

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 1942 - L2 Version 4
Chandra X-Ray Center

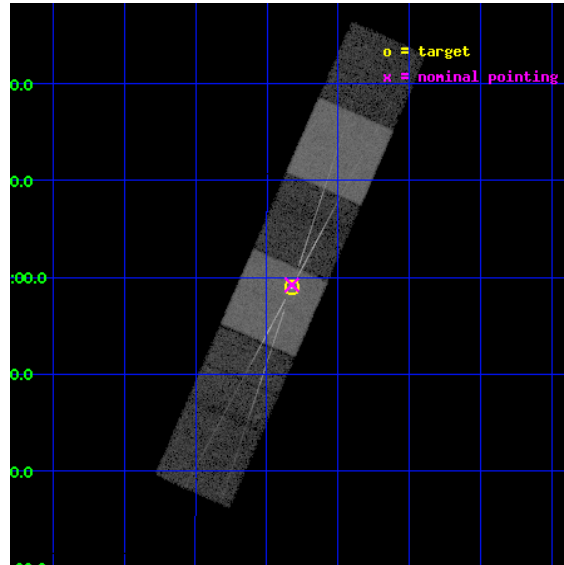
L2 Processing Date : Sep 19 2012

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1 Front

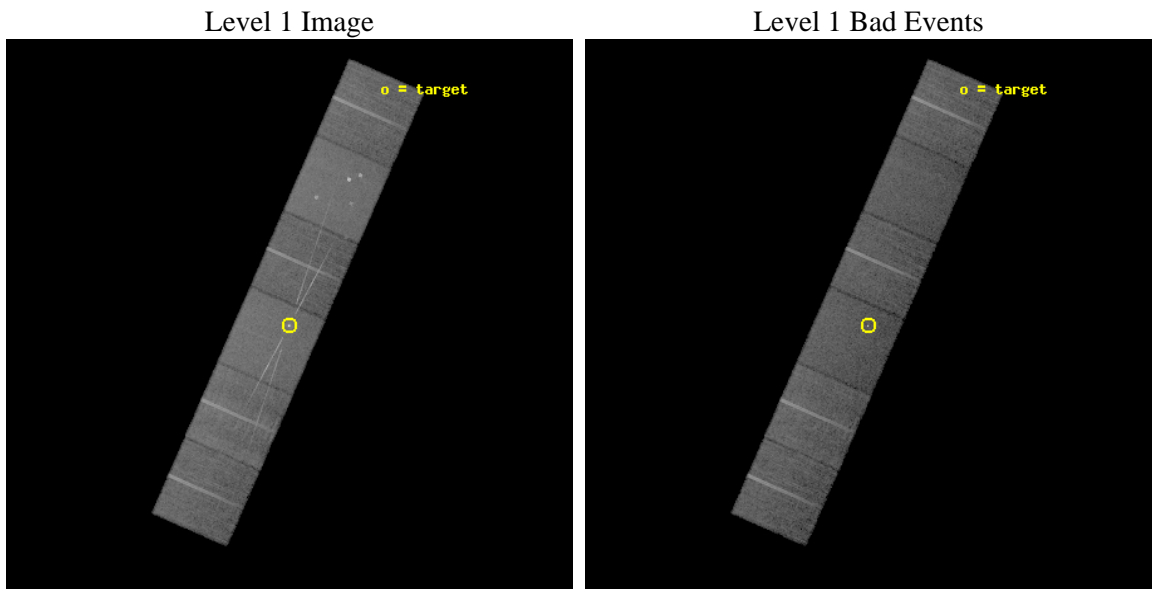
seq_num	400155	Sequence number
obs_id	1942	Observation id
title	MAPPING THE JETS OF SS 433	Proposal title
observer	Dr. masaaki namiki	Principal investigator
object	SS 433	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	287.95625	Observer's specified target RA [deg]
dec_targ	4.982806	Observer's specified target Dec [deg]
ra_nom	287.95615920642	Nominal RA [deg]
dec_nom	4.9872910159007	Nominal Dec [deg]
roll_nom	113.70807139861	Nominal Roll [deg]
revision	4	Processing version of data
ontime	19951.223676994	Sum of GTIs [s]
livetime	19698.589269612	Livetime [s]
ontime4	19951.264716998	Sum of GTIs [s]
ontime5	19951.182636991	Sum of GTIs [s]
ontime6	19947.900606826	Sum of GTIs [s]
ontime7	19951.223676994	Sum of GTIs [s]
ontime8	19951.100556999	Sum of GTIs [s]
ontime9	19951.059516996	Sum of GTIs [s]
l2events	221670	Number of level 2 events



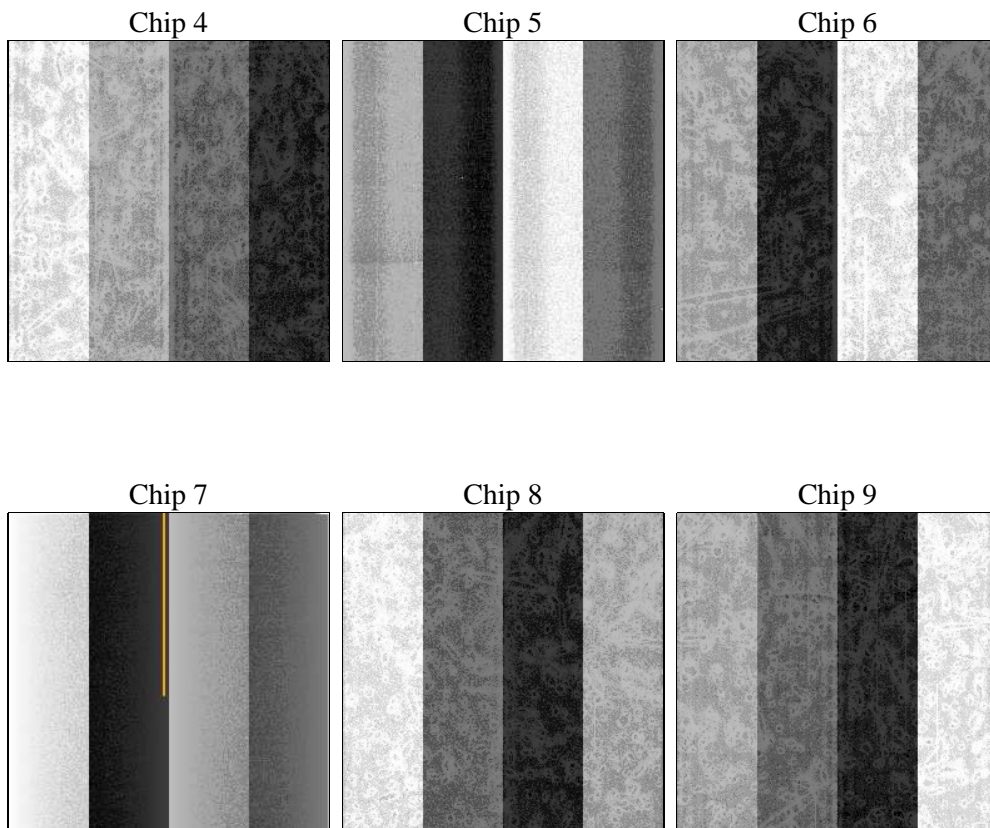
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	19951.223676994	Sum of GTIs [s]
caldsver	4.5.1.1	 	ontime4	19951.264716998	Sum of GTIs [s]
date	2012-09-18T23:05:34	Date and time of file creation	ontime5	19951.182636991	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	19947.900606826	Sum of GTIs [s]
			ontime7	19951.223676994	Sum of GTIs [s]
			ontime8	19951.100556999	Sum of GTIs [s]
			ontime9	19951.059516996	Sum of GTIs [s]
			l1events	931205	Number of level 1 events

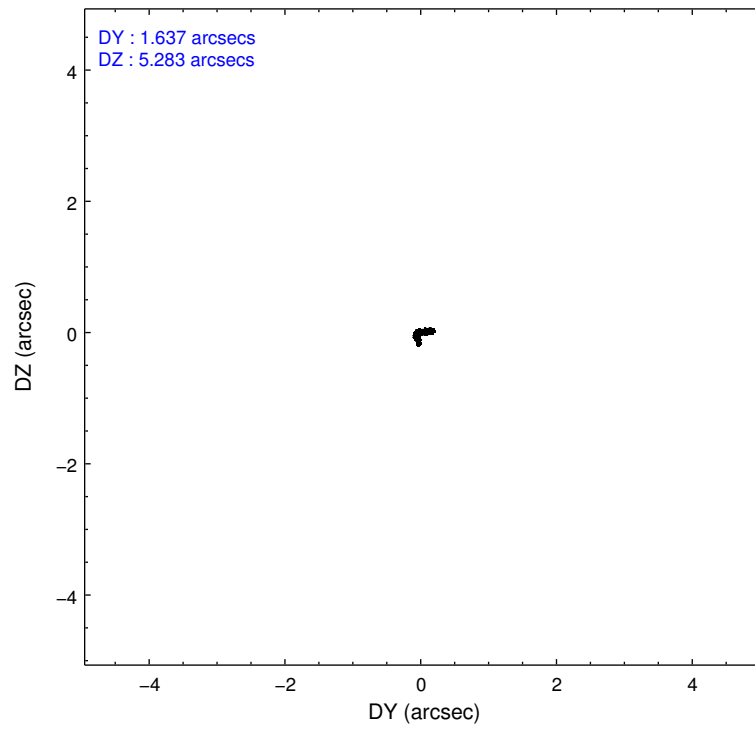
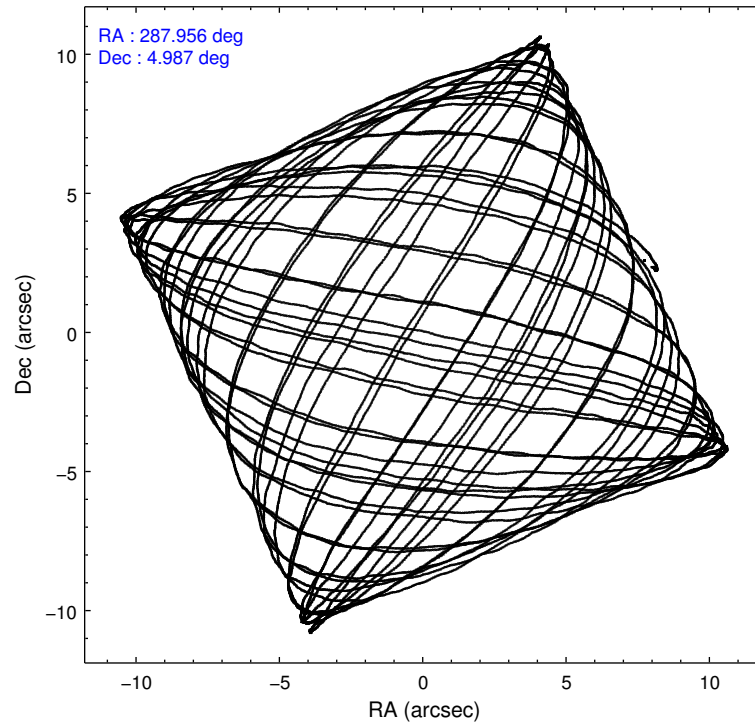
2.1.4 Events

