process

November 25, 2024

```
[1]: from astropy.io import fits
    import numpy as np
    import pandas as pd
    fits_file = fits.open('atlas-cdfs.fits')
    print(fits_file)
    [<astropy.io.fits.hdu.image.PrimaryHDU object at 0x7cd77ef95780>]
    WARNING: VerifyWarning: Invalid 'BLANK' keyword in header. The 'BLANK' keyword
    is only applicable to integer data, and will be ignored in this HDU.
    [astropy.io.fits.hdu.image]
[2]: header = fits_file[0].header
    print(header)
    SIMPLE =
                                Τ
    BITPIX =
                              -32 /
    NAXIS
    NAXIS1 =
                             3937 /
    NAXIS2 =
                             3057 /
    NAXIS3 =
                                1 /
    NAXIS4 =
                                1
    EXTEND =
                                Т
    BSCALE =
                1.0000000000E+00
    BZERO
                0.000000000E+00
    BLANK
    TELESCOP= 'ATCA
    CDELT1 =
               -5.55555561268E-04 /
    CRPIX1 =
                2.9240000000E+03 /
    CRVAL1 =
                5.21524152154E+01 /
    CTYPE1 = 'RA---NCP' /
    CDELT2 =
                5.55555561268E-04 /
    CRPIX2 =
                4.8900000000E+02 /
    CRVAL2 =
               -2.86959714237E+01 /
    CTYPE2 = 'DEC--NCP' /
    CDELT3 =
                8.0000000000E+06 /
    CRPIX3 =
                1.0000000000E+00 /
    CRVAL3 =
                 1.36736571789E+09 /
    CTYPE3 = 'FREQ-LSR' /
```

```
CDELT4 =
           1.0000000000E+00 /
CRPIX4 =
          1.0000000000E+00 /
CRVAL4 = 1.0000000000E+00 /
CTYPE4 = 'STOKES ' /
DATE-OBS= '2004-07-12T20:07:49.7' /
CELLSCAL= 'CONSTANT' /
BMAJ
            3.02205863409E-03 /
BMIN
            1.27487222198E-03 /
PBTYPE = 'SINGLE ' /
LSTEP =
           1.0000000000E+00 /
LWIDTH =
           1.0000000000E+00 /
LSTART =
          1.0000000000E+00 /
LTYPE = 'channel ' /
BTYPE = 'intensity' /
VOBS
            2.37954807281E+01 /
OBSERVER= 'boyle ' /
OBJECT = 'cdf_1
NITERS =
                      160000 /
EPOCH = 2.0000000000E+03 /
BUNIT
       = 'JY/BEAM ' /
BPA
      = -5.51027916372E-02 /
DATAMIN = -2.07922165282E-03 /
DATAMAX =
          8.51866602898E-01 /
HISTORY ATLOD: Miriad AtLod: version 1.0 23-Oct-04
HISTORY ATLOD: Executed on: 05JAN04:12:00:58.0
HISTORY ATLOD: Command line inputs follow:
               in=/DATA/ATHENA_7/c1241/data/2004-01-*.c1241
HISTORY ATLOD:
HISTORY ATLOD:
               out=cdfs-jan
HISTORY ATLOD:
               options=birdie,xycorr,reweight
HISTORY ATLOD:
                Processing file
/DATA/ATHENA_7/c1241/data/2004-01-07_0421.c124HISTORY ATLOD: RPFITS file
version is unknown
                                              HISTORY ATLOD: Total number
of spectra selected: 6480
                                             HISTORY ATLOD:
                                                              Summary of
                                               HISTORY ATLOD:
                                                                Flagging
spectra flagged
Reason
                                                 HISTORY ATLOD:
                Fraction
_____
                                                          HISTORY ATLOD:
Antenna off-source/off-line 3.58%
                                                          HISTORY ATLOD:
_____
                                                          HISTORY ATLOD:
Processing file /DATA/ATHENA_7/c1241/data/2004-01-07_0431.c124HISTORY ATLOD:
RPFITS file version is unknown
                                                          HISTORY ATLOD:
Total number of spectra selected: 33480
                                                          HISTORY ATLOD:
Summary of spectra flagged
                                                          HISTORY ATLOD:
Flagging Reason
                                                          HISTORY ATLOD:
-----
                                                          HISTORY ATLOD:
Antenna off-source/off-line 9.56%
                                                          HISTORY ATLOD:
Antenna disabled
                          7.81%
                                                          HISTORY ATLOD:
Bad SYSCAL values
                          1.72%
                                                          HISTORY ATLOD:
                                                          HISTORY ATLOD:
```

```
Processing file /DATA/ATHENA_7/c1241/data/2004-01-07_0658.c124HISTORY ATLOD:
RPFITS file version is unknown
                                                      HISTORY ATLOD:
Total number of spectra selected: 37320
                                                      HISTORY ATLOD:
Summary of spectra flagged
                                                      HISTORY ATLOD:
Flagging Reason Fraction
                                                      HISTORY ATLOD:
_____
                                                      HISTORY ATLOD:
Antenna off-source/off-line 4.18%
                                                      HISTORY ATLOD:
Bad SYSCAL values 1.48%
                                                      HISTORY ATLOD:
_____
                                                      HISTORY ATLOD:
Processing file /DATA/ATHENA_7/c1241/data/2004-01-07_0752.c124HISTORY ATLOD:
RPFITS file version is unknown
                                                      HISTORY ATLOD:
Total number of spectra selected: 76560
                                                      HISTORY ATLOD:
Summary of spectra flagged
                                                      HISTORY ATLOD:
Flagging Reason
                       Fraction
                                                      HISTORY ATLOD:
_____
                       _____
                                                      HISTORY ATLOD:
Antenna off-source/off-line 7.11%
                                                      HISTORY ATLOD:
Bad SYSCAL values 0.13%
                                                      HISTORY ATLOD:
_____
                                                      HISTORY ATLOD:
Processing file /DATA/ATHENA_7/c1241/data/2004-01-07_0943.c124HISTORY ATLOD:
RPFITS file version is unknown
                                                      HISTORY ATLOD:
Total number of spectra selected: 76680
                                                      HISTORY ATLOD:
Summary of spectra flagged
                                                      HISTORY ATLOD:
Flagging Reason Fraction
                                                      HISTORY ATLOD:
_____
                                                      HISTORY ATLOD:
Antenna off-source/off-line 18.8%
                                                      HISTORY ATLOD:
Bad SYSCAL values
                                                      HISTORY ATLOD:
______
                                                      HISTORY ATLOD:
Processing file /DATA/ATHENA_7/c1241/data/2004-01-07_1133.c124HISTORY ATLOD:
RPFITS file version is unknown
                                                      HISTORY ATLOD:
Total number of spectra selected: 39840
                                                      HISTORY ATLOD:
Summary of spectra flagged
                                                      HISTORY ATLOD:
Flagging Reason Fraction
                                                      HISTORY ATLOD:
_____
                       -----
                                                      HISTORY ATLOD:
Antenna off-source/off-line 5.42%
                                                      HISTORY ATLOD:
Bad SYSCAL values 0.10%
                                                      HISTORY ATLOD:
_____
                                                      HISTORY ATLOD:
Processing file /DATA/ATHENA 7/c1241/data/2004-01-07 1234.c124HISTORY ATLOD:
RPFITS file version is unknown
                                                      HISTORY ATLOD:
Total number of spectra selected: 147480
                                                      HISTORY ATLOD:
Summary of spectra flagged
                                                      HISTORY ATLOD:
                Fraction
Flagging Reason
                                                      HISTORY ATLOD:
_____
                                                      HISTORY ATLOD:
Antenna off-source/off-line 2.28%
                                                      HISTORY ATLOD:
Bad SYSCAL values 0.40%
                                                      HISTORY ATLOD:
_____
                                                      HISTORY ATLOD:
Processing file /DATA/ATHENA_7/c1241/data/2004-01-08_0434.c124HISTORY ATLOD:
RPFITS file version is unknown
                                                      HISTORY ATLOD:
Total number of spectra selected: 117840
                                                      HISTORY ATLOD:
```

