
                                                     1.7318
  0.7162
                      1.7084
                                                                1.7547
            1.2517
                                 1.7183
                                                                           1.9745
  1.9992
            2.0105
                                           2.1447
                                                      2.3014
                       2.0557
                                 2.1405
                                                                2.3223
                                                                           2.4600
  2.7005
            2.7370
                      2.8965
                                 2.9387
                                           3.1690
                                                      3.1997
                                                                3.2297
        k = 0.0000 - 0.0802 \ 0.0000 \ (64789 \ PWs)
                                                     bands (ev):
-18.3659 -18.3205 -18.2338 -18.2194 -18.1850 -18.0249 -17.1052 -17.1025 -16.8014 -16.8009 -16.5021 -16.4987 -15.8196 -15.6943 -15.6878 -14.8761 -14.8748 -14.7470 -12.8624 -12.5817 -12.5811 -12.4885 -12.0795 -12.0718 -11.8761 -11.8736 -11.5534 -11.5468 -11.4139 -11.2817 -11.1515 -10.9158 -10.8757 -10.7658 -10.7619 -10.4459 -10.4424 -10.2377 -10.2344 -10.1718
           -9.5429
                     -9.3691
                               -9.3252
                                         -9.2611
                                                    -9.1461
                                                              -9.1235
 -9.6765
                                                                         -8.8958
           -8.8828
                     -8.8753
                               -8.7101
                                          -8.4239
                                                    -8.4104
                                                               -8.4053
 -8.8871
                                                                         -8.2237
                               -7.7916
                                                    -7.7585
 -8.1689
           -7.9230
                     -7.9064
                                          -7.7827
                                                               -7.7274
                                                                         -7.6634
                                          -7.4701
 -7.6017
           -7.5981
                     -7.5729
                               -7.5167
                                                    -7.3481
                                                               -7.3450
                                                                         -7.3033
 -7.2375
           -7.2206
                     -6.9667
                               -6.9165
                                          -6.8823
                                                    -6.8359
                                                               -6.4621
                                                                         -6.3963
 -6.3896
           -6.3531
                     -6.2532
                               -6.2084
                                          -6.2004
                                                    -6.1393
                                                               -6.0856
                                                                         -5.7310
                                -4.7165
                     -4.7306
                                          -4.5442
                                                    -4.4689
 -4.7950
           -4.7829
                                                               -4.3616
                                                                         -4.3562
                                                    -4.0843
           -4.2734
                     -4.2707
                                -4.2402
                                          -4.0973
 -4.3009
                                                               -4.0318
                                                                         -4.0306
 -3.7099
           -3.7041
                     -3.6481
                                -3.6035
                                          -3.6014
                                                    -1.2724
                                                                0.6889
                                                                          0.6906
  0.7394
            1.2551
                      1.6352
                                 1.6562
                                           1.7228
                                                     1.7434
                                                                1.7587
                                                                           1.9807
  1.9930
            2.0043
                      2.0590
                                 2.1362
                                           2.1425
                                                      2.3749
                                                                2.3962
                                                                           2,4636
                                 2.9271
                                           3.1501
  2.7045
                                                     3.1806
                                                                3.2709
            2.7046
                      2.8628
        k = 0.0000 - 0.0962 \ 0.0000 \ (64793 \ PWs)
                                                      bands (ev):
-21.6620 -21.3479 -20.6308 -20.5616 -20.5108 -20.3135 -20.2527 -20.0527
-20.0165 -19.9246 -19.9239 -19.6681 -19.6673 -19.5395 -18.6073 -18.6008
-18.3681 -18.3119 -18.2416 -18.2205 -18.1769 -18.0036 -17.1631 -17.1604
-16.7983 -16.7977 -16.4394 -16.4360 -15.8803 -15.7129 -15.7066 -14.8517
-14.8506 -14.6815 -12.8664 -12.5768 -12.5749 -12.4685 -12.1395 -12.1318
-11.9087 -11.9058 -11.5077 -11.5012 -11.4478 -11.3010 -11.1495 -10.9188
-10.8552 -10.8073 -10.8033 -10.4132 -10.4092 -10.1746 -10.1714 -10.1686
 -9.7073
           -9.5431
                     -9.3697
                               -9.2947
                                         -9.2615
                                                    -9.2163
                                                              -9.1423
                                                                         -8.9348
 -8.9300
           -8.8819
                     -8.8524
                               -8.7645
                                         -8.4529
                                                    -8.3633
                                                               -8.3580
                                                                         -8.2210
                     -7.8599
                               -7.8017
                                          -7.7929
                                                    -7.7745
 -8.0746
           -7.8938
                                                              -7.7551
                                                                         -7.7026
          -7.6195 -7.5902 -7.5262 -7.4743 -7.3190
 -7.6232
                                                              -7.3158
                                                                         -7.2792
```

```
-7.2020
           -7.1667
                    -6.9423
                              -6.9245
                                        -6.8848
                                                  -6.8213
                                                            -6.4980
                                                                      -6.4250
 -6.4185
           -6.3775
                    -6.2605
                              -6.1994
                                        -6.1914
                                                  -6.1211
                                                            -6.0465
                                                                      -5.7343
          -4.8180
 -4.8374
                    -4.7397
                              -4.7194
                                        -4.5444
                                                  -4.4582
                                                            -4.4254
                                                                      -4.4199
           -4.2745
                    -4.2567
                              -4.2007
                                        -4.1106
                                                  -4.0920
                                                            -4.0299
 -4.3102
                                                                      -4.0287
           -3.6433
                    -3.6381
                              -3.6061
                                        -3.6040
 -3.6713
                                                  -1.2696
                                                             0.6957
                                                                       0.6973
 0.7675
           1.2592
                     1.5621
                               1.5827
                                         1.7284
                                                   1.7563
                                                             1.7644
                                                                       1.9856
  1.9886
           1.9967
                     2.0628
                               2.1312
                                         2.1400
                                                   2.4484
                                                             2.4679
                                                                       2.4701
  2.6692
            2.7093
                      2.8275
                               2.9159
                                         3.1006
                                                   3.1893
                                                             3.2449
       k = 0.0000 - 0.1123 \ 0.0000 \ (64753 \ PWs)
                                                   bands (ev):
-21.6588 -21.3440 -20.6582 -20.5732 -20.5156 -20.2960 -20.2261 -20.0917
-20.0026 -19.9421 -19.9414 -19.6429 -19.6421 -19.4930 -18.6293 -18.6248
-18.3697 -18.3045 -18.2506 -18.2217 -18.1671 -17.9807 -17.2204 -17.2178 -16.7946 -16.7940 -16.3763 -16.3729 -15.9442 -15.7335 -15.7275 -14.8243 -14.8234 -14.6117 -12.8704 -12.5710 -12.5673 -12.4460 -12.2008 -12.1932 -11.9454 -11.9422 -11.4817 -11.4631 -11.4567 -11.3224 -11.1535 -10.9237
-10.8467 -10.8427 -10.8304 -10.3763 -10.3719 -10.1643 -10.1101 -10.1069
                    -9.3805
 -9.7376
          -9.5448
                              -9.2986
                                        -9.2670
                                                  -9.2589
                                                            -9.1378
                                                                      -8.9825
          -8.8791
                    -8.8283
                              -8.8025
                                        -8.4823
                                                  -8.3163
                                                            -8.3110
-7.7511
                                                                      -8.2248
 -8.9769
                                                                      -7.7419
 -7.9807
           -7.8633
                    -7.8212
                              -7.8134
                                        -7.8087
                                                  -7.8047
 -7.6441
          -7.6399
                    -7.6075
                              -7.5365
                                        -7.4793
                                                  -7.2893
                                                            -7.2860
                                                                      -7.2538
 -7.1669
          -7.1122
                    -6.9335
                              -6.9141
                                        -6.8877
                                                  -6.8048
                                                            -6.5334
                                                                      -6.4555
                    -6.2692
                              -6.1922
                                        -6.1841
                                                  -6.1035
                                                                      -5.7382
 -6.4492
          -6.4025
                                                            -6.0071
 -4.8815
           -4.8546
                    -4.7504
                              -4.7228
                                        -4.5439
                                                  -4.4889
                                                            -4.4833
                                                                      -4.4501
 -4.3224
           -4.2762
                    -4.2393
                              -4.1603
                                        -4.1264
                                                            -4.0276
                                                  -4.1010
                                                                      -4.0264
 -3.6973
           -3.6097
                     -3.6075
                              -3.5772
                                        -3.5716
                                                  -1.2662
                                                             0.7036
                                                                       0.7052
  0.8002
            1.2641
                               1.5095
                                         1.7349
                                                             1.7760
                     1.4892
                                                   1.7660
                                                                       1.9768
  1.9878
            1.9981
                      2.0671
                               2.1256
                                         2.1372
                                                   2.4730
                                                             2.5219
                                                                       2.5439
                                         3.0516
  2.6322
            2.7150
                      2.7916
                               2.9047
                                                   3.1948
                                                             3.2204
       k = 0.0000 - 0.1283 \ 0.0000 \ (64777 \ PWs)
                                                   bands (ev):
-21.6551 -21.3395 -20.6858 -20.5849 -20.5207 -20.2775 -20.1997 -20.1301
-19.9865 -19.9591 -19.9584 -19.6172 -19.6163 -19.4460 -18.6522 -18.6509
-18.3708 -18.2988 -18.2605 -18.2230 -18.1558 -17.9570 -17.2773 -17.2747
-16.7904 -16.7898 -16.3129 -16.3094 -16.0106 -15.7559 -15.7501 -14.7942
-14.7934 -14.5387 -12.8743 -12.5644 -12.5583 -12.4212 -12.2634 -12.2558
-11.9855 -11.9821 -11.5154 -11.4194 -11.4130 -11.3457 -11.1628 -10.9306
-10.8840 -10.8800 -10.8021 -10.3358 -10.3310 -10.1589 -10.0443 -10.0410
                                                  -9.2448
 -9.7674
          -9.5485
                    -9.4365
                              -9.3354
                                        -9.2527
                                                            -9.1326
                                                                      -9.0301
 -9.0233
          -8.9056
                    -8.8043
                              -8.8031
                                        -8.5109
                                                  -8.2697
                                                            -8.2643
                                                                      -8.2332
                                        -7.8184
                              -7.8273
 -7.8877
          -7.8667
                    -7.8320
                                                  -7.7813
                                                            -7.7547
                                                                      -7.7465
                                                            -7.2555
                              -7.5475
                                        -7.4850
                                                  -7.2589
 -7.6643
          -7.6592
                    -7.6246
                                                                      -7.2274
                    -6.9436
                              -6.8909
                                        -6.8827
                                                  -6.7864
 -7.1325
          -7.0573
                                                            -6.5685
                                                                      -6.4877
                                                            -5.9675
 -6.4817
          -6.4282
                    -6.2790
                              -6.1866
                                        -6.1784
                                                  -6.0867
                                                                      -5.7423
                                                            -4.5429
 -4.9269
          -4.8922
                                                  -4.5463
                    -4.7628
                              -4.7267
                                        -4.5519
                                                                      -4.4446
          -4.2783
                    -4.2200
                              -4.1446
                                        -4.1196
                                                  -4.1114
                                                            -4.0250
 -4.3363
                                                                      -4.0238
                                                             0.7127
          -3.6132
                    -3.6111
                              -3.5113
                                        -3.5057
                                                  -1.2622
 -3.7271
                                                                       0.7142
 0.8376
                               1.4365
                                         1.7425
                                                   1.7729
                                                             1.7928
           1.2696
                     1.4165
                                                                       1.9668
  1.9776
            2.0095
                      2.0714
                               2.1198
                                         2.1341
                                                   2.4788
                                                             2.5941
                                                                       2.5953
  2.6176
            2.7213
                      2.7557
                               2.8931
                                         3.0032
                                                   3.1948
                                                             3.1989
       k = 0.0000 - 0.1443 \ 0.0000 \ (64743 \ PWs)
                                                   bands (ev):
-21.6509 -21.3344 -20.7133 -20.5966 -20.5262 -20.2582 -20.1738 -20.1680
-19.9754 -19.9747 -19.9685 -19.5908 -19.5900 -19.3984 -18.6786 -18.6759
-18.3714 -18.2957 -18.2702 -18.2243 -18.1433 -17.9325 -17.3337 -17.3312
-16.7856 -16.7849 -16.2491 -16.2455 -16.0784 -15.7796 -15.7740 -14.7619
-14.7611 -14.4633 -12.8778 -12.5569 -12.5480 -12.3943 -12.3271 -12.3195
-12.0286 -12.0249 -11.5488 -11.3764 -11.3705 -11.3702 -11.1762 -10.9397
-10.9194 -10.9154 -10.7710 -10.2922 -10.2871 -10.1522 -9.9771 -9.9739
```

```
-9.7964
            -9.5542
                       -9.5248
                                   -9.3399
                                              -9.2428
                                                          -9.2326
                                                                     -9.1267
                                                                                -9.0777
 -9.0688
            -8.9410
                       -8.7827
                                   -8.7822
                                              -8.5366
                                                          -8.2450
                                                                     -8.2234
                                                                                -8.2179
                                              -7.8003
                                                                     -7.7413
 -7.9115
            -7.8428
                       -7.8340
                                   -7.8205
                                                         -7.7964
                                                                                -7.6995
 -7.6838
                                   -7.5590
            -7.6762
                       -7.6415
                                              -7.4914
                                                                     -7.2243
                                                          -7.2279
                                                                                -7.2001
 -7.0989
            -7.0020
                       -6.9547
                                   -6.8944
                                              -6.8483
                                                          -6.7663
                                                                     -6.6031
                                                                                -6.5215
 -6.5160
            -6.4544
                       -6.2899
                                   -6.1826
                                              -6.1745
                                                          -6.0708
                                                                     -5.9278
                                                                                -5.7468
 -4.9732
            -4.9307
                       -4.7767
                                   -4.7310
                                              -4.6146
                                                          -4.6089
                                                                     -4.5414
                                                                                -4.4418
 -4.3513
            -4.2806
                       -4.1995
                                   -4.1652
                                              -4.1231
                                                          -4.0790
                                                                     -4.0220
                                                                                -4.0208
                                              -3.4397
 -3.7603
            -3.6172
                       -3.6152
                                   -3.4454
                                                          -1.2576
                                                                      0.7229
                                                                                 0.7244
  0.8792
             1.2760
                         1.3440
                                    1.3639
                                               1.7510
                                                          1.7800
                                                                      1.8112
                                                                                 1.9555
  1.9661
             2.0229
                         2.0748
                                    2.1149
                                               2.1306
                                                           2.4853
                                                                      2.5557
                                                                                  2.6687
  2.6912
             2.7180
                         2.7307
                                    2.8808
                                               2.9556
                                                           3.1731
                                                                      3.1966
         k = 0.0000 - 0.1604 \ 0.0000 \ (64775 \ PWs)
                                                           bands (ev):
\hbox{-21.6462} \hskip 0.1cm \hbox{-21.3286} \hskip 0.1cm \hbox{-20.7408} \hskip 0.1cm \hbox{-20.6081} \hskip 0.1cm \hbox{-20.5319} \hskip 0.1cm \hbox{-20.2381} \hskip 0.1cm \hbox{-20.2053} \hskip 0.1cm \hbox{-20.1484}
-21.6462 -21.3286 -20.7408 -20.6081 -20.5319 -20.2381 -20.2053 -20.1484 -19.9912 -19.9905 -19.9485 -19.5639 -19.5630 -19.3503 -18.7076 -18.7001 -18.3716 -18.2984 -18.2766 -18.2258 -18.1299 -17.9078 -17.3896 -17.3871 -16.7802 -16.7795 -16.1851 -16.1813 -16.1472 -15.8043 -15.7989 -14.7275 -14.7267 -14.3859 -12.8808 -12.5486 -12.5365 -12.3919 -12.3844 -12.3654 -12.0742 -12.0703 -11.5818 -11.3965 -11.3342 -11.3280 -11.1932 -10.9528 -10.9512 -10.9488 -10.7378 -10.2460 -10.2406 -10.1443 -9.9088 -9.9056 -9.8247 -9.6190 -9.5618 -9.3390 -9.2367 -9.2292 -9.1252 -9.1202
                       -8.7653
                                   -8.7557
            -8.9644
                                                                     -8.1778
                                              -8.5563
                                                         -8.2591
 -9.1132
                                                                                -8.1721
                                              -7.7686
                                                         -7.7355
                                                                                -7.7025
 -7.9552
            -7.8600
                       -7.8594
                                   -7.8512
                                                                     -7.7234
 -7.6748
            -7.6579
                       -7.6439
                                   -7.5708
                                              -7.4984
                                                         -7.1963
                                                                     -7.1925
                                                                                -7.1720
                                                         -6.7445
 -7.0658
            -6.9669
                       -6.9463
                                   -6.8981
                                              -6.8112
                                                                     -6.6373
                                                                                -6.5569
 -6.5519
            -6.4813
                       -6.3019
                                   -6.1803
                                              -6.1721
                                                          -6.0558
                                                                     -5.8880
                                                                                -5.7513
                        -4.7922
                                   -4.7358
            -4.9699
 -5.0201
                                              -4.6770
                                                          -4.6711
                                                                     -4.5396
                                                                                -4.4423
            -4.2833
                                                                                -4.0175
 -4.3662
                        -4.1881
                                   -4.1783
                                              -4.1361
                                                          -4.0387
                                                                     -4.0187
 -3.7967
            -3.6218
                        -3.6198
                                   -3.3796
                                              -3.3738
                                                          -1.2525
                                                                      0.7343
                                                                                 0.7357
                                    1.2916
  0.9251
             1.2719
                         1.2830
                                               1.7604
                                                           1.7877
                                                                      1.8304
                                                                                  1.9430
  1.9534
             2.0384
                         2.0757
                                    2.1126
                                               2.1268
                                                           2.4924
                                                                      2.5172
                                                                                  2.6842
                         2.7647
                                                           3.1509
  2.7377
             2.7419
                                               2.9089
                                    2.8678
                                                                      3.1926
         k = 0.0000 - 0.1764 \ 0.0000 \ (64791 \ PWs)
                                                           bands (ev):
-21.6411 -21.3223 -20.7681 -20.6193 -20.5378 -20.2419 -20.2175 -20.1237
-20.0064 -20.0057 -19.9266 -19.5364 -19.5355 -19.3016 -18.7377 -18.7248
-18.3715 -18.3087 -18.2774 -18.2274 -18.1158 -17.8830 -17.4450 -17.4426
-16.7742 -16.7735 -16.2172 -16.1203 -16.1167 -15.8298 -15.8247 -14.6913
-14.6905 -14.3069 -12.8833 -12.5394 -12.5237 -12.4577 -12.4503 -12.3347
-12.1219 -12.1179 -11.6142 -11.4235 -11.2926 -11.2865 -11.2130 -10.9844
-10.9804 -10.9650 -10.7031 -10.1976 -10.1920 -10.1351
                                                                    -9.8524
                                                                                -9.8395
            -9.7147
                       -9.5710
                                   -9.3378
                                              -9.2607
                                                         -9.2122
 -9.8362
                                                                     -9.1726
                                                                                -9.1554
 -9.1130
            -8.9692
                       -8.7582
                                   -8.7255
                                              -8.5655
                                                          -8.2750
                                                                     -8.1336
                                                                                -8.1269
                                                                     -7.7231
 -7.9969
            -7.8981
                       -7.8789
                                   -7.8702
                                              -7.7370
                                                         -7.7293
                                                                                -7.7205
            -7.6003
                       -7.5886
                                   -7.5826
                                              -7.5060
                                                         -7.1640
                                                                     -7.1600
 -7.6738
                                                                                -7.1431
                       -6.9021
                                                                     -6.6709
 -7.0332
            -6.9800
                                   -6.8905
                                              -6.7719
                                                          -6.7213
                                                                                -6.5937
 -6.5895
            -6.5088
                       -6.3148
                                   -6.1795
                                              -6.1713
                                                          -6.0418
                                                                     -5.8480
                                                                                -5.7558
 -5.0674
            -5.0096
                       -4.8093
                                   -4.7410
                                              -4.7389
                                                          -4.7328
                                                                     -4.5375
                                                                                -4.4474
 -4.3793
            -4.2862
                        -4.2133
                                   -4.1570
                                              -4.1503
                                                          -4.0150
                                                                     -4.0138
                                                                                -3.9989
 -3.8361
            -3.6267
                        -3.6247
                                   -3.3139
                                              -3.3081
                                                          -1.2468
                                                                      0.7469
                                                                                 0.7482
  0.9749
             1.2002
                         1.2197
                                    1.2907
                                               1.7708
                                                           1.7962
                                                                      1.8496
                                                                                  1.9292
                                                                      2.4998
  1.9395
             2.0562
                         2.0724
                                    2.1146
                                               2.1228
                                                           2.4789
                                                                                  2.6510
  2.7465
              2.8150
                         2.8381
                                    2.8539
                                                2.8631
                                                           3.1294
                                                                      3.1850
         k = 0.0000 - 0.1925 \ 0.0000 \ (64799 \ PWs)
                                                           bands (ev):
-21.6354 -21.3154 -20.7951 -20.6302 -20.5438 -20.2781 -20.1962 -20.0997
-20.0210 -20.0203 -19.9030 -19.5083 -19.5074 -19.2523 -18.7686 -18.7497
-18.3710 -18.3232 -18.2760 -18.2290 -18.1012 -17.8583 -17.4999 -17.4976
```

```
-16.7677 -16.7670 -16.2873 -16.0555 -16.0518 -15.8559 -15.8510 -14.6536
-14.6527 -14.2266 -12.8851 -12.5294 -12.5245 -12.5171 -12.5097 -12.3024
-12.1713 -12.1672 -11.6460 -11.4512 -11.2516 -11.2456 -11.2350 -11.0142
                                                                 -9.8793
-11.0102 -10.9811 -10.6674 -10.1475 -10.1416 -10.1248
                                                                            -9.8109
                                           -9.3012
                                                      -9.2198
                                                                            -9.1923
 -9.7692
           -9.7658
                      -9.5814
                                 -9.3392
                                                                 -9.1935
 -9.1050
           -8.9578
                      -8.7643
                                 -8.6934
                                            -8.5607
                                                       -8.2919
                                                                  -8.0965
                                                                            -8.0824
                                                      -7.7379
 -8.0309
           -7.9364
                      -7.8996
                                -7.8909
                                            -7.7386
                                                                  -7.7218
                                                                            -7.7061
           -7.5945
                      -7.5341
                                 -7.5139
                                            -7.5103
 -7.6892
                                                       -7.1313
                                                                 -7.1268
                                                                            -7.1135
                      -6.9062
                                 -6.8354
 -7.0010
           -6.9940
                                            -6.7306
                                                      -6.7041
                                                                  -6.6968
                                                                            -6.6318
                                                                  -5.8080
 -6.6280
           -6.5370
                      -6.3284
                                 -6.1803
                                            -6.1721
                                                      -6.0289
                                                                            -5.7601
 -5.1150
           -5.0497
                      -4.8279
                                 -4.8004
                                            -4.7941
                                                       -4.7466
                                                                  -4.5351
                                                                            -4.4589
 -4.3888
                                                       -4.0110
           -4.2893
                      -4.2408
                                 -4.1659
                                            -4.1358
                                                                  -4.0099
                                                                            -3.9597
 -3.8782
                      -3.6301
           -3.6321
                                 -3.2485
                                            -3.2426
                                                       -1.2405
                                                                   0.7605
                                                                              0.7617
             1.1290
                                  1.2992
                                                        1.8054
                                                                   1.8683
  1.0284
                       1.1482
                                             1.7821
                                                                              1.9143
  1.9244
             2.0656
                       2.0764
                                  2.1183
                                             2.1206
                                                        2.4410
                                                                   2.5073
                                                                              2,6202
  2.7558
             2.8186
                        2.8392
                                  2.8880
                                             2.9113
                                                        3.1087
                                                                   3.1725
        k = 0.0000 - 0.2085 \ 0.0000 \ (64757 \ PWs)
                                                        bands (ev):
-21.6293 -21.3078 -20.8219 -20.6408 -20.5499 -20.3136 -20.1744 -20.0764 -20.0350 -20.0343 -19.8777 -19.4796 -19.4787 -19.2025 -18.8002 -18.7749 -18.3703 -18.3398 -18.2743 -18.2308 -18.0865 -17.8338 -17.5544 -17.5520 -16.7607 -16.7599 -16.3577 -15.9904 -15.9866 -15.8825 -15.8777 -14.6145 -14.6135 -14.1451 -12.8863 -12.5920 -12.5847 -12.5186 -12.4946 -12.2685 -12.2222 -12.2180 -11.6772 -11.4794 -11.2590 -11.2111 -11.2051 -11.0422 -11.0383 -10.9994 -10.6308 -10.1137 -10.0957 -10.0897 -9.9074 -9.9056 -9.6980 -9.6986 -9.5928 -9.5928 -9.3518 -9.3471 -9.2670 -9.2239 -9.1699
                                 -9.3518
                                           -9.3471
                      -9.5928
 -9.6980
           -9.6946
                                                      -9.2670
                                                                 -9.2239
                                                                            -9.1699
                      -8.7823
                                            -8.5432
 -9.0964
           -8.9363
                                 -8.6598
                                                       -8.3094
                                                                  -8.1007
                                                                             -8.0383
                                            -7.7549
            -7.9743
                      -7.9220
                                 -7.9132
                                                       -7.7540
                                                                  -7.7142
 -8.0234
                                                                            -7.7043
 -7.6760
           -7.6062
                      -7.5218
                                 -7.4810
                                            -7.4192
                                                       -7.0980
                                                                  -7.0930
                                                                            -7.0832
 -7.0088
           -6.9690
                      -6.9104
                                 -6.7839
                                            -6.7366
                                                       -6.6877
                                                                  -6.6719
                                                                             -6.6711
 -6.6638
            -6.5658
                      -6.3426
                                 -6.1825
                                            -6.1743
                                                       -6.0175
                                                                  -5.7678
                                                                             -5.7639
            -5.0902
 -5.1629
                      -4.8615
                                 -4.8549
                                            -4.8480
                                                       -4.7525
                                                                  -4.5324
                                                                             -4.4768
 -4.3941
            -4.2927
                      -4.2706
                                                       -4.0067
                                                                  -4.0056
                                 -4.1826
                                            -4.1149
                                                                             -3.9230
 -3.9213
                      -3.6359
                                            -3.1775
                                                       -1.2336
            -3.6378
                                 -3.1833
                                                                   0.7752
                                                                              0.7763
  1.0583
             1.0774
                        1.0856
                                  1.3083
                                             1.7944
                                                        1.8153
                                                                   1.8861
                                                                              1.8983
  1.9081
             2.0565
                        2.0986
                                             2.1288
                                                        2.4038
                                                                   2.5138
                                  2.1141
                                                                              2.5936
  2.7609
                        2.8235
                                  2.9608
                                             2.9844
                                                        3.0887
                                                                   3.1518
             2.7802
        k = 0.0000 - 0.2245 \ 0.0000 \ (64791 \ PWs)
                                                        bands (ev):
-21.6226 -21.2997 -20.8485 -20.6510 -20.5560 -20.3485 -20.1520 -20.0536
-20.0484 -20.0477 -19.8511 -19.4504 -19.4494 -19.1521 -18.8323 -18.8002
-18.3694 -18.3578 -18.2727 -18.2327 -18.0718 -17.8097 -17.6083 -17.6060
-16.7531 -16.7522 -16.4282 -15.9252 -15.9213 -15.9090 -15.9046 -14.5741
-14.5729 -14.0626 -12.8867 -12.6602 -12.6530 -12.5070 -12.4784 -12.2743
-12.2700 -12.2331 -11.7075 -11.5078 -11.2845 -11.1710 -11.1650 -11.0685
-11.0647 -11.0196 -10.5936 -10.1020 -10.0428 -10.0365 -10.0041
                                                                            -9.9313
           -9.6226
                      -9.6048
                                 -9.4074
                                           -9.3664
                                                      -9.3140
                                                                 -9.2420
 -9.6261
                                                                            -9.1456
 -9.0872
           -8.9093
                      -8.8080
                                 -8.6256
                                            -8.5172
                                                       -8.3266
                                                                  -8.1363
                                                                            -8.0118
 -7.9943
           -7.9849
                      -7.9459
                                 -7.9372
                                            -7.7708
                                                       -7.7696
                                                                  -7.7186
                                                                            -7.7060
 -7.6479
           -7.6178
                      -7.5291
                                 -7.4297
                                            -7.3282
                                                       -7.0644
                                                                  -7.0585
                                                                             -7.0522
 -7.0241
           -6.9372
                      -6.9147
                                 -6.7685
                                            -6.7548
                                                       -6.7143
                                                                  -6.6775
                                                                             -6.6448
            -6.5953
 -6.6435
                      -6.3570
                                 -6.1861
                                            -6.1779
                                                       -6.0075
                                                                  -5.7670
                                                                             -5.7277
 -5.2109
                                            -4.8696
                                                       -4.7587
            -5.1309
                      -4.9222
                                 -4.9152
                                                                  -4.5294
                                                                             -4.4998
 -4.3966
            -4.3026
                       -4.2963
                                 -4.2006
                                            -4.0945
                                                       -4.0021
                                                                  -4.0010
                                                                             -3.9701
                                                                   0.7909
 -3.8838
            -3.6439
                       -3.6421
                                 -3.1186
                                            -3.1127
                                                       -1.2263
                                                                              0.7919
  0.9882
                                             1.8074
            1.0071
                       1.1461
                                  1.3181
                                                        1.8260
                                                                   1.8812
                                                                              1.8907
  1.9022
             2.0462
                        2.1095
                                  2.1223
                                             2.1391
                                                                   2.5167
                                                        2.3673
                                                                              2.5747
  2.7281
             2.7815
                        2.8070
                                  3.0335
                                             3.0572
                                                        3.0695
                                                                   3.1208
        k = 0.0000 - 0.2406 \ 0.0000 \ (64785 \ PWs)
                                                        bands (ev):
```

```
-21.6155 -21.2909 -20.8747 -20.6608 -20.5620 -20.3829 -20.1292 -20.0612
-20.0605 -20.0313 -19.8233 -19.4206 -19.4196 -19.1012 -18.8648 -18.8257
-14.5313 -13.9793 -12.8864 -12.7291 -12.7220 -12.4947 -12.4613 -12.3274
-12.3231 -12.1965 -11.7370 -11.5363 -11.3112 -11.1314 -11.1254 -11.0931
                                                             -9.9824
-11.0893 -11.0417 -10.5559 -10.1008 -10.0902
                                                   -9.9888
                                                                       -9.9563
           -9.5536
                     -9.5500
                               -9.4652
                                         -9.3971
                                                   -9.3608
 -9.6170
                                                              -9.2476
                                                                        -9.1200
           -8.8797
 -9.0772
                     -8.8379
                               -8.5913
                                         -8.4862
                                                   -8.3429
                                                              -8.1758
                                                                        -8.0488
 -7.9719
           -7.9631
                     -7.9503
                               -7.9423
                                         -7.7861
                                                   -7.7847
                                                              -7.7323
                                                                        -7.6971
 -7.6290
           -7.6234
                     -7.5337
                               -7.3807
                                         -7.2375
                                                    -7.0396
                                                              -7.0306
                                                                        -7.0234
 -7.0206
           -6.9190
                     -6.9053
                               -6.7993
                                         -6.7772
                                                    -6.7586
                                                              -6.6407
                                                                        -6.6256
           -6.5981
 -6.6183
                     -6.3710
                               -6.1910
                                         -6.1829
                                                    -5.9993
                                                              -5.7693
                                                                        -5.6876
 -5.2589
           -5.1718
                     -4.9824
                               -4.9748
                                         -4.8927
                                                    -4.7652
                                                              -4.5263
                                                                        -4.5262
 -4.3976
           -4.3369
                     -4.3002
                               -4.2198
                                         -4.0748
                                                    -4.0195
                                                              -3.9971
                                                                        -3.9960
 -3.8472
           -3.6504
                     -3.6486
                               -3.0543
                                         -3.0484
                                                    -1.2184
                                                               0.8076
                                                                         0.8086
  0.9188
            0.9376
                      1.2097
                                1.3285
                                          1.8213
                                                     1.8372
                                                               1.8630
                                                                         1.8723
  1.9165
            2.0351
                      2.1048
                                2.1449
                                           2.1526
                                                     2.3316
                                                               2.5123
                                                                         2.5681
  2.6868
            2.7896
                      2.7931
                                3.0500
                                           3.0832
                                                     3.1061
                                                               3.1301
        k = 0.0000 - 0.2566 \ 0.0000 \ (64785 \ PWs)
                                                     bands (ev):
-21.6080 -21.2816 -20.9006 -20.6703 -20.5680 -20.4167 -20.1058 -20.0734 -20.0728 -20.0095 -19.7944 -19.3901 -19.3892 -19.0497 -18.8976 -18.8511 -18.3973 -18.3669 -18.2700 -18.2367 -18.0429 -17.7629 -17.7146 -17.7124 -16.7361 -16.7351 -16.5692 -15.9634 -15.9591 -15.7933 -15.7893 -14.4900 -14.4886 -13.8951 -12.8853 -12.7985 -12.7915 -12.4816 -12.4432 -12.3813 -12.3769 -12.1588 -11.7656 -11.5646 -11.3390 -11.1170 -11.1132 -11.0911
-11.0854 -11.0652 -10.5179 -10.1975 -10.0793
                                                   -9.9802
                                                              -9.9339
                                                                        -9.9273
 -9.6293
           -9.5231
                     -9.4805
                               -9.4768
                                         -9.4348
                                                    -9.4074
                                                              -9.2452
                                                                        -9.0939
                               -8.5580
 -9.0666
           -8.8695
                     -8.8491
                                         -8.4521
                                                    -8.3568
                                                              -8.2156
                                                                        -8.0853
                               -7.8998
                                                    -7.7991
 -7.9989
           -7.9902
                     -7.9073
                                         -7.8006
                                                              -7.7455
                                                                        -7.6876
                     -7.5318
 -7.6400
           -7.6067
                               -7.3349
                                         -7.1473
                                                    -7.0548
                                                              -6.9974
                                                                        -6.9885
 -6.9875
           -6.9233
                     -6.8734
                               -6.8286
                                         -6.8180
                                                    -6.8046
                                                              -6.6565
                                                                        -6.5926
 -6.5864
           -6.5519
                                                    -5.9930
                     -6.3836
                               -6.1972
                                         -6.1891
                                                              -5.7704
                                                                        -5.6477
                                                                        -4.5229
 -5.3069
           -5.2128
                     -5.0421
                               -5.0338
                                         -4.9172
                                                    -4.7720
                                                              -4.5554
 -4.3977
           -4.3733
                     -4.3042
                               -4.2402
                                         -4.0708
                                                    -4.0559
                                                              -3.9918
                                                                        -3.9908
 -3.8116
           -3.6573
                     -3.6555
                               -2.9906
                                         -2.9847
                                                    -1.2100
                                                               0.8253
                                                                         0.8261
  0.8503
            0.8689
                      1.2763
                                1.3396
                                          1.8360
                                                     1.8438
                                                               1.8491
                                                                         1.8529
  1.9286
            2.0237
                      2.1000
                                2.1601
                                           2.1742
                                                     2.2969
                                                               2.5035
                                                                         2.5724
  2.6460
            2.7714
                      2.8062
                                3.0277
                                           3.0468
                                                     3.1452
                                                               3.1636
        k = 0.0000 - 0.2726 \ 0.0000 \ (64781 \ PWs)
                                                     bands (ev):
-21.5999 -21.2716 -20.9261 -20.6793 -20.5738 -20.4499 -20.0850 -20.0844
-20.0821 -19.9881 -19.7647 -19.3592 -19.3582 -18.9976 -18.9306 -18.8765
-18.4187 -18.3654 -18.2690 -18.2388 -18.0290 -17.7670 -17.7649 -17.7404
-16.7268 -16.7258 -16.6394 -15.9904 -15.9863 -15.7272 -15.7230 -14.4465
-14.4449 -13.8103 -12.8836 -12.8683 -12.8614 -12.4679 -12.4359 -12.4315
-12.4241 -12.1201 -11.7931 -11.5926 -11.3675 -11.1385 -11.1347 -11.0900
-11.0521 -11.0463 -10.4798 -10.2942 -10.0717 -10.0015
                                                              -9.8784
                                                                        -9.8717
 -9.6416
           -9.5797
                     -9.4760
                               -9.4539
                                         -9.4070
                                                    -9.4032
                                                              -9.2383
                                                                        -9.0687
 -9.0553
           -8.9006
                     -8.8189
                               -8.5273
                                          -8.4164
                                                    -8.3664
                                                              -8.2552
                                                                        -8.1213
                     -7.8648
                               -7.8576
                                          -7.8145
                                                    -7.8128
                                                              -7.7580
 -8.0277
           -8.0190
                                                                        -7.6775
 -7.6506
           -7.6016
                     -7.5193
                               -7.2936
                                          -7.0683
                                                    -7.0577
                                                              -6.9668
                                                                        -6.9557
           -6.9275
                     -6.8636
                                          -6.8520
                                                    -6.8414
                                                              -6.6881
 -6.9511
                               -6.8542
                                                                        -6.5694
           -6.5049
                     -6.3929
                               -6.2046
                                          -6.1966
                                                    -5.9887
                                                              -5.7703
 -6.5284
                                                                        -5.6081
 -5.3550
           -5.2539
                               -5.0920
                                          -4.9431
                                                    -4.7789
                                                              -4.5867
                     -5.1014
                                                                        -4.5193
           -4.3975
                     -4.3084
                               -4.2616
                                          -4.1240
                                                    -4.0378
                                                              -3.9863
                                                                        -3.9852
 -4.4118
                               -2.9276
 -3.7771
           -3.6645
                     -3.6627
                                         -2.9216
                                                    -1.2012
                                                               0.7825
                                                                         0.8011
  0.8440
           0.8448
                     1.3458
                                1.3514
                                          1.8236
                                                    1.8324
                                                               1.8515
                                                                         1.8615
```

```
1.9382
           2.0121
                     2.0951
                                       2.1967
                                                 2.2633
                                                          2.4977
                                                                    2.5820
                              2.1735
  2.6063
           2.7524
                     2.8202
                              2.9928
                                       3.0228
                                                 3.1329
                                                          3.1499
       k = 0.0000 - 0.2887 \ 0.0000 \ (64717 \ PWs)
                                                 bands (ev):
-21.5914 -21.2611 -20.9513 -20.6879 -20.5794 -20.4825 -20.0961 -20.0954
-20.0578 -19.9669 -19.7343 -19.3276 -19.3266 -18.9638 -18.9450 -18.9017
-18.4409 -18.3638 -18.2681 -18.2410 -18.0154 -17.8189 -17.8168 -17.7186
-16.7170 -16.7159 -16.7095 -16.0173 -16.0134 -15.6608 -15.6567 -14.4021 -14.4004 -13.7248 -12.9384 -12.9317 -12.8811 -12.4910 -12.4867 -12.4534 -12.4043 -12.0808 -11.8196 -11.6198 -11.3967 -11.1588 -11.1551 -11.1158
-11.0131 -11.0072 -10.4414 -10.3909 -10.0735 -10.0152
                                                         -9.8223
                                                                  -9.8154
                                                         -9.2287
 -9.6536
          -9.6335
                   -9.5190
                            -9.5001 -9.3330
                                               -9.3291
                                                                  -9.0478
                                               -8.3684
 -9.0433
          -8.9275
                   -8.7902
                            -8.5020
                                      -8.3795
                                                         -8.2942
                                                                  -8.1568
                   -7.8278
                                      -7.8227
                                                         -7.7700
                                                                  -7.6669
 -8.0580
          -8.0493
                            -7.8262
                                               -7.8160
 -7.6608
          -7.6056
                   -7.4988
                            -7.2589
                                      -7.0782
                                               -6.9686
                                                         -6.9465
                                                                  -6.9317
          -6.9145
                                               -6.8092
                                                         -6.7203
                                                                  -6.5518
 -6.9223
                   -6.9112
                            -6.9012
                                      -6.8680
                                               -5.9864
                                      -6.2051
                                                         -5.7688
                                                                  -5.5690
 -6.4690
          -6.4574
                   -6.3958
                             -6.2131
                                      -4.9703
                   -5.1602
 -5.4029
          -5.2948
                             -5.1491
                                                -4.7860
                                                         -4.6198
                                                                   -4.5156
                                                                   -3.9794
 -4.4524
          -4.3970
                   -4.3129
                             -4.2842
                                      -4.1788
                                                -4.0205
                                                         -3.9804
 -3.7439
          -3.6719
                   -3.6703
                             -2.8654
                                      -2.8594
                                                -1.1920
                                                          0.7159
                                                                    0.7343
                    1.3636
  0.8635
           0.8643
                              1.4178
                                       1.8026
                                                 1.8110
                                                          1.8677
                                                                    1.8741
  1.9449
           2.0007
                     2.0903
                                       2.2162
                                                 2.2309
                                                          2.4993
                              2.1872
                                                                    2.5670
  2.5947
                    2.8350
                              2.9519
                                       3.0057
                                                 3.1212
           2.7326
                                                          3.1364
       k = 0.0000 - 0.3047 \ 0.0000 \ (64781 \ PWs)
                                                 bands (ev):
-14.3551 -13.6386 -13.0088 -13.0022 -12.8780 -12.5466 -12.5423 -12.4384 -12.3837 -12.0412 -11.8450 -11.6460 -11.4263 -11.1777 -11.1740 -11.1423
                                                         -9.7658
-10.9741 -10.9682 -10.4875 -10.4031 -10.0904 -10.0170
                                                                  -9.7588
                   -9.5627
                            -9.5462
                                      -9.2588
 -9.6832
          -9.6653
                                               -9.2548
                                                         -9.2173
                                                                  -9.0403
 -9.0307
          -8.9410
                   -8.7642
                             -8.4848
                                      -8.3591
                                                -8.3423
                                                         -8.3326
                                                                   -8.1917
                                      -7.7820
                                                -7.7813
 -8.0898
          -8.0812
                   -7.8401
                             -7.8383
                                                         -7.7753
                                                                  -7.6706
 -7.6556
          -7.6140
                   -7.4748
                             -7.2348
                                      -7.0807
                                                -6.9616
                                                         -6.9525
                                                                   -6.9503
 -6.9357
          -6.8884
                   -6.8803
                             -6.8761
                                      -6.8564
                                                -6.7769
                                                         -6.7533
                                                                   -6.5435
 -6.4096
          -6.4087
                   -6.3888
                             -6.2225
                                      -6.2147
                                                -5.9861
                                                         -5.7660
                                                                   -5.5310
                                      -4.9989
 -5.4508
          -5.3356
                   -5.2185
                             -5.2047
                                                -4.7932
                                                         -4.6545
                                                                   -4.5116
                             -4.3079
                                      -4.2352
                                                -4.0042
 -4.4951
          -4.3964
                   -4.3175
                                                         -3.9742
                                                                   -3.9733
          -3.6797
 -3.7119
                   -3.6781
                             -2.8041
                                      -2.7981
                                                -1.1826
                                                          0.6505
                                                                    0.6688
 0.8839
           0.8847
                    1.3765
                              1.4924
                                       1.7806
                                                 1.7888
                                                          1.8846
                                                                    1.8865
  1.9484
                                                 2.2318
           1.9900
                    2.0855
                              2.1998
                                       2.2012
                                                          2.5100
                                                                    2.5297
  2.6083
           2.7121
                    2.8506
                              2.9102
                                       2.9905
                                                 3.1102
                                                          3.1229
       k = 0.0000 - 0.3208 \ 0.0000 \ (64755 \ PWs)
                                                 bands (ev):
-21.5730 -21.2382 -21.0004 -20.7038 -20.5902 -20.5459 -20.1163 -20.1157
-20.0081 -19.9254 -19.6722 -19.2628 -19.2618 -19.0306 -18.9515 -18.8382
-18.4878 -18.3603 -18.2666 -18.2455 -17.9899 -17.9212 -17.9191 -17.6776
-16.8489 -16.6955 -16.6944 -16.0707 -16.0670 -15.5279 -15.5235 -14.3109
-14.3090 -13.5519 -13.0793 -13.0728 -12.8743 -12.6025 -12.5982 -12.4228
-12.3625 -12.0018 -11.8691 -11.6706 -11.4563 -11.1953 -11.1917 -11.1692
-10.9352 -10.9292 -10.5839 -10.3647 -10.1180 -10.0129
                                                         -9.7267
                                                                  -9.7090
 -9.7020
          -9.6765
                   -9.6069
                            -9.5920
                                      -9.2048
                                               -9.1842
                                                         -9.1800
                                                                  -9.0546
 -9.0174
          -8.9325
                   -8.7423
                             -8.4748
                                      -8.3704
                                                -8.3383
                                                         -8.3050
                                                                  -8.2260
          -8.1144
                   -7.8519
                             -7.8500
                                      -7.7920
                                                -7.7421
                                                         -7.7354
                                                                  -7.6799
 -8.1231
 -7.6438
          -7.6241
                   -7.4500
                            -7.2251
                                      -7.0718
                                               -7.0131
                                                         -7.0041
                                                                  -6.9719
                                      -6.7922
 -6.9397
          -6.8539
                   -6.8380
                            -6.8269
                                               -6.7868
                                                         -6.7443
                                                                  -6.5455
 -6.3705
         -6.3614
                   -6.3478
                            -6.2328
                                      -6.2251
                                               -5.9875
                                                         -5.7619
                                                                  -5.4985
```

```
-5.4953
           -5.3760
                      -5.2763
                                -5.2574
                                          -5.0287
                                                     -4.8005
                                                                -4.6907
                                                                          -4.5398
                                          -4.2929
                                                     -3.9888
                                                               -3.9678
                                                                          -3.9669
 -4.5075
           -4.3957
                      -4.3326
                                -4.3222
 -3.6877
           -3.6861
                     -3.6812
                                -2.7439
                                          -2.7379
                                                     -1.1729
                                                                 0.5864
                                                                           0.6046
            0.9059
  0.9052
                       1.3899
                                 1.5692
                                           1.7578
                                                     1.7657
                                                                 1.8979
                                                                           1.9022
  1.9486
            1.9811
                       2.0807
                                 2.1701
                                            2.2155
                                                      2.2442
                                                                 2.4933
                                                                           2.5302
  2.6232
            2.6910
                       2.8643
                                 2.8714
                                            2.9765
                                                      3.0997
                                                                 3.1092
        k = 0.0000-0.3368 \ 0.0000 \ (64755 \ PWs)
                                                      bands (ev):
-21.5631 -21.2258 -21.0243 -20.7111 -20.5952 -20.5768 -20.1256 -20.1249
-19.9826 -19.9050 -19.6409 -19.2295 -19.2285 -19.0640 -18.9760 -18.7839 -18.5123 -18.3584 -18.2661 -18.2479 -17.9780 -17.9715 -17.9695 -17.6584 -16.9181 -16.6840 -16.6828 -16.0970 -16.0934 -15.4613 -15.4569 -14.2642 -14.2621 -13.4647 -13.1497 -13.1434 -12.8700 -12.6587 -12.6544 -12.4066 -12.3406 -11.9638 -11.8920 -11.6926 -11.4864 -11.2117 -11.2081 -11.1961
-10.8963 -10.8903 -10.6803 -10.3263 -10.1521 -10.0091 -9.7622
                                                                         -9.6872
                                          -9.1908
                                                                         -9.0829
                                                    -9.1096
                                                               -9.1053
 -9.6530
           -9.6509
                     -9.6443 -9.6375
                                                               -8.2682
                                                                          -8.2598
 -9.0035
           -8.9100
                     -8.7261
                               -8.4671
                                          -8.4076
                                                    -8.3098
                                -7.8610
                                          -7.8021
                                                    -7.7031
                                                               -7.6967
           -8.1492
                     -7.8629
                                                                          -7.6887
 -8.1578
           -7.6313
                     -7.4253
 -7.6347
                                -7.2291
                                          -7.0662
                                                     -7.0575
                                                               -7.0526
                                                                         -6.9979
 -6.9436
           -6.8211
                     -6.8186
                                -6.7990
                                          -6.7914
                                                     -6.7116
                                                               -6.7051
                                                                          -6.5554
 -6.3433
                     -6.2863
                                                     -5.9905
                                                                          -5.5460
           -6.3132
                                -6.2439
                                          -6.2363
                                                               -5.7569
           -5.4161
                     -5.3336
 -5.4658
                                -5.3035
                                                     -4.8077
                                                                          -4.5864
                                          -5.0599
                                                                -4.7281
                     -4.3583
 -4.5032
           -4.3951
                                -4.3519
                                          -4.3271
                                                                          -3.9602
                                                     -3.9744
                                                               -3.9611
                      -3.6520
                                -2.6851
 -3.6959
           -3.6944
                                          -2.6790
                                                                           0.5419
                                                     -1.1631
                                                                 0.5238
  0.9272
            0.9279
                       1.4038
                                           1.7343
                                                      1.7419
                                                                 1.9065
                                                                           1.9202
                                 1.6481
  1.9450
            1.9761
                       2.0761
                                 2.1419
                                            2.2292
                                                      2.2553
                                                                 2.4586
                                                                           2.5573
  2.6390
            2.6692
                       2.8273
                                 2.8846
                                            2.9637
                                                      3.0899
                                                                 3.0942
        k = 0.0000 - 0.3528 \ 0.0000 \ (64806 \ PWs)
                                                      bands (ev):
-21.5528 -21.2128 -21.0478 -20.7179 -20.6070 -20.6000 -20.1342 -20.1336
-19.9567 -19.8849 -19.6095 -19.1957 -19.1946 -19.0975 -18.9999 -18.7292
-18.5374 -18.3564 -18.2656 -18.2502 -18.0213 -18.0194 -17.9667 -17.6402 -16.9870 -16.6719 -16.6706 -16.1231 -16.1196 -15.3949 -15.3904 -14.2168
-14.2146 -13.3769 -13.2201 -13.2139 -12.8652 -12.7151 -12.7108 -12.3901 -12.3183 -11.9287 -11.9135 -11.7106 -11.5165 -11.2268 -11.2233 -11.2226
-10.8574 -10.8514 -10.7766 -10.2881 -10.1917 -10.0085
                                                               -9.7880
                                                                         -9.6973
 -9.6957
           -9.6830
                     -9.5949
                               -9.5876
                                          -9.1759
                                                    -9.1166
                                                               -9.0349
                                                                          -9.0304
 -8.9889
           -8.8822
                     -8.7166
                               -8.4572
                                          -8.4441
                                                    -8.2930
                                                               -8.2773
                                                                          -8.2323
                     -7.8733
                               -7.8713
                                          -7.8115
 -8.1939
           -8.1853
                                                     -7.6971
                                                               -7.6654
                                                                          -7.6591
 -7.6448
           -7.6181
                     -7.4012
                               -7.2419
                                          -7.1208
                                                     -7.1124
                                                               -7.0276
                                                                          -7.0251
                                -6.7594
                                          -6.7536
                                                     -6.6788
 -6.9474
           -6.8555
                     -6.7832
                                                               -6.6188
                                                                          -6.5701
                     -6.2556
                                -6.2483
                                          -6.2241
                                                     -5.9948
 -6.3103
           -6.2652
                                                               -5.7510
                                                                          -5.5934
                                                               -4.7666
           -5.4548
                     -5.3904
                                -5.3306
                                          -5.0922
                                                     -4.8149
 -5.4557
                                                                          -4.6350
                                                    -3.9610
                                                               -3.9541
 -4.4988
           -4.4119
                     -4.3944
                                -4.3850
                                          -4.3322
                                                                          -3.9532
           -3.7030
                     -3.6243
                                -2.6276
                                          -2.6216
                                                     -1.1532
 -3.7044
                                                                 0.4629
                                                                           0.4809
  0.9500
            0.9507
                      1.4182
                                1.7099
                                           1.7173
                                                      1.7293
                                                                 1.9097
                                                                           1.9380
  1.9385
            1.9774
                       2.0716
                                 2.1155
                                            2.2417
                                                      2.2672
                                                                 2.4255
                                                                           2.5893
  2.6469
            2.6557
                       2.7873
                                 2.9019
                                            2.9522
                                                      3.0748
                                                                 3.0810
        k = 0.0000 - 0.3689 \ 0.0000 \ (64796 \ PWs)
                                                      bands (ev):
-21.5421 -21.1993 -21.0708 -20.7242 -20.6367 -20.6045 -20.1423 -20.1417
-19.9304 -19.8650 -19.5782 -19.1613 -19.1602 -19.1308 -19.0233 -18.6738
-18.5628 -18.3544 -18.2651 -18.2526 -18.0706 -18.0687 -17.9561 -17.6230
-17.0555 -16.6593 -16.6579 -16.1488 -16.1454 -15.3286 -15.3240 -14.1688
-14.1665 -13.2913 -13.2880 -13.2838 -12.8600 -12.7716 -12.7673 -12.3731
-12.2957 -11.9335 -11.8997 -11.7216 -11.5466 -11.2480 -11.2407 -11.2373
-10.8728 \ -10.8184 \ -10.8124 \ -10.2500 \ -10.2362 \ -10.0122 \ -9.8034 \ -9.7400
          -9.7067 -9.5378 -9.5304 -9.1600 -9.1523
                                                               -8.9737
 -9.7281
                                                                         -8.9601
 -8.9556 -8.8526 -8.7138 -8.4799 -8.4428 -8.3255 -8.2431 -8.2313
```

```
-8.2227
           -8.1979
                     -7.8829
                                -7.8809
                                          -7.8203
                                                    -7.7049
                                                               -7.6539
                                                                         -7.6289
 -7.6230
           -7.6043
                     -7.3782
                               -7.2597
                                          -7.1767
                                                    -7.1686
                                                              -7.0525
                                                                         -7.0007
                     -6.7470
                               -6.7193
 -6.9514
           -6.8903
                                          -6.7144
                                                    -6.6459
                                                              -6.5875
                                                                         -6.5332
           -6.2678
                                                    -6.0001
                     -6.2606
                                                               -5.7446
                                                                         -5.6405
 -6.2735
                               -6.2175
                                          -6.1618
 -5.4944
                     -5.4466
                                -5.3238
                                          -5.1257
                                                               -4.8061
           -5.4772
                                                    -4.8220
                                                                         -4.6855
 -4.4942
           -4.4730
                     -4.4127
                                -4.3938
                                          -4.3373
                                                    -3.9485
                                                               -3.9469
                                                                         -3.9461
 -3.7131
           -3.7117
                     -3.5982
                               -2.5719
                                          -2.5659
                                                    -1.1434
                                                               0.4039
                                                                          0.4218
  0.9735
            0.9743
                      1.4329
                                1.6851
                                           1.6921
                                                     1.8120
                                                                1.9066
                                                                          1.9282
                                           2.2530
                                                     2.2809
  1.9569
            1.9858
                      2.0672
                                 2.0911
                                                                2.3946
                                                                          2.6233
  2.6241
            2.6731
                      2.7482
                                 2.9182
                                           2.9435
                                                     3.0477
                                                                3.0725
        k = 0.0000 - 0.3849 \ 0.0000 \ (64790 \ PWs)
                                                     bands (ev):
-21.5309 -21.1851 -21.0934 -20.7301 -20.6658 -20.6087 -20.1497 -20.1491
-19.9037 -19.8455 -19.5474 -19.1641 -19.1263 -19.1252 -19.0460 -18.6180 -18.5886 -18.3524 -18.2647 -18.2550 -18.1194 -18.1175 -17.9461 -17.6068 -17.1236 -16.6461 -16.6447 -16.1742 -16.1709 -15.2625 -15.2578 -14.1202 -14.1177 -13.3599 -13.3540 -13.1999 -12.8545 -12.8281 -12.8239 -12.3559 -12.2728 -11.9521 -11.8812 -11.7217 -11.5764 -11.2716 -11.2535 -11.2501
-10.9687 -10.7794 -10.7733 -10.2852 -10.2122 -10.0196 -9.7730 -9.7155 -9.4807 -9.4732 -9.1888 -9.1433
                                                                         -9.7842
                                                              -9.8096
                                                              -8.9578
                                                                         -8.8854
                                                                         -8.2615
 -8.8807
           -8.8222
                     -8.7169
                               -8.5150
                                          -8.4240
                                                    -8.3575
                                                               -8.2701
                                                              -7.6611
 -8.2085
           -8.1657
                     -7.8919
                               -7.8899
                                          -7.8284
                                                    -7.7121
                                                                         -7.5945
                                                              -7.0799
 -7.5912
           -7.5864
                     -7.3563
                               -7.2802
                                          -7.2339
                                                    -7.2260
                                                                         -6.9742
                     -6.7104
 -6.9565
                               -6.6785
                                          -6.6743
           -6.9242
                                                    -6.6130
                                                              -6.6062
                                                                         -6.4485
 -6.2802
           -6.2733
                     -6.2342
                               -6.1705
                                          -6.0990
                                                    -6.0061
                                                               -5.7378
                                                                         -5.6874
 -5.5322
           -5.5202
                     -5.5023
                                -5.2960
                                          -5.1602
                                                    -4.8464
                                                               -4.8289
                                                                         -4.7378
 -4.5348
           -4.4895
                     -4.4412
                                -4.3931
                                          -4.3426
                                                    -3.9394
                                                               -3.9386
                                                                         -3.9370
 -3.7220
           -3.7206
                     -3.5737
                                -2.5182
                                          -2.5122
                                                    -1.1337
                                                                0.3471
                                                                          0.3650
                                                                1.9013
  0.9976
            0.9986
                      1.4479
                                 1.6595
                                           1.6662
                                                     1.8944
                                                                          1.9165
  1.9745
            1.9992
                      2.0629
                                 2.0699
                                           2.2636
                                                     2.2952
                                                                2.3672
                                                                          2.6010
                                           2.9477
                                                     3.0145
  2.6555
            2.6900
                      2.7130
                                 2.9231
                                                                3.0647
        k = 0.0000 - 0.4009 \ 0.0000 \ (64796 \ PWs)
                                                     bands (ev):
-21.5194 -21.1704 -21.1154 -20.7356 -20.6942 -20.6126 -20.1566 -20.1560
-19.8766 -19.8263 -19.5170 -19.1973 -19.0907 -19.0896 -19.0678 -18.6146
-18.5616 -18.3503 -18.2644 -18.2574 -18.1676 -18.1658 -17.9369 -17.5918
-17.1913 -16.6324 -16.6309 -16.1992 -16.1961 -15.1969 -15.1922 -14.0709
-14.0684 -13.4290 -13.4233 -13.1108 -12.8847 -12.8805 -12.8487 -12.3386
-12.2499 -11.9690 -11.8758 -11.7092 -11.6058 -11.2923 -11.2651 -11.2618
-11.0646 -10.7403 -10.7341 -10.3379 -10.1748 -10.0295
                                                              -9.8283
                                                                        -9.8176
                                         -9.2257
                     -9.4237
                               -9.4162
 -9.8088
           -9.7236
                                                    -9.1258
                                                              -8.9414
                                                                         -8.8107
                                                               -8.3101
                     -8.7244
                               -8.5495
                                         -8.4017
 -8.8059
           -8.7920
                                                    -8.3887
                                                                         -8.3015
                     -7.9001
                               -7.8981
                                         -7.8359
                                                    -7.7189
                                                              -7.6655
 -8.1742
           -8.1363
                                                                         -7.5760
                     -7.3360
 -7.5602
           -7.5544
                               -7.3022
                                         -7.2925
                                                    -7.2848
                                                              -7.1069
                                                                         -6.9708
 -6.9491
           -6.9488
                     -6.6732
                               -6.6372
                                         -6.6334
                                                    -6.6255
                                                               -6.5801
                                                                         -6.3647
           -6.2860
 -6.2927
                     -6.1931
                               -6.1246
                                         -6.0358
                                                    -6.0125
                                                               -5.7340
                                                                         -5.7309
                     -5.5574
 -5.5698
           -5.5686
                               -5.2612
                                          -5.1957
                                                    -4.8873
                                                               -4.8356
                                                                         -4.7919
 -4.5975
           -4.4847
                     -4.4706
                               -4.3926
                                          -4.3479
                                                    -3.9317
                                                               -3.9310
                                                                         -3.9265
                                -2.4666
 -3.7310
           -3.7297
                     -3.5508
                                          -2.4607
                                                    -1.1243
                                                                0.2928
                                                                          0.3107
  1.0224
            1.0235
                      1.4632
                                 1.6334
                                           1.6398
                                                     1.8891
                                                                1.9034
                                                                          1.9831
  1.9889
            2.0157
                       2.0534
                                 2.0594
                                           2.2739
                                                     2.3044
                                                                2.3489
                                                                          2.5774
                                           2.9640
  2.6624
            2.6920
                       2.7170
                                 2.9160
                                                     2.9802
                                                                3.0575
        k = 0.0000 - 0.4170 \ 0.0000 \ (64802 \ PWs)
                                                     bands (ev):
-21.5075 -21.1550 -21.1369 -20.7406 -20.7221 -20.6162 -20.1629 -20.1622
-19.8492 -19.8077 -19.4875 -19.2304 -19.0885 -19.0546 -19.0535 -18.6405
-18.5046 -18.3482 -18.2641 -18.2598 -18.2153 -18.2135 -17.9285 -17.5780
-17.2586 -16.6181 -16.6165 -16.2238 -16.2208 -15.1320 -15.1271 -14.0212
-14.0185 -13.4972 -13.4917 -13.0213 -12.9412 -12.9371 -12.8428 -12.3214
```

```
-12.2271 -11.9842 -11.8805 -11.6881 -11.6347 -11.3085 -11.2757 -11.2724
-11.1602 -10.7010 -10.6948 -10.3935 -10.1377 -10.0402
                                                                 -9.8722
                                                                            -9.8619
 -9.8033
           -9.7308
                      -9.3670
                                 -9.3594
                                            -9.2626
                                                       -9.1075
                                                                  -8.9244
                                                                             -8.7623
 -8.7363
           -8.7347
                      -8.7313
                                 -8.5832
                                            -8.4192
                                                       -8.3773
                                                                  -8.3513
                                                                             -8.3428
                                                       -7.7250
 -8.1407
            -8.1107
                      -7.9076
                                 -7.9056
                                            -7.8428
                                                                  -7.6663
                                                                             -7.5604
 -7.5286
           -7.5231
                      -7.3522
                                 -7.3447
                                            -7.3250
                                                       -7.3174
                                                                  -7.1336
                                                                             -7.0024
 -6.9563
           -6.9256
                      -6.6448
                                 -6.6355
                                            -6.5954
                                                       -6.5918
                                                                  -6.5474
                                                                             -6.3051
                                 -6.0802
                                                                  -5.7803
 -6.2988
           -6.2817
                      -6.1508
                                            -6.0191
                                                       -5.9723
                                                                             -5.7241
                                 -5.2322
 -5.6215
            -5.6119
                      -5.6030
                                            -5.2240
                                                       -4.9287
                                                                  -4.8476
                                                                             -4.8419
 -4.6607
            -4.5009
                      -4.4798
                                 -4.3920
                                            -4.3532
                                                       -3.9238
                                                                  -3.9231
                                                                             -3.9169
 -3.7401
           -3.7389
                      -3.5298
                                 -2.4176
                                            -2.4117
                                                       -1.1152
                                                                   0.2413
                                                                              0.2591
  1.0478
             1.0490
                        1.4787
                                  1.6068
                                             1.6129
                                                        1.8783
                                                                   1.8894
                                                                              1.9939
  2.0337
             2.0489
                        2.0557
                                   2.0710
                                             2.2812
                                                        2.2988
                                                                   2.3521
                                                                              2.5537
  2.6291
             2.7107
                        2.7416
                                   2.9073
                                             2.9417
                                                        2.9875
                                                                   3.0510
        k = 0.0000 - 0.4330 \ 0.0000 \ (64802 \ PWs)
                                                        bands (ev):
-21.4953 -21.1579 -21.1390 -20.7494 -20.7451 -20.6195 -20.1685 -20.1679 -19.8215 -19.7897 -19.4591 -19.2633 -19.1079 -19.0179 -19.0167 -18.6663 -18.4472 -18.3462 -18.2638 -18.2624 -18.2620 -18.2607 -17.9207 -17.5653 -17.3255 -16.6033 -16.6017 -16.2481 -16.2451 -15.0679 -15.0630 -13.9709 -13.9681 -13.5642 -13.5589 -12.9977 -12.9936 -12.9312 -12.8370 -12.3043 -12.2049 -11.9975 -11.8904 -11.6652 -11.6629 -11.3181 -11.2853 -11.2819 -11.2556 -10.6617 -10.6553 -10.4512 -10.1014 -10.0508 -9.9159 -9.9060 -9.7051 -9.7373 -9.3104 -9.3028 -9.2003 -9.0883 -8.20600 -8.7467
                                 -9.3028
           -9.7373
                      -9.3104
                                            -9.2993
 -9.7951
                                                       -9.0883
                                                                  -8.9069
                                                                             -8.7467
 -8.7334
            -8.6622
                      -8.6570
                                 -8.6160
                                            -8.4490
                                                       -8.3937
                                                                  -8.3852
                                                                             -8.3520
                                                       -7.7306
                      -7.9144
                                 -7.9124
                                            -7.8490
                                                                  -7.6625
 -8.1085
            -8.0895
                                                                             -7.5444
                                 -7.4057
                                            -7.3479
 -7.4990
            -7.4938
                      -7.4130
                                                       -7.3010
                                                                  -7.1599
                                                                             -7.0373
 -6.9599
                                 -6.5974
                                            -6.5533
                                                       -6.5498
            -6.9044
                      -6.6637
                                                                  -6.5150
                                                                             -6.3170
 -6.3110
            -6.2000
                                 -6.0384
                                            -6.0257
                                                       -5.9085
                      -6.1076
                                                                  -5.8263
                                                                             -5.7175
 -5.6737
            -5.6657
                       -5.6347
                                 -5.2694
                                            -5.1856
                                                       -4.9704
                                                                  -4.9051
                                                                             -4.8479
                      -4.4748
 -4.7245
            -4.5319
                                 -4.3915
                                            -4.3586
                                                       -3.9157
                                                                  -3.9150
                                                                             -3.9083
 -3.7494
            -3.7483
                       -3.5105
                                 -2.3715
                                            -2.3656
                                                       -1.1067
                                                                   0.1929
                                                                              0.2107
  1.0737
                        1.4942
                                   1.5797
                                             1.5855
                                                                   1.8753
             1.0751
                                                        1.8670
                                                                              1.9862
  2.0520
                        2.0595
                                   2.1599
                                             2.2702
                                                        2.3021
                                                                   2.3688
             2.0532
                                                                              2.5297
  2.5932
             2.7261
                        2.7676
                                   2.8953
                                             2.9101
                                                        3.0092
                                                                   3.0451
        k = 0.0000 - 0.4491 \ 0.0000 \ (64836 \ PWs)
                                                        bands (ev):
-21.4828 -21.1781 -21.1225 -20.7761 -20.7491 -20.6225 -20.1736 -20.1730
-19.7934 -19.7725 -19.4323 -19.2960 -19.1255 -18.9807 -18.9795 -18.6916
-18.3892 -18.3443 -18.3091 -18.3074 -18.2643 -18.2636 -17.9138 -17.5539
-17.3919 -16.5879 -16.5862 -16.2719 -16.2690 -15.0052 -15.0001 -13.9200
-13.9172 -13.6297 -13.6247 -13.0540 -13.0500 -12.8409 -12.8312 -12.2878
-12.1834 -12.0089 -11.9019 -11.6902 -11.6459 -11.3511 -11.3187 -11.2935
-11.2903 -10.6221 -10.6157 -10.5103 -10.0658 -10.0606
                                                                 -9.9593
                                                                            -9.9499
                                                                  -8.8889
           -9.7428
                      -9.3355
                                 -9.2542
                                            -9.2465
                                                       -9.0684
 -9.7856
                                                                             -8.7592
 -8.7059
           -8.6489
                      -8.5877
                                 -8.5828
                                            -8.4780
                                                       -8.4372
                                                                  -8.4288
                                                                             -8.3268
 -8.0779
           -8.0732
                      -7.9206
                                 -7.9185
                                            -7.8545
                                                       -7.7356
                                                                  -7.6535
                                                                             -7.5278
 -7.4759
           -7.4708
                      -7.4690
                                 -7.4652
                                            -7.3707
                                                       -7.2875
                                                                  -7.1856
                                                                             -7.0720
 -6.9627
            -6.8855
                      -6.6816
                                 -6.5588
                                            -6.5109
                                                       -6.5076
                                                                  -6.4831
                                                                             -6.3281
 -6.3225
            -6.1195
                      -6.0639
                                 -6.0322
                                            -6.0005
                                                       -5.8720
                                                                  -5.8445
                                                                             -5.7259
 -5.7187
            -5.7112
                       -5.6622
                                 -5.3073
                                            -5.1470
                                                       -5.0120
                                                                  -4.9641
                                                                             -4.8534
            -4.5637
                                            -4.3640
                                                                  -3.9067
 -4.7888
                       -4.4699
                                 -4.3910
                                                       -3.9074
                                                                             -3.9007
            -3.7577
                                            -2.3228
 -3.7588
                       -3.4931
                                  -2.3286
                                                       -1.0987
                                                                   0.1480
                                                                              0.1657
  1.1001
             1.1017
                        1.5095
                                  1.5522
                                             1.5577
                                                        1.8555
                                                                   1.8616
                                                                              1.9735
                        2.0768
                                   2.2419
                                             2.2595
                                                                   2.3895
  2.0490
             2.0733
                                                        2.3130
                                                                              2.5056
  2.5578
             2.7369
                        2.7925
                                   2.8665
                                             2.8964
                                                        3.0322
                                                                   3.0399
        k = 0.0000 - 0.4651 \ 0.0000 \ (64846 \ PWs)
                                                        bands (ev):
-21.4702 -21.1977 -21.1053 -20.8022 -20.7527 -20.6251 -20.1781 -20.1775
```