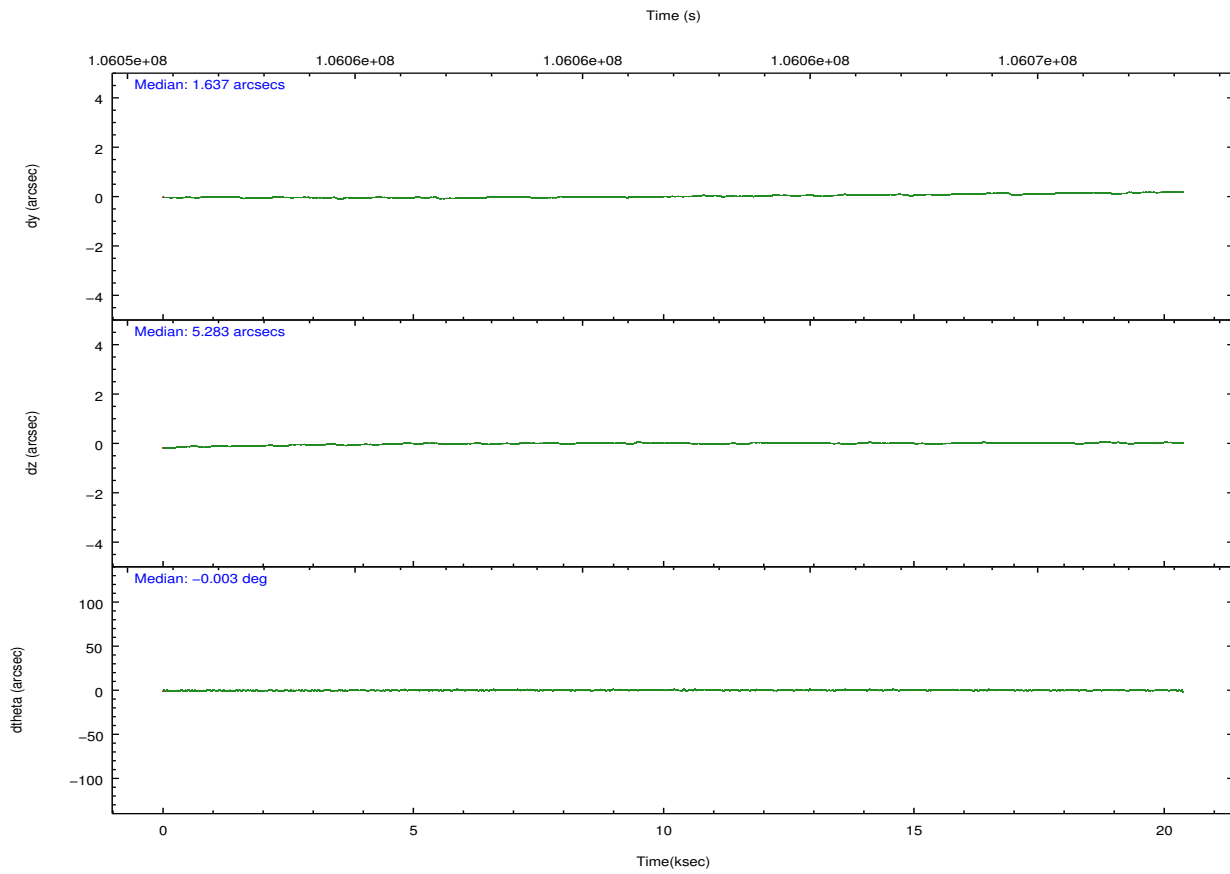
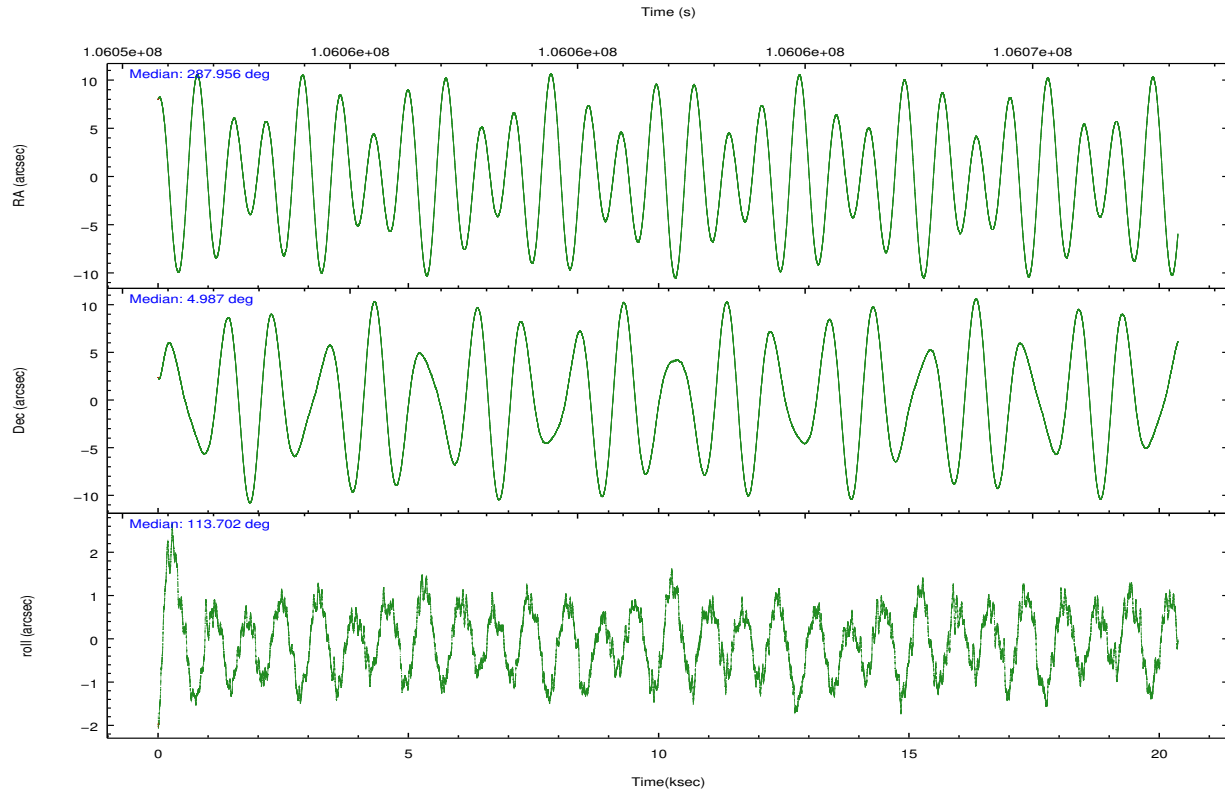
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	142281	182475	135745	181389	162311	127004	grade 0 events	6164	13543	12633	9185	12225	6221
rejected events	126802	96107	112116	98196	127803	111771		4%	7%	9%	5%	7%	4%
rejected %	89%	52%	82%	54%	78%	88%	grade 1 events	66	282	85	309	76	52
								0%	0%	0%	0%	0%	0%
							grade 2 events	3874	23441	4068	17125	7388	3160
								2%	12%	2%	9%	4%	2%
							grade 3 events	1380	3665	1844	7742	3318	1516
								0%	2%	1%	4%	2%	1%
							grade 4 events	1416	3540	1757	7657	3072	1380
								0%	1%	1%	4%	1%	1%
							grade 5 events	4596	13707	5467	16685	6768	5480
								3%	7%	4%	9%	4%	4%
							grade 6 events	2649	42193	3332	41492	8509	2957
								1%	23%	2%	22%	5%	2%
							grade 7 events	122136	82104	106559	81194	120955	106238
								85%	44%	78%	44%	74%	83%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	287.978420	287.9561592064205	Subarray requested	NONE	NONE
[deg] Pointing Dec	4.971340	4.987291015900706	Alternating exposures requested	N	N
[deg] Pointing Roll	113.549512	113.7080713986071	[s] Primary exposure time	0.000000	3.2
[s] Window start time (MET)	106012864.184000	106012864.184000			
[s] Window stop time (MET)	106099264.184000	106099264.184000			
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-187.132523	-187.1228876879999			
[mm] SIM translation stage offset	-3	-3.009634895007935			
Phase constraints	Y	Y			
[d] Phase period	13.082000	13.082000			
[d] Phase epoch (MJD)	46595.700000	46595.700000			
Phase start	0.250000	0.250000			
Phase end	0.300000	0.300000			
Phase start error	0.030000	0.030000			
Phase end error	0.030000	0.030000			
[s] Observation start time (MET)	106052084.184000	106051082.90237			
Observation start date	2001-05-12T10:53:40	2001-05-12T10:38:02			
[s] Observation end time (MET)	106072084.184000	106072353.1907			

