

V&V Reference Report

L2 ASCDS Version : 8.3.2

Observation 1098 - L2 Version 5

Chandra X-Ray Center

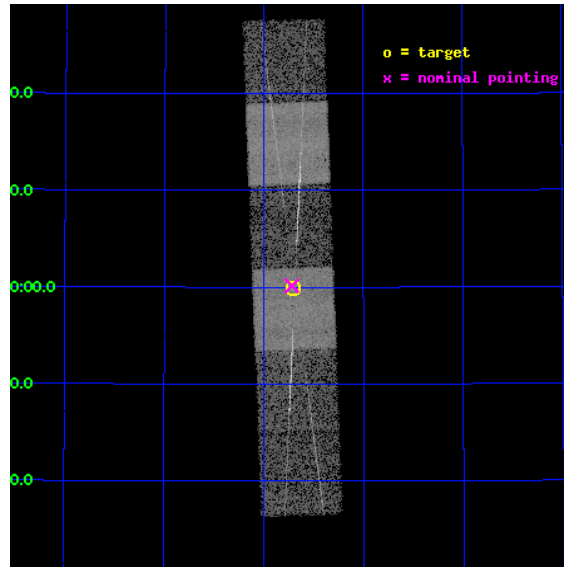
L2 Processing Date : Aug 2 2010

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1 Front

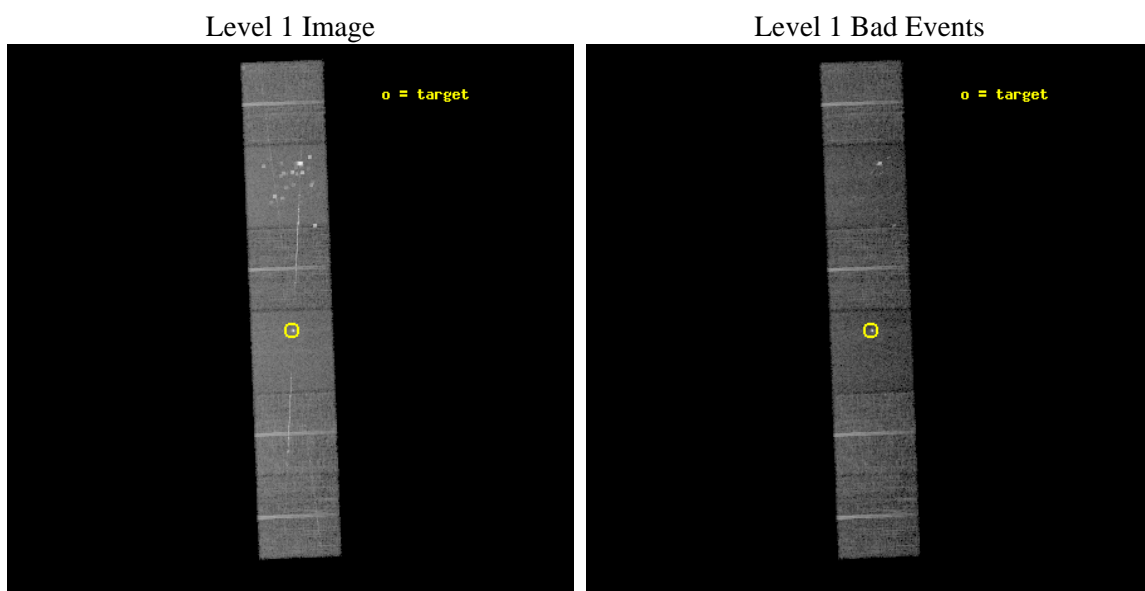
seq_num	280048	Sequence number
obs_id	1098	Observation id
title	 	Proposal title
observer	DR. CXC CALIBRATION	Principal investigator
object	CAPELLA	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	79.17625	Observer's specified target RA
dec_targ	45.997889	Observer's specified target Dec
ra_nom	79.179643507681	Nominal RA
dec_nom	46.002565127493	Nominal Dec
roll_nom	87.812677728767	Nominal Roll
revision	5	Processing version of data
ontime	7117.0212429985	Sum of GTIs [s]
livetime	7026.901234664	Livetime [s]
ontime4	7104.0338565558	Sum of GTIs [s]
ontime5	7116.9802029952	Sum of GTIs [s]
ontime6	7110.3926170543	Sum of GTIs [s]
ontime7	7117.0212429985	Sum of GTIs [s]
ontime8	7103.9927766249	Sum of GTIs [s]
ontime9	7100.7107564732	Sum of GTIs [s]
l2events	104163	Number of level 2 events



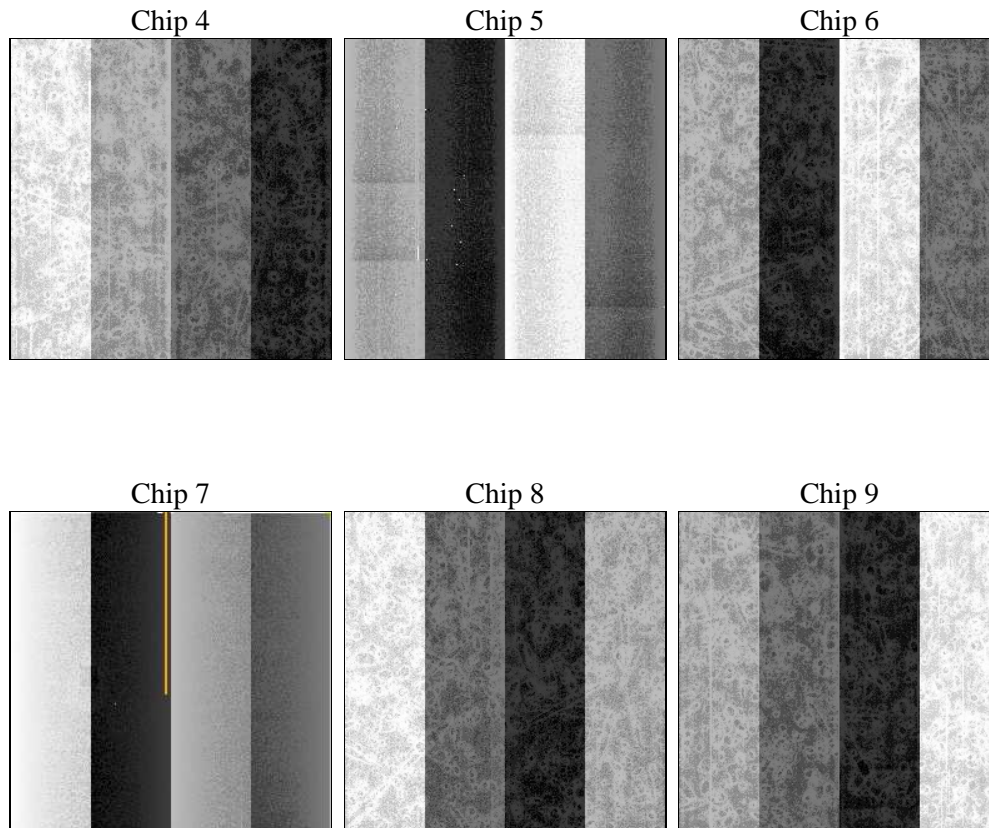
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	12000.000000	Scheduled observation exposure time
ascdsver	8.3.2	ASCDS version number	ontime	7117.0212429985	Sum of GTIs [s]
caldsver	4.3.0	 	ontime4	7104.0338565558	Sum of GTIs [s]
date	2010-08-02T18:39:08	Date and time of file creation	ontime5	7116.9802029952	Sum of GTIs [s]
revision	5	Processing version of data	ontime6	7110.3926170543	Sum of GTIs [s]
			ontime7	7117.0212429985	Sum of GTIs [s]
			ontime8	7103.9927766249	Sum of GTIs [s]
			ontime9	7100.7107564732	Sum of GTIs [s]
			l1events	532503	Number of level 1 events

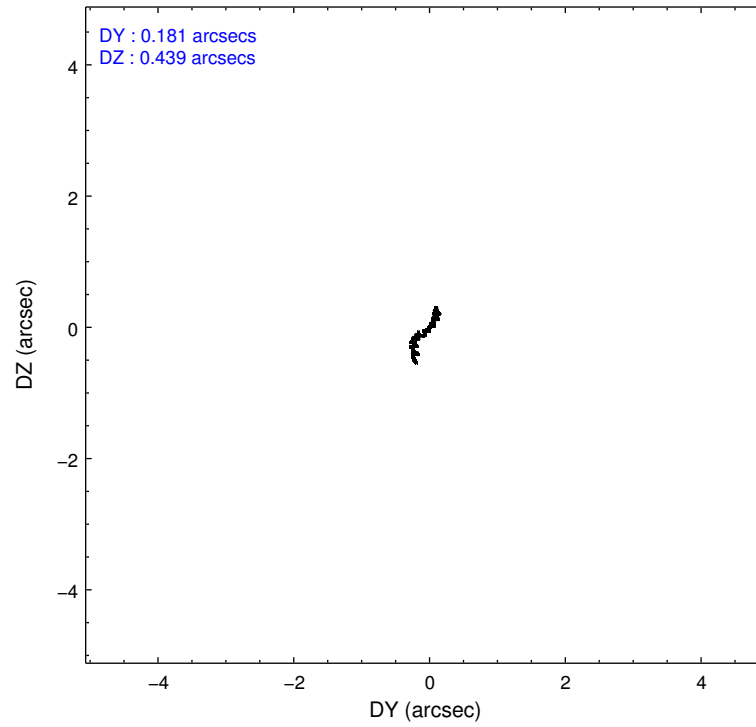
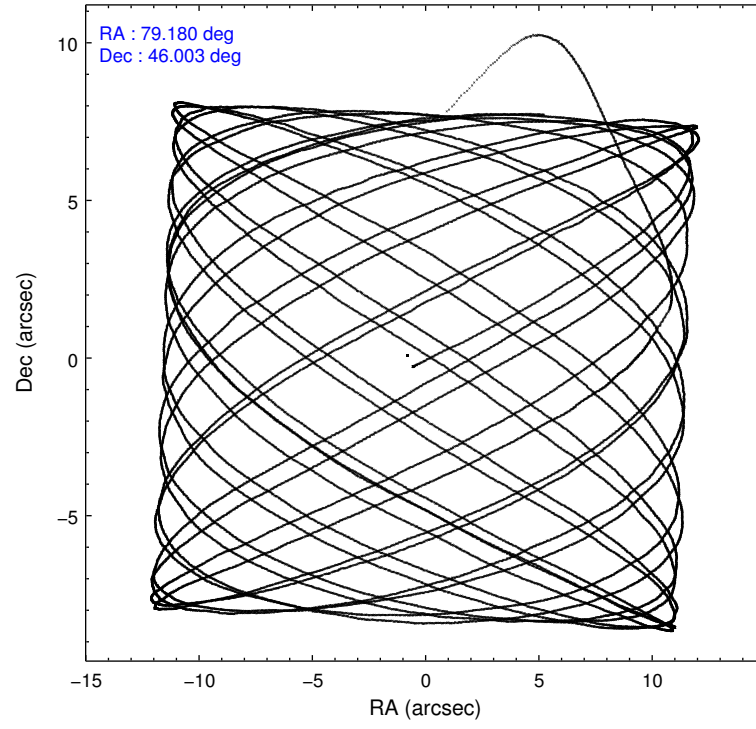
2.1.4 Events

