

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 10854 - L2 Version 2
Chandra X-Ray Center

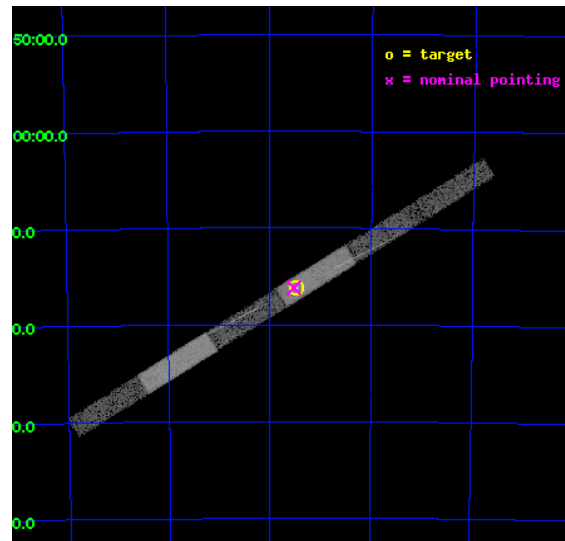
L2 Processing Date : May 29 2012

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1 Front

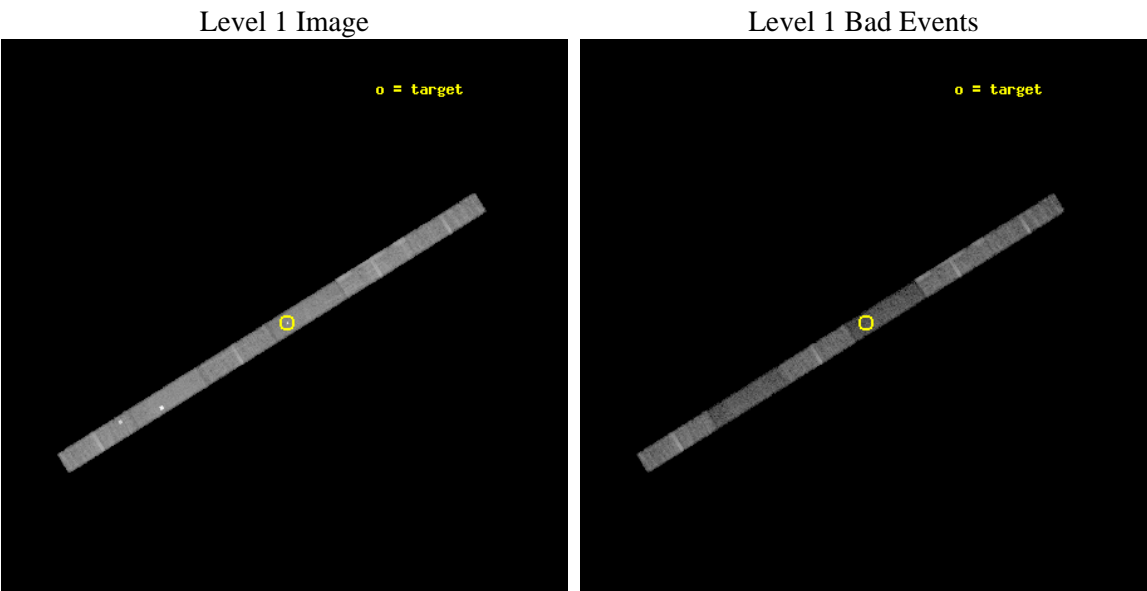
seq_num	501148	Sequence number
obs_id	10854	Observation id
title	Chandra Cycle 10 Spatial and Spectral Monitoring of SNR 1987A	Prop
observer	Prof. David Burrows	Principal investigator
object	SNR 1987A	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.866667	Observer's specified target RA [deg]
dec_targ	-69.26975	Observer's specified target Dec [deg]
ra_nom	83.880470421703	Nominal RA [deg]
dec_nom	-69.269736328575	Nominal Dec [deg]
roll_nom	328.16953285625	Nominal Roll [deg]
revision	2	Processing version of data
ontime	12432.200269461	Sum of GTIs [s]
livetime	11985.048987246	Livetime [s]
ontime4	12432.200269461	Sum of GTIs [s]
ontime5	12432.200269461	Sum of GTIs [s]
ontime6	12432.200269461	Sum of GTIs [s]
ontime7	12432.200269461	Sum of GTIs [s]
ontime8	12432.200269461	Sum of GTIs [s]
ontime9	12432.200269461	Sum of GTIs [s]
l2events	43743	Number of level 2 events



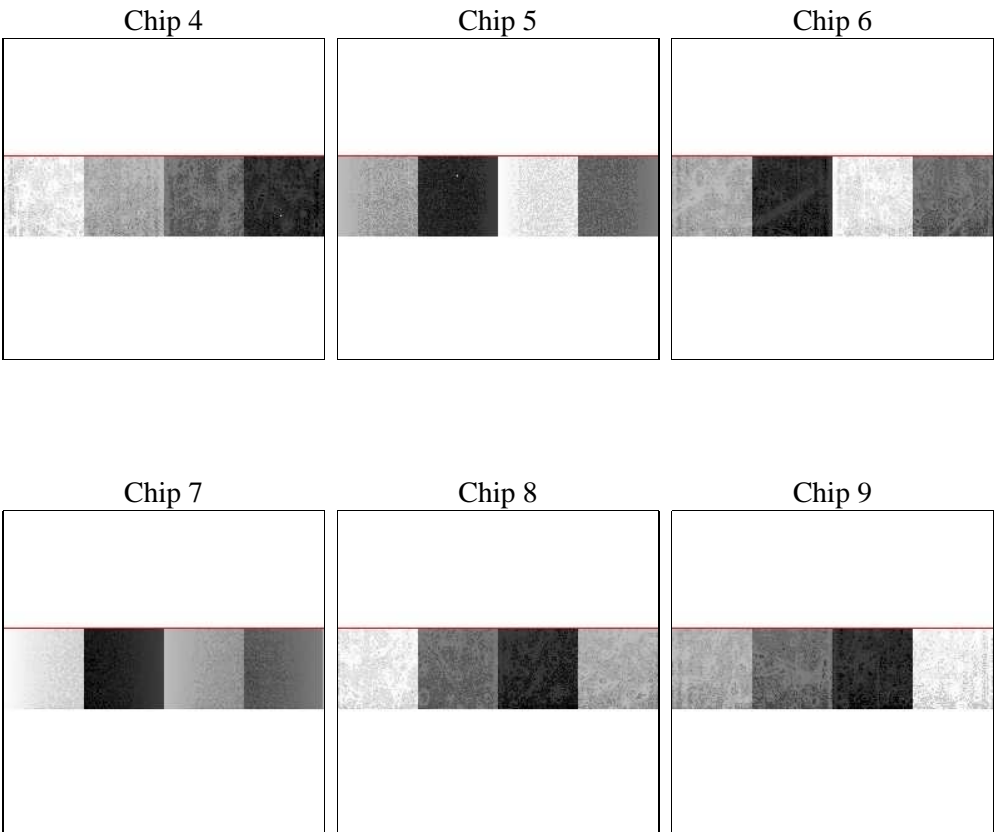
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



Chip 7



Chip 8



Chip 9



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	12250.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	12432.200269461	Sum of GTIs [s]
caldsver	4.4.9	 	ontime4	12432.200269461	Sum of GTIs [s]
date	2012-05-29T01:52:51	Date and time of file creation	ontime5	12432.200269461	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	12432.200269461	Sum of GTIs [s]
			ontime7	12432.200269461	Sum of GTIs [s]
			ontime8	12432.200269461	Sum of GTIs [s]
			ontime9	12432.200269461	Sum of GTIs [s]
			l1events	211236	Number of level 1 events

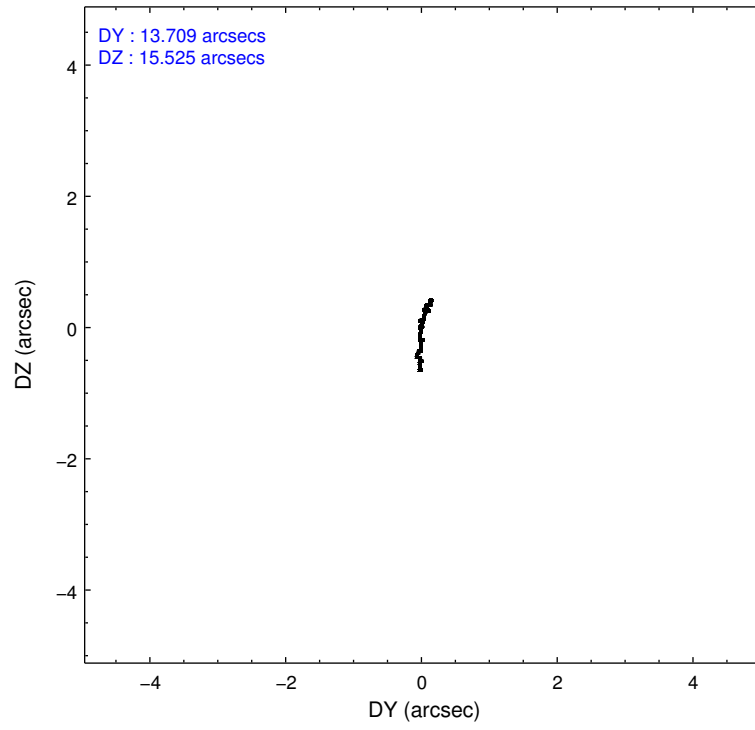
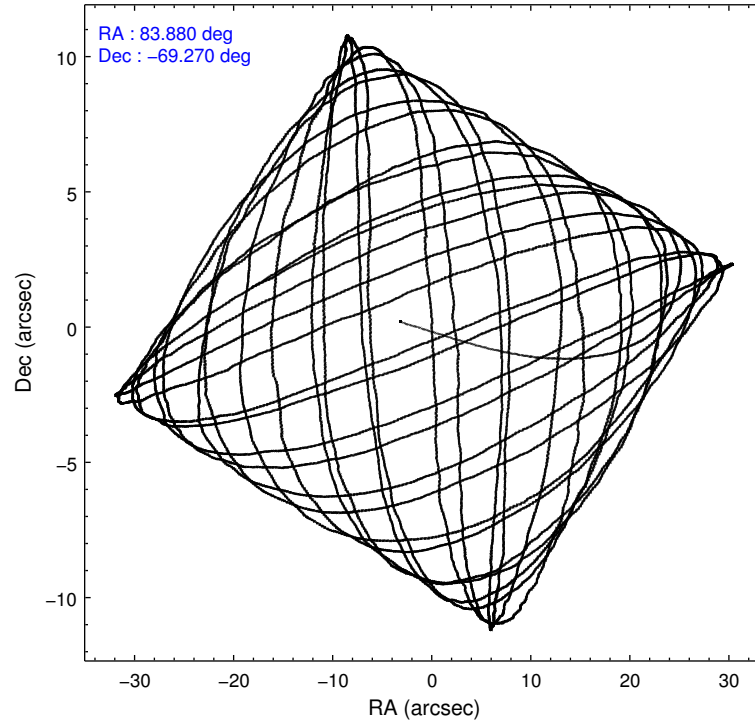
2.1.4 Events

