

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 121 - L2 Version 4
Chandra X-Ray Center

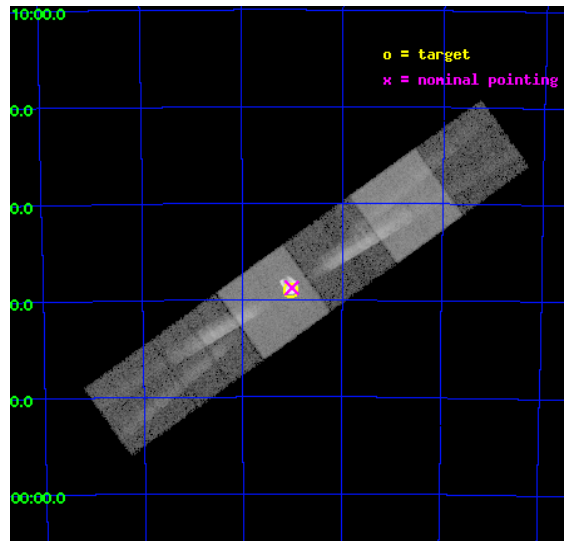
L2 Processing Date : Oct 11 2012

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1 Front

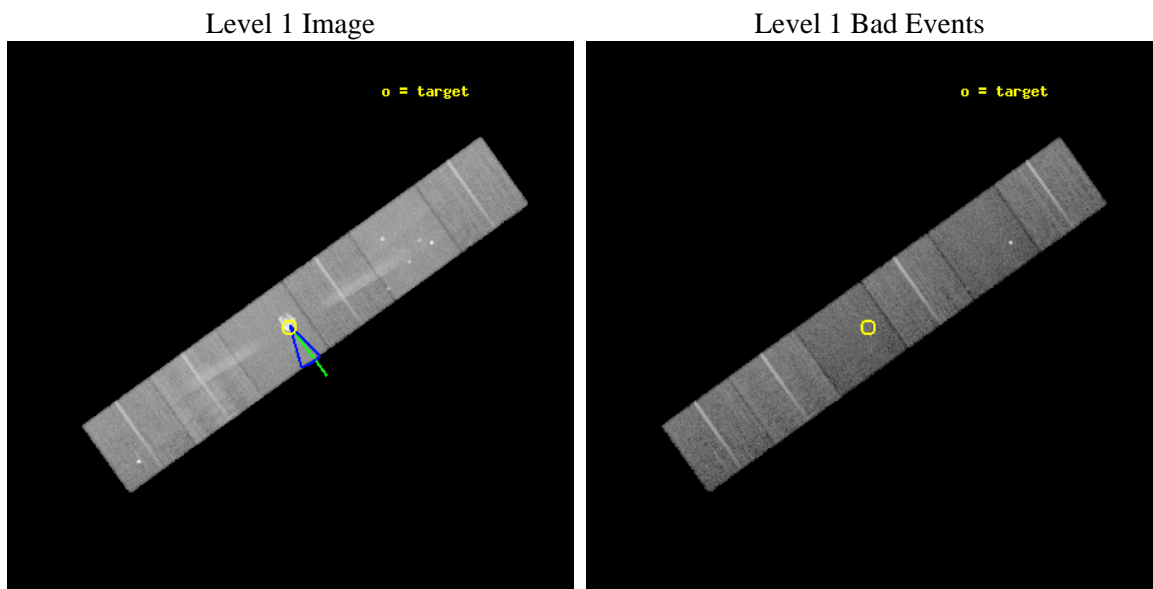
seq_num	500008	Sequence number
obs_id	121	Observation id
title	HIGH RESOLUTION SPECTRA OF EXTRAGALACTIC SUPERNOVA REMNANTS	Propos
observer	Prof Claude Canizares	Principal investigator
object	N132D	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	81.25875	Observer's specified target RA [deg]
dec_targ	-69.649722	Observer's specified target Dec [deg]
ra_nom	81.251756737283	Nominal RA [deg]
dec_nom	-69.645737700891	Nominal Dec [deg]
roll_nom	144.32406225607	Nominal Roll [deg]
revision	4	Processing version of data
ontime	21740.800020233	Sum of GTIs [s]
livetime	21465.504919638	Livetime [s]
ontime4	21740.800020233	Sum of GTIs [s]
ontime5	21740.800020233	Sum of GTIs [s]
ontime6	21740.800020233	Sum of GTIs [s]
ontime7	21740.800020233	Sum of GTIs [s]
ontime8	21740.800020233	Sum of GTIs [s]
ontime9	21740.800020233	Sum of GTIs [s]
l2events	336521	Number of level 2 events



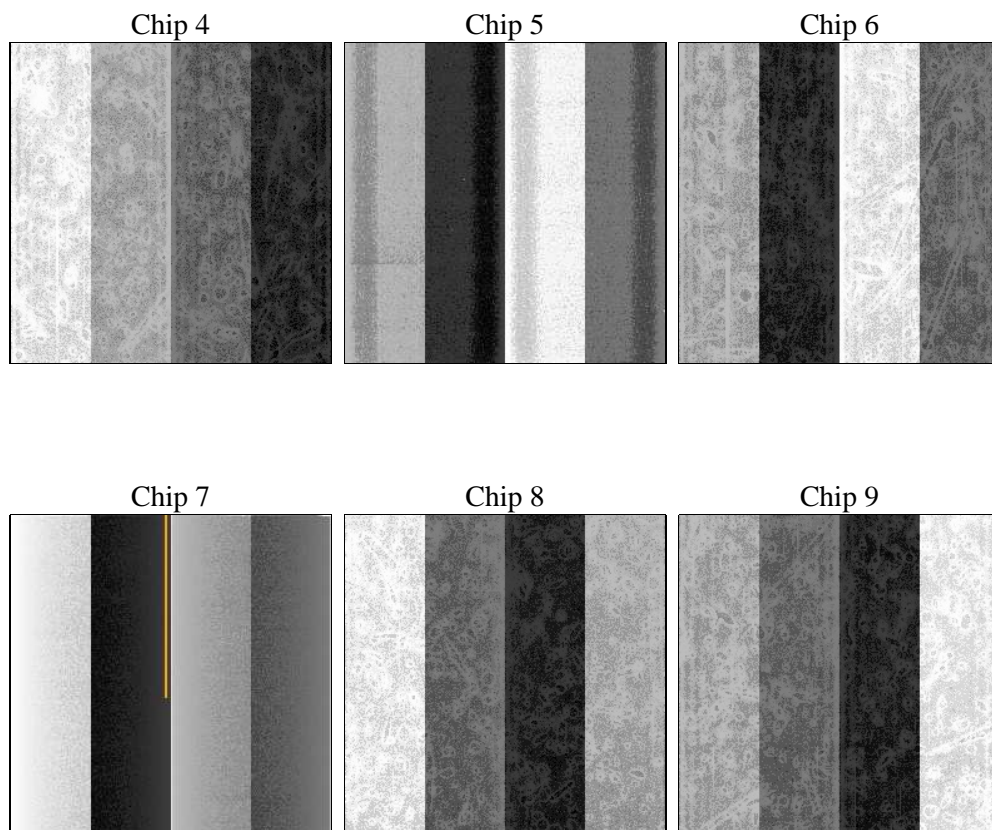
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	21986.026000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	21740.800020233	Sum of GTIs [s]
caldsver	4.5.1.1	 	ontime4	21740.800020233	Sum of GTIs [s]
date	2012-08-30T18:38:15	Date and time of file creation	ontime5	21740.800020233	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	21740.800020233	Sum of GTIs [s]
			ontime7	21740.800020233	Sum of GTIs [s]
			ontime8	21740.800020233	Sum of GTIs [s]
			ontime9	21740.800020233	Sum of GTIs [s]
			l1events	1062059	Number of level 1 events

2.1.4 Events

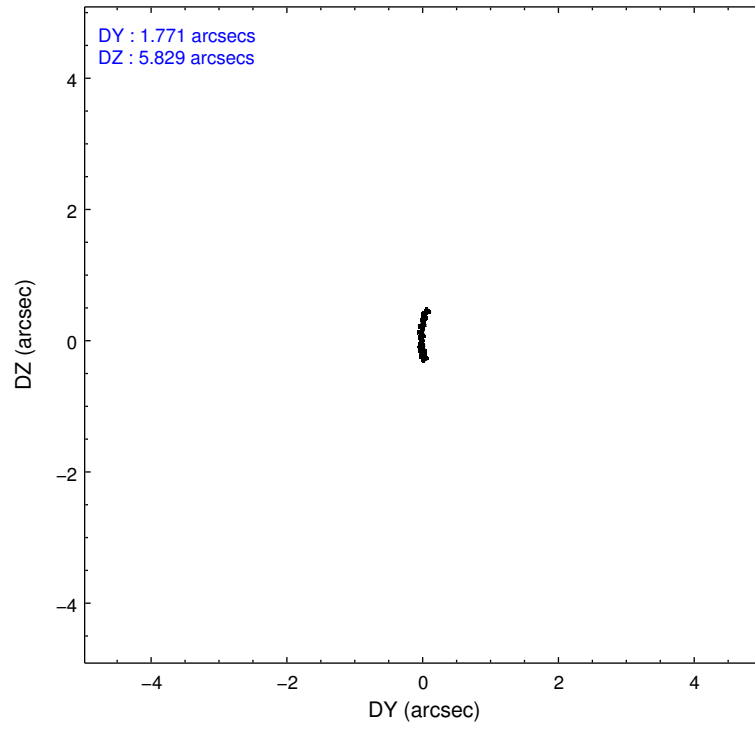
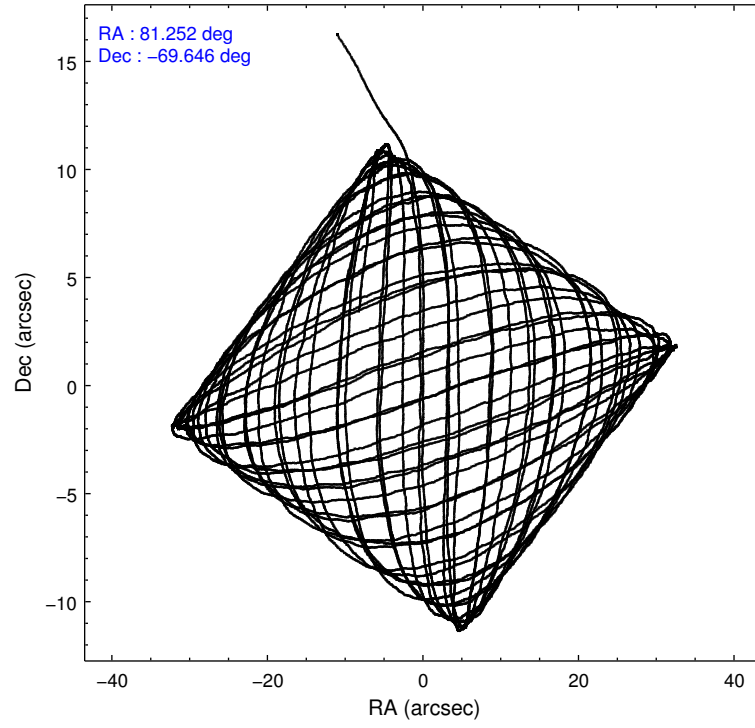
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	150467	191633	156628	224236	202660	136435	grade 0 events	11249	19995	25380	30163	34578	15798
rejected events	128753	89511	118940	83960	131117	110520		7%	10%	16%	13%	17%	11%
rejected %	85%	46%	75%	37%	64%	81%	grade 1 events	111	2320	104	191	209	81
								0%	1%	0%	0%	0%	0%
							grade 2 events	4506	28519	5116	33497	10614	3733
								2%	14%	3%	14%	5%	2%
							grade 3 events	1585	5591	1939	15101	7295	1630
								1%	2%	1%	6%	3%	1%
							grade 4 events	1488	5624	1971	14955	6764	1553
								0%	2%	1%	6%	3%	1%
							grade 5 events	4162	13040	4807	14636	6441	4917
								2%	6%	3%	6%	3%	3%
							grade 6 events	2886	42425	3295	46601	12309	3210
								1%	22%	2%	20%	6%	2%
							grade 7 events	124480	74119	114016	69092	124450	105513
								82%	38%	72%	30%	61%	77%

