

V&V Reference Report

L2 ASCDS Version : 8.3.2.1

Observation 1199 - L2 Version 4

Chandra X-Ray Center

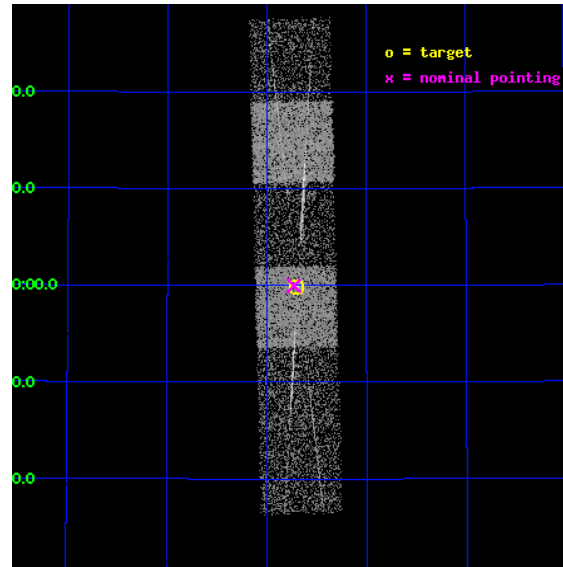
L2 Processing Date : Sep 16 2010

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
3	Gratings	17
3.1	HEG Arm	17
3.2	MEG Arm	19
A	Summary	21
A.1	Status	21
A.2	Comments	21

1 Front

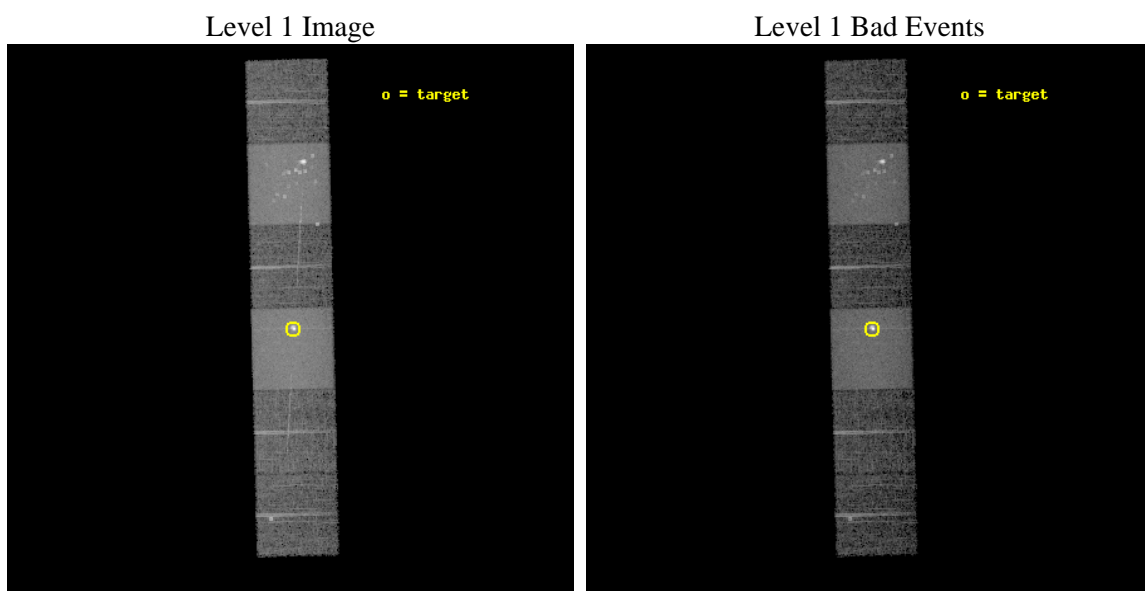
seq_num	280149	Sequence number
obs_id	1199	Observation id
title	 	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	CAPELLA	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	79.17625	Observer's specified target RA
dec_targ	45.997889	Observer's specified target Dec
ra_nom	79.182043921641	Nominal RA
dec_nom	45.999303244269	Nominal Dec
roll_nom	88.577224516037	Nominal Roll
revision	4	Processing version of data
ontime	2092.6361611634	Sum of GTIs [s]
livetime	2066.1379420566	Livetime [s]
ontime4	2067.5658103302	Sum of GTIs [s]
ontime5	2082.913200736	Sum of GTIs [s]
ontime6	2080.4064912498	Sum of GTIs [s]
ontime7	2092.6361611634	Sum of GTIs [s]
ontime8	2076.4313900247	Sum of GTIs [s]
ontime9	2089.3952008933	Sum of GTIs [s]
l2events	30789	Number of level 2 events



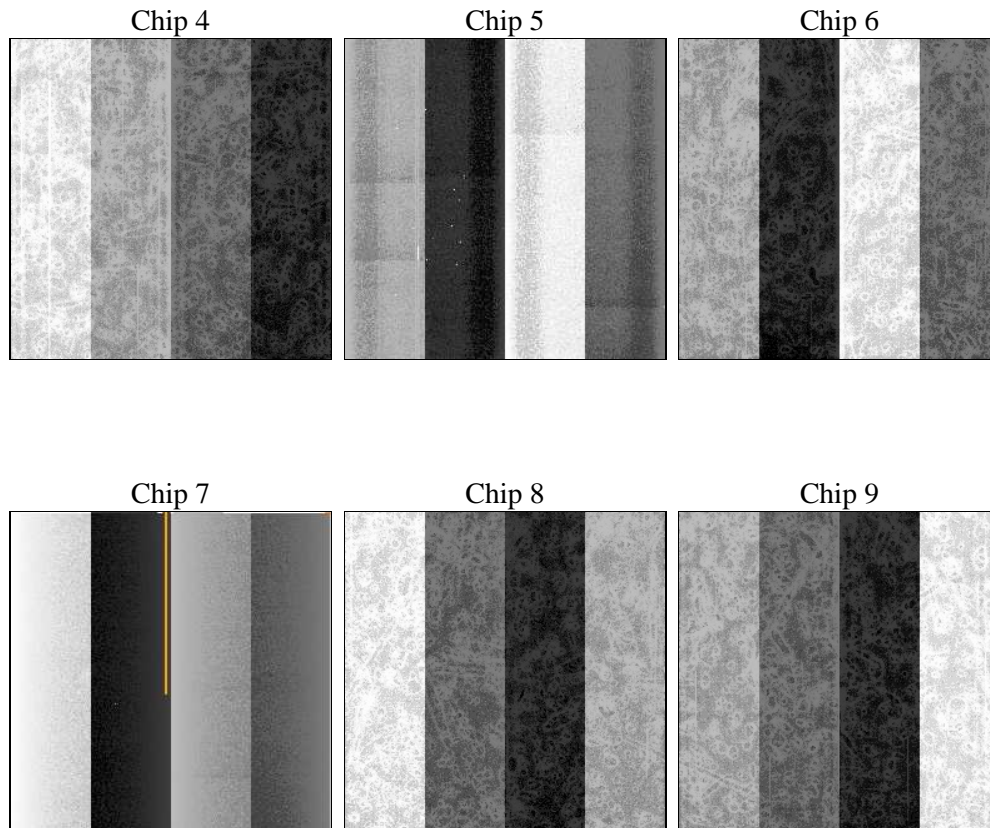
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	10000.000000	Scheduled observation exposure time
ascdsver	8.3.2.1	ASCDS version number	ontime	2092.6361611634	Sum of GTIs [s]
caldsver	4.3.0	 	ontime4	2067.5658103302	Sum of GTIs [s]
date	2010-09-16T17:37:25	Date and time of file creation	ontime5	2082.913200736	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	2080.4064912498	Sum of GTIs [s]
			ontime7	2092.6361611634	Sum of GTIs [s]
			ontime8	2076.4313900247	Sum of GTIs [s]
			ontime9	2089.3952008933	Sum of GTIs [s]
			l1events	419847	Number of level 1 events

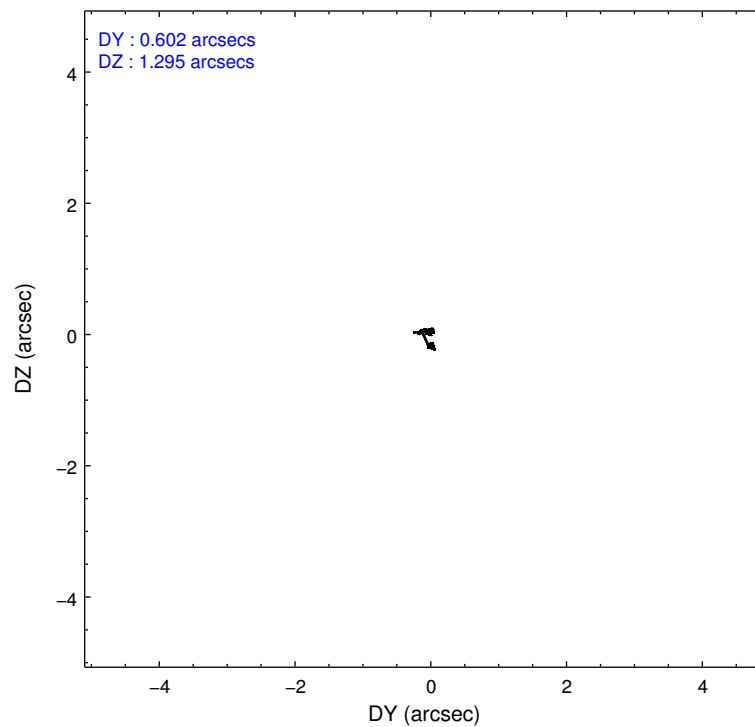
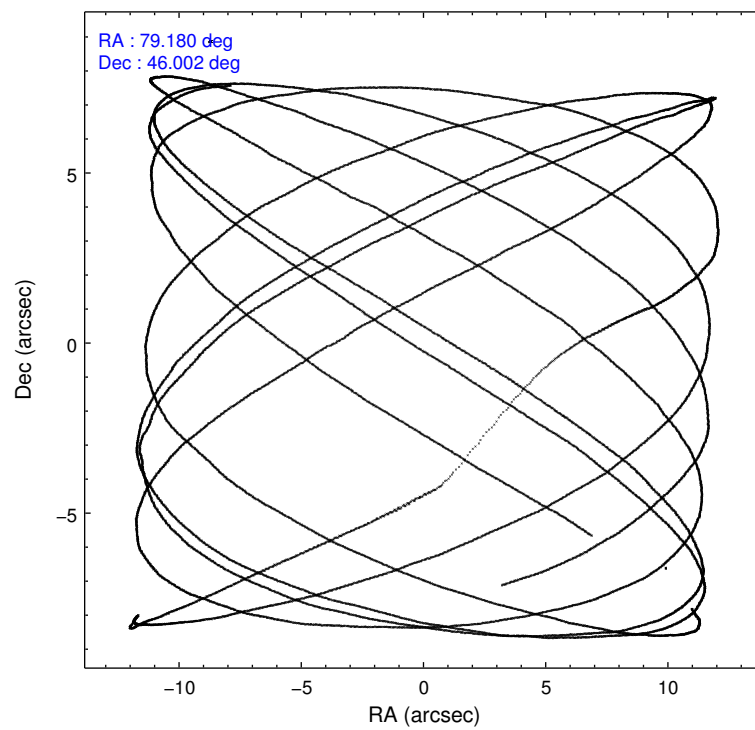
2.1.4 Events