| Cummany of anastra flagged | | UTCTODV | ATT OD. |
|---|---|--|---|
| Summary of spectra flagged | Proposition | HISTORY | |
| Flagging Reason | | HISTORY | |
| | | HISTORY | |
| Antenna off-source/off-line | | HISTORY | |
| Bad SYSCAL values | | HISTORY | |
| | | HISTORY | |
| | A_7/c1241/data/2004-01-08_0722.c12 | | |
| RPFITS file version is unkn | | HISTORY | _ |
| Total number of spectra sel | ected: 105240 | HISTORY | |
| Summary of spectra flagged | | HISTORY | |
| Flagging Reason | Fraction | HISTORY | |
| | | HISTORY | _ |
| Antenna off-source/off-line | | HISTORY | ATLOD: |
| Bad SYSCAL values | 0.06% | HISTORY | ATLOD: |
| | | HISTORY | ATLOD: |
| Processing file /DATA/ATHEN | A_7/c1241/data/2004-01-08_0957.c12 | 4HISTORY | ATLOD: |
| RPFITS file version is unkn | own | HISTORY | ATLOD: |
| Total number of spectra sel | ected: 105000 | HISTORY | ATLOD: |
| Summary of spectra flagged | | HISTORY | ATLOD: |
| Flagging Reason | Fraction | HISTORY | ATLOD: |
| | | HISTORY | ATLOD: |
| Antenna off-source/off-line | 16.2% | HISTORY | ATLOD: |
| Bad SYSCAL values | 0.10% | HISTORY | ATLOD: |
| | | HISTORY | ATLOD: |
| Processing file /DATA/ATHEN | A_7/c1241/data/2004-01-08_1227.c12 | 4HISTORY | ATLOD: |
| RPFITS file version is unkn | | HISTORY | |
| Total number of spectra sel | ected: 164880 | HISTORY | |
| Summary of spectra flagged | | HISTORY | |
| Flagging Reason | Fraction | HISTORY | |
| | | HISTORY | |
| Antenna off-source/off-line | 2 69% | HISTORY | |
| | | | |
| Rad SYSCAL values | 0.21% | | ATI.OD: |
| Bad SYSCAL values | 0.21% | HISTORY | |
| | | HISTORY HISTORY | ATLOD: |
| Processing file /DATA/ATHEN | A_7/c1241/data/2004-01-12_0404.c12 | HISTORY HISTORY 4HISTORY | ATLOD: |
| Processing file /DATA/ATHEN | A_7/c1241/data/2004-01-12_0404.c12 own | HISTORY HISTORY 4HISTORY HISTORY | ATLOD: ATLOD: ATLOD: |
| Processing file /DATA/ATHEN RPFITS file version is unkn Total number of spectra sel | A_7/c1241/data/2004-01-12_0404.c12 own | HISTORY HISTORY 4HISTORY HISTORY HISTORY | ATLOD: ATLOD: ATLOD: ATLOD: |
| Processing file /DATA/ATHEN RPFITS file version is unkn Total number of spectra sel Summary of spectra flagged | A_7/c1241/data/2004-01-12_0404.c12 own ected: 110160 | HISTORY HISTORY 4HISTORY HISTORY HISTORY HISTORY | ATLOD: ATLOD: ATLOD: ATLOD: ATLOD: |
| Processing file /DATA/ATHEN RPFITS file version is unkn Total number of spectra sel Summary of spectra flagged Flagging Reason | A_7/c1241/data/2004-01-12_0404.c12 own ected: 110160 | HISTORY HISTORY 4HISTORY HISTORY HISTORY HISTORY HISTORY | ATLOD: ATLOD: ATLOD: ATLOD: ATLOD: ATLOD: |
| Processing file /DATA/ATHEN RPFITS file version is unkn Total number of spectra sel Summary of spectra flagged Flagging Reason | A_7/c1241/data/2004-01-12_0404.c12 own ected: 110160 Fraction | HISTORY HISTORY 4HISTORY HISTORY HISTORY HISTORY HISTORY HISTORY | ATLOD: ATLOD: ATLOD: ATLOD: ATLOD: ATLOD: ATLOD: ATLOD: |
| Processing file /DATA/ATHEN RPFITS file version is unkn Total number of spectra sel Summary of spectra flagged Flagging Reason Antenna off-source/off-line | A_7/c1241/data/2004-01-12_0404.c12 own ected: 110160 Fraction 6.50% | HISTORY HISTORY 4HISTORY HISTORY HISTORY HISTORY HISTORY HISTORY HISTORY HISTORY | ATLOD: ATLOD: ATLOD: ATLOD: ATLOD: ATLOD: ATLOD: ATLOD: ATLOD: |
| Processing file /DATA/ATHEN RPFITS file version is unkn Total number of spectra sel Summary of spectra flagged Flagging Reason Antenna off-source/off-line Bad SYSCAL values | A_7/c1241/data/2004-01-12_0404.c12 own ected: 110160 Fraction 6.50% 0.28% | HISTORY HISTORY 4HISTORY HISTORY HISTORY HISTORY HISTORY HISTORY HISTORY HISTORY | ATLOD: |
| Processing file /DATA/ATHEN RPFITS file version is unkn Total number of spectra sel Summary of spectra flagged Flagging Reason Antenna off-source/off-line Bad SYSCAL values | A_7/c1241/data/2004-01-12_0404.c12 own ected: 110160 Fraction 6.50% 0.28% | HISTORY HISTORY 4HISTORY HISTORY HISTORY HISTORY HISTORY HISTORY HISTORY HISTORY HISTORY HISTORY | ATLOD: |
| Processing file /DATA/ATHEN RPFITS file version is unkn Total number of spectra sel Summary of spectra flagged Flagging Reason Antenna off-source/off-line Bad SYSCAL values | | HISTORY HISTORY 4HISTORY HISTORY | ATLOD: |
| Processing file /DATA/ATHEN RPFITS file version is unkn Total number of spectra sel Summary of spectra flagged Flagging Reason Antenna off-source/off-line Bad SYSCAL values Processing file /DATA/ATHEN RPFITS file version is unkn | A_7/c1241/data/2004-01-12_0404.c12 own ected: 110160 Fraction 6.50% 0.28% A_7/c1241/data/2004-01-12_0642.c12 own | HISTORY HISTORY 4HISTORY HISTORY | ATLOD: |
| Processing file /DATA/ATHEN RPFITS file version is unkn Total number of spectra sel Summary of spectra flagged Flagging Reason Antenna off-source/off-line Bad SYSCAL values Processing file /DATA/ATHEN RPFITS file version is unkn Total number of spectra sel | A_7/c1241/data/2004-01-12_0404.c12 own ected: 110160 Fraction 6.50% 0.28% A_7/c1241/data/2004-01-12_0642.c12 own | HISTORY HISTORY 4HISTORY HISTORY | ATLOD: |
| Processing file /DATA/ATHEN RPFITS file version is unkn Total number of spectra sel Summary of spectra flagged Flagging Reason Antenna off-source/off-line Bad SYSCAL values Processing file /DATA/ATHEN RPFITS file version is unkn Total number of spectra sel Summary of spectra flagged | A_7/c1241/data/2004-01-12_0404.c12 own ected: 110160 Fraction 6.50% 0.28% A_7/c1241/data/2004-01-12_0642.c12 own ected: 102840 | HISTORY HISTORY 4HISTORY HISTORY | ATLOD: |
| Processing file /DATA/ATHEN RPFITS file version is unkn Total number of spectra sel Summary of spectra flagged Flagging Reason Antenna off-source/off-line Bad SYSCAL values Processing file /DATA/ATHEN RPFITS file version is unkn Total number of spectra sel | A_7/c1241/data/2004-01-12_0404.c12 own ected: 110160 Fraction 6.50% 0.28% A_7/c1241/data/2004-01-12_0642.c12 own ected: 102840 | HISTORY HISTORY 4HISTORY HISTORY | ATLOD: |

