1. **DATA I/O**

   (a) CAM data products.

   reading SPD .... (pp 77-84)
   spdtoscd, 'cispNNNNNNNN.fits', spd_sscd [, dir=directory, /nowrite]
   erdtoscd, 'cierNNNNNNNN.fits', erd_sscd [, dir=directory, /nowrite]

   (b) FITS files.

   Writing reduced raster or beam-switched image to a FITS file.
   (pg 205)
   raster2fits, pds, name='output_filename.fits'

   Writing individual frames .... (pg 206)
   imagette2fits, pds, name='output_filename.fits'

   Writing entire CIA data structure to a FITS file .... (pg 206)
   struct2fits, pds, name='output_filename.fits'

   Reading from a FITS file (created with struct2fits) .... (pg 207)
   fits2struct, 'output_filename.fits', hdr, pds

2. **DATA ANALYSIS/CONVERSION**

   Creating Primary Data Structures (PDS) .... (pg 95)
   pds = get_sscdraster(spd_sscd)
   pds = get_sscdcvf(spd_sscd)
   pds = get_sscdbs(spd_sscd)
   pds = get_sscdstruct spd_sscd)

3. **DATA REDUCTION**

   Slicing and/or cleaning SPD SSCDs .... (pg 82)
   claned_sscd = sscd_clean(spd_sscd)
   x_slicer

   Dark Subtraction .... (pg 231)
   corr_dark, [spd_sscd or pds], method='option'
   see pp 232–233 for a description of dark subtraction options

   Deglitching .... (pg 233)
   deglitch, [spd_sscd or pds], method='option'
   see pp 233–235 for a description of deglitching options

   Detector transient correction .... (pg 235)
   stabilize, [spd_sscd or pds], method='option'
   see pp 236–237 for a description of stabilization options

   Averaging/Combining frames .... (pg 237)
   reduce, [spd_sscd or pds]

   Flat field correction .... (pg 238)
   corr_flat, [spd_sscd or pds], method='option'
   see pp 238-239 for a description of flat field options

   Creating Mosaic from Raster or beam-switched data .... (pg 243)
   raster_scan, [spd_sscd or pds] [,/option]
   see pp 244 for options

   Flux calibration/conversion .... (pp 256–258)
   conv_flux, [spd_sscd or pds]
   result = adu_to_mjansky(data, 'FILTER')

4. **DATA VISUALIZATION**

   Display/Examine 2D arrays .... (pp 144)
   tviso, array
   ximage, [pds or mage]

   Display/Examine data cubes .... (pp 132,136,135,140,142)
   x3d, [pds or data cube]
   ximage, [pds or image]
   xv_temp, data_cube
   xv_raster, raster_pds, output

   Contour overlay .... (pg 146)
   isocont, image_1, image_to_contour

   CVF data visualization .... (pp 118)
   cvf_display, cvf_pds
   xcvf, cvf_pds

   To view AAR products .... (pp 124)
   sad_display, [SAD or SSAD or TDTOSN]

5. **CIA HELP (pg 4)**

   ciainfo
   cia_help

6. **MISCELLANEOUS**

   Printing/Getting details on a particular SSCD .... (pg 81)
   sscd_info, sscd [,options]

A basic reduction in CIA

Please see Ch 2 for what you need to get started.
Please see Ch 3-8 for a more detailed quick start guide.

1. spdtoscd, 'cispNNNNNNNN.fits', sscd, /nowrite
2. cln_sscd = sscd_clean(sscd)
3. help, cln_sscd
4. pds_0 = get_sscdraster(cln_sscd[0]) – raster data
   pds_0 = get_sscdbs(cln_sscd[0]) – beamswitch data
   pds_0 = get_sscdcvf(cln_sscd[0]) – cvf data
   pds_0 = get_sscdstruct(cln_sscd[0]) – generic PDS
5. save, pds_0, file='pds_0_raw.xdr', /xdr
6. corr_dark, pds_0
7. deglitch, pds_0
8. stabilize, pds_0, method='INV'
9. reduce, pds_0
10. corr_flat, pds_0, method='auto' – if rastered data
    corr_flat, pds_0 – otherwise
11. raster_scan, pds_0 (for rastered data).
12. conv_flux, pds_0
13. save, pds_0, file='pds_0.xdr', /xdr
14. Repeat Steps 4-13 for as many SSCDs as are listed in Step 3.