

V&V Reference Report

L2 ASCDS Version : 8.4.3

Observation 6241 - L2 Version 2
Chandra X-Ray Center

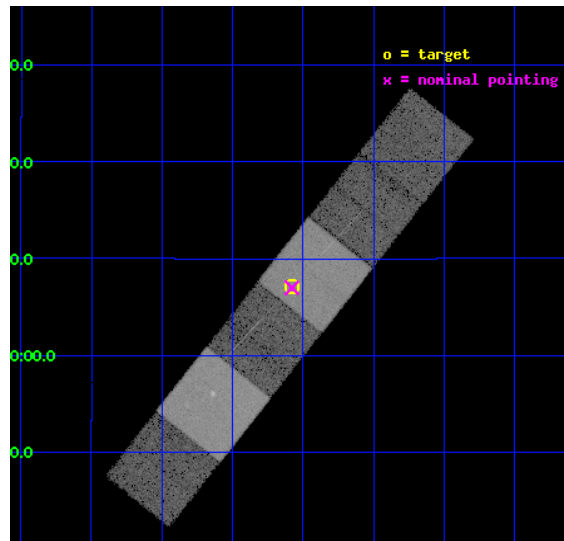
L2 Processing Date : Mar 27 2012

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1 Front

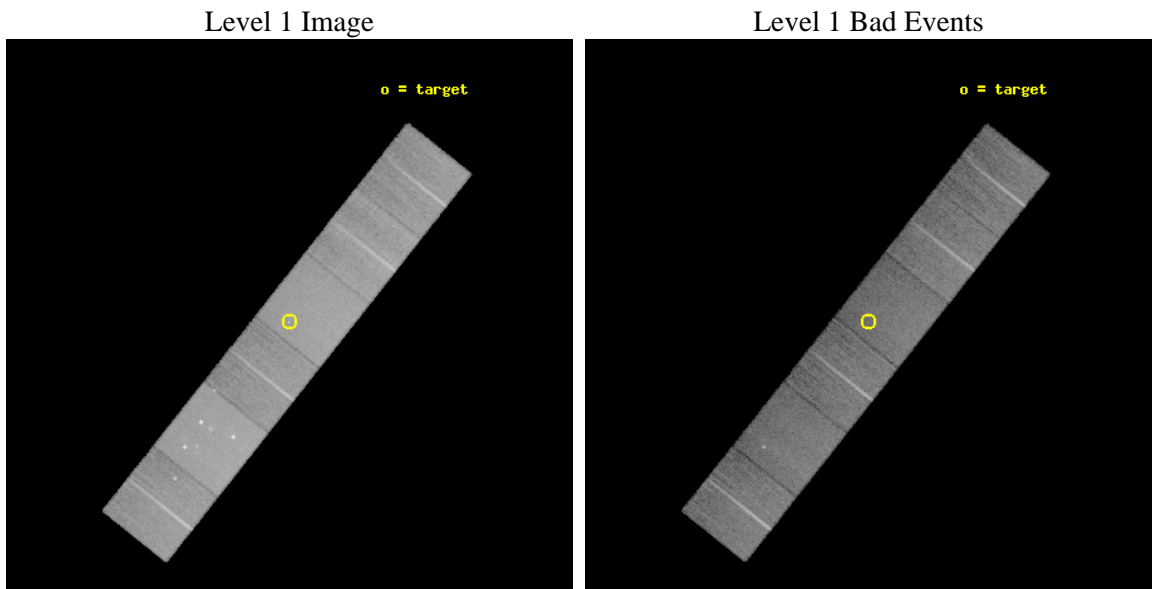
seq_num	200353	Sequence number
obs_id	6241	Observation id
title	MAGNETIC ACTIVITY IN YOUNG STARS: THE WEAK-LINED T TAURI STAR HDE 245059	Proposal title
observer	Prof. Marc Audard	Principal investigator
object	HDE 245059	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.645417	Observer's specified target RA [deg]
dec_targ	10.118389	Observer's specified target Dec [deg]
ra_nom	83.64489891859	Nominal RA [deg]
dec_nom	10.116371916565	Nominal Dec [deg]
roll_nom	308.45672131678	Nominal Roll [deg]
revision	2	Processing version of data
ontime	17951.999933124	Sum of GTIs [s]
livetime	17724.680900574	Livetime [s]
ontime4	17951.999933124	Sum of GTIs [s]
ontime5	17951.999933124	Sum of GTIs [s]
ontime6	17951.999933124	Sum of GTIs [s]
ontime7	17951.999933124	Sum of GTIs [s]
ontime8	17945.517962515	Sum of GTIs [s]
ontime9	17948.758942813	Sum of GTIs [s]
l2events	234996	Number of level 2 events



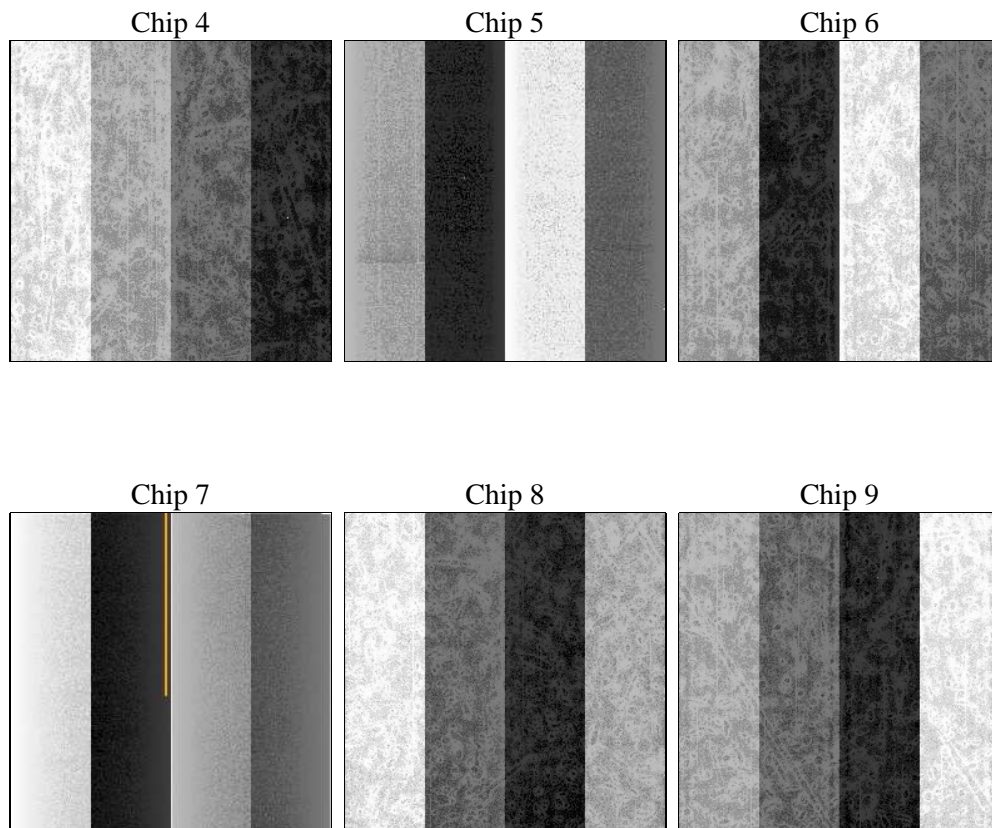
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	18000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	17951.999933124	Sum of GTIs [s]
caldsver	4.4.8	 	ontime4	17951.999933124	Sum of GTIs [s]
date	2012-03-21T05:31:15	Date and time of file creation	ontime5	17951.999933124	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	17951.999933124	Sum of GTIs [s]
			ontime7	17951.999933124	Sum of GTIs [s]
			ontime8	17945.517962515	Sum of GTIs [s]
			ontime9	17948.758942813	Sum of GTIs [s]
			l1events	1047036	Number of level 1 events

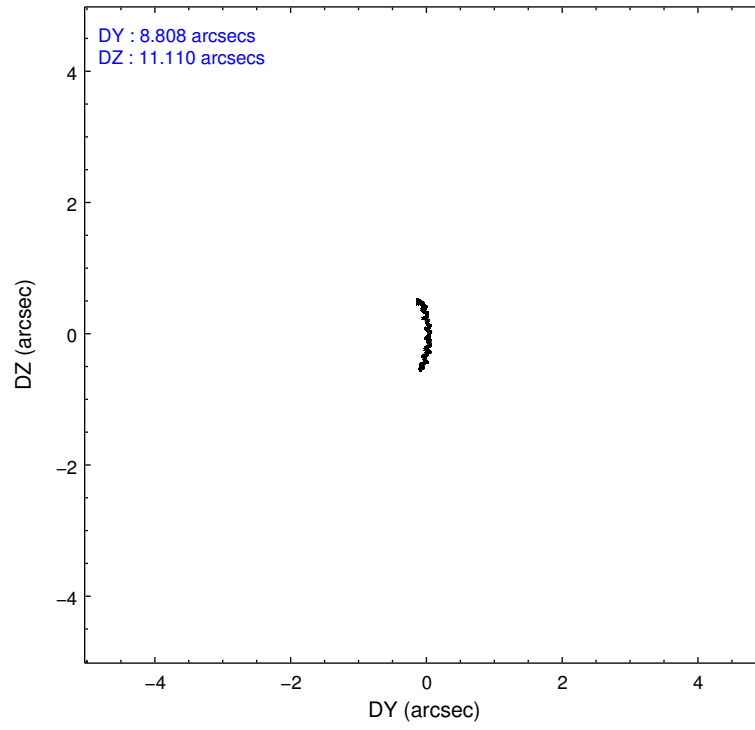
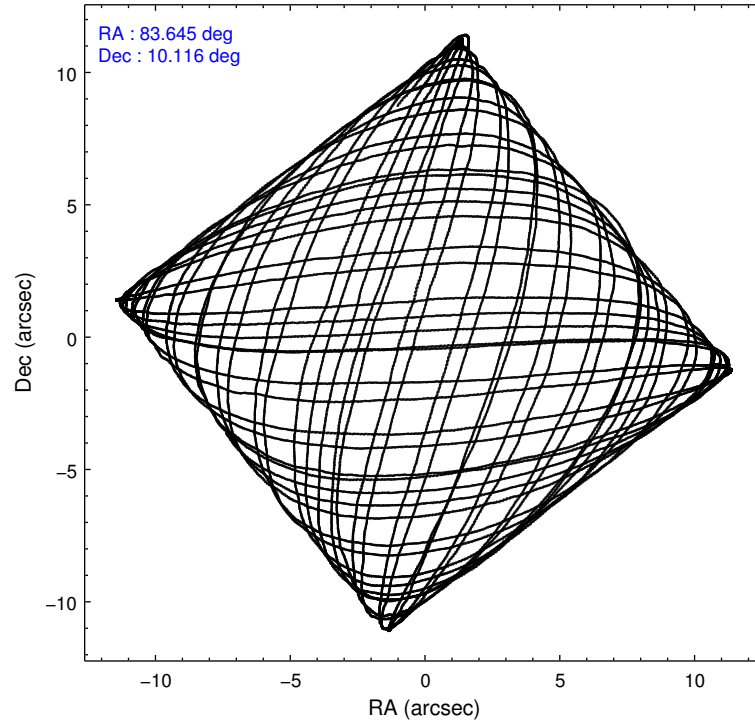
2.1.4 Events