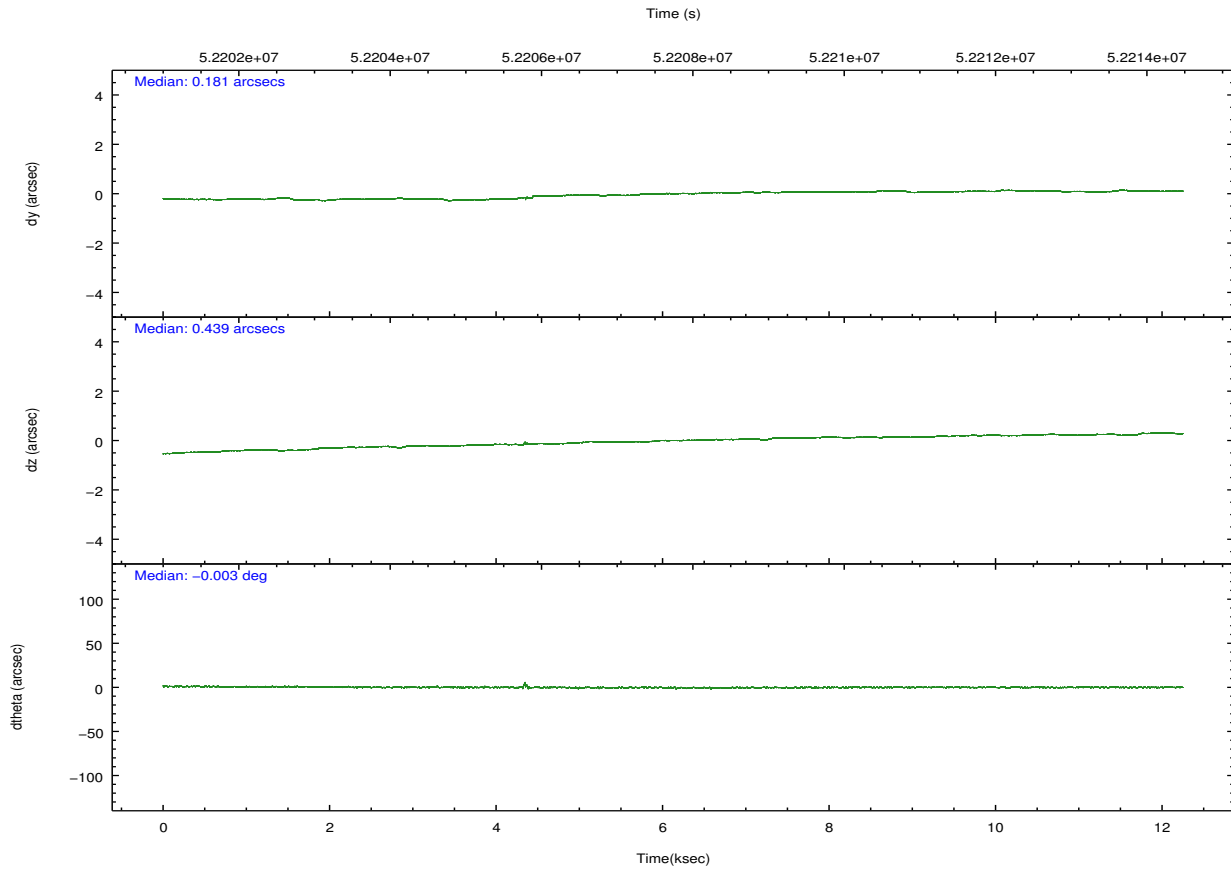
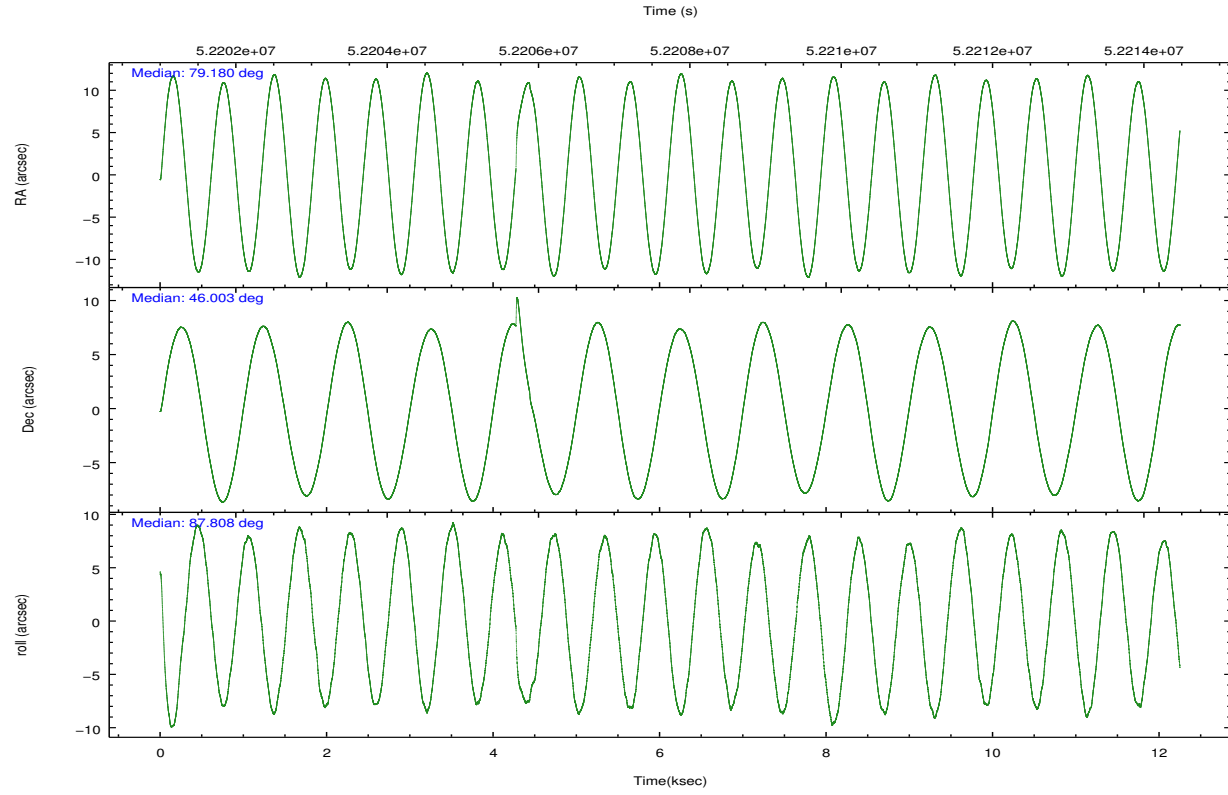
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	80857	118546	78229	83714	96890	74267	grade 0 events	3013	23332	5333	2692	8128	2999
rejected events	73224	54019	67634	51570	78757	66591		3%	19%	6%	3%	8%	4%
rejected %	90%	45%	86%	61%	81%	89%	grade 1 events	35	516	38	80	75	22
								0%	0%	0%	0%	0%	0%
							grade 2 events	2335	13995	2477	5577	4568	2074
								2%	11%	3%	6%	4%	2%
							grade 3 events	566	3644	691	3549	1276	580
								0%	3%	0%	4%	1%	0%
							grade 4 events	589	3129	649	2941	1163	589
								0%	2%	0%	3%	1%	0%
							grade 5 events	1501	4310	1811	5526	2448	1947
								1%	3%	2%	6%	2%	2%
							grade 6 events	1372	23924	1679	19525	3422	1634
								1%	20%	2%	23%	3%	2%
							grade 7 events	71446	45696	65551	43824	75810	64422
								88%	38%	83%	52%	78%	86%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	OVERRIDE	OVERRIDE
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
Pointing RA	79.17625	79.17964350768145	Subarray requested	NONE	NONE
Pointing Dec	45.997889	46.0025651274928	Alternating exposures requested	N	N
Pointing Roll	87.643110	87.81267772876659	Primary exposure time	3.2	3.2
SIM focus pos (mm)	-0.7362356599963374	-0.7362356599963374			
SIM defocus (mm)	-0.05196819300047673	-0.05196819300047673			
SIM translation stage pos (mm)	-190.1425803651734	-190.1425803651734			
SIM translation stage offset (mm)	0.01005726120618533	0.01005726120618533			
Observation start time	52201419.975193	52201419.975193			
Observation start date	1999-08-28T04:23:40	1999-08-28T04:23:39			
Observation end time	52213997.750645	52213997.750645			
Observation end date	1999-08-28T07:53:18	1999-08-28T07:53:17			
Read mode	TIMED	TIMED			

