```
>> demo_Polynomial_Dictionary_Learning
Starting to train the dictionary
solving the quadratic problem with YALMIP...
SeDuMi 1.32 by AdvOL, 2005-2008 and Jos F. Sturm, 1998-2003.
Alg = 2: xz-corrector, theta = 0.250, beta = 0.500
eqs m = 13, order n = 803, dim = 815, blocks = 2
nnz(A) = 2472 + 0, nnz(ADA) = 169, nnz(L) = 91
 it :     b*y       gap    delta  rate   t/tP*  t/tD*   feas cg cg  prec
  0 :            6.90E+00 0.000
  1 :  -1.56E+01 5.85E+00 0.000 0.8467 0.9000 0.9000  10.42  1  1  1.9E+00
  2 :  -3.93E+01 4.74E+00 0.000 0.8105 0.9000 0.9000   9.63  1  1  5.5E-01
  3 :  -4.75E+01 2.24E+00 0.000 0.4725 0.9000 0.9000   5.35  1  1  7.7E-02
  4 :  -4.88E+01 7.13E-01 0.000 0.3186 0.9000 0.9000   1.96  1  1  1.7E-02
  5 :  -4.90E+01 1.69E-01 0.000 0.2369 0.9000 0.9000   1.28  1  1  3.7E-03
  6 :  -4.91E+01 4.11E-02 0.000 0.2431 0.9000 0.9000   1.11  1  1  8.4E-04
  7 :  -4.91E+01 7.87E-03 0.000 0.1915 0.9000 0.9000   1.07  1  1  1.6E-04
  8 :  -4.91E+01 5.81E-04 0.159 0.0738 0.9900 0.9900   1.06  1  1  1.1E-05
  9 :  -4.91E+01 2.11E-04 0.000 0.3629 0.9000 0.9000   1.10  1  1  3.8E-06
 10 :  -4.91E+01 8.50E-06 0.000 0.0403 0.9900 0.9900   1.08  1  1  1.4E-07
 11 :  -4.91E+01 6.88E-07 0.183 0.0809 0.9900 0.9900   1.17  1  1  1.0E-08
 12 :  -4.91E+01 1.86E-07 0.000 0.2701 0.9000 0.9000   1.13  2  2  2.6E-09
 13 :  -4.91E+01 4.73E-09 0.000 0.0255 0.9900 0.9900   1.05  2  2  6.5E-11
 14 :  -4.91E+01 3.69E-10 0.336 0.0779 0.9900 0.9900   1.05  3  3  4.9E-12
 15 :  -4.91E+01 1.26E-11 0.000 0.0340 0.9900 0.9900   1.03 10 10  1.7E-13
 16 :  -4.91E+01 3.71E-12 0.000 0.2954 0.9000 0.9000   1.00 14 14  4.9E-14
 17 :  -4.91E+01 2.77E-12 0.000 0.7482 0.9000 0.9000   0.95 25 21  3.7E-14
 18 :  -4.91E+01 2.53E-12 0.000 0.9117 0.9000 0.9000   0.62 17 25  3.6E-14
 19 :  -4.91E+01 6.04E-13 0.000 0.2386 0.9000 0.9000  -0.89 25 20  6.5E-14
 20 :  -4.91E+01 1.20E-14 0.000 0.0199 0.9900 0.9900  -0.83 13 13  4.8E-13
 21 :  -4.91E+01 6.11E-16 0.343 0.0508 0.9900 0.9900  -1.00  7  7  6.0E-14
 22 :  -4.91E+01 1.21E-16 0.124 0.1979 0.9000 0.9000  -1.00  5  5  5.7E-14
 23 :  -4.91E+01 7.90E-18 0.155 0.0653 0.9900 0.9900  -1.00  4  4  6.1E-14
 24 :  -4.91E+01 2.19E-19 0.201 0.0277 0.9900 0.9900  -1.00  3  4  6.6E-14
 25 :  -4.91E+01 4.05E-20 0.192 0.1850 0.9000 0.9000  -1.00  3  3  7.0E-14
 26 :  -4.91E+01 9.73E-21 0.370 0.2400 0.9000 0.9000  -1.00  2  3  7.1E-14
 27 :  -4.91E+01 5.09E-21 0.317 0.5229 0.9000 0.9000  -1.00  2  2  6.1E-14
 28 :  -4.91E+01 3.85E-21 0.000 0.7567 0.9000 0.9000  -0.99  3  3  5.7E-14
 29 :  -4.91E+01 1.24E-21 0.000 0.3230 0.9000 0.9000  -0.99  3  3  4.4E-14
 30 :  -4.91E+01 7.47E-22 0.000 0.6006 0.9000 0.9000  -0.97  3  3  4.2E-14
 31 :  -4.91E+01 3.66E-22 0.000 0.4898 0.9000 0.9000  -0.93  3  3  4.1E-14
 32 :  -4.91E+01 2.39E-22 0.000 0.6524 0.9000 0.9000  -0.85  3  3  3.9E-14
 33 :  -4.91E+01 1.12E-22 0.000 0.4692 0.9000 0.9000  -0.88  3  3  3.9E-14
 34 :  -4.91E+01 7.49E-23 0.000 0.6695 0.9000 0.9000  -0.69  3  3  3.4E-14
 35 :  -4.91E+01 3.69E-23 0.000 0.4931 0.9000 0.9000  -0.66  3  3  3.2E-14
 36 :  -4.92E+01 2.51E-23 0.000 0.6785 0.9000 0.9000  -0.36  3  3  2.8E-14
 37 :  -4.92E+01 1.31E-23 0.000 0.5227 0.9000 0.9000  -0.60  2  3  2.6E-14
 38 :  -4.92E+01 6.03E-24 0.000 0.4599 0.9000 0.9000  -0.58  2  3  2.3E-14
 39 :  -4.94E+01 3.25E-24 0.000 0.5391 0.9000 0.9000  -0.15  3  3  1.5E-14
 40 :  -4.95E+01 1.65E-24 0.000 0.5065 0.9000 0.9000  -0.13  3  3  1.2E-14
 41 :  -4.98E+01 7.81E-25 0.000 0.4744 0.9000 0.9000   0.58  3  3  5.7E-15
 42 :  -4.98E+01 6.29E-25 0.000 0.8049 0.9000 0.9000   0.67  3  3  4.9E-15
 43 :  -4.99E+01 4.70E-25 0.000 0.7475 0.9000 0.9000   0.45  3  3  3.8E-15
 44 :  -4.99E+01 3.93E-25 0.000 0.8364 0.9000 0.9000   0.43  3  3  3.4E-15
 45 :  -5.00E+01 2.08E-25 0.000 0.5300 0.9000 0.9000   0.71  3  3  1.9E-15
 46 :  -5.00E+01 1.71E-25 0.000 0.8217 0.9000 0.9000   0.69  3  3  1.7E-15
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 47 :  -5.00E+01 1.30E-25 0.000 0.7576 0.9000 0.9000   0.22  3  3  1.4E-15
 48 :  -5.00E+01 1.22E-25 0.000 0.9391 0.9000 0.9000  -0.15  3  3  1.3E-15
 49 :  -5.01E+01 7.64E-26 0.000 0.6277 0.9000 0.9000  -0.13  3  3  1.2E-15
 50 :  -5.01E+01 3.20E-26 0.000 0.4182 0.9000 0.9000  -0.89  3  3  1.3E-15
 51 :  -5.01E+01 1.32E-26 0.000 0.4139 0.9000 0.9000  -0.85  3  3  1.2E-15
Run into numerical problems.

iter seconds digits       c*x               b*y
 51      1.6   2.0 -4.9587274306e+01 -5.0105074458e+01
|Ax-b| =   1.7e-14, [Ay-c]_+ =   7.9E-15, |x|=  7.0e+13, |y|=  5.4e+01
No sensible solution found.

Detailed timing (sec)
   Pre          IPM          Post
9.399E-02    4.520E-01    3.201E-02
Max-norms: ||b||=1, ||c|| = 5.256842e+01,
Cholesky |add|=0, |skip| = 0, ||L.L|| = 4.61958.

ans =

      yalmiptime: 0.0583
      solvertime: 0.6287
            info: 'Numerical problems (SeDuMi-1.3)'
         problem: 4
    solveroutput: [1x1 struct]


ans =

   50.0796

SeDuMi 1.32 by AdvOL, 2005-2008 and Jos F. Sturm, 1998-2003.