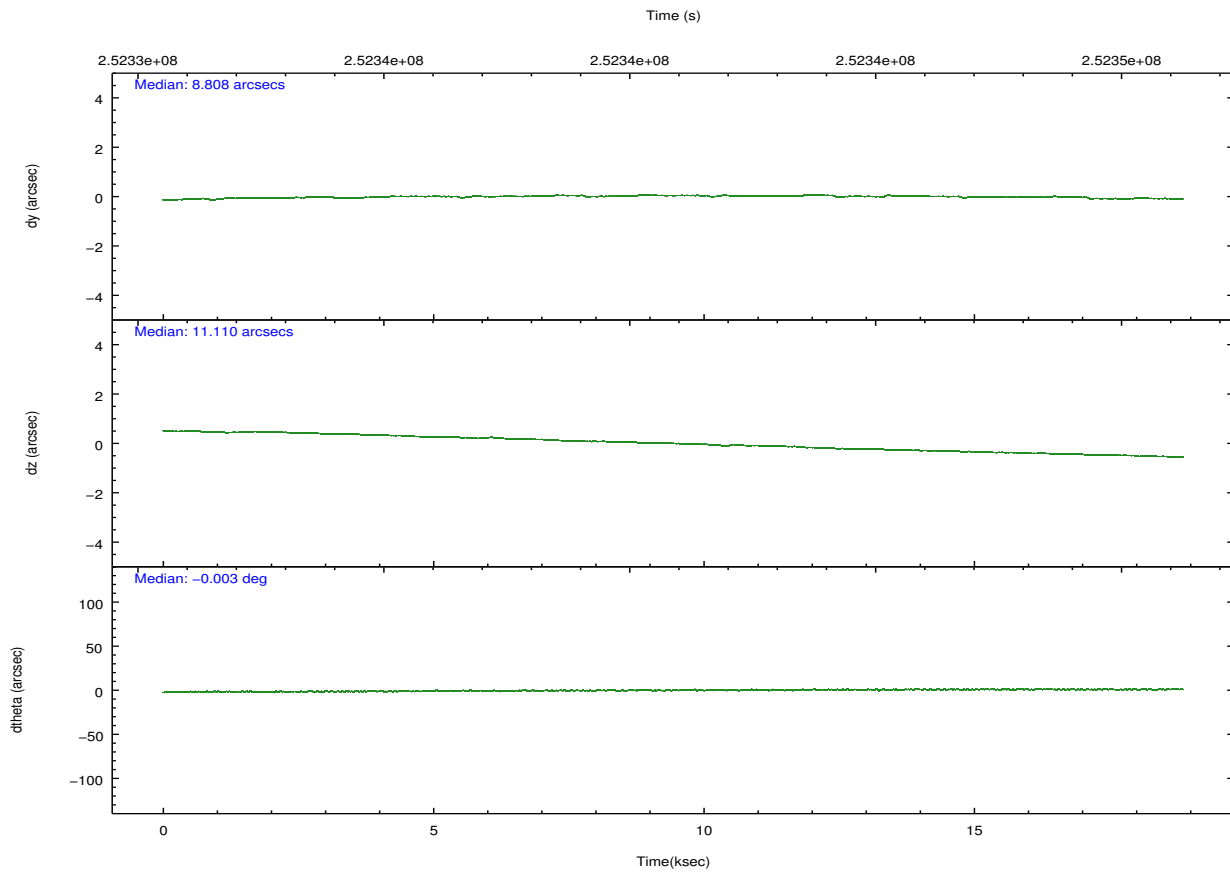
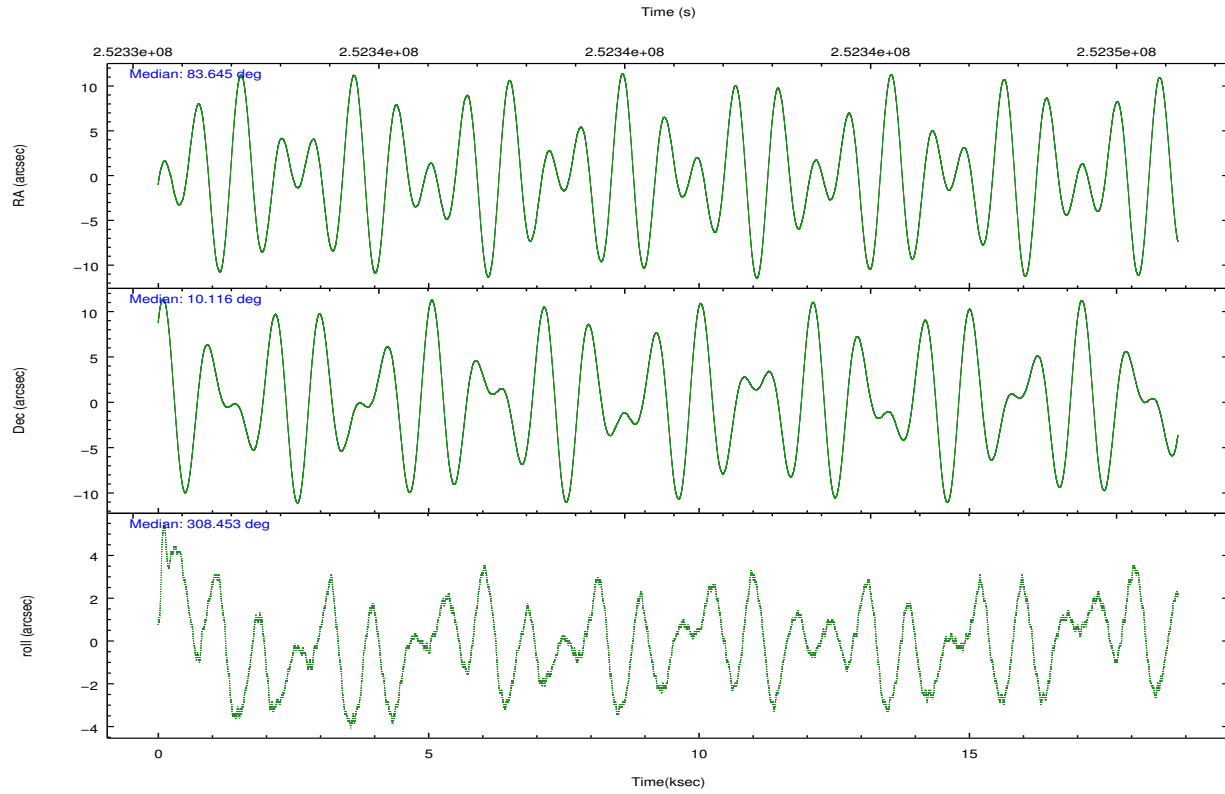
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	157160	222050	143606	196715	182058	145447	grade 0 events	9211	12952	7305	7057	12261	7251
rejected events	137795	118591	125628	115250	142832	127961		5%	5%	5%	3%	6%	4%
rejected %	87%	53%	87%	58%	78%	87%	grade 1 events	150	285	82	198	114	97
								0%	0%	0%	0%	0%	0%
							grade 2 events	3732	30735	3695	16271	8866	3306
								2%	13%	2%	8%	4%	2%
							grade 3 events	1824	3972	1735	7215	3941	1727
								1%	1%	1%	3%	2%	1%
							grade 4 events	1758	3676	1684	7236	3727	1703
								1%	1%	1%	3%	2%	1%
							grade 5 events	6470	16123	6613	18684	8707	7043
								4%	7%	4%	9%	4%	4%
							grade 6 events	2848	52159	3565	43728	10448	3508
								1%	23%	2%	22%	5%	2%
							grade 7 events	131167	102148	118927	96326	133994	120812
								83%	46%	82%	48%	73%	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	83.619002	83.64489891859026	Subarray requested	NONE	NONE
[deg] Pointing Dec	10.126028	10.11637191656517	Alternating exposures requested	N	N
[deg] Pointing Roll	308.304649	308.4567213167784	[s] Primary exposure time	0.000000	3.2
[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			
[s] Observation start time (MET)	252332312.184000	252330959.89744			
Observation start date	2005-12-30T12:17:28	2005-12-30T11:55:59			
[s] Observation end time (MET)	252350312.184000	252351077.06087			
Observation end date	2005-12-30T17:17:28	2005-12-30T17:31:17			
Read mode	TIMED	TIMED			