2.3 Aspect



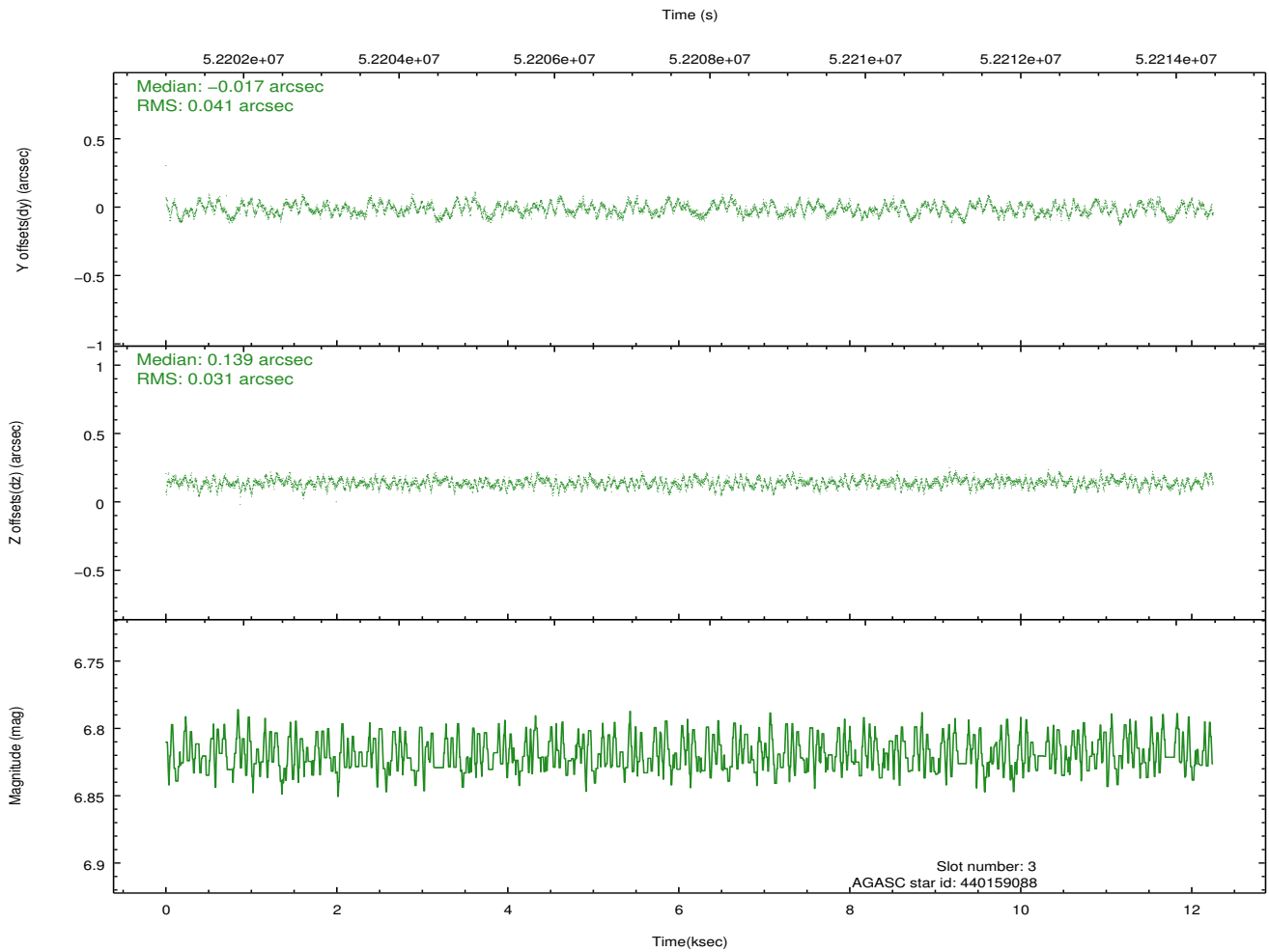
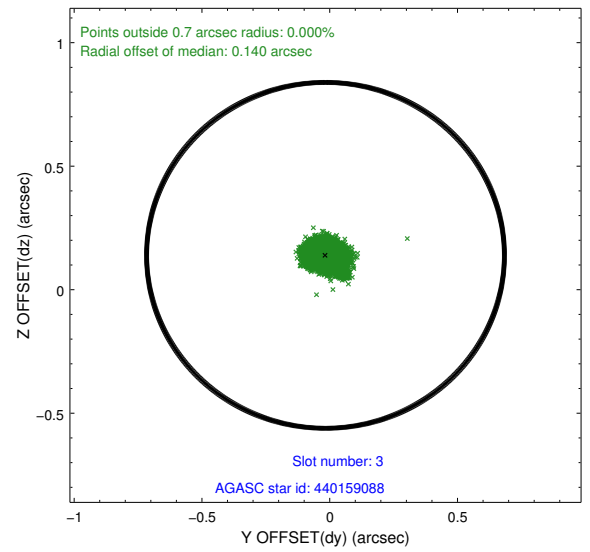
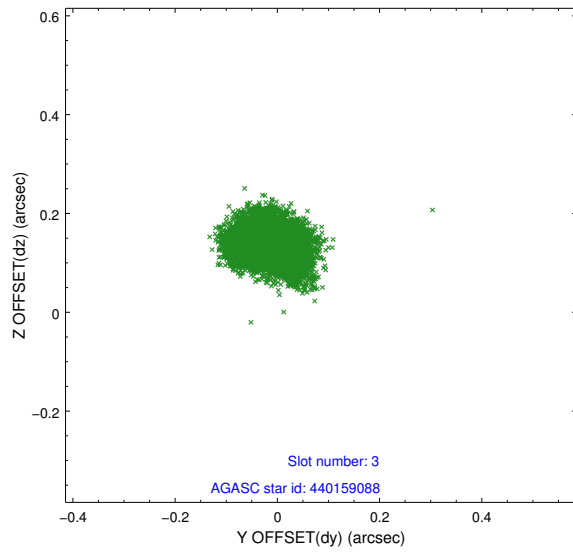


Slot Statistics

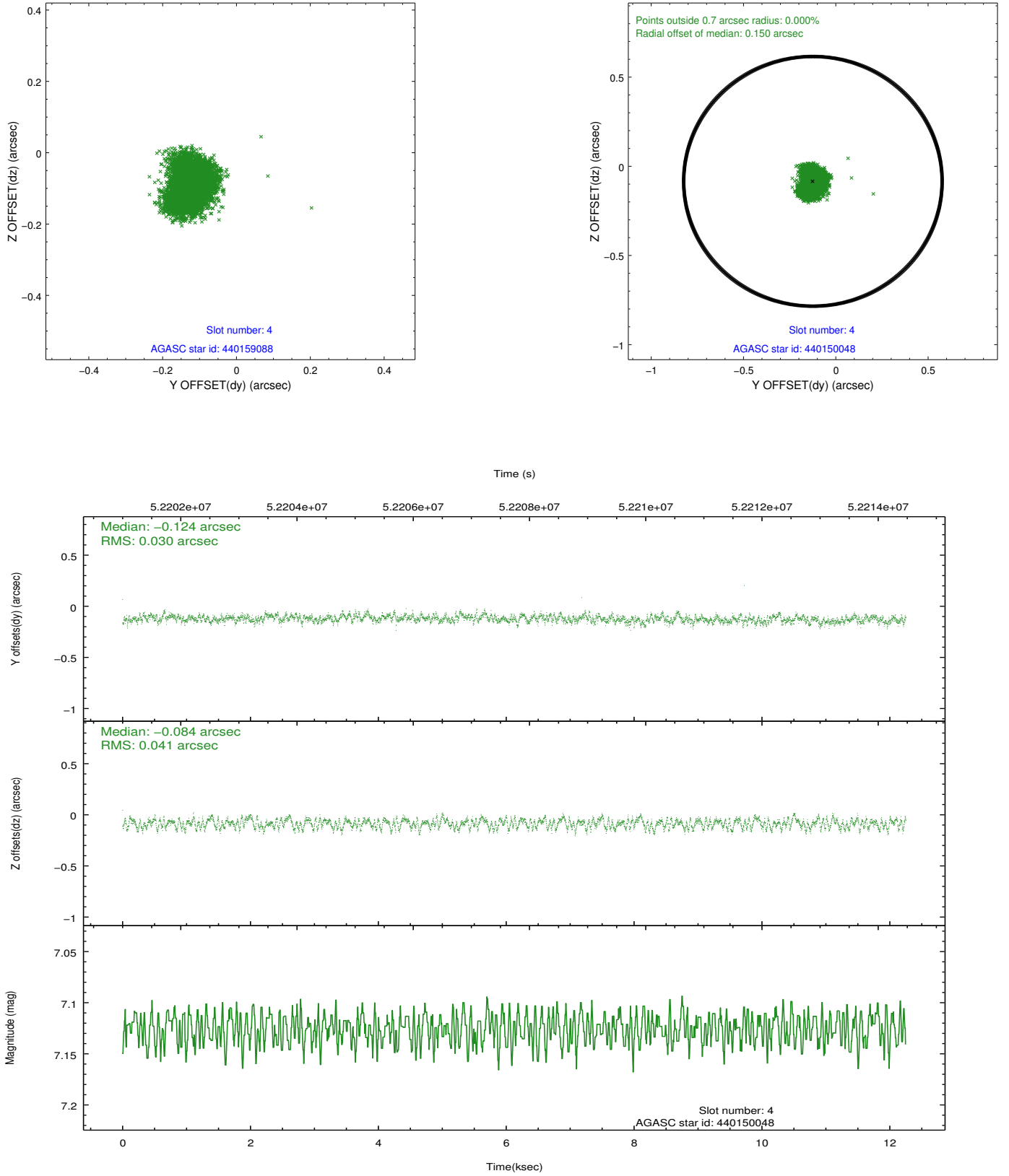
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.12	5959	-0.026	-0.017	0.016	0.026	0.000000	0.000000	-752.75	-1721.32
1	FID	ACIS-S-4	7.22	5960	0.119	0.018	0.026	0.041	0.000000	0.000000	2160.63	187.00
2	FID	ACIS-S-5	7.25	5960	-0.120	0.006	0.021	0.033	0.000000	0.000000	-1805.48	180.88
3	GUIDE	440159088	6.82	5976	-0.017	0.139	0.055	0.086	79.453034	46.128063	567.38	-613.66
4	GUIDE	440150048	7.12	5975	-0.124	-0.084	0.055	0.086	79.112838	46.416060	1567.45	275.64
5	GUIDE	440149808	8.51	5970	-0.063	-0.004	0.062	0.100	78.873930	46.405955	1508.42	867.04
6	GUIDE	438460832	8.98	5975	0.131	-0.208	0.097	0.157	78.414614	45.554782	-1593.25	1910.35
7	GUIDE	440145944	9.09	5974	0.081	0.158	0.079	0.125	80.083717	45.428844	-1870.57	-2316.67