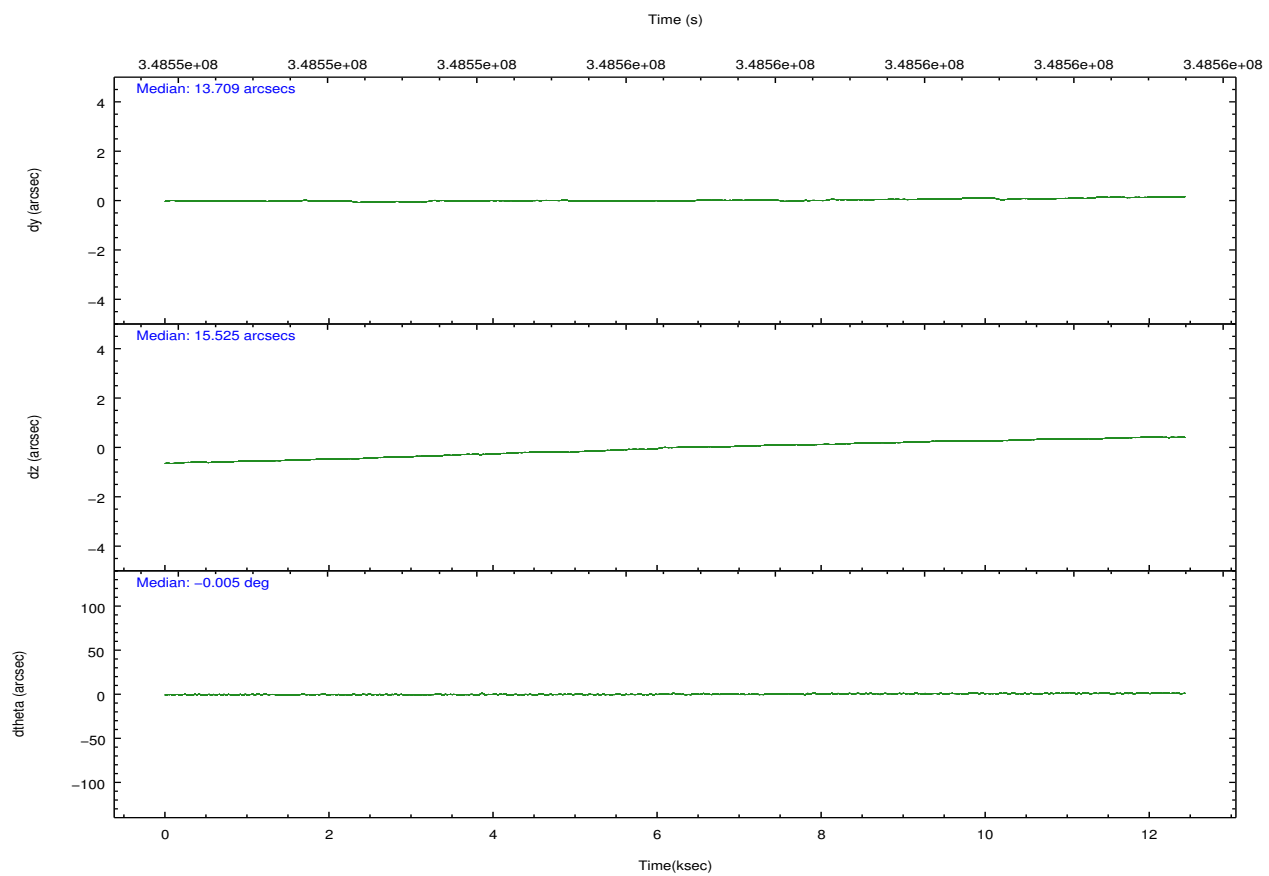
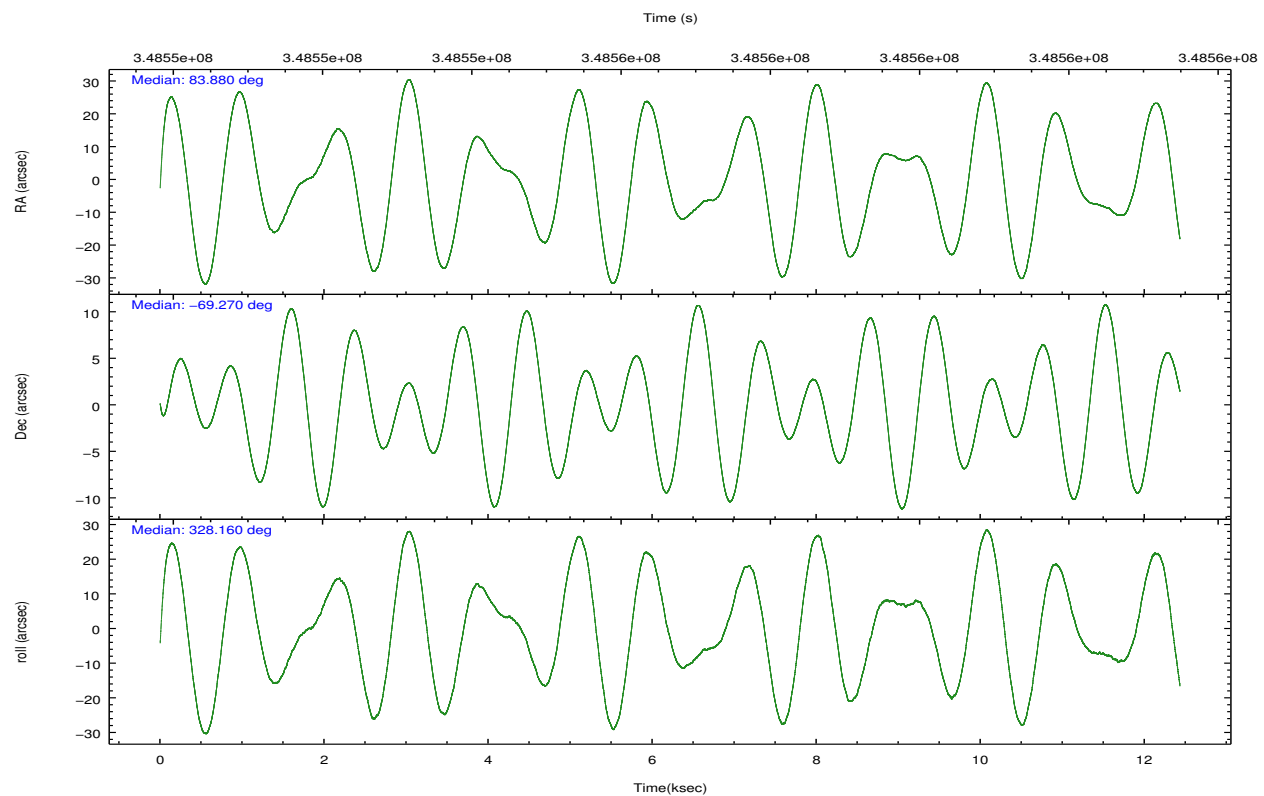
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	37635	44313	31179	28917	41185	28007	grade 0 events	3722	11698	1792	2132	2633	954
rejected events	31662	16165	27109	13307	31908	25034		9%	26%	5%	7%	6%	3%
rejected %	84%	36%	86%	46%	77%	89%	grade 1 events	39	90	7	42	21	13
								0%	0%	0%	0%	0%	0%
							grade 2 events	770	5836	740	3671	2041	533
								2%	13%	2%	12%	4%	1%
							grade 3 events	529	1232	513	1790	989	501
								1%	2%	1%	6%	2%	1%
							grade 4 events	506	1177	502	1782	948	460
								1%	2%	1%	6%	2%	1%
							grade 5 events	972	3122	928	2857	1340	1016
								2%	7%	2%	9%	3%	3%
							grade 6 events	539	8593	574	6451	2787	570
								1%	19%	1%	22%	6%	2%
							grade 7 events	30558	12565	26123	10192	30426	23960
								81%	28%	83%	35%	73%	85%

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	83.803119	83.88047042170311	CCD I2 on	N	N
[deg] Pointing Dec	-69.269250	-69.26973632857516	CCD I3 on	N	N
[deg] Pointing Roll	327.940565	328.1695328562475	CCD S0 on	O1	Y
[s] Window start time (MET)	347155266.184000	347155266.184000	CCD S1 on	Y	Y
[s] Window stop time (MET)	349747266.184000	349747266.184000	CCD S2 on	Y	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S3 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S4 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S5 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	Number of optional ACIS chips dropped	0	0
[s] Observation start time (MET)	348550619.184000	348549583.87915	On-chip summing requested	N	N
Observation start date	2009-01-17T03:35:53	2009-01-17T03:19:43	Subarray requested	CUSTOM	1/4
[s] Observation end time (MET)	348562869.184000	348563659.17984	Subarray start row	393	393
Observation end date	2009-01-17T07:00:03	2009-01-17T07:14:19	Subarray row count	256	256
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	1.1