2.3 Aspect



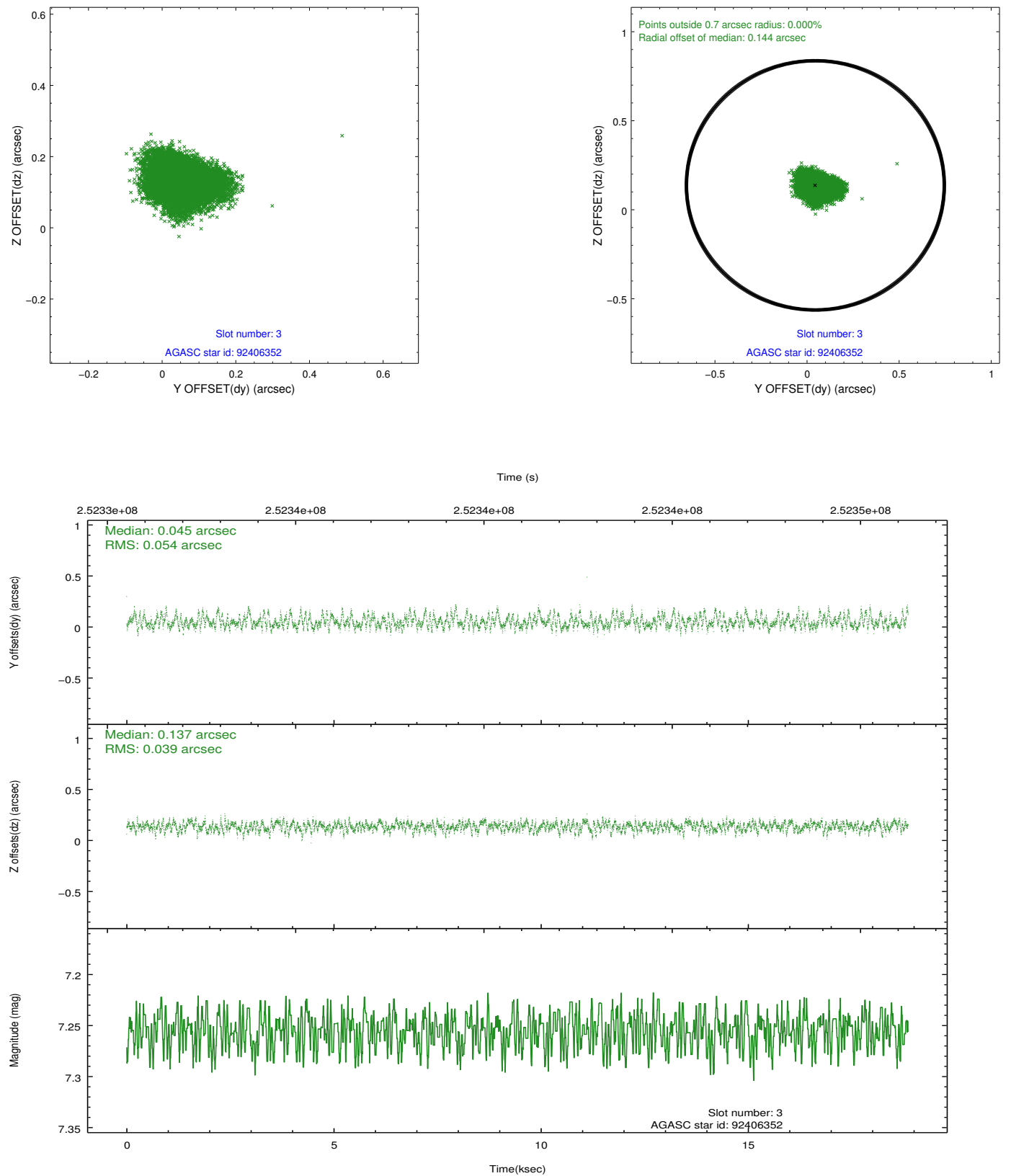


Slot Statistics

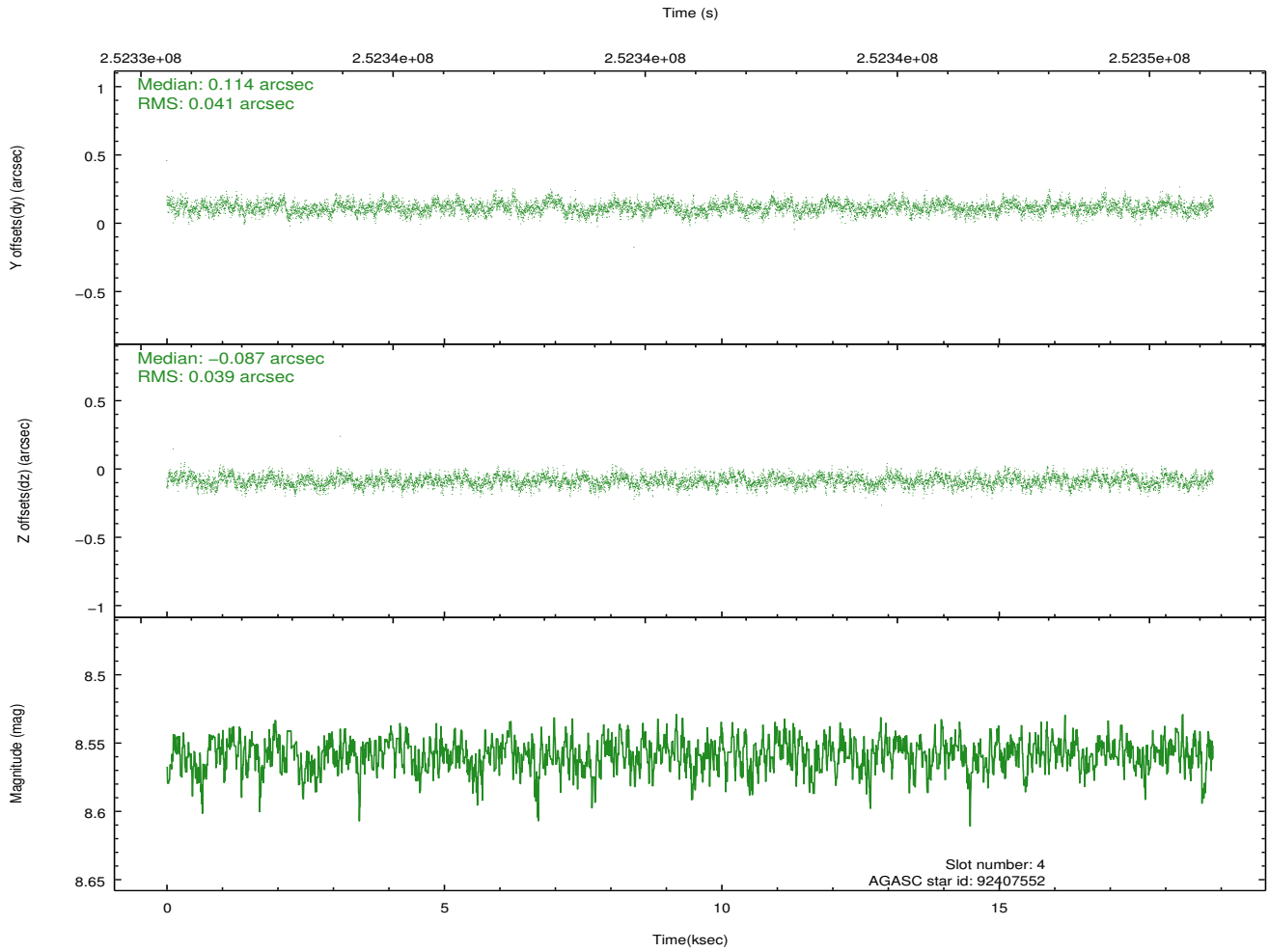
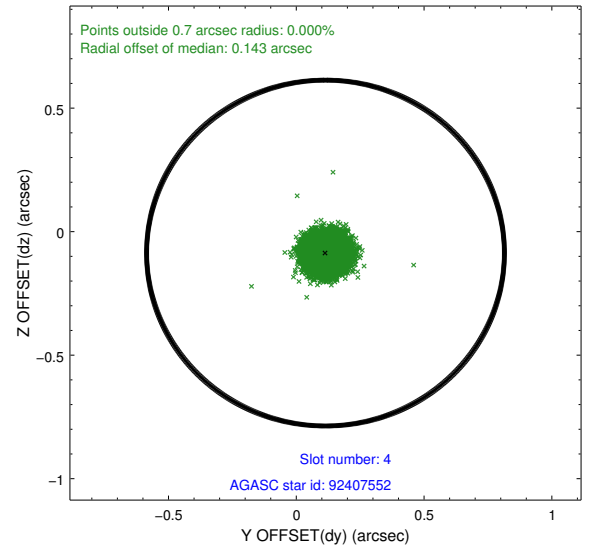
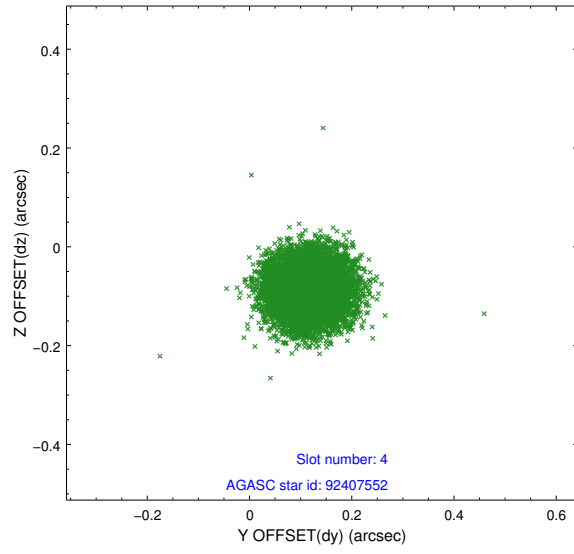
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	4599	-0.052	-0.092	0.010	0.015	0.000000	0.000000	-761.45	-1794.60
1	FID	ACIS-S-4	7.20	4600	0.139	0.049	0.006	0.012	0.000000	0.000000	2151.93	113.76
2	FID	ACIS-S-5	7.23	4601	-0.119	0.051	0.009	0.015	0.000000	0.000000	-1814.08	107.70
3	GUIDE	92406352	7.25	9201	0.045	0.137	0.071	0.114	83.803317	9.613262	1854.43	-630.34
4	GUIDE	92407552	8.56	9197	0.114	-0.087	0.061	0.096	84.192581	9.887280	1934.62	1064.79
5	GUIDE	92408984	9.11	9198	-0.104	-0.016	0.070	0.114	83.568435	10.528031	-1246.07	756.74
6	GUIDE	92411856	8.72	9194	-0.021	-0.039	0.082	0.125	83.145771	10.083006	-918.57	-1411.38
7	GUIDE	92407600	8.84	9200	-0.044	0.008	0.092	0.143	83.136466	9.669683	227.14	-2361.35

