ACIS Report

1. Overall Status of the Instrument

2. Update on the Use of Optional CCDs

3. Change to Default Aimpoints (Tom Aldcroft, Aspect Team)

ACIS Ops Team
1. Overall Status of the Instrument

- Instrument continues to work well, no failures to report, no new degradations to report
- Two minor anomalies which the operations team is investigating:
  - reboot of ACIS BEP processor during a radiation event
  - reset of 3 FEPs during a science observation
- CTI increasing consistent with expectations, FI CCDs 2.3%/yr, BI CCDs 1.0%/yr
- Contaminant continues to accumulate slowly, CXC will need to revise the temporal and spectral models for the contaminant
- Thermal issues are the most challenging, observations with pitch angles between 45-60 are limited in duration and/or have reduced numbers of CCDs and pitch angle between 135-180 lead to heating of the ACIS detector housing and hence the focal plane
Update on Contaminant Buildup

Data for all Of S3:
Grant (MIT)

Model:
O’Dell & Tennant (MSFC)
For middle of S3
Vikhlinin (SAO)
Optical Depth Comparison

C-K Marshall (MIT) inferred optical depth at 700 eV

ECS Grant (MIT) Mn L

E0102 DePasquale (SAO) OVIII Ly-α
Future Issues: Focal Plane Operating Temperature

- current operating temperature is -119.7°C
- as the mission has progressed, the frequency and magnitude of deviations from the desired temperature have increased
- it might become necessary to operate at a higher temperature, significant impact for the FI CCDs
- first we will attempt to reduce the heat load on the ACIS detector housing
2. Update on Use of Optional CCDs

- New in AO8, observations with pitch angles between 45-60 degrees will either be limited in duration, have fewer than 6 CCDs operating, and/or be split into shorter pieces
- CXC SOT MP has been attempting to schedule observations which utilize 6 CCDs and are relatively long at pitch angles larger than 60 degrees
- CXC FOT MP now includes a prediction of the ACIS PSMC temperature in the scheduling process and can adjust the order and/or durations of observations to ensure that the ACIS PSMC temperature does not exceed its limits
- Since adopting this strategy in November 2006, there have been two observations which have had one optional CCD turned off (from 6 CCDs to 5 CCDs)