2.3 Aspect



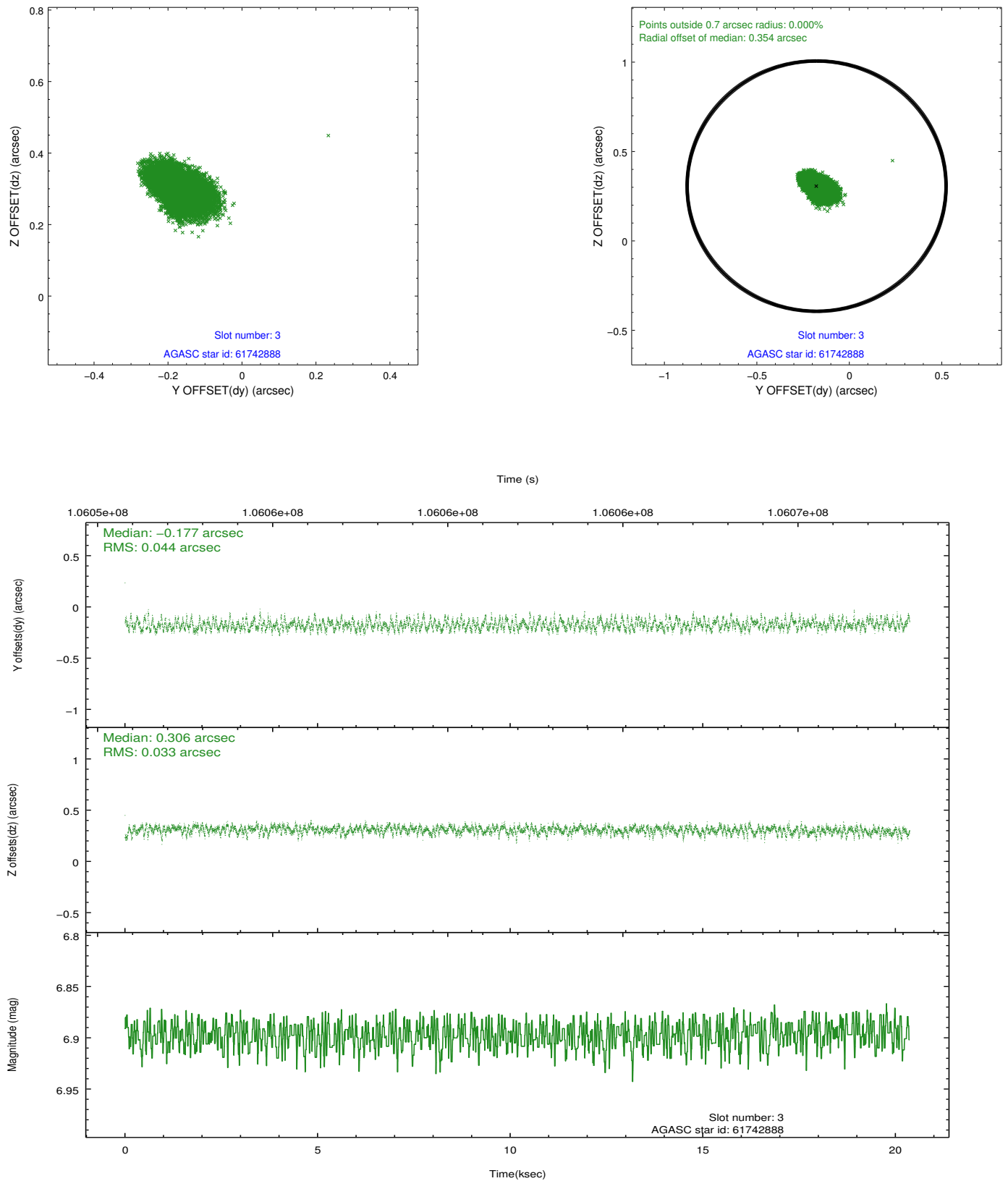


Slot Statistics

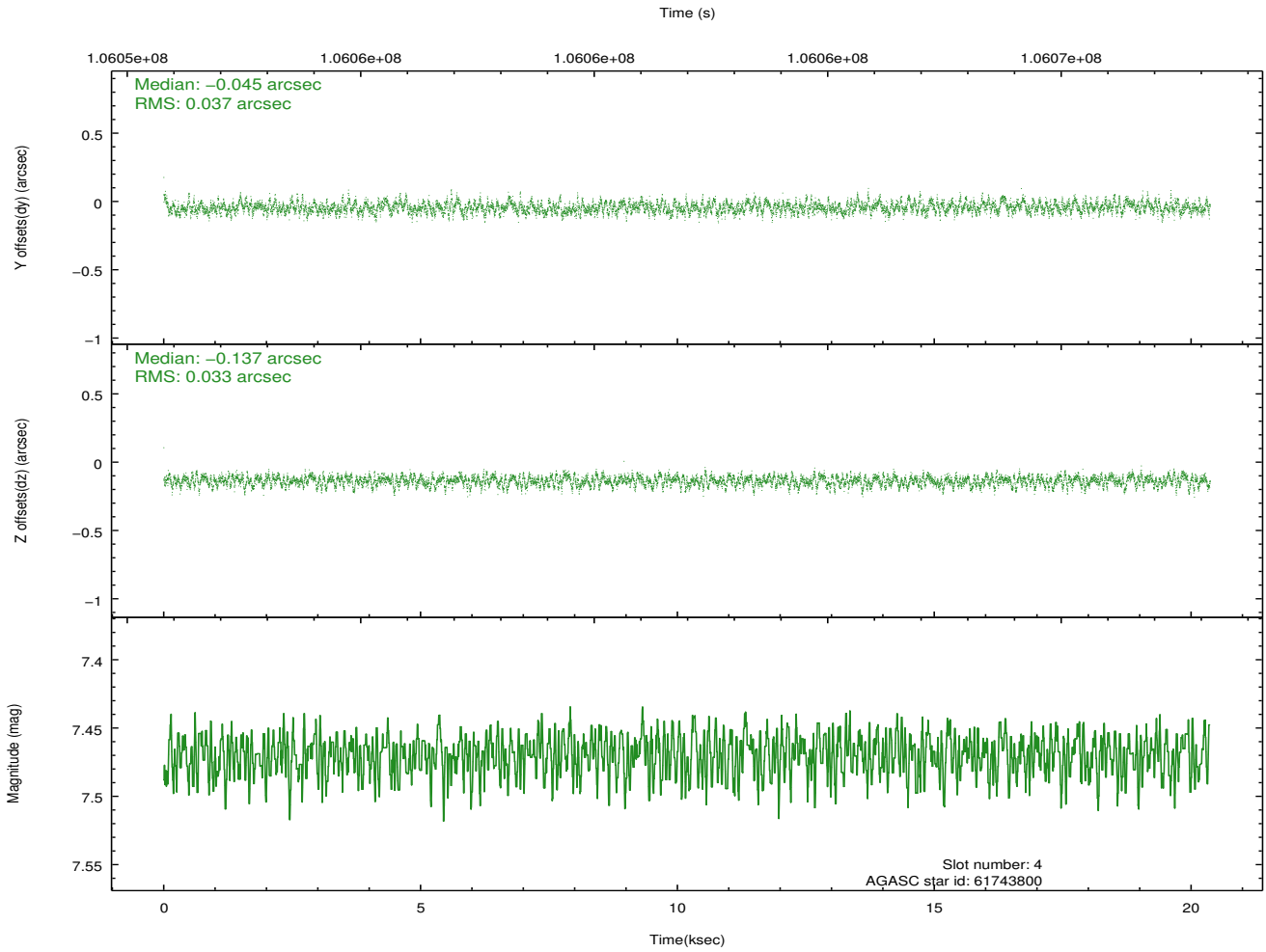
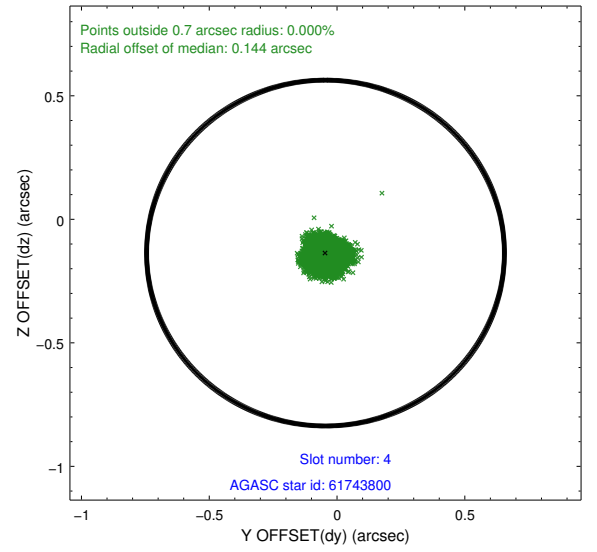
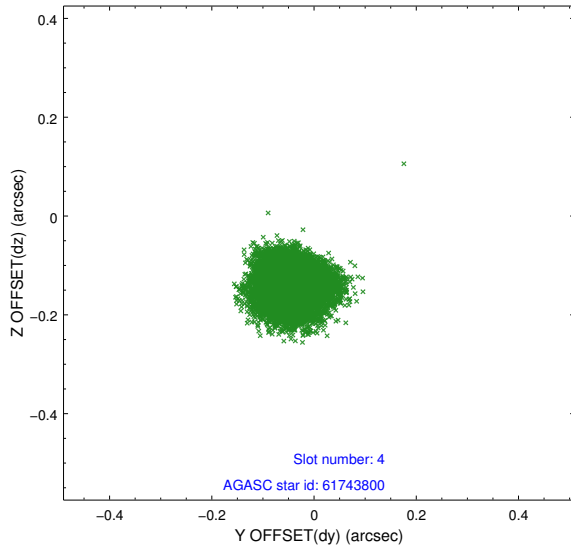
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	4968	-0.027	-0.044	0.007	0.012	0.000000	0.000000	-754.11	-1788.56
1	FID	ACIS-S-4	7.20	4968	-0.024	0.024	0.006	0.010	0.000000	0.000000	2159.11	119.76
2	FID	ACIS-S-5	7.23	4967	0.019	0.028	0.007	0.012	0.000000	0.000000	-1806.65	113.68
3	GUIDE	61742888	6.90	9935	-0.177	0.306	0.059	0.096	288.433450	5.515613	1145.99	-2277.22
4	GUIDE	61743800	7.47	9935	-0.045	-0.137	0.054	0.084	287.776811	5.274666	1290.55	226.18
5	GUIDE	61738240	7.23	9935	0.098	-0.111	0.045	0.074	287.996556	4.354861	-2059.76	826.95
6	GUIDE	61753720	7.55	9936	0.176	-0.147	0.056	0.092	287.814023	4.191087	-2338.74	1663.29
7	GUIDE	61745024	7.60	9931	-0.057	0.093	0.052	0.083	288.156168	5.297362	821.89	-1052.52