2.4 Star Slots

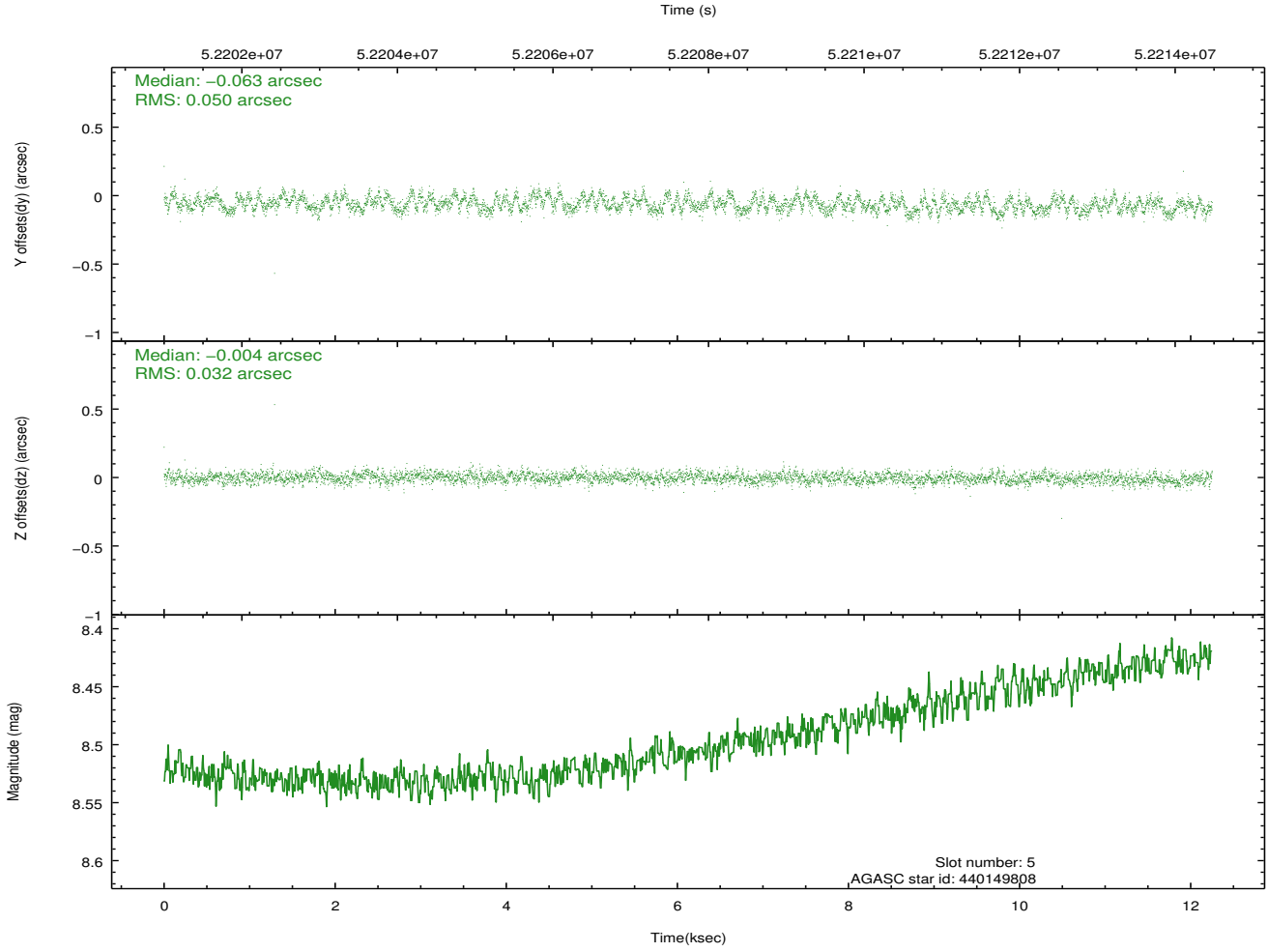
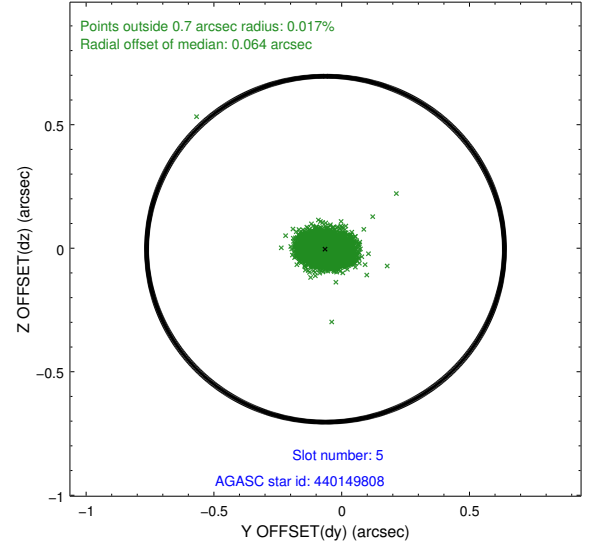
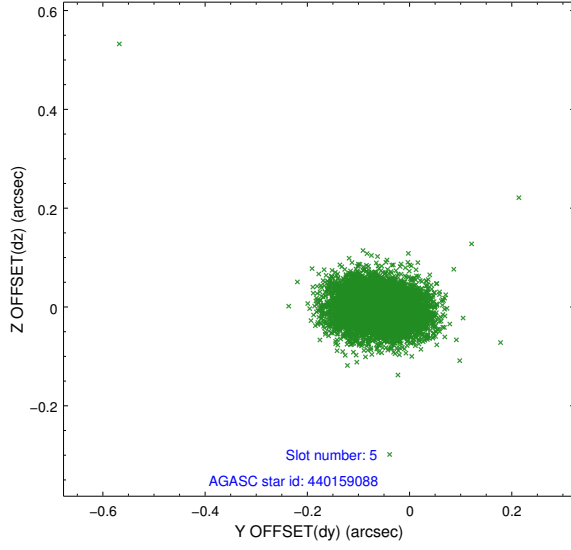
2.4.1 Slot 3



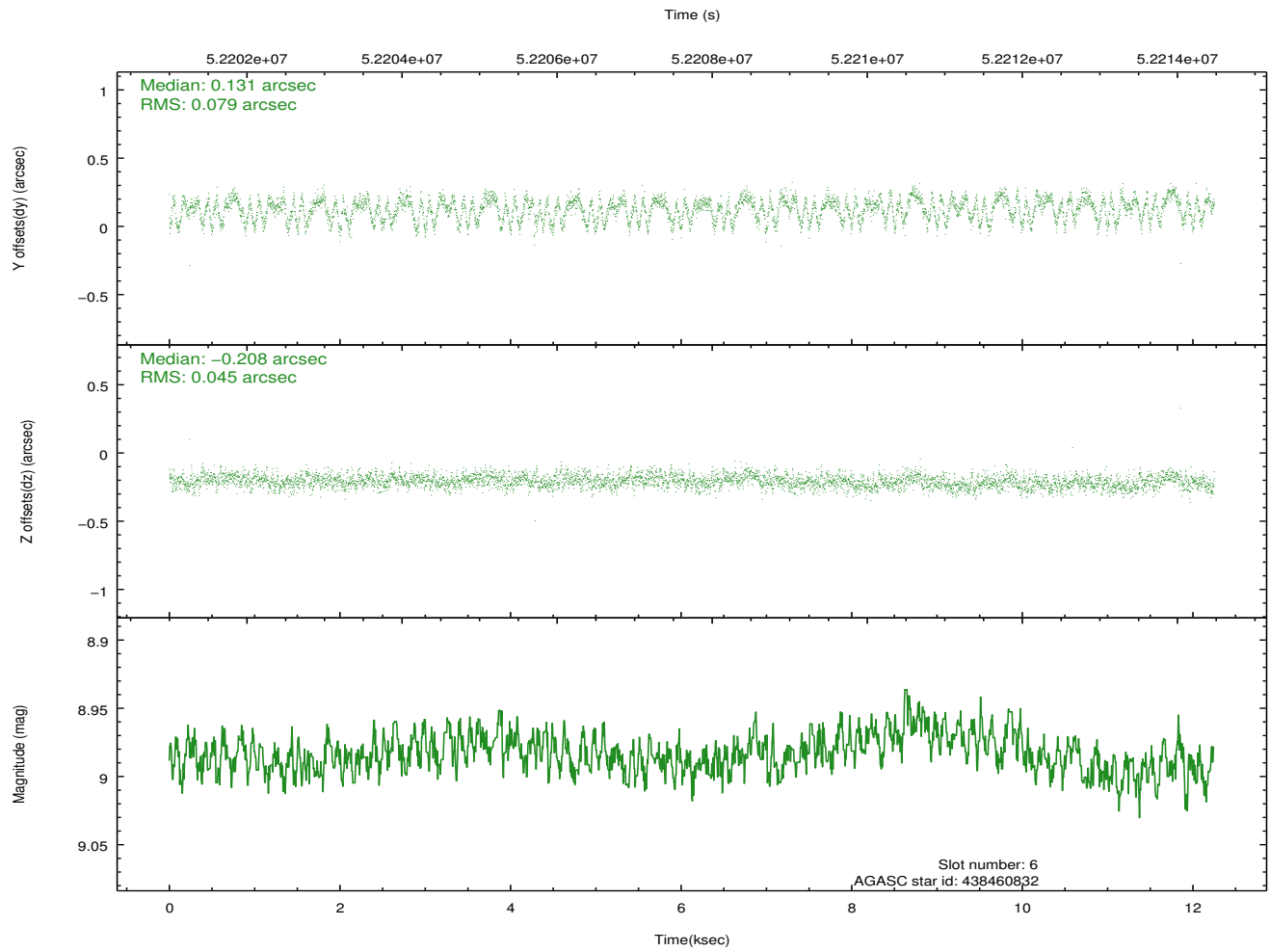
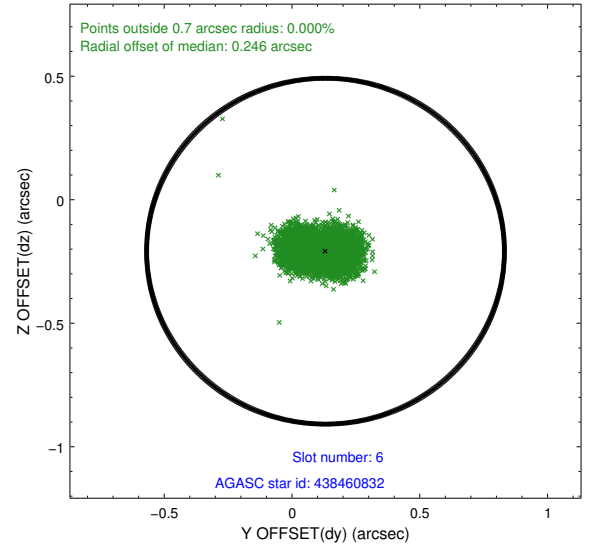
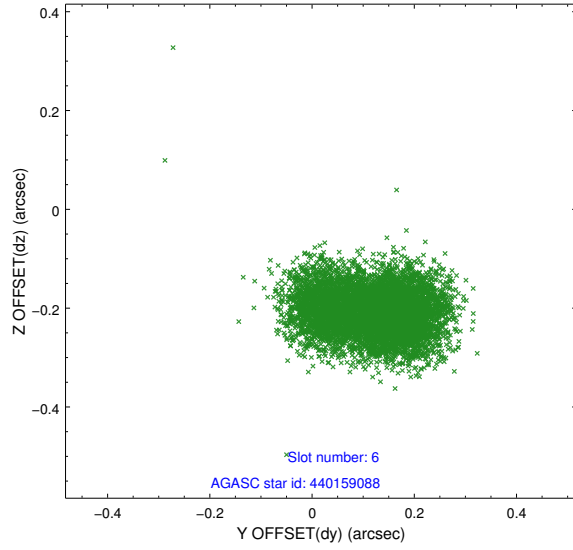
2.4.2 Slot 4



