Chandra Calibration Status

ACIS

3. Gain corrections for epochs 28 and 29 (Nov. 2006 – April 2007) were released in CALDB 3.4 on May 16, 2007.

5. Gain corrections for epoch 30 (May 2007 – July 2007) were released in CALDB 3.4.1 on Sep. 14, 2007.

7. The blank sky background data sets for ACIS-I and ACIS-S2 were reprocessed with the latest calibration products and released in CALDB 3.4.

9. CTI-corrected blank sky background data sets for the BI chips and updated background data sets for the remaining FI chips were released in CALDB 3.4.1.

HRC

1. Time-dependent gain correction tables (one for each year) for the HRC-I were released in CALDB 3.4.

4. An updated HRC-I de-gap corrections table derived from the AO8 Capella raster scan was released in CALDB 3.4.1. This improves image reconstruction for off-axis sources.

LETG

- An updated HRC-S QE table was released in CALDB 3.4 with revisions near the O-K edge.

HETG

1. Revised ACIS-S/MEG 1st order LSF parameters were released in CALDB 3.4.

HRMA

1. A verified Linux version of SAOsac was delivered to SDS for packaging into a downloadable version of the ray trace program.

ACIS Calibration Projects

Improve calibration of graded mode data

ACIS Flight Grades

Fig. 3 — Average image for the fl1 grade = 8. Max-Rec events in the bottom few rad avoyage 256 rows of S2. The images are normalized to a total flux of 1. The labels indicate the relative brightness of pixels.

