

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 19289 - L2 Version 1
Chandra X-Ray Center

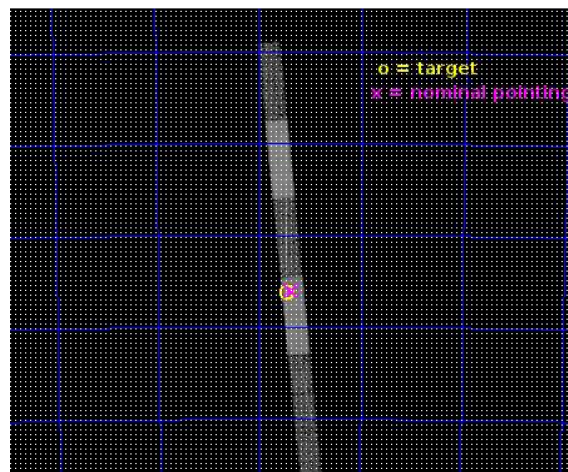
L2 Processing Date : Sep 24 2017

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1 Front

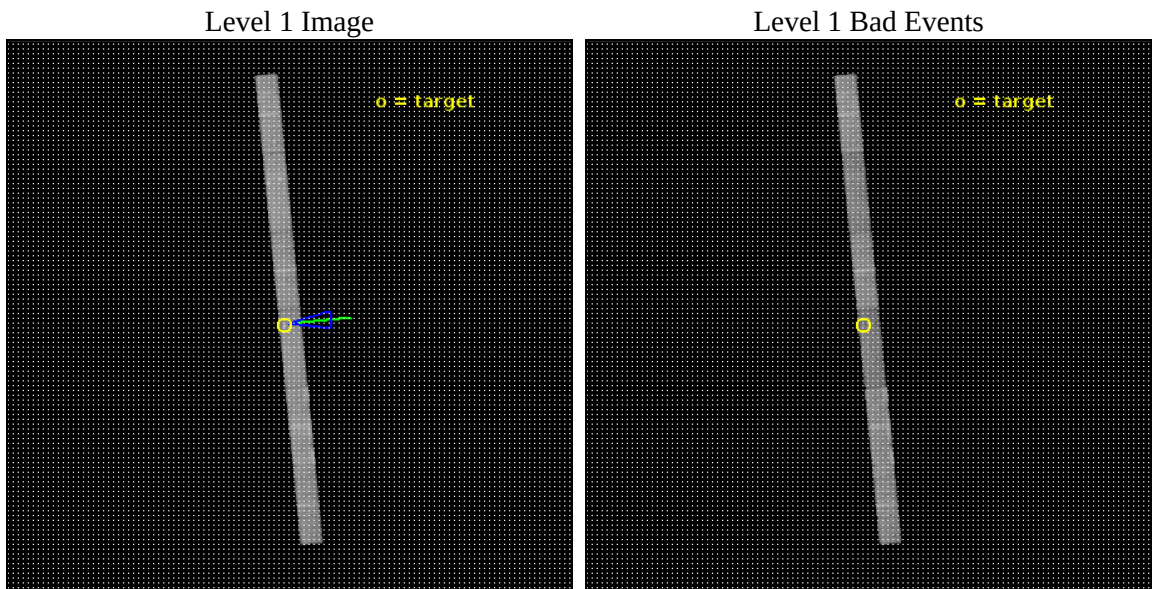
seq_num	502939	Sequence number
obs_id	19289	Observation id
title	Chandra Cycle 18 Spatial and Spectral Monitoring of SN 1987A	Propo
observer	David Burrows	Principal investigator
object	SNR 1987A	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.866667	Observer's specified target RA [deg]
dec_targ	-69.26975	Observer's specified target Dec [deg]
ra_nom	83.842674152476	Nominal RA [deg]
dec_nom	-69.267233724659	Nominal Dec [deg]
roll_nom	84.63417941905	Nominal Roll [deg]
revision	1	Processing version of data
ontime	19607.160686255	Sum of GTIs [s]
livetime	18901.946255065	Livetime [s]
ontime4	19607.201726198	Sum of GTIs [s]
ontime5	19607.119646192	Sum of GTIs [s]
ontime6	19607.078606248	Sum of GTIs [s]
ontime7	19607.160686255	Sum of GTIs [s]
ontime8	19607.037566185	Sum of GTIs [s]
ontime9	19606.996526241	Sum of GTIs [s]
l2events	57893	Number of level 2 events



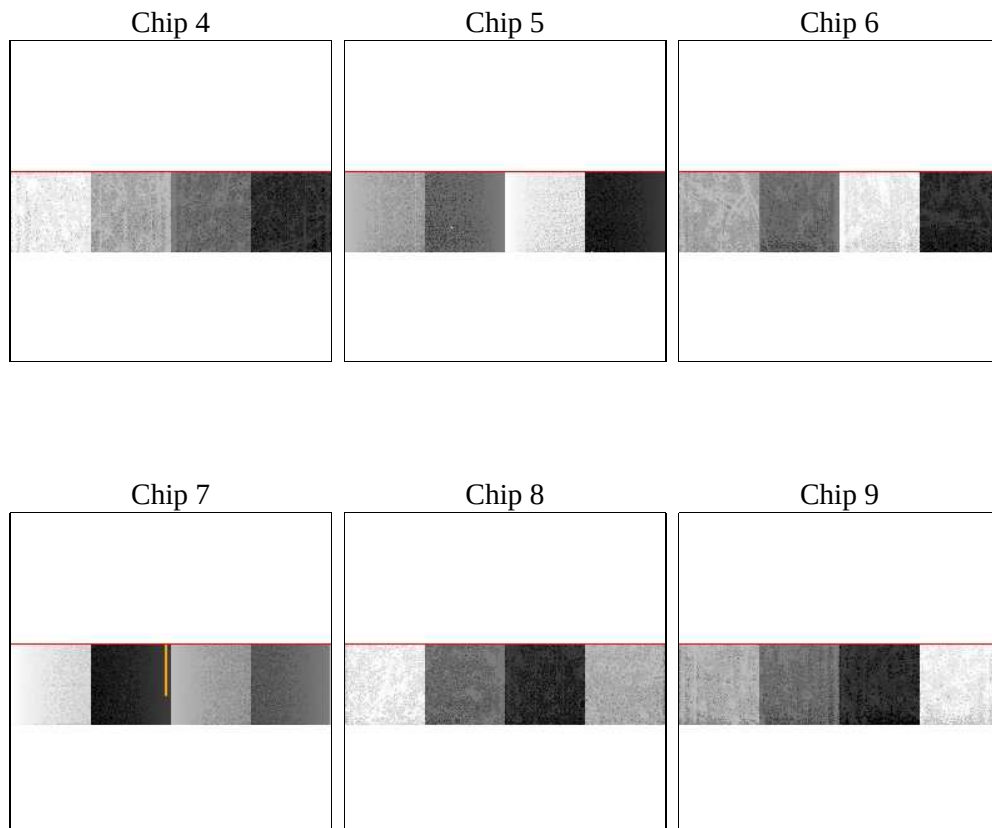
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	19518.869000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	19607.160686255	Sum of GTIs [s]
caldsver	4.7.6	 	ontime4	19607.201726198	Sum of GTIs [s]
date	2017-09-24T06:59:12	Date and time of file creation	ontime5	19607.119646192	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	19607.078606248	Sum of GTIs [s]
			ontime7	19607.160686255	Sum of GTIs [s]
			ontime8	19607.037566185	Sum of GTIs [s]
			ontime9	19606.996526241	Sum of GTIs [s]
			l1events	249123	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			src1a_pos	(4024.10, 4077.24)	src1a sky pixel position

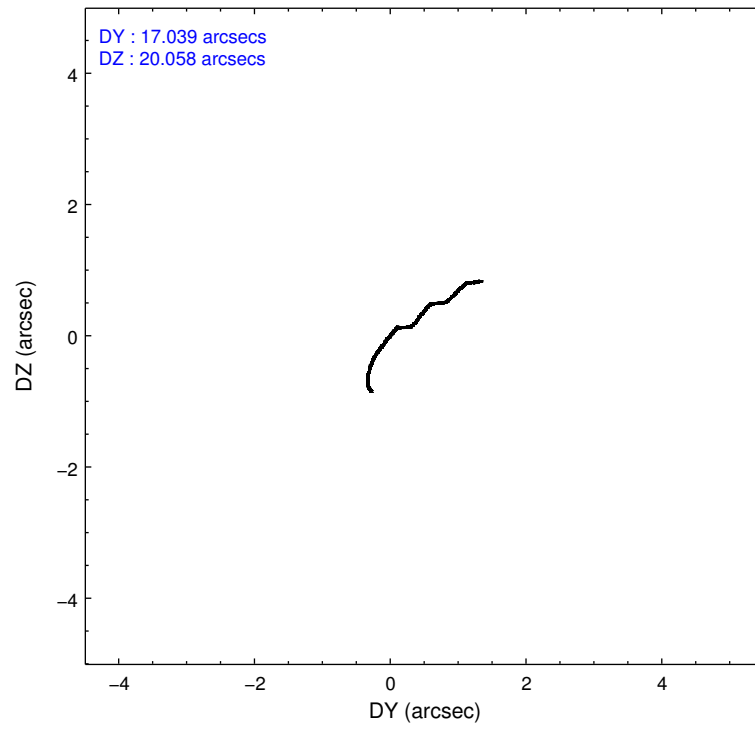
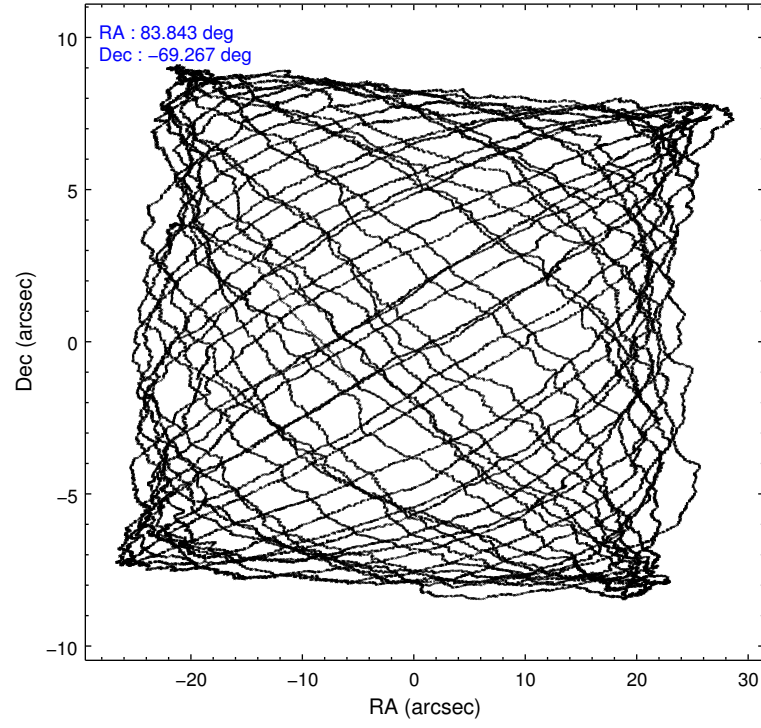
2.1.4 Events