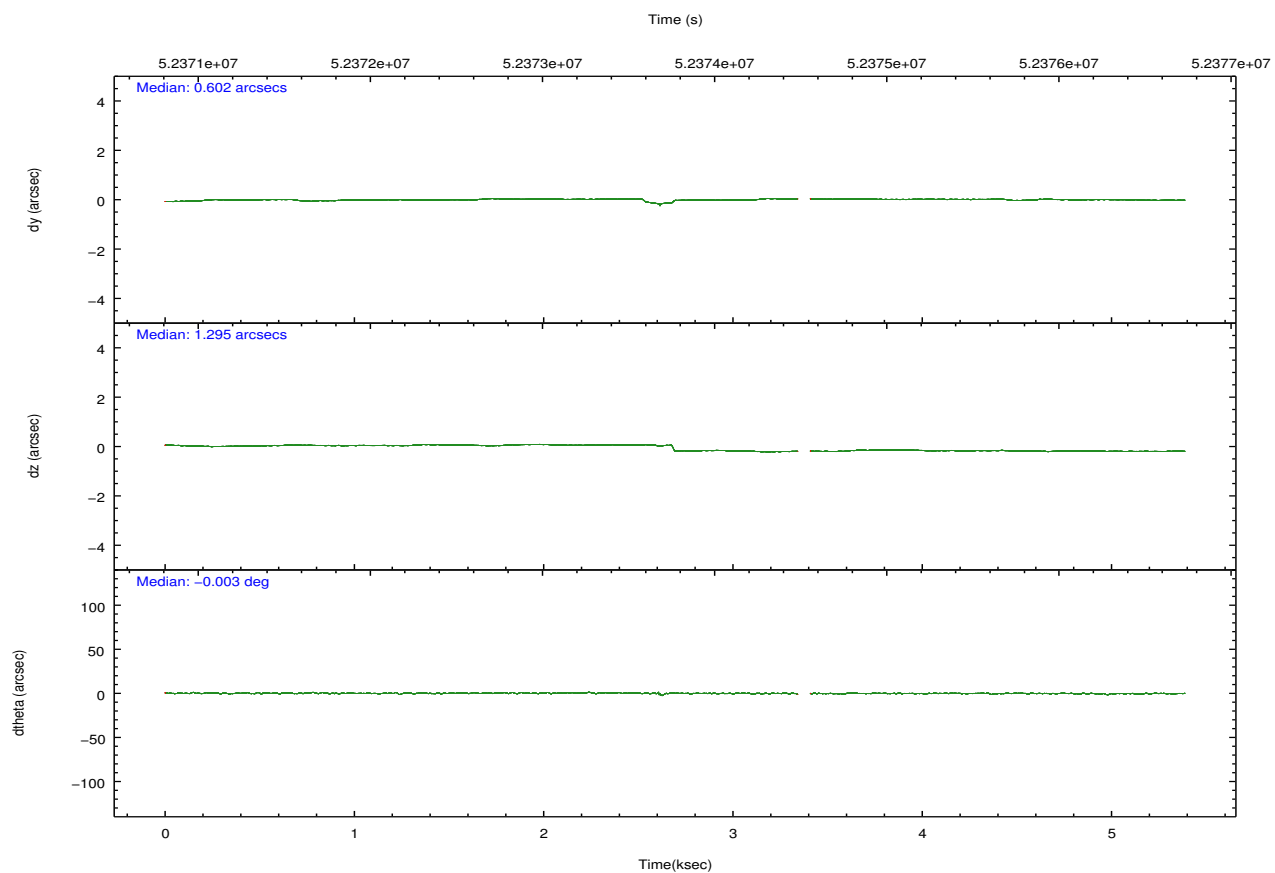
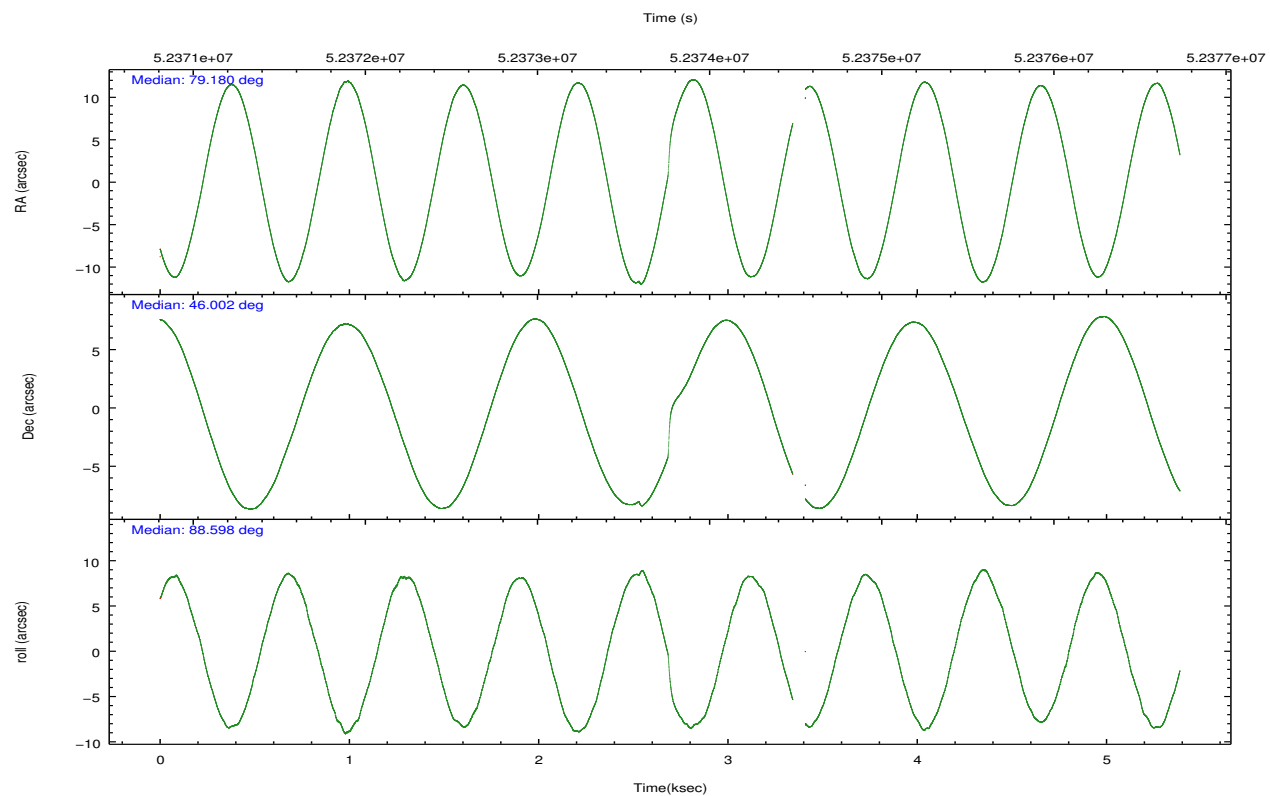
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	44271	123865	42137	117043	50643	41888	grade 0 events	2270	20445	3409	8732	4307	3454
rejected events	42080	104364	38997	107667	45542	38910		5%	16%	8%	7%	8%	8%
rejected %	95%	84%	92%	91%	89%	92%	grade 1 events	19	260	26	293	33	22
								0%	0%	0%	0%	0%	0%
							grade 2 events	1698	16303	1996	12414	2746	1651
								3%	13%	4%	10%	5%	3%
							grade 3 events	262	7950	319	7107	585	330
								0%	6%	0%	6%	1%	0%
							grade 4 events	306	7415	293	6320	530	305
								0%	5%	0%	5%	1%	0%
							grade 5 events	843	3073	935	3730	1371	1091
								1%	2%	2%	3%	2%	2%
							grade 6 events	739	36187	942	43077	1735	941
								1%	29%	2%	36%	3%	2%
							grade 7 events	38134	32232	34217	35370	39336	34094
								86%	26%	81%	30%	77%	81%

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	79.17960264380412	79.18204392164131	Subarray requested	NONE	NONE
Pointing Dec	46.00262976307893	45.99930324426948	Alternating exposures requested	N	N
Pointing Roll	88.60034539691401	88.57722451603732	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	52371075.4188	52371075.4188			
Observation start date	1999-08-30T01:53:57	1999-08-30T03:31:15			
Observation end time	52377343.294301	52377343.294301			
Observation end date	1999-08-30T05:15:43	1999-08-30T05:15:43			
Read mode	TIMED	TIMED			