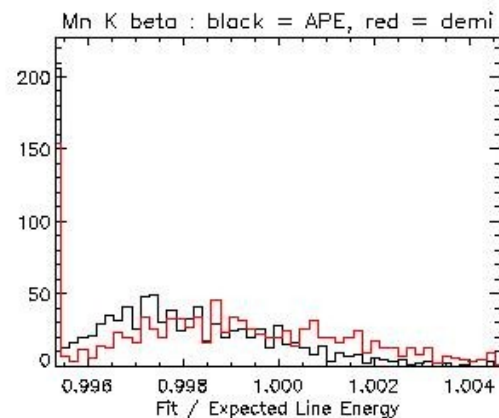Fig. 4 — Definition of the ACIS flight grades, "split" events are shaded green.
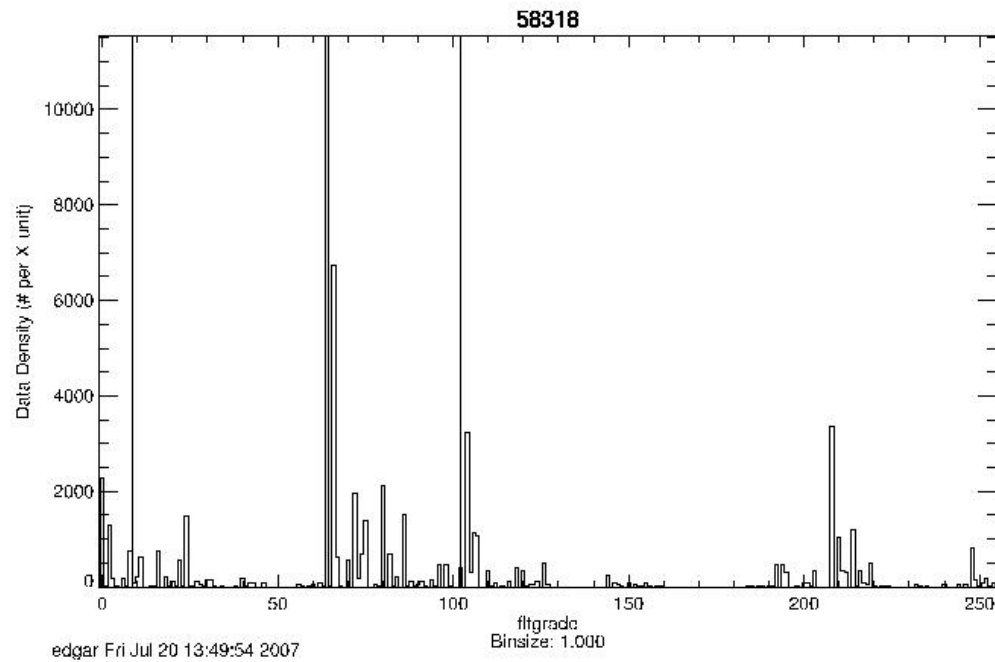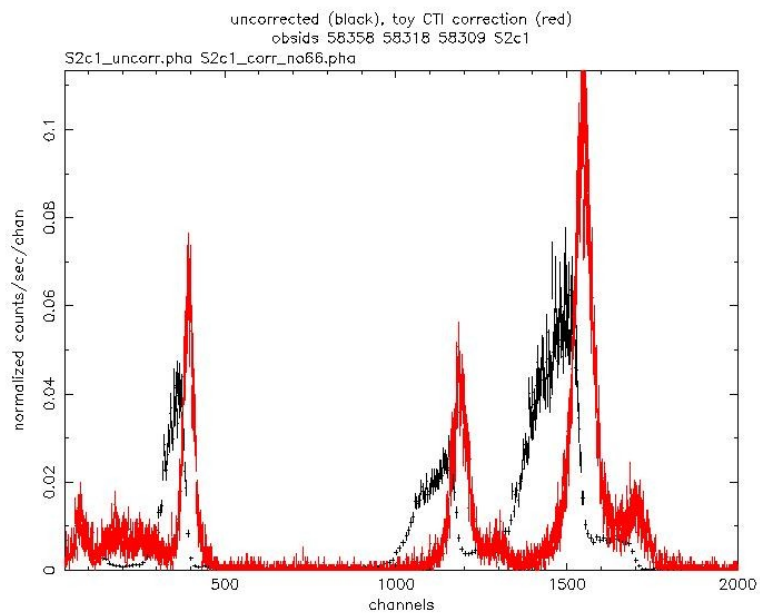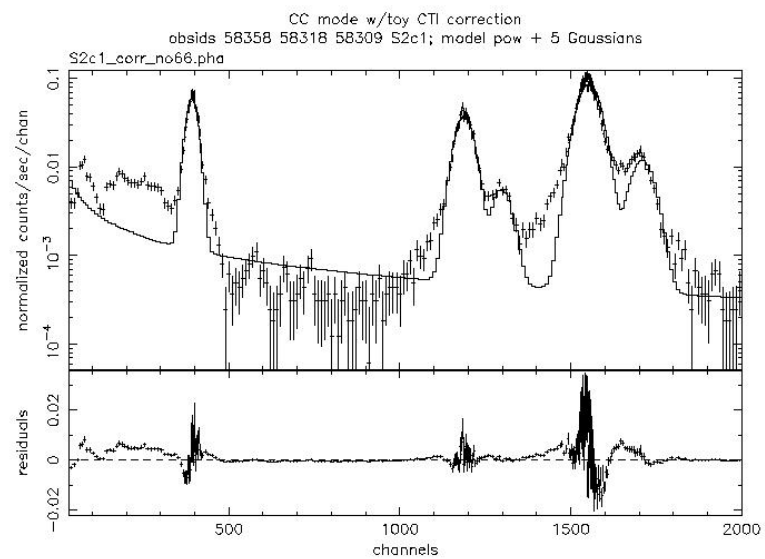
3