Alg = 2: xz-corrector, theta = 0.250, beta = 0.500
eqs m = 13, order n = 803, dim = 815, blocks = 2
nnz(A) = 2445 + 0, nnz(ADA) = 169, nnz(L) = 91
 it :     b*y       gap    delta  rate   t/tP*  t/tD*   feas cg cg  prec
  0 :            2.08E+01 0.000
  1 :   3.84E+00 1.77E+01 0.000 0.8529 0.9000 0.9000  11.84  1  1  1.9E+00
  2 :  -2.78E+01 1.45E+01 0.000 0.8169 0.9000 0.9000   9.72  1  1  5.9E-01
  3 :  -3.16E+01 1.18E+01 0.000 0.8121 0.9000 0.9000   4.77  1  1  3.8E-01
  4 :  -4.45E+01 2.51E+00 0.000 0.2138 0.9000 0.9000   4.16  1  1  2.5E-02
  5 :  -4.42E+01 5.02E-01 0.000 0.1999 0.9000 0.9000   1.28  1  1  4.5E-03
  6 :  -4.42E+01 1.71E-01 0.000 0.3406 0.9000 0.9000   1.10  1  1  1.4E-03
  7 :  -4.42E+01 5.58E-02 0.000 0.3259 0.9000 0.9000   1.07  1  1  4.6E-04
  8 :  -4.43E+01 1.66E-02 0.000 0.2971 0.9000 0.9000   1.05  1  1  1.3E-04
  9 :  -4.43E+01 5.54E-03 0.000 0.3344 0.9000 0.9000   1.04  1  1  4.3E-05
 10 :  -4.43E+01 1.81E-03 0.000 0.3260 0.9000 0.9000   1.04  1  1  1.4E-05
 11 :  -4.43E+01 6.75E-04 0.000 0.3736 0.9000 0.9000   1.05  1  1  5.0E-06
 12 :  -4.43E+01 2.71E-04 0.000 0.4016 0.9000 0.9000   1.05  1  1  2.0E-06
 13 :  -4.43E+01 1.18E-04 0.000 0.4354 0.9000 0.9000   1.05  1  1  8.3E-07
 14 :  -4.43E+01 5.11E-05 0.000 0.4333 0.9000 0.9000   1.05  1  1  3.5E-07
 15 :  -4.43E+01 2.36E-05 0.000 0.4611 0.9000 0.9000   1.06  1  1  1.6E-07
 16 :  -4.43E+01 1.02E-05 0.000 0.4306 0.9000 0.9000   1.06  1  1  6.6E-08
 17 :  -4.43E+01 4.96E-06 0.000 0.4884 0.9000 0.9000   1.07  2  2  3.1E-08
 18 :  -4.43E+01 2.12E-06 0.000 0.4273 0.9000 0.9000   1.06  2  2  1.3E-08
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 19 :  -4.43E+01 1.04E-06 0.000 0.4909 0.9000 0.9000   1.06  2  2  6.2E-09
 20 :  -4.43E+01 4.28E-07 0.000 0.4120 0.9000 0.9000   1.05  2  2  2.5E-09
 21 :  -4.43E+01 1.78E-07 0.000 0.4159 0.9000 0.9000   1.04  2  2  1.0E-09
 22 :  -4.43E+01 6.71E-08 0.000 0.3767 0.9000 0.9000   1.03  2  2  3.8E-10
 23 :  -4.43E+01 2.68E-08 0.000 0.3991 0.9000 0.9000   1.03  2  2  1.5E-10
 24 :  -4.43E+01 1.02E-08 0.000 0.3817 0.9000 0.9000   1.02  2  2  5.7E-11
 25 :  -4.43E+01 4.17E-09 0.000 0.4076 0.9000 0.9000   1.02  2  2  2.3E-11
 26 :  -4.43E+01 1.65E-09 0.000 0.3949 0.9000 0.9000   1.02  3  3  8.9E-12
 27 :  -4.43E+01 6.69E-10 0.000 0.4066 0.9000 0.9000   1.02  6  6  3.6E-12
 28 :  -4.43E+01 2.67E-10 0.000 0.3982 0.9000 0.9000   1.02  6  6  1.4E-12
 29 :  -4.43E+01 1.08E-10 0.000 0.4043 0.9000 0.9000   1.02  7  7  5.7E-13
 30 :  -4.43E+01 4.33E-11 0.000 0.4022 0.9000 0.9000   1.01  7  7  2.3E-13
 31 :  -4.43E+01 1.77E-11 0.000 0.4072 0.9000 0.9000   1.01  7  7  9.2E-14
 32 :  -4.43E+01 7.10E-12 0.000 0.4023 0.9000 0.9000   1.00  9  9  3.7E-14
 33 :  -4.43E+01 4.40E-12 0.000 0.6202 0.9000 0.9000   0.99  9  9  2.3E-14
 34 :  -4.43E+01 4.00E-12 0.000 0.9076 0.9000 0.9000   0.79  9  9  2.2E-14
 35 :  -4.43E+01 2.61E-12 0.000 0.6535 0.9000 0.9000  -0.69  9  9  2.7E-14
 36 :  -4.43E+01 1.53E-12 0.000 0.5847 0.9000 0.9000  -0.66  9  9  3.2E-14
 37 :  -4.43E+01 7.90E-13 0.000 0.5173 0.9000 0.9000  -0.82  9  9  3.6E-14
 38 :  -4.43E+01 4.08E-13 0.000 0.5163 0.9000 0.9000  -0.94  9  9  4.5E-14
 39 :  -4.43E+01 1.91E-13 0.000 0.4683 0.9000 0.9000  -0.98  8  7  6.6E-14
 40 :  -4.43E+01 7.51E-14 0.000 0.3934 0.9000 0.9000  -0.99  7  7  1.2E-13
 41 :  -4.43E+01 2.70E-14 0.000 0.3597 0.9000 0.9000  -1.00  7  7  2.4E-13
 42 :  -4.43E+01 9.66E-15 0.000 0.3575 0.9000 0.9000  -1.00  6  6  1.7E-13
 43 :  -4.43E+01 3.60E-15 0.000 0.3721 0.9000 0.9000  -1.00  5  4  1.9E-14
 44 :  -4.43E+01 1.40E-15 0.000 0.3899 0.9000 0.9000  -1.00  4  4  2.0E-14
 45 :  -4.43E+01 5.70E-16 0.000 0.4068 0.9000 0.9000  -1.00  4  4  1.9E-14
 46 :  -4.43E+01 2.36E-16 0.000 0.4133 0.9000 0.9000  -1.00  4  4  1.9E-14
 47 :  -4.43E+01 9.66E-17 0.000 0.4097 0.9000 0.9000  -1.00  4  4  2.0E-14
 48 :  -4.43E+01 3.83E-17 0.000 0.3968 0.9000 0.9000  -1.00  4  4  2.0E-14
 49 :  -4.43E+01 1.49E-17 0.000 0.3897 0.9000 0.9000  -1.00  4  4  2.0E-14
 50 :  -4.43E+01 5.78E-18 0.000 0.3871 0.9000 0.9000  -1.00  4  3  2.0E-14
 51 :  -4.43E+01 2.26E-18 0.000 0.3909 0.9000 0.9000  -1.00  4  4  1.9E-14
 52 :  -4.43E+01 2.07E-18 0.000 0.9178 0.9000 0.9000  -1.00  4  4  1.9E-14
 53 :  -4.43E+01 1.02E-18 0.000 0.4931 0.9000 0.9000  -1.00  4  4  2.0E-14
 54 :  -4.43E+01 3.44E-19 0.000 0.3364 0.9000 0.9000  -1.00  3  4  1.9E-14
 55 :  -4.43E+01 1.27E-19 0.000 0.3702 0.9000 0.9000  -1.00  3  3  2.0E-14
Run into numerical problems.

iter seconds digits       c*x                b*y
 55      1.6   6.5 -4.4261940573e+01 -4.4261953344e+01
|Ax-b| =   1.3e-13, [Ay-c]_+ =   1.4E-13, |x|=  1.9e+09, |y|=  5.9e+01

Detailed timing (sec)
   Pre          IPM          Post
1.500E-02    3.750E-01    0.000E+00
Max-norms: ||b||=5.082780e+00, ||c|| = 5.256842e+01,
Cholesky |add|=0, |skip| = 0, ||L.L|| = 1.

ans =

      yalmiptime: 0.0503
      solvertime: 0.3867
            info: 'Infeasible problem (SeDuMi-1.3)'
         problem: 1
```

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    solveroutput: [1x1 struct]


ans =

   44.2620

Iteration   2   Total error is: 0.027135
SeDuMi 1.32 by AdvOL, 2005-2008 and Jos F. Sturm, 1998-2003.