2.3 Aspect



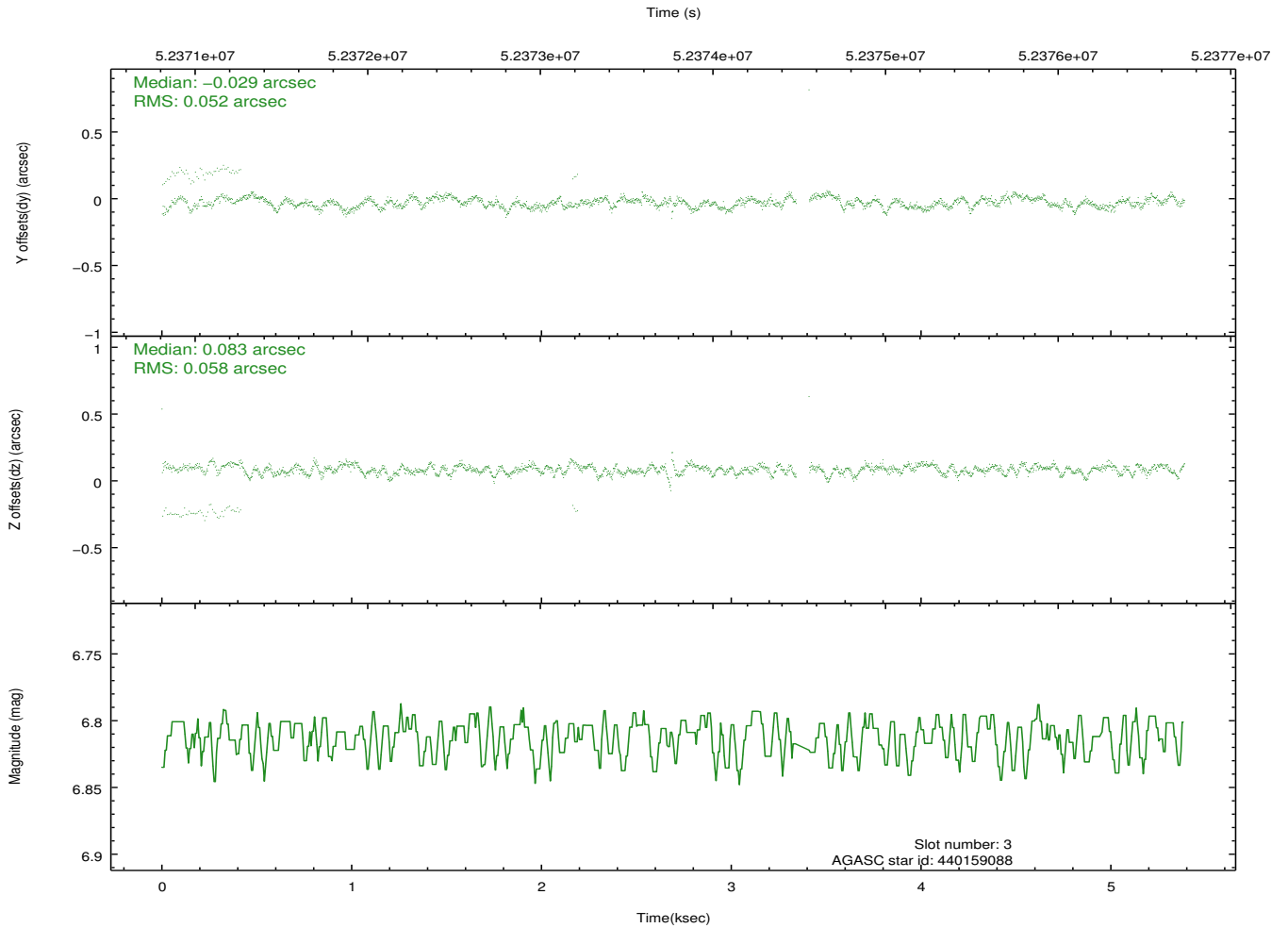
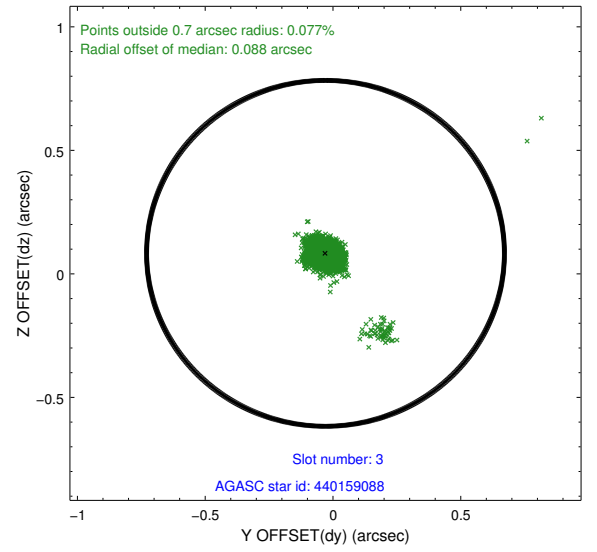
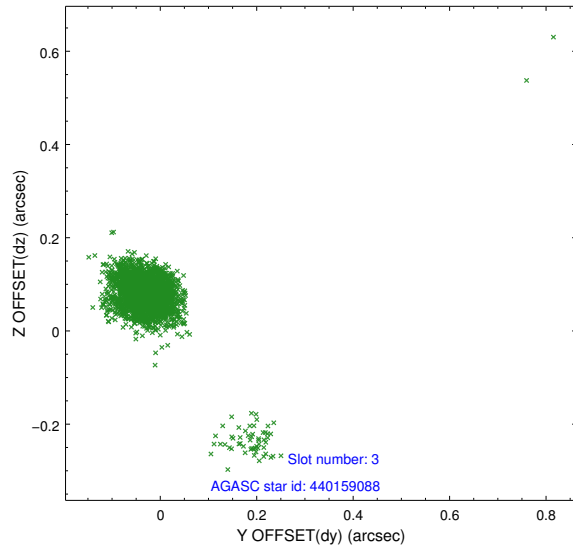


Slot Statistics

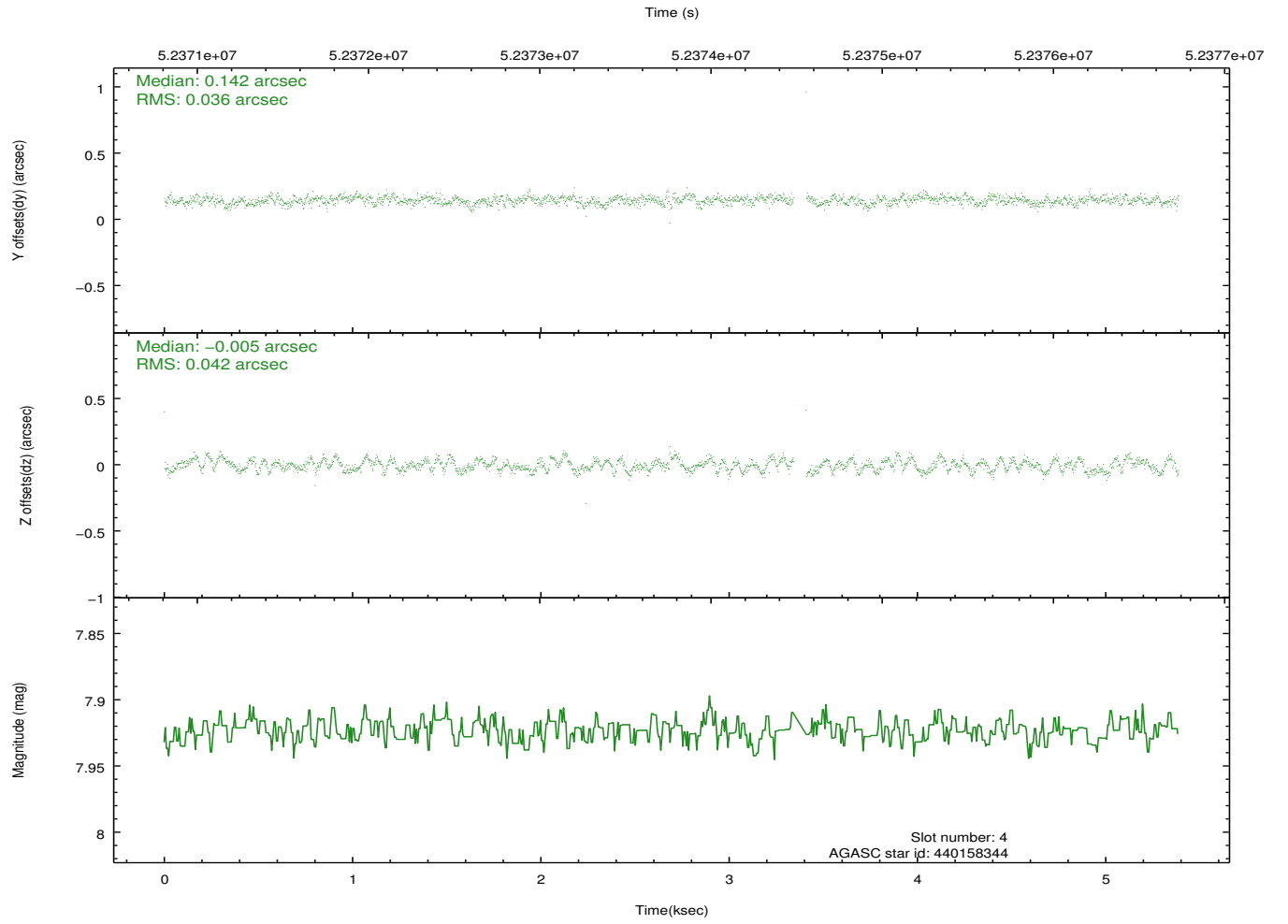
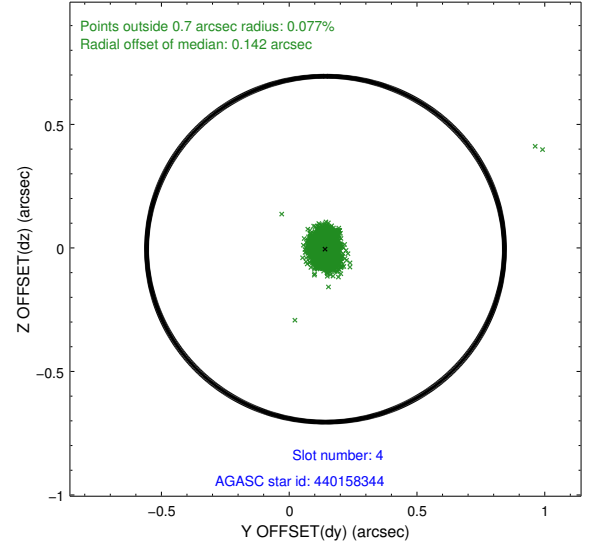
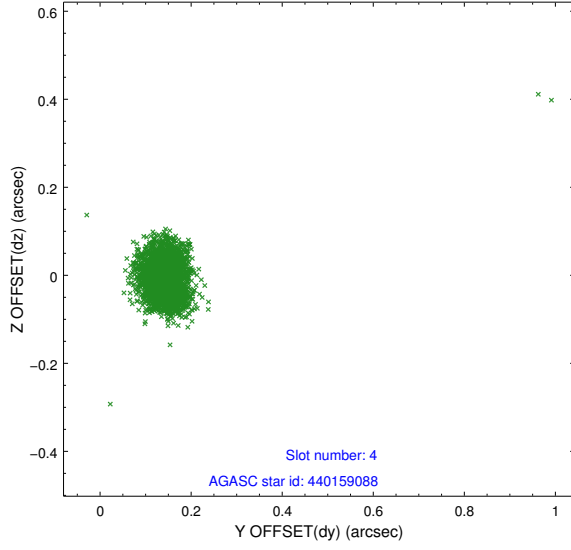
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.12	2579	-0.018	0.007	0.007	0.012	0.000000	0.000000	-753.22	-1722.15
1	FID	ACIS-S-4	7.22	2560	0.066	0.007	0.006	0.011	0.000000	0.000000	2159.94	185.75
2	FID	ACIS-S-5	7.25	2575	-0.080	-0.005	0.006	0.011	0.000000	0.000000	-1805.45	180.06
3	GUIDE	440159088	6.81	2592	-0.029	0.083	0.050	0.087	79.453034	46.128063	558.97	-620.38
4	GUIDE	440158344	7.92	2593	0.142	-0.005	0.052	0.082	79.344888	45.394991	-2086.64	-428.22
5	GUIDE	440149808	8.56	2586	-0.063	-0.072	0.058	0.092	78.873930	46.405955	1519.28	846.99
6	GUIDE	440145944	9.09	2595	0.069	0.125	0.085	0.137	80.083717	45.428844	-1901.37	-2289.60
7	GUIDE	438440232	9.47	2595	-0.122	-0.119	0.093	0.152	78.262303	46.626220	2282.65	2376.71