CTI-Corrected graded mode data
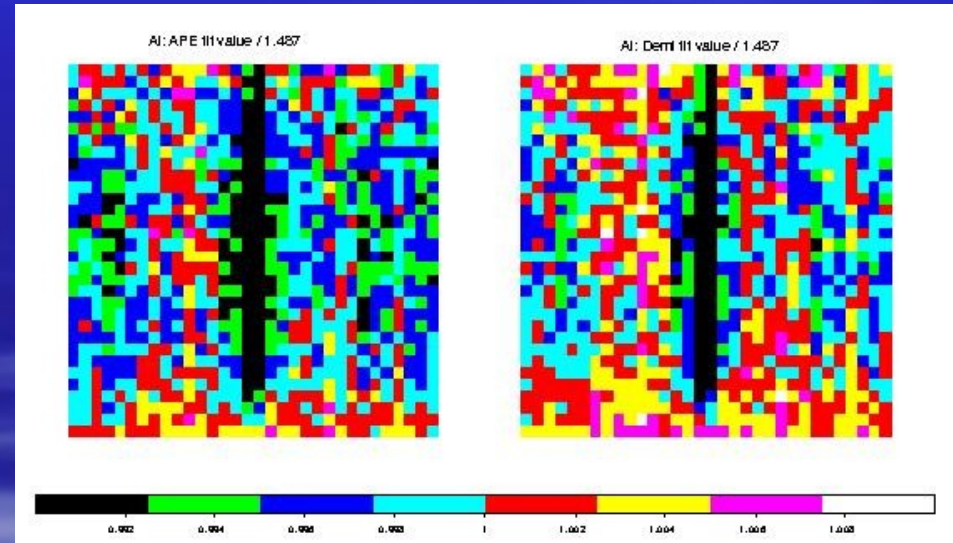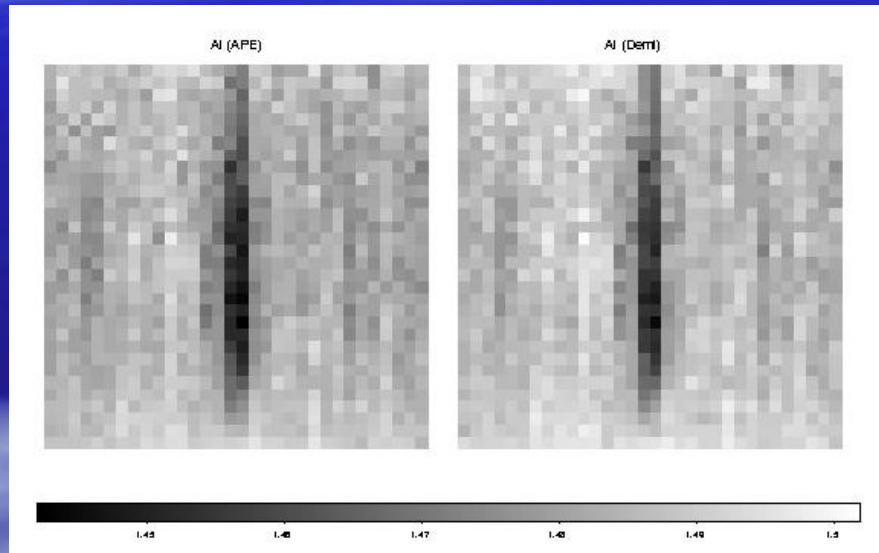
CTI-corrected graded mode data
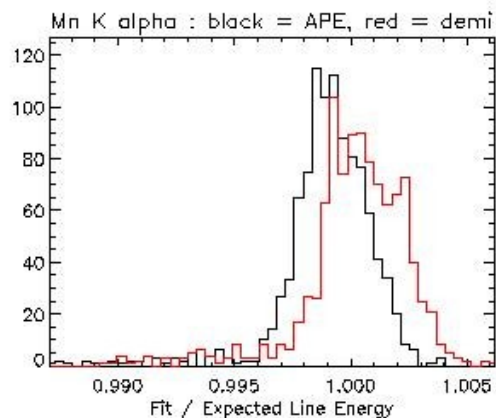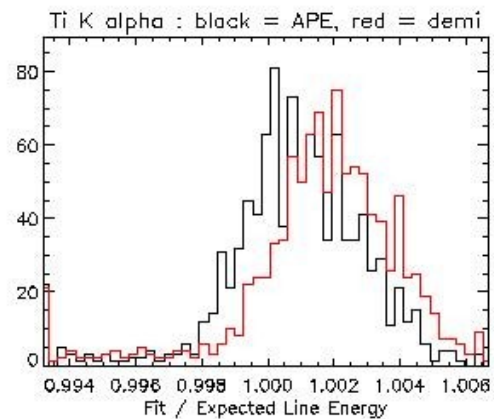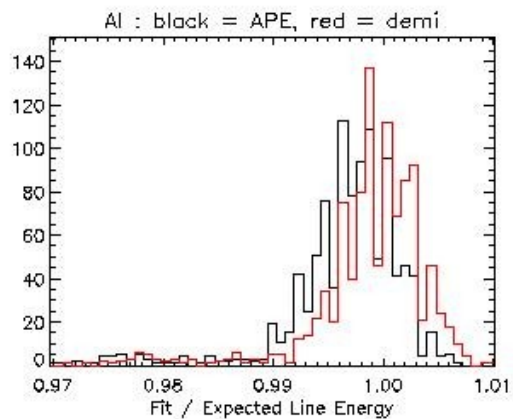
Grade distribution for CC mode data