2.4 Star Slots

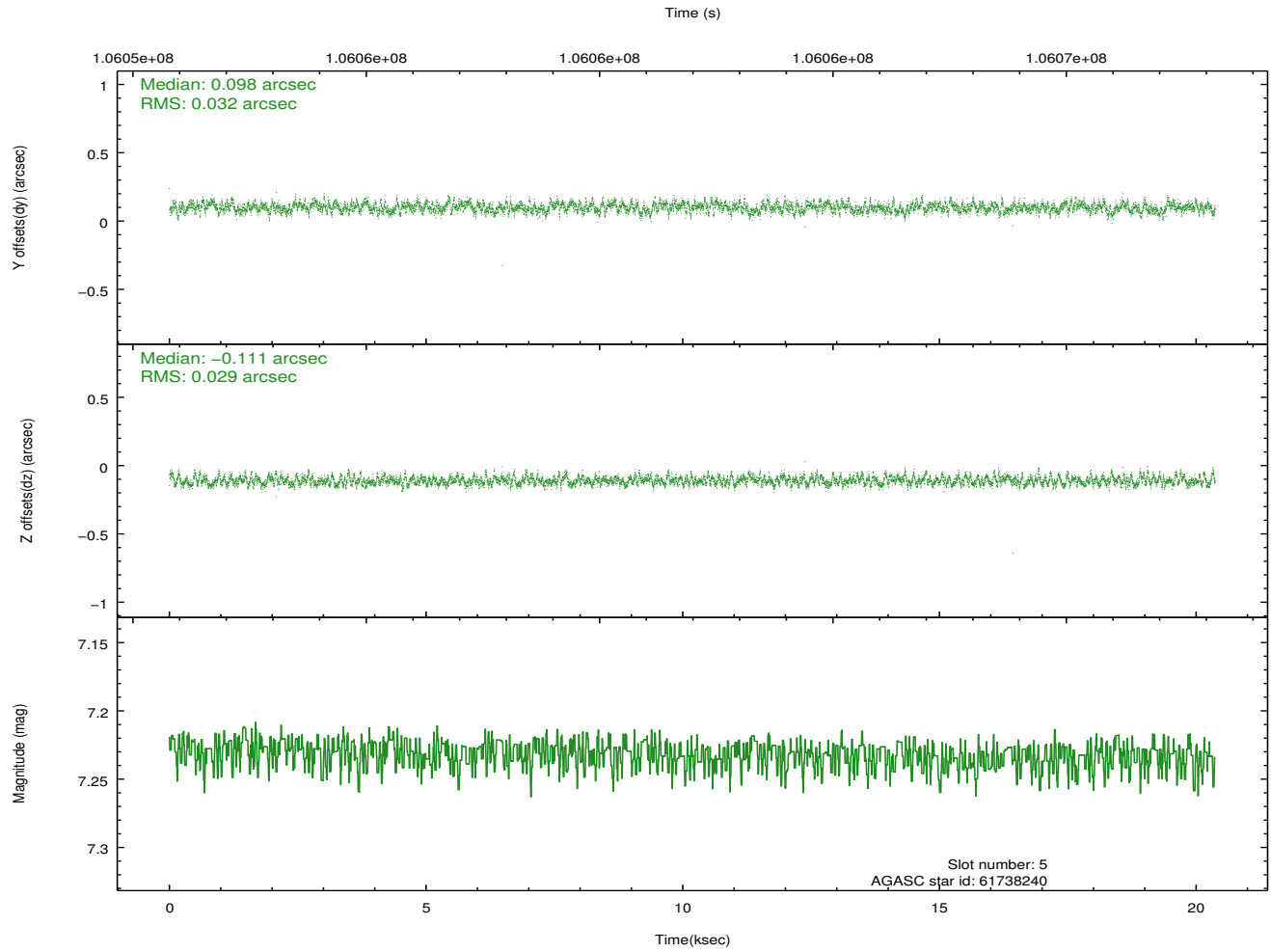
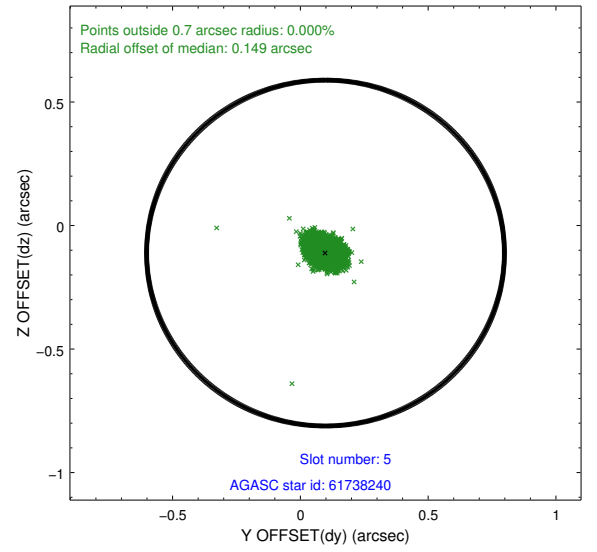
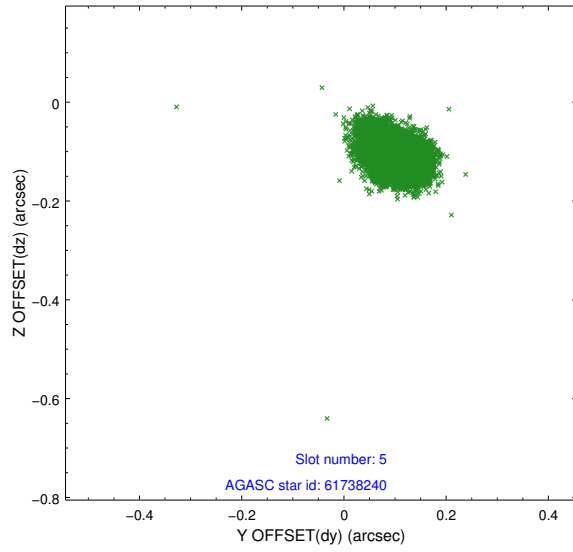
2.4.1 Slot 3



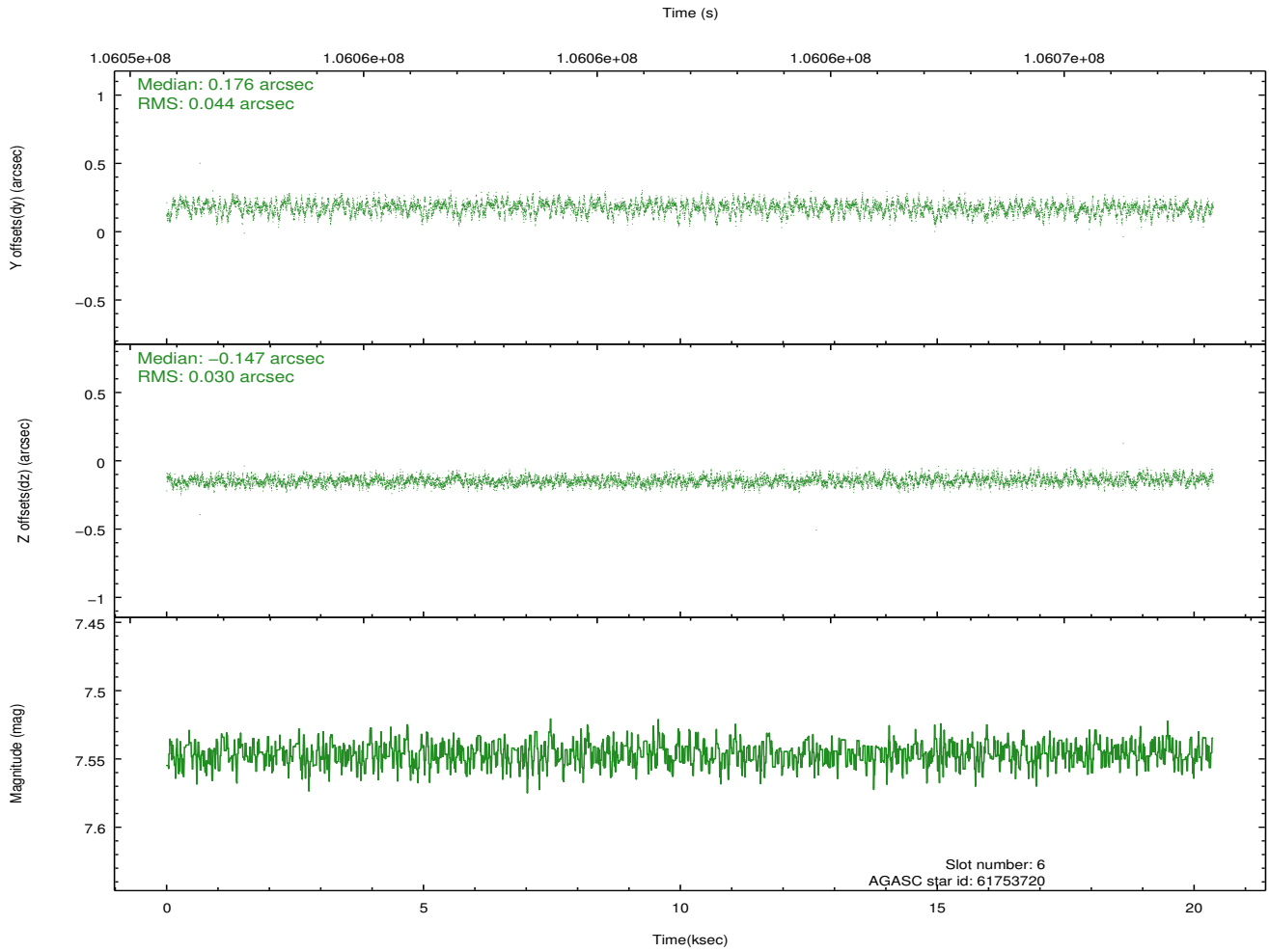
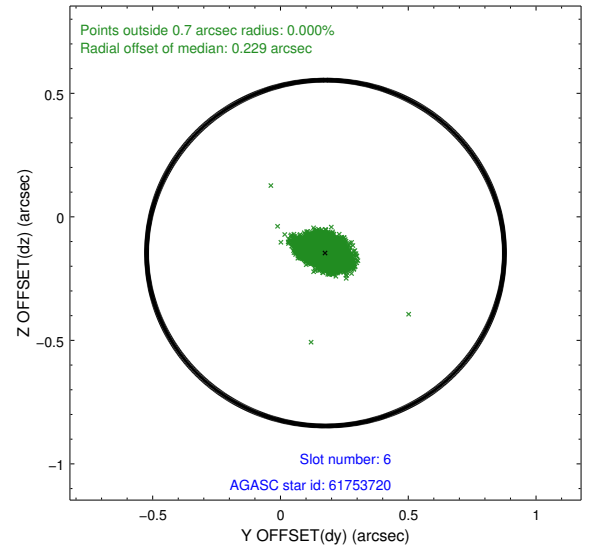
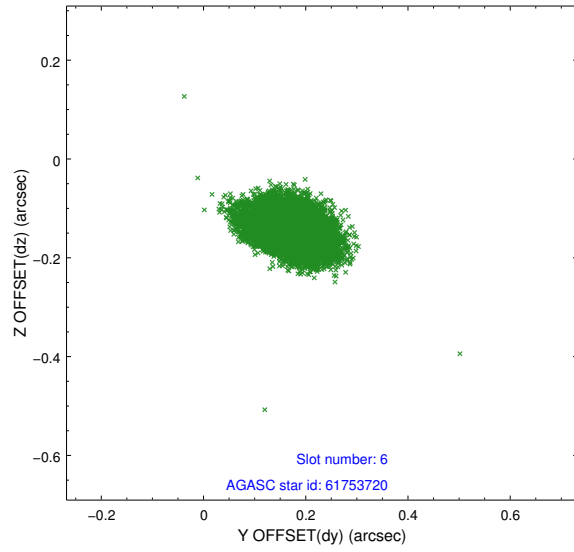
2.4.2 Slot 4