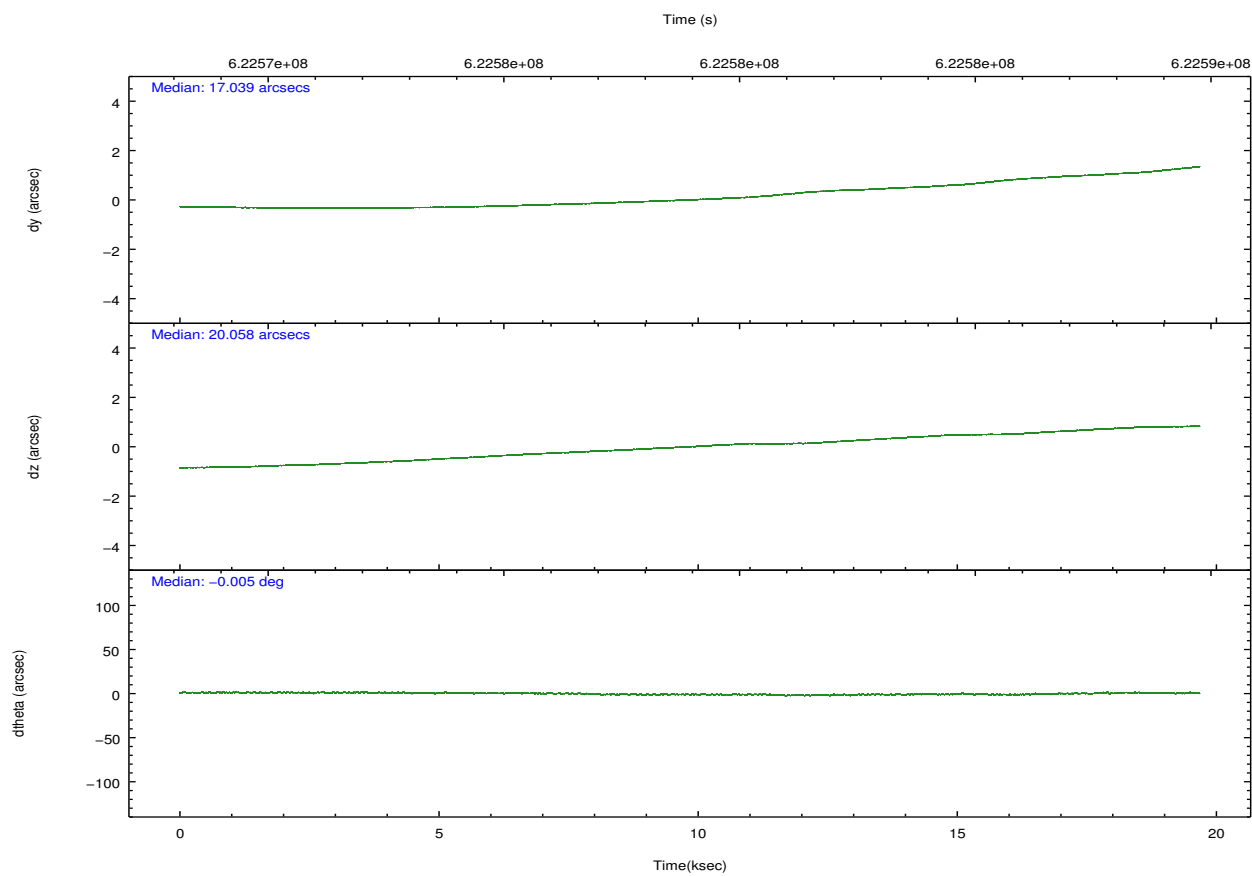
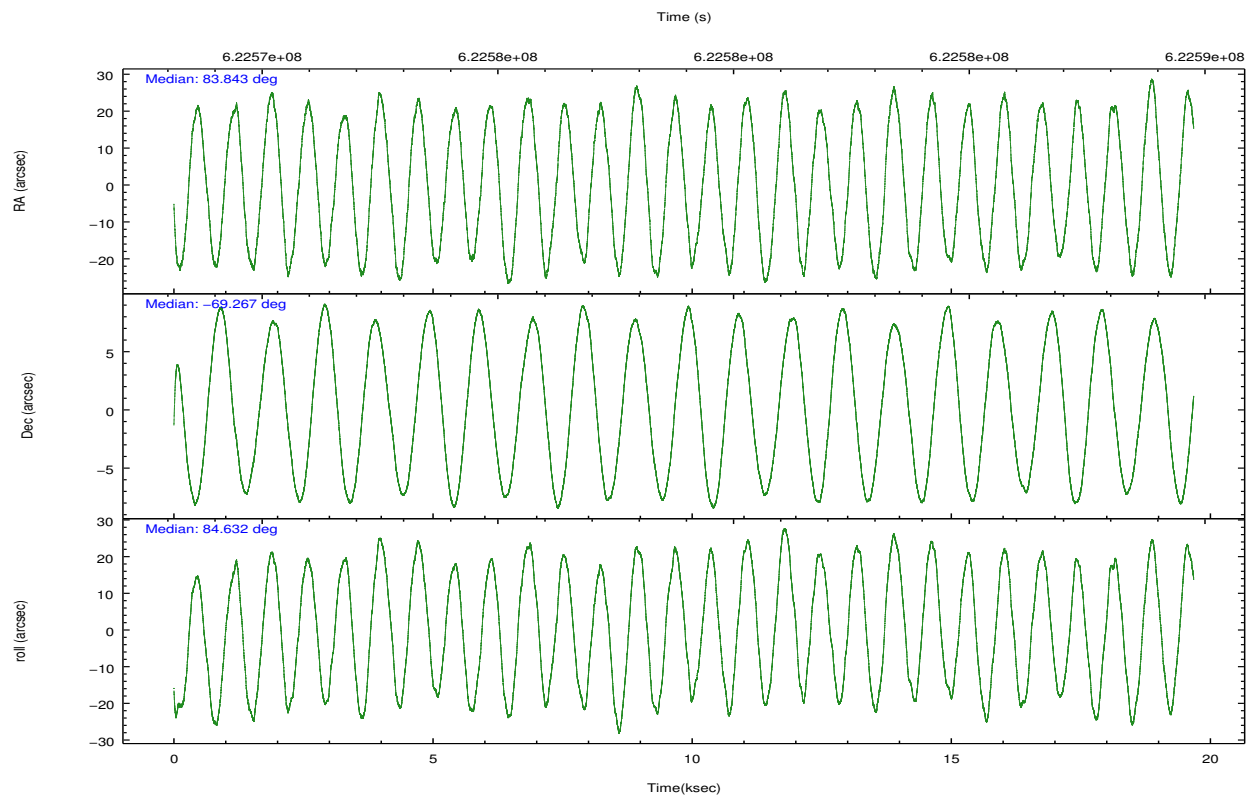
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	43300	46413	38305	39749	47766	33590	grade 0 events	1738	2670	2602	2629	3483	1285
rejected events	38701	22349	32588	18617	35043	29622		4%	5%	6%	6%	7%	3%
rejected %	89%	48%	85%	46%	73%	88%	grade 1 events	37	142	14	79	27	18
								0%	0%	0%	0%	0%	0%
							grade 2 events	978	7250	994	4761	2903	743
								2%	15%	2%	11%	6%	2%
							grade 3 events	585	1047	574	2260	1294	571
								1%	2%	1%	5%	2%	1%
							grade 4 events	575	1008	610	2153	1214	563
								1%	2%	1%	5%	2%	1%
							grade 5 events	1366	3366	1267	3804	2032	1364
								3%	7%	3%	9%	4%	4%
							grade 6 events	723	12093	938	9330	3834	806
								1%	26%	2%	23%	8%	2%
							grade 7 events	37298	18837	31306	14733	32979	28240
								86%	40%	81%	37%	69%	84%

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	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	83.875945	83.84267415247604	CCD I2 on	N	N
[deg] Pointing Dec	-69.291993	-69.26723372465878	CCD I3 on	N	N
[deg] Pointing Roll	84.508680	84.63417941904984	CCD S0 on	O1	Y
[deg] Roll angle	84.000000	84.000000	CCD S1 on	Y	Y
[deg] Roll tolerance	12.000000	12.000000	CCD S2 on	Y	Y
Roll constraint allows 180D rotation	N	N	CCD S3 on	Y	Y
[s] Window start time (MET)	621475269.184000	621475269.184000	CCD S4 on	Y	Y
[s] Window stop time (MET)	623548869.184000	623548869.184000	CCD S5 on	Y	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Number of optional ACIS chips dropped	0	0
[mm] SIM defocus	0	0.001444936568705701	On-chip summing requested	N	N
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	Subarray requested	CUSTOM	1/4
[mm] SIM translation stage offset	0	0.01005778216563158	Subarray start row	351	351
[s] Observation start time (MET)	622569276.184000	622568120.42351	Subarray row count	256	256
Observation start date	2017-09-23T15:53:27	2017-09-23T15:35:20	Alternating exposures requested	N	N
[s] Observation end time (MET)	622588795.184000	622589565.4747699	[s] Primary exposure time	0.000000	1.1
Observation end date	2017-09-23T21:18:46	2017-09-23T21:32:45			
Read mode	TIMED	TIMED			

