

V&V Reference Report

L2 ASCDS Version : 8.4.3

Observation 7253 - L2 Version 3
Chandra X-Ray Center

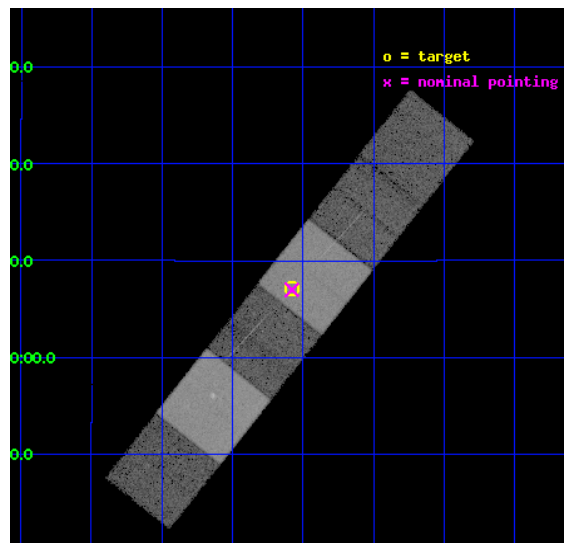
L2 Processing Date : Mar 28 2012

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1 Front

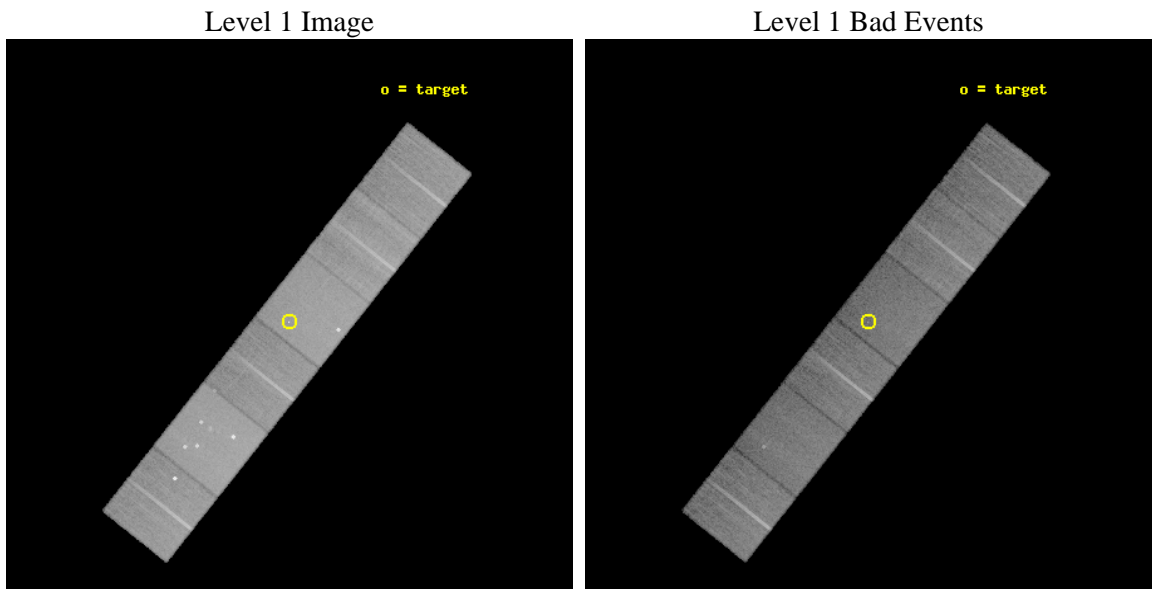
seq_num	200353	Sequence number
obs_id	7253	Observation id
title	MAGNETIC ACTIVITY IN YOUNG STARS: THE WEAK-LINED T TAURI STAR HDE 245059	Proposal title
observer	Prof. Marc Audard	Principal investigator
object	HDE 245059	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.645417	Observer's specified target RA [deg]
dec_targ	10.118389	Observer's specified target Dec [deg]
ra_nom	83.644895529398	Nominal RA [deg]
dec_nom	10.116365646938	Nominal Dec [deg]
roll_nom	308.45673054634	Nominal Roll [deg]
revision	3	Processing version of data
ontime	21155.199921191	Sum of GTIs [s]
livetime	20887.320041657	Livetime [s]
ontime4	21155.199921191	Sum of GTIs [s]
ontime5	21155.199921191	Sum of GTIs [s]
ontime6	21155.199921191	Sum of GTIs [s]
ontime7	21155.199921191	Sum of GTIs [s]
ontime8	21155.199921191	Sum of GTIs [s]
ontime9	21155.199921191	Sum of GTIs [s]
l2events	285717	Number of level 2 events



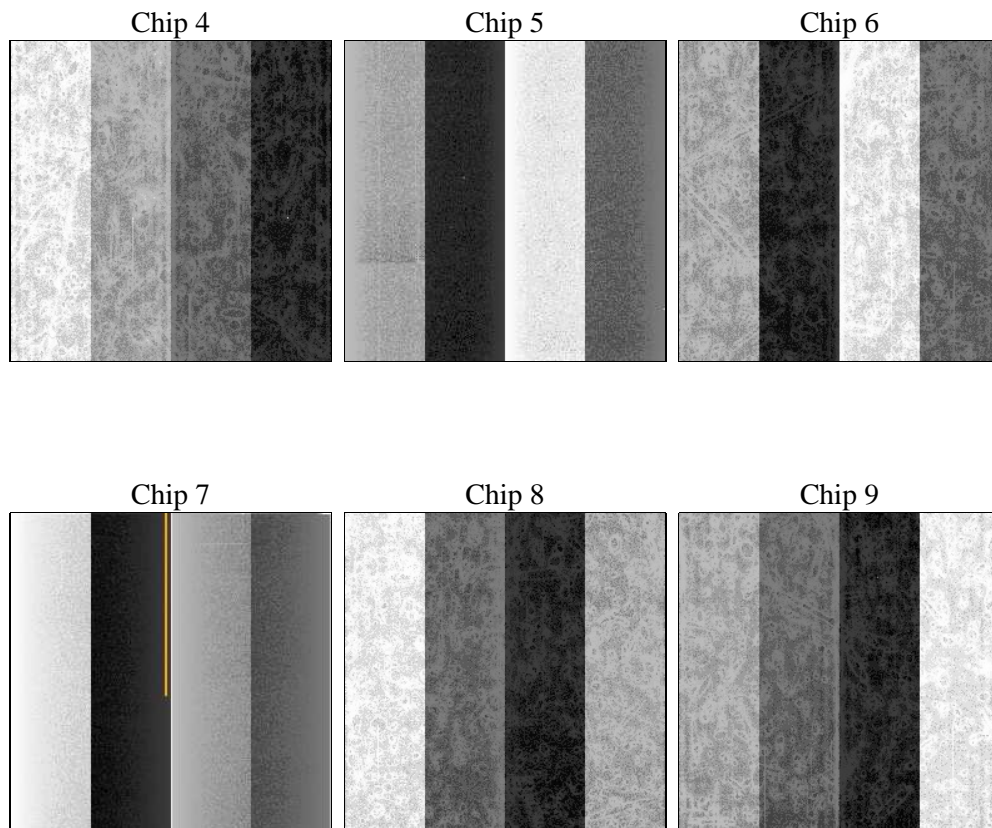
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	21000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3.1	Processing system revision	ontime	21155.199921191	Sum of GTIs [s]
caldsver	4.4.8	 	ontime4	21155.199921191	Sum of GTIs [s]
date	2012-03-22T01:00:14	Date and time of file creation	ontime5	21155.199921191	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	21155.199921191	Sum of GTIs [s]
			ontime7	21155.199921191	Sum of GTIs [s]
			ontime8	21155.199921191	Sum of GTIs [s]
			ontime9	21155.199921191	Sum of GTIs [s]
			l1events	1299822	Number of level 1 events

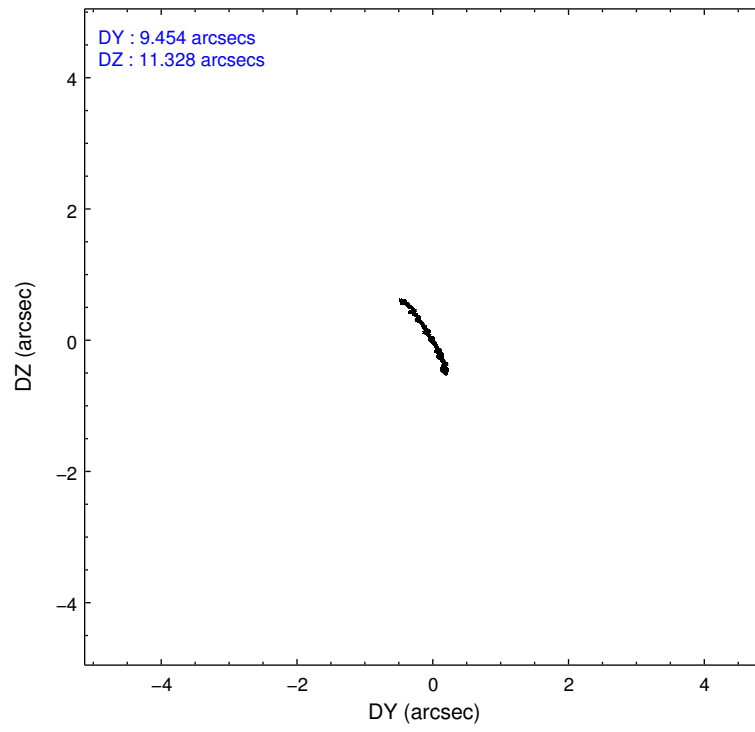
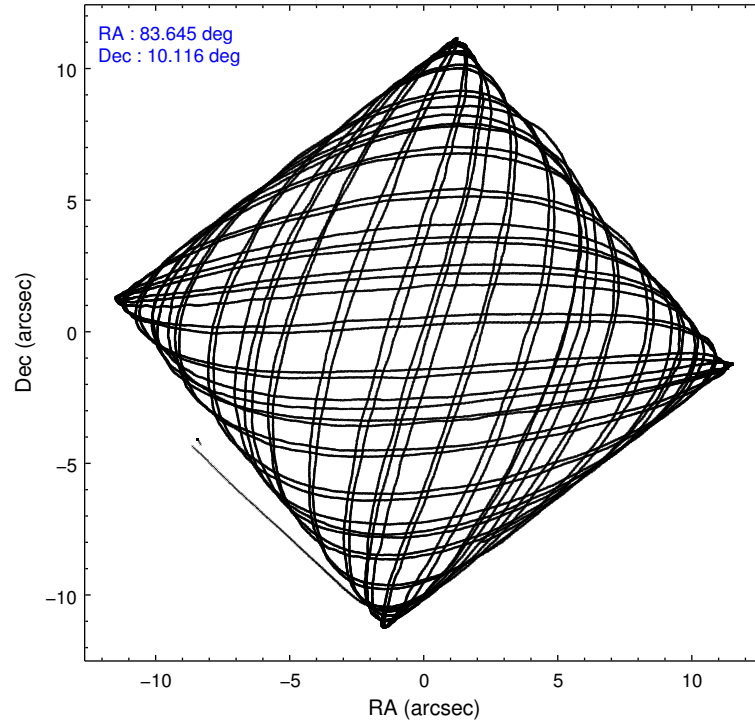
2.1.4 Events