| Antenna off-source/off-line | 6.81% | HISTORY ATLOD: |
|--------------------------------|------------------------------|---|
| Bad SYSCAL values | 0.40% | HISTORY ATLOD: |
| | | HISTORY ATLOD: |
| Processing file /DATA/ATHENA | 1_7/c1241/data/2004-01-12_09 | 08.c124HISTORY ATLOD: |
| RPFITS file version is unknown | own | HISTORY ATLOD: |
| Total number of spectra sele | ected: 141480 | HISTORY ATLOD: |
| Summary of spectra flagged | | HISTORY ATLOD: |
| Flagging Reason F | raction | HISTORY ATLOD: |
| | | HISTORY ATLOD: |
| Antenna off-source/off-line | 15.8% | HISTORY ATLOD: |
| Bad SYSCAL values | | HISTORY ATLOD: |
| | | HISTORY ATLOD: |
| Processing file /DATA/ATHENA | 7/c1241/data/2004-01-12 12 | 29.c124HISTORY ATLOD: |
| RPFITS file version is unknown | | HISTORY ATLOD: |
| Total number of spectra sele | | HISTORY ATLOD: |
| Summary of spectra flagged | 20000 | HISTORY ATLOD: |
| Flagging Reason F | Fraction | HISTORY ATLOD: |
| | | HISTORY ATLOD: |
| Antenna off-source/off-line | 6 67% | HISTORY ATLOD: |
| Bad SYSCAL values | | HISTORY ATLOD: |
| | | HISTORY UVFLAG: |
| Executed on: 05JAN04:12:09:0 | 06.0 | HISTORY UVFLAG: |
| Command line inputs follow: | 70.0 | HISTORY UVFLAG: |
| vis=cdfs-jan | | HISTORY UVFLAG: |
| flagval=flag | | HISTORY UVFLAG: |
| select=window(2) | | HISTORY UVFLAG: |
| edge=2 | | HISTORY UVFLAG: |
| Overview of flagging on visi | hility file odfa-ion | HISTORY UVFLAG: |
| Changed flags set to FALSE (| • | HISTORY UVFLAG: |
| Total number of records sele | | |
| Antennas used: 1,2,3,4,5,6 | cted. 040004, Out 01 040004 | HISTORY UVFLAG: |
| Counts of correlations within | in gologted channels | HISTORY UVFLAG: |
| channel Originally Currer | | HISTORY UVFLAG: |
| Good: 7745088 5163 | • | |
| Bad: 663364 3245 | S | 581696 HISTORY UVFLAG: HISTORY UVFLAG: |
| Executed on: 05JAN04:12:11:4 | | HISTORY UVFLAG: |
| Command line inputs follow: | 10.0 | HISTORY UVFLAG: |
| - | | |
| vis=cdfs-jan flagval=flag | | HISTORY UVFLAG: |
| select=window(2) | | HISTORY UVFLAG: HISTORY UVFLAG: |
| | | |
| line=channel,2,7,1 | 1.11 | HISTORY UVFLAG: |
| Overview of flagging on visi | | HISTORY UVFLAG: |
| Changed flags set to FALSE (| | HISTORY UVFLAG: |
| Total number of records sele | ectea: 040804; out of 646804 | |
| Antennas used: 1,2,3,4,5,6 | | HISTORY UVFLAG: |
| Counts of correlations within | | HISTORY UVFLAG: |
| channel Originally Currer | · | HISTORY UVFLAG: |
| Good: 1290848 | 0 Changed to bad: 1 | 290848 HISTORY UVFLAG: |

| Bad: 2760 1293608 | HISTORY UVFLAG: |
|---|------------------|
| Executed on: 05JAN04:12:17:07.0 | HISTORY UVFLAG: |
| Command line inputs follow: | HISTORY UVFLAG: |
| vis=cdfs-jan | HISTORY UVFLAG: |
| flagval=flag | HISTORY UVFLAG: |
| select=@janflags | HISTORY UVFLAG: |
| Overview of flagging on visibility file cdfs-jan | HISTORY UVFLAG: |
| Changed flags set to FALSE (data flagged as bad) | HISTORY UVFLAG: |
| Total number of records selected: 960; out of 646804 records | HISTORY UVFLAG: |
| Antennas used: 1,2,3,4,5,6 | HISTORY UVFLAG: |
| Counts of correlations within selected channels | HISTORY UVFLAG: |
| channel Originally Currently | HISTORY UVFLAG: |
| Good: 18240 0 Changed to bad: 18240 | |
| Bad: 6720 24960 | HISTORY UVFLAG: |
| | |
| wide Originally Currently | HISTORY UVFLAG: |
| Good: 0 Changed to bad: 0 | |
| Bad: 0 0 | HISTORY UVSPLIT: |
| Miriad UvSplit: version 1.0 19-Sep-04 | HISTORY UVSPLIT: |
| Executed on: 05JAN04:12:22:24.0 | HISTORY UVSPLIT: |
| Command line inputs follow: | HISTORY UVSPLIT: |
| 1 | HISTORY UVSPLIT: |
| | HISTORY UVFLAG: |
| Executed on: 05JAN04:12:30:21.0 | HISTORY UVFLAG: |
| Command line inputs follow: | HISTORY UVFLAG: |
| vis=cdf.1344jan | HISTORY UVFLAG: |
| flagval=flag | HISTORY UVFLAG: |
| select=@jancdfflags | HISTORY UVFLAG: |
| Overview of flagging on visibility file cdf.1344jan | HISTORY UVFLAG: |
| Changed flags set to FALSE (data flagged as bad) | HISTORY UVFLAG: |
| Total number of records selected: 7288; out of 527612 records | HISTORY UVFLAG: |
| Antennas used: 1,2,3,4,5,6 | HISTORY UVFLAG: |
| Counts of correlations within selected channels | HISTORY UVFLAG: |
| channel Originally Currently | HISTORY UVFLAG: |
| Good: 94536 0 Changed to bad: 94536 | HISTORY UVFLAG: |
| Bad: 208 94744 | HISTORY UVFLAG: |
| wide Originally Currently | HISTORY UVFLAG: |
| Good: 0 0 Changed to bad: 0 | |
| Bad: 0 0 | HISTORY UVFLAG: |
| Executed on: 05JAN04:12:56:03.0 | HISTORY UVFLAG: |
| Command line inputs follow: | HISTORY UVFLAG: |
| vis=cdf.1344jan | HISTORY UVFLAG: |
| flagval=flag | HISTORY UVFLAG: |
| | |
| select=@cdf1.flag01 | HISTORY UVFLAG: |
| Overview of flagging on visibility file cdf.1344jan | HISTORY UVFLAG: |
| Changed flags set to FALSE (data flagged as bad) | HISTORY UVFLAG: |
| Total number of records selected: 88; out of 527612 records | HISTORY UVFLAG: |
| Antennas used: 4,5 | HISTORY UVFLAG: |
| Counts of correlations within selected channels | HISTORY UVFLAG: |