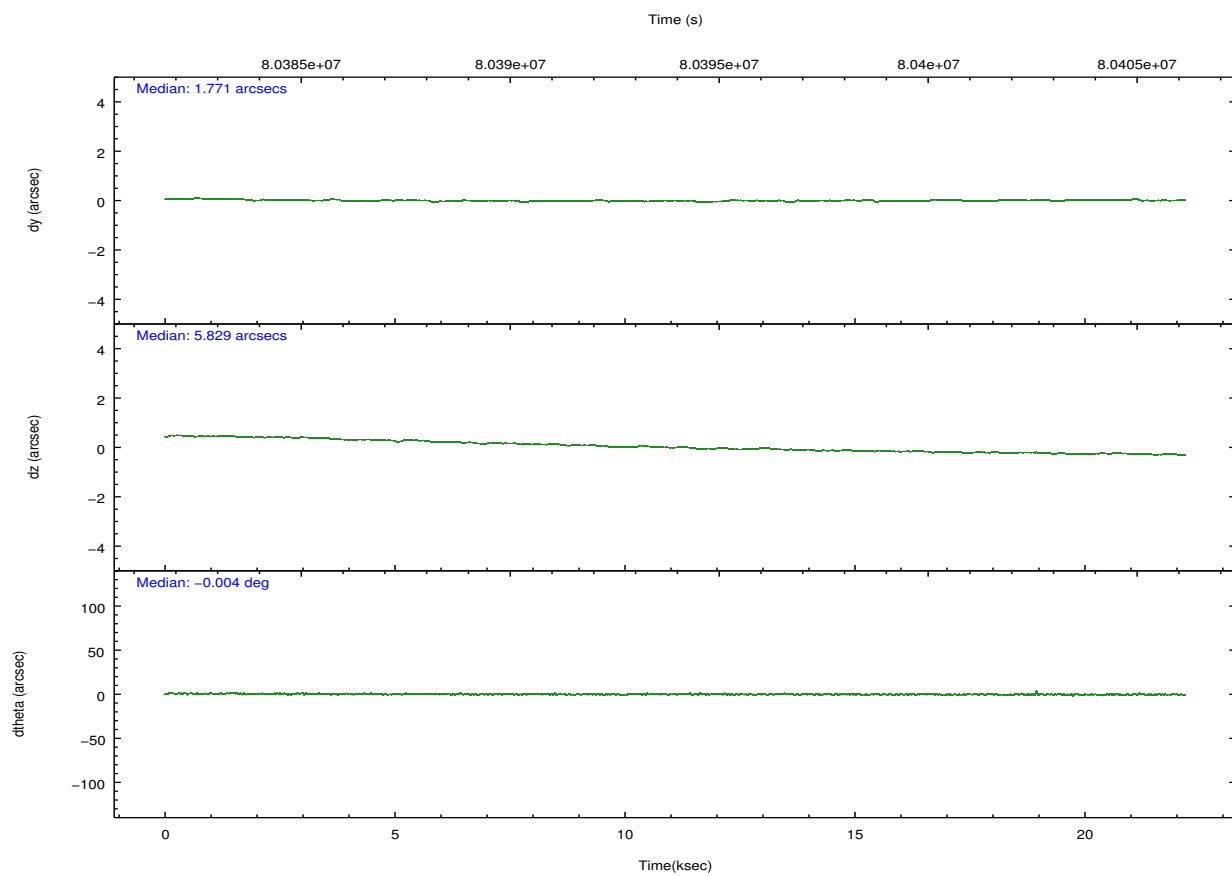
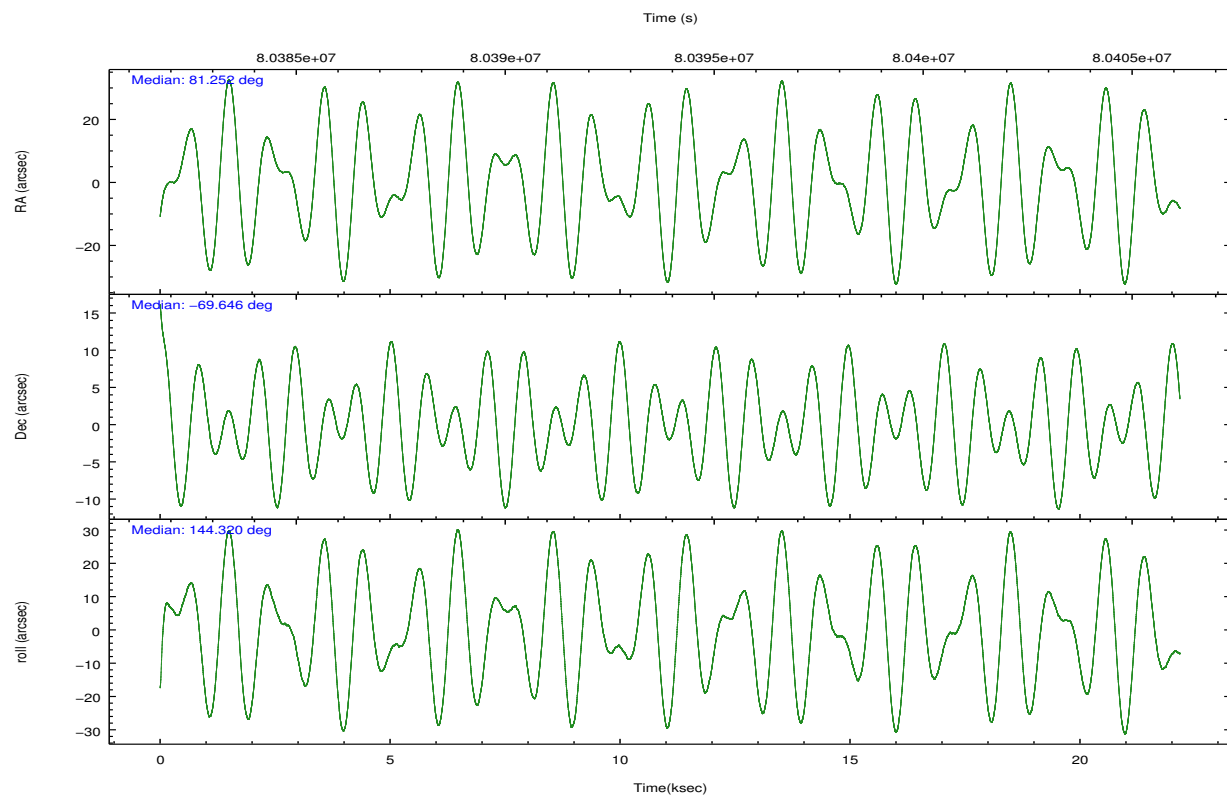
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-456789	ACIS-456789
Grating	HETG	HETG
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	81.330194	81.25175673728285
[deg] Pointing Dec	-69.648322	-69.64573770089144
[deg] Pointing Roll	144.240981	144.3240622560659
[deg] Roll angle	150.000000	150.000000
[deg] Roll tolerance	15.000000	15.000000
Roll constraint allows 180D rotation	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1400660498719
[mm] SIM translation stage offset	0	0.00754346686406393
[s] Observation start time (MET)	80383048.184000	80382277.01077101
Observation start date	2000-07-19T08:36:24	2000-07-19T08:24:37
[s] Observation end time (MET)	80405034.184000	80405344.124127
Observation end date	2000-07-19T14:42:50	2000-07-19T14:49:04
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.2