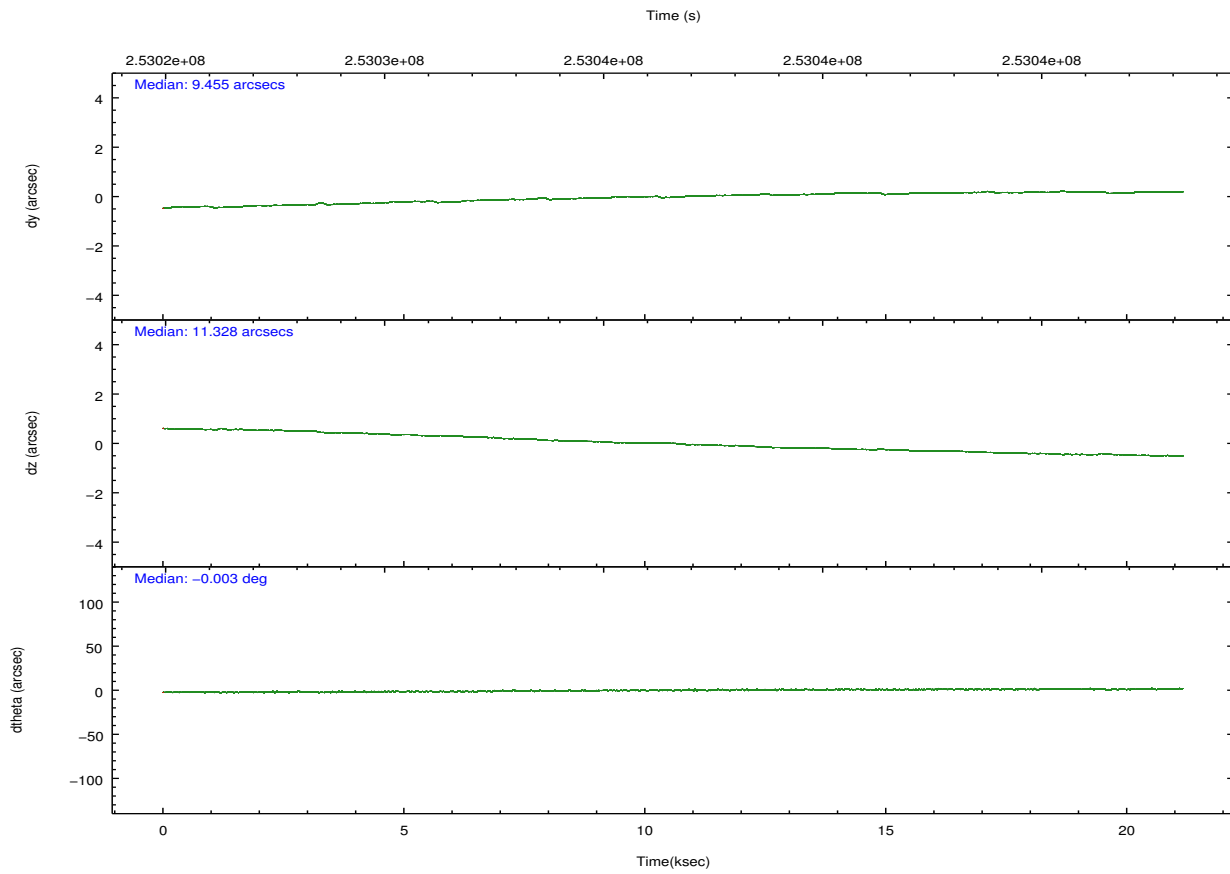
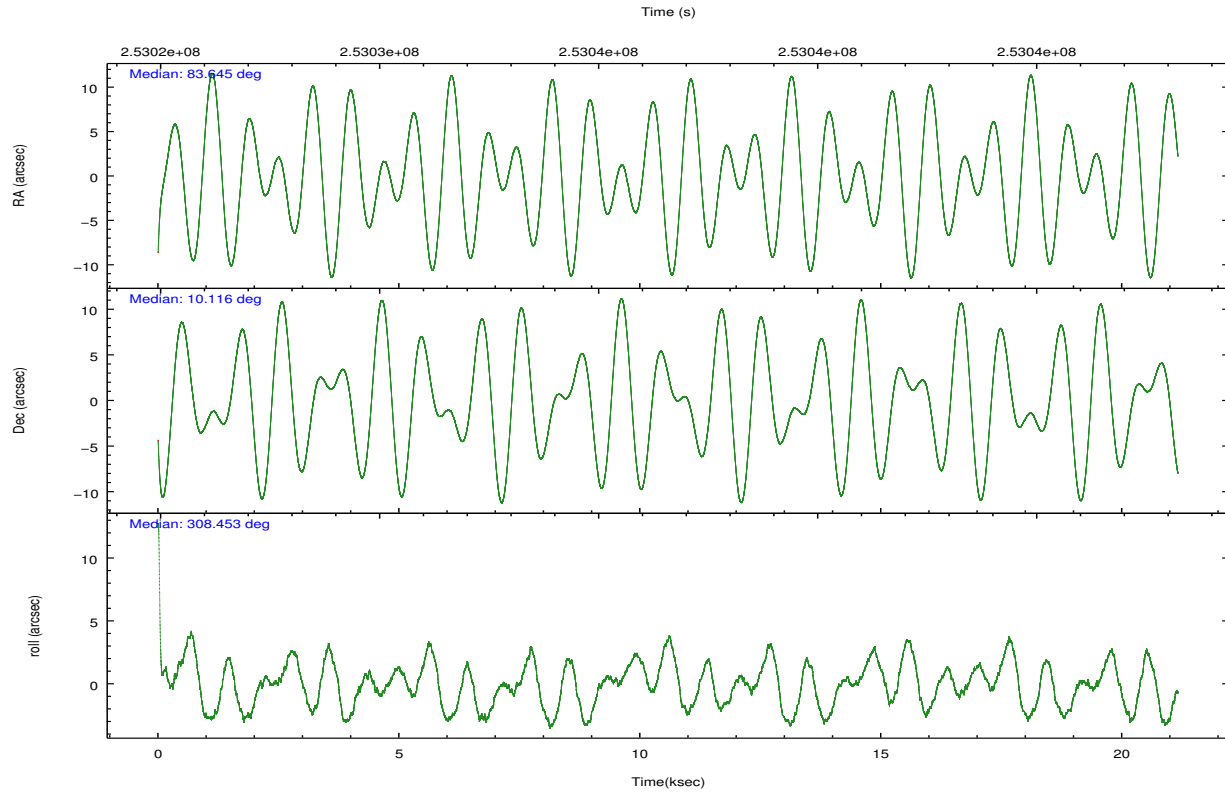
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	198158	271781	180062	244348	226294	179179	grade 0 events	15915	18115	8823	8775	15451	8663
rejected events	170208	144921	158666	141015	177404	158099		8%	6%	4%	3%	6%	4%
rejected %	85%	53%	88%	57%	78%	88%	grade 1 events	214	366	72	228	172	124
								0%	0%	0%	0%	0%	0%
							grade 2 events	4541	36541	4473	24480	11018	4195
								2%	13%	2%	10%	4%	2%
							grade 3 events	2179	4955	2034	8721	5080	2101
								1%	1%	1%	3%	2%	1%
							grade 4 events	2091	4613	1937	8807	4765	2183
								1%	1%	1%	3%	2%	1%
							grade 5 events	7776	19799	8194	23113	10920	8682
								3%	7%	4%	9%	4%	4%
							grade 6 events	3527	64083	4344	53707	13115	4174
								1%	23%	2%	21%	5%	2%
							grade 7 events	161915	123309	150185	116517	165773	149057
								81%	45%	83%	47%	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	83.64489552939845	Subarray requested	NONE	NONE
[deg] Pointing Dec	10.126028	10.11636564693816	Alternating exposures requested	N	N
[deg] Pointing Roll	308.304649	308.4567305463425	[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)	253026168.184000	253024936.17959			
Observation start date	2006-01-07T13:01:43	2006-01-07T12:42:16			
[s] Observation end time (MET)	253047168.184000	253048209.31817			
Observation end date	2006-01-07T18:51:43	2006-01-07T19:10:09			
Read mode	TIMED	TIMED			