| Channel Originally Currently Currently HISTORY UVFLAG: | channal Omiminally Cummently | HICTORY INTELACT | | |
|--|---|----------------------|--|--|
| Bad: | | | | |
| wide Originally Currently HISTORY UVFLAG Good: 0 0 Changed to bad: 0 HISTORY UVFLAG Executed on: 05JAN04:13:03:04.0 HISTORY UVFLAG HISTORY UVFLAG Command line inputs follow: HISTORY UVFLAG HISTORY UVFLAG vis=cdf.1344jan HISTORY UVFLAG HISTORY UVFLAG flagval=flag HISTORY UVFLAG HISTORY UVFLAG cleate-@cdfla.flag01 HISTORY UVFLAG HISTORY UVFLAG Changed flags set to FALSE (data flaged as bad) HISTORY UVFLAG Counts of correlations within selected channels HISTORY UVFLAG Counts of correlations within selected channels HISTORY UVFLAG Channel Originally Currently HISTORY UVFLAG Good: 2652 O Changed to bad: 2652 HISTORY UVFLAG Bad: O 2652 HISTORY UVFLAG HISTORY UVFLAG Good: O 0 Changed to bad: HISTORY UVFLAG Bad: O 0 Changed to bad: HISTORY UVFLAG Good: O 0 Changed to bad: HISTORY UVAFLAG Wiriad Uvaflag: HISTORY UVAFLAG | | | | |
| Good: | | | | |
| Bad: | | | | |
| Executed on: 05JAN04:13:03:04.0 | _ | | | |
| Command line inputs follow: HISTORY UVFLAG: vis=cdf. 1344jan HISTORY UVFLAG: flagval=flag HISTORY UVFLAG: select=@cdf1a.flag01 HISTORY UVFLAG: Overview of flagging on visibility file cdf.1344jan HISTORY UVFLAG: Changed flags set to FALSE (data flagged as bad) HISTORY UVFLAG: Total number of records selected: 204; out of 527612 records HISTORY UVFLAG: Antennas used: 1,2,3,4,5,6 HISTORY UVFLAG: Counts of correlations within selected channels HISTORY UVFLAG: Ghannel Originally Currently HISTORY UVFLAG: Good: 2652 0 Changed to bad: 2652 HISTORY UVFLAG: Bad: 0 0 Changed to bad: 0 HISTORY UVFLAG: Good: 0 0 Changed to bad: 0 HISTORY UVFLAG: Bad: 0 0 Changed to bad: 0 HISTORY UVFLAG: Bad: 0 0 Changed to bad: 0 HISTORY UVFLAG: Bad: 0 0 Changed to bad: 0 HISTORY UVFLAG: | | | | |
| VIS=cdf.1344jan | | | | |
| ### HISTORY UVFLAG: select=@cdf1a.flagO1 | | | | |
| Select=@cdf1a.flag01 | | | | |
| Overview of flagging on visibility file cdf.1344jan | | | | |
| Changed flags set to FALSE (data flagged as bad) | | | | |
| Total number of records selected: 204; out of 527612 records | • | | | |
| Antennas used: 1,2,3,4,5,6 Counts of correlations within selected channels channel Originally Currently HISTORY UVFLAG: Good: 2652 0 Changed to bad: 2652 HISTORY UVFLAG: Bad: 0 2652 HISTORY UVFLAG: Wide Originally Currently HISTORY UVFLAG: Good: 0 0 Changed to bad: 0 HISTORY UVFLAG: Bad: 0 0 0 Wiriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:44:48.0 HISTORY UVAFLAG: Executed on: 05JAN04:13:44:48.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: Vis=cdf.1344jan.stokes HISTORY UVAFLAG: select=time(4:00,6:00) HISTORY UVAFLAG: Select=time(4:00,6:00) HISTORY UVAFLAG: Executed on: 05JAN04:13:47:01.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: Vis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: Wiriad Uvaflag: version 1.0 22-Oct-98 HISTORY UVAFLAG: HISTORY UVAFLAG: Wiriad Uvaflag: version 1.0 22-Oct-98 HISTORY UVAFLAG: Wiriad Uvaflag: version 1.0 22-Oct-98 HISTORY UVAFLAG: HISTORY UVAFLAG: Wis=cdf.1344jan.stokes HISTORY UVAFLAG: Wis=cdf.1344jan.stokes HISTORY UVAFLAG: Wis=cdf.1344jan.stokes HISTORY UVAFLAG: Wis=cdf.1344jan.stokes HISTORY UVAFLAG: Wis=cdf.1344jan HISTORY UVAFLAG: Wis=cdf.1344jan.stokes HISTORY UVAFLAG: | | | | |
| Counts of correlations within selected channels HISTORY UVFLAG: channel Originally Currently HISTORY UVFLAG: Good: 2652 0 Changed to bad: 2652 HISTORY UVFLAG: Bad: 0 2652 0 Changed to bad: 2652 HISTORY UVFLAG: wide Originally Currently HISTORY UVFLAG: Bad: 0 0 HISTORY UVFLAG: Bad: 0 0 HISTORY UVAFLAG: Bad: 0 0 HISTORY UVAFLAG: Executed on: O5JANO4:13:44:48.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: WIS=cdf.1344jan.stokes HISTORY UVAFLAG: WIS=cdf.1344jan HISTORY UVAFLAG: WIS=cdf.1344jan HISTORY UVAFLAG: WIS=cdf.1344jan WISTORY UVAFLAG: WIS=cdf.1344jan WISTORY UVAFLAG: WISTORY UVAFLAG: WIS=cdf.1344jan WISTORY UVAFLAG: WISTORY UVAF | | | | |
| Channel Originally Currently | | | | |
| Good: 2652 0 Changed to bad: 2652 HISTORY UVFLAG: Bad: 0 2652 HISTORY UVFLAG: wide Originally Currently HISTORY UVFLAG: Good: 0 0 Changed to bad: 0 HISTORY UVFLAG: Bad: 0 0 HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:44:48.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:47:01.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: Executed on: 05JAN04:13:49:36.0 HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: vis=cd | | | | |
| Bad: 0 2652 HISTORY UVFLAG: wide Originally Currently HISTORY UVFLAG: Good: 0 0 Changed to bad: 0 HISTORY UVFLAG: Bad: 0 0 0 Changed to bad: 0 HISTORY UVFLAG: Bad: 0 0 0 HISTORY UVAFLAG: Bad: 0 0 HISTORY UVAFLAG: Bad: 0 HISTORY UVAFLAG: Executed on: 05JAN04:13:44:48.0 HISTORY UVAFLAG: Executed on: 05JAN04:13:44:48.0 HISTORY UVAFLAG: U | | | | |
| wide Originally Currently HISTORY UVFLAG: Good: 0 0 Changed to bad: 0 HISTORY UVFLAG: Bad: 0 0 HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:44:48.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: select=time(4:00,6:00) HISTORY UVAFLAG: Miriad Uvaflag: Version 1.0 22-0ct-98 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: wiriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan | Good: 2652 0 Changed to bad: | 2652 HISTORY UVFLAG: | | |
| Good: 0 0 Changed to bad: 0 HISTORY UVFLAG: Bad: 0 0 HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-Oct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:44:48.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: options=nopol HISTORY UVAFLAG: select=time(4:00,6:00) HISTORY UVAFLAG: Miriad Uvaflag: Version 1.0 22-Oct-98 Executed on: 05JAN04:13:47:01.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: wiriad Uvaflag: Version 1.0 22-Oct-98 HISTORY UVAFLAG: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: vis=cdf.1344jan | Bad: 0 2652 | HISTORY UVFLAG: | | |
| Bad: 0 0 HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:44:48.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: options=nopol HISTORY UVAFLAG: select=time(4:00,6:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:47:01.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: Executed on: 05JAN04:13:49:36.0 HISTORY UVAFLAG: Executed on: 05JAN04:13:49:36.0 HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: select=time(8:00,10:00) HISTORY UVAFLAG: wis=cdf.1344jan HISTORY UVAFLAG: command line inputs follow: HISTORY UVAFLAG: KI | wide Originally Currently | HISTORY UVFLAG: | | |
| Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:44:48.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: options=nopol HISTORY UVAFLAG: select=time(4:00,6:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:47:01.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: select=time(6:00,8:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:49:36.0 HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: wis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: Keecuted on | Good: 0 Changed to bad: | O HISTORY UVFLAG: | | |
| Executed on: 05JAN04:13:44:48.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes vis=cdf.1344jan HISTORY UVAFLAG: options=nopol HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:47:01.0 HISTORY UVAFLAG: command line inputs follow: HISTORY UVAFLAG: vis=cdf.1344jan.stokes vis=cdf.1344jan HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: options=nopol HISTORY UVAFLAG: select=time(6:00,8:00) HISTORY UVAFLAG: Executed on: 05JAN04:13:49:36.0 HISTORY UVAFLAG: Executed on: 05JAN04:13:49:36.0 HISTORY UVAFLAG: vis=cdf.1344jan.stokes Vis=cdf.1344jan.stokes HISTORY UVAFLAG: executed on: 05JAN04:13:49:36.0 HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: hISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: hISTORY UVAFLAG: hISTORY UVAFLAG: command line inputs follow: HISTORY UVAFLAG: HISTORY UVAFLAG: hISTORY UVAFLAG: Executed on: 05JAN04:13:51:59.0 HISTORY UVAFLAG: tvis=cdf.1344jan.stokes | Bad: 0 0 | HISTORY UVAFLAG: | | |
| Command line inputs follow: tvis=cdf.1344jan.stokes vis=cdf.1344jan ptions=nopol select=time(4:00,6:00) Miriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:47:01.0 Command line inputs follow: tvis=cdf.1344jan ptions=nopol HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:47:01.0 HISTORY UVAFLAG: Executed on: 05JAN04:13:47:01.0 HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: ptions=nopol HISTORY UVAFLAG: Select=time(6:00,8:00) Miriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:49:36.0 HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: ptions=nopol HISTORY UVAFLAG: | Miriad Uvaflag: version 1.0 22-Oct-98 | HISTORY UVAFLAG: | | |
| tvis=cdf.1344jan.stokes vis=cdf.1344jan HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: options=nopol HISTORY UVAFLAG: select=time(4:00,6:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:47:01.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: options=nopol HISTORY UVAFLAG: select=time(6:00,8:00) HISTORY UVAFLAG: Executed on: 05JAN04:13:49:36.0 HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: hISTORY UVAFLAG: command line inputs follow: HISTORY UVAFLAG: HISTORY UVAFLAG: HISTORY UVAFLAG: hISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: | Executed on: 05JAN04:13:44:48.0 | HISTORY UVAFLAG: | | |
| vis=cdf.1344jan HISTORY UVAFLAG: options=nopol HISTORY UVAFLAG: select=time(4:00,6:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:47:01.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: options=nopol HISTORY UVAFLAG: select=time(6:00,8:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:49:36.0 HISTORY UVAFLAG: command line inputs follow: HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: options=nopol HISTORY UVAFLAG: select=time(8:00,10:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:51:59.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: | Command line inputs follow: | HISTORY UVAFLAG: | | |
| options=nopol HISTORY UVAFLAG: select=time(4:00,6:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:47:01.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: options=nopol HISTORY UVAFLAG: select=time(6:00,8:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:49:36.0 HISTORY UVAFLAG: command line inputs follow: HISTORY UVAFLAG: vis=cdf.1344jan.stokes HISTORY UVAFLAG: options=nopol HISTORY UVAFLAG: select=time(8:00,10:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:51:59.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: | tvis=cdf.1344jan.stokes | HISTORY UVAFLAG: | | |
| select=time(4:00,6:00)HISTORY UVAFLAG:Miriad Uvaflag: version 1.0 22-Oct-98HISTORY UVAFLAG:Executed on: 05JAN04:13:47:01.0HISTORY UVAFLAG:Command line inputs follow:HISTORY UVAFLAG:tvis=cdf.1344jan.stokesHISTORY UVAFLAG:options=nopolHISTORY UVAFLAG:select=time(6:00,8:00)HISTORY UVAFLAG:Miriad Uvaflag: version 1.0 22-Oct-98HISTORY UVAFLAG:Executed on: 05JAN04:13:49:36.0HISTORY UVAFLAG:command line inputs follow:HISTORY UVAFLAG:tvis=cdf.1344jan.stokesHISTORY UVAFLAG:vis=cdf.1344janHISTORY UVAFLAG:options=nopolHISTORY UVAFLAG:select=time(8:00,10:00)HISTORY UVAFLAG:Miriad Uvaflag: version 1.0 22-Oct-98HISTORY UVAFLAG:Executed on: 05JAN04:13:51:59.0HISTORY UVAFLAG:Command line inputs follow:HISTORY UVAFLAG:tvis=cdf.1344jan.stokesHISTORY UVAFLAG: | vis=cdf.1344jan | HISTORY UVAFLAG: | | |
| Miriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:47:01.0 Command line inputs follow: tvis=cdf.1344jan.stokes vis=cdf.1344jan options=nopol Miriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:49:36.0 Command line inputs follow: tvis=cdf.1344jan MISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:49:36.0 Command line inputs follow: tvis=cdf.1344jan.stokes Wis=cdf.1344jan Options=nopol select=time(8:00,10:00) Miriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:51:59.0 Miriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:51:59.0 Miriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:51:59.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: | options=nopol | HISTORY UVAFLAG: | | |
| Executed on: 05JAN04:13:47:01.0 Command line inputs follow: tvis=cdf.1344jan.stokes vis=cdf.1344jan options=nopol select=time(6:00,8:00) Miriad Uvaflag: version 1.0 22-0ct-98 Executed on: 05JAN04:13:49:36.0 Command line inputs follow: tvis=cdf.1344jan options=nopol Miriad Uvaflag: version 1.0 22-0ct-98 Executed on: 05JAN04:13:49:36.0 Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan options=nopol select=time(8:00,10:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-0ct-98 Executed on: 05JAN04:13:51:59.0 HISTORY UVAFLAG: Executed on: 05JAN04:13:51:59.0 HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: TVIS=cdf.1344jan.stokes HISTORY UVAFLAG: HISTORY UVAFLAG: | select=time(4:00,6:00) | HISTORY UVAFLAG: | | |
| Command line inputs follow: tvis=cdf.1344jan.stokes vis=cdf.1344jan options=nopol select=time(6:00,8:00) Miriad Uvaflag: version 1.0 22-0ct-98 Executed on: 05JAN04:13:49:36.0 Command line inputs follow: tvis=cdf.1344jan.stokes vis=cdf.1344jan options=nopol select=time(8:00,10:00) HISTORY UVAFLAG: HISTORY UVAFLAG: HISTORY UVAFLAG: tvis=cdf.1344jan HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: belect=time(8:00,10:00) HISTORY UVAFLAG: Executed on: 05JAN04:13:51:59.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: | Miriad Uvaflag: version 1.0 22-Oct-98 | HISTORY UVAFLAG: | | |
| tvis=cdf.1344jan.stokes vis=cdf.1344jan options=nopol select=time(6:00,8:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:49:36.0 Command line inputs follow: tvis=cdf.1344jan.stokes vis=cdf.1344jan options=nopol select=time(8:00,10:00) HISTORY UVAFLAG: wis=cdf.1344jan HISTORY UVAFLAG: select=time(8:00,10:00) HISTORY UVAFLAG: bis=cdf.1344jan HISTORY UVAFLAG: select=time(8:00,10:00) HISTORY UVAFLAG: Executed on: 05JAN04:13:51:59.0 Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: HISTORY UVAFLAG: HISTORY UVAFLAG: HISTORY UVAFLAG: HISTORY UVAFLAG: HISTORY UVAFLAG: | Executed on: 05JAN04:13:47:01.0 | HISTORY UVAFLAG: | | |
| vis=cdf.1344janHISTORY UVAFLAG:options=nopolHISTORY UVAFLAG:select=time(6:00,8:00)HISTORY UVAFLAG:Miriad Uvaflag: version 1.0 22-0ct-98HISTORY UVAFLAG:Executed on: 05JAN04:13:49:36.0HISTORY UVAFLAG:Command line inputs follow:HISTORY UVAFLAG:tvis=cdf.1344jan.stokesHISTORY UVAFLAG:vis=cdf.1344janHISTORY UVAFLAG:options=nopolHISTORY UVAFLAG:select=time(8:00,10:00)HISTORY UVAFLAG:Miriad Uvaflag: version 1.0 22-0ct-98HISTORY UVAFLAG:Executed on: 05JAN04:13:51:59.0HISTORY UVAFLAG:Command line inputs follow:HISTORY UVAFLAG:tvis=cdf.1344jan.stokesHISTORY UVAFLAG: | Command line inputs follow: | HISTORY UVAFLAG: | | |
| options=nopol HISTORY UVAFLAG: select=time(6:00,8:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-Oct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:49:36.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: options=nopol HISTORY UVAFLAG: select=time(8:00,10:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-Oct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:51:59.0 HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: | tvis=cdf.1344jan.stokes | HISTORY UVAFLAG: | | |
| options=nopol HISTORY UVAFLAG: select=time(6:00,8:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-Oct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:49:36.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: options=nopol HISTORY UVAFLAG: select=time(8:00,10:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-Oct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:51:59.0 HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: | vis=cdf.1344jan | HISTORY UVAFLAG: | | |
| select=time(6:00,8:00)HISTORY UVAFLAG:Miriad Uvaflag: version 1.0 22-Oct-98HISTORY UVAFLAG:Executed on: 05JAN04:13:49:36.0HISTORY UVAFLAG:Command line inputs follow:HISTORY UVAFLAG:tvis=cdf.1344jan.stokesHISTORY UVAFLAG:vis=cdf.1344janHISTORY UVAFLAG:options=nopolHISTORY UVAFLAG:select=time(8:00,10:00)HISTORY UVAFLAG:Miriad Uvaflag: version 1.0 22-Oct-98HISTORY UVAFLAG:Executed on: 05JAN04:13:51:59.0HISTORY UVAFLAG:Command line inputs follow:HISTORY UVAFLAG:tvis=cdf.1344jan.stokesHISTORY UVAFLAG: | | HISTORY UVAFLAG: | | |
| Executed on: 05JAN04:13:49:36.0 Command line inputs follow: tvis=cdf.1344jan.stokes vis=cdf.1344jan HISTORY UVAFLAG: vis=cdf.1344jan HISTORY UVAFLAG: options=nopol HISTORY UVAFLAG: select=time(8:00,10:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:51:59.0 HISTORY UVAFLAG: Command line inputs follow: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: | | HISTORY UVAFLAG: | | |
| Command line inputs follow: tvis=cdf.1344jan.stokes vis=cdf.1344jan options=nopol select=time(8:00,10:00) Miriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:51:59.0 Command line inputs follow: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: HISTORY UVAFLAG: HISTORY UVAFLAG: HISTORY UVAFLAG: HISTORY UVAFLAG: HISTORY UVAFLAG: | Miriad Uvaflag: version 1.0 22-Oct-98 | HISTORY UVAFLAG: | | |
| tvis=cdf.1344jan.stokes vis=cdf.1344jan HISTORY UVAFLAG: options=nopol select=time(8:00,10:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:51:59.0 Command line inputs follow: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: HISTORY UVAFLAG: HISTORY UVAFLAG: | Executed on: 05JAN04:13:49:36.0 | HISTORY UVAFLAG: | | |
| vis=cdf.1344janHISTORY UVAFLAG:options=nopolHISTORY UVAFLAG:select=time(8:00,10:00)HISTORY UVAFLAG:Miriad Uvaflag: version 1.0 22-Oct-98HISTORY UVAFLAG:Executed on: 05JAN04:13:51:59.0HISTORY UVAFLAG:Command line inputs follow:HISTORY UVAFLAG:tvis=cdf.1344jan.stokesHISTORY UVAFLAG: | Command line inputs follow: | HISTORY UVAFLAG: | | |
| options=nopol HISTORY UVAFLAG: select=time(8:00,10:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-Oct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:51:59.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: | tvis=cdf.1344jan.stokes | HISTORY UVAFLAG: | | |
| options=nopol HISTORY UVAFLAG: select=time(8:00,10:00) HISTORY UVAFLAG: Miriad Uvaflag: version 1.0 22-Oct-98 HISTORY UVAFLAG: Executed on: 05JAN04:13:51:59.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: | - | HISTORY UVAFLAG: | | |
| select=time(8:00,10:00)HISTORY UVAFLAG:Miriad Uvaflag: version 1.0 22-Oct-98HISTORY UVAFLAG:Executed on: 05JAN04:13:51:59.0HISTORY UVAFLAG:Command line inputs follow:HISTORY UVAFLAG:tvis=cdf.1344jan.stokesHISTORY UVAFLAG: | • | HISTORY UVAFLAG: | | |
| Miriad Uvaflag: version 1.0 22-Oct-98 Executed on: 05JAN04:13:51:59.0 Command line inputs follow: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: HISTORY UVAFLAG: | | HISTORY UVAFLAG: | | |
| Executed on: 05JAN04:13:51:59.0 HISTORY UVAFLAG: Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: | | HISTORY UVAFLAG: | | |
| Command line inputs follow: HISTORY UVAFLAG: tvis=cdf.1344jan.stokes HISTORY UVAFLAG: | | | | |
| tvis=cdf.1344jan.stokes HISTORY UVAFLAG: | | | | |
| • | - | | | |
| | • | HISTORY UVAFLAG: | | |