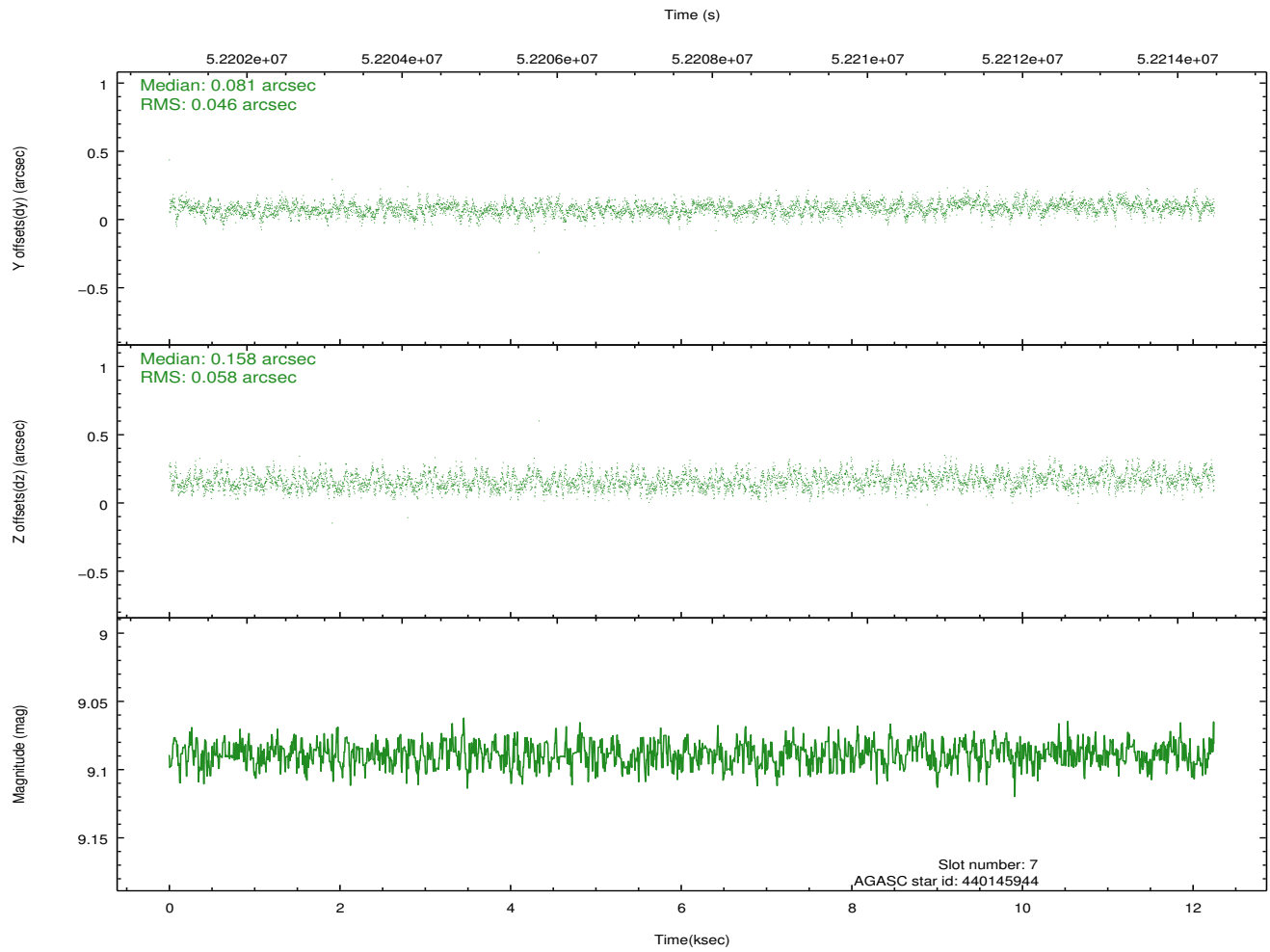
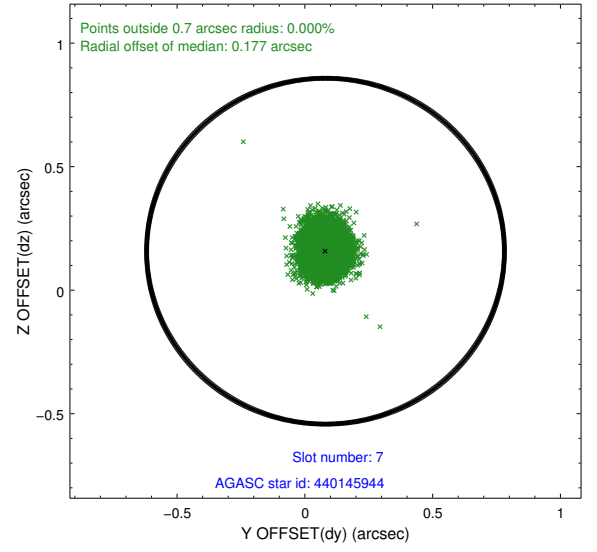
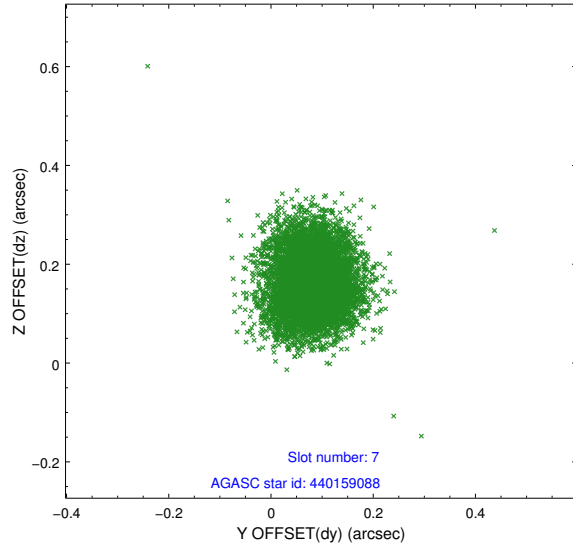
2.4.3 Slot 5