2.3 Aspect



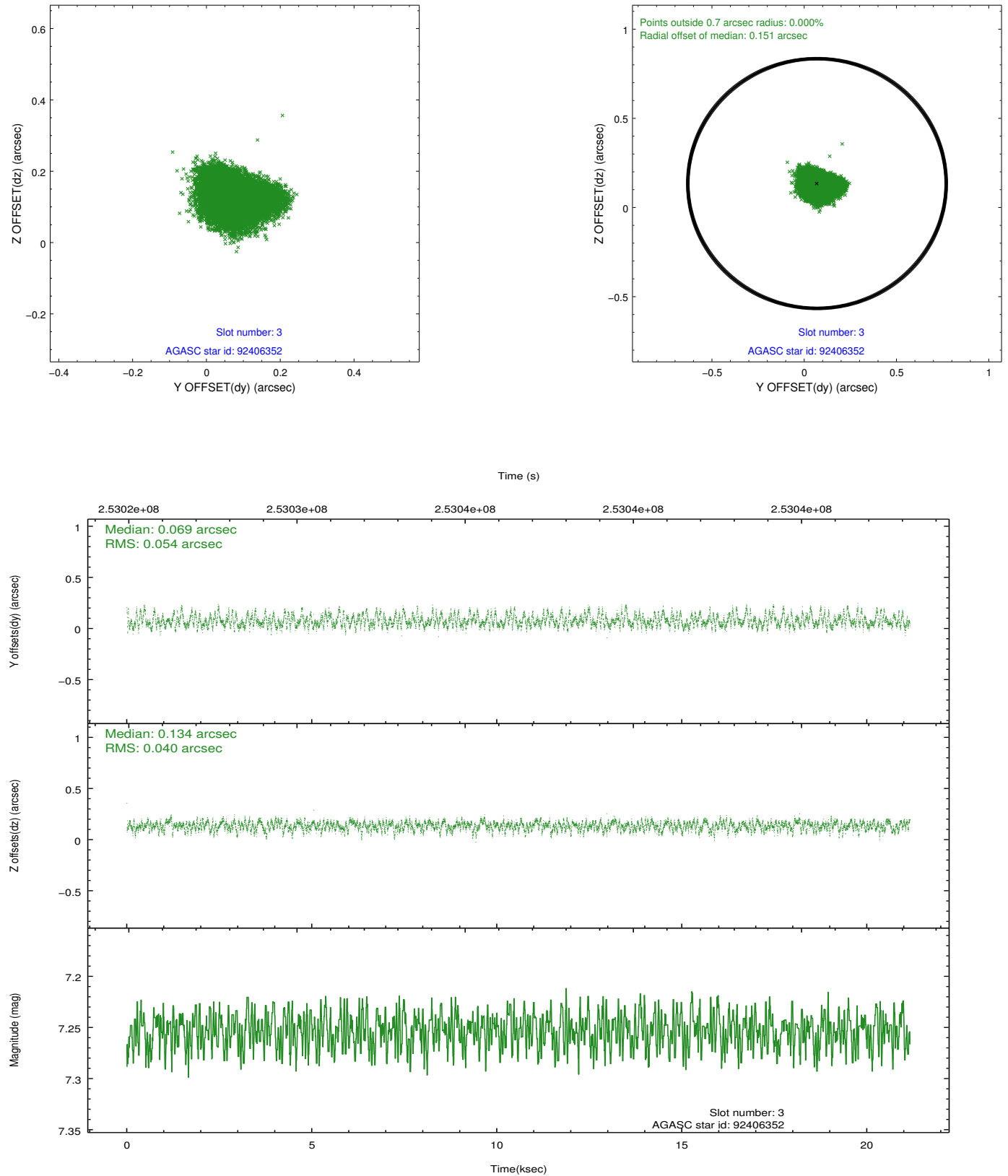


Slot Statistics

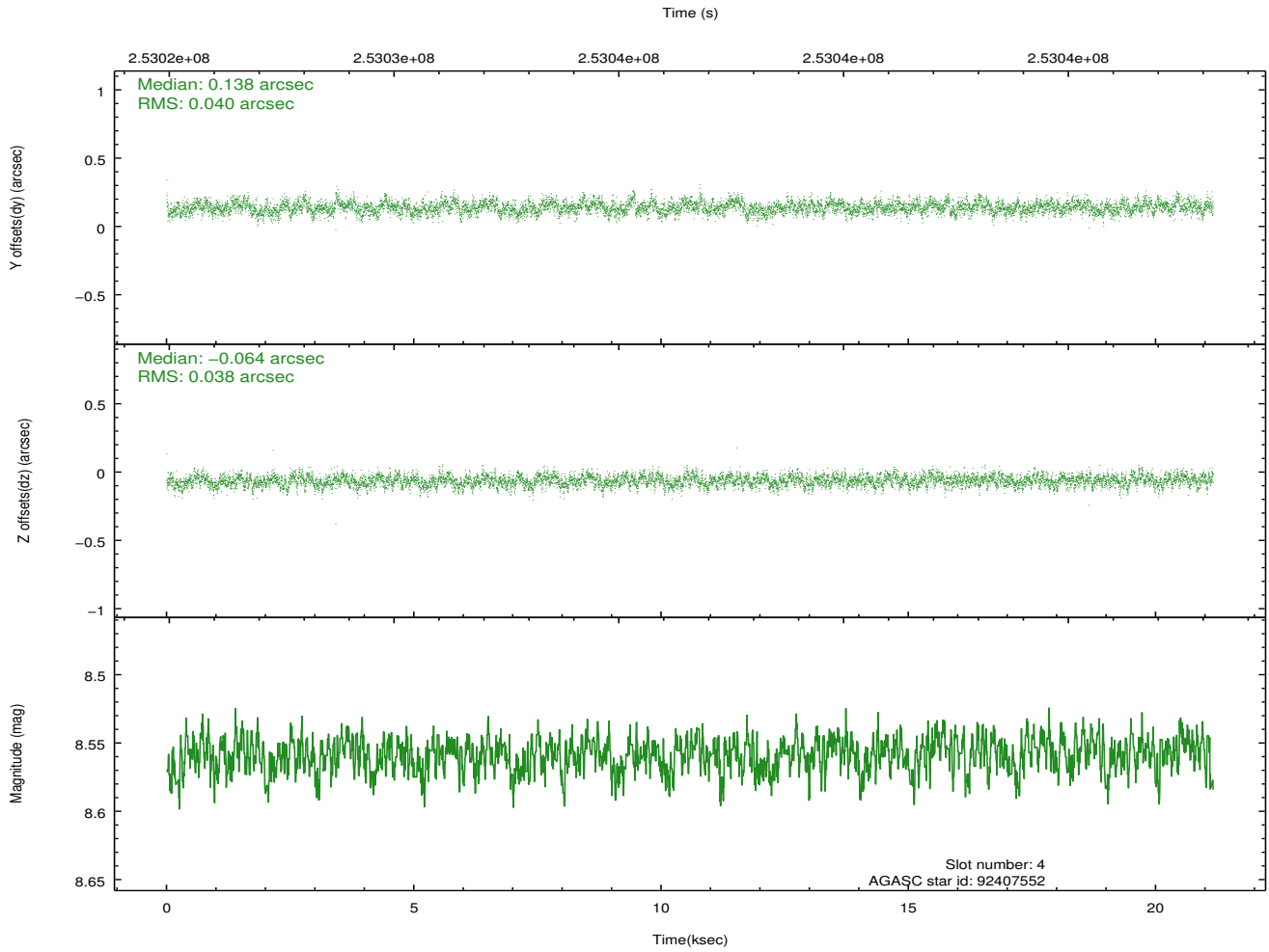
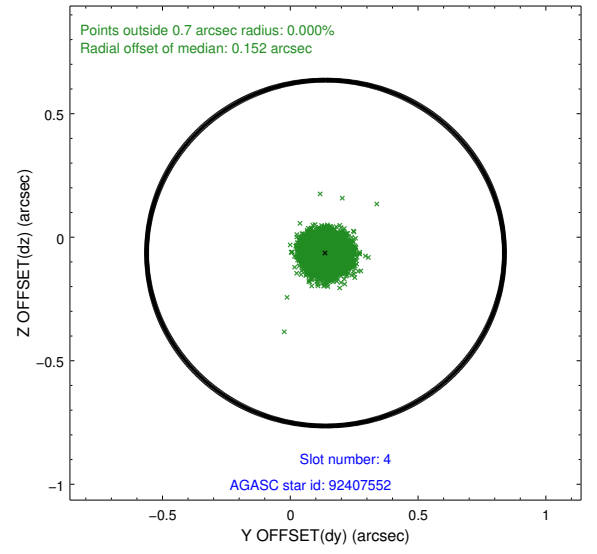
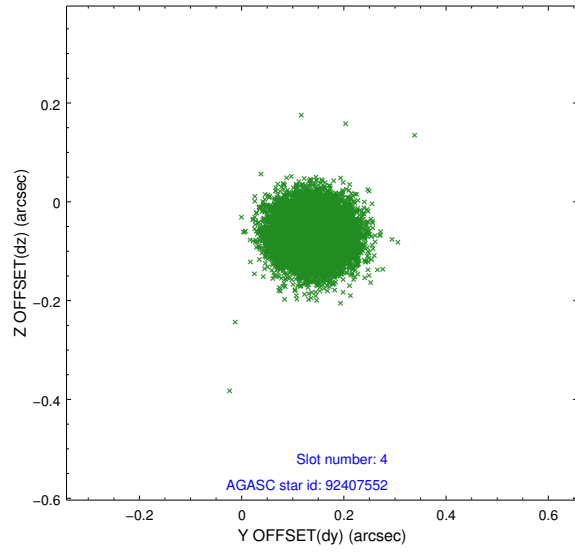
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	5161	-0.069	-0.099	0.013	0.024	0.000000	0.000000	-762.10	-1794.85
1	FID	ACIS-S-4	7.20	5162	0.167	0.059	0.007	0.013	0.000000	0.000000	2151.35	113.57
2	FID	ACIS-S-5	7.23	5162	-0.129	0.048	0.012	0.021	0.000000	0.000000	-1814.77	107.46
3	GUIDE	92406352	7.25	10324	0.069	0.134	0.072	0.115	83.803317	9.613262	1854.43	-630.31
4	GUIDE	92407552	8.56	10318	0.138	-0.064	0.059	0.094	84.192581	9.887280	1934.60	1064.85
5	GUIDE	92408984	9.11	10319	-0.136	0.012	0.069	0.115	83.568435	10.528031	-1246.14	756.78
6	GUIDE	92411856	8.72	10318	-0.036	-0.054	0.076	0.119	83.145771	10.083006	-918.58	-1411.37
7	GUIDE	92407600	8.84	10315	-0.044	-0.026	0.088	0.138	83.136466	9.669683	227.14	-2361.33