| options=nopol | HISTORY UVAFLAG: |
|---|------------------|
| select=time(10:00,12:00) | HISTORY UVAFLAG: |
| Miriad Uvaflag: version 1.0 22-Oct-98 | HISTORY UVAFLAG: |
| Executed on: 05JAN04:13:54:22.0 | HISTORY UVAFLAG: |
| Command line inputs follow: | HISTORY UVAFLAG: |
| tvis=cdf.1344jan.stokes | HISTORY UVAFLAG: |
| vis=cdf.1344jan | HISTORY UVAFLAG: |
| options=nopol | HISTORY UVAFLAG: |
| select=time(12:00,14:00) | HISTORY UVAFLAG: |
| Miriad Uvaflag: version 1.0 22-Oct-98 | HISTORY UVAFLAG: |
| Executed on: 05JAN04:13:56:40.0 | HISTORY UVAFLAG: |
| Command line inputs follow: | HISTORY UVAFLAG: |
| tvis=cdf.1344jan.stokes | HISTORY UVAFLAG: |
| vis=cdf.1344jan | HISTORY UVAFLAG: |
| options=nopol | HISTORY UVAFLAG: |
| select=time(14:00,16:00) | HISTORY UVAFLAG: |
| Miriad Uvaflag: version 1.0 22-Oct-98 | HISTORY UVAFLAG: |
| Executed on: 05JAN04:13:58:50.0 | HISTORY UVAFLAG: |
| Command line inputs follow: | HISTORY UVAFLAG: |
| tvis=cdf.1344jan.stokes | HISTORY UVAFLAG: |
| vis=cdf.1344jan | HISTORY UVAFLAG: |
| options=nopol | HISTORY UVAFLAG: |
| select=time(16:00,18:00) | HISTORY GPCOPY: |
| Miriad GpCopy: version 19-Sep-04 | HISTORY GPCOPY: |
| Executed on: 05JAN04:14:06:42.0 | HISTORY GPCOPY: |
| Command line inputs follow: | HISTORY GPCOPY: |
| vis=0237-233.1344jan | HISTORY GPCOPY: |
| out=cdf.1344jan | HISTORY GPAVER: |
| Miriad GpAver: version 1.0 20-oct-99 | HISTORY GPAVER: |
| Executed on: 05JAN04:14:06:42.0 | HISTORY GPAVER: |
| Command line inputs follow: | HISTORY GPAVER: |
| vis=cdf.1344jan | HISTORY GPAVER: |
| interval=10 | HISTORY GPAVER: |
| options=scalar | HISTORY UVAVER: |
| Miriad UvAver: version 1.0 19-Sep-04 | HISTORY UVAVER: |
| Executed on: 05JAN04:14:06:43.0 | HISTORY UVAVER: |
| Command line inputs follow: | HISTORY UVAVER: |
| vis=cdf.1*jan,cdf.1*feb,cdf.1*jun,cdf.1*nov | HISTORY UVAVER: |
| out=cdf.uvcal.c1241 | HISTORY UVAVER: |
| | |
| stokes=i,q,u,v | HISTORY UVSPLIT: |
| Miriad UvSplit: version 1.0 19-Sep-04 | HISTORY UVSPLIT: |
| Executed on: 05JAN04:14:18:02.0 | HISTORY UVSPLIT: |
| Command line inputs follow: | HISTORY UVSPLIT: |
| vis=cdf.uvcal.c1241 | HISTORY SELFCAL: |
| Miriad Selfcal: version 1.0 14-Dec-99 | HISTORY SELFCAL: |
| Executed on: 05JAN04:14:33:32.0 | HISTORY SELFCAL: |
| Command line inputs follow: | HISTORY SELFCAL: |
| vis=cdf_1.1344 | HISTORY SELFCAL: |

