

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 10855 - L2 Version 2
Chandra X-Ray Center

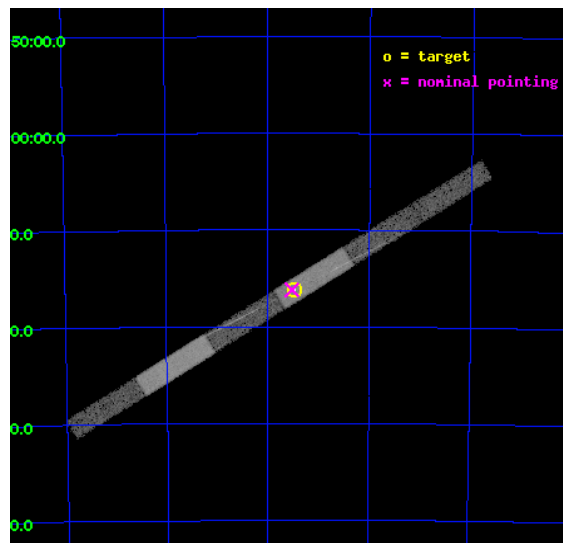
L2 Processing Date : May 29 2012

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1 Front

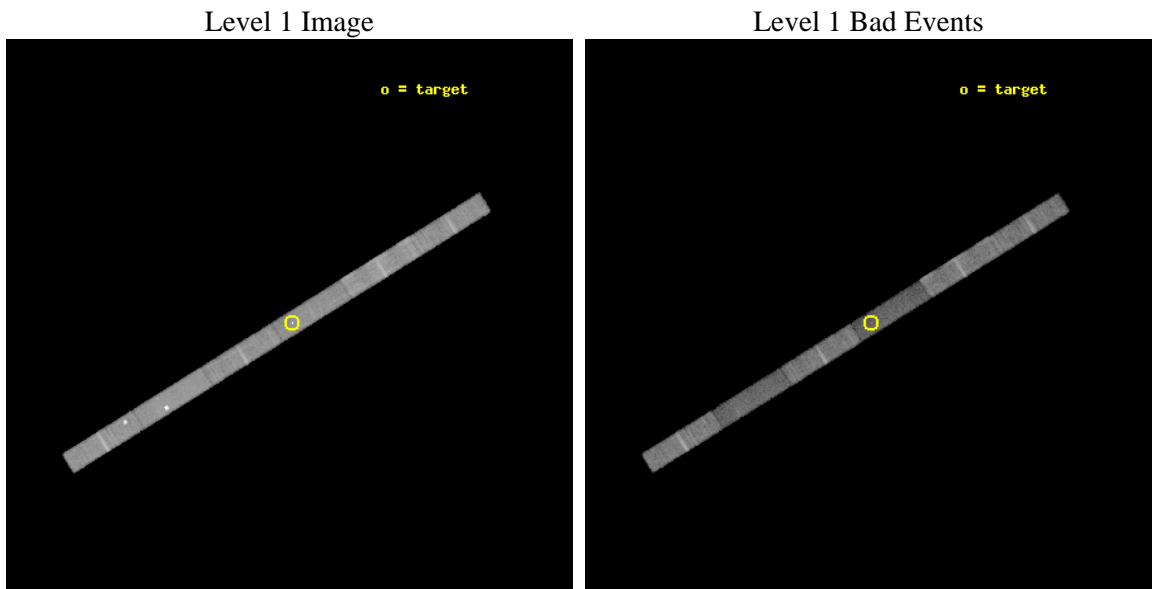
seq_num	501148	Sequence number
obs_id	10855	Observation id
title	Chandra Cycle 10 Spatial and Spectral Monitoring of SNR 1987A	Prop
observer	Prof. David Burrows	Principal investigator
object	SNR 1987A	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.866667	Observer's specified target RA [deg]