2.4 Star Slots

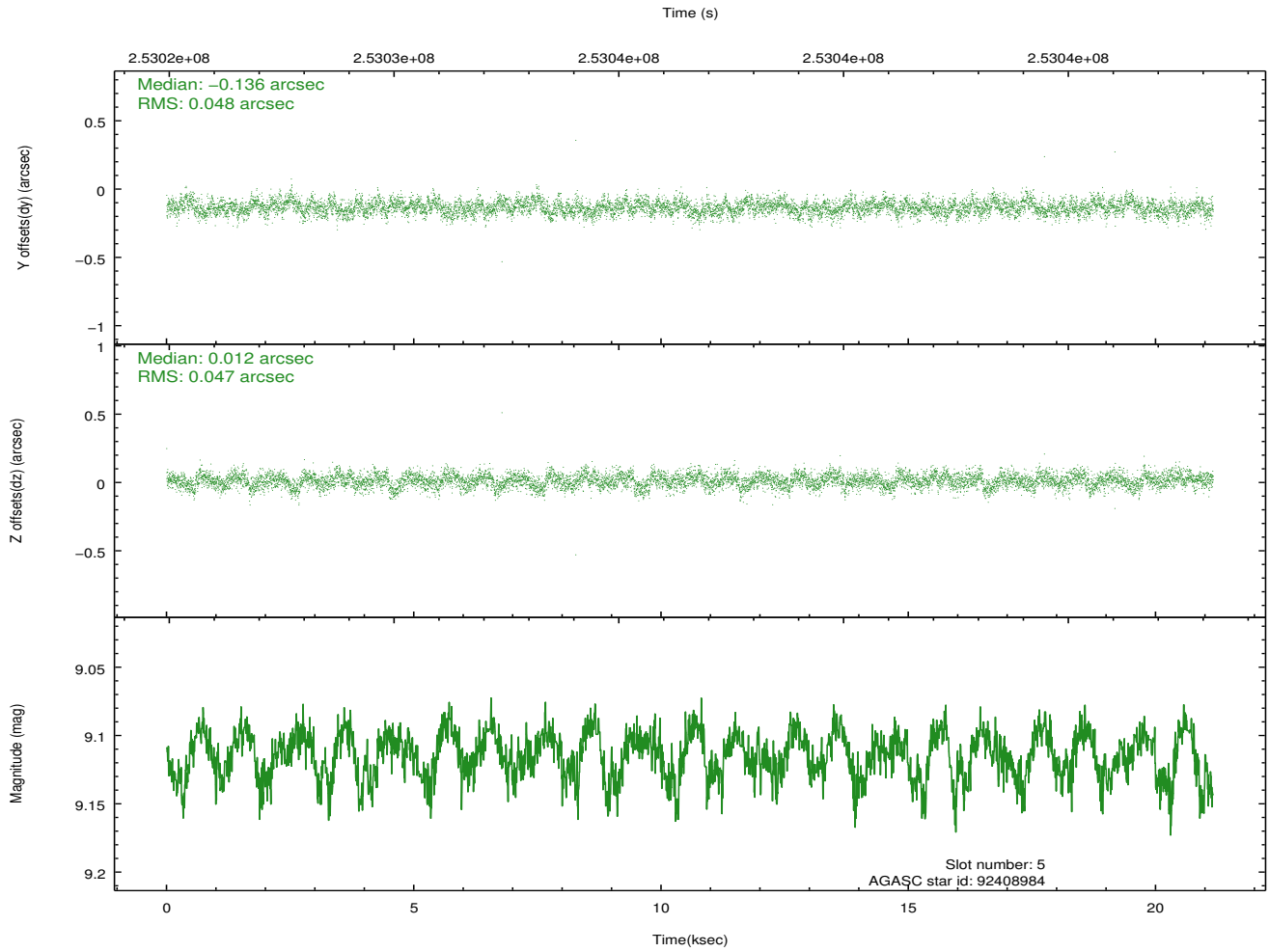
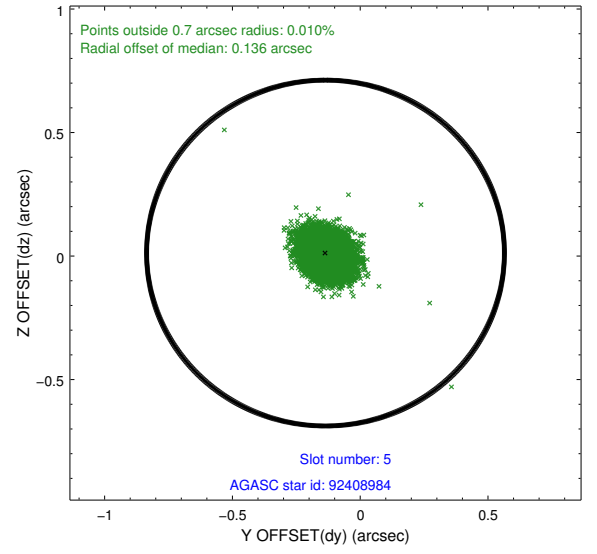
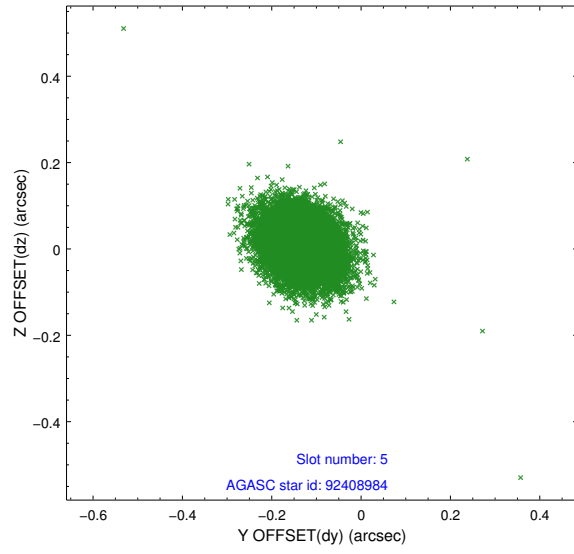
2.4.1 Slot 3



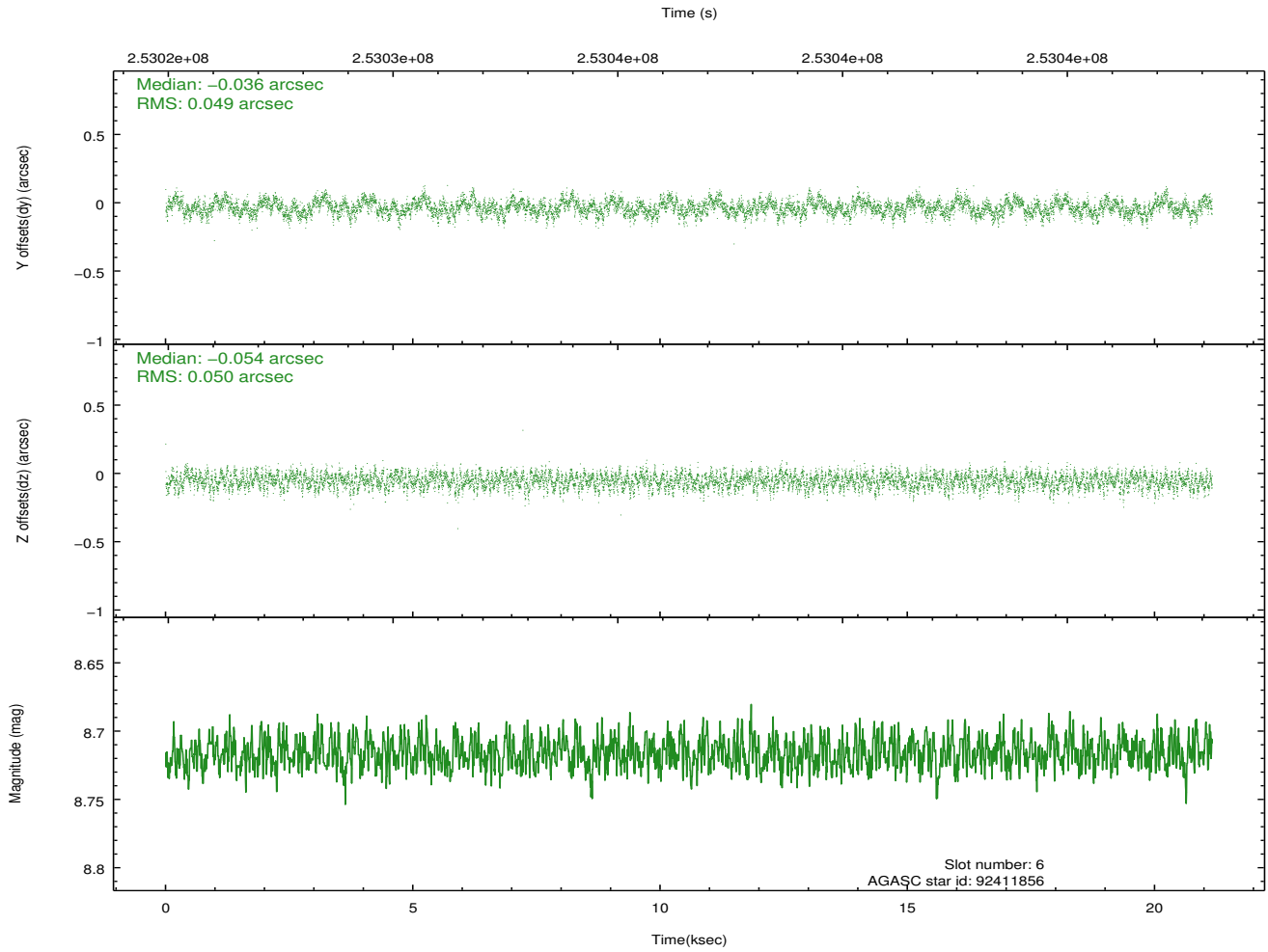
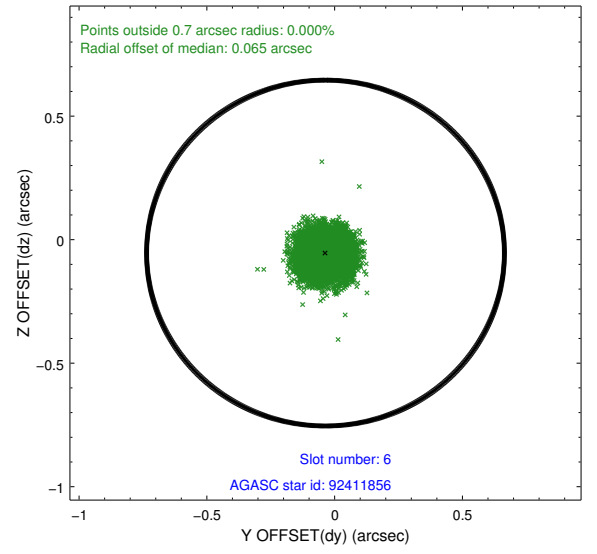
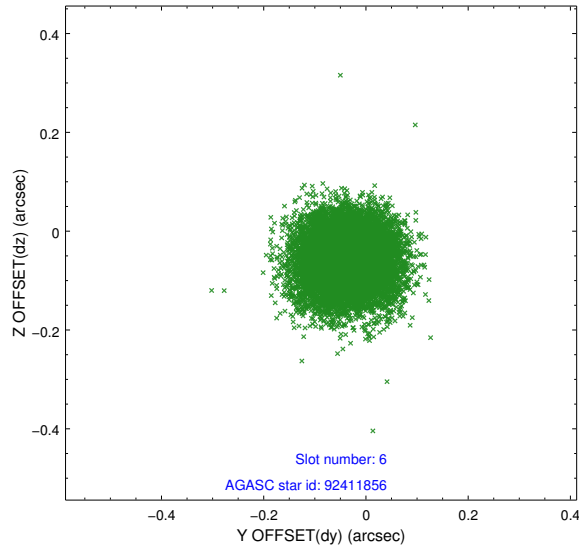
2.4.2 Slot 4