Alg = 2: xz-corrector, theta = 0.250, beta = 0.500
eqs m = 13, order n = 803, dim = 815, blocks = 2
nnz(A) = 2463 + 0, nnz(ADA) = 169, nnz(L) = 91
 it :     b*y       gap    delta  rate   t/tP*  t/tD*   feas cg cg  prec
  0 :            1.08E+03 0.000
  1 :  -4.34E+01 8.64E+02 0.000 0.7979 0.9000 0.9000  13.93  1  1  1.1E+00
  2 :  -4.72E+01 5.03E+02 0.000 0.5813 0.9000 0.9000  13.46  1  1  1.7E-01
  3 :  -4.54E+01 2.80E+02 0.000 0.5571 0.9000 0.9000   2.40  1  1  8.1E-02
  4 :  -4.63E+01 8.01E+01 0.000 0.2862 0.9000 0.9000   1.66  1  1  4.2E-02
  5 :  -4.50E+01 3.37E+01 0.000 0.4209 0.9000 0.9000   1.20  1  1  3.5E-02
  6 :  -4.41E+01 1.93E+01 0.000 0.5709 0.9000 0.9000   1.10  1  1  2.0E-02
  7 :  -4.37E+01 7.92E+00 0.000 0.4111 0.9000 0.9000   1.08  1  1  8.0E-03
  8 :  -4.35E+01 4.31E+00 0.000 0.5450 0.9000 0.9000   1.05  1  1  4.3E-03
  9 :  -4.34E+01 2.04E+00 0.000 0.4738 0.9000 0.9000   1.05  1  1  2.0E-03
 10 :  -4.33E+01 1.15E+00 0.000 0.5633 0.9000 0.9000   1.05  1  1  1.1E-03
 11 :  -4.33E+01 4.79E-01 0.000 0.4163 0.9000 0.9000   1.05  1  1  4.5E-04
 12 :  -4.33E+01 2.18E-01 0.000 0.4553 0.9000 0.9000   1.04  1  1  2.0E-04
 13 :  -4.33E+01 7.84E-02 0.000 0.3592 0.9000 0.9000   1.04  1  1  6.9E-05
 14 :  -4.33E+01 3.09E-02 0.000 0.3939 0.9000 0.9000   1.05  1  1  2.6E-05
 15 :  -4.33E+01 1.11E-02 0.000 0.3605 0.9000 0.9000   1.05  1  1  9.0E-06
 16 :  -4.33E+01 4.57E-03 0.000 0.4106 0.9000 0.9000   1.06  1  1  3.5E-06
 17 :  -4.33E+01 1.64E-03 0.000 0.3588 0.9000 0.9000   1.06  1  1  1.2E-06
 18 :  -4.33E+01 6.86E-04 0.000 0.4181 0.9000 0.9000   1.06  1  1  4.8E-07
 19 :  -4.33E+01 1.99E-04 0.000 0.2908 0.9000 0.9000   1.07  1  1  1.3E-07
 20 :  -4.33E+01 6.14E-05 0.000 0.3079 0.9000 0.9000   1.08  1  1  3.7E-08
 21 :  -4.33E+01 3.75E-06 0.000 0.0610 0.9900 0.9900   1.07  1  1  2.1E-09
 22 :  -4.33E+01 3.71E-07 0.000 0.0990 0.9900 0.9900   1.08  2  2  1.9E-10
 23 :  -4.33E+01 7.74E-08 0.000 0.2087 0.9000 0.9000   1.04  3  3  3.8E-11
 24 :  -4.33E+01 1.52E-08 0.000 0.1958 0.9000 0.9000   1.03  3  3  7.2E-12
 25 :  -4.33E+01 8.23E-10 0.000 0.0543 0.9900 0.9900   1.02  6  6  3.8E-13
 26 :  -4.33E+01 2.17E-10 0.000 0.2634 0.9000 0.9000   1.01 16 15  9.9E-14
 27 :  -4.33E+01 1.55E-10 0.000 0.7158 0.9000 0.9000   0.99 17 15  7.2E-14
 28 :  -4.33E+01 1.44E-10 0.000 0.9245 0.9000 0.9000   0.72 16 16  7.1E-14
 29 :  -4.33E+01 5.09E-11 0.000 0.3549 0.9000 0.9000  -0.81 15 17  3.9E-13
 30 :  -4.33E+01 1.22E-11 0.060 0.2399 0.9000 0.9000  -0.74 16 15  1.6E-12
 31 :  -4.33E+01 3.85E-12 0.000 0.3150 0.9000 0.9000  -0.94 17 16  4.9E-12
 32 :  -4.33E+01 8.14E-13 0.000 0.2115 0.9000 0.9000  -0.98 13 13  1.7E-11
 33 :  -4.33E+01 1.67E-13 0.000 0.2052 0.9000 0.9000  -1.00  9  8  2.0E-14
 34 :  -4.33E+01 4.87E-14 0.000 0.2917 0.9000 0.9000  -1.00  4  4  2.2E-14
 35 :  -4.33E+01 1.25E-14 0.000 0.2556 0.9000 0.9000  -1.00  4  4  2.0E-14
 36 :  -4.33E+01 2.87E-15 0.093 0.2300 0.9000 0.9000  -1.00  4  3  1.9E-14
 37 :  -4.33E+01 1.27E-15 0.290 0.4433 0.9000 0.9000  -1.00  4  4  1.8E-14
 38 :  -4.33E+01 7.26E-16 0.000 0.5718 0.9000 0.9000  -1.00  4  4  1.6E-14
 39 :  -4.33E+01 2.70E-16 0.000 0.3718 0.9000 0.9000  -1.00  4  4  1.4E-14
 40 :  -4.33E+01 1.47E-16 0.000 0.5454 0.9000 0.9000  -1.00  3  3  1.4E-14
 41 :  -4.33E+01 6.18E-17 0.000 0.4195 0.9000 0.9000  -1.00  3  3  1.3E-14
```

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 42 :  -4.33E+01 3.65E-17 0.000 0.5904 0.9000 0.9000  -0.99  3  3  1.3E-14
 43 :  -4.33E+01 1.54E-17 0.000 0.4227 0.9000 0.9000  -0.98  2  3  1.3E-14
 44 :  -4.33E+01 8.82E-18 0.000 0.5723 0.9000 0.9000  -0.96  2  3  1.2E-14
 45 :  -4.33E+01 3.96E-18 0.000 0.4492 0.9000 0.9000  -0.94  3  3  1.2E-14
 46 :  -4.33E+01 2.46E-18 0.000 0.6203 0.9000 0.9000  -0.84  3  3  1.1E-14
 47 :  -4.33E+01 1.21E-18 0.000 0.4926 0.9000 0.9000  -0.81  3  3  1.1E-14
 48 :  -4.33E+01 7.64E-19 0.000 0.6309 0.9000 0.9000  -0.53  3  3  8.7E-15
 49 :  -4.33E+01 5.27E-19 0.000 0.6900 0.9000 0.9000  -0.55  3  3  8.4E-15
 50 :  -4.33E+01 3.32E-19 0.000 0.6293 0.9000 0.9000  -0.42  2  3  7.1E-15
 51 :  -4.33E+01 1.81E-19 0.000 0.5465 0.9000 0.9000  -0.33  2  3  6.0E-15
 52 :  -4.33E+01 9.10E-20 0.000 0.5017 0.9000 0.9000   0.03  3  3  3.8E-15
Run into numerical problems.

iter seconds digits       c*x               b*y
 52      1.4   Inf -4.3346009605e+01 -4.3329645856e+01
|Ax-b| =   4.9e-12, [Ay-c]_+ =   3.7E-14, |x|=  1.1e+12, |y|=  6.0e+01

Detailed timing (sec)
   Pre          IPM          Post
0.000E+00    3.280E-01    0.000E+00
Max-norms: ||b||=3.182270e+02, ||c|| = 5.256842e+01,
Cholesky |add|=0, |skip| = 0, ||L.L|| = 2185.04.

ans =

      yalmiptime: 0.0491
      solvertime: 0.3259
            info: 'Numerical problems (SeDuMi-1.3)'
         problem: 4
    solveroutput: [1x1 struct]


ans =

   43.3291

Iteration   3   Total error is: 0.026845
SeDuMi 1.32 by AdvOL, 2005-2008 and Jos F. Sturm, 1998-2003.