CTI-corrected CC mode data

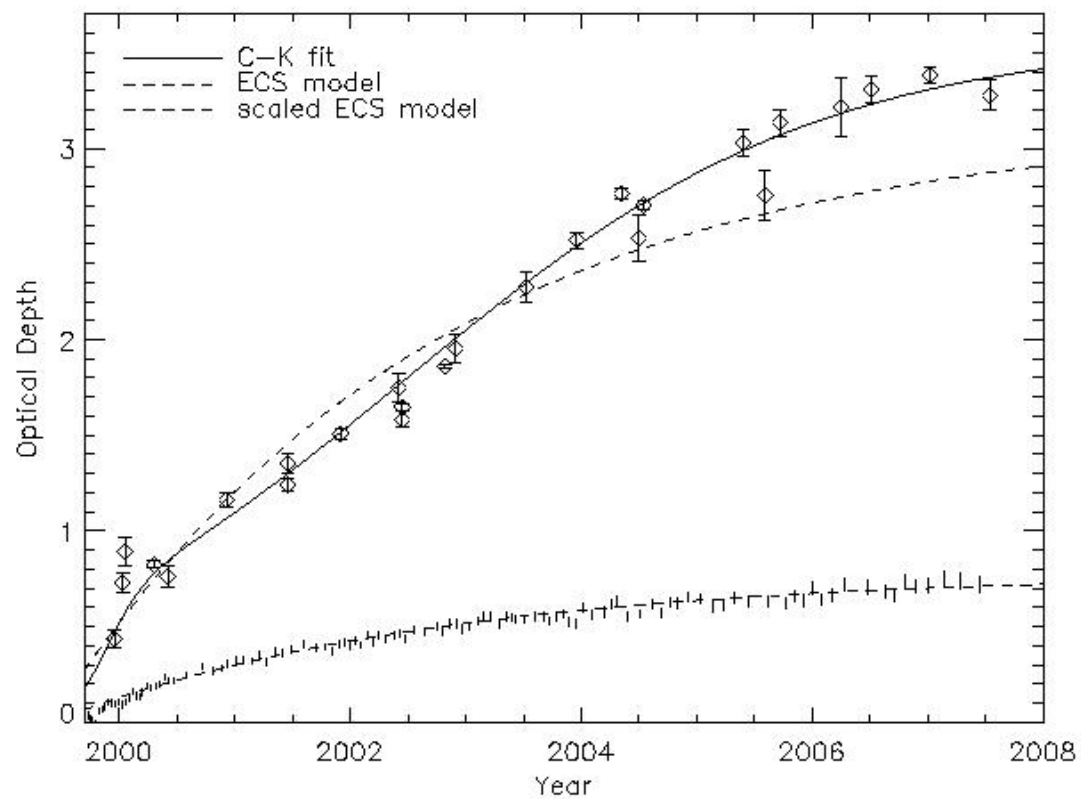# Revise ACIS contamination model
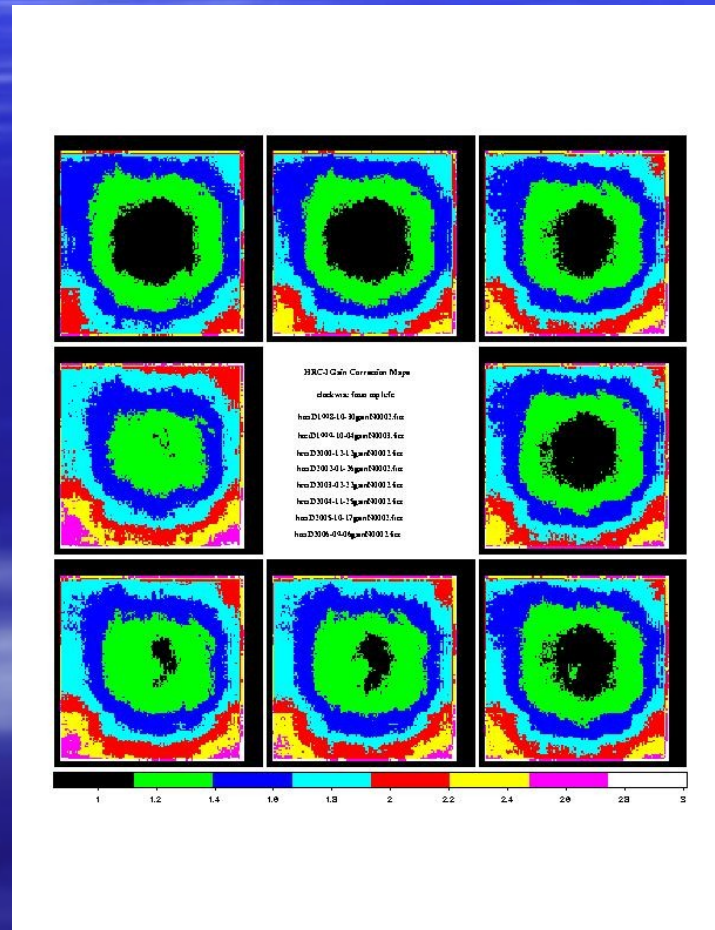