2.3 Aspect



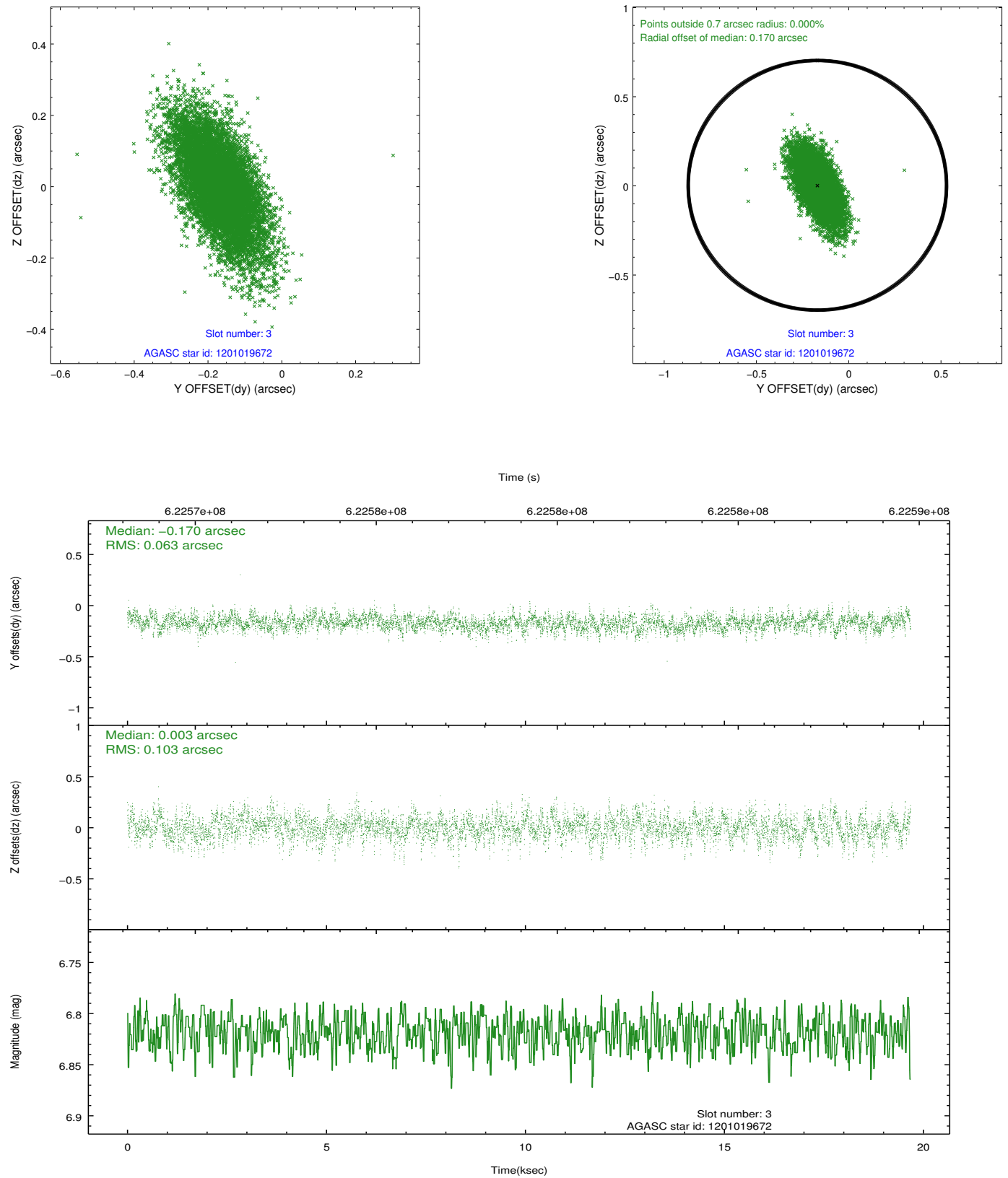


Slot Statistics

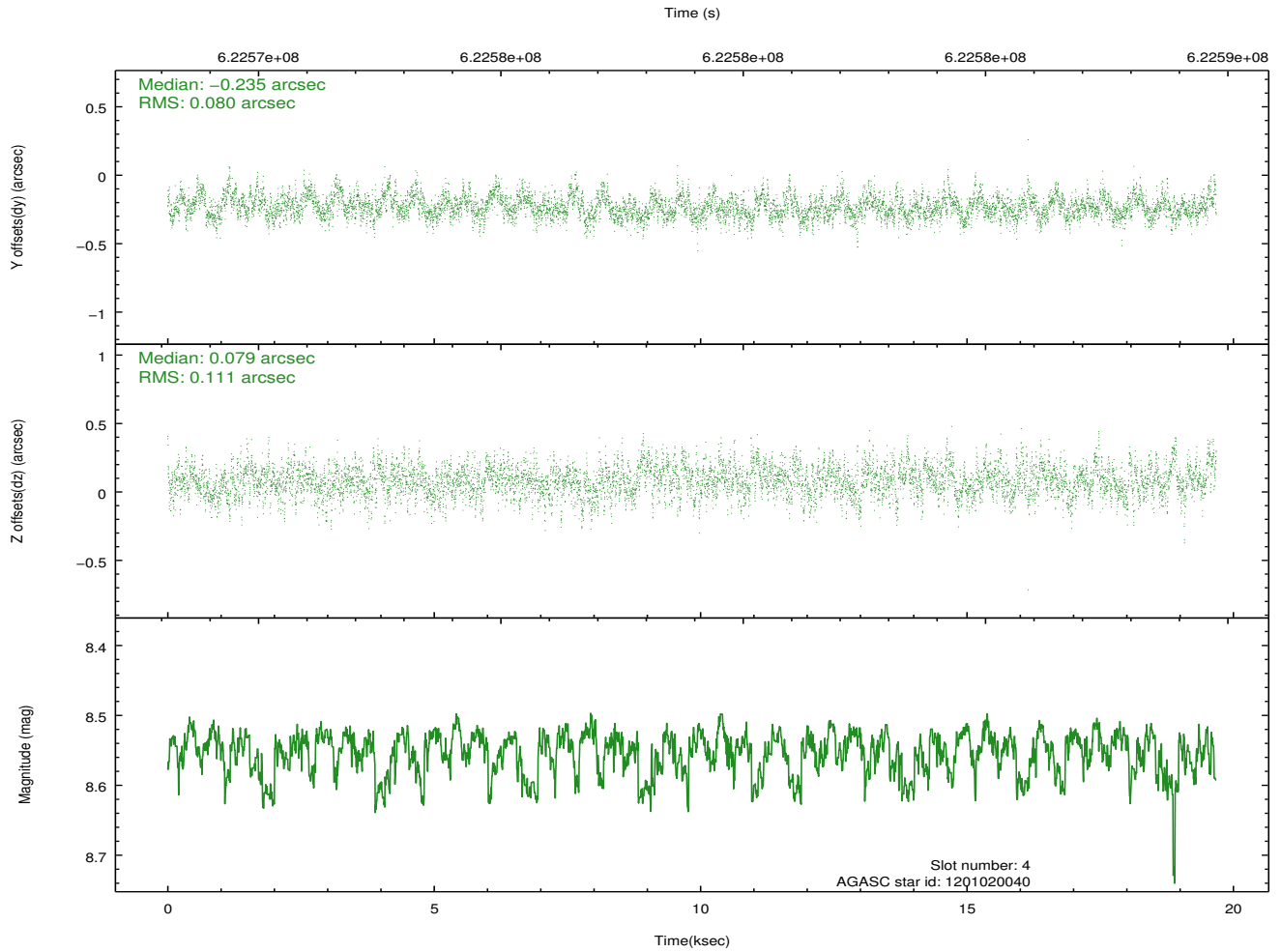
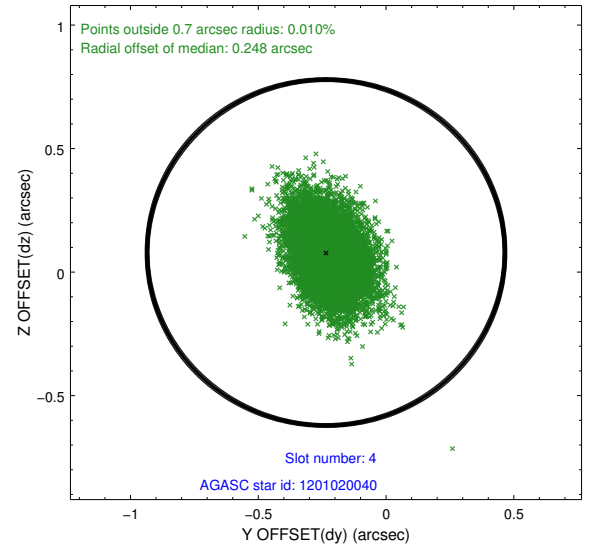
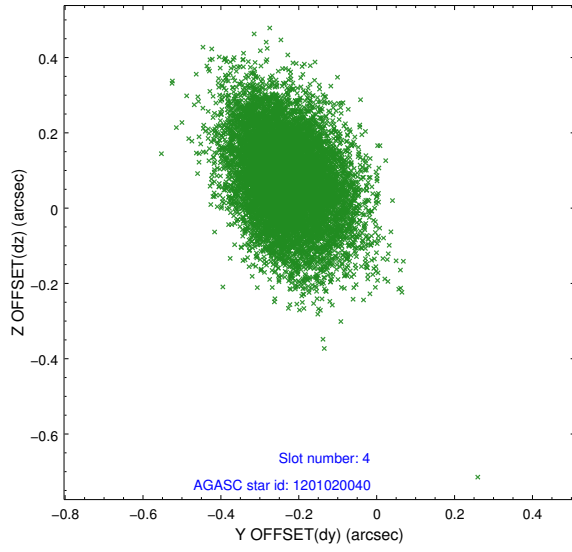
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.12	4800	-0.211	-0.111	0.014	0.022	0.000000	0.000000	-770.43	-1741.62
1	FID		ACIS-S-4	7.24	4800	0.513	0.131	0.007	0.016	0.000000	0.000000	2143.44	166.96
2	FID		ACIS-S-5	7.22	4800	-0.335	-0.011	0.013	0.020	0.000000	0.000000	-1823.20	160.62
3	GUIDE	used	1201019672	6.82	9596	-0.170	0.003	0.122	0.224	85.312192	-68.770187	2027.67	-1685.39
4	GUIDE	used	1201020040	8.55	9593	-0.235	0.079	0.142	0.243	85.379163	-68.879396	1641.93	-1800.59
5	GUIDE	used	1201410616	9.29	9590	0.056	-0.394	0.157	0.272	82.516808	-69.784406	-1944.36	1511.31
6	GUIDE	used	1201542672	8.15	9594	0.045	0.176	0.133	0.222	84.492488	-69.957531	-2312.51	-986.85
7	GUIDE	used	1201540776	9.51	9593	0.290	0.138	0.229	0.348	85.107945	-69.858480	-1898.57	-1716.36