2.3 Aspect



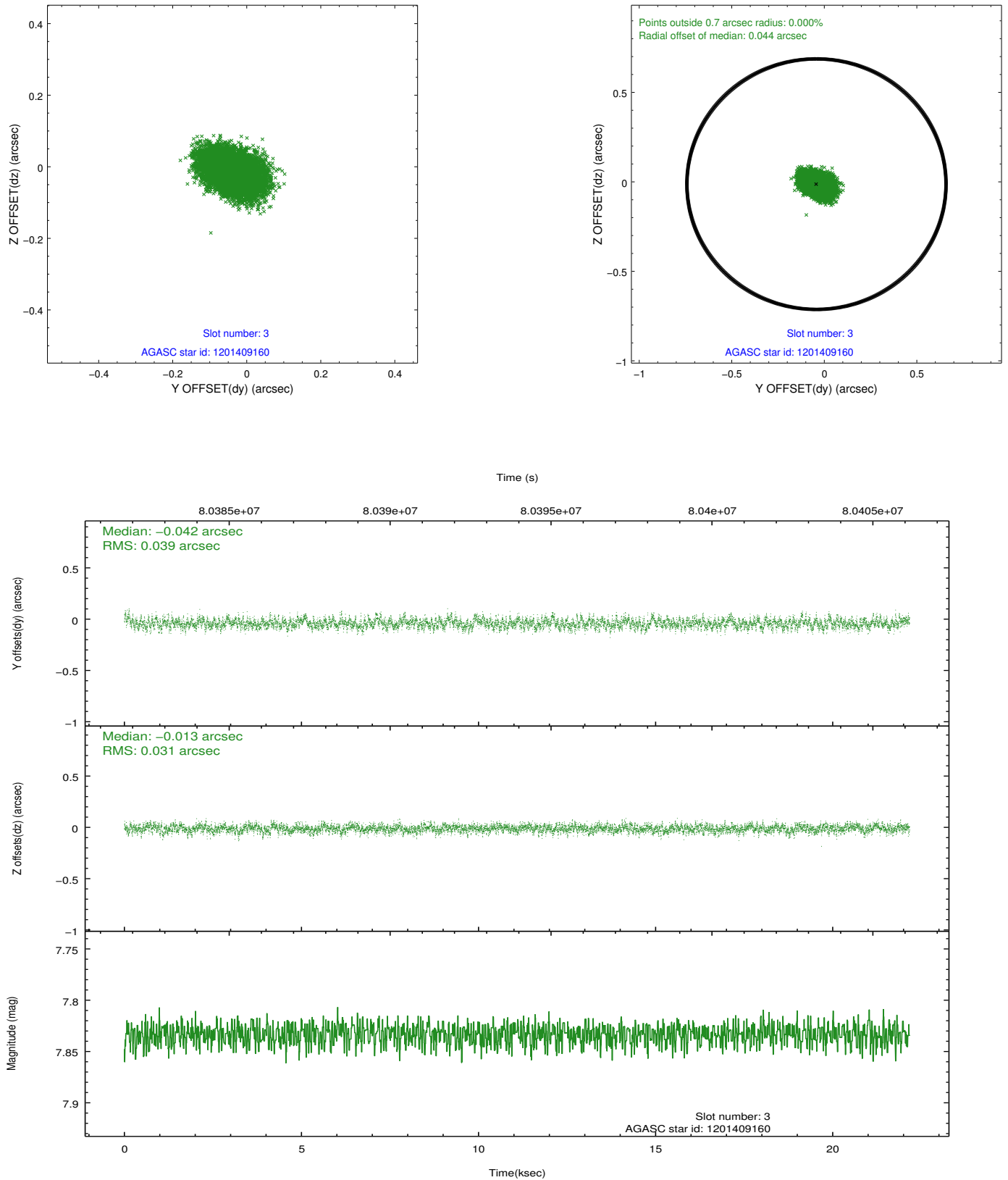


Slot Statistics

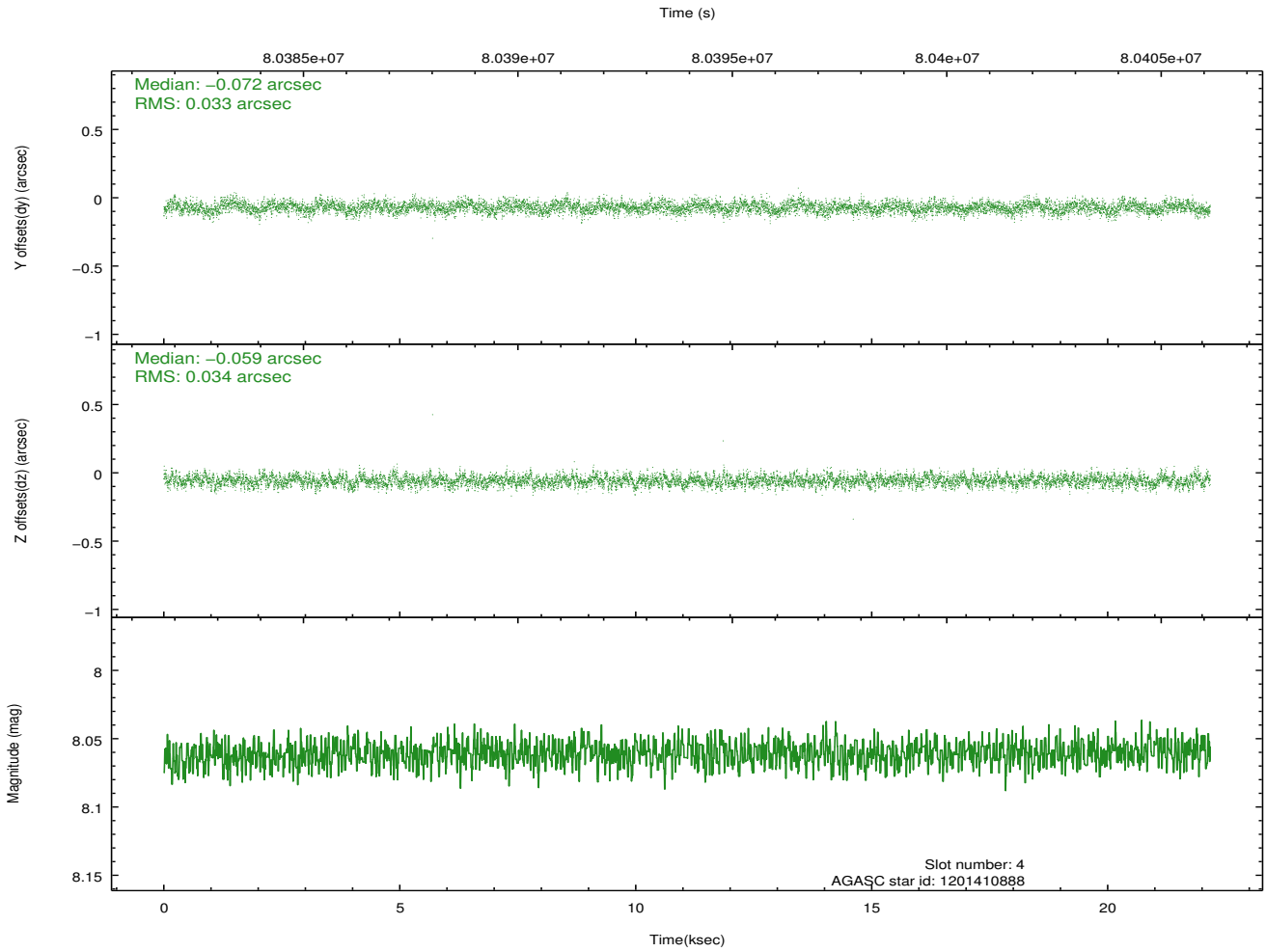
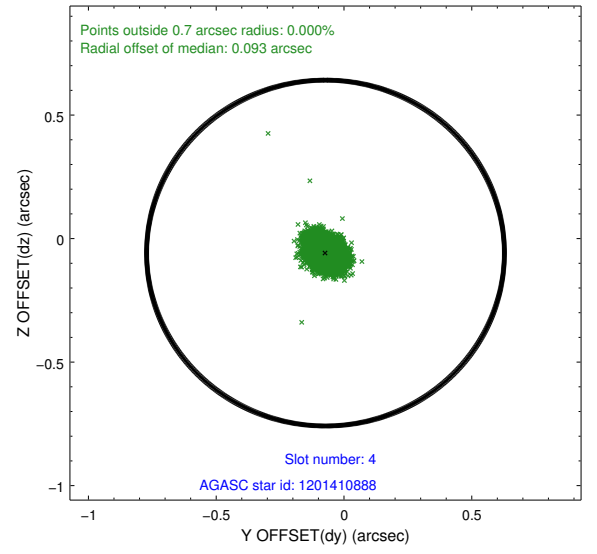
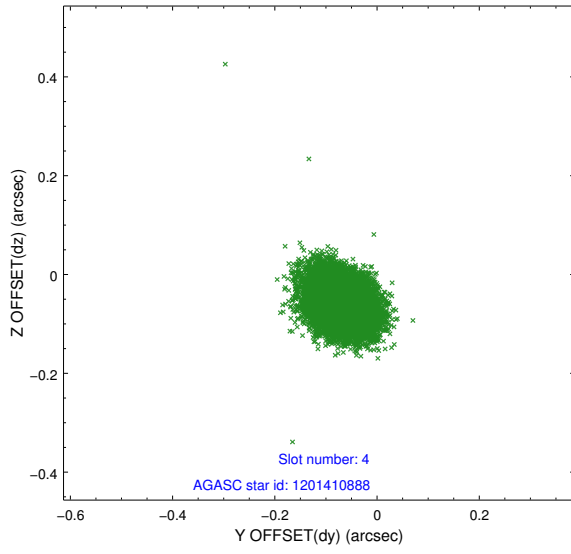
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	5408	-0.016	-0.026	0.006	0.012	0.000000	0.000000	-754.39	-1727.03
1	FID	ACIS-S-4	7.21	5407	0.001	-0.006	0.007	0.012	0.000000	0.000000	2158.83	181.32
2	FID	ACIS-S-6	7.35	5407	-0.013	0.039	0.008	0.013	0.000000	0.000000	407.78	818.93
3	GUIDE	1201409160	7.83	10816	-0.042	-0.013	0.052	0.089	81.660661	-70.063595	-1203.34	976.43
4	GUIDE	1201410888	8.06	10817	-0.072	-0.059	0.050	0.082	81.046858	-70.018210	-495.84	1284.46
5	GUIDE	1201410616	9.34	10815	0.028	0.035	0.081	0.131	82.516808	-69.784406	-1492.21	-453.81
6	GUIDE	1201411088	10.07	10815	0.102	0.025	0.127	0.205	79.219940	-69.586806	2252.58	1405.29
7	GUIDE	1201406992	9.27	10775	-0.017	0.012	0.093	0.150	83.682859	-69.471866	-2071.21	-2204.84