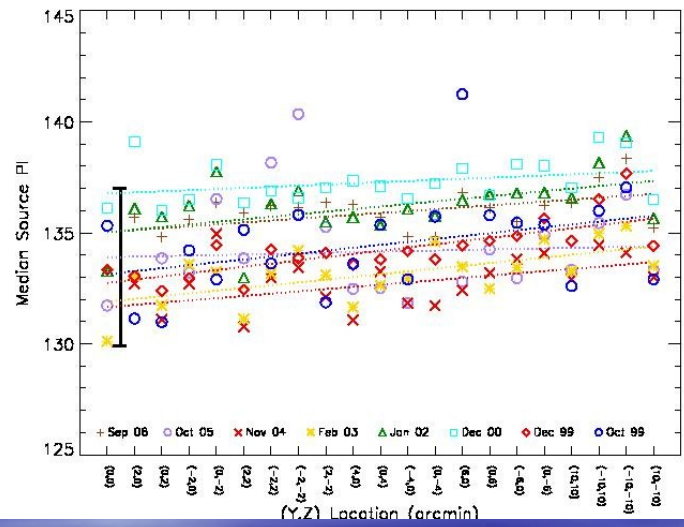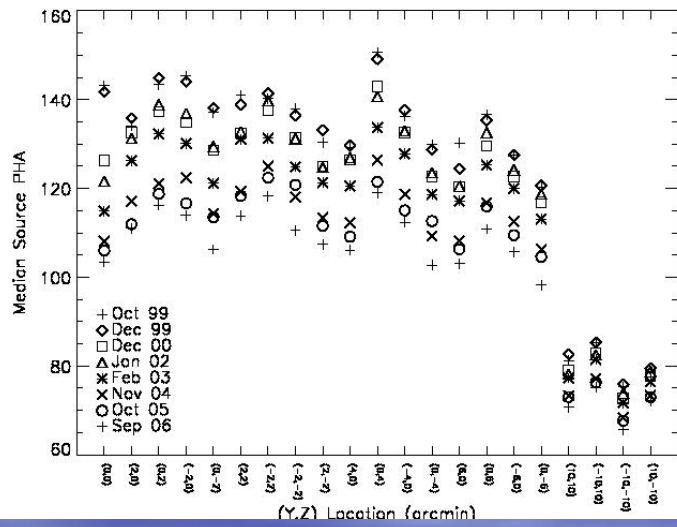
ACIS Contaminant
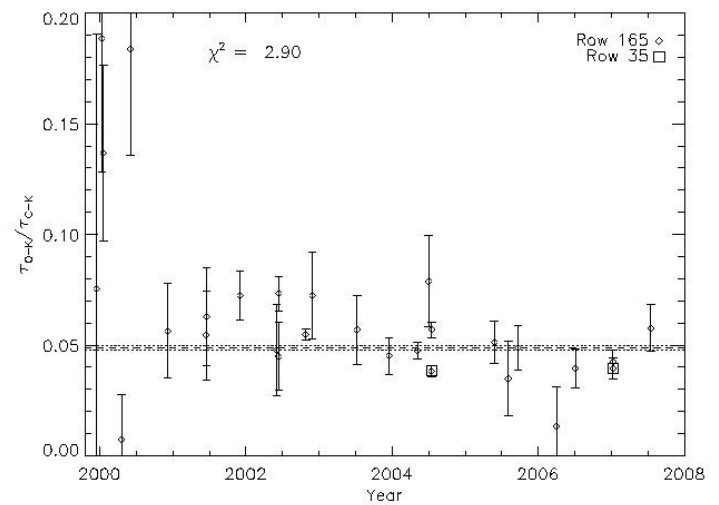