2.4 Star Slots

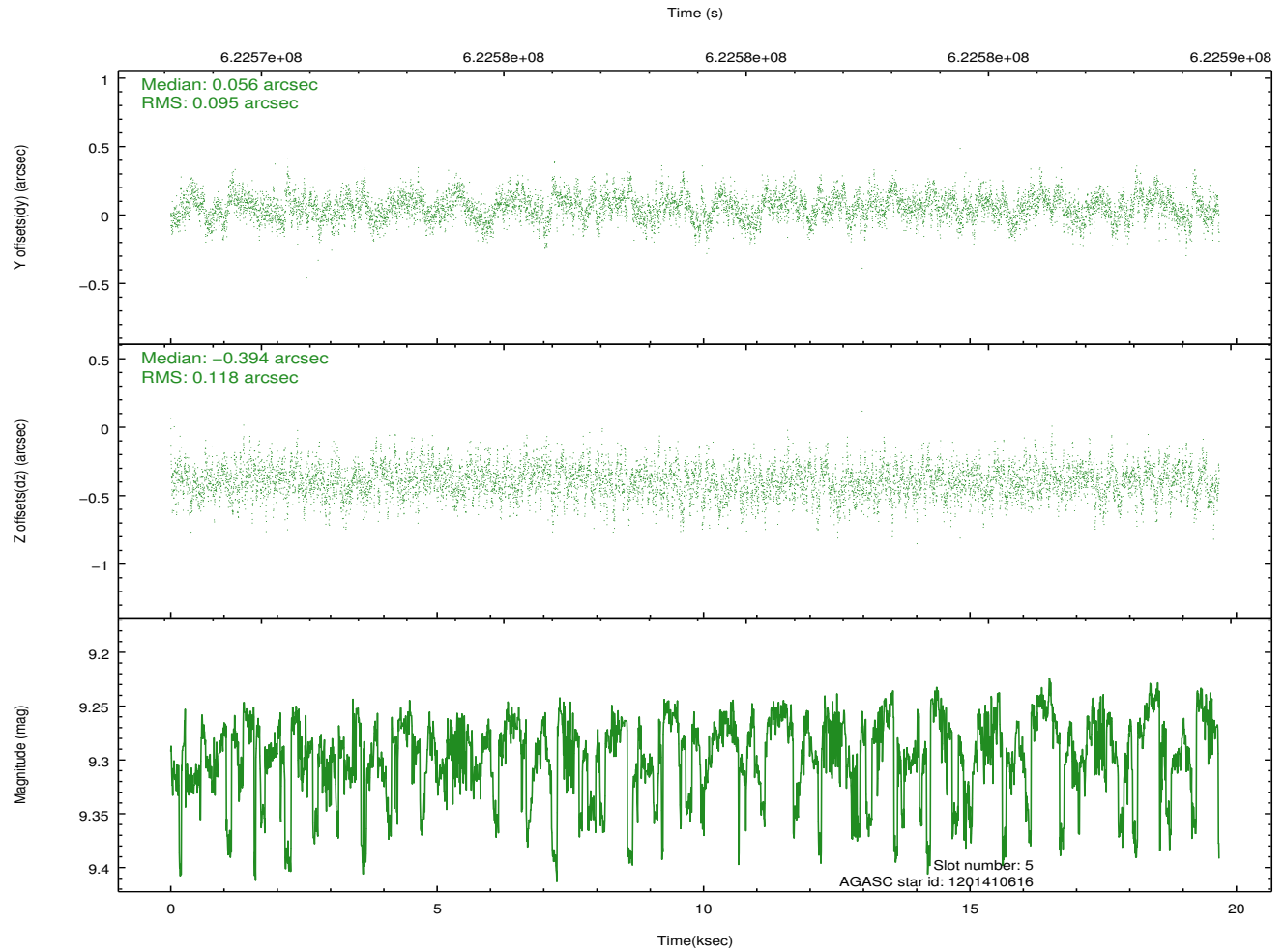
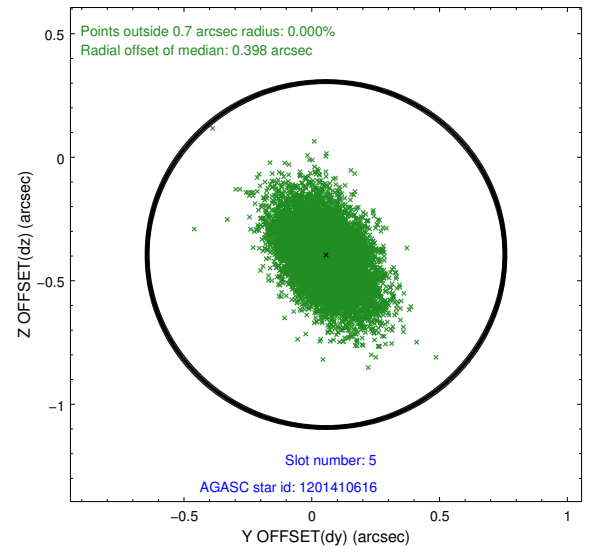
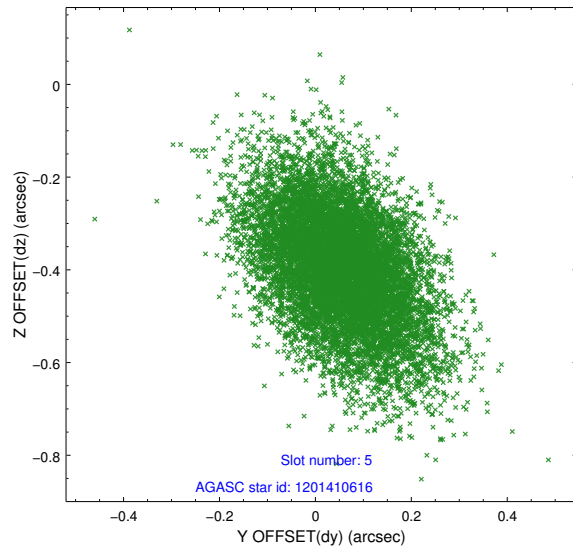
2.4.1 Slot 3



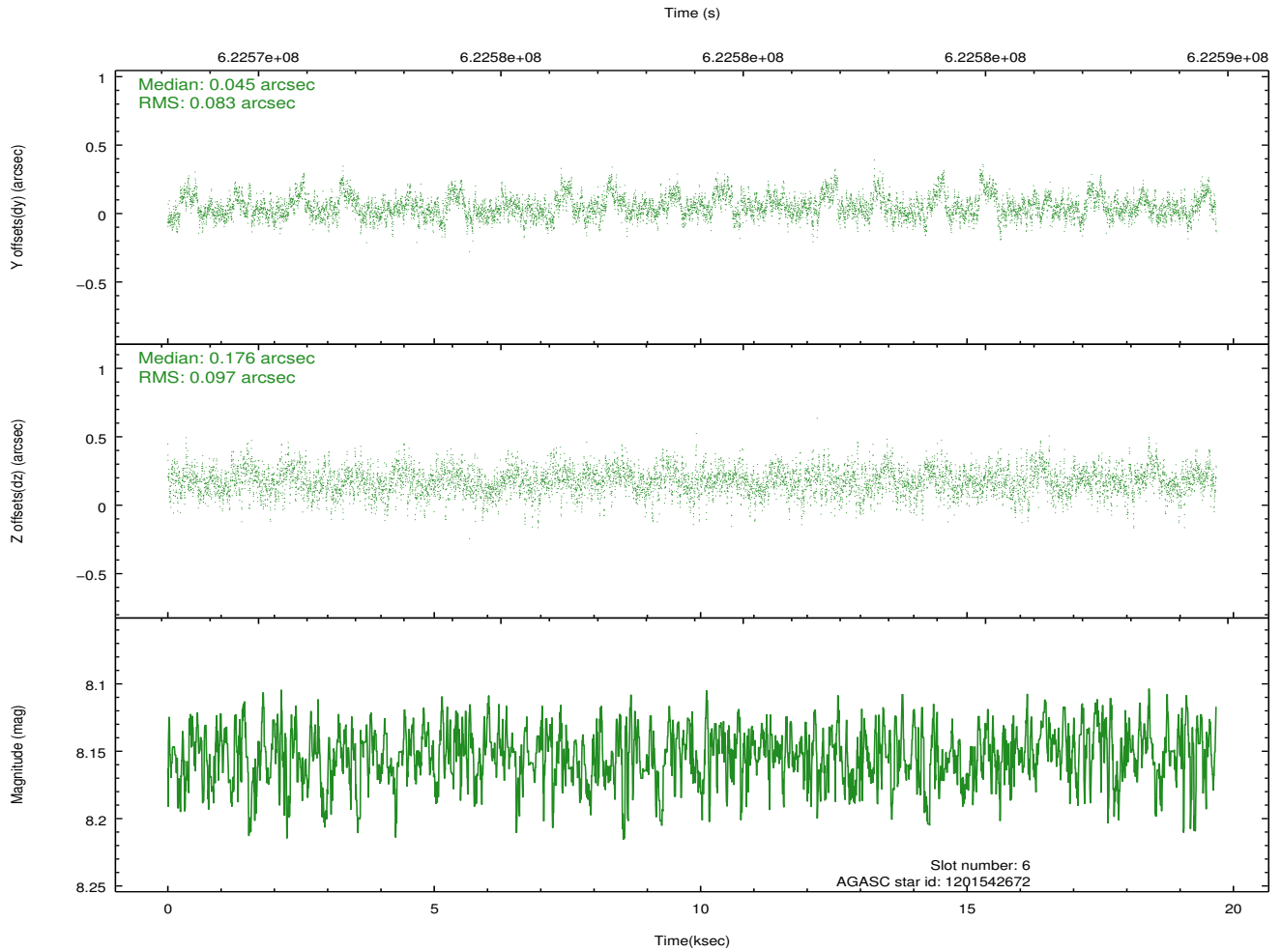
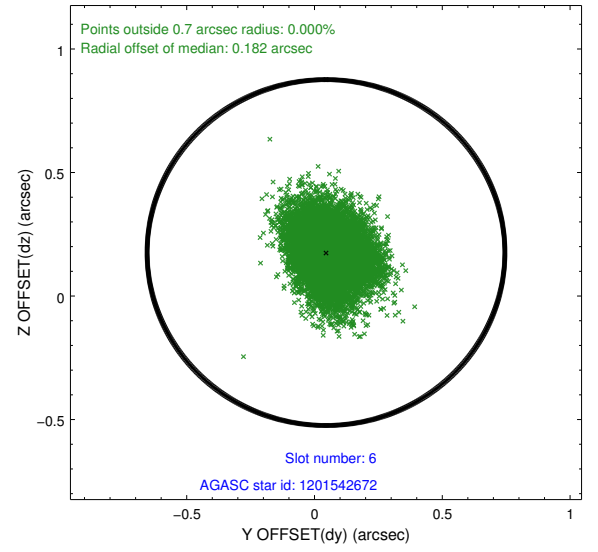
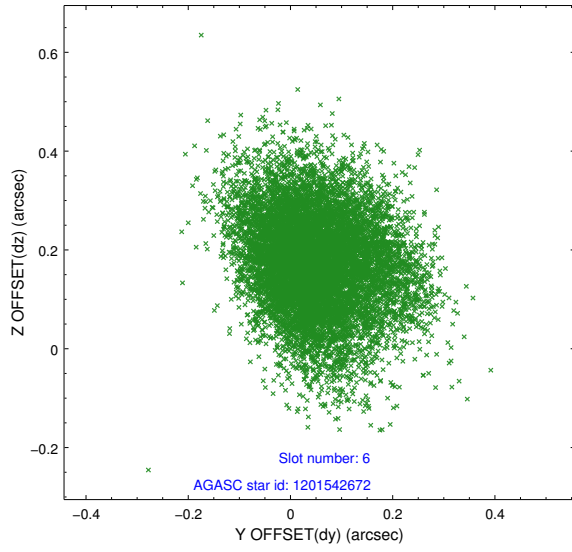
2.4.2 Slot 4