2.3 Aspect



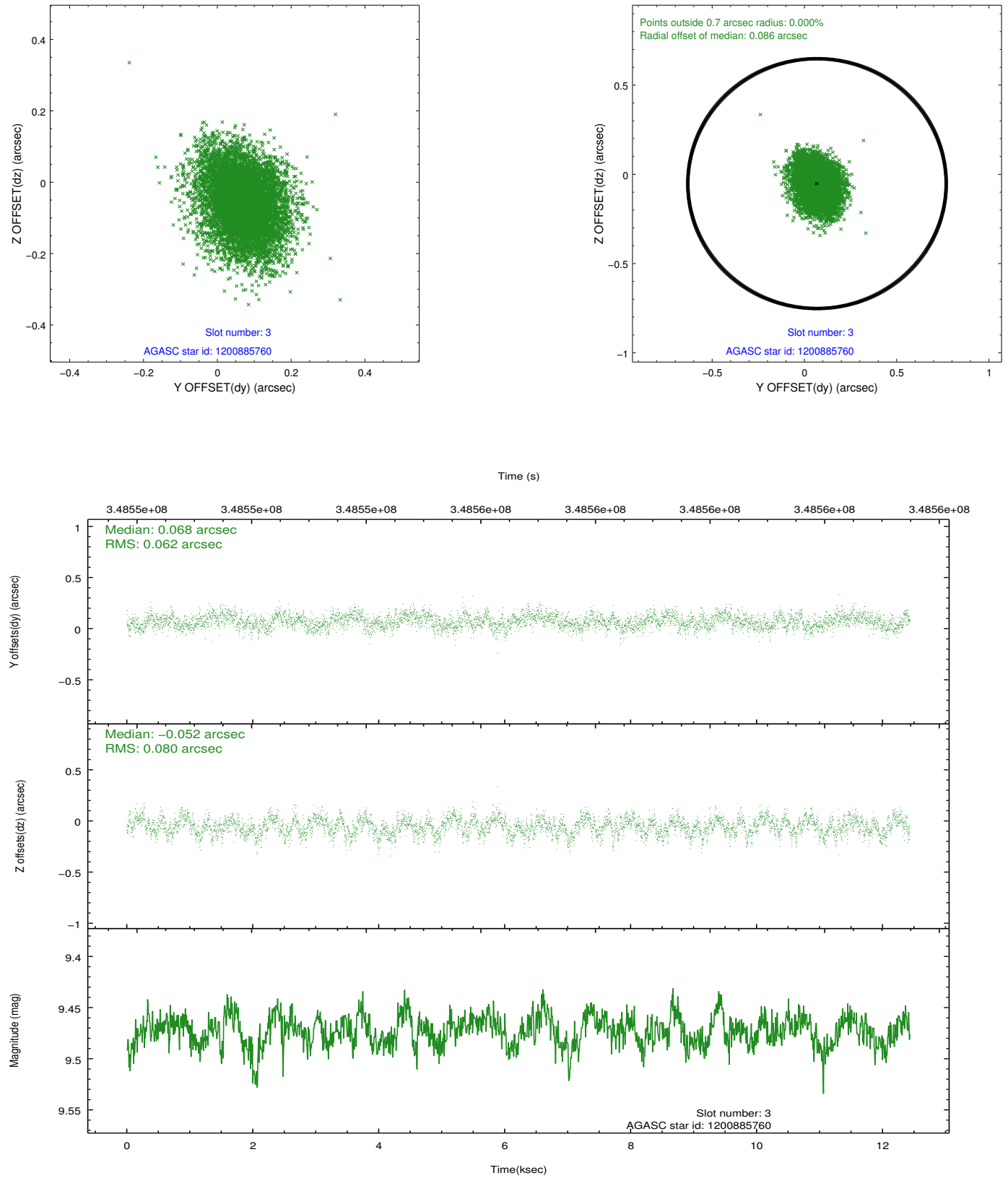


Slot Statistics

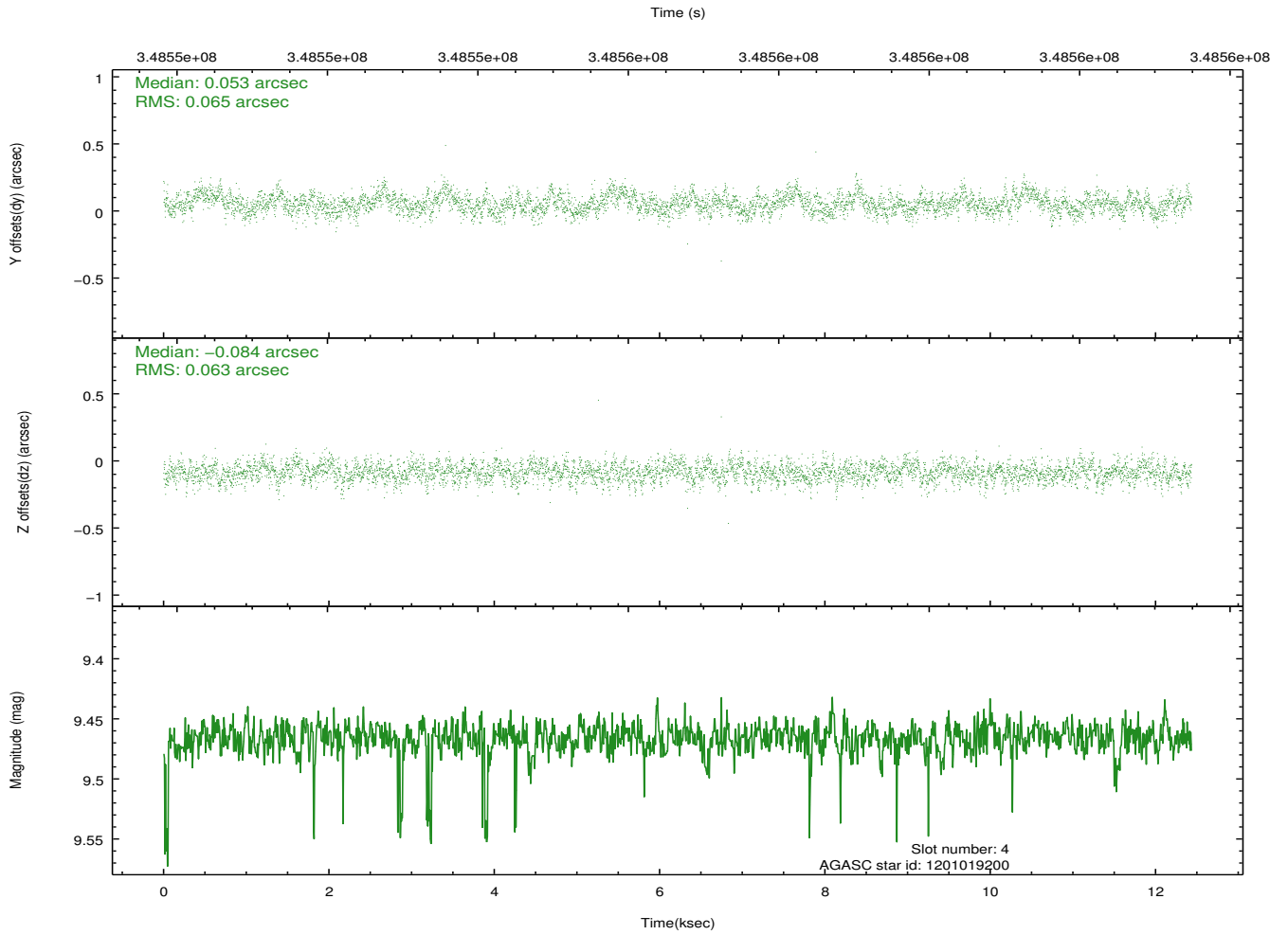
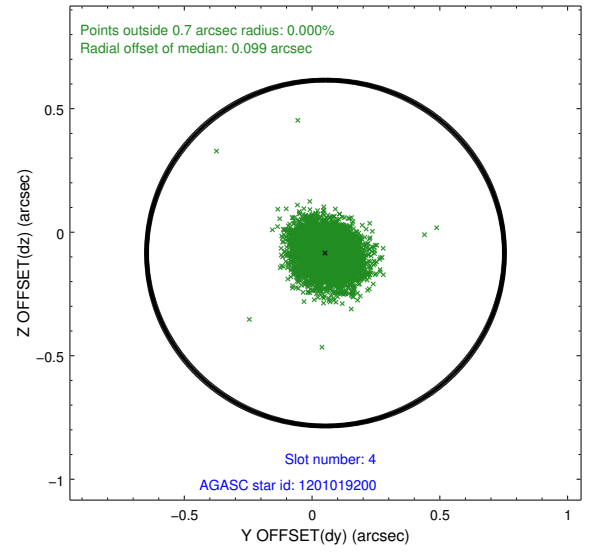
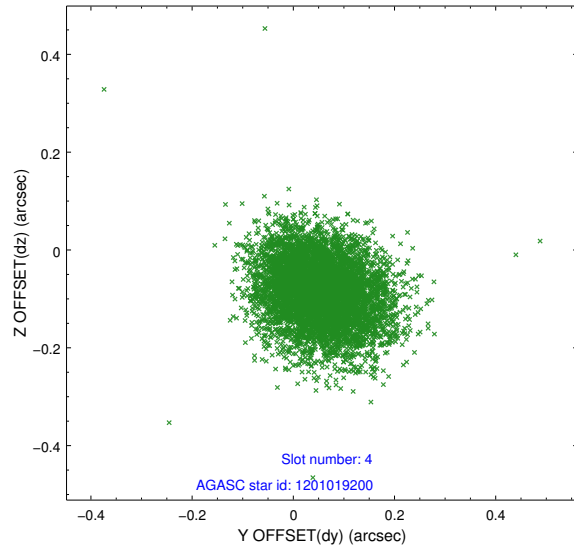
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.88	3033	-0.062	-0.017	0.008	0.013	0.000000	0.000000	-766.70	-1736.88
1	FID	ACIS-S-4	6.97	3031	0.197	0.035	0.006	0.010	0.000000	0.000000	2146.63	171.28
2	FID	ACIS-S-5	6.99	3033	-0.166	-0.009	0.007	0.011	0.000000	0.000000	-1819.16	165.31
3	GUIDE	1200885760	9.47	6060	0.068	-0.052	0.108	0.174	83.723637	-68.777667	-1027.04	1444.57
4	GUIDE	1201019200	9.47	6046	0.053	-0.084	0.095	0.154	84.213591	-68.777384	-485.89	1783.23
5	GUIDE	1201542672	8.20	6062	-0.077	0.044	0.080	0.132	84.492488	-69.957531	2038.45	-1650.33
6	GUIDE	1200884248	9.47	6049	-0.022	-0.208	0.121	0.192	83.880915	-68.565170	-1258.49	2202.12
7	GUIDE	1201410616	9.33	6057	-0.022	0.304	0.130	0.201	82.516808	-69.784406	-362.49	-2434.63