| | HIGTODY CELECAL. |
|---|------------------|
| model=cdf_1.cln.1 | HISTORY SELFCAL: |
| refant=3 | HISTORY SELFCAL: |
| options=mfs | HISTORY SELFCAL: |
| interval=5 | HISTORY SELFCAL: |
| clip=.003 | HISTORY SELFCAL: |
| Total number of correlations being used: 534677 | HISTORY SELFCAL: |
| Total number of solution intervals: 613 | HISTORY SELFCAL: |
| Rms of the gain phases (degrees): 7.1 | HISTORY SELFCAL: |
| Rms deviation of gain from 1: 5.603E-08 | HISTORY SELFCAL: |
| Ratio of Actual to Theoretical noise: 2.75 | HISTORY SELFCAL: |
| Miriad Selfcal: version 1.0 14-Dec-99 | HISTORY SELFCAL: |
| Executed on: 05JAN04:14:38:03.0 | HISTORY SELFCAL: |
| Command line inputs follow: | HISTORY SELFCAL: |
| vis=cdf_1.1344 | HISTORY SELFCAL: |
| model=cdf_1.cln.2 | HISTORY SELFCAL: |
| refant=3 | HISTORY SELFCAL: |
| options=amp,mfs | HISTORY SELFCAL: |
| interval=5 | HISTORY SELFCAL: |
| clip=.001 | HISTORY SELFCAL: |
| Total number of correlations being used: 534677 | HISTORY SELFCAL: |
| Total number of solution intervals: 613 | HISTORY SELFCAL: |
| Rms of the gain phases (degrees): 7.2 | HISTORY SELFCAL: |
| Rms deviation of gain from 1: 6.951E-03 | HISTORY SELFCAL: |
| Ratio of Actual to Theoretical noise: 1.65 | HISTORY SELFCAL: |
| Miriad Selfcal: version 1.0 14-Dec-99 | HISTORY SELFCAL: |
| Executed on: 05JAN04:14:43:25.0 | HISTORY SELFCAL: |
| Command line inputs follow: | HISTORY SELFCAL: |
| vis=cdf_1.1344 | HISTORY SELFCAL: |
| model=cdf_1.cln.3 | HISTORY SELFCAL: |
| refant=3 | HISTORY SELFCAL: |
| options=amp,mfs | HISTORY SELFCAL: |
| interval=5 | HISTORY SELFCAL: |
| clip=.0005 | HISTORY SELFCAL: |
| 1 | HISTORY SELFCAL: |
| Total number of correlations being used: 534677 Total number of solution intervals: 613 | HISTORY SELFCAL: |
| | |
| Rms of the gain phases (degrees): 7.2 | HISTORY SELFCAL: |
| Rms deviation of gain from 1: 6.646E-03 | HISTORY SELFCAL: |
| Ratio of Actual to Theoretical noise: 1.60 | HISTORY SELFCAL: |
| Miriad Selfcal: version 1.0 14-Dec-99 | HISTORY SELFCAL: |
| Executed on: 05JAN04:14:55:12.0 | HISTORY SELFCAL: |
| Command line inputs follow: | HISTORY SELFCAL: |
| vis=cdf_1.1344 | HISTORY SELFCAL: |
| model=cdf_1.cln.4 | HISTORY SELFCAL: |
| refant=3 | HISTORY SELFCAL: |
| options=amp,mfs | HISTORY SELFCAL: |
| interval=5 | HISTORY SELFCAL: |
| clip=.0002 | HISTORY SELFCAL: |
| Total number of correlations being used: 534677 | HISTORY SELFCAL: |
| | |