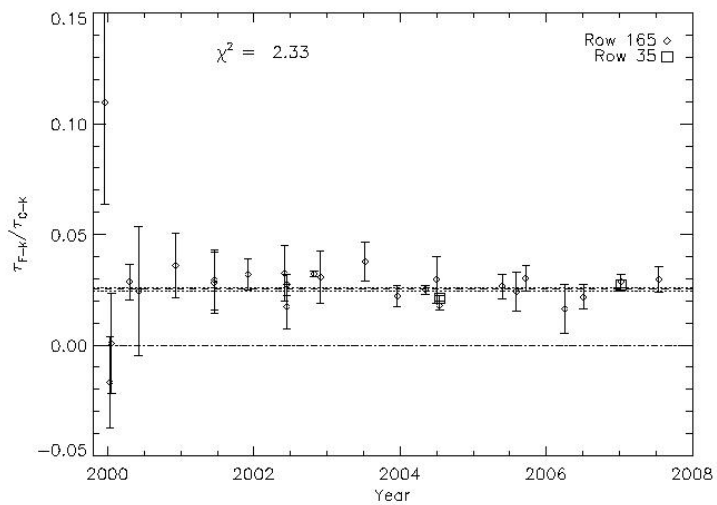
HRC Calibration Projects
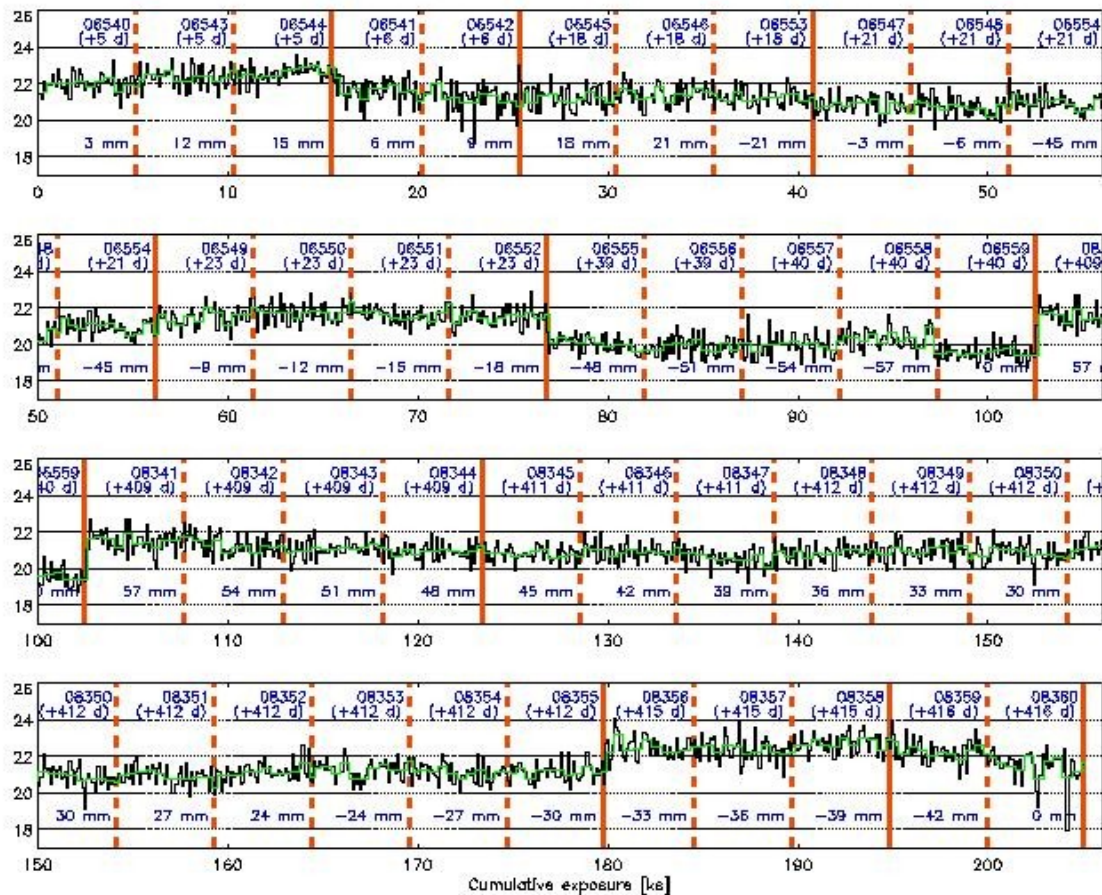
HRC-I gain corrections

