<u>Chandra Calibration Status</u> <u>IACHEC 2010</u>

Temperature-dependent CTI corrections
Updates to the ACIS contamination model
Continuous Clocking (CC) Mode calibration
Updates to LETG/HRC-S calibration

Temperature-dependent ACIS gain corrections





Performance of adjusted corrector





Temperature-dependent pulseheight change (% / deg)

	$1.5 \ \mathrm{keV}$	6 keV
Standard	-0.7%	-0.4%
T-dependent	+0.03%	-0.07%

- Reduces temperature dependence of pulseheight
- >99% of observations now within 0.3% pulseheight calibration goal

Catherine Grant (MIT)

Sep 21, 2009

External Calibration Source (ECS)



Courtesy of Dan McCammon

Updates to the ACIS contamination Model



Optical depth of the contaminant at the Mn-L and F-K complex on ACIS-S

ACIS FLIGHT FOCAL PLANE



<u>Revised ACIS Contamination Model – CALDB 4.2</u>









cal DB 4.2

Energy (keV)

LETG/ACIS-S Observation of Mkn 421





along 18-Oct-2000 16:56



Operating Modes

- 1. Timed event mode (TE)
- 2. Continuous Clocking Mode (CC)



Telemetry Formats

- 1. Very faint (VF) 5 x 5
- 2. Faint (F) 3x3
- 3. Graded

ACIS CC Faint Mode Calibration

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15	25	1	25	25	28	27	30	29	31	1 32	126	33	192	1	130	35	134	26	129	37	133	
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43	140	50	136	51	142	52	237	53	141	54	139	55	143	1	152	57	156	50	254	59	150	
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320	236	121	220	122	218	328	222	334	217	125	223	326	229	127	223	160	161	384	282	263	166	ues
165	167	150	175	169	160	170	178	173	102	172	177	173	351	174	179	175	163	254	205	195	186	
387	190	109	191	224	225	226	226	227	230	229	201	202	240	233	244	224	242	205	245	255	241	
207	245	230	243	239	247	240	248	252	250	261	254	253	255									

<u>CC Faint Mode Calibration</u>

Comparison of TE and CC Flight Grade Distribution



HETG/ACIS-S observations of bright sources in CC-G Mode



Features near the Si-K edge in HETG/ACIS-S observations of bright sources in CC-G mode



Recent Updates to the LETG/HRC-S Effective Area - CALDB 4.2.1





Relative adjustments to the LETG higher order efficiencies

Order sorting plot for HETG/ACIS-S spectrum



Single column trap maps are now being generated for CC-F mode data based on the AL-Ka line in the ECS data

edgar Thu Feb 5 11:21:57 2009