Total number of solution intervals: 613 HISTORY SELFCAL: HISTORY SELFCAL: Rms of the gain phases (degrees): Rms deviation of gain from 1: 8.766E-03 HISTORY SELFCAL: HISTORY PUTHD: Ratio of Actual to Theoretical noise: 1.56 Miriad PutHd: Version 1.0 11-Jan-96 HISTORY PUTHD: Executed on: 05JAN04:15:11:56.0 HISTORY PUTHD: Command line inputs follow: HISTORY PUTHD: in=cdf 1.1344/interval HISTORY PUTHD: value=0.05 HISTORY PUTHD: Miriad PutHd: Version 1.0 11-Jan-96 HISTORY PUTHD: Executed on: 05JAN05:13:52:28.0 HISTORY PUTHD: Command line inputs follow: HISTORY PUTHD: in=cdf_1.1344/interval HISTORY PUTHD: value=0.05 HISTORY PUTHD: Miriad PutHd: Version 1.0 11-Jan-96 HISTORY PUTHD: Executed on: 05JAN05:13:57:28.0 HISTORY PUTHD: Command line inputs follow: HISTORY PUTHD: in=cdf_1.1344/interval HISTORY PUTHD: HISTORY PUTHD: value=0.05 Miriad PutHd: Version 1.0 11-Jan-96 HISTORY PUTHD: Executed on: 05JAN09:12:45:36.0 HISTORY PUTHD: Command line inputs follow: HISTORY PUTHD: in=cdf 1.1344/interval HISTORY PUTHD: value=0.05 HISTORY PUTHD: Miriad PutHd: Version 1.0 11-Jan-96 HISTORY PUTHD: Executed on: 05JAN10:10:11:29.0 HISTORY PUTHD: Command line inputs follow: **HISTORY PUTHD:** in=cdf_1.1344/interval HISTORY PUTHD: value=0.05 HISTORY PUTHD: Miriad PutHd: Version 1.0 11-Jan-96 HISTORY PUTHD: Executed on: 05JAN17:08:30:23.0 HISTORY PUTHD: Command line inputs follow: HISTORY PUTHD: in=cdf_1.1344/interval HISTORY PUTHD: value=0.05 HISTORY PUTHD: Miriad PutHd: Version 1.0 11-Jan-96 HISTORY PUTHD: Executed on: 05JAN17:09:44:03.0 HISTORY PUTHD: Command line inputs follow: HISTORY PUTHD: in=cdf 1.1344/interval HISTORY PUTHD: value=0.05 HISTORY PUTHD: Miriad PutHd: Version 1.0 11-Jan-96 HISTORY PUTHD: Executed on: 05JAN17:15:35:34.0 HISTORY PUTHD: HISTORY PUTHD: Command line inputs follow: in=cdf_1.1344/interval HISTORY PUTHD: value=0.05 HISTORY PUTHD: Miriad PutHd: Version 1.0 11-Jan-96 HISTORY PUTHD: Executed on: 05JAN17:16:15:11.0 HISTORY PUTHD: Command line inputs follow: HISTORY PUTHD: in=cdf_1.1344/interval HISTORY PUTHD:

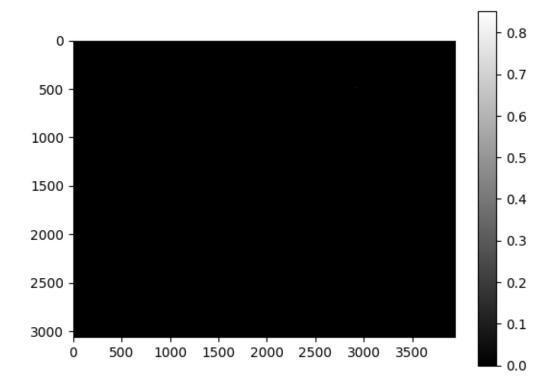
| value=0.05 | HISTORY PUTHD: |
|--|-----------------|
| Miriad PutHd: Version 1.0 11-Jan-96 | HISTORY PUTHD: |
| Executed on: 05JAN17:17:00:11.0 | HISTORY PUTHD: |
| Command line inputs follow: | HISTORY PUTHD: |
| in=cdf_1.1344/interval | HISTORY PUTHD: |
| value=0.05 | HISTORY PUTHD: |
| Miriad PutHd: Version 1.0 11-Jan-96 | HISTORY PUTHD: |
| Executed on: 05JAN18:11:35:27.0 | HISTORY PUTHD: |
| Command line inputs follow: | HISTORY PUTHD: |
| in=cdf_1.1344/interval | HISTORY PUTHD: |
| value=0.05 | HISTORY PUTHD: |
| Miriad PutHd: Version 1.0 11-Jan-96 | HISTORY PUTHD: |
| Executed on: 05JAN18:11:39:30.0 | HISTORY PUTHD: |
| Command line inputs follow: | HISTORY PUTHD: |
| in=cdf_1.1344/interval | HISTORY PUTHD: |
| value=0.05 | HISTORY PUTHD: |
| Miriad PutHd: Version 1.0 11-Jan-96 | HISTORY PUTHD: |
| Executed on: 05JAN19:11:20:45.0 | HISTORY PUTHD: |
| Command line inputs follow: | HISTORY PUTHD: |
| in=cdf_1.1344/interval | HISTORY PUTHD: |
| value=0.05 | HISTORY INVERT: |
| Miriad Invert: version 1.0 1-Jul-99 | HISTORY INVERT: |
| Executed on: 05JAN19:11:21:28.0 | HISTORY INVERT: |
| Command line inputs follow: | HISTORY INVERT: |
| vis=cdf_1.1344,cdf_1.1432 | HISTORY INVERT: |
| map=cdf_1.map | HISTORY INVERT: |
| beam=cdf_1.beam | HISTORY INVERT: |
| stokes=ii | HISTORY INVERT: |
| options=mfs,mosaic,double, | HISTORY INVERT: |
| imsize=2049 | HISTORY INVERT: |
| cell=2.0 | HISTORY INVERT: |
| sup=2400 | HISTORY INVERT: |
| offset=03:28:36.58,-28:41:45.5 | HISTORY CLEAN: |
| Miriad Clean: version 1.0 24-Jun-97 | HISTORY CLEAN: |
| Executed on: 05JAN19:11:41:58.0 | HISTORY CLEAN: |
| Command line inputs follow: | HISTORY CLEAN: |
| map=cdf_1.map | HISTORY CLEAN: |
| beam=cdf_1.beam | HISTORY CLEAN: |
| out=cdf_1.cln | HISTORY CLEAN: |
| mode=any | HISTORY CLEAN: |
| niters=160000 | HISTORY CLEAN: |
| cutoff=0.00001 | HISTORY CLEAN: |
| Bounding region is Blc=(1,1,1),Trc=(2048,2048,1) | HISTORY CLEAN: |
| Steer Clip Level = 0.941 | HISTORY CLEAN: |
| Minpatch = 51 | HISTORY CLEAN: |
| Total Iterations = 160000 | HISTORY RESTOR: |
| Miriad Restor: version 1.2 25-Feb-98 | HISTORY RESTOR: |
| Executed on: 05JAN19:11:42:30.0 | HISTORY RESTOR: |
| | |

```
HISTORY RESTOR:
   map=cdf_1.map
   beam=cdf_1.beam
                                                          HISTORY RESTOR:
   model=cdf_1.cln
                                                          HISTORY RESTOR:
   out=cdf 1.rstor
                                                          HISTORY RESTOR:
   Beam = 1.088E+01 \times 4.590E+00 \text{ arcsec}, pa = -5.510E-02 \text{ degrees} HISTORY LINMOS:
   Miriad Linmos: version 1.0 25-Aug-97
                                                           HISTORY LINMOS:
   Executed on: 05JAN20:03:15:51.0
                                                           HISTORY LINMOS:
   Command line inputs follow:
                                                           HISTORY LINMOS:
   in=cdf*.rstor
                                                          HISTORY LINMOS:
   out=cdf-ii.mos
                                                          HISTORY IMSUB:
   Miriad Imsub: version 1.0 12-Oct-99
                                                            HISTORY IMSUB:
   Executed on: 05JAN24:12:57:34.0
                                                            HISTORY IMSUB:
   Command line inputs follow:
                                                            HISTORY IMSUB:
                                                           HISTORY IMSUB:
   in=final
   out=final.subim
                                                           HISTORY IMSUB:
   region=boxes(512,512,4448,3568)
                                                           HISTORY FITS:
   Miriad fits: Fits: version 1.1 09-Feb-07
                                                             HISTORY FITS:
   Executed on: 07MAR05:22:15:04.0
                                                             HISTORY FITS:
   Command line inputs follow:
                                                             HISTORY FITS:
   in=final.subim
                                                          HISTORY FITS:
   op="xyout"
                                                           HISTORY FITS:
   out=atlas-cdfs.fits
                                                          HISTORY FITS:
   NOTE: Use options=varwt if loading into Miriad
                                                             ORIGIN =
    'Miriad Fits: version 1.1 09-Feb-07' /
                                                                F.ND
[3]: image_data = fits_file[0].data
    image data = np.squeeze(image data)
    print(image data)
    image_data_df = pd.DataFrame(image_data)
    6.27414047e-05 9.75416770e-05]
    [ 2.04005861e-04 1.70479063e-04 1.05049963e-04 ... -4.49310210e-05
     -1.75191781e-05 -1.06705002e-05]
    -4.57380993e-05 -9.22132676e-05]
    -5.12361112e-06 -1.13735434e-04]
    [ 7.85661614e-05 8.41733126e-05 1.08934510e-04 ... 1.64443423e-04
      7.09561618e-06 -1.41892247e-04]
    3.97955919e-05 -1.11345144e-04]]
[4]: import matplotlib.pyplot as plt
    plt.figure()
```