Alg = 2: xz-corrector, theta = 0.250, beta = 0.500
eqs m = 13, order n = 803, dim = 815, blocks = 2
nnz(A) = 2463 + 0, nnz(ADA) = 169, nnz(L) = 91
 it :     b*y       gap    delta  rate   t/tP*  t/tD*   feas cg cg  prec
  0 :            1.01E+03 0.000
  1 :  -4.41E+01 8.09E+02 0.000 0.7986 0.9000 0.9000  13.94  1  1  1.1E+00
  2 :  -4.84E+01 4.34E+02 0.000 0.5363 0.9000 0.9000  13.55  1  1  1.4E-01
  3 :  -4.48E+01 2.26E+02 0.000 0.5210 0.9000 0.9000   2.15  1  1  7.1E-02
  4 :  -4.48E+01 7.85E+01 0.000 0.3473 0.9000 0.9000   1.52  1  1  4.3E-02
  5 :  -4.35E+01 4.08E+01 0.000 0.5202 0.9000 0.9000   1.18  1  1  4.6E-02
  6 :  -4.30E+01 1.82E+01 0.000 0.4468 0.9000 0.9000   1.12  1  1  2.0E-02
  7 :  -4.26E+01 9.32E+00 0.000 0.5107 0.9000 0.9000   1.08  1  1  1.0E-02
  8 :  -4.24E+01 4.48E+00 0.000 0.4813 0.9000 0.9000   1.06  1  1  4.8E-03
  9 :  -4.23E+01 2.67E+00 0.000 0.5959 0.9000 0.9000   1.05  1  1  2.8E-03
 10 :  -4.22E+01 1.40E+00 0.000 0.5235 0.9000 0.9000   1.05  1  1  1.4E-03
 11 :  -4.22E+01 8.20E-01 0.000 0.5864 0.9000 0.9000   1.05  1  1  8.3E-04
 12 :  -4.21E+01 3.53E-01 0.000 0.4307 0.9000 0.9000   1.05  1  1  3.5E-04
```

```
 13 :  -4.21E+01 1.64E-01 0.000 0.4649 0.9000 0.9000   1.04  1  1  1.6E-04
 14 :  -4.21E+01 5.74E-02 0.000 0.3494 0.9000 0.9000   1.04  1  1  5.3E-05
 15 :  -4.21E+01 2.18E-02 0.000 0.3807 0.9000 0.9000   1.04  1  1  1.9E-05
 16 :  -4.21E+01 7.71E-03 0.000 0.3527 0.9000 0.9000   1.05  1  1  6.5E-06
 17 :  -4.21E+01 3.04E-03 0.000 0.3946 0.9000 0.9000   1.06  1  1  2.5E-06
 18 :  -4.21E+01 1.16E-03 0.000 0.3802 0.9000 0.9000   1.06  1  1  8.9E-07
 19 :  -4.21E+01 4.92E-04 0.000 0.4257 0.9000 0.9000   1.06  1  1  3.6E-07
 20 :  -4.21E+01 1.85E-04 0.000 0.3751 0.9000 0.9000   1.07  1  1  1.3E-07
 21 :  -4.21E+01 7.84E-05 0.000 0.4246 0.9000 0.9000   1.07  1  1  5.1E-08
 22 :  -4.21E+01 2.33E-05 0.000 0.2976 0.9000 0.9000   1.07  1  1  1.4E-08
 23 :  -4.21E+01 7.30E-06 0.000 0.3128 0.9000 0.9000   1.06  1  1  4.2E-09
 24 :  -4.21E+01 5.55E-07 0.000 0.0760 0.9900 0.9900   1.05  2  2  3.0E-10
 25 :  -4.21E+01 1.07E-07 0.000 0.1922 0.9000 0.9000   1.05  2  2  5.5E-11
 26 :  -4.21E+01 3.22E-09 0.000 0.0302 0.9900 0.9900   1.03  3  3  1.6E-12
 27 :  -4.21E+01 6.88E-10 0.000 0.2133 0.9000 0.9000   1.03 13 14  3.3E-13
 28 :  -4.21E+01 1.56E-10 0.000 0.2267 0.9000 0.9000   1.01 17 17  7.5E-14
 29 :  -4.21E+01 1.02E-10 0.000 0.6530 0.9000 0.9000   0.98 21 20  5.0E-14
 30 :  -4.21E+01 9.37E-11 0.000 0.9209 0.9000 0.9000   0.79 25 22  4.8E-14
 31 :  -4.21E+01 3.33E-11 0.000 0.3552 0.9000 0.9000  -0.68 19 24  4.5E-13
 32 :  -4.21E+01 7.14E-12 0.000 0.2144 0.9000 0.9000  -0.66 19 19  1.9E-12
 33 :  -4.21E+01 1.72E-12 0.000 0.2410 0.9000 0.9000  -0.93 15 15  6.7E-12
 34 :  -4.21E+01 1.01E-13 0.409 0.0586 0.9900 0.9900  -0.98  7  7  1.6E-14
 35 :  -4.21E+01 9.28E-14 0.095 0.9204 0.9000 0.9000  -1.00  5  5  1.7E-14
 36 :  -4.21E+01 1.05E-14 0.351 0.1137 0.9450 0.9450  -1.00  4  4  1.6E-14
 37 :  -4.21E+01 5.58E-15 0.395 0.5292 0.9000 0.9000  -1.00  4  4  1.5E-14
 38 :  -4.21E+01 3.33E-15 0.000 0.5973 0.9000 0.9000  -1.00  3  4  1.3E-14
 39 :  -4.21E+01 1.02E-15 0.000 0.3062 0.9000 0.9000  -1.00  3  4  1.0E-14
 40 :  -4.21E+01 5.08E-16 0.000 0.4975 0.9000 0.9000  -1.00  4  3  1.0E-14
 41 :  -4.21E+01 2.86E-16 0.000 0.5641 0.9000 0.9000  -1.00  4  4  9.2E-15
 42 :  -4.21E+01 1.06E-16 0.000 0.3704 0.9000 0.9000  -1.00  3  3  9.1E-15
 43 :  -4.21E+01 4.46E-17 0.000 0.4208 0.9000 0.9000  -0.99  3  3  8.9E-15
 44 :  -4.21E+01 2.08E-17 0.000 0.4654 0.9000 0.9000  -0.99  3  3  8.8E-15
 45 :  -4.21E+01 1.03E-17 0.000 0.4977 0.9000 0.9000  -0.96  3  3  8.5E-15
 46 :  -4.21E+01 5.63E-18 0.000 0.5446 0.9000 0.9000  -0.94  3  3  8.4E-15
 47 :  -4.21E+01 2.94E-18 0.000 0.5229 0.9000 0.9000  -0.89  3  3  7.8E-15
 48 :  -4.21E+01 1.51E-18 0.000 0.5133 0.9000 0.9000  -0.81  3  3  7.3E-15
 49 :  -4.21E+01 9.78E-19 0.000 0.6469 0.9000 0.9000  -0.53  3  3  6.1E-15
 50 :  -4.21E+01 6.40E-19 0.000 0.6547 0.9000 0.9000  -0.57  3  3  5.9E-15
 51 :  -4.21E+01 2.90E-19 0.000 0.4535 0.9000 0.9000  -0.37  3  3  4.0E-15
 52 :  -4.21E+01 2.38E-19 0.000 0.8205 0.9000 0.9000  -0.07  3  3  3.7E-15
 53 :  -4.21E+01 1.48E-19 0.000 0.6200 0.9000 0.9000  -0.46  3  3  3.6E-15
 54 :  -4.21E+01 1.00E-19 0.000 0.6789 0.9000 0.9000  -0.28  3  3  3.0E-15
 55 :  -4.21E+01 5.41E-20 0.000 0.5398 0.9000 0.9000  -0.43  3  3  3.0E-15
 56 :  -4.21E+01 1.57E-20 0.000 0.2894 0.9000 0.9000  -0.93  3  3  3.0E-15
Run into numerical problems.

iter seconds digits       c*x               b*y
 56      1.6   Inf -4.2126345633e+01 -4.2124406146e+01
|Ax-b| =   2.9e-12, [Ay-c]_+ =   2.1E-14, |x|=  3.6e+12, |y|=  6.1e+01

Detailed timing (sec)
   Pre          IPM          Post
0.000E+00    3.590E-01    0.000E+00
Max-norms: ||b||=2.973897e+02, ||c|| = 5.256842e+01,
Cholesky |add|=0, |skip| = 0, ||L.L|| = 7626.68.
```

```
ans =

      yalmiptime: 0.0444
      solvertime: 0.3616
            info: 'Infeasible problem (SeDuMi-1.3)'
         problem: 1
    solveroutput: [1x1 struct]


ans =

   42.1236

Iteration   4   Total error is: 0.026486
SeDuMi 1.32 by AdvOL, 2005-2008 and Jos F. Sturm, 1998-2003.