2.4 Star Slots

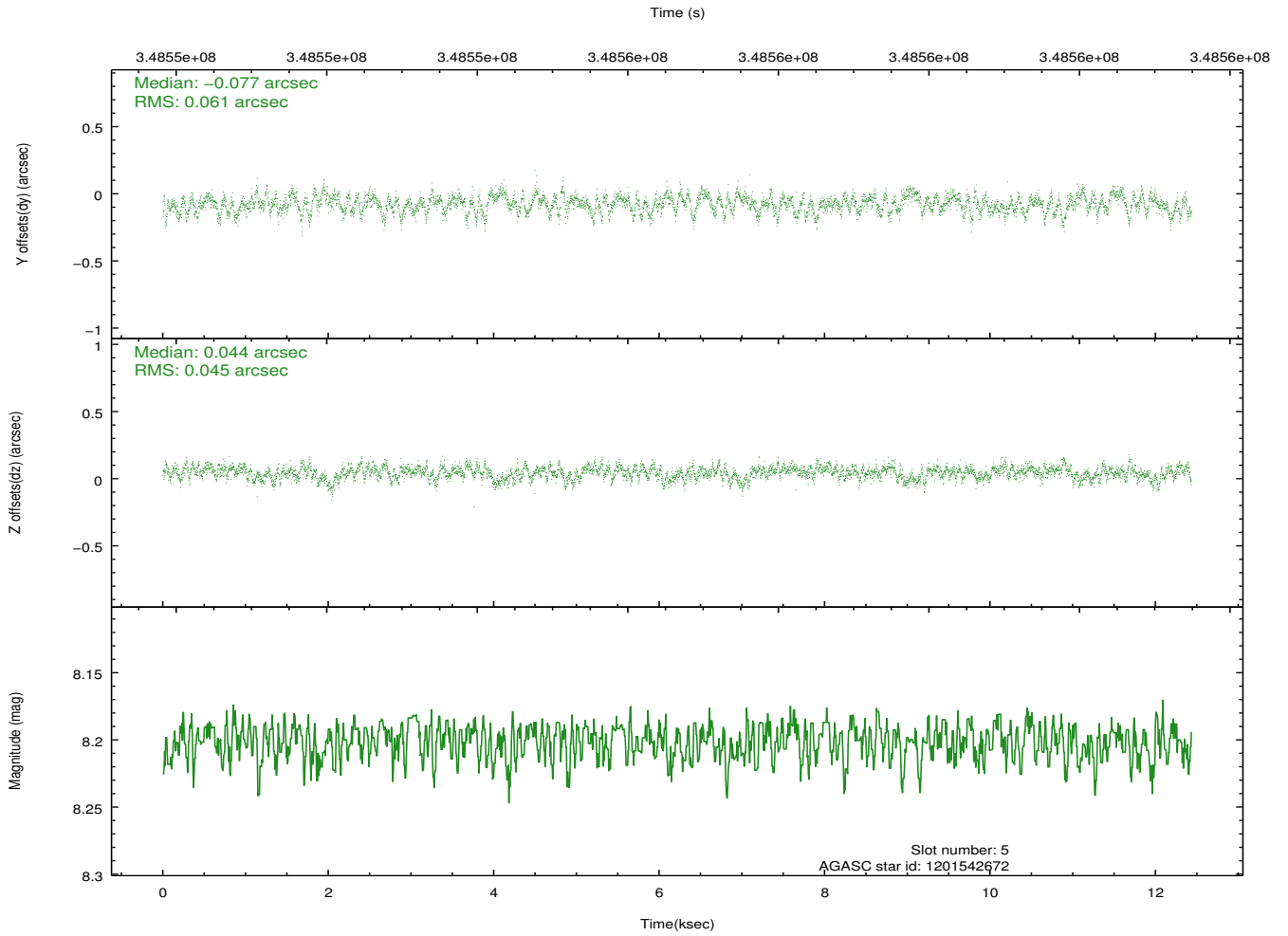
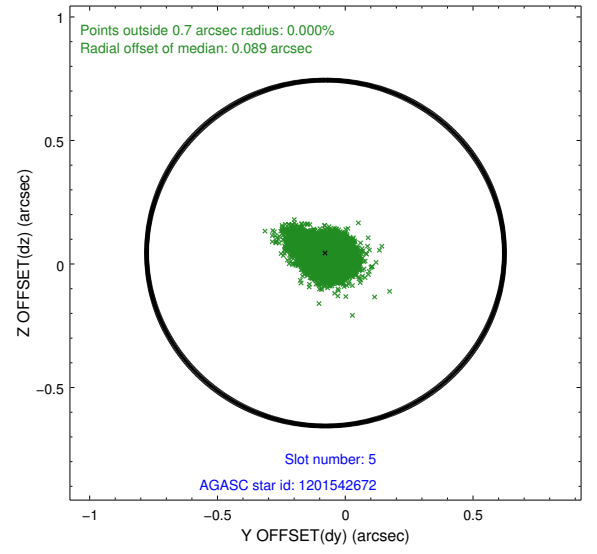
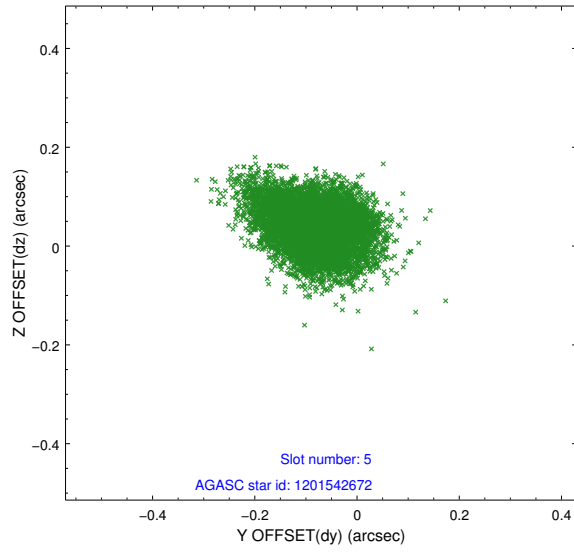
2.4.1 Slot 3



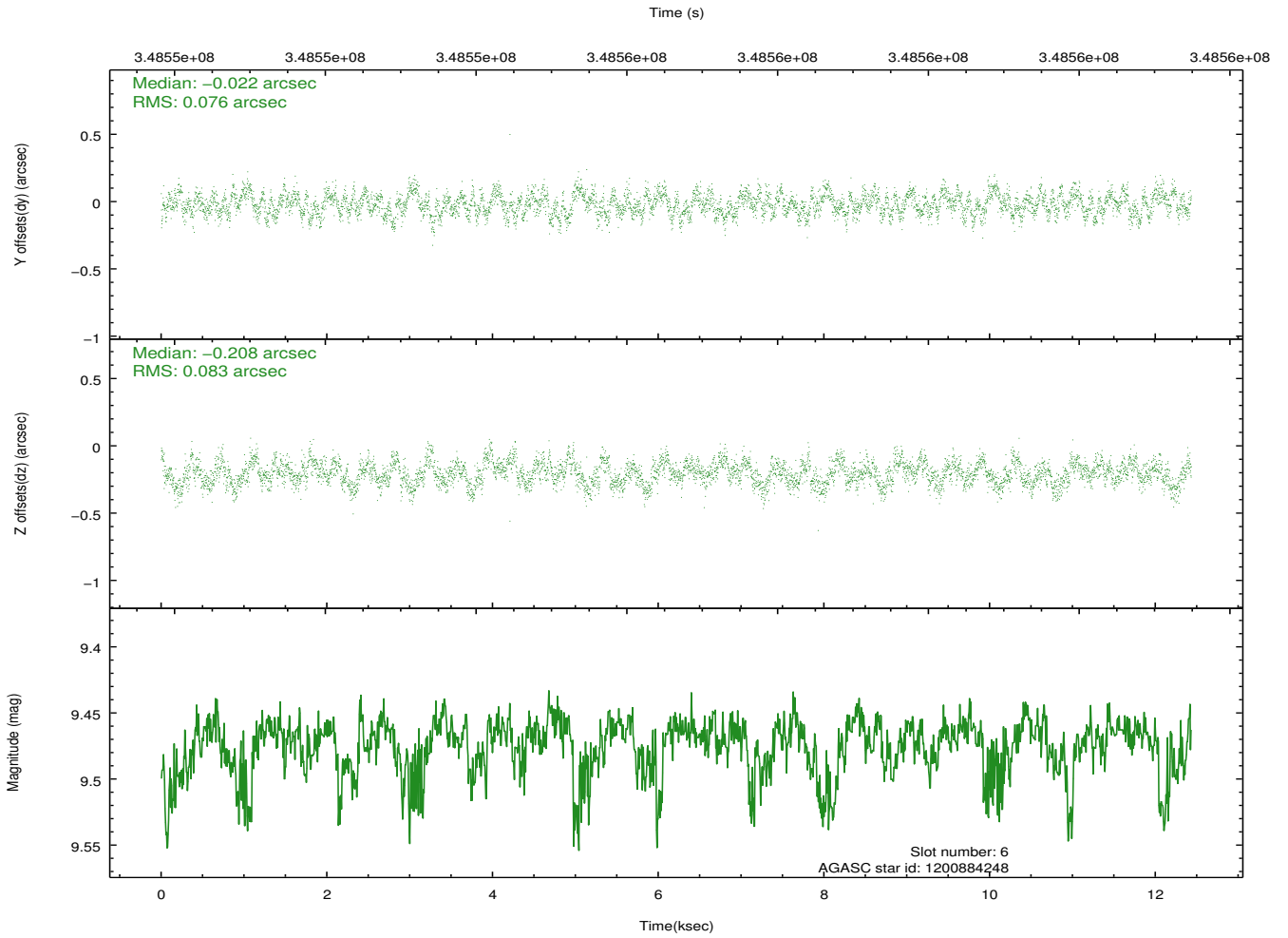
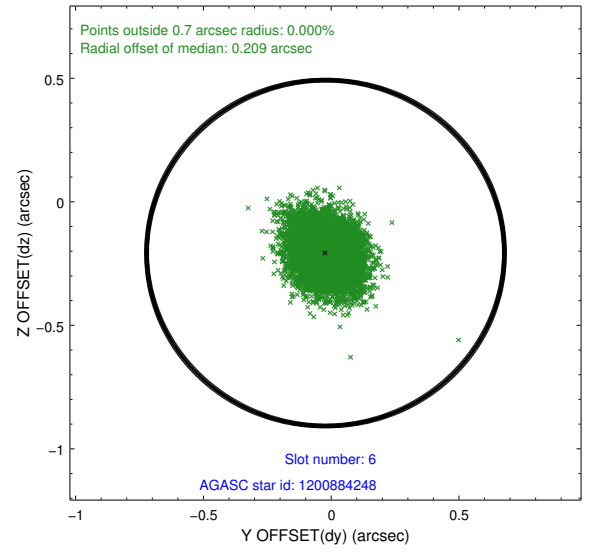
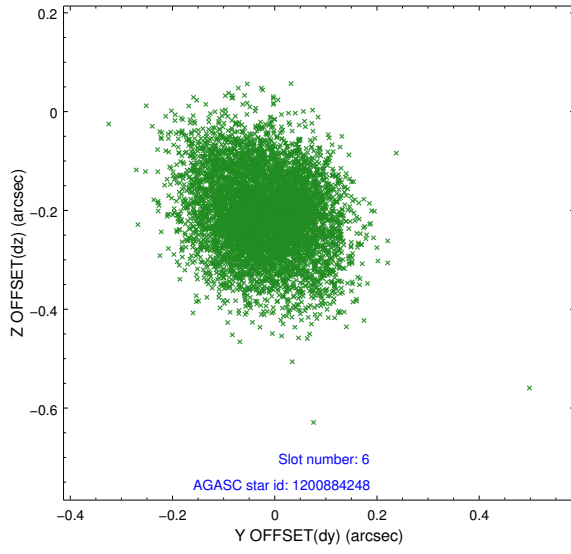
2.4.2 Slot 4