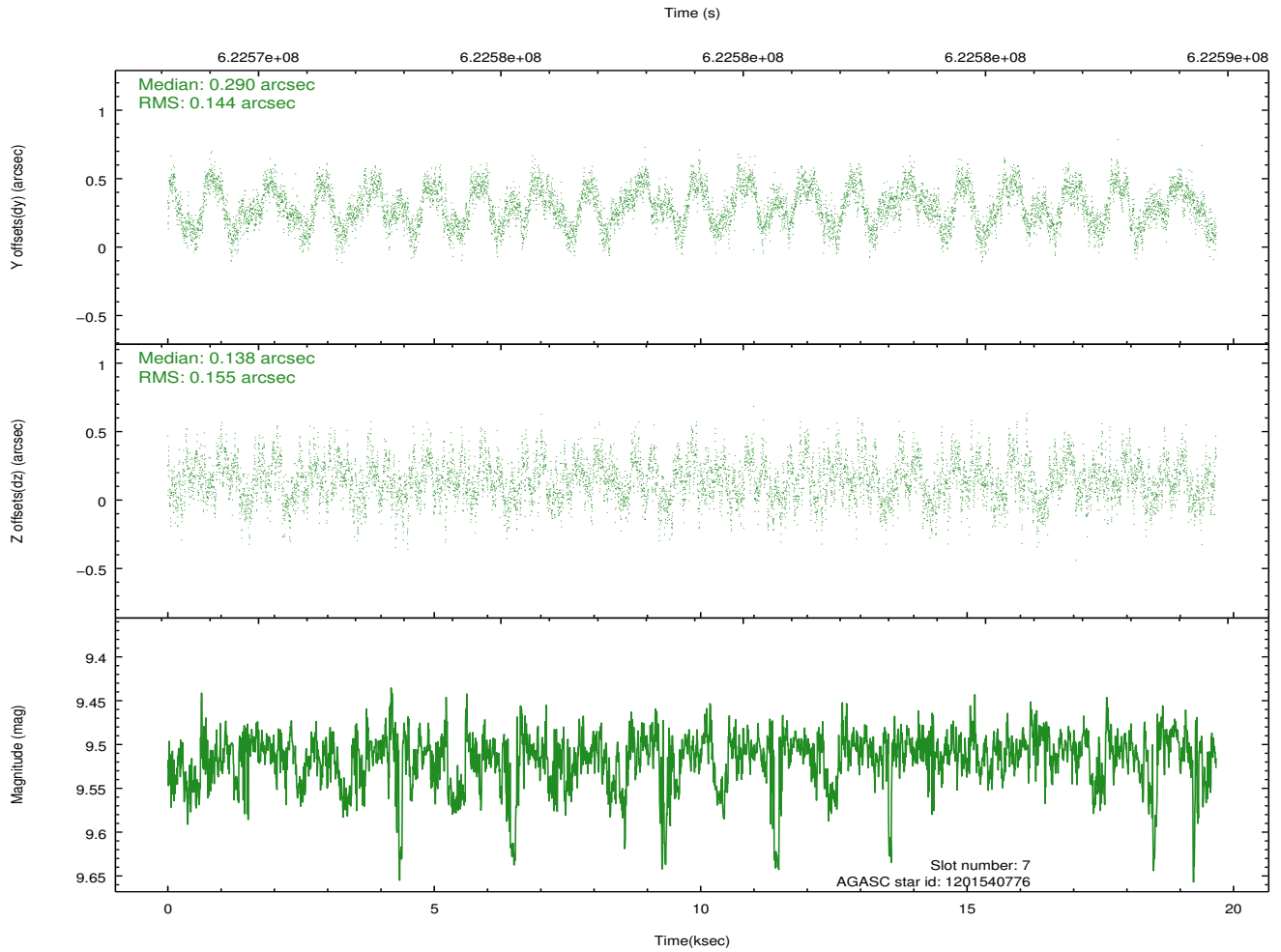
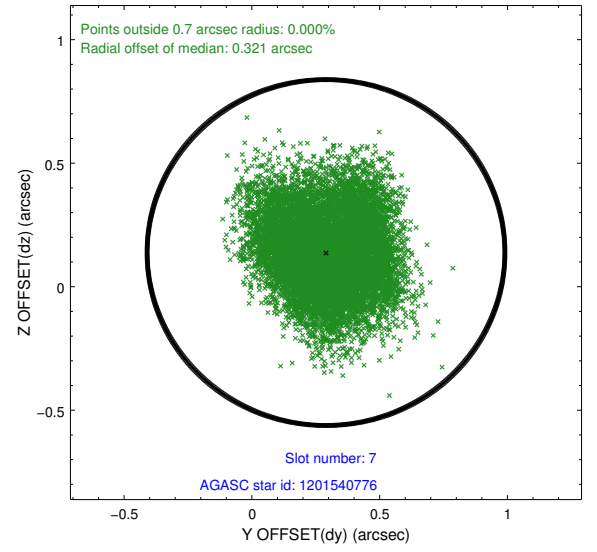
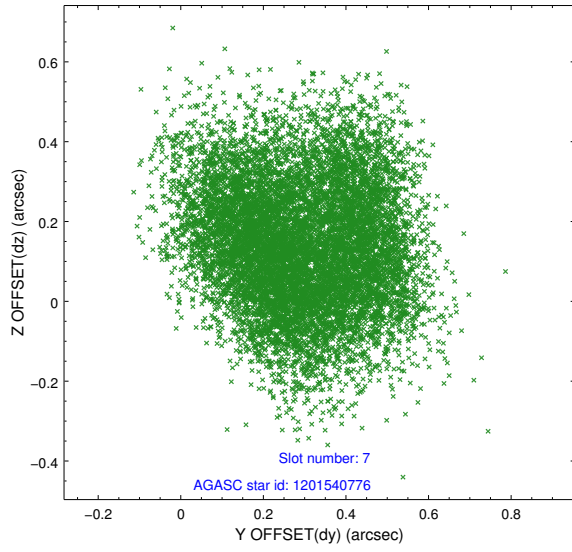
2.4.3 Slot 5