2.4.4 Slot 6

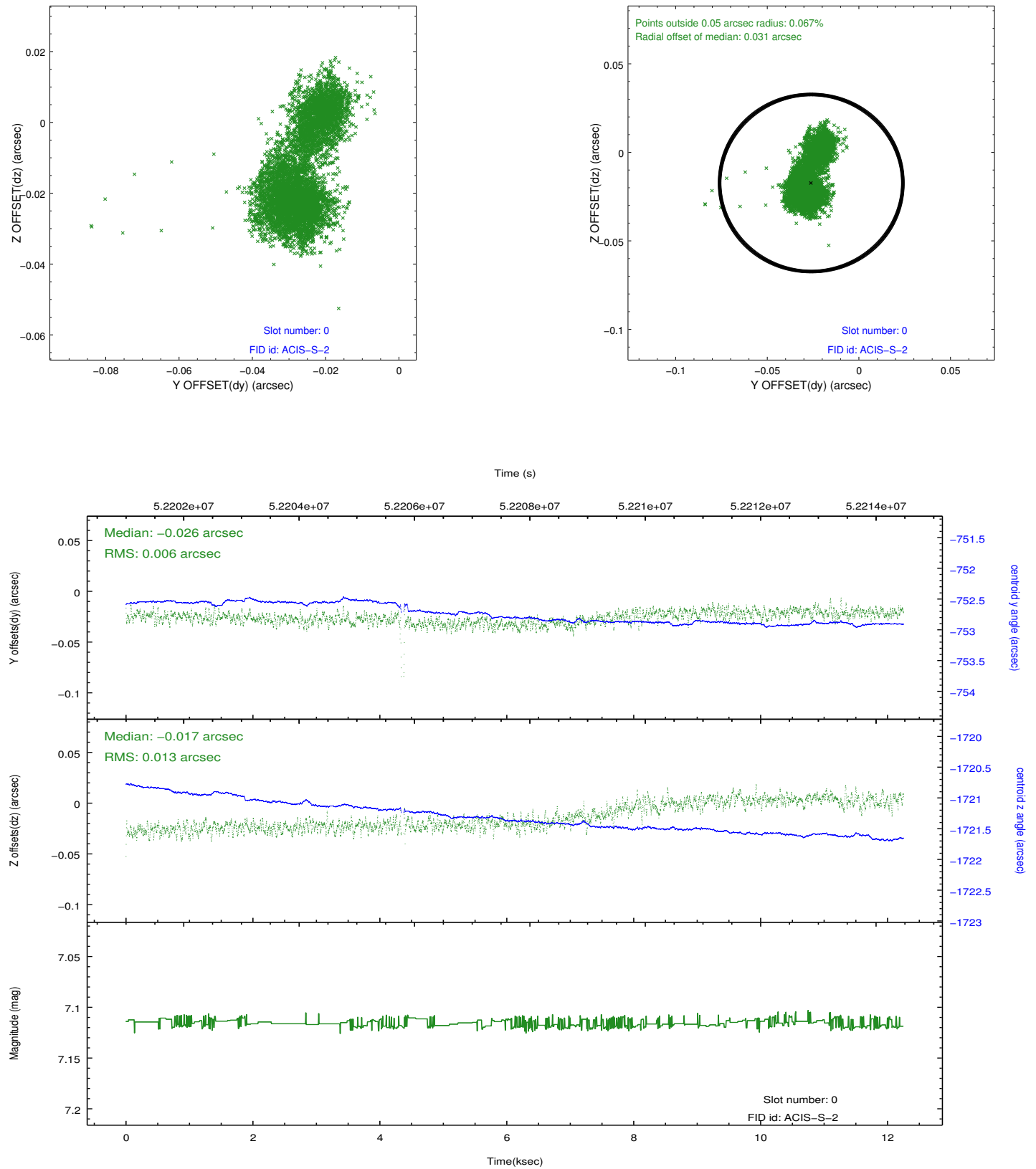


2.4.5 Slot 7

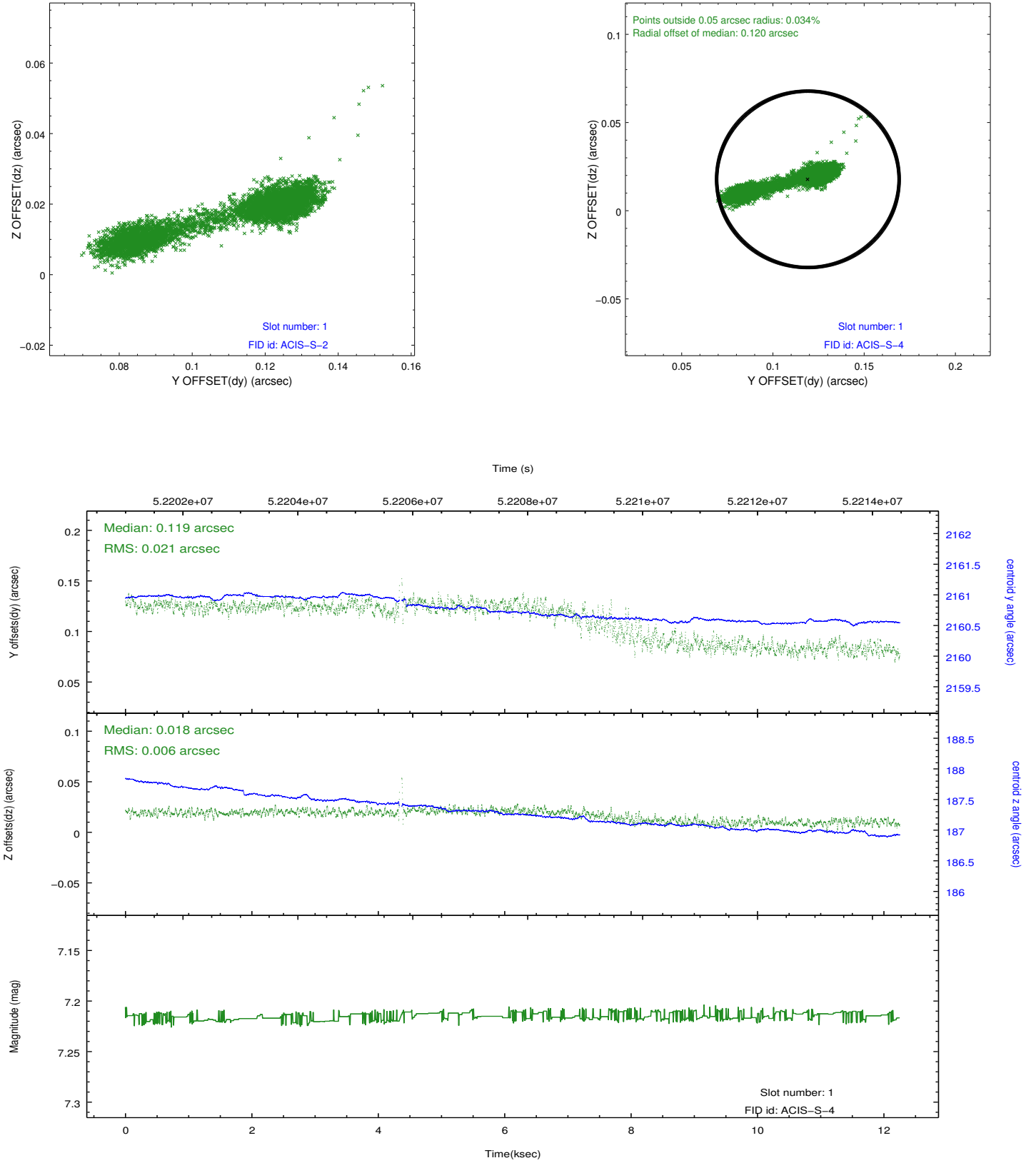


2.5 FID Slots

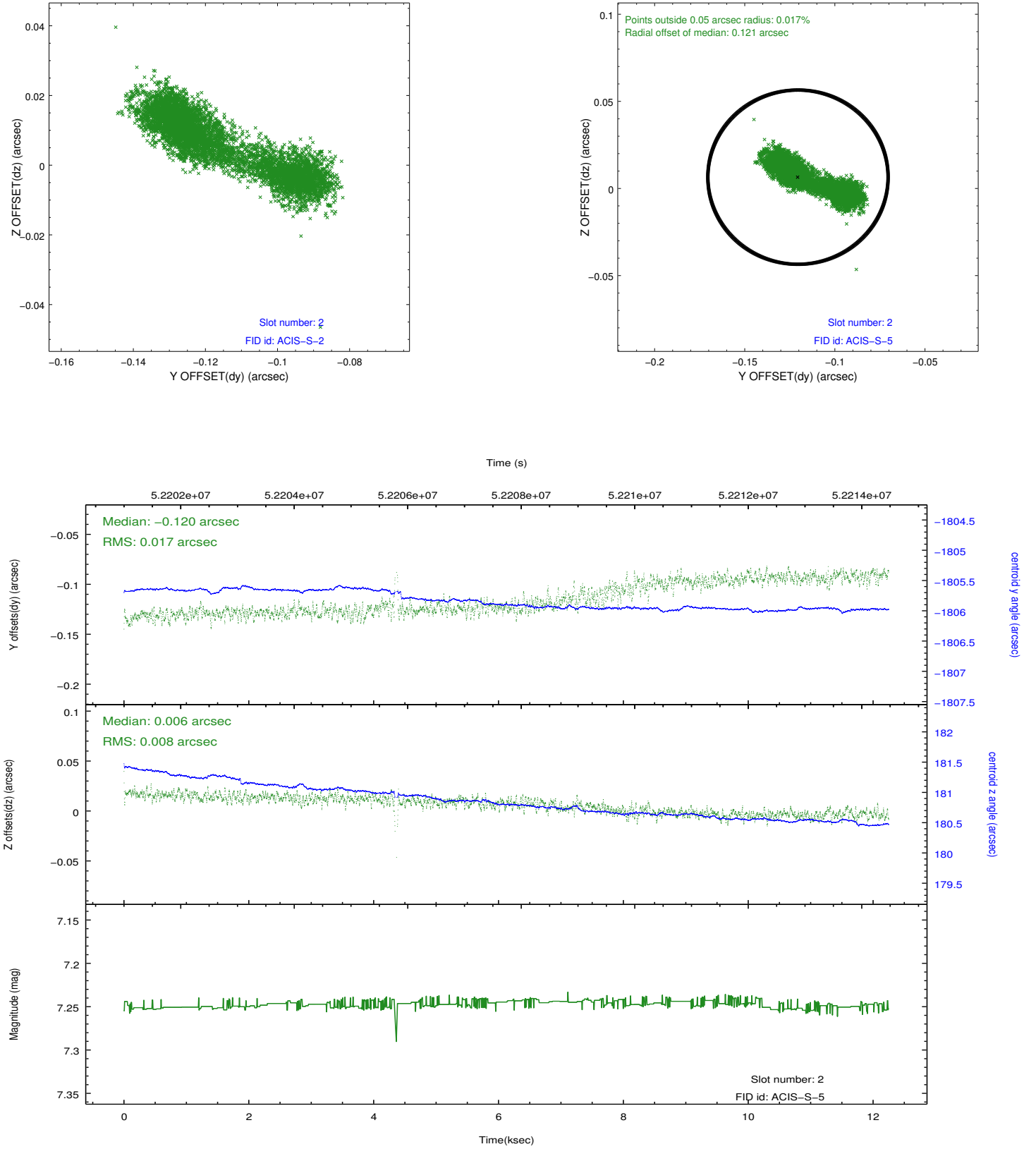
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