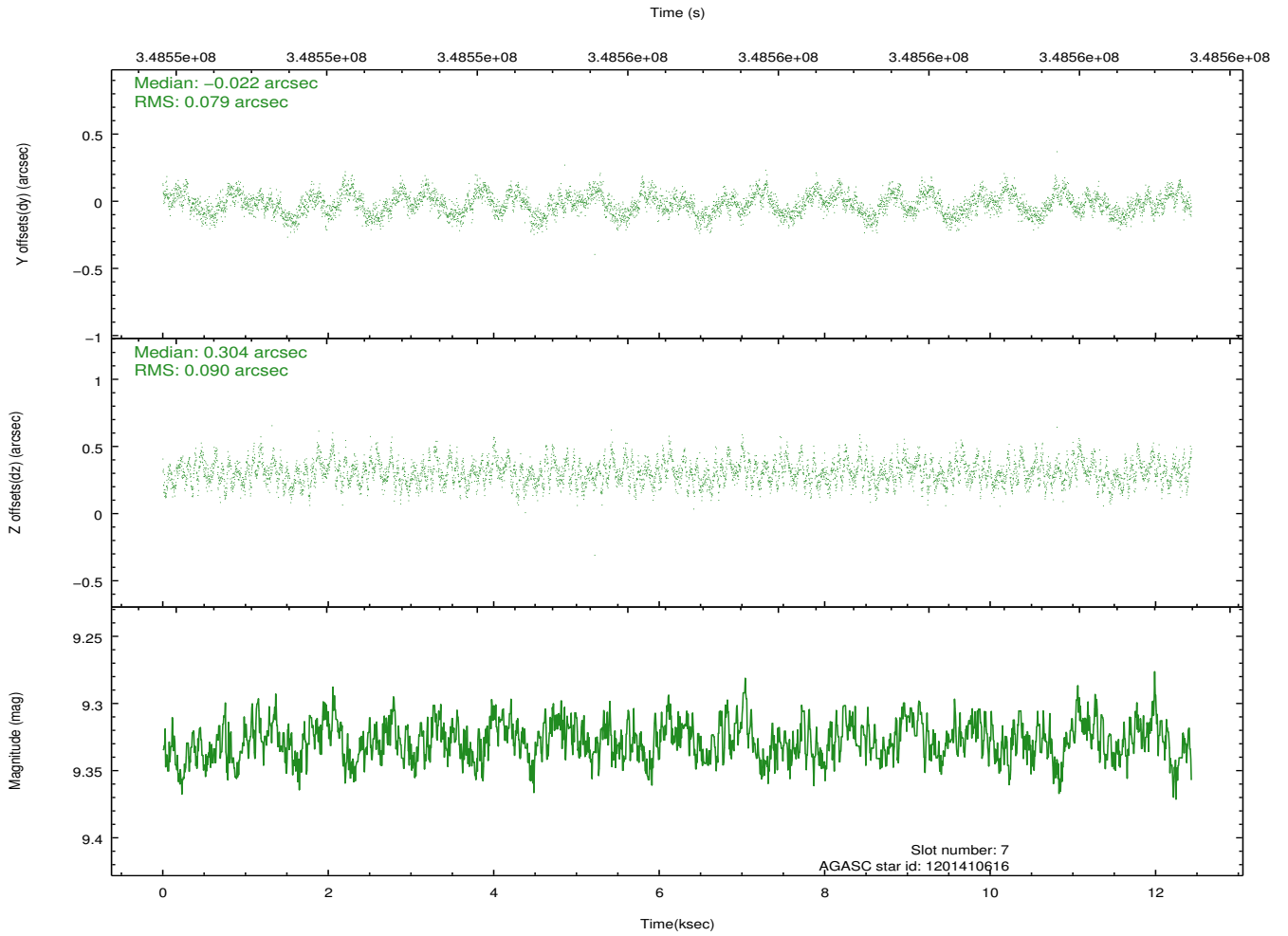
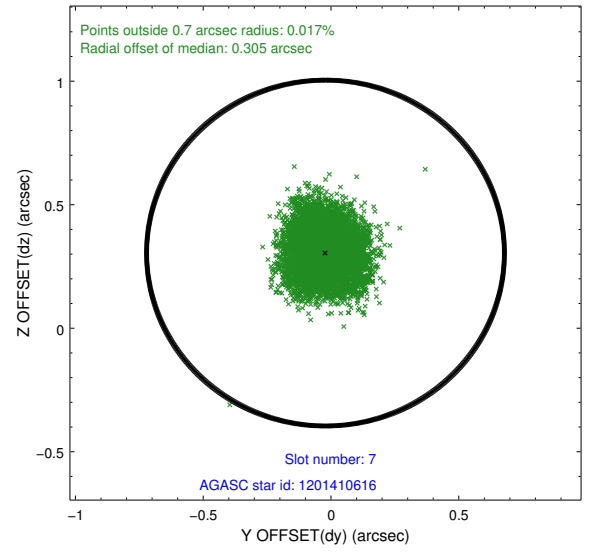
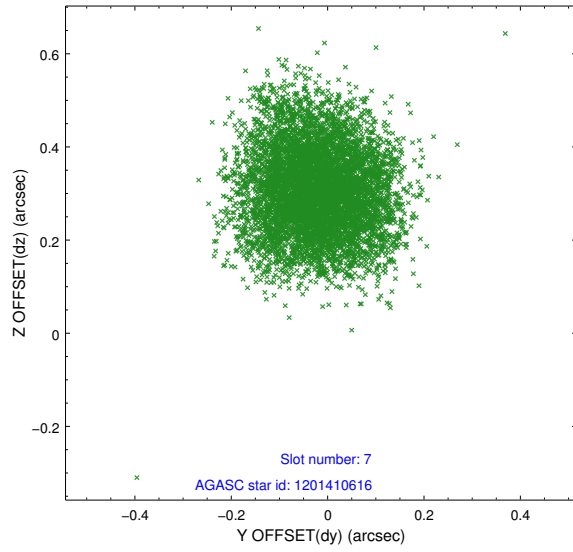
2.4.3 Slot 5