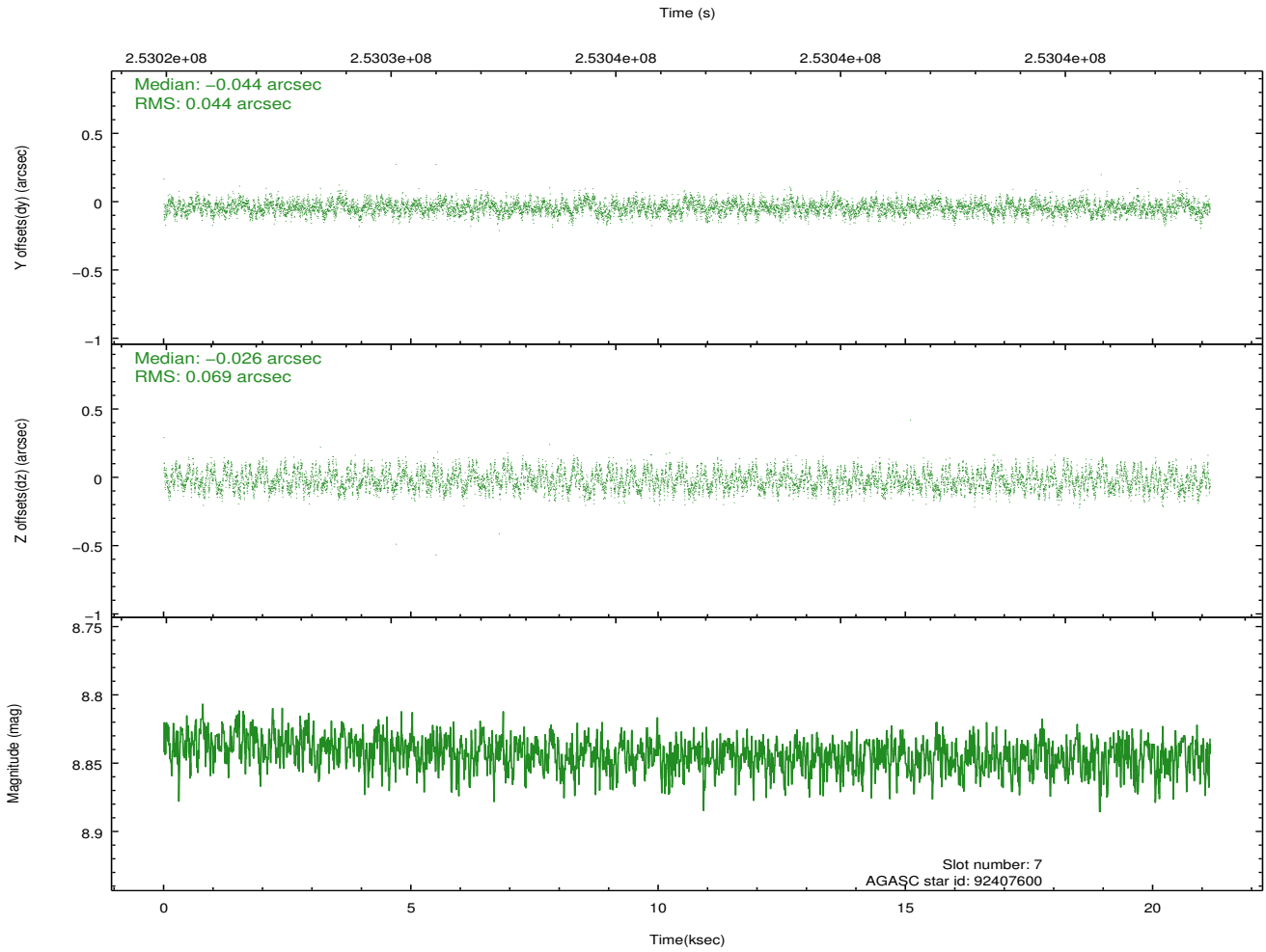
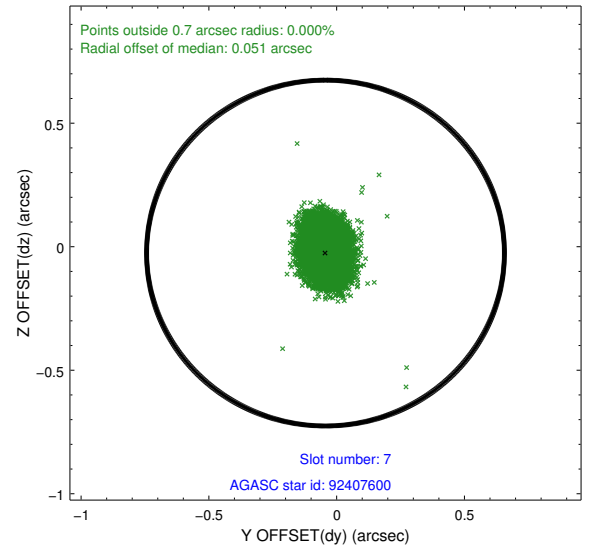
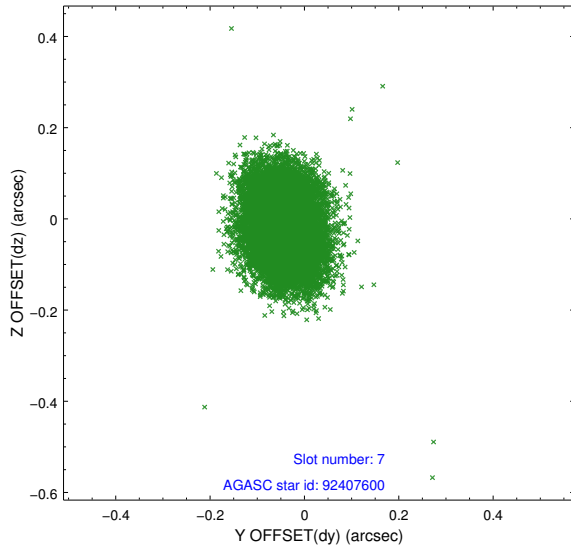
2.4.3 Slot 5