2.4 Star Slots

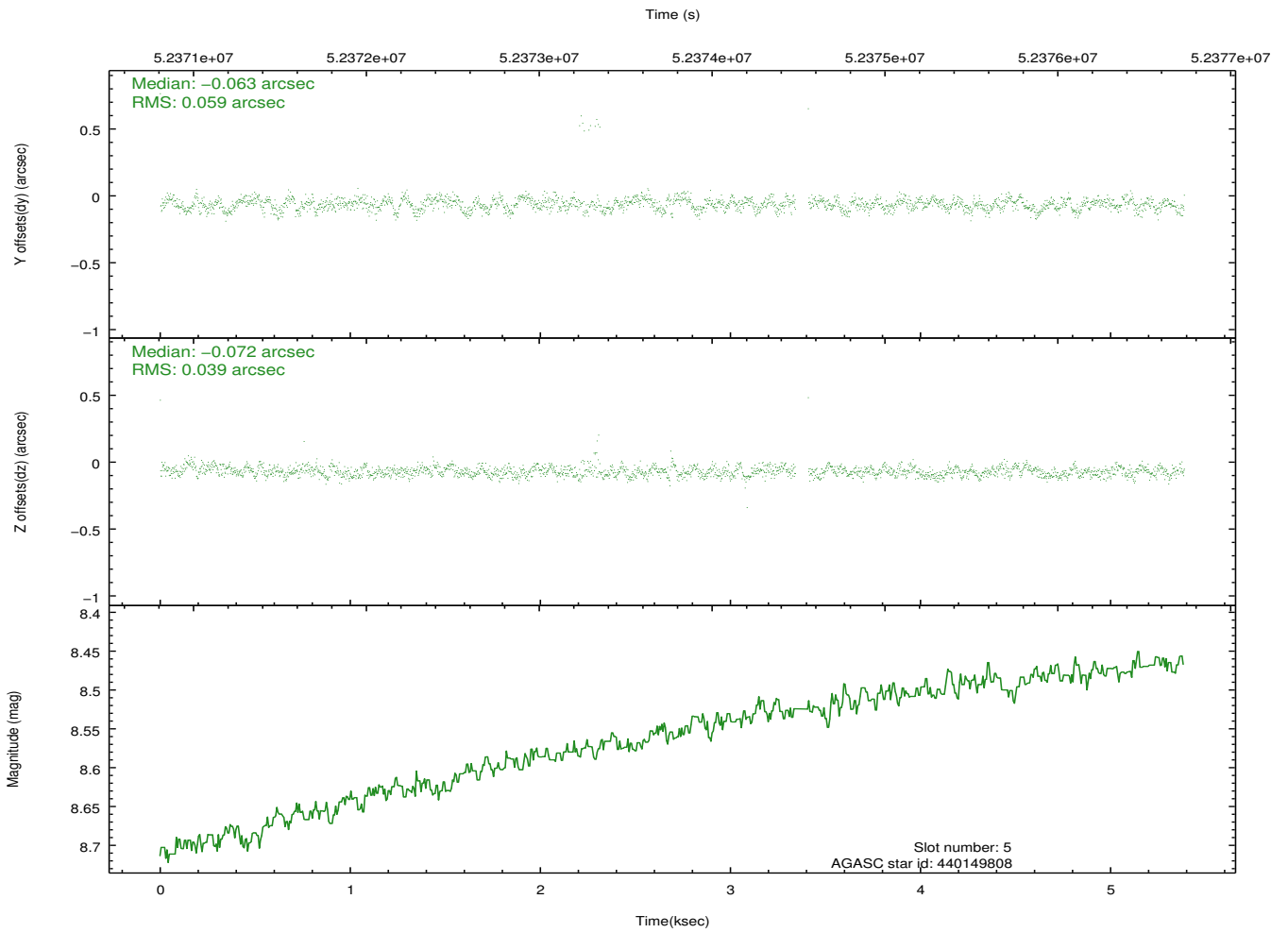
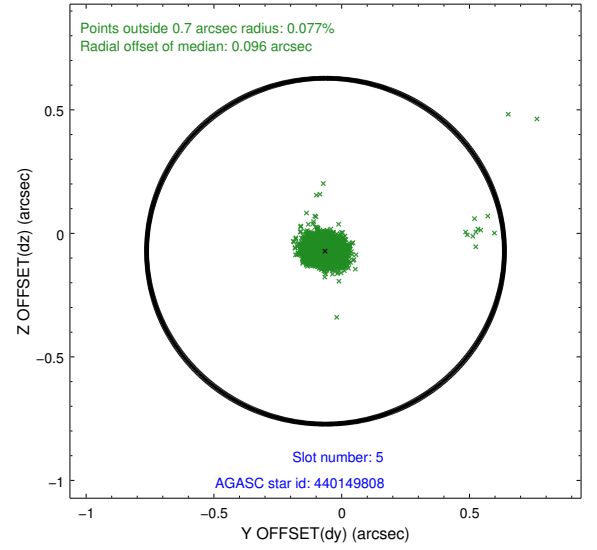
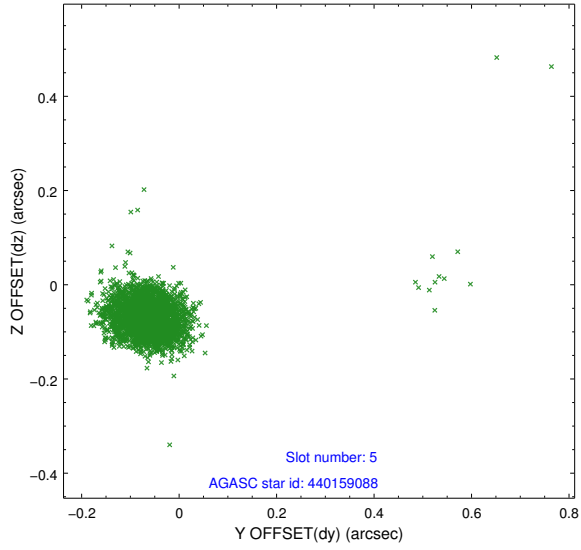
2.4.1 Slot 3



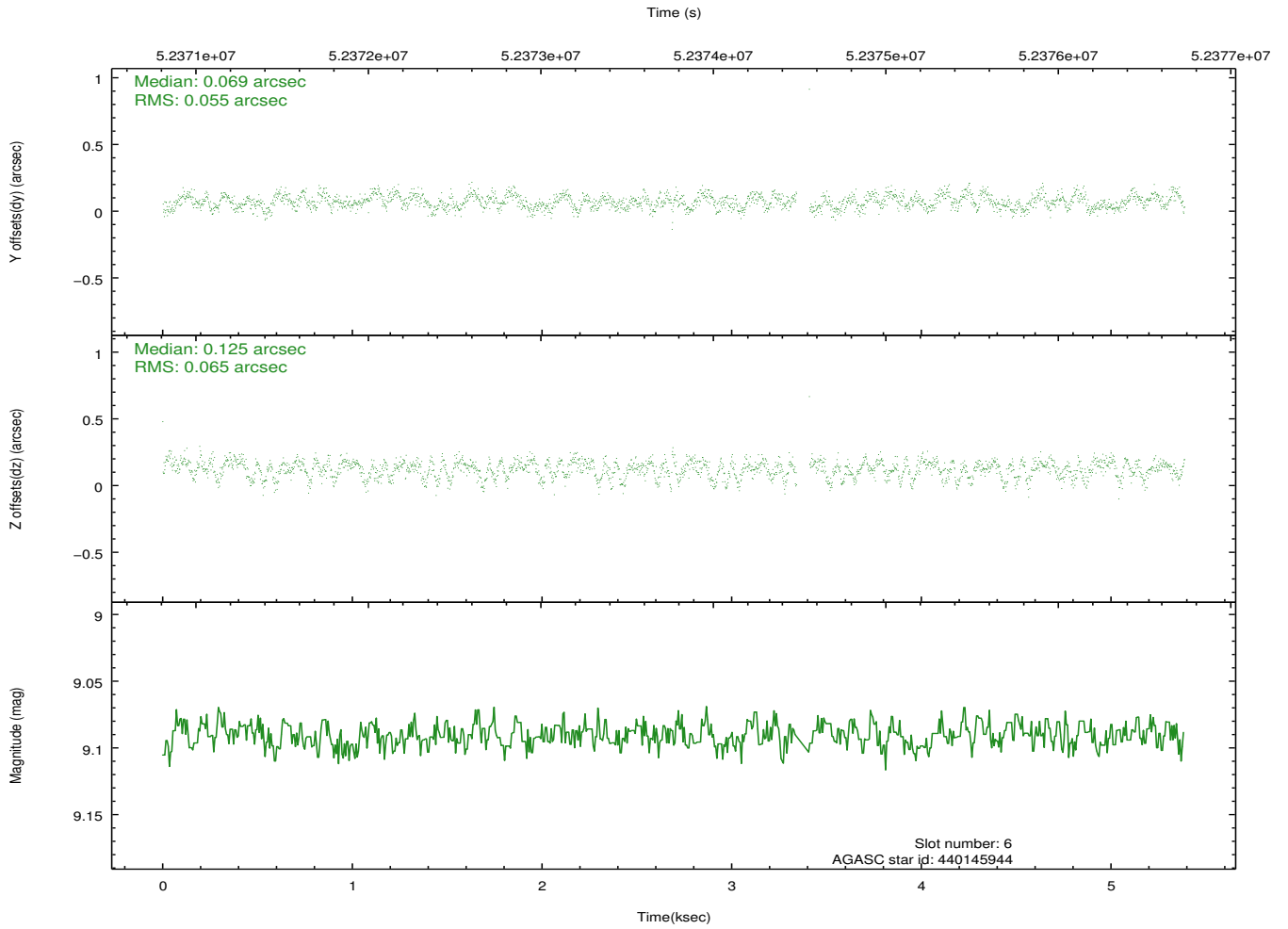
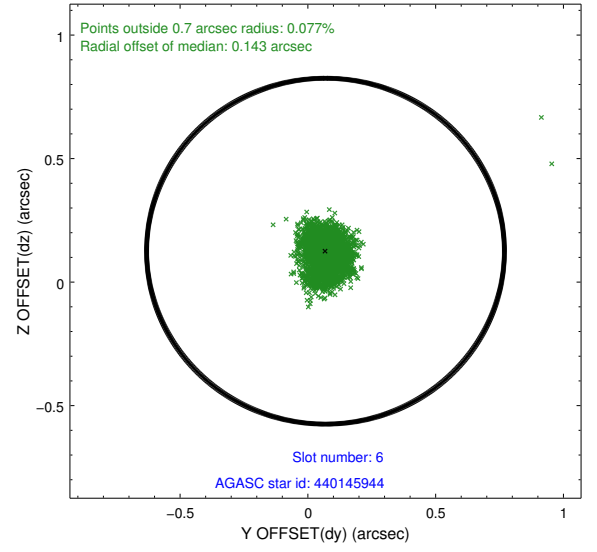
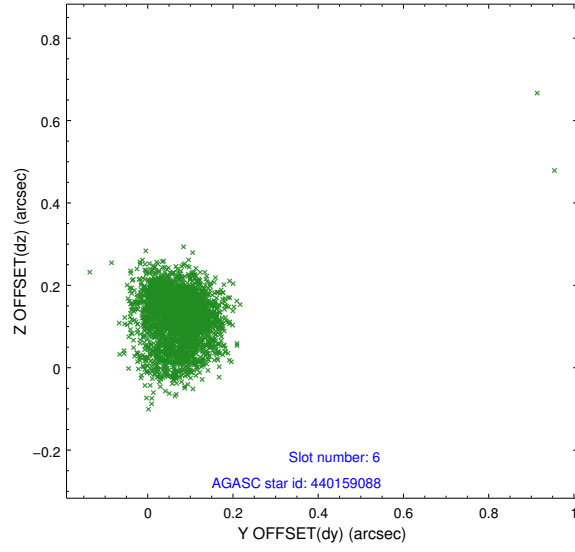
2.4.2 Slot 4