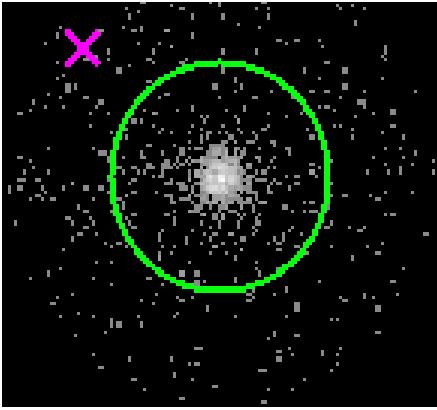


3 Gratings

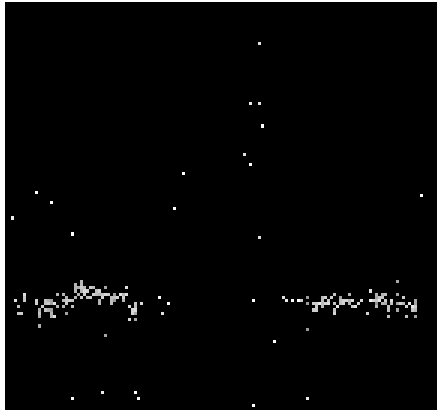
3.1 HEG Arm



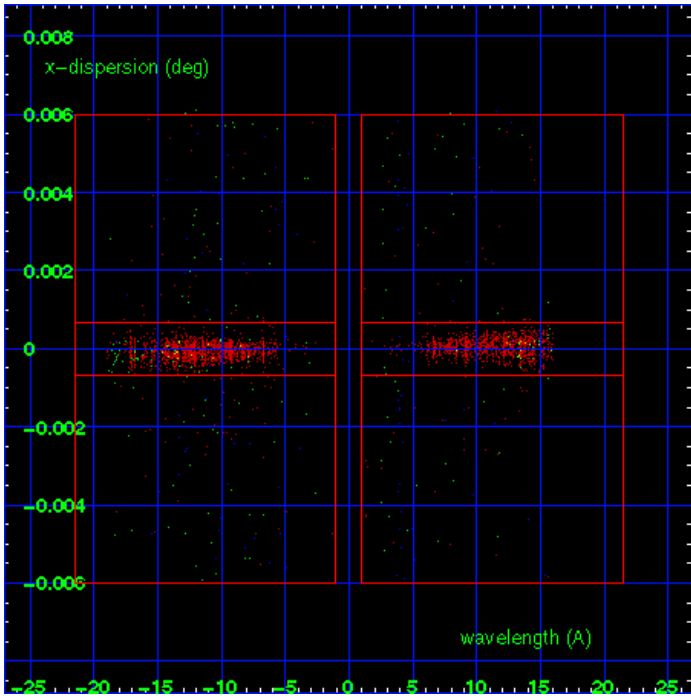
HEG Order Sort 123



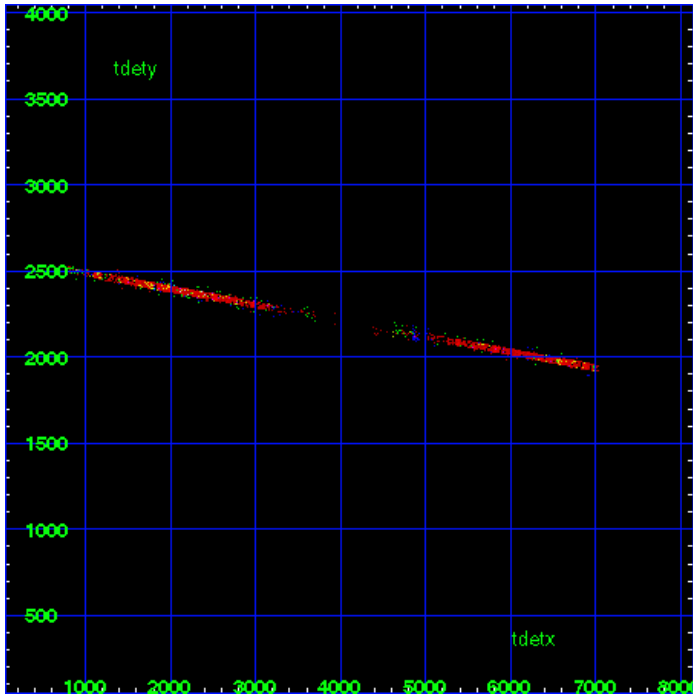
HEG Zero Order



HEG Order Sort ALL

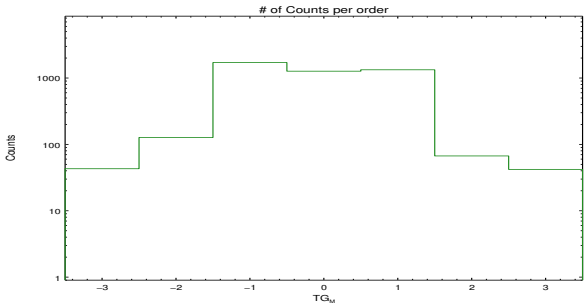


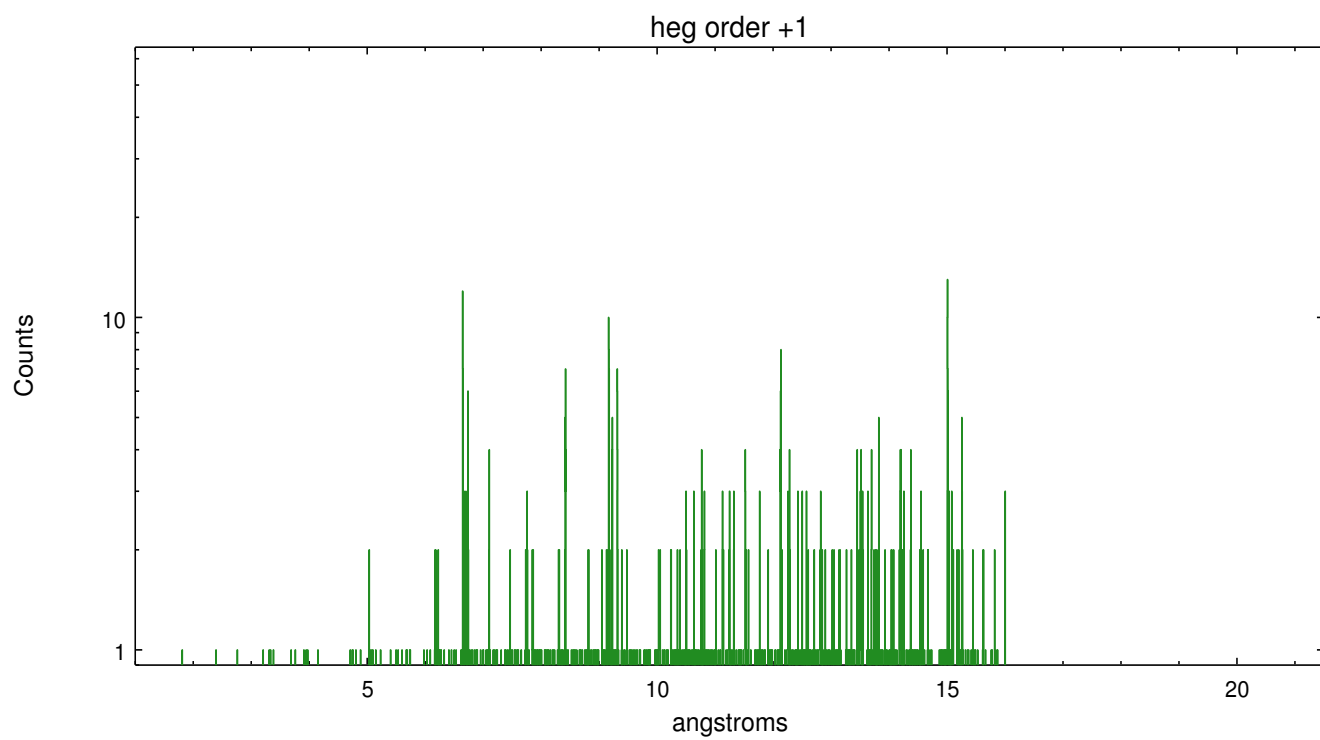
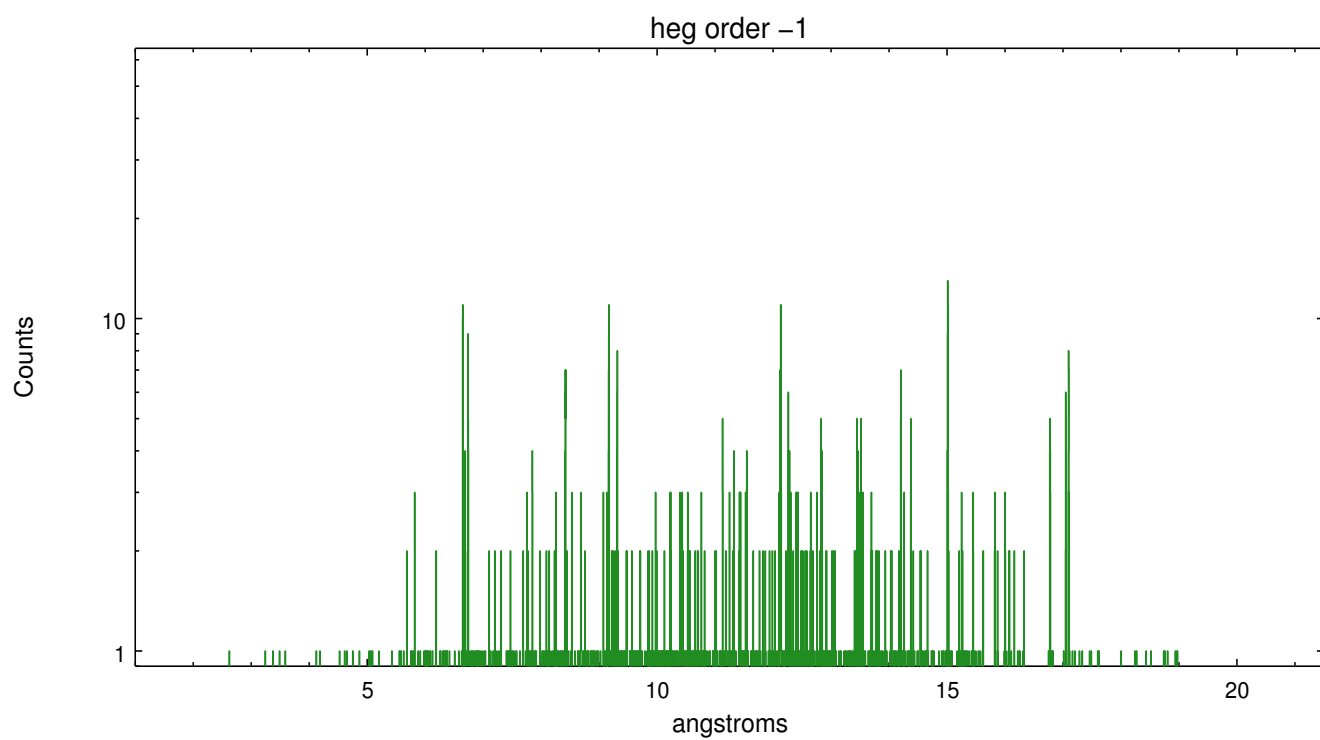
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	43	127	1710	1267	1331	67	42