```
-19.7651 -19.7563 -19.4075 -19.3285 -19.1411 -18.9429 -18.9416 -18.7161
-18.3552 -18.3535 -18.3424 -18.3307 -18.2663 -18.2634 -17.9076 -17.5438
-17.4579 -16.5720 -16.5703 -16.2953 -16.2925 -14.9442 -14.9390 -13.8687
-11.2978 -10.5824 -10.5759 -10.5703 -10.0694 -10.0314 -10.0026
                -9.7473
                              -9.3709 -9.1984
                                                           -9.1906
                                                                          -9.0477
  -9.7757
                                                                                         -8.8704
                                                                                                        -8.7716
                                                                          -8.4818
               -8.6799
                              -8.5143
                                             -8.5093
                                                            -8.5062
                                                                                                        -8.3025
  -8.6804
                                                                                         -8.4732
                                                                                         -7.6390
  -8.0621
               -8.0492
                              -7.9260
                                            -7.9239
                                                           -7.8595
                                                                          -7.7401
                                                                                                        -7.5380
                                                                                         -7.2109
  -7.5310
                -7.5105
                              -7.4463
                                             -7.4420
                                                            -7.3928
                                                                          -7.2777
                                                                                                        -7.1050
  -6.9651
               -6.8691
                              -6.6983
                                             -6.5197
                                                            -6.4690
                                                                          -6.4657
                                                                                         -6.4521
                                                                                                        -6.3375
                              -6.0383
  -6.3324
                -6.0408
                                             -6.0200
                                                            -5.9687
                                                                          -5.9172
                                                                                         -5.7804
                                                                                                        -5.7779
                                                                                         -5.0245
  -5.7704
                -5.7054
                              -5.6834
                                             -5.3457
                                                            -5.1082
                                                                          -5.0531
                                                                                                        -4.8585
                                                                          -3.8989
                                                                                         -3.8982
  -4.8534
                -4.5963
                               -4.4649
                                             -4.3906
                                                            -4.3694
                                                                                                        -3.8939
  -3.7683
                -3.7672
                              -3.4777
                                             -2.2894
                                                            -2.2836
                                                                          -1.0913
                                                                                           0.1069
                                                                                                         0.1247
   1.1270
                 1.1288
                                1.5243
                                               1.5245
                                                             1.5296
                                                                           1.8442
                                                                                           1.8485
                                                                                                          1.9602
   2.0462
                 2.0935
                                2.0967
                                               2.2316
                                                              2.3248
                                                                            2.3435
                                                                                           2.4119
                                                                                                          2.4818
   2.5235
                  2.7431
                                2.8162
                                               2.8332
                                                              2.8893
                                                                            3.0351
                                                                                           3.0563
           k = 0.0000 - 0.4811 \ 0.0000 \ (64832 \ PWs)
                                                                            bands (ev):
-21.4574 -21.2164 -21.0876 -20.8277 -20.7558 -20.6274 -20.1819 -20.1813 -19.7413 -19.7364 -19.3853 -19.3607 -19.1542 -18.9045 -18.9032 -18.7395 -18.4007 -18.3991 -18.3407 -18.2716 -18.2683 -18.2632 -17.9023 -17.5349 -17.5234 -16.5556 -16.5538 -16.3182 -16.3155 -14.8857 -14.8804 -13.8170 -13.8140 -13.7538 -13.7493 -13.1663 -13.1624 -12.8205 -12.6590 -12.2576 -12.1447 -12.0253 -11.9226 -11.7408 -11.6300 -11.5410 -11.3073 -11.3042 -11.2862 -10.6306 -10.5425 -10.5359 -10.0771 -10.0456 -10.0368 -9.9985 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.75660 -9.7
                              -9.4052
                                             -9.1430
                                                           -9.1351
                                                                          -9.0262
  -9.7660
                -9.7506
                                                                                         -8.8517
                                                                                                        -8.7834
  -8.7113
                              -8.5333
                                             -8.5277
                                                            -8.5194
                                                                           -8.4409
                                                                                         -8.4355
                -8.6560
                                                                                                        -8.2798
  -8.0555
                -8.0230
                              -7.9308
                                             -7.9287
                                                            -7.8637
                                                                           -7.7440
                                                                                         -7.6193
                                                                                                        -7.6019
                              -7.4238
                                             -7.4200
                                                                           -7.2738
  -7.5950
                -7.4929
                                                            -7.4137
                                                                                         -7.2357
                                                                                                        -7.1343
  -6.9672
                                             -6.4803
                                                                           -6.4259
                -6.8551
                              -6.7133
                                                            -6.4293
                                                                                          -6.4222
                                                                                                        -6.3431
                               -5.9764
                                             -5.9659
                                                            -5.9621
                                                                           -5.9458
                                                                                          -5.8294
  -6.3386
                -6.0438
                                                                                                        -5.8190
  -5.7162
                -5.7003
                              -5.6956
                                             -5.3843
                                                            -5.0932
                                                                           -5.0863
                                                                                          -5.0694
                                                                                                        -4.9183
  -4.8630
                -4.6295
                               -4.4600
                                             -4.3902
                                                            -4.3746
                                                                           -3.8902
                                                                                          -3.8895
                                                                                                         -3.8881
  -3.7778
                -3.7767
                               -3.4642
                                             -2.2543
                                                            -2.2485
                                                                           -1.0847
                                                                                           0.0702
                                                                                                          0.0880
   1.1543
                 1.1563
                                1.4962
                                               1.5011
                                                              1.5389
                                                                            1.8333
                                                                                           1.8366
                                                                                                          1.9481
                                                                            2.4329
   2.0438
                  2.1129
                                2.1175
                                               2.2175
                                                              2.3363
                                                                                           2.4365
                                                                                                          2.4583
   2.4921
                  2.7441
                                2.8001
                                               2.8409
                                                              2.8837
                                                                            3.0311
                                                                                           3.0812
           k = 0.0000 - 0.4972 \ 0.0000 \ (64826 \ PWs)
                                                                            bands (ev):
-21.4448 -21.2340 -21.0692 -20.8527 -20.7584 -20.6294 -20.1852 -20.1846
-19.7278 -19.7076 -19.3925 -19.3664 -19.1642 -18.8656 -18.8643 -18.7611
-18.4457 -18.4441 -18.3391 -18.2700 -18.2631 -18.2121 -17.8977 -17.5885
-17.5273 -16.5386 -16.5368 -16.3407 -16.3381 -14.8306 -14.8253 -13.8106
-13.8066 -13.7647 -13.7616 -13.2221 -13.2183 -12.8159 -12.5675 -12.2446
-12.1285 -12.0303 -11.9301 -11.7634 -11.6357 -11.6328 -11.3127 -11.3095
-11.2543 -10.6907 -10.5024 -10.4956 -10.0884 -10.0835 -10.0798
                                                                                                        -9.9679
  -9.7571
                -9.7527
                               -9.4378
                                             -9.0880
                                                            -9.0801
                                                                          -9.0040
                                                                                         -8.8328
                                                                                                        -8.7940
  -8.7415
                -8.6345
                              -8.5744
                                             -8.5661
                                                            -8.5593
                                                                           -8.3682
                                                                                          -8.3627
                                                                                                        -8.2593
  -8.0527
                -7.9995
                               -7.9350
                                             -7.9330
                                                            -7.8673
                                                                           -7.7472
                                                                                          -7.6666
                                                                                                        -7.6598
  -7.5949
                -7.4746
                                             -7.4042
                                                            -7.4009
                                                                           -7.2788
                                                                                          -7.2600
                               -7.4331
                                                                                                        -7.1565
  -6.9690
                -6.8437
                                             -6.4406
                                                            -6.3989
                                                                           -6.3952
                               -6.7263
                                                                                          -6.3941
                                                                                                         -6.3377
  -6.3341
                -6.0487
                               -6.0064
                                             -5.9342
                                                            -5.9335
                                                                           -5.9146
                                                                                          -5.8805
                                                                                                         -5.8446
  -5.6966
                -5.6957
                               -5.6523
                                             -5.4227
                                                            -5.1491
                                                                           -5.1317
                                                                                          -5.0308
                                                                                                         -4.9833
  -4.8670
                -4.6634
                               -4.4553
                                             -4.3899
                                                            -4.3796
                                                                           -3.8832
                                                                                          -3.8814
                                                                                                         -3.8807
                                                            -2.2179
  -3.7873
                -3.7863
                               -3.4527
                                             -2.2236
                                                                           -1.0790
                                                                                           0.0382
                                                                                                          0.0560
   1.1820
                1.1841
                               1.4678
                                             1.4725
                                                            1.5524
                                                                           1.8230
                                                                                           1.8261
                                                                                                          1.9374
                                               2.2093
                                                              2.3468
                                                                            2.4353
   2.0417
                  2.1293
                                2.1382
                                                                                           2.4511
                                                                                                          2.4620
                                               2.8651
                                                              2.8792
                                                                            3.0277
   2.5343
                 2.7376
                                2.7729
                                                                                           3.1068
```

```
k = 0.0000 - 0.5132 \ 0.0000 \ (64824 \ PWs)
                                                       bands (ev):
-18.4902 -18.4886 -18.3377 -18.2715 -18.2630 -18.1520 -17.8940 -17.6531
-17.5211 -16.5211 -16.5192 -16.3627 -16.3602 -14.7804 -14.7751 -13.8622 -13.8586 -13.7121 -13.7089 -13.2778 -13.2740 -12.8119 -12.4757 -12.2336
-12.1151 -12.0332 -11.9351 -11.7836 -11.7301 -11.6397 -11.3170 -11.3139
-11.2152 -10.7500 -10.4621 -10.4552 -10.1309 -10.1226 -10.0888
                                                                          -9.9403
                                                                -8.8142
 -9.7534
           -9.7494
                      -9.4681
                                -9.0336
                                          -9.0256
                                                     -8.9811
                                                                           -8.8032
 -8.7710
           -8.6221
                     -8.6160
                                -8.6138
                                           -8.5838
                                                     -8.2960
                                                                -8.2904
                                                                           -8.2416
                                                                           -7.7253
 -8.0525
           -7.9794
                      -7.9387
                                -7.9367
                                           -7.8703
                                                     -7.7499
                                                                -7.7319
                                                     -7.2949
 -7.5668
           -7.4558
                     -7.4502
                                -7.3877
                                           -7.3850
                                                                -7.2837
                                                                           -7.1695
                                                                -6.3686
                                                                           -6.3107
 -6.9704
           -6.8349
                      -6.7369
                                -6.4007
                                           -6.3883
                                                     -6.3845
 -6.3075
           -6.0530
                      -6.0500
                                -5.9404
                                           -5.9334
                                                     -5.9312
                                                                -5.8923
                                                                           -5.7935
                                           -5.2125
 -5.6919
           -5.6870
                      -5.5891
                                -5.4603
                                                     -5.1675
                                                                -5.0483
                                                                           -4.9924
                                                      -3.8792
                                                                           -3.8717
 -4.8703
           -4.6979
                      -4.4509
                                 -4.3897
                                           -4.3843
                                                                -3.8724
                                                     -1.0742
 -3.7969
           -3.7959
                      -3.4432
                                -2.1978
                                           -2.1921
                                                                 0.0114
                                                                            0.0291
  1.2099
             1.2123
                       1.4392
                                  1.4436
                                            1.5646
                                                       1.8136
                                                                 1.8171
                                                                            1.9285
  2.0400
             2.1392
                       2.1585
                                  2.2109
                                            2.3559
                                                       2.4134
                                                                 2.4223
                                                                            2.4865
  2.6279
             2.7179
                       2.7578
                                  2.8749
                                            2.8908
                                                       3.0249
                                                                 3.1177
        k = 0.0000 - 0.5292 \ 0.0000 \ (64850 \ PWs)
                                                       bands (ev):
-21.4214 -21.2648 -21.0307 -20.9007 -20.7622 -20.6322 -20.1900 -20.1894 -19.7066 -19.6499 -19.4547 -19.3407 -19.1746 -18.7969 -18.7860 -18.7847 -18.5341 -18.5325 -18.3366 -18.2727 -18.2629 -18.0914 -17.8910 -17.7172 -17.5163 -16.5031 -16.5011 -16.3842 -16.3818 -14.7370 -14.7317 -13.9065 -13.9035 -13.6590 -13.6558 -13.3331 -13.3294 -12.8087 -12.3836 -12.2247 -12.1048 -12.0344 -11.9377 -11.8243 -11.8007 -11.6482 -11.3204 -11.3174 -11.1714 -10.8078 -10.4215 -10.4145 -10.1731 -10.1651 -10.0929 -9.9169
 -9.7527
                                           -8.9717
                     -9.4950
                                -8.9797
                                                      -8.9573
                                                                           -8.7998
           -9.7431
                                                                -8.8106
 -8.7963
                                -8.6062
                                           -8.6009
                                                      -8.2272
           -8.6707
                      -8.6625
                                                                -8.2245
                                                                           -8.2189
                                -7.9404
                                                      -7.7972
                                                                -7.7909
 -8.0538
           -7.9629
                      -7.9423
                                           -7.8726
                                                                           -7.7520
 -7.5361
           -7.4644
                      -7.4365
                                -7.3746
                                           -7.3724
                                                      -7.3203
                                                                -7.3069
                                                                           -7.1748
 -6.9716
           -6.8286
                      -6.7450
                                -6.3887
                                           -6.3854
                                                      -6.3608
                                                                -6.3465
                                                                           -6.2704
 -6.2673
           -6.0929
                      -6.0563
                                -5.9871
                                           -5.9814
                                                      -5.9395
                                                                -5.8538
                                                                           -5.7224
                                                                           -4.9542
 -5.6889
           -5.6712
                      -5.5282
                                -5.4958
                                           -5.2749
                                                      -5.1991
                                                                -5.1132
 -4.8729
           -4.7330
                      -4.4469
                                -4.3895
                                           -4.3885
                                                      -3.8761
                                                                -3.8633
                                                                           -3.8626
                      -3.4358
 -3.8064
           -3.8055
                                -2.1773
                                           -2.1717
                                                      -1.0704
                                                                -0.0100
                                                                            0.0078
  1.2382
            1.2408
                       1.4105
                                  1.4146
                                            1.5751
                                                       1.8055
                                                                 1.8100
                                                                            1.9215
                                  2.2235
  2.0386
             2.1413
                       2.1773
                                            2.3617
                                                       2.3934
                                                                 2.3940
                                                                            2.5129
                                                       3.0227
  2.6882
             2.7253
                       2.7512
                                  2.8721
                                            2.9166
                                                                 3.0882
        k = 0.0000 - 0.5453 \ 0.0000 \ (64846 \ PWs)
                                                       bands (ev):
-21.4119 -21.2766 -21.0106 -20.9238 -20.7634 -20.6331 -20.1915 -20.1909
-19.6996 -19.6218 -19.4842 -19.3338 -19.1758 -18.8094 -18.7454 -18.7440
-18.5775 -18.5759 -18.3358 -18.2736 -18.2629 -18.0303 -17.8890 -17.7808
-17.5128 -16.4846 -16.4825 -16.4053 -16.4029 -14.7029 -14.6975 -13.9413
-13.9389 -13.6056 -13.6022 -13.3882 -13.3846 -12.8063 -12.2911 -12.2184
-12.0978 -12.0343 -11.9385 -11.9182 -11.8138 -11.6560 -11.3229 -11.3198
-11.1260 -10.8624 -10.3808 -10.3736 -10.2152 -10.2073 -10.0958
                                                                          -9.8990
           -9.7384
                      -9.5167
                                 -8.9333
                                                                -8.8278
 -9.7507
                                           -8.9263
                                                      -8.9183
                                                                           -8.8161
 -8.7804
           -8.7202
                      -8.7120
                                 -8.6253
                                           -8.5897
                                                      -8.2166
                                                                -8.1540
                                                                           -8.1483
           -7.9507
                      -7.9473
                                 -7.9459
                                           -7.8742
                                                      -7.8604
                                                                -7.8547
 -8.0555
                                                                           -7.7535
 -7.5040
           -7.4752
                      -7.4167
                                 -7.3649
                                           -7.3634
                                                      -7.3505
                                                                -7.3293
                                                                           -7.1761
 -6.9725
           -6.8246
                      -6.7505
                                -6.3911
                                           -6.3882
                                                      -6.3292
                                                                -6.3218
                                                                           -6.2259
           -6.1340
                     -6.0587
                                -6.0356
                                           -6.0311
                                                      -5.9478
                                                                -5.8204
                                                                           -5.6867
 -6.2227
                                                     -5.2246
 -5.6547
           -5.6504
                     -5.5270
                                -5.4762
                                           -5.3296
                                                                -5.1776
                                                                           -4.9164
 -4.8748
          -4.7686
                     -4.4436
                               -4.3919
                                          -4.3893
                                                     -3.8739
                                                                -3.8542
                                                                           -3.8535
```

```
-3.8159
           -3.8150
                     -3.4305
                               -2.1624
                                          -2.1568
                                                    -1.0676
                                                              -0.0255
                                                                         -0.0077
  1.2666
            1.2695
                      1.3817
                                1.3855
                                           1.5831
                                                     1.7991
                                                               1.8048
                                                                         1.9165
  2.0376
            2.1395
                      2.1935
                                2.2430
                                           2.3537
                                                     2.3764
                                                               2.3786
                                                                          2.5402
            2.7473
                      2.8217
                                2.8701
                                           2.9434
                                                     3.0211
  2.6589
                                                               3.0584
        k = 0.0000 - 0.5613 \ 0.0000 \ (64834 \ PWs)
                                                     bands (ev):
-21.4053 -21.2846 -20.9899 -20.9463 -20.7641 -20.6337 -20.1924 -20.1918
-19.6952 -19.5965 -19.5104 -19.3301 -19.1757 -18.8173 -18.7043 -18.7029
-18.6203 -18.6188 -18.3352 -18.2742 -18.2628 -17.9687 -17.8877 -17.8439 -17.5107 -16.4656 -16.4635 -16.4258 -16.4235 -14.6807 -14.6754 -13.9636 -13.9618 -13.5518 -13.5484 -13.4430 -13.4395 -12.8049 -12.2145 -12.1983 -12.0938 -12.0339 -12.0118 -11.9384 -11.8221 -11.6614 -11.3243 -11.3212
-11.0848 -10.9088 -10.3397 -10.3324 -10.2569 -10.2492 -10.0975
                                                                        -9.8878
                     -9.5312 -8.9081 -8.8739
 -9.7486
           -9.7355
                                                   -8.8658
                                                              -8.8550
                                                                        -8.8194
 -8.7705
           -8.7686
                     -8.7623
                               -8.6391
                                         -8.5828
                                                   -8.2101
                                                              -8.0850
                                                                        -8.0794
                                         -7.9094
                                                                        -7.7544
                     -7.9629
 -8.0569
           -7.9651
                               -7.9431
                                                    -7.9067
                                                              -7.8752
                     -7.3970
                               -7.3807
           -7.4733
 -7.4820
                                         -7.3592
                                                    -7.3583
                                                              -7.3502
                                                                        -7.1760
           -6.8224
                     -6.7536
                                                    -6.3180
                                                              -6.2862
                                                                        -6.1797
 -6.9730
                               -6.3930
                                         -6.3904
                     -6.0841
                               -6.0802
                                         -6.0602
                                                    -5.9544
                                                              -5.7962
                                                                        -5.6854
 -6.1763
           -6.1708
 -5.6423
           -5.5801
                     -5.5499
                               -5.4661
                                         -5.3435
                                                    -5.2415
                                                              -5.2407
                                                                        -4.8791
                                          -4.3892
 -4.8759
           -4.8046
                     -4.4414
                               -4.3942
                                                    -3.8726
                                                              -3.8451
                                                                        -3.8444
                                          -2.1478
 -3.8252
                     -3.4274
           -3.8243
                               -2.1533
                                                    -1.0659
                                                              -0.0349
                                                                        -0.0171
            1.2983
                      1.3529
                                                     1.7951
  1.2953
                                           1.5883
                                1.3564
                                                               1.8016
                                                                          1.9135
                                                     2.3645
  2.0370
            2.1375
                      2.2048
                                2.2646
                                           2.3308
                                                               2.3788
                                                                          2.5679
  2.6294
            2.7450
                      2.8688
                                2.9195
                                           2.9710
                                                     3.0201
                                                               3.0290
        k = 0.0000 - 0.5774 \ 0.0000 \ (64894 \ PWs)
                                                     bands (ev):
-21.4029 -21.2875 -20.9709 -20.9659 -20.7643 -20.6339 -20.1927 -20.1921
-19.6937 -19.5835 -19.5237 -19.3290 -19.1756 -18.8201 -18.6631 -18.6624
-18.6611 -18.6608 -18.3351 -18.2744 -18.2628 -17.9072 -17.9058 -17.8873 -17.5100 -16.4478 -16.4458 -16.4438 -16.4419 -14.6731 -14.6677 -13.9713 -13.9699 -13.4997 -13.4963 -13.4954 -13.4920 -12.8044 -12.2133 -12.1080
-12.1024 -12.0925 -12.0337 -11.9383 -11.8249 -11.6633 -11.3248 -11.3217
-11.0647 -10.9306 -10.2993 -10.2978 -10.2921 -10.2896 -10.0981
                                                                        -9.8840
 -9.7476
           -9.7346
                     -9.5363
                               -8.8857
                                         -8.8781
                                                   -8.8255
                                                              -8.8205
                                                                        -8.8193
 -8.8161
           -8.8100
                     -8.7641
                               -8.6442
                                         -8.5805
                                                    -8.2079
                                                              -8.0575
                                                                        -8.0268
                     -8.0049
 -8.0225
           -8.0088
                               -7.9406
                                         -7.9226
                                                    -7.9221
                                                              -7.8755
                                                                        -7.7547
 -7.4843
           -7.4562
                     -7.3977
                               -7.3827
                                         -7.3663
                                                    -7.3568
                                                              -7.3556
                                                                        -7.1759
 -6.9733
           -6.8218
                     -6.7546
                               -6.3937
                                         -6.3912
                                                    -6.3141
                                                              -6.2675
                                                                        -6.1899
                                         -6.0607
 -6.1342
           -6.1331
                     -6.1279
                               -6.1266
                                                    -5.9569
                                                              -5.7871
                                                                        -5.6849
                                                    -5.2984
                     -5.5164
                               -5.5127
 -5.6378
           -5.5586
                                         -5.3020
                                                              -5.2474
                                                                        -4.8763
                     -4.4406
                               -4.3950
                                         -4.3892
                                                              -3.8385
 -4.8469
           -4.8364
                                                    -3.8721
                                                                        -3.8376
                     -3.4263
                                         -2.1447
                                                    -1.0654
 -3.8322
           -3.8310
                               -2.1503
                                                              -0.0381
                                                                         -0.0203
  1.3236
           1.3244
                     1.3267
                                1.3281
                                           1.5900
                                                     1.7936
                                                               1.8006
                                                                          1.9124
            2.1366
                      2.2090
                                2.2780
                                           2.3164
                                                     2.3601
                                                               2.3795
  2.0368
                                                                          2.5893
  2.6072
            2.7442
                      2.8684
                                2.9966
                                           3.0009
                                                     3.0125
                                                               3.0201
        k = 0.0159 - 0.5774 \ 0.0000 \ (64838 \ PWs)
                                                     bands (ev):
-21.4026 -21.2873 -20.9706 -20.9656 -20.7699 -20.6279 -20.2289 -20.1553
-19.6979 -19.5831 -19.5214 -19.3271 -19.1754 -18.8204 -18.6985 -18.6967
-18.6264 -18.6246 -18.3380 -18.2918 -18.2437 -17.9069 -17.9055 -17.8873
-17.5097 -16.5136 -16.5112 -16.3784 -16.3757 -14.7010 -14.6393 -13.9952
-13.9464 -13.5619 -13.5585 -13.4326 -13.4290 -12.8038 -12.2171 -12.1078
-12.1022 -12.0927 -12.0298 -11.9383 -11.8293 -11.6570 -11.3998 -11.2459
-11.0646 -10.9306 -10.3764 -10.3726 -10.2174 -10.2136 -10.1059
                                                                        -9.8804
 -9.7946
          -9.6854
                    -9.5365
                               -8.8853
                                         -8.8778
                                                   -8.8645
                                                              -8.8559
                                                                        -8.8185
 -8.7795
          -8.7708
                    -8.7638
                               -8.6440
                                         -8.5815
                                                    -8.2122
                                                              -8.0531
                                                                        -8.0375
                                         -7.9394
                               -7.9547
 -8.0170
          -8.0091
                    -8.0040
                                                    -7.8872
                                                              -7.8837
                                                                        -7.7424
 -7.4849
          -7.4555
                    -7.4327 -7.3977
                                         -7.3838 -7.3670
                                                             -7.2805
                                                                        -7.1816
```

```
-6.9747
           -6.8180
                    -6.7529
                               -6.4531
                                        -6.3350
                                                   -6.3297
                                                                       -6.1872
                                                             -6.2580
                                                   -5.9530
 -6.1741
          -6.1633
                    -6.0927
                               -6.0880
                                        -6.0613
                                                             -5.7860
                                                                       -5.6855
                                                  -5.2982
                                                             -5.2475
 -5.6375
           -5.5584
                    -5.5168
                              -5.5131
                                        -5.3017
                                                                       -4.8770
                                                             -3.8924
 -4.8479
           -4.8374
                     -4.4425
                               -4.4329
                                        -4.3523
                                                   -3.8970
                                                                      -3.8714
 -3.7781
                     -3.4261
                              -2.1928
                                        -2.1015
                                                   -1.0650
                                                             -0.0665
          -3.7733
                                                                       0.0069
  1.2606
           1.2619
                     1.3910
                               1.3925
                                         1.5904
                                                   1.7938
                                                              1.8000
                                                                        1.9123
                                                    2.3474
  2.0362
            2.1370
                      2.2017
                                2.2788
                                          2.3168
                                                              2.3981
                                                                        2.5900
  2.6076
            2.7482
                      2.8557
                                2.9970
                                          3.0013
                                                    3.0124
                                                              3.0263
       k = 0.0317 - 0.5774 \ 0.0000 \ (64824 \ PWs)
                                                    bands (ev):
-21.4019 -21.2868 -20.9697 -20.9647 -20.7843 -20.6124 -20.2648 -20.1177
-19.7092 \ -19.5835 \ -19.5139 \ -19.3217 \ -19.1747 \ -18.8216 \ -18.7338 \ -18.7320
-18.5895 \ -18.5876 \ -18.3489 \ -18.3086 \ -18.2197 \ -17.9061 \ -17.9047 \ -17.8875
-18.3695 -16.3676 -16.3469 -16.3686 -16.2197 -17.3675 -17.5089 -16.5808 -16.5784 -16.3105 -16.3077 -14.7310 -14.6078 -14.0201 -13.9227 -13.6255 -13.6222 -13.3671 -13.3633 -12.8022 -12.2272 -12.1072 -12.1016 -12.0943 -12.0189 -11.9386 -11.8400 -11.6401 -11.4754 -11.1679 -11.0644 -10.9307 -10.4567 -10.4529 -10.1390 -10.1353 -10.1266 -9.8881
                    -9.5347
                              -8.9067
                                        -8.8982
                                                                      -8.8125
 -9.8264
           -9.6334
                                                  -8.8842
                                                            -8.8766
          -8.7370
                    -8.7283
                                        -8.5844
                                                  -8.2239
                                                            -8.0593
                                                                      -8.0414
 -8.7628
                              -8.6430
                                                  -7.9141
                                        -7.9361
                                                                      -7.7139
 -8.0118
           -8.0095
                    -8.0020
                              -7.9765
                                                            -7.8418
                                                   -7.3709
                                                            -7.2047
 -7.5088
           -7.4869
                    -7.4537
                              -7.3976
                                        -7.3877
                                                                      -7.1976
 -6.9790
                    -6.7462
                              -6.5150
                                        -6.3588
                                                   -6.2885
                                                             -6.2515
          -6.8095
                                                                      -6.2141
           -6.1741
 -6.1882
                    -6.0632
                              -6.0514
                                        -6.0472
                                                   -5.9417
                                                             -5.7828
                                                                       -5.6871
                     -5.5182
                               -5.5145
                                         -5.3009
                                                   -5.2974
           -5.5579
 -5.6366
                                                             -5.2478
                                                                       -4.8793
 -4.8508
           -4.8403
                     -4.4747
                               -4.4477
                                         -4.3138
                                                   -3.9576
                                                             -3.9531
                                                                       -3.8693
 -3.7200
           -3.7151
                     -3.4256
                               -2.2373
                                         -2.0549
                                                   -1.0641
                                                             -0.1034
                                                                        0.0402
                                          1.5915
  1.1979
                      1.4585
                                                    1.7944
                                                              1.7983
            1.1991
                                1.4602
                                                                        1.9117
  2.0344
            2.1380
                      2.1829
                                2.2802
                                          2.3179
                                                    2.3313
                                                              2.4300
                                                                        2.5920
  2.6088
            2.7598
                      2.8262
                                2.9982
                                          3.0026
                                                    3.0121
                                                              3.0260
       k = 0.0476 - 0.5774 \ 0.0000 \ (64808 \ PWs)
                                                    bands (ev):
-21.4007 -21.2859 -20.9682 -20.9632 -20.8036 -20.5912 -20.3002 -20.0795
-19.7252 -19.5872 -19.5009 -19.3132 -19.1735 -18.8235 -18.7684 -18.7667
-13.8997 -13.6884 -13.6853 -13.3009 -13.2971 -12.7995 -12.2414 -12.1063
-12.1007 -12.0979 -12.0041 -11.9389 -11.8520 -11.6164 -11.5498 -11.0894
-11.0641 -10.9307 -10.5374 -10.5336 -10.1551 -10.0614 -10.0577
                                                                      -9.9332
 -9.8164
          -9.5937
                    -9.5210
                              -8.9486
                                        -8.9402
                                                  -8.8824
                                                            -8.8748
                                                                      -8.8031
 -8.7611
          -8.6944
                    -8.6856
                              -8.6416
                                        -8.5893
                                                  -8.2404
                                                            -8.0904
                                                                      -8.0248
          -8.0074
                                        -7.9467
                              -7.9877
                                                  -7.9306
 -8.0094
                    -7.9993
                                                            -7.7979
                                                                      -7.6786
                    -7.4511
          -7.4897
                              -7.3975
                                        -7.3942
                                                  -7.3774
                                                            -7.2213
 -7.5849
                                                                      -7.1289
          -6.8023
                    -6.7309
                              -6.5779
                                        -6.3907
                                                  -6.2812
                                                            -6.2589
 -6.9859
                                                                       -6.2536
 -6.1738
          -6.1488
                    -6.0662
                              -6.0096
                                        -6.0055
                                                  -5.9247
                                                            -5.7776
                                                                       -5.6898
          -5.5571
                    -5.5206
                              -5.5167
                                        -5.2996
                                                  -5.2961
                                                            -5.2484
 -5.6351
                                                                       -4.8831
 -4.8557
          -4.8452
                    -4.5175
                              -4.4564
                                        -4.2765
                                                   -4.0188
                                                             -4.0144
                                                                       -3.8660
          -3.6579
                    -3.4246
                              -2.2811
                                        -2.0076
                                                   -1.0626
                                                             -0.1419
 -3.6630
                                                                        0.0727
           1.1382
                     1.5275
                                1.5293
                                          1.5933
                                                    1.7948
                                                              1.7960
  1.1369
                                                                        1.9108
  2.0315
            2.1395
                      2.1581
                                2.2810
                                          2.3157
                                                    2.3202
                                                              2.4677
                                                                        2.5951
  2.6107
            2.7778
                      2.7905
                                3.0002
                                          3.0048
                                                    3.0117
                                                              3.0255
       k = 0.0635 - 0.5774 \ 0.0000 \ (64824 \ PWs)
                                                    bands (ev):
-21.3990 -21.2847 -20.9662 -20.9612 -20.8254 -20.5668 -20.3350 -20.0407
-19.7440 -19.5945 -19.4835 -19.3021 -19.1718 -18.8262 -18.8026 -18.8008
-18.5140 -18.5121 -18.3948 -18.3242 -18.1727 -17.9028 -17.9013 -17.8881
-17.5054 -16.7142 -16.7121 -16.1743 -16.1711 -14.7896 -14.5434 -14.0706
-13.8776 -13.7506 -13.7475 -13.2342 -13.2303 -12.7957 -12.2575 -12.1049
-12.1036 \ -12.0993 \ -11.9921 \ -11.9362 \ -11.8608 \ -11.6230 \ -11.5886 \ -11.0637
-11.0103 -10.9309 -10.6187 -10.6148 -10.1876 -9.9891 -9.9847 -9.9810
```

```
-9.7965
           -9.5761
                      -9.4831
                                -8.9905
                                           -8.9821
                                                      -8.8799
                                                                -8.8723
                                                                           -8.7911
                                           -8.5959
 -8.7588
           -8.6517
                      -8.6428
                                -8.6395
                                                      -8.2596
                                                                -8.1264
                                                                           -8.0086
                      -7.9963
                                -7.9923
                                           -7.9813
                                                                -7.7528
 -8.0055
           -8.0036
                                                      -7.9230
                                                                           -7.6610
                                -7.4033
 -7.6402
           -7.4932
                      -7.4481
                                           -7.3974
                                                      -7.3865
                                                                -7.2500
                                                                           -7.0532
 -6.9954
           -6.8003
                      -6.7058
                                -6.6413
                                           -6.4235
                                                      -6.3076
                                                                -6.2926
                                                                           -6.2750
 -6.1255
           -6.1170
                      -6.0701
                                -5.9674
                                           -5.9631
                                                      -5.9034
                                                                -5.7709
                                                                           -5.6934
 -5.6331
           -5.5559
                      -5.5239
                                -5.5199
                                           -5.2977
                                                      -5.2942
                                                                -5.2492
                                                                           -4.8884
                                                                           -3.8617
 -4.8624
           -4.8520
                      -4.5611
                                -4.4681
                                           -4.2404
                                                      -4.0806
                                                                -4.0764
                                           -1.9596
                      -3.4233
                                                      -1.0605
 -3.6070
           -3.6018
                                -2.3242
                                                                -0.1817
                                                                            0.1041
  1.0779
            1.0792
                       1.5957
                                 1.5978
                                            1.5998
                                                      1.7914
                                                                 1.7967
                                                                            1.9094
  2.0275
            2.1310
                       2.1417
                                  2.2781
                                            2.3039
                                                       2.3226
                                                                 2.5094
                                                                            2.5991
  2.6134
            2.7515
                       2.8025
                                  3.0027
                                            3.0079
                                                       3.0112
                                                                 3.0249
        k = 0.0794 - 0.5774 \ 0.0000 \ (64784 \ PWs)
                                                       bands (ev):
-21.3968 -21.2832 -20.9635 -20.9585 -20.8483 -20.5405 -20.3692 -20.0014
-21.3906 -21.2032 -20.9033 -20.9383 -20.5463 -20.5463 -20.5092 -20.0014 -19.7642 -19.6046 -19.4631 -19.2891 -19.1697 -18.8361 -18.8344 -18.8297 -18.4754 -18.4735 -18.4229 -18.3292 -18.1503 -17.9002 -17.8988 -17.8886 -17.5029 -16.7804 -16.7784 -16.1060 -16.1026 -14.8182 -14.5105 -14.0959 -13.8566 -13.8119 -13.8090 -13.1669 -13.1629 -12.7909 -12.2742 -12.1109 -12.1032 -12.0976 -11.9926 -11.9244 -11.8633 -11.6947 -11.5586 -11.0632 -10.9310 -10.9309 -10.7003 -10.6964 -10.2220 -10.0468 -9.9089 -9.9053
           -9.5654
 -9.7815
                      -9.4323
                                -9.0322
                                           -9.0239
                                                     -8.8767
                                                                -8.8690
                                                                           -8.7775
                      -8.6089
                                           -8.6000
                                                      -8.2801
 -8.7558
           -8.6369
                                -8.6042
                                                                -8.1643
                                                                           -8.0165
                                -7.9918
                                                                -7.7370
 -8.0070
           -8.0001
                     -7.9941
                                           -7.9847
                                                      -7.9134
                                                                           -7.7066
 -7.6002
           -7.4972
                      -7.4448
                                -7.4149
                                           -7.3981
                                                      -7.3975
                                                                -7.2813
                                                                           -7.0073
                      -6.7052
 -6.9777
           -6.8027
                                -6.6737
                                           -6.4565
                                                      -6.3420
                                                                -6.3312
                                                                           -6.2955
 -6.0826
                      -6.0693
                                -5.9248
                                                                -5.7632
           -6.0746
                                           -5.9201
                                                      -5.8792
                                                                           -5.6978
           -5.5543
                      -5.5282
                                -5.5240
                                           -5.2952
 -5.6304
                                                      -5.2918
                                                                -5.2504
                                                                           -4.8950
           -4.8607
                      -4.6056
                                -4.4824
                                           -4.2057
 -4.8711
                                                      -4.1429
                                                                -4.1388
                                                                           -3.8568
 -3.5523
           -3.5470
                      -3.4216
                                -2.3666
                                           -1.9109
                                                      -1.0578
                                                                -0.2228
                                                                            0.1343
  1.0208
            1.0222
                       1.5990
                                 1.6694
                                            1.6717
                                                       1.7865
                                                                 1.7982
                                                                            1.9075
                                                       2.3259
  2.0227
            2.1038
                       2.1443
                                  2.2666
                                            2.3003
                                                                 2.5537
                                                                            2.6042
  2.6168
            2.7131
                       2.8306
                                  3.0052
                                            3.0113
                                                       3.0118
                                                                 3.0243
        k = 0.0952 - 0.5774 \ 0.0000 \ (64810 \ PWs)
                                                       bands (ev):
-21.3941 -21.2813 -20.9603 -20.9553 -20.8716 -20.5131 -20.4029 -19.9614
-19.7853 -19.6166 -19.4408 -19.2745 -19.1671 -18.8691 -18.8675 -18.8340
-18.4523 -18.4363 -18.4344 -18.3342 -18.1287 -17.8972 -17.8957 -17.8892
-17.5000 -16.8463 -16.8444 -16.0378 -16.0342 -14.8463 -14.4770 -14.1213
-13.8724 -13.8697 -13.8365 -13.0991 -13.0950 -12.7851 -12.2907 -12.1196
-12.1011 -12.0955 -12.0052 -11.9064 -11.8568 -11.7646 -11.5272 -11.0627
-10.9313 -10.8513 -10.7822 -10.7783 -10.2571 -10.1045
                                                                -9.8343
                                                                          -9.8307
           -9.5483
                     -9.3781
                                -9.0737
                                           -9.0655
                                                     -8.8728
 -9.7769
                                                                -8.8650
                                                                           -8.7632
                                -8.5660
 -8.7522
           -8.6337
                     -8.6139
                                           -8.5570
                                                     -8.3010
                                                                -8.2029
                                                                           -8.0517
 -8.0045
           -7.9972
                     -7.9920
                                -7.9882
                                           -7.9633
                                                     -7.9019
                                                                -7.8131
                                                                           -7.6595
 -7.5590
           -7.5019
                     -7.4414
                                -7.4291
                                           -7.4124
                                                     -7.3980
                                                                -7.3130
                                                                           -7.0216
 -6.9024
           -6.8079
                     -6.7696
                                -6.6376
                                           -6.4893
                                                     -6.3780
                                                                -6.3691
                                                                           -6.3185
 -6.0797
           -6.0467
                      -6.0114
                                -5.8819
                                           -5.8767
                                                      -5.8529
                                                                -5.7550
                                                                           -5.7028
 -5.6272
           -5.5522
                      -5.5335
                                -5.5291
                                           -5.2922
                                                      -5.2889
                                                                -5.2520
                                                                           -4.9031
 -4.8816
           -4.8712
                      -4.6509
                                -4.4990
                                           -4.2057
                                                      -4.2016
                                                                -4.1723
                                                                           -3.8515
 -3.4989
           -3.4935
                      -3.4194
                                 -2.4083
                                           -1.8616
                                                      -1.0547
                                                                -0.2651
                                                                            0.1634
  0.9658
            0.9673
                       1.6029
                                 1.7423
                                            1.7448
                                                       1.7806
                                                                 1.7999
                                                                            1.9050
                       2.1474
                                  2.2498
                                            2.3025
                                                       2.3300
                                                                 2.5962
  2.0172
            2.0775
                                                                            2.6135
  2.6207
             2.6757
                       2.8613
                                  3.0059
                                            3.0133
                                                       3.0162
                                                                 3.0243
        k = 0.1111 - 0.5774 \ 0.0000 \ (64852 \ PWs)
                                                       bands (ev):
-21.3910 -21.2792 -20.9565 -20.9515 -20.8950 -20.4848 -20.4360 -19.9210
-19.8068 -19.6298 -19.4174 -19.2587 -19.1640 -18.9016 -18.8999 -18.8392
-18.4827 -18.3967 -18.3947 -18.3393 -18.1080 -17.8935 -17.8921 -17.8900
```

```
-17.4966 -16.9118 -16.9100 -15.9696 -15.9658 -14.8740 -14.4431 -14.1466
-13.9319 -13.9293 -13.8183 -13.0308 -13.0266 -12.7784 -12.3065 -12.1291
-12.0986 -12.0929 -12.0236 -11.8919 -11.8382 -11.8326 -11.4952 -11.0623
-10.9316 -10.8644 -10.8605 -10.7714 -10.2924 -10.1613
                                                                -9.7840
                                                                          -9.7609
                                          -9.1070
                                                     -8.8682
                                                                           -8.7495
 -9.7574
           -9.5215
                      -9.3233
                                -9.1151
                                                                -8.8603
 -8.7479
           -8.6299
                     -8.6249
                                -8.5230
                                           -8.5140
                                                     -8.3217
                                                                -8.2413
                                                                           -8.0866
                                                     -7.8890
                                                                -7.8885
 -8.0010
           -7.9943
                     -7.9885
                                -7.9841
                                          -7.9418
                                                                           -7.6116
                     -7.4458
                                -7.4381
                                          -7.4291
                                                     -7.3997
                                                                           -7.0381
 -7.5171
           -7.5075
                                                                -7.3429
                                -6.5992
                                                     -6.4143
                                                                -6.4066
 -6.8343
           -6.8273
                     -6.8151
                                           -6.5219
                                                                           -6.3428
 -6.0850
           -6.0100
                     -5.9531
                                -5.8388
                                           -5.8329
                                                     -5.8252
                                                                -5.7471
                                                                           -5.7078
 -5.6233
           -5.5497
                      -5.5399
                                -5.5351
                                           -5.2886
                                                     -5.2853
                                                                -5.2541
                                                                           -4.9124
 -4.8938
           -4.8835
                      -4.6970
                                -4.5173
                                           -4.2688
                                                      -4.2649
                                                                -4.1403
                                                                           -3.8463
 -3.4471
           -3.4416
                      -3.4169
                                -2.4494
                                                                -0.3087
                                           -1.8115
                                                      -1.0511
                                                                            0.1914
                                            1.8017
  0.9129
                       1.6075
            0.9146
                                  1.7739
                                                       1.8164
                                                                 1.8191
                                                                            1.9018
                                                                 2.6112
  2.0112
             2.0527
                       2.1508
                                  2.2317
                                            2.3069
                                                       2.3347
                                                                            2.6201
  2.6438
             2,6536
                       2.8924
                                  3.0050
                                            3.0157
                                                       3.0199
                                                                 3.0246
        k = 0.1270 - 0.5774 \ 0.0000 \ (64820 \ PWs)
                                                       bands (ev):
-21.3874 -21.2768 -20.9520 -20.9470 -20.9181 -20.4685 -20.4560 -19.8800 -19.8285 -19.6438 -19.3932 -19.2422 -19.1604 -18.9335 -18.9318 -18.8451 -18.5138 -18.3565 -18.3545 -18.3445 -18.0883 -17.8911 -17.8894 -17.8879 -17.4930 -16.9769 -16.9751 -15.9017 -15.8976 -14.9011 -14.4087 -14.1718 -13.9903 -13.9879 -13.8018 -12.9619 -12.9576 -12.7709 -12.3214 -12.1394 -12.0957 -12.0901 -12.0445 -11.8982 -11.8829 -11.8092 -11.4631 -11.0621 -10.9468 -10.9430 -10.9321 -10.6915 -10.3279 -10.2164 -9.8002 -9.6888
                                          -9.1482
                      -9.2690
                                -9.1563
 -9.6854
           -9.4865
                                                     -8.8630
                                                                -8.8548
                                                                          -8.7429
                                           -8.4709
                                -8.4800
 -8.7373
           -8.6369
                      -8.6257
                                                      -8.3417
                                                                -8.2795
                                                                           -8.1211
                                -7.9799
 -7.9963
                                           -7.9644
                                                      -7.9206
                                                                -7.8734
           -7.9905
                      -7.9845
                                                                           -7.5630
 -7.5145
           -7.4745
                      -7.4650
                                -7.4483
                                           -7.4349
                                                     -7.4048
                                                                -7.3672
                                                                           -7.0567
 -6.8994
           -6.8236
                      -6.7524
                                -6.5598
                                           -6.5541
                                                      -6.4504
                                                                -6.4434
                                                                           -6.3679
                                -5.7966
                                           -5.7956
 -6.0904
           -5.9728
                      -5.8950
                                                      -5.7888
                                                                -5.7410
                                                                           -5.7117
 -5.6189
           -5.5473
                      -5.5465
                                -5.5419
                                           -5.2843
                                                      -5.2811
                                                                -5.2568
                                                                           -4.9228
                                 -4.5368
 -4.9077
           -4.8974
                      -4.7436
                                           -4.3322
                                                      -4.3284
                                                                -4.1099
                                                                           -3.8414
                                           -1.7608
 -3.4140
           -3.3968
                      -3.3912
                                 -2.4897
                                                      -1.0472
                                                                -0.3534
                                                                            0.2183
  0.8625
             0.8643
                       1.6128
                                  1.7664
                                            1.8035
                                                       1.8915
                                                                 1.8945
                                                                            1.8979
                                                       2.3400
  2.0050
             2.0299
                       2.1544
                                            2.3126
                                                                 2.5946
                                  2.2139
                                                                            2.6207
  2.6372
             2.7030
                       2.9179
                                  2.9992
                                            3.0034
                                                       3.0164
                                                                 3.0260
        k = 0.1429 - 0.5774 \ 0.0000 \ (64840 \ PWs)
                                                       bands (ev):
-21.3833 -21.2742 -20.9470 -20.9420 -20.9409 -20.5004 -20.4268 -19.8503
-19.8384 -19.6582 -19.3686 -19.2251 -19.1562 -18.9648 -18.9632 -18.8518
-18.5454 -18.3499 -18.3157 -18.3137 -18.0696 -17.8923 -17.8846 -17.8832
-17.4892 -17.0417 -17.0399 -15.8340 -15.8297 -14.9277 -14.3739 -14.1968
-14.0475 -14.0453 -13.7874 -12.8926 -12.8882 -12.7626 -12.3351 -12.1503
-12.0925 -12.0868 -12.0661 -11.9611 -11.8765 -11.7744 -11.4313 -11.0622
-11.0294 -11.0256 -10.9327 -10.6115 -10.3639 -10.2686
                                                                -9.8224
                                                                          -9.6183
 -9.6149
           -9.4460
                     -9.2154
                                -9.1973
                                          -9.1893
                                                     -8.8570
                                                                -8.8486
                                                                          -8.7374
 -8.7280
           -8.6496
                      -8.6209
                                -8.4370
                                           -8.4278
                                                      -8.3609
                                                                -8.3171
                                                                           -8.1550
 -8.0411
           -7.9904
                      -7.9854
                                -7.9793
                                           -7.9747
                                                      -7.8999
                                                                -7.8567
                                                                           -7.5236
 -7.5137
           -7.4867
                      -7.4700
                                -7.4322
                                           -7.4315
                                                      -7.4168
                                                                -7.3807
                                                                           -7.0773
 -6.9648
           -6.8332
                      -6.6778
                                 -6.5859
                                           -6.5200
                                                      -6.4862
                                                                -6.4797
                                                                           -6.3934
                                 -5.7673
                                           -5.7529
 -6.0959
                                                      -5.7446
                                                                -5.7389
           -5.9352
                      -5.8372
                                                                           -5.7126
                      -5.5492
                                 -5.5427
 -5.6138
           -5.5555
                                           -5.2794
                                                      -5.2762
                                                                -5.2602
                                                                           -4.9342
 -4.9231
            -4.9130
                      -4.7909
                                 -4.5572
                                           -4.3959
                                                      -4.3922
                                                                -4.0809
                                                                           -3.8370
 -3.4107
            -3.3483
                                 -2.5293
                                           -1.7093
                                                      -1.0431
                                                                -0.3994
                      -3.3426
                                                                            0.2441
                                                       1.8933
  0.8144
            0.8164
                       1.6188
                                  1.7583
                                            1.8051
                                                                 1.9676
                                                                            1.9709
  1.9988
             2.0092
                       2.1584
                                  2.1969
                                            2.3193
                                                       2.3460
                                                                 2.5615
                                                                            2.6280
  2.6424
             2.7540
                       2.9184
                                  2.9903
                                            3.0013
                                                       3.0149
                                                                 3.0325
        k = 0.1587 - 0.5774 \ 0.0000 \ (64820 \ PWs)
                                                       bands (ev):
```

```
-21.3787 -21.2714 -20.9632 -20.9414 -20.9364 -20.5318 -20.3973 -19.8720
-19.7962 -19.6729 -19.3438 -19.2078 -19.1515 -18.9956 -18.9939 -18.8592
-14.1033 -14.1014 -13.7755 -12.8227 -12.8183 -12.7536 -12.3475 -12.1616
-12.0889 -12.0875 -12.0832 -12.0210 -11.8713 -11.7364 -11.4000 -11.1122
-11.1084 -11.0628 -10.9336 -10.5315 -10.4017 -10.3163
                                                             -9.8481
                                                                       -9.5495
 -9.5461
          -9.4018
                    -9.2381
                              -9.2302
                                        -9.1630
                                                   -8.8503
                                                             -8.8417
                                                                        -8.7311
 -8.7227
          -8.6626
                    -8.6156
                              -8.3940
                                         -8.3850
                                                   -8.3789
                                                             -8.3538
                                                                       -8.1881
 -8.1166
          -7.9832
                    -7.9793
                              -7.9742
                                         -7.9698
                                                   -7.8797
                                                             -7.8386
                                                                       -7.5353
                                                             -7.3856
                                                                       -7.0997
 -7.5108
          -7.4943
                    -7.4635
                               -7.4350
                                         -7.4273
                                                   -7.3881
                                                                        -6.4189
 -7.0305
          -6.8436
                    -6.6173
                               -6.6034
                                         -6.5215
                                                   -6.5154
                                                             -6.4803
                                                             -5.7096
                                                                        -5.7009
 -6.1014
          -5.8974
                     -5.7799
                               -5.7418
                                         -5.7377
                                                   -5.7115
                                                   -5.2708
 -5.6081
          -5.5643
                     -5.5561
                               -5.5382
                                         -5.2738
                                                             -5.2645
                                                                        -4.9463
 -4.9399
           -4.9299
                     -4.8388
                               -4.5779
                                         -4.4598
                                                   -4.4562
                                                              -4.0536
                                                                        -3.8333
 -3.4070
          -3.3016
                     -3.2958
                               -2.5681
                                         -1.6572
                                                   -1.0387
                                                             -0.4466
                                                                         0.2689
  0.7689
            0.7711
                      1.6255
                                1.7497
                                          1.8062
                                                    1.8881
                                                               1.9903
                                                                         1.9925
  2.0453
            2.0486
                      2.1625
                                2.1812
                                          2.3268
                                                     2.3525
                                                               2.5285
                                                                         2.6363
  2.6495
            2.8042
                      2.8916
                                2.9987
                                          3.0054
                                                     3.0132
                                                               3.0402
       k = 0.1746 - 0.5774 \ 0.0000 \ (64816 \ PWs)
                                                     bands (ev):
-21.3737 -21.2685 -20.9848 -20.9353 -20.9303 -20.5625 -20.3677 -19.8935 -19.7535 -19.6875 -19.3190 -19.1904 -19.1461 -19.0258 -19.0241 -18.8673 -18.6099 -18.3606 -18.2326 -18.2306 -18.0355 -17.8956 -17.8734 -17.8720 -17.4811 -17.1699 -17.1683 -15.7005 -15.6956 -14.9796 -14.3027 -14.2464 -14.1576 -14.1559 -13.7665 -12.7524 -12.7479 -12.7442 -12.3586 -12.1732 -12.1082 -12.0852 -12.0799 -12.0764 -11.8668 -11.6961 -11.3698 -11.1951
-11.1913 -11.0642 -10.9347 -10.4515 -10.4422 -10.3576
                                                             -9.8756
                                                                       -9.4825
 -9.4792
          -9.3554
                     -9.2787
                               -9.2708
                                         -9.1119
                                                   -8.8430
                                                             -8.8341
                                                                        -8.7243
                               -8.3959
                                         -8.3918
 -8.7223
          -8.6753
                     -8.6100
                                                   -8.3503
                                                              -8.3410
                                                                        -8.2205
           -7.9746
                     -7.9725
                               -7.9680
                                         -7.9644
 -8.1921
                                                   -7.8603
                                                             -7.8193
                                                                        -7.5497
           -7.5207
                     -7.4476
                               -7.4258
                                         -7.4128
 -7.5372
                                                   -7.3875
                                                              -7.3445
                                                                        -7.1238
                               -6.5564
                                         -6.5506
                                                   -6.5294
                                                             -6.4443
 -7.0964
           -6.8545
                     -6.6482
                                                                        -6.4413
                                         -5.7079
 -6.1067
           -5.8595
                     -5.7476
                               -5.7232
                                                   -5.7052
                                                              -5.6740
                                                                        -5.6595
           -5.5719
                     -5.5604
                               -5.5329
                                         -5.2699
                                                   -5.2676
                                                              -5.2646
                                                                        -4.9591
 -5.6018
 -4.9581
           -4.9482
                     -4.8871
                               -4.5985
                                         -4.5238
                                                   -4.5203
                                                              -4.0279
                                                                        -3.8306
 -3.4031
           -3.2570
                     -3.2511
                               -2.6063
                                         -1.6044
                                                    -1.0342
                                                              -0.4949
                                                                         0.2925
  0.7262
            0.7286
                      1.6328
                                1.7408
                                          1.8067
                                                    1.8823
                                                               1.9742
                                                                         1.9866
  2.1233
            2.1271
                      2.1664
                                2.1673
                                          2.3351
                                                     2.3593
                                                               2.4972
                                                                         2.6453
  2.6578
            2.8322
                      2.8802
                                2.9961
                                          3.0096
                                                     3.0236
                                                               3.0487
       k = 0.1905 - 0.5774 \ 0.0000 \ (64822 \ PWs)
                                                     bands (ev):
-21.3682 -21.2657 -21.0057 -20.9285 -20.9235 -20.5928 -20.3380 -19.9149
-19.7103 -19.7020 -19.2942 -19.1732 -19.1401 -19.0554 -19.0538 -18.8760
-18.6427 -18.3656 -18.1902 -18.1882 -18.0201 -17.8976 -17.8670 -17.8656
-17.4771 -17.2334 -17.2318 -15.6351 -15.6299 -15.0048 -14.2708 -14.2664
-14.2100 -14.2086 -13.7608 -12.7343 -12.6817 -12.6771 -12.3683 -12.1849
-12.1301 -12.1276 -12.0804 -12.0747 -11.8629 -11.6540 -11.3410 -11.2781
-11.2743 -11.0666 -10.9361 -10.4855 -10.3918 -10.3718
                                                             -9.9037
                                                                        -9.4177
 -9.4145
           -9.3190
                     -9.3112
                               -9.3075
                                         -9.0623
                                                   -8.8351
                                                              -8.8257
                                                                        -8.7276
                                                              -8.2979
                     -8.6041
                               -8.4274
                                         -8.4120
                                                   -8.3073
 -8.7168
           -8.6873
                                                                        -8.2673
           -7.9667
                     -7.9641
                               -7.9605
                                         -7.9573
                                                    -7.8416
                                                              -7.7991
 -8.2520
                                                                        -7.5661
 -7.5653
           -7.5496
                     -7.4573
                               -7.4237
                                         -7.3887
                                                    -7.3614
                                                              -7.3006
                                                                        -7.1626
           -6.8657
                     -6.6785
                               -6.5907
                                         -6.5851
                                                    -6.4694
                                                              -6.4557
 -7.1494
                                                                        -6.4032
           -5.8216
                     -5.7543
                               -5.7010
                                         -5.6782
                                                    -5.6671
                                                              -5.6473
 -6.1121
                                                                        -5.6286
 -5.5948
           -5.5700
                     -5.5551
                               -5.5271
                                         -5.2764
                                                    -5.2608
                                                              -5.2579
                                                                        -4.9775
 -4.9722
           -4.9677
                     -4.9358
                               -4.6185
                                         -4.5879
                                                    -4.5845
                                                              -4.0038
                                                                        -3.8288
          -3.2145
                               -2.6438
                                         -1.5510
                                                   -1.0298
 -3.3991
                     -3.2086
                                                              -0.5445
                                                                         0.3152
                               1.7319
                                                              1.9599
  0.6863
           0.6889
                     1.6408
                                          1.8063
                                                    1.8762
                                                                         1.9816
```

```
2.1542
             2.1708
                        2.2025
                                   2.2066
                                              2.3440
                                                         2.3662
                                                                    2.4685
                                                                               2.6551
                                   2.9930
                                              3.0069
  2.6670
             2.8043
                        2.9242
                                                         3.0382
                                                                    3.0581
        k = 0.2063 - 0.5774 \ 0.0000 \ (64806 \ PWs)
                                                         bands (ev):
-21.3623 -21.2630 -21.0255 -20.9211 -20.9161 -20.6224 -20.3084 -19.9359
-19.7162 -19.6664 -19.2699 -19.1566 -19.1332 -19.0845 -19.0829 -18.8850
-18.6757 -18.3703 -18.1473 -18.1452 -18.0058 -17.8998 -17.8600 -17.8586 -17.4731 -17.2965 -17.2949 -15.5711 -15.5655 -15.0295 -14.2949 -14.2602 -14.2590 -14.2296 -13.7590 -12.7244 -12.6104 -12.6058 -12.3765 -12.1968 -12.1782 -12.1456 -12.0757 -12.0699 -11.8596 -11.6105 -11.3611 -11.3574
-11.3140 -11.0706 -10.9381 -10.5298 -10.4199 -10.2922 -9.9315
                                                                             -9.3613
                      -9.3487
                                                                  -8.8166
                                                                             -8.7379
 -9.3565
           -9.3509
                                 -9.2588
                                            -9.0146
                                                       -8.8267
                                                                             -8.2641
 -8.7088
           -8.6992
                      -8.5979
                                 -8.4627
                                            -8.4277
                                                       -8.3422
                                                                  -8.2825
                      -7.9557
                                                                  -7.7782
 -8.2547
           -7.9610
                                 -7.9506
                                            -7.9464
                                                       -7.8238
                                                                             -7.5972
                                            -7.3897
 -7.5808
           -7.5804
                      -7.4640
                                 -7.4218
                                                       -7.3094
                                                                  -7.2568
                                                                             -7.2290
                                 -6.6244
                                            -6.6190
                                                                  -6.3825
                                                                             -6.3665
 -7.1761
           -6.8768
                      -6.7083
                                                       -6.4940
                                                       -5.6400
            -5.7839
                                            -5.6488
                                                                             -5.6112
 -6.1173
                      -5.7613
                                 -5.6979
                                                                  -5.6248
                                 -5.5209
 -5.5872
            -5.5429
                      -5.5319
                                            -5.2841
                                                       -5.2533
                                                                   -5.2505
                                                                              -4.9979
            -4.9855
 -4.9882
                       -4.9847
                                  -4.6521
                                             -4.6487
                                                        -4.6375
                                                                   -3.9815
                                                                              -3.8281
 -3.3949
            -3.1744
                       -3.1684
                                  -2.6806
                                            -1.4968
                                                        -1.0254
                                                                   -0.5952
                                                                               0.3368
  0.6493
             0.6522
                        1.6494
                                   1.7231
                                              1.8047
                                                         1.8701
                                                                    1.9475
                                                                               1.9776
             2.1750
                                              2.3530
                                                         2.3724
                                                                    2.4440
  2.1431
                        2.2822
                                   2.2868
                                                                               2.6656
                        2.9771
  2.6770
             2.7672
                                   2.9897
                                              3.0037
                                                         3.0513
                                                                    3.0684
        k = 0.2222 - 0.5774 \ 0.0000 \ (64840 \ PWs)
                                                         bands (ev):
-21.3560 -21.2606 -21.0442 -20.9132 -20.9082 -20.6514 -20.2790 -19.9567 -19.7299 -19.6221 -19.2463 -19.1408 -19.1253 -19.1130 -19.1114 -18.8941 -18.7087 -18.3747 -18.1039 -18.1018 -17.9927 -17.9023 -17.8525 -17.8510 -17.4694 -17.3591 -17.3575 -15.5089 -15.5030 -15.0537 -14.3188 -14.3076 -14.3068 -14.1923 -13.7613 -12.7145 -12.5388 -12.5340 -12.3833 -12.2215
-12.2085 -12.1618 -12.0706 -12.0648 -11.8569 -11.5657 -11.4443 -11.4405 -11.2893 -11.0766 -10.9408 -10.5730 -10.4430 -10.2128 -9.9581 -9.3994
           -9.2948
                      -9.2913
                                 -9.2096
                                            -8.9690
                                                                  -8.8068
 -9.3916
                                                       -8.8178
                                                                             -8.7518
            -8.7002
 -8.7118
                      -8.5917
                                 -8.4973
                                            -8.4438
                                                        -8.4166
                                                                   -8.3116
                                                                              -8.2209
 -8.2115
            -7.9555
                      -7.9498
                                 -7.9365
                                            -7.9327
                                                        -7.8072
                                                                  -7.7571
                                                                              -7.6306
 -7.6143
           -7.5930
                      -7.4688
                                 -7.4203
                                            -7.3906
                                                       -7.2956
                                                                  -7.2568
                                                                             -7.2132
 -7.2038
           -6.8876
                      -6.7374
                                 -6.6576
                                            -6.6523
                                                       -6.5179
                                                                  -6.3315
                                                                              -6.3096
 -6.1226
           -5.7679
                      -5.7467
                                 -5.6959
                                            -5.6475
                                                       -5.6362
                                                                  -5.6199
                                                                              -5.5787
            -5.5145
 -5.5567
                      -5.5014
                                 -5.4953
                                            -5.2931
                                                       -5.2451
                                                                  -5.2424
                                                                              -5.0339
                      -4.9985
                                 -4.7162
                                            -4.7130
 -5.0191
           -5.0095
                                                        -4.6551
                                                                  -3.9610
                                                                              -3.8284
                                 -2.7166
                                            -1.4420
 -3.3908
           -3.1367
                      -3.1307
                                                        -1.0212
                                                                  -0.6470
                                                                               0.3575
  0.6155
             0.6187
                        1.6586
                                   1.7147
                                              1.8017
                                                         1.8641
                                                                    1.9368
                                                                               1.9747
                                   2.3647
                                                                    2.4275
  2.1335
             2.1789
                        2.3563
                                              2.3679
                                                         2.3781
                                                                               2,6769
                        2.9859
                                              3.0220
  2.6878
             2.7296
                                   3.0001
                                                         3.0526
                                                                    3.0685
        k = 0.2381 - 0.5774 \ 0.0000 \ (64812 \ PWs)
                                                         bands (ev):
-21.3493 -21.2588 -21.0614 -20.9046 -20.8997 -20.6799 -20.2501 -19.9771
-19.7428 -19.5771 -19.2237 -19.1409 -19.1393 -19.1265 -19.1161 -18.9028
-18.7416 -18.3785 -18.0599 -18.0578 -17.9807 -17.9050 -17.8444 -17.8429
-17.4659 -17.4213 -17.4197 -15.4494 -15.4429 -15.0774 -14.3518 -14.3512
-14.3424 -14.1546 -13.7683 -12.7050 -12.4667 -12.4618 -12.3887 -12.2596
-12.2198 -12.1762 -12.0651 -12.0593 -11.8548 -11.5273 -11.5236 -11.5197
-11.2674 -11.0853 -10.9446 -10.6131 -10.4618 -10.1338
                                                                  -9.9828
                                                                             -9.4390
           -9.2374
                      -9.2339
                                 -9.1603
                                             -8.9260
                                                        -8.8088
                                                                  -8.7962
 -9.4313
                                                                             -8.7679
 -8.7259
           -8.6911
                      -8.5856
                                 -8.5312
                                            -8.4903
                                                        -8.4607
                                                                   -8.3392
                                                                              -8.1778
           -7.9499
                      -7.9442
                                 -7.9200
                                            -7.9166
                                                       -7.7922
                                                                   -7.7359
                                                                             -7.6662
 -8.1682
 -7.6500
           -7.6017
                      -7.4729
                                 -7.4190
                                            -7.3915
                                                       -7.3624
                                                                  -7.2320
                                                                             -7.2035
           -6.8979
                                                       -6.5409
                                                                  -6.2986
 -7.1700
                      -6.7658
                                 -6.6902
                                            -6.6850
                                                                              -6.2372
           -5.7738 -5.7102 -5.6950
                                            -5.6623
                                                       -5.6531
                                                                  -5.5920
 -6.1279
                                                                             -5.5691
```

```
-5.5084
           -5.5028
                     -5.4563
                               -5.4530
                                         -5.3032
                                                    -5.2364
                                                              -5.2338
                                                                        -5.0830
 -5.0409
           -5.0315
                     -5.0108
                               -4.7803
                                         -4.7771
                                                    -4.6709
                                                              -3.9423
                                                                        -3.8296
                               -2.7520
                                                   -1.0173
 -3.3869
           -3.1016
                     -3.0956
                                         -1.3865
                                                              -0.7000
                                                                         0.3772
  0.5849
            0.5883
                      1.6684
                                1.7070
                                          1.7971
                                                     1.8585
                                                               1.9276
                                                                         1.9731
  2.1255
            2.1823
                      2.3565
                                2.3825
                                           2.4190
                                                     2.4474
                                                               2.4508
                                                                         2.6875
  2.6927
            2.7006
                      2.9818
                                2.9961
                                           3.0008
                                                     3.0730
                                                               3.0889
        k = 0.2540 - 0.5774 \ 0.0000 \ (64842 \ PWs)
                                                     bands (ev):
-21.3424 -21.2577 -21.0768 -20.8955 -20.8906 -20.7078 -20.2218 -19.9970
-19.7549 -19.5317 -19.2025 -19.1683 -19.1667 -19.1142 -19.1055 -18.9105 -18.7741 -18.3819 -18.0154 -18.0132 -17.9701 -17.9078 -17.8358 -17.8343 -17.4831 -17.4814 -17.4627 -15.3933 -15.3864 -15.1007 -14.3916 -14.3912 -14.3656 -14.1164 -13.7803 -12.6961 -12.3941 -12.3927 -12.3892 -12.2921 -12.2304 -12.1887 -12.0593 -12.0534 -11.8532 -11.6104 -11.6067 -11.4727 -11.2487 -11.0973 -10.9497 -10.6482 -10.4771 -10.0551 -10.0051 -9.4784
                     -9.1793 -9.1111
                                        -8.8864
                                                   -8.8004
                                                                        -8.7850
 -9.4708
           -9.1829
                                                             -8.7854
                              -8.5645
                                         -8.5624
                                                   -8.4787
 -8.7412
           -8.6816
                     -8.5801
                                                              -8.3647
                                                                        -8.1347
                     -7.9385
                               -7.9010
                                         -7.8980
                                                   -7.7794
                                                              -7.7152
                                                                        -7.7040
 -8.1250
           -7.9443
           -7.6054
                     -7.4771
                                                                        -7.1496
 -7.6878
                               -7.4293
                                         -7.4181
                                                   -7.3924
                                                              -7.2601
 -7.1277
           -6.9073
                     -6.7933
                               -6.7222
                                         -6.7171
                                                    -6.5627
                                                              -6.2685
                                                                        -6.1653
           -5.7789
                     -5.6952
                                         -5.6752
                                                    -5.6732
                                                              -5.5660
 -6.1334
                               -5.6814
                                                                        -5.5577
 -5.5029
                               -5.4084
                                         -5.3141
           -5.4497
                     -5.4099
                                                    -5.2271
                                                              -5.2246
                                                                        -5.1320
                                         -4.8411
 -5.0630
           -5.0537
                     -5.0222
                               -4.8443
                                                    -4.6846
                                                              -3.9256
                                                                        -3.8319
                                                              -0.7541
 -3.3832
           -3.0693
                     -3.0632
                               -2.7866
                                         -1.3303
                                                    -1.0138
                                                                         0.3959
  0.5576
                      1.6788
                                1.7001
                                          1.7910
            0.5613
                                                     1.8536
                                                               1.9199
                                                                         1.9726
  2.1189
            2.1851
                      2.3443
                                2.3932
                                           2.4250
                                                     2.5276
                                                               2.5329
                                                                         2.6558
                                2.9774
  2.7022
            2.7123
                      2.9638
                                           2.9918
                                                     3.0883
                                                               3.1028
        k = 0.2698 - 0.5774 \ 0.0000 \ (64842 \ PWs)
                                                     bands (ev):
-21.3352 -21.2578 -21.0899 -20.8858 -20.8809 -20.7351 -20.1946 -20.0164
-19.7658 -19.4856 -19.1951 -19.1935 -19.1835 -19.1039 -19.0943 -18.9164
-18.8059 -18.3846 -17.9703 -17.9681 -17.9608 -17.9108 -17.8266 -17.8250
-17.5443 -17.5427 -17.4600 -15.3419 -15.3345 -15.1234 -14.4262 -14.4255
-14.3885 -14.0777 -13.7975 -12.6882 -12.3954 -12.3219 -12.3183 -12.3159
-12.2400 -12.1992 -12.0531 -12.0472 -11.8522 -11.6935 -11.6897 -11.4248
-11.2339 -11.1134 -10.9564 -10.6767 -10.4890 -10.0244
                                                             -9.9769
                                                                        -9.5175
 -9.5100
           -9.1316
                    -9.1277
                              -9.0623
                                         -8.8520
                                                   -8.8036
                                                             -8.7943
                                                                        -8.7731
 -8.7565
           -8.6718
                     -8.6314
                               -8.5967
                                         -8.5757
                                                    -8.4979
                                                              -8.3875
                                                                        -8.0916
                               -7.8795
                                                   -7.7694
 -8.0818
           -7.9386
                     -7.9327
                                         -7.8768
                                                              -7.7439
                                                                        -7.7278
 -7.6955
           -7.6036
                     -7.4964
                               -7.4823
                                         -7.4173
                                                   -7.3929
                                                              -7.2873
                                                                        -7.0951
                     -6.8196
                               -6.7535
                                         -6.7485
                                                   -6.5829
                                                              -6.2415
                                                                        -6.1391
 -7.0869
           -6.9154
                               -5.6961
                     -5.7035
                                         -5.6958
                                                   -5.6427
                                                              -5.5480
 -6.0940
           -5.7826
                                                                        -5.5388
                     -5.3636
           -5.3976
                               -5.3624
                                         -5.3249
                                                   -5.2175
                                                              -5.2151
 -5.4984
                                                                        -5.1802
           -5.0758
                     -5.0322
 -5.0849
                               -4.9080
                                         -4.9047
                                                    -4.6960
                                                              -3.9109
                                                                        -3.8348
                                                   -1.0107
 -3.3799
           -3.0398
                     -3.0337
                               -2.8205
                                         -1.2735
                                                              -0.8093
                                                                         0.4138
                     1.6897
                                1.6942
                                          1.7832
                                                     1.8493
                                                               1.9135
  0.5338
            0.5379
                                                                         1.9731
  2.1136
            2.1870
                      2.3305
                                2.4058
                                           2.4343
                                                     2.5978
                                                               2.6156
                                                                         2.6332
  2.7158
            2.7256
                      2.9266
                                2.9726
                                           2.9871
                                                     3.1024
                                                               3.1163
        k = 0.2857 - 0.5774 \ 0.0000 \ (64838 \ PWs)
                                                     bands (ev):
-21.3281 -21.2591 -21.1004 -20.8755 -20.8706 -20.7618 -20.1690 -20.0351
-19.7751 -19.4391 -19.2213 -19.2198 -19.1671 -19.0961 -19.0827 -18.9197
-18.8362 -18.3868 -17.9529 -17.9248 -17.9225 -17.9137 -17.8168 -17.8153
-17.6051 -17.6035 -17.4578 -15.2967 -15.2887 -15.1457 -14.4539 -14.4527
-14.4110 -14.0385 -13.8201 -12.6816 -12.3970 -12.3393 -12.2480 -12.2478
-12.2427 -12.2077 -12.0465 -12.0406 -11.8515 -11.7764 -11.7727 -11.3762
-11.2237 -11.1344 -10.9640 -10.6978 -10.4978 -10.0401 -9.8992 -9.5564
          -9.0836 -9.0793 -9.0143 -8.8303 -8.8199
                                                             -8.7979
 -9.5489
                                                                        -8.7673
 -8.7605 -8.6897 -8.6621 -8.6282 -8.5730 -8.5173 -8.4067
                                                                        -8.0486
```