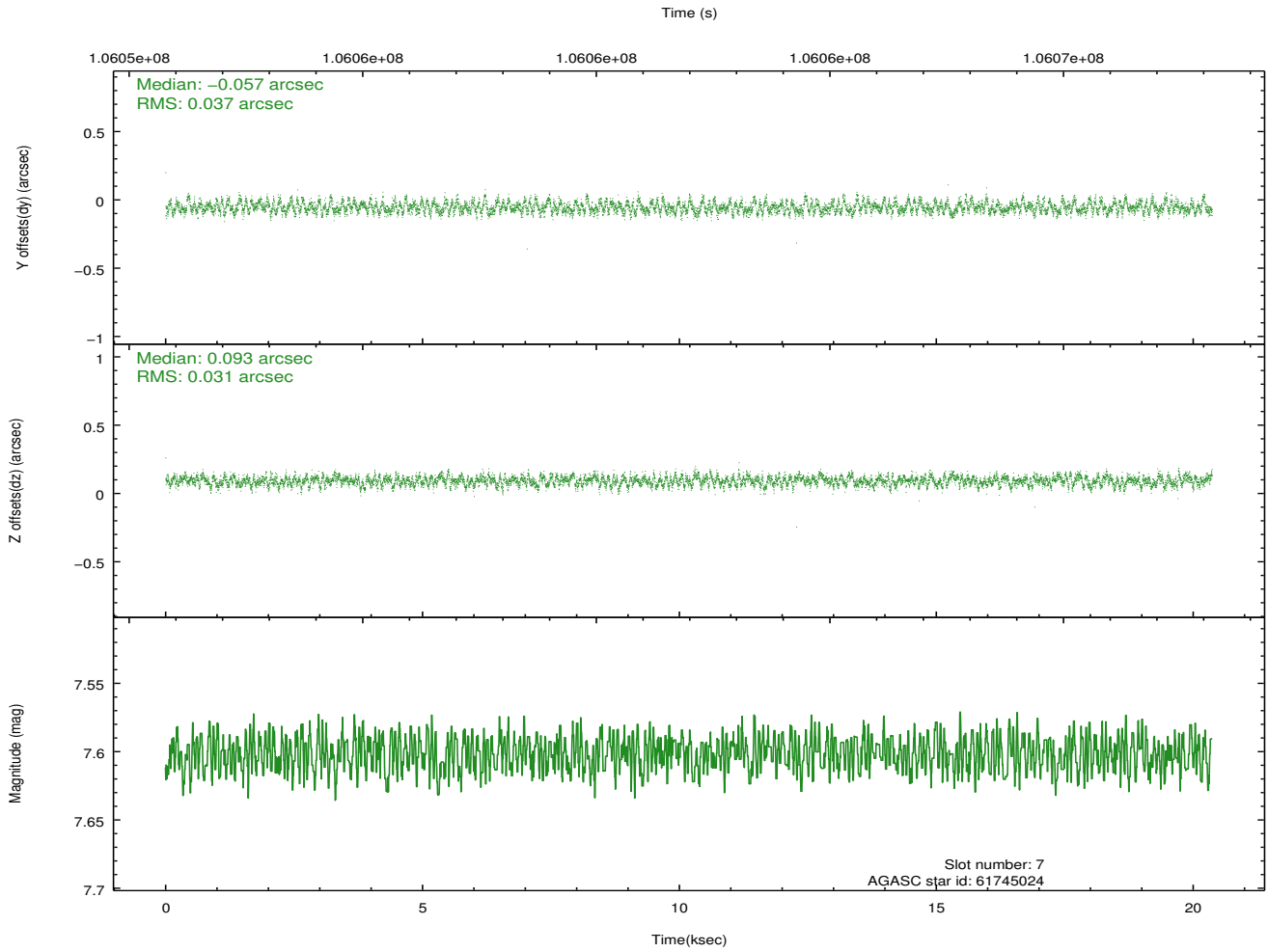
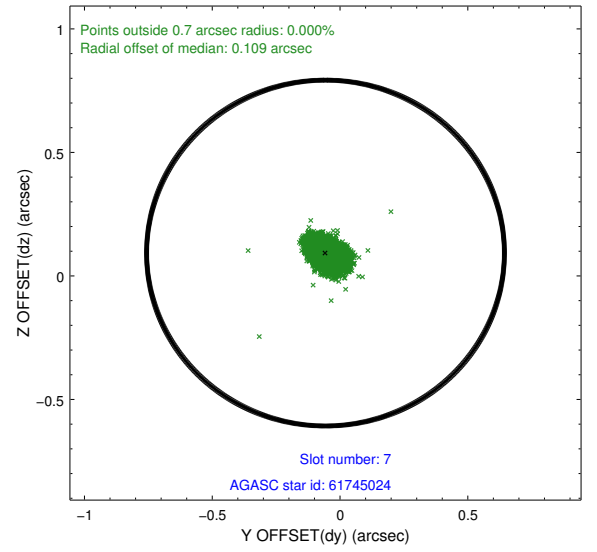
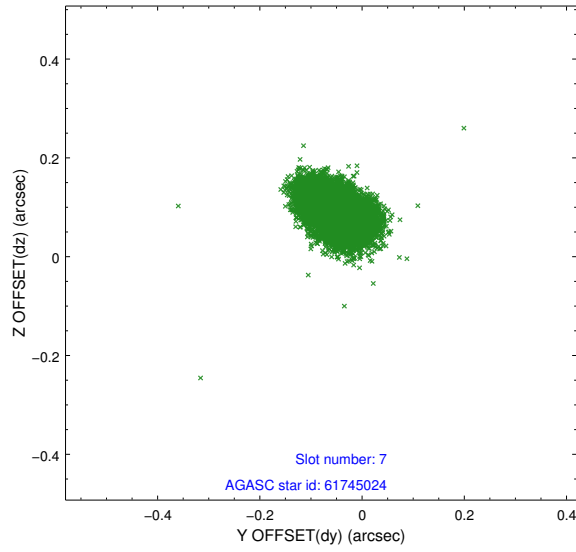
2.4.3 Slot 5