HRC-I gain corrections

HRC-I QE Uniformity

HRC-I vs. HRC-S count rate for HZ43
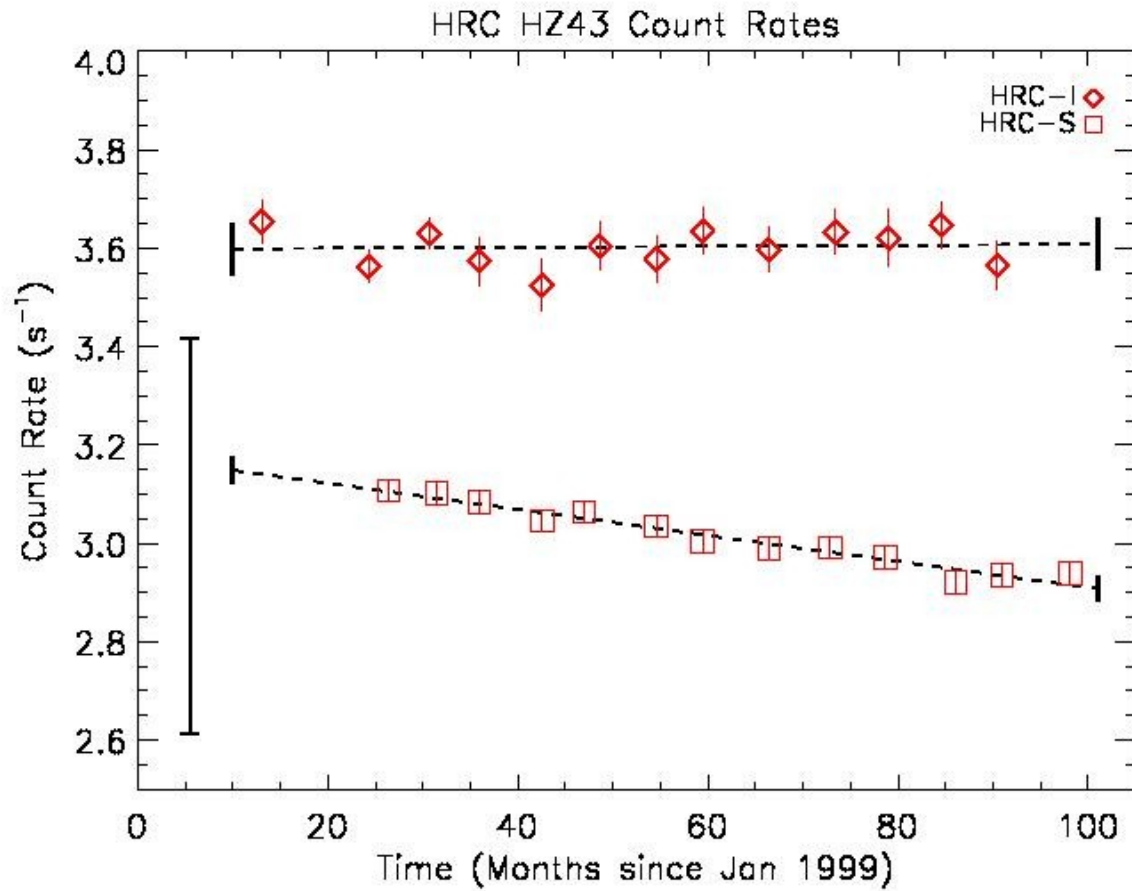
HRC-I Calibration Projects

- Monitor the HRC-I and HRC-S QE, gain, and filter transmission.

- HRC-I QE map – there is evidence for decrease in the off-axis low energy QE of the HRC-I.

- Absolute HRC-I QE – resolve the discrepancy between the observed and expected count rate of RXJ1856.

- Calibrate the small scale gain variations in the HRC-I gain.

- Update the HRC-I rmf using the time-dependent gain corrections.