Alg = 2: xz-corrector, theta = 0.250, beta = 0.500
eqs m = 13, order n = 803, dim = 815, blocks = 2
nnz(A) = 2472 + 0, nnz(ADA) = 169, nnz(L) = 91
 it :     b*y       gap    delta  rate   t/tP*  t/tD*   feas cg cg  prec
  0 :            9.40E+02 0.000
  1 :  -4.38E+01 7.50E+02 0.000 0.7978 0.9000 0.9000  13.93  1  1  1.1E+00
  2 :  -4.80E+01 4.21E+02 0.000 0.5607 0.9000 0.9000  13.44  1  1  1.6E-01
  3 :  -4.47E+01 2.24E+02 0.000 0.5334 0.9000 0.9000   2.28  1  1  7.6E-02
  4 :  -4.50E+01 7.52E+01 0.000 0.3353 0.9000 0.9000   1.57  1  1  4.4E-02
  5 :  -4.34E+01 3.84E+01 0.000 0.5101 0.9000 0.9000   1.19  1  1  4.4E-02
  6 :  -4.27E+01 1.95E+01 0.000 0.5079 0.9000 0.9000   1.12  1  1  2.2E-02
  7 :  -4.23E+01 8.95E+00 0.000 0.4592 0.9000 0.9000   1.08  1  1  1.0E-02
  8 :  -4.20E+01 5.23E+00 0.000 0.5839 0.9000 0.9000   1.06  1  1  5.8E-03
  9 :  -4.19E+01 2.63E+00 0.000 0.5041 0.9000 0.9000   1.06  1  1  2.9E-03
 10 :  -4.18E+01 1.54E+00 0.000 0.5864 0.9000 0.9000   1.05  1  1  1.7E-03
 11 :  -4.18E+01 6.72E-01 0.000 0.4352 0.9000 0.9000   1.05  1  1  7.0E-04
 12 :  -4.17E+01 3.25E-01 0.000 0.4833 0.9000 0.9000   1.05  1  1  3.3E-04
 13 :  -4.17E+01 1.14E-01 0.000 0.3497 0.9000 0.9000   1.05  1  1  1.1E-04
 14 :  -4.17E+01 4.49E-02 0.000 0.3954 0.9000 0.9000   1.04  1  1  4.2E-05
 15 :  -4.17E+01 1.46E-02 0.000 0.3256 0.9000 0.9000   1.05  1  1  1.3E-05
 16 :  -4.17E+01 5.53E-03 0.000 0.3783 0.9000 0.9000   1.06  1  1  4.7E-06
 17 :  -4.17E+01 1.61E-03 0.000 0.2901 0.9000 0.9000   1.06  1  1  1.3E-06
 18 :  -4.17E+01 5.00E-04 0.000 0.3116 0.9000 0.9000   1.07  1  1  3.8E-07
 19 :  -4.17E+01 4.63E-05 0.000 0.0924 0.9900 0.9900   1.08  1  1  3.2E-08
 20 :  -4.17E+01 1.15E-05 0.000 0.2492 0.9000 0.9000   1.14  2  2  6.9E-09
 21 :  -4.17E+01 3.22E-07 0.068 0.0279 0.9900 0.9900   1.08  2  2  1.8E-10
 22 :  -4.17E+01 6.11E-08 0.000 0.1900 0.9000 0.9000   1.06  3  3  3.2E-11
 23 :  -4.17E+01 4.40E-09 0.055 0.0719 0.9900 0.9900   1.03  3  3  2.2E-12
 24 :  -4.17E+01 3.40E-10 0.000 0.0773 0.9900 0.9900   1.02 17 16  1.7E-13
 25 :  -4.17E+01 9.41E-11 0.000 0.2769 0.9000 0.9000   1.00 25 25  4.6E-14
 26 :  -4.17E+01 6.81E-11 0.000 0.7238 0.9000 0.9000   0.95 27 27  3.5E-14
 27 :  -4.17E+01 6.24E-11 0.000 0.9162 0.9000 0.9000   0.60 27 26  3.5E-14
 28 :  -4.17E+01 5.15E-11 0.000 0.8247 0.9000 0.9000  -0.85 26 26  4.4E-14
Run into numerical problems.

iter seconds digits       c*x               b*y
 28      0.9  11.6 -4.1707661349e+01 -4.1707661349e+01
|Ax-b| =   9.1e-13, [Ay-c]_+ =   4.1E-14, |x|=  7.9e+02, |y|=  6.1e+01
```

```
Detailed timing (sec)
   Pre          IPM          Post
0.000E+00    2.030E-01    0.000E+00
Max-norms: ||b||=2.760233e+02, ||c|| = 5.256842e+01,
Cholesky |add|=0, |skip| = 6, ||L.L|| = 5175.39.

ans =

      yalmiptime: 0.0461
      solvertime: 0.2039
            info: 'Numerical problems (SeDuMi-1.3)'
         problem: 4
    solveroutput: [1x1 struct]


ans =

   41.7077

Iteration   5   Total error is: 0.026356
SeDuMi 1.32 by AdvOL, 2005-2008 and Jos F. Sturm, 1998-2003.
Alg = 2: xz-corrector, theta = 0.250, beta = 0.500
eqs m = 13, order n = 803, dim = 815, blocks = 2
nnz(A) = 2472 + 0, nnz(ADA) = 169, nnz(L) = 91
 it :     b*y       gap    delta  rate   t/tP*  t/tD*   feas cg cg  prec
  0 :            7.61E+02 0.000
  1 :  -4.33E+01 6.06E+02 0.000 0.7963 0.9000 0.9000  13.91  1  1  1.1E+00
  2 :  -4.69E+01 3.41E+02 0.000 0.5621 0.9000 0.9000  13.23  1  1  1.6E-01
  3 :  -4.35E+01 2.04E+02 0.000 0.5982 0.9000 0.9000   2.27  1  1  8.7E-02
  4 :  -4.43E+01 6.80E+01 0.000 0.3337 0.9000 0.9000   1.66  1  1  4.8E-02
  5 :  -4.27E+01 3.45E+01 0.000 0.5073 0.9000 0.9000   1.21  1  1  4.4E-02
  6 :  -4.21E+01 1.42E+01 0.000 0.4129 0.9000 0.9000   1.13  1  1  1.8E-02
  7 :  -4.18E+01 7.95E+00 0.000 0.5581 0.9000 0.9000   1.09  1  1  9.6E-03
  8 :  -4.16E+01 3.76E+00 0.000 0.4735 0.9000 0.9000   1.07  1  1  4.4E-03
  9 :  -4.15E+01 2.26E+00 0.000 0.6005 0.9000 0.9000   1.06  1  1  2.6E-03
 10 :  -4.15E+01 9.78E-01 0.000 0.4326 0.9000 0.9000   1.06  1  1  1.1E-03
 11 :  -4.14E+01 5.16E-01 0.000 0.5277 0.9000 0.9000   1.05  1  1  5.7E-04
 12 :  -4.14E+01 1.67E-01 0.000 0.3227 0.9000 0.9000   1.05  1  1  1.7E-04
 13 :  -4.14E+01 6.51E-02 0.000 0.3909 0.9000 0.9000   1.05  1  1  6.6E-05
 14 :  -4.14E+01 1.71E-02 0.000 0.2635 0.9000 0.9000   1.05  1  1  1.7E-05
 15 :  -4.14E+01 5.17E-03 0.000 0.3017 0.9000 0.9000   1.06  1  1  4.7E-06
 16 :  -4.14E+01 1.30E-03 0.000 0.2512 0.9000 0.9000   1.06  1  1  1.1E-06
 17 :  -4.14E+01 3.36E-04 0.000 0.2583 0.9000 0.9000   1.07  1  1  2.7E-07
 18 :  -4.14E+01 7.16E-05 0.000 0.2131 0.9000 0.9000   1.08  1  1  5.2E-08
 19 :  -4.14E+01 6.03E-06 0.000 0.0842 0.9900 0.9900   1.10  2  2  3.9E-09
 20 :  -4.14E+01 2.92E-07 0.149 0.0485 0.9900 0.9900   1.09  2  2  1.7E-10
 21 :  -4.14E+01 7.68E-08 0.000 0.2629 0.9000 0.9000   1.06  3  3  4.3E-11
 22 :  -4.14E+01 3.36E-09 0.467 0.0437 0.9900 0.9900   1.03  7  7  1.8E-12
 23 :  -4.14E+01 8.39E-11 0.000 0.0250 0.9900 0.9900   1.03 23 24  4.4E-14
Run into numerical problems.

iter seconds digits       c*x               b*y
 23      0.7  11.5 -4.1427369576e+01 -4.1427369576e+01
|Ax-b| =   7.3e-13, [Ay-c]_+ =   5.6E-14, |x|=  2.5e+01, |y|=  6.2e+01
```

```
Detailed timing (sec)
   Pre          IPM          Post
0.000E+00    1.410E-01    0.000E+00
Max-norms: ||b||=2.231882e+02, ||c|| = 5.256842e+01,
Cholesky |add|=0, |skip| = 6, ||L.L|| = 12340.3.

ans =

      yalmiptime: 0.0613
      solvertime: 0.1417
            info: 'Numerical problems (SeDuMi-1.3)'
         problem: 4
    solveroutput: [1x1 struct]


ans =

   41.4274

Iteration   6   Total error is: 0.026264
SeDuMi 1.32 by AdvOL, 2005-2008 and Jos F. Sturm, 1998-2003.