2.4.4 Slot 6

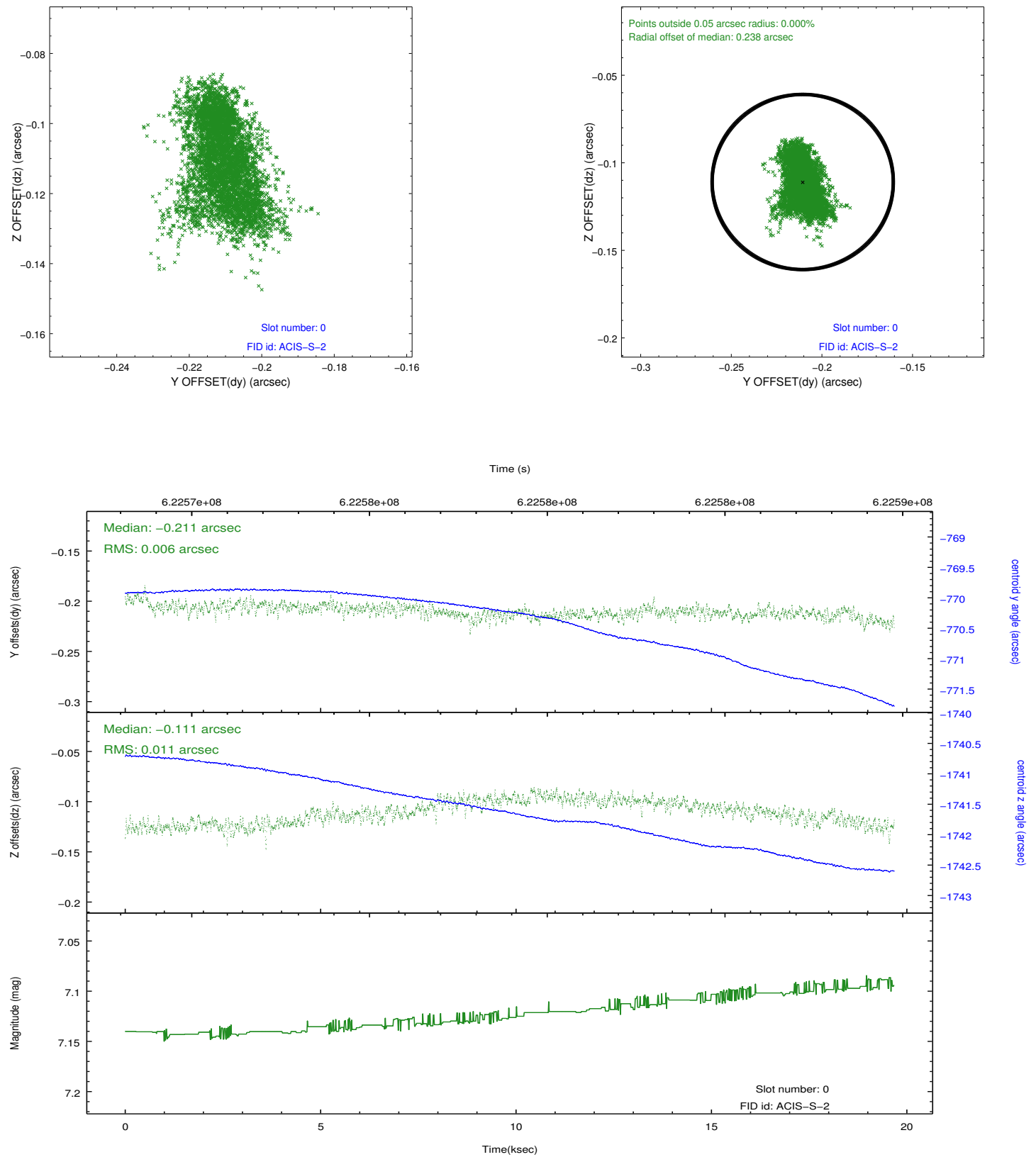


2.4.5 Slot 7

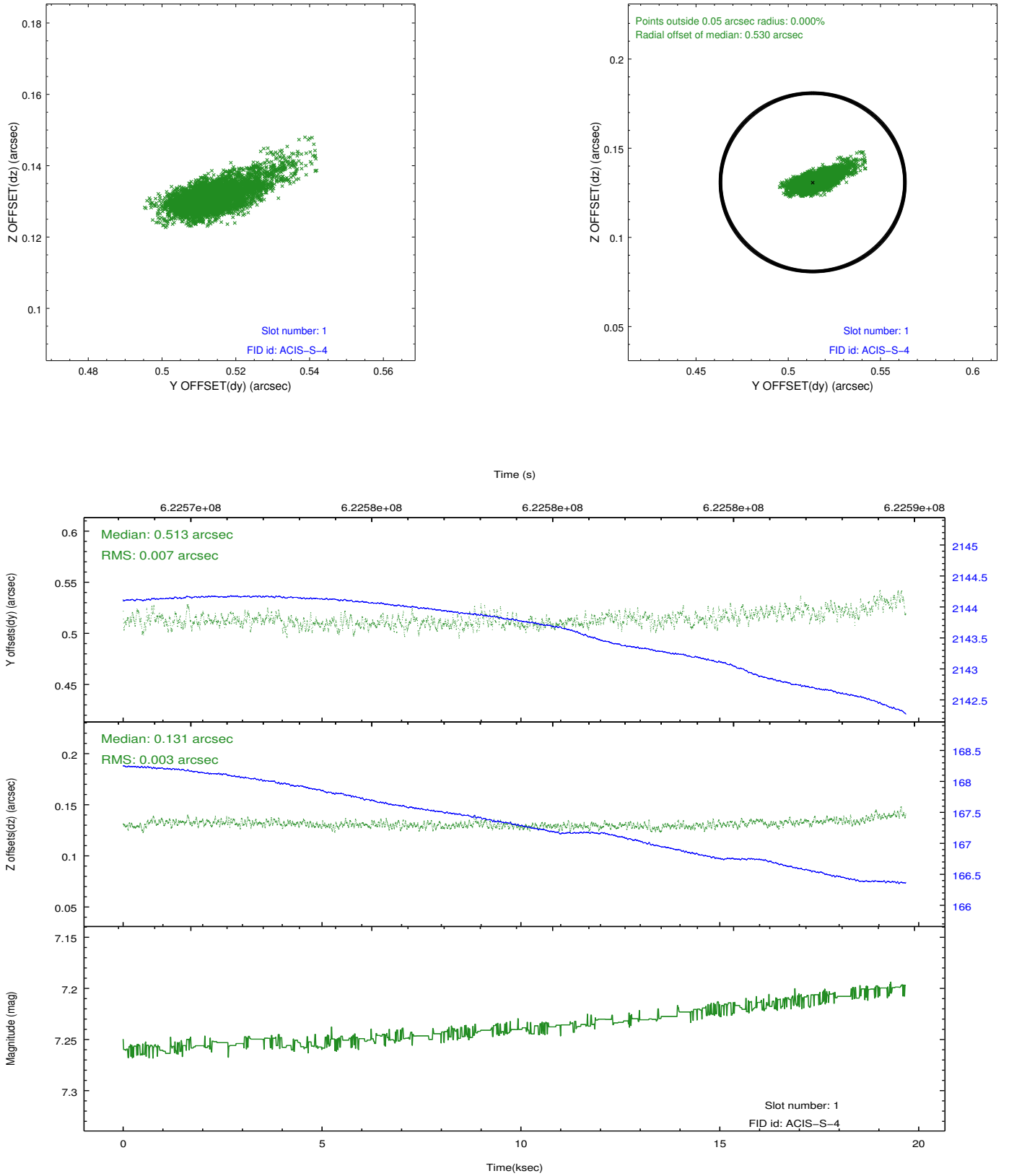


2.5 FID Slots

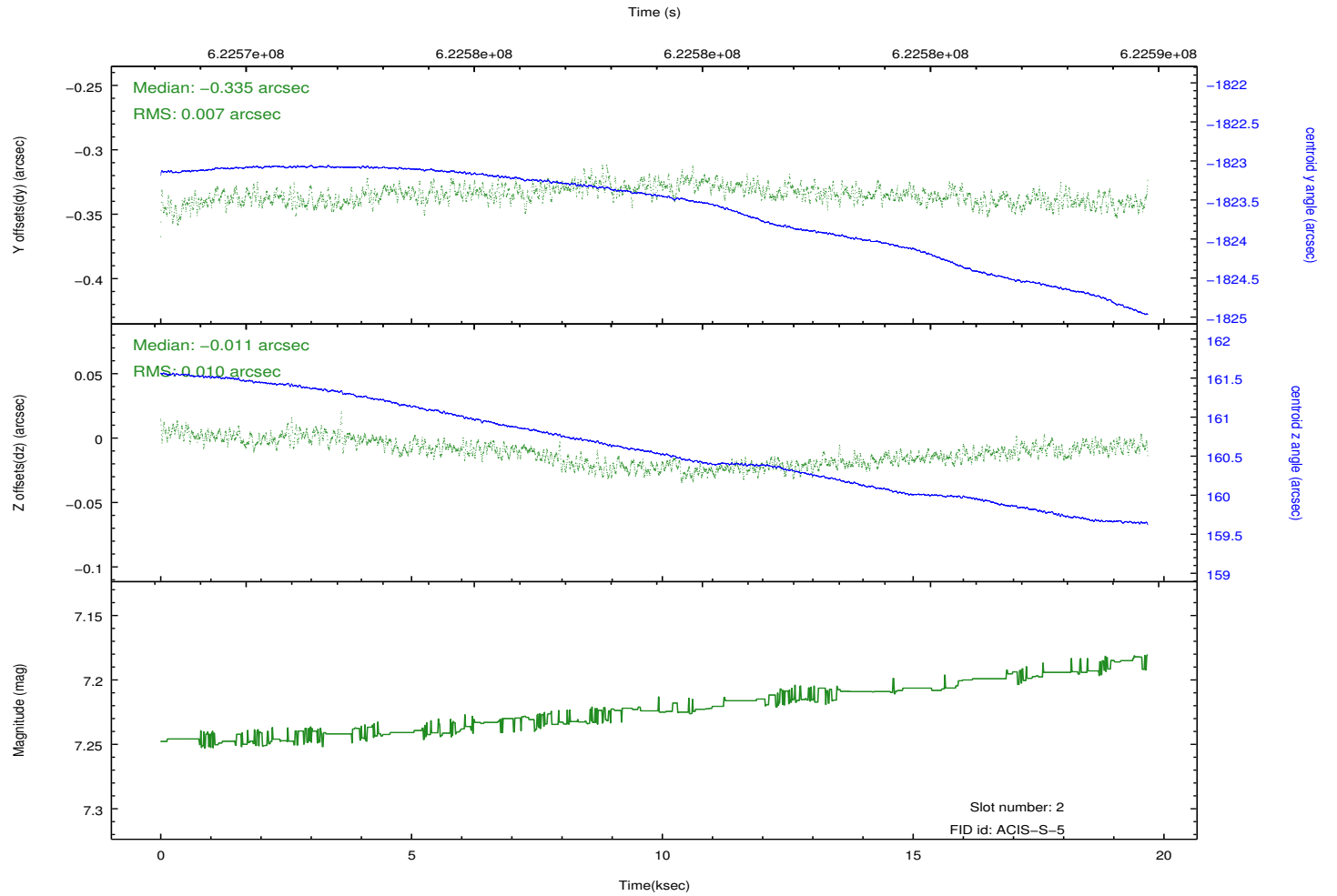
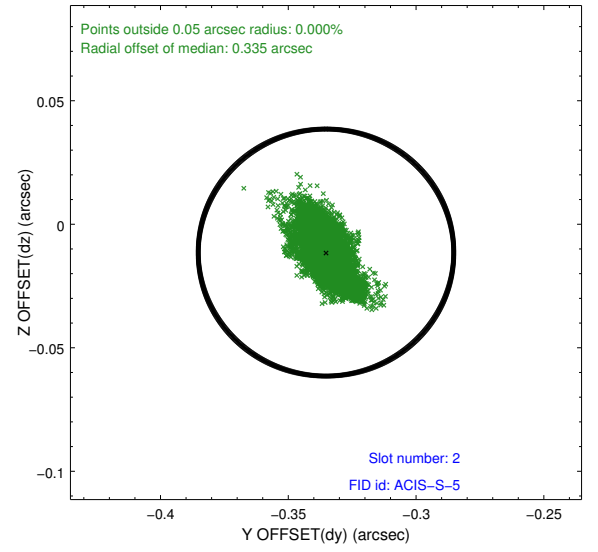
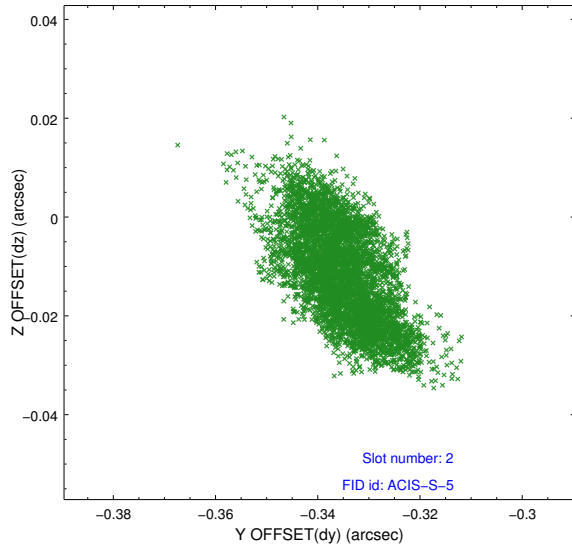
2.5.1 Slot 0