2.4 Star Slots

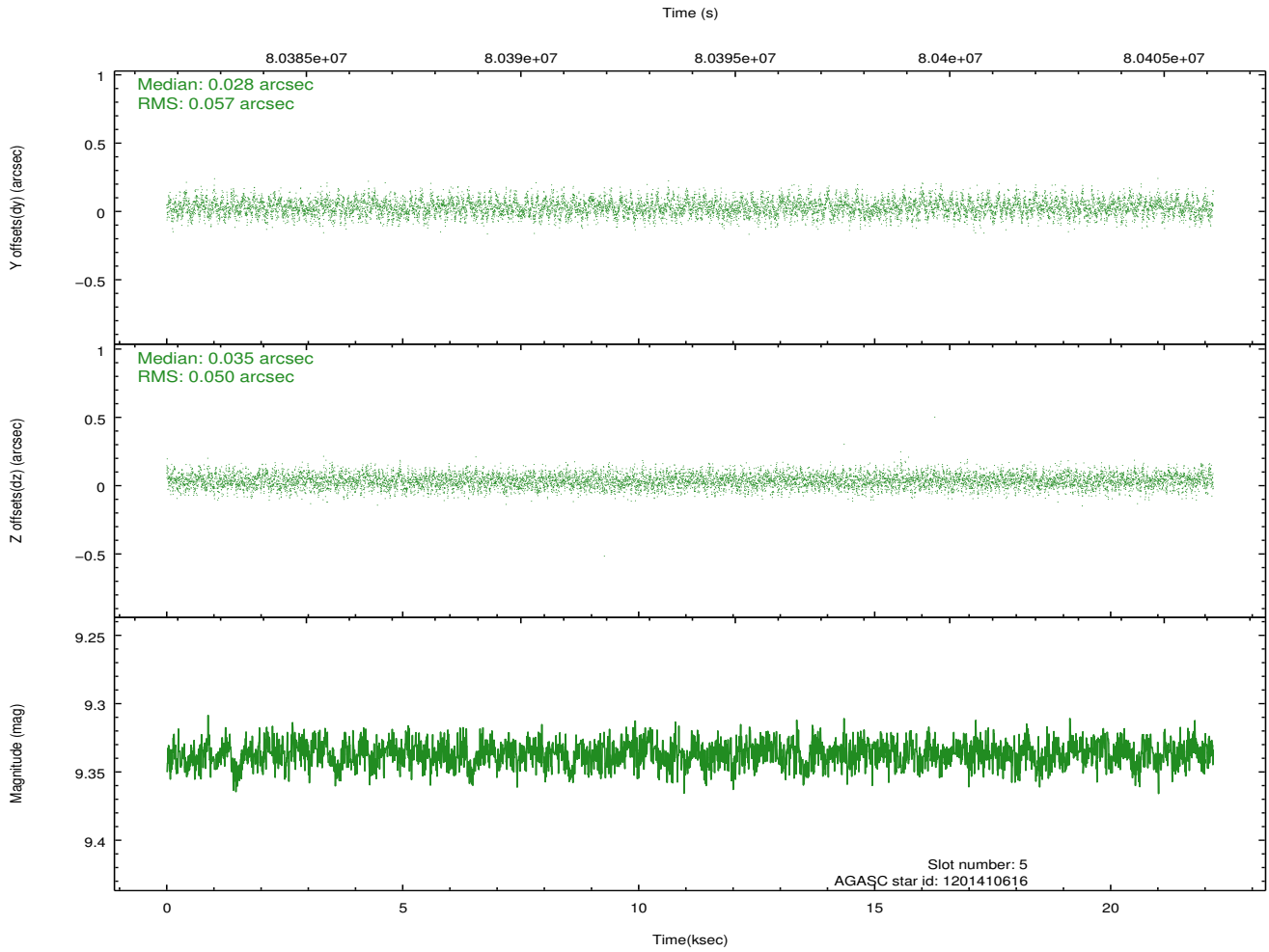
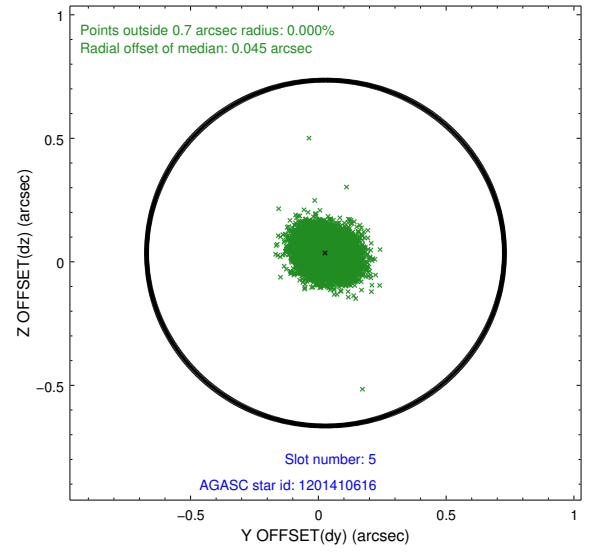
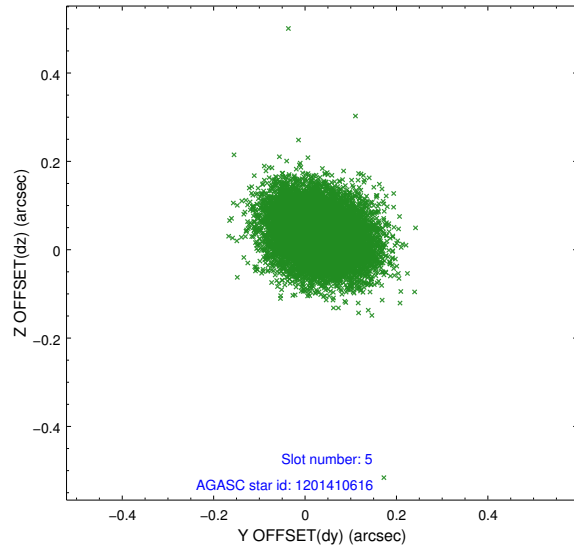
2.4.1 Slot 3



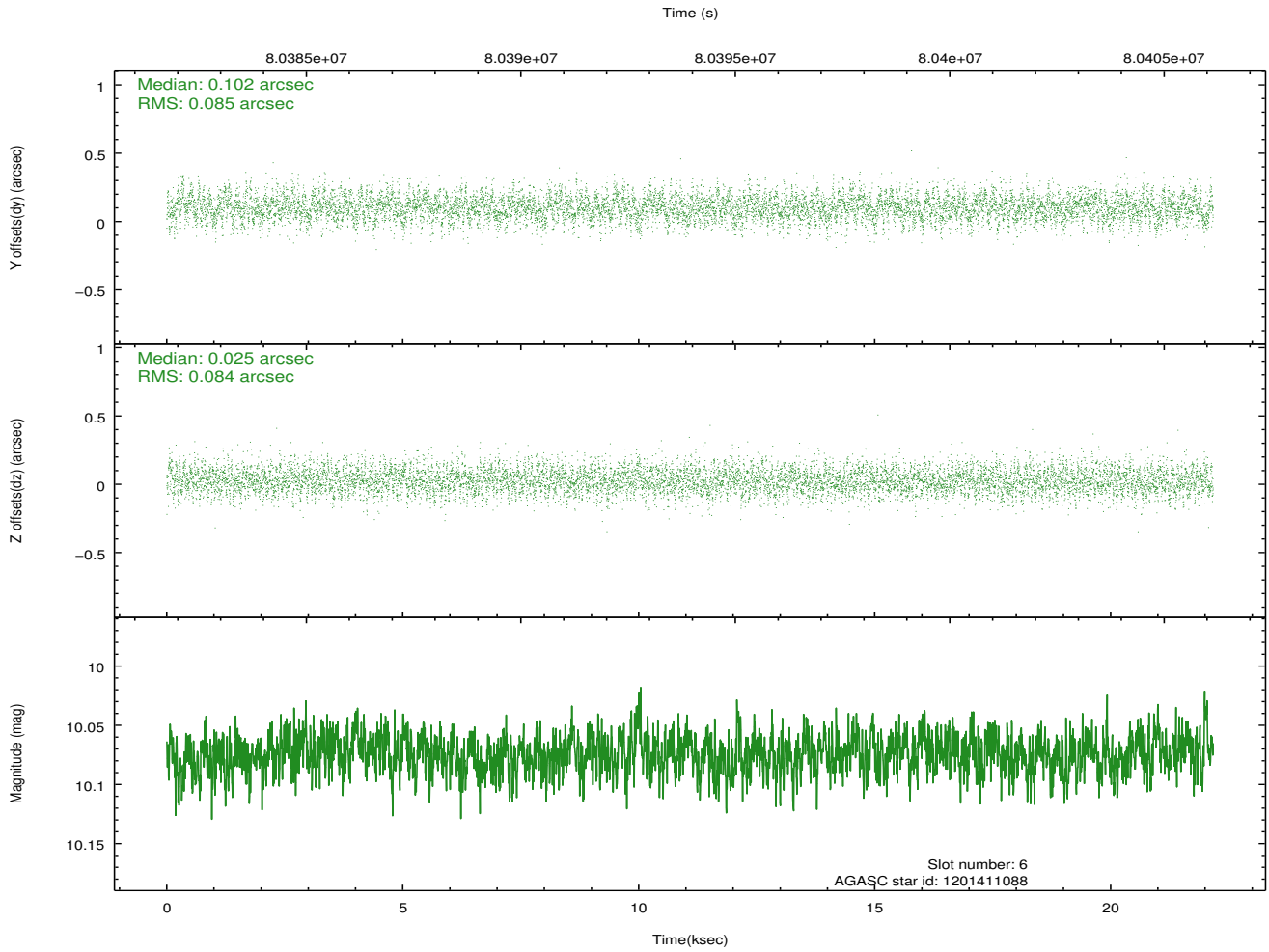
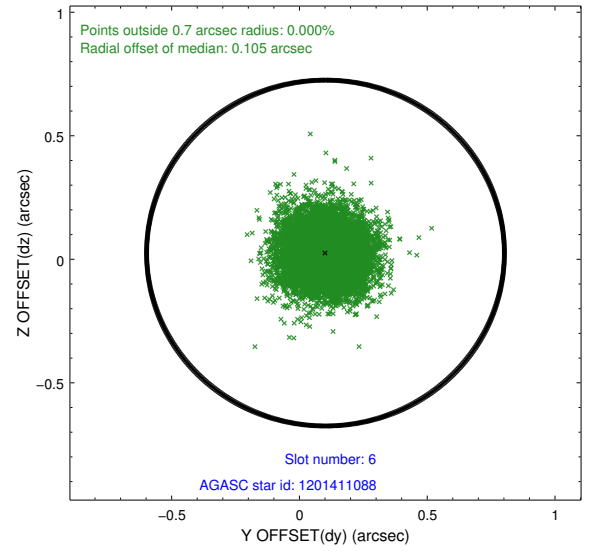
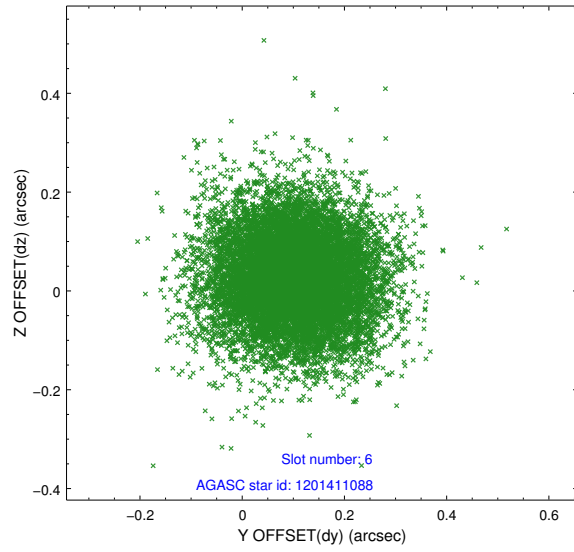
2.4.2 Slot 4