2.4.4 Slot 6

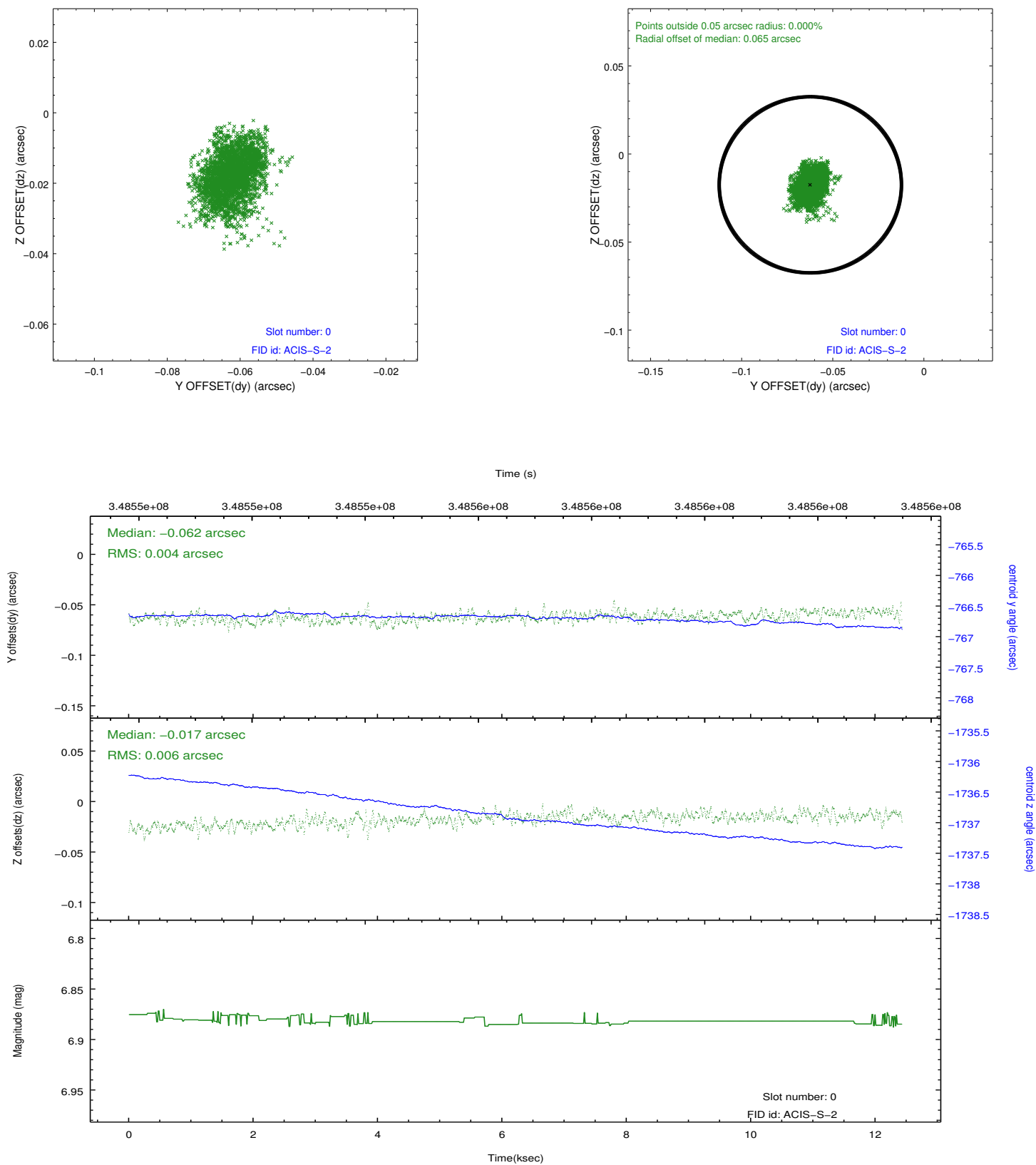


2.4.5 Slot 7

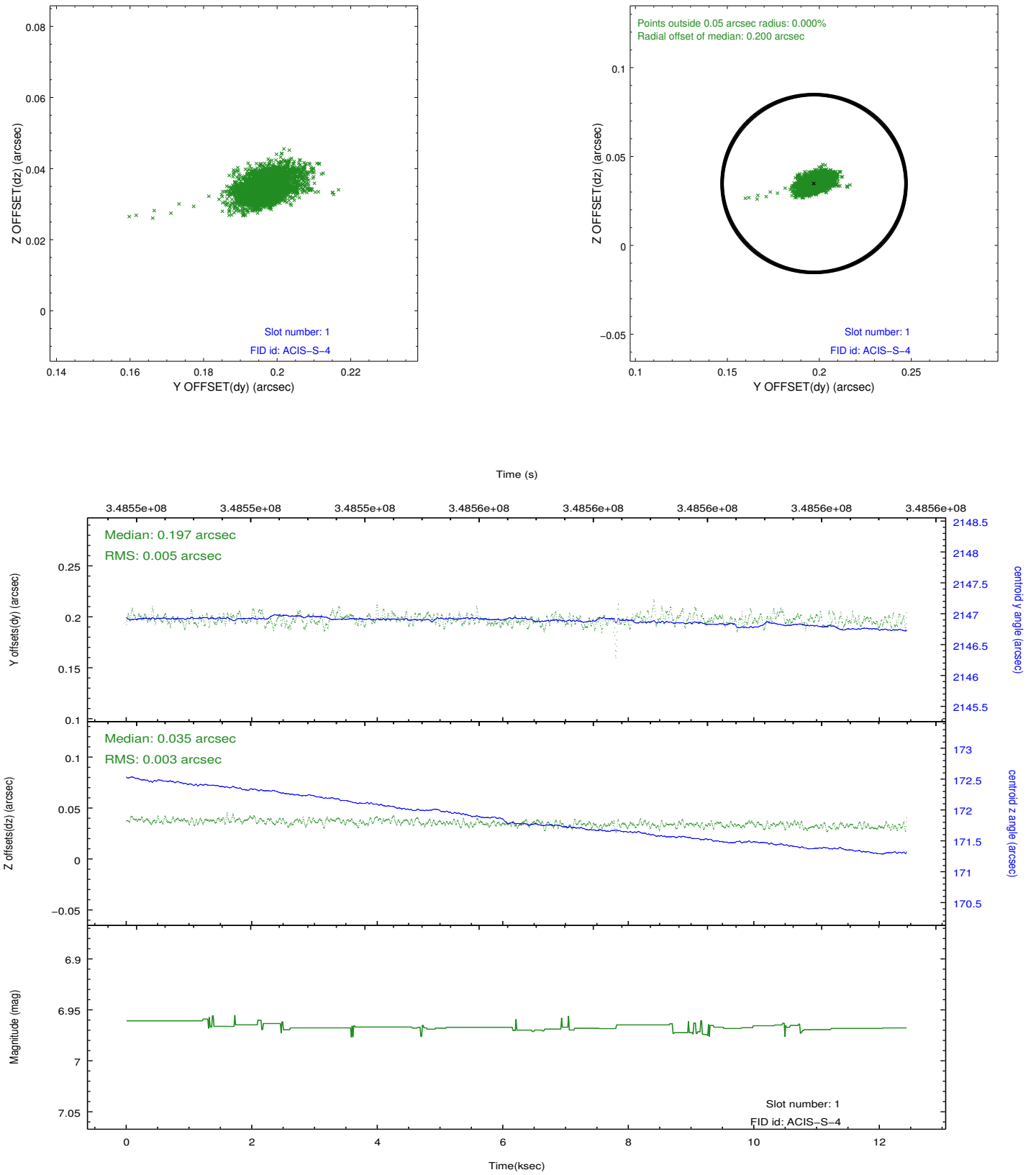


2.5 FID Slots

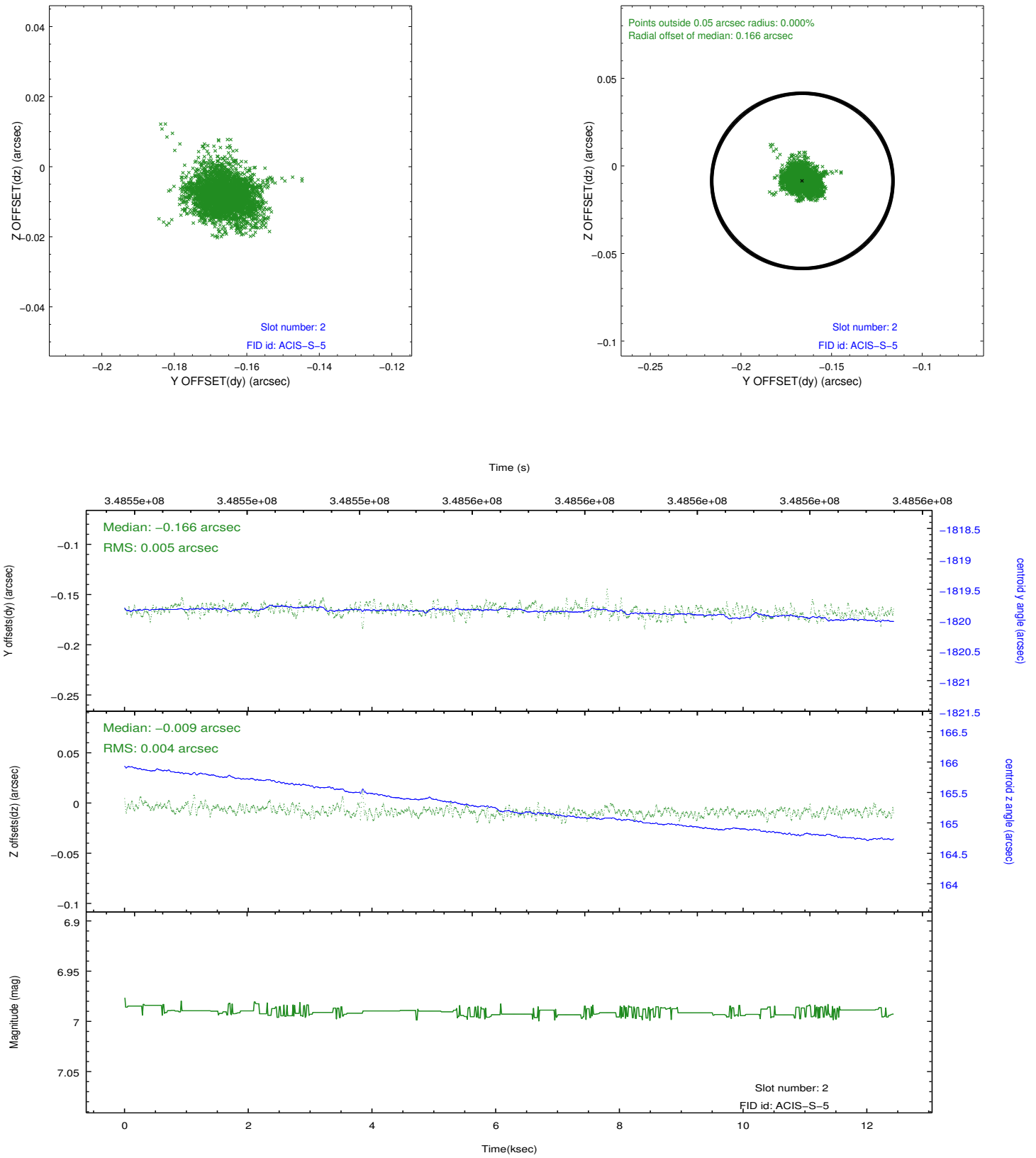
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