2.4 Star Slots

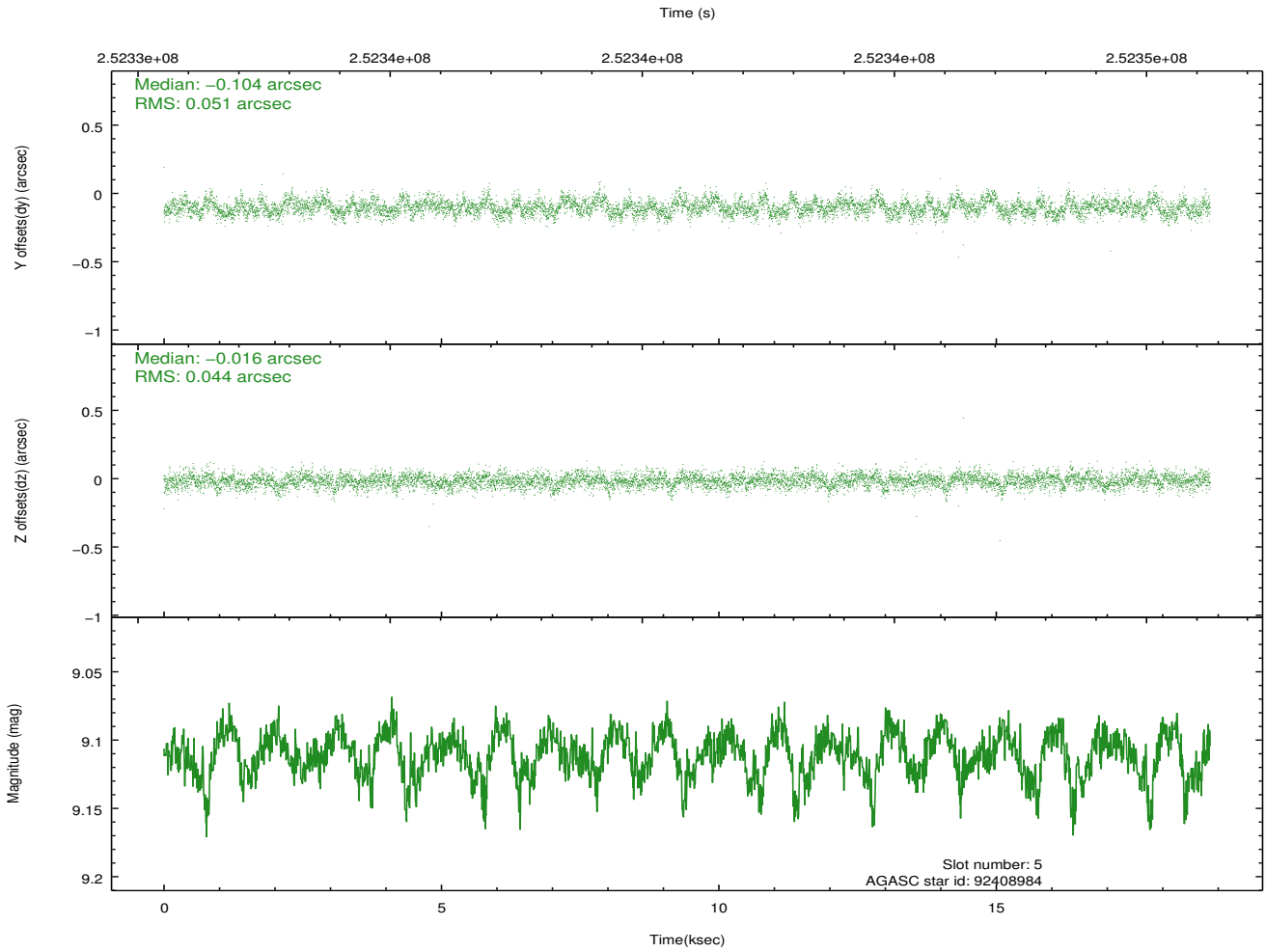
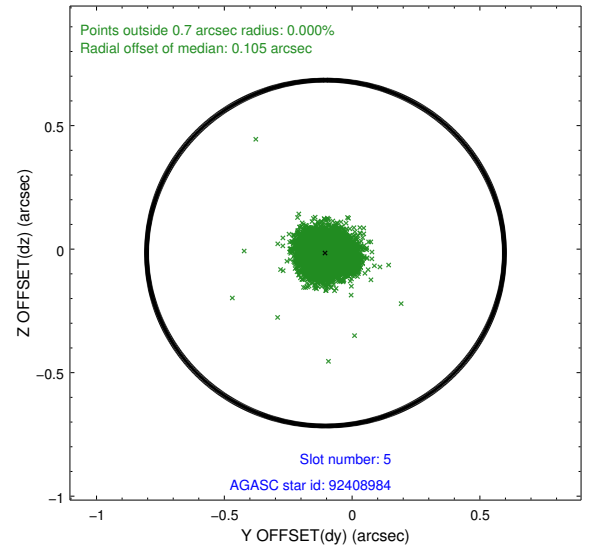
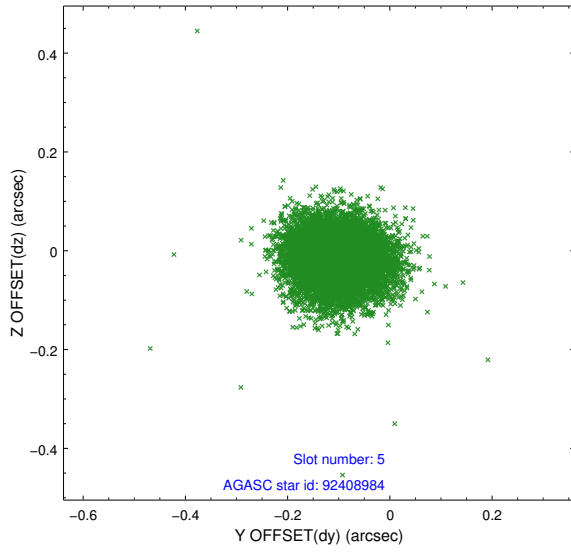
2.4.1 Slot 3



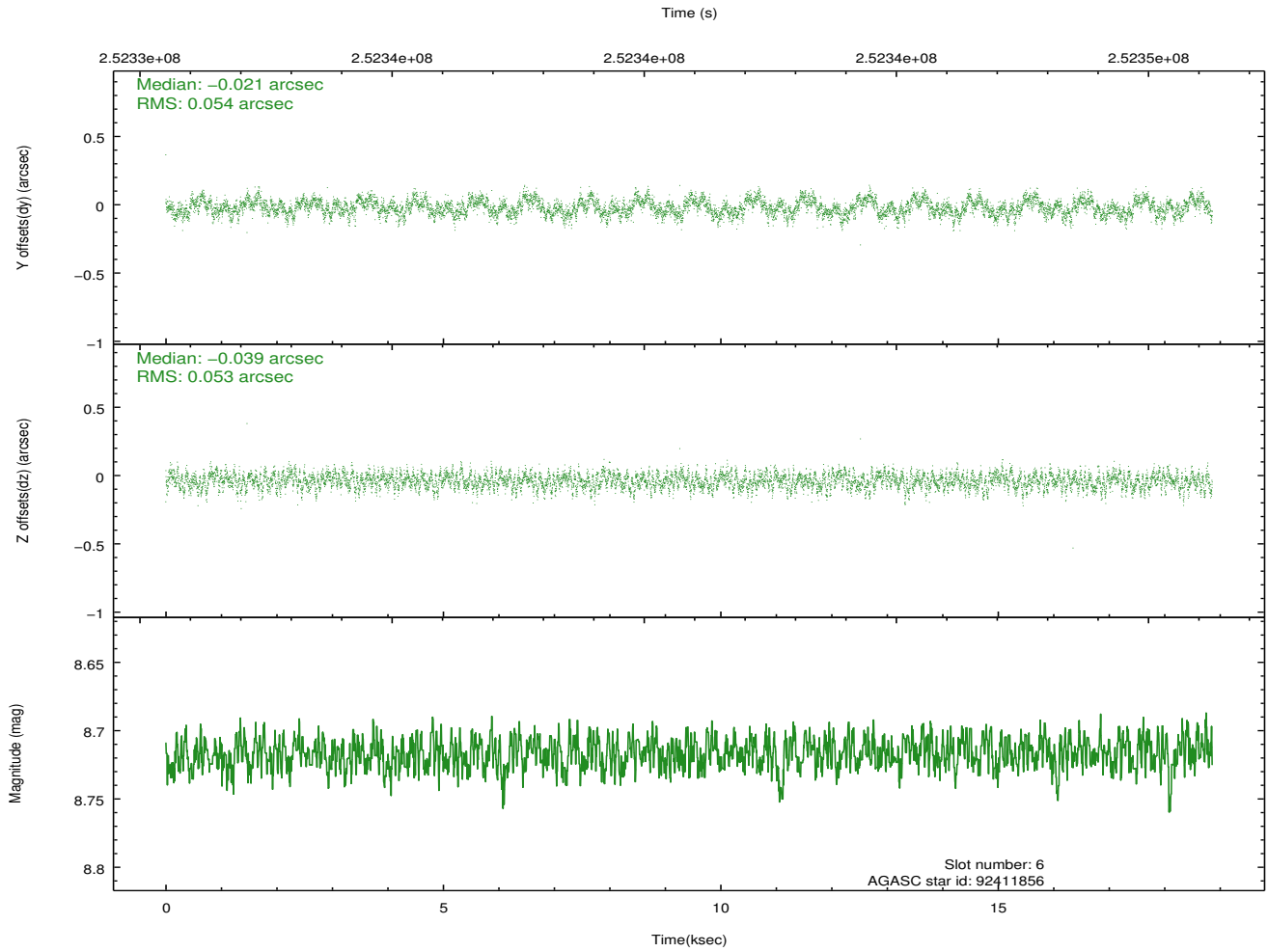
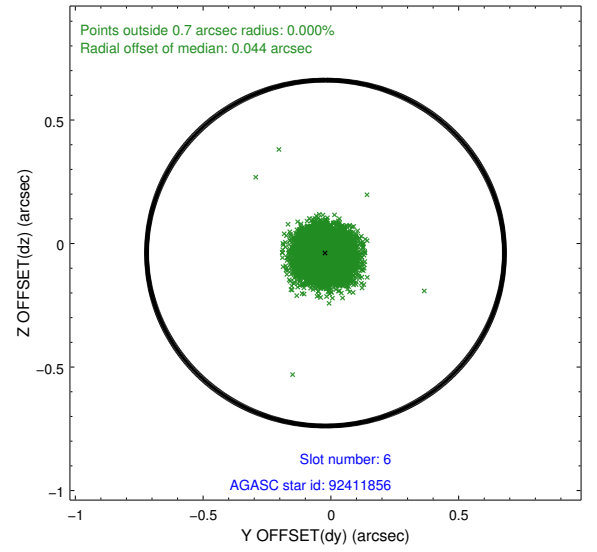
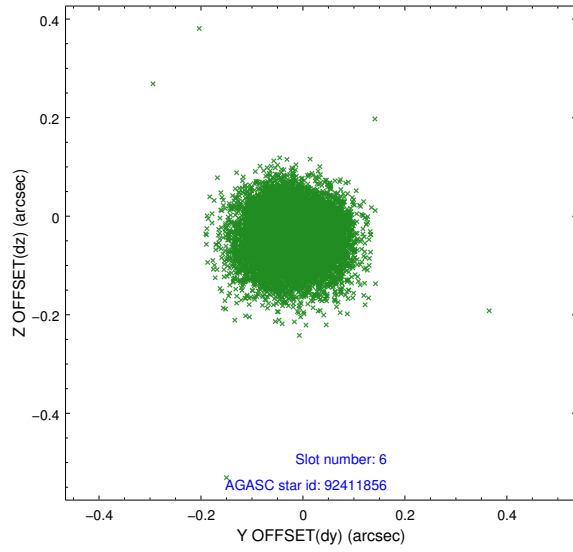
2.4.2 Slot 4