```
-8.0387
           -7.9329
                     -7.9270
                              -7.8555
                                        -7.8529
                                                  -7.7858
                                                            -7.7698
                                                                      -7.7623
 -7.6776
          -7.5965
                    -7.5637
                              -7.4890
                                        -7.4168
                                                  -7.3933
                                                            -7.3122
                                                                      -7.0488
                              -6.7843
                                                            -6.2181
 -7.0400
          -6.9221
                    -6.8443
                                        -6.7793
                                                  -6.6008
                                                                      -6.1450
           -5.7851
                    -5.7284
                                                            -5.5333
 -6.0234
                              -5.7210
                                        -5.6975
                                                  -5.6142
                                                                      -5.5176
 -5.4951
                                                                      -5.2053
           -5.3468
                    -5.3344
                              -5.3183
                                        -5.3155
                                                  -5.2271
                                                            -5.2076
 -5.1060
           -5.0970
                     -5.0405
                              -4.9715
                                        -4.9679
                                                  -4.7049
                                                            -3.8983
                                                                      -3.8383
 -3.3771
          -3.0133
                    -3.0073
                              -2.8537
                                        -1.2160
                                                  -1.0082
                                                            -0.8656
                                                                       0.4308
 0.5136
           0.5179
                     1.6893
                               1.7014
                                         1.7740
                                                   1.8459
                                                             1.9086
                                                                       1.9743
  2.1096
           2.1878
                     2.3187
                                2.4194
                                          2.4456
                                                   2.5792
                                                             2.6978
                                                                        2.7022
  2.7303
            2.7397
                     2.8899
                                2.9674
                                          2.9820
                                                   3.1166
                                                             3.1304
       k = 0.3016 - 0.5774 \ 0.0000 \ (64820 \ PWs)
                                                   bands (ev):
-21.3214 -21.2616 -21.1079 -20.8647 -20.8597 -20.7879 -20.1460 -20.0524
-19.7825 -19.3920 -19.2469 -19.2455 -19.1540 -19.0917 -19.0712 -18.9197
-18.8636 -18.3883 -17.9467 -17.9164 -17.8787 -17.8764 -17.8065 -17.8049 -17.6655 -17.6638 -17.4562 -15.2595 -15.2511 -15.1674 -14.4727 -14.4711 -14.4331 -13.9989 -13.8482 -12.6766 -12.3976 -12.3537 -12.2541 -12.2140 -12.1740 -12.1689 -12.0396 -12.0336 -11.8593 -11.8556 -11.8513 -11.3272
-11.2188 -11.1607 -10.9715 -10.7115 -10.5038 -10.0517
                                                                      -9.5949
                                                            -9.8219
 -9.5876
          -9.0393
                    -9.0342
                              -8.9678
                                        -8.8437
                                                  -8.8299
                                                            -8.8224
                                                                      -8.7640
                                                                      -8.0058
 -8.7474
           -8.7185
                    -8.6587
                              -8.6529
                                        -8.5725
                                                  -8.5352
                                                            -8.4211
                              -7.8298
                                                                      -7.7580
 -7.9957
                                        -7.8288
           -7.9269
                    -7.9211
                                                  -7.8262
                                                            -7.8136
                                        -7.4165
                    -7.5856
                              -7.4972
                                                  -7.3941
                                                            -7.3327
 -7.6625
           -7.6310
                                                                      -7.0154
                                                            -6.1991
 -6.9843
                    -6.8660
                                        -6.8095
           -6.9271
                              -6.8144
                                                  -6.6156
                                                                      -6.1511
                              -5.7486
 -5.9534
           -5.7862
                     -5.7559
                                        -5.6991
                                                  -5.5921
                                                            -5.5170
                                                                      -5.5006
 -5.4930
           -5.3402
                     -5.2979
                              -5.2752
                                        -5.2710
                                                  -5.2693
                                                             -5.1981
                                                                      -5.1951
 -5.1246
           -5.1157
                     -5.0465
                                        -5.0298
                                                  -4.7113
                                                             -3.8884
                              -5.0345
                                                                      -3.8418
 -3.3750
           -2.9899
                     -2.9839
                              -2.8861
                                        -1.1578
                                                   -1.0064
                                                             -0.9229
                                                                       0.4468
  0.4971
           0.5017
                     1.6859
                                1.7133
                                                             1.9050
                                                                        1.9757
                                          1.7636
                                                   1.8435
  2.1068
            2.1876
                      2.3103
                                2.4339
                                          2.4581
                                                   2.5464
                                                             2.7454
                                                                        2.7544
  2.7818
            2.7863
                      2.8543
                                2.9618
                                          2.9766
                                                   3.1125
                                                             3.1172
       k = 0.3175 - 0.5774 \ 0.0000 \ (64832 \ PWs)
                                                   bands (ev):
-21.3161 -21.2645 -21.1123 -20.8533 -20.8483 -20.8133 -20.1278 -20.0666
-19.7874 -19.3443 -19.2720 -19.2706 -19.1450 -19.0905 -19.0618 -18.9170
-18.8850 -18.3892 -17.9427 -17.9183 -17.8321 -17.8298 -17.7956 -17.7941
-17.7254 -17.7236 -17.4551 -15.2322 -15.2234 -15.1885 -14.4809 -14.4788
-14.4549 -13.9588 -13.8815 -12.6736 -12.3976 -12.3622 -12.2581 -12.2179
-12.0998 -12.0947 -12.0324 -12.0263 -11.9421 -11.9384 -11.8512 -11.2782
-11.2197 -11.1920 -10.9771 -10.7187 -10.5073 -10.0588
                                                            -9.7452
                                                                      -9.6332
                                        -8.8889
 -9.6260
          -8.9988
                    -8.9926
                              -8.9250
                                                  -8.8619
                                                            -8.8353
                                                                      -8.7529
 -8.7336
          -8.7191
                    -8.6880
                              -8.6456
                                        -8.5741
                                                  -8.5487
                                                            -8.4297
                                                                      -7.9637
          -7.9204
                    -7.9149
                              -7.8755
                                        -7.8598
                                                  -7.7990
                                                            -7.7966
 -7.9530
                                                                      -7.7558
          -7.6520
                                        -7.4163
 -7.6985
                    -7.5743
                              -7.5055
                                                  -7.3960
                                                            -7.3456
                                                                      -6.9910
          -6.9280
                                        -6.8391
                    -6.8820
                              -6.8439
                                                  -6.6259
 -6.9302
                                                            -6.1855
                                                                      -6.1567
 -5.8844
          -5.7864
                    -5.7860
                                        -5.7002
                              -5.7787
                                                  -5.5779
                                                            -5.5016
                                                                      -5.4922
          -5.3401
 -5.4903
                    -5.3078
                              -5.2536
                                        -5.2405
                                                  -5.2292
                                                            -5.1875
                                                                      -5.1815
 -5.1372
           -5.1285
                    -5.0971
                              -5.0880
                                        -5.0503
                                                  -4.7150
                                                            -3.8818
                                                                      -3.8447
                    -2.9638
                                                            -0.9812
 -3.3737
           -2.9698
                              -2.9177
                                        -1.0990
                                                   -1.0052
                                                                       0.4619
 0.4843
           0.4893
                     1.6838
                               1.7255
                                         1.7522
                                                   1.8420
                                                             1.9028
                                                                        1.9768
  2.1051
            2.1868
                      2.3056
                                2.4488
                                          2.4705
                                                   2.5152
                                                             2.7613
                                                                        2.7700
  2.8176
            2.8676
                      2.8722
                                2.9557
                                          2.9707
                                                   3.0333
                                                             3.0378
       k = 0.3333 - 0.5774 \ 0.0000 \ (64770 \ PWs)
                                                   bands (ev):
-21.3139 -21.2660 -21.1137 -20.8429 -20.8384 -20.8346 -20.1202 -20.0728
-19.7892 -19.2972 -19.2958 -19.2948 -19.1416 -19.0904 -19.0580 -18.9154
-18.8936 -18.3895 -17.9413 -17.9190 -17.7856 -17.7851 -17.7840 -17.7830
-17.7825 -17.7818 -17.4548 -15.2172 -15.2098 -15.2054 -14.4768 -14.4762
-14.4744 -13.9227 -13.9154 -12.6725 -12.3975 -12.3650 -12.2594 -12.2193
```

```
-12.0273 -12.0254 -12.0235 -12.0232 -12.0197 -12.0155 -11.8512 -11.2343
-11.2295 -11.2205 -10.9792 -10.7208 -10.5084 -10.0613
                                                              -9.6718
                                                                        -9.6691
 -9.6635
           -8.9676
                     -8.9572
                                -8.9490
                                          -8.9014
                                                     -8.8704
                                                               -8.8471
                                                                         -8.7481
                     -8.7084
           -8.7157
                               -8.6425
                                          -8.5754
                                                     -8.5538
                                                               -8.4325
                                                                         -7.9269
 -8.7207
 -7.9236
           -7.9152
                     -7.9091
                               -7.9067
                                          -7.9039
                                                    -7.7670
                                                               -7.7658
                                                                         -7.7641
 -7.7552
           -7.6479
                     -7.5688
                               -7.5095
                                          -7.4163
                                                    -7.3977
                                                               -7.3495
                                                                         -6.9820
 -6.9312
           -6.8877
                     -6.8733
                               -6.8714
                                          -6.8672
                                                    -6.6298
                                                               -6.1802
                                                                         -6.1594
                               -5.7863
                                          -5.7007
                                                               -5.4920
 -5.8203
           -5.8164
                     -5.8096
                                                     -5.5730
                                                                         -5.4916
 -5.4897
                               -5.2302
           -5.3361
                     -5.3262
                                          -5.2252
                                                    -5.2161
                                                               -5.1617
                                                                         -5.1602
                                                                         -3.8458
 -5.1561
           -5.1379
                     -5.1294
                               -5.1270
                                          -5.0515
                                                     -4.7162
                                                               -3.8795
 -3.3732
           -2.9544
                     -2.9493
                               -2.9446
                                          -1.0419
                                                    -1.0381
                                                               -1.0048
                                                                          0.4733
  0.4770
            0.4818
                      1.6831
                                 1.7344
                                           1.7435
                                                     1.8416
                                                                1.9021
                                                                          1.9773
            2.1863
                      2.3042
                                 2.4600
                                           2.4755
                                                      2.4977
                                                                2.7748
  2.1046
                                                                           2.7830
  2.7904
            2.9465
                      2.9492
                                 2.9502
                                           2.9593
                                                      2.9633
                                                                2,9680
        k = 0.3254 - 0.5636 \ 0.0000 \ (64824 \ PWs)
                                                     bands (ev):
-21.3165 -21.2640 -21.1124 -20.8633 -20.8286 -20.8230 -20.1267 -20.0680
-19.7872 -19.3202 -19.3192 -19.2475 -19.1452 -19.0911 -19.0615 -18.9140 -18.8876 -18.3893 -17.9425 -17.9185 -17.8440 -17.8423 -17.7719 -17.7700 -17.7370 -17.7353 -17.4551 -15.2288 -15.2115 -15.2034 -14.4977 -14.4596 -14.4577 -13.9648 -13.8753 -12.6736 -12.3978 -12.3623 -12.2580 -12.2179 -12.1077 -12.1052 -12.0161 -12.0092 -11.9498 -11.9457 -11.8511 -11.2706 -11.2386 -11.1807 -10.9766 -10.7192 -10.5088 -9.7074 -9.7015
                                          -8.9152
                     -8.9273
                               -8.9189
 -9.5955
           -9.0306
                                                    -8.8809
                                                               -8.8275
                                                                         -8.7514
                               -8.6463
 -8.7458
           -8.7021
                     -8.6959
                                          -8.5730
                                                    -8.5487
                                                               -8.4301
                                                                         -7.9761
                                                               -7.7557
 -7.9583
                     -7.9044
                                          -7.8660
                                                    -7.8341
           -7.9101
                               -7.8724
                                                                         -7.7313
                     -7.5751
                               -7.5054
                                                               -7.3466
 -7.7293
           -7.6526
                                          -7.4152
                                                     -7.3951
                                                                         -6.9893
 -6.9302
                     -6.8967
                                -6.8844
                                                     -6.6252
           -6.9000
                                          -6.8142
                                                               -6.1847
                                                                         -6.1576
                     -5.7867
                                -5.7507
                                          -5.7002
                                                     -5.5782
                                                               -5.5089
 -5.8537
           -5.8461
                                                                         -5.4918
 -5.4831
           -5.3325
                     -5.3148
                                -5.2526
                                          -5.2358
                                                     -5.2264
                                                               -5.2191
                                                                         -5.1440
 -5.1394
           -5.1183
                     -5.1062
                                -5.0999
                                          -5.0503
                                                     -4.7151
                                                               -3.8816
                                                                         -3.8449
                                                                          0.4694
 -3.3737
           -2.9791
                     -2.9394
                                -2.9328
                                          -1.1016
                                                     -1.0052
                                                               -0.9785
  0.4755
                                 1.7242
                                                                1.9028
            0.4906
                      1.6838
                                           1.7535
                                                     1.8420
                                                                           1.9767
                                 2.4414
  2.1051
            2.1870
                      2.3054
                                           2.4856
                                                      2.5075
                                                                2.7481
                                                                           2.7963
  2.8047
            2.8737
                      2.8765
                                 2.9422
                                           2.9599
                                                      3.0401
                                                                3.0445
        k = 0.3175 - 0.5499 \ 0.0000 \ (64838 \ PWs)
                                                     bands (ev):
-21.3239 -21.2581 -21.1089 -20.8870 -20.8155 -20.8098 -20.1403 -20.0597
-19.7810 -19.3436 -19.3425 -19.1982 -19.1549 -19.0991 -19.0651 -18.9056
-18.8752 -18.3884 -17.9455 -17.9176 -17.9024 -17.9006 -17.7593 -17.7575
-17.6888 -17.6871 -17.4563 -15.2484 -15.2182 -15.2102 -14.5182 -14.4309
-14.4290 -14.0122 -13.8338 -12.6766 -12.3990 -12.3547 -12.2536 -12.2135
-12.1900 -12.1875 -12.0079 -12.0008 -11.8745 -11.8704 -11.8508 -11.3140
-11.2563 -11.1362 -10.9679 -10.7151 -10.5043 -10.0515
                                                              -9.7448
                                                                         -9.7389
                                          -8.9001
           -9.1023
                     -8.9373
                               -8.9003
                                                    -8.8869
                                                               -8.8122
 -9.5208
                                                                         -8.7698
 -8.7469
           -8.6863
                     -8.6812
                               -8.6574
                                          -8.5655
                                                    -8.5353
                                                               -8.4237
                                                                         -8.0274
 -8.0097
           -7.9046
                     -7.9015
                               -7.8977
                                          -7.8305
                                                    -7.8235
                                                               -7.7572
                                                                         -7.6938
 -7.6917
           -7.6666
                     -7.5904
                               -7.4984
                                          -7.4090
                                                    -7.3874
                                                               -7.3392
                                                                         -7.0057
 -6.9276
           -6.9269
                     -6.9243
                               -6.8805
                                          -6.7563
                                                     -6.6108
                                                               -6.1942
                                                                         -6.1561
 -5.8917
           -5.8839
                     -5.7883
                                -5.6991
                                          -5.6864
                                                     -5.5932
                                                               -5.5433
                                                                         -5.4905
 -5.4750
           -5.3134
                      -5.3057
                                -5.2956
                                          -5.2792
                                                     -5.2534
                                                               -5.2444
                                                                         -5.1303
                                                               -3.8868
 -5.1262
           -5.0802
                      -5.0605
                                -5.0562
                                          -5.0468
                                                     -4.7116
                                                                         -3.8433
           -3.0085
                                                     -1.0065
 -3.3753
                      -2.9290
                                -2.9225
                                          -1.1628
                                                               -0.9177
                                                                          0.4679
  0.4744
            0.5034
                      1.6858
                                 1.7102
                                           1.7670
                                                     1.8434
                                                                1.9051
                                                                           1.9749
                                           2.5025
            2.1896
                                                      2.5232
                                                                2.7155
  2.1068
                       2.3082
                                 2.4133
                                                                           2.7928
  2.7959
            2.8164
                       2.8241
                                 2.9348
                                           2.9526
                                                      3.1037
                                                                3.1276
        k = 0.3095 - 0.5361 \ 0.0000 \ (64836 \ PWs)
                                                      bands (ev):
-21.3345 -21.2496 -21.1035 -20.9103 -20.8017 -20.7960 -20.1559 -20.0532
```

```
-19.7704 -19.3664 -19.3654 -19.1689 -19.1484 -19.1200 -19.0613 -18.8905
-18.8602 -18.3870 -17.9604 -17.9585 -17.9496 -17.9169 -17.7463 -17.7444
-17.6401 -17.6384 -17.4582 -15.2677 -15.2344 -15.2268 -14.5383 -14.3919
-11.2784 -11.0970 -10.9509 -10.7096 -10.4994 -10.0396 -9.7818
                                                                        -9.7760
                    -8.9615
                               -8.9205
                                         -8.8812
                                                    -8.8580
 -9.4470
           -9.1746
                                                              -8.8275
                                                                         -8.7878
                                                              -8.4143
           -8.6734
                     -8.6699
                               -8.6652
                                          -8.5541
                                                    -8.5169
 -8.7189
                                                                         -8.0803
           -7.9696
                     -7.8977
                               -7.8924
                                          -7.7880
                                                    -7.7808
                                                              -7.7600
                                                                         -7.6886
 -8.0627
           -7.6517
 -7.6539
                     -7.6103
                               -7.4946
                                         -7.3951
                                                    -7.3753
                                                              -7.3286
                                                                         -7.0257
 -6.9545
           -6.9512
                     -6.9215
                               -6.8813
                                         -6.6977
                                                    -6.5870
                                                              -6.2064
                                                                         -6.1570
 -5.9322
           -5.9242
                     -5.7916
                               -5.6981
                                          -5.6260
                                                    -5.6158
                                                               -5.5862
                                                                         -5.4868
 -5.4649
           -5.3650
                     -5.3352
                               -5.2850
                                          -5.2743
                                                    -5.2732
                                                              -5.2653
                                                                         -5.1157
                                          -5.0091
                                                              -3.8939
 -5.1120
                     -5.0366
                               -5.0123
                                                    -4.7061
           -5.0411
                                                                         -3.8420
                                                                          0.4701
 -3.3779
           -3.0374
                     -2.9219
                               -2.9155
                                          -1.2249
                                                    -1.0086
                                                              -0.8563
  0.4770
            0.5157
                      1.6893
                                 1.6953
                                           1.7811
                                                     1.8458
                                                                1.9090
                                                                          1.9720
                                                                2.6833
  2.1096
            2.1946
                      2.3111
                                 2.3867
                                           2.5206
                                                      2.5402
                                                                          2.7155
  2.7179
            2.8342
                       2.8423
                                 2.9268
                                           2.9449
                                                      3.0731
                                                                3.2099
        k = 0.3016 - 0.5224 \ 0.0000 \ (64832 \ PWs)
                                                     bands (ev):
-21.3469 -21.2393 -21.0966 -20.9329 -20.7873 -20.7816 -20.1721 -20.0499 -19.7557 -19.3886 -19.3876 -19.1857 -19.1479 -19.0980 -19.0535 -18.8715 -18.8435 -18.3850 -18.0178 -18.0159 -17.9544 -17.9168 -17.7326 -17.7307 -17.5909 -17.5891 -17.4611 -15.2866 -15.2584 -15.2511 -14.5579 -14.3443 -14.3420 -14.1184 -13.7493 -12.6879 -12.4048 -12.3542 -12.3517 -12.3257 -12.2362 -12.1960 -11.9904 -11.9833 -11.8489 -11.7227 -11.7185 -11.4069 -11.3041 -11.0662 -10.9233 -10.7033 -10.4925 -10.0234 -9.8184 -9.8127
                               -8.9407
 -9.3739
           -9.2471
                     -8.9871
                                          -8.8768
                                                    -8.8566
                                                              -8.8319
                                                                         -8.7936
 -8.6921
                     -8.6528
                               -8.6484
                                          -8.5404
           -8.6826
                                                    -8.4962
                                                               -8.4026
                                                                         -8.1348
                               -7.8867
 -8.1175
           -8.0372
                     -7.8920
                                          -7.7655
                                                    -7.7456
                                                               -7.7382
                                                                         -7.7151
                     -7.6094
                               -7.4955
                                          -7.3749
 -7.6330
           -7.6117
                                                    -7.3603
                                                               -7.3147
                                                                         -7.0471
                                                               -6.2209
 -6.9808
           -6.9775
                     -6.9139
                               -6.8873
                                          -6.6386
                                                    -6.5555
                                                                         -6.1607
           -5.9670
                     -5.7964
                                -5.6983
 -5.9751
                                          -5.6441
                                                    -5.6326
                                                               -5.5757
                                                                         -5.4796
 -5.4531
                                -5.2962
                                                               -5.2469
           -5.4260
                     -5.3819
                                          -5.2873
                                                    -5.2545
                                                                         -5.1001
                                -4.9632
                                                    -4.6986
                                                               -3.9022
 -5.0966
           -5.0336
                     -4.9920
                                          -4.9607
                                                                         -3.8417
 -3.3818
           -3.0655
                     -2.9180
                                -2.9118
                                          -1.2879
                                                    -1.0117
                                                               -0.7942
                                                                          0.4759
                                 1.6941
                                                                1.9146
  0.4833
                      1.6797
                                           1.7955
                                                     1.8490
            0.5273
                                                                          1.9682
  2.1137
            2.2019
                       2.3108
                                 2.3655
                                           2.5388
                                                      2.5573
                                                                2.6380
                                                                          2.6401
  2.6525
            2.8539
                       2.8620
                                 2.9184
                                           2.9366
                                                      3.0423
                                                                3.2109
        k = 0.2936 - 0.5086 \ 0.0000 \ (64836 \ PWs)
                                                     bands (ev):
-21.3603 -21.2280 -21.0884 -20.9550 -20.7723 -20.7666 -20.1882 -20.0497
-19.7376 -19.4103 -19.4093 -19.2043 -19.1788 -19.0471 -19.0440 -18.8505
-18.8256 -18.3826 -18.0748 -18.0727 -17.9595 -17.9176 -17.7184 -17.7165
-17.5412 -17.5394 -17.4648 -15.3052 -15.2882 -15.2814 -14.5771 -14.2900
-14.2874 -14.1762 -13.7063 -12.6958 -12.4359 -12.4334 -12.4095 -12.3057
-12.2238 -12.1830 -11.9812 -11.9740 -11.8469 -11.6463 -11.6420 -11.4548
-11.3328 -11.0442 -10.8853 -10.6968 -10.4837 -10.0033
                                                              -9.8547
                                                                         -9.8490
           -9.3018
 -9.3196
                     -9.0141
                               -8.9606
                                          -8.8903
                                                    -8.8880
                                                               -8.8085
                                                                         -8.7857
 -8.7122
           -8.6458
                     -8.6351
                               -8.6310
                                          -8.5249
                                                    -8.4748
                                                               -8.3893
                                                                         -8.1909
 -8.1738
           -8.1049
                     -7.8864
                                -7.8810
                                          -7.7791
                                                    -7.7388
                                                               -7.7032
                                                                         -7.6957
                     -7.5652
                                -7.5001
                                          -7.3527
           -7.5676
                                                     -7.3423
                                                               -7.2974
 -7.6577
                                                                         -7.0687
           -7.0031
                     -6.9042
                                          -6.5790
                                                    -6.5185
 -7.0064
                                -6.8973
                                                               -6.2377
                                                                         -6.1668
 -6.0205
           -6.0122
                     -5.8025
                                -5.7006
                                          -5.6839
                                                     -5.6729
                                                               -5.5548
                                                                         -5.4874
 -5.4682
           -5.4400
                     -5.3996
                                -5.3185
                                          -5.3097
                                                     -5.2282
                                                               -5.2134
                                                                         -5.0836
 -5.0802
           -5.0245
                     -4.9476
                                -4.9137
                                          -4.9116
                                                     -4.6894
                                                               -3.9113
                                                                         -3.8428
           -3.0929
 -3.3869
                     -2.9174
                                -2.9112
                                          -1.3518
                                                     -1.0156
                                                               -0.7314
                                                                          0.4854
  0.4932
            0.5382
                      1.6637
                                1.6999
                                          1.8102
                                                     1.8530
                                                                1.9218
                                                                          1.9637
                                           2.5443
  2.1189
            2.2110
                      2.3012
                                 2.3561
                                                      2.5528
                                                                2.5744
                                                                          2.5858
                      2.8824
                                 2.9096
                                           2.9279
  2.6220
            2.8743
                                                     3.0122
                                                                3.1766
```

```
k = 0.2857 - 0.4949 \ 0.0000 \ (64842 \ PWs)
                                                    bands (ev):
-18.8066 -18.3797 -18.1312 -18.1291 -17.9651 -17.9193 -17.7036 -17.7017
-17.4910 -17.4892 -17.4694 -15.3255 -15.3207 -15.3157 -14.5958 -14.2368 -14.2305 -14.2275 -13.6629 -12.7048 -12.5174 -12.5149 -12.4151 -12.2821
-12.2095 -12.1676 -11.9717 -11.9645 -11.8442 -11.5695 -11.5652 -11.5029
-11.3638 -11.0288 -10.8396 -10.6902 -10.4728 -9.9799
                                                             -9.8906
                                                                       -9.8850
 -9.3920
          -9.2306
                    -9.0423
                              -8.9803
                                        -8.9256
                                                   -8.9072
                                                             -8.7876
                                                                       -8.7717
          -8.6167
 -8.7329
                    -8.6129
                               -8.6104
                                         -8.5083
                                                   -8.4535
                                                             -8.3745
                                                                       -8.2485
                                                                       -7.6609
 -8.2315
          -8.1724
                    -7.8808
                              -7.8754
                                         -7.8074
                                                   -7.7526
                                                             -7.6831
                                                             -7.2766
                                                                       -7.0904
 -7.6533
          -7.5217
                    -7.5192
                              -7.5072
                                         -7.3349
                                                   -7.3181
 -7.0314
          -7.0280
                    -6.9102
                              -6.8923
                                         -6.5189
                                                   -6.4778
                                                             -6.2571
                                                                       -6.1750
 -6.0682
          -6.0597
                    -5.8095
                               -5.7332
                                         -5.7070
                                                   -5.7052
                                                             -5.5798
                                                                       -5.5488
                                                   -5.2034
                                                                       -5.0664
 -5.4525
           -5.4260
                    -5.3721
                              -5.3408
                                         -5.3321
                                                             -5.1769
                                                             -3.9210
                                                                       -3.8453
 -5.0631
           -5.0142
                     -4.9037
                               -4.8640
                                         -4.8622
                                                   -4.6786
                                                             -0.6680
 -3.3933
           -3.1196
                     -2.9198
                               -2.9139
                                         -1.4164
                                                   -1.0204
                                                                        0.4984
  0.5067
            0.5486
                      1.6473
                                1.7069
                                          1.8251
                                                    1.8577
                                                              1.9308
                                                                        1.9591
  2.1254
            2.2204
                      2.2839
                                2.3581
                                          2.4773
                                                    2.4809
                                                              2.5840
                                                                         2.5904
                                2.9058
  2.6027
            2.8948
                      2.8980
                                          2.9189
                                                    2.9827
                                                              3.1256
       k = 0.2778 - 0.4811 \ 0.0000 \ (64838 \ PWs)
                                                    bands (ev):
-19.0943 -19.4319 -19.4309 -19.2310 -19.2374 -19.0227 -18.9437 -16.6072 -18.7861 -18.3763 -18.1871 -18.1849 -17.9708 -17.9220 -17.6883 -17.6864 -17.4750 -17.4403 -17.4385 -15.3610 -15.3547 -15.3393 -14.6141 -14.2996 -14.1671 -14.1638 -13.6190 -12.7146 -12.5986 -12.5962 -12.4214 -12.2556 -12.1936 -12.1500 -11.9620 -11.9547 -11.8407 -11.5508 -11.4924 -11.4881 -11.3965 -11.0171 -10.7893 -10.6839 -10.4598 -9.9540 -9.9261 -9.9206
                    -9.0718
                              -8.9997
                                                             -8.7690
 -9.4642
          -9.1605
                                         -8.9607
                                                   -8.9291
                                                                       -8.7566
          -8.5977
                    -8.5943
                               -8.5772
                                         -8.4907
                                                   -8.4328
 -8.7539
                                                             -8.3586
                                                                       -8.3075
           -8.2398
                    -7.8753
                               -7.8698
                                                   -7.7630
                                                             -7.7068
 -8.2907
                                         -7.8446
                                                                       -7.6187
 -7.6111
           -7.5161
                    -7.4743
                               -7.4718
                                         -7.3204
                                                   -7.2904
                                                             -7.2525
                                                                       -7.1117
 -7.0556
           -7.0523
                     -6.9247
                               -6.8784
                                         -6.4584
                                                   -6.4350
                                                             -6.2792
                                                                       -6.1852
                    -5.8170
                                         -5.7420
                               -5.7837
                                                   -5.7118
                                                             -5.6282
 -6.1182
           -6.1093
                                                                       -5.6102
 -5.4329
           -5.4111
                     -5.3634
                               -5.3546
                                         -5.3214
                                                   -5.1789
                                                             -5.1395
                                                                       -5.0483
 -5.0451
          -5.0028
                     -4.8606
                               -4.8142
                                         -4.8126
                                                   -4.6664
                                                             -3.9311
                                                                       -3.8492
                                         -1.4819
 -3.4011
           -3.1456
                     -2.9254
                               -2.9195
                                                   -1.0260
                                                             -0.6040
                                                                        0.5148
  0.5235
           0.5583
                      1.6306
                                1.7146
                                          1.8402
                                                    1.8629
                                                              1.9417
                                                                         1.9546
            2.2250
  2.1331
                      2.2701
                                2.3639
                                          2.4018
                                                    2.4052
                                                              2.5628
                                                                         2,6045
                                                    2.9546
  2.6220
            2.8892
                      2.9065
                                2.9178
                                          2.9266
                                                              3.0710
       k = 0.2698 - 0.4674 \ 0.0000 \ (64830 \ PWs)
                                                    bands (ev):
-21.4029 -21.1893 -21.0581 -21.0177 -20.7238 -20.7182 -20.2353 -20.0632
-19.6714 -19.4718 -19.4709 -19.2839 -19.2579 -19.0113 -18.8912 -18.7864
-18.7643 -18.3726 -18.2426 -18.2403 -17.9769 -17.9256 -17.6725 -17.6705
-17.4815 -17.3891 -17.3872 -15.4010 -15.3950 -15.3565 -14.6319 -14.3644
-14.1006 -14.0969 -13.5746 -12.7251 -12.6796 -12.6772 -12.4283 -12.2263
-12.1762 -12.1306 -11.9519 -11.9445 -11.8365 -11.5978 -11.4305 -11.4150
                                                   -9.9612
-11.4106 -11.0077 -10.7369 -10.6774 -10.4445
                                                             -9.9558
                                                                       -9.9261
           -9.1025
                     -9.0913
                              -9.0192
                                         -8.9943
                                                   -8.9517
                                                             -8.7749
 -9.5363
                                                                       -8.7525
                                                   -8.4128
 -8.7421
           -8.5781
                     -8.5753
                               -8.5468
                                         -8.4723
                                                             -8.3679
                                                                       -8.3513
 -8.3418
           -8.3069
                     -7.8858
                               -7.8699
                                         -7.8644
                                                   -7.7789
                                                             -7.7240
                                                                       -7.5768
 -7.5690
           -7.5264
                     -7.4257
                               -7.4231
                                         -7.3071
                                                   -7.2624
                                                             -7.2258
                                                                       -7.1327
          -7.0758
                     -6.9403
                               -6.8626
                                         -6.3977
                                                   -6.3910
                                                             -6.3041
 -7.0792
                                                                       -6.1970
                    -5.8346
                              -5.8249
                                         -5.7776
                                                   -5.7199
                                                             -5.6837
 -6.1703
          -6.1609
                                                                       -5.6713
                                                   -5.1546
                                                             -5.1016
 -5.4102
          -5.3956
                    -5.3858
                              -5.3770
                                         -5.2646
                                                                       -5.0296
 -5.0264
          -4.9907
                    -4.8183
                              -4.7644
                                        -4.7629
                                                   -4.6531
                                                             -3.9416
                                                                       -3.8546
```

```
-3.4102
          -3.1709
                    -2.9339
                              -2.9282
                                       -1.5481
                                                 -1.0325
                                                           -0.5393
                                                                     0.5344
  0.5436
           0.5675
                     1.6136
                              1.7231
                                        1.8553
                                                  1.8689
                                                            1.9504
                                                                     1.9543
  2.1418
           2.2152
                     2.2713
                               2.3230
                                        2.3272
                                                  2.3787
                                                            2.5351
                                                                     2.6262
                               2.9212
                                        2.9416
                                                  2.9496
  2.6436
           2.8785
                     2.8971
                                                            3.0170
       k = 0.2619 - 0.4536 \ 0.0000 \ (64842 \ PWs)
                                                  bands (ev):
-21.4172 -21.1752 -21.0465 -21.0374 -20.7064 -20.7009 -20.2503 -20.0706
-19.6488 -19.4912 -19.4903 -19.3186 -19.2758 -18.9995 -18.8381 -18.7665
-18.7413 -18.3684 -18.2975 -18.2951 -17.9831 -17.9301 -17.6561 -17.6541 -17.4890 -17.3375 -17.3355 -15.4428 -15.4371 -15.3730 -14.6492 -14.4308 -14.0317 -14.0277 -13.5298 -12.7603 -12.7579 -12.7360 -12.4355 -12.1946
-12.1577 -12.1099 -11.9416 -11.9342 -11.8323 -11.6431 -11.4653 -11.3372
-11.3327 -10.9994 -10.6877 -10.6668 -10.4267
                                                -9.9959
                                                          -9.9906
                                                                    -9.8973
                                                                    -8.7379
 -9.6081
          -9.1341
                   -9.0397
                             -9.0248
                                       -9.0233
                                                -8.9744
                                                          -8.7956
                                                -8.4295
 -8.7288
          -8.5582
                   -8.5558
                             -8.5196
                                       -8.4530
                                                          -8.4132
                                                                    -8.3938
                                                          -7.7324
                                                                    -7.5378
                             -7.8645
                                       -7.8590
                                                -7.8036
 -8.3732
          -8.3240
                    -7.9290
                                                          -7.1970
                                                                    -7.1533
 -7.5350
          -7.5271
                   -7.3761
                             -7.3736
                                       -7.2944
                                                 -7.2352
                                       -6.3468
                                                 -6.3373
                                                          -6.3320
                                                                    -6.2245
 -7.1020
          -7.0985
                    -6.9565
                             -6.8450
                    -5.8857
                                       -5.8132
                                                          -5.7322
 -6.2136
          -6.2104
                             -5.8328
                                                 -5.7416
                                                                    -5.7289
 -5.4082
          -5.3993
                    -5.3849
                             -5.3795
                                       -5.2060
                                                 -5.1305
                                                           -5.0636
                                                                    -5.0101
                    -4.7769
                              -4.7145
 -5.0070
          -4.9780
                                       -4.7132
                                                 -4.6387
                                                           -3.9524
                                                                    -3.8615
          -3.1955
 -3.4206
                    -2.9452
                              -2.9396
                                       -1.6151
                                                 -1.0398
                                                           -0.4740
                                                                     0.5572
                     1.5965
  0.5667
           0.5763
                               1.7319
                                        1.8704
                                                  1.8755
                                                            1.9470
                                                                     1.9686
           2.1971
                                        2.2885
  2.1504
                     2.2459
                               2.2497
                                                  2.3890
                                                            2.5085
                                                                     2.6483
  2.6662
                     2.8860
                               2.8953
                                        2.9420
                                                  2.9720
                                                            2.9819
           2.8671
       k = 0.2540 - 0.4399 \ 0.0000 \ (64852 \ PWs)
                                                  bands (ev):
-21.4313 -21.1605 -21.0566 -21.0342 -20.6885 -20.6830 -20.2649 -20.0789
-19.6278 -19.5100 -19.5091 -19.3538 -19.2910 -18.9872 -18.7846 -18.7474
-13.9610 -13.9565 -13.4845 -12.8407 -12.8384 -12.7472 -12.4430 -12.1607 -12.1382 -12.0883 -11.9310 -11.9235 -11.8294 -11.6852 -11.5002 -11.2592
-11.2546 -10.9920 -10.6713 -10.6232 -10.4063 -10.0302 -10.0249
                                                                    -9.8683
 -9.6797
                   -9.0642
                             -9.0489
                                       -8.9968
                                                -8.9565
                                                          -8.8161
          -9.1660
                                                                    -8.7251
          -8.5404
                    -8.5355
                             -8.4958
                                       -8.4923
                                                 -8.4762
                                                          -8.4368
 -8.7168
                                                                    -8.4329
 -8.3760
          -8.3054
                    -7.9738
                             -7.8593
                                       -7.8537
                                                 -7.8342
                                                          -7.7348
                                                                    -7.5499
 -7.4936
          -7.4855
                    -7.3259
                             -7.3234
                                       -7.2820
                                                 -7.2093
                                                          -7.1734
                                                                    -7.1662
 -7.1241
          -7.1205
                    -6.9729
                             -6.8255
                                       -6.3628
                                                 -6.3036
                                                          -6.2907
                                                                    -6.2805
                                                 -5.8003
 -6.2541
          -6.2252
                    -5.9367
                             -5.8476
                                       -5.8405
                                                          -5.7927
                                                                    -5.7382
          -5.4214
 -5.4305
                    -5.3628
                             -5.3579
                                       -5.1472
                                                 -5.1067
                                                          -5.0257
                                                                    -4.9900
          -4.9650
                    -4.7365
                             -4.6648
                                       -4.6636
                                                 -4.6235
 -4.9870
                                                          -3.9635
                                                                    -3.8698
                    -2.9592
          -3.2193
                                       -1.6827
                                                 -1.0478
 -3.4325
                             -2.9537
                                                           -0.4080
                                                                     0.5820
           0.5934
                    1.5793
 0.5848
                              1.7410
                                        1.8829
                                                  1.8853
                                                            1.9444
                                                                     1.9847
                                                            2.4836
           2.1715
                     2.1744
                               2.1846
                                                  2.4007
  2.1532
                                        2.3050
                                                                     2.6704
  2.6896
           2.8551
                     2.8662
                               2.8745
                                        2.8982
                                                  2.9883
                                                            2,9993
       k = 0.2460 - 0.4261 \ 0.0000 \ (64858 \ PWs)
                                                  bands (ev):
-21.4453 -21.1453 -21.0751 -21.0214 -20.6700 -20.6645 -20.2791 -20.0878
-19.6100 -19.5282 -19.5273 -19.3891 -19.3026 -18.9747 -18.7305 -18.7288
-18.6932 -18.4058 -18.4032 -18.3593 -17.9960 -17.9419 -17.6216 -17.6196
-17.5071 -17.2327 -17.2307 -15.5298 -15.5245 -15.4045 -14.6825 -14.5678
-13.8887 -13.8839 -13.4387 -12.9208 -12.9185 -12.7586 -12.4506 -12.1248
-12.1178 -12.0661 -11.9202 -11.9127 -11.8314 -11.7206 -11.5344 -11.1808
-11.1762 -10.9850 -10.6659 -10.5695 -10.3827 -10.0640 -10.0588
                                                                   -9.8403
          -9.1971
                   -9.0911
                             -9.0681
                                      -9.0187
                                                -8.8908
                                                          -8.8361
 -9.7510
                                                                    -8.7138
 -8.7062
          -8.5565
                   -8.5406
                             -8.5400
                                       -8.5136
                                                 -8.4827
                                                          -8.4758
                                                                    -8.4122
                                                -7.8485
 -8.3594
          -8.2859
                   -8.0196
                             -7.8676
                                      -7.8541
                                                          -7.7339
                                                                    -7.5627
 -7.4524
         -7.4441 -7.2752 -7.2727
                                      -7.2696 -7.1929
                                                          -7.1850
                                                                    -7.1455
```

```
-6.9895
                              -6.8044
                                        -6.3966
                                                  -6.3387
                                                                      -6.2631
 -7.1416
          -7.1343
                                                            -6.3331
                    -5.9876
                                                  -5.8529
                                                            -5.8479
 -6.2413
          -6.2070
                              -5.8795
                                        -5.8594
                                                                      -5.7474
                                                  -5.0832
 -5.4529
          -5.4435
                    -5.3455
                              -5.3295
                                        -5.0888
                                                            -4.9879
                                                                     -4.9692
          -4.9517
 -4.9662
                    -4.6970
                              -4.6152
                                        -4.6140
                                                  -4.6076
                                                            -3.9748
                                                                     -3.8795
 -3.4459
          -3.2424
                    -2.9757
                              -2.9704
                                        -1.7510
                                                  -1.0564
                                                            -0.3415
                                                                      0.5914
 0.6116
           0.6222
                     1.5620
                              1.7499
                                        1.8912
                                                  1.8998
                                                            1.9429
                                                                       2.0023
                                         2.3247
  2.0972
           2.0999
                     2.1402
                               2.1883
                                                   2.4112
                                                             2.4621
                                                                       2.6913
                                                   2.9794
  2.7137
           2.8311
                     2.8425
                               2.8548
                                         2.8620
                                                             3.0243
       k = 0.2381 - 0.4124 \ 0.0000 \ (64854 \ PWs)
                                                   bands (ev):
-21.4589 -21.1296 -21.0931 -21.0080 -20.6509 -20.6454 -20.2930 -20.0970
-19.5969 -19.5459 -19.5449 -19.4244 -19.3090 -18.9618 -18.7106 -18.6759
-18.6688 -18.4591 -18.4565 -18.3542 -18.0027 -17.9492 -17.6035 -17.6015 -17.5176 -17.1796 -17.1775 -15.5744 -15.5692 -15.4194 -14.6984 -14.6380 -13.8153 -13.8101 -13.3925 -13.0005 -12.9983 -12.7700 -12.4583 -12.0970 -12.0872 -12.0438 -11.9092 -11.9016 -11.8447 -11.7435 -11.5666 -11.1021
-11.0974 -10.9784 -10.6617 -10.5166 -10.3553 -10.0973 -10.0922
                              -9.0855
                    -9.1172
                                        -9.0400
                                                 -8.8556
                                                           -8.8266
                                                                     -8.7040
 -9.8146
          -9.2261
          -8.6215
                    -8.6058
                              -8.5889
                                        -8.4912
                                                            -8.4596
                                                                     -8.3907
 -8.6969
                                                  -8.4789
                                                            -7.7309
                                                                     -7.5758
 -8.3445
          -8.2658
                    -8.0662
                              -7.9026
                                        -7.8490
                                                  -7.8433
                    -7.2573
 -7.4118
          -7.4031
                              -7.2244
                                        -7.2219
                                                  -7.2119
                                                            -7.1659
                                                                     -7.1623
                    -7.0059
                              -6.7819
 -7.1618
                                        -6.4332
                                                  -6.3984
                                                            -6.3915
          -7.1014
                                                                     -6.2587
                              -5.9184
 -6.2280
                    -6.0381
                                        -5.9127
                                                  -5.9062
                                                            -5.8549
                                                                      -5.7563
          -6.1453
          -5.4655
                    -5.3277
                              -5.3002
 -5.4752
                                        -5.0600
                                                  -5.0311
                                                            -4.9503
                                                                      -4.9477
 -4.9448
          -4.9383
                    -4.6586
                              -4.5912
                                        -4.5658
                                                  -4.5647
                                                            -3.9863
                                                                      -3.8906
                                                  -1.0656
 -3.4606
          -3.2647
                    -2.9945
                              -2.9894
                                        -1.8200
                                                            -0.2742
                                                                       0.5985
                               1.7585
  0.6427
                     1.5448
                                         1.9007
                                                             1.9429
                                                                       2.0211
           0.6537
                                                   1.9135
  2.0236
           2.0261
                      2.1204
                               2.2011
                                         2.3458
                                                   2.4130
                                                             2.4518
                                                                       2.7058
  2.7380
                     2.8242
                               2.8292
                                         2.8488
           2.7903
                                                   2.9445
                                                             3.0498
       k = 0.2302 - 0.3987 \ 0.0000 \ (64836 \ PWs)
                                                   bands (ev):
-21.4722 -21.1134 -21.1105 -20.9940 -20.6313 -20.6258 -20.3064 -20.1064
-19.5904 -19.5630 -19.5620 -19.4596 -19.3089 -18.9485 -18.6928 -18.6444
-18.6207 -18.5120 -18.5093 -18.3490 -18.0096 -17.9572 -17.5849 -17.5828
-17.5291 -17.1260 -17.1239 -15.6193 -15.6143 -15.4339 -14.7140 -14.7088
-13.7408 -13.7354 -13.3458 -13.0800 -13.0778 -12.7812 -12.4659 -12.0759
-12.0479 -12.0221 -11.8980 -11.8903 -11.8709 -11.7531 -11.5948 -11.0232
-11.0184 -10.9721 -10.6580 -10.4663 -10.3228 -10.1300 -10.1250
                                                                     -9.8928
 -9.7928
          -9.2514
                    -9.1415
                             -9.1020
                                        -9.0608
                                                 -8.8747
                                                           -8.7638
                                                                     -8.6955
 -8.6895
          -8.6867
                    -8.6719
                              -8.6526
                                        -8.4679
                                                  -8.4593
                                                           -8.4474
                                                                     -8.3685
                                        -7.8441
                                                 -7.8383
                    -8.1133
                              -7.9384
 -8.3316
          -8.2450
                                                           -7.7261
                                                                     -7.5892
          -7.3627
                    -7.2449
                              -7.2303
 -7.3720
                                        -7.1852
                                                  -7.1806
                                                            -7.1734
                                                                     -7.1710
                                                  -6.4598
          -7.0681
                    -7.0222
                              -6.7581
                                        -6.4724
                                                            -6.4524
 -7.1410
                                                                     -6.2770
                                                 -5.9232
          -6.0877
                                                           -5.8616
 -6.2033
                    -6.0823
                              -5.9773
                                        -5.9721
                                                                      -5.7645
                                       -5.0371
                                                            -4.9256
 -5.4977
          -5.4874
                    -5.3094
                              -5.2703
                                                  -4.9745
                                                                      -4.9249
 -4.9227
          -4.9131
                    -4.6212
                              -4.5743
                                        -4.5166
                                                  -4.5156
                                                            -3.9980
                                                                      -3.9029
 -3.4768
          -3.2864
                    -3.0156
                              -3.0106
                                        -1.8895
                                                  -1.0754
                                                            -0.2064
                                                                       0.6052
 0.6762
           0.6877
                               1.7664
                                         1.9113
                                                   1.9247
                                                             1.9440
                     1.5277
                                                                       1.9516
  1.9541
           2.0407
                     2.1006
                               2.2167
                                         2.3658
                                                   2.4012
                                                             2.4594
                                                                       2.6936
  2.7592
           2.7744
                     2.7991
                               2.8155
                                         2.8349
                                                   2.9083
                                                             3.0480
       k = 0.2222 - 0.3849 \ 0.0000 \ (64820 \ PWs)
                                                   bands (ev):
-21.4852 -21.1273 -21.0967 -20.9796 -20.6110 -20.6055 -20.3194 -20.1161
-19.5912 -19.5794 -19.5785 -19.4943 -19.3014 -18.9350 -18.6753 -18.6202
-18.5652 -18.5642 -18.5615 -18.3435 -18.0166 -17.9661 -17.5657 -17.5636
-17.5416 -17.0720 -17.0699 -15.6644 -15.6596 -15.4479 -14.7807 -14.7286
-13.6656 -13.6598 -13.2986 -13.1590 -13.1569 -12.7922 -12.4735 -12.0552
-12.0072 -12.0028 -11.9026 -11.8866 -11.8788 -11.7582 -11.6152 -10.9661
-10.9440 -10.9391 -10.6549 -10.4203 -10.2843 -10.1623 -10.1574 -9.9632
```

```
-9.2716
                      -9.1637
                                            -9.0809
                                                       -8.8932
                                                                  -8.7549
                                                                            -8.7398
 -9.7767
                                 -9.1177
                                                                            -8.3457
 -8.7193
           -8.7029
                      -8.6863
                                 -8.6810
                                            -8.4438
                                                       -8.4391
                                                                 -8.4366
                                                       -7.8334
 -8.3211
           -8.2235
                      -8.1605
                                 -7.9746
                                            -7.8392
                                                                 -7.7198
                                                                            -7.6024
 -7.3338
           -7.3235
                      -7.2482
                                 -7.2325
                                            -7.2028
                                                       -7.1973
                                                                 -7.1228
                                                                            -7.1213
 -7.1204
           -7.0382
                      -7.0345
                                 -6.7333
                                            -6.5227
                                                       -6.5151
                                                                 -6.5141
                                                                            -6.2965
 -6.1959
           -6.1346
                      -6.0358
                                 -6.0311
                                            -6.0189
                                                       -5.9252
                                                                 -5.8680
                                                                            -5.7720
 -5.5202
           -5.5092
                      -5.2906
                                 -5.2402
                                            -5.0145
                                                       -4.9190
                                                                 -4.9116
                                                                            -4.9027
 -4.8999
           -4.8764
                      -4.5849
                                 -4.5572
                                            -4.4678
                                                       -4.4668
                                                                 -4.0098
                                                                            -3.9164
 -3.4944
                                            -1.9596
           -3.3073
                      -3.0388
                                 -3.0339
                                                       -1.0855
                                                                 -0.1380
                                                                             0.6114
  0.7119
            0.7238
                       1.5108
                                  1.7733
                                             1.8782
                                                       1.8807
                                                                   1.9233
                                                                              1.9325
  1.9538
             2.0573
                       2.0853
                                  2.2339
                                             2.3687
                                                        2.4020
                                                                   2.4746
                                                                              2.6512
  2.7635
             2.7824
                        2.7917
                                  2.8051
                                             2.8203
                                                        2.8773
                                                                   3.0249
        k = 0.2143 - 0.3712 \ 0.0000 \ (64816 \ PWs)
                                                        bands (ev):
-21.4979 -21.1436 -21.0796 -20.9647 -20.5902 -20.5847 -20.3320 -20.1257
-21.4979 -21.1436 -21.0796 -20.9647 -20.5902 -20.5847 -20.3320 -20.1257 -19.5995 -19.5954 -19.5945 -19.5283 -19.2869 -18.9211 -18.6581 -18.6161 -18.6132 -18.5963 -18.5089 -18.3379 -18.0237 -17.9757 -17.5551 -17.5460 -17.5439 -17.0175 -17.0154 -15.7096 -15.7050 -15.4613 -14.8530 -14.7431 -13.5899 -13.5837 -13.2510 -13.2377 -13.2356 -12.8029 -12.4811 -12.0363 -11.9925 -11.9651 -11.9272 -11.8750 -11.8671 -11.7673 -11.6237 -10.9603 -10.8645 -10.8595 -10.6522 -10.3791 -10.2390 -10.1940 -10.1892 -10.0334 -9.7680 -9.2857 -9.1829 -9.1327 -9.1003 -8.9112 -8.8226 -8.8077
            -8.6821
                      -8.6753
                                                       -8.4189
                                                                 -8.4125
 -8.7857
                                 -8.6407
                                            -8.4349
                                                                            -8.3222
                      -8.2013
                                 -8.0107
                                                                 -7.7122
 -8.3142
            -8.2068
                                            -7.8344
                                                       -7.8286
                                                                            -7.6154
 -7.2999
                                 -7.2200
            -7.2880
                      -7.2655
                                            -7.2163
                                                       -7.2094
                                                                 -7.1030
                                                                            -7.0725
                                 -6.7080
                      -7.0010
                                            -6.5872
 -7.0702
           -7.0539
                                                       -6.5794
                                                                 -6.5579
                                                                            -6.3168
 -6.2139
                                 -6.0896
                                            -5.9554
                                                       -5.9095
           -6.1735
                      -6.0941
                                                                  -5.8743
                                                                            -5.7786
            -5.5306
                      -5.2713
                                 -5.2099
 -5.5429
                                            -4.9921
                                                       -4.8985
                                                                  -4.8797
                                                                             -4.8767
 -4.8641
                      -4.5496
                                 -4.5400
                                            -4.4194
            -4.8401
                                                       -4.4184
                                                                  -4.0217
                                                                             -3.9311
 -3.5135
            -3.3275
                      -3.0638
                                 -3.0591
                                            -2.0303
                                                       -1.0960
                                                                  -0.0689
                                                                             0.6171
  0.7497
             0.7621
                       1.4941
                                  1.7791
                                             1.8075
                                                        1.8097
                                                                   1.9340
                                                                              1.9386
  1.9652
             2.0538
                        2.0921
                                  2.2523
                                             2.3512
                                                        2.4235
                                                                   2.4926
                                                                              2.6011
  2.7429
                        2.7850
                                  2.8047
                                             2.8245
             2.7825
                                                        2.8607
                                                                   3.0022
        k = 0.2063 - 0.3574 \ 0.0000 \ (64820 \ PWs)
                                                        bands (ev):
-21.5101 -21.1592 -21.0619 -20.9493 -20.5687 -20.5633 -20.3441 -20.1354
-19.6146 -19.6107 -19.6098 -19.5610 -19.2666 -18.9069 -18.6673 -18.6644
-18.6412 -18.5727 -18.4522 -18.3322 -18.0309 -17.9861 -17.5695 -17.5257
-17.5236 -16.9626 -16.9604 -15.7548 -15.7503 -15.4743 -14.9257 -14.7570
-13.5136 -13.5071 -13.3160 -13.3140 -13.2028 -12.8132 -12.4885 -12.0288
-11.9970 -11.9290 -11.9217 -11.8633 -11.8553 -11.7821 -11.6193 -10.9547
-10.7847 -10.7797 -10.6500 -10.3424 -10.2252 -10.2204 -10.1879 -10.1032
                                           -9.1191
           -9.2943
                      -9.1973
                                -9.1468
                                                      -8.9286
                                                                 -8.8913
 -9.7678
                                                                            -8.8766
           -8.6762
 -8.8525
                      -8.6698
                                 -8.5825
                                            -8.4348
                                                      -8.3933
                                                                 -8.3874
                                                                            -8.3141
 -8.2980
           -8.2491
                      -8.1785
                                 -8.0461
                                            -7.8298
                                                      -7.8239
                                                                 -7.7039
                                                                            -7.6276
           -7.2790
                      -7.2679
                                 -7.2140
                                            -7.2080
                                                      -7.2074
                                                                 -7.0861
 -7.2822
                                                                            -7.0693
                                                                 -6.6028
 -7.0228
           -7.0206
                      -6.9675
                                 -6.6828
                                            -6.6530
                                                      -6.6451
                                                                            -6.3380
 -6.2540
           -6.2044
                      -6.1520
                                 -6.1477
                                            -5.8921
                                                       -5.8806
                                                                 -5.8794
                                                                            -5.7842
 -5.5657
           -5.5515
                      -5.2515
                                 -5.1797
                                            -4.9701
                                                       -4.8856
                                                                  -4.8556
                                                                            -4.8526
 -4.8111
            -4.8043
                      -4.5227
                                 -4.5155
                                            -4.3714
                                                       -4.3704
                                                                  -4.0338
                                                                             -3.9469
 -3.5339
            -3.3469
                      -3.0906
                                 -3.0860
                                            -2.1014
                                                       -1.1068
                                                                   0.0008
                                                                              0.6225
  0.7892
            0.8021
                       1.4777
                                  1.7377
                                             1.7398
                                                        1.7837
                                                                   1.9365
                                                                              1.9526
  1.9778
             2.0390
                        2.1123
                                   2.2716
                                             2.3310
                                                        2.4488
                                                                   2.5122
                                                                              2.5501
  2.7185
             2.7666
                        2.7724
                                   2.7879
                                             2.8522
                                                        2.8678
                                                                   2.9803
        k = 0.1984 - 0.3437 \ 0.0000 \ (64802 \ PWs)
                                                        bands (ev):
-21.5220 -21.1742 -21.0438 -20.9336 -20.5467 -20.5413 -20.3559 -20.1450
-19.6358 -19.6255 -19.6246 -19.5917 -19.2418 -18.8925 -18.7181 -18.7151
-18.6246 -18.5494 -18.3950 -18.3263 -18.0382 -17.9971 -17.5850 -17.5049
```

```
-17.5028 -16.9073 -16.9051 -15.7999 -15.7955 -15.4868 -14.9988 -14.7704
-13.4371 -13.4302 -13.3938 -13.3919 -13.1542 -12.8231 -12.4957 -12.0528
-11.9881 -11.9183 -11.8772 -11.8515 -11.8434 -11.7971 -11.6050 -10.9493
-10.7047 -10.6996 -10.6483 -10.3087 -10.2557 -10.2511 -10.1726 -10.1324
                                                   -8.9607
          -9.3006
                    -9.2039
                               -9.1598
                                         -9.1372
                                                             -8.9462
 -9.7762
                                                                       -8.9454
 -8.9193
           -8.6714
                     -8.6652
                               -8.5255
                                         -8.4388
                                                   -8.3670
                                                              -8.3613
                                                                        -8.3322
                                                                       -7.6379
 -8.2766
           -8.2732
                    -8.1551
                               -8.0800
                                         -7.8253
                                                   -7.8194
                                                             -7.6961
                               -7.1949
                                                                       -7.0708
 -7.2983
           -7.2791
                    -7.2727
                                         -7.1866
                                                   -7.1846
                                                             -7.0843
                     -6.9343
                                                   -6.6663
 -6.9738
          -6.9717
                               -6.7201
                                         -6.7121
                                                              -6.6404
                                                                        -6.3598
 -6.3013
           -6.2369
                     -6.2094
                               -6.2053
                                         -5.8871
                                                   -5.8400
                                                              -5.8298
                                                                        -5.7886
 -5.5887
           -5.5710
                     -5.2313
                               -5.1496
                                         -4.9482
                                                   -4.8730
                                                              -4.8309
                                                                        -4.8280
                     -4.5055
 -4.7692
           -4.7593
                               -4.4825
                                         -4.3239
                                                   -4.3229
                                                              -4.0459
                                                                        -3.9637
 -3.5558
           -3.3656
                     -3.1190
                               -3.1145
                                         -2.1730
                                                   -1.1177
                                                              0.0711
                                                                         0.6275
                      1.4616
                                1.6692
                                          1.6712
  0.8305
            0.8438
                                                    1.7871
                                                               1.9370
                                                                         1.9683
  1.9903
            2.0255
                      2.1339
                                2.2912
                                          2.3113
                                                     2.4753
                                                               2.4996
                                                                         2.5337
  2.6937
            2.7495
                      2.7509
                                2.7706
                                          2.8812
                                                     2.8890
                                                               2.9591
        k = 0.1905 - 0.3299 \ 0.0000 \ (64806 \ PWs)
                                                     bands (ev):
-19.0023 -19.0397 -19.0366 -19.0200 -19.2130 -10.0777 -10.7033 -10.7032 -10.7033 -18.6083 -18.5267 -18.3373 -18.3204 -18.0457 -18.0088 -17.6014 -17.4835 -17.4814 -16.8516 -16.8493 -15.8449 -15.8406 -15.4989 -15.0723 -14.7833 -13.4715 -13.4695 -13.3599 -13.3529 -13.1052 -12.8323 -12.5027 -12.0882 -11.9767 -11.9098 -11.8397 -11.8321 -11.8310 -11.8032 -11.5844 -10.9441 -10.6473 -10.6245 -10.6192 -10.2858 -10.2811 -10.2767 -10.2415 -10.0741
                                         -9.1546
                               -9.1710
                                                   -9.0307
 -9.7921
           -9.3088
                     -9.1999
                                                             -9.0165
                                                                       -8.9861
                                                   -8.3707
 -8.9616
           -8.6672
                     -8.6612
                               -8.4701
                                         -8.4471
                                                              -8.3400
                                                                        -8.3345
                                         -7.8209
 -8.2872
                                                   -7.8150
                                                              -7.6912
           -8.2478
                     -8.1311
                               -8.1113
                                                                        -7.6441
 -7.3138
           -7.2900
                     -7.2859
                               -7.1826
                                                              -7.0988
                                         -7.1516
                                                   -7.1489
                                                                        -7.0570
 -6.9257
           -6.9238
                     -6.9017
                               -6.7885
                                         -6.7804
                                                   -6.7030
                                                              -6.6258
                                                                        -6.3819
                                                                        -5.7705
 -6.3502
           -6.2728
                     -6.2664
                               -6.2623
                                         -5.8940
                                                    -5.7952
                                                              -5.7918
           -5.5872
 -5.6118
                     -5.2106
                               -5.1199
                                         -4.9266
                                                   -4.8607
                                                              -4.8056
                                                                        -4.8027
                               -4.4507
 -4.7348
           -4.7090
                     -4.4886
                                         -4.2771
                                                              -4.0582
                                                    -4.2761
                                                                        -3.9815
 -3.5790
                     -3.1488
                                         -2.2451
                                                    -1.1287
                                                                         0.6321
           -3.3836
                               -3.1444
                                                               0.1420
  0.8733
            0.8870
                      1.4459
                                1.6019
                                          1.6038
                                                    1.7894
                                                               1.9353
                                                                         1.9836
  2.0017
                      2.1551
                                2.2902
                                          2.3131
                                                     2.4509
                                                               2.5030
            2.0173
                                                                         2.5563
  2.6694
            2.7288
                      2.7314
                                2.7526
                                          2.9111
                                                     2.9155
                                                               2.9391
        k = 0.1825 - 0.3162 \ 0.0000 \ (64790 \ PWs)
                                                    bands (ev):
-21.5444 -21.2026 -21.0062 -20.9008 -20.5010 -20.4956 -20.3780 -20.1640
-19.6925 -19.6533 -19.6524 -19.6465 -19.1835 -18.8627 -18.8179 -18.8148
-18.5923 -18.5044 -18.3144 -18.2791 -18.0532 -18.0211 -17.6187 -17.4616
-17.4594 -16.7955 -16.7931 -15.8896 -15.8854 -15.5104 -15.1459 -14.7957
-13.5485 -13.5465 -13.2829 -13.2756 -13.0557 -12.8410 -12.5096 -12.1255
-11.9763 -11.9033 -11.8278 -11.8195 -11.7948 -11.7851 -11.5598 -10.9391
-10.6470 -10.5441 -10.5387 -10.3178 -10.3117 -10.3062 -10.2458 -10.0142
                                                             -9.0873
 -9.8138
           -9.3208
                     -9.1930
                               -9.1723
                                         -9.1712
                                                   -9.1012
                                                                        -9.0528
 -8.9772
           -8.6636
                     -8.6578
                               -8.4610
                                         -8.4164
                                                   -8.4144
                                                              -8.3122
                                                                        -8.3069
 -8.2965
           -8.2216
                     -8.1381
                               -8.1065
                                         -7.8167
                                                   -7.8107
                                                              -7.6927
                                                                        -7.6428
 -7.3287
           -7.3037
                     -7.3006
                               -7.1706
                                         -7.1141
                                                    -7.1130
                                                              -7.1105
                                                                        -7.0449
 -6.8786
           -6.8770
                     -6.8701
                               -6.8579
                                         -6.8498
                                                    -6.7498
                                                              -6.6015
                                                                        -6.4041
                                          -5.9014
                                                    -5.7938
 -6.3995
           -6.3229
                     -6.3188
                               -6.3111
                                                              -5.7471
                                                                        -5.7212
           -5.5933
                                          -4.9052
 -5.6353
                     -5.1895
                               -5.0907
                                                    -4.8488
                                                              -4.7798
                                                                        -4.7769
 -4.7011
           -4.6601
                     -4.4720
                               -4.4200
                                          -4.2309
                                                    -4.2299
                                                              -4.0707
                                                                        -4.0001
 -3.6036
           -3.4009
                                          -2.3176
                                                    -1.1397
                                                               0.2135
                     -3.1800
                               -3.1757
                                                                         0.6364
  0.9173
                      1.4306
                                          1.5379
                                                               1.9304
            0.9315
                                1.5361
                                                    1.7906
                                                                         1.9934
                      2.1747
                                2.2714
                                          2.3325
                                                     2.4058
                                                               2.5314
  2.0120
            2.0204
                                                                         2.5804
  2.6467
            2.7090
                      2.7124
                                2.7338
                                          2.9184
                                                     2.9428
                                                               2.9450
        k = 0.1746 - 0.3024 \ 0.0000 \ (64760 \ PWs)
                                                    bands (ev):
```