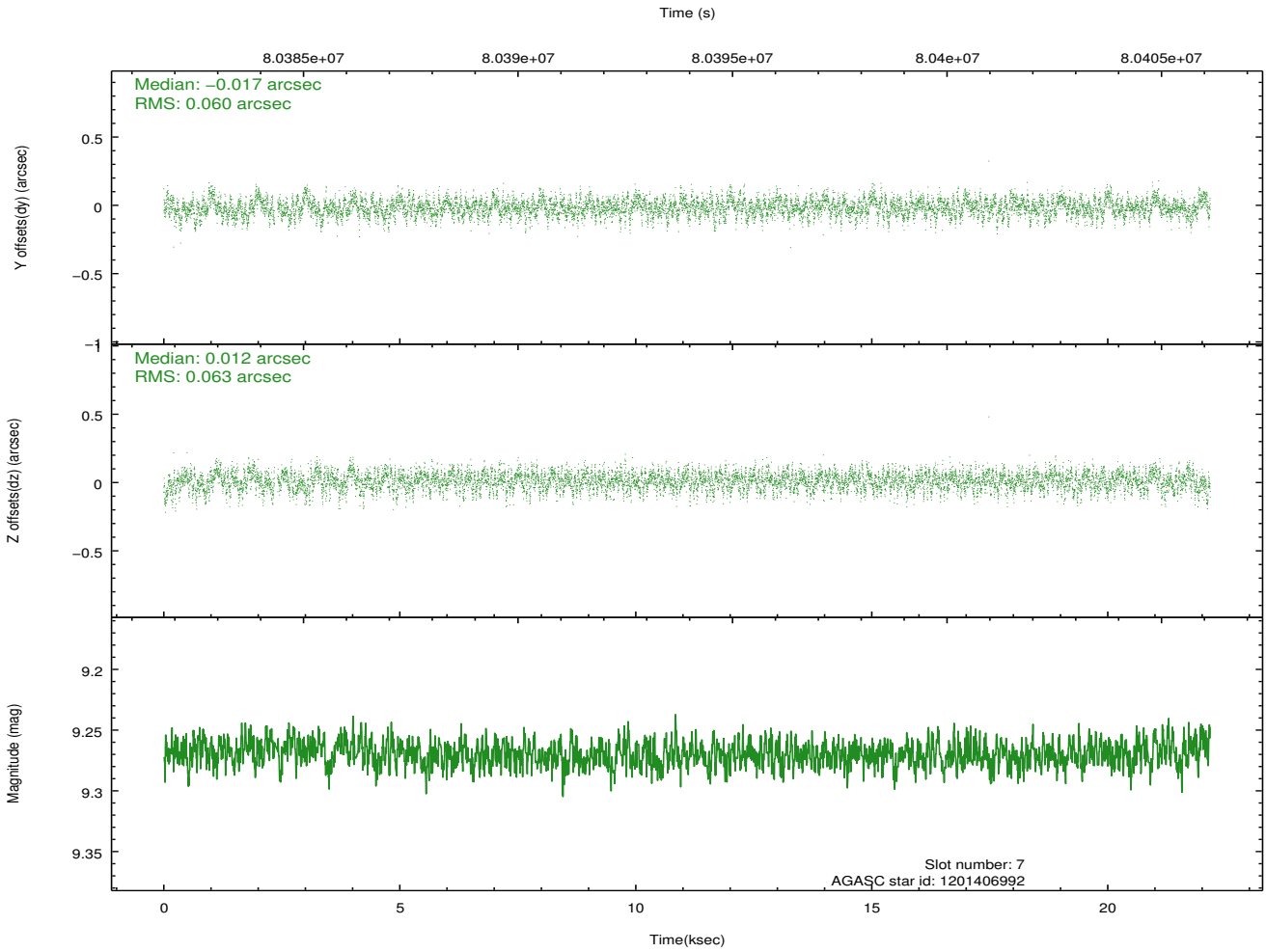
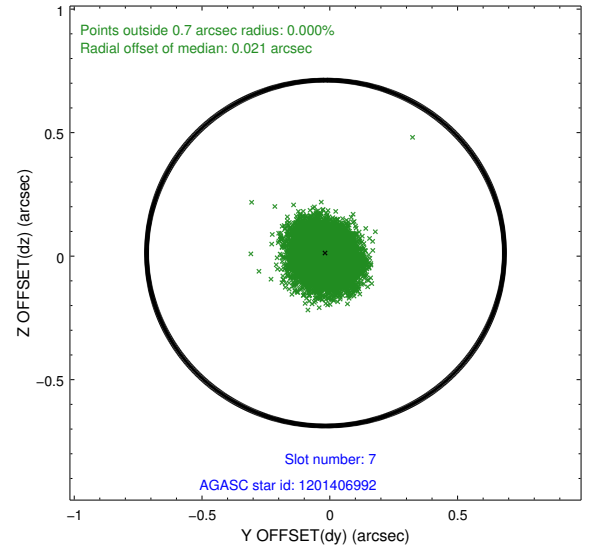
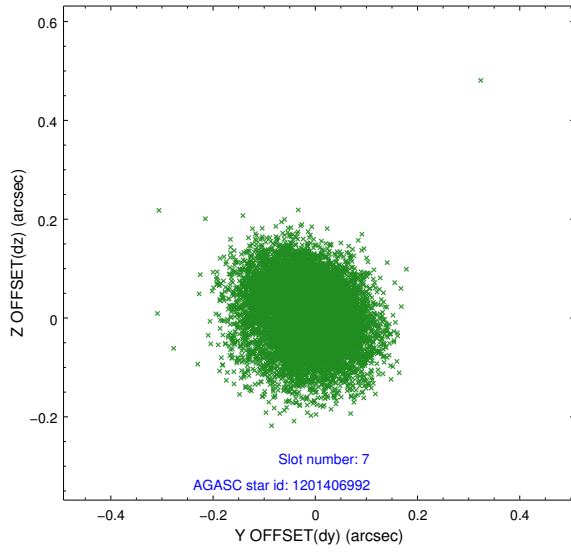
2.4.3 Slot 5