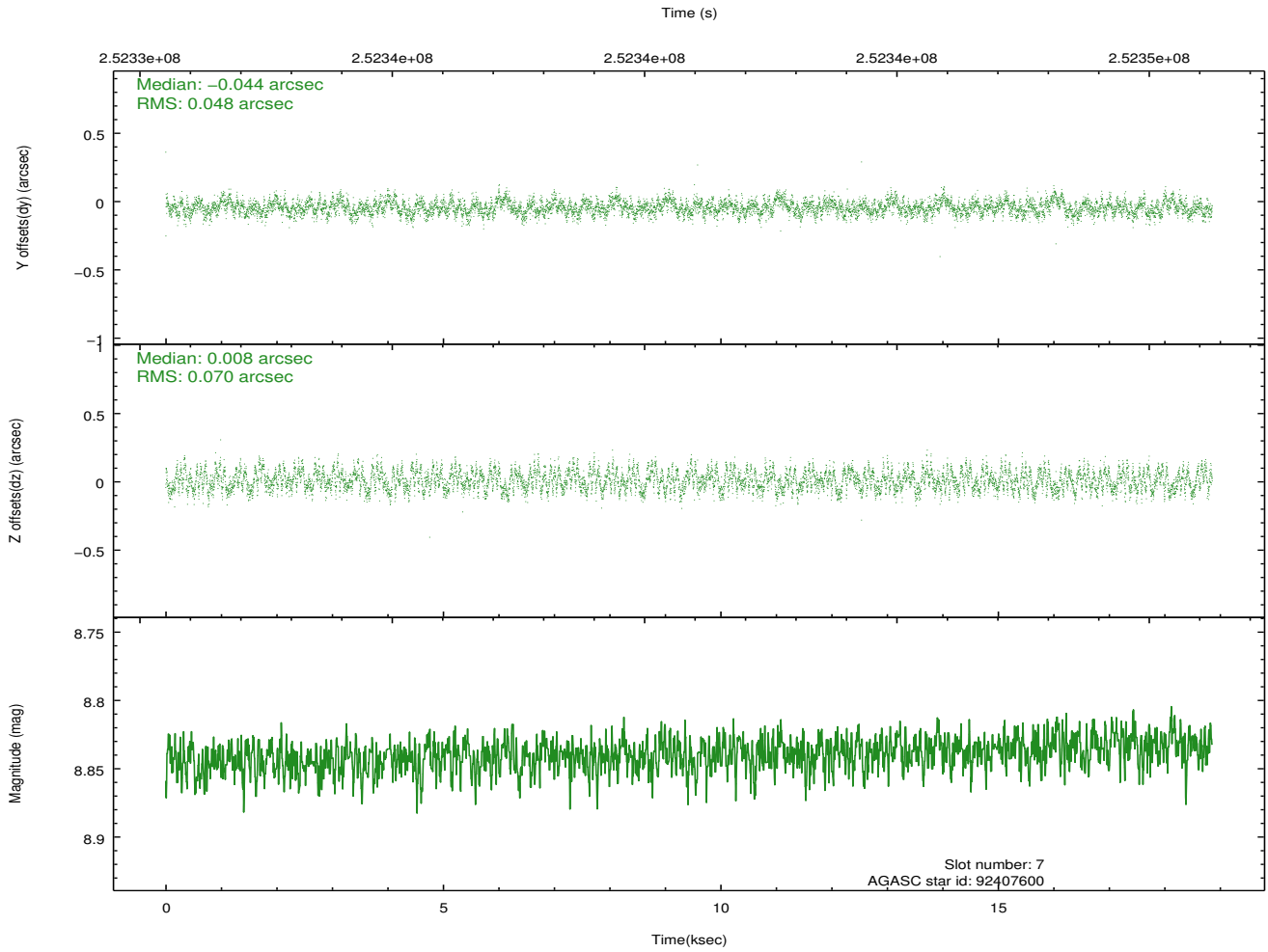
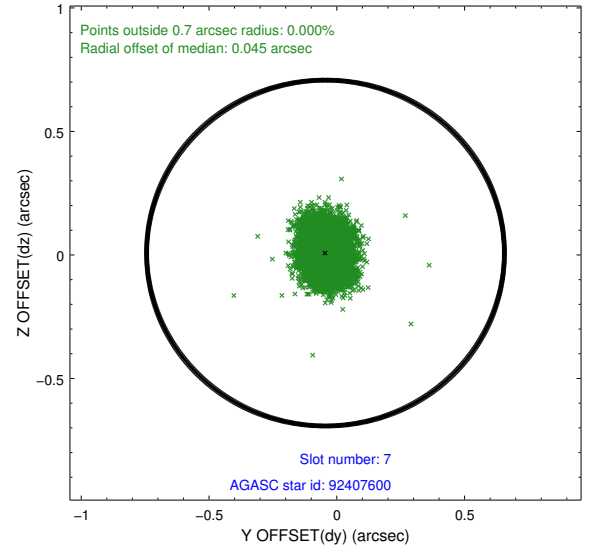
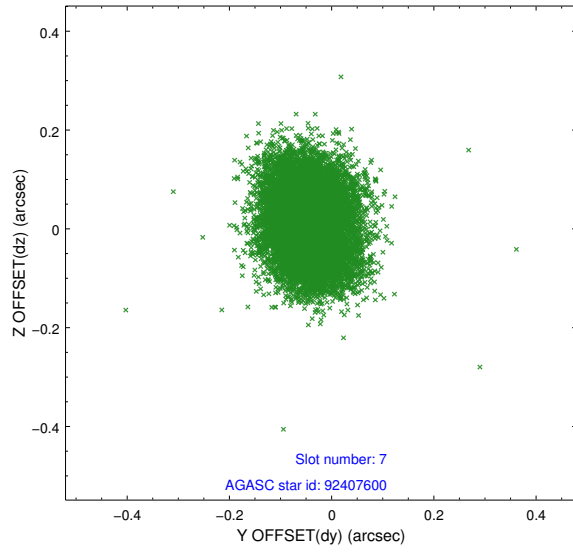
2.4.3 Slot 5