2.5.2 Slot 1

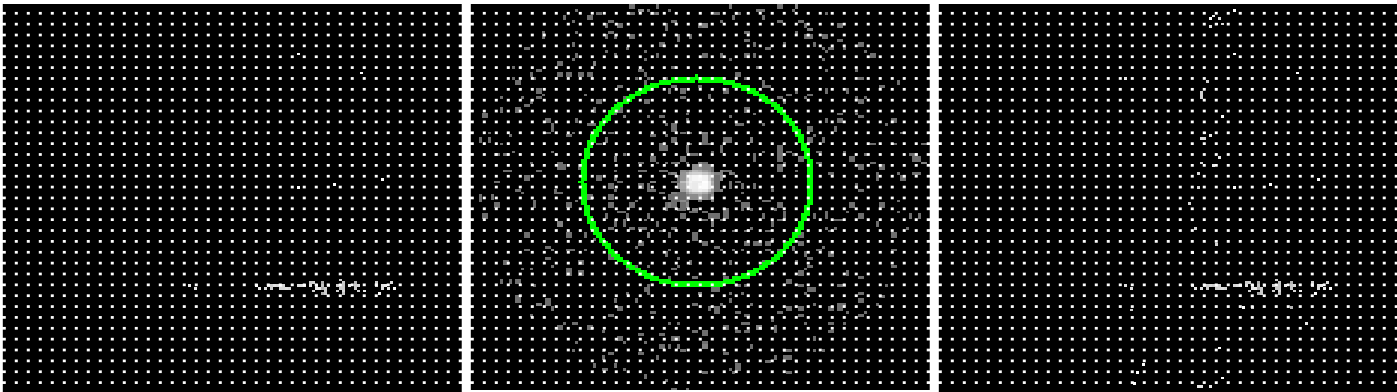


2.5.3 Slot 2



3 Gratings

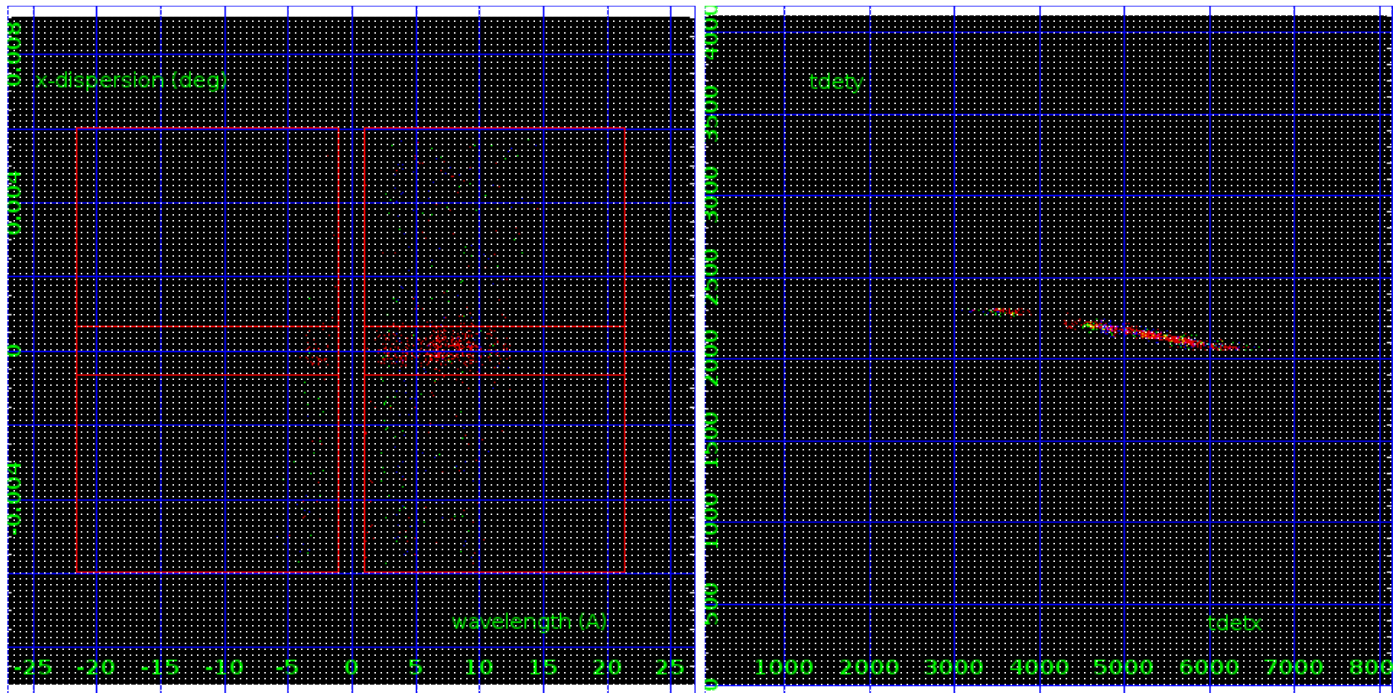
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

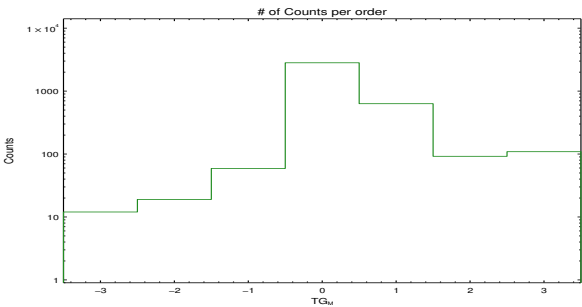
HEG Order Sort ALL

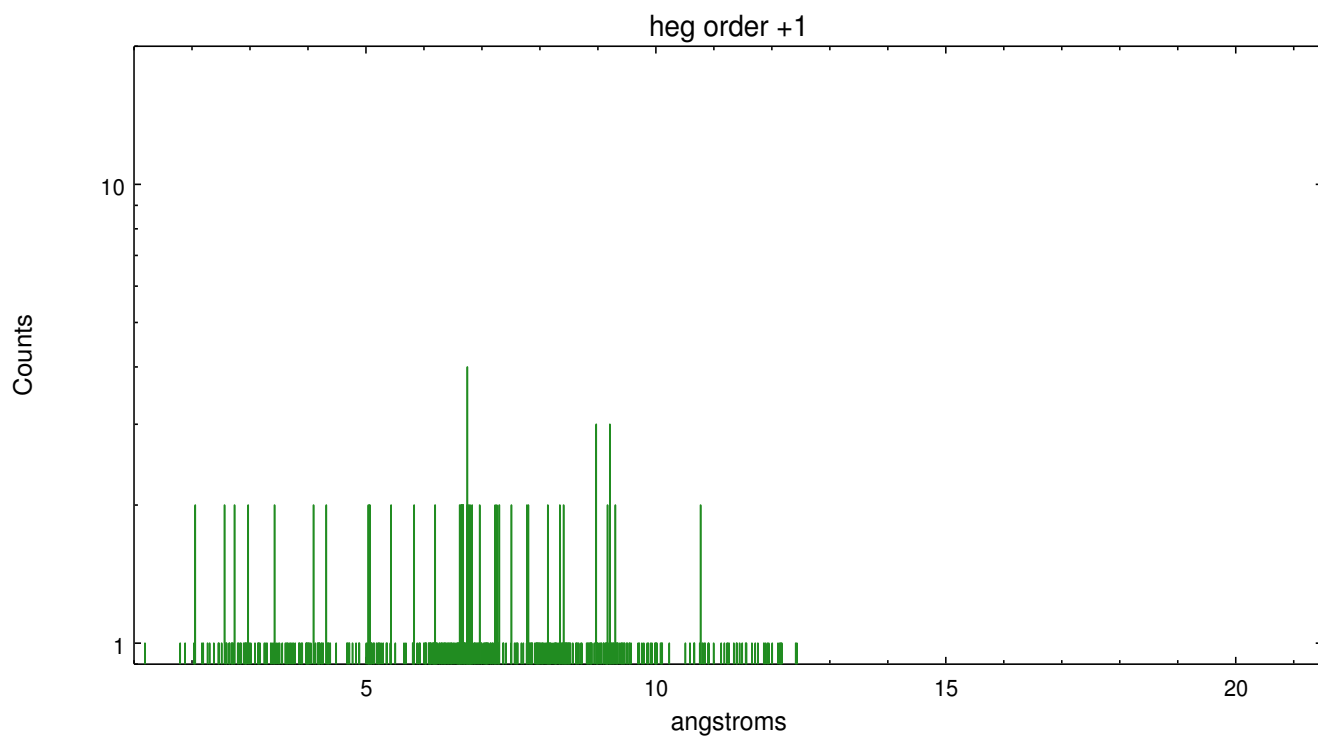
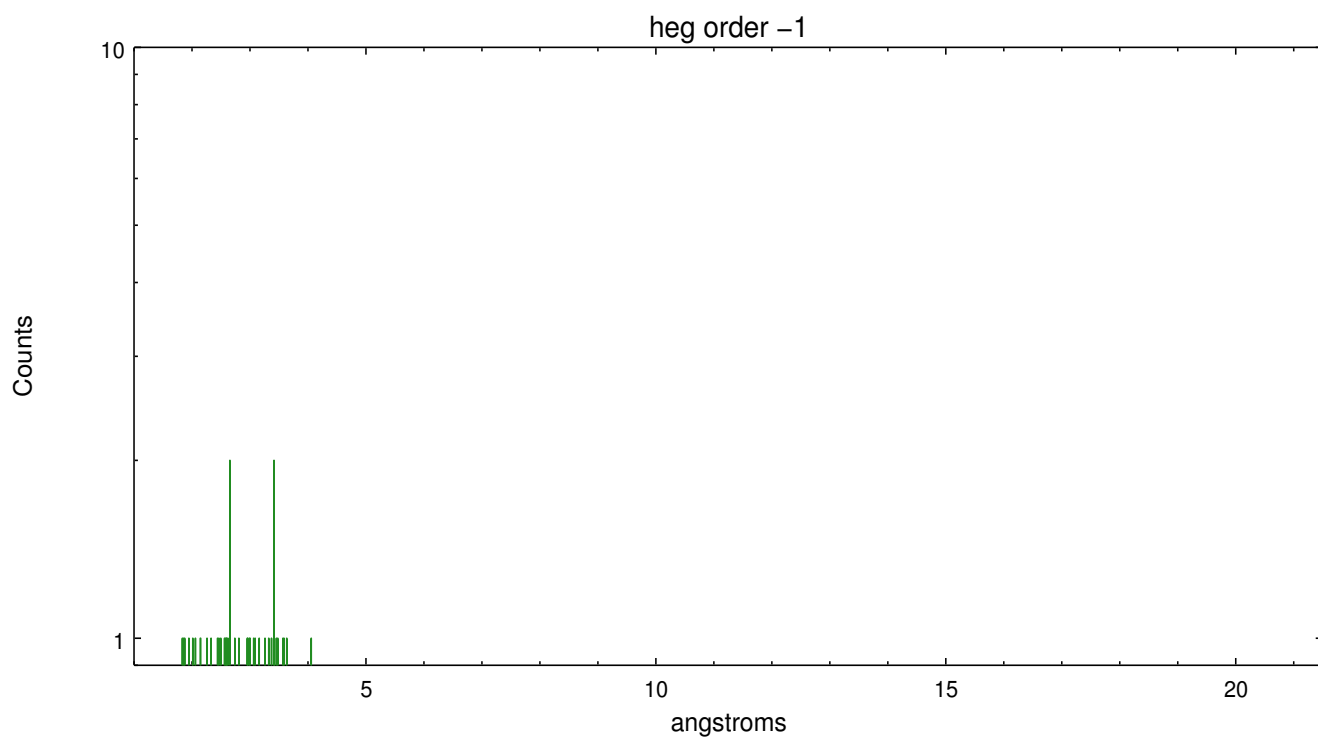


Spot Image HEG

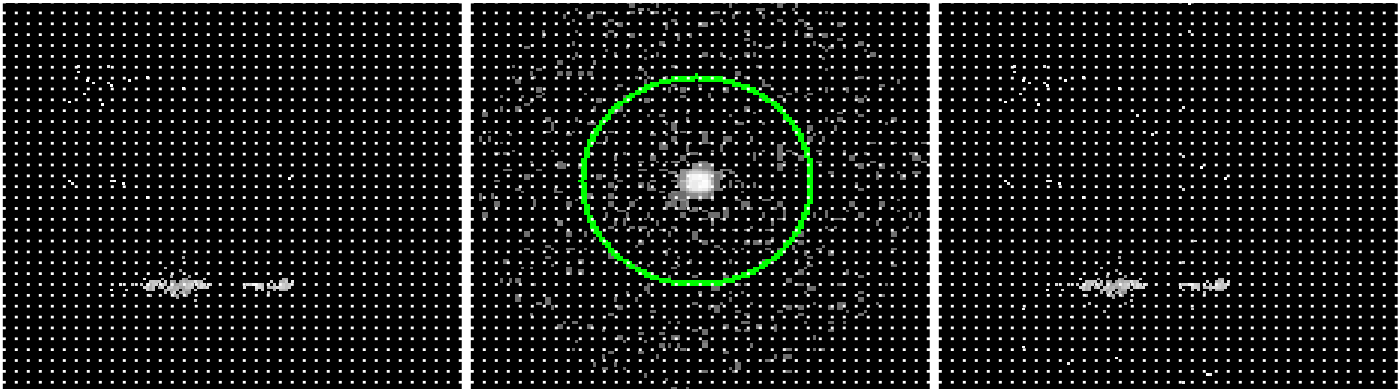
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	12	19	59	2819	631	92	109