2.4.4 Slot 6

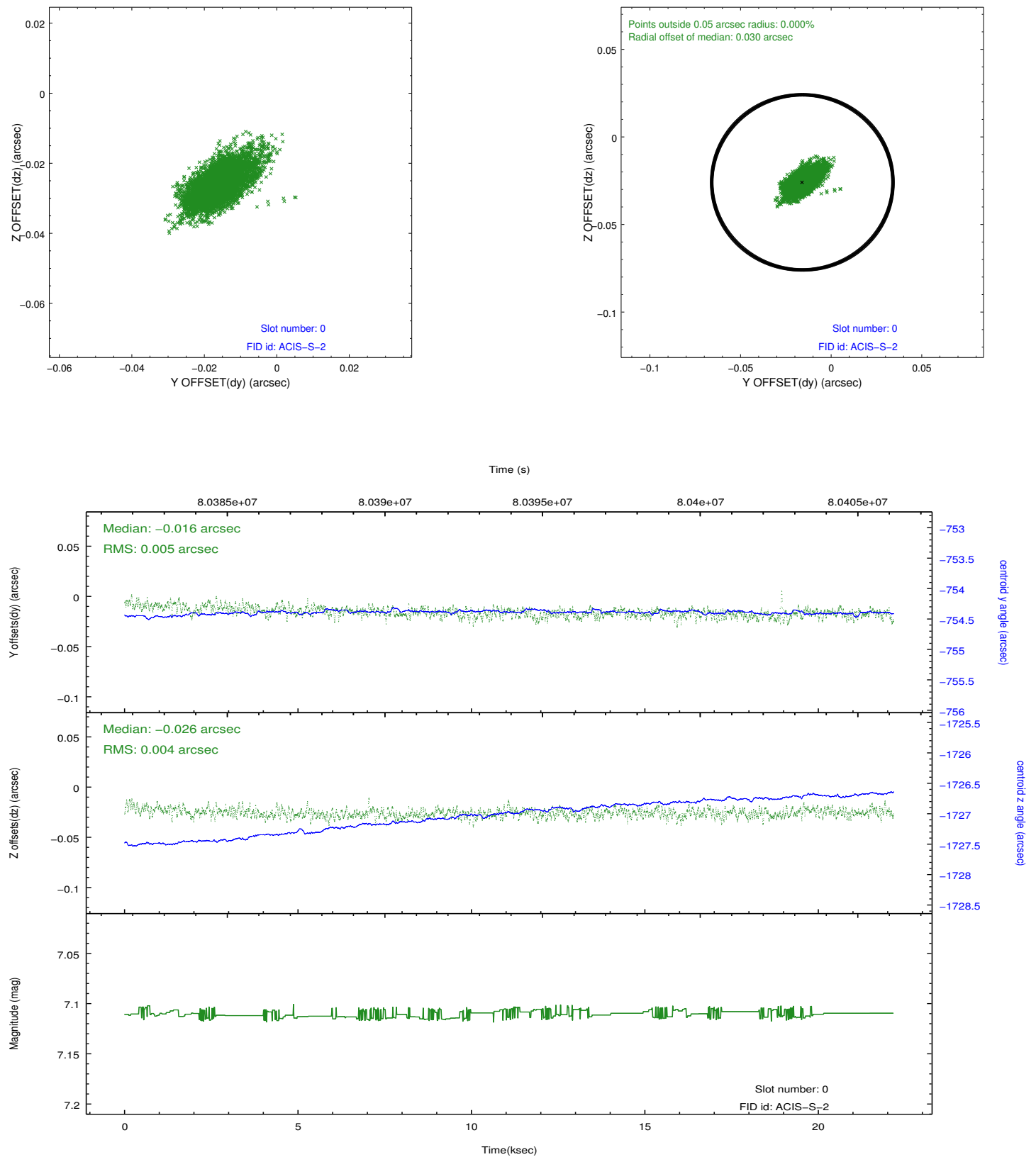


2.4.5 Slot 7

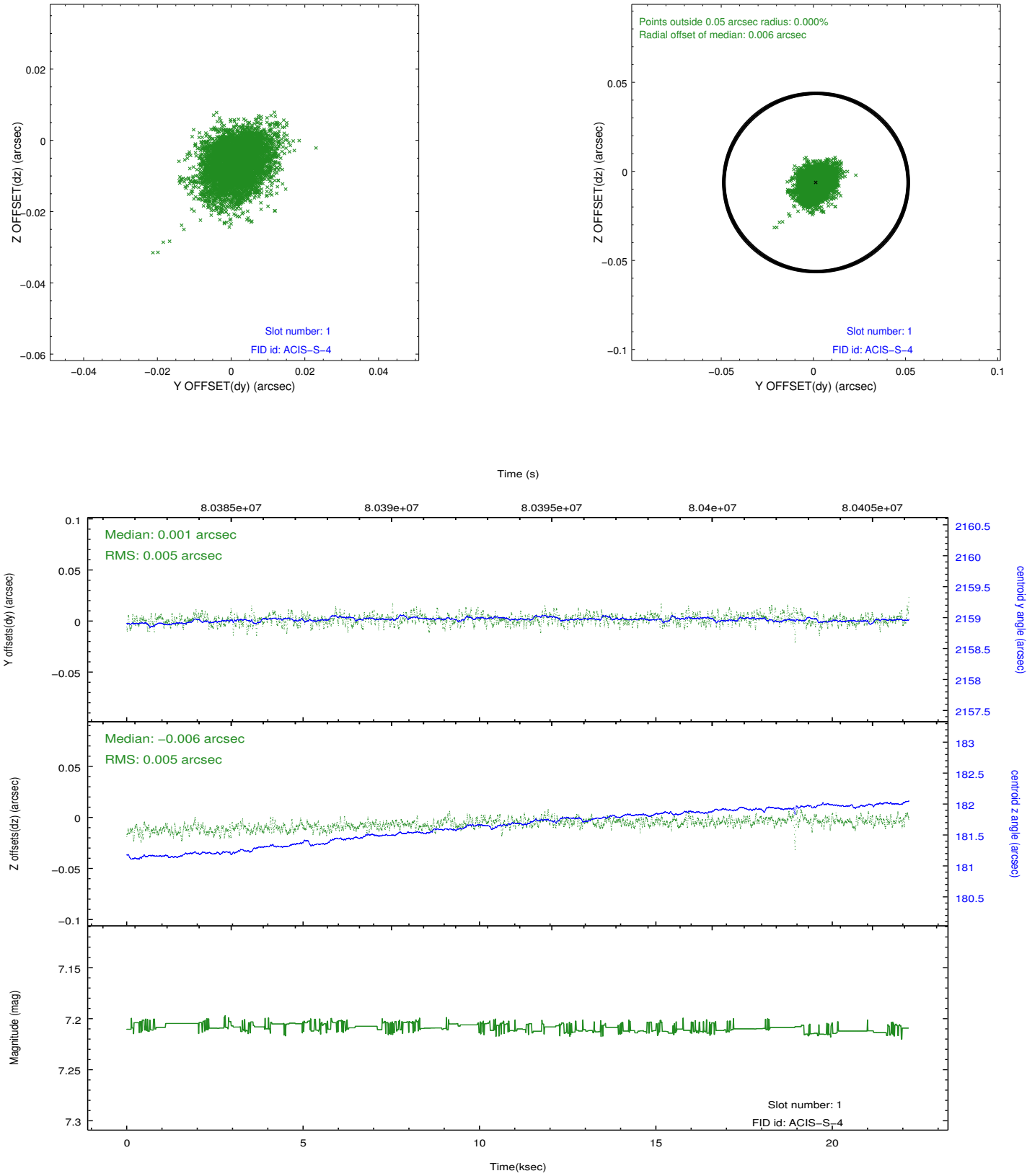


2.5 FID Slots

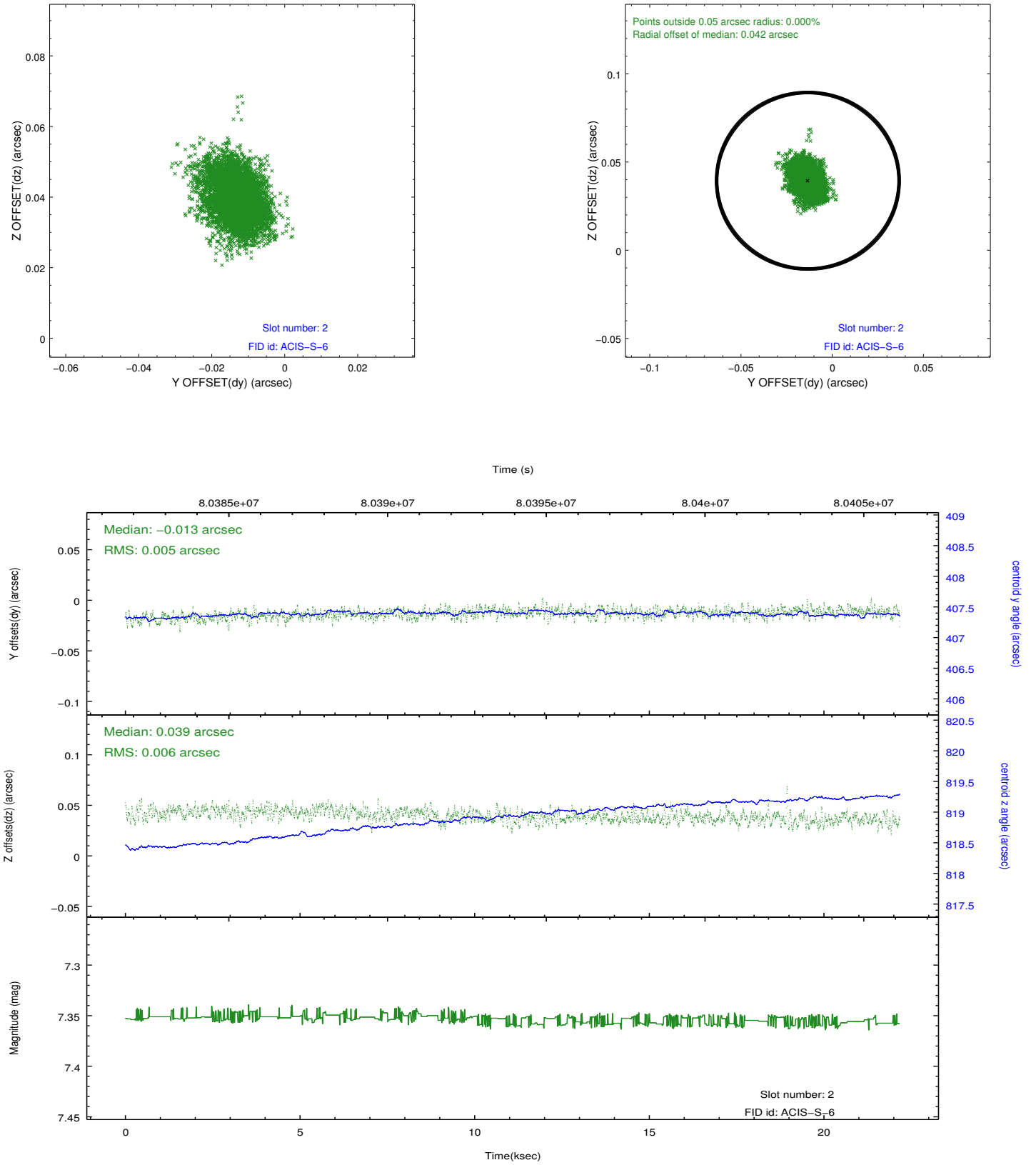
2.5.1 Slot 0



2.5.2 Slot 1

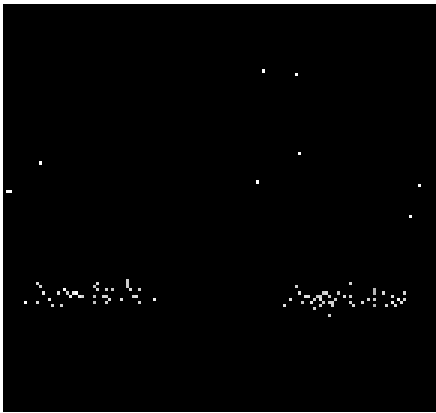


2.5.3 Slot 2

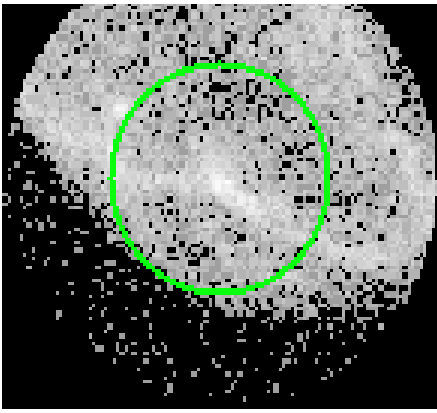


3 Gratings

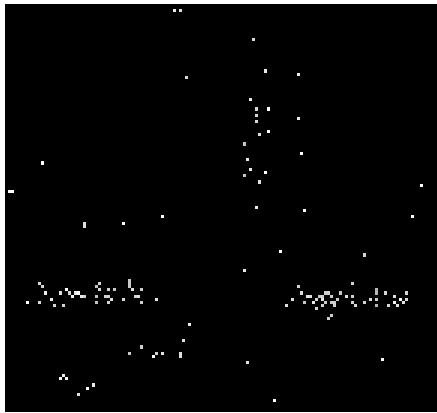
3.1 HEG Arm



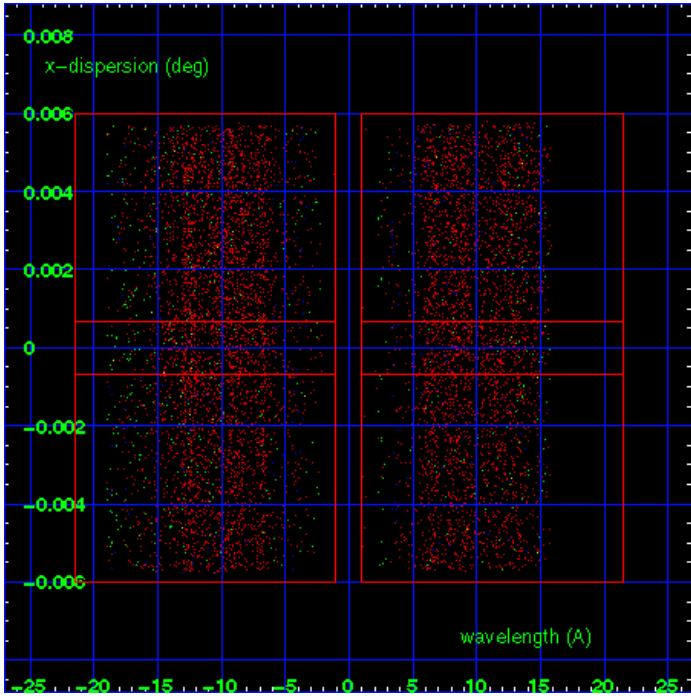