2.4.4 Slot 6

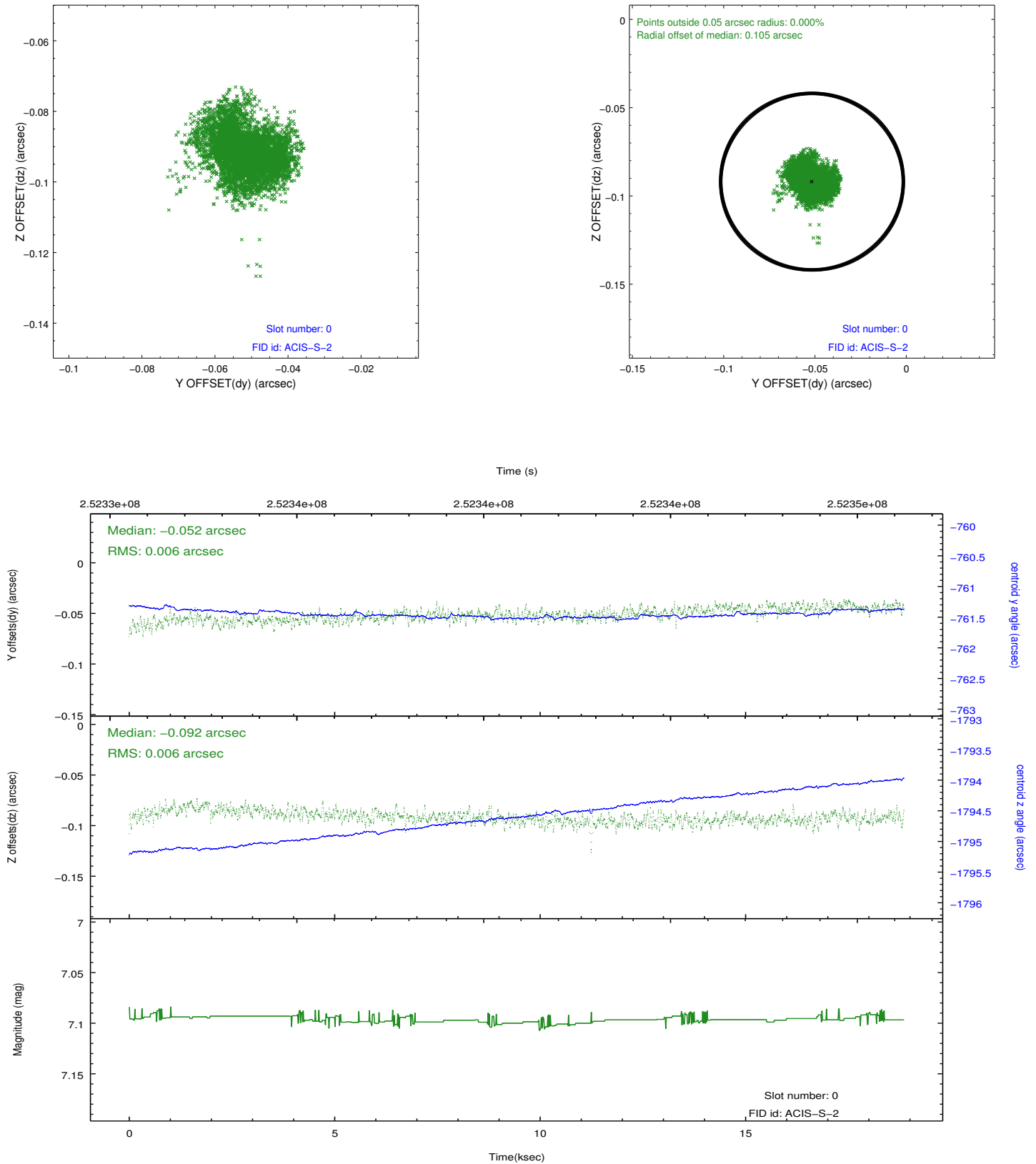


2.4.5 Slot 7

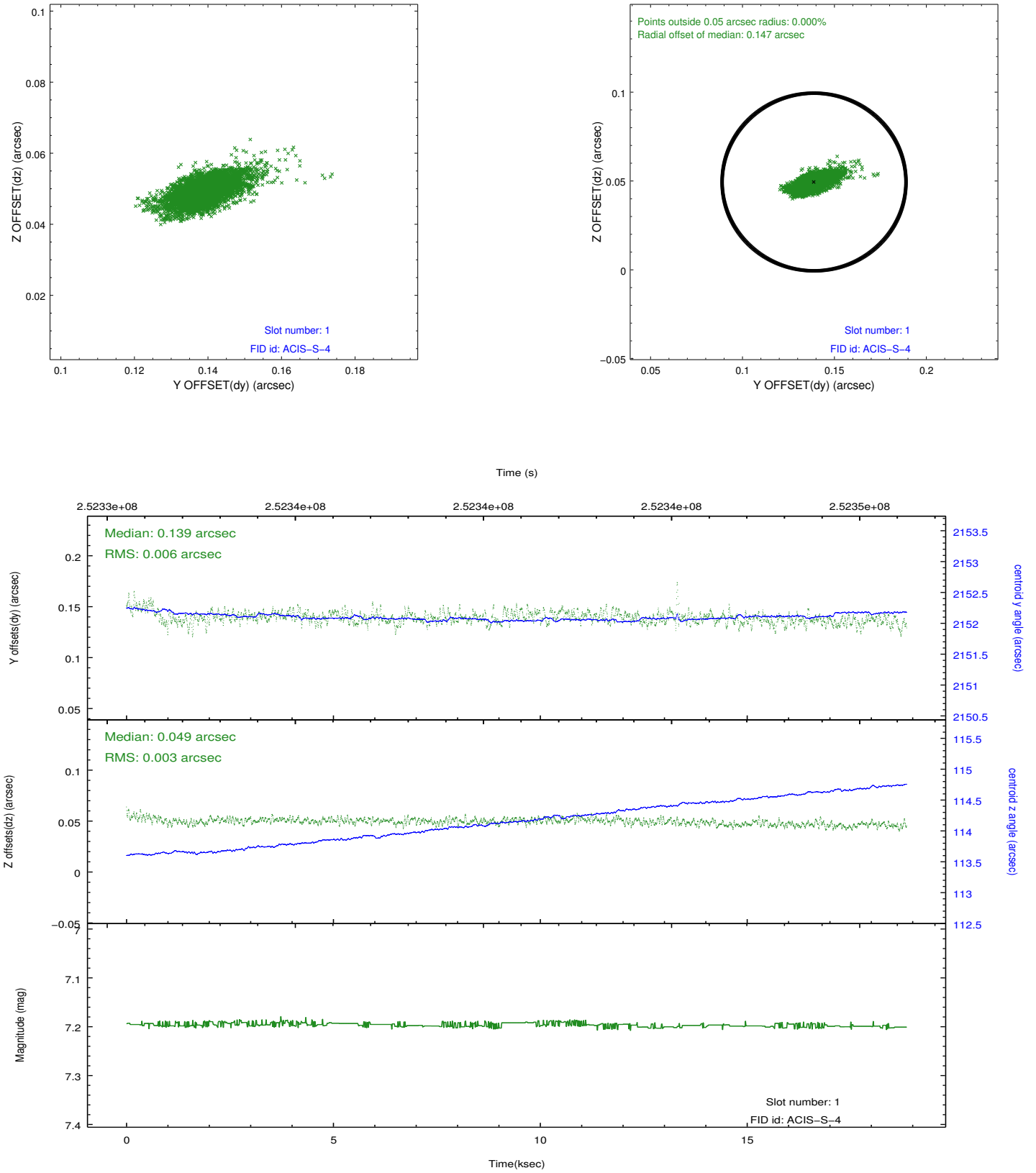


2.5 FID Slots

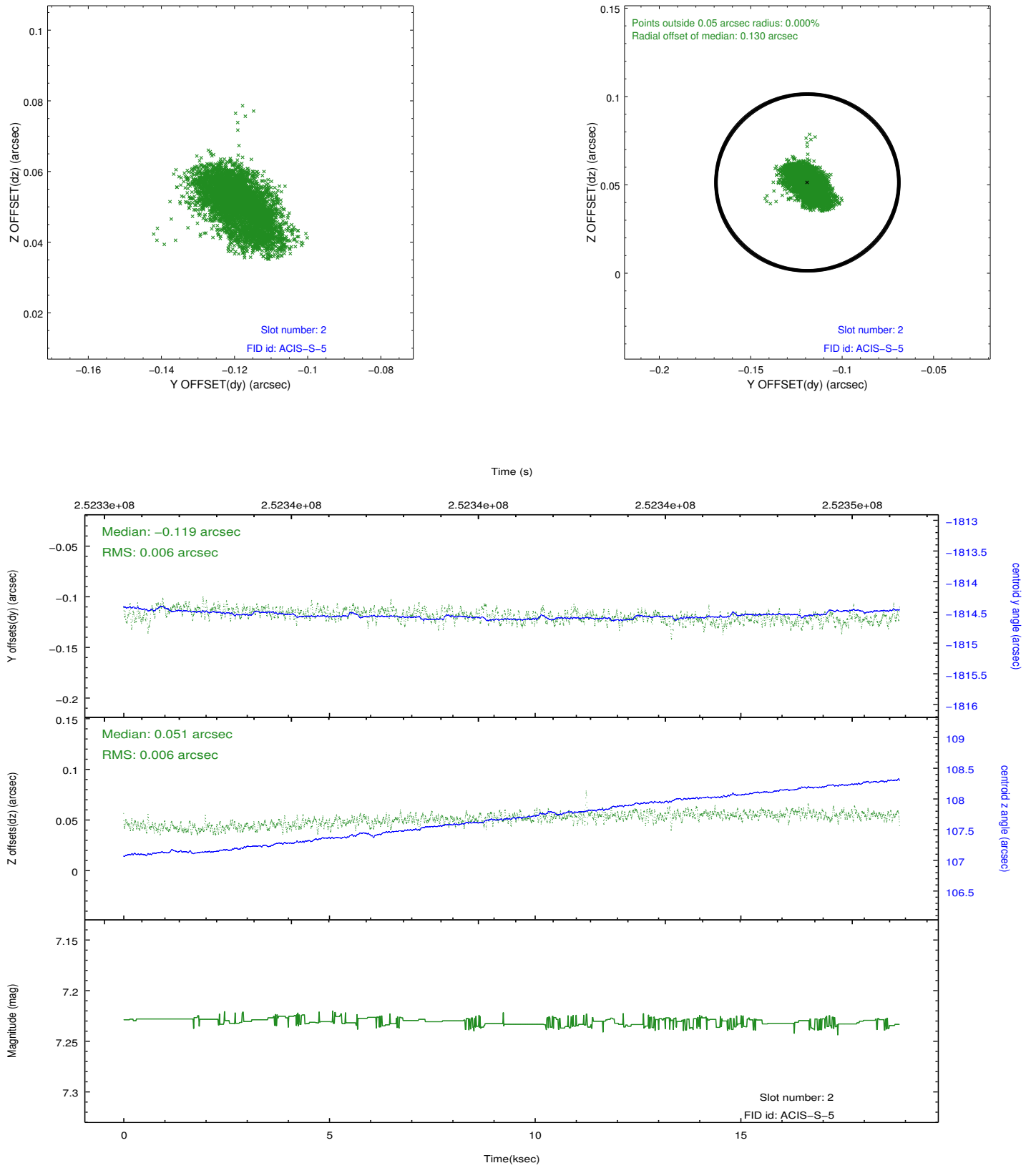
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