```
-21.5550 -21.2158 -20.9867 -20.8838 -20.4772 -20.4719 -20.3884 -20.1734
-19.7249 -19.6722 -19.6663 -19.6654 -19.1515 -18.8670 -18.8638 -18.8474
-13.6250 -13.6231 -13.2058 -13.1981 -13.0058 -12.8489 -12.5162 -12.1627
-11.9919 -11.8908 -11.8159 -11.8075 -11.7751 -11.7376 -11.5326 -10.9344
-10.6475 -10.4634 -10.4579 -10.3803 -10.3424 -10.3383 -10.2152
                                                                          -9.9543
           -9.3357
                      -9.1991
                                -9.1872
                                          -9.1722
                                                     -9.1586
 -9.8385
                                                                -9.1503
                                                                           -9.1194
 -8.9921
           -8.6606
                      -8.6549
                                -8.4859
                                           -8.4522
                                                      -8.3643
                                                                -8.3109
                                                                           -8.2837
 -8.2786
           -8.1949
                      -8.1588
                                -8.0814
                                           -7.8126
                                                      -7.8065
                                                                -7.7002
                                                                           -7.6349
           -7.3180
 -7.3430
                      -7.3153
                                -7.1594
                                           -7.1267
                                                      -7.0758
                                                                -7.0715
                                                                           -7.0351
 -6.9285
           -6.9204
                      -6.8436
                                -6.8327
                                           -6.8313
                                                      -6.7920
                                                                -6.5780
                                                                           -6.4488
                                                                           -5.6969
 -6.4255
           -6.3788
                      -6.3747
                                -6.3508
                                           -5.9093
                                                      -5.7947
                                                                -5.6981
 -5.6589
           -5.5730
                      -5.1679
                                -5.0621
                                           -4.8840
                                                      -4.8373
                                                                -4.7533
                                                                           -4.7504
 -4.6682
           -4.6128
                      -4.4558
                                -4.3905
                                           -4.1855
                                                      -4.1845
                                                                -4.0833
                                                                           -4.0195
 -3.6296
           -3.4174
                      -3.2123
                                -3.2081
                                           -2.3905
                                                      -1.1506
                                                                 0.2857
                                                                            0.6404
  0.9625
            0.9771
                       1.4158
                                  1.4718
                                            1.4735
                                                       1.7910
                                                                  1.9220
                                                                            1.9963
                                                                            2.6058
  2.0258
             2.0305
                       2.1915
                                  2.2529
                                            2.3402
                                                       2.3767
                                                                  2.5604
  2.6266
             2.6921
                       2.6926
                                  2.7140
                                            2.9000
                                                       2.9743
                                                                  2.9755
        k = 0.1667 - 0.2887 \ 0.0000 \ (64766 \ PWs)
                                                       bands (ev):
-21.5652 -21.2285 -20.9668 -20.8665 -20.4529 -20.4476 -20.3983 -20.1826 -19.7582 -19.6975 -19.6788 -19.6779 -19.1183 -18.9156 -18.9123 -18.8319 -18.5614 -18.4617 -18.3024 -18.1612 -18.0686 -18.0473 -17.6559 -17.4162 -17.4139 -16.6821 -16.6797 -15.9783 -15.9743 -15.5319 -15.2936 -14.8189 -13.7010 -13.6992 -13.1288 -13.1208 -12.9554 -12.8562 -12.5227 -12.1992 -12.0183 -11.8726 -11.8041 -11.7955 -11.7493 -11.6892 -11.5037 -10.9300 -10.6491 -10.4483 -10.3827 -10.3773 -10.3698 -10.3660 -10.1847 -9.9033 -0.8563 -0.3520 -0.2436 -0.2304 -0.2078 -0.2078 -0.2078 -0.1858 -0.1181
 -9.8563
           -9.3520
                      -9.2436
                                -9.2304
                                           -9.2078
                                                     -9.2024
                                                                -9.1858
                                                                           -9.1181
                                           -8.4778
                                -8.5266
                                                      -8.3322
 -9.0064
           -8.6581
                      -8.6524
                                                                -8.3142
                                                                           -8.2545
                                 -8.0557
                                                                -7.7107
 -8.2495
            -8.1727
                      -8.1675
                                           -7.8087
                                                      -7.8026
                                                                           -7.6236
                      -7.3297
                                -7.1499
 -7.3567
           -7.3322
                                           -7.1401
                                                      -7.0372
                                                                -7.0325
                                                                           -7.0285
                      -6.8547
                                -6.7944
                                           -6.7882
 -6.9999
           -6.9918
                                                      -6.7873
                                                                -6.5579
                                                                           -6.4979
           -6.4341
                                                                -5.7030
 -6.4444
                      -6.4298
                                -6.3914
                                           -5.9179
                                                      -5.7945
                                                                           -5.6829
 -5.6455
           -5.5245
                      -5.1459
                                 -5.0341
                                           -4.8630
                                                      -4.8261
                                                                 -4.7262
                                                                           -4.7234
 -4.6363
           -4.5671
                      -4.4401
                                 -4.3622
                                           -4.1410
                                                      -4.1399
                                                                 -4.0961
                                                                           -4.0396
 -3.6568
            -3.4332
                      -3.2457
                                 -3.2416
                                           -2.4637
                                                      -1.1614
                                                                  0.3584
                                                                            0.6440
  1.0087
            1.0238
                       1.4014
                                  1.4091
                                            1.4107
                                                       1.7905
                                                                  1.9110
                                                                            1.9996
  2.0394
             2.0421
                       2.2037
                                  2.2351
                                            2.3123
                                                       2.3890
                                                                  2.5899
                                                                            2.6096
  2.6327
             2.6718
                       2.6788
                                  2.6934
                                            2.8822
                                                       3.0063
                                                                  3.0078
        k = 0.1587 - 0.2749 \ 0.0000 \ (64760 \ PWs)
                                                       bands (ev):
-21.5749 -21.2406 -20.9464 -20.8488 -20.4280 -20.4227 -20.4078 -20.1917
-19.7921 -19.7228 -19.6907 -19.6898 -19.0843 -18.9637 -18.9603 -18.8161
-18.5464 -18.4412 -18.2966 -18.1015 -18.0766 -18.0610 -17.6758 -17.3926
-17.3903 -16.6250 -16.6225 -16.0222 -16.0182 -15.5420 -15.3675 -14.8297
-13.7765 -13.7747 -13.0518 -13.0435 -12.9045 -12.8626 -12.5288 -12.2346
-12.0496 -11.8512 -11.7924 -11.7837 -11.7203 -11.6400 -11.4736 -10.9258
-10.6520 -10.5160 -10.3971 -10.3931 -10.3015 -10.2957 -10.1542
                                                                           -9.9089
 -9.8185
           -9.3687
                      -9.3153
                                -9.3023
                                           -9.2522
                                                      -9.2167
                                                                 -9.2158
                                                                           -9.0811
                      -8.6503
                                                      -8.3596
                                                                -8.2659
                                -8.5736
                                           -8.5000
 -9.0201
           -8.6559
                                                                           -8.2246
                                 -8.0295
                                           -7.8049
                                                      -7.7987
                                                                 -7.7224
 -8.2197
            -8.1806
                      -8.1396
                                                                           -7.6109
 -7.3697
            -7.3461
                      -7.3437
                                 -7.1530
                                           -7.1441
                                                      -7.0726
                                                                 -7.0644
                                                                           -7.0266
 -6.9983
           -6.9935
                      -6.8897
                                 -6.7670
                                           -6.7454
                                                      -6.7450
                                                                 -6.5468
                                                                           -6.5454
 -6.4886
           -6.4839
                      -6.4566
                                 -6.4324
                                           -5.9272
                                                      -5.7933
                                                                 -5.7198
                                                                           -5.7071
 -5.5931
           -5.4640
                      -5.1236
                                 -5.0067
                                           -4.8421
                                                      -4.8155
                                                                 -4.6986
                                                                           -4.6957
           -4.5230
                      -4.4249
                                 -4.3351
                                           -4.1093
                                                      -4.0974
                                                                 -4.0963
                                                                           -4.0601
 -4.6052
                                 -3.2760
                      -3.2800
                                           -2.5372
 -3.6854
           -3.4483
                                                      -1.1720
                                                                 0.4317
                                                                            0.6474
                                                      1.7892
                                                                  1.8986
  1.0558
            1.0713
                      1.3480
                                 1.3496
                                           1.3876
                                                                            2.0047
```

```
2.0505
             2.0526
                        2.2068
                                    2.2190
                                               2.2846
                                                          2.4126
                                                                     2.5953
                                                                                2.6204
                                                          3.0389
  2.6493
             2.6605
                        2.6708
                                   2.6721
                                               2.8651
                                                                     3.0413
        k = 0.1508 - 0.2612 \ 0.0000 \ (64762 \ PWs)
                                                          bands (ev):
-21.5842 -21.2522 -20.9256 -20.8309 -20.4168 -20.4025 -20.3973 -20.2007
-19.8261 -19.7479 -19.7020 -19.7011 -19.0498 -19.0112 -19.0078 -18.8001
-18.5318 -18.4215 -18.2908 -18.0850 -18.0748 -18.0413 -17.6965 -17.3685 -17.3662 -16.5675 -16.5649 -16.0657 -16.0618 -15.5515 -15.4415 -14.8401 -13.8514 -13.8497 -12.9752 -12.9665 -12.8683 -12.8532 -12.5348 -12.2689 -12.0830 -11.8281 -11.7808 -11.7720 -11.6895 -11.5900 -11.4429 -10.9220
-10.6562 -10.5834 -10.4229 -10.4191 -10.2204 -10.2143 -10.1237
                                                                              -9.9370
                      -9.3853
                                  -9.3744
                                             -9.3183
 -9.7587
            -9.3871
                                                        -9.2304
                                                                   -9.2225
                                                                               -9.0409
                                                                               -8.1940
 -9.0332
            -8.6540
                       -8.6486
                                 -8.6220
                                             -8.5227
                                                        -8.3913
                                                                   -8.2195
                                  -8.0028
                                                        -7.7950
                                                                               -7.5977
 -8.1892
            -8.1845
                       -8.1110
                                             -7.8012
                                                                   -7.7348
 -7.3821
            -7.3596
                       -7.3571
                                  -7.1654
                                             -7.1462
                                                        -7.1458
                                                                   -7.1375
                                                                               -7.0304
                                  -6.7369
                                                                               -6.5468
 -6.9599
            -6.9548
                       -6.9162
                                             -6.7057
                                                        -6.7047
                                                                    -6.5953
                                             -5.9372
                                                        -5.7911
            -6.5361
                       -6.4736
                                                                   -5.7409
                                                                               -5.7317
 -6.5416
                                  -6.4559
                       -5.1008
                                                        -4.8053
                                                                               -4.6675
 -5.5402
            -5.3992
                                  -4.9802
                                             -4.8215
                                                                    -4.6703
 -4.5752
            -4.4807
                       -4.4103
                                  -4.3093
                                             -4.1230
                                                         -4.0809
                                                                    -4.0549
                                                                               -4.0538
 -3.7152
            -3.4626
                       -3.3151
                                  -3.3113
                                             -2.6111
                                                         -1.1822
                                                                     0.5056
                                                                                0.6505
                        1.2889
  1.1035
             1.1194
                                   1.2904
                                              1.3743
                                                          1.7873
                                                                     1.8856
                                                                                2.0112
                                               2.2742
                                                                     2.5835
  2.0566
                                   2.2061
                                                          2.4389
             2.0613
                        2.1929
                                                                                2.6269
  2.6481
             2.6523
                        2.6648
                                   2.6920
                                               2.8490
                                                          3.0721
                                                                     3.0757
        k = 0.1429 - 0.2474 \ 0.0000 \ (64722 \ PWs)
                                                          bands (ev):
-21.5930 -21.2631 -20.9043 -20.8126 -20.4254 -20.3764 -20.3712 -20.2097
-21.5930 -21.2031 -20.9043 -20.8126 -20.4254 -20.3764 -20.3712 -20.2097 -19.8601 -19.7729 -19.7127 -19.7118 -19.0581 -19.0546 -19.0149 -18.7839 -18.5175 -18.4025 -18.2851 -18.0948 -18.0875 -17.9806 -17.7180 -17.3439 -17.3416 -16.5098 -16.5071 -16.1088 -16.1050 -15.5606 -15.5154 -14.8499 -13.9258 -13.9241 -12.8988 -12.8898 -12.8731 -12.8014 -12.5404 -12.3018 -12.1173 -11.8038 -11.7696 -11.7606 -11.6576 -11.5392 -11.4119 -10.9185 -10.6620 -10.6505 -10.4477 -10.4440 -10.1391 -10.1328 -10.0931 -9.9665
                       -9.4466
                                 -9.4016
                                            -9.3842
                                                        -9.2434
                                                                   -9.2275
 -9.6973
            -9.4589
                                                                               -9.0455
 -8.9989
            -8.6705
                       -8.6525
                                  -8.6471
                                             -8.5468
                                                        -8.4256
                                                                    -8.1860
                                                                               -8.1752
                                  -7.9756
                                             -7.7977
                                                        -7.7915
 -8.1626
            -8.1579
                       -8.0817
                                                                    -7.7475
                                                                               -7.5845
 -7.3940
            -7.3727
                       -7.3702
                                  -7.2196
                                             -7.2113
                                                        -7.1775
                                                                    -7.1625
                                                                               -7.0358
 -6.9291
            -6.9216
                       -6.9164
                                  -6.7067
                                             -6.6733
                                                        -6.6692
                                                                    -6.6436
                                                                               -6.5905
 -6.5823
            -6.5609
                       -6.5147
                                  -6.4434
                                             -5.9477
                                                        -5.7883
                                                                    -5.7639
                                                                               -5.7566
                                  -4.9546
                                                        -4.7956
 -5.4868
            -5.3323
                       -5.0777
                                             -4.8011
                                                                    -4.6415
                                                                               -4.6387
 -4.5462
            -4.4402
                       -4.3964
                                  -4.2847
                                             -4.1376
                                                         -4.1015
                                                                    -4.0135
                                                                               -4.0124
                                             -2.6852
            -3.4762
                                                         -1.1920
 -3.7463
                       -3.3510
                                  -3.3472
                                                                     0.5800
                                                                                0.6534
  1.1519
             1.1682
                        1.2316
                                   1.2331
                                              1.3615
                                                          1.7848
                                                                     1.8725
                                                                                2.0188
  2.0522
                        2.1721
                                   2.1908
                                                          2.4668
                                                                     2.5729
             2.0708
                                               2.2808
                                                                                2,6033
                                                          3.1059
  2.6256
             2.6663
                        2.6831
                                   2.7225
                                               2.8337
                                                                     3.1109
        k = 0.1349 - 0.2337 \ 0.0000 \ (64734 \ PWs)
                                                          bands (ev):
-21.6013 -21.2734 -20.8826 -20.7940 -20.4336 -20.3498 -20.3446 -20.2186
-19.8940 -19.7977 -19.7228 -19.7220 -19.1045 -19.1010 -18.9797 -18.7675
-18.5036 -18.3843 -18.2796 -18.1077 -18.0975 -17.9194 -17.7401 -17.3187
-17.3164 -16.4518 -16.4491 -16.1516 -16.1478 -15.5892 -15.5692 -14.8592
-13.9995 -13.9979 -12.8770 -12.8229 -12.8136 -12.7492 -12.5458 -12.3332
-12.1516 -11.7783 -11.7586 -11.7495 -11.6251 -11.4877 -11.3809 -10.9153
-10.7173 -10.6697 -10.4714 -10.4679 -10.0629 -10.0578 -10.0511
                                                                              -9.9947
           -9.5307
                       -9.5187
                                  -9.4499
                                            -9.4174
                                                        -9.2555
                                                                   -9.2305
 -9.6365
                                                                               -9.0573
            -8.7186
                       -8.6512
                                  -8.6459
                                             -8.5719
                                                        -8.4613
 -8.9557
                                                                    -8.1862
                                                                               -8.1333
                                  -7.9480
            -8.1260
                       -8.0519
                                             -7.7944
                                                        -7.7882
                                                                    -7.7605
 -8.1302
                                                                               -7.5716
 -7.4051
           -7.3859
                       -7.3832
                                  -7.2937
                                             -7.2852
                                                        -7.1960
                                                                   -7.1892
                                                                               -7.0358
 -6.9321
           -6.8838
                       -6.8786
                                  -6.6915
                                             -6.6771
                                                        -6.6724
                                                                    -6.6661
                                                                               -6.6077
 -6.5981 -6.5811
                      -6.5557
                                 -6.4255
                                            -5.9590
                                                        -5.7881
                                                                   -5.7848
                                                                              -5.7818
```

```
-5.4332
           -5.2642
                     -5.0542
                                -4.9300
                                          -4.7864
                                                     -4.7809
                                                                -4.6122
                                                                          -4.6093
                                                               -3.9734
 -4.5183
           -4.4015
                     -4.3833
                                -4.2613
                                          -4.1536
                                                     -4.1212
                                                                          -3.9722
 -3.7786
           -3.4891
                     -3.3875
                                -3.3838
                                          -2.7595
                                                     -1.2015
                                                                0.6550
                                                                           0.6561
                       1.2007
                                                                1.8598
  1.1764
            1.1779
                                 1.2174
                                           1.3494
                                                     1.7818
                                                                           2.0270
            2.0797
                       2.1515
                                            2.2970
                                                      2.4959
  2.0375
                                 2.1757
                                                                2.5629
                                                                           2.5787
  2.6011
            2.6735
                       2.7153
                                 2.7542
                                            2.8198
                                                      3.1403
                                                                3.1468
        k = 0.1270 - 0.2199 \ 0.0000 \ (64750 \ PWs)
                                                      bands (ev):
-21.6092 -21.2832 -20.8605 -20.7752 -20.4412 -20.3226 -20.3174 -20.2274
-19.9278 -19.8221 -19.7324 -19.7315 -19.1504 -19.1468 -18.9445 -18.7509
-18.4901 -18.3669 -18.2744 -18.1224 -18.1061 -17.8577 -17.7629 -17.2930 -17.2906 -16.3937 -16.3909 -16.1939 -16.1903 -15.6629 -15.5773 -14.8679 -14.0724 -14.0709 -12.8800 -12.7476 -12.7379 -12.6965 -12.5510 -12.3632 -12.1858 -11.7519 -11.7481 -11.7388 -11.5922 -11.4356 -11.3504 -10.9126 -10.7837 -10.6794 -10.4939 -10.4905 -10.0390 -10.0149 -9.9764 -9.9692
                     -9.5774
                                -9.5155
                                                    -9.2667
                                                                          -9.0683
 -9.6022
           -9.5906
                                          -9.4324
                                                               -9.2307
                                                    -8.4978
                                                               -8.1856
 -8.9121
           -8.7659
                     -8.6502
                               -8.6449
                                          -8.5976
                                                                          -8.0984
           -8.0921
                                                               -7.7738
                                                                          -7.5592
                     -8.0215
                                -7.9199
                                          -7.7913
                                                    -7.7850
 -8.0935
                     -7.3990
 -7.4157
           -7.4029
                               -7.3646
                                          -7.3559
                                                     -7.2421
                                                               -7.2005
                                                                          -7.0298
           -6.8469
 -6.9301
                     -6.8417
                                -6.7390
                                          -6.7121
                                                     -6.7088
                                                               -6.6491
                                                                          -6.6026
 -6.5963
           -6.5795
                                                     -5.8131
                                                               -5.8074
                                                                          -5.7807
                     -6.5738
                                -6.4062
                                          -5.9708
                     -5.0304
                                -4.9063
 -5.3795
           -5.1953
                                          -4.7777
                                                     -4.7609
                                                               -4.5822
                                                                          -4.5794
 -4.4917
           -4.3709
                     -4.3647
                                -4.2393
                                                               -3.9347
                                          -4.1718
                                                     -4.1393
                                                                          -3.9335
           -3.5013
 -3.8120
                      -3.4245
                                -3.4209
                                          -2.8341
                                                     -1.2105
                                                                           0.7307
                                                                0.6584
  1.1235
                       1.2498
                                 1.2668
                                           1.3378
                                                      1.7781
                                                                1.8475
            1.1248
                                                                           2.0141
  2.0358
            2.0881
                       2.1326
                                 2.1618
                                            2.3193
                                                      2.5240
                                                                2.5531
                                                                           2.5551
  2.5756
            2.6853
                       2.7481
                                 2.7843
                                            2.8095
                                                      3.1750
                                                                3.1836
        k = 0.1190 - 0.2062 \ 0.0000 \ (64710 \ PWs)
                                                      bands (ev):
-21.6167 -21.2923 -20.8381 -20.7561 -20.4484 -20.2948 -20.2897 -20.2363
-19.9613 -19.8460 -19.7414 -19.7405 -19.1957 -19.1920 -18.9093 -18.7342 -18.4769 -18.3505 -18.2694 -18.1376 -18.1142 -17.7956 -17.7863 -17.2667 -17.2643 -16.3355 -16.3326 -16.2358 -16.2323 -15.7364 -15.5849 -14.8762
-14.1446 -14.1432 -12.8821 -12.6731 -12.6630 -12.6432 -12.5558 -12.3915
-12.2194 -11.7381 -11.7286 -11.7246 -11.5594 -11.3827 -11.3205 -10.9103
-10.8498 -10.6912 -10.5151 -10.5118 -10.0526
                                                    -9.9953
                                                              -9.8951
                                                                         -9.8872
 -9.6734
           -9.6622
                     -9.5807
                                -9.5214
                                          -9.4465
                                                    -9.2771
                                                               -9.2273
                                                                          -9.0788
 -8.8690
           -8.8119
                     -8.6493
                               -8.6441
                                          -8.6233
                                                     -8.5345
                                                               -8.1847
                                                                          -8.0649
 -8.0602
           -8.0541
                     -7.9905
                               -7.8914
                                          -7.7883
                                                     -7.7875
                                                               -7.7820
                                                                          -7.5474
                     -7.4256
                                                    -7.2954
                                -7.4003
 -7.4534
           -7.4469
                                          -7.3961
                                                               -7.2115
                                                                          -7.0204
                                                    -6.7539
           -6.8140
                     -6.8097
 -6.9258
                                -6.7862
                                          -6.7561
                                                               -6.6368
                                                                          -6.6364
                                -6.3868
                                          -5.9833
                                                     -5.8387
 -6.6098
           -6.5462
                     -6.5421
                                                               -5.8334
                                                                          -5.7763
                                          -4.7695
                     -5.0062
                                -4.8838
                                                     -4.7412
 -5.3258
           -5.1257
                                                               -4.5518
                                                                          -4.5489
 -4.4663
           -4.3594
                     -4.3298
                                -4.2185
                                          -4.1923
                                                     -4.1556
                                                               -3.8975
                                                                          -3.8962
 -3.8466
           -3.5128
                     -3.4620
                                -3.4584
                                          -2.9088
                                                     -1.2190
                                                                0.6606
                                                                           0.8070
                                           1.3269
                                 1.3165
           1.0741
                      1.2990
                                                      1.7741
                                                                1.8357
  1.0728
                                                                           1.9863
  2.0446
            2.0959
                       2.1149
                                 2.1493
                                            2.3460
                                                      2.5264
                                                                2.5349
                                                                           2.5491
  2.5656
            2.7007
                       2.7790
                                 2.7917
                                            2.8267
                                                      3.2099
                                                                3.2210
        k = 0.1111 - 0.1925 \ 0.0000 \ (64778 \ PWs)
                                                      bands (ev):
-21.6236 -21.3009 -20.8152 -20.7369 -20.4552 -20.2664 -20.2613 -20.2453
-19.9946 -19.8694 -19.7498 -19.7489 -19.2405 -19.2367 -18.8743 -18.7174
-18.4641 -18.3350 -18.2648 -18.1530 -18.1223 -17.8102 -17.7330 -17.2399
-17.2375 -16.2792 -16.2757 -16.2748 -16.2728 -15.8098 -15.5920 -14.8839
-14.2160 -14.2147 -12.8833 -12.5999 -12.5899 -12.5881 -12.5604 -12.4183
-12.2522 -11.7288 -11.7191 -11.6964 -11.5268 -11.3293 -11.2917 -10.9154
-10.9084 -10.7053 -10.5349 -10.5317 -10.0746 -9.9648 -9.8139
                                                                         -9.8051
          -9.7333 -9.6458 -9.4730 -9.4569 -9.2865
                                                               -9.2193
 -9.7441
                                                                         -9.0885
 -8.8562 -8.8276 -8.6486 -8.6476 -8.6435 -8.5707 -8.1838
                                                                         -8.0309
```

```
-8.0263
          -8.0182
                    -7.9590
                              -7.8626
                                        -7.8017
                                                  -7.7855
                                                            -7.7792
                                                                      -7.5364
 -7.5277
          -7.5203
                    -7.4349
                              -7.4129
                                        -7.4100
                                                  -7.3527
                                                            -7.2222
                                                                      -7.0094
                                        -6.7608
 -6.9207
          -6.8329
                    -6.8232
                              -6.8206
                                                  -6.7560
                                                            -6.6759
                                                                      -6.6565
 -6.5858
                              -6.3681
          -6.5137
                    -6.5103
                                        -5.9964
                                                            -5.8598
                                                  -5.8649
                                                                      -5.7716
          -5.0556
                    -4.9818
                              -4.8624
 -5.2721
                                        -4.7619
                                                  -4.7218
                                                            -4.5208
                                                                      -4.5179
 -4.4422
          -4.3487
                    -4.2969
                              -4.2146
                                        -4.1989
                                                  -4.1705
                                                            -3.8822
                                                                      -3.8618
 -3.8605
          -3.5237
                    -3.4997
                              -3.4962
                                        -2.9837
                                                  -1.2269
                                                             0.6626
                                                                      0.8837
                                                                       1.9564
  1.0246
           1.0258
                     1.3167
                               1.3484
                                         1.3663
                                                   1.7696
                                                             1.8246
  2.0533
           2.0974
                     2.1031
                               2.1381
                                         2.3761
                                                   2.4987
                                                             2.5215
                                                                       2.5277
  2.5951
            2.7185
                     2.7766
                               2.8183
                                         2.8606
                                                   3.2440
                                                             3.2453
       k = 0.1032 - 0.1787 \ 0.0000 \ (64728 \ PWs)
                                                   bands (ev):
-21.6301 -21.3089 -20.7919 -20.7175 -20.4615 -20.2543 -20.2374 -20.2324
-20.0276 -19.8920 -19.7576 -19.7568 -19.2847 -19.2809 -18.8395 -18.7004 -18.4517 -18.3205 -18.2607 -18.1682 -18.1302 -17.8345 -17.6699 -17.2126 -17.2101 -16.3185 -16.3150 -16.2189 -16.2159 -15.8830 -15.5986 -14.8911
-14.2864 -14.2851 -12.8837 -12.5646 -12.5367 -12.5256 -12.5158 -12.4433 -12.2842 -11.7204 -11.7104 -11.6673 -11.4946 -11.2753 -11.2642 -10.9807
-9.9334
                                                                      -9.8036
                                                            -9.8141
          -9.7229
-8.7919
                                                  -9.2946
                                                            -9.2054
                                                                      -9.0976
                                                                      -7.9963
 -8.8969
                    -8.6675
                              -8.6481
                                        -8.6430
                                                  -8.6059
                                                            -8.1831
                    -7.9268
                              -7.8334
                                                            -7.7765
                                                                      -7.6045
 -7.9917
           -7.9845
                                        -7.8162
                                                  -7.7828
          -7.5262
                    -7.4435
 -7.5970
                              -7.4230
                                        -7.4204
                                                            -7.2328
                                                  -7.4121
                                                                      -6.9976
                    -6.8699
 -6.9153
          -6.8792
                                        -6.7282
                                                  -6.7228
                                                            -6.7145
                              -6.8670
                                                                      -6.6800
 -6.5584
                    -6.4799
                              -6.3503
                                                  -5.8915
          -6.4828
                                        -6.0101
                                                            -5.8866
                                                                      -5.7666
 -5.2186
          -4.9849
                    -4.9571
                              -4.8422
                                        -4.7547
                                                  -4.7026
                                                            -4.4892
                                                                      -4.4864
                    -4.2661
                              -4.2380
 -4.4195
           -4.3389
                                        -4.1844
                                                  -4.1807
                                                            -3.9189
                                                                      -3.8279
 -3.8266
          -3.5392
                    -3.5357
                              -3.5309
                                        -3.0587
                                                  -1.2343
                                                             0.6644
                                                                       0.9610
  0.9789
           0.9802
                     1.3070
                               1.3979
                                                   1.7647
                                                                       1.9263
                                         1.4161
                                                             1.8142
  2.0615
            2.0802
                      2.1097
                               2.1283
                                         2.4088
                                                   2.4700
                                                             2.4929
                                                                       2.5188
  2.6274
            2.7379
                     2.7665
                               2.8536
                                         2.8967
                                                   3.1545
                                                             3.2776
       k = 0.0952 - 0.1650 \ 0.0000 \ (64778 \ PWs)
                                                   bands (ev):
-21.6361 -21.3163 -20.7683 -20.6980 -20.4673 -20.2636 -20.2079 -20.2029
-20.0604 -19.9137 -19.7649 -19.7640 -19.3284 -19.3245 -18.8052 -18.6834
-18.4398 -18.3072 -18.2572 -18.1830 -18.1381 -17.8592 -17.6063 -17.1847
-17.1822 -16.3591 -16.3556 -16.1609 -16.1577 -15.9560 -15.6048 -14.8977
-14.3558 -14.3546 -12.8831 -12.5686 -12.4818 -12.4665 -12.4547 -12.4441
-12.3151 -11.7129 -11.7027 -11.6374 -11.4631 -11.2385 -11.2206 -11.0456
-10.9061 -10.7399 -10.5694 -10.5665 -10.1124
                                                  -9.9016
                                                           -9.8831
                                                                     -9.8731
          -9.6529
                              -9.4854
                                        -9.3893
                                                 -9.3013
 -9.7751
                    -9.6407
                                                            -9.1863
                                                                      -9.1060
 -8.9318
          -8.7707
                    -8.6764
                              -8.6476
                                        -8.6426
                                                  -8.6369
                                                            -8.1827
                                                                      -7.9612
                                        -7.8039
          -7.9530
                    -7.8942
                              -7.8314
                                                  -7.7804
                                                            -7.7741
 -7.9566
                                                                      -7.6822
                                        -7.4320
                                                  -7.4295
          -7.5178
                                                            -7.2432
 -7.6746
                    -7.4720
                              -7.4515
                                                                      -6.9857
                              -6.9100
          -6.9195
                    -6.9165
                                        -6.7522
                                                  -6.7034
                                                            -6.6924
 -6.9250
                                                                      -6.6870
                    -6.4512
 -6.5309
                                                            -5.9138
          -6.4537
                              -6.3336
                                        -6.0243
                                                  -5.9187
                                                                      -5.7616
          -4.9321
                    -4.9139
                              -4.8233
                                        -4.7481
                                                  -4.6839
                                                            -4.4572
 -5.1653
                                                                      -4.4543
 -4.3984
          -4.3303
                    -4.2620
                              -4.2373
                                        -4.1977
                                                  -4.1638
                                                            -3.9564
                                                                      -3.7959
 -3.7945
          -3.5766
                    -3.5732
                              -3.5420
                                        -3.1339
                                                  -1.2411
                                                             0.6660
                                                                       0.9359
 0.9371
           1.0390
                     1.2981
                               1.4472
                                         1.4657
                                                   1.7595
                                                             1.8044
                                                                       1.8970
  2.0635
            2.0688
                      2.1155
                               2.1206
                                         2.4403
                                                   2.4432
                                                             2.4632
                                                                       2.5102
                                         2.9339
                                                   3.0645
  2.6602
            2.7519
                      2.7631
                               2.8901
                                                             3.3046
       k = 0.0873 - 0.1512 \ 0.0000 \ (64776 \ PWs)
                                                   bands (ev):
-21.6417 -21.3231 -20.7443 -20.6784 -20.4726 -20.2731 -20.1778 -20.1728
-20.0927 -19.9345 -19.7715 -19.7707 -19.3715 -19.3676 -18.7714 -18.6665
-18.4283 -18.2954 -18.2546 -18.1968 -18.1459 -17.8840 -17.5423 -17.1563
-17.1538 -16.3992 -16.3958 -16.1032 -16.1000 -16.0286 -15.6104 -14.9039
-14.4239 -14.4228 -12.8818 -12.5723 -12.4879 -12.4268 -12.3848 -12.3739
```

```
-12.3449 -11.7066 -11.6962 -11.6068 -11.4324 -11.2149 -11.1654 -11.1101
                                                   -9.9510
                                                             -9.9414
-10.9057 -10.7600 -10.5837 -10.5810 -10.1274
                                                                       -9.8696
                                                                        -9.1138
 -9.8394
           -9.5743
                     -9.5583
                               -9.4959
                                         -9.3636
                                                   -9.3056
                                                             -9.1673
 -8.9554
                                                              -8.1828
                     -8.6877
                               -8.6473
                                         -8.6422
                                                   -8.6410
                                                                        -7.9262
           -8.7733
                                         -7.7783
                                                              -7.7720
 -7.9235
           -7.9210
                     -7.8609
                               -7.8471
                                                   -7.7743
                                                                        -7.7602
 -7.7525
           -7.5386
                     -7.5041
                               -7.4589
                                         -7.4402
                                                   -7.4377
                                                              -7.2535
                                                                        -6.9739
                                         -6.7888
                                                   -6.7263
 -6.9703
           -6.9692
                     -6.9662
                               -6.9049
                                                              -6.6563
                                                                        -6.6508
 -6.5039
           -6.4266
                     -6.4244
                               -6.3181
                                         -6.0392
                                                   -5.9463
                                                              -5.9414
                                                                        -5.7565
 -5.1124
           -4.9069
                     -4.8424
                               -4.8057
                                         -4.7420
                                                   -4.6655
                                                              -4.4246
                                                                        -4.4217
                                                              -3.9949
 -4.3789
           -4.3235
                     -4.2853
                               -4.2107
                                         -4.2106
                                                   -4.1482
                                                                        -3.7659
 -3.7644
           -3.6151
                     -3.6118
                               -3.5506
                                         -3.2091
                                                   -1.2474
                                                              0.6675
                                                                         0.8957
  0.8970
            1.1174
                      1.2898
                                1.4963
                                          1.5152
                                                    1.7540
                                                               1.7954
                                                                         1.8690
                                                               2.4776
  2.0477
            2.0740
                                          2.4095
                                                     2.4325
                      2.1147
                                2.1216
                                                                         2.5037
  2.6932
            2.7449
                                2.9276
                                          2.9720
                                                     2.9748
                                                               3.3082
                      2.7820
       k = 0.0794 - 0.1375 \ 0.0000 \ (64782 \ PWs)
                                                    bands (ev):
-21.6467 -21.3293 -20.7200 -20.6588 -20.4775 -20.2829 -20.1471 -20.1422
-20.1247 -19.9541 -19.7776 -19.7768 -19.4140 -19.4101 -18.7384 -18.6495
-18.4173 -18.2858 -18.2531 -18.2085 -18.1535 -17.9089 -17.4778 -17.1273 -17.1248 -16.4389 -16.4355 -16.1014 -16.0459 -16.0425 -15.6156 -14.9095 -14.4905 -14.4896 -12.8797 -12.5756 -12.5075 -12.3733 -12.3714 -12.3167 -12.3053 -11.7017 -11.6911 -11.5755 -11.4030 -11.1938 -11.1743 -11.1097 -10.9057 -10.7814 -10.5959 -10.5933 -10.1348 -10.175 -10.0084 -9.9034
           -9.5055
                     -9.4993
                               -9.4759
                                         -9.3455
                                                   -9.3055
 -9.8375
                                                             -9.1592
                                                                        -9.1209
           -8.7901
 -8.9589
                     -8.7164
                               -8.6470
                                         -8.6420
                                                   -8.6118
                                                              -8.1835
                                                                        -7.8978
                     -7.8634
                               -7.8365
                                                   -7.8272
                                                              -7.7760
 -7.8909
           -7.8869
                                         -7.8297
                                                                        -7.7696
           -7.5988
 -7.7446
                     -7.4979
                               -7.4657
                                         -7.4476
                                                   -7.4452
                                                              -7.2640
                                                                        -7.0188
                                         -6.8240
                                                   -6.7482
                                                              -6.6202
 -7.0156
           -7.0151
                     -6.9625
                               -6.9001
                                                                        -6.6148
 -6.4773
                     -6.3997
                               -6.3039
                                         -6.0546
                                                   -5.9743
                                                              -5.9694
           -6.4017
                                                                        -5.7515
 -5.0599
           -4.8815
                     -4.7895
                               -4.7706
                                         -4.7364
                                                   -4.6477
                                                              -4.3916
                                                                        -4.3887
 -4.3618
           -4.3232
                     -4.3026
                               -4.2230
                                         -4.1863
                                                    -4.1339
                                                              -4.0341
                                                                        -3.7380
                               -3.5584
 -3.7365
           -3.6537
                     -3.6505
                                         -3.2844
                                                    -1.2530
                                                               0.6688
                                                                         0.8586
  0.8598
                                1.5451
                                          1.5644
                                                    1.7483
            1.1964
                      1.2822
                                                               1.7871
                                                                         1.8429
                                                     2.4007
  2.0330
            2.0760
                                2.1264
                                          2.3777
                                                               2.4902
                      2.1131
                                                                         2.5205
  2.7257
            2.7367
                      2.8033
                                2.8856
                                          2.9661
                                                     3.0109
                                                               3.2948
       k = 0.0714 - 0.1237 \ 0.0000 \ (64788 \ PWs)
                                                    bands (ev):
-21.6513 -21.3349 -20.6955 -20.6393 -20.4819 -20.2931 -20.1563 -20.1159
-20.1110 -19.9723 -19.7831 -19.7823 -19.4560 -19.4520 -18.7063 -18.6327
-18.4069 -18.2805 -18.2521 -18.2166 -18.1610 -17.9337 -17.4129 -17.0979
-17.0953 -16.4781 -16.4748 -16.1735 -15.9896 -15.9861 -15.6202 -14.9146
-14.5555 -14.5547 -12.8770 -12.5787 -12.5251 -12.4002 -12.3156 -12.2505
-12.2388 -11.6985 -11.6876 -11.5436 -11.3748 -11.2380 -11.1760 -11.0535
-10.9062 -10.8034 -10.6055 -10.6031 -10.1499 -10.0823 -10.0736
                                                                       -9.9671
          -9.5141
                    -9.4340
                               -9.3934
                                         -9.3327
                                                   -9.2949
                                                             -9.1691
 -9.8053
                                                                        -9.1273
          -8.8112
                     -8.7460
                               -8.6468
                                         -8.6418
                                                   -8.5749
 -8.9383
                                                              -8.1853
                                                                        -7.9230
 -7.9153
          -7.8804
                     -7.8733
                               -7.8471
                                         -7.8432
                                                   -7.7930
                                                              -7.7742
                                                                        -7.7677
 -7.7148
          -7.6601
                     -7.4910
                               -7.4717
                                         -7.4543
                                                   -7.4519
                                                              -7.2746
                                                                        -7.0678
 -7.0645
           -7.0593
                     -6.9516
                               -6.8956
                                         -6.8575
                                                   -6.7690
                                                              -6.5844
                                                                        -6.5790
 -6.4511
          -6.3789
                     -6.3772
                               -6.2910
                                         -6.0706
                                                   -6.0027
                                                              -5.9979
                                                                        -5.7467
 -5.0081
           -4.8561
                     -4.7746
                               -4.7314
                                         -4.6984
                                                    -4.6304
                                                              -4.3580
                                                                        -4.3551
                                         -4.1640
                                                              -4.0740
 -4.3536
           -4.3334
                     -4.3034
                               -4.2350
                                                    -4.1210
                                                                        -3.7125
                     -3.6891
                                         -3.3597
                                                    -1.2580
 -3.7109
           -3.6922
                               -3.5654
                                                               0.6700
                                                                         0.8244
  0.8256
            1.2753
                      1.2759
                                1.5936
                                          1.6132
                                                     1.7426
                                                               1.7795
                                                                         1.8187
                                          2.3449
                                                     2.3679
                                                               2.4844
  2.0195
            2.0745
                      2.1153
                                2.1309
                                                                         2.5571
            2.7588
                      2.7968
                                2.8247
                                          3.0054
                                                     3.0506
                                                               3.2776
  2.7281
       k = 0.0635 - 0.1100 \ 0.0000 \ (64768 \ PWs)
                                                     bands (ev):
-21.6554 -21.3399 -20.6707 -20.6200 -20.4858 -20.3036 -20.1874 -20.0840
```

```
-20.0792 -19.9891 -19.7881 -19.7872 -19.4975 -19.4934 -18.6753 -18.6162
-18.3971 -18.2825 -18.2491 -18.2207 -18.1682 -17.9581 -17.3475 -17.0678
-17.0652 -16.5168 -16.5136 -16.2454 -15.9345 -15.9307 -15.6244 -14.9191
-14.6185 -14.6177 -12.8737 -12.5815 -12.5407 -12.4255 -12.2593 -12.1866 -12.1747 -11.6973 -11.6862 -11.5112 -11.3484 -11.3014 -11.1621 -10.9967
-10.9070 -10.8254 -10.6124 -10.6100 -10.1578 -10.1450 -10.1369 -10.0306
           -9.5216
                      -9.3918 -9.3237
                                            -9.3109
                                                       -9.2605
                                                                  -9.1919
 -9.7731
                                                                             -9.1330
           -8.8322
                      -8.7716 -8.6466
                                            -8.6417
 -8.9030
                                                       -8.5366
                                                                  -8.1884
                                                                             -8.0013
 -7.9935
           -7.8978
                      -7.8515
                                 -7.8109
                                            -7.8068
                                                       -7.7725
                                                                  -7.7660
                                                                             -7.7584
 -7.7207
           -7.6852
                      -7.4846
                                 -7.4772
                                            -7.4603
                                                       -7.4579
                                                                  -7.2857
                                                                             -7.1163
 -7.1130
           -7.1029
                      -6.9415
                                 -6.8916
                                            -6.8890
                                                       -6.7884
                                                                  -6.5489
                                                                             -6.5436
 -6.4255
           -6.3584
                      -6.3569
                                 -6.2794
                                            -6.0871
                                                       -6.0316
                                                                  -6.0267
                                                                             -5.7422
 -4.9570
           -4.8305
                      -4.7612
                                 -4.7268
                                            -4.6259
                                                       -4.6138
                                                                  -4.3714
                                                                             -4.3251
 -4.3240
           -4.3211
                      -4.2996
                                 -4.2463
                                            -4.1440
                                                       -4.1143
                                                                  -4.1094
                                                                             -3.7314
 -3.7282
           -3.6886
                      -3.6872
                                 -3.5717
                                            -3.4350
                                                       -1.2625
                                                                              0.7936
                                                                   0.6710
  0.7947
             1.2692
                        1.3560
                                   1.6417
                                             1.6616
                                                        1.7370
                                                                   1.7726
                                                                              1.7968
  2.0075
             2.0710
                        2.1198
                                   2.1348
                                              2.3110
                                                         2.3340
                                                                   2.4783
                                                                               2.5951
  2.7084
             2.7210
                        2.7908
                                   2.8458
                                              3.0457
                                                         3.0909
                                                                   3.2590
        k = 0.0556 - 0.0962 \ 0.0000 \ (64757 \ PWs)
                                                         bands (ev):
-21.6590 -21.3443 -20.6458 -20.6011 -20.4891 -20.3146 -20.2179 -20.0516 -20.0468 -20.0042 -19.7924 -19.7916 -19.5384 -19.5342 -18.6459 -18.6000 -18.3880 -18.2911 -18.2435 -18.2217 -18.1751 -17.9818 -17.2817 -17.0373 -17.0347 -16.5551 -16.5519 -16.3171 -15.8809 -15.8770 -15.6281 -14.9231 -14.6788 -14.6782 -12.8700 -12.5839 -12.5542 -12.4491 -12.2027 -12.1255 -12.1132 -11.6984 -11.6870 -11.4783 -11.3643 -11.3239 -11.1528 -10.9395 -10.9082 -10.8463 -10.6162 -10.6138 -10.2054 -10.1977 -10.1640 -10.0937 -9.7410 -9.5282 -9.3753 -9.3188 -9.2283 -9.2190 -9.1997 -9.1381
                                 -9.3188
                                            -9.2283
                                                       -9.2190
                                                                  -9.1997
 -9.7410
           -9.5282
                      -9.3753
                                                                             -9.1381
 -8.8747
           -8.8487
                      -8.7822
                                 -8.6465
                                            -8.6416
                                                       -8.4988
                                                                  -8.1934
                                                                             -8.0813
                                 -7.7797
 -8.0734
           -7.9157
                      -7.8322
                                            -7.7732
                                                       -7.7708
                                                                  -7.7685
                                                                             -7.7642
 -7.7233
                      -7.4819
                                 -7.4789
                                            -7.4656
                                                                  -7.2973
           -7.6559
                                                       -7.4631
                                                                             -7.1643
                                 -6.9183
                                                                             -6.5084
 -7.1609
           -7.1458
                      -6.9321
                                            -6.8880
                                                       -6.8062
                                                                  -6.5138
                                 -6.2692
 -6.4004
           -6.3402
                      -6.3388
                                            -6.1042
                                                       -6.0609
                                                                  -6.0560
                                                                             -5.7380
 -4.9070
            -4.8050
                      -4.7493
                                 -4.7229
                                            -4.5980
                                                                  -4.3957
                                                       -4.5530
                                                                             -4.3128
            -4.2896
 -4.2963
                      -4.2866
                                  -4.2566
                                            -4.1549
                                                        -4.1263
                                                                  -4.0992
                                                                             -3.7701
 -3.7669
            -3.6678
                       -3.6663
                                  -3.5773
                                            -3.5103
                                                       -1.2664
                                                                   0.6719
                                                                              0.7660
  0.7672
                        1.4365
                                   1.6893
                                             1.7095
                                                        1.7315
                                                                   1.7661
             1.2637
                                                                              1.7777
  1.9970
             2.0667
                        2.1251
                                   2.1383
                                              2.2761
                                                         2.2991
                                                                   2.4726
                                                                               2.6205
  2.6331
             2.7146
                        2.8222
                                   2.8664
                                              3.0867
                                                         3.1319
                                                                   3.2395
        k = 0.0476 - 0.0825 \ 0.0000 \ (64769 \ PWs)
                                                        bands (ev):
-21.6622 -21.3482 -20.6210 -20.5826 -20.4919 -20.3258 -20.2478 -20.0187
-20.0176 -20.0139 -19.7962 -19.7954 -19.5787 -19.5745 -18.6183 -18.5843
-18.3798 -18.3027 -18.2372 -18.2213 -18.1815 -18.0046 -17.2154 -17.0062
-17.0035 -16.5928 -16.5897 -16.3884 -15.8298 -15.8257 -15.6313 -14.9266
-14.7360 -14.7354 -12.8661 -12.5861 -12.5657 -12.4706 -12.1456 -12.0673
-12.0549 -11.7022 -11.6905 -11.4451 -11.4268 -11.3016 -11.1490 -10.9095
-10.8817 -10.8652 -10.6165 -10.6141 -10.2629 -10.2558 -10.1686 -10.1565
                                                                             -9.1262
 -9.7088
            -9.5337
                      -9.3708
                                 -9.3209
                                            -9.2424
                                                       -9.1458
                                                                  -9.1425
 -8.8805
            -8.8597
                      -8.7556
                                 -8.6464
                                            -8.6416
                                                       -8.4627
                                                                  -8.2012
                                                                             -8.1619
 -8.1539
            -7.9339
                      -7.8356
                                  -7.8153
                                            -7.7698
                                                       -7.7633
                                                                  -7.7333
                                                                             -7.7293
                                  -7.4740
                                                       -7.4677
                                                                  -7.3096
 -7.6881
            -7.6271
                      -7.4860
                                            -7.4701
                                                                             -7.2117
                      -6.9448
                                                                  -6.4789
 -7.2083
            -7.1879
                                  -6.9236
                                            -6.8850
                                                       -6.8223
                                                                             -6.4736
                       -6.3231
 -6.3758
            -6.3243
                                  -6.2604
                                             -6.1219
                                                        -6.0906
                                                                  -6.0857
                                                                              -5.7342
 -4.8583
            -4.7797
                       -4.7389
                                  -4.7194
                                             -4.5832
                                                        -4.4799
                                                                  -4.4207
                                                                             -4.3019
                                                                  -4.0903
 -4.2946
            -4.2650
                       -4.2547
                                  -4.2517
                                             -4.1951
                                                        -4.1109
                                                                             -3.8087
 -3.8056
            -3.6495
                       -3.6480
                                  -3.5855
                                             -3.5820
                                                        -1.2698
                                                                   0.6726
                                                                              0.7418
  0.7430
             1.2589
                       1.5176
                                  1.7264
                                             1.7363
                                                        1.7567
                                                                   1.7570
                                                                              1.7643
                                                         2.2631
  1.9879
             2.0626
                        2.1304
                                   2.1413
                                              2.2401
                                                                   2.4676
                                                                               2.5330
             2.7090
                                   2.8865
                                             3.1286
  2.6702
                        2.8527
                                                        3.1733
                                                                   3.2193
```

```
k = 0.0397 - 0.0687 \ 0.0000 \ (64791 \ PWs)
                                                    bands (ev):
-18.3725 -18.3153 -18.2313 -18.2201 -18.1874 -18.0258 -17.1487 -16.9746
-16.9719 -16.6301 -16.6270 -16.4593 -15.7819 -15.7775 -15.6340 -14.9295
-14.7891 -14.7884 -12.8621 -12.5880 -12.5751 -12.4898 -12.0881 -12.0127
-12.0000 -11.7091 -11.6971 -11.4890 -11.4118 -11.2818 -11.1514 -10.9108
-10.8813 \ -10.8236 \ -10.6130 \ -10.6105 \ -10.3173 \ -10.3107 \ -10.2190 \ -10.1719
 -9.6768
          -9.5382
                    -9.3703
                               -9.3353
                                         -9.2550
                                                   -9.1462
                                                             -9.0632
                                                                       -9.0481
 -8.8960
          -8.8778
                     -8.7051
                               -8.6464
                                         -8.6415
                                                   -8.4292
                                                             -8.2428
                                                                        -8.2347
                                                                        -7.6894
 -8.2131
          -7.9518
                     -7.8869
                               -7.8011
                                         -7.7687
                                                   -7.7622
                                                             -7.6934
                                                   -7.4699
                                                                        -7.2586
 -7.6527
          -7.5992
                    -7.4894
                               -7.4740
                                         -7.4716
                                                              -7.3227
                               -6.9160
                                                                        -6.4392
 -7.2551
          -7.2291
                    -6.9682
                                         -6.8823
                                                   -6.8365
                                                              -6.4445
 -6.3518
          -6.3108
                     -6.3098
                               -6.2530
                                         -6.1401
                                                   -6.1208
                                                              -6.1158
                                                                        -5.7308
 -4.8116
           -4.7548
                     -4.7301
                               -4.7165
                                         -4.5695
                                                    -4.4454
                                                              -4.4065
                                                                        -4.2981
                                                                        -3.8472
 -4.2907
           -4.2710
                     -4.2339
                               -4.2194
                                         -4.2164
                                                    -4.0978
                                                              -4.0827
 -3.8442
           -3.6615
                     -3.6335
                               -3.6317
                                         -3.5861
                                                   -1.2726
                                                               0.6732
                                                                         0.7212
  0.7224
            1.2549
                      1.5991
                                1.7217
                                          1.7436
                                                    1.7585
                                                               1.7828
                                                                         1.8034
  1.9803
            2.0588
                      2.1353
                                2.1439
                                          2.2032
                                                     2.2262
                                                               2.4461
                                                                         2.4634
  2.7040
            2.7058
                      2.8819
                                2.9061
                                          3.1712
                                                     3.1988
                                                               3.2151
       k = 0.0317 - 0.0550 \ 0.0000 \ (64763 \ PWs)
                                                     bands (ev):
-21.6670 -21.3541 -20.5725 -20.5487 -20.4955 -20.3485 -20.3046 -20.0385 -19.9510 -19.9463 -19.8020 -19.8012 -19.6577 -19.6534 -18.5707 -18.5559 -18.3663 -18.3275 -18.2260 -18.2189 -18.1925 -18.0449 -17.0815 -16.9425 -16.9398 -16.6668 -16.6638 -16.5300 -15.7385 -15.7339 -15.6362 -14.9319 -14.8368 -14.8359 -12.8584 -12.5895 -12.5823 -12.5065 -12.0302 -11.9618 -11.9490 -11.7194 -11.7071 -11.5506 -11.3760 -11.2650 -11.1601 -10.9120
-10.8939 -10.7649 -10.6053 -10.6026 -10.3680 -10.3619 -10.2811 -10.1742
          -9.5418
                                         -9.2570
                                                             -8.9807
 -9.6451
                    -9.3710
                               -9.3606
                                                   -9.1493
                                                                        -8.9680
                                                   -8.3990
 -8.9103
           -8.8970
                     -8.6485
                               -8.6464
                                         -8.6415
                                                              -8.3240
                                                                        -8.3159
                               -7.7894
                                         -7.7678
                                                   -7.7613
 -8.2307
           -7.9691
                     -7.9314
                                                              -7.6528
                                                                        -7.6488
           -7.5728
 -7.6175
                     -7.4921
                               -7.4771
                                         -7.4747
                                                    -7.4665
                                                              -7.3366
                                                                        -7.3048
 -7.3013
           -7.2689
                     -6.9880
                               -6.9092
                                         -6.8802
                                                   -6.8489
                                                              -6.4103
                                                                        -6.4051
                                                                        -5.7280
 -6.3283
           -6.2996
                     -6.2988
                               -6.2469
                                         -6.1589
                                                    -6.1513
                                                              -6.1463
 -4.7677
           -4.7307
                     -4.7228
                               -4.7141
                                         -4.5573
                                                    -4.4694
                                                              -4.3328
                                                                        -4.3037
 -4.2831
           -4.2806
                     -4.2635
                               -4.1837
                                         -4.1806
                                                    -4.0871
                                                              -4.0765
                                                                        -3.8856
 -3.8826
           -3.7362
                     -3.6206
                               -3.6190
                                         -3.5894
                                                    -1.2748
                                                               0.6737
                                                                         0.7042
  0.7054
            1.2516
                      1.6811
                                1.7177
                                          1.7317
                                                    1.7546
                                                               1.8286
                                                                         1.8494
  1.9742
                                                     2.1882
            2.0556
                      2.1394
                                2.1460
                                          2.1653
                                                               2.3597
                                                                         2.4599
  2.7004
                                2.9255
                                          3.1784
                                                     3.2144
            2.7380
                      2.9095
                                                               3.2203
       k = 0.0238 - 0.0412 \ 0.0000 \ (64741 \ PWs)
                                                    bands (ev):
-21.6687 -21.3562 -20.5502 -20.5344 -20.4958 -20.3591 -20.3305 -20.0460
-19.9163 -19.9117 -19.8040 -19.8032 -19.6963 -19.6919 -18.5521 -18.5440
-18.3614 -18.3385 -18.2217 -18.2177 -18.1966 -18.0612 -17.0140 -16.9098
-16.9071 -16.7031 -16.7001 -16.6002 -15.7013 -15.6964 -15.6379 -14.9338
-14.8774 -14.8763 -12.8552 -12.5909 -12.5874 -12.5202 -11.9718 -11.9151
-11.9022 -11.7336 -11.7211 -11.6119 -11.3457 -11.2515 -11.1749 -10.9129
-10.9031 -10.7059 -10.5931 -10.5901 -10.4146 -10.4091 -10.3429 -10.1758
           -9.5445
                     -9.3904
                                         -9.2544
                                                   -9.1517
                                                              -8.9221
 -9.6139
                               -9.3721
                                                                        -8.9138
 -8.8983
           -8.8871
                     -8.6463
                               -8.6415
                                         -8.5910
                                                    -8.4055
                                                              -8.3972
                                                                        -8.3733
 -8.2553
           -7.9848
                     -7.9667
                               -7.7803
                                         -7.7670
                                                    -7.7606
                                                              -7.6116
                                                                        -7.6076
           -7.5489
                     -7.4938
                               -7.4796
                                         -7.4772
                                                    -7.4639
                                                              -7.3508
 -7.5832
                                                                        -7.3505
 -7.3469
           -7.3067
                     -7.0038
                               -6.9032
                                         -6.8785
                                                    -6.8593
                                                              -6.3766
                                                                        -6.3714
 -6.3053
          -6.2909
                     -6.2903
                               -6.2422
                                         -6.1823
                                                    -6.1782
                                                              -6.1773
                                                                        -5.7258
                                         -4.5467
                                                              -4.3202
 -4.7282
          -4.7172
                     -4.7123
                               -4.7079
                                                    -4.4917
                                                                        -4.3007
 -4.2767
          -4.2687
                    -4.2590
                               -4.1476
                                         -4.1445
                                                   -4.0787
                                                             -4.0717
                                                                        -3.9237
```

```
-3.8112
 -3.9208
                    -3.6105
                              -3.6089
                                       -3.5920
                                                 -1.2766
                                                            0.6741
                                                                     0.6909
                                        1.7517
  0.6922
           1.2490
                     1.7144
                              1.7223
                                                  1.7633
                                                            1.8737
                                                                     1.8945
  1.9695
           2.0530
                     2.1264
                               2.1428
                                        2.1477
                                                  2.1492
                                                            2.2739
                                                                     2.4571
                                        3.1590
           2.7658
                     2.9348
                               2.9447
                                                  3.1870
  2.6973
                                                            3.2579
       k = 0.0159 - 0.0275 \ 0.0000 \ (64687 \ PWs)
                                                  bands (ev):
-21.6699 -21.3576 -20.5313 -20.5232 -20.4942 -20.3681 -20.3532 -20.0513
-19.8811 -19.8765 -19.8055 -19.8046 -19.7344 -19.7300 -18.5380 -18.5345
-14.9088 -14.9076 -12.8526 -12.5919 -12.5907 -12.5306 -11.9132 -11.8729
-11.8600 -11.7521 -11.7392 -11.6727 -11.3138 -11.2415 -11.1947 -10.9134
-10.9092 \ -10.6464 \ -10.5760 \ -10.5727 \ -10.4568 \ -10.4518 \ -10.4043 \ -10.1768
                             -9.3730
                                      -9.2509
 -9.5844
          -9.5464
                    -9.4202
                                                -9.1534
                                                          -8.9307
                                                                    -8.9268
 -8.8159
          -8.8057
                    -8.6463
                             -8.6415
                                       -8.5361
                                                -8.4872
                                                          -8.4787
                                                                    -8.3533
                                                -7.7600
                                                          -7.5697
                   -7.9914
                             -7.7738
                                       -7.7665
 -8.2865
          -7.9978
                                                                    -7.5658
                                       -7.4789
                                                -7.4620
                                                                    -7.3918
 -7.5511
          -7.5292
                   -7.4946
                             -7.4813
                                                          -7.3955
                                                 -6.8676
                                                          -6.3432
                                                                    -6.3381
 -7.3642
          -7.3410
                    -7.0153
                             -6.8980
                                       -6.8773
                    -6.2828
                             -6.2388
                                       -6.2136
                                                 -6.2086
                                                                    -5.7241
 -6.2847
          -6.2842
                                                          -6.1980
                                       -4.5380
 -4.7131
          -4.7109
                    -4.6957
                              -4.6877
                                                 -4.5110
                                                           -4.3481
                                                                    -4.3084
                                                                    -3.9617
 -4.2722
          -4.2689
                    -4.1849
                              -4.1112
                                       -4.1080
                                                 -4.0728
                                                           -4.0681
                                       -3.5938
 -3.9588
          -3.8861
                    -3.6032
                              -3.6016
                                                 -1.2778
                                                           0.6743
                                                                     0.6814
                                        1.7496
  0.6827
           1.2472
                     1.7120
                               1.7155
                                                  1.8455
                                                            1.9182
                                                                     1.9388
                                                  2.1489
  1.9662
           2.0512
                     2.0867
                               2.1094
                                        2.1452
                                                            2.1888
                                                                     2.4552
  2.6951
           2.7872
                               2.9626
                                        3.1417
                                                  3.1567
                     2.9571
                                                            3.3012
       k = 0.0079 - 0.0137 \ 0.0000 \ (64667 \ PWs)
                                                  bands (ev):
-21.6707 -21.3585 -20.5189 -20.5165 -20.4903 -20.3743 -20.3701 -20.0545
-19.8453 -19.8408 -19.8063 -19.8055 -19.7718 -19.7674 -18.5292 -18.5283
-18.3557 -18.3531 -18.2165 -18.2162 -18.2014 -18.0819 -16.8777 -16.8430 -16.8401 -16.7740 -16.7711 -16.7397 -15.6538 -15.6484 -15.6398 -14.9360 -14.9289 -14.9275 -12.8510 -12.5927 -12.5924 -12.5371 -11.8546 -11.8353 -11.8228 -11.7749 -11.7619 -11.7328 -11.2842 -11.2354 -11.2174 -10.9138
-10.9126 -10.5865 -10.5540 -10.5502 -10.4942 -10.4897 -10.4653 -10.1773
          -9.5476
                   -9.4457
                             -9.3736
                                      -9.2482
                                                -9.1544
                                                          -8.9360
 -9.5594
                                                                    -8.9350
 -8.7336
          -8.7242
                   -8.6463
                             -8.6415
                                       -8.5690
                                                 -8.5602
                                                          -8.4896
                                                                    -8.3406
 -8.3191
          -8.0066
                    -8.0054
                             -7.7698
                                       -7.7662
                                                 -7.7597
                                                          -7.5272
                                                                    -7.5248
 -7.5234
          -7.5166
                    -7.4942
                             -7.4824
                                       -7.4800
                                                 -7.4609
                                                          -7.4399
                                                                    -7.4361
 -7.3746
          -7.3678
                   -7.0224
                             -6.8938
                                       -6.8765
                                                 -6.8738
                                                          -6.3103
                                                                    -6.3052
 -6.2809
          -6.2805
                    -6.2610
                             -6.2454
                                       -6.2403
                                                 -6.2368
                                                          -6.2182
                                                                    -5.7232
                             -4.6726
                                       -4.5319
                                                 -4.5247
 -4.7107
          -4.7101
                    -4.6740
                                                          -4.3701
                                                                    -4.3122
                                                 -4.0685
                                                          -4.0655
                             -4.0752
                                       -4.0715
 -4.2695
          -4.2687
                    -4.1108
                                                                    -3.9993
 -3.9967
                    -3.5989
                                       -3.5947
                                                                     0.6757
          -3.9607
                             -3.5972
                                                 -1.2786
                                                            0.6741
 0.6773
           1.2461
                    1.7105
                              1.7114
                                        1.7484
                                                  1.9255
                                                            1.9629
                                                                     1.9643
  1.9819
           2.0466
                     2.0501
                               2.0689
                                        2.1054
                                                  2.1466
                                                            2.1497
                                                                     2.4540
                                        3.1290
  2.6938
           2.8007
                     2.9743
                               2.9762
                                                  3.1335
                                                            3.3419
       k = 0.0000 \ 0.0000 \ 0.0000 \ (64705 \ PWs)
                                                  bands (ev):
-21.6709 -21.3588 -20.5147 -20.5145 -20.4876 -20.3768 -20.3765 -20.0556
-19.8100 -19.8092 -19.8082 -19.8046 -19.8038 -19.8031 -18.5262 -18.5261
-18.3553 -18.3549 -18.2160 -18.2158 -18.2020 -18.0847 -16.8104 -16.8094
-16.8086 -16.8084 -16.8059 -16.8043 -15.6474 -15.6420 -15.6400 -14.9364
-14.9359 -14.9343 -12.8504 -12.5930 -12.5928 -12.5393 -11.8096 -11.8028
-11.7958 -11.7935 -11.7877 -11.7835 -11.2663 -11.2334 -11.2331 -10.9139
-10.9136 -10.5296 -10.5278 -10.5256 -10.5248 -10.5223 -10.5205 -10.1775
 -9.5481
          -9.5479
                   -9.4573
                             -9.3738
                                      -9.2472
                                                -9.1547
                                                          -8.9379
                                                                    -8.9378
          -8.6497
                   -8.6457
                             -8.6447
                                       -8.6441
                                                -8.6351
                                                          -8.4681
 -8.6555
                                                                    -8.3362
                   -8.0098 -7.7685
                                                -7.7596
 -8.3361
         -8.0100
                                       -7.7661
                                                          -7.5129
                                                                    -7.5127
 -7.4941 -7.4869
                   -7.4851 -7.4816 -7.4804 -7.4799 -7.4769
                                                                    -7.4605
```

```
-7.0247
                                 -6.8919
                                            -6.8763
                                                      -6.8763
                                                                          -6.2798
   -7.3789
             -7.3786
                                                                -6.2803
   -6.2780
             -6.2779
                       -6.2722
                                 -6.2712
                                           -6.2424
                                                      -6.2363
                                                                -6.2362
                                                                          -5.7228
   -4.7099
             -4.7099
                       -4.6666
                                 -4.6665
                                           -4.5299
                                                      -4.5295
                                                                -4.3785
                                                                          -4.3134
   -4.2686
             -4.2685
                       -4.0686
                                 -4.0658
                                            -4.0410
                                                      -4.0397
                                                                -4.0370
                                                                          -4.0337
   -4.0324
             -4.0290
                       -3.5975
                                 -3.5959
                                            -3.5948
                                                      -1.2788
                                                                0.6735
                                                                           0.6739
    0.6759
              1.2457
                       1.7100
                                 1.7101
                                            1.7480
                                                      1.9636
                                                                 1.9780
                                                                           2.0027
    2.0198
              2.0211
                        2.0311
                                  2.0399
                                             2.0497
                                                       2.1470
                                                                 2.1500
                                                                            2.4536
    2.6934
              2.8053
                        2.9812
                                   2.9814
                                             3.1242
                                                       3.1243
                                                                 3.3638
----- SPIN DOWN -----
          k = 0.0000 \ 0.0000 \ 0.0000 \ (64705 \ PWs)
                                                       bands (ev):
  -21.6537 -21.3580 -20.4912 -20.4910 -20.4770 -20.3684 -20.3681 -20.0254
  -19.8092 \ -19.8085 \ -19.8074 \ -19.8038 \ -19.8030 \ -19.8023 \ -18.5133 \ -18.5132
  -18.3486 -18.3483 -18.2008 -18.2006 -18.1990 -18.0660 -16.8097 -16.8087 -16.8078 -16.8076 -16.8052 -16.8036 -15.6465 -15.6411 -15.6391 -14.9359 -14.9354 -14.9338 -12.7791 -12.5730 -12.5729 -12.4676 -11.8089 -11.8021 -11.7951 -11.7927 -11.7870 -11.7828 -11.2630 -11.2150 -11.2147 -10.8957 -10.8955 -10.5293 -10.5275 -10.5253 -10.5245 -10.5220 -10.5202 -10.0662 -9.5240 -9.5238 -9.4443 -9.3718 -9.2412 -9.0929 -8.9184 -8.9183
                                 -8.6442
   -8.6549
             -8.6492
                       -8.6452
                                           -8.6435
                                                                -8.4617
                                                      -8.6346
                                                                          -8.3228
                                           -7.7658
                                                                -7.4848
   -8.3227
             -7.9933
                       -7.9931
                                 -7.7682
                                                      -7.7593
                                                                          -7.4830
   -7.4795
             -7.4783
                      -7.4777
                                 -7.4748
                                           -7.4663
                                                                          -7.4409
                                                      -7.4526
                                                                -7.4411
   -7.3443
             -7.3440
                      -6.8634
                                 -6.8634
                                           -6.8493
                                                      -6.7126
                                                                -6.2800
                                                                          -6.2795
             -6.2776
   -6.2777
                       -6.2719
                                 -6.2709
                                           -6.2391
                                                      -6.2275
                                                                -6.2273
                                                                          -5.7113
   -4.6964
             -4.6963
                       -4.6226
                                 -4.6226
                                            -4.4819
                                                      -4.4816
                                                                -4.3364
                                                                          -4.3010
                       -4.0682
   -4.2156
             -4.2154
                                 -4.0655
                                            -4.0387
                                                      -4.0374
                                                                -4.0347
                                                                           -4.0314
                       -3.5951
   -4.0300
             -4.0267
                                 -3.5934
                                            -3.5924
                                                      -0.6180
                                                                 0.6758
                                                                           0.6761
    0.6781
              1.2859
                        1.7659
                                   1.8674
                                             1.8675
                                                       1.9807
                                                                 2.0054
                                                                            2.0225
    2.0237
              2.0238
                        2.0337
                                   2.0426
                                             2.0570
                                                       2.4554
                                                                 2.4585
                                                                            2.4676
    2.6994
              2.8321
                        3.1536
                                   3.1537
                                             3.3583
                                                       3.3587
                                                                 3.3966
          k = 0.0000 - 0.0160 \ 0.0000 \ (64649 \ PWs)
                                                       bands (ev):
  -21.6534 -21.3577 -20.4971 -20.4932 -20.4783 -20.3658 -20.3613 -20.0243
  -19.8484 -19.8272 -19.8263 -19.7845 -19.7837 -19.7622 -18.5164 -18.5156
  -18.3491 -18.3463 -18.2021 -18.2009 -18.1976 -18.0633 -16.8685 -16.8656
  -16.8074 -16.8070 -16.7478 -16.7447 -15.6500 -15.6484 -15.6412 -14.9333
  -14.9313 -14.9260 -12.7795 -12.5725 -12.5723 -12.4658 -11.8532 -11.8451
  -11.7975 -11.7974 -11.7456 -11.7394 -11.2779 -11.2170 -11.2023 -10.8953
  -10.8945 -10.5784 -10.5748 -10.5225 -10.5210 -10.4723 -10.4686 -10.0663
                                                     -9.0925
            -9.5236
                      -9.4315
                                -9.3715 -9.2420
   -9.5364
                                                                -8.9165
                                                                          -8.9156
            -8.6954
                       -8.6913 -8.6002 -8.5954
                                                     -8.5484
                                                                -8.4826
   -8.7411
                                                                          -8.3271
                                           -7.7655
            -7.9897
   -8.3062
                       -7.9888 -7.7692
                                                     -7.7602
                                                                -7.5303
                                                                          -7.5064
                                                                -7.4379
            -7.4811
                      -7.4555
                                -7.4530
                                           -7.4526
                                                     -7.4460
   -7.5031
                                                                          -7.4283
            -7.3332
                      -6.8645
                                 -6.8636
                                           -6.8474
                                                     -6.7112
                                                                -6.3150
   -7.3386
                                                                          -6.2992
            -6.2616
   -6.2918
                       -6.2558
                                 -6.2539
                                           -6.2394
                                                     -6.2280
                                                                -6.2113
                                                                          -5.7116
   -4.6972
            -4.6966
                       -4.6294
                                 -4.6293
                                           -4.4833
                                                      -4.4773
                                                                -4.3285
                                                                          -4.2994
   -4.2162
             -4.2155
                       -4.1014
                                 -4.0960
                                            -4.0689
                                                      -4.0660
                                                                -4.0336
                                                                          -4.0325
   -3.9704
             -3.9648
                       -3.5959
                                 -3.5948
                                            -3.5928
                                                      -0.6178
                                                                 0.6764
                                                                           0.6777
    0.6798
              1.2863
                        1.7663
                                  1.8680
                                             1.8689
                                                       1.9285
                                                                 1.9530
                                                                            2.0120
    2.0236
              2.0245
                        2.0574
                                   2.0865
                                             2.1037
                                                       2.4550
                                                                 2.4579
                                                                            2.4680
    2.6999
                        3.1489
                                   3.1516
                                             3.3542
                                                       3.3599
              2.8287
                                                                 3.3636
          k = 0.0000 - 0.0321 \ 0.0000 \ (64699 \ PWs)
                                                       bands (ev):
  -21.6527 -21.3568 -20.5138 -20.4992 -20.4803 -20.3585 -20.3438 -20.0212
  -19.8902 -19.8477 -19.8469 -19.7622 -19.7615 -19.7188 -18.5252 -18.5224
  -18.3504 -18.3405 -18.2048 -18.2015 -18.1951 -18.0554 -16.9282 -16.9253
  -16.8066 -16.8061 -16.6868 -16.6837 -15.6754 -15.6545 -15.6473 -14.9257
```