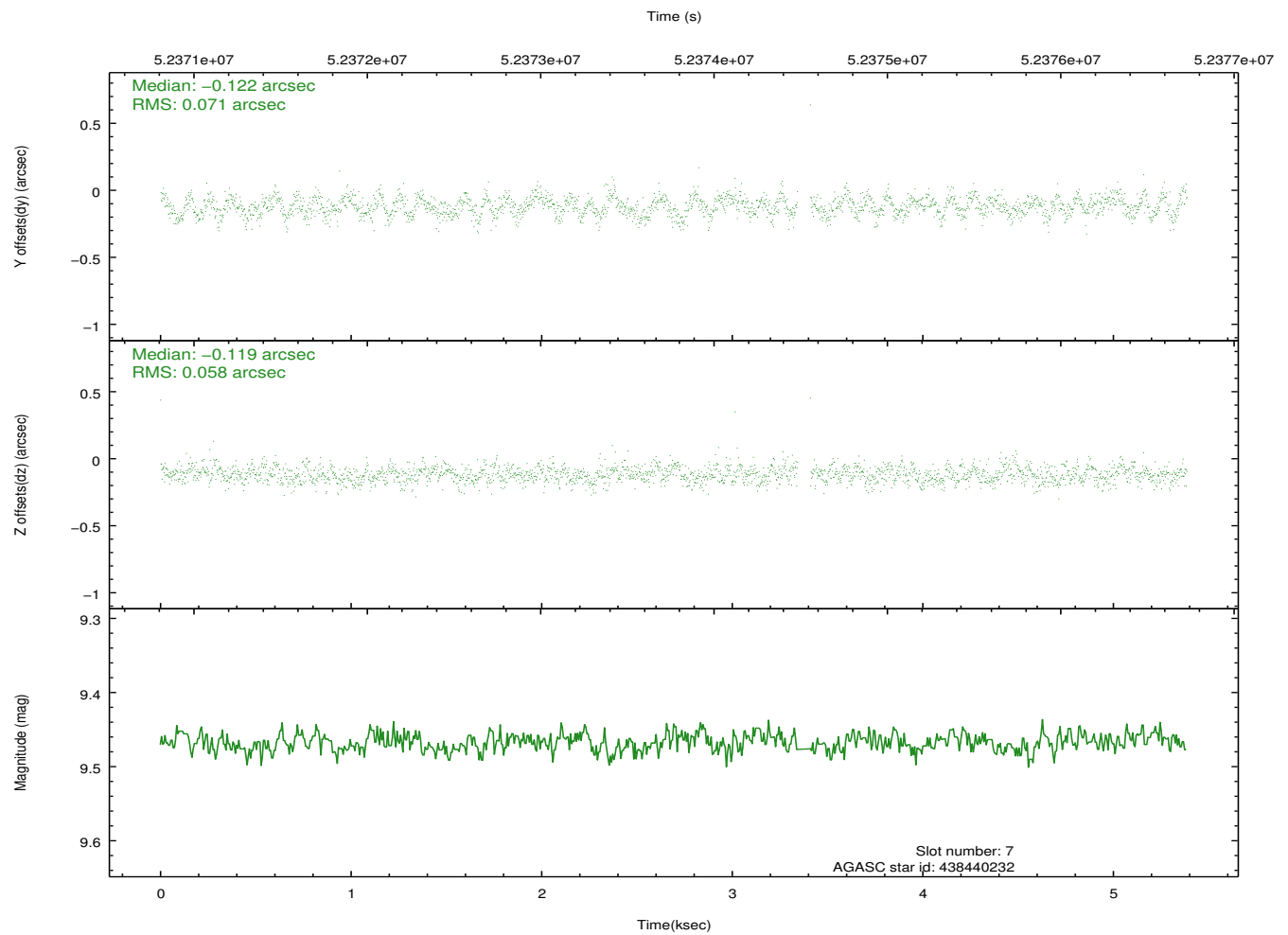
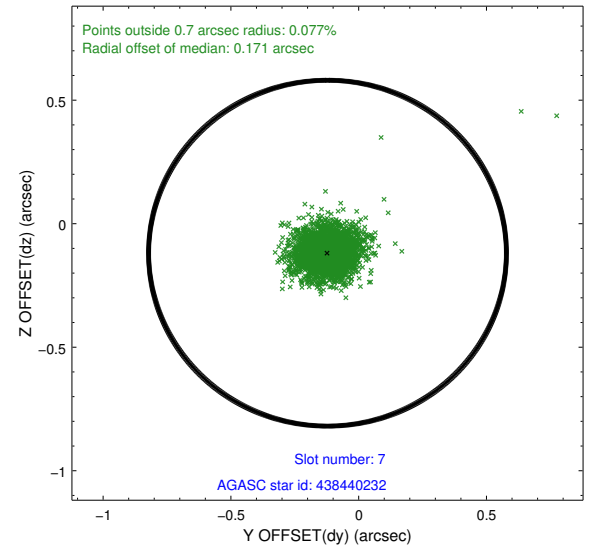
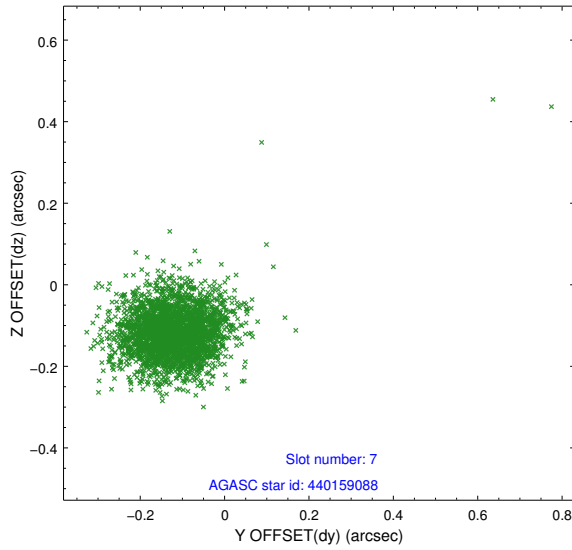
2.4.3 Slot 5