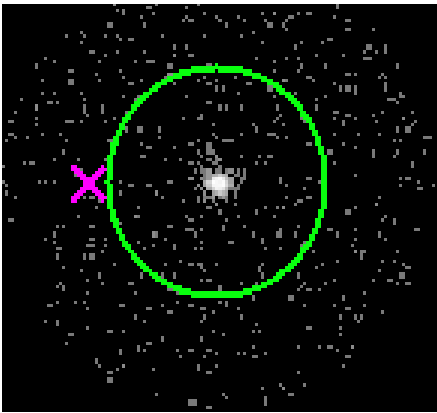


3 Gratings

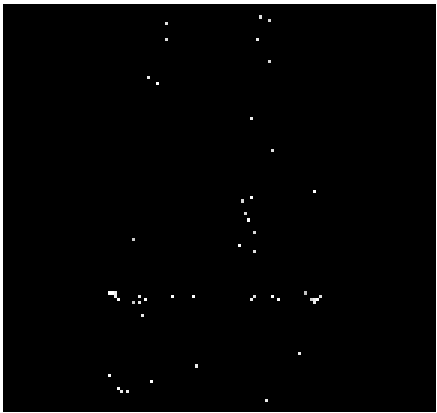
3.1 HEG Arm



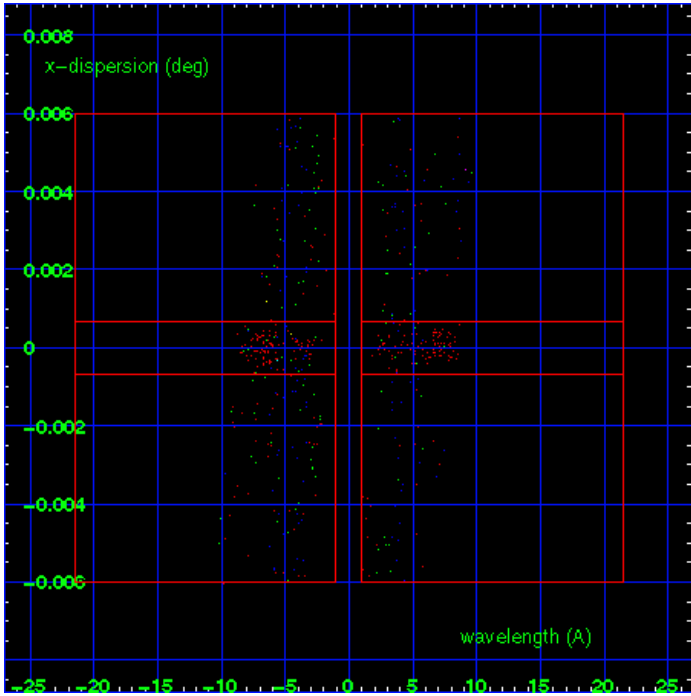
HEG Order Sort 123



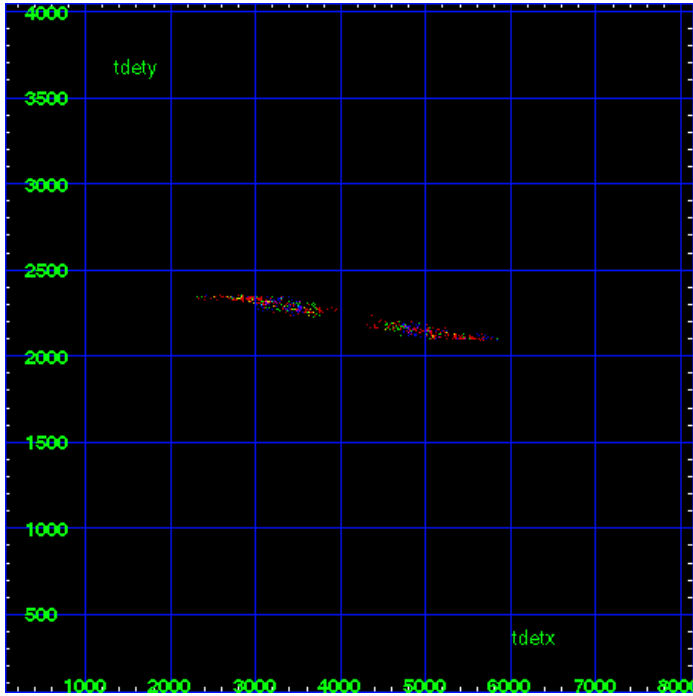
HEG Zero Order



HEG Order Sort ALL

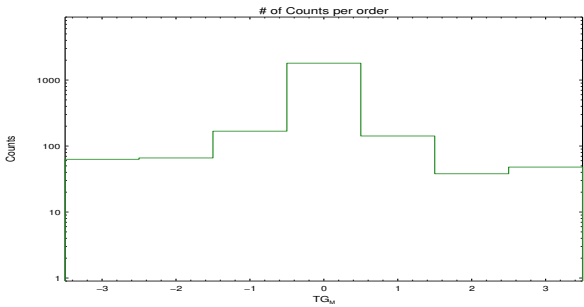


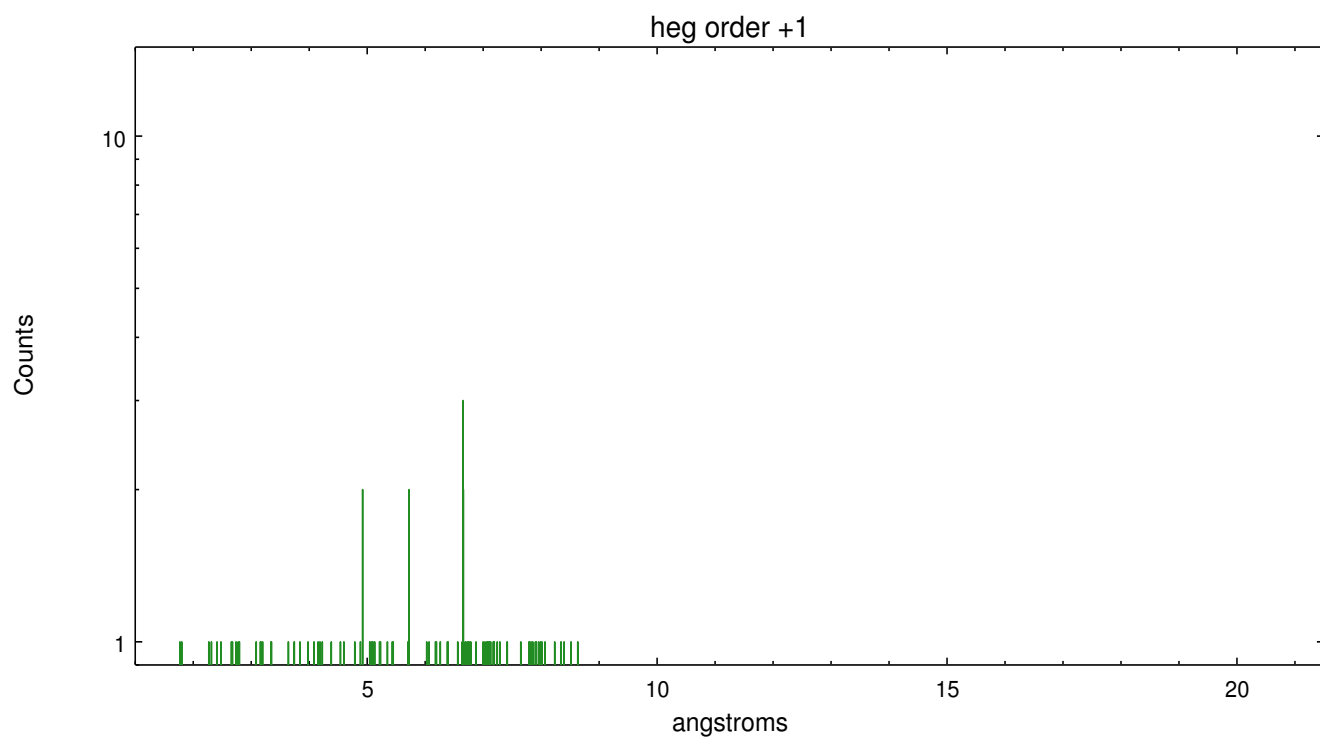
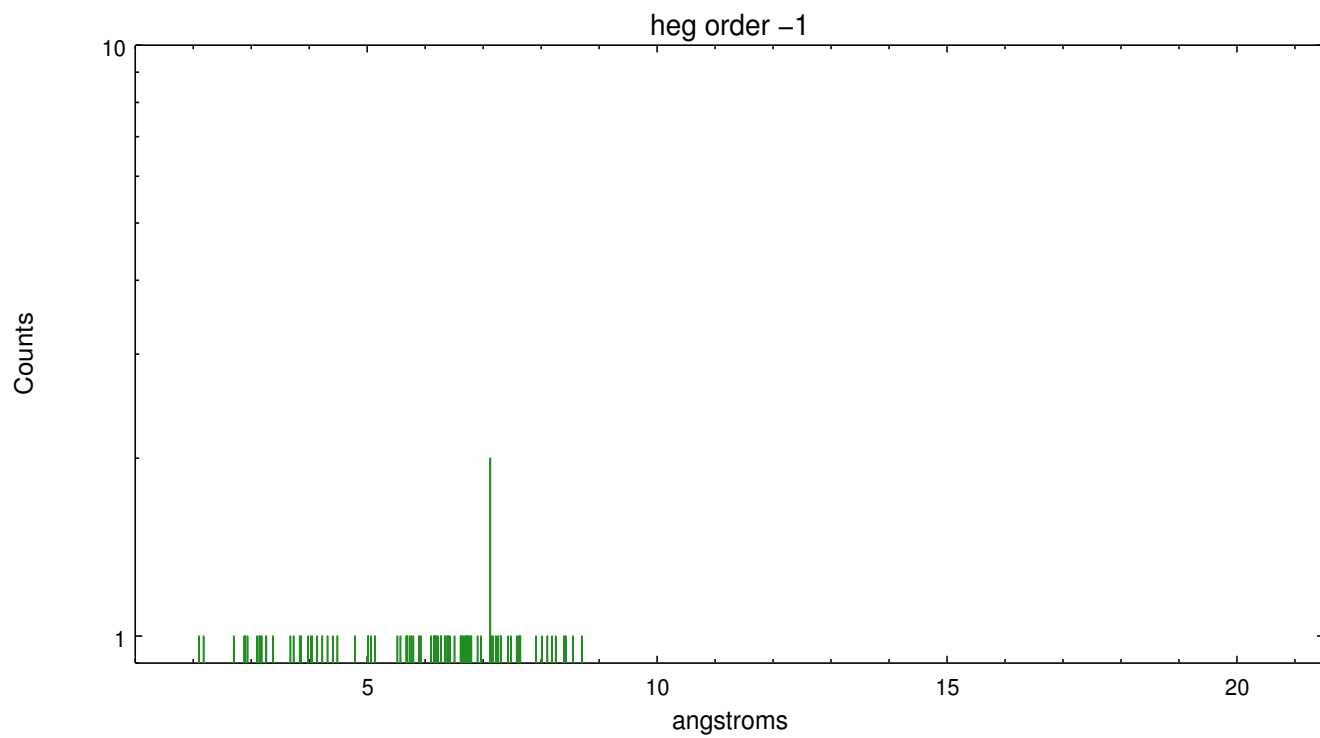
Spot Image HEG



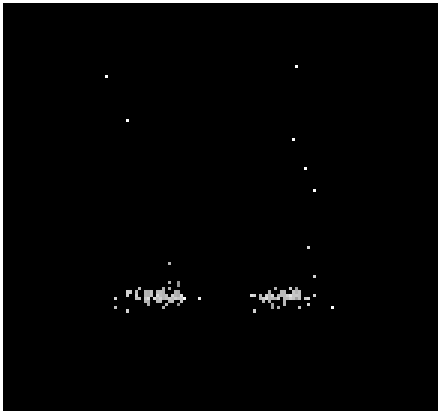
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	63	66	168	1802	142	38	48