HEG Order Sort 123



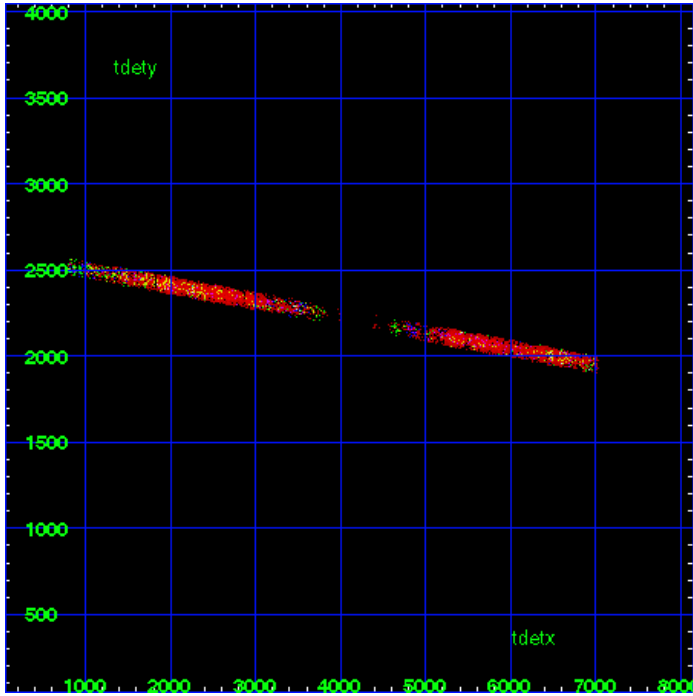
HEG Zero Order



HEG Order Sort ALL

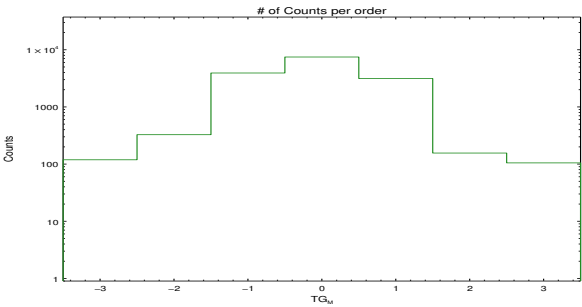


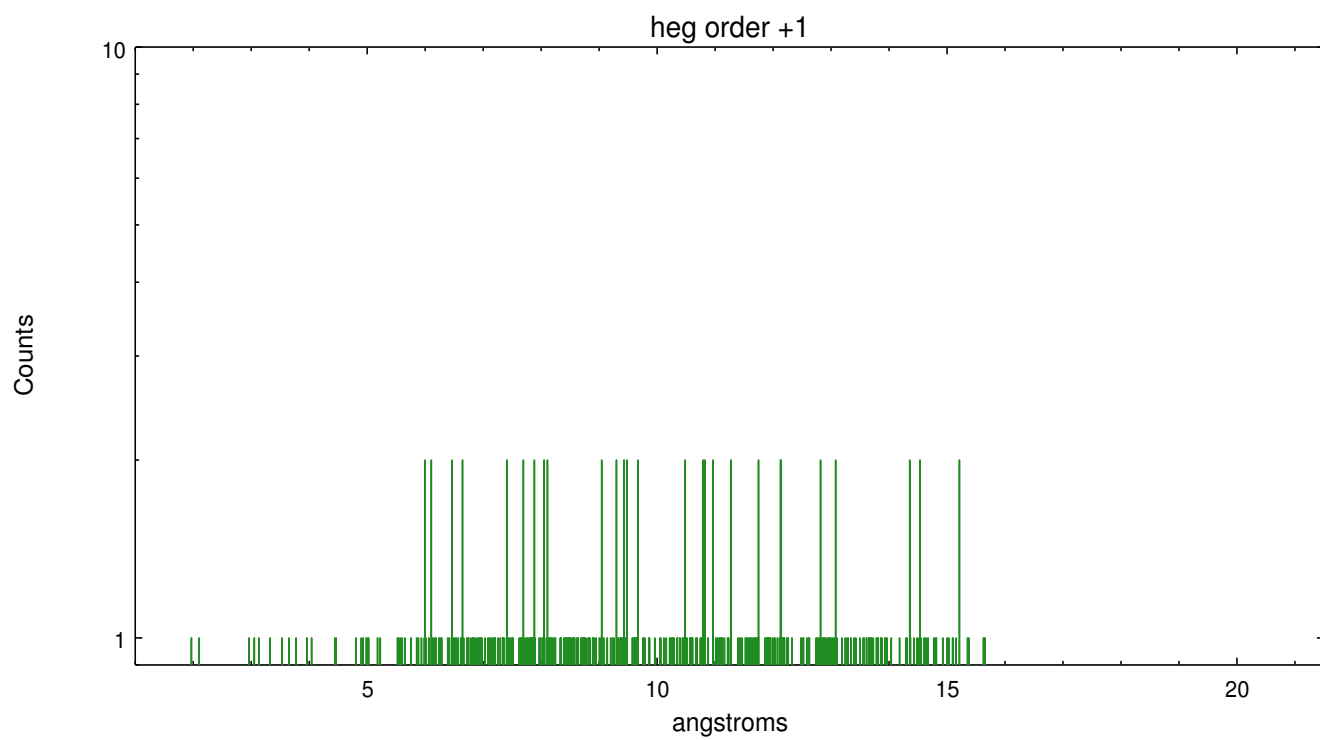
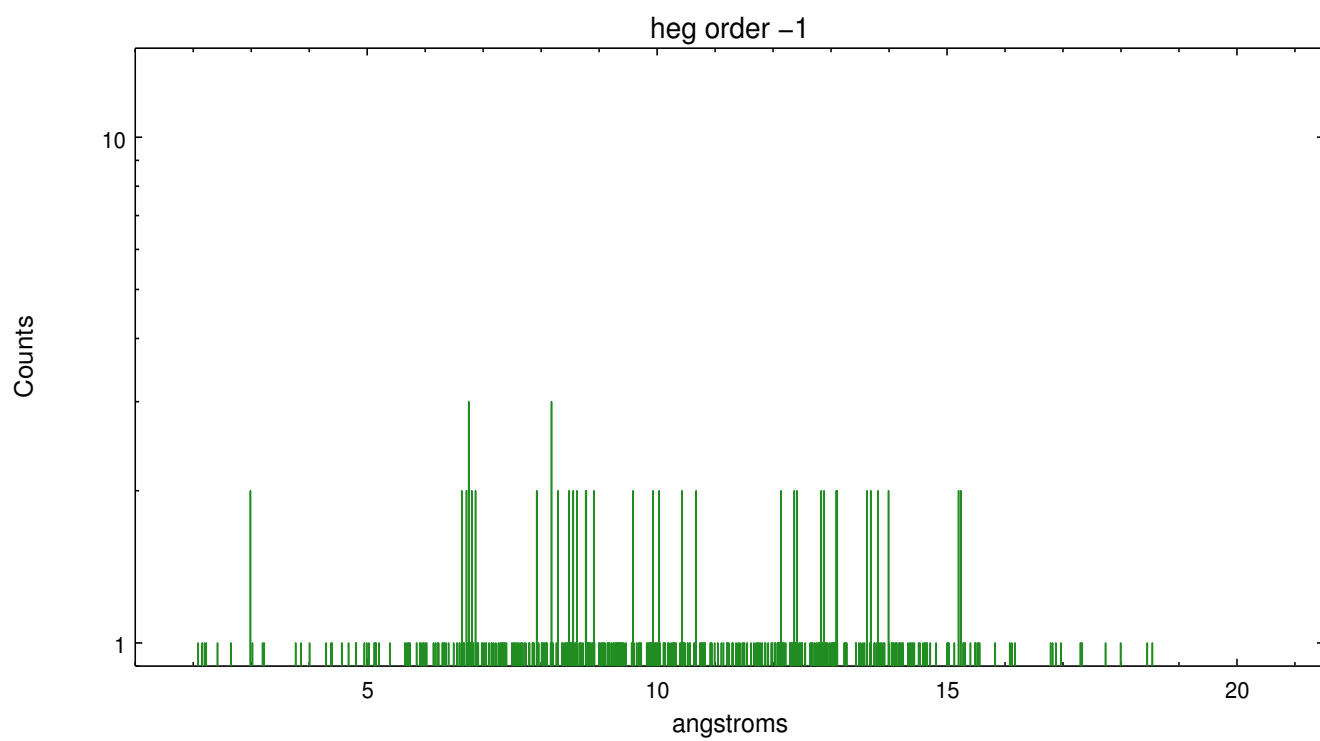
Spot Image HEG



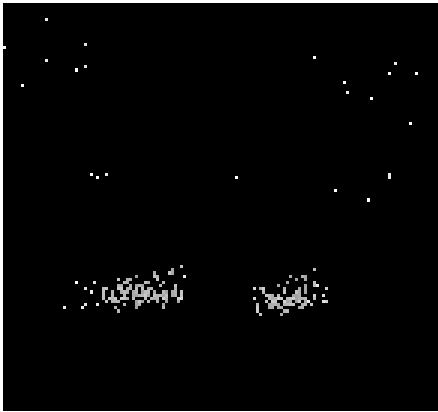
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	119	327	3922	7469	3136	156	105