```
-14.9238 -14.8992 -12.7808 -12.5712 -12.5705 -12.4603 -11.9072 -11.8993
-11.8079 -11.8071 -11.6960 -11.6893 -11.3059 -11.2233 -11.1813 -10.8945
-10.8908 -10.6284 -10.6246 -10.5125 -10.5105 -10.4163 -10.4128 -10.0667
           -9.5227
                      -9.4047
                                 -9.3708
                                           -9.2442
                                                       -9.0915
                                                                  -8.9109
 -9.5626
                                                                            -8.9077
 -8.8366
           -8.7433
                      -8.7392
                                -8.5524
                                            -8.5476
                                                       -8.5287
                                                                  -8.4532
                                                                             -8.3396
 -8.2741
           -7.9783
                      -7.9765
                                 -7.7719
                                            -7.7647
                                                       -7.7630
                                                                  -7.5799
                                                                             -7.5307
                                -7.4541
                      -7.4586
                                                       -7.4291
 -7.5274
           -7.5109
                                           -7.4371
                                                                 -7.4261
                                                                            -7.3768
                      -6.8675
                                 -6.8644
                                            -6.8416
                                                       -6.7071
                                                                  -6.3522
 -7.3241
           -7.3070
                                                                             -6.3207
 -6.3134
                      -6.2455
                                 -6.2378
                                            -6.2300
                                                       -6.2012
                                                                  -6.1910
           -6.2776
                                                                             -5.7126
 -4.6997
           -4.6974
                      -4.6488
                                 -4.6473
                                            -4.4865
                                                       -4.4668
                                                                  -4.3074
                                                                             -4.2949
 -4.2185
           -4.2153
                      -4.1662
                                 -4.1608
                                            -4.0720
                                                       -4.0687
                                                                  -4.0331
                                                                             -4.0319
                                 -3.5958
                                            -3.5937
 -3.9049
           -3.8993
                      -3.6019
                                                       -0.6173
                                                                  0.6783
                                                                             0.6799
  0.6873
                                                        1.8731
                                                                   1.8798
             1.2874
                        1.7675
                                  1.8571
                                             1.8694
                                                                              2.0100
  2.0215
             2.0267
                        2.0586
                                   2.1578
                                              2.1772
                                                        2.4535
                                                                   2.4563
                                                                              2,4693
  2.7014
             2.8188
                        3.1352
                                   3.1459
                                                        3.3631
                                                                   3.3781
                                              3.3105
        k = 0.0000 - 0.0481 \ 0.0000 \ (64743 \ PWs)
                                                        bands (ev):
-21.6515 -21.3553 -20.5364 -20.5078 -20.4827 -20.3476 -20.3210 -20.0159 -19.9314 -19.8676 -19.8668 -19.7394 -19.7386 -19.6746 -18.5386 -18.5336 -18.3524 -18.3323 -18.2087 -18.2024 -18.1913 -18.0429 -16.9874 -16.9846 -16.8051 -16.8047 -16.6254 -16.6222 -15.7142 -15.6643 -15.6573 -14.9132 -14.9115 -14.8582 -12.7829 -12.5690 -12.5674 -12.4513 -11.9629 -11.9551 -11.8248 -11.8232 -11.6471 -11.6404 -11.3373 -11.2335 -11.1623 -10.8935 -10.8840 -10.6762 -10.6724 -10.4960 -10.4935 -10.3584 -10.3550 -10.0671 -9.5927 -9.5216 -9.3738 -9.3697 -9.2472 -9.0898 -8.9324 -8.9019 -8.8051 -8.7011 -8.7870 -8.5837 -8.5048 -8.4008 -8.3585 -8.3580
                      -8.7870
                                -8.5837
           -8.7911
                                            -8.5048
 -8.8951
                                                       -8.4998
                                                                  -8.3585
                                                                             -8.3580
                                 -7.7766
            -7.9578
                      -7.9577
                                            -7.7677
                                                                  -7.6290
 -8.2437
                                                       -7.7630
                                                                             -7.5543
 -7.5510
                      -7.4749
                                -7.4560
                                                                  -7.3990
           -7.5457
                                            -7.4396
                                                       -7.4021
                                                                            -7.3246
           -7.2741
 -7.3047
                      -6.8723
                                 -6.8657
                                            -6.8320
                                                       -6.7005
                                                                  -6.3891
                                                                             -6.3440
                      -6.2334
 -6.3369
           -6.3003
                                 -6.2313
                                            -6.2235
                                                       -6.1710
                                                                  -6.1628
                                                                             -5.7142
                      -4.6776
                                 -4.6725
                                            -4.4891
                                                       -4.4540
 -4.7038
            -4.6988
                                                                  -4.2877
                                                                             -4.2787
                      -4.2219
                                 -4.2143
                                            -4.0778
 -4.2308
            -4.2254
                                                       -4.0726
                                                                  -4.0323
                                                                             -4.0311
                                 -3.5971
                                            -3.5949
 -3.8392
            -3.8336
                      -3.6124
                                                       -0.6164
                                                                   0.6814
                                                                              0.6830
  0.7003
             1.2894
                                   1.7843
                                             1.8061
                                                                   1.8801
                        1.7695
                                                        1.8718
                                                                              2.0066
  2.0180
             2.0304
                        2.0607
                                   2.2307
                                              2.2511
                                                        2.4506
                                                                   2.4543
                                                                              2.4714
  2.7037
             2.8031
                        3.1144
                                   3.1377
                                              3.2657
                                                        3.3668
                                                                   3.3751
        k = 0.0000 - 0.0642 \ 0.0000 \ (64775 \ PWs)
                                                        bands (ev):
-21.6498 -21.3532 -20.5617 -20.5182 -20.4855 -20.3340 -20.2956 -20.0085
-19.9721 -19.8869 -19.8862 -19.7159 -19.7152 -19.6299 -18.5554 -18.5487
-18.3544 -18.3231 -18.2139 -18.2035 -18.1861 -18.0269 -17.0462 -17.0434
-16.8032 -16.8027 -16.5636 -16.5603 -15.7630 -15.6774 -15.6706 -14.8964
-14.8948 -14.8063 -12.7855 -12.5658 -12.5630 -12.4391 -12.0201 -12.0124
-11.8474 -11.8454 -11.5993 -11.5927 -11.3701 -11.2471 -11.1480 -10.8926
-10.8732 -10.7219 -10.7180 -10.4735 -10.4705 -10.2987 -10.2954 -10.0675
 -9.6237
           -9.5206
                      -9.3683
                                -9.3419
                                           -9.2499
                                                      -9.0874
                                                                 -9.0279
                                                                             -8.8898
 -8.8785
           -8.8389
                      -8.8347
                                 -8.6414
                                            -8.4573
                                                       -8.4522
                                                                  -8.3822
                                                                             -8.2631
 -8.2214
           -7.9343
                      -7.9272
                                 -7.7830
                                            -7.7742
                                                       -7.7609
                                                                  -7.6775
                                                                             -7.5827
 -7.5773
           -7.5739
                      -7.4928
                                 -7.4587
                                            -7.4443
                                                       -7.3743
                                                                  -7.3713
                                                                             -7.2825
 -7.2718
           -7.2386
                      -6.8788
                                 -6.8674
                                            -6.8188
                                                       -6.6916
                                                                  -6.4256
                                                                             -6.3691
 -6.3622
           -6.3236
                      -6.2380
                                 -6.2188
                                            -6.2109
                                                       -6.1515
                                                                  -6.1242
                                                                             -5.7164
           -4.7096
                                 -4.7007
                                            -4.4907
                                                       -4.4419
                                                                  -4.2952
 -4.7130
                      -4.7021
                                                                             -4.2898
            -4.2492
                                 -4.2096
                                            -4.0861
                                                       -4.0777
                                                                  -4.0310
 -4.2791
                       -4.2251
                                                                             -4.0298
 -3.7733
            -3.7677
                       -3.6271
                                 -3.5989
                                            -3.5967
                                                       -0.6152
                                                                   0.6857
                                                                              0.6873
             1.2921
                                             1.7723
                                                        1.8751
                                                                   1.8898
  0.7185
                       1.7111
                                  1.7324
                                                                              2.0018
  2.0132
             2.0358
                                   2.3041
                                              2.3250
                                                        2.4460
                                                                   2.4520
                        2.0636
                                                                              2.4743
  2.7071
             2.7823
                        3.0882
                                   3.1282
                                              3.2203
                                                        3.3605
                                                                   3.3697
        k = 0.0000 - 0.0802 \ 0.0000 \ (64789 \ PWs)
                                                        bands (ev):
```

```
-21.6475 -21.3505 -20.5883 -20.5296 -20.4890 -20.3186 -20.2692 -20.0123
-19.9991 -19.9056 -19.9049 -19.6919 -19.6911 -19.5846 -18.5745 -18.5674
-18.3562 -18.3139 -18.2205 -18.2046 -18.1792 -18.0080 -17.1045 -17.1018
-16.8006 -16.8001 -16.5013 -16.4980 -15.8188 -15.6935 -15.6869 -14.8756 -14.8742 -14.7465 -12.7885 -12.5619 -12.5572 -12.4238 -12.0788 -12.0710
-11.8754 -11.8729 -11.5527 -11.5461 -11.4035 -11.2639 -11.1396 -10.8924
-10.8578 -10.7655 -10.7615 -10.4456 -10.4421 -10.2373 -10.2340 -10.0676
           -9.5202
                     -9.3672
                                -9.3103
                                           -9.2514
                                                      -9.1229
                                                                -9.0843
 -9.6548
                                                                           -8.8866
                                           -8.4099
                                                                 -8.4048
           -8.8757
                                -8.6989
                                                      -8.4089
                                                                           -8.2083
 -8.8822
                      -8.8588
                                                                           -7.6206
 -8.1684
           -7.9077
                      -7.8874
                                -7.7913
                                           -7.7824
                                                      -7.7582
                                                                 -7.7253
 -7.5996
           -7.5960
                      -7.5112
                                -7.4621
                                           -7.4506
                                                      -7.3459
                                                                 -7.3428
                                                                           -7.2586
                                                                            -6.3960
 -7.2185
           -7.2020
                      -6.8867
                                -6.8696
                                           -6.8022
                                                      -6.6806
                                                                 -6.4618
                                           -6.2001
                                                      -6.1326
 -6.3893
           -6.3474
                      -6.2439
                                -6.2081
                                                                 -6.0853
                                                                            -5.7192
 -4.7524
           -4.7346
                      -4.7170
                                 -4.7032
                                           -4.4913
                                                      -4.4317
                                                                 -4.3593
                                                                            -4.3539
 -4.2725
           -4.2319
                      -4.2250
                                 -4.1903
                                           -4.0970
                                                      -4.0840
                                                                 -4.0295
                                                                            -4.0283
 -3.7075
           -3.7017
                      -3.6456
                                 -3.6011
                                           -3.5989
                                                      -0.6136
                                                                  0.6912
                                                                             0.6928
  0.7416
             1.2956
                       1.6379
                                  1.6588
                                             1.7760
                                                       1.8794
                                                                  1.9017
                                                                             1.9957
  2.0070
             2.0429
                       2.0673
                                  2.3776
                                             2.3989
                                                        2.4400
                                                                  2.4493
                                                                             2.4780
  2.7113
             2.7576
                       3.0583
                                  3.1179
                                             3.1748
                                                        3.3447
                                                                  3.3693
        k = 0.0000 - 0.0962 \ 0.0000 \ (64793 \ PWs)
                                                        bands (ev):
-21.6448 -21.3471 -20.6155 -20.5415 -20.4930 -20.3018 -20.2423 -20.0519 -19.9876 -19.9238 -19.9231 -19.6673 -19.6665 -19.5387 -18.5953 -18.5890 -18.3577 -18.3054 -18.2283 -18.2058 -18.1707 -17.9871 -17.1623 -17.1597 -16.7975 -16.7970 -16.4386 -16.4353 -15.8794 -15.7121 -15.7057 -14.8512 -14.8501 -14.6809 -12.7916 -12.5570 -12.5501 -12.4059 -12.1388 -12.1311 -11.9080 -11.9051 -11.5071 -11.5006 -11.4372 -11.2832 -11.1374 -10.8933 -10.8377 -10.8070 -10.8030 -10.4129 -10.4089 -10.1743 -10.1711 -10.0673
           -9.5210
                      -9.3678
                                -9.2800
                                           -9.2506
                                                      -9.2157
                                                                 -9.0806
 -9.6855
                                                                           -8.9343
                                 -8.7514
 -8.9295
           -8.8627
                      -8.8368
                                           -8.4374
                                                      -8.3628
                                                                 -8.3575
                                                                            -8.2032
                                                      -7.7724
                                 -7.8014
                                           -7.7926
                                                                 -7.7548
 -8.0741
           -7.8789
                      -7.8403
                                                                            -7.6589
                      -7.5296
 -7.6211
           -7.6173
                                -7.4663
                                           -7.4581
                                                      -7.3169
                                                                 -7.3137
                                                                            -7.2334
                      -6.8959
                                                                 -6.4977
 -7.1651
           -7.1645
                                -6.8722
                                           -6.7822
                                                      -6.6678
                                                                            -6.4247
                      -6.2510
                                 -6.1991
 -6.4182
           -6.3718
                                            -6.1911
                                                                 -6.0461
                                                                            -5.7224
                                                      -6.1143
 -4.7945
            -4.7689
                      -4.7261
                                 -4.7062
                                            -4.4912
                                                      -4.4237
                                                                 -4.4231
                                                                            -4.4176
                                                                 -4.0276
 -4.2729
            -4.2282
                      -4.2171
                                 -4.1562
                                            -4.1103
                                                      -4.0917
                                                                            -4.0263
 -3.6689
            -3.6409
                      -3.6358
                                 -3.6036
                                            -3.6016
                                                      -0.6116
                                                                  0.6979
                                                                             0.6995
  0.7697
             1.2998
                       1.5648
                                  1.5854
                                             1.7804
                                                       1.8846
                                                                  1.9157
                                                                             1.9883
  1.9994
             2.0520
                       2.0718
                                  2.4327
                                             2.4463
                                                        2.4511
                                                                  2.4728
                                                                             2.4826
  2.7164
             2.7297
                       3.0257
                                  3.1070
                                             3.1294
                                                        3.3285
                                                                  3.3406
        k = 0.0000 - 0.1123 \ 0.0000 \ (64753 \ PWs)
                                                       bands (ev):
-21.6416 -21.3432 -20.6430 -20.5535 -20.4975 -20.2838 -20.2153 -20.0909
-19.9741 -19.9413 -19.9406 -19.6421 -19.6413 -19.4923 -18.6174 -18.6131
-18.3587 -18.2981 -18.2374 -18.2071 -18.1605 -17.9647 -17.2197 -17.2171
-16.7938 -16.7933 -16.3756 -16.3721 -15.9434 -15.7327 -15.7266 -14.8238
-14.8228 -14.6111 -12.7948 -12.5512 -12.5416 -12.3854 -12.2001 -12.1924
-11.9447 -11.9415 -11.4709 -11.4624 -11.4560 -11.3048 -11.1410 -10.8958
-10.8463 -10.8423 -10.8133 -10.3759 -10.3716 -10.1098 -10.1066 -10.0665
                                                                            -8.9820
 -9.7158
           -9.5234
                      -9.3789
                                 -9.2976
                                           -9.2526
                                                      -9.2469
                                                                 -9.0762
 -8.9764
            -8.8638
                      -8.8136
                                 -8.7845
                                            -8.4663
                                                      -8.3158
                                                                 -8.3105
                                                                            -8.2041
                      -7.8192
                                 -7.8131
 -7.9802
            -7.8487
                                            -7.8044
                                                      -7.7884
                                                                 -7.7508
                                                                            -7.6973
                      -7.5478
                                 -7.4712
                                            -7.4665
                                                      -7.2871
                                                                 -7.2838
 -7.6420
            -7.6378
                                                                            -7.2072
 -7.1281
            -7.1101
                      -6.9063
                                 -6.8752
                                            -6.7591
                                                       -6.6534
                                                                 -6.5331
                                                                            -6.4552
 -6.4489
            -6.3968
                      -6.2593
                                 -6.1918
                                                       -6.0966
                                                                 -6.0068
                                            -6.1838
                                                                            -5.7261
 -4.8384
            -4.8047
                      -4.7369
                                 -4.7097
                                            -4.4904
                                                       -4.4865
                                                                 -4.4810
                                                                            -4.4179
 -4.2806
            -4.2283
                      -4.2016
                                 -4.1261
                                            -4.1180
                                                       -4.1007
                                                                 -4.0253
                                                                            -4.0240
 -3.6948
            -3.6073
                      -3.6051
                                 -3.5748
                                            -3.5693
                                                      -0.6091
                                                                  0.7059
                                                                            0.7074
                                                       1.8907
  0.8025
            1.3049
                      1.4918
                                 1.5122
                                            1.7857
                                                                  1.9312
                                                                             1.9795
                                                                  2.5246
  1.9905
             2.0634
                       2.0772
                                  2.4241
                                             2.4427
                                                       2.4879
                                                                             2.5466
```

```
2.6996
             2.7223
                        2.9915
                                   3.0844
                                               3.0955
                                                          3.3120
                                                                     3.3125
        k = 0.0000 - 0.1283 \ 0.0000 \ (64777 \ PWs)
                                                          bands (ev):
-21.6380 -21.3387 -20.6706 -20.5656 -20.5024 -20.2650 -20.1886 -20.1293
-19.9586 -19.9583 -19.9576 -19.6164 -19.6155 -19.4452 -18.6404 -18.6392
-18.3594 \ -18.2924 \ -18.2475 \ -18.2084 \ -18.1488 \ -17.9413 \ -17.2765 \ -17.2740
-16.7896 -16.7890 -16.3122 -16.3086 -16.0098 -15.7551 -15.7492 -14.7937
-14.7929 -14.5381 -12.7977 -12.5446 -12.5319 -12.3626 -12.2627 -12.2550 -11.9849 -11.9814 -11.5045 -11.4187 -11.4123 -11.3282 -11.1499 -10.9000 -10.8837 -10.8797 -10.7853 -10.3354 -10.3307 -10.0648 -10.0439 -10.0407
                                            -9.2396 -9.2306 -9.0711
                                  -9.3337
 -9.7454
            -9.5278
                      -9.4357
                                                                              -9.0296
                                                                              -8.2095
 -9.0227
            -8.8935
                       -8.7904
                                  -8.7811 -8.4945
                                                        -8.2692
                                                                   -8.2638
                      -7.8269
-7.5656
           -7.8646
                                                        -7.7462
                                                                   -7.7363
                                                                              -7.7330
 -7.8871
                                  -7.8181 -7.8177
                                                                              -7.1802
 -7,6622
           -7.6571
                                 -7.4769
                                             -7.4757
                                                        -7.2568
                                                                   -7.2533
 -7.0914
            -7.0552
                      -6.9177
                                  -6.8785
                                             -6.7331
                                                        -6.6376
                                                                   -6.5682
                                                                              -6.4874
                                                                   -5.9672
                       -6.2688
                                  -6.1862
                                             -6.1781
                                                        -6.0796
                                                                               -5.7301
 -6.4814
            -6.4225
                                  -4.7137
 -4.8836
            -4.8416
                       -4.7492
                                             -4.5496
                                                        -4.5440
                                                                   -4.4893
                                                                               -4.4140
 -4.2927
            -4.2296
                       -4.1820
                                  -4.1443
                                             -4.1111
                                                        -4.0785
                                                                   -4.0226
                                                                               -4.0214
                       -3.6086
                                  -3.5090
                                             -3.5033
 -3.7246
            -3.6108
                                                        -0.6062
                                                                     0.7150
                                                                                0.7165
  0.8398
             1.3106
                        1.4191
                                   1.4392
                                              1.7918
                                                          1.8977
                                                                     1.9477
                                                                                1.9695
                                   2.4143
                                                                     2.5980
  1.9803
             2.0774
                        2.0835
                                               2.4388
                                                          2.4940
                                                                                2.6203
                        2.9561
  2.6679
                                               3.0834
                                                          3.2849
                                                                     3.2962
             2.7291
                                   3.0400
        k = 0.0000 - 0.1443 \ 0.0000 \ (64743 \ PWs)
                                                          bands (ev):
-21.6338 -21.3336 -20.6982 -20.5775 -20.5076 -20.2455 -20.1672 -20.1623 -19.9746 -19.9740 -19.9412 -19.5900 -19.5892 -19.3977 -18.6669 -18.6641 -18.3596 -18.2887 -18.2581 -18.2099 -18.1360 -17.9172 -17.3329 -17.3304 -16.7848 -16.7842 -16.2483 -16.2447 -16.0776 -15.7788 -15.7731 -14.7613 -14.7606 -14.4627 -12.8003 -12.5372 -12.5208 -12.3377 -12.3264 -12.3188 -12.0280 -12.0243 -11.5377 -11.3758 -11.3695 -11.3530 -11.1629 -10.9191 -10.9150 -10.9063 -10.7545 -10.2918 -10.2867 -10.0621 -9.9768 -9.9736 -9.7743 -9.5341 -9.5242 -9.3380 -9.2287 -9.2184 -9.0772 -9.0682
            -9.5341
                      -9.5242
                                 -9.3380
                                             -9.2287
                                                        -9.2184
                                                                   -9.0772
 -9.7743
                                                                               -9.0682
            -8.9289
                       -8.7691
                                  -8.7598
                                             -8.5198
                                                        -8.2229
 -9.0653
                                                                   -8.2179
                                                                               -8.2174
                                                        -7.7740
 -7.9094
            -7.8425
                       -7.8337
                                  -7.7958
                                             -7.7862
                                                                   -7.7410
                                                                               -7.6816
                                  -7.4854
 -7.6771
           -7.6742
                       -7.5829
                                             -7.4832
                                                        -7.2257
                                                                   -7.2222
                                                                               -7.1524
 -7.0551
            -6.9998
                       -6.9301
                                  -6.8822
                                             -6.7045
                                                        -6.6205
                                                                   -6.6028
                                                                               -6.5212
 -6.5157
            -6.4487
                       -6.2792
                                  -6.1823
                                             -6.1741
                                                        -6.0635
                                                                    -5.9275
                                                                               -5.7343
            -4.8793
                                  -4.7182
                                             -4.6123
 -4.9296
                       -4.7631
                                                        -4.6066
                                                                   -4.4877
                                                                               -4.4119
            -4.2314
                       -4.1648
                                             -4.1228
                                                                    -4.0197
 -4.3072
                                  -4.1605
                                                        -4.0389
                                                                               -4.0185
 -3.7579
            -3.6148
                       -3.6127
                                  -3.4430
                                             -3.4373
                                                        -0.6029
                                                                     0.7252
                                                                                0.7267
  0.8815
             1.3172
                        1.3467
                                   1.3665
                                              1.7987
                                                          1.9055
                                                                     1.9582
                                                                                1.9645
                        2.0952
                                               2.4344
                                                          2.5009
  1.9688
             2.0898
                                   2.4033
                                                                     2.6352
                                                                                2.6714
                                   2.9964
                                               3.0707
                                                          3.2586
  2.6939
             2.7367
                        2.9203
                                                                     3.2805
        k = 0.0000 - 0.1604 \ 0.0000 \ (64775 \ PWs)
                                                          bands (ev):
-21.6291 -21.3278 -20.7256 -20.5892 -20.5131 -20.2252 -20.2045 -20.1365
-19.9904 -19.9897 -19.9220 -19.5631 -19.5622 -19.3495 -18.6959 -18.6884
-18.3595 -18.2890 -18.2669 -18.2114 -18.1222 -17.8928 -17.3889 -17.3864
-16.7794 -16.7787 -16.1843 -16.1805 -16.1465 -15.8035 -15.7981 -14.7269
-14.7262 -14.3853 -12.8024 -12.5289 -12.5085 -12.3912 -12.3837 -12.3109
-12.0735 -12.0697 -11.5706 -11.3791 -11.3335 -11.3274 -11.1795 -10.9525
-10.9485 -10.9148 -10.7217 -10.2456 -10.2403 -10.0585
                                                                   -9.9085
                                                                              -9.9052
 -9.8025
            -9.6184
                       -9.5422
                                  -9.3371
                                             -9.2223
                                                        -9.2142
                                                                   -9.1247
                                                                               -9.1125
 -9.0589
            -8.9520
                       -8.7528
                                  -8.7326
                                             -8.5393
                                                        -8.2286
                                                                   -8.1773
                                                                               -8.1716
 -7.9531
            -7.8597
                       -7.8509
                                  -7.8120
                                             -7.7547
                                                        -7.7352
                                                                   -7.7221
                                                                               -7.7004
            -7.6200
                       -7.5997
                                  -7.4955
                                             -7.4902
                                                        -7.1941
                                                                   -7.1904
                                                                               -7.1239
 -7.6735
 -7.0192
           -6.9441
                      -6.9435
                                 -6.8861
                                             -6.6733
                                                        -6.6369
                                                                   -6.6024
                                                                              -6.5566
                      -6.2905
                                                                   -5.8877
 -6.5516 -6.4756
                                 -6.1800
                                             -6.1718
                                                        -6.0483
                                                                               -5.7387
 -4.9762 -4.9176 -4.7786 -4.7231 -4.6747
                                                        -4.6688
                                                                   -4.4859
                                                                              -4.4119
```

```
-4.2337
                      -4.1877
                                                       -4.0163
                                                                  -4.0151
                                                                             -3.9993
 -4.3231
                                 -4.1381
                                            -4.1357
           -3.6193
                                                       -0.5991
 -3.7943
                      -3.6173
                                 -3.3772
                                            -3.3714
                                                                   0.7366
                                                                             0.7380
  0.9273
            1.2746
                       1.2942
                                  1.3245
                                             1.8064
                                                        1.9142
                                                                   1.9456
                                                                              1.9561
                                                                   2.6019
             2.0978
                                  2.3912
                                             2.4297
                                                        2.5087
  1.9812
                       2.1153
                                                                              2.7446
  2.7451
             2.7674
                       2.8845
                                  2.9538
                                             3.0572
                                                        3.2331
                                                                   3.2653
        k = 0.0000 - 0.1764 \ 0.0000 \ (64791 \ PWs)
                                                        bands (ev):
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-20.0056 -20.0049 -19.9009 -19.5356 -19.5347 -19.3008 -18.7259 -18.7130
-18.3591 \ -18.2968 \ -18.2705 \ -18.2130 \ -18.1078 \ -17.8683 \ -17.4443 \ -17.4418
-16.7735 -16.7728 -16.2164 -16.1196 -16.1159 -15.8290 -15.8239 -14.6907
-14.6900 -14.3063 -12.8040 -12.5198 -12.4950 -12.4571 -12.4496 -12.2823
-12.1212 \ -12.1172 \ -11.6029 \ -11.4061 \ -11.2920 \ -11.2859 \ -11.1989 \ -10.9841
-10.9801 -10.9257 -10.6873 -10.1973 -10.1917 -10.0538
                                                                 -9.8391
                                                                            -9.8358
                                                                 -9.1720
 -9.8299
           -9.7141 -9.5518 -9.3359
                                           -9.2458
                                                      -9.1966
                                                                            -9.1546
                                -8.7025
                      -8.7458
 -9.0518
           -8.9566
                                           -8.5486
                                                      -8.2408
                                                                 -8.1330
                                                                            -8.1264
                                                      -7.7235
                     -7.8699
                                           -7.7289
                                                                 -7.7211
                                                                            -7.7184
           -7.8786
 -7.9949
                                -7.8498
                      -7.5629
                                                      -7.1619
 -7.6160
           -7.5997
                                -7.5058
                                           -7.4976
                                                                 -7.1578
                                                                            -7.0947
           -6.9577
                      -6.8902
                                                      -6.6399
                                                                 -6.5934
                                                                            -6.5892
 -6.9837
                                -6.8884
                                           -6.6706
                      -6.3026
 -6.5835
           -6.5031
                                 -6.1792
                                           -6.1710
                                                      -6.0341
                                                                 -5.8477
                                                                             -5.7429
                      -4.7956
 -5.0232
           -4.9565
                                 -4.7366
                                            -4.7306
                                                       -4.7285
                                                                  -4.4837
                                                                            -4.4146
                                                       -4.0127
 -4.3391
           -4.2363
                      -4.2130
                                 -4.1500
                                            -4.1155
                                                                  -4.0115
                                                                            -3.9602
                      -3.6223
                                            -3.3057
                                 -3.3115
                                                       -0.5948
                                                                  0.7491
 -3.8336
           -3.6243
                                                                             0.7504
                       1.2223
                                  1.3326
                                                        1.9237
             1.2028
                                                                   1.9319
  0.9772
                                             1.8149
                                                                              1.9421
                                  2.3780
  1.9973
             2.1064
                       2.1390
                                             2.4247
                                                        2.5172
                                                                   2.5684
                                                                              2.7541
  2.8177
             2.8408
                       2.8491
                                  2.9124
                                             3.0429
                                                        3.2083
                                                                   3.2506
        k = 0.0000 - 0.1925 \ 0.0000 \ (64799 \ PWs)
                                                        bands (ev):

      -21.6184
      -21.3146
      -20.7798
      -20.6117
      -20.5247
      -20.2773
      -20.1830
      -20.0867

      -20.0202
      -20.0195
      -19.8782
      -19.5075
      -19.5066
      -19.2515
      -18.7567
      -18.7380

      -18.3585
      -18.3103
      -18.2702
      -18.2146
      -18.0931
      -17.8438
      -17.4992
      -17.4968

      -16.7670
      -16.7662
      -16.2865
      -16.0548
      -16.0511
      -15.8551
      -15.8502
      -14.6530

      -14.6521
      -14.2260
      -12.8050
      -12.5238
      -12.5164
      -12.5099
      -12.4804
      -12.2520

-12.1706 -12.1665 -11.6347 -11.4338 -11.2510 -11.2449 -11.2206 -11.0138
-11.0099 -10.9388 -10.6517 -10.1471 -10.1412 -10.0482
                                                                 -9.8567
                                                                            -9.8104
                                -9.3374 -9.2855
 -9.7688
           -9.7655
                      -9.5625
                                                      -9.2193
                                                                 -9.1927
                                                                            -9.1763
                                           -8.5446
 -9.0441
           -8.9451
                      -8.7513
                                -8.6706
                                                      -8.2539
                                                                 -8.0956
                                                                            -8.0819
           -7.8993
 -8.0291
                      -7.8906
                                -7.8872
                                           -7.7365
                                                      -7.7357
                                                                 -7.7215
                                                                            -7.6928
                                           -7.5054
 -7.6317
           -7.5162
                      -7.5098
                                -7.5066
                                                      -7.1291
                                                                 -7.1247
                                                                            -7.0648
                      -6.8945
                                -6.8333
 -6.9726
           -6.9486
                                           -6.7038
                                                      -6.6315
                                                                 -6.6276
                                                                            -6.6045
           -6.5313
                      -6.3151
                                -6.1799
                                           -6.1717
 -6.5640
                                                       -6.0211
                                                                 -5.8076
                                                                            -5.7469
           -4.9959
                      -4.8142
                                 -4.7981
                                           -4.7919
                                                      -4.7343
 -5.0706
                                                                 -4.4813
                                                                            -4.4215
           -4.2405
                      -4.2392
                                -4.1655
                                           -4.0929
                                                      -4.0087
                                                                 -4.0075
 -4.3533
                                                                            -3.9217
           -3.6296
 -3.8758
                      -3.6277
                                 -3.2461
                                           -3.2402
                                                      -0.5900
                                                                   0.7628
                                                                             0.7640
                                             1.8242
                       1.1509
                                  1.3414
                                                        1.9170
                                                                   1.9270
  1.0307
            1.1316
                                                                              1.9339
             2.1157
                       2.1658
                                  2.3637
                                             2.4194
                                                        2.5265
                                                                   2.5351
  2.0126
                                                                              2.7636
                                             3.0278
  2.8149
             2.8723
                       2.8908
                                  2.9140
                                                        3.1837
                                                                   3.2365
        k = 0.0000 - 0.2085 \ 0.0000 \ (64757 \ PWs)
                                                        bands (ev):
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-20.0342 -20.0335 -19.8539 -19.4788 -19.4779 -19.2017 -18.7882 -18.7631
-18.3576 -18.3264 -18.2689 -18.2164 -18.0782 -17.8195 -17.5536 -17.5513
-16.7599 -16.7591 -16.3569 -15.9897 -15.9858 -15.8817 -15.8769 -14.6139
-14.6129 -14.1445 -12.8053 -12.5913 -12.5840 -12.4992 -12.4646 -12.2215
-12.2202 -12.2173 -11.6657 -11.4620 -11.2442 -11.2104 -11.2044 -11.0419
-11.0379 -10.9542 -10.6153 -10.0954 -10.0893 -10.0418
                                                                 -9.9069
                                                                            -9.8827
 -9.6977
          -9.6943 -9.5740
                                -9.3457
                                           -9.3349 -9.2664
                                                                 -9.2228
                                                                            -9.1536
                                           -8.5283
          -8.9235 -8.7684 -8.6377
                                                                 -8.0989
 -9.0356
                                                      -8.2673
                                                                            -8.0378
 -8.0226 -7.9242 -7.9216 -7.9129 -7.7528 -7.7519
                                                                 -7.7139
                                                                            -7.6631
```

```
-7.6468
                                           -7.4187
                                                      -7.0959
                                                                -7.0908
                                                                           -7.0343
           -7.5266
                      -7.5133
                                -7.4511
 -6.9881
           -6.9138
                     -6.8989
                                -6.7819
                                           -6.7363
                                                     -6.6715
                                                                -6.6633
                                                                           -6.5672
           -6.5443
                                                                           -5.7504
 -6.5602
                     -6.3275
                                -6.1822
                                           -6.1740
                                                     -6.0094
                                                                -5.7675
                                           -4.8343
           -5.0355
                      -4.8592
                                -4.8526
                                                      -4.7404
 -5.1181
                                                                -4.4787
                                                                           -4.4343
                      -4.2424
                                -4.1823
                                           -4.0707
                                                      -4.0044
                                                                -4.0032
                                                                           -3.9206
 -4.3638
           -4.2703
 -3.8838
           -3.6354
                      -3.6335
                                -3.1809
                                           -3.1751
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                                                                 0.7775
                                                                           0.7786
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            1.0800
                       1.0879
                                 1.3509
                                            1.8343
                                                       1.9009
                                                                 1.9107
                                                                            1.9448
  2.0272
            2.1257
                       2.1953
                                  2.3485
                                            2.4139
                                                       2.5021
                                                                 2.5365
                                                                            2.7718
  2.7833
            2.8346
                       2.9636
                                  2.9871
                                            3.0120
                                                       3.1584
                                                                 3.2168
        k = 0.0000 - 0.2245 \ 0.0000 \ (64791 \ PWs)
                                                       bands (ev):
-21.6057 -21.2989 -20.8330 -20.6327 -20.5365 -20.3478 -20.1386 -20.0476
-20.0469 -20.0394 -19.8282 -19.4496 -19.4487 -19.1513 -18.8202 -18.7885
-20.0469 -20.0594 -19.0262 -19.4496 -19.4467 -19.1515 -18.0202 -18.7605
-18.3565 -18.3442 -18.2675 -18.2182 -18.0633 -17.7956 -17.6075 -17.6053
-16.7523 -16.7514 -16.4274 -15.9245 -15.9205 -15.9082 -15.9038 -14.5735
-14.5724 -14.0620 -12.8049 -12.6595 -12.6523 -12.4877 -12.4479 -12.2736
-12.2694 -12.1870 -11.6960 -11.4904 -11.2694 -11.1703 -11.1644 -11.0682
-11.0643 -10.9716 -10.5783 -10.0424 -10.0362 -10.0350 -10.0036 -9.9081
-9.6258 -9.6223 -9.5861 -9.3893 -9.3653 -9.3134 -9.2405 -9.1293
                     -9.5861
-8.7932
                                                     -9.3134
-8.2804
                                          -8.5034
-7.7687
                                                                           -7.9938
 -9.0265
           -8.8965
                                -8.6042
                                                                -8.1343
                                                     -7.7675
 -7.9843
                                -7.9369
                                                                -7.7057
           -7.9607
                      -7.9456
                                                                           -7.6615
                     -7.5202
           -7.5370
                                -7.3974
                                          -7.3277
 -7.6352
                                                     -7.0622
                                                                -7.0563
                                                                          -7.0039
                                          -6.7537
                                                     -6.7140
           -6.9033
                                -6.7681
 -7.0033
                     -6.8794
                                                                -6.6762
                                                                           -6.5897
           -6.5253
                                                     -5.9993
 -6.5283
                     -6.3391
                                -6.1858
                                           -6.1776
                                                                -5.7533
                                                                           -5.7274
                      -4.9199
 -5.1658
           -5.0754
                                -4.9129
                                           -4.8558
                                                      -4.7469
                                                                -4.4759
                                                                           -4.4532
                      -4.2458
                                -4.2003
 -4.3702
           -4.3023
                                           -4.0490
                                                      -3.9997
                                                                -3.9986
                                                                           -3.9677
 -3.8468
           -3.6415
                      -3.6396
                                -3.1162
                                           -3.1103
                                                      -0.5789
                                                                 0.7932
                                                                            0.7942
  0.9908
            1.0097
                                  1.3612
                                            1.8452
                                                       1.8838
                                                                 1.8933
                       1.1484
                                                                            1.9564
                       2.2267
                                  2.3324
                                                                 2.5474
  2.0409
            2.1363
                                            2.4082
                                                       2.4697
                                                                            2.7507
  2.7773
            2.8051
                       2.9953
                                  3.0362
                                            3.0600
                                                       3.1302
                                                                 3.1786
        k = 0.0000 - 0.2406 \ 0.0000 \ (64785 \ PWs)
                                                       bands (ev):
-21.5986 -21.2901 -20.8591 -20.6427 -20.5423 -20.3821 -20.1156 -20.0604
-20.0598 -20.0166 -19.8012 -19.4198 -19.4188 -19.1004 -18.8526 -18.8139
-18.3632 -18.3553 -18.2663 -18.2202 -18.0486 -17.7721 -17.6610 -17.6587
-16.7441 -16.7432 -16.4979 -15.9356 -15.9311 -15.8584 -15.8545 -14.5320
-14.5307 -13.9787 -12.8038 -12.7284 -12.7213 -12.4754 -12.4301 -12.3267
-12.3224 -12.1525 -11.7254 -11.5189 -11.2958 -11.1308 -11.1248 -11.0927
                                                                -9.9820
-11.0889 -10.9908 -10.5408 -10.1003 -10.0286
                                                     -9.9884
                                                                          -9.9324
                                                                -9.2459
 -9.5984
           -9.5533
                     -9.5497
                                -9.4454
                                          -9.3962
                                                     -9.3603
                                                                           -9.1037
                     -8.8221
                                -8.5711
                                          -8.4732
 -9.0168
           -8.8668
                                                     -8.2922
                                                                -8.1737
                                                                           -7.9969
                     -7.9498
                                -7.9418
                                          -7.7839
                                                     -7.7826
                                                                -7.6968
 -7.9715
           -7.9628
                                                                           -7.6754
                     -7.5244
                                -7.3460
                                          -7.2370
                                                     -7.0285
 -7.6113
           -7.5472
                                                                -7.0212
                                                                           -7.0195
 -6.9716
           -6.9078
                     -6.8451
                                -6.7990
                                          -6.7767
                                                     -6.7583
                                                                -6.6386
                                                                           -6.6199
 -6.5083
                                                                -5.7552
           -6.4881
                     -6.3485
                                -6.1907
                                           -6.1826
                                                     -5.9908
                                                                           -5.6873
 -5.2136
           -5.1155
                     -4.9801
                                -4.9726
                                           -4.8788
                                                      -4.7536
                                                                -4.4770
                                                                           -4.4728
 -4.3737
           -4.3365
                     -4.2494
                                -4.2195
                                           -4.0280
                                                      -4.0171
                                                                -3.9948
                                                                           -3.9936
 -3.8107
           -3.6480
                      -3.6462
                                -3.0519
                                           -3.0460
                                                      -0.5727
                                                                 0.8099
                                                                            0.8108
  0.9214
            0.9402
                       1.2120
                                 1.3722
                                            1.8569
                                                       1.8656
                                                                 1.8749
                                                                            1.9684
  2.0538
            2.1476
                       2.2589
                                  2.3155
                                            2.4024
                                                       2.4382
                                                                 2.5589
                                                                            2.7237
  2.7530
            2.8052
                       2.9778
                                  3.0961
                                            3.1090
                                                       3.1328
                                                                 3.1474
        k = 0.0000 - 0.2566 \ 0.0000 \ (64785 \ PWs)
                                                       bands (ev):
-21.5911 -21.2808 -20.8849 -20.6522 -20.5481 -20.4159 -20.0922 -20.0726
-20.0720 -19.9943 -19.7732 -19.3894 -19.3884 -19.0489 -18.8854 -18.8393
-18.3834 -18.3539 -18.2652 -18.2222 -18.0342 -17.7491 -17.7139 -17.7117
-16.7354 -16.7344 -16.5684 -15.9626 -15.9583 -15.7925 -15.7885 -14.4894
-14.4880 -13.8945 -12.8019 -12.7978 -12.7908 -12.4625 -12.4114 -12.3806
-12.3763 -12.1169 -11.7540 -11.5473 -11.3232 -11.1167 -11.1128 -11.0905
```

```
-11.0847 -11.0118 -10.5030 -10.1970 -10.0241
                                                       -9.9547
                                                                 -9.9335
                                                                            -9.9270
                                -9.4765
                                           -9.4341
                                                      -9.4069
 -9.6107
           -9.5014
                      -9.4802
                                                                 -9.2433
                                                                            -9.0779
 -9.0064
           -8.8529
                      -8.8361
                                 -8.5390
                                           -8.4400
                                                      -8.3018
                                                                 -8.2135
                                                                            -8.0325
                                            -7.7985
                                                       -7.7970
           -7.9899
                                 -7.8993
 -7.9986
                      -7.9068
                                                                 -7.6887
                                                                            -7.6873
 -7.5955
           -7.5572
                      -7.5216
                                 -7.2980
                                            -7.1468
                                                                 -6.9954
                                                                            -6.9854
                                                       -7.0340
 -6.9393
           -6.9123
                      -6.8281
                                 -6.8177
                                            -6.8111
                                                       -6.8043
                                                                 -6.6509
                                                                            -6.5842
 -6.4953
                                            -6.1888
           -6.4466
                      -6.3536
                                 -6.1969
                                                       -5.9843
                                                                 -5.7561
                                                                            -5.6474
                                            -4.9032
 -5.2614
           -5.1556
                      -5.0399
                                 -5.0316
                                                       -4.7606
                                                                 -4.5042
                                                                            -4.4695
                                 -4.2398
 -4.3755
           -4.3729
                      -4.2533
                                            -4.0684
                                                       -4.0077
                                                                 -3.9895
                                                                            -3.9884
 -3.7756
           -3.6549
                      -3.6531
                                 -2.9882
                                            -2.9822
                                                       -0.5660
                                                                  0.8276
                                                                             0.8284
  0.8529
            0.8715
                       1.2787
                                  1.3839
                                             1.8464
                                                        1.8554
                                                                   1.8694
                                                                             1.9808
  2.0660
             2.1593
                       2.2904
                                  2.2980
                                             2.3965
                                                        2.4077
                                                                   2.5712
                                                                              2.7008
                       2.9595
                                             3.1226
                                                        3.1809
  2.7202
             2.8166
                                  3.0576
                                                                   3.1865
        k = 0.0000 - 0.2726 \ 0.0000 \ (64781 \ PWs)
                                                        bands (ev):
-21.5831 -21.2708 -20.9103 -20.6613 -20.5538 -20.4491 -20.0842 -20.0836 -20.0684 -19.9723 -19.7444 -19.3584 -19.3574 -18.9969 -18.9183 -18.8646 -18.4046 -18.3524 -18.2642 -18.2243 -18.0201 -17.7663 -17.7641 -17.7268 -16.7261 -16.7250 -16.6387 -15.9896 -15.9855 -15.7264 -15.7223 -14.4459 -14.4444 -13.8097 -12.8676 -12.8607 -12.7994 -12.4488 -12.4352 -12.4309 -12.3918 -12.0804 -11.7815 -11.5752 -11.3515 -11.1381 -11.1344 -11.0515 -11.0457 -11.0342 -10.4649 -10.2937 -10.0258 -9.9718 -9.8780 -9.8713 -9.6729 -9.5557 -9.4754 -9.4533 -9.4066 -9.4028 -9.2364 -9.0532
           -9.5557
                      -9.4754
                                -9.4533
                                           -9.4066
                                                       -9.4028
                                                                 -9.2364
 -9.6229
                                                                            -9.0532
                      -8.8056
 -8.9953
           -8.8829
                                 -8.5092
                                           -8.4049
                                                       -8.3076
                                                                 -8.2531
                                                                            -8.0677
                                            -7.8124
 -8.0274
           -8.0187
                      -7.8643
                                 -7.8571
                                                       -7.8107
                                                                 -7.7014
                                                                            -7.6772
                      -7.5083
 -7.5913
           -7.5669
                                 -7.2553
                                            -7.0572
                                                       -7.0457
                                                                 -6.9649
                                                                            -6.9490
                                                       -6.7772
 -6.9168
           -6.9064
                      -6.8632
                                 -6.8536
                                            -6.8517
                                                                 -6.6825
                                                                            -6.5262
                                 -6.2043
 -6.4891
                      -6.3515
                                                       -5.9797
           -6.4041
                                            -6.1962
                                                                  -5.7556
                                                                            -5.6077
            -5.1958
                      -5.0991
                                 -5.0897
                                            -4.9290
                                                       -4.7679
 -5.3092
                                                                 -4.5339
                                                                            -4.4661
 -4.4114
            -4.3764
                      -4.2613
                                 -4.2573
                                            -4.1216
                                                       -3.9883
                                                                  -3.9839
                                                                            -3.9829
 -3.7417
            -3.6621
                      -3.6603
                                 -2.9252
                                            -2.9192
                                                       -0.5589
                                                                  0.7851
                                                                             0.8037
  0.8463
             0.8471
                       1.3481
                                  1.3964
                                             1.8263
                                                        1.8350
                                                                   1.8826
                                                                              1.9936
  2.0774
             2.1709
                        2.2803
                                  2.3196
                                             2.3785
                                                        2.3907
                                                                   2.5843
                                                                              2.6827
  2.6892
             2.8300
                        2.9405
                                  3.0165
                                                                   3.2533
                                             3.1018
                                                        3.1752
        k = 0.0000 - 0.2887 \ 0.0000 \ (64717 \ PWs)
                                                        bands (ev):
-21.5747 -21.2603 -20.9354 -20.6699 -20.5594 -20.4817 -20.0953 -20.0946
-20.0441 -19.9507 -19.7148 -19.3268 -19.3258 -18.9515 -18.9443 -18.8899
-18.4266 -18.3508 -18.2634 -18.2264 -18.0064 -17.8182 -17.8161 -17.7052
-16.7162 -16.7151 -16.7087 -16.0166 -16.0126 -15.6601 -15.6559 -14.4015
-14.3998 -13.7241 -12.9377 -12.9310 -12.7962 -12.4904 -12.4860 -12.4345
-12.3715 -12.0434 -11.8080 -11.6024 -11.3804 -11.1584 -11.1547 -11.0576
-11.0124 -11.0066 -10.4267 -10.3903 -10.0395
                                                      -9.9789
                                                                 -9.8219
                                                                            -9.8151
 -9.6349
           -9.6068
                      -9.5183
                                -9.4996
                                           -9.3327
                                                      -9.3288
                                                                 -9.2267
                                                                            -9.0334
           -8.9084
 -8.9836
                      -8.7764
                                -8.4833
                                           -8.3687
                                                      -8.3075
                                                                 -8.2921
                                                                            -8.1024
 -8.0577
           -8.0490
                      -7.8257
                                -7.8242
                                           -7.8220
                                                      -7.8155
                                                                 -7.7134
                                                                            -7,6666
                                                       -6.9681
 -7.5958
           -7.5763
                      -7.4873
                                -7.2215
                                           -7.0512
                                                                 -6.9452
                                                                            -6.9212
 -6.9127
           -6.9105
                      -6.9009
                                 -6.8730
                                           -6.8669
                                                       -6.7434
                                                                 -6.7147
                                                                            -6.4911
 -6.4668
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                      -6.3407
                                 -6.2127
                                            -6.2048
                                                       -5.9771
                                                                 -5.7538
                                                                            -5.5686
 -5.3569
            -5.2359
                      -5.1579
                                 -5.1469
                                            -4.9561
                                                       -4.7752
                                                                  -4.5655
                                                                             -4.4624
 -4.4521
            -4.3767
                       -4.2839
                                 -4.2615
                                            -4.1764
                                                       -3.9780
                                                                  -3.9770
                                                                            -3.9697
                                                       -0.5515
 -3.7089
            -3.6695
                       -3.6678
                                 -2.8630
                                            -2.8570
                                                                   0.7185
                                                                             0.7369
                                                                   1.8965
  0.8658
             0.8666
                       1.4095
                                  1.4202
                                             1.8052
                                                        1.8136
                                                                              2.0064
  2.0878
             2.1817
                        2.2635
                                  2.3443
                                             2.3510
                                                        2.3848
                                                                   2.5985
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  2.6769
             2.8446
                        2.9209
                                  2.9749
                                             3.0834
                                                        3.1648
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        k = 0.0000 - 0.3047 \ 0.0000 \ (64781 \ PWs)
                                                        bands (ev):
-21.5657 -21.2491 -20.9600 -20.6782 -20.5647 -20.5137 -20.1057 -20.1051
-20.0194 -19.9294 -19.6846 -19.2947 -19.2937 -18.9847 -18.9149 -18.8911
```

```
-18.4496 -18.3490 -18.2627 -18.2287 -17.9933 -17.8695 -17.8675 -17.6843
-16.7786 -16.7058 -16.7046 -16.0433 -16.0395 -15.5936 -15.5894 -14.3563
-14.3545 -13.6380 -13.0081 -13.0015 -12.7923 -12.5460 -12.5416 -12.4196
-12.3505 -12.0062 -11.8333 -11.6285 -11.4097 -11.1773 -11.1737 -11.0820
-10.9735 -10.9676 -10.4869 -10.3885 -10.0638
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                                                                -9.7654
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 -9.6531
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 -8.9713
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                                                                           -6.9497
 -7.6043
                                                                -6.7096
 -6.9255
           -6.8798
                     -6.8740
                                -6.8546
                                           -6.8391
                                                     -6.7477
                                                                           -6.5003
 -6.4065
           -6.3223
                      -6.3169
                                -6.2222
                                           -6.2143
                                                      -5.9765
                                                                -5.7507
                                                                           -5.5306
 -5.4045
           -5.2758
                      -5.2163
                                -5.2025
                                           -4.9844
                                                      -4.7828
                                                                -4.5989
                                                                           -4.4947
           -4.3768
 -4.4586
                                                                -3.9709
                                                                           -3.9521
                      -4.3076
                                -4.2659
                                           -4.2328
                                                      -3.9719
                      -3.6756
 -3.6773
           -3.6773
                                -2.8017
                                           -2.7957
                                                      -0.5437
                                                                 0.6531
                                                                            0.6714
  0.8863
            0.8869
                       1.4233
                                  1.4947
                                            1.7832
                                                       1.7914
                                                                  1.9112
                                                                            2.0189
  2.0968
             2.1887
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                                  2.3255
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                                                       2.3789
                                                                  2.6129
                                                                            2,6273
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                                  2.9336
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                                                       3.1549
                                                                  3.2268
        k = 0.0000-0.3208 \ 0.0000 \ (64755 \ PWs)
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                     -9.6063
                                -9.5914
                                          -9.2028
                                                     -9.1839
                                                                -9.1797
 -9.6929
           -9.6575
                                                                           -9.0408
                                -8.4464
                                                      -8.2952
                                                                -8.2837
 -8.9583
           -8.9122
                      -8.7260
                                           -8.3683
                                                                           -8.1700
                                           -7.7416
           -8.1141
                      -7.8498
                                -7.8479
                                                     -7.7356
                                                                -7.7349
 -8.1228
                                                                           -7.6435
 -7.6144
           -7.5939
                      -7.4384
                                -7.1986
                                           -7.0262
                                                      -7.0128
                                                                -7.0037
                                                                           -6.9715
                                           -6.7918
                      -6.8249
                                -6.8045
                                                                -6.6759
 -6.9296
           -6.8358
                                                      -6.7812
                                                                           -6.5142
           -6.2982
                      -6.2726
                                -6.2325
                                           -6.2248
                                                      -5.9777
                                                                           -5.4948
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                                           -5.0141
                                                      -4.7904
 -5.4520
           -5.3154
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           -4.3767
                      -4.3323
                                -4.2906
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 -4.4547
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                                                                           -3.9354
                                                                 0.5890
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           -3.6837
                      -3.6471
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                                           -2.7355
                                                      -0.5357
                                                                            0.6071
  0.9075
                       1.4378
                                  1.5715
                                            1.7604
                                                      1.7683
                                                                  1.9266
            0.9082
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  2.1042
             2.1865
                       2.2466
                                  2.3025
                                            2.3730
                                                       2.3732
                                                                  2.5969
                                                                            2.6330
                                                       3.1457
  2.6893
             2.8741
                       2.8797
                                  2.8946
                                            3.0510
                                                                  3.1919
        k = 0.0000 - 0.3368 \ 0.0000 \ (64755 \ PWs)
                                                       bands (ev):
-21.5466 -21.2250 -21.0081 -20.6933 -20.5760 -20.5748 -20.1248 -20.1242
-19.9688 -19.8877 -19.6234 -19.2288 -19.2277 -19.0514 -18.9641 -18.7832
-18.4975 -18.3453 -18.2615 -18.2332 -17.9707 -17.9688 -17.9687 -17.6453
-16.9174 -16.6833 -16.6820 -16.0962 -16.0926 -15.4606 -15.4561 -14.2636
-14.2615 -13.4641 -13.1491 -13.1427 -12.7828 -12.6581 -12.6538 -12.3881
-12.3067 -11.9341 -11.8803 -11.6744 -11.4692 -11.2113 -11.2077 -11.1317
-10.8956 -10.8897 -10.6797 -10.3121 -10.1300
                                                     -9.9782
                                                                -9.7245
                                                                           -9.6681
 -9.6525
           -9.6505
                      -9.6439
                                -9.6369
                                           -9.1888
                                                     -9.1092
                                                                -9.1050
                                                                           -9.0681
 -8.9448
           -8.8905
                      -8.7072
                                -8.4330
                                           -8.4055
                                                      -8.2607
                                                                -8.2588
                                                                           -8.2030
 -8.1575
           -8.1489
                      -7.8608
                                -7.8589
                                           -7.7457
                                                      -7.7026
                                                                -7.6962
                                                                           -7.6310
                                           -7.0659
 -7.6249
           -7.6022
                      -7.4138
                                -7.2076
                                                      -7.0572
                                                                 -6.9978
                                                                           -6.9975
                                           -6.7695
 -6.9337
                      -6.7969
                                 -6.7893
                                                      -6.7047
           -6.8154
                                                                 -6.6422
                                                                           -6.5310
           -6.2704
                                           -6.2280
                                                      -5.9804
                                                                 -5.7409
 -6.2841
                      -6.2436
                                 -6.2360
                                                                           -5.4993
 -5.4651
           -5.3546
                      -5.3314
                                 -5.3016
                                           -5.0450
                                                      -4.7979
                                                                 -4.6696
                                                                           -4.5861
 -4.4506
           -4.3765
                      -4.3580
                                 -4.3495
                                           -4.2751
                                                      -3.9588
                                                                 -3.9578
                                                                           -3.9197
 -3.6935
           -3.6920
                      -3.6183
                                 -2.6826
                                           -2.6766
                                                      -0.5275
                                                                 0.5263
                                                                            0.5444
  0.9296
            0.9302
                      1.4529
                                 1.6505
                                                      1.7445
                                                                  1.9426
                                                                            2.0415
                                            1.7369
  2.1096
             2.1735
                       2.2538
                                  2.2825
                                                       2.3774
                                                                  2.5711
                                            2.3676
                                                                            2.6511
                                  2.8949
  2.7104
             2.8509
                       2.8583
                                            3.0366
                                                       3.1370
                                                                  3.1531
```

```
k = 0.0000 - 0.3528 \ 0.0000 \ (64806 \ PWs)
                                                                   bands (ev):
-21.5363 -21.2120 -21.0314 -20.7001 -20.6062 -20.5795 -20.1334 -20.1328 -19.9429 -19.8673 -19.5926 -19.1949 -19.1938 -19.0848 -18.9880 -18.7284 -18.5223 -18.3434 -18.2610 -18.2355 -18.0205 -18.0186 -17.9574 -17.6271 -16.9862 -16.6712 -16.6699 -16.1223 -16.1188 -15.3941 -15.3896 -14.2162 -14.2140 -13.3763 -13.2194 -13.2132 -12.7773 -12.7144 -12.7102 -12.3717 -12.2842 -11.9022 -11.9017 -11.6916 -11.4991 -11.2264 -11.2229 -11.1563 -10.8568 -10.8508 -10.7760 -10.2740 -10.1704 -9.9820 -9.7469 -9.6951 -9.6824 -9.6781 -9.5945 -9.5872 -9.1738 -9.1010 -9.0345 -9.0301
 -8.9306
             -8.8633
                          -8.6939 -8.4420 -8.4193
                                                                 -8.2354
                                                                              -8.2330
                                                                                           -8.2234
                          -7.8712 -7.8692 -7.7552
-7.3898 -7.2234 -7.1205
-6.7573 -6.7514 -6.7339
-6.2398 -6.2219 -6.1834
-5.3881 -5.3292 -5.0769
                                                                                           -7.6349
 -8.1936
             -8.1850
                                                                 -7.6649
                                                                              -7.6586
                                                                              -7.0247
                                                                                           -6.9656
 -7.6178
             -7.6099
                                                                 -7.1121
                                                                              -6.6086
                                                                                           -6.5496
 -6.9377
             -6.8500
                                                                 -6.6183
                                                                                           -5.5464
 -6.2553
             -6.2480
                                                                 -5.9844
                                                                              -5.7347
 -5.4536
              -5.3932
                                                                 -4.8055
                                                                              -4.7067
                                                                                           -4.6346
                                                                              -3.9509
                                                                                           -3.9050
 -4.4463
              -4.4096
                          -4.3847
                                       -4.3762
                                                    -4.2798
                                                                 -3.9518
 -3.7020
              -3.7005
                          -3.5910
                                       -2.6252
                                                    -2.6192
                                                                 -0.5193
                                                                               0.4654
                                                                                            0.4834
  0.9524
               0.9530
                            1.4686
                                         1.7125
                                                      1.7199
                                                                   1.7317
                                                                                1.9591
                                                                                             2.0503
               2.1549
                                         2.2669
                                                                   2.3780
                                                                                2.5468
   2.1124
                            2.2664
                                                      2.3621
                                                                                             2.6697
   2.7382
               2.8138
                            2.8364
                                         2.9120
                                                      3.0230
                                                                   3.1135
                                                                                3.1291
          k = 0.0000 - 0.3689 \ 0.0000 \ (64796 \ PWs)
                                                                   bands (ev):
-21.5257 -21.1985 -21.0543 -20.7065 -20.6359 -20.5839 -20.1415 -20.1409 -19.9166 -19.8471 -19.5620 -19.1605 -19.1594 -19.1181 -19.0114 -18.6731 -18.5475 -18.3414 -18.2606 -18.2379 -18.0698 -18.0679 -17.9467 -17.6100 -17.0547 -16.6585 -16.6572 -16.1480 -16.1447 -15.3278 -15.3232 -14.1682 -14.1659 -13.2907 -13.2874 -13.2831 -12.7713 -12.7709 -12.7667 -12.3549 -12.2614 -11.9218 -11.8769 -11.7013 -11.5288 -11.2403 -11.2369 -11.1799 -10.8722 -10.8177 -10.8118 -10.2361 -10.2153 -9.9889 -9.7602 -9.7394 -9.7275 -9.6875 -9.5374 -0.5300 -0.1500 -0.1360 -0.0507 -0.0557
                                       -9.5300
 -9.7275
             -9.6875
                          -9.5374
                                                   -9.1580
                                                                 -9.1360
                                                                              -8.9597
                                                                                           -8.9552
                          -8.6865
                                       -8.4778
                                                   -8.4029
 -8.9158
                                                                 -8.2670
                                                                              -8.2310
             -8.8341
                                                                                           -8.2224
 -8.2029
                          -7.8808
                                       -7.8788
                                                    -7.7641
                                                                 -7.6439
                                                                              -7.6284
              -8.1894
                                                                                           -7.6225
              -7.6040
                          -7.3669
                                       -7.2429
                                                    -7.1764
                                                                 -7.1683
 -7.6172
                                                                              -7.0522
                                                                                           -6.9418
 -6.9328
              -6.8848
                          -6.7171
                                       -6.7122
                                                    -6.6978
                                                                 -6.5750
                                                                              -6.5690
                                                                                           -6.5328
                                                    -6.1391
                                                                 -5.9895
                                                                                           -5.5933
 -6.2674
              -6.2603
                           -6.2070
                                        -6.1596
                                                                              -5.7279
                                                                              -4.7446
 -5.4754
              -5.4444
                           -5.4311
                                       -5.3231
                                                    -5.1100
                                                                 -4.8129
                                                                                           -4.6851
 -4.4706
              -4.4420
                           -4.4123
                                        -4.3759
                                                    -4.2847
                                                                 -3.9446
                                                                              -3.9437
                                                                                           -3.8912
              -3.7093
 -3.7107
                           -3.5652
                                        -2.5695
                                                    -2.5635
                                                                 -0.5110
                                                                               0.4065
                                                                                            0.4244
               0.9766
                            1.4849
                                                                   1.8145
                                                                                1.9758
  0.9759
                                         1.6876
                                                      1.6946
                                                                                             2.0562
   2.1122
               2.1345
                            2.2549
                                         2.2828
                                                      2.3569
                                                                   2.3772
                                                                                2.5243
                                                                                             2.6885
                            2.8141
                                                                   3.0748
                                                                                3.1215
   2.7557
               2.7925
                                         2.9300
                                                      3.0103
          k = 0.0000 - 0.3849 \ 0.0000 \ (64790 \ PWs)
                                                                   bands (ev):
-21.5147 -21.1843 -21.0767 -20.7124 -20.6650 -20.5881 -20.1489 -20.1483
-19.8899 -19.8273 -19.5317 -19.1513 -19.1255 -19.1244 -19.0341 -18.6172
-18.5731 -18.3394 -18.2603 -18.2402 -18.1186 -18.1167 -17.9367 -17.5940
-17.1229 -16.6454 -16.6439 -16.1734 -16.1702 -15.2618 -15.2571 -14.1195
-14.1171 -13.3593 -13.3534 -13.1993 -12.8275 -12.8233 -12.7651 -12.3379
-12.2385 -11.9403 -11.8623 -11.7000 -11.5583 -11.2531 -11.2497 -11.2019
-10.9681 -10.7788 -10.7727 -10.2642 -10.1986
                                                                 -9.9983
                                                                              -9.7836
 -9.7659
              -9.6961
                          -9.4803
                                       -9.4729
                                                    -9.1721
                                                                 -9.1413
                                                                              -8.9005
                                                                                           -8.8850
 -8.8803
              -8.8041
                           -8.6845
                                       -8.5130
                                                    -8.3834
                                                                 -8.2981
                                                                              -8.2697
                                                                                           -8.2612
 -8.1716
              -8.1575
                           -7.8898
                                       -7.8877
                                                    -7.7723
                                                                 -7.6509
                                                                              -7.6241
                                                                                           -7.5941
 -7.5908
              -7.5859
                           -7.3451
                                       -7.2644
                                                    -7.2336
                                                                 -7.2257
                                                                               -7.0795
                                                                                           -6.9469
                                                                 -6.5890
 -6.9188
              -6.9012
                           -6.6763
                                       -6.6721
                                                    -6.6612
                                                                              -6.5415
                                                                                           -6.4481
                                                    -6.0954
                                                                 -5.9952
                                                                              -5.7207
 -6.2799
              -6.2729
                          -6.1725
                                       -6.0968
                                                                                           -5.6399
 -5.5182
             -5.5001
                          -5.4680
                                       -5.2955
                                                    -5.1441
                                                                 -4.8201
                                                                              -4.7832
                                                                                           -4.7374
                                                    -4.2897
                                                                 -3.9371
             -4.4409
                          -4.4375
                                       -4.3756
                                                                              -3.9363
 -4.5325
                                                                                           -3.8786
 -3.7196 -3.7182 -3.5411 -2.5157
                                                    -2.5097
                                                                 -0.5027
                                                                               0.3497
                                                                                            0.3676
```

```
1.0000
           1.0009
                     1.5018
                               1.6621
                                         1.6688
                                                  1.8991
                                                            1.9923
                                                                      2.0587
  2.1062
                                                            2.5038
           2.1168
                     2.2490
                               2.3001
                                         2.3520
                                                  2.3770
                                                                      2.7074
                               2.9476
  2.7288
           2.7915
                     2.8186
                                         2.9977
                                                  3.0387
                                                            3.1146
       k = 0.0000 - 0.4009 \ 0.0000 \ (64796 \ PWs)
                                                  bands (ev):
-21.5032 -21.1696 -21.0986 -20.7179 -20.6934 -20.5919 -20.1558 -20.1552
-19.8629 -19.8079 -19.5019 -19.1844 -19.0900 -19.0888 -19.0560 -18.5987
-11.0640 -10.7397 -10.7335 -10.3166 -10.1613 -10.0089
                                                          -9.8277
                                                                    -9.8170
                                                -9.1238
                             -9.4158 -9.2085
 -9.7658
          -9.7040 -9.4233
                                                          -8.8847
                                                                    -8.8104
                                                          -8.3097
 -8.8056
          -8.7742 -8.6869
                             -8.5474
                                       -8.3609
                                                 -8.3284
                                                                    -8.3012
                   -7.8980
-7.3249
                                                          -7.6304
 -8.1403
          -8.1285
                             -7.8959 -7.7798
                                                 -7.6553
                                                                    -7.5757
                             -7.2921 -7.2869
                                                                    -6.9628
 -7.5597
          -7.5539
                                                 -7.2844
                                                          -7.1066
                                       -6.6241
          -6.8716
                   -6.6350
                             -6.6312
                                                          -6.5082
                                                                    -6.3642
 -6.9422
                                                 -6.6088
                                                 -6.0014
          -6.2857
                                                                     -5.6864
 -6.2924
                    -6.1366
                             -6.0527
                                       -6.0336
                                                           -5.7135
          -5.5552
                             -5.2608
                                       -5.1790
                                                                     -4.7915
 -5.5677
                    -5.5035
                                                 -4.8271
                                                           -4.8224
 -4.5951
          -4.4703
                    -4.4330
                             -4.3753
                                       -4.2947
                                                 -3.9294
                                                           -3.9286
                                                                     -3.8669
 -3.7286
                                                            0.2954
          -3.7273
                    -3.5186
                              -2.4641
                                       -2.4582
                                                 -0.4947
                                                                      0.3132
                     1.5193
  1.0248
           1.0258
                               1.6360
                                        1.6424
                                                  1.9851
                                                            2.0073
                                                                      2.0574
                     2.2488
  2.0899
           2.1086
                               2.3181
                                         2.3473
                                                  2.3785
                                                            2.4853
                                                                      2.6923
                     2.8526
                               2.9598
                                         2.9843
                                                  3.0113
  2.7282
           2.7687
                                                            3.1082
       k = 0.0000 - 0.4170 \ 0.0000 \ (64802 \ PWs)
                                                  bands (ev):
-21.4915 -21.1542 -21.1200 -20.7229 -20.7213 -20.5955 -20.1621 -20.1615 -19.8355 -19.7891 -19.4729 -19.2174 -19.0767 -19.0539 -19.0527 -18.6244 -18.5039 -18.3354 -18.2597 -18.2448 -18.2145 -18.2127 -17.9190 -17.5653 -17.2579 -16.6173 -16.6158 -16.2231 -16.2200 -15.1312 -15.1263 -14.0205 -14.0179 -13.4965 -13.4910 -13.0207 -12.9406 -12.9364 -12.7519 -12.3037 -12.1933 -11.9724 -11.8661 -11.6654 -11.6160 -11.2753 -11.2720 -11.2370
-11.1596 -10.7004 -10.6942 -10.3714 -10.1246 -10.0198
                                                          -9.8716
                                                                    -9.8614
 -9.7620
          -9.7112
                    -9.3666
                             -9.3590
                                       -9.2449
                                                 -9.1054
                                                           -8.8683
                                                                    -8.7447
 -8.7359
          -8.7310
                    -8.6924
                             -8.5811
                                       -8.3580
                                                 -8.3509
                                                           -8.3424
                                                                     -8.3363
 -8.1095
          -8.1030
                    -7.9055
                             -7.9035
                                       -7.7867
                                                 -7.6560
                                                           -7.6362
                                                                    -7.5601
 -7.5281
          -7.5226
                   -7.3518
                             -7.3443
                                       -7.3100
                                                 -7.3065
                                                           -7.1333
                                                                    -6.9957
 -6.9483
          -6.8445
                   -6.6281
                             -6.5933
                                       -6.5897
                                                 -6.5865
                                                           -6.4751
                                                                    -6.3048
 -6.2985
                             -6.0116
                                       -6.0078
          -6.2813
                   -6.0993
                                                 -5.9701
                                                           -5.7325
                                                                     -5.7063
                                                           -4.8473
                                       -5.2148
 -5.6193
          -5.6097
                    -5.5371
                             -5.2236
                                                 -4.8618
                                                                     -4.8338
                                                 -3.9215
          -4.5005
                    -4.4284
                             -4.3750
                                       -4.2997
 -4.6584
                                                           -3.9207
                                                                     -3.8562
                    -3.4978
                             -2.4151
                                       -2.4092
                                                 -0.4869
 -3.7378
          -3.7365
                                                           0.2439
                                                                      0.2616
                                        1.6154
                                                            2.0527
  1.0502
           1.0514
                    1.5372
                               1.6093
                                                  2.0161
                                                                      2.0688
  2.0796
           2.1026
                     2.2537
                               2.3363
                                         2.3430
                                                  2.3818
                                                            2.4691
                                                                      2.6570
  2.7458
                     2.8834
                               2.9434
                                         2.9787
                                                  3.0074
           2.7485
                                                            3.1024
       k = 0.0000 - 0.4330 \ 0.0000 \ (64802 \ PWs)
                                                  bands (ev):
-21.4794 -21.1407 -21.1382 -20.7486 -20.7274 -20.5987 -20.1677 -20.1671
-19.8077 -19.7709 -19.4451 -19.2503 -19.0961 -19.0172 -19.0160 -18.6498
-18.4464 -18.3334 -18.2617 -18.2599 -18.2594 -18.2470 -17.9112 -17.5527
-17.3247 -16.6025 -16.6009 -16.2473 -16.2444 -15.0672 -15.0622 -13.9702
-13.9675 -13.5636 -13.5583 -12.9971 -12.9930 -12.9306 -12.7452 -12.2869
-12.1716 -11.9858 -11.8768 -11.6438 -11.6420 -11.2849 -11.2815 -11.2550
-11.2471 -10.6611 -10.6547 -10.4281 -10.0886 -10.0301
                                                          -9.9153
                                                                    -9.9055
          -9.7175
                   -9.3101 -9.3024
                                       -9.2811
                                                 -9.0863
                                                           -8.8515
 -9.7558
                                                                     -8.7161
          -8.6618
                   -8.6566
                             -8.6139
                                       -8.3934
                                                 -8.3868
                                                           -8.3849
 -8.7001
                                                                     -8.3105
 -8.0820
          -8.0799
                   -7.9123 -7.9103 -7.7929
                                                 -7.6523
                                                          -7.6415
                                                                    -7.5440
                                                 -7.2902
                                                          -7.1596
 -7.4985
          -7.4933 -7.4127 -7.4053 -7.3330
                                                                    -7.0308
 -6.9518 -6.8203 -6.6464 -6.5511 -6.5484 -6.5477 -6.4425
                                                                    -6.3167
```