2.4.4 Slot 6

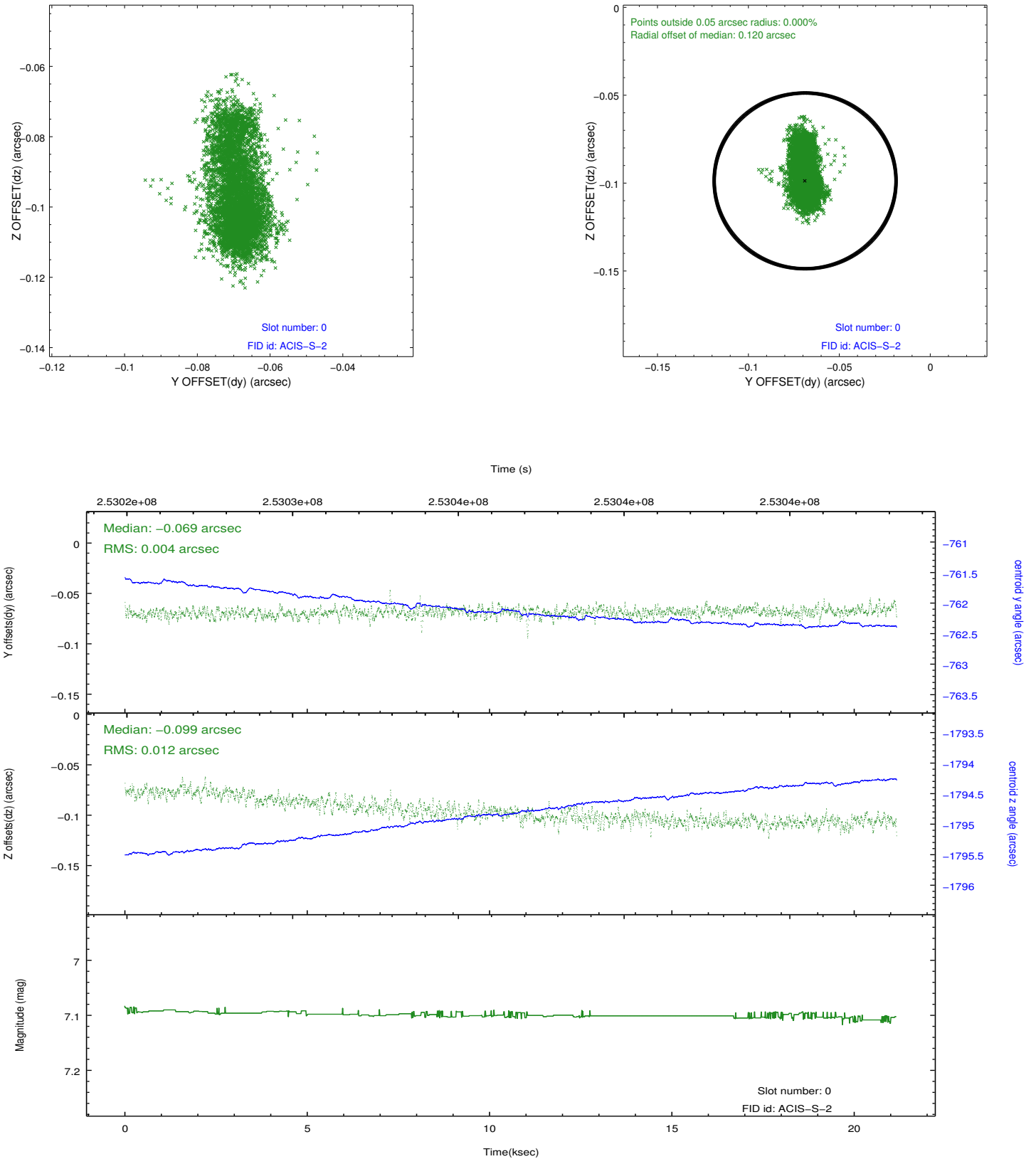


2.4.5 Slot 7

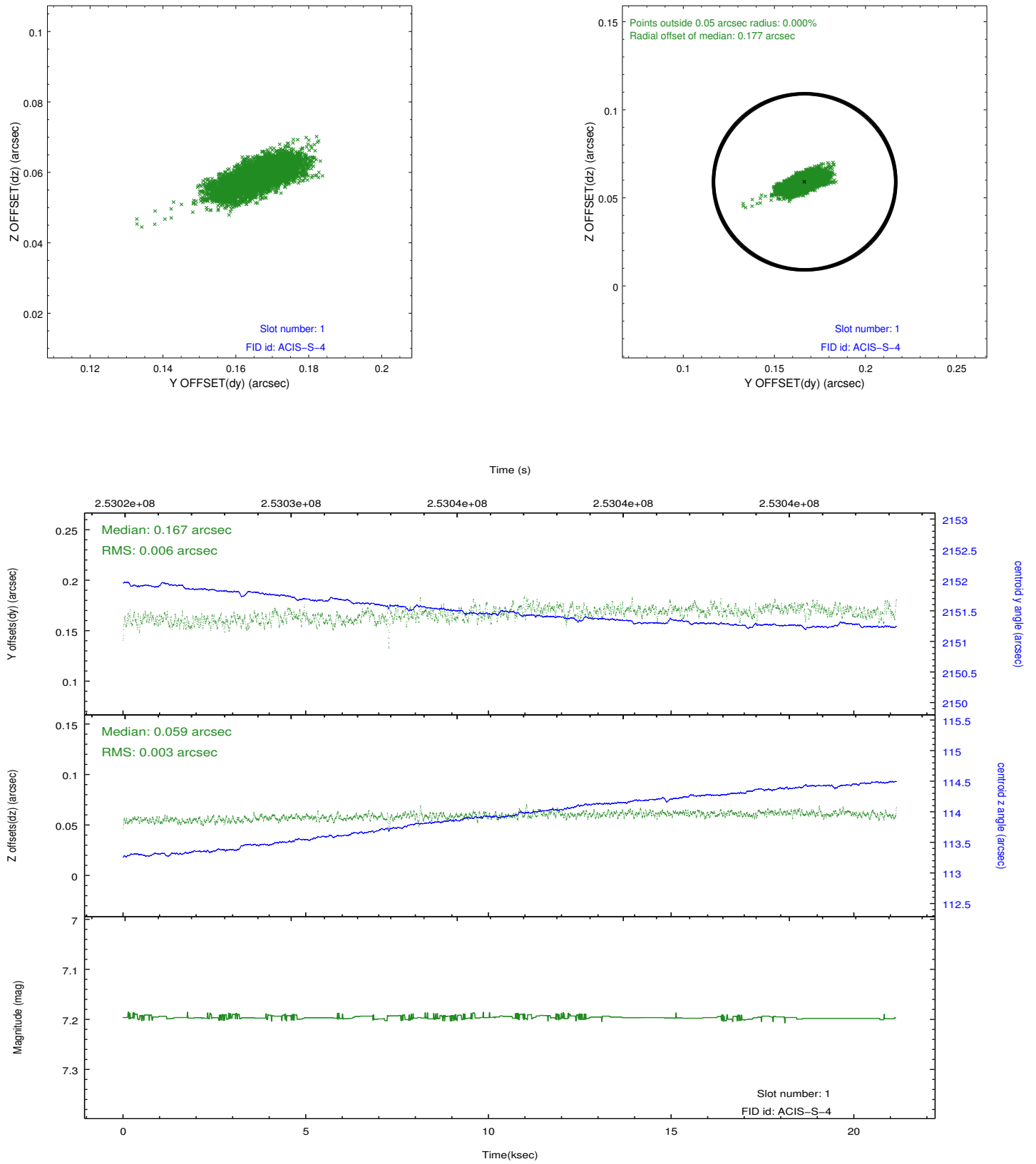


2.5 FID Slots

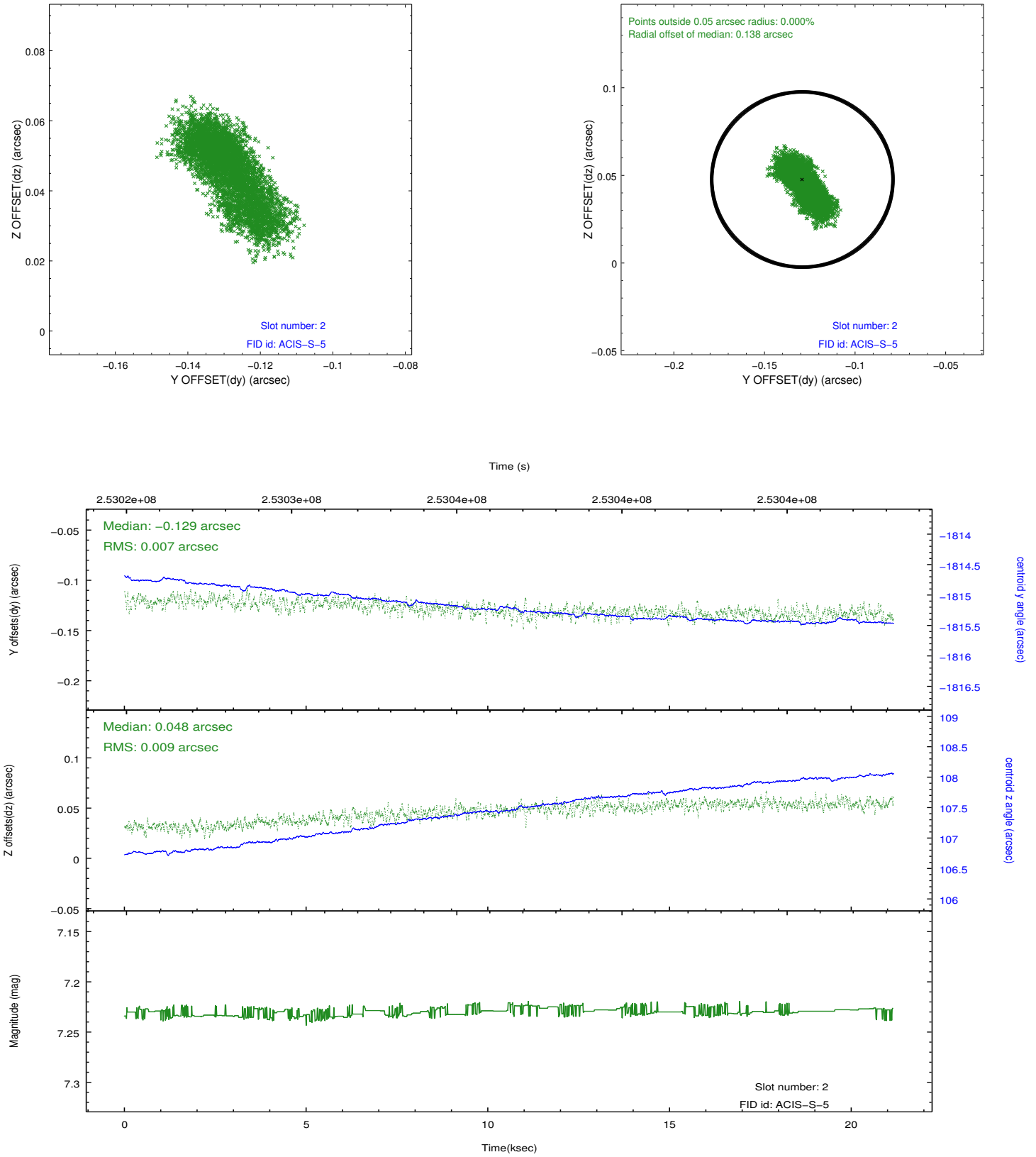
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