HISTORY RESTOR:

Command line inputs follow:

```
plt.imshow(image_data, cmap='gray' )
plt.colorbar()
plt.show()
```



```
[]: #Preprocessing data
    # flattened_data = image_data.flatten()
    # normalised_data = flattened_data / np.max(flattened_data)
    # print(normalised_data)
    print(image_data_df)
    image_data_df.to_csv("Atlas_data.xlsx", index=False)
             0
                      1
                                        3
   0
         0.000235
                  0.000212 \quad 0.000125 \quad -0.000064 \quad -0.000229 \quad -0.000110 \quad 0.000161
         0.000204
                  1
   2
         0.000142
                  0.000121 0.000106 -0.000007 -0.000186 -0.000159
                                                                0.000098
   3
         0.000049
                  0.000071 0.000133 0.000073 -0.000125 -0.000175
                                                                0.000042
        -0.000061
                  0.000023 \quad 0.000175 \quad 0.000171 \ -0.000045 \ -0.000175 \ -0.000016
   4
   3052 0.000200 0.000110 0.000029
                                    0.000144 0.000105
   3053 0.000175
                                     0.000116 0.000042 -0.000097 -0.000118
   3054 0.000130 0.000135 0.000136 0.000154 0.000062 -0.000086 -0.000100
```

```
3055 0.000079 0.000084 0.000109 0.000148 0.000073 -0.000055 -0.000058
    3056 0.000045 0.000011 0.000033 0.000099 0.000072 -0.000005 0.000010
              7
                                              3927
                                                        3928
                                                                  3929
                       8
         0.000142 - 0.000217 - 0.000439 \dots 0.000089 0.000175 0.000142 
    0
    1
          0.000189 -0.000099 -0.000337
                                       ... 0.000086 0.000151 0.000069
    2
         0.000229 0.000047 -0.000182 ... 0.000037 0.000068 -0.000053
    3
         0.000243 0.000179 -0.000016
                                       ... -0.000032 -0.000033 -0.000165
          0.000226  0.000265  0.000125  ... -0.000077 -0.000102 -0.000216
    3052 -0.000057 -0.000054 -0.000123 ... -0.000016 -0.000029 -0.000098
    3053 -0.000032 -0.000021 -0.000087
                                      ... -0.000149 -0.000140 -0.000125
    3054 -0.000011 -0.000006 -0.000072
                                       ... -0.000274 -0.000242 -0.000142
    3055 0.000014 -0.000010 -0.000085 ... -0.000356 -0.000303 -0.000137
    3056 0.000050 -0.000022 -0.000116 ... -0.000370 -0.000302 -0.000101
              3930
                       3931
                                 3932
                                           3933
                                                     3934
                                                               3935
                                                                         3936
    0
         0.000126 0.000144 0.000103 0.000020 0.000005 0.000063 0.000098
    1
         0.000019 0.000034 0.000012 -0.000041 -0.000045 -0.000018 -0.000011
    2
         -0.000116 -0.000079 -0.000053 -0.000048 -0.000029 -0.000046 -0.000092
         -0.000210 -0.000141 -0.000071 -0.000009 0.000039 -0.000025 -0.000141
    3
         -0.000219 -0.000130 -0.000055 0.000036 0.000115 0.000019 -0.000167
    4
    3052 -0.000153 -0.000098 0.000037 0.000115 0.000080 0.000028 0.000061
    3053 -0.000108 -0.000027 0.000109 0.000181 0.000120 0.000005 -0.000036
    3054 -0.000065 0.000023 0.000146 0.000216 0.000149 -0.000005 -0.000114
    3055 -0.000032 0.000033 0.000128 0.000206 0.000164 0.000007 -0.000142
    3056 -0.000003 0.000008 0.000062 0.000156 0.000164 0.000040 -0.000111
    [3057 rows x 3937 columns]
    KNN MODELING
[]: from sklearn.preprocessing import StandardScaler
    x = image_data_df.values
    y = np.where(x.mean(axis = 1) > 0,1,0)
    scaler = StandardScaler()
    X normalized = scaler.fit transform(x)
[]: from sklearn.model selection import train test split
    X_train, X_test, y_train, y_test = train_test_split(X_normalized, y,_

state=42)

state=42)

    from sklearn.neighbors import KNeighborsClassifier
```

```
knn = KNeighborsClassifier(n_neighbors=5) # Use 5 neighbors
knn.fit(X_train, y_train)
```

[]: KNeighborsClassifier()

```
[]: from sklearn.metrics import accuracy_score, classification_report

# Predict test labels
y_pred = knn.predict(X_test)

# Evaluate accuracy
accuracy = accuracy_score(y_test, y_pred)
print(f"Accuracy: {accuracy * 100:.2f}%")

# Detailed metrics
print("Classification Report:")
print(classification_report(y_test, y_pred))
```

Accuracy: 90.85%

Classification Report:

| | precision | recall | f1-score | support |
|--------------|-----------|--------|----------|---------|
| | | | | |
| 0 | 0.81 | 0.80 | 0.80 | 143 |
| 1 | 0.94 | 0.94 | 0.94 | 469 |
| | | | | |
| accuracy | | | 0.91 | 612 |
| macro avg | 0.87 | 0.87 | 0.87 | 612 |
| weighted avg | 0.91 | 0.91 | 0.91 | 612 |