Alg = 2: xz-corrector, theta = 0.250, beta = 0.500
eqs m = 13, order n = 803, dim = 815, blocks = 2
nnz(A) = 2472 + 0, nnz(ADA) = 169, nnz(L) = 91
 it :     b*y       gap    delta  rate   t/tP*  t/tD*   feas cg cg  prec
  0 :            6.21E+02 0.000
  1 :  -4.29E+01 4.95E+02 0.000 0.7964 0.9000 0.9000  13.91  1  1  1.1E+00
  2 :  -4.62E+01 2.78E+02 0.000 0.5623 0.9000 0.9000  13.24  1  1  1.6E-01
  3 :  -4.24E+01 1.70E+02 0.000 0.6106 0.9000 0.9000   2.26  1  1  8.9E-02
  4 :  -4.33E+01 5.79E+01 0.000 0.3407 0.9000 0.9000   1.67  1  1  5.1E-02
  5 :  -4.19E+01 3.02E+01 0.000 0.5219 0.9000 0.9000   1.21  1  1  4.2E-02
  6 :  -4.16E+01 1.09E+01 0.000 0.3599 0.9000 0.9000   1.14  1  1  1.4E-02
  7 :  -4.14E+01 5.47E+00 0.000 0.5029 0.9000 0.9000   1.08  1  1  7.0E-03
  8 :  -4.13E+01 2.44E+00 0.000 0.4455 0.9000 0.9000   1.07  1  1  3.0E-03
  9 :  -4.12E+01 1.38E+00 0.000 0.5674 0.9000 0.9000   1.06  1  1  1.7E-03
 10 :  -4.12E+01 5.85E-01 0.000 0.4231 0.9000 0.9000   1.06  1  1  6.8E-04
 11 :  -4.12E+01 3.03E-01 0.000 0.5179 0.9000 0.9000   1.05  1  1  3.4E-04
 12 :  -4.12E+01 9.61E-02 0.000 0.3174 0.9000 0.9000   1.05  1  1  1.0E-04
 13 :  -4.12E+01 3.69E-02 0.000 0.3841 0.9000 0.9000   1.05  1  1  3.9E-05
 14 :  -4.12E+01 9.65E-03 0.000 0.2615 0.9000 0.9000   1.05  1  1  9.7E-06
 15 :  -4.12E+01 2.85E-03 0.000 0.2948 0.9000 0.9000   1.05  1  1  2.7E-06
 16 :  -4.12E+01 6.78E-04 0.000 0.2384 0.9000 0.9000   1.06  1  1  6.1E-07
 17 :  -4.12E+01 2.71E-04 0.000 0.3994 0.9000 0.9000   1.04  1  1  2.4E-07
 18 :  -4.12E+01 1.91E-04 0.000 0.7055 0.9000 0.9000   1.00  1  1  1.7E-07
 19 :  -4.12E+01 1.06E-04 0.000 0.5561 0.9000 0.9000   1.00  1  1  9.5E-08
 20 :  -4.12E+01 6.44E-05 0.000 0.6062 0.9000 0.9000   0.97  1  1  6.0E-08
 21 :  -4.12E+01 4.01E-05 0.000 0.6226 0.9000 0.9000   0.93  1  1  4.0E-08
 22 :  -4.12E+01 2.72E-05 0.000 0.6785 0.9000 0.9000   0.87  1  1  2.9E-08
 23 :  -4.12E+01 2.02E-05 0.000 0.7402 0.9000 0.9000   0.81  1  1  2.3E-08
 24 :  -4.12E+01 1.24E-05 0.000 0.6130 0.9000 0.9000   0.82  1  1  1.6E-08
 25 :  -4.12E+01 8.07E-06 0.000 0.6532 0.9000 0.9000   0.73  1  1  1.2E-08
 26 :  -4.12E+01 5.60E-06 0.000 0.6943 0.9000 0.9000   0.64  1  1  1.1E-08
 27 :  -4.12E+01 3.70E-06 0.000 0.6613 0.9000 0.9000   0.61  1  1  7.8E-09
 28 :  -4.12E+01 2.46E-06 0.000 0.6652 0.9000 0.9000   0.61  1  1  6.2E-09
 29 :  -4.12E+01 1.90E-06 0.000 0.7715 0.9000 0.9000   0.52  1  1  5.8E-09
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30 :	-4.12E+01	1.31E-06	0.000	0.6894	0.9000	0.9000	0.58	1	1	4.5E-09
31 :	-4.12E+01	1.08E-06	0.000	0.8255	0.9000	0.9000	0.06	1	2	5.2E-09
32 :	-4.12E+01	5.45E-07	0.000	0.5041	0.9000	0.9000	0.39	1	1	3.1E-09
33 :	-4.12E+01	4.56E-07	0.000	0.8362	0.9000	0.9000	0.53	2	2	3.0E-09
34 :	-4.12E+01	3.22E-07	0.000	0.7070	0.9000	0.9000	-0.35	2	2	3.8E-09
35 :	-4.12E+01	1.63E-07	0.000	0.5063	0.9000	0.9000	0.34	1	2	2.4E-09
36 :	-4.12E+01	1.34E-07	0.000	0.8217	0.9000	0.9000	0.48	2	2	2.3E-09
37 :	-4.12E+01	1.18E-07	0.000	0.8772	0.9000	0.9000	-0.29	2	2	2.6E-09
38 :	-4.12E+01	5.71E-08	0.000	0.4854	0.9000	0.9000	-0.08	2	2	2.2E-09
39 :	-4.12E+01	4.14E-08	0.000	0.7247	0.9000	0.9000	0.59	2	2	2.0E-09
40 :	-4.12E+01	2.78E-08	0.000	0.6707	0.9000	0.9000	0.03	2	2	2.3E-09
41 :	-4.12E+01	1.38E-08	0.000	0.4981	0.9000	0.9000	0.38	2	2	2.1E-09
42 :	-4.12E+01	1.04E-08	0.000	0.7487	0.9000	0.9000	0.12	2	2	2.0E-09
43 :	-4.12E+01	6.18E-09	0.000	0.5969	0.9000	0.9000	0.50	2	2	1.4E-09
44 :	-4.12E+01	4.34E-09	0.000	0.7021	0.9000	0.9000	0.33	2	2	1.5E-09
45 :	-4.12E+01	3.30E-09	0.000	0.7610	0.9000	0.9000	0.24	2	2	1.6E-09
46 :	-4.12E+01	1.92E-09	0.000	0.5826	0.9000	0.9000	0.34	2	2	1.2E-09
47 :	-4.12E+01	1.24E-09	0.000	0.6447	0.9000	0.9000	0.28	2	2	1.3E-09
48 :	-4.12E+01	9.13E-10	0.000	0.7357	0.9000	0.9000	0.15	2	2	1.2E-09
49 :	-4.12E+01	5.34E-10	0.000	0.5848	0.9000	0.9000	0.03	2	2	9.5E-10
50 :	-4.12E+01	4.37E-10	0.000	0.8184	0.9000	0.9000	0.37	2	2	1.0E-09
51 :	-4.12E+01	2.55E-10	0.000	0.5847	0.9000	0.9000	-0.54	2	2	1.2E-09
52 :	-4.12E+01	1.68E-10	0.000	0.6579	0.9000	0.9000	0.40	2	2	8.4E-10
53 :	-4.12E+01	1.42E-10	0.000	0.8473	0.9000	0.9000	0.36	2	2	8.5E-10
54 :	-4.12E+01	9.50E-11	0.000	0.6670	0.9000	0.9000	-0.50	2	2	9.3E-10
55 :	-4.12E+01	6.76E-11	0.000	0.7123	0.9000	0.9000	0.38	2	2	7.3E-10
56 :	-4.12E+01	5.38E-11	0.000	0.7961	0.9000	0.9000	0.17	2	2	7.7E-10
57 :	-4.12E+01	3.91E-11	0.000	0.7270	0.9000	0.9000	0.33	2	2	6.3E-10
58 :	-4.12E+01	3.27E-11	0.000	0.8357	0.9000	0.9000	0.02	2	2	6.5E-10
59 :	-4.12E+01	2.01E-11	0.000	0.6156	0.9000	0.9000	0.30	2	2	4.6E-10
60 :	-4.12E+01	1.74E-11	0.000	0.8630	0.9000	0.9000	0.40	2	2	4.4E-10
61 :	-4.12E+01	1.20E-11	0.000	0.6901	0.9000	0.9000	-0.62	2	2	3.9E-10
62 :	-4.12E+01	5.94E-12	0.000	0.4950	0.9000	0.9000	0.09	2	2	1.9E-10
63 :	-4.12E+01	4.74E-12	0.000	0.7989	0.9000	0.9000	0.58	2	2	1.4E-10
64 :	-4.12E+01	3.12E-12	0.000	0.6583	0.9000	0.9000	0.04	2	2	4.2E-13
65 :	-4.12E+01	1.83E-12	0.000	0.5872	0.9000	0.9000	-0.16	2	2	3.0E-13
66 :	-4.12E+01	8.52E-13	0.000	0.4647	0.9000	0.9000	0.38	2	2	1.6E-13
67 :	-4.12E+01	7.26E-13	0.000	0.8521	0.9000	0.9000	0.65	2	2	1.4E-13
68 :	-4.12E+01	4.35E-13	0.000	0.5987	0.9000	0.9000	-0.35	2	3	1.5E-13
69 :	-4.12E+01	2.09E-13	0.000	0.4809	0.9000	0.9000	0.01	2	2	9.1E-14
70 :	-4.12E+01	1.28E-13	0.000	0.6107	0.9000	0.9000	0.57	3	3	6.0E-14
71 :	-4.12E+01	1.13E-13	0.000	0.8825	0.9000	0.9000	0.62	2	2	5.5E-14
72 :	-4.12E+01	6.90E-14	0.000	0.6130	0.9000	0.9000	-0.13	3	3	4.7E-14
73 :	-4.12E+01	4.71E-14	0.000	0.6827	0.9000	0.9000	0.58	3	3	3.4E-14
74 :	-4.12E+01	3.95E-14	0.000	0.8387	0.9000	0.9000	0.41	2	2	3.2E-14
75 :	-4.12E+01	2.30E-14	0.000	0.5810	0.9000	0.9000	-0.70	3	3	3.0E-14
76 :	-4.12E+01	1.12E-14	0.000	0.4888	0.9000	0.9000	0.14	2	3	1.6E-14
77 :	-4.12E+01	8.84E-15	0.000	0.7878	0.9000	0.9000	0.56	2	3	1.4E-14
78 :	-4.12E+01	6.25E-15	0.000	0.7069	0.9000	0.9000	0.11	4	4	1.4E-14
79 :	-4.12E+01	3.32E-15	0.000	0.5311	0.9000	0.9000	0.14	4	4	8.1E-15
80 :	-4.12E+01	2.89E-15	0.000	0.8717	0.9000	0.9000	0.42	4	4	7.5E-15
81 :	-4.12E+01	1.99E-15	0.000	0.6889	0.9000	0.9000	-0.49	4	4	8.0E-15
82 :	-4.12E+01	1.47E-15	0.000	0.7376	0.9000	0.9000	-0.28	4	4	7.1E-15
83 :	-4.12E+01	8.16E-16	0.000	0.5549	0.9000	0.9000	-0.55	4	4	8.4E-15
84 :	-4.12E+01	2.58E-16	0.000	0.3164	0.9000	0.9000	-0.87	4	4	8.6E-15

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 85 :  -4.12E+01 9.56E-17 0.000 0.3704 0.9000 0.9000  -0.97  3  4  8.3E-15
 86 :  -4.12E+01 3.28E-17 0.000 0.3429 0.9000 0.9000  -0.99  4  4  7.5E-15
 87 :  -4.12E+01 1.30E-17 0.000 0.3973 0.9000 0.9000  -1.00  4  4  7.3E-15
 88 :  -4.12E+01 5.49E-18 0.000 0.4212 0.9000 0.9000  -1.00  4  4  7.1E-15
Run into numerical problems.