dec_targ	-69.26975	Observer's specified target Dec [deg]
ra_nom	83.880464688827	Nominal RA [deg]
dec_nom	-69.269771843078	Nominal Dec [deg]
roll_nom	328.1695314274	Nominal Roll [deg]
revision	2	Processing version of data
ontime	19477.700422168	Sum of GTIs [s]
livetime	18777.142312613	Livetime [s]
ontime4	19477.700422168	Sum of GTIs [s]
ontime5	19477.700422168	Sum of GTIs [s]
ontime6	19476.559401989	Sum of GTIs [s]
ontime7	19477.700422168	Sum of GTIs [s]
ontime8	19477.700422168	Sum of GTIs [s]
ontime9	19477.700422168	Sum of GTIs [s]
l2events	68507	Number of level 2 events



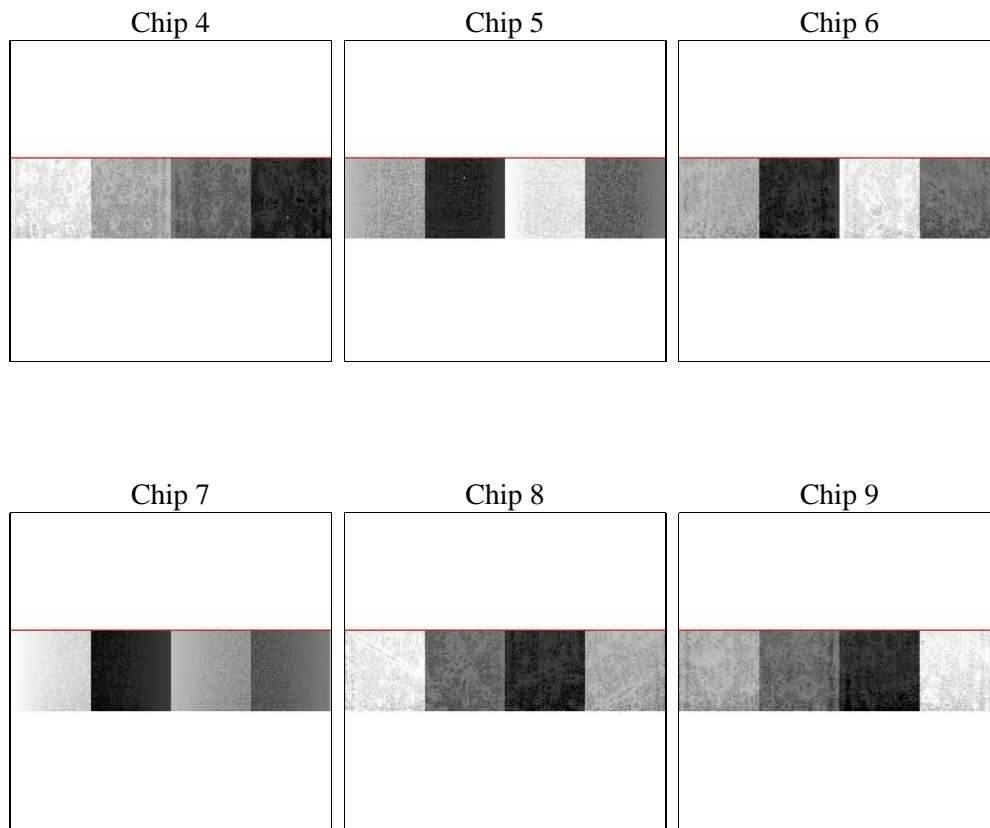