LETG/HRC-S Calibration Projects

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Time-dependent gain corrections
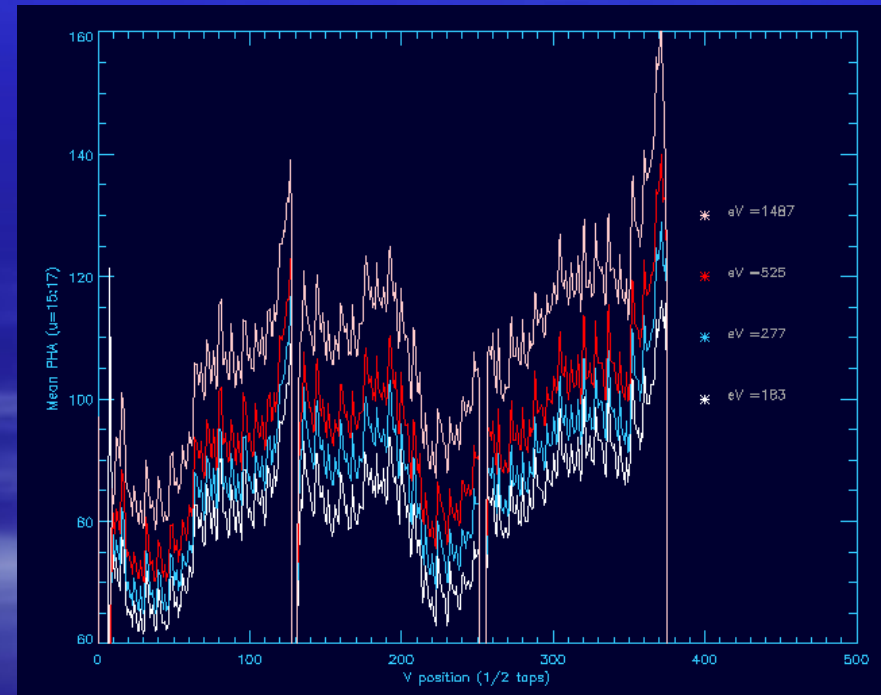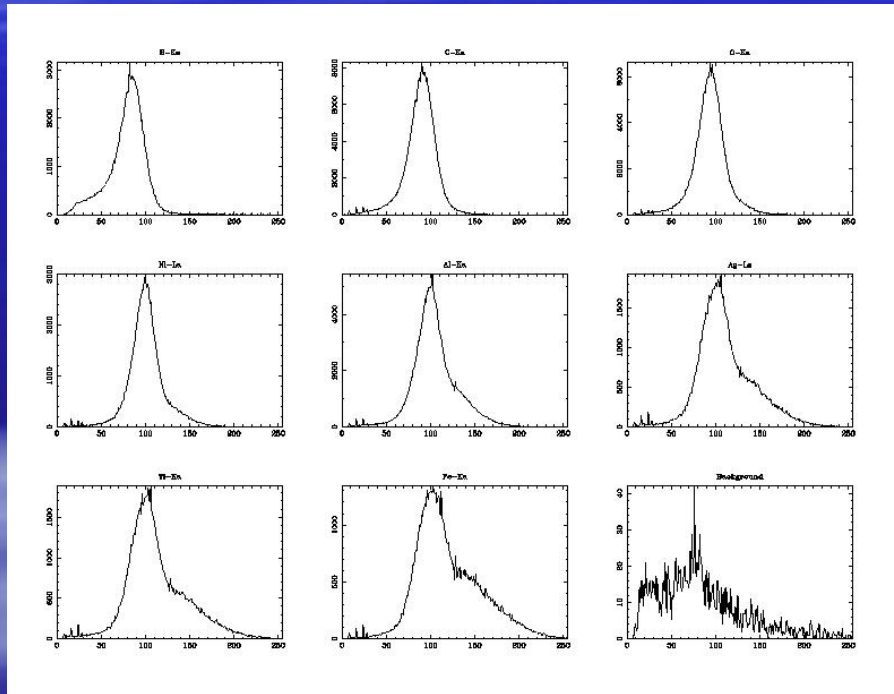
LETG/HRC-S Calibration Projects

- Generate high spatial resolution time-dependent gain corrections for the HRC-S

- Revise the HRC-S QE below the C-K edge.

- Incorporate the non-linearity in the LETG/HRC-S dispersion relation into the line response function.

- Improve the LETG/HRC-S dispersion relation corrections using a larger database of emission line sources.

- Investigate the cause of the 5% drop in count rate in the LETG/HRC-S observations of HZ43.

HETG Calibration Projects

1. Improve CC mode HETG/ACIS-S data.

HRMA Calibration Projects

- Continue development of a "user friendly" portable Linux version of the SAOsac software package.

- Post an engineering version of SAOsac on the contributed CXC software page.

- Continue work on calibrating the ACIS PSF of piled-up images.

- Refine the measurements on the drift of the optical axis.

- Continue XMM-Newton/Chandra cross-calibration efforts.