



CIAO 2.3 Release Notes

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Tools

acis_fef_lookup

- Reworked with interface changes to accommodate calculation of PI matrices directly from PHA FEF files (see "mkrmf" notes)

acis_process_events

- Now fully supports adjustment for the effects of charge-transfer inefficiency (CTI)
- New parameter ("calc_cc_times") to assign time tags in CC mode based on target position
- Added "geompar" parameter (see "pixlib" below)
- Fixed problem of always writing HDUCLAS3 keyword indicating CC time corrections were applied
- Refinements to the CC mode time of arrival algorithm
- Now generates warnings if output eventdef contains a column that is not calculated and is not being propagated from the input event file (i.e. s:pi in eventdef and calculate_pi=no)
- Now reads RA_TARG, DEC_TARG, ROLL_NOM header keywords (obs.par value supersedes keyword values)
- Changed the order of THETA and PHI WCS names
- Fix for incorrect updating of WCS keywords when stop != sky
- Fix for check_vf_pha to only check in VF mode

acisreadcorr

- Added "random" parameter to set random-number seed
- Added "geompar" parameter (see "pixlib" below)

asp_apply_sim

- Added "geompar" parameter (see "pixlib" below)

asp_calc_offsets

- Added "geompar" parameter (see "pixlib" below)

asphist

- Added "max_bin" parameter to control maximum number of aspect bins
- Added "geompar" parameter (see "pixlib" below)

CIAO Release Notes – CIAO 3.4

- Now allows for generic column ordering
- Reworked to take input files out of time order
- Now errors out if SIM_* keywords are missing in event file (previously assumed value of 0)

dmarfadd

- New code to exposure weight the FRACRESP column in grating ARFs

dmcoords

- Now allows 'q' or 'quit' to exit interactive mode
- Added "geompar" parameter (see "pixlib" below)

dmcopy / dmextract / dmfilth / dmlist / dmstat

- Re-linked to use updated region library (see library notes below)

hrc_process_events

- Can now apply a correction to the AMP_SF column in the event structure (AMP_SF is used in deciding which events to correct for the tap ringing problem)
- Added "geompar" parameter (see "pixlib" below)
- Changed the order of THETA and PHI WCS names

mkarf / mkexppmap / mkgarf / mkinstmap

- HRC msk1 file support added
- Can work around defective/ambiguous ACIS msk1 files
- Added "geompar" parameter (see "pixlib" below)
- Tools reflect changes to "ardlib" library (see below)

mkgrmf

- Added "geompar" parameter (see "pixlib" below)

mkpsf

- Added "geompar" parameter (see "pixlib" below)
- Fixed bug that caused a failure to resolve CALDB psflib hypercube file when using ACIS
- Fixed bug that prevented unique outpsffile filename from retaining path information

mkrmf

- Can now calculate PI matrices directly from PHA FEF files (default behavior; requires CALDB 2.18 or later)
- Modified CALDB lookups to work with CTI correction

mkwarf

- Modified CALDB lookups to work with CTI correction
- Added "geompar" parameter (see "pixlib" below)

psextract

- Fix for problem determining which ASOL, AOFF, sim+AOFF files are being used
- Changes for new acis_fef_lookup interface

psf_project_ray

- Removed parameters elevation, azimuth, imagesize, and resolution
- Added "geompar" parameter (see "pixlib" below)
- Now copies energy column from input ray file (spectrum input was only recording single energy (first row) in header)
- Now copies full header from ray file and evtfile (if provided)
- Fix for new focal length in CALDB 2.9

CIAO Release Notes – CIAO 3.4

- Fixed problem of not reporting error when evtfile is missing
- Changed the order of THETA and PHI WCS names

reproject_events

- Speed enhancements
- Added "geompar" parameter (see "pixlib" below)

sso_freeze

- Fixed bug with processing a stack of input event files in which the code failed to reproject correctly the events from the second and subsequent files in to the first file's reference frame, which resulted in incorrect solar-system-object-centered coordinates for the events from those files
- Corrected initialization of TLMIN and TLMAX keywords for ocCol and skyCol (improper initialization prevented ds9 from centering image on screen)
- No longer crashes when output file exists and clobber=no

tg_create_mask

- Added "geompar" parameter (see "pixlib" below)

tgextract

- Added "geompar" parameter (see "pixlib" below)

tg_resolve_events

- Added "geompar" parameter (see "pixlib" below)
- Fix for slightly incorrect coordinates in MEG data in region where HEG and MEG arms overlap
- Changed the order of THETA and PHI WCS names
- Modified CALDB lookups to work with CTI correction

Sherpa

- New models, erf and erfc, that wrap the error function and complimentary error function, respectively
- Fixed bug where JDPILEUP model ignored any previous data filtering

GUIDE

- Bug fix to allow usage of ATOMDB v1.2

Libraries

* NOTE *

Library changes apply ONLY to tools in the patch (i.e. those listed under "Tools" above)

ardlib

- Semantics for ACIS detsubsys options have changed
- Added support for HRC-S detsubsys options
- Added support for the HRC bad pixel file
- If the observation information file has CTI_CORR=yes, then the CALDB lookups will specify CTI corrected files

dslib

- Improvements in handling NaN's and event file headers

header/history lib

- Enhancements for CTI correction (added 'CTI_CORR' keyword)

CIAO Release Notes – CIAO 3.4

- Tools now put full parameter content in history

pixlib

- Many tools now use "geompar" parameter to control which parameter file specifies pixlib geometry files (default is still "geom.par")
- Fixed problem of using wrong value for the LETG Rowland torus diameter
- pixlib info now included in history of output file

region lib

- Fixes for pie() and sector() producing incorrect results for theta_min and theta_max in the third quadrant (180 < theta < 270)
- Fix for problem where areas determined by pixel-counting (e.g. areas of complex shapes that cannot be determined analytically) were too large because the "pixelated" shapes were included twice
- Fixes for incorrect area calculation using two "near" shapes (i.e. shapes whose bounding boxes overlap but are not within each other)
- Fixes for problems with field() areas

rmflib

- General updates and minor bug fixes

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