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	19300.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	19477.700422168	Sum of GTIs [s]
caldbver	4.4.9	 	ontime4	19477.700422168	Sum of GTIs [s]
date	2012-05-29T02:02:04	Date and time of file creation	ontime5	19477.700422168	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	19476.559401989	Sum of GTIs [s]
			ontime7	19477.700422168	Sum of GTIs [s]
			ontime8	19477.700422168	Sum of GTIs [s]
			ontime9	19477.700422168	Sum of GTIs [s]
			l1events	332270	Number of level 1 events

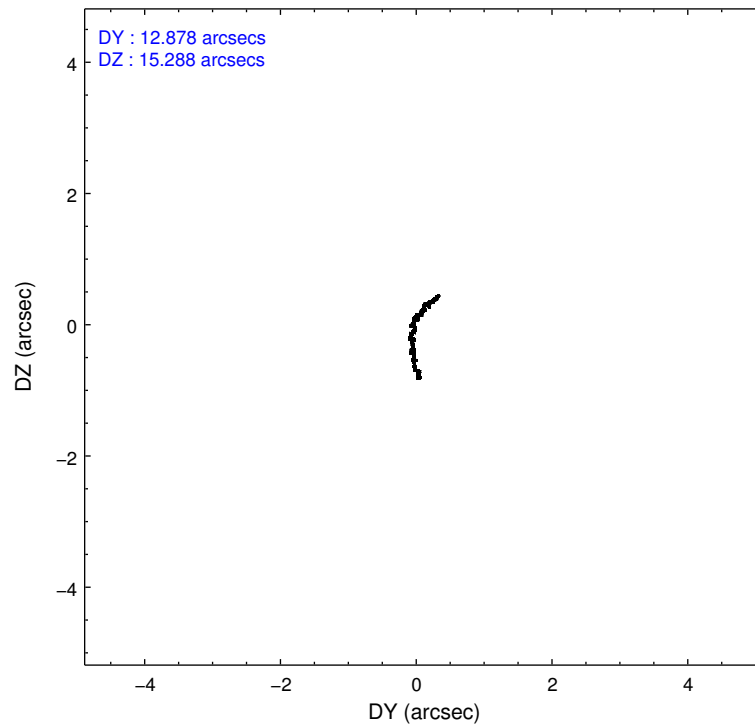
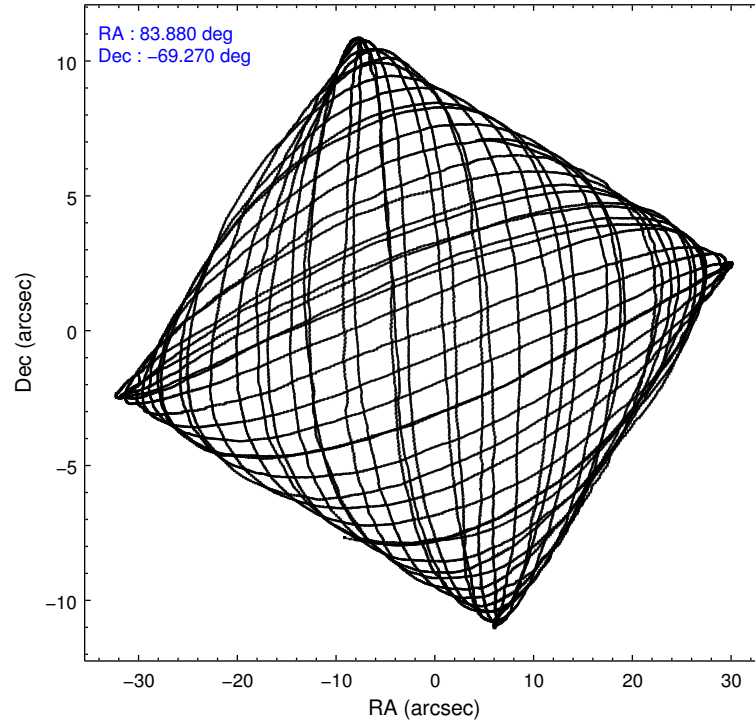