```
-6.1995
                      -6.0611
                                -6.0142
                                           -5.9731
                                                     -5.9063
                                                                -5.7783
                                                                           -5.6993
 -6.3107
                      -5.5680
                                                     -4.9047
 -5.6715
           -5.6635
                                -5.2513
                                           -5.1853
                                                                -4.9013
                                                                           -4.8401
 -4.7222
                      -4.4238
           -4.5316
                                -4.3747
                                           -4.3047
                                                     -3.9133
                                                                -3.9126
                                                                           -3.8466
                      -3.4789
                                                                 0.1954
 -3.7470
           -3.7458
                                -2.3690
                                           -2.3631
                                                     -0.4795
                                                                           0.2132
  1.0761
            1.0774
                       1.5554
                                 1.5822
                                           1.5880
                                                      2.0115
                                                                 2.0458
                                                                            2.0703
  2.0986
            2.1632
                       2.2629
                                  2.3389
                                            2.3539
                                                      2.3871
                                                                 2.4558
                                                                            2.6224
                                                       3.0234
  2.7229
            2.7696
                       2.9032
                                  2.9155
                                            2.9722
                                                                 3.0971
        k = 0.0000 - 0.4491 \ 0.0000 \ (64836 \ PWs)
                                                      bands (ev):
-21.4671 -21.1608 -21.1217 -20.7753 -20.7315 -20.6016 -20.1728 -20.1722
-19.7797 \ -19.7535 \ -19.4188 \ -19.2829 \ -19.1138 \ -18.9799 \ -18.9787 \ -18.6748
-19.7797 -19.7353 -19.4166 -19.2629 -19.1156 -16.9799 -16.9767 -16.0746 -18.3884 -18.3315 -18.3083 -18.3066 -18.2592 -18.2491 -17.9042 -17.5413 -17.3912 -16.5872 -16.5855 -16.2711 -16.2683 -15.0044 -14.9993 -13.9194 -13.9166 -13.6291 -13.6240 -13.0534 -13.0494 -12.8403 -12.7387 -12.2707 -12.1509 -11.9972 -11.8887 -11.6707 -11.6210 -11.3505 -11.2931 -11.2900 -11.2498 -10.6215 -10.6151 -10.4860 -10.0534 -10.0396 -9.9588 -9.9493 -9.7484 -9.7229 -9.3168 -9.2539 -9.2462 -9.0663 -8.8344 -8.7088
                     -8.5874
                                -8.5824
                                                     -8.4284
                                                                -8.4147
 -8.6887
           -8.6468
                                          -8.4369
                                                                           -8.2846
                                                                -7.6434
           -8.0520
                     -7.9185
                                -7.9164
                                          -7.7985
                                                     -7.6462
-7.2768
                                                                          -7.5275
 -8.0658
 -7.4755
           -7.4703
                     -7.4686
                                -7.4648
                                          -7.3557
                                                                -7.1853
                                                                          -7.0654
                                          -6.5088
                     -6.6632
                                                                           -6.3277
 -6.9547
           -6.7994
                                -6.5100
                                                     -6.5055
                                                                -6.4105
                     -6.0224
 -6.3221
           -6.1191
                                -6.0205
                                           -5.9383
                                                      -5.8423
                                                                -5.8237
                                                                           -5.7237
                                -5.2882
 -5.7165
           -5.6927
                      -5.5949
                                                     -4.9637
                                           -5.1466
                                                                -4.9406
                                                                           -4.8460
           -4.5634
                                -4.3744
                                           -4.3097
                                                                -3.9043
 -4.7865
                      -4.4193
                                                      -3.9050
                                                                           -3.8380
 -3.7564
           -3.7553
                      -3.4618
                                -2.3261
                                           -2.3203
                                                      -0.4725
                                                                 0.1505
                                                                            0.1683
  1.1025
            1.1041
                       1.5547
                                 1.5602
                                            1.5740
                                                      1.9950
                                                                 2.0375
                                                                            2.0686
                       2.2752
                                  2.3352
            2.2534
                                            2.3690
                                                       2.3940
                                                                 2.4470
  2.1042
                                                                            2.5892
  2.7001
            2.7914
                       2.8739
                                  2.9272
                                            2.9650
                                                      3.0446
                                                                 3.0924
        k = 0.0000 - 0.4651 \ 0.0000 \ (64846 \ PWs)
                                                      bands (ev):
-18.3544 -18.3527 -18.3299 -18.3297 -18.2590 -18.2511 -17.8980 -17.5312 -17.4572 -16.5713 -16.5695 -16.2945 -16.2917 -14.9434 -14.9383 -13.8681 -13.8652 -13.6925 -13.6877 -13.1096 -13.1057 -12.7495 -12.7325 -12.2552
-12.1316 -12.0066 -11.9001 -11.6964 -11.6054 -11.4456 -11.3005 -11.2974
-11.2435 -10.5818 -10.5753 -10.5444 -10.0481 -10.0194 -10.0020
                                                                          -9.9929
 -9.7405
           -9.7273
                     -9.3517
                               -9.1980
                                          -9.1902 -9.0456
                                                               -8.8170
                                                                          -8.7179
                               -8.5090
                                          -8.4814
 -8.6783
           -8.6629
                     -8.5139
                                                     -8.4729
                                                                -8.4416
                                                                           -8.2593
                                                                -7.6291
 -8.0545
           -8.0261
                     -7.9239
                               -7.9218
                                          -7.8035
                                                     -7.6505
                                                                          -7.5377
                     -7.4458
                                -7.4415
                                                                -7.2106
 -7.5307
           -7.5102
                                          -7.3776
                                                     -7.2673
                                                                          -7.0983
                                                     -6.4636
                     -6.6777
                                -6.4711
                                          -6.4669
                                                                -6.3793
 -6.9572
           -6.7824
                                                                          -6.3370
                                                     -5.8687
 -6.3319
           -6.0403
                     -6.0265
                                -5.9831
                                          -5.9093
                                                                -5.7782
                                                                           -5.7757
                                                                -4.9791
                                                     -5.0241
 -5.7682
           -5.6865
                     -5.6160
                                -5.3254
                                          -5.1078
                                                                           -4.8513
 -4.8511
           -4.5959
                     -4.4147
                                -4.3742
                                          -4.3145
                                                     -3.8965
                                                                -3.8958
                                                                          -3.8304
                                                     -0.4661
 -3.7659
           -3.7648
                     -3.4466
                                -2.2869
                                          -2.2811
                                                                 0.1095
                                                                            0.1272
  1.1294
            1.1311
                      1.5269
                                 1.5321
                                            1.5928
                                                      1.9741
                                                                 2.0287
                                                                            2.0622
  2.1196
            2.2896
                       2.3319
                                  2.3437
                                            2.3794
                                                      2.4013
                                                                 2.4458
                                                                            2.5582
  2.6777
            2.8135
                       2.8392
                                  2.9375
                                            2.9585
                                                      3.0678
                                                                 3.0883
        k = 0.0000 - 0.4811 \ 0.0000 \ (64832 \ PWs)
                                                       bands (ev):
-21.4421 -21.1985 -21.0868 -20.8269 -20.7382 -20.6065 -20.1812 -20.1806
-19.7228 -19.7219 -19.3729 -19.3475 -19.1427 -18.9037 -18.9025 -18.7219
-18.3999 -18.3983 -18.3281 -18.2709 -18.2589 -18.2529 -17.8926 -17.5227
-17.5224 -16.5548 -16.5530 -16.3174 -16.3148 -14.8849 -14.8797 -13.8164
-13.8134 -13.7531 -13.7486 -13.1657 -13.1618 -12.7266 -12.6584 -12.2409
-12.1144 -12.0138 -11.9097 -11.7206 -11.5965 -11.5404 -11.3069 -11.3038
```

```
-8.7092
           -8.6391
                      -8.5274
                                 -8.5191
                                           -8.4673
                                                      -8.4405
                                                                 -8.4351
                                                                            -8.2354
                      -7.9287
                                           -7.8077
 -8.0479
           -8.0026
                                 -7.9266
                                                      -7.6541
                                                                 -7.6096
                                                                           -7.6015
                                                                 -7.2354
 -7.5947
           -7.4926
                      -7.4233
                                 -7.4195
                                           -7.3981
                                                      -7.2638
                                                                           -7.1271
 -6.9593
                      -6.6887
           -6.7701
                                 -6.4318
                                           -6.4274
                                                      -6.4240
                                                                 -6.3494
                                                                           -6.3425
 -6.3380
           -6.0319
                      -5.9654
                                 -5.9440
                                           -5.9133
                                                      -5.8885
                                                                 -5.8272
                                                                           -5.8169
 -5.7140
           -5.6810
                      -5.6292
                                 -5.3626
                                           -5.0859
                                                      -5.0691
                                                                 -5.0164
                                                                           -4.9160
                                                                           -3.8239
 -4.8561
           -4.6292
                      -4.4103
                                 -4.3739
                                           -4.3192
                                                      -3.8878
                                                                 -3.8871
 -3.7754
           -3.7743
                      -3.4333
                                 -2.2518
                                           -2.2460
                                                      -0.4603
                                                                 0.0728
                                                                            0.0905
  1.1567
            1.1586
                       1.4987
                                  1.5036
                                            1.6115
                                                       1.9521
                                                                  2.0203
                                                                             2.0539
  2.1393
            2.3052
                       2.3291
                                  2.3777
                                             2.4077
                                                       2.4366
                                                                  2.4561
                                                                             2.5312
  2.6560
             2.8046
                       2.8360
                                  2.9428
                                             2.9529
                                                       3.0846
                                                                  3.0923
        k = 0.0000 - 0.4972 \ 0.0000 \ (64826 \ PWs)
                                                       bands (ev):
-21.4298 -21.2159 -21.0684 -20.8519 -20.7408 -20.6084 -20.1844 -20.1838
-21.4298 -21.2159 -21.0684 -20.8519 -20.7408 -20.6084 -20.1844 -20.1838 -19.7083 -19.6940 -19.3793 -19.3546 -19.1528 -18.8648 -18.8635 -18.7431 -18.4449 -18.4433 -18.3266 -18.2588 -18.2546 -18.2113 -17.8880 -17.5877 -17.5149 -16.5379 -16.5360 -16.3399 -16.3373 -14.8298 -14.8245 -13.8100 -13.8060 -13.7641 -13.7610 -13.2215 -13.2177 -12.7214 -12.5669 -12.2282 -12.0998 -12.0189 -11.9170 -11.7428 -11.6351 -11.5939 -11.3123 -11.3092 -11.2019 -10.6609 -10.5018 -10.4951 -10.0878 -10.0792 -10.0616 -9.9570 -9.7326 -9.7256 -9.4174 -9.0876 -9.0798 -9.0020 -8.7822 -8.7394
                                -8.5657
           -8.6178
                      -8.5741
                                           -8.4916
                                                                 -8.3623
 -8.7350
                                                      -8.3678
                                                                           -8.2136
                                                                           -7.6572
                      -7.9329
                                 -7.9309
                                           -7.8113
                                                      -7.6662
 -8.0449
           -7.9819
                                                                 -7.6595
           -7.4743
                                           -7.4004
                                                                 -7.2597
 -7.5855
                      -7.4169
                                -7.4037
                                                      -7.2695
                                                                           -7.1486
 -6.9612
           -6.7634
                      -6.6950
                                -6.3976
                                           -6.3939
                                                      -6.3923
                                                                 -6.3366
                                                                           -6.3329
                                 -5.9132
 -6.3213
                                           -5.9054
                                                      -5.8783
           -6.0367
                      -5.9573
                                                                 -5.8775
                                                                            -5.8432
                                 -5.3993
                      -5.6326
                                           -5.1487
 -5.6762
           -5.6501
                                                      -5.0517
                                                                 -5.0305
                                                                            -4.9810
                                 -4.3738
                                           -4.3237
 -4.8603
           -4.6631
                      -4.4062
                                                      -3.8790
                                                                 -3.8783
                                                                            -3.8183
                      -3.4219
                                 -2.2211
                                           -2.2154
 -3.7849
           -3.7839
                                                      -0.4553
                                                                  0.0408
                                                                             0.0585
  1.1844
             1.1865
                       1.4703
                                  1.4750
                                             1.6298
                                                       1.9304
                                                                  2.0126
                                                                             2.0457
             2.3212
  2.1610
                       2.3266
                                  2.3728
                                             2.4141
                                                       2.4607
                                                                  2.5088
                                                                             2.5382
  2.6353
             2.7707
                       2.8581
                                  2.9450
                                             2.9487
                                                       3.0817
                                                                  3.1175
        k = 0.0000 - 0.5132 \ 0.0000 \ (64824 \ PWs)
                                                       bands (ev):
-21.4180 -21.2318 -21.0494 -20.8762 -20.7429 -20.6100 -20.1871 -20.1865
-19.6964 -19.6651 -19.4106 -19.3401 -19.1597 -18.8253 -18.8240 -18.7621
-18.4894 -18.4878 -18.3253 -18.2587 -18.2560 -18.1512 -17.8843 -17.6523
-17.5087 -16.5204 -16.5185 -16.3619 -16.3594 -14.7796 -14.7743 -13.8616
-13.8579 -13.7114 -13.7083 -13.2771 -13.2734 -12.7168 -12.4751 -12.2174
-12.0882 -12.0220 -11.9216 -11.7625 -11.7295 -11.5958 -11.3167 -11.3136
-11.1691 -10.7177 -10.4615 -10.4546 -10.1303 -10.1220 -10.0666
                                                                           -9.9300
           -9.7194
                     -9.4470
                                -9.0332
                                           -9.0253
                                                      -8.9790
 -9.7333
                                                                -8.7689
                                                                           -8.7655
           -8.6218
                     -8.6135
                                -8.5994
                                           -8.5140
                                                      -8.2956
                                                                -8.2901
 -8.7421
                                                                           -8.1946
 -8.0446
           -7.9643
                     -7.9366
                                -7.9346
                                           -7.8143
                                                      -7.7315
                                                                 -7.7249
                                                                           -7.6598
 -7.5577
           -7.4555
                     -7.4334
                                -7.3872
                                           -7.3845
                                                      -7.2864
                                                                -7.2834
                                                                           -7.1608
 -6.9628
           -6.7624
                      -6.6963
                                -6.3876
                                           -6.3838
                                                      -6.3527
                                                                 -6.3088
                                                                           -6.3056
 -6.2957
           -6.0408
                      -6.0006
                                -5.9383
                                           -5.9290
                                                      -5.8762
                                                                 -5.8684
                                                                            -5.7929
 -5.6722
           -5.6270
                      -5.5869
                                 -5.4348
                                           -5.2121
                                                      -5.0841
                                                                 -5.0461
                                                                            -4.9920
 -4.8638
           -4.6976
                      -4.4024
                                 -4.3736
                                           -4.3277
                                                      -3.8701
                                                                 -3.8693
                                                                            -3.8138
 -3.7945
           -3.7935
                      -3.4126
                                 -2.1953
                                           -2.1896
                                                      -0.4511
                                                                 0.0139
                                                                             0.0316
  1.2124
            1.2147
                       1.4417
                                  1.4461
                                            1.6474
                                                       1.9098
                                                                  2.0060
                                                                             2.0384
                                                                  2.5142
  2.1837
             2.3245
                       2.3369
                                  2.3634
                                             2.4199
                                                       2.4560
                                                                             2.6161
  2.6307
                       2.8786
                                  2.9437
                                             2.9490
                                                       3.0792
             2.7377
                                                                  3.1327
        k = 0.0000 - 0.5292 \ 0.0000 \ (64850 \ PWs)
                                                       bands (ev):
-21.4071 -21.2459 -21.0299 -20.8999 -20.7446 -20.6112 -20.1892 -20.1886
-19.6867 -19.6363 -19.4413 -19.3297 -19.1635 -18.7853 -18.7839 -18.7781
-18.5333 -18.5318 -18.3242 -18.2586 -18.2572 -18.0906 -17.8813 -17.7164
-17.5039 -16.5024 -16.5004 -16.3835 -16.3810 -14.7362 -14.7308 -13.9059
```

```
-13.9029 -13.6584 -13.6551 -13.3325 -13.3288 -12.7131 -12.3830 -12.2088
-12.0797 -12.0233 -11.9239 -11.8237 -11.7791 -11.6001 -11.3201 -11.3170
-11.1316 -10.7723 -10.4209 -10.4139 -10.1726 -10.1645 -10.0706
                                                                           -9.9072
                      -9.4731
                                -8.9794
                                           -8.9714
                                                      -8.9553
           -9.7142
                                                                 -8.7977
                                                                            -8.7501
 -9.7326
 -8.7480
           -8.6704
                      -8.6621
                                -8.5844
                                            -8.5338
                                                      -8.2242
                                                                 -8.2185
                                                                            -8.1789
 -8.0457
           -7.9503
                      -7.9403
                                 -7.9384
                                           -7.8166
                                                      -7.7968
                                                                 -7.7905
                                                                            -7.6618
           -7.4470
                      -7.4362
                                -7.3741
                                           -7.3719
                                                                 -7.3065
 -7.5272
                                                      -7.3123
                                                                            -7.1655
 -6.9640
                      -6.6944
                                           -6.3849
           -6.7647
                                 -6.3882
                                                      -6.3133
                                                                 -6.2737
                                                                            -6.2684
 -6.2652
                      -6.0427
                                 -5.9849
                                           -5.9792
                                                                 -5.8341
           -6.0443
                                                      -5.8813
                                                                            -5.7219
 -5.6690
           -5.6157
                      -5.5261
                                -5.4677
                                           -5.2744
                                                      -5.1122
                                                                 -5.1109
                                                                            -4.9539
 -4.8665
           -4.7327
                      -4.3990
                                 -4.3735
                                            -4.3312
                                                      -3.8610
                                                                 -3.8603
                                                                            -3.8103
 -3.8040
           -3.8031
                      -3.4054
                                 -2.1748
                                           -2.1692
                                                      -0.4477
                                                                 -0.0075
                                                                             0.0103
                                             1.6635
            1.2432
                       1.4130
                                  1.4171
                                                        1.8913
                                                                  2.0007
  1.2406
                                                                             2.0323
  2.2068
             2.3229
                       2.3508
                                  2.3512
                                             2.4241
                                                        2.4428
                                                                   2.5334
                                                                             2.5991
  2.7039
             2.7281
                       2.8952
                                  2.9410
                                             2.9553
                                                        3.0772
                                                                   3.1030
        k = 0.0000 - 0.5453 \ 0.0000 \ (64846 \ PWs)
                                                        bands (ev):
-21.3980 -21.2573 -21.0098 -20.9230 -20.7458 -20.6121 -20.1907 -20.1901 -19.6795 -19.6083 -19.4708 -19.3231 -19.1649 -18.7902 -18.7447 -18.7433 -18.5767 -18.5752 -18.3234 -18.2585 -18.2580 -18.0295 -17.8792 -17.7800 -17.5004 -16.4838 -16.4818 -16.4045 -16.4022 -14.7020 -14.6967 -13.9407 -13.9383 -13.6050 -13.6016 -13.3876 -13.3840 -12.7104 -12.2905 -12.2026 -12.0742 -12.0235 -11.9244 -11.9176 -11.7918 -11.6048 -11.3225 -11.3194 -11.0926 -10.8226 -10.3802 -10.3730 -10.2146 -10.2067 -10.0733 -9.8898 -9.7309 -9.7104 -9.4940 -8.9313 -8.9259 -8.9180 -8.8257 -8.7523
                                           -8.9259
                                -8.9313
                      -9.4940
                                                      -8.9180
 -9.7309
           -9.7104
                                                                -8.8257
                                                                            -8.7523
           -8.7198
                      -8.7116
                                 -8.5732
                                           -8.5500
                                                      -8.1673
 -8.7371
                                                                 -8.1536
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                                 -7.9400
                                            -7.8598
           -7.9454
                      -7.9440
                                                      -7.8542
                                                                 -7.8182
 -8.0474
                                                                            -7.6632
                                -7.3644
                      -7.4164
                                           -7.3629
                                                      -7.3428
                                                                 -7.3290
 -7.4953
           -7.4572
                                                                            -7.1665
 -6.9650
           -6.7680
                      -6.6917
                                 -6.3907
                                            -6.3878
                                                       -6.2750
                                                                 -6.2564
                                                                            -6.2238
 -6.2206
           -6.0833
                      -6.0465
                                 -6.0334
                                            -6.0289
                                                       -5.8887
                                                                  -5.8049
                                                                            -5.6667
                      -5.4959
                                 -5.4743
 -5.6499
            -5.6035
                                            -5.3288
                                                       -5.1754
                                                                 -5.1344
                                                                            -4.9161
 -4.8685
            -4.7683
                      -4.3964
                                 -4.3734
                                            -4.3339
                                                       -3.8518
                                                                 -3.8511
                                                                            -3.8135
                      -3.4002
                                 -2.1598
                                            -2.1543
                                                       -0.4452
                                                                  -0.0230
 -3.8126
            -3.8077
                                                                            -0.0052
                       1.3842
                                  1.3880
                                             1.6769
                                                        1.8760
                                                                   1.9968
  1.2691
             1.2719
                                                                             2.0278
  2.2292
             2.3218
                        2.3356
                                  2.3630
                                             2.4233
                                                        2.4353
                                                                   2.5577
                                                                             2.5855
  2.6736
             2.8242
                       2.9052
                                  2.9389
                                             2.9687
                                                        3.0732
                                                                   3.0765
        k = 0.0000 - 0.5613 \ 0.0000 \ (64834 \ PWs)
                                                        bands (ev):
-21.3918 -21.2649 -20.9891 -20.9455 -20.7465 -20.6126 -20.1916 -20.1910
-19.6751 -19.5830 -19.4968 -19.3196 -19.1651 -18.7979 -18.7035 -18.7021
-18.6195 -18.6180 -18.3229 -18.2585 -18.2585 -17.9679 -17.8780 -17.8431
-17.4983 -16.4648 -16.4627 -16.4250 -16.4228 -14.6799 -14.6746 -13.9630
-13.9613 -13.5512 -13.5478 -13.4424 -13.4389 -12.7087 -12.1989 -12.1977
-12.0711 -12.0232 -12.0112 -11.9242 -11.7998 -11.6083 -11.3239 -11.3209
-11.0585 -10.8631 -10.3391 -10.3318 -10.2563 -10.2487 -10.0750
                                                                            -9.8788
 -9.7291
           -9.7081
                      -9.5079
                                -8.9060
                                           -8.8735
                                                      -8.8654
                                                                 -8.8529
                                                                            -8.7701
 -8.7620
           -8.7549
                      -8.7280
                                 -8.5664
                                           -8.5610
                                                      -8.1601
                                                                 -8.0846
                                                                            -8.0790
 -8.0487
           -7.9640
                      -7.9617
                                 -7.9337
                                            -7.9081
                                                      -7.9055
                                                                 -7.8192
                                                                            -7.6640
 -7.4648
           -7.4634
                      -7.3967
                                 -7.3732
                                            -7.3587
                                                       -7.3578
                                                                 -7.3499
                                                                            -7.1662
 -6.9655
           -6.7705
                      -6.6896
                                 -6.3927
                                            -6.3900
                                                       -6.2452
                                                                 -6.2409
                                                                            -6.1775
                                                       -5.8947
                                 -6.0780
 -6.1741
           -6.1186
                      -6.0819
                                            -6.0479
                                                                  -5.7843
                                                                            -5.6652
                      -5.5159
                                 -5.4652
 -5.5942
                                            -5.3419
                                                       -5.2385
                                                                  -5.1487
            -5.5797
                                                                            -4.8788
            -4.8043
                      -4.3947
                                            -4.3357
                                                       -3.8428
                                                                  -3.8420
 -4.8697
                                 -4.3733
                                                                            -3.8228
 -3.8219
            -3.8062
                       -3.3970
                                 -2.1508
                                            -2.1452
                                                       -0.4438
                                                                  -0.0324
                                                                            -0.0146
  1.2977
                                  1.3589
                                                                   1.9944
            1.3008
                       1.3553
                                             1.6861
                                                        1.8657
                                                                             2.0251
  2.2489
                        2.3212
                                  2.3709
                                             2.4182
                                                        2.4353
                                                                   2.5765
             2.3198
                                                                             2.5841
  2.6436
                       2.9220
                                  2.9377
                                             2.9881
                                                        3.0465
                                                                   3.0751
             2.9094
        k = 0.0000 - 0.5774 \ 0.0000 \ (64894 \ PWs)
                                                        bands (ev):
```

```
-21.3895 -21.2677 -20.9701 -20.9651 -20.7468 -20.6128 -20.1919 -20.1913
-19.6736 -19.5701 -19.5101 -19.3185 -19.1650 -18.8006 -18.6623 -18.6617
-18.6603 -18.6600 -18.3228 -18.2587 -18.2585 -17.9065 -17.9050 -17.8775
-12.1018 -12.0702 -12.0231 -11.9240 -11.8026 -11.6095 -11.3244 -11.3213
-11.0431 -10.8806 -10.2987 -10.2972 -10.2915 -10.2890 -10.0756
                                                                        -9.8751
           -9.7073
                     -9.5128
                               -8.8836
                                         -8.8761
                                                   -8.8251
 -9.7283
                                                              -8.8190
                                                                         -8.8158
 -8.8097
                     -8.7247
                               -8.5649
                                         -8.5641
                                                    -8.1576
                                                              -8.0493
           -8.7558
                                                                         -8.0262
                                                                        -7.6643
 -8.0218
           -8.0085
                     -8.0046
                               -7.9316
                                         -7.9209
                                                    -7.9203
                                                              -7.8196
 -7.4657
           -7.4474
                     -7.3905
                               -7.3824
                                         -7.3660
                                                    -7.3563
                                                              -7.3551
                                                                        -7.1661
 -6.9658
           -6.7714
                     -6.6889
                               -6.3934
                                         -6.3909
                                                    -6.2413
                                                              -6.2238
                                                                         -6.1362
                                                                         -5.6648
 -6.1320
           -6.1309
                     -6.1258
                               -6.1245
                                         -6.0484
                                                    -5.8970
                                                              -5.7767
 -5.5908
           -5.5233
                     -5.5158
                               -5.5122
                                         -5.2999
                                                    -5.2963
                                                                         -4.8702
                                                              -5.1537
                                                              -3.8352
 -4.8466
           -4.8361
                     -4.3941
                               -4.3733
                                          -4.3363
                                                    -3.8361
                                                                         -3.8298
 -3.8286
           -3.8057
                     -3.3960
                               -2.1478
                                         -2.1422
                                                    -0.4433
                                                              -0.0356
                                                                         -0.0178
  1.3261
            1.3269
                      1.3291
                                 1.3305
                                           1.6894
                                                     1.8620
                                                                1.9936
                                                                          2.0241
  2.2584
            2.3117
                      2.3209
                                 2.3737
                                           2.4160
                                                     2.4357
                                                                2.5733
                                                                          2.6060
  2.6204
            2.9104
                      2.9372
                                 3.0019
                                           3.0151
                                                     3.0262
                                                                3.0316
        k = 0.0159 - 0.5774 \ 0.0000 \ (64838 \ PWs)
                                                     bands (ev):
-21.3893 -21.2675 -20.9698 -20.9648 -20.7521 -20.6071 -20.2281 -20.1545 -19.6779 -19.5697 -19.5076 -19.3166 -19.1647 -18.8009 -18.6978 -18.6960 -18.6256 -18.6238 -18.3260 -18.2804 -18.2347 -17.9062 -17.9048 -17.8776 -17.4973 -16.5128 -16.5104 -16.3777 -16.3749 -14.7002 -14.6384 -13.9946 -13.9458 -13.5613 -13.5579 -13.4320 -13.4284 -12.7076 -12.2012 -12.1072 -12.1016 -12.0713 -12.0184 -11.9240 -11.8059 -11.6046 -11.3994 -11.2455 -11.0431 -10.8806 -10.3758 -10.3721 -10.2168 -10.2131 -10.0840 -9.8699
 -9.7730
                     -9.5131
                               -8.8833
                                         -8.8757
                                                              -8.8556
           -9.6608
                                                    -8.8641
                                                                         -8.7791
                               -8.5650
                                          -8.5647
 -8.7704
           -8.7544
                     -8.7244
                                                    -8.1628
                                                              -8.0441
                                                                         -8.0365
                     -8.0037
                               -7.9533
                                          -7.9304
                                                              -7.8286
 -8.0164
           -8.0088
                                                    -7.8818
                                                                         -7.6547
                               -7.3904
 -7.4672
           -7.4458
                     -7.4322
                                          -7.3835
                                                    -7.3667
                                                              -7.2800
                                                                         -7.1700
                               -6.4527
                                          -6.3345
 -6.9670
           -6.7715
                     -6.6852
                                                    -6.2639
                                                              -6.2078
                                                                         -6.1719
                     -6.0905
                                -6.0858
                                          -6.0490
 -6.1613
           -6.1326
                                                    -5.8934
                                                               -5.7756
                                                                         -5.6652
 -5.5905
           -5.5233
                     -5.5163
                                -5.5126
                                          -5.2996
                                                    -5.2960
                                                               -5.1539
                                                                         -4.8709
 -4.8475
           -4.8371
                     -4.4094
                                -4.3838
                                          -4.3131
                                                    -3.8947
                                                               -3.8901
                                                                         -3.8053
 -3.7757
           -3.7709
                     -3.3957
                                -2.1903
                                          -2.0990
                                                    -0.4430
                                                              -0.0640
                                                                          0.0094
  1.2630
            1.2643
                      1.3935
                                 1.3950
                                           1.6898
                                                     1.8623
                                                                1.9931
                                                                          2.0233
  2.2588
            2.3111
                      2.3207
                                 2.3600
                                           2.4167
                                                     2.4495
                                                                2.5715
                                                                          2.6067
  2.6208
            2.9140
                      2.9263
                                 3.0023
                                           3.0150
                                                     3.0264
                                                                3.0320
        k = 0.0317 - 0.5774 \ 0.0000 \ (64824 \ PWs)
                                                     bands (ev):
-21.3885 -21.2670 -20.9689 -20.9639 -20.7661 -20.5919 -20.2641 -20.1169
-19.6895 -19.5704 -19.4995 -19.3113 -19.1640 -18.8021 -18.7330 -18.7312
-18.5887 -18.5869 -18.3379 -18.2963 -18.2106 -17.9053 -17.9039 -17.8778
-17.4964 -16.5800 -16.5777 -16.3098 -16.3069 -14.7302 -14.6070 -14.0196
-13.9221 -13.6249 -13.6216 -13.3664 -13.3627 -12.7060 -12.2109 -12.1066
-12.1010 -12.0744 -12.0062 -11.9239 -11.8143 -11.5908 -11.4750 -11.1675
-11.0429 -10.8807 -10.4561 -10.4523 -10.1384 -10.1347 -10.1059
                                                                         -9.8699
 -9.8102
           -9.6074
                     -9.5122
                               -8.9063
                                          -8.8978
                                                    -8.8821
                                                              -8.8745
                                                                         -8.7503
 -8.7367
           -8.7279
                     -8.7234
                                -8.5679
                                          -8.5640
                                                    -8.1762
                                                               -8.0578
                                                                         -8.0310
           -8.0091
                     -8.0017
                                -7.9755
                                          -7.9270
                                                    -7.8510
                                                               -7.8397
 -8.0114
                                                                         -7.6305
 -7.5083
           -7.4707
                     -7.4421
                                -7.3901
                                          -7.3874
                                                               -7.2042
                                                    -7.3706
                                                                         -7.1812
 -6.9710
           -6.7722
                     -6.6742
                                -6.5147
                                          -6.2956
                                                    -6.2877
                                                               -6.2119
                                                                         -6.1993
           -6.1178
                     -6.0506
                                -6.0492
                                          -6.0450
                                                    -5.8832
                                                               -5.7724
 -6.1865
                                                                         -5.6665
 -5.5896
           -5.5232
                     -5.5177
                                -5.5139
                                          -5.2988
                                                    -5.2952
                                                               -5.1544
                                                                         -4.8732
 -4.8505
           -4.8400
                     -4.4459
                                -4.3905
                                          -4.2774
                                                    -3.9552
                                                               -3.9507
                                                                         -3.8041
 -3.7177
           -3.7127
                     -3.3949
                               -2.2348
                                          -2.0524
                                                    -0.4420
                                                              -0.1009
                                                                         0.0427
                                                               1.9916
                                                                          2.0208
  1.2003
           1.2016
                      1.4610
                                1.4626
                                          1.6910
                                                    1.8631
                      2.3208
                                 2.3349
  2.2598
            2.3090
                                           2.4177
                                                     2.4733
                                                                2.5692
                                                                          2.6084
```

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2.6219
             2.8969
                        2.9287
                                   3.0034
                                               3.0147
                                                          3.0269
                                                                     3.0336
        k = 0.0476 - 0.5774 \ 0.0000 \ (64808 \ PWs)
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-21.3873 -21.2662 -20.9674 -20.9624 -20.7850 -20.5711 -20.2994 -20.0787
-19.7058 -19.5745 -19.4859 -19.3028 -19.1629 -18.8041 -18.7677 -18.7659
-18.5512 -18.5494 -18.3589 -18.3052 -18.1868 -17.9039 -17.9025 -17.8780 -17.4950 -16.6469 -16.6447 -16.2417 -16.2387 -14.7597 -14.5750 -14.0447 -13.8991 -13.6878 -13.6847 -13.3003 -13.2965 -12.7032 -12.2244 -12.1057 -12.1001 -12.0791 -11.9903 -11.9232 -11.8247 -11.5707 -11.5495 -11.0890
-11.0426 -10.8810 -10.5368 -10.5331 -10.1357 -10.0608 -10.0571
                                                                              -9.9097
 -9.8025
            -9.5641
                      -9.5015
                                 -8.9483 -8.9398
                                                        -8.8804
                                                                   -8.8727
                                                                               -8.7438
                      -8.6853
                                                                              -8.0135
 -8.7217
            -8.6940
                                 -8.5726 -8.5628
                                                        -8.1941
                                                                   -8.0886
                                                                   -7.7959
           -8.0070
 -8.0091
                      -7.9990
                                 -7.9870
                                            -7.9214
                                                        -7.8800
                                                                              -7.5986
                                            -7.3897
                                                                   -7.1984
                                                                              -7.1284
 -7.5844
            -7.4749
                      -7.4375
                                  -7.3939
                                                        -7.3771
                                             -6.3285
                                                                              -6.2056
 -6.9776
            -6.7742
                      -6.6563
                                 -6.5775
                                                        -6.2794
                                                                   -6.2514
                                                        -5.8674
                                                                   -5.7672
                                                                               -5.6685
                                 -6.0075
                                             -6.0033
 -6.1731
            -6.0915
                       -6.0531
                                             -5.2975
            -5.5230
                                  -5.5162
                                                        -5.2939
                                                                   -5.1553
 -5.5882
                       -5.5200
                                                                               -4.8769
                                                                               -3.8021
 -4.8553
            -4.8449
                       -4.4871
                                  -4.3981
                                             -4.2412
                                                        -4.0164
                                                                   -4.0121
                                  -2.2786
                                             -2.0051
 -3.6606
            -3.6555
                       -3.3935
                                                        -0.4405
                                                                   -0.1394
                                                                                0.0752
  1.1394
             1.1406
                        1.5300
                                   1.5318
                                              1.6930
                                                         1.8645
                                                                     1.9890
                                                                                2.0167
                                   2.3220
  2.2615
             2.3046
                        2.3091
                                               2.4190
                                                          2.4869
                                                                     2.5771
                                                                                2.6109
  2.6238
                        2.9468
                                                          3.0269
             2.8644
                                   3.0051
                                               3.0143
                                                                     3.0376
        k = 0.0635 - 0.5774 \ 0.0000 \ (64824 \ PWs)
                                                         bands (ev):
-21.3856 -21.2651 -20.9654 -20.9604 -20.8064 -20.5470 -20.3342 -20.0399 -19.7248 -19.5820 -19.4679 -19.2918 -19.1613 -18.8068 -18.8018 -18.8001 -18.5132 -18.5114 -18.3848 -18.3107 -18.1636 -17.9020 -17.9006 -17.8784 -17.4930 -16.7135 -16.7113 -16.1735 -16.1703 -14.7888 -14.5426 -14.0700 -13.8770 -13.7500 -13.7469 -13.2336 -13.2296 -12.6994 -12.2399 -12.1043 -12.0987 -12.0851 -11.9770 -11.9191 -11.8337 -11.6227 -11.5464 -11.0422 -11.0099 -10.8813 -10.6181 -10.6183 -10.1693 -9.9841 -9.9805 -9.9644
-11.0099 -10.8813 -10.6181 -10.6143 -10.1693
                                                        -9.9841
                                                                   -9.9805
                                                                              -9.9644
            -9.5450
                      -9.4651
                                 -8.9901
                                            -8.9818
                                                        -8.8779
 -9.7800
                                                                   -8.8702
                                                                               -8.7357
                                  -8.5790
                                             -8.5612
 -8.7194
            -8.6513
                       -8.6425
                                                        -8.2141
                                                                   -8.1245
                                                                               -8.0082
 -8.0032
            -7.9959
                       -7.9940
                                  -7.9918
                                             -7.9137
                                                        -7.9118
                                                                    -7.7507
                                                                               -7.6605
 -7.5627
            -7.4794
                       -7.4327
                                  -7.4030
                                             -7.3892
                                                        -7.3862
                                                                   -7.2201
                                                                              -7.0527
 -6.9867
            -6.7780
                       -6.6410
                                  -6.6326
                                             -6.3617
                                                        -6.3056
                                                                   -6.2905
                                                                               -6.2204
            -6.0595
 -6.1251
                       -6.0565
                                  -5.9652
                                             -5.9608
                                                        -5.8476
                                                                   -5.7605
                                                                               -5.6713
 -5.5862
            -5.5233
                       -5.5228
                                  -5.5194
                                             -5.2956
                                                        -5.2921
                                                                   -5.1567
                                                                               -4.8821
                                  -4.4079
                                                                   -4.0740
                                                        -4.0783
 -4.8621
            -4.8517
                       -4.5299
                                             -4.2056
                                                                               -3.7996
                       -3.3916
 -3.6046
            -3.5994
                                  -2.3217
                                             -1.9571
                                                        -0.4385
                                                                    -0.1792
                                                                                0.1066
  1.0803
             1.0816
                        1.6003
                                   1.6023
                                              1.6958
                                                         1.8664
                                                                     1.9851
                                                                                2.0113
                                   2.3240
                                                          2.4818
  2.2637
             2.2855
                        2.2981
                                               2.4206
                                                                     2.6030
                                                                                2.6144
                                                                     3.0443
  2,6266
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                        2.9680
                                   3.0073
                                               3.0140
                                                          3.0266
        k = 0.0794 - 0.5774 \ 0.0000 \ (64784 \ PWs)
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-21.3834 -21.2637 -20.9627 -20.9577 -20.8289 -20.5210 -20.3684 -20.0006
-19.7452 -19.5922 -19.4472 -19.2788 -19.1592 -18.8354 -18.8337 -18.8104
-18.4747 -18.4728 -18.4129 -18.3155 -18.1412 -17.8995 -17.8981 -17.8790
-17.4905 -16.7797 -16.7777 -16.1053 -16.1019 -14.8174 -14.5096 -14.0954
-13.8560 -13.8113 -13.8083 -13.1663 -13.1623 -12.6946 -12.2561 -12.1026
-12.0970 -12.0922 -11.9745 -11.9065 -11.8382 -11.6943 -11.5196 -11.0418
-10.9306 -10.8819 -10.6997 -10.6959 -10.2046 -10.0212
                                                                   -9.9083
                                                                              -9.9047
 -9.7602
            -9.5360
                      -9.4139
                                  -9.0318
                                             -9.0235
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                       -8.5996
                                  -8.5870
                                             -8.5591
                                                        -8.2350
                                                                    -8.1623
                                                                               -8.0066
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            -7.9937
                       -7.9915
                                  -7.9736
                                             -7.9447
                                                        -7.9040
                                                                    -7.7365
                                                                               -7.7045
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            -7.4837
                       -7.4280
                                  -7.4146
                                             -7.3978
                                                        -7.3885
                                                                    -7.2445
                                                                               -6.9982
 -6.9772
           -6.7836
                      -6.7049
                                  -6.6044
                                             -6.3949
                                                        -6.3398
                                                                   -6.3290
                                                                               -6.2395
                                             -5.9179
                      -6.0248
                                 -5.9226
                                                        -5.8248
                                                                   -5.7526
 -6.0689
           -6.0604
                                                                               -5.6746
 -5.5837
           -5.5277
                      -5.5235
                                 -5.5223
                                            -5.2931
                                                        -5.2897
                                                                   -5.1585
                                                                              -4.8887
```

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-4.8708
           -4.8604
                      -4.5739
                                -4.4198
                                                     -4.1406
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                                           -4.1712
                                                     -0.4359
                                                                -0.2203
                                                                           0.1368
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           -3.5446
                      -3.3892
                                -2.3641
                                          -1.9084
  1.0232
            1.0246
                       1.6719
                                 1.6741
                                            1.6994
                                                      1.8687
                                                                 1.9796
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                                            2.4226
  2.2641
            2.2669
                       2.2898
                                                      2.4653
                                                                 2.6181
                                 2.3269
                                                                           2.6283
  2.6428
            2.7970
                       2.9883
                                 3.0089
                                            3.0147
                                                      3.0259
                                                                 3.0531
        k = 0.0952 - 0.5774 \ 0.0000 \ (64810 \ PWs)
                                                      bands (ev):
-21.3807 -21.2620 -20.9595 -20.9545 -20.8519 -20.4937 -20.4021 -19.9607
-19.7665 \ -19.6042 \ -19.4247 \ -19.2642 \ -19.1566 \ -18.8684 \ -18.8667 \ -18.8148
-18.4424 -18.4356 -18.4337 -18.3202 -18.1197 -17.8964 -17.8950 -17.8797 -17.4875 -16.8456 -16.8436 -16.0370 -16.0334 -14.8455 -14.4762 -14.1207 -13.8718 -13.8691 -13.8358 -13.0985 -13.0944 -12.6888 -12.2721 -12.1005 -12.1003 -12.0949 -11.9834 -11.8880 -11.8348 -11.7643 -11.4912 -11.0414 -10.8826 -10.8509 -10.7816 -10.7778 -10.2406 -10.0779 -9.8337 -9.8301
 -9.7492
           -9.5218
                     -9.3595
                               -9.0734 -9.0651 -8.8708
                                                               -8.8629
                                                                          -8.7178
           -8.5963
                                                               -8.2008
                                                                          -8.0041
 -8.7127
                     -8.5656
                               -8.5567
                                          -8.5567
                                                     -8.2560
           -7.9917
                     -7.9879
                                -7.9778
                                                               -7.8126
                                                                          -7.6574
 -7.9968
                                          -7.9531
                                                    -7.8923
                                                                          -7.0120
           -7.4849
 -7.4880
                     -7.4288
                                -7.4239
                                          -7.4120
                                                     -7.3877
                                                               -7.2701
           -6.7907
                     -6.7692
                                -6.5732
                                          -6.4278
                                                     -6.3758
                                                               -6.3669
 -6.9019
                                                                          -6.2612
                                                     -5.7999
 -6.0647
           -6.0110
                     -5.9889
                                -5.8797
                                          -5.8744
                                                                -5.7441
                                                                          -5.6784
                     -5.5286
                                          -5.2901
 -5.5805
           -5.5330
                                -5.5217
                                                     -5.2867
                                                                -5.1608
                                                                          -4.8967
                                          -4.2033
                                                     -4.1993
 -4.8812
           -4.8709
                     -4.6187
                                -4.4336
                                                                          -3.7940
                                                               -4.1379
                     -3.3862
 -3.4965
                                -2.4058
                                                     -0.4328
                                                                -0.2626
           -3.4911
                                          -1.8591
                                                                           0.1659
  0.9682
                       1.7037
                                 1.7448
                                            1.7472
                                                      1.8716
            0.9697
                                                                 1.9720
                                                                           1.9984
                                            2.4247
  2.2468
            2.2684
                       2.2812
                                 2.3305
                                                      2.4443
                                                                 2.6230
                                                                           2.6326
  2.6856
            2.7649
                       3.0048
                                 3.0089
                                            3.0173
                                                      3.0254
                                                                 3.0546
        k = 0.1111 - 0.5774 \ 0.0000 \ (64852 \ PWs)
                                                      bands (ev):
-18.4727 -18.3959 -18.3940 -18.3251 -18.0991 -17.8928 -17.8914 -17.8806 -17.4842 -16.9111 -16.9092 -15.9689 -15.9650 -14.8731 -14.4423 -14.1460 -13.9313 -13.9287 -13.8176 -13.0301 -13.0259 -12.6821 -12.2875 -12.1090
-12.0980 -12.0924 -11.9988 -11.8732 -11.8322 -11.8193 -11.4620 -11.0411 -10.8835 -10.8638 -10.8599 -10.7710 -10.2767 -10.1336 -9.7603 -9.7568
 -9.7493
           -9.4982
                     -9.3046
                               -9.1148
                                          -9.1066
                                                    -8.8662
                                                               -8.8582
                                                                          -8.7098
                                -8.5227
 -8.7084
           -8.6067
                     -8.5539
                                          -8.5136
                                                     -8.2769
                                                               -8.2393
                                                                          -8.0108
                     -7.9881
                                                               -7.8787
 -8.0006
           -7.9939
                               -7.9837
                                          -7.9325
                                                     -7.8885
                                                                          -7.6095
                                          -7.4208
                     -7.4442
                               -7.4288
                                                                          -7.0281
 -7.4920
           -7.4455
                                                     -7.3867
                                                               -7.2955
                               -6.5398
                                          -6.4604
 -6.8340
           -6.8268
                     -6.7992
                                                     -6.4121
                                                               -6.4044
                                                                          -6.2843
                     -5.9522
                                -5.8366
                                          -5.8306
                                                     -5.7736
                                                               -5.7355
 -6.0693
           -5.9528
                                                                          -5.6823
                                                     -5.2831
           -5.5394
                     -5.5345
                                -5.5209
                                          -5.2864
                                                               -5.1638
 -5.5769
                                                                          -4.9059
           -4.8832
 -4.8935
                     -4.6644
                                -4.4488
                                          -4.2664
                                                     -4.2625
                                                               -4.1060
                                                                          -3.7912
                                                               -0.3061
 -3.4447
           -3.4391
                     -3.3828
                                -2.4469
                                          -1.8090
                                                     -0.4293
                                                                           0.1939
  0.9154
                      1.7089
                                 1.8189
                                            1.8215
                                                      1.8748
                                                                 1.9620
            0.9170
                                                                           1.9922
            2.2631
  2.2320
                       2.2787
                                 2.3345
                                            2.4218
                                                      2.4271
                                                                 2.6287
                                                                           2.6366
  2.7310
                       3.0076
                                 3.0160
                                            3.0206
                                                      3.0263
            2.7359
                                                                 3.0333
        k = 0.1270 - 0.5774 \ 0.0000 \ (64820 \ PWs)
                                                      bands (ev):
-21.3739 -21.2579 -20.9513 -20.9462 -20.8977 -20.4677 -20.4370 -19.8792
-19.8099 -19.6314 -19.3768 -19.2321 -19.1500 -18.9327 -18.9310 -18.8260
-18.5036 -18.3557 -18.3538 -18.3302 -18.0794 -17.8886 -17.8872 -17.8817
-17.4806 -16.9762 -16.9744 -15.9009 -15.8968 -14.9002 -14.4079 -14.1712
-13.9897 -13.9873 -13.8011 -12.9613 -12.9570 -12.6745 -12.3019 -12.1182
-12.0951 -12.0895 -12.0175 -11.8978 -11.8650 -11.7919 -11.4325 -11.0411
-10.9462 -10.9424 -10.8846 -10.6911 -10.3129 -10.1873
                                                               -9.7591
                                                                         -9.6882
 -9.6848
          -9.4658 -9.2502 -9.1559 -9.1479 -8.8609
                                                               -8.8527
                                                                          -8.7038
          -8.6180 -8.5507 -8.4796 -8.4706 -8.2973
 -8.7034
                                                               -8.2774
                                                                          -8.0433
          -7.9901 -7.9841 -7.9795 -7.9639 -7.9122 -7.8635
 -7.9960
                                                                          -7.5609
```

```
-7.4960
           -7.4647
                     -7.4480
                               -7.4193
                                          -7.4028
                                                    -7.3855
                                                                        -7.0463
                                                              -7.3191
 -6.8991
           -6.8087
                     -6.7519
                               -6.5051
                                          -6.4926
                                                    -6.4482
                                                              -6.4412
                                                                         -6.3083
           -5.9151
 -6.0741
                     -5.8946
                               -5.7935
                                          -5.7866
                                                    -5.7462
                                                              -5.7277
                                                                         -5.6857
 -5.5726
           -5.5467
                     -5.5413
                                                              -5.1676
                               -5.5196
                                                    -5.2789
                                                                         -4.9162
                                         -5.2821
 -4.9073
           -4.8971
                     -4.7107
                               -4.4651
                                          -4.3299
                                                    -4.3261
                                                              -4.0756
                                                                        -3.7888
 -3.3944
           -3.3888
                     -3.3789
                               -2.4872
                                          -1.7582
                                                    -0.4255
                                                              -0.3509
                                                                         0.2208
  0.8649
            0.8667
                      1.7149
                                1.8784
                                           1.8941
                                                     1.8970
                                                               1.9501
                                                                          1.9865
                                           2.4002
                                                     2.4294
  2.2199
            2.2507
                      2.2825
                                 2.3383
                                                               2.6351
                                                                          2.6401
                                                     3.0299
  2.7078
            2.7807
                      2.9960
                                 3.0060
                                           3.0184
                                                               3.0309
        k = 0.1429 - 0.5774 \ 0.0000 \ (64840 \ PWs)
                                                     bands (ev):
-21.3698 -21.2556 -20.9462 -20.9412 -20.9201 -20.4996 -20.4079 -19.8376
-19.8317 -19.6458 -19.3521 -19.2152 -19.1459 -18.9640 -18.9624 -18.8328
-19.8317 -19.6456 -19.5321 -19.2132 -19.1439 -16.9646 -18.9624 -16.6326 -18.5352 -18.3353 -18.3150 -18.3130 -18.0608 -17.8838 -17.8830 -17.8824 -17.4767 -17.0409 -17.0392 -15.8333 -15.8289 -14.9269 -14.3730 -14.1963 -14.0469 -14.0447 -13.7867 -12.8919 -12.8876 -12.6661 -12.3151 -12.1278 -12.0919 -12.0862 -12.0377 -11.9608 -11.8600 -11.7578 -11.4032 -11.0413 -11.0288 -11.0250 -10.8861 -10.6111 -10.3496 -10.2381 -9.7757 -9.6177
                     -9.1970
                               -9.1966
                                                    -8.8549
                                                              -8.8465
                                                                        -8.7007
 -9.6143
           -9.4271
                                         -9.1889
 -8.6978
           -8.6298
                     -8.5473
                               -8.4366
                                         -8.4275
                                                    -8.3172
                                                              -8.3151
                                                                        -8.0751
                               -7.9790
                                                              -7.8469
                                                                        -7.5115
                     -7.9851
                                         -7.9744
                                                    -7.8920
 -8.0405
           -7.9901
                     -7.4697
                                                    -7.3607
                                                                        -7.0665
 -7.5001
                               -7.4206
                                         -7.3841
           -7.4864
                                                              -7.3390
 -6.9645
           -6.8192
                     -6.6773
                               -6.5244
                                         -6.4840
                                                    -6.4775
                                                              -6.4698
                                                                        -6.3326
                               -5.7508
                     -5.8369
                                          -5.7424
 -6.0789
           -5.8776
                                                    -5.7220
                                                              -5.7182
                                                                         -5.6877
 -5.5678
           -5.5550
                     -5.5486
                               -5.5179
                                         -5.2772
                                                    -5.2740
                                                              -5.1722
                                                                         -4.9274
                     -4.7577
 -4.9228
           -4.9126
                               -4.4821
                                          -4.3936
                                                    -4.3899
                                                              -4.0465
                                                                         -3.7869
                                          -1.7068
 -3.3747
           -3.3458
                     -3.3401
                               -2.5268
                                                    -0.4214
                                                              -0.3968
                                                                          0.2466
  0.8168
            0.8188
                      1.7216
                                1.8823
                                           1.9368
                                                     1.9703
                                                               1.9735
                                                                          1.9812
  2.2100
            2.2360
                      2.2879
                                 2.3399
                                           2.3819
                                                     2.4317
                                                               2.6404
                                                                          2.6426
  2.6867
            2.8300
                      2.9582
                                 3.0039
                                           3.0171
                                                     3.0370
                                                               3.0392
        k = 0.1587 - 0.5774 \ 0.0000 \ (64820 \ PWs)
                                                     bands (ev):
-21.3652 -21.2532 -20.9419 -20.9406 -20.9356 -20.5310 -20.3785 -19.8535
-19.7954 -19.6605 -19.3272 -19.1979 -19.1413 -18.9948 -18.9932 -18.8404
-18.5672 -18.3405 -18.2737 -18.2717 -18.0433 -17.8845 -17.8785 -17.8771
-17.4727 -17.1053 -17.1036 -15.7661 -15.7615 -14.9530 -14.3377 -14.2212
-14.1027 -14.1008 -13.7748 -12.8221 -12.8177 -12.6571 -12.3270 -12.1377
-12.0883 -12.0826 -12.0584 -12.0207 -11.8561 -11.7201 -11.3744 -11.1116
-11.1078 -11.0421 -10.8880 -10.5311 -10.3875 -10.2846
                                                              -9.7964
                                                                        -9.5489
 -9.5456
          -9.3842
                    -9.2378
                               -9.2298
                                         -9.1441
                                                   -8.8483
                                                              -8.8396
                                                                        -8.7013
                               -8.3937
                     -8.5437
                                         -8.3846
 -8.6915
           -8.6418
                                                    -8.3518
                                                              -8.3366
                                                                        -8.1161
           -7.9829
                     -7.9789
                               -7.9739
                                         -7.9695
                                                    -7.8718
                                                              -7.8289
 -8.1061
                                                                        -7.5105
 -7.5046
           -7.4939
                     -7.4613
                               -7.4257
                                         -7.3825
                                                    -7.3535
                                                              -7.3183
                                                                        -7.0886
           -6.8303
                                                    -6.5132
 -7.0302
                     -6.6030
                               -6.5558
                                         -6.5194
                                                              -6.4344
                                                                        -6.3571
 -6.0838
           -5.8399
                     -5.7796
                               -5.7195
                                         -5.7094
                                                    -5.6988
                                                              -5.6898
                                                                         -5.6872
 -5.5638
           -5.5625
                     -5.5555
                               -5.5156
                                         -5.2716
                                                    -5.2686
                                                              -5.1778
                                                                        -4.9396
 -4.9394
           -4.9296
                     -4.8052
                               -4.4994
                                          -4.4574
                                                    -4.4538
                                                              -4.0190
                                                                        -3.7857
 -3.3701
           -3.2992
                     -3.2934
                               -2.5657
                                          -1.6547
                                                    -0.4440
                                                              -0.4171
                                                                          0.2713
  0.7713
            0.7736
                     1.7292
                                1.8864
                                           1.9229
                                                     1.9762
                                                               2.0476
                                                                          2.0510
  2.2021
            2.2200
                      2.2940
                                 2.3340
                                           2.3727
                                                     2.4339
                                                               2.6330
                                                                          2.6505
  2.6767
            2.8746
                      2.9256
                                 3.0014
                                           3.0150
                                                     3.0445
                                                               3.0485
        k = 0.1746 - 0.5774 \ 0.0000 \ (64816 \ PWs)
                                                     bands (ev):
-21.3602 -21.2508 -20.9631 -20.9345 -20.9295 -20.5618 -20.3489 -19.8750
-19.7527 -19.6751 -19.3023 -19.1806 -19.1360 -19.0250 -19.0234 -18.8486
-18.5995 -18.3455 -18.2319 -18.2298 -18.0268 -17.8863 -17.8727 -17.8712
-17.4686 -17.1692 -17.1675 -15.6997 -15.6948 -14.9787 -14.3019 -14.2458
-14.1570 -14.1553 -13.7658 -12.7518 -12.7473 -12.6475 -12.3375 -12.1476
-12.0846 -12.0794 -12.0791 -12.0760 -11.8528 -11.6802 -11.3465 -11.1945
```

```
-11.1907 -11.0437 -10.8903 -10.4511 -10.4274 -10.3254
                                                                 -9.8194
                                                                            -9.4819
                                           -9.0930
 -9.4787
           -9.3386
                      -9.2783
                                -9.2705
                                                      -8.8410
                                                                 -8.8320
                                                                            -8.7060
           -8.6537
                                 -8.3898
                                           -8.3556
 -8.6846
                      -8.5401
                                                      -8.3499
                                                                 -8.3406
                                                                            -8.1915
                                                                 -7.8098
 -8.1360
           -7.9742
                      -7.9721
                                 -7.9677
                                            -7.9640
                                                      -7.8514
                                                                            -7.5369
 -7.5204
           -7.5102
                      -7.4342
                                 -7.4107
                                            -7.3813
                                                       -7.3615
                                                                 -7.2755
                                                                            -7.1122
 -7.0961
           -6.8419
                      -6.5866
                                 -6.5542
                                           -6.5484
                                                       -6.5289
                                                                 -6.3993
                                                                            -6.3815
           -5.8020
 -6.0886
                      -5.7229
                                 -5.7205
                                            -5.6845
                                                       -5.6721
                                                                 -5.6611
                                                                            -5.6575
 -5.5712
           -5.5596
                      -5.5565
                                 -5.5127
                                            -5.2654
                                                       -5.2624
                                                                 -5.1845
                                                                            -4.9578
                                                                            -3.7852
 -4.9520
           -4.9479
                      -4.8531
                                 -4.5215
                                            -4.5180
                                                       -4.5165
                                                                 -3.9931
 -3.3654
           -3.2546
                      -3.2487
                                 -2.6038
                                            -1.6019
                                                       -0.4924
                                                                 -0.4127
                                                                             0.2950
  0.7286
             0.7310
                       1.7375
                                  1.8905
                                             1.9089
                                                        1.9713
                                                                   2.1256
                                                                             2.1295
  2.1953
             2.2035
                       2.3008
                                  2.3197
                                             2.3740
                                                        2.4359
                                                                   2.6177
                                                                              2.6593
                                             3.0124
                        2.9449
                                  2.9987
                                                        3.0530
  2.6778
             2.8685
                                                                   3.0583
        k = 0.1905 - 0.5774 \ 0.0000 \ (64822 \ PWs)
                                                        bands (ev):
-21.3547 -21.2484 -20.9833 -20.9277 -20.9227 -20.5920 -20.3192 -19.8964 -19.7095 -19.6896 -19.2775 -19.1634 -19.1300 -19.0546 -19.0530 -18.8575 -18.6321 -18.3504 -18.1895 -18.1874 -18.0114 -17.8883 -17.8663 -17.8648 -17.4646 -17.2327 -17.2310 -15.6343 -15.6291 -15.0039 -14.2703 -14.2655 -14.2094 -14.2080 -13.7601 -12.6811 -12.6764 -12.6375 -12.3466 -12.1574 -12.1298 -12.0991 -12.0798 -12.0741 -11.8500 -11.6384 -11.3200 -11.2775 -11.2737 -11.0465 -10.8931 -10.4691 -10.3714 -10.3598 -9.8433 -9.4171 -9.4130 -9.3186 -9.3100 -9.2014 -9.0433 -8.8331 -8.8236 -8.7148
                      -9.3109
                                 -9.2914
                                           -9.0433
           -9.3186
                                                      -8.8331
                                                                 -8.8236
 -9.4139
                                                                            -8.7148
           -8.6659
                      -8.5366
                                                       -8.3069
 -8.6771
                                 -8.4254
                                            -8.3746
                                                                 -8.2976
                                                                            -8.2667
                                                                 -7.7899
 -8.1647
            -7.9664
                      -7.9637
                                 -7.9602
                                            -7.9569
                                                       -7.8309
                                                                            -7.5658
                                 -7.3809
 -7.5493
           -7.5173
                      -7.4439
                                            -7.3642
                                                       -7.3593
                                                                 -7.2324
                                                                            -7.1623
                                 -6.5885
                                            -6.5829
 -7.1373
           -6.8536
                      -6.6169
                                                       -6.4553
                                                                 -6.4057
                                                                            -6.3650
            -5.7642
                      -5.7233
                                 -5.6809
                                            -5.6668
 -6.0935
                                                       -5.6459
                                                                  -5.6325
                                                                            -5.6271
 -5.5688
           -5.5538
                      -5.5501
                                 -5.5092
                                            -5.2585
                                                       -5.2557
                                                                  -5.1923
                                                                            -4.9772
 -4.9673
            -4.9650
                      -4.9013
                                 -4.5856
                                            -4.5822
                                                       -4.5331
                                                                 -3.9688
                                                                            -3.7856
 -3.3606
            -3.2121
                      -3.2062
                                 -2.6413
                                            -1.5484
                                                       -0.5419
                                                                  -0.4084
                                                                             0.3176
  0.6887
             0.6914
                        1.7465
                                  1.8942
                                             1.8956
                                                        1.9667
                                                                   2.1824
                                                                              2.1911
  2.2064
             2.2095
                        2.3024
                                  2.3084
                                                        2.4377
                                                                   2.6008
                                             2.3801
                                                                              2.6689
                        2.9942
                                  2.9960
             2.8329
                                             3.0095
                                                                   3.0687
  2.6837
                                                        3.0626
        k = 0.2063 - 0.5774 \ 0.0000 \ (64806 \ PWs)
                                                        bands (ev):
-21.3487 -21.2463 -21.0026 -20.9203 -20.9154 -20.6216 -20.2897 -19.9175
-19.7038 -19.6657 -19.2531 -19.1468 -19.1233 -19.0837 -19.0821 -18.8666
-18.6650 -18.3549 -18.1466 -18.1445 -17.9972 -17.8906 -17.8593 -17.8578
-17.4606 -17.2957 -17.2941 -15.5703 -15.5647 -15.0286 -14.2944 -14.2596
-14.2585 -14.2288 -13.7582 -12.6273 -12.6098 -12.6051 -12.3542 -12.1779
-12.1670 -12.1183 -12.0751 -12.0693 -11.8476 -11.5951 -11.3605 -11.3568
-11.2952 -11.0509 -10.8966 -10.5114 -10.3883 -10.2918
                                                                 -9.8671
                                                                           -9.3609
           -9.3505
                      -9.3482
 -9.3560
                                -9.2432
                                           -8.9954
                                                      -8.8246
                                                                 -8.8145
                                                                            -8.7268
           -8.6690
                      -8.5333
                                -8.4606
                                           -8.3939
                                                      -8.3416
                                                                 -8.2638
 -8.6787
                                                                            -8.2544
 -8.1919
           -7.9606
                      -7.9554
                                -7.9503
                                           -7.9461
                                                      -7.8099
                                                                 -7.7693
                                                                            -7.5969
           -7.5262
 -7.5805
                      -7.4525
                                 -7.3813
                                           -7.3635
                                                      -7.3073
                                                                 -7.2287
                                                                            -7.1894
           -6.8652
                      -6.6467
                                 -6.6223
                                           -6.6168
                                                      -6.4293
                                                                 -6.3820
 -7.1636
                                                                            -6.3319
 -6.0984
           -5.7269
                      -5.7265
                                 -5.6778
                                           -5.6391
                                                       -5.6241
                                                                 -5.6109
                                                                            -5.6040
                                                                            -4.9976
 -5.5430
           -5.5409
                      -5.5301
                                 -5.5052
                                            -5.2510
                                                       -5.2482
                                                                 -5.2015
 -4.9879
            -4.9781
                      -4.9498
                                 -4.6498
                                            -4.6464
                                                       -4.5489
                                                                 -3.9462
                                                                            -3.7869
                                            -1.4943
                                                       -0.5926
 -3.3557
            -3.1719
                       -3.1660
                                 -2.6781
                                                                  -0.4041
                                                                             0.3393
  0.6517
             0.6547
                       1.7564
                                  1.8825
                                             1.8982
                                                        1.9623
                                                                   2.1660
                                                                              2.1864
  2.2852
             2.2862
                        2.2895
                                  2.3160
                                             2.3882
                                                        2.4391
                                                                   2.5853
                                                                              2.6793
  2.6917
             2.7959
                        2.9922
                                  3.0062
                                             3.0439
                                                        3.0734
                                                                   3.0801
        k = 0.2222 - 0.5774 \ 0.0000 \ (64840 \ PWs)
                                                        bands (ev):
-21.3424 -21.2446 -21.0206 -20.9124 -20.9074 -20.6506 -20.2603 -19.9383
-19.7174 -19.6213 -19.2294 -19.1310 -19.1155 -19.1122 -19.1106 -18.8759
```

```
-18.6978 -18.3591 -18.1031 -18.1010 -17.9842 -17.8930 -17.8518 -17.8503
-17.4569 -17.3584 -17.3568 -15.5081 -15.5021 -15.0528 -14.3183 -14.3071
-14.3062 -14.1915 -13.7606 -12.6172 -12.5382 -12.5334 -12.3603 -12.2213
-9.3913
           -9.2942 -9.2908 -9.1944 -8.9495
                                                   -8.8158
                                                              -8.8047
                                                                         -8.7414
                                                              -8.2206
-7.7482
                               -8.4952
                     -8.5306
                                                    -8.4140
 -8.6928
           -8.6603
                                         -8.4160
                                                                        -8.2174
          -7.9551
                     -7.9495
                               -7.9362
                                         -7.9324
                                                    -7.7885
                                                                        -7.6303
 -8.2111
 -7.6140
           -7.5365
                     -7.4592
                               -7.3820
                                         -7.3613
                                                    -7.2953
                                                              -7.2546
                                                                        -7.1907
                                                              -6.3092
                                                                        -6.3003
 -7.1465
           -6.8765
                     -6.6758
                               -6.6554
                                         -6.6501
                                                    -6.4524
 -6.1034
           -5.7302
                     -5.6892
                               -5.6759
                                         -5.6468
                                                    -5.6356
                                                              -5.5760
                                                                         -5.5564
                                                                         -5.0188
 -5.5353
           -5.5010
                     -5.4993
                               -5.4933
                                         -5.2429
                                                    -5.2402
                                                              -5.2119
                                                              -3.9252
                                                                        -3.7890
 -5.0092
           -4.9983
                     -4.9909
                               -4.7139
                                         -4.7107
                                                    -4.5634
                                                              -0.4000
 -3.3510
           -3.1343
                     -3.1282
                               -2.7141
                                         -1.4394
                                                    -0.6445
                                                                         0.3599
  0.6179
            0.6211
                      1.7670
                                1.8709
                                           1.9011
                                                     1.9581
                                                                2.1482
                                                                          2.1825
  2.2711
            2.3238
                      2.3657
                                 2.3706
                                           2.3973
                                                     2.4405
                                                                2.5723
                                                                          2.6903
  2.7003
            2.7603
                      2.9885
                                 3.0026
                                           3.0500
                                                     3.0796
                                                                3.0870
        k = 0.2381 - 0.5774 \ 0.0000 \ (64812 \ PWs)
                                                     bands (ev):
-21.3356 -21.2435 -21.0370 -20.9039 -20.8989 -20.6791 -20.2313 -19.9588 -19.7304 -19.5764 -19.2068 -19.1401 -19.1386 -19.1167 -19.1063 -18.8849 -18.7305 -18.3628 -18.0591 -18.0570 -17.9724 -17.8957 -17.8437 -17.8422 -17.4534 -17.4206 -17.4189 -15.4486 -15.4421 -15.0766 -14.3512 -14.3506 -14.3418 -14.1538 -13.7675 -12.6074 -12.4661 -12.4612 -12.3650 -12.2594 -12.1851 -12.1528 -12.0645 -12.0587 -11.8444 -11.5267 -11.5230 -11.5048 -11.2525 -11.0668 -10.9062 -10.5909 -10.4304 -10.1334 -9.9115 -9.4386
                     -9.2334
                               -9.1455
                                         -8.9059
                                                              -8.7942
 -9.4309
           -9.2368
                                                    -8.8068
                                                                        -8.7576
                     -8.5292
                               -8.5287
                                         -8.4897
 -8.7083
           -8.6510
                                                    -8.4350
                                                              -8.2407
                                                                         -8.1774
                     -7.9438
                               -7.9196
                                         -7.9163
 -8.1679
           -7.9496
                                                    -7.7669
                                                              -7.7269
                                                                        -7.6659
 -7.6496
           -7.5472
                     -7.4645
                               -7.3827
                                          -7.3621
                                                    -7.3587
                                                              -7.2182
                                                                         -7.2013
 -7.1041
                     -6.7041
                               -6.6880
                                                    -6.4745
           -6.8871
                                          -6.6828
                                                              -6.2706
                                                                         -6.2368
                     -5.6752
                               -5.6618
                                                    -5.6525
                                                              -5.5490
 -6.1085
           -5.7328
                                          -5.6526
                                                                         -5.5265
 -5.5025
           -5.4966
                     -5.4541
                               -5.4509
                                                              -5.2235
                                          -5.2342
                                                    -5.2316
                                                                         -5.0467
 -5.0405
                     -5.0031
                               -4.7780
                                          -4.7748
                                                    -4.5764
                                                              -3.9060
                                                                         -3.7921
           -5.0311
 -3.3465
           -3.0992
                     -3.0931
                               -2.7495
                                          -1.3839
                                                    -0.6975
                                                               -0.3961
                                                                          0.3796
  0.5873
            0.5907
                      1.7783
                                 1.8605
                                           1.9029
                                                     1.9543
                                                                2.1311
                                                                          2.1790
  2.2580
            2.3318
                      2.4057
                                 2.4394
                                           2.4495
                                                     2.4531
                                                                2.5623
                                                                          2.7005
  2.7061
            2.7312
                      2.9844
                                 2.9987
                                           3.0128
                                                     3.0931
                                                                3.0999
        k = 0.2540 - 0.5774 \ 0.0000 \ (64842 \ PWs)
                                                     bands (ev):
-21.3286 -21.2434 -21.0515 -20.8947 -20.8898 -20.7070 -20.2030 -19.9788
-19.7425 -19.5309 -19.1858 -19.1675 -19.1660 -19.1044 -19.0957 -18.8930
-18.7627 -18.3660 -18.0146 -18.0125 -17.9618 -17.8985 -17.8350 -17.8335
-17.4823 -17.4807 -17.4503 -15.3925 -15.3855 -15.0998 -14.3911 -14.3906
-14.3651 -14.1155 -13.7795 -12.5983 -12.3935 -12.3886 -12.3683 -12.2918
-12.1933 -12.1676 -12.0587 -12.0528 -11.8436 -11.6098 -11.6061 -11.4581
-11.2355 -11.0797 -10.9125 -10.6245 -10.4454 -10.0547
                                                              -9.9308
                                                                        -9.4780
 -9.4704
           -9.1823
                     -9.1787
                               -9.0966
                                         -8.8653
                                                    -8.7984
                                                              -8.7830
                                                                         -8.7752
 -8.7250
           -8.6413
                     -8.5626
                               -8.5616
                                          -8.5280
                                                    -8.4570
                                                              -8.2614
                                                                         -8.1343
 -8.1247
           -7.9440
                     -7.9381
                               -7.9007
                                          -7.8977
                                                    -7.7455
                                                              -7.7058
                                                                         -7.7037
           -7.5573
 -7.6875
                     -7.4694
                                -7.4290
                                          -7.3830
                                                    -7.3559
                                                               -7.2456
                                                                         -7.1474
 -7.0625
           -6.8967
                     -6.7317
                                -6.7200
                                          -6.7149
                                                    -6.4954
                                                               -6.2433
                                                                         -6.1649
 -6.1139
           -5.7343
                     -5.6809
                                -5.6760
                                          -5.6727
                                                    -5.6170
                                                               -5.5258
                                                                         -5.5143
 -5.4927
           -5.4494
                     -5.4077
                                -5.4063
                                          -5.2359
                                                    -5.2249
                                                               -5.2224
                                                                         -5.0945
 -5.0626
           -5.0533
                     -5.0144
                                -4.8420
                                          -4.8388
                                                    -4.5876
                                                               -3.8885
                                                                         -3.7959
 -3.3425
           -3.0668
                     -3.0607
                                -2.7841
                                          -1.3278
                                                    -0.7516
                                                              -0.3927
                                                                         0.3984
  0.5600
            0.5638
                     1.7904
                                1.8516
                                          1.9031
                                                     1.9509
                                                               2.1153
                                                                          2.1758
  2.2470
            2.3397
                      2.4140
                                 2.4443
                                           2.5263
                                                     2.5350
                                                                2.5580
                                                                          2.6829
  2.7159
                      2.9749
                                 2.9800
                                           2.9943
            2.7296
                                                     3.1061
                                                                3.1128
```