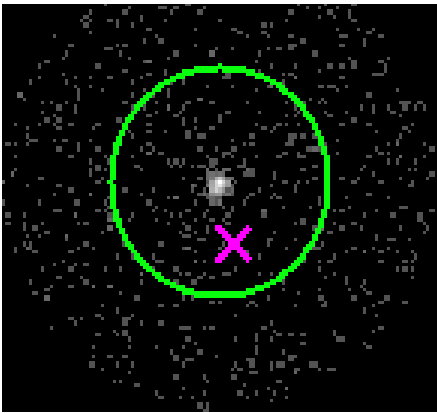


3 Gratings

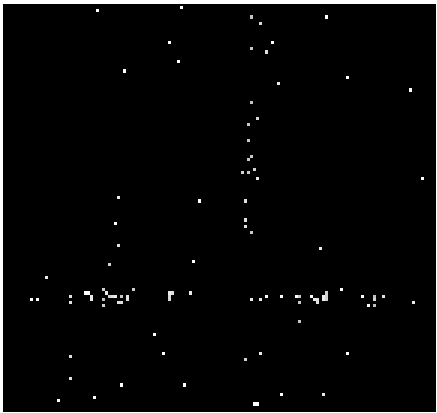
3.1 HEG Arm



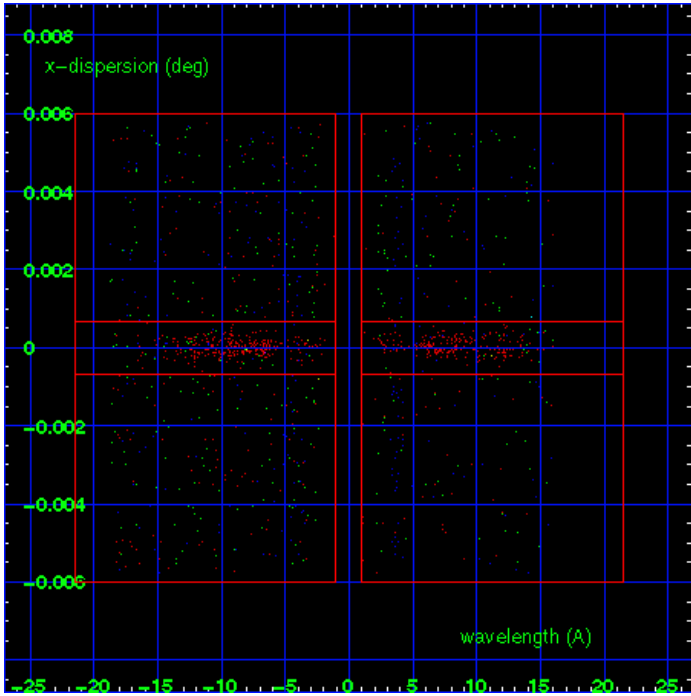
HEG Order Sort 123



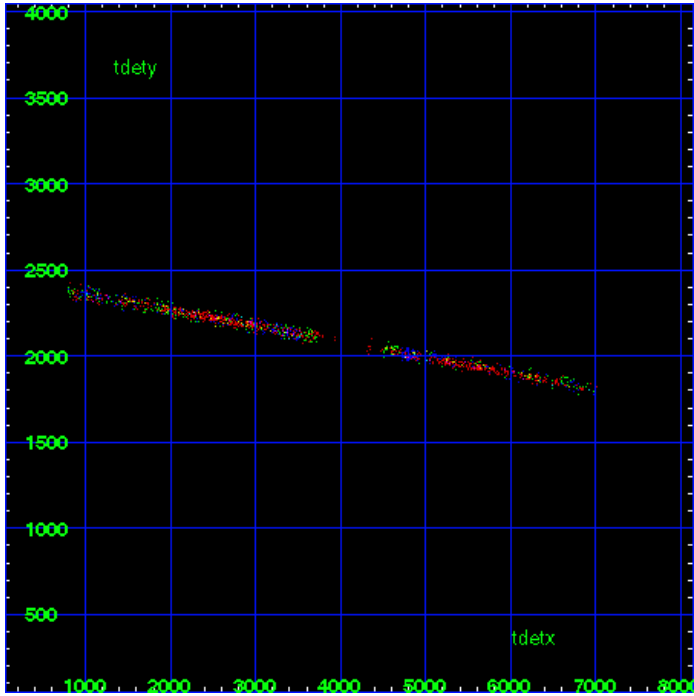
HEG Zero Order



HEG Order Sort ALL

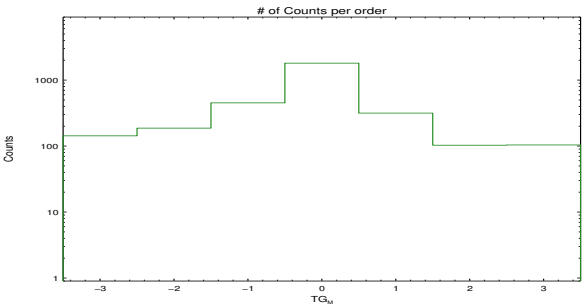


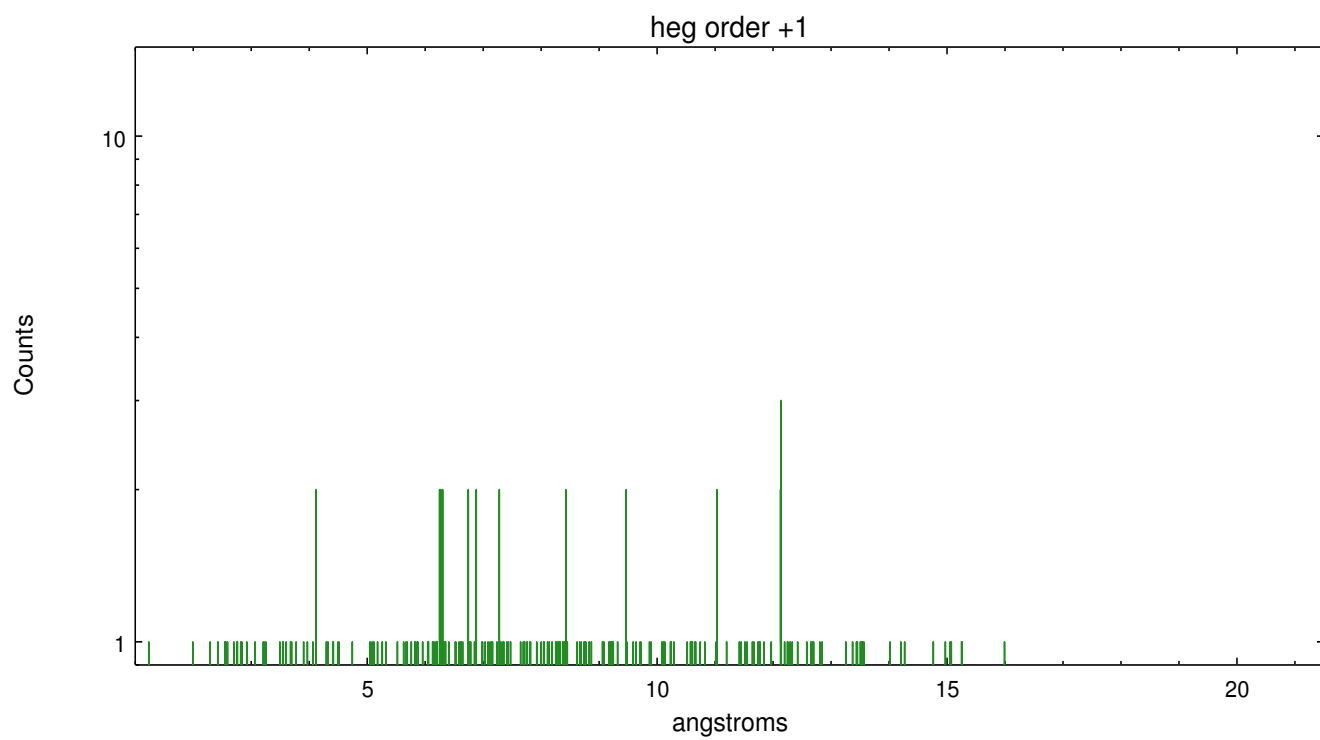
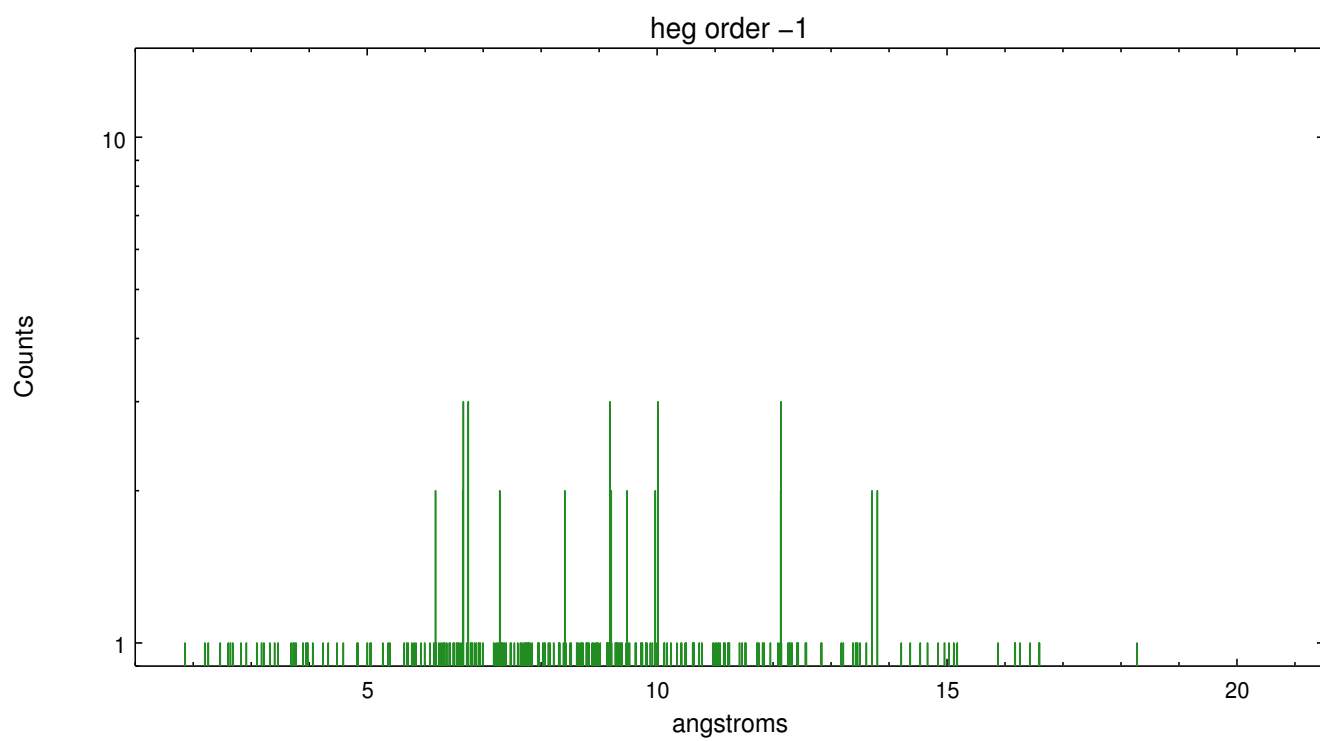
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	143	187	452	1806	316	103	104