2.1.4 Events

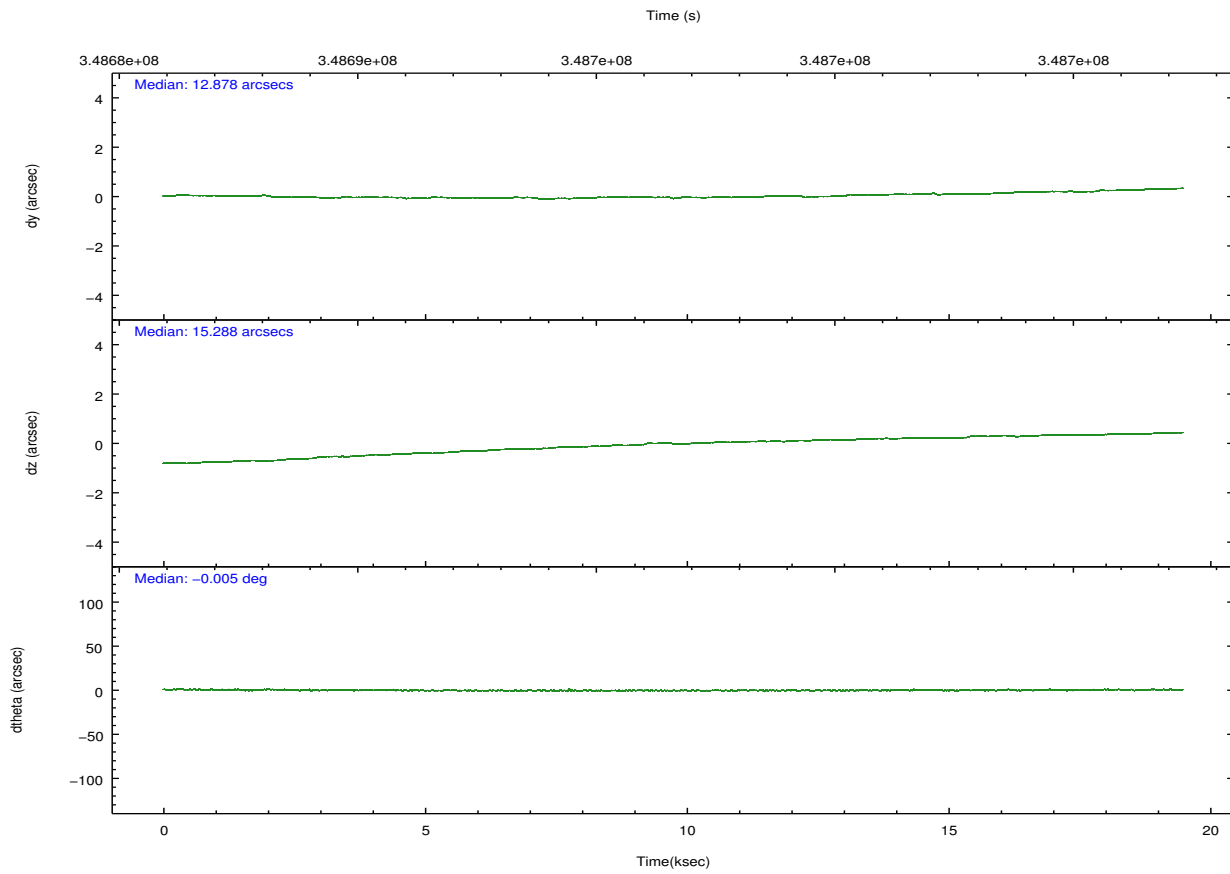
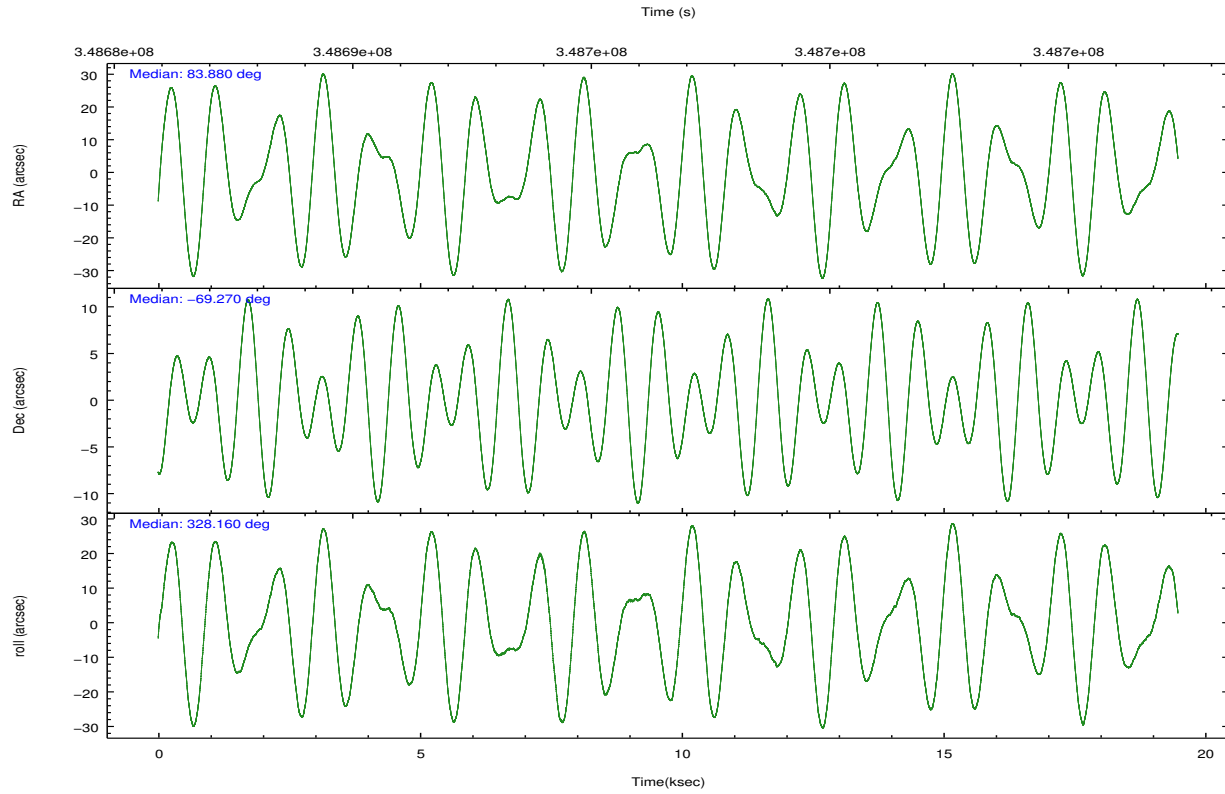
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	60156	65967	49298	45942	64721	46186	grade 0 events	6857	15413	2873	3384	4305	1548
rejected events	49821	25662	42972	21523	49517	41436		11%	23%	5%	7%	6%	3%
rejected %	82%	38%	87%	46%	76%	89%	grade 1 events	69	159	25	81	28	12
								0%	0%	0%	0%	0%	0%
							grade 2 events	1233	8573	1117	5645	3429	971
								2%	12%	2%	12%	5%	2%
							grade 3 events	782	1948	786	2912	1707	785
								1%	2%	1%	6%	2%	1%
							grade 4 events	745	1916	755	2712	1593	735