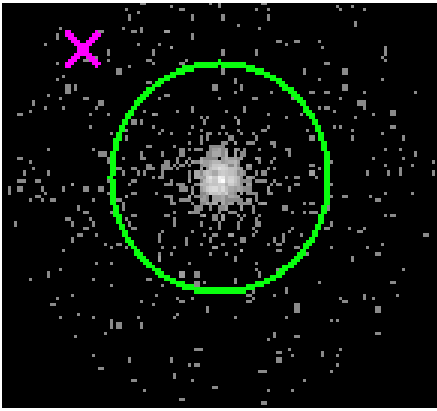




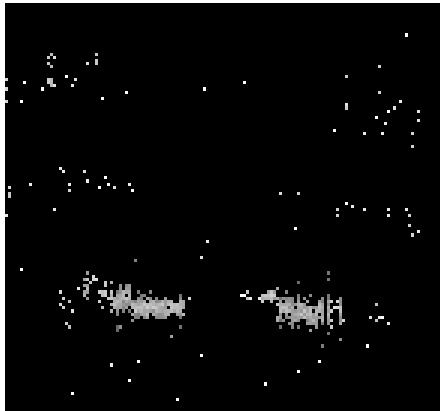
3.2 MEG Arm



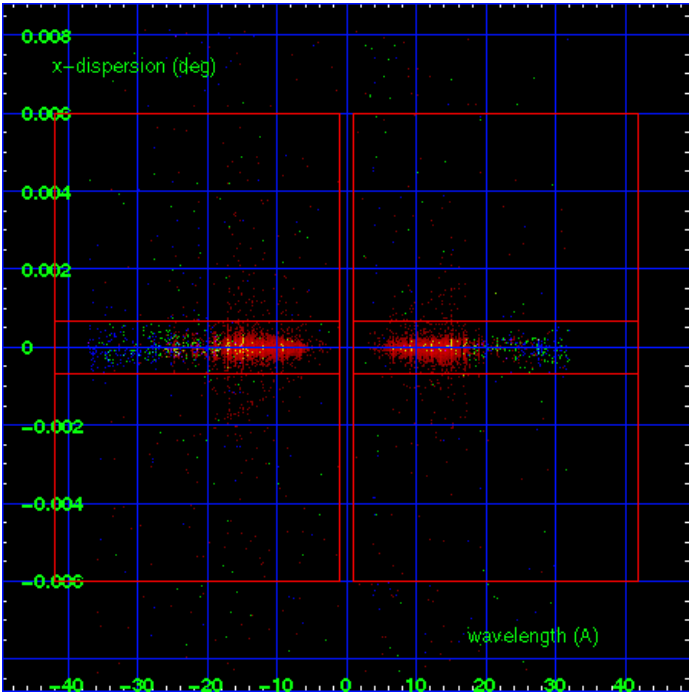
MEG Order Sort 123



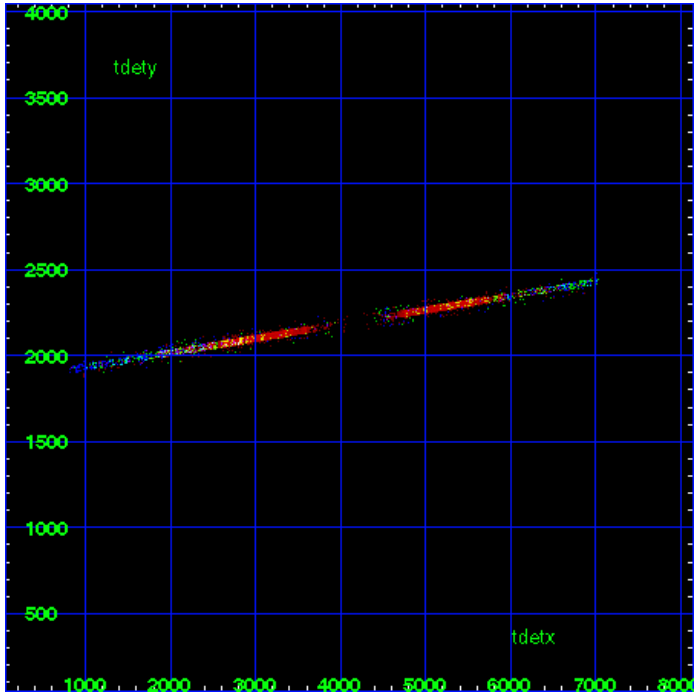
MEG Zero Order



MEG Order Sort ALL

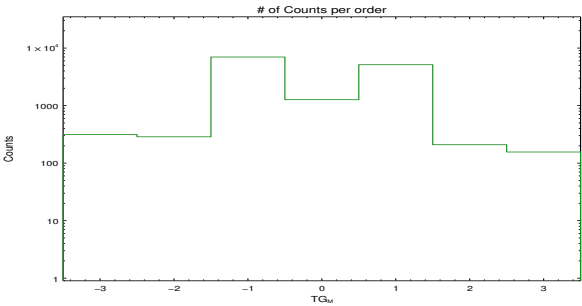


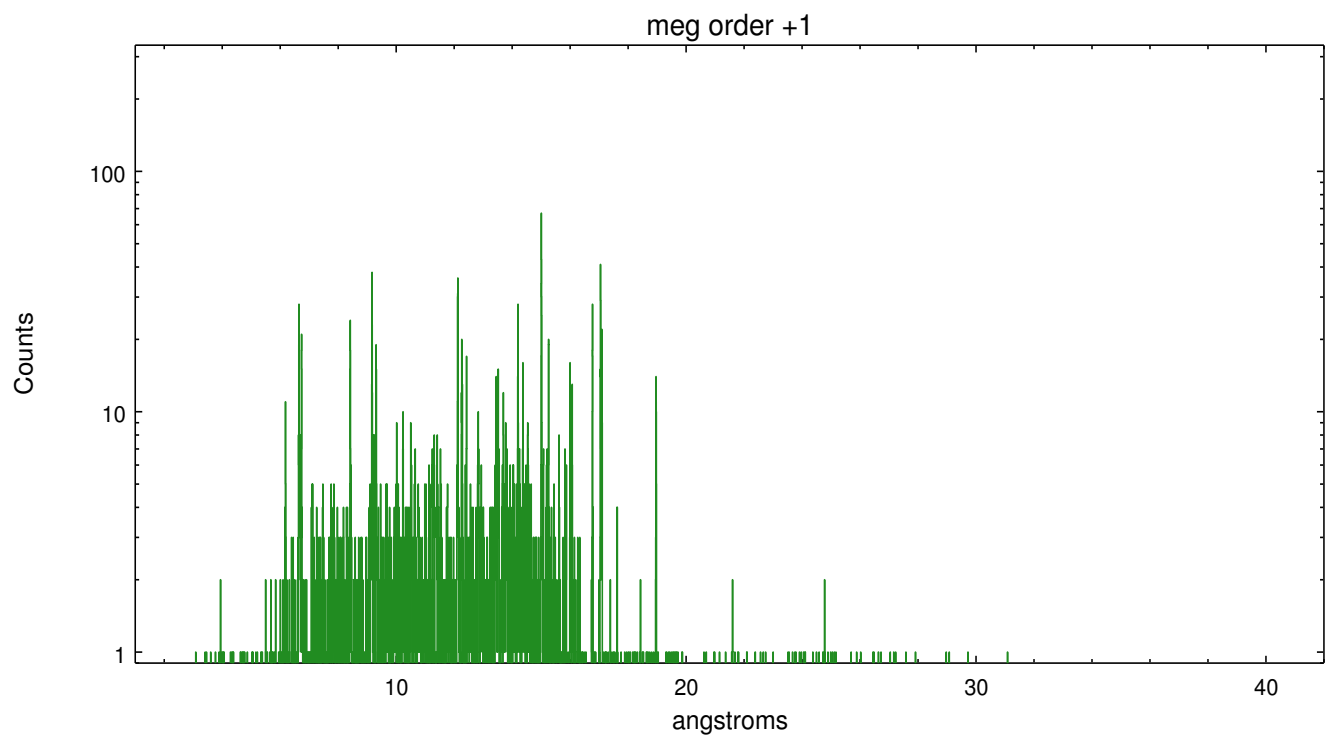
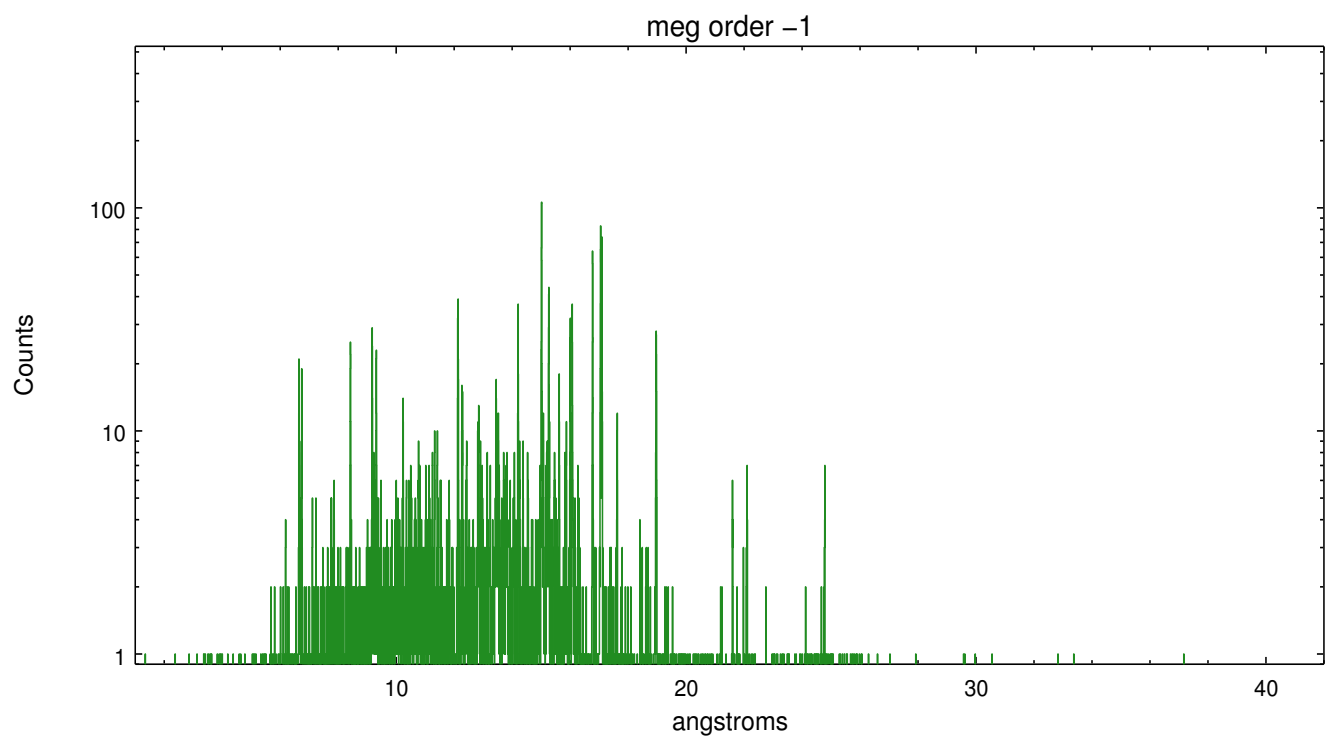
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	314	287	6992	1267	5141	209	156





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2010.08.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	7.118

A.2 Comments

This is the first grating observation of the Chandra mission. The observation started without the grating inserted. The grating was inserted at 0540 on Aug. 28, about 4.5 ksec into the observation. This processing includes the time interval during which the grating was inserted in the Level 2 data.

===

The bias map for CCD_ID = 7 suffered from anomalously high bias values in an 'exacto-knife'-shaped area of the bias file. Pixels in the event data that have been bias-corrected by one of the affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small (~20 eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD_ID=7 have been recreated recreated for this processing to remove this anomaly.

Bias map for chip 7 was reconstructed using scaled data from a comparable bias map for another observation to replace pixels affected by the anomaly.

===

The focal plane temperature is approximately -100 C during this observation. This reprocessing of the data applies no CTI correction because none is available for this temperature at present.

The ACIS CTI correction has not been calibrated at this temperature, because it was early in the mission, and ACIS had not yet been lowered to the standard -119.7 C. Both front and back illuminated chips are affected. However a T_GAIN correction has been applied to the BI chips (ACIS-5 and ACIS-7) data included here.

The ACIS spectral response calibration is less accurate at these warmer temperatures than it is at -119.7 C. Users whose science objectives

depend on the most accurate spectral response (ie: fitting line-rich spectra) may notice an effect. Users whose science objectives do not depend on the most accurate spectral response should not notice an effect.

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