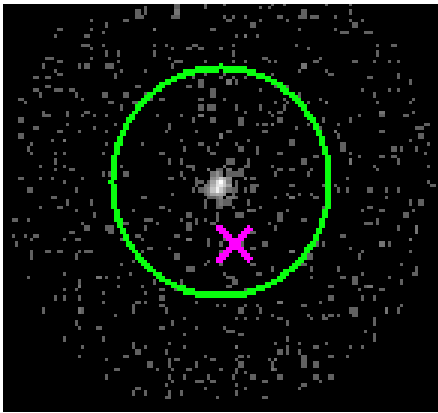


3 Gratings

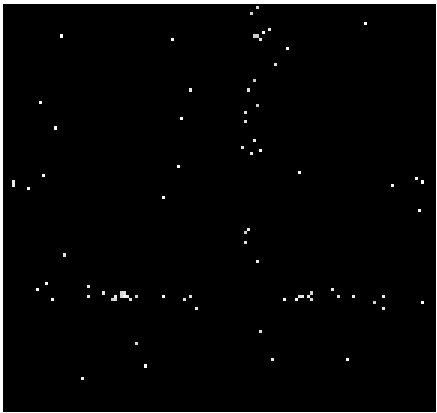
3.1 HEG Arm



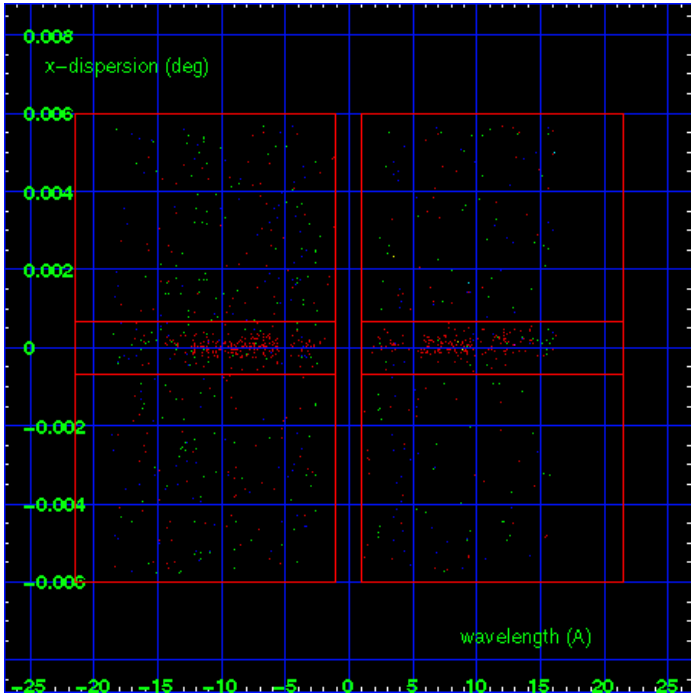
HEG Order Sort 123



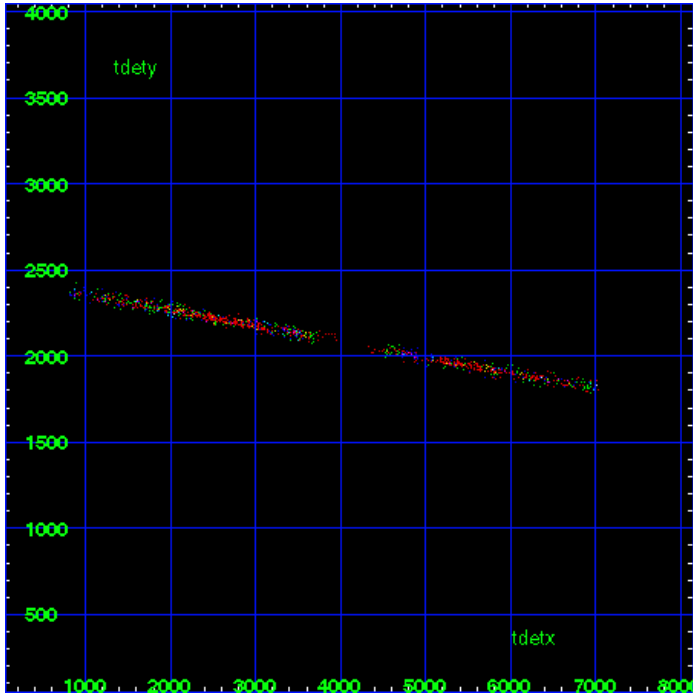
HEG Zero Order



HEG Order Sort ALL

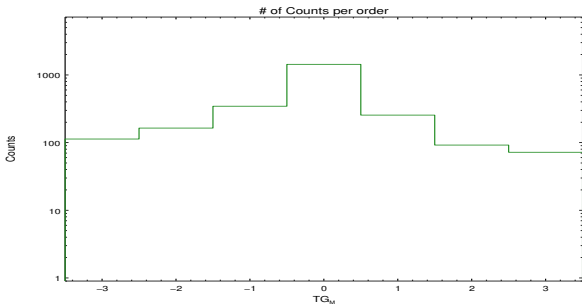


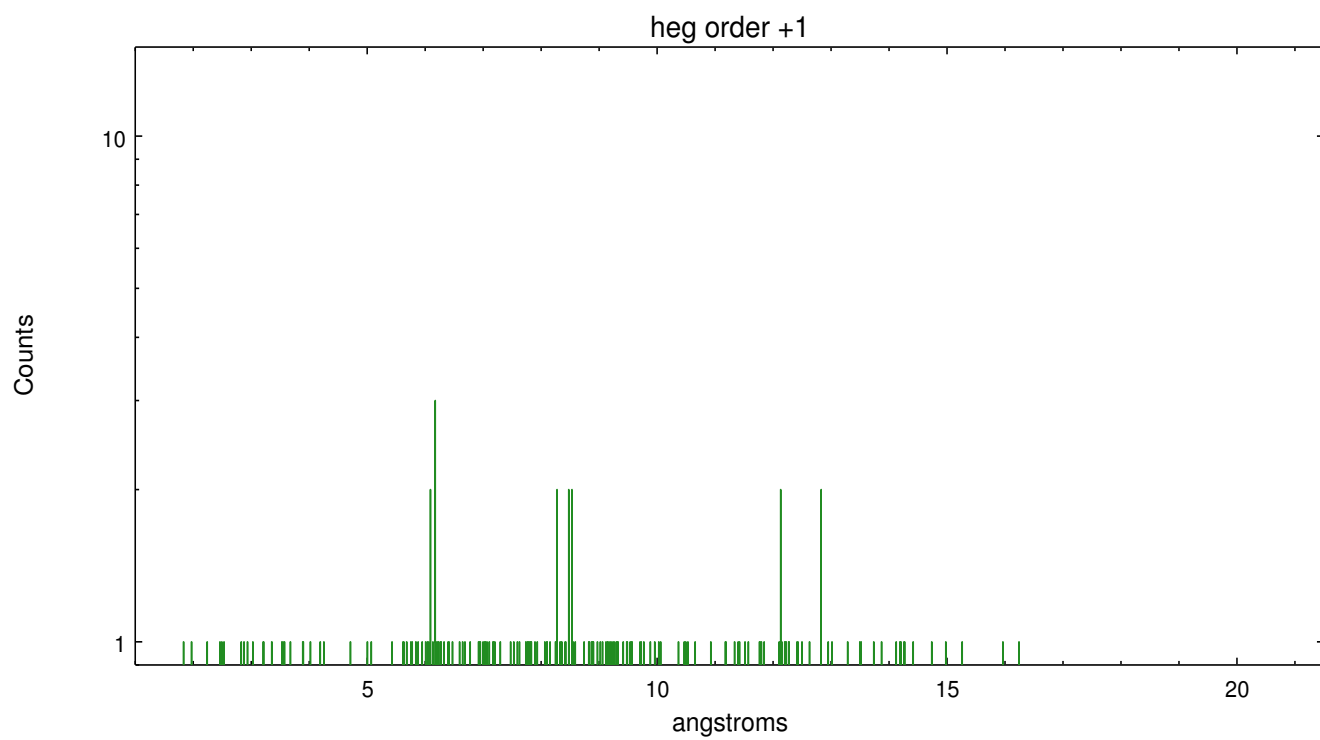
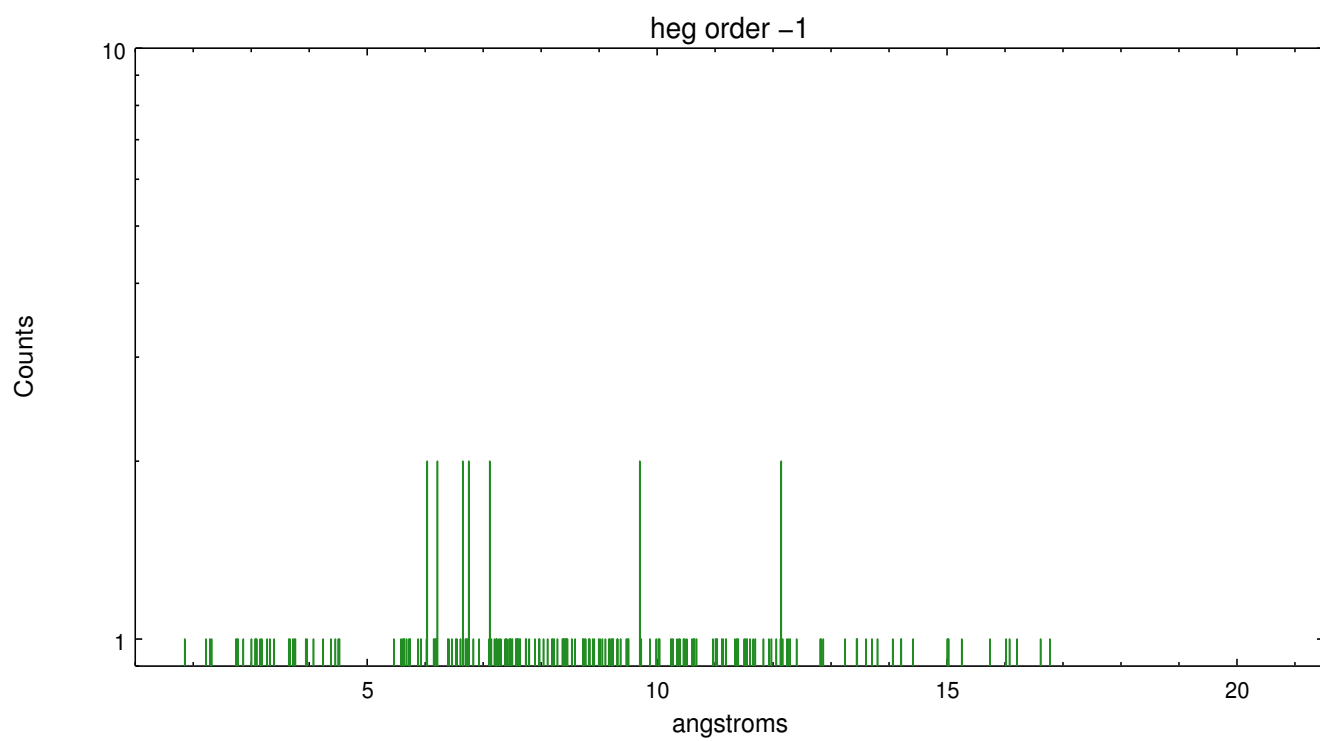
Spot Image HEG



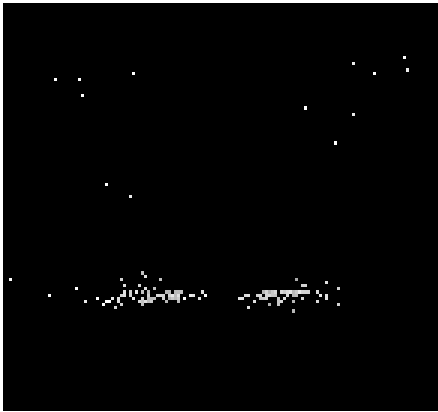
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	113	164	345	1435	255	92	72