2.4.4 Slot 6

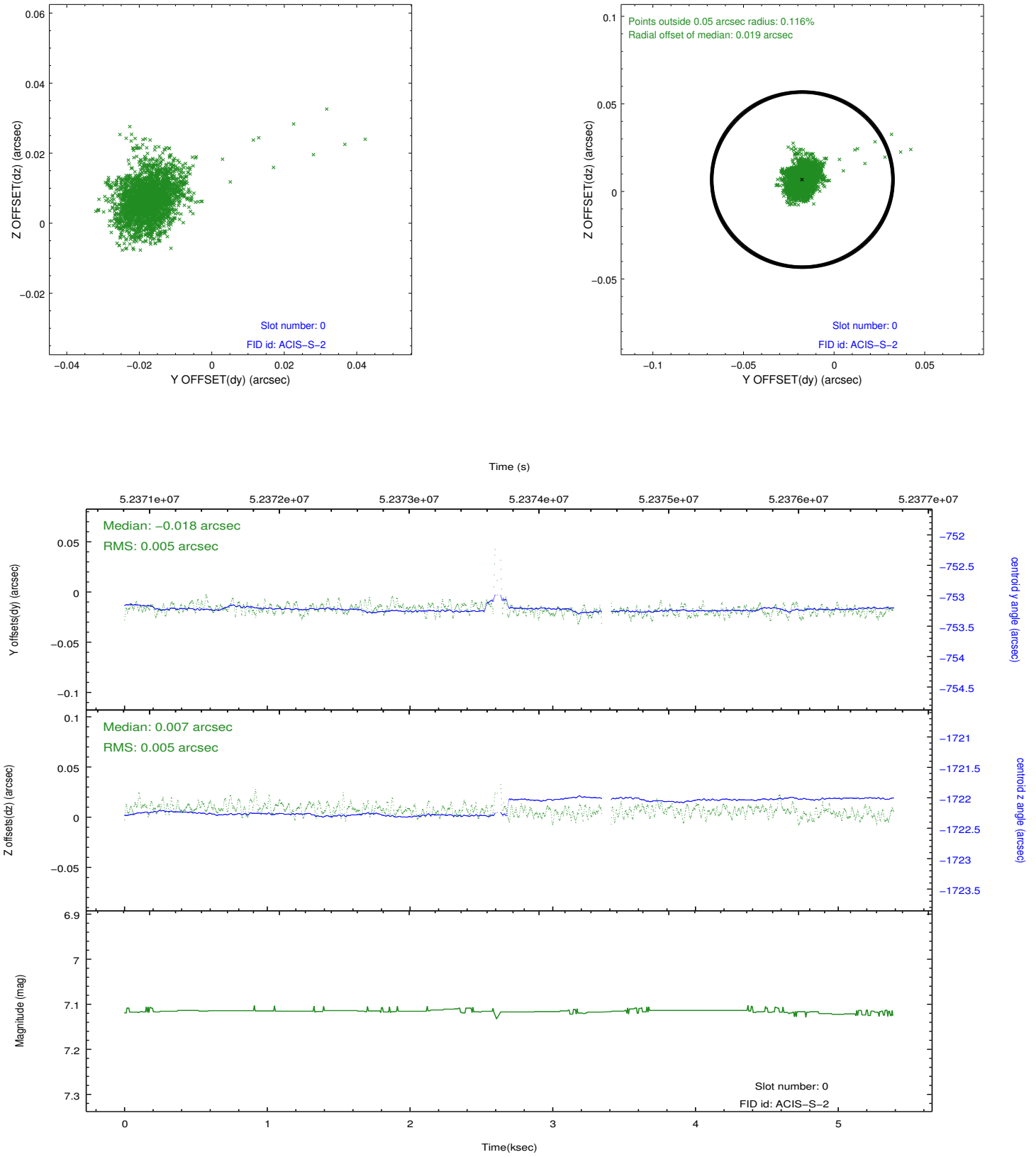


2.4.5 Slot 7

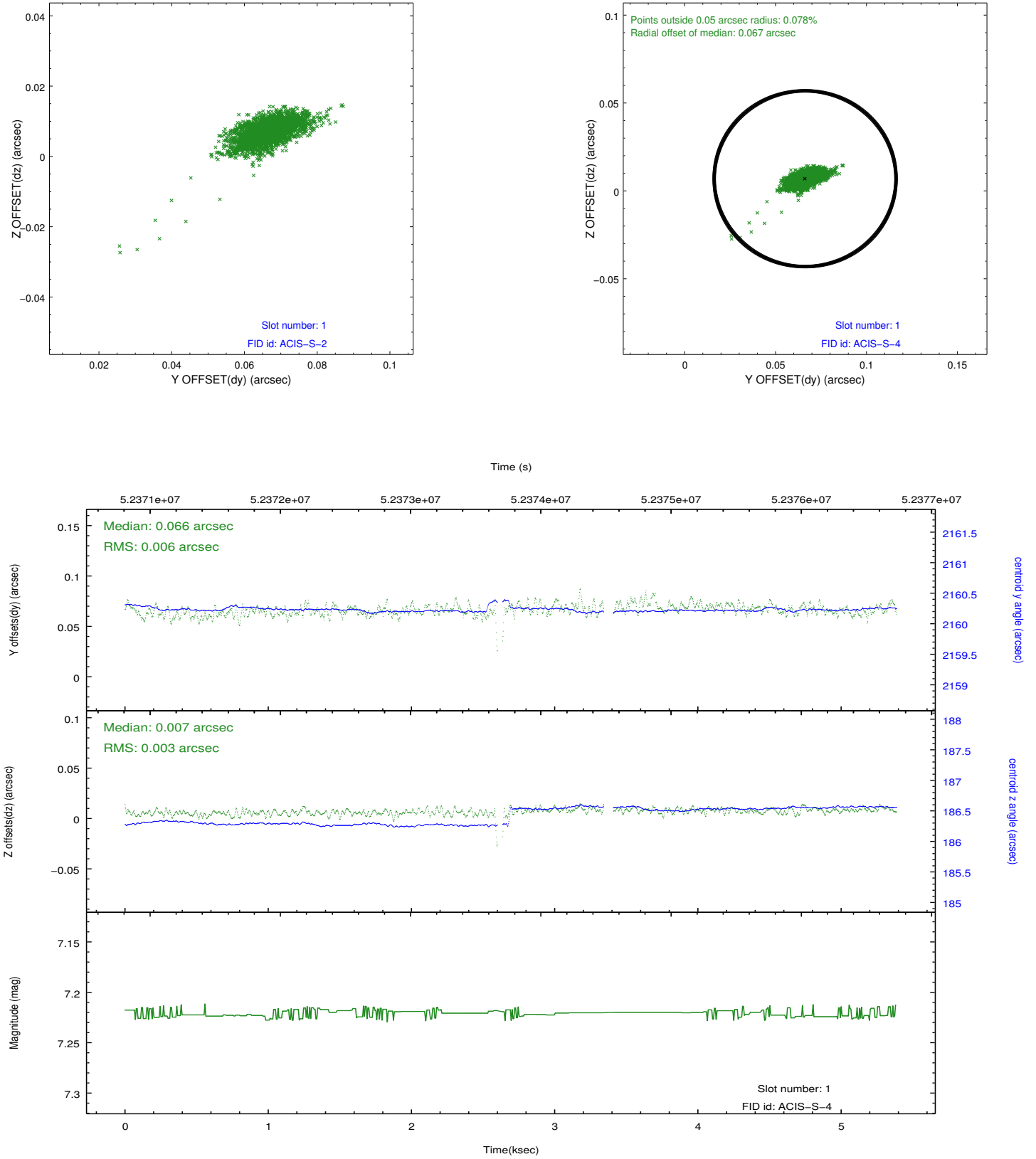


2.5 FID Slots

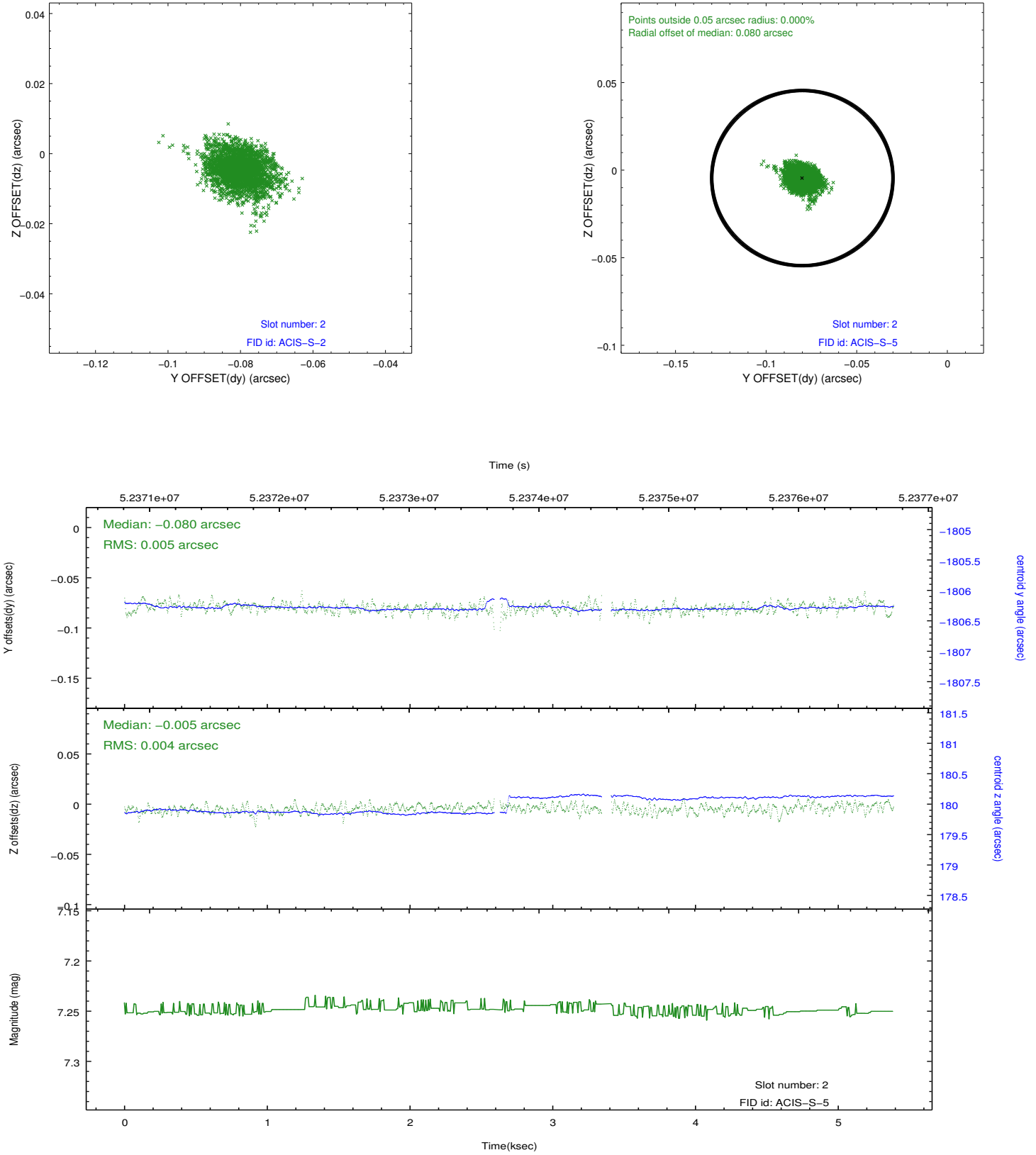
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