2.4.4 Slot 6

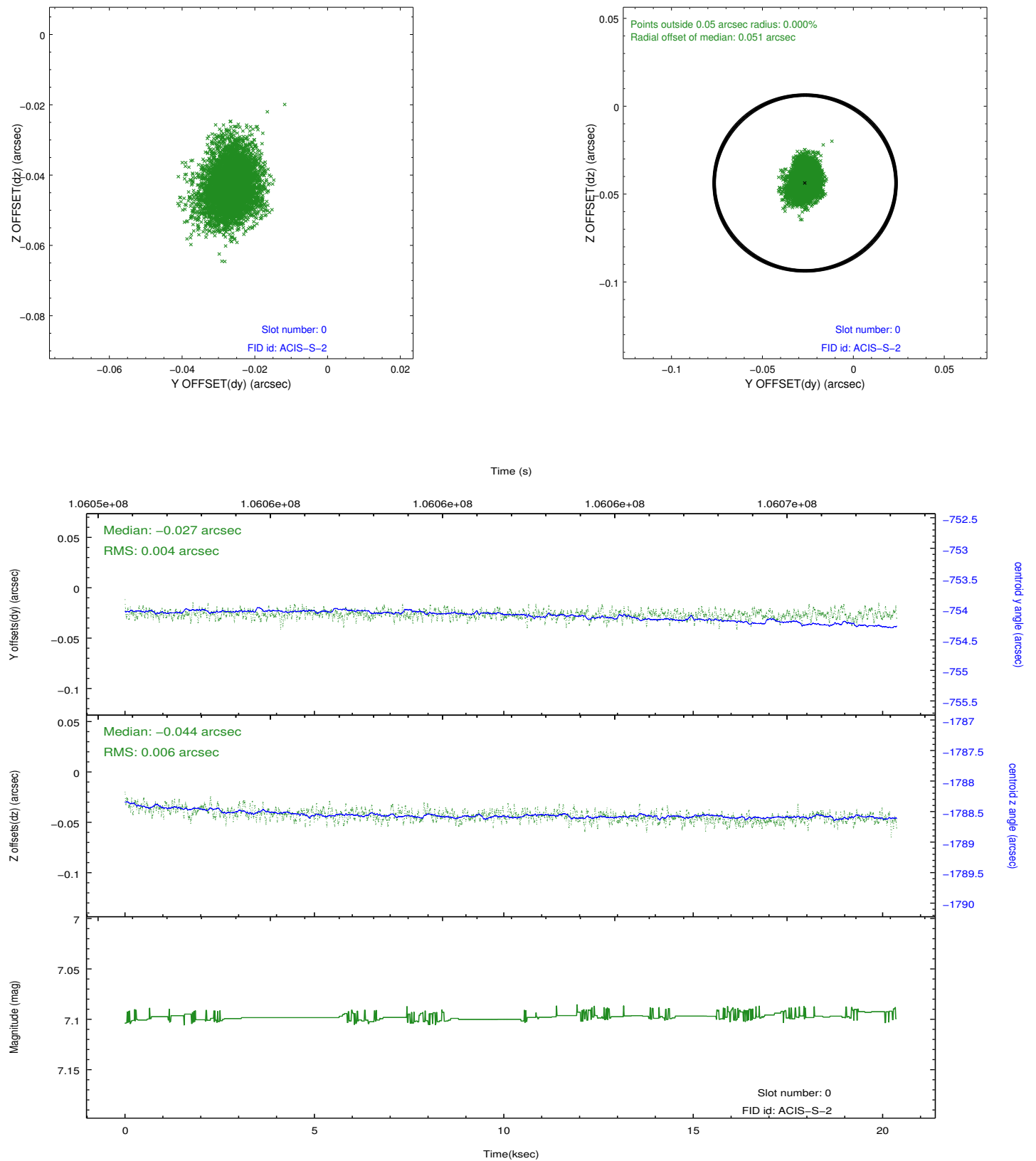


2.4.5 Slot 7

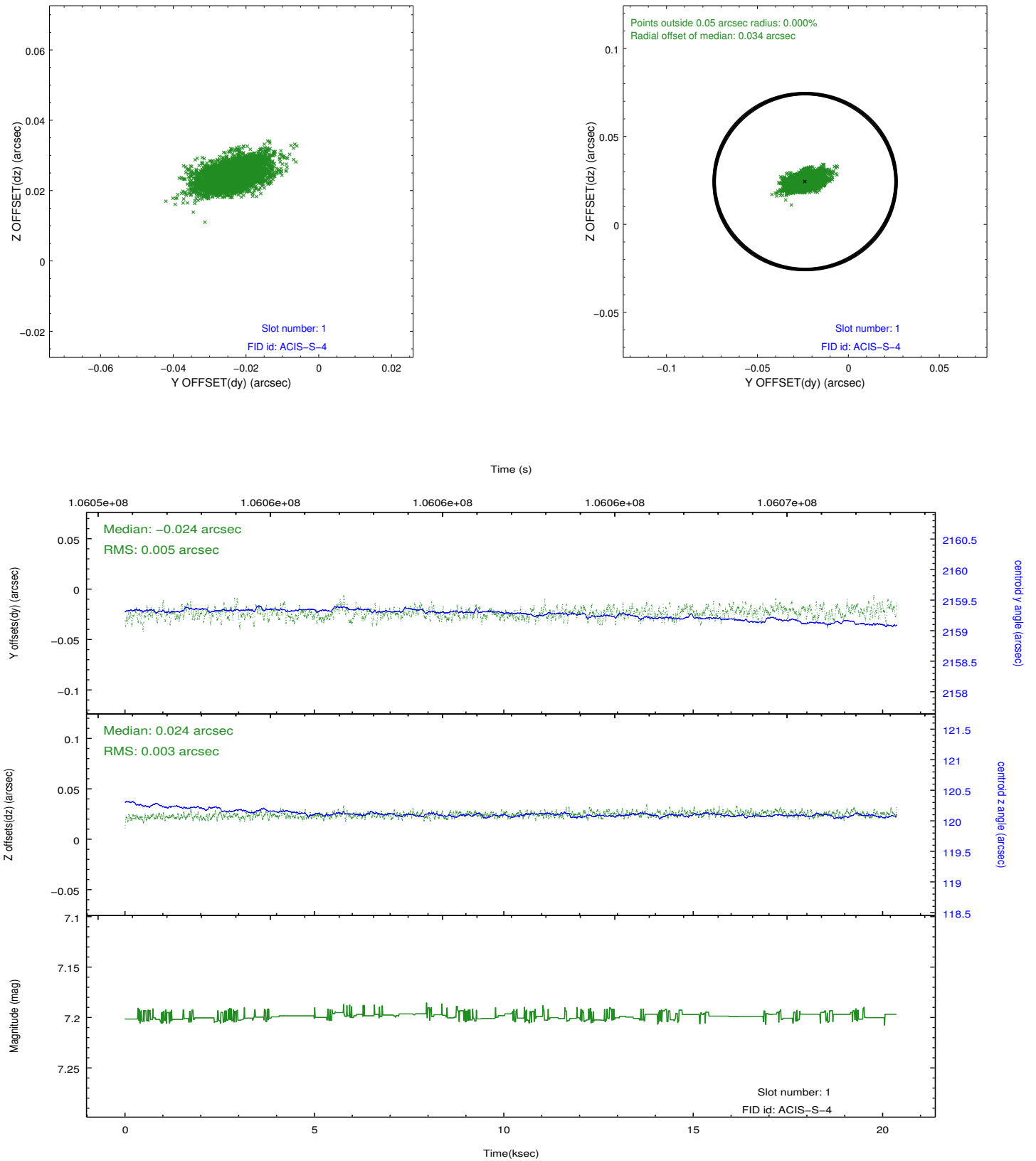


2.5 FID Slots

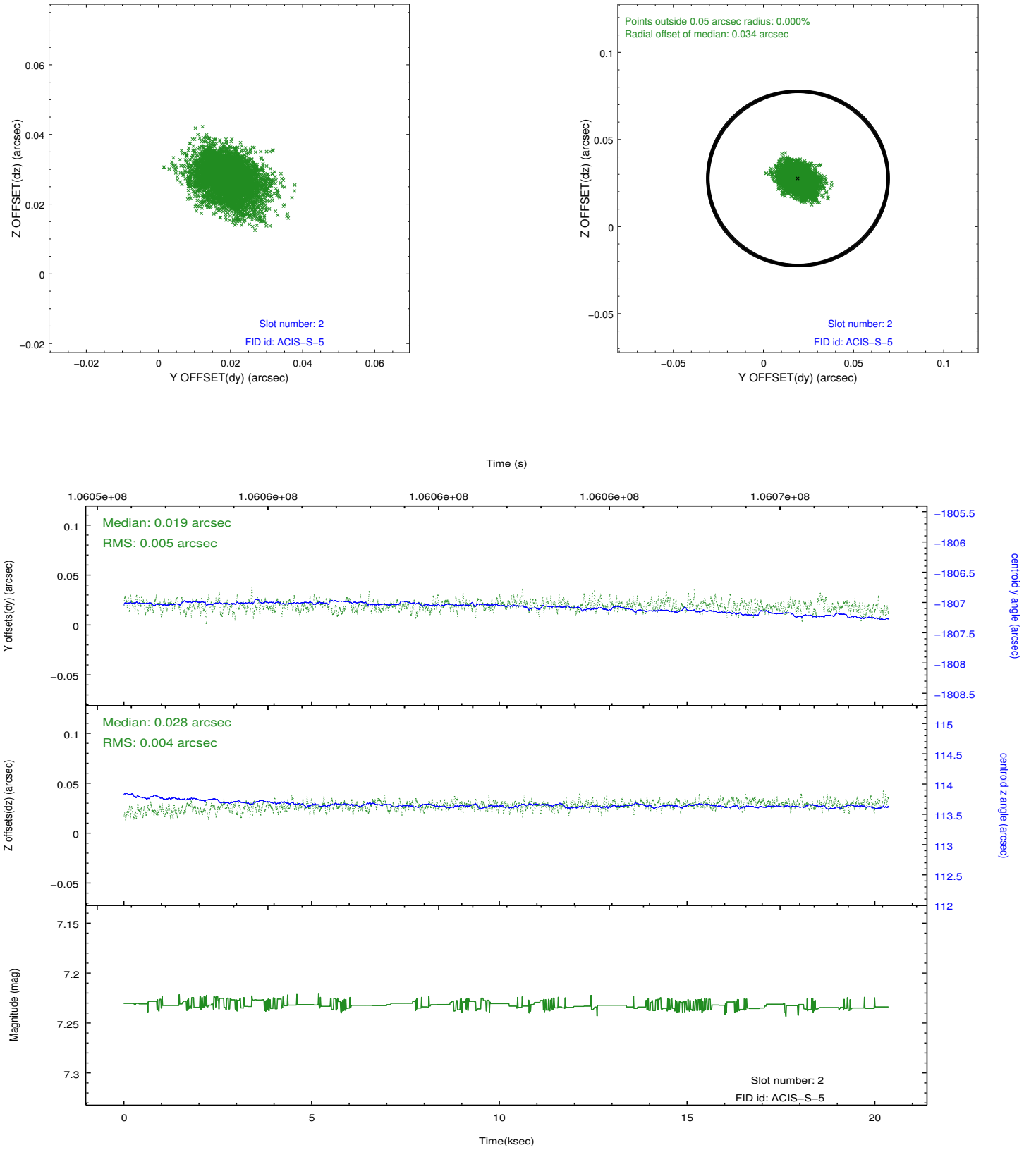
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