```
k = 0.2698 - 0.5774 \ 0.0000 \ (64842 \ PWs)
                                                           bands (ev):
-21.3213 -21.2443 -21.0638 -20.8850 -20.8801 -20.7343 -20.1757 -19.9983
-19.7534 -19.4849 -19.1943 -19.1928 -19.1670 -19.0938 -19.0843 -18.8995 -18.7941 -18.3686 -17.9696 -17.9674 -17.9527 -17.9014 -17.8258 -17.8243
-17.5436 -17.5419 -17.4476 -15.3411 -15.3336 -15.1226 -14.4257 -14.4249 -14.3880 -14.0768 -13.7967 -12.5901 -12.3703 -12.3213 -12.3179 -12.3153 -12.2005 -12.1805 -12.0525 -12.0466 -11.8431 -11.6929 -11.6892 -11.4105 -11.2222 -11.0968 -10.9199 -10.6519 -10.4569 -9.9765 -9.9475 -9.5171
 -9.5096
            -9.1310 -9.1272 -9.0482 -8.8289
                                                         -8.7935
                                                                     -8.7924
                                                                                -8.7710
 -8.7421
            -8.6313
                       -8.6307
                                  -8.5946 -8.5290
                                                         -8.4795
                                                                     -8.2789
                                                                                -8.0913
                                                         -7.7436
                                                                     -7.7274
                                                                                -7.7249
 -8.0815
            -7.9383
                       -7.9324
                                  -7.8792
                                              -7.8765
                                                                                -7.0929
 -7.6854
            -7.5654
                       -7.4961
                                  -7.4750
                                              -7.3830
                                                         -7.3533
                                                                     -7.2720
                       -6.7580
-5.7030
-5.3614
                                  -6.7514
                                                                                -6.1195
 -7.0223
            -6.9051
                                              -6.7463
                                                         -6.5147
                                                                     -6.2189
                                              -5.6779
 -6.0936
            -5.7345
                                   -5.6954
                                                          -5.5836
                                                                     -5.5119
                                                                                -5.4934
            -5.3972
                                   -5.3602
                                              -5.2488
 -5.4893
                                                         -5.2153
                                                                     -5.2129
                                                                                -5.1412
                       -5.0243
                                              -4.9025
                                                                     -3.8729
                                                                                -3.8006
                                   -4.9057
                                                          -4.5969
 -5.0845
            -5.0754
                                   -2.8180
                                                          -0.8068
                                                                     -0.3897
 -3.3389
            -3.0374
                       -3.0313
                                              -1.2709
                                                                                  0.4162
  0.5362
             0.5403
                         1.8032
                                    1.8443
                                                1.9010
                                                           1.9478
                                                                      2.1015
                                                                                  2.1729
                         2.4200
                                    2.4503
                                                2.5447
                                                           2.6126
  2.2382
             2.3469
                                                                      2.6187
                                                                                  2.6563
  2.7293
              2.7404
                         2.9375
                                    2.9751
                                                2.9896
                                                           3.1196
                                                                      3.1262
         k = 0.2857 - 0.5774 \ 0.0000 \ (64838 \ PWs)
                                                           bands (ev):
-21.3140 -21.2466 -21.0736 -20.8747 -20.8698 -20.7610 -20.1499 -20.0171 -19.7628 -19.4383 -19.2205 -19.2190 -19.1509 -19.0855 -19.0727 -18.9036 -18.8239 -18.3707 -17.9450 -17.9240 -17.9218 -17.9041 -17.8161 -17.8145 -17.6044 -17.6027 -17.4454 -15.2959 -15.2879 -15.1448 -14.4534 -14.4521 -14.4105 -14.0377 -13.8193 -12.5833 -12.3711 -12.3390 -12.2472 -12.2421 -12.2065 -12.1911 -12.0459 -12.0400 -11.8429 -11.7758 -11.7721 -11.3623 -11.2132 -11.1187 -10.9279 -10.6724 -10.4653 -9.9610 -9.8988 -9.5560
            -9.0830
 -9.5486
                       -9.0787
                                  -9.0007
                                              -8.8132
                                                         -8.8002
                                                                                -8.7585
                                                                     -8.7963
                                  -8.6212
 -8.7562
                                              -8.5317
                                                          -8.5018
                                                                     -8.2928
                                                                                -8.0483
            -8.6886
                       -8.6261
                                                                                -7.7063
 -8.0384
            -7.9325
                       -7.9266
                                   -7.8552
                                              -7.8525
                                                          -7.7855
                                                                     -7.7694
            -7.5705
                       -7.5634
                                   -7.4822
                                              -7.3828
                                                          -7.3508
                                                                     -7.2963
 -7.6668
                                                                                -7.0378
 -6.9848
            -6.9120
                       -6.7828
                                   -6.7821
                                              -6.7772
                                                          -6.5319
                                                                     -6.1976
                                                                                -6.1256
                        -5.7280
                                   -5.7205
                                              -5.6807
                                                          -5.5539
                                                                     -5.5002
 -6.0229
            -5.7333
                                                                                -5.4870
                       -5.3162
 -5.4713
            -5.3464
                                   -5.3133
                                              -5.2613
                                                          -5.2055
                                                                     -5.2031
                                                                                -5.1856
                                              -4.9656
                                                          -4.6042
 -5.1055
            -5.0965
                        -5.0324
                                   -4.9692
                                                                     -3.8590
                                                                                -3.8059
 -3.3359
                        -3.0048
            -3.0109
                                   -2.8512
                                              -1.2134
                                                          -0.8630
                                                                     -0.3872
                                                                                  0.4332
  0.5160
             0.5204
                         1.8167
                                    1.8387
                                                1.8960
                                                           1.9453
                                                                      2.0906
                                                                                  2.1703
  2.2316
              2.3532
                         2.4235
                                    2.4598
                                                2.5398
                                                           2.6210
                                                                      2.7006
                                                                                  2.7050
                                                2.9846
                                                           3.1338
                                                                      3.1402
  2.7437
              2.7533
                         2.9009
                                    2.9699
         k = 0.3016 - 0.5774 \ 0.0000 \ (64820 \ PWs)
                                                           bands (ev):
-21.3072 -21.2498 -21.0805 -20.8639 -20.8589 -20.7871 -20.1265 -20.0347
-19.7702 -19.3912 -19.2462 -19.2447 -19.1382 -19.0804 -19.0613 -18.9049
-18.8503 -18.3721 -17.9391 -17.9066 -17.8779 -17.8756 -17.8057 -17.8042
-17.6647 -17.6630 -17.4437 -15.2587 -15.2502 -15.1665 -14.4722 -14.4705
-14.4326 -13.9981 -13.8474 -12.5781 -12.3712 -12.3535 -12.2111 -12.1991
-12.1734 -12.1683 -12.0390 -12.0330 -11.8587 -11.8550 -11.8430 -11.3136
                                                                     -9.8215
-11.2091 -11.1459 -10.9352 -10.6859 -10.4710
                                                         -9.9710
                                                                     -8.7959
            -9.0386
                       -9.0336
                                  -8.9548
                                              -8.8325
                                                          -8.8289
 -9.5872
                                                                                -8.7530
 -8.7453
            -8.7168
                        -8.6567
                                   -8.6116
                                              -8.5361
                                                          -8.5218
                                                                     -8.3028
                                                                                -8.0055
                                                          -7.8258
 -7.9954
            -7.9266
                        -7.9207
                                   -7.8294
                                              -7.8285
                                                                     -7.8133
                                                                                -7.6917
                                   -7.4909
                                                          -7.3482
 -7.6515
            -7.6307
                        -7.5710
                                              -7.3827
                                                                     -7.3166
                                                                                -6.9821
                                                          -6.5459
 -6.9519
            -6.9171
                       -6.8123
                                   -6.8074
                                              -6.8047
                                                                     -6.1801
                                                                                 -6.1318
            -5.7555
                       -5.7481
                                   -5.7310
                                              -5.6839
                                                          -5.5311
                                                                     -5.4864
 -5.9530
                                                                                 -5.4856
 -5.4529
            -5.2975
                       -5.2732
                                   -5.2725
                                              -5.2672
                                                          -5.2248
                                                                     -5.1961
                                                                                -5.1930
                                              -5.0276
 -5.1239
            -5.1151
                       -5.0384
                                  -5.0323
                                                          -4.6094
                                                                     -3.8470
                                                                                -3.8119
           -2.9875 -2.9814 -2.8836 -1.1553
                                                         -0.9203 -0.3854
 -3.3337
                                                                                 0.4492
```

```
0.4995
             0.5041
                        1.8309
                                   1.8347
                                              1.8877
                                                         1.9435
                                                                    2.0828
                                                                               2.1682
                                                         2.6004
  2.2271
             2.3580
                        2.4261
                                   2.4720
                                              2.5318
                                                                    2.7584
                                                                               2.7673
                                                         3.1153
  2.7846
             2.7890
                        2.8654
                                   2.9643
                                              2.9791
                                                                    3.1199
        k = 0.3175 - 0.5774 \ 0.0000 \ (64832 \ PWs)
                                                         bands (ev):
-21.3017 -21.2533 -21.0845 -20.8525 -20.8475 -20.8125 -20.1079 -20.0494
-19.7752 -19.3435 -19.2713 -19.2698 -19.1295 -19.0784 -19.0521 -18.9040
-18.8702 -18.3730 -17.9353 -17.9083 -17.8290 -17.7949 -17.7933 -17.7246 -17.7229 -17.4427 -15.2314 -15.2225 -15.1876 -14.4804 -14.4782 -14.4544 -13.9580 -13.8807 -12.5749 -12.3709 -12.3620 -12.2140 -12.2042 -12.0992 -12.0941 -12.0318 -12.0257 -11.9414 -11.9378 -11.8431 -11.2650
-11.2102 -11.1778 -10.9405 -10.6931 -10.4742 -9.9771 -9.7448
                                                                             -9.6328
 -9.6256
           -8.9982 -8.9920 -8.9131 -8.8882
                                                       -8.8513
                                                                  -8.8097
                                                                              -8.7391
           -8.7172 -8.6860 -8.6038 -8.5409
-7.9201 -7.9146 -7.8752 -7.8595
-7.6411 -7.5670 -7.5000 -7.3833
                                                       -8.5366
-7.7987
                                                                  -8.3086
                                                                             -7.9634
 -8.7316
                                                                  -7.7963
 -7.9527
                                                                             -7.6982
                                                                             -6.9277
 -7.6826
                                                       -7.3454
                                                                  -7.3308
                                                       -6.5557
                                                                   -6.1673
                                                                              -6.1378
 -6.9258
           -6.9202
                      -6.8418
                                 -6.8369
                                            -6.8210
                      -5.7782
                                 -5.7285
                                            -5.6867
                                                                              -5.4709
 -5.8839
           -5.7856
                                                        -5.5177
                                                                   -5.4851
                      -5.2531
                                 -5.2524
                                             -5.2388
                                                                   -5.1855
                                                                              -5.1793
 -5.4419
            -5.2819
                                                        -5.2273
 -5.1361
           -5.1276
                      -5.0949
                                  -5.0859
                                             -5.0421
                                                        -4.6124
                                                                   -3.8372
                                                                              -3.8181
 -3.3323
            -2.9673
                       -2.9613
                                  -2.9152
                                             -1.0965
                                                        -0.9786
                                                                   -0.3843
                                                                               0.4643
                                                                    2.0784
  0.4867
             0.4917
                        1.8323
                                   1.8457
                                              1.8762
                                                         1.9423
                                                                               2.1667
                                                         2.5883
  2.2246
             2.3609
                        2.4286
                                   2.4860
                                              2.5186
                                                                    2.7743
                                                                               2.7823
                                   2.9583
  2.8292
             2.8702
                        2.8748
                                              2.9732
                                                         3.0359
                                                                    3.0404
        k = 0.3333 - 0.5774 \ 0.0000 \ (64770 \ PWs)
                                                         bands (ev):
-21.2993 -21.2551 -21.0858 -20.8421 -20.8376 -20.8338 -20.0997 -20.0561 -19.7770 -19.2964 -19.2950 -19.2940 -19.1263 -19.0780 -19.0484 -18.9036 -18.8776 -18.3733 -17.9340 -17.9089 -17.7849 -17.7844 -17.7833 -17.7823 -17.7810 -17.4423 -15.2164 -15.2089 -15.2045 -14.4763 -14.4757 -14.4739 -13.9219 -13.9145 -12.5738 -12.3707 -12.3648 -12.2149 -12.2060 -12.0267 -12.0248 -12.0229 -12.0226 -12.0191 -12.0149 -11.8432 -11.2251
-11.2121 -11.2107 -10.9426 -10.6952 -10.4752
                                                       -9.9792
                                                                  -9.6714
                                                                             -9.6687
 -9.6631
           -8.9669
                      -8.9565
                                 -8.9484
                                            -8.8906
                                                       -8.8612
                                                                   -8.8197
                                                                              -8.7334
 -8.7186
           -8.7137
                      -8.7064
                                 -8.6005
                                            -8.5433
                                                       -8.5421
                                                                   -8.3104
                                                                              -7.9266
                      -7.9087
 -7.9233
           -7.9149
                                 -7.9064
                                            -7.9035
                                                       -7.7667
                                                                   -7.7655
                                                                              -7.7638
                                 -7.5047
 -7.6797
           -7.6373
                      -7.5636
                                            -7.3840
                                                       -7.3434
                                                                  -7.3364
                                                                              -6.9213
 -6.9187
           -6.8712
                      -6.8692
                                 -6.8651
                                            -6.8270
                                                        -6.5594
                                                                   -6.1621
                                                                              -6.1407
                                 -5.7273
                                            -5.6878
                                                        -5.5134
 -5.8198
           -5.8160
                      -5.8091
                                                                   -5.4851
                                                                              -5.4612
 -5.4410
           -5.2873
                      -5.2611
                                 -5.2292
                                            -5.2241
                                                        -5.2150
                                                                   -5.1595
                                                                              -5.1580
                                                                   -3.8321
                      -5.1279
                                 -5.1255
                                            -5.0433
                                                        -4.6134
 -5.1539
           -5.1363
                                                                              -3.8221
           -2.9520
                                            -1.0394
                      -2.9468
                                 -2.9422
                                                        -1.0356
 -3.3318
                                                                   -0.3839
                                                                               0.4757
                       1.8315
                                              1.8642
                                                         1.9419
  0.4794
             0.4842
                                   1.8587
                                                                    2.0771
                                                                               2.1662
             2.3619
  2,2238
                        2.4299
                                   2.4991
                                              2.5044
                                                         2.5850
                                                                    2.7880
                                                                               2.7942
  2.8028
             2.9491
                        2.9517
                                              2.9618
                                                         2.9659
                                                                    2.9705
                                   2.9528
        k = 0.3254 - 0.5636 \ 0.0000 \ (64824 \ PWs)
                                                         bands (ev):
-21.3021 -21.2528 -21.0846 -20.8625 -20.8278 -20.8222 -20.1067 -20.0509
-19.7750 -19.3194 -19.3184 -19.2468 -19.1297 -19.0793 -19.0513 -18.9015
-18.8723 -18.3730 -17.9351 -17.9085 -17.8433 -17.8415 -17.7711 -17.7693
-17.7362 -17.7345 -17.4427 -15.2279 -15.2106 -15.2025 -14.4972 -14.4591
-14.4571 -13.9640 -13.8745 -12.5749 -12.3711 -12.3621 -12.2139 -12.2041
-12.1071 -12.1046 -12.0155 -12.0086 -11.9492 -11.9451 -11.8431 -11.2571
-11.2280 -11.1679 -10.9402 -10.6935 -10.4743
                                                       -9.9771
                                                                  -9.7071
                                                                             -9.7012
                                            -8.9044
           -9.0299
                      -8.9266
                                 -8.9183
                                                       -8.8668
                                                                   -8.8039
 -9.5951
                                                                              -8.7438
           -8.7000
                      -8.6939
                                 -8.6044
                                            -8.5401
                                                       -8.5367
                                                                   -8.3087
                                                                              -7.9758
 -8.7378
 -7.9579
           -7.9098
                      -7.9041
                                 -7.8721
                                            -7.8656
                                                       -7.8338
                                                                  -7.7310
                                                                              -7.7290
                                 -7.4985 -7.3823
 -7.6821
           -7.6415
                      -7.5692
                                                       -7.3443
                                                                  -7.3324
                                                                              -6.9260
 -6.9202 -6.8979 -6.8946 -6.8233 -6.8121 -6.5551 -6.1667
                                                                              -6.1384
```

```
-5.8533
           -5.8457
                      -5.7502
                                 -5.7290
                                           -5.6865
                                                      -5.5177
                                                                 -5.4848
                                                                            -5.4771
 -5.4352
           -5.2799
                      -5.2549
                                 -5.2507
                                           -5.2351
                                                      -5.2257
                                                                 -5.2169
                                                                            -5.1418
                                -5.0978
 -5.1372
           -5.1176
                      -5.1041
                                           -5.0421
                                                      -4.6125
                                                                 -3.8367
                                                                           -3.8187
                                           -1.0991
           -2.9766
                      -2.9369
                                -2.9303
                                                      -0.9760
                                                                 -0.3843
                                                                            0.4718
 -3.3323
  0.4779
            0.4930
                      1.8322
                                  1.8440
                                            1.8782
                                                       1.9423
                                                                 2.0782
                                                                             2.1668
  2.2245
            2.3607
                       2.4273
                                  2.4888
                                            2.5181
                                                       2.5874
                                                                  2.7611
                                                                             2.8086
                                                       3.0427
  2.8163
             2.8763
                       2.8790
                                  2.9448
                                             2.9624
                                                                  3.0471
        k = 0.3175 - 0.5499 \ 0.0000 \ (64838 \ PWs)
                                                       bands (ev):
-21.3096 -21.2466 -21.0813 -20.8863 -20.8147 -20.8090 -20.1207 -20.0422
-19.7687 \ -19.3428 \ -19.3418 \ -19.1975 \ -19.1391 \ -19.0890 \ -19.0534 \ -18.8925
-19.7667 -19.3426 -19.3416 -19.1973 -19.1391 -19.0890 -19.0334 -16.8923 -18.8608 -18.3722 -17.9380 -17.9077 -17.9017 -17.8999 -17.7586 -17.7567 -17.6881 -17.6863 -17.4438 -15.2475 -15.2174 -15.2094 -14.5177 -14.4304 -14.4284 -14.0114 -13.8330 -12.5780 -12.3725 -12.3545 -12.2109 -12.1985 -12.1894 -12.1869 -12.0073 -12.0002 -11.8739 -11.8698 -11.8425 -11.3001 -11.2448 -11.1233 -10.9320 -10.6891 -10.4716 -9.9709 -9.7444 -9.7386 -9.5204 -9.1016 -8.9265 -8.8994 -8.8863 -8.8841 -8.7876 -8.7678
                                                     -8.5226
-7.8231
-7.3436
                      -8.6792 -8.6152
                                                                -8.3040
                                                                           -8.0270
 -8.7363
           -8.6843
                                           -8.5313
 -8.0093
           -7.9043
                                -7.8974
                                                                -7.6935
                                                                           -7.6914
                      -7.9011
                                           -7.8301
                      -7.5835
 -7.6891
           -7.6536
                                -7.4833
                                           -7.3761
                                                                -7.3245
                                                                           -6.9426
                     -6.9169
-5.7337
           -6.9221
                                           -6.7541
                                                      -6.5415
                                                                           -6.1354
 -6.9254
                                -6.8185
                                                                 -6.1766
                                                      -5.5305
                                                                 -5.5118
 -5.8912
           -5.8835
                                -5.6859
                                           -5.6835
                                                                           -5.4829
                                                      -5.2439
 -5.4247
           -5.3035
                      -5.2770
                                -5.2608
                                           -5.2529
                                                                 -5.2394
                                                                           -5.1281
 -5.1240
           -5.0797
                      -5.0583
                                 -5.0541
                                           -5.0386
                                                      -4.6096
                                                                 -3.8446
                                                                           -3.8142
 -3.3339
           -3.0060
                      -2.9265
                                           -1.1603
                                                      -0.9152
                                                                 -0.3855
                                 -2.9201
                                                                             0.4703
                       1.8252
  0.4769
            0.5058
                                  1.8344
                                            1.8950
                                                       1.9437
                                                                  2.0812
                                                                             2.1686
                                                       2.5930
  2.2268
             2.3564
                                  2.4850
                                                                  2.7296
                       2.4189
                                             2.5351
                                                                             2.7960
  2.7990
             2.8279
                       2.8349
                                  2.9374
                                             2.9552
                                                       3.1168
                                                                  3.1306
        k = 0.3095 - 0.5361 \ 0.0000 \ (64836 \ PWs)
                                                       bands (ev):
-21.3202 -21.2377 -21.0762 -20.9095 -20.8009 -20.7952 -20.1365 -20.0357
-19.7579 -19.3656 -19.3646 -19.1528 -19.1476 -19.1106 -19.0488 -18.8773
-18.8463 -18.3708 -17.9596 -17.9577 -17.9419 -17.9071 -17.7455 -17.7436 -17.6394 -17.6376 -17.4458 -15.2668 -15.2336 -15.2259 -14.5378 -14.3913
-14.3892 -14.0628 -13.7910 -12.5831 -12.3750 -12.3422 -12.2715 -12.2690
-12.2055 -12.1894 -11.9987 -11.9916 -11.8414 -11.7982 -11.7940 -11.3455
                                                     -9.9607
-11.2656 -11.0833 -10.9164 -10.6828 -10.4671
                                                                -9.7814
                                                                           -9.7756
                                -8.9039
 -9.4466
           -9.1740
                     -8.9508
                                           -8.8802
                                                     -8.8574
                                                                -8.8029
                                                                           -8.7861
 -8.7080
           -8.6679
                     -8.6632
                                -8.6302
                                           -8.5188
                                                      -8.5036
                                                                 -8.2966
                                                                           -8.0799
                                -7.8921
                                                                 -7.7023
 -8.0624
           -7.9693
                     -7.8974
                                           -7.7877
                                                      -7.7805
                                                                           -7.6700
           -7.6514
                                -7.4658
                                                      -7.3397
                                           -7.3653
                                                                 -7.3140
 -7.6536
                     -7.6021
                                                                           -6.9627
           -6.9491
                     -6.9114
                                -6.8181
                                           -6.6956
                                                      -6.5189
                                                                 -6.1894
 -6.9524
                                                                           -6.1342
           -5.9238
 -5.9317
                     -5.7406
                                -5.6807
                                           -5.6255
                                                      -5.5579
                                                                 -5.5467
                                                                            -5.4784
           -5.3628
 -5.4134
                      -5.3331
                                -5.2739
                                           -5.2649
                                                      -5.2367
                                                                 -5.2164
                                                                           -5.1135
 -5.1097
           -5.0362
                      -5.0330
                                -5.0100
                                           -5.0069
                                                      -4.6051
                                                                -3.8534
                                                                           -3.8110
 -3.3366
           -3.0349
                      -2.9194
                                -2.9130
                                           -1.2224
                                                      -0.8537
                                                                 -0.3876
                                                                             0.4725
  0.4795
            0.5180
                      1.8050
                                  1.8378
                                            1.9125
                                                       1.9461
                                                                  2.0856
                                                                             2.1716
  2.2307
             2.3471
                       2.4092
                                  2.4884
                                             2.5526
                                                       2.6005
                                                                  2.6991
                                                                             2.7184
  2.7207
             2.8462
                       2.8531
                                  2.9294
                                             2.9474
                                                       3.0867
                                                                  3.2169
        k = 0.3016 - 0.5224 \ 0.0000 \ (64832 \ PWs)
                                                       bands (ev):
-21.3326 -21.2272 -21.0697 -20.9321 -20.7865 -20.7808 -20.1528 -20.0324
-19.7430 -19.3879 -19.3868 -19.1693 -19.1384 -19.0973 -19.0408 -18.8584
-18.8299 -18.3690 -18.0171 -18.0151 -17.9465 -17.9072 -17.7318 -17.7299
-17.5902 -17.5884 -17.4486 -15.2857 -15.2575 -15.2503 -14.5574 -14.3437
-14.3414 -14.1176 -13.7485 -12.5898 -12.3788 -12.3536 -12.3511 -12.3255
-12.1978 -12.1773 -11.9898 -11.9827 -11.8395 -11.7221 -11.7179 -11.3922
-11.2898 -11.0504 -10.8914 -10.6754 -10.4609 -9.9467 -9.8180
                                                                          -9.8123
 -9.3736 -9.2465 -8.9765 -8.9242 -8.8754 -8.8313 -8.8311 -8.7923
```

```
-8.6714
           -8.6508
                     -8.6476
                                -8.6464
                                          -8.5044
                                                     -8.4823
                                                                -8.2872
                                                                          -8.1345
                     -7.8917
                                                     -7.7379
 -8.1171
           -8.0369
                                -7.8863
                                          -7.7452
                                                               -7.7252
                                                                          -7.6851
           -7.6114
 -7.6228
                     -7.6091
                                -7.4508
                                          -7.3514
                                                     -7.3314
                                                               -7.3009
                                                                          -6.9840
 -6.9787
           -6.9754
                     -6.9036
                                -6.8228
                                          -6.6365
                                                     -6.4887
                                                                -6.2045
                                                                          -6.1351
                     -5.7490
                                -5.6799
                                          -5.6033
 -5.9747
           -5.9666
                                                     -5.5749
                                                                -5.5724
                                                                          -5.4701
 -5.4237
           -5.4011
                     -5.3800
                                -5.2958
                                          -5.2869
                                                     -5.2120
                                                               -5.1871
                                                                          -5.0979
                     -4.9917
 -5.0943
           -5.0255
                                -4.9609
                                          -4.9584
                                                     -4.5989
                                                               -3.8627
                                                                          -3.8094
                                -2.9093
 -3.3406
           -3.0630
                     -2.9156
                                          -1.2854
                                                     -0.7916
                                                               -0.3905
                                                                          0.4784
  0.4858
            0.5296
                      1.7840
                                1.8424
                                           1.9306
                                                      1.9496
                                                                2.0907
                                                                           2.1758
  2.2360
            2.3316
                       2.4039
                                 2.4952
                                            2.5698
                                                      2.6072
                                                                 2.6414
                                                                           2.6432
  2.6724
            2.8658
                       2.8726
                                 2.9210
                                            2.9392
                                                      3.0559
                                                                 3.2489
        k = 0.2936 - 0.5086 \ 0.0000 \ (64836 \ PWs)
                                                      bands (ev):
-21.3459 -21.2157 -21.0618 -20.9542 -20.7715 -20.7659 -20.1690 -20.0324
-21.3459 -21.2157 -21.0618 -20.9542 -20.7715 -20.7659 -20.1690 -20.0324 -19.7246 -19.4095 -19.4085 -19.1880 -19.1690 -19.0463 -19.0314 -18.8377 -18.8119 -18.3666 -18.0740 -18.0720 -17.9515 -17.9081 -17.7176 -17.7157 -17.5405 -17.5387 -17.4523 -15.3043 -15.2874 -15.2806 -14.5766 -14.2894 -14.2868 -14.1755 -13.7055 -12.5980 -12.4353 -12.4328 -12.3836 -12.3055 -12.1879 -12.1628 -11.9806 -11.9734 -11.8367 -11.6457 -11.6414 -11.4397 -11.3168 -11.0257 -10.8565 -10.6675 -10.4530 -9.9295 -9.8543 -9.8487
                                                               -8.8079
                                                                          -8.7848
 -9.3190
           -9.3014
                     -9.0034
                               -8.9444
                                          -8.8862
                                                     -8.8629
                                -8.6290
                     -8.6331
                                          -8.4885
                                                     -8.4603
                                                               -8.2760
 -8.6661
           -8.6347
                                                                          -8.1906
                                -7.8807
           -8.1045
                     -7.8860
                                                     -7.7028
 -8.1734
                                          -7.7567
                                                               -7.6986
                                                                          -7.6954
           -7.5673
                     -7.5649
                                                               -7.2848
 -7.6437
                               -7.4414
                                          -7.3363
                                                     -7.3173
                                                                          -7.0057
 -7.0043
           -7.0010
                     -6.8938
                                -6.8317
                                          -6.5769
                                                     -6.4529
                                                               -6.2220
                                                                          -6.1379
                     -5.7582
           -6.0118
                                -5.6819
 -6.0201
                                          -5.6517
                                                     -5.6008
                                                               -5.5534
                                                                          -5.4851
           -5.3984
                     -5.3880
                                -5.3181
 -5.4574
                                          -5.3093
                                                     -5.1876
                                                               -5.1537
                                                                          -5.0814
                     -4.9473
           -5.0164
                                -4.9115
                                           -4.9093
                                                     -4.5914
 -5.0780
                                                                -3.8725
                                                                          -3.8094
                     -2.9149
                                -2.9088
                                                     -0.7288
 -3.3458
           -3.0904
                                           -1.3493
                                                                -0.3942
                                                                           0.4878
  0.4957
            0.5406
                       1.7624
                                 1.8479
                                            1.9493
                                                      1.9542
                                                                 2.0962
                                                                           2.1812
                                            2.5557
                                                                 2.5968
  2.2429
            2.3116
                       2.4036
                                 2.5020
                                                      2.5632
                                                                           2.6131
                                                      3.0258
  2.6536
            2.8861
                       2.8927
                                 2.9122
                                            2.9305
                                                                 3.2507
        k = 0.2857 - 0.4949 \ 0.0000 \ (64842 \ PWs)
                                                      bands (ev):
-21.3597 -21.2034 -21.0529 -20.9757 -20.7559 -20.7503 -20.1851 -20.0351
-19.7036 -19.4306 -19.4296 -19.2100 -19.1987 -19.0211 -18.9949 -18.8165
-18.7926 -18.3638 -18.1305 -18.1283 -17.9570 -17.9098 -17.7029 -17.7010
-17.4903 -17.4884 -17.4569 -15.3247 -15.3198 -15.3149 -14.5953 -14.2360
-14.2299 -14.2269 -13.6621 -12.6073 -12.5167 -12.5143 -12.3893 -12.2819
-12.1758 -12.1463 -11.9711 -11.9639 -11.8330 -11.5689 -11.5646 -11.4874
                                                    -9.9095
                                                               -9.8902
-11.3459 -11.0078 -10.8133 -10.6594 -10.4432
                                                                          -9.8846
                                          -8.9053
                                                     -8.8956
           -9.2303
                     -9.0316
                               -8.9646
 -9.3914
                                                               -8.7870
                                                                          -8.7709
           -8.6147
                     -8.6109
                               -8.5995
                                          -8.4716
                                                     -8.4385
                                                               -8.2632
 -8.6854
                                                                          -8.2482
           -8.1721
 -8.2312
                     -7.8805
                               -7.8751
                                          -7.7934
                                                     -7.7145
                                                               -7.6624
                                                                          -7.6605
 -7.6530
           -7.5214
                     -7.5189
                               -7.4382
                                          -7.3214
                                                     -7.2975
                                                               -7.2653
                                                                          -7.0292
 -7.0273
          -7.0259
                     -6.8818
                               -6.8436
                                          -6.5168
                                                     -6.4134
                                                               -6.2420
                                                                          -6.1426
 -6.0678
           -6.0592
                     -5.7679
                                -5.7013
                                          -5.6867
                                                     -5.6316
                                                               -5.5779
                                                                          -5.5466
 -5.4405
           -5.3741
                     -5.3713
                                -5.3405
                                          -5.3317
                                                     -5.1633
                                                               -5.1182
                                                                          -5.0641
 -5.0608
           -5.0060
                     -4.9034
                                -4.8617
                                           -4.8599
                                                     -4.5825
                                                               -3.8826
                                                                          -3.8110
 -3.3523
           -3.1172
                     -2.9174
                                -2.9114
                                          -1.4139
                                                     -0.6654
                                                               -0.3988
                                                                           0.5009
  0.5091
            0.5509
                      1.7405
                                 1.8541
                                            1.9600
                                                      1.9687
                                                                 2.1018
                                                                           2.1876
                                            2.4830
                                                      2.5185
                                                                 2.5973
  2.2512
            2.2899
                       2.4067
                                 2.4771
                                                                           2.6148
            2.9010
                       2.9079
                                 2.9142
                                            2.9219
                                                      2.9964
  2.6544
                                                                 3.2238
        k = 0.2778 - 0.4811 \ 0.0000 \ (64838 \ PWs)
                                                      bands (ev):
-21.3738 -21.1904 -21.0431 -20.9966 -20.7397 -20.7341 -20.2008 -20.0400
-19.6809 -19.4511 -19.4501 -19.2400 -19.2217 -19.0103 -18.9429 -18.7955
-18.7718 -18.3606 -18.1864 -18.1842 -17.9627 -17.9125 -17.6876 -17.6856
-17.4625 -17.4396 -17.4377 -15.3603 -15.3539 -15.3384 -14.6136 -14.2988
```

```
-14.1665 -14.1632 -13.6182 -12.6175 -12.5980 -12.5956 -12.3956 -12.2553
-12.1618 -12.1283 -11.9614 -11.9541 -11.8282 -11.5348 -11.4918 -11.4875
                                                               -9.9202
-11.3767 -10.9945 -10.7646 -10.6515 -10.4314
                                                     -9.9257
                                                                          -9.8872
                                -8.9846
                                          -8.9280
 -9.4636
           -9.1601
                     -9.0607
                                                     -8.9271
                                                                -8.7684
                                                                          -8.7559
           -8.5956
                     -8.5923
                                                     -8.4173
                                                                -8.3072
 -8.7050
                                -8.5666
                                          -8.4537
                                                                          -8.2904
 -8.2491
           -8.2395
                     -7.8750
                                -7.8695
                                          -7.8333
                                                     -7.7358
                                                                -7.6763
                                                                          -7.6184
                     -7.4714
           -7.4740
                                -7.4402
                                                                          -7.0535
 -7.6108
                                          -7.3074
                                                     -7.2738
                                                               -7.2426
 -7.0501
           -7.0487
                                -6.8572
                     -6.8678
                                          -6.4563
                                                     -6.3716
                                                                -6.2648
                                                                          -6.1488
                     -5.7778
                                                                          -5.6079
           -6.1089
                                -5.7515
                                          -5.6938
 -6.1178
                                                     -5.6640
                                                                -5.6261
 -5.4199
           -5.3631
                     -5.3595
                                -5.3543
                                          -5.3209
                                                     -5.1389
                                                                -5.0817
                                                                          -5.0461
 -5.0428
           -4.9947
                      -4.8603
                                -4.8119
                                          -4.8103
                                                     -4.5724
                                                                -3.8931
                                                                          -3.8143
                                -2.9171
 -3.3602
           -3.1432
                     -2.9230
                                          -1.4794
                                                     -0.6014
                                                                -0.4041
                                                                           0.5173
                                 1.8608
  0.5260
            0.5606
                                            1.9670
                                                      1.9884
                                                                 2.1071
                       1.7186
                                                                            2.1947
  2.2579
            2.2716
                       2.3986
                                  2.4047
                                            2.4191
                                                       2.5216
                                                                 2.5776
                                                                            2.6345
  2.6670
            2.8918
                       2.9101
                                  2.9305
                                            2.9361
                                                       2.9679
                                                                 3.1793
        k = 0.2698 - 0.4674 \ 0.0000 \ (64830 \ PWs)
                                                       bands (ev):
-21.3879 -21.1767 -21.0325 -21.0169 -20.7230 -20.7174 -20.2162 -20.0464 -19.6575 -19.4711 -19.4701 -19.2738 -19.2411 -18.9989 -18.8904 -18.7752 -18.7496 -18.3570 -18.2418 -18.2395 -17.9686 -17.9161 -17.6717 -17.6698 -17.4690 -17.3884 -17.3865 -15.4002 -15.3942 -15.3556 -14.6314 -14.3636 -14.1000 -14.0963 -13.5738 -12.6789 -12.6766 -12.6284 -12.4024 -12.2260 -12.1461 -12.1092 -11.9513 -11.9439 -11.8228 -11.5814 -11.4144 -11.4100 -11.4086 -10.9838 -10.7125 -10.6439 -10.4175 -9.9608 -9.9554 -9.8634
                     -9.0906
                                                                -8.7519
                                          -8.9591
                                                     -8.9497
 -9.5357
           -9.0909
                               -9.0047
                                                                          -8.7414
 -8.7247
           -8.5760
                     -8.5732
                                -8.5364
                                                     -8.3969
                                          -8.4351
                                                                -8.3675
                                                                          -8.3509
                                                     -7.7625
           -8.2339
                                -7.8696
 -8.3065
                      -7.8753
                                           -7.8641
                                                                -7.6854
                                                                          -7.5764
 -7.5687
           -7.4459
                      -7.4254
                                -7.4228
                                          -7.2942
                                                     -7.2482
                                                                -7.2171
                                                                          -7.0771
           -7.0697
                      -6.8722
                                -6.8517
                                           -6.3955
                                                     -6.3284
                                                                -6.2904
 -7.0736
                                                                          -6.1699
 -6.1604
           -6.1565
                      -5.8021
                                -5.7878
                                           -5.7025
                                                     -5.6973
                                                                -5.6815
                                                                           -5.6691
 -5.3964
           -5.3855
                      -5.3766
                                -5.3442
                                           -5.2642
                                                     -5.1145
                                                                -5.0446
                                                                          -5.0273
           -4.9825
                                -4.7621
                                           -4.7606
                                                     -4.5614
 -5.0242
                      -4.8180
                                                                -3.9038
                                                                          -3.8190
                                -2.9257
 -3.3694
                      -2.9314
                                           -1.5456
                                                     -0.5367
                                                                -0.4102
           -3.1684
                                                                           0.5369
  0.5461
            0.5698
                       1.6967
                                 1.8679
                                            1.9754
                                                      2.0087
                                                                 2.1116
                                                                            2.2015
  2.2451
            2.2769
                       2.3258
                                  2.3291
                                            2.4234
                                                       2.5203
                                                                 2.5635
                                                                            2.6557
            2.8811
                       2.8999
                                                       2.9588
                                                                 3.1294
  2.6836
                                  2.9390
                                            2.9531
        k = 0.2619 - 0.4536 \ 0.0000 \ (64842 \ PWs)
                                                      bands (ev):
-21.4020 -21.1626 -21.0366 -21.0211 -20.7057 -20.7001 -20.2312 -20.0540
-19.6345 -19.4904 -19.4895 -19.3086 -19.2587 -18.9872 -18.8374 -18.7556
-18.7264 -18.3531 -18.2967 -18.2943 -17.9748 -17.9207 -17.6553 -17.6533
-17.4765 -17.3367 -17.3348 -15.4420 -15.4363 -15.3721 -14.6488 -14.4301
-14.0311 -14.0271 -13.5290 -12.7596 -12.7573 -12.6398 -12.4096 -12.1943
-12.1289 -12.0893 -11.9410 -11.9336 -11.8172 -11.6263 -11.4411 -11.3366
-11.3321 -10.9748 -10.6588 -10.6366 -10.4013
                                                    -9.9955
                                                               -9.9902
                                                                          -9.8389
 -9.6075
           -9.1208
                     -9.0249
                                -9.0229
                                          -8.9880
                                                     -8.9724
                                                               -8.7443
                                                                          -8.7373
 -8.7281
           -8.5562
                     -8.5538
                                -8.5094
                                          -8.4291
                                                     -8.4157
                                                                -8.4128
                                                                          -8.3775
 -8.3728
           -8.2177
                      -7.9189
                                -7.8642
                                          -7.8587
                                                     -7.7928
                                                                -7.6910
                                                                          -7.5347
 -7.5268
           -7.4544
                      -7.3758
                                -7.3732
                                          -7.2816
                                                     -7.2224
                                                                -7.1892
                                                                          -7.0999
 -7.0964
           -7.0902
                      -6.8878
                                -6.8338
                                           -6.3351
                                                     -6.3190
                                                                -6.2849
                                                                          -6.2240
 -6.2132
           -6.1655
                      -5.8527
                                -5.7976
                                           -5.7394
                                                     -5.7309
                                                                -5.7299
                                                                           -5.7121
           -5.3989
                                                      -5.0903
                                                                -5.0079
 -5.4078
                      -5.3707
                                -5.3283
                                           -5.2055
                                                                           -5.0072
 -5.0048
           -4.9697
                      -4.7766
                                -4.7122
                                           -4.7109
                                                      -4.5495
                                                                -3.9148
                                                                          -3.8253
 -3.3800
           -3.1930
                      -2.9427
                                 -2.9371
                                           -1.6126
                                                      -0.4714
                                                                -0.4170
                                                                           0.5597
  0.5692
                                            1.9850
                                                      2.0294
                                                                 2.1146
            0.5786
                       1.6750
                                 1.8750
                                                                            2.2036
            2.2504
                       2.2534
                                  2.2905
                                            2.4329
                                                       2.5068
                                                                 2.5628
  2.2328
                                                                            2.6777
  2.7025
            2.8698
                       2.8888
                                  2.9122
                                            2.9756
                                                      2.9808
                                                                 3.0787
        k = 0.2540 - 0.4399 \ 0.0000 \ (64852 \ PWs)
                                                      bands (ev):
```

```
-21.4160 -21.1479 -21.0558 -21.0091 -20.6877 -20.6822 -20.2459 -20.0624
-19.6131 -19.5092 -19.5083 -19.3437 -19.2740 -18.9750 -18.7838 -18.7367
-18.7025 -18.3511 -18.3488 -18.3487 -17.9812 -17.9261 -17.6383 -17.6363
-12.1104 -12.0690 -11.9304 -11.9229 -11.8131 -11.6677 -11.4736 -11.2586
-11.2540 -10.9668 -10.6311 -10.6028 -10.3826 -10.0298 -10.0245
                                                                                                       -9.8146
               -9.1506 -9.0456 -9.0144 -8.9947
                                                                         -8.9561
  -9.6791
                                                                                        -8.7637
                                                                                                       -8.7245
               -8.5385
                              -8.5335
                                            -8.4919
                                                           -8.4858
                                                                          -8.4759
                                                                                        -8.4364
                                                                                                       -8.3956
  -8.7162
                                                                                                       -7.4932
  -8.3593
               -8.2005
                              -7.9638
                                            -7.8590
                                                           -7.8534
                                                                          -7.8255
                                                                                        -7.6942
  -7.4852
               -7.4647
                              -7.3256
                                            -7.3230
                                                           -7.2692
                                                                          -7.1975
                                                                                        -7.1592
                                                                                                       -7.1220
                                                                                                       -6.2528
  -7.1184
               -7.1102
                              -6.9038
                                            -6.8142
                                                           -6.3505
                                                                          -6.2894
                                                                                        -6.2801
                                                                                         -5.7637
               -6.1757
                                                                          -5.7905
                                                                                                       -5.7219
  -6.2421
                              -5.9033
                                            -5.8071
                                                           -5.7981
                                                                          -5.0662
  -5.4302
               -5.4211
                              -5.3433
                                            -5.3118
                                                           -5.1467
                                                                                         -4.9877
                                                                                                        -4.9847
                                                                                        -3.9260
  -4.9698
               -4.9566
                              -4.7361
                                            -4.6625
                                                           -4.6613
                                                                          -4.5368
                                                                                                       -3.8330
  -3.3921
                              -2.9567
                                             -2.9512
                                                           -1.6802
                                                                          -0.4244
                                                                                        -0.4054
               -3.2168
                                                                                                        0.5844
                                1.6536
   0.5872
                 0.5959
                                              1.8819
                                                             1.9959
                                                                            2.0503
                                                                                          2.1145
                                                                                                         2.1745
   2.1770
                 2.1970
                                2.2357
                                               2.3065
                                                             2.4422
                                                                            2.4890
                                                                                          2.5697
                                                                                                         2.7003
   2.7229
                 2.8578
                                2.8770
                                               2.8858
                                                             2.9903
                                                                            3.0025
                                                                                          3.0368
           k = 0.2460 - 0.4261 \ 0.0000 \ (64858 \ PWs)
                                                                            bands (ev):
-21.4297 -21.1326 -21.0743 -20.9965 -20.6692 -20.6637 -20.2601 -20.0713 -19.5947 -19.5275 -19.5265 -19.3789 -19.2858 -18.9625 -18.7297 -18.7181 -18.6782 -18.4050 -18.4025 -18.3442 -17.9877 -17.9325 -17.6208 -17.6188 -17.4945 -17.2319 -17.2299 -15.5291 -15.5237 -15.4036 -14.6820 -14.5671 -13.8881 -13.8833 -13.4379 -12.9201 -12.9179 -12.6634 -12.4246 -12.1245 -12.0910 -12.0483 -11.9196 -11.9121 -11.8144 -11.7022 -11.5052 -11.1802 -11.1756 -10.9594 -10.6250 -10.5480 -10.3609 -10.0636 -10.0584 -9.7915 -0.7504 -0.1702 -0.0660 -0.0638 -0.0660 -0.0638 -0.0666 -0.0684 -0.7338 -0.0666 -0.0686 -0.0688 -0.7338 -0.0666 -0.0686 -0.07388 -0.7504 -0.07504 -0.07504 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0666 -0.0
  -9.7504
               -9.1792
                              -9.0669
                                            -9.0378
                                                          -9.0166
                                                                         -8.8905
                                                                                        -8.7828
                                                                                                       -8.7133
                                             -8.5390
  -8.7056
               -8.5561
                              -8.5402
                                                           -8.5116
                                                                          -8.4815
                                                                                         -8.4658
                                                                                                       -8.3747
                              -8.0097
                                             -7.8597
  -8.3425
               -8.1825
                                                           -7.8538
                                                                          -7.8481
                                                                                         -7.6952
                                                                                                       -7.4766
                              -7.2749
                                            -7.2724
  -7.4521
               -7.4438
                                                           -7.2570
                                                                          -7.1738
                                                                                         -7.1433
                                                                                                       -7.1395
  -7.1299
                              -6.9200
                                             -6.7930
                                                                                                       -6.2048
               -7.1274
                                                           -6.3849
                                                                          -6.3382
                                                                                         -6.3326
  -6.2016
               -6.1872
                              -5.9535
                                             -5.8572
                                                           -5.8507
                                                                          -5.8163
                                                                                         -5.7945
                                                                                                        -5.7317
  -5.4525
                -5.4432
                              -5.3148
                                             -5.2947
                                                           -5.0883
                                                                          -5.0423
                                                                                         -4.9669
                                                                                                        -4.9639
  -4.9432
                -4.9325
                               -4.6967
                                             -4.6129
                                                           -4.6117
                                                                          -4.5235
                                                                                         -3.9374
                                                                                                        -3.8422
  -3.4055
                -3.2399
                               -2.9732
                                             -2.9679
                                                           -1.7485
                                                                          -0.4324
                                                                                         -0.3389
                                                                                                         0.5937
   0.6141
                 0.6247
                                1.6326
                                              1.8885
                                                             2.0081
                                                                            2.0706
                                                                                          2.0994
                                                                                                         2.1027
   2.1117
                 2.1874
                                2.2453
                                               2.3243
                                                             2.4429
                                                                            2.4799
                                                                                          2.5792
                                                                                                         2.7236
   2.7442
                 2.8451
                                2.8599
                                               2.8645
                                                             2.9599
                                                                            3.0250
                                                                                          3.0383
           k = 0.2381 - 0.4124 \ 0.0000 \ (64854 \ PWs)
                                                                            bands (ev):
-21.4432 -21.1169 -21.0923 -20.9833 -20.6501 -20.6446 -20.2740 -20.0806
-19.5809 -19.5451 -19.5442 -19.4141 -19.2927 -18.9497 -18.7000 -18.6751
-18.6539 -18.4584 -18.4557 -18.3394 -17.9944 -17.9397 -17.6027 -17.6007
-17.5049 -17.1788 -17.1768 -15.5736 -15.5685 -15.4185 -14.6979 -14.6372
-13.8146 -13.8095 -13.3917 -12.9999 -12.9977 -12.6754 -12.4322 -12.0869
-12.0710 -12.0276 -11.9086 -11.9010 -11.8276 -11.7238 -11.5346 -11.1015
-11.0968 -10.9526 -10.6197 -10.4939 -10.3357 -10.0969 -10.0918
                                                                                                       -9.8214
  -9.7710
               -9.2055
                              -9.0881
                                            -9.0585
                                                           -9.0380
                                                                          -8.8262
                                                                                         -8.8016
                                                                                                       -8.7034
  -8.6963
                -8.6211
                              -8.6054
                                             -8.5884
                                                           -8.4891
                                                                          -8.4770
                                                                                         -8.4496
                                                                                                        -8.3532
                                                           -7.8487
                                             -7.8949
                                                                          -7.8430
                                                                                         -7.6944
  -8.3273
                -8.1636
                              -8.0563
                                                                                                        -7.4896
                              -7.2447
                                             -7.2240
                                                           -7.2215
                                                                          -7.1638
                                                                                         -7.1597
  -7.4115
                -7.4028
                                                                                                        -7.1516
  -7.1487
                -7.0950
                              -6.9361
                                             -6.7703
                                                            -6.4220
                                                                          -6.3979
                                                                                         -6.3910
                                                                                                        -6.1997
                                             -5.9162
                              -6.0028
                                                            -5.9105
                                                                           -5.8251
                                                                                         -5.8212
  -6.1660
                -6.1431
                                                                                                        -5.7410
  -5.4749
                -5.4652
                               -5.2855
                                             -5.2771
                                                            -5.0307
                                                                           -5.0187
                                                                                         -4.9455
                                                                                                        -4.9425
                                                                                         -3.9490
  -4.9297
                -4.8954
                              -4.6583
                                             -4.5635
                                                            -4.5624
                                                                          -4.5098
                                                                                                        -3.8527
  -3.4204
               -3.2622
                              -2.9921
                                            -2.9869
                                                           -1.8175
                                                                          -0.4409
                                                                                         -0.2716
                                                                                                        0.6008
                                             1.8948
                                                            2.0215
                                                                          2.0254
   0.6452
                0.6562
                               1.6119
                                                                                         2.0282
                                                                                                         2.0942
                                              2.3440
                                                            2.4281
                                                                           2.4880
                                                                                          2.5899
   2.1004
                 2.1832
                                2.2575
                                                                                                         2.7472
```

```
2.7654
              2.8318
                         2.8346
                                     2.8513
                                                 2.9120
                                                            3.0258
                                                                        3.0564
         k = 0.2302 - 0.3987 \ 0.0000 \ (64836 \ PWs)
                                                            bands (ev):
-21.4564 -21.1097 -21.1007 -20.9696 -20.6305 -20.6250 -20.2874 -20.0902
-19.5736 -19.5622 -19.5612 -19.4491 -19.2931 -18.9365 -18.6822 -18.6296
-18.6200 -18.5112 -18.5085 -18.3344 -18.0013 -17.9477 -17.5841 -17.5821 -17.5164 -17.1252 -17.1232 -15.6185 -15.6135 -15.4330 -14.7135 -14.7080 -13.7402 -13.7347 -13.3450 -13.0794 -13.0772 -12.6872 -12.4398 -12.0507 -12.0476 -12.0073 -11.8974 -11.8897 -11.8540 -11.7325 -11.5597 -11.0226 -11.0178 -10.9460 -10.6150 -10.4423 -10.3057 -10.1296 -10.1246 -9.8921
                       -9.1083 -9.0772 -9.0587
-8.6716 -8.6522 -8.4658
-8.1033 -7.9307 -7.8437
-7.2323 -7.1831 -7.1785
                                                          -8.8199
                                                                                  -8.6949
 -9.7544
            -9.2283
                                                                      -8.7635
                                                                                  -8.3310
 -8.6890
            -8.6863
                                                          -8.4573
                                                                      -8.4372
                                                                                  -7.5036
 -8.3141
            -8.1440
                                                          -7.8380
                                                                      -7.6916
            -7.3624
                                                                                  -7.1671
 -7.3716
                                                          -7.1731
                                                                      -7.1706
                                   -6.7464
 -7.1307
            -7.0618
                       -6.9522
                                               -6.4618
                                                          -6.4593
                                                                      -6.4519
                                                                                  -6.2133
                                               -5.9699
                                                          -5.8403
                                                                      -5.8335
            -6.0802
                                   -5.9751
                                                                                  -5.7496
 -6.1407
                       -6.0492
                        -5.2590
                                   -5.2556
                                                                      -4.9233
                                                                                  -4.9204
 -5.4973
            -5.4871
                                               -4.9953
                                                           -4.9741
                                                                                  -3.8645
 -4.9161
            -4.8587
                        -4.6209
                                    -4.5143
                                               -4.5133
                                                           -4.4957
                                                                      -3.9607
            -3.2839
                        -3.0132
                                   -3.0081
                                                                      -0.2038
 -3.4367
                                               -1.8870
                                                           -0.4497
                                                                                   0.6075
  0.6787
              0.6902
                         1.5917
                                     1.9004
                                                1.9528
                                                            1.9552
                                                                        2.0360
                                                                                    2.0854
                         2.2709
                                                            2.5034
  2.1161
              2.1837
                                     2.3650
                                                 2.4083
                                                                        2.6014
                                                                                    2.7693
                                     2.8373
  2.7837
                                                 2.8679
                                                            2.9926
              2.8097
                         2.8182
                                                                        3.0568
         k = 0.2222 - 0.3849 \ 0.0000 \ (64820 \ PWs)
                                                            bands (ev):
-21.4693 -21.1265 -21.0840 -20.9554 -20.6102 -20.6047 -20.3004 -20.0999 -19.5787 -19.5777 -19.5738 -19.4835 -19.2863 -18.9230 -18.6646 -18.6055 -18.5644 -18.5634 -18.5607 -18.3291 -18.0083 -17.9565 -17.5650 -17.5629 -17.5289 -17.0712 -17.0691 -15.6637 -15.6588 -15.4470 -14.7799 -14.7282 -13.6650 -13.6592 -13.2978 -13.1584 -13.1563 -12.6988 -12.4474 -12.0306 -12.0069 -11.9892 -11.8860 -11.8858 -11.8782 -11.7370 -11.5772 -10.9434 -10.9398 -10.9385 -10.6110 -10.3949 -10.2695 -10.1619 -10.1570 -9.9626
                                   -9.0945
                                              -9.0788
                                                          -8.8377
                                                                      -8.7545
 -9.7432
            -9.2468
                       -9.1263
                                                                                  -8.7394
 -8.7190
                                   -8.6805
                                               -8.4417
                                                                      -8.4286
            -8.7025
                        -8.6858
                                                           -8.4346
                                                                                  -8.3081
 -8.3035
                                                           -7.8331
             -8.1505
                        -8.1237
                                   -7.9667
                                               -7.8389
                                                                      -7.6870
                                                                                  -7.5182
 -7.3334
            -7.3231
                        -7.2198
                                   -7.2007
                                               -7.1953
                                                           -7.1850
                                                                      -7.1224
                                                                                  -7.1201
 -7.1113
            -7.0284
                        -6.9680
                                   -6.7216
                                               -6.5223
                                                           -6.5146
                                                                      -6.5038
                                                                                  -6.2279
                                   -6.0289
 -6.1394
            -6.0839
                        -6.0337
                                               -6.0168
                                                           -5.8469
                                                                      -5.8417
                                                                                  -5.7573
 -5.5199
            -5.5088
                        -5.2404
                                   -5.2256
                                               -4.9722
                                                           -4.9186
                                                                      -4.9026
                                                                                  -4.9005
                                               -4.4655
                        -4.5846
                                   -4.4813
                                                           -4.4644
 -4.8976
            -4.8223
                                                                      -3.9726
                                                                                  -3.8776
                                               -1.9572
                                                           -0.4589
                        -3.0363
 -3.4544
            -3.3048
                                   -3.0314
                                                                      -0.1354
                                                                                   0.6137
                                                                        2.0499
  0.7144
             0.7264
                         1.5720
                                     1.8809
                                                1.8832
                                                            1.9053
                                                                                    2.0702
  2.1379
                         2.2848
                                                            2.5214
              2.1874
                                     2.3816
                                                 2.3937
                                                                        2.6137
                                                                                    2.7678
                                                            2.9576
  2.7875
              2.7969
                         2.8083
                                     2.8223
                                                 2.8468
                                                                        3.0339
         k = 0.2143 - 0.3712 \ 0.0000 \ (64816 \ PWs)
                                                            bands (ev):
-21.4818 -21.1428 -21.0668 -20.9407 -20.5894 -20.5839 -20.3130 -20.1097
-19.5946 -19.5937 -19.5817 -19.5169 -19.2724 -18.9092 -18.6474 -18.6153
-18.6125 -18.5816 -18.5081 -18.3237 -18.0154 -17.9661 -17.5452 -17.5431
-17.5423 -17.0168 -17.0146 -15.7089 -15.7042 -15.4604 -14.8522 -14.7426
-13.5892 -13.5831 -13.2502 -13.2371 -13.2350 -12.7102 -12.4549 -12.0118
-11.9795 -11.9648 -11.9112 -11.8744 -11.8665 -11.7451 -11.5838 -10.9339
-10.8639 -10.8589 -10.6076 -10.3528 -10.2260 -10.1936 -10.1888 -10.0327
 -9.7388
            -9.2609
                       -9.1406
                                   -9.1105
                                               -9.0983
                                                          -8.8551
                                                                      -8.8223
                                                                                  -8.8073
            -8.6815
                        -8.6747
                                   -8.6403
                                               -8.4240
                                                           -8.4169
                                                                      -8.4104
                                                                                  -8.2965
 -8.7854
 -8.2846
            -8.1968
                        -8.1027
                                   -8.0025
                                               -7.8341
                                                           -7.8283
                                                                      -7.6805
                                                                                  -7.5334
                                                                      -7.0932
 -7.2993
            -7.2874
                        -7.2144
                                   -7.2076
                                               -7.2072
                                                           -7.2022
                                                                                  -7.0721
 -7.0699
            -6.9949
                       -6.9837
                                   -6.6963
                                               -6.5867
                                                           -6.5789
                                                                      -6.5478
                                                                                  -6.2435
                       -6.0919
                                               -5.9533
                                                                      -5.8371
 -6.1725
           -6.1001
                                   -6.0874
                                                          -5.8498
                                                                                  -5.7640
 -5.5425 -5.5302 -5.2212 -5.1954
                                              -4.9494
                                                          -4.8893
                                                                      -4.8775
                                                                                  -4.8744
```

```
-4.8636
            -4.7864
                        -4.5493
                                   -4.4667
                                               -4.4170
                                                          -4.4160
                                                                      -3.9846
                                                                                 -3.8918
                                                          -0.4684
 -3.4735
            -3.3250
                        -3.0614
                                   -3.0566
                                              -2.0278
                                                                     -0.0663
                                                                                  0.6194
  0.7522
             0.7646
                         1.5528
                                    1.8100
                                                1.8121
                                                           1.9096
                                                                       2.0457
                                                                                  2.0730
                         2.2986
                                                           2.5410
                                                                       2.6270
  2.1598
             2.1929
                                    2.3657
                                                2.4136
                                                                                   2.7294
                                                                       3.0113
  2.7672
             2.7856
                         2.8058
                                    2.8270
                                                2.8558
                                                           2.9281
         k = 0.2063 - 0.3574 \ 0.0000 \ (64820 \ PWs)
                                                           bands (ev):
-21.4939 -21.1584 -21.0491 -20.9255 -20.5679 -20.5625 -20.3251 -20.1194
-19.6099 -19.6090 -19.5972 -19.5483 -19.2526 -18.8950 -18.6666 -18.6636
-18.6305 -18.5581 -18.4515 -18.3181 -18.0226 -17.9764 -17.5567 -17.5250 -17.5228 -16.9619 -16.9597 -15.7541 -15.7495 -15.4734 -14.9249 -14.7565 -13.5130 -13.5065 -13.3154 -13.3134 -13.2020 -12.7212 -12.4623 -12.0047 -11.9828 -11.9215 -11.9143 -11.8627 -11.8547 -11.7584 -11.5789 -10.9282 -10.7841 -10.7791 -10.6049 -10.3158 -10.2248 -10.2200 -10.1759 -10.1025
            -10.7791 -10.0049 -10.3158 -10.2248 -10.2200