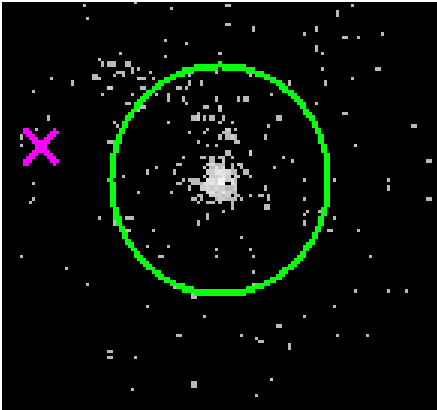


3 Gratings

3.1 HEG Arm



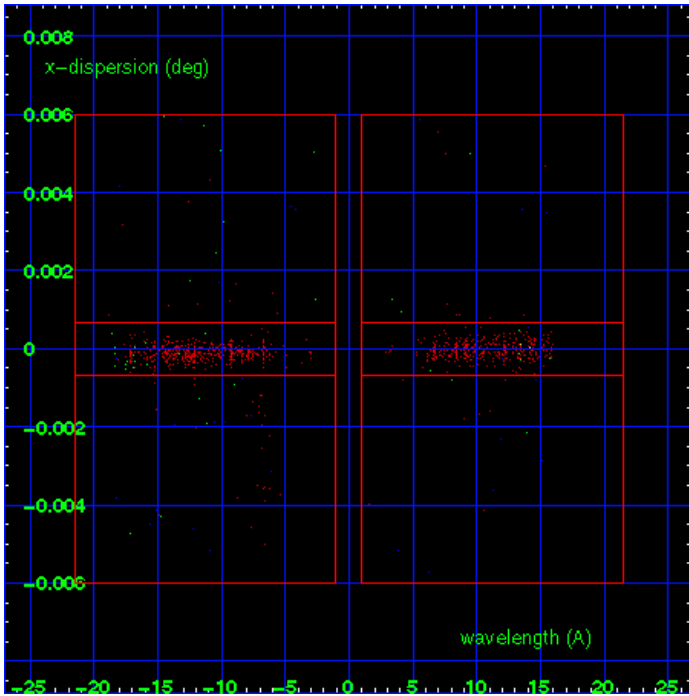
HEG Order Sort 123



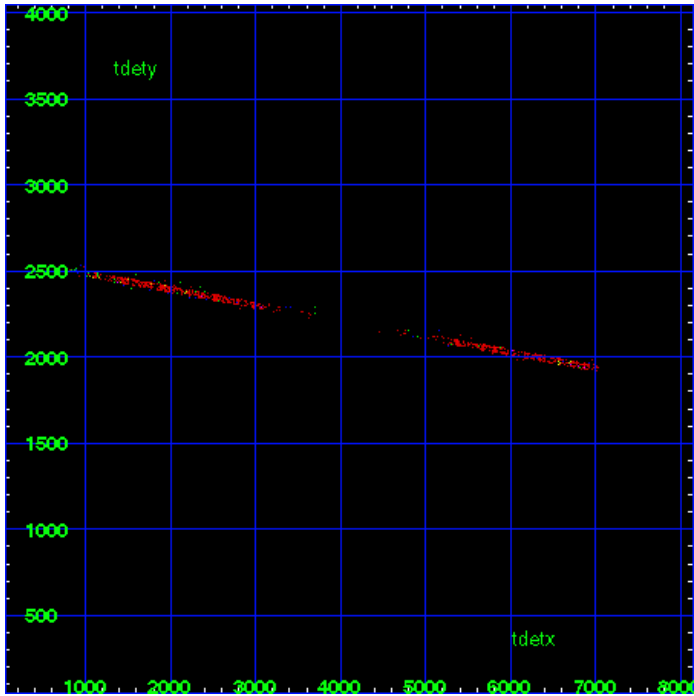
HEG Zero Order



HEG Order Sort ALL

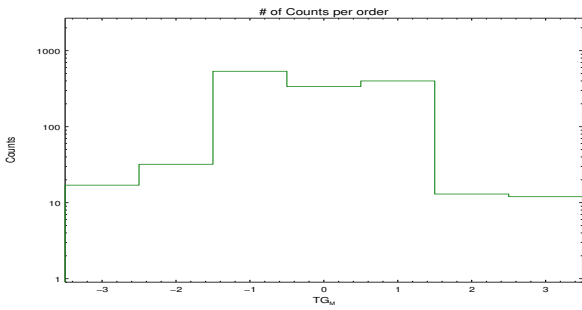


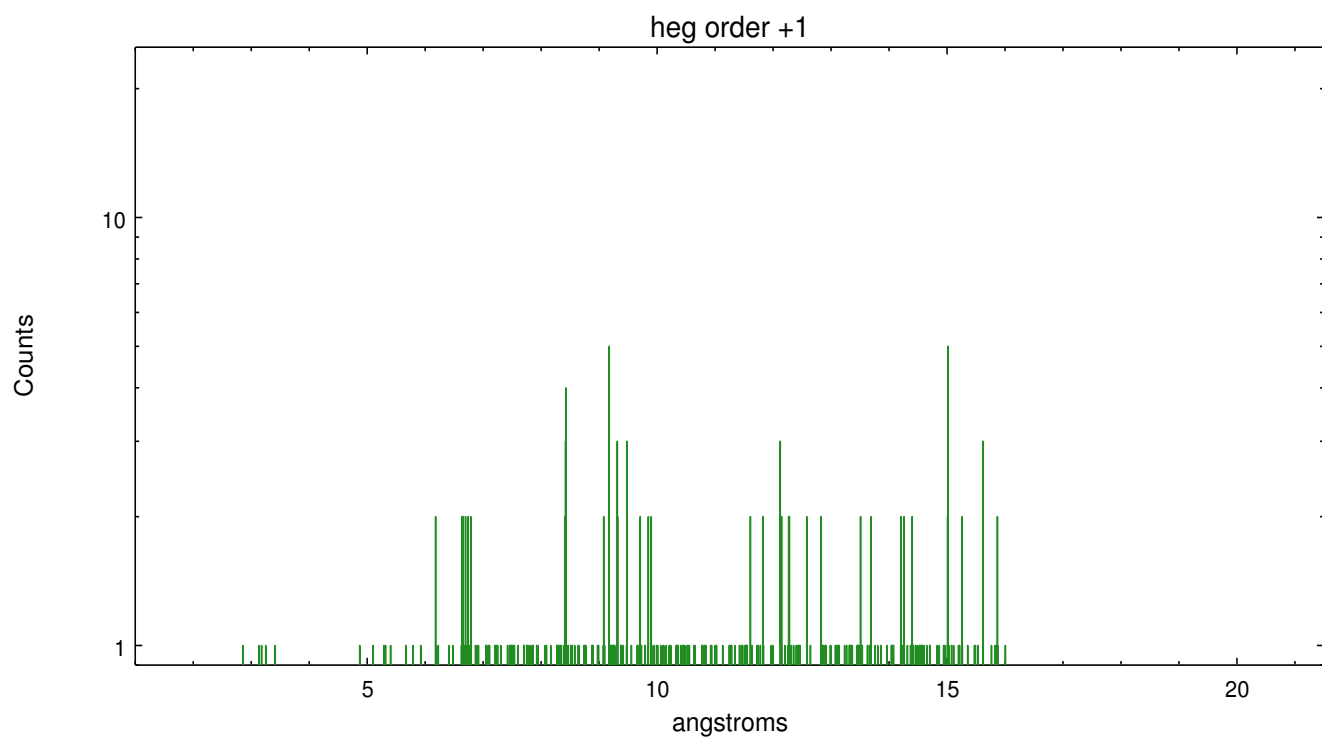
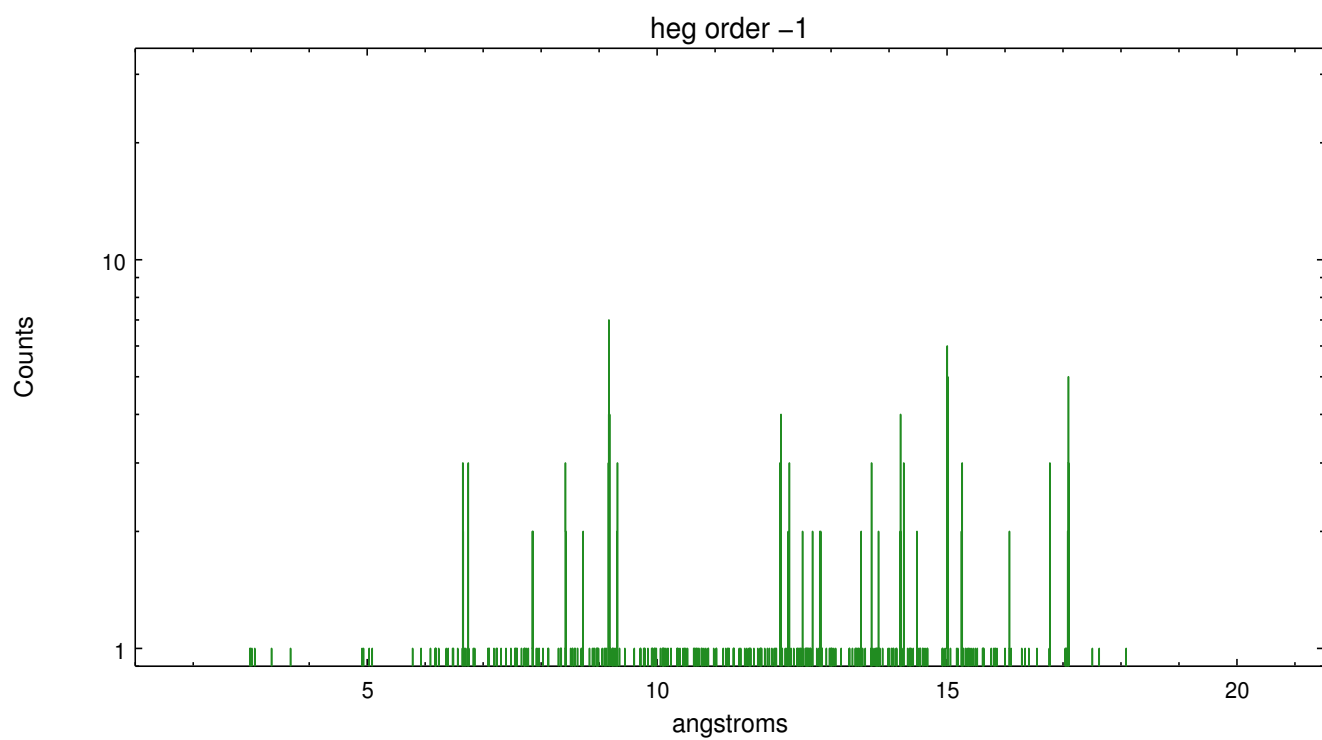
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	17	32	536	337	400	13	12