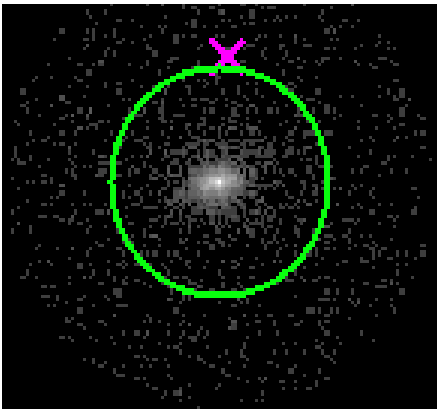


3 Gratings

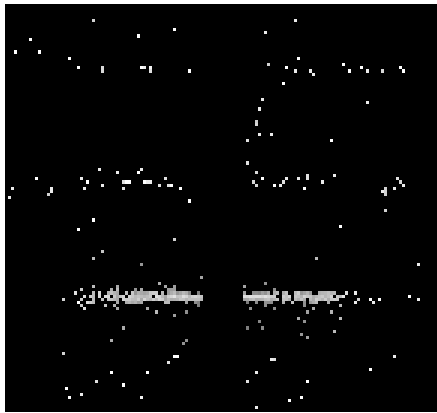
3.1 HEG Arm



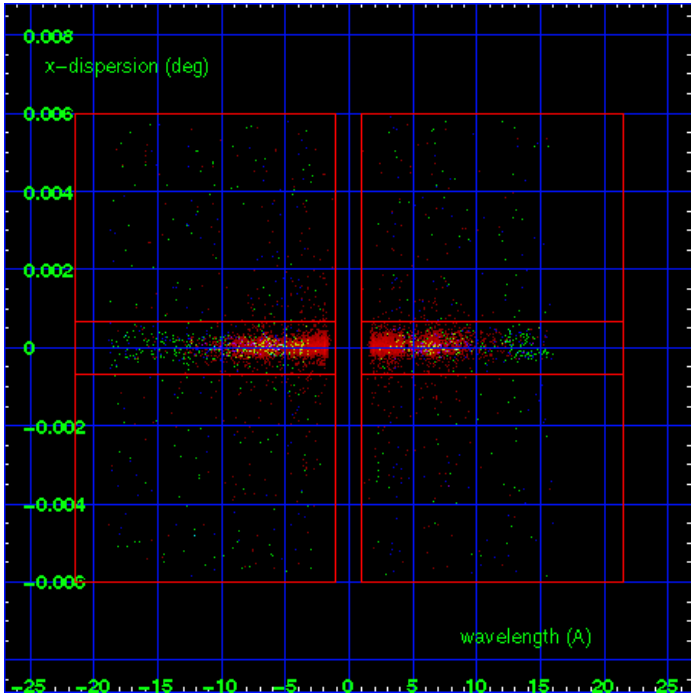
HEG Order Sort 123



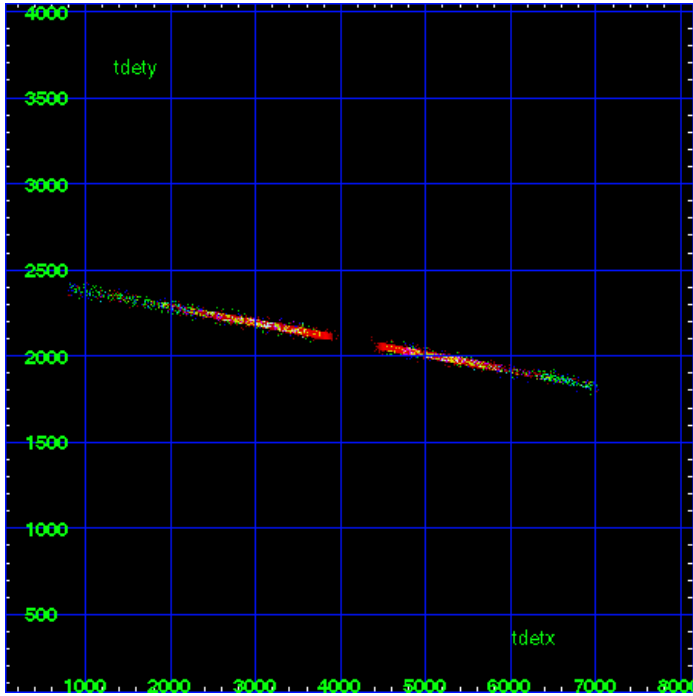
HEG Zero Order



HEG Order Sort ALL

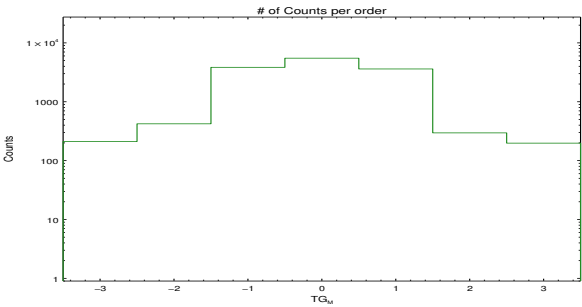


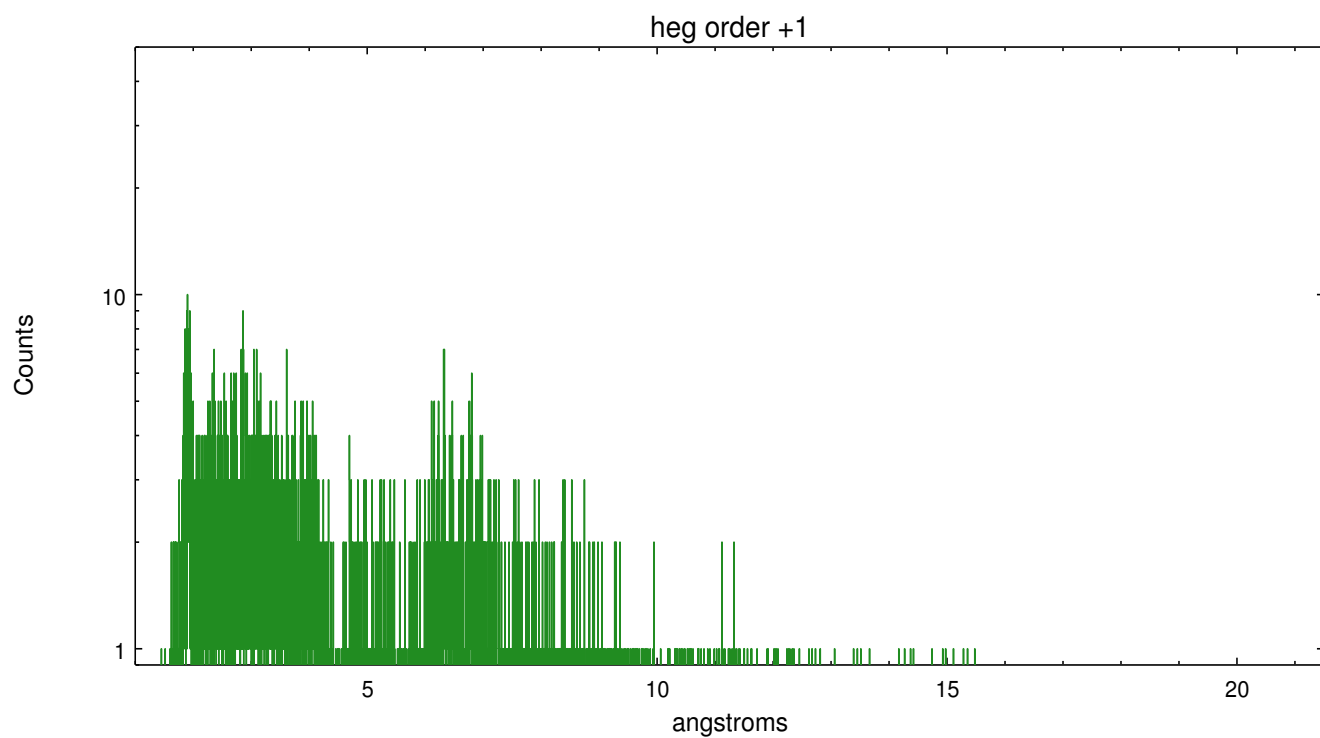
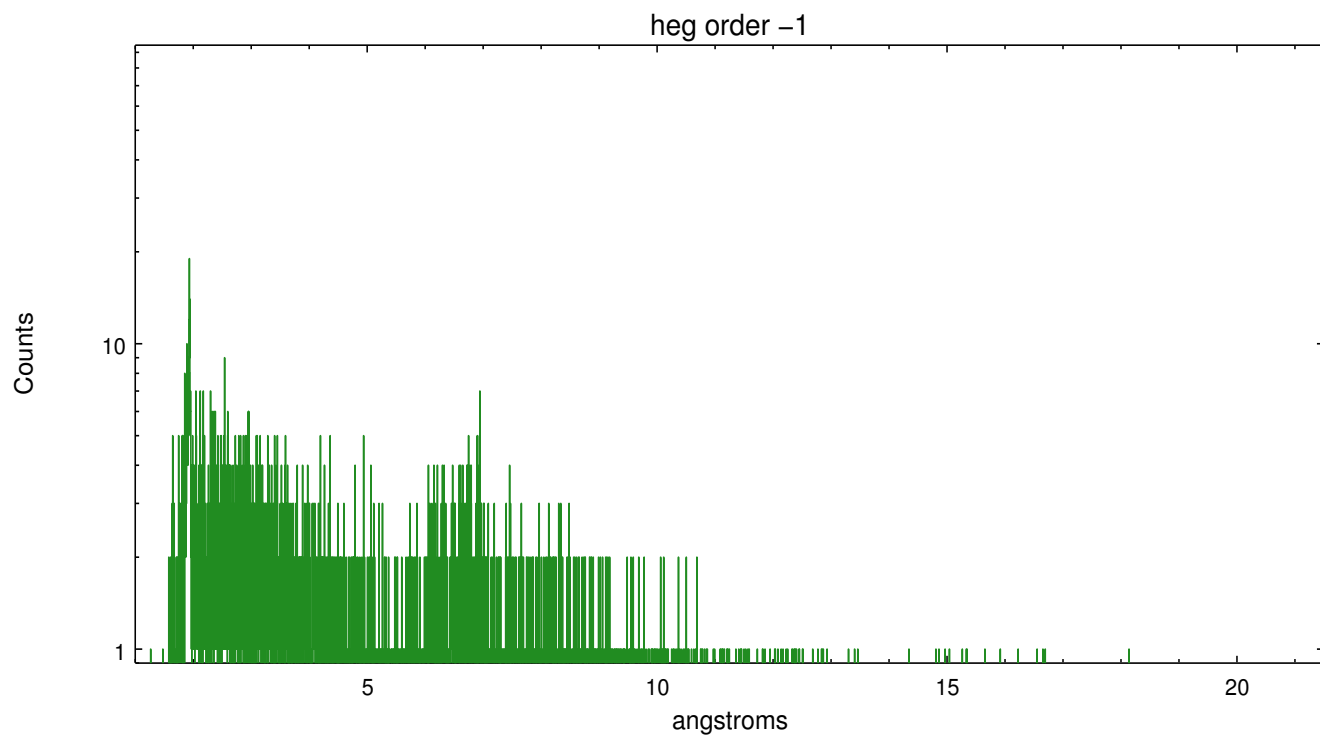
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	211	422	3840	5493	3606	296	198