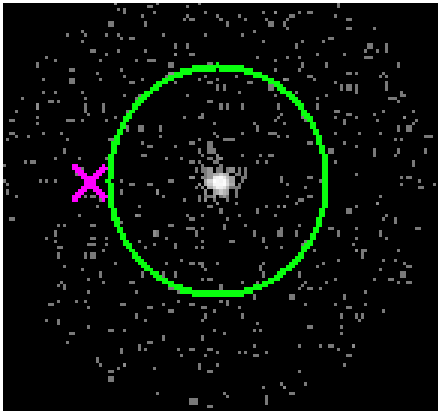




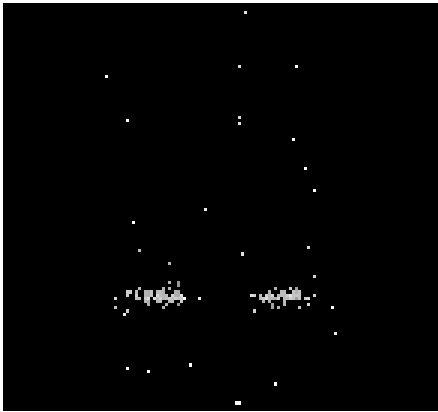
3.2 MEG Arm



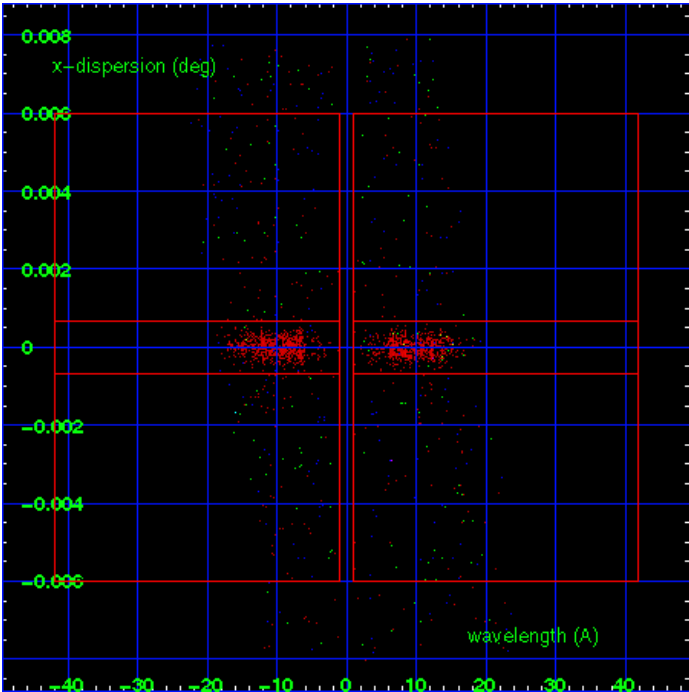
MEG Order Sort 123



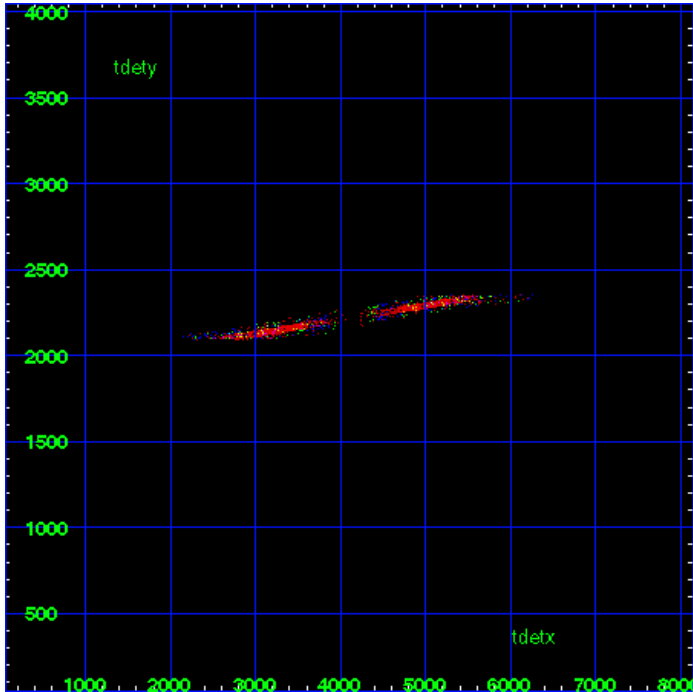
MEG Zero Order



MEG Order Sort ALL

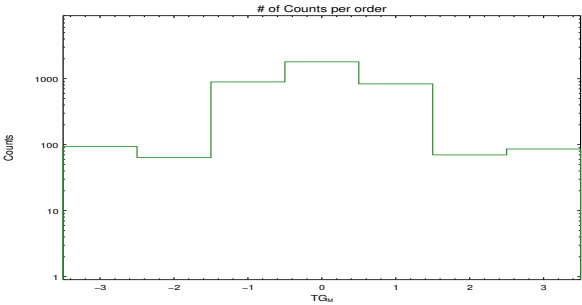


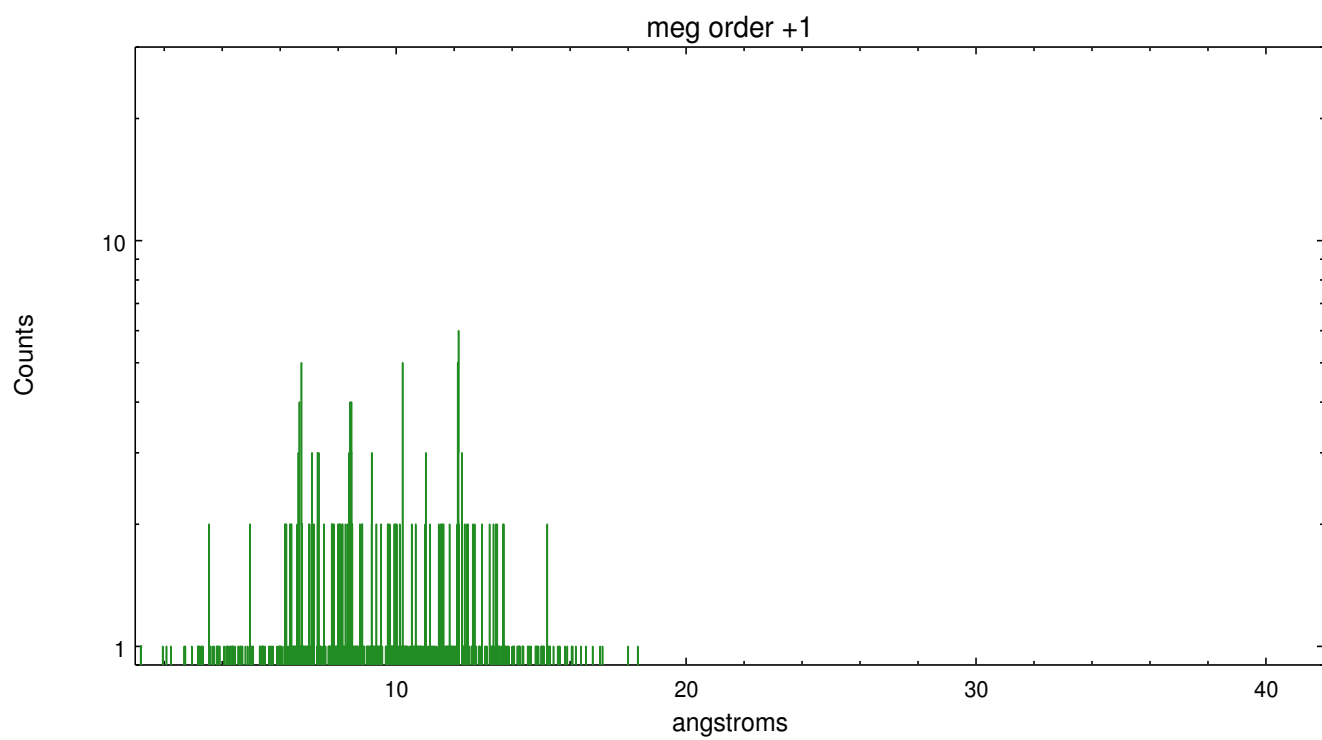
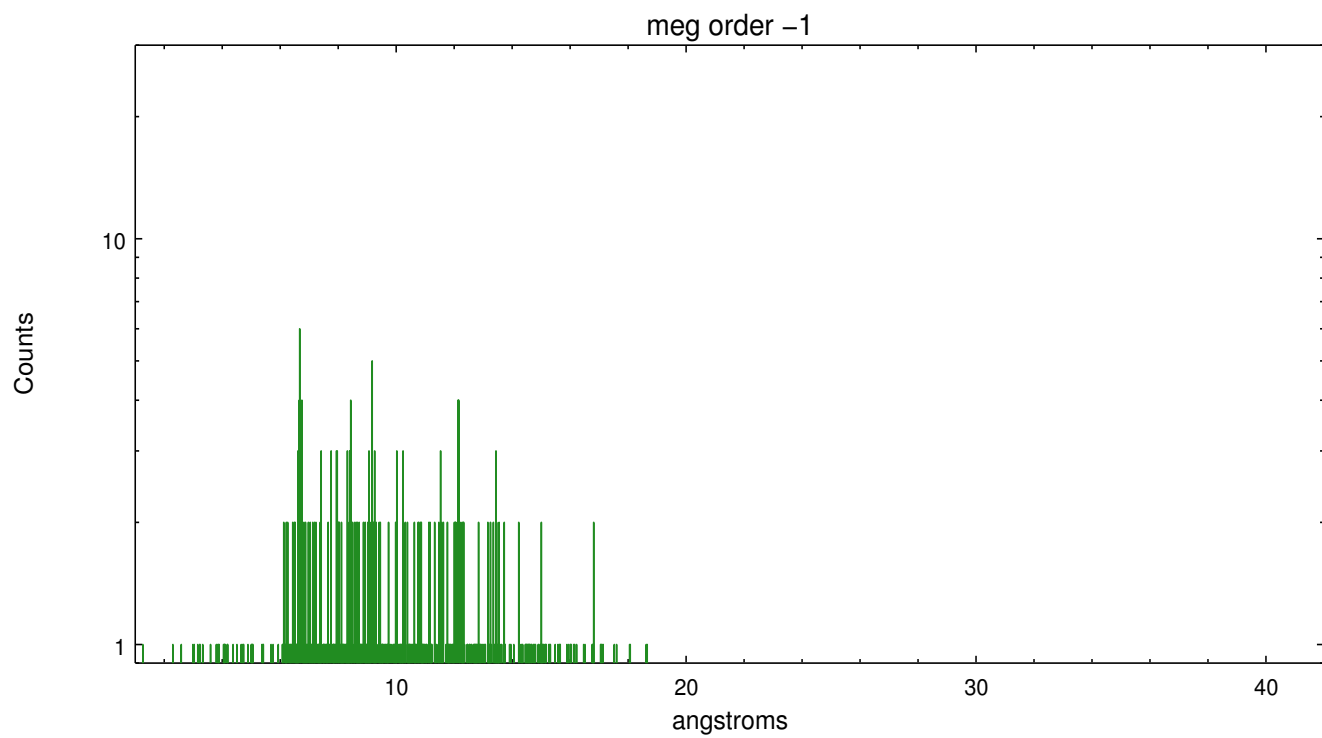
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	94	64	893	1802	834	70	86





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.05.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	12.4322002

A.2 Comments

Source is extended with structure. The zeroth order used for extracting the spectral data in this processing is located at the centroid of the SNR, but is not located at the position of the brightest X-ray emission in the supernova remnant. Custom extraction may be required to register accurately with other observations.

===

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.

===

The sub-array configuration chosen eliminates counts from the soft ends of

the spectral arms for both HEG (>9A) and MEG (>19A).

===Obsid 10130 used for cross-calibration purposes. ===