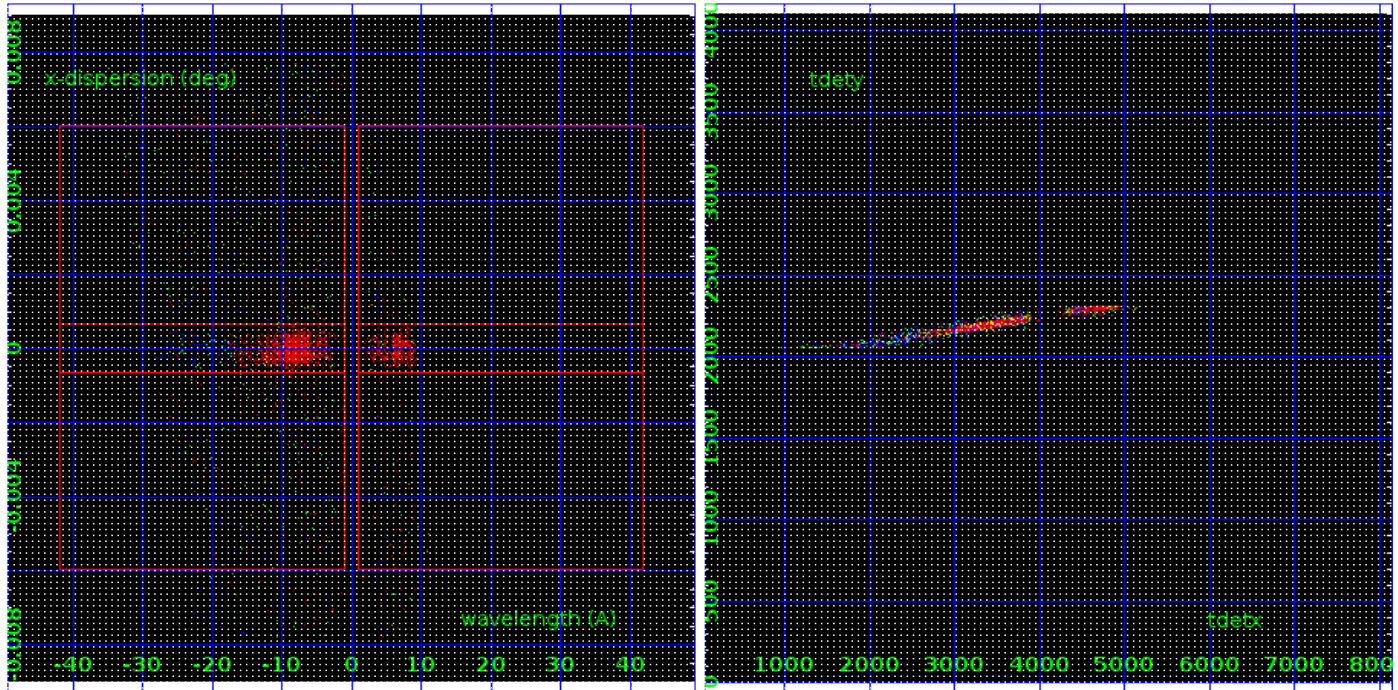
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

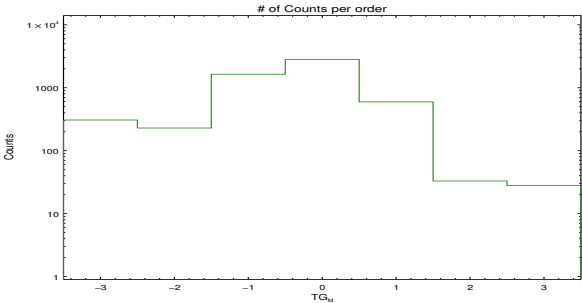
MEG Order Sort ALL

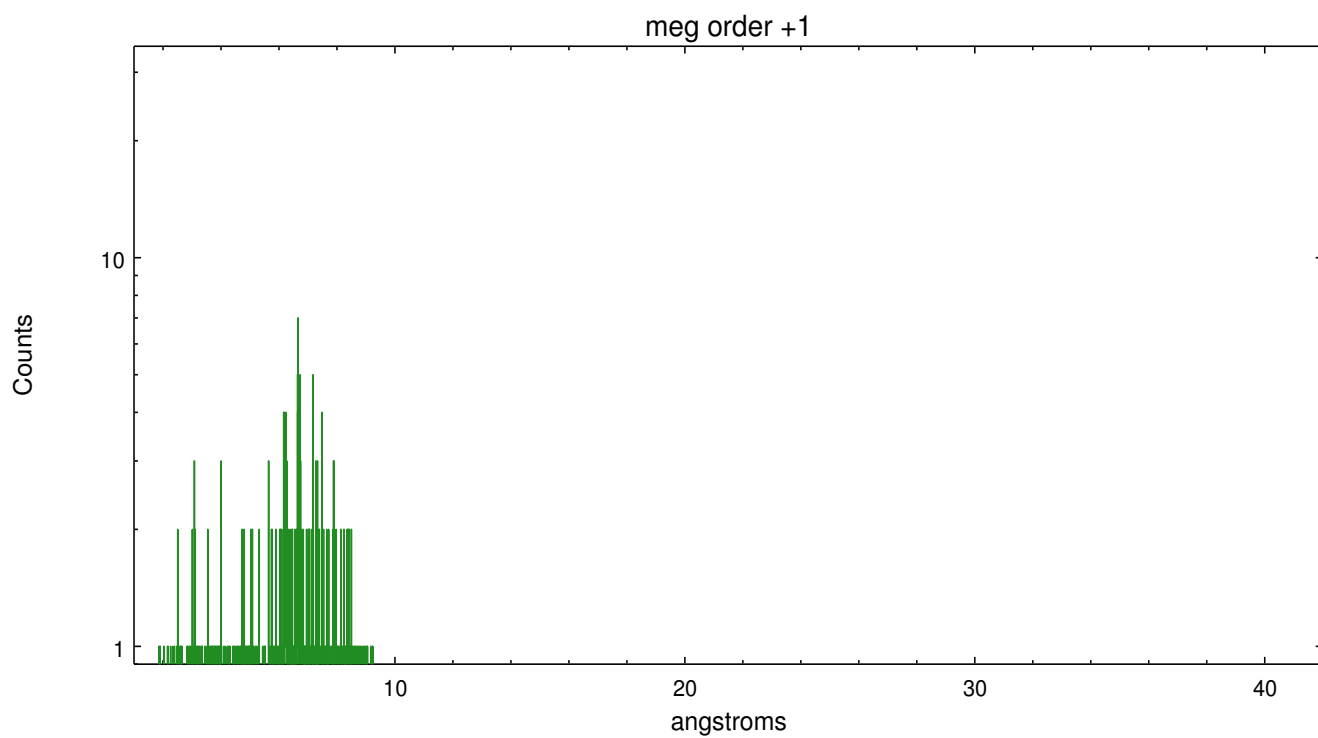
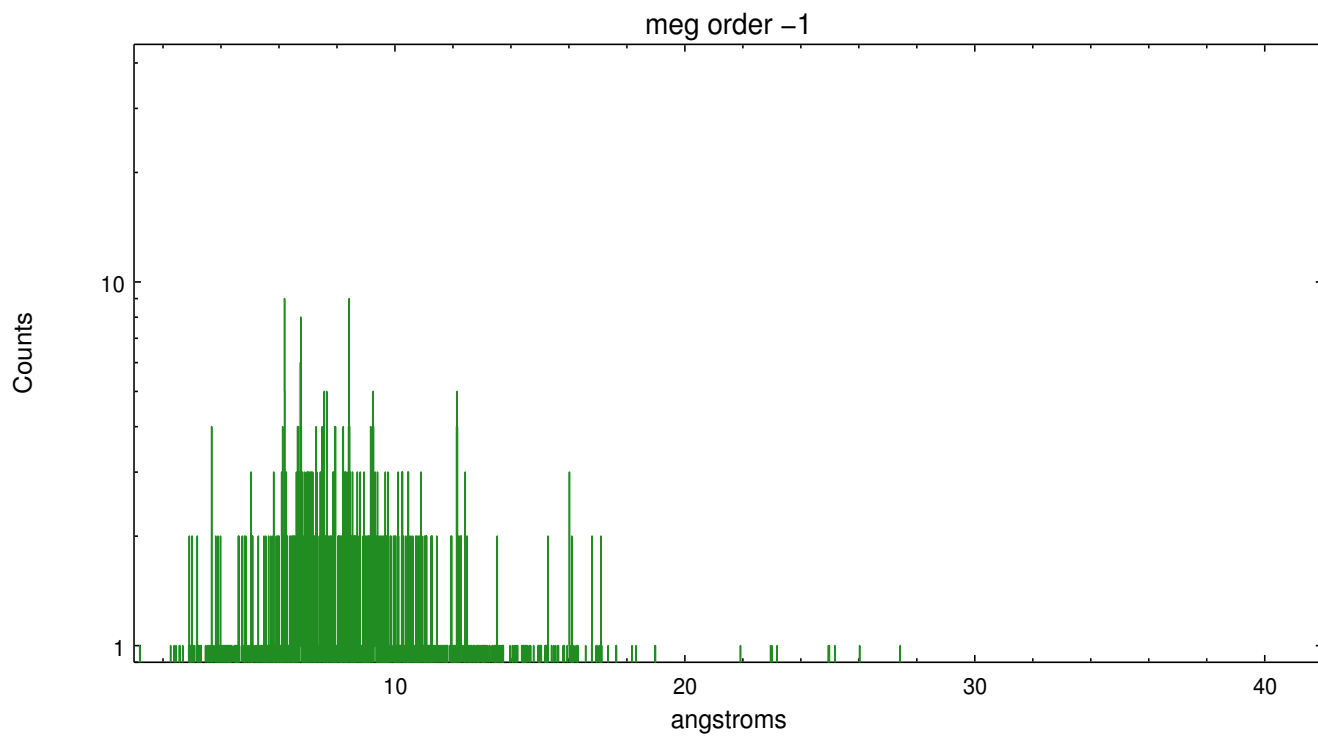


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	307	229	1638	2819	595	33	28





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2017.09.25
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.607160686255

A.2 Comments

Roll Constraint met.

WARNING: Zeroth order selected by pipeline tools is well-centered in the supernova remnant but is not at the position(s) of brightest emission. The user may want to select a region or source of interest, then use software tools such as CIAO to specify the coordinates of the zeroth order source of interest before running the tools to resolve the dispersed events.

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.