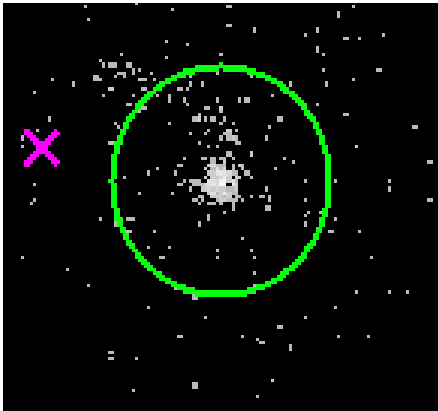




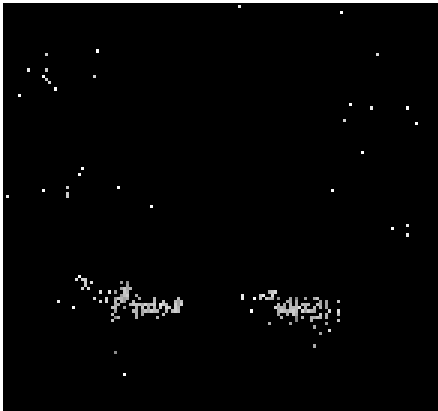
3.2 MEG Arm



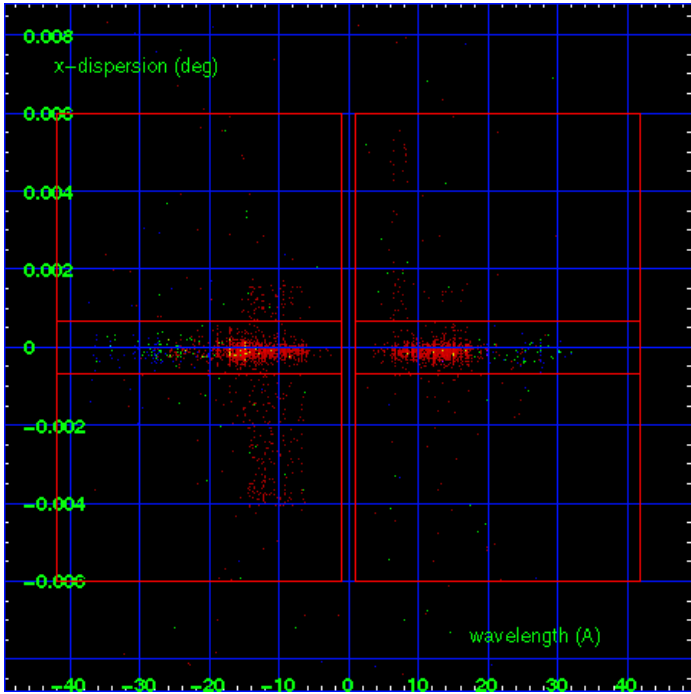
MEG Order Sort 123



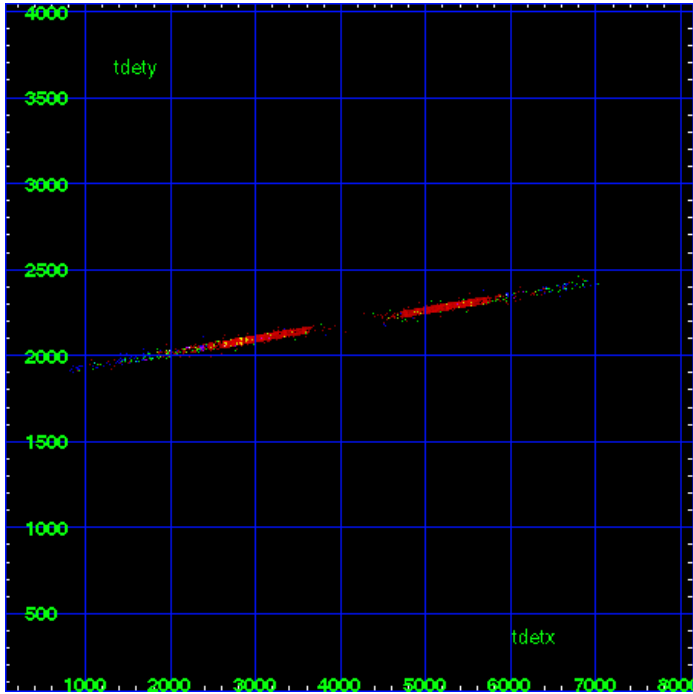
MEG Zero Order



MEG Order Sort ALL

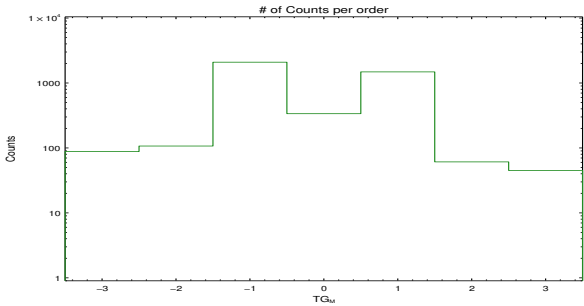


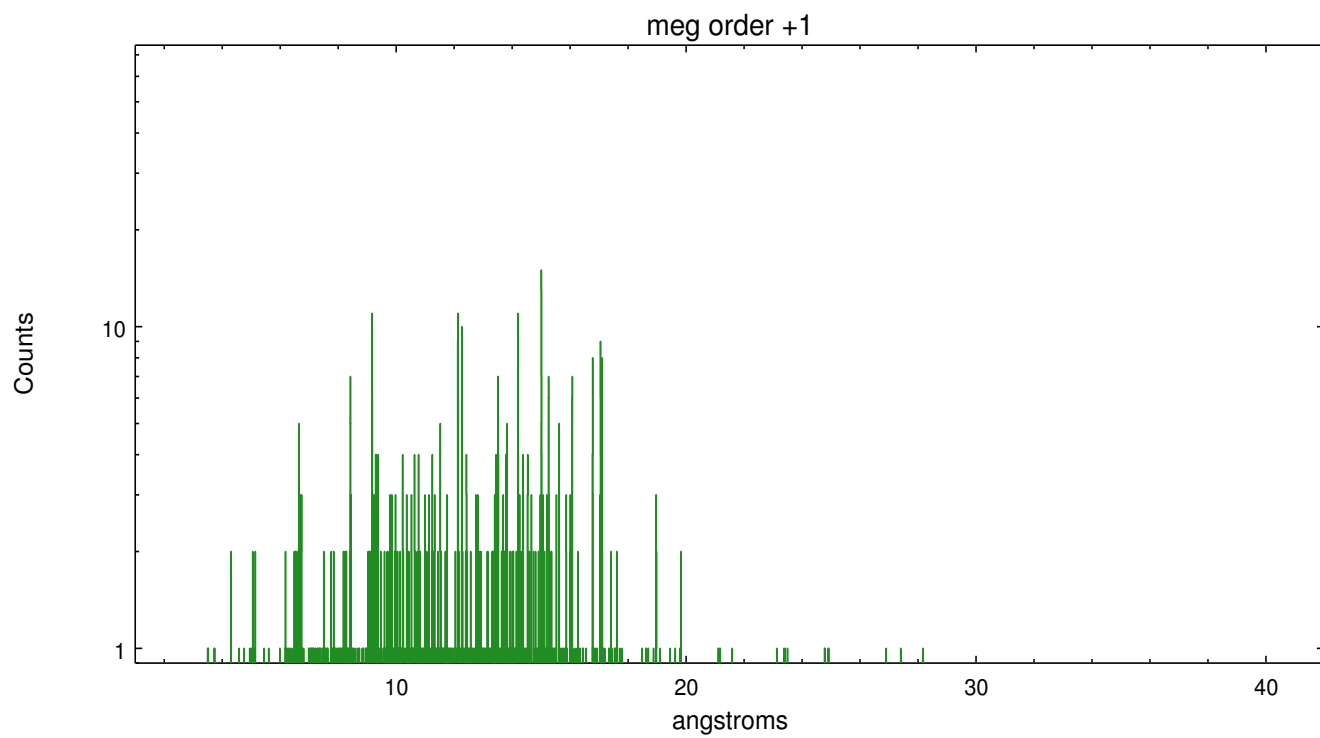
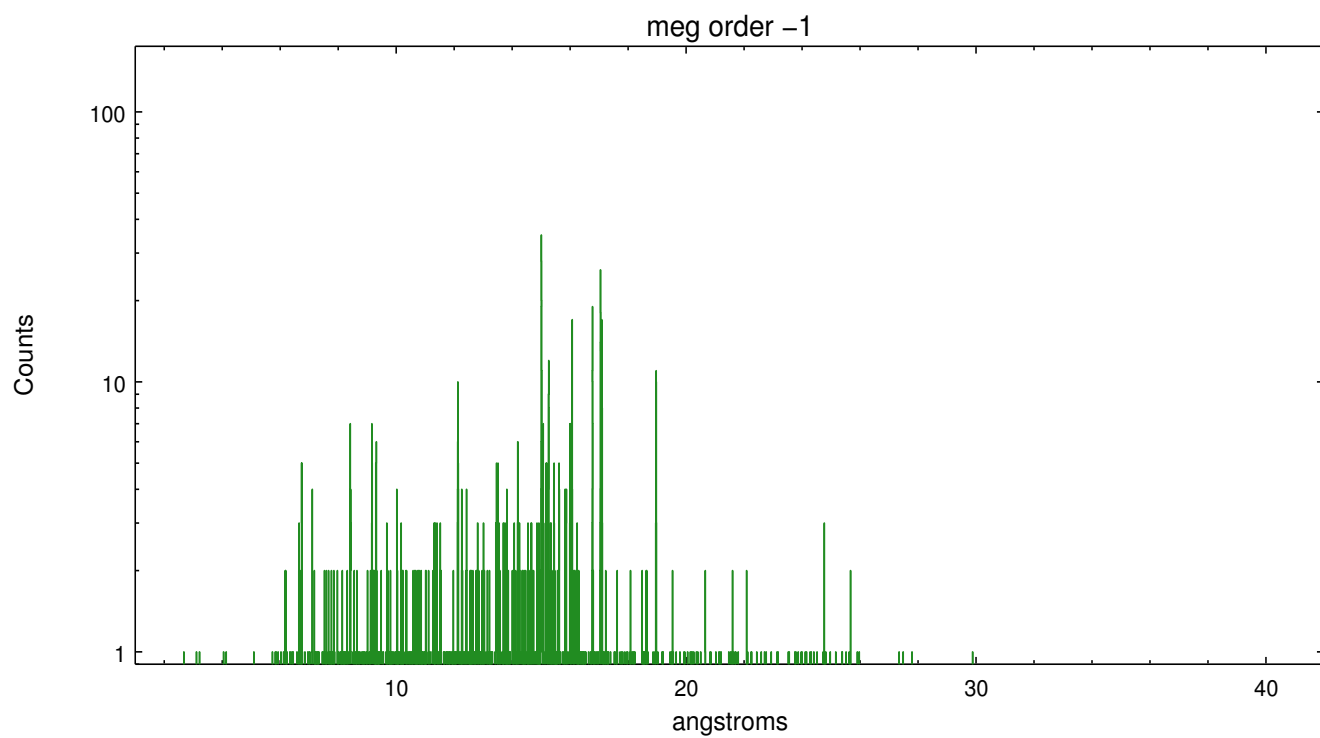
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	88	107	2090	337	1483	61	45





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2010.10.01
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	2.071

A.2 Comments

Charge time for this ObsId remains at original value of 2.071 ks,
although
with the current processing the charge time would have been 2.092 ksec.
===

This obsid has several problems. There is significant data corruption during the first 20-35 ksec of the observation. The observation began with the HETG inserted. The HETG was retracted with hardware commands, then a procedure was run to insert and retract the HETG with software commands. This procedure failed, so HETG was inserted and retracted with hardware commands. This resulted in 2 separate intervals of HETG data. The data corruption at the beginning of the observation affected the bias files. The data corruption only occurred on the SSR playback. The realtime data were good and were used to produce the bias files. MTA records indicate HETG was inserted 52364700-52368000 and 52371000-52373400, that is Aug 30,1999 01:43:57 to 02:38:57 and 03:28:57 to 04:08:57. Due to data corruption during the first part of this obsid, this processing only includes the second period when the HETG was inserted. It should be noted that there is a short period between the 2 grating intervals with non-grating data. That period is not included in this processing.

===
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.