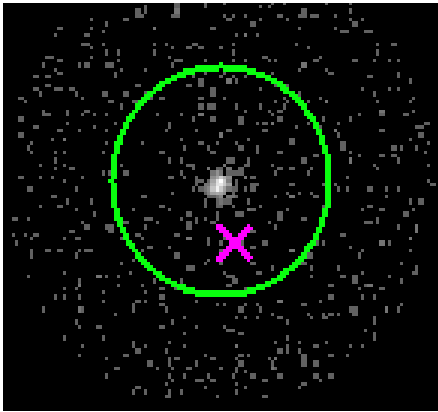




3.2 MEG Arm



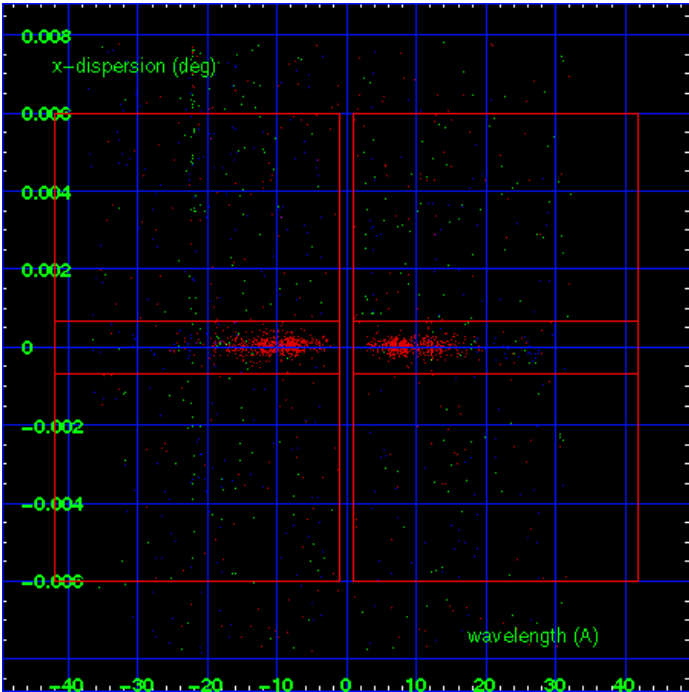
MEG Order Sort 123



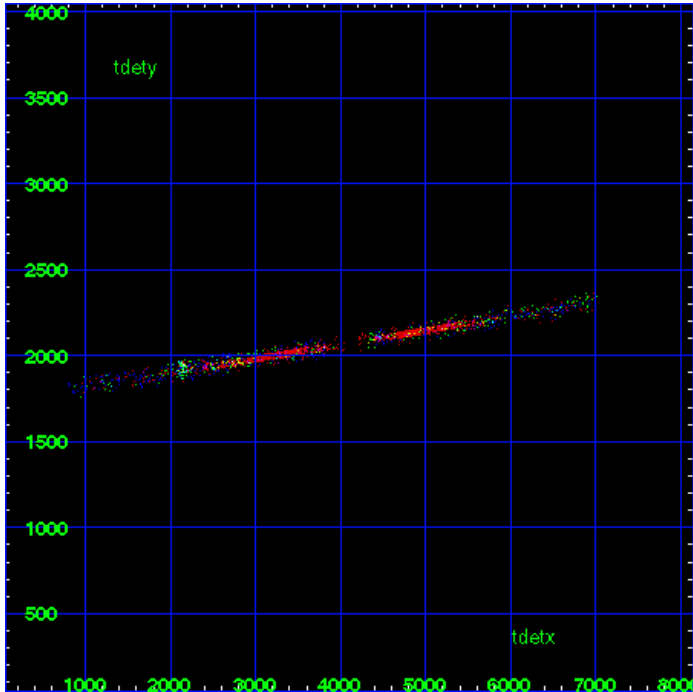
MEG Zero Order



MEG Order Sort ALL

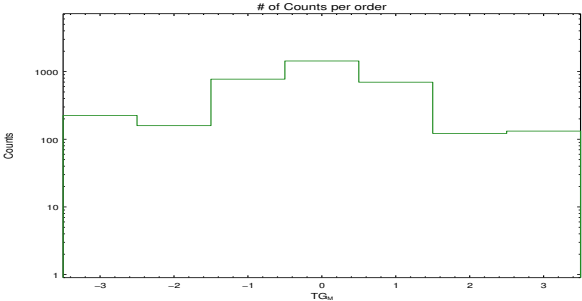


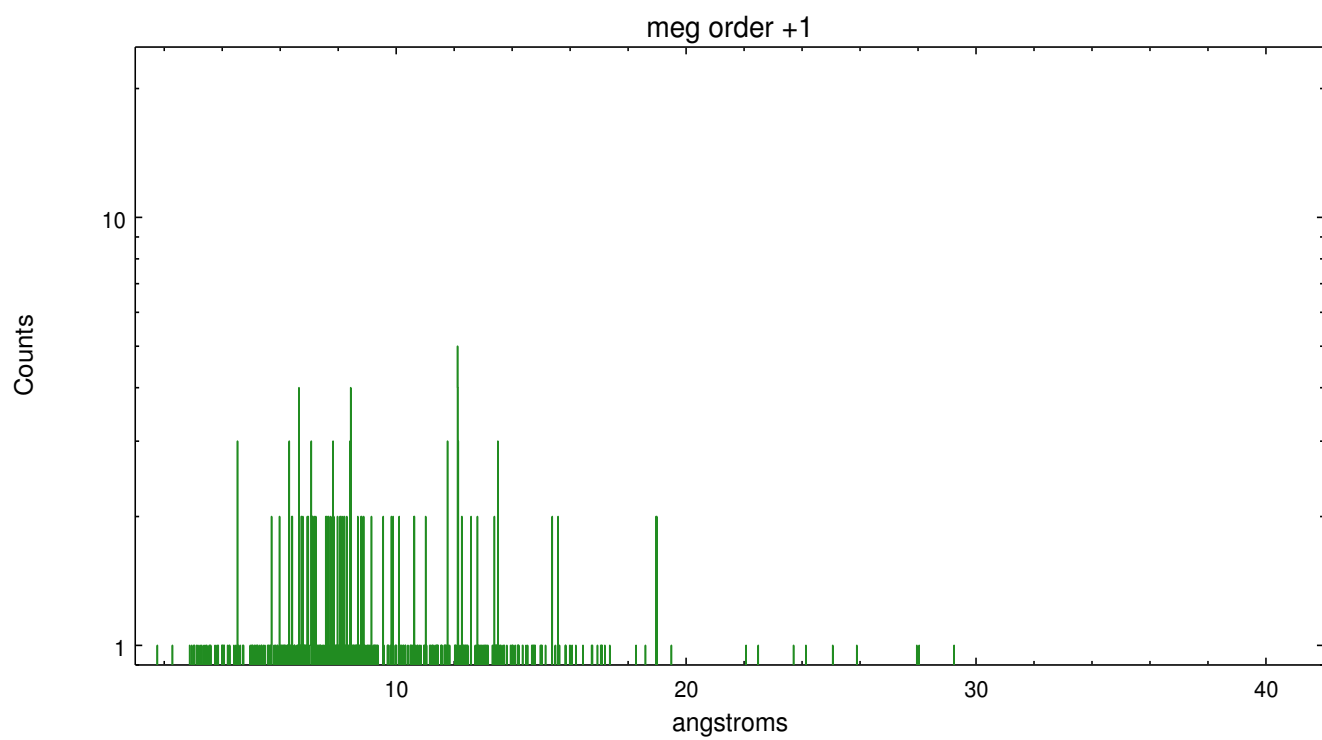
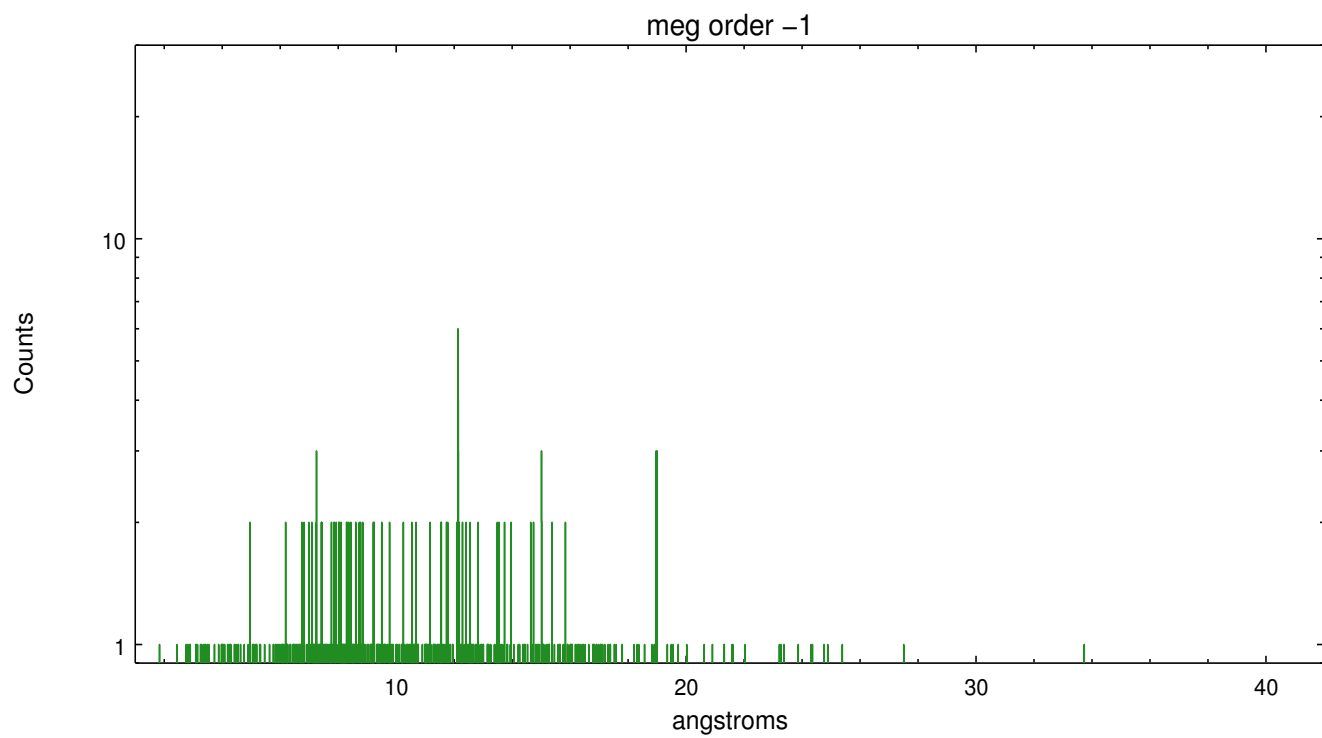
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	225	159	773	1435	697	122	132





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.03.28
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	17.95199

A.2 Comments

Source is extended and asymmetric. It could be 2 unresolved stars or one star with an extended structure. Zeroth order used for spectral extraction was manually determined and positioned at the location of the brightest X-ray flux, presumably the position of the brighter star. The sky coordinates of the zeroth order used in this extraction are $x=4092.663$, $y=4110.998$. The extended-structure/stellar-source is positioned parallel to (along) the spectral dispersion direction, extending about 2 arcsec to the SE. ACIS cannot differentiate the energies and positions of such closely-placed emission sources, so the entire emission structure will be included in the extracted spectral data. Please note that rerunning `tgdetect` for analysis purposes will not give the same zeroth order position as that used in this processing.

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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.