iter seconds digits       c*x               b*y
 88      1.8   Inf -4.1154122923e+01 -4.1154118514e+01
|Ax-b| =   2.9e-12, [Ay-c]_+ =   5.0E-14, |x|=  1.4e+10, |y|=  6.2e+01

Detailed timing (sec)
   Pre          IPM          Post
0.000E+00    3.900E-01    0.000E+00
Max-norms: ||b||=1.820209e+02, ||c|| = 5.256842e+01,
Cholesky |add|=0, |skip| = 0, ||L.L|| = 146427.

ans =

      yalmiptime: 0.0438
      solvertime: 0.3932
            info: 'Infeasible problem (SeDuMi-1.3)'
         problem: 1
    solveroutput: [1x1 struct]


ans =

   41.1541

Iteration   7   Total error is: 0.026175
SeDuMi 1.32 by AdvOL, 2005-2008 and Jos F. Sturm, 1998-2003.
Alg = 2: xz-corrector, theta = 0.250, beta = 0.500
eqs m = 13, order n = 803, dim = 815, blocks = 2
nnz(A) = 2472 + 0, nnz(ADA) = 169, nnz(L) = 91
 it :     b*y       gap    delta  rate   t/tP*  t/tD*   feas cg cg  prec
  0 :            5.92E+02 0.000
  1 :  -4.26E+01 4.71E+02 0.000 0.7960 0.9000 0.9000  13.91  1  1  1.1E+00
  2 :  -4.57E+01 2.68E+02 0.000 0.5690 0.9000 0.9000  13.19  1  1  1.6E-01
  3 :  -4.21E+01 1.67E+02 0.000 0.6230 0.9000 0.9000   2.30  1  1  9.3E-02
  4 :  -4.32E+01 5.61E+01 0.000 0.3360 0.9000 0.9000   1.70  1  1  5.2E-02
  5 :  -4.17E+01 2.91E+01 0.000 0.5180 0.9000 0.9000   1.22  1  1  4.1E-02
  6 :  -4.15E+01 1.04E+01 0.000 0.3583 0.9000 0.9000   1.14  1  1  1.4E-02
  7 :  -4.12E+01 5.20E+00 0.000 0.4994 0.9000 0.9000   1.09  1  1  6.8E-03
  8 :  -4.11E+01 2.29E+00 0.000 0.4398 0.9000 0.9000   1.07  1  1  2.9E-03
  9 :  -4.11E+01 1.30E+00 0.000 0.5670 0.9000 0.9000   1.06  1  1  1.6E-03
 10 :  -4.10E+01 5.36E-01 0.000 0.4138 0.9000 0.9000   1.06  1  1  6.3E-04
 11 :  -4.10E+01 2.76E-01 0.000 0.5153 0.9000 0.9000   1.05  1  1  3.2E-04
 12 :  -4.10E+01 8.62E-02 0.000 0.3117 0.9000 0.9000   1.05  1  1  9.5E-05
 13 :  -4.10E+01 3.18E-02 0.000 0.3696 0.9000 0.9000   1.05  1  1  3.4E-05
 14 :  -4.10E+01 8.51E-03 0.000 0.2671 0.9000 0.9000   1.05  1  1  8.7E-06
 15 :  -4.10E+01 2.42E-03 0.000 0.2841 0.9000 0.9000   1.05  1  1  2.4E-06
 16 :  -4.10E+01 9.12E-04 0.000 0.3774 0.9000 0.9000   1.03  1  1  8.8E-07
 17 :  -4.10E+01 6.00E-04 0.000 0.6583 0.9000 0.9000   1.00  1  1  5.8E-07
 18 :  -4.10E+01 3.06E-04 0.000 0.5092 0.9000 0.9000   0.99  1  1  3.0E-07
 19 :  -4.10E+01 1.73E-04 0.000 0.5663 0.9000 0.9000   0.93  1  1  1.8E-07
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 20 :  -4.10E+01 1.17E-04 0.000 0.6733 0.9000 0.9000   0.92  1  1  1.2E-07
 21 :  -4.10E+01 6.65E-05 0.000 0.5705 0.9000 0.9000   0.92  1  1  7.3E-08
 22 :  -4.10E+01 5.53E-05 0.000 0.8314 0.9000 0.9000   0.72  1  1  6.6E-08
 23 :  -4.10E+01 3.28E-05 0.000 0.5936 0.9000 0.9000   0.86  1  1  4.2E-08
 24 :  -4.10E+01 2.61E-05 0.000 0.7946 0.9000 0.9000   0.71  1  1  3.8E-08
 25 :  -4.10E+01 1.51E-05 0.000 0.5784 0.9000 0.9000   0.78  1  1  2.4E-08
 26 :  -4.10E+01 1.25E-05 0.000 0.8290 0.9000 0.9000   0.58  1  1  2.3E-08
 27 :  -4.10E+01 8.34E-06 0.000 0.6672 0.9000 0.9000   0.69  1  1  1.7E-08
 28 :  -4.10E+01 6.35E-06 0.000 0.7614 0.9000 0.9000   0.60  1  1  1.6E-08
 29 :  -4.10E+01 3.77E-06 0.000 0.5929 0.9000 0.9000   0.64  1  1  1.1E-08
 30 :  -4.10E+01 2.73E-06 0.000 0.7249 0.9000 0.9000   0.53  1  1  1.1E-08
 31 :  -4.10E+01 1.85E-06 0.000 0.6768 0.9000 0.9000   0.04  1  1  8.2E-09
 32 :  -4.10E+01 1.42E-06 0.000 0.7681 0.9000 0.9000   0.33  1  1  7.4E-09
 33 :  -4.10E+01 1.01E-06 0.000 0.7091 0.9000 0.9000   0.42  1  1  6.6E-09
 34 :  -4.10E+01 6.52E-07 0.000 0.6478 0.9000 0.9000   0.45  1  1  5.8E-09
 35 :  -4.10E+01 4.86E-07 0.000 0.7461 0.9000 0.9000   0.54  1  1  5.0E-09
 36 :  -4.10E+01 4.00E-07 0.000 0.8222 0.9000 0.9000  -0.16  2  1  6.1E-09
 37 :  -4.10E+01 2.02E-07 0.000 0.5045 0.9000 0.9000   0.27  1  1  3.7E-09
 38 :  -4.10E+01 1.63E-07 0.000 0.8056 0.9000 0.9000   0.58  2  2  3.4E-09
 39 :  -4.10E+01 1.20E-07 0.000 0.7361 0.9000 0.9000  -0.21  2  2  4.7E-09
 40 :  -4.10E+01 5.24E-08 0.000 0.4382 0.9000 0.9000   0.17  2  1  2.9E-09
 41 :  -4.10E+01 4.19E-08 0.000 0.7989 0.9000 0.9000   0.61  2  2  2.6E-09
 42 :  -4.10E+01 3.64E-08 0.000 0.8687 0.9000 0.9000  -0.02  2  2  3.0E-09
 43 :  -4.10E+01 2.33E-08 0.000 0.6401 0.9000 0.9000  -0.05  2  2  3.1E-09
 44 :  -4.10E+01 1.42E-08 0.000 0.6094 0.9000 0.9000   0.50  2  2  2.4E-09
 45 :  -4.10E+01 8.90E-09 0.000 0.6272 0.9000 0.9000   0.24  2  2  2.7E-09
 46 :  -4.10E+01 5.09E-09 0.000 0.5711 0.9000 0.9000   0.33  2  2  2.5E-09
 47 :  -4.10E+01 4.59E-09 0.000 0.9024 0.9000 0.9000  -0.01  2  2  2.5E-09
 48 :  -4.10E+01 3.42E-09 0.000 0.7458 0.9000 0.9000   0.01  2  2  2.3E-09
 49 :  -4.10E+01 1.78E-09 0.000 0.5201 0.9000 0.9000   0.35  2  2  1.6E-09
 50 :  -4.10E+01 1.11E-09 0.000 0.6235 0.9000 0.9000   0.40  2  2  1.6E-09
 51 :  -4.10E+01 8.64E-10 0.000 0.7783 0.9000 0.9000   0.05  2  2  1.7E-09