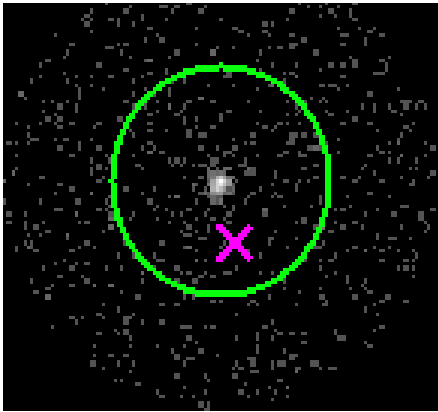




3.2 MEG Arm



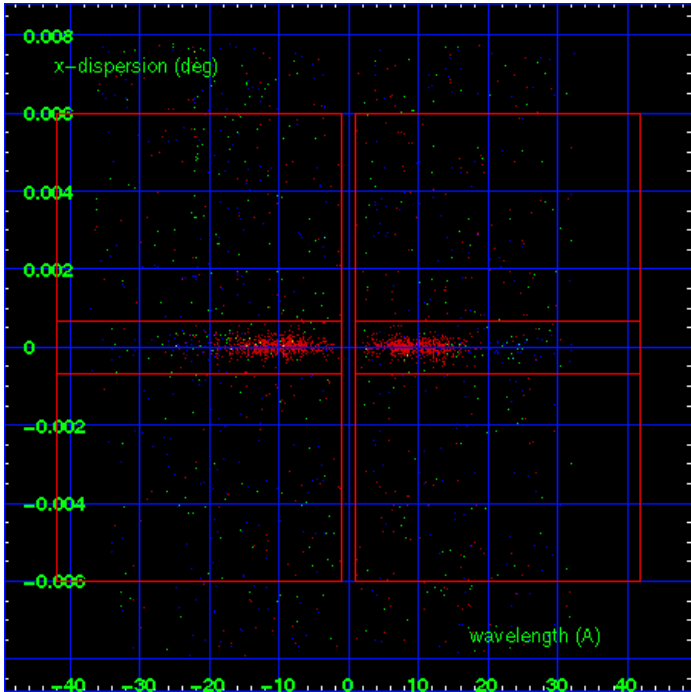
MEG Order Sort 123



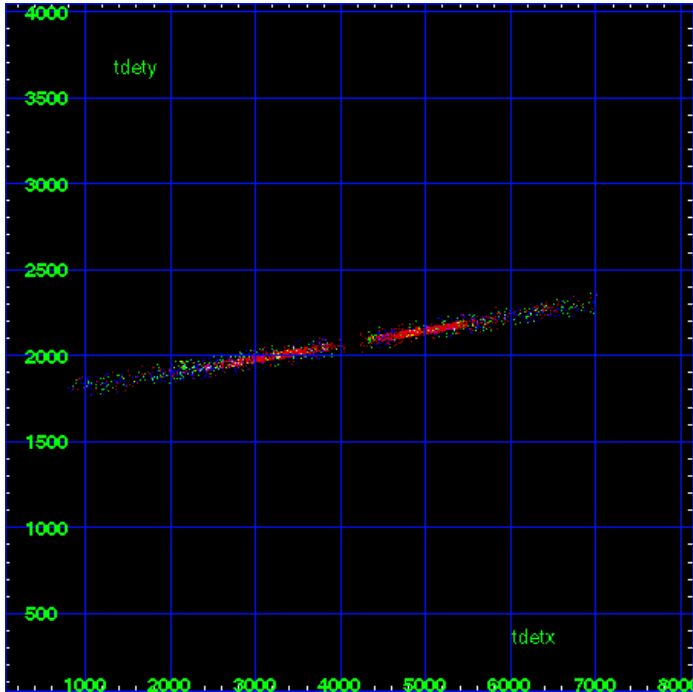
MEG Zero Order



MEG Order Sort ALL

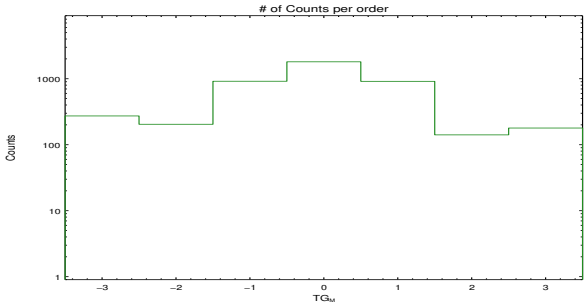


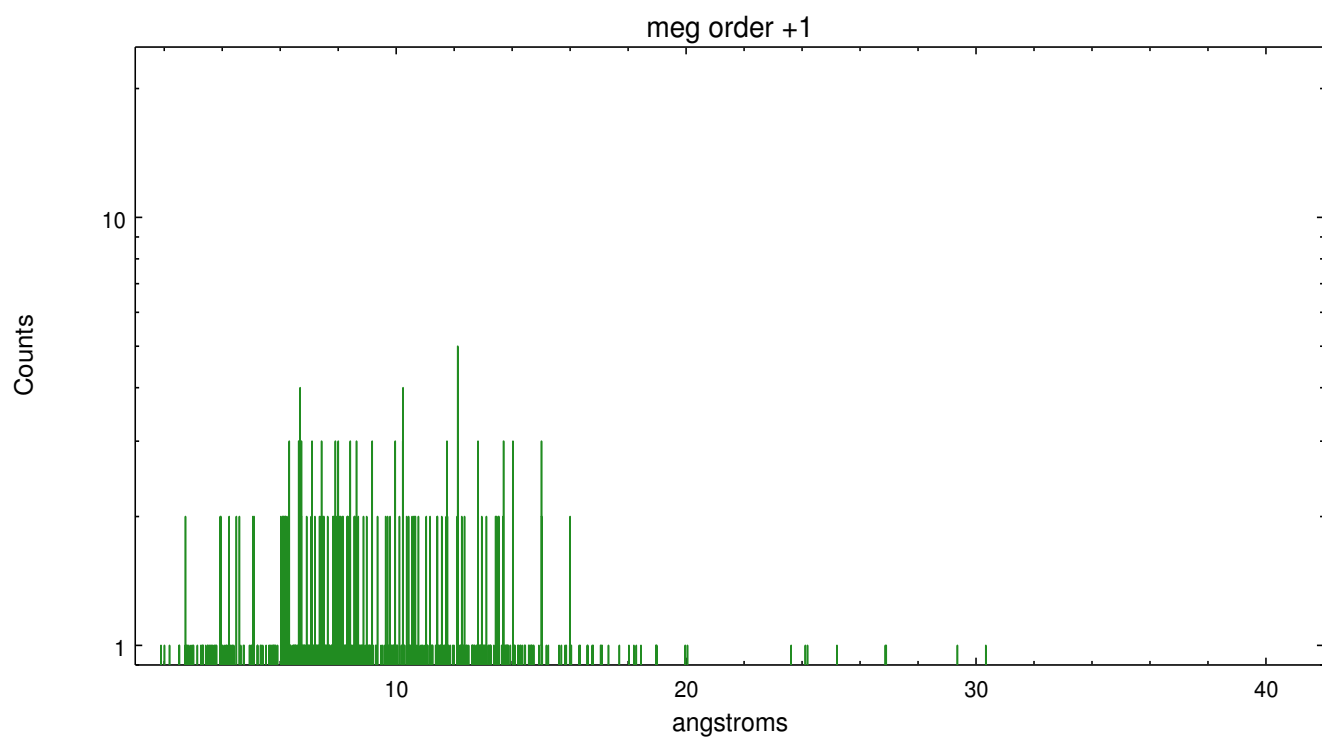
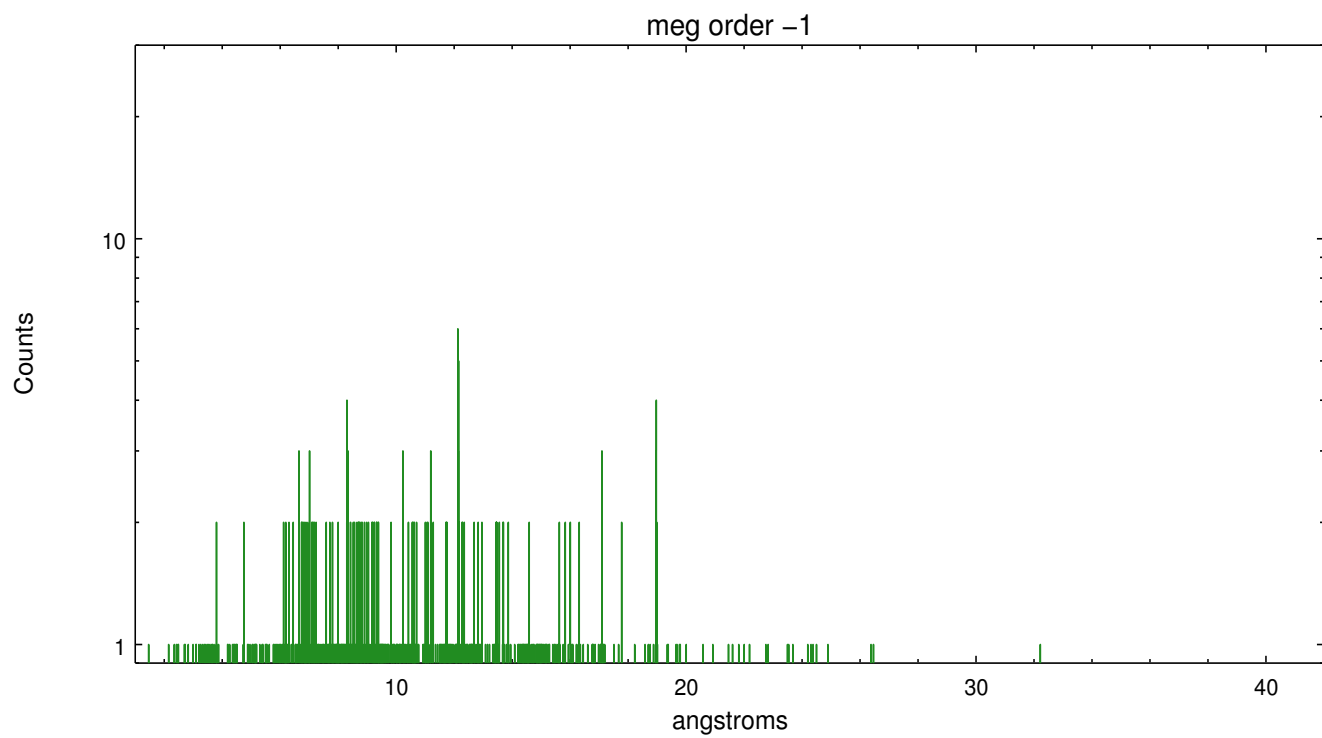
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	273	204	916	1806	913	141	179





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.03.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	21.15519

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.

=====

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.