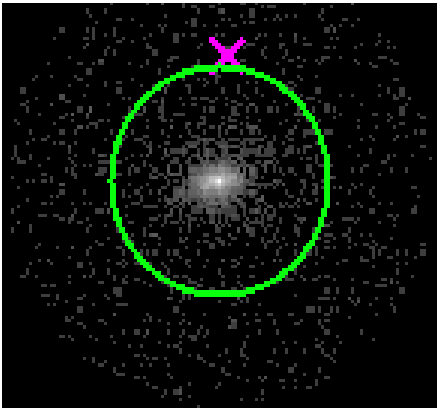




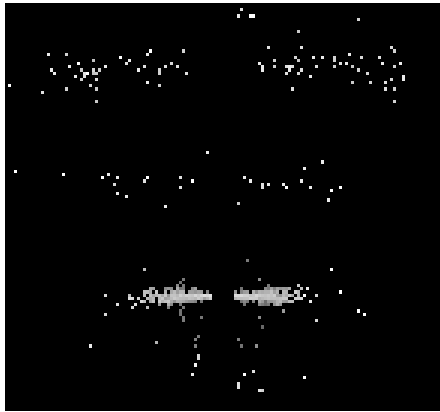
3.2 MEG Arm



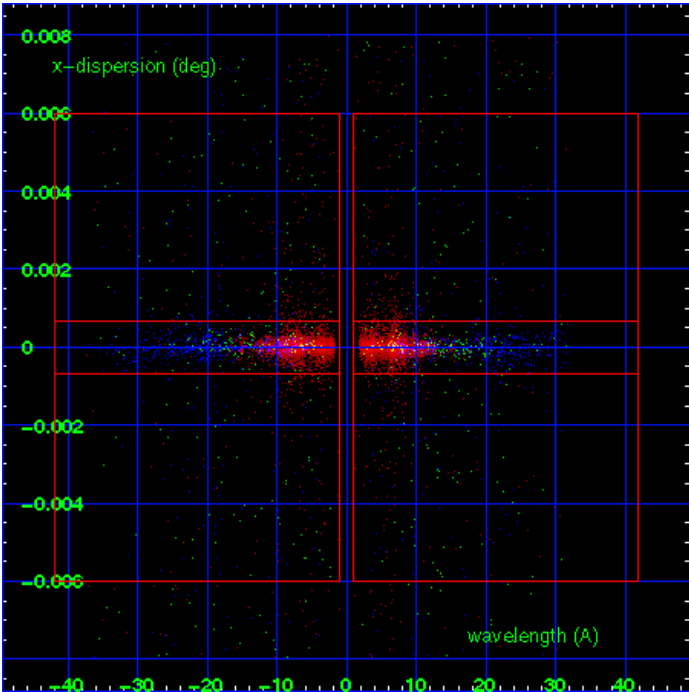
MEG Order Sort 123



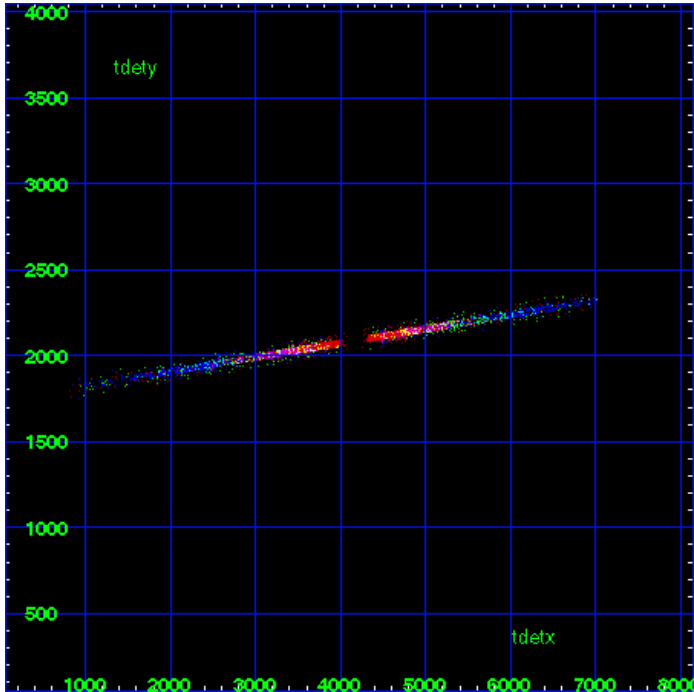
MEG Zero Order



MEG Order Sort ALL

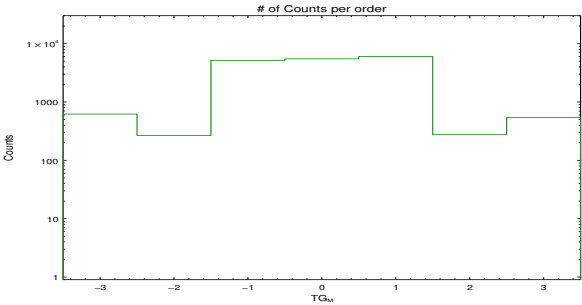


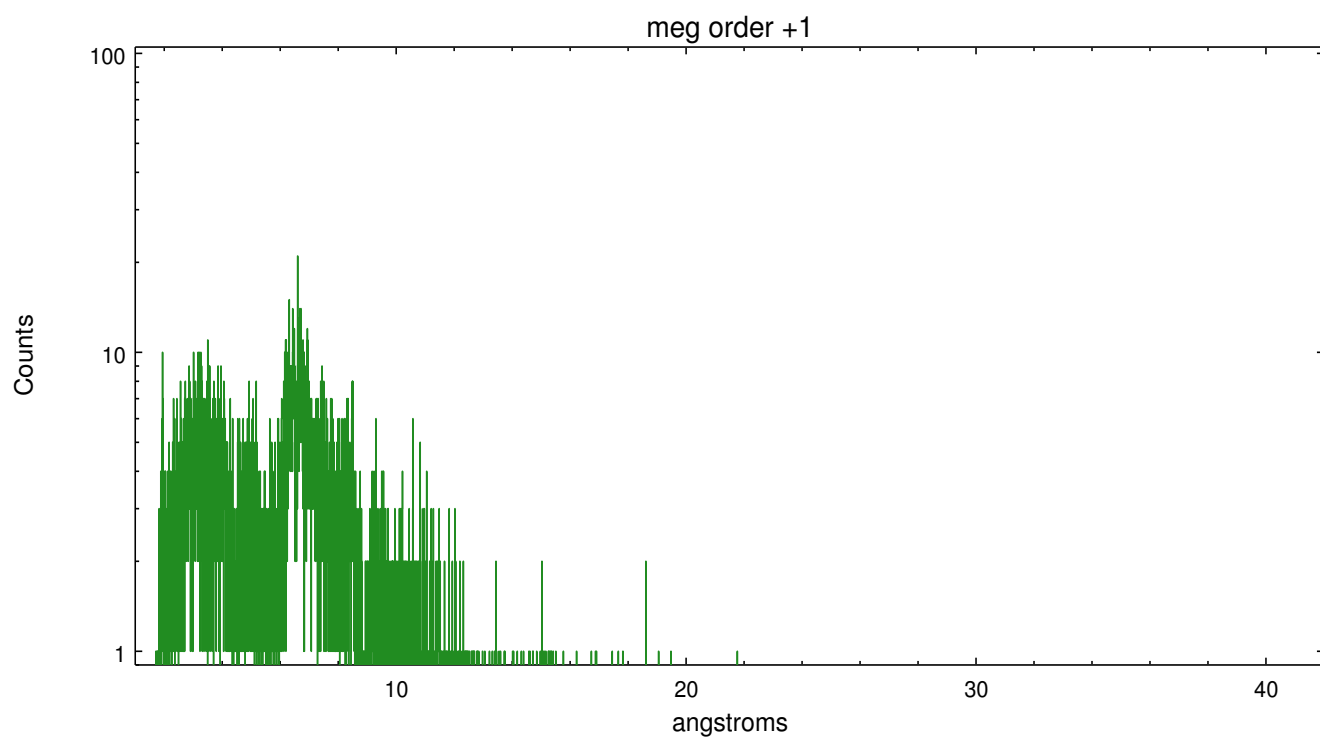
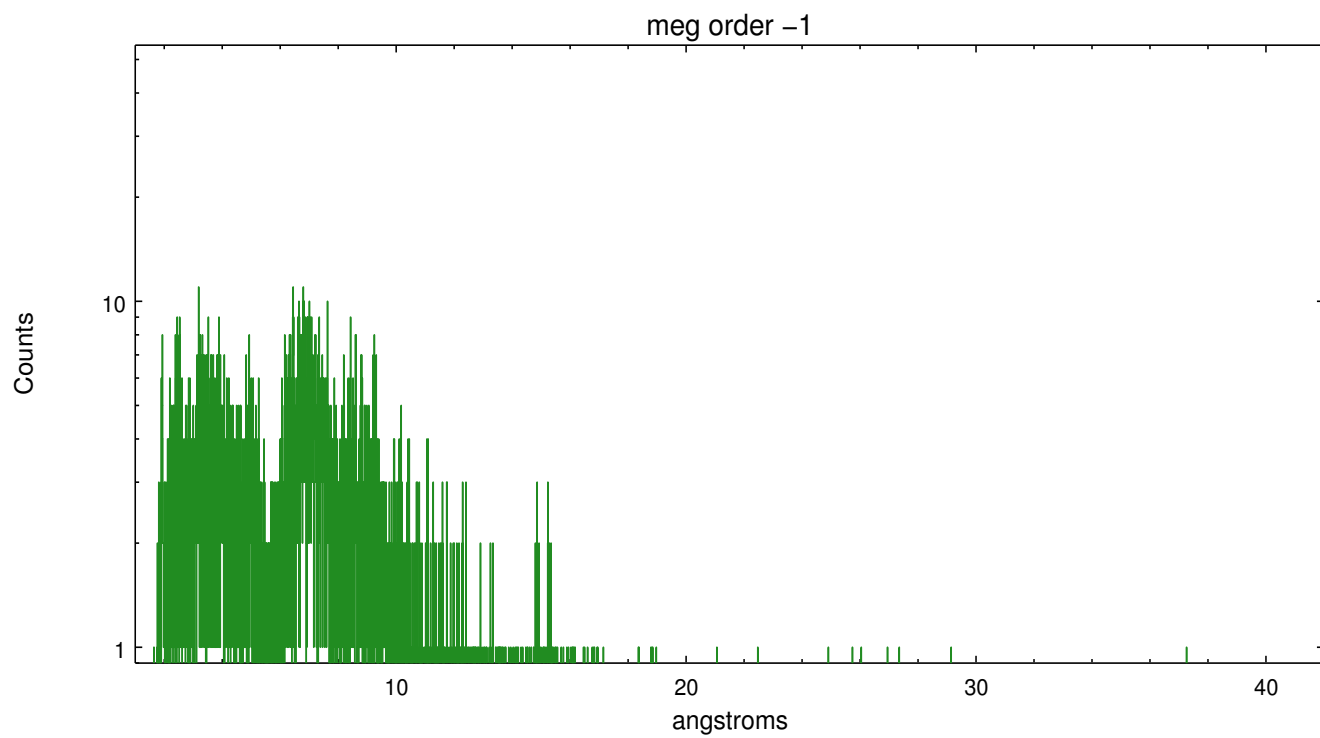
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	621	266	5175	5493	6032	275	540





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.948

A.2 Comments

Observation acquired in binary phase 0.25-0.30.

===

Zeroth order moderately piled up and source is extended. Standard data processing software did not correctly locate the zeroth order due to pileup. Manual intervention was used to input the correct sky coordinates (x=4094.05, y=4063.02) into the *src1a.fits file table. These corrected coordinates were determined using a software tool developed by CXC called findzero, which is expected to be released in CIAO as tg_findzo (currently in ISIS as findzo). The tool calculates the point of intersection of the readout streak and the meg arm. The zeroth order source position determined by the standard pipeline processing using the tool tgdetect was not used in this processing. The newly determined zeroth order coordinates have been placed in the *src1a.fits file, replacing the coordinates determined by tgdetect. Note that these corrected coordinates of the zeroth order cannot be reproduced by running tgdetect on the data.

===

WARNING: there are no standard ciao tools for analysis of grating spectra from extended sources. The shape of an emission 'line' will be the shape of the zero order spatial structure convolved with the instrumental LSF. Grating extractions can be used, but need to be combined with custom spatial-spectral analysis, since wavelength is multi-valued at any particular diffraction angle.