 52 :  -4.10E+01 5.32E-10 0.000 0.6161 0.9000 0.9000   0.39  2  2  1.3E-09
 53 :  -4.10E+01 3.66E-10 0.000 0.6878 0.9000 0.9000   0.25  2  2  1.5E-09
 54 :  -4.10E+01 2.40E-10 0.000 0.6560 0.9000 0.9000   0.16  2  2  1.2E-09
 55 :  -4.10E+01 1.79E-10 0.000 0.7462 0.9000 0.9000   0.16  2  2  1.1E-09
 56 :  -4.10E+01 1.40E-10 0.000 0.7807 0.9000 0.9000   0.48  2  2  9.9E-10
 57 :  -4.10E+01 1.09E-10 0.000 0.7789 0.9000 0.9000  -0.28  2  2  1.3E-09
 58 :  -4.10E+01 6.42E-11 0.000 0.5888 0.9000 0.9000  -0.03  2  2  9.6E-10
 59 :  -4.10E+01 4.16E-11 0.000 0.6491 0.9000 0.9000   0.47  2  2  7.2E-10
 60 :  -4.10E+01 2.41E-11 0.000 0.5794 0.9000 0.9000   0.34  2  2  6.4E-10
 61 :  -4.10E+01 1.90E-11 0.000 0.7873 0.9000 0.9000   0.32  2  2  5.4E-10
 62 :  -4.10E+01 1.69E-11 0.000 0.8919 0.9000 0.9000  -0.30  2  2  5.3E-10
 63 :  -4.10E+01 1.11E-11 0.000 0.6550 0.9000 0.9000   0.14  2  2  3.4E-10
 64 :  -4.10E+01 8.74E-12 0.000 0.7871 0.9000 0.9000   0.23  2  2  2.4E-10
 65 :  -4.10E+01 5.47E-12 0.000 0.6266 0.9000 0.9000   0.21  2  2  1.4E-10
 66 :  -4.10E+01 4.84E-12 0.000 0.8850 0.9000 0.9000   0.41  2  2  8.8E-11
 67 :  -4.10E+01 3.59E-12 0.000 0.7418 0.9000 0.9000  -0.67  2  2  4.9E-13
 68 :  -4.10E+01 2.08E-12 0.000 0.5784 0.9000 0.9000  -0.10  2  2  3.4E-13
 69 :  -4.10E+01 1.31E-12 0.000 0.6311 0.9000 0.9000   0.47  2  2  2.3E-13
 70 :  -4.10E+01 1.17E-12 0.000 0.8949 0.9000 0.9000   0.52  2  2  2.1E-13
 71 :  -4.10E+01 7.68E-13 0.000 0.6542 0.9000 0.9000  -0.66  2  2  2.2E-13
 72 :  -4.10E+01 4.38E-13 0.000 0.5707 0.9000 0.9000  -0.08  2  2  1.5E-13
 73 :  -4.10E+01 2.21E-13 0.000 0.5052 0.9000 0.9000   0.44  2  2  8.3E-14
 74 :  -4.10E+01 1.90E-13 0.000 0.8584 0.9000 0.9000   0.61  2  2  7.6E-14
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 75 :  -4.10E+01 1.14E-13 0.000 0.6000 0.9000 0.9000  -0.49  3  4  8.2E-14
 76 :  -4.10E+01 5.64E-14 0.000 0.4943 0.9000 0.9000  -0.02  2  3  4.9E-14
 77 :  -4.10E+01 3.21E-14 0.000 0.5694 0.9000 0.9000   0.54  2  3  3.1E-14
 78 :  -4.10E+01 2.83E-14 0.000 0.8813 0.9000 0.9000   0.64  3  3  2.8E-14
 79 :  -4.10E+01 1.88E-14 0.000 0.6636 0.9000 0.9000  -0.11  3  4  2.5E-14
 80 :  -4.10E+01 1.28E-14 0.000 0.6827 0.9000 0.9000   0.48  2  3  1.8E-14
 81 :  -4.10E+01 1.02E-14 0.000 0.7971 0.9000 0.9000   0.32  3  3  1.7E-14
 82 :  -4.10E+01 5.50E-15 0.000 0.5385 0.9000 0.9000  -0.67  2  4  1.5E-14
 83 :  -4.10E+01 3.05E-15 0.000 0.5549 0.9000 0.9000   0.26  3  3  9.3E-15
 84 :  -4.10E+01 2.62E-15 0.000 0.8601 0.9000 0.9000   0.41  3  3  8.6E-15
 85 :  -4.10E+01 1.91E-15 0.000 0.7264 0.9000 0.9000  -0.53  4  4  8.8E-15
 86 :  -4.10E+01 1.39E-15 0.000 0.7286 0.9000 0.9000  -0.15  3  3  8.3E-15
 87 :  -4.10E+01 5.04E-16 0.000 0.3625 0.9000 0.9000  -0.94  3  4  9.2E-15
 88 :  -4.10E+01 1.71E-16 0.000 0.3387 0.9000 0.9000  -0.95  4  4  9.4E-15
 89 :  -4.10E+01 4.75E-17 0.000 0.2784 0.9000 0.9000  -0.99  4  4  9.7E-15
 90 :  -4.10E+01 1.86E-17 0.000 0.3909 0.9000 0.9000  -1.00  4  4  9.4E-15
 91 :  -4.10E+01 7.58E-18 0.000 0.4086 0.9000 0.9000  -1.00  4  4  9.9E-15
 92 :  -4.10E+01 3.34E-18 0.000 0.4398 0.9000 0.9000  -0.99  4  4  1.1E-14
 93 :  -4.10E+01 1.53E-18 0.000 0.4598 0.9000 0.9000  -0.99  4  3  9.7E-15
 94 :  -4.10E+01 1.11E-18 0.000 0.7214 0.9000 0.9000  -0.98  3  3  9.1E-15
 95 :  -4.10E+01 4.75E-19 0.000 0.4292 0.9000 0.9000  -0.97  3  2  9.5E-15
 96 :  -4.10E+01 2.26E-19 0.000 0.4754 0.9000 0.9000  -0.92  3  3  8.4E-15
 97 :  -4.10E+01 2.11E-19 0.000 0.9336 0.9000 0.9000  -0.84  3  3  8.2E-15
 98 :  -4.10E+01 1.03E-19 0.000 0.4899 0.9000 0.9000  -0.83  3  3  8.0E-15
 99 :  -4.10E+01 5.67E-20 0.000 0.5492 0.9000 0.9000  -0.73  3  3  7.6E-15
 100 :  -4.10E+01 4.28E-20 0.000 0.7558 0.9000 0.9000  -0.62  3  3  7.2E-15
 101 :  -4.10E+01 2.79E-20 0.000 0.6517 0.9000 0.9000  -0.90  3  3  8.1E-15
 102 :  -4.11E+01 8.89E-21 0.000 0.3183 0.9000 0.9000  -0.91  3  3  8.0E-15
 103 :  -4.11E+01 4.44E-21 0.000 0.4997 0.9000 0.9000  -0.94  3  3  8.3E-15
 104 :  -4.11E+01 2.64E-21 0.000 0.5944 0.9000 0.9000  -0.94  3  3  7.2E-15
Run into numerical problems.

iter seconds digits       c*x               b*y
104      2.3   2.3 -4.0878127573e+01 -4.1084435712e+01
|Ax-b| =   2.7e-12, [Ay-c]_+ =   3.7E-14, |x|=  1.6e+13, |y|=  6.2e+01
No sensible solution found.

Detailed timing (sec)
   Pre          IPM          Post
0.000E+00    4.990E-01    0.000E+00
Max-norms: ||b||=1.733013e+02, ||c|| = 5.256842e+01,
Cholesky |add|=0, |skip| = 0, ||L.L|| = 1441.53.

ans =

      yalmiptime: 0.0373
      solvertime: 0.5087
            info: 'Infeasible problem (SeDuMi-1.3)'
         problem: 1
    solveroutput: [1x1 struct]


ans =

   41.0741
```

```
Iteration   8   Total error is: 0.02615
The total representation error of the testing signals is: 0.25801
>>
```