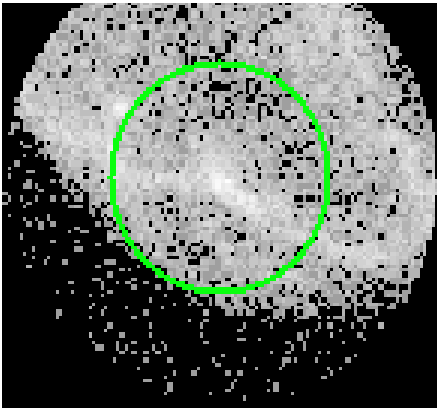




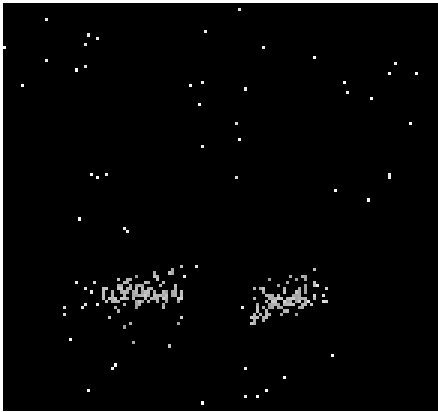
3.2 MEG Arm



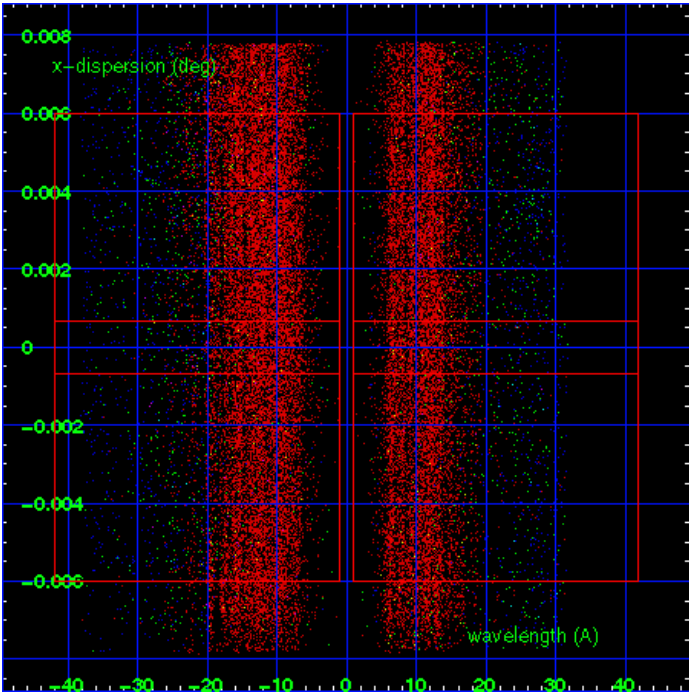
MEG Order Sort 123



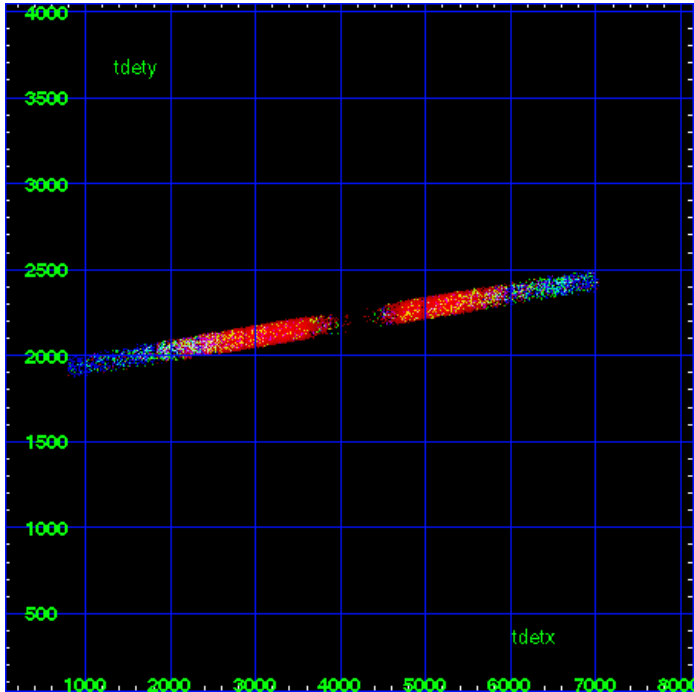
MEG Zero Order



MEG Order Sort ALL

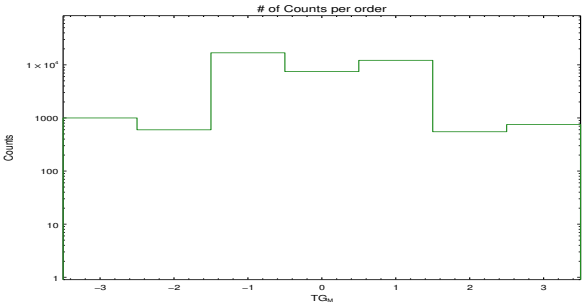


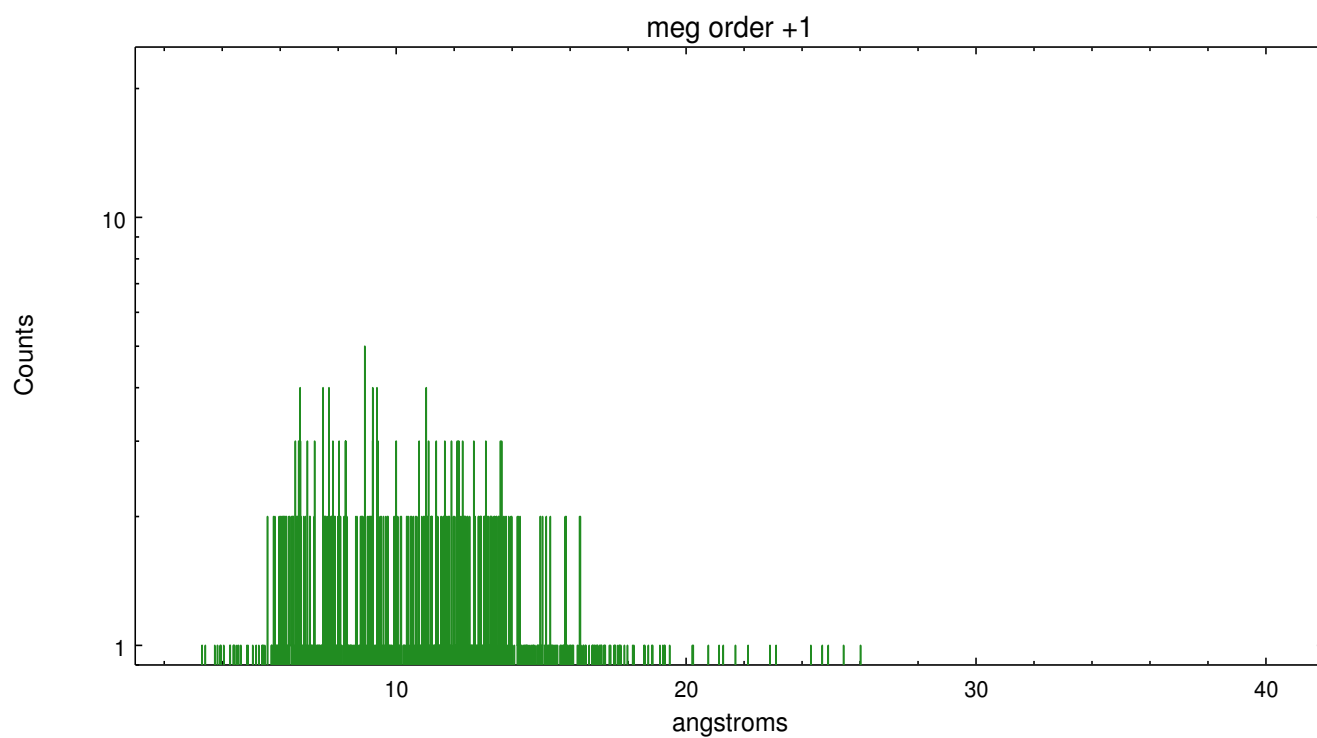
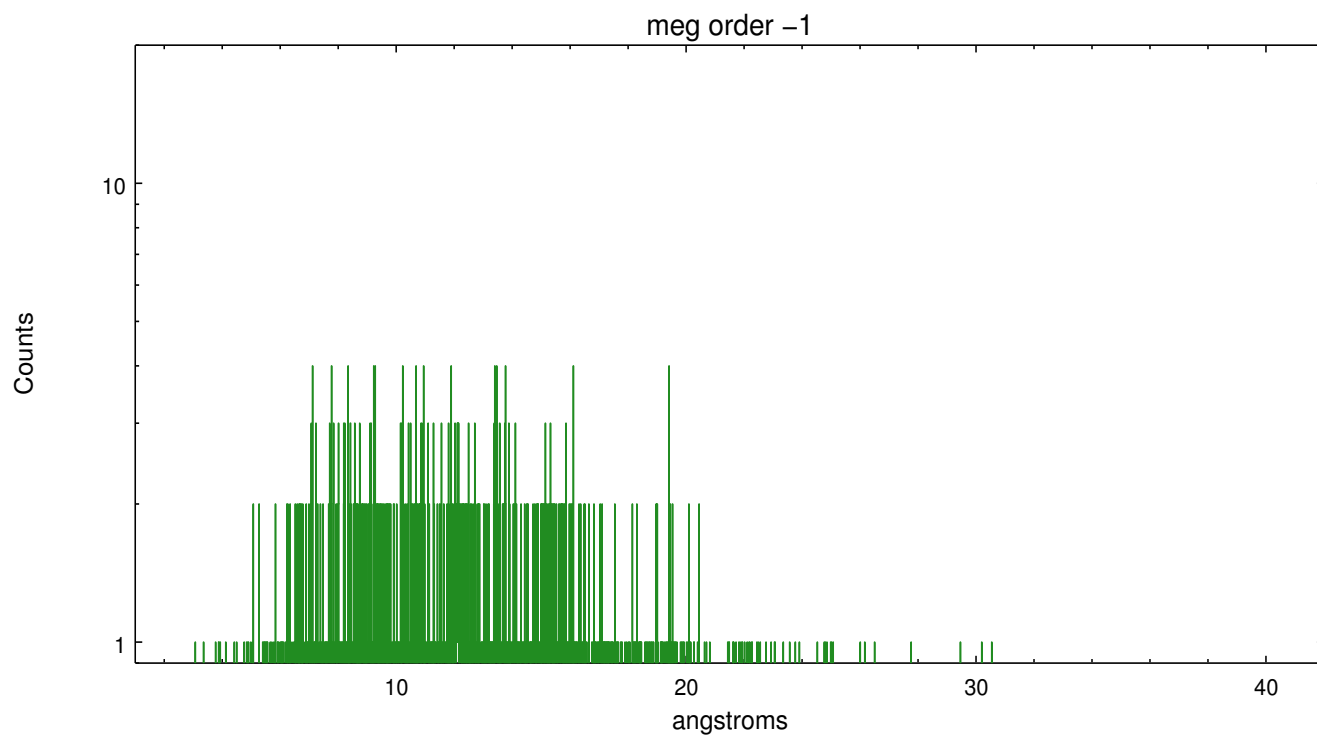
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1000	598	16858	7469	12161	550	750





A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2012.10.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	21.744

A.2 Comments

Standard software processing technique using the tool `tgdetect` failed to determine an accurate position for the zeroth order for this observation. The source is extended and asymmetric. For this processing the zeroth order was selected to be at same position as in `TGCat` (sky coordinates `x=4055.5`, `y=4049.49`). The extraction is done just on part of the brightest feature in the SSE for demonstration only. The spectral data supplied in this processing are only energy-calibrated for the particular zeroth order position selected. For grating analysis of localized X-ray emission within the extended emission, the investigator will need to extract one or more dispersed spectra using user-defined zeroth order positions for all positions of interest.

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It should be noted that the emission knot that has been selected as the zeroth order source is filamentary and curved, so the energy assignments to the events should take the spatial information into account.

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.