-9.2717 -9.1492 -9.1256 -9.1171 -8.8909

-8.6757 -8.6693 -8.5821 -8.4233 -8.3913

-8.2386 -8.0810 -8.0376 -7.8295 -7.8236

-7.2665 -7.2189 -7.2129 -7.2068 -7.1945

-6.9990 -6.9614 -6.6713 -6.6525 -6.6446

-6.1498 -6.1455 -6.1183 -5.8899 -5.8580
 -9.7416
                                                                     -8.8762
                                                                                 -8.8719
                                                                     -8.3853
                                                                                 -8.2970
 -8.8522
                                                                     -7.6724
                                                                                 -7.5490
 -8.2604
                                                                                 -7.0224
 -7.2777
                                                                     -7.0764
                                                                     -6.5927
 -7.0203
                                                                                 -6.2600
                                                                                 -5.7696
 -6.2184
                                                                     -5.8121
                       -5.2016
                                   -5.1652
 -5.5653
            -5.5511
                                              -4.9268
                                                          -4.8762
                                                                     -4.8533
                                                                                 -4.8503
            -4.7511
                                              -4.3691
                       -4.5152
                                                          -4.3680
 -4.8107
                                   -4.4522
                                                                     -3.9967
                                                                                 -3.9071
            -3.3444
                                                          -0.4779
                        -3.0882
                                   -3.0835
                                              -2.0990
 -3.4941
                                                                      0.0034
                                                                                  0.6248
                                    1.7402
                                                1.7422
  0.7918
             0.8046
                         1.5342
                                                                       2.0282
                                                           1.9131
                                                                                   2.0901
  2.1816
             2.1993
                         2.3112
                                    2.3475
                                                2.4383
                                                           2.5616
                                                                       2.6413
                                                                                   2.6829
                         2.7901
  2.7450
             2.7694
                                    2.8409
                                                2.8715
                                                           2.9153
                                                                       2.9895
         k = 0.1984 - 0.3437 \ 0.0000 \ (64802 \ PWs)
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-21.5057 -21.1734 -21.0310 -20.9100 -20.5459 -20.5405 -20.3368 -20.1291
-19.6247 -19.6238 -19.6198 -19.5770 -19.2281 -18.8806 -18.7173 -18.7143
-18.6138 -18.5349 -18.3943 -18.3125 -18.0300 -17.9874 -17.5721 -17.5042 -17.5020 -16.9065 -16.9043 -15.7992 -15.7948 -15.4859 -14.9981 -14.7699 -13.4365 -13.4295 -13.3932 -13.3912 -13.1535 -12.7317 -12.4695 -12.0323 -11.9699 -11.9031 -11.8770 -11.8509 -11.8428 -11.7728 -11.5649 -10.9228
-10.7041 -10.6990 -10.6029 -10.2824 -10.2553 -10.2507 -10.1720 -10.1210
 -9.7514
            -9.2816
                      -9.1497
                                  -9.1396
                                             -9.1351
                                                         -8.9603
                                                                     -8.9459
                                                                                 -8.9190
                                  -8.5252
                                              -8.4267
 -8.8882
            -8.6708
                       -8.6647
                                                          -8.3649
                                                                     -8.3593
                                                                                 -8.3178
 -8.2633
            -8.2356
                       -8.0711
                                  -8.0588
                                              -7.8250
                                                         -7.8191
                                                                     -7.6628
                                                                                 -7.5649
                       -7.2350
 -7.2773
            -7.2708
                                  -7.1861
                                              -7.1840
                                                          -7.1817
                                                                     -7.0611
                                                                                 -7.0140
                                  -6.7197
 -6.9734
            -6.9714
                       -6.9283
                                              -6.7117
                                                          -6.6572
                                                                     -6.6279
                                                                                 -6.2774
            -6.2072
                                  -6.1443
                                              -5.8663
                                                          -5.8277
 -6.2670
                       -6.2031
                                                                     -5.7764
                                                                                 -5.7740
                                                          -4.8634
            -5.5706
                                   -5.1353
                                              -4.9044
                                                                     -4.8286
 -5.5883
                       -5.1816
                                                                                 -4.8257
            -4.7164
                       -4.4822
                                   -4.4376
                                              -4.3216
                                                          -4.3206
                                                                     -4.0090
 -4.7589
                                                                                 -3.9235
            -3.3632
                                  -3.1120
 -3.5160
                       -3.1166
                                              -2.1706
                                                          -0.4876
                                                                      0.0737
                                                                                  0.6297
                        1.5161
                                                           1.9159
                                    1.6716
                                                1.6736
                                                                       2.0098
  0.8331
             0.8463
                                                                                  2.1090
             2.2068
                         2.3175
                                    2.3358
                                                2.4636
                                                           2.5829
                                                                       2.6345
  2.2026
                                                                                   2.6583
                         2.7731
  2.7234
                                    2.8310
                                                2.8937
                                                           2.9280
                                                                       2.9687
             2.7523
         k = 0.1905 - 0.3299 \ 0.0000 \ (64806 \ PWs)
                                                           bands (ev):
-21.5171 -21.1879 -21.0124 -20.8940 -20.5233 -20.5180 -20.3481 -20.1388
-19.6480 -19.6389 -19.6380 -19.6031 -19.2004 -18.8659 -18.7675 -18.7644
-18.5975 -18.5123 -18.3366 -18.3067 -18.0374 -17.9991 -17.5884 -17.4828
-17.4806 -16.8508 -16.8485 -15.8441 -15.8398 -15.4980 -15.0715 -14.7828
-13.4709 -13.4688 -13.3593 -13.3523 -13.1044 -12.7417 -12.4766 -12.0685
-11.9564 -11.8926 -11.8391 -11.8317 -11.8305 -11.7807 -11.5447 -10.9176
-10.6239 -10.6187 -10.6018 -10.2854 -10.2807 -10.2509 -10.2409 -10.0629
 -9.7673
           -9.2927 -9.1532 -9.1525 -9.1405 -9.0303 -9.0161
                                                                                -8.9858
           -8.6667 -8.6607 -8.4697 -8.4343 -8.3583
 -8.9039
                                                                     -8.3379
                                                                                 -8.3324
 -8.2722 -8.2101 -8.1018 -8.0359 -7.8206 -7.8147 -7.6519 -7.5811
```

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-7.2879
           -7.2839
                     -7.2505
                                                   -7.1485
                                                             -7.0473
                                                                       -7.0287
                               -7.1690
                                         -7.1511
 -6.9253
          -6.9235
                     -6.8955
                               -6.7880
                                         -6.7800
                                                   -6.6945
                                                             -6.6125
                                                                       -6.3162
                                                   -5.7771
                                                                       -5.7341
 -6.2954
          -6.2642
                    -6.2601
                              -6.1756
                                         -5.8749
                                                             -5.7685
          -5.5867
                     -5.1611
                              -5.1057
                                         -4.8823
                                                   -4.8509
                                                             -4.8034
 -5.6115
                                                                       -4.8004
 -4.7086
           -4.6823
                     -4.4504
                               -4.4232
                                         -4.2748
                                                   -4.2737
                                                             -4.0213
                                                                       -3.9409
 -3.5393
          -3.3811
                     -3.1464
                               -3.1420
                                         -2.2427
                                                   -0.4973
                                                             0.1446
                                                                        0.6344
  0.8758
           0.8895
                      1.4986
                                1.6044
                                          1.6062
                                                    1.9181
                                                              1.9916
                                                                        2.1287
                                          2.4868
                                                              2.6051
  2.2119
            2.2250
                      2.3077
                                2.3402
                                                    2.5905
                                                                        2.6750
                                                    2.9455
  2.7029
            2.7342
                      2.7552
                                2.8112
                                          2.9210
                                                              2.9559
       k = 0.1825 - 0.3162 \ 0.0000 \ (64790 \ PWs)
                                                    bands (ev):
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-19.6795 -19.6525 -19.6516 -19.6278 -19.1703 -18.8509 -18.8171 -18.8140
-18.5815 -18.4901 -18.3010 -18.2784 -18.0450 -18.0113 -17.6057 -17.4609 -17.4587 -16.7947 -16.7924 -15.8889 -15.8846 -15.5095 -15.1452 -14.7952 -13.5478 -13.5459 -13.2823 -13.2749 -13.0550 -12.7511 -12.4835 -12.1059 -11.9514 -11.8856 -11.8272 -11.8189 -11.7848 -11.7755 -11.5208 -10.9126 -10.6016 -10.5435 -10.5381 -10.3173 -10.3113 -10.3057 -10.2205 -10.0031
          -9.3057
                    -9.1692
                              -9.1653
                                                   -9.1009
                                                             -9.0870
                                                                       -9.0525
 -9.7876
                                        -9.1227
 -8.9191
          -8.6631
                    -8.6573
                              -8.4477
                                         -8.4160
                                                  -8.4022
                                                             -8.3101
                                                                       -8.3048
                                                             -7.6401
                                                                       -7.5973
          -8.1840
                    -8.1278
                                                   -7.8104
 -8.2813
                              -8.0124
                                        -7.8164
          -7.2985
                    -7.2653
                                        -7.1138
                                                             -7.0431
 -7.3016
                              -7.1566
                                                   -7.1101
                                                                       -7.0353
                                                   -6.7414
                                                             -6.5875
 -6.8783
                    -6.8638
                              -6.8574
                                        -6.8493
          -6.8767
                                                                       -6.3655
          -6.3167
                                                   -5.7791
                                                             -5.7196
 -6.3207
                    -6.3139
                              -6.2102
                                         -5.8839
                                                                       -5.6878
           -5.5923
 -5.6349
                     -5.1401
                              -5.0766
                                         -4.8605
                                                   -4.8388
                                                             -4.7775
                                                                       -4.7746
                     -4.4197
 -4.6597
           -4.6490
                               -4.4091
                                         -4.2286
                                                   -4.2275
                                                             -4.0338
                                                                       -3.9592
 -3.5640
          -3.3984
                     -3.1776
                               -3.1733
                                         -2.3152
                                                   -0.5068
                                                              0.2162
                                                                        0.6386
  0.9199
            0.9340
                      1.4818
                                1.5385
                                          1.5403
                                                    1.9196
                                                              1.9738
                                                                        2.1486
  2.2169
            2.2457
                      2.2954
                                2.3474
                                          2.4961
                                                    2.5628
                                                              2.6268
                                                                        2.6810
  2.6960
            2.7155
                      2.7365
                                2.7928
                                          2.9271
                                                    2.9522
                                                              2.9820
       k = 0.1746 - 0.3024 \ 0.0000 \ (64760 \ PWs)
                                                    bands (ev):
-21.5385 -21.2150 -20.9738 -20.8608 -20.4764 -20.4711 -20.3693 -20.1578
-19.7126 -19.6655 -19.6647 -19.6521 -19.1385 -18.8663 -18.8631 -18.8356
-18.5658 -18.4685 -18.2952 -18.2196 -18.0527 -18.0241 -17.6238 -17.4384
-17.4362 -16.7382 -16.7358 -15.9334 -15.9292 -15.5205 -15.2190 -14.8070
-13.6244 -13.6225 -13.2052 -13.1975 -13.0050 -12.7598 -12.4902 -12.1431
-11.9615 -11.8748 -11.8153 -11.8069 -11.7581 -11.7373 -11.4943 -10.9079
-10.6026 -10.4629 -10.4574 -10.3797 -10.3420 -10.3379 -10.1904
                                                                       -9.9432
 -9.8100
          -9.3204
                    -9.1852
                              -9.1765
                                        -9.1718
                                                  -9.1582
                                                            -9.1191
                                                                       -9.0975
                    -8.6543
                                                             -8.2962
                              -8.4730
                                        -8.4390
                                                   -8.3640
 -8.9336
          -8.6601
                                                                       -8.2816
                    -8.1475
                              -7.9884
                                        -7.8123
                                                   -7.8062
                                                             -7.6279
 -8.2765
          -8.1572
                                                                       -7.6134
          -7.3132
                    -7.2796
                              -7.1450
                                        -7.0754
                                                             -7.0571
 -7.3159
                                                   -7.0712
                                                                       -7.0255
                                                             -6.5624
 -6.9280
          -6.9199
                    -6.8363
                              -6.8324
                                        -6.8310
                                                   -6.7844
                                                                       -6.4147
 -6.3766
          -6.3725
                    -6.3326
                              -6.2466
                                        -5.8934
                                                   -5.7799
                                                             -5.6972
                                                                       -5.6586
          -5.5714
                    -5.1187
                              -5.0481
                                        -4.8389
                                                   -4.8270
                                                             -4.7510
 -5.6392
                                                                       -4.7481
          -4.6124
                    -4.3953
                              -4.3902
                                        -4.1832
                                                   -4.1821
                                                             -4.0464
 -4.6165
                                                                       -3.9783
 -3.5900
          -3.4149
                     -3.2099
                              -3.2057
                                         -2.3880
                                                   -0.5163
                                                              0.2883
                                                                        0.6426
  0.9651
           0.9797
                     1.4655
                                1.4742
                                          1.4759
                                                    1.9206
                                                              1.9566
                                                                        2.1682
  2.2186
            2.2658
                      2.2871
                                2.3521
                                          2.4711
                                                    2.5714
                                                              2.6489
                                                                        2.6630
  2.6948
            2.7150
                      2.7192
                                2.7794
                                          2.9091
                                                    2.9829
                                                              3.0120
       k = 0.1667 - 0.2887 \ 0.0000 \ (64766 \ PWs)
                                                    bands (ev):
-21.5486 -21.2277 -20.9539 -20.8437 -20.4521 -20.4468 -20.3793 -20.1671
-19.7464 -19.6780 -19.6771 -19.6766 -19.1055 -18.9149 -18.9116 -18.8201
-18.5504 -18.4475 -18.2894 -18.1604 -18.0606 -18.0373 -17.6428 -17.4154
-17.4132 -16.6814 -16.6789 -15.9776 -15.9735 -15.5310 -15.2928 -14.8184
-13.7004 -13.6986 -13.1281 -13.1201 -12.9546 -12.7678 -12.4967 -12.1794
-11.9837 -11.8580 -11.8035 -11.7949 -11.7334 -11.6889 -11.4663 -10.9035
```

```
-10.6048 -10.4476 -10.3822 -10.3768 -10.3694 -10.3656 -10.1604
                                                                              -9.8888
                                            -9.2004
                                                                  -9.1854
 -9.8282
           -9.3361
                      -9.2432
                                 -9.2300
                                                       -9.1865
                                                                              -9.0668
                                            -8.4631
                                                       -8.3181
 -8.9476
           -8.6575
                      -8.6519
                                 -8.5144
                                                                  -8.3139
                                                                              -8.2524
                      -8.1299
                                            -7.8083
 -8.2474
           -8.1603
                                 -7.9639
                                                        -7.8023
                                                                   -7.6311
                                                                              -7.6136
 -7.3301
           -7.3276
                      -7.2933
                                 -7.1351
                                            -7.0708
                                                       -7.0369
                                                                   -7.0322
                                                                              -7.0188
 -6.9995
           -6.9913
                      -6.8451
                                 -6.7889
                                             -6.7879
                                                        -6.7869
                                                                   -6.5383
                                                                              -6.4638
                                                                              -5.6826
 -6.4319
           -6.4276
                      -6.3512
                                 -6.2842
                                            -5.9033
                                                        -5.7796
                                                                   -5.7025
 -5.5889
           -5.5225
                      -5.0969
                                 -5.0201
                                            -4.8175
                                                        -4.8157
                                                                   -4.7239
                                                                              -4.7210
                                             -4.1387
                                                                              -3.9983
 -4.5849
            -4.5667
                       -4.3818
                                 -4.3619
                                                        -4.1376
                                                                   -4.0591
 -3.6173
           -3.4307
                       -3.2433
                                 -3.2392
                                            -2.4612
                                                        -0.5255
                                                                   0.3610
                                                                              0.6463
  1.0113
             1.0263
                        1.4114
                                   1.4131
                                              1.4500
                                                         1.9209
                                                                    1.9401
                                                                               2.1856
  2.2158
             2.2837
                        2.2862
                                   2.3529
                                              2.4332
                                                         2.5963
                                                                    2.6457
                                                                               2.6705
  2.6749
             2.6960
                        2.7404
                                   2.7722
                                              2.8915
                                                         3.0151
                                                                    3.0435
        k = 0.1587 - 0.2749 \ 0.0000 \ (64760 \ PWs)
                                                         bands (ev):
-21.5583 -21.2398 -20.9335 -20.8262 -20.4272 -20.4219 -20.3888 -20.1764 -19.7805 -19.7011 -19.6899 -19.6890 -19.0716 -18.9629 -18.9595 -18.8044 -18.5354 -18.4272 -18.2837 -18.1007 -18.0686 -18.0509 -17.6626 -17.3919 -17.3896 -16.6242 -16.6217 -16.0214 -16.0175 -15.5411 -15.3668 -14.8293 -13.7759 -13.7741 -13.0512 -13.0429 -12.9038 -12.7751 -12.5029 -12.2147 -12.0119 -11.8376 -11.7918 -11.7831 -11.7049 -11.6397 -11.4373 -10.8994 -10.6085 -10.5153 -10.3967 -10.3927 -10.3009 -10.2951 -10.1303 -9.8778 -9.8035 -9.3521 -9.3149 -9.3019 -9.2519 -9.2147 -9.1953 -9.0321 -8.86600 -8.86554 -8.86408 -8.86616 -8.4842 -8.3460 -8.2655 -8.2325
                      -8.6498
                                 -8.5616
 -8.9609
           -8.6554
                                            -8.4842
                                                       -8.3460
                                                                  -8.2655
                                                                              -8.2225
                                                        -7.7984
 -8.2176
            -8.1674
                      -8.1019
                                 -7.9388
                                            -7.8045
                                                                  -7.6475
                                                                              -7.6007
                       -7.3063
                                                       -7.0721
                                                                  -7.0639
 -7.3440
           -7.3415
                                 -7.1290
                                            -7.0841
                                                                             -7.0168
           -6.9932
                                 -6.7614
                                            -6.7451
                                                        -6.7447
                      -6.8799
 -6.9980
                                                                   -6.5161
                                                                              -6.5125
                                  -6.3223
                                                        -5.7785
            -6.4817
                       -6.3689
                                             -5.9138
                                                                   -5.7194
 -6.4864
                                                                              -5.7068
            -5.4619
                       -5.0747
                                  -4.9929
                                             -4.8048
                                                        -4.7963
 -5.5376
                                                                   -4.6963
                                                                              -4.6934
 -4.5543
            -4.5227
                       -4.3688
                                  -4.3348
                                             -4.0951
                                                        -4.0939
                                                                   -4.0719
                                                                              -4.0188
 -3.6459
            -3.4458
                       -3.2776
                                  -3.2736
                                             -2.5348
                                                        -0.5344
                                                                    0.4343
                                                                               0.6497
  1.0584
             1.0738
                        1.3504
                                   1.3520
                                              1.4350
                                                         1.9203
                                                                    1.9247
                                                                               2.1965
  2.2116
             2.2880
                        2.3039
                                   2.3464
                                              2.3999
                                                         2.6193
                                                                    2.6354
                                                                               2.6524
                                   2.7743
  2.6742
             2.6944
                        2.7625
                                              2.8748
                                                         3.0482
                                                                    3.0759
        k = 0.1508 - 0.2612 \ 0.0000 \ (64762 \ PWs)
                                                         bands (ev):
-21.5675 -21.2514 -20.9126 -20.8084 -20.4017 -20.3978 -20.3965 -20.1856
-19.8147 -19.7256 -19.7012 -19.7003 -19.0372 -19.0104 -19.0070 -18.7884
-18.5208 -18.4075 -18.2781 -18.0770 -18.0646 -18.0405 -17.6832 -17.3678
-17.3655 -16.5667 -16.5642 -16.0649 -16.0610 -15.5506 -15.4407 -14.8396
-13.8508 -13.8491 -12.9745 -12.9658 -12.8524 -12.7816 -12.5089 -12.2488
-12.0428 -11.8152 -11.7802 -11.7714 -11.6742 -11.5897 -11.4078 -10.8957
-10.6139 -10.5828 -10.4225 -10.4187 -10.2198 -10.2138 -10.1001
                                                                             -9.8994
 -9.7460
           -9.3867
                      -9.3740
                                -9.3682
                                            -9.3180
                                                       -9.2284
                                                                  -9.2026
                                                                              -8.9946
 -8.9737
           -8.6535
                      -8.6481 -8.6100
                                            -8.5061
                                                       -8.3780
                                                                  -8.2192
                                                                              -8.1919
           -8.1708
                      -8.0733
                                 -7.9133
                                            -7.8009
                                                       -7.7947
                                                                   -7.6642
 -8.1871
                                                                             -7.5875
 -7.3575
           -7.3550
                      -7.3187
                                 -7.1453
                                            -7.1371
                                                       -7.1313
                                                                  -7.0972
                                                                              -7.0201
 -6.9595
           -6.9545
                      -6.9059
                                 -6.7311
                                            -6.7053
                                                        -6.7044
                                                                   -6.5610
                                                                              -6.5395
 -6.5340
           -6.4974
                      -6.3841
                                 -6.3606
                                            -5.9248
                                                        -5.7765
                                                                   -5.7405
                                                                              -5.7314
 -5.4856
           -5.3970
                       -5.0521
                                  -4.9665
                                             -4.7944
                                                        -4.7754
                                                                   -4.6680
                                                                              -4.6652
 -4.5246
            -4.4804
                       -4.3564
                                  -4.3090
                                             -4.0850
                                                        -4.0525
                                                                   -4.0514
                                                                              -4.0399
                                             -2.6086
                                                        -0.5430
 -3.6758
            -3.4601
                       -3.3128
                                  -3.3088
                                                                    0.5082
                                                                               0.6528
                                                         1.9085
                                                                    1.9206
  1.1061
             1.1220
                        1.2912
                                   1.2927
                                              1.4207
                                                                               2.1918
                                              2.3854
  2.2145
             2.2953
                        2.3213
                                   2.3239
                                                         2.6104
                                                                    2.6297
                                                                               2.6518
  2.6594
             2.7177
                        2.7732
                                   2.7954
                                              2.8594
                                                         3.0823
                                                                    3.1093
        k = 0.1429 - 0.2474 \ 0.0000 \ (64722 \ PWs)
                                                         bands (ev):
-21.5762 -21.2623 -20.8913 -20.7903 -20.4064 -20.3756 -20.3704 -20.1947
-19.8488 -19.7501 -19.7119 -19.7110 -19.0574 -19.0539 -19.0023 -18.7722
```

```
-18.5065 -18.3886 -18.2727 -18.0865 -18.0777 -17.9798 -17.7045 -17.3431
-17.3408 -16.5090 -16.5064 -16.1081 -16.1043 -15.5597 -15.5146 -14.8494
-13.9252 -13.9235 -12.8981 -12.8891 -12.8007 -12.7872 -12.5147 -12.2816
-12.0748 -11.7913 -11.7689 -11.7600 -11.6424 -11.5389 -11.3782 -10.8923
-10.6499 -10.6212 -10.4473 -10.4436 -10.1386 -10.1322 -10.0698
 -9.6852
           -9.4585
                     -9.4462 -9.3839 -9.3839 -9.2413 -9.2081
                                                                           -8.9858
                      -8.6520 -8.6466 -8.5293
                                                     -8.4123
                                                                -8.1748
 -8.9553
           -8.6585
                                                                           -8.1719
                     -8.0441 -7.8873 -7.7974
-7.3305 -7.2191 -7.2108
                                                     -7.7912
                                                                -7.6812
                                                                          -7.5745
 -8.1606
           -8.1558
           -7.3681
                                                     -7.1487
                                                                -7.1099
 -7.3706
                                                                          -7.0238
                                                                -6.6092
 -6.9212
           -6.9184
                      -6.9161
                                -6.7007
                                           -6.6727
                                                     -6.6687
                                                                          -6.5885
 -6.5805
           -6.4855
                      -6.3989
                                -6.3937
                                           -5.9362
                                                     -5.7738
                                                                -5.7636
                                                                           -5.7562
           -5.3301
 -5.4331
                      -5.0292
                                -4.9409
                                           -4.7845
                                                     -4.7547
                                                                -4.6392
                                                                           -4.6364
 -4.4961
           -4.4398
                      -4.3446
                                -4.2844
                                           -4.0983
                                                     -4.0613
                                                                -4.0112
                                                                           -4.0100
 -3.7068
           -3.4738
                      -3.3486
                                -3.3448
                                           -2.6827
                                                     -0.5511
                                                                 0.5827
                                                                            0.6556
  1.1545
            1.1707
                       1.2340
                                  1.2354
                                            1.4071
                                                      1.8941
                                                                  1.9195
                                                                            2.1807
  2.2142
            2.2900
                       2.3048
                                  2.3377
                                            2.3890
                                                       2.5964
                                                                  2.6061
                                                                            2,6283
  2.6902
             2.7420
                       2.7844
                                  2.8204
                                            2.8478
                                                       3.1172
                                                                  3.1434
        k = 0.1349 - 0.2337 \ 0.0000 \ (64734 \ PWs)
                                                       bands (ev):
-21.5845 -21.2726 -20.8696 -20.7719 -20.4146 -20.3490 -20.3438 -20.2038 -19.8828 -19.7743 -19.7220 -19.7212 -19.1038 -19.1002 -18.9673 -18.7558 -18.4925 -18.3705 -18.2674 -18.0985 -18.0886 -17.9186 -17.7266 -17.3180 -17.3156 -16.4510 -16.4483 -16.1508 -16.1471 -15.5884 -15.5683 -14.8587 -13.9988 -13.9973 -12.8223 -12.8129 -12.7920 -12.7484 -12.5202 -12.3129 -12.1072 -11.7662 -11.7580 -11.7489 -11.6098 -11.4874 -11.3488 -10.8893 -10.7166 -10.6307 -10.4710 -10.4675 -10.0572 -10.0505 -10.0396 -9.9473 -9.6246 -9.5303 -9.5183 -9.4496 -9.3992 -9.2534 -9.2116 -8.9972
                               -9.4496 -9.3992
                     -9.5183
                                                     -9.2534
           -9.5303
 -9.6246
                                                               -9.2116
                                                                          -8.9972
           -8.7066
                      -8.6507
                                                     -8.4480
 -8.9148
                                -8.6454
                                          -8.5537
                                                                -8.1718
                                                                           -8.1327
                                          -7.7941
                                                     -7.7879
 -8.1283
           -8.1239
                      -8.0142
                                -7.8609
                                                                -7.6984
                                                                          -7.5619
                                           -7.2847
 -7.3839
           -7.3812
                      -7.3416
                                -7.2931
                                                     -7.1836
                                                                -7.1224
                                                                          -7.0218
                                           -6.6707
                      -6.8783
                                -6.6708
 -6.9211
           -6.8834
                                                     -6.6644
                                                                -6.6570
                                                                          -6.6069
                                           -5.9482
 -6.5972
                      -6.4368
                                -6.3934
                                                                           -5.7705
           -6.4844
                                                     -5.7878
                                                                -5.7815
 -5.3804
           -5.2620
                      -5.0059
                                -4.9163
                                           -4.7750
                                                     -4.7343
                                                                -4.6099
                                                                           -4.6070
           -4.4011
                      -4.3335
                                -4.2610
                                                      -4.0827
 -4.4686
                                           -4.1121
                                                                -3.9710
                                                                           -3.9698
 -3.7391
           -3.4866
                      -3.3851
                                 -3.3814
                                           -2.7571
                                                      -0.5589
                                                                 0.6577
                                                                            0.6584
  1.1788
                       1.2033
                                  1.2200
                                            1.3942
                                                       1.8804
                                                                  1.9181
            1.1802
                                                                            2.1685
                                                       2.5814
  2.2047
             2.2558
                       2.3154
                                  2.3529
                                            2.4027
                                                                  2.5828
                                                                            2.6038
  2.7215
             2.7673
                       2.7996
                                  2.8248
                                            2.8602
                                                       3.1530
                                                                  3.1781
        k = 0.1270 - 0.2199 \ 0.0000 \ (64750 \ PWs)
                                                       bands (ev):
-21.5924 -21.2824 -20.8475 -20.7533 -20.4222 -20.3218 -20.3166 -20.2129
-19.9166 -19.7981 -19.7316 -19.7307 -19.1496 -19.1460 -18.9322 -18.7392
-18.4789 -18.3533 -18.2623 -18.1125 -18.0978 -17.8570 -17.7492 -17.2922
-17.2899 -16.3929 -16.3901 -16.1932 -16.1895 -15.6621 -15.5764 -14.8675
-14.0718 -14.0703 -12.7959 -12.7470 -12.7373 -12.6957 -12.5254 -12.3427
-12.1395 -11.7475 -11.7400 -11.7382 -11.5769 -11.4353 -11.3199 -10.8867
-10.7830 -10.6423 -10.4936 -10.4901 -10.0108
                                                     -9.9758
                                                                -9.9687
                                                                           -9.9673
 -9.6019
           -9.5903
                     -9.5656
                                -9.5151
                                          -9.4138
                                                     -9.2647
                                                                -9.2124
                                                                           -9.0081
 -8.8740
           -8.7537
                      -8.6497
                                -8.6444
                                           -8.5787
                                                     -8.4843
                                                                -8.1711
                                                                           -8.0964
 -8.0920
           -8.0911
                      -7.9838
                                -7.8342
                                           -7.7910
                                                     -7.7847
                                                                -7.7158
                                                                           -7.5497
 -7.4012
           -7.3971
                      -7.3638
                                -7.3551
                                           -7.3522
                                                      -7.2305
                                                                -7.1347
                                                                           -7.0142
 -6.9189
                                           -6.7067
           -6.8465
                      -6.8414
                                -6.7100
                                                      -6.7045
                                                                -6.6411
                                                                           -6.5791
 -6.5734
           -6.4938
                      -6.4743
                                -6.3838
                                           -5.9607
                                                      -5.8127
                                                                 -5.8071
                                                                           -5.7667
 -5.3274
           -5.1930
                      -4.9822
                                -4.8927
                                           -4.7661
                                                      -4.7141
                                                                 -4.5799
                                                                           -4.5771
 -4.4424
           -4.3643
                      -4.3231
                                -4.2389
                                           -4.1268
                                                      -4.1036
                                                                 -3.9323
                                                                           -3.9311
 -3.7725
           -3.4988
                      -3.4221
                                -3.4185
                                           -2.8317
                                                      -0.5662
                                                                 0.6606
                                                                           0.7334
  1.1258
                      1.2524
                                 1.2694
                                                      1.8674
                                                                  1.9163
                                                                            2.1560
            1.1272
                                           1.3820
  2.1848
             2.2262
                       2.3267
                                  2.3669
                                            2.4233
                                                       2.5557
                                                                  2.5698
                                                                            2.5783
                                  2.8239
                                            2.8900
  2.7528
             2.7923
                       2.8105
                                                       3.1895
                                                                  3.2135
```

```
k = 0.1190 - 0.2062 \ 0.0000 \ (64710 \ PWs)
                                                          bands (ev):
-21.5997 -21.2915 -20.8250 -20.7344 -20.4294 -20.2940 -20.2889 -20.2220
-19.9502 -19.8215 -19.7406 -19.7397 -19.1949 -19.1913 -18.8971 -18.7225 -18.4657 -18.3370 -18.2575 -18.1274 -18.1062 -17.7948 -17.7724 -17.2660
-17.2636 -16.3347 -16.3318 -16.2351 -16.2315 -15.7357 -15.5840 -14.8757 -14.1440 -14.1426 -12.7989 -12.6725 -12.6624 -12.6424 -12.5304 -12.3710 -12.1713 -11.7375 -11.7280 -11.7129 -11.5439 -11.3825 -11.2919 -10.8845
-10.8491 -10.6563 -10.5148 -10.5115 -9.9987
                                                        -9.9683
                                                                   -9.8945
                                                                               -9.8867
                                                                   -9.2098
 -9.6731
            -9.6618
                       -9.5804
                                 -9.5095 -9.4275
                                                        -9.2751
                                                                               -9.0183
                                                                               -8.0629
 -8.8338
            -8.7994
                       -8.6488
                                  -8.6436 -8.6038
                                                        -8.5207
                                                                   -8.1701
                                 -7.8070 -7.7880
-7.3941 -7.3621
            -8.0538
                                                        -7.7817
                                                                    -7.7335
 -8.0581
                       -7.9528
                                                                               -7.5382
                                                                               -7.0034
                       -7.3983
 -7.4528
            -7.4462
                                                        -7.2842
                                                                    -7.1468
                                 -6.7543
-6.3693
                                             -6.7520
                                                        -6.7515
                                                                    -6.6121
 -6.9145
            -6.8135
                       -6.8091
                                                                               -6.5459
                                             -5.9738
-4.7577
                                                        -5.8384
                                                                    -5.8331
                                                                               -5.7625
 -6.5417
            -6.5112
                       -6.5090
 -5.2745
            -5.1235
                       -4.9583
                                  -4.8701
                                                         -4.6942
                                                                    -4.5495
                                                                               -4.5466
                                                                    -3.8951
                                                                               -3.8938
 -4.4176
            -4.3294
                       -4.3137
                                  -4.2181
                                             -4.1434
                                                        -4.1229
                                  -3.4560
                                             -2.9064
 -3.8069
            -3.5103
                       -3.4596
                                                         -0.5730
                                                                     0.6628
                                                                                0.8096
  1.0751
             1.0764
                        1.3017
                                    1.3191
                                               1.3705
                                                          1.8551
                                                                     1.9142
                                                                                 2.1426
                        2.3384
                                    2.3797
                                                          2.5291
                                                                     2.5517
  2.1581
             2.2019
                                               2.4485
                                                                                 2.5576
  2.7838
             2.7956
                         2.8253
                                    2.8446
                                               2.9224
                                                          3.2268
                                                                     3.2494
        k = 0.1111 - 0.1925 \ 0.0000 \ (64778 \ PWs)
                                                          bands (ev):
-21.6067 -21.3001 -20.8021 -20.7153 -20.4362 -20.2656 -20.2605 -20.2312 -19.9836 -19.8444 -19.7490 -19.7482 -19.2397 -19.2360 -18.8622 -18.7057 -18.4529 -18.3217 -18.2531 -18.1424 -18.1145 -17.7962 -17.7322 -17.2392 -17.2367 -16.2785 -16.2750 -16.2740 -16.2721 -15.8091 -15.5911 -14.8834 -14.2154 -14.2140 -12.8010 -12.5993 -12.5892 -12.5874 -12.5351 -12.3976 -12.2025 -11.7282 -11.7185 -11.6848 -11.5111 -11.3290 -11.2649 -10.9147 -10.8829 -10.6726 -10.5345 -10.5314 -10.0117 -9.9413 -9.8133 -9.8046
                      -9.6455
                                 -9.4595
                                                                               -9.0279
            -9.7329
                                             -9.4391
                                                        -9.2844
 -9.7437
                                                                    -9.2026
                                  -8.6430
                                                         -8.5566
            -8.7946
                       -8.6481
                                             -8.6275
                                                                    -8.1692
                                                                               -8.0288
 -8.8441
                                                         -7.7789
 -8.0242
            -8.0179
                       -7.9213
                                  -7.7852
                                             -7.7796
                                                                    -7.7516
                                                                               -7.5274
 -7.5271
            -7.5198
                       -7.4108
                                  -7.4079
                                             -7.3714
                                                         -7.3416
                                                                    -7.1588
                                                                               -6.9911
                                                         -6.7555
 -6.9092
            -6.8213
                       -6.8187
                                  -6.7982
                                              -6.7603
                                                                    -6.5841
                                                                               -6.5473
                                  -6.3532
                                              -5.9874
                                                                    -5.8595
 -6.5264
            -6.5134
                       -6.5100
                                                         -5.8646
                                                                               -5.7580
                                  -4.8488
                                             -4.7498
 -5.2215
            -5.0533
                       -4.9340
                                                         -4.6745
                                                                    -4.5185
                                                                               -4.5156
                       -4.2966
                                              -4.1623
                                                         -4.1397
                                                                    -3.8595
 -4.3941
            -4.3054
                                  -4.1986
                                                                               -3.8581
 -3.8425
            -3.5212
                       -3.4973
                                  -3.4938
                                              -2.9813
                                                         -0.5793
                                                                     0.6648
                                                                                0.8864
                                                          1.8437
                                                                     1.9117
  1.0269
             1.0281
                        1.3511
                                    1.3597
                                               1.3689
                                                                                 2.1205
  2.1373
             2.1802
                         2.3502
                                    2.3913
                                               2.4767
                                                          2.5014
                                                                     2.5241
                                                                                 2.5463
             2.8143
                         2.8542
                                                          3.2476
                                                                     3.2649
  2.7848
                                    2.8697
                                               2.9563
        k = 0.1032 - 0.1787 \ 0.0000 \ (64728 \ PWs)
                                                          bands (ev):
-21.6131 -21.3081 -20.7788 -20.6961 -20.4425 -20.2405 -20.2366 -20.2316
-20.0166 -19.8664 -19.7568 -19.7560 -19.2839 -19.2801 -18.8275 -18.6887
-18.4406 -18.3074 -18.2492 -18.1572 -18.1226 -17.8203 -17.6691 -17.2118
-17.2094 -16.3177 -16.3142 -16.2181 -16.2151 -15.8823 -15.5977 -14.8906
-14.2858 -14.2845 -12.8023 -12.5395 -12.5360 -12.5250 -12.5152 -12.4224
-12.2327 -11.7197 -11.7098 -11.6559 -11.4787 -11.2750 -11.2394 -10.9800
                                                                    -9.8137
-10.8817 -10.6911 -10.5526 -10.5497 -10.0258
                                                         -9.9105
                                                                               -9.8033
            -9.7224
                       -9.7103
                                  -9.4543
                                             -9.4118
                                                         -9.2926
                                                                    -9.1897
 -9.7324
                                                                               -9.0368
 -8.8846
            -8.7620
                       -8.6476
                                  -8.6467
                                              -8.6424
                                                         -8.5911
                                                                    -8.1684
                                                                               -7.9942
                                  -7.7825
 -7.9896
            -7.9842
                       -7.8891
                                              -7.7762
                                                         -7.7702
                                                                    -7.7518
                                                                               -7.6040
 -7.5965
            -7.5174
                       -7.4209
                                  -7.4183
                                              -7.4010
                                                         -7.3800
                                                                    -7.1707
                                                                               -6.9782
 -6.9036
            -6.8678
                       -6.8649
                                  -6.8444
                                              -6.7278
                                                         -6.7225
                                                                    -6.5825
                                                                               -6.5613
            -6.4825
                       -6.4796
                                  -6.3370
                                                         -5.8912
 -6.5399
                                              -6.0015
                                                                    -5.8863
                                                                               -5.7533
 -5.1687
            -4.9827
                       -4.9095
                                  -4.8286
                                             -4.7425
                                                         -4.6552
                                                                    -4.4869
                                                                               -4.4840
                                                        -4.1545
                                                                    -3.8790
            -4.2986
                      -4.2658
                                  -4.1827
                                             -4.1804
                                                                               -3.8255
 -4.3722
           -3.5368 -3.5333 -3.5285
                                             -3.0563
 -3.8242
                                                        -0.5851
                                                                    0.6666
                                                                                0.9637
```

```
0.9825
  0.9813
                       1.3496
                                  1.4005
                                            1.4187
                                                       1.8330
                                                                 1.9089
                                                                            2.0901
                                                                 2.5069
  2.1252
            2.1595
                       2.3620
                                 2.4017
                                            2.4727
                                                       2.4955
                                                                            2.5358
                                                       3.1573
  2.7738
            2.8445
                       2.8853
                                 2.8966
                                            2.9912
                                                                 3.3033
        k = 0.0952 - 0.1650 \ 0.0000 \ (64778 \ PWs)
                                                       bands (ev):
-21.6191 -21.3155 -20.7551 -20.6767 -20.4483 -20.2501 -20.2071 -20.2021
-20.0494 -19.8876 -19.7641 -19.7632 -19.3276 -19.3237 -18.7933 -18.6718
-14.3551 -14.3540 -12.8027 -12.5437 -12.4810 -12.4540 -12.4456 -12.4434 -12.2620 -11.7122 -11.7021 -11.6261 -11.4470 -11.2203 -11.2156 -11.0449
-10.8810 -10.7115 -10.5690 -10.5662 -10.0378 -9.8828
                                                               -9.8791
                                                                          -9.8727
                     -9.6401 -9.4651 -9.3767 -9.2993
-8.6559 -8.6471 -8.6420 -8.6198
-7.8564 -7.7890 -7.7801 -7.7738
-7.4609 -7.4299 -7.4274 -7.3881
 -9.7748
                                                                          -9.0450
           -9.6523
                                                               -9.1716
                                                               -8.1680
                                                                          -7.9591
 -8.9196
           -8.7446 -8.6559
          -7.9526 -7.8564
-7.5091 -7.4609
                                                               -7.7239
 -7.9545
                                                                          -7.6817
 -7.6741
                                                               -7.1827
                                                                          -6.9650
           -6.9144
                     -6.8981
                                          -6.6921
                                                     -6.6867
                                                                          -6.5691
 -6.9174
                                -6.8902
                                                                -6.6164
                                -6.3214
                                                     -5.9184
           -6.4534
                     -6.4509
                                          -6.0161
                                                                          -5.7485
 -6.5238
                                                                -5.9135
                                -4.8097
 -5.1161
           -4.9116
                      -4.8848
                                           -4.7357
                                                     -4.6362
                                                                -4.4549
                                                                          -4.4520
 -4.3521
           -4.2938
                      -4.2370
                                -4.2028
                                          -4.1682
                                                     -4.1635
                                                                -3.9164
                                                                          -3.7935
           -3.5743
                                -3.5396
                                                     -0.5904
 -3.7921
                      -3.5709
                                           -3.1315
                                                                0.6683
                                                                           0.9382
                       1.3402
                                                                 1.9057
  0.9394
            1.0416
                                 1.4498
                                            1.4684
                                                      1.8230
                                                                            2.0597
  2.1149
            2.1397
                       2.3736
                                 2.4110
                                            2.4430
                                                       2.4659
                                                                 2.5247
                                                                            2.5398
  2.7633
            2.8743
                                            3.0271
                                                       3.0672
                       2.9181
                                 2.9246
                                                                 3.3419
        k = 0.0873 - 0.1512 \ 0.0000 \ (64776 \ PWs)
                                                      bands (ev):
-21.6246 -21.3223 -20.7310 -20.6573 -20.4537 -20.2599 -20.1770 -20.1720 -20.0818 -19.9078 -19.7708 -19.7699 -19.3707 -19.3668 -18.7596 -18.6548 -18.4172 -18.2834 -18.2435 -18.1846 -18.1387 -17.8693 -17.5415 -17.1555 -17.1530 -16.3985 -16.3951 -16.1024 -16.0992 -16.0279 -15.6095 -14.9034 -14.4233 -14.4222 -12.8023 -12.5476 -12.4669 -12.4260 -12.3842 -12.3732 -12.2901 -11.7059 -11.6956 -11.5956 -11.4161 -11.1939 -11.1651 -11.1093
-10.8809 -10.7335 -10.5834 -10.5807 -10.0474
                                                     -9.9507
                                                               -9.9411
                                                                          -9.8473
 -9.8391
           -9.5737
                     -9.5577
                                -9.4753
                                          -9.3507
                                                     -9.3036
                                                               -9.1534
                                                                          -9.0527
 -8.9434
           -8.7498
                     -8.6720
                                -8.6468
                                          -8.6417
                                                     -8.6179
                                                                -8.1682
                                                                          -7.9249
           -7.9189
 -7.9223
                     -7.8231
                                -7.8084
                                          -7.7780
                                                     -7.7717
                                                                -7.7597
                                                                          -7.7520
                                          -7.4356
 -7.6959
           -7.5275
                     -7.4955
                               -7.4381
                                                     -7.3954
                                                               -7.1949
                                                                          -6.9671
 -6.9640
           -6.9520
                     -6.9354
                                -6.8929
                                          -6.6559
                                                     -6.6505
                                                                -6.6491
                                                                          -6.5869
                     -6.4241
 -6.4977
           -6.4263
                                -6.3066
                                          -6.0313
                                                     -5.9459
                                                                -5.9411
                                                                          -5.7437
                                -4.7921
                                                     -4.6176
                                                                -4.4223
 -5.0638
           -4.8598
                     -4.8401
                                          -4.7294
                                                                          -4.4194
                     -4.2206
                                -4.2104
                                           -4.1812
                                                     -4.1479
                                                                -3.9546
 -4.3344
           -4.2921
                                                                          -3.7635
                                          -3.2067
                     -3.6094
                                -3.5482
                                                     -0.5951
 -3.7620
           -3.6128
                                                                0.6697
                                                                           0.8981
  0.8993
                                            1.5178
                                                      1.8139
            1.1201
                      1.3316
                                 1.4989
                                                                 1.9022
                                                                            2.0306
  2.1057
            2.1209
                       2.3849
                                 2.4122
                                            2.4193
                                                       2.4352
                                                                 2.5161
                                                                            2.5719
  2.7535
            2.9038
                       2.9521
                                 2.9532
                                            2.9776
                                                      3.0638
                                                                 3.3792
        k = 0.0794 - 0.1375 \ 0.0000 \ (64782 \ PWs)
                                                      bands (ev):
-21.6296 -21.3285 -20.7066 -20.6378 -20.4586 -20.2700 -20.1463 -20.1414
-20.1139 -19.9269 -19.7768 -19.7760 -19.4133 -19.4093 -18.7266 -18.6378
-18.4064 -18.2749 -18.2419 -18.1953 -18.1465 -17.8939 -17.4771 -17.1266
-17.1240 -16.4381 -16.4348 -16.1007 -16.0451 -16.0417 -15.6147 -14.9090
-14.4899 -14.4890 -12.8012 -12.5512 -12.4863 -12.3706 -12.3169 -12.3160
-12.3046 -11.7011 -11.6904 -11.5644 -11.3864 -11.1748 -11.1736 -11.1094
-10.8813 -10.7567 -10.5955 -10.5930 -10.0548 -10.0171 -10.0080
                                                                          -9.9031
 -9.8154
           -9.4986
                     -9.4845
                               -9.4753
                                          -9.3325
                                                     -9.3036
                                                               -9.1456
                                                                          -9.0596
 -8.9474
           -8.7678
                     -8.7011
                                -8.6465
                                          -8.6415
                                                     -8.5887
                                                                -8.1690
                                                                          -7.8975
 -7.8889
           -7.8849
                     -7.8358
                               -7.8291
                                          -7.8282
                                                     -7.7894
                                                               -7.7757
                                                                          -7.7693
                     -7.4896 -7.4455 -7.4430
                                                     -7.4022
 -7.6678
           -7.5872
                                                               -7.2073
                                                                          -7.0166
          -6.9802 -6.9393 -6.8879 -6.6802 -6.6199
 -7.0134
                                                               -6.6145
                                                                          -6.6050
```

```
-6.4714
            -6.4014
                       -6.3994
                                  -6.2930
                                             -6.0470
                                                         -5.9739
                                                                    -5.9691
                                                                               -5.7389
                                                         -4.5995
 -5.0120
            -4.8347
                       -4.7759
                                  -4.7683
                                             -4.7237
                                                                    -4.3892
                                                                               -4.3863
 -4.3217
            -4.2935
                       -4.2335
                                  -4.1934
                                             -4.1859
                                                         -4.1336
                                                                    -3.9935
                                                                               -3.7356
                                             -3.2820
                                                                    0.6710
 -3.7340
            -3.6514
                       -3.6481
                                  -3.5560
                                                         -0.5994
                                                                                0.8609
             1.1991
                       1.3237
                                   1.5478
                                              1.5670
                                                         1.8056
                                                                     1.8985
  0.8620
                                                                                2.0035
  2.0972
             2.1036
                        2.3804
                                    2.3958
                                               2.4034
                                                          2.4266
                                                                     2.5078
                                                                                 2.6048
  2.7444
             2.8883
                        2.9328
                                    2.9811
                                               2.9880
                                                          3.1013
                                                                     3.4081
        k = 0.0714 - 0.1237 \ 0.0000 \ (64788 \ PWs)
                                                          bands (ev):
-21.6342 -21.3341 -20.6819 -20.6184 -20.4630 -20.2806 -20.1455 -20.1151
-20.1102 -19.9446 -19.7824 -19.7815 -19.4553 -19.4512 -18.6945 -18.6209
-20.1102 -19.9440 -19.7624 -19.7615 -19.4535 -19.4512 -16.0945 -16.0209 -18.3961 -18.2715 -18.2398 -18.2027 -18.1542 -17.9184 -17.4121 -17.0971 -17.0945 -16.4774 -16.4741 -16.1728 -15.9888 -15.9853 -15.6193 -14.9141 -14.5549 -14.5541 -12.7994 -12.5545 -12.5039 -12.3422 -12.3148 -12.2498 -12.2382 -11.6979 -11.6870 -11.5326 -11.3581 -11.2373 -11.1588 -11.0532 -10.8821 -10.7802 -10.6052 -10.6027 -10.0819 -10.0733 -10.0601 -9.9668 -9.7834 -9.4927 -9.4330 -9.3928 -9.3198 -9.2933 -9.1556 -9.0659
                                                                               -7.9224
                       -8.7304
 -8.9273
            -8.7894
                                  -8.6463
                                             -8.6413
                                                        -8.5531
                                                                   -8.1709
                       -7.8484
            -7.8730
                                                        -7.7739
                                                                    -7.7674
 -7.9147
                                  -7.8451
                                             -7.8411
                                                                               -7.7551
 -7.6482
            -7.6396
                       -7.4828
                                 -7.4522
                                             -7.4498
                                                        -7.4083
                                                                    -7.2202
                                                                               -7.0656
                                                                               -6.5787
 -7.0624
            -7.0244
                       -6.9272
                                  -6.8834
                                             -6.7094
                                                        -6.6225
                                                                    -6.5841
                       -6.3769
                                                                               -5.7343
 -6.4454
            -6.3786
                                  -6.2805
                                             -6.0632
                                                         -6.0024
                                                                    -5.9976
                       -4.7611
                                  -4.7185
                                                         -4.5819
 -4.9607
            -4.8095
                                             -4.6961
                                                                    -4.3557
                                                                               -4.3528
            -4.2904
                                  -4.2046
                                             -4.1637
 -4.3229
                       -4.2401
                                                         -4.1207
                                                                    -4.0329
                                                                               -3.7101
 -3.7084
            -3.6899
                       -3.6867
                                  -3.5630
                                             -3.3573
                                                         -0.6032
                                                                    0.6722
                                                                                0.8268
  0.8279
             1.2786
                        1.3166
                                    1.5963
                                               1.6158
                                                          1.7980
                                                                     1.8945
                                                                                 1.9785
                                    2.3706
                                                          2.4330
  2.0875
             2.0898
                        2.3476
                                               2.4061
                                                                     2.5003
                                                                                 2.6377
                                               3.0249
  2.7361
             2.7995
                        2.9616
                                    3.0087
                                                          3.1395
                                                                     3.4189
        k = 0.0635 - 0.1100 \ 0.0000 \ (64768 \ PWs)
                                                          bands (ev):
-21.6383 -21.3391 -20.6570 -20.5992 -20.4670 -20.2915 -20.1767 -20.0832 -20.0784 -19.9609 -19.7873 -19.7865 -19.4967 -19.4926 -18.6635 -18.6043 -18.3865 -18.2751 -18.2356 -18.2063 -18.1617 -17.9424 -17.3467 -17.0671 -17.0645 -16.5161 -16.5128 -16.2447 -15.9337 -15.9299 -15.6235 -14.9186 -14.6179 -14.6171 -12.7971 -12.5576 -12.5194 -12.3658 -12.2586 -12.1860
-12.1740 -11.6967 -11.6855 -11.5002 -11.3314 -11.3007 -11.1465 -10.9964
-10.8835 -10.8035 -10.6121 -10.6097 -10.1447 -10.1365 -10.0638 -10.0303
 -9.7513
           -9.4999
                      -9.3903 -9.3111 -9.3103
                                                        -9.2594
                                                                   -9.1785
                                                                               -9.0716
                                             -8.6412
                                                        -8.5164
 -8.8923
           -8.8110
                      -8.7554
                                 -8.6461
                                                                   -8.1743
                                                                               -8.0008
 -7.9930
           -7.8689
                       -7.8512
                                  -7.8088
                                             -7.8047
                                                        -7.7722
                                                                   -7.7657
                                                                               -7.7204
                      -7.4765
                                 -7.4582
                                             -7.4557
                                                        -7.4138
                                                                   -7.2335
                                                                               -7.1141
 -7.7083
           -7.6116
                                                        -6.6391
                      -6.9156
                                 -6.8792
                                             -6.7366
                                                                   -6.5486
 -7.1108
           -7.0680
                                                                               -6.5433
                                  -6.2694
                                                        -6.0313
            -6.3581
                      -6.3566
                                             -6.0800
                                                                    -6.0264
 -6.4198
                                                                               -5.7299
 -4.9103
            -4.7843
                       -4.7477
                                  -4.7138
                                             -4.6236
                                                        -4.5649
                                                                    -4.3383
                                                                               -4.3217
 -4.3188
            -4.2815
                       -4.2424
                                  -4.2141
                                             -4.1437
                                                        -4.1091
                                                                    -4.0726
                                                                               -3.7291
            -3.6862
                       -3.6847
                                  -3.5692
                                             -3.4326
                                                        -0.6064
                                                                     0.6732
 -3.7258
                                                                                0.7958
  0.7970
                       1.3586
                                   1.6444
                                              1.6642
                                                          1.7913
                                                                     1.8903
             1.3101
                                                                                1.9558
  2.0736
             2.0828
                        2.3137
                                    2.3367
                                               2.4157
                                                          2.4385
                                                                     2.4935
                                                                                 2.6701
  2.7111
             2.7286
                        2.9899
                                    3.0352
                                               3.0631
                                                          3.1782
                                                                     3.4159
        k = 0.0556 - 0.0962 \ 0.0000 \ (64757 \ PWs)
                                                          bands (ev):
-21.6419 -21.3435 -20.6319 -20.5803 -20.4705 -20.3028 -20.2074 -20.0508
-20.0461 -19.9756 -19.7916 -19.7908 -19.5376 -19.5335 -18.6340 -18.5880
-18.3778 -18.2842 -18.2297 -18.2073 -18.1689 -17.9658 -17.2809 -17.0366
-17.0339 -16.5543 -16.5511 -16.3163 -15.8801 -15.8762 -15.6272 -14.9226
-14.6783 -14.6776 -12.7943 -12.5605 -12.5330 -12.3876 -12.2020 -12.1248
-12.1126 -11.6978 -11.6863 -11.4675 -11.3636 -11.3066 -11.1387 -10.9392
```

```
-8.8612
           -8.8300
                     -8.7665
                                -8.6460
                                          -8.6411
                                                     -8.4801
                                                               -8.1796
                                                                         -8.0808
                                                    -7.7668
 -8.0729
           -7.8896
                     -7.8318
                                -7.7717
                                          -7.7698
                                                               -7.7666
                                                                         -7.7637
           -7.5839
                                                               -7.2475
 -7.6852
                     -7.4709
                                -7.4634
                                          -7.4610
                                                    -7.4186
                                                                         -7.1621
                     -6.9048
 -7.1588
           -7.1110
                                -6.8755
                                          -6.7615
                                                     -6.6546
                                                               -6.5135
                                                                          -6.5081
 -6.3947
           -6.3398
                     -6.3385
                                -6.2595
                                          -6.0972
                                                     -6.0606
                                                               -6.0557
                                                                          -5.7259
 -4.8608
           -4.7591
                     -4.7358
                                -4.7097
                                          -4.5507
                                                     -4.5487
                                                               -4.3589
                                                                          -4.2873
 -4.2843
           -4.2744
                     -4.2424
                                -4.2213
                                          -4.1260
                                                    -4.1122
                                                               -4.0988
                                                                         -3.7677
                                          -3.5079
                                                    -0.6093
 -3.7645
           -3.6654
                     -3.6638
                                -3.5748
                                                               0.6741
                                                                          0.7683
  0.7694
            1.3045
                      1.4392
                                 1.6920
                                           1.7121
                                                     1.7853
                                                                1.8861
                                                                           1.9354
  2.0614
            2.0768
                      2.2788
                                 2.3018
                                           2.4245
                                                      2.4433
                                                                2.4875
                                                                           2.6232
  2.7015
            2.7219
                      3.0177
                                 3.0601
                                           3.1024
                                                      3.2172
                                                                3.4075
        k = 0.0476 - 0.0825 \ 0.0000 \ (64769 \ PWs)
                                                      bands (ev):
-21.6450 -21.3474 -20.6067 -20.5618 -20.4734 -20.3145 -20.2374 -20.0179
-20.0131 -19.9885 -19.7954 -19.7946 -19.5779 -19.5737 -18.6064 -18.5723
-20.0131 -19.9063 -19.7934 -19.7940 -19.5779 -19.5775 -18.0064 -18.5723 -18.3699 -18.2958 -18.2234 -18.2067 -18.1756 -17.9881 -17.2146 -17.0055 -17.0028 -16.5921 -16.5889 -16.3876 -15.8290 -15.8248 -15.6304 -14.9261 -14.7355 -14.7348 -12.7914 -12.5632 -12.5445 -12.4074 -12.1449 -12.0667 -12.0542 -11.7016 -11.6898 -11.4345 -11.4261 -11.2841 -11.1360 -10.8871 -10.8814 -10.8452 -10.6162 -10.6138 -10.2626 -10.2554 -10.1562 -10.0672 -9.6871 -9.5111 -9.3689 -9.33080 -9.2304 -9.1452 -9.1256 -9.0809
                     -8.7428
           -8.8441
                               -8.6459
                                          -8.6410
                                                    -8.4454
                                                               -8.1878
 -8.8611
                                                                         -8.1613
                     -7.8221
                                                    -7.7630
           -7.9102
                               -7.8150
                                          -7.7695
 -8.1534
                                                               -7.7312
                                                                         -7.7271
           -7.5567
                     -7.4680
                               -7.4660
                                                               -7.2622
 -7.6497
                                          -7.4656
                                                    -7.4229
                                                                         -7.2096
 -7.2061
          -7.1531
                     -6.8949
                               -6.8723
                                          -6.7838
                                                    -6.6687
                                                               -6.4786
                                                                         -6.4733
                     -6.3228
                                -6.2510
 -6.3701
           -6.3240
                                          -6.1151
                                                    -6.0903
                                                               -6.0854
                                                                         -5.7222
           -4.7341
                     -4.7254
                                -4.7062
                                          -4.5335
 -4.8126
                                                     -4.4776
                                                               -4.3813
                                                                          -4.2730
                     -4.2400
                                          -4.1508
 -4.2524
           -4.2494
                                -4.2259
                                                     -4.1105
                                                               -4.0899
                                                                          -3.8064
                                -3.5831
                                          -3.5796
                                                     -0.6117
 -3.8032
           -3.6471
                     -3.6455
                                                                0.6748
                                                                           0.7441
  0.7453
            1.2995
                      1.5203
                                 1.7390
                                           1.7594
                                                      1.7801
                                                                1.8819
                                                                           1.9176
            2.0715
                                 2.2658
                                           2.4324
  2.0510
                       2.2428
                                                      2.4473
                                                                2.4823
                                                                           2.5358
  2.7160
            2.7313
                      3.0447
                                 3.0830
                                           3.1428
                                                      3.2563
                                                                3.3974
        k = 0.0397 - 0.0687 \ 0.0000 \ (64791 \ PWs)
                                                      bands (ev):
-21.6477 -21.3506 -20.5817 -20.5441 -20.4759 -20.3264 -20.2665 -19.9997
-19.9843 -19.9796 -19.7986 -19.7978 -19.6177 -19.6134 -18.5810 -18.5573
-18.3632 -18.3083 -18.2175 -18.2055 -18.1818 -18.0089 -17.1479 -16.9739
-16.9712 -16.6293 -16.6262 -16.4586 -15.7811 -15.7767 -15.6331 -14.9291
-14.7885 -14.7878 -12.7883 -12.5656 -12.5539 -12.4248 -12.0874 -12.0120
-11.9993 -11.7084 -11.6964 -11.4883 -11.4014 -11.2641 -11.1390 -10.8892
-10.8620 -10.8233 -10.6127 -10.6101 -10.3169 -10.3103 -10.2187 -10.0675
                     -9.3683
                               -9.3212
                                          -9.2448
                                                    -9.0845
                                                              -9.0627
 -9.6552
           -9.5152
                                                                         -9.0475
           -8.8614
                     -8.6941
                               -8.6459
                                          -8.6410
                                                    -8.4131
                                                               -8.2423
 -8.8758
                                                                         -8.2342
 -8.2002
          -7.9303
                     -7.8727
                               -7.8008
                                          -7.7684
                                                    -7.7619
                                                               -7.6913
                                                                         -7.6873
          -7.5302
                     -7.4719 -7.4694
                                          -7.4619
                                                    -7.4265
                                                               -7.2776
 -7.6141
                                                                         -7.2564
 -7.2529
          -7.1944
                     -6.8861
                               -6.8696
                                          -6.8032
                                                    -6.6812
                                                               -6.4441
                                                                         -6.4389
 -6.3461
          -6.3104
                     -6.3095
                               -6.2437
                                          -6.1334
                                                    -6.1204
                                                               -6.1155
                                                                         -5.7190
 -4.7663
           -4.7165
                     -4.7095
                               -4.7032
                                          -4.5195
                                                    -4.4042
                                                               -4.4042
                                                                         -4.2772
 -4.2369
           -4.2294
                     -4.2170
                                -4.2140
                                          -4.1855
                                                     -4.0974
                                                               -4.0824
                                                                         -3.8449
 -3.8418
           -3.6591
                     -3.6311
                                -3.6293
                                          -3.5836
                                                     -0.6137
                                                                0.6754
                                                                           0.7235
  0.7247
            1.2954
                      1.6018
                                 1.7758
                                           1.7855
                                                      1.8061
                                                                1.8779
                                                                           1.9024
  2.0424
            2.0671
                       2.2059
                                 2.2288
                                           2.4393
                                                      2.4488
                                                                2.4506
                                                                           2.4778
  2.7110
            2.7589
                      3.0708
                                 3.1035
                                           3.1841
                                                      3.2946
                                                                3.3872
        k = 0.0317 - 0.0550 \ 0.0000 \ (64763 \ PWs)
                                                      bands (ev):
-21.6498 -21.3533 -20.5570 -20.5275 -20.4778 -20.3382 -20.2946 -20.0089
-19.9502 -19.9456 -19.8012 -19.8004 -19.6569 -19.6526 -18.5585 -18.5436
-18.3576 -18.3206 -18.2123 -18.2041 -18.1872 -18.0275 -17.0808 -16.9417
-16.9390 -16.6661 -16.6630 -16.5292 -15.7377 -15.7330 -15.6353 -14.9315
```

```
-14.8362 -14.8354 -12.7854 -12.5678 -12.5613 -12.4397 -12.0294 -11.9611
-11.9483 -11.7188 -11.7065 -11.5499 -11.3685 -11.2471 -11.1480 -10.8913
-10.8752 -10.7646 -10.6050 -10.6023 -10.3677 -10.3616 -10.2808 -10.0674
                                                       -9.0875
                      -9.3690
                                 -9.3458
                                            -9.2483
                                                                             -8.9675
 -9.6234
            -9.5185
                                                                  -8.9802
 -8.8902
           -8.8796
                      -8.6458
                                 -8.6410
                                            -8.6384
                                                       -8.3838
                                                                   -8.3235
                                                                              -8.3154
 -8.2183
            -7.9493
                      -7.9164
                                 -7.7891
                                            -7.7675
                                                       -7.7610
                                                                  -7.6507
                                                                              -7.6467
                      -7.4750
                                            -7.4586
                                                       -7.4296
 -7.5784
            -7.5048
                                 -7.4726
                                                                  -7.3027
                                                                             -7.2991
                                            -6.8195
                                                       -6.6920
 -7.2937
            -7.2343
                      -6.8784
                                 -6.8674
                                                                  -6.4100
                                                                              -6.4048
 -6.3226
            -6.2993
                      -6.2985
                                 -6.2378
                                                                   -6.1460
                                            -6.1523
                                                       -6.1510
                                                                              -5.7163
            -4.7093
                                                                   -4.3305
 -4.7228
                      -4.7007
                                 -4.6857
                                            -4.5069
                                                       -4.4266
                                                                              -4.2840
 -4.2495
            -4.2271
                      -4.2073
                                 -4.1813
                                            -4.1783
                                                       -4.0867
                                                                   -4.0762
                                                                              -3.8832
            -3.7339
 -3.8802
                      -3.6182
                                 -3.6166
                                            -3.5869
                                                       -0.6153
                                                                   0.6759
                                                                              0.7065
                                                         1.8520
  0.7077
             1.2920
                        1.6837
                                   1.7722
                                              1.8313
                                                                    1.8744
                                                                               1.8899
  2.0355
             2.0634
                        2.1680
                                   2.1908
                                              2.3624
                                                         2.4450
                                                                    2.4534
                                                                               2.4742
  2.7069
             2.7833
                        3.0953
                                   3.1210
                                              3.2263
                                                         3.3309
                                                                    3.3778
        k = 0.0238 - 0.0412 \ 0.0000 \ (64741 \ PWs)
                                                         bands (ev):
-21.6515 -21.3554 -20.5335 -20.5127 -20.4791 -20.3493 -20.3208 -20.0161 -19.9156 -19.9109 -19.8032 -19.8024 -19.6955 -19.6912 -18.5397 -18.5315 -18.3534 -18.3316 -18.2080 -18.2028 -18.1917 -18.0433 -17.0132 -16.9091 -16.9063 -16.7023 -16.6993 -16.5995 -15.7005 -15.6955 -15.6370 -14.9333 -14.8768 -14.8758 -12.7828 -12.5698 -12.5668 -12.4516 -11.9711 -11.9144 -11.9015 -11.7330 -11.7204 -11.6112 -11.3362 -11.2334 -11.1626 -10.8931 -10.8847 -10.7056 -10.5927 -10.5898 -10.4143 -10.4088 -10.3426 -10.0671 -9.5922 -9.5209 -9.3753 -9.3700 -9.2468 -9.0899 -8.9022 -8.8977 -8.8056 -8.88655 -8.6458 -8.6458 -8.6458 -8.86410 -8.85817 -8.4050 -8.3067 -8.3580
                                            -8.5817
                      -8.6458
                                                                  -8.3967
 -8.8956
            -8.8865
                                 -8.6410
                                                        -8.4050
                                                                              -8.3589
                                 -7.7800
                                            -7.7667
 -8.2433
                                                       -7.7603
                                                                  -7.6094
            -7.9664
                      -7.9510
                                                                             -7.6055
                                 -7.4750
 -7.5433
                      -7.4775
                                            -7.4560
                                                       -7.4322
            -7.4812
                                                                  -7.3483
                                                                             -7.3447
 -7.3101
            -7.2723
                      -6.8721
                                                        -6.7007
                                                                   -6.3763
                                 -6.8656
                                            -6.8324
                                                                             -6.3711
 -6.2996
            -6.2906
                      -6.2900
                                 -6.2332
                                             -6.1820
                                                        -6.1770
                                                                   -6.1716
                                                                              -5.7142
                                             -4.4964
                                                        -4.4474
                                                                   -4.2918
 -4.7036
            -4.6988
                       -4.6836
                                  -4.6634
                                                                              -4.2768
                                                        -4.0784
 -4.2567
            -4.2224
                       -4.2137
                                  -4.1453
                                             -4.1421
                                                                   -4.0713
                                                                              -3.9214
                                             -3.5895
 -3.9184
            -3.8089
                       -3.6081
                                  -3.6064
                                                        -0.6165
                                                                    0.6763
                                                                               0.6932
  0.6944
             1.2893
                                              1.8715
                        1.7660
                                   1.7695
                                                         1.8764
                                                                    1.8801
                                                                               1.8972
  2.0303
             2.0606
                        2.1291
                                   2.1519
                                              2.2766
                                                         2.4496
                                                                    2.4555
                                                                               2.4713
  2.7037
             2.8036
                        3.1176
                                   3.1350
                                              3.2690
                                                         3.3621
                                                                    3.3697
        k = 0.0159 - 0.0275 \ 0.0000 \ (64687 \ PWs)
                                                         bands (ev):
-21.6527 -21.3568 -20.5125 -20.5008 -20.4794 -20.3589 -20.3441 -20.0213
-19.8803 -19.8757 -19.8047 -19.8039 -19.7336 -19.7292 -18.5254 -18.5218
-18.3505 -18.3405 -18.2045 -18.2017 -18.1952 -18.0556 -16.9453 -16.8759
-16.8731 -16.7380 -16.7351 -16.6694 -15.6715 -15.6663 -15.6382 -14.9347
-14.9083 -14.9070 -12.7808 -12.5714 -12.5704 -12.4604 -11.9125 -11.8722
-11.8593 -11.7514 -11.7386 -11.6720 -11.3052 -11.2233 -11.1816 -10.8945
-10.8909 -10.6461 -10.5757 -10.5724 -10.4565 -10.4515 -10.4040 -10.0666
           -9.5225
                      -9.4054
                                 -9.3709
                                            -9.2441
                                                       -9.0915
                                                                  -8.9110
 -9.5622
                                                                             -8.9079
 -8.8154
            -8.8052
                      -8.6458
                                 -8.6410
                                            -8.5276
                                                       -8.4867
                                                                   -8.4782
                                                                              -8.3395
 -8.2745
            -7.9803
                      -7.9751
                                 -7.7735
                                            -7.7662
                                                       -7.7597
                                                                   -7.5675
                                                                              -7.5637
 -7.5098
            -7.4792
                      -7.4768
                                 -7.4607
                                             -7.4541
                                                       -7.4346
                                                                  -7.3934
                                                                              -7.3897
 -7.3259
            -7.3067
                       -6.8674
                                 -6.8644
                                             -6.8417
                                                        -6.7072
                                                                   -6.3429
                                                                              -6.3378
 -6.2844
            -6.2839
                       -6.2772
                                  -6.2299
                                             -6.2133
                                                        -6.2083
                                                                   -6.1914
                                                                              -5.7126
                                             -4.4884
                                                        -4.4652
 -4.6996
            -4.6974
                       -4.6513
                                  -4.6436
                                                                   -4.3084
                                                                              -4.2947
            -4.2151
                                  -4.1089
                                             -4.1056
                                                                   -4.0678
 -4.2186
                       -4.1826
                                                        -4.0724
                                                                              -3.9593
 -3.9565
            -3.8838
                       -3.6008
                                  -3.5991
                                             -3.5913
                                                        -0.6173
                                                                    0.6765
                                                                               0.6837
                                                                    1.9209
  0.6850
             1.2874
                        1.7675
                                   1.8482
                                              1.8693
                                                         1.8731
                                                                               1.9415
             2.0586
                        2.0894
                                   2.1120
                                              2.1916
                                                         2.4528
                                                                    2.4571
  2.0267
                                                                               2.4693
  2.7013
             2.8191
                        3.1362
                                   3.1453
                                              3.3121
                                                         3.3636
                                                                    3.3772
        k = 0.0079 - 0.0137 \ 0.0000 \ (64667 \ PWs)
                                                         bands (ev):
```

```
-21.6535 -21.3577 -20.4969 -20.4933 -20.4783 -20.3657 -20.3615 -20.0244
-19.8445 -19.8400 -19.8055 -19.8047 -19.7711 -19.7666 -18.5164 -18.5155
-18.3489 -18.3465 -18.2020 -18.2010 -18.1977 -18.0633 -16.8769 -16.8422
-11.8221 -11.7742 -11.7612 -11.7321 -11.2776 -11.2171 -11.2024 -10.8954
-10.8944 -10.5862 -10.5536 -10.5499 -10.4939 -10.4894 -10.4649 -10.0663
 -9.5363 -9.5235 -9.4318 -9.3716 -9.2420 -9.0925 -8.9165 -8.9157
 -8.7331 -8.7236 -8.6458 -8.6410 -8.5685 -8.5597
                                                                        -8.4822
                                                                                    -8.3271
 -8.3065
            -7.9898 -7.9888 -7.7695 -7.7659 -7.7594 -7.5250
                                                                                    -7.5213
            -7.4802 -7.4778 -7.4530 -7.4462 -7.4379
-7.3334 -6.8644 -6.8636 -6.8474 -6.7113
                                                                        -7.4377
 -7.4809
                                                                                    -7.4340
 -7.3387
                                                                                    -6.3049
                                                                        -6.3100
                                                            -6.2280
            -6.2802 -6.2556 -6.2451 -6.2400
 -6.2806
                                                                        -6.2115
                                                                                     -5.7116

      -4.6966
      -4.6298
      -4.6286
      -4.4833
      -4.4774

      -4.2154
      -4.1085
      -4.0732
      -4.0695
      -4.0676

 -4.6971
                                                                        -4.3286
                                                                                    -4.2995
                                                                        -4.0650
 -4.2163
                                                                                    -3.9970
 -3.9943 -3.9584 -3.5964 -3.5948 -3.5923
                                                            -0.6178
                                                                         0.6764
                                                                                     0.6780
                                     1.8679
                                                 1.8689
                                                             1.9282
                                                                                      1.9846
  0.6795
              1.2863
                          1.7663
                                                                          1.9656
   2.0245
              2.0493
                          2.0574
                                      2.0716
                                                  2.1081
                                                              2.4548
                                                                          2.4581
                                                                                      2.4680
   2.6999
              2.8288
                          3.1490
                                      3.1516
                                                  3.3548
                                                              3.3598
                                                                          3.3636
         k = 0.0000 \ 0.0000 \ 0.0000 \ (64705 \ PWs)
                                                              bands (ev):
-21.6537 -21.3580 -20.4912 -20.4910 -20.4770 -20.3684 -20.3681 -20.0254 -19.8092 -19.8085 -19.8074 -19.8038 -19.8030 -19.8023 -18.5133 -18.5132 -18.3486 -18.3483 -18.2008 -18.2006 -18.1990 -18.0660 -16.8097 -16.8087 -16.8078 -16.8076 -16.8052 -16.8036 -15.6465 -15.6411 -15.6391 -14.9359 -14.9354 -14.9338 -12.7791 -12.5730 -12.5729 -12.4676 -11.8089 -11.8021 -11.7951 -11.7927 -11.7870 -11.7828 -11.2630 -11.2150 -11.2147 -10.8957 -10.8955 -10.5293 -10.5275 -10.5253 -10.5245 -10.5220 -10.5202 -10.0662 -9.5240 -9.5238 -9.4443 -9.3718 -9.2412 -9.0929 -8.9184 -8.9183 -8.6549 -8.6492 -8.6452 -8.6442 -8.6435 -8.6346 -8.4617 -8.3228 -8.3227 -7.9933 -7.9931 -7.7682 -7.7658 -7.7593 -7.4848 -7.4830 -7.4795 -7.4783 -7.4777 -7.4748 -7.4663 -7.4526 -7.4411 -7.4409 -7.3443 -7.3440 -6.8634 -6.8634 -6.86493 -6.7126 -6.2800 -6.2795
                        -6.8634 -6.8634
 -7.3443
                                                -6.8493 -6.7126
            -7.3440
                                                                        -6.2800
                                                                                    -6.2795
                        -6.2719
                                    -6.2709 -6.2391
 -6.2777
            -6.2776
                                                            -6.2275
                                                                        -6.2273
                                                                                     -5.7113
                                                            -4.4816
  -4.6964
            -4.6963
                        -4.6226
                                    -4.6226
                                                -4.4819
                                                                         -4.3364
                                                                                     -4.3010
  -4.2156
             -4.2154
                        -4.0682
                                    -4.0655
                                                -4.0387
                                                            -4.0374
                                                                        -4.0347
                                                                                     -4.0314
            -4.0267
                        -3.5951
                                    -3.5934
                                                -3.5924
                                                            -0.6180
  -4.0300
                                                                         0.6758
                                                                                     0.6761
              1.2859
                          1.7659
                                      1.8674
                                                 1.8675
                                                              1.9807
                                                                          2.0054
  0.6781
                                                                                      2.0225
   2.0237
              2.0238
                          2.0337
                                      2.0426
                                                  2.0570
                                                              2.4554
                                                                          2.4585
                                                                                      2.4676
   2.6994
              2.8321
                          3.1536
                                      3.1537
                                                  3.3583
                                                              3.3587
                                                                          3.3939
  Writing output data file A.save
                            24.03s CPU
                                                24.33s WALL (
                                                                          1 calls)
   init run
   electrons : 93598.95s CPU 94185.11s WALL (
                                                                          1 calls)
   Called by init_run:
                            0.00s CPU
                                                 0.00s WALL (
   wfcinit :
                                                                          1 calls)
                             2.76s CPU
                                                 2.88s WALL (
   potinit
                                                                          1 calls)
   Called by electrons:
   c_bands : 93598.88s CPU 94184.86s WALL (
                                                                          1 calls)
   v_of_rho
                            2.12s CPU 2.16s WALL (
                                                                          1 calls)
   v_h
                             0.06s CPU
                                               0.06s WALL (
                                                                          1 calls)
                                           2.10s WALL (
10.60s WALL (
                            2.06s CPU
                                                                          1 calls)
   v_xc
                            10.58s CPU
   newd
                                                                          1 calls)
   Called by c bands:
                                           9.38s WALL (
                             8.60s CPU
                                                                       200 calls)
   init us 2 :
                    : 87998.23s CPU 88548.92s WALL (
   cegterg
                                                                       713 calls)
```

Called by sum band:

```
Called by *egterg:
h_psi : 37447.84s CPU 37643.09s WALL (
                                                            13102 calls)
              : 12447.47s CPU 12482.48s WALL ( 13102 calls)
s_psi
g_psi : 41.92s CPU 42.55s WALL ( 12189 calls) cdiaghg : 7478.14s CPU 7502.05s WALL ( 12389 calls)
cegterg:over: 13880.23s CPU 13938.59s WALL ( 12189 calls)
cegterg:upda: 10299.55s CPU 10379.41s WALL ( 12189 calls)
cegterg:last: 8781.48s CPU 8825.10s WALL (
                                                            1313 calls)

      cdiaghg:chol :
      482.80s CPU
      485.35s WALL (
      12389 calls)

      cdiaghg:inve :
      47.10s CPU
      47.57s WALL (
      12389 calls)

      cdiaghg:para :
      2467.41s CPU
      2475.32s WALL (
      24778 calls)

Called by h_psi:
h_psi:vloc : 12836.70s CPU 12919.05s WALL ( 13102 calls)
h_psi:vnl : 24567.24s CPU 24672.83s WALL ( 13102 calls)
add_vuspsi : 12510.66s CPU 12549.58s WALL ( 13102 calls)
General routines
          : 1.28s CPU
: 0.00-
calbec : 12056.39s CPU 12123.14s WALL (
                                                            13102 calls)
fft
                                     1.30s WALL (
                                                                23 calls)
                                                                2 calls)
                                          0.02s WALL (
ffts
fftw
                  9853.93s CPU
                                      9906.84s WALL ( 1165564 calls)
                                     0.10s WALL ( 2 calls)
interpolate : 0.10s CPU
                        2.45s CPU
                                       58.01s WALL (
davcio
                                                              200 calls)
Parallel routines
fft_scatter : 3806.23s CPU 3833.43s WALL ( 1165589 calls)
PWSCF
                      1d
                              2h Om CPU
                                                  1d
                                                          2h11m WALL
```

This run was terminated on: 23:32:35 16Feb2021

JOB DONE.