								1%	2%	1%	5%	2%	1%
							grade 5 events	1553	5022	1382	4672	2191	1588
								2%	7%	2%	10%	3%	3%
							grade 6 events	926	13333	919	10259	4462	825
								1%	20%	1%	22%	6%	1%
							grade 7 events	47991	19603	41441	16277	47006	39722
								79%	29%	84%	35%	72%	86%

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	83.8804646888271	CCD I2 on	N	N
[deg] Pointing Dec	-69.269250	-69.2697718430783	CCD I3 on	N	N
[deg] Pointing Roll	327.940565	328.1695314274006	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)	348687047.184000	348685998.06089	On-chip summing requested	N	N
Observation start date	2009-01-18T17:29:41	2009-01-18T17:13:18	Subarray requested	CUSTOM	1/4
[s] Observation end time (MET)	348706347.184000	348707254.51195	Subarray start row	393	393
Observation end date	2009-01-18T22:51:21	2009-01-18T23:07:34	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





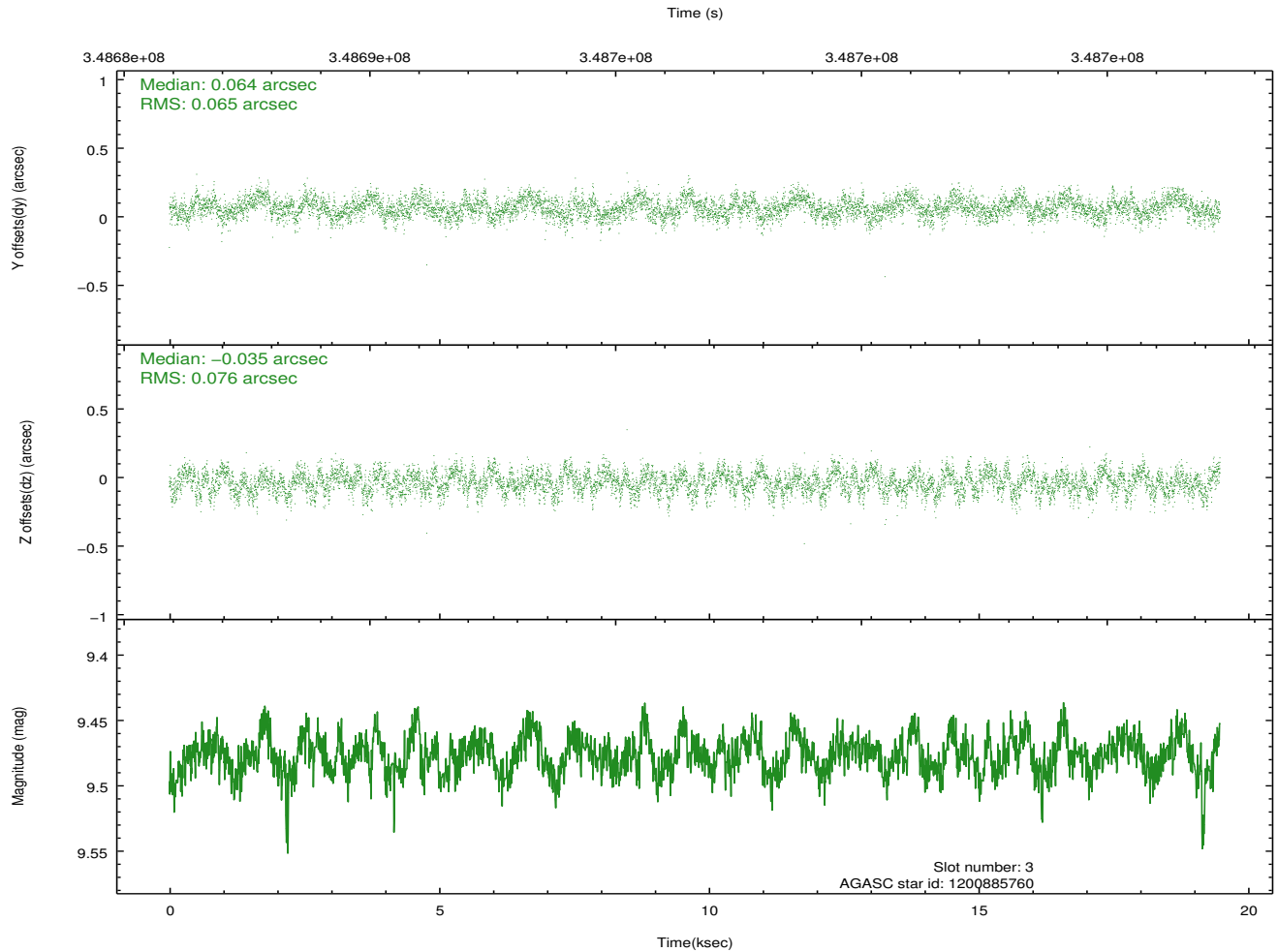
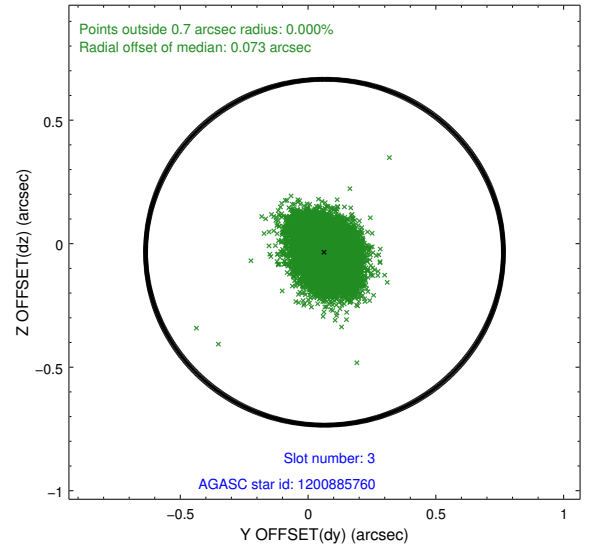
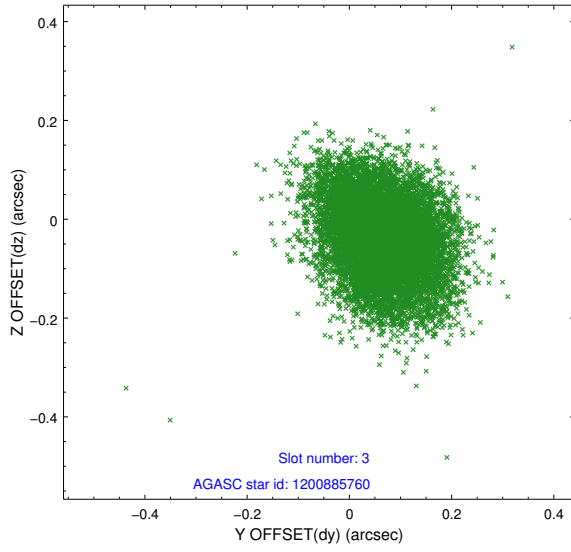
Slot Statistics

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	4752	-0.051	-0.020	0.008	0.013	0.000000	0.000000	-765.85	-1736.61
1	FID	ACIS-S-4	6.96	4752	0.169	0.030	0.008	0.018	0.000000	0.000000	2147.52	171.77
2	FID	ACIS-S-5	6.99	4752	-0.148	-0.001	0.009	0.015	0.000000	0.000000	-1818.57	165.56
3	GUIDE	1200885760	9.48	9493	0.064	-0.035	0.106	0.172	83.723637	-68.777667	-1027.11	1444.69
4	GUIDE	1201019200	9.47	9494	0.043	-0.061	0.096	0.159	84.213591	-68.777384	-485.92	1783.27
5	GUIDE	1201542672	8.20	9498	-0.053	0.027	0.078	0.135	84.492488	-69.957531	2038.44	-1650.35
6	GUIDE	1200884248	9.48	9494	-0.025	-0.207	0.114	0.177	83.880915	-68.565170	-1258.68	2202.31
7	GUIDE	1201410616	9.33	9488	-0.029	0.274	0.132	0.207	82.516808	-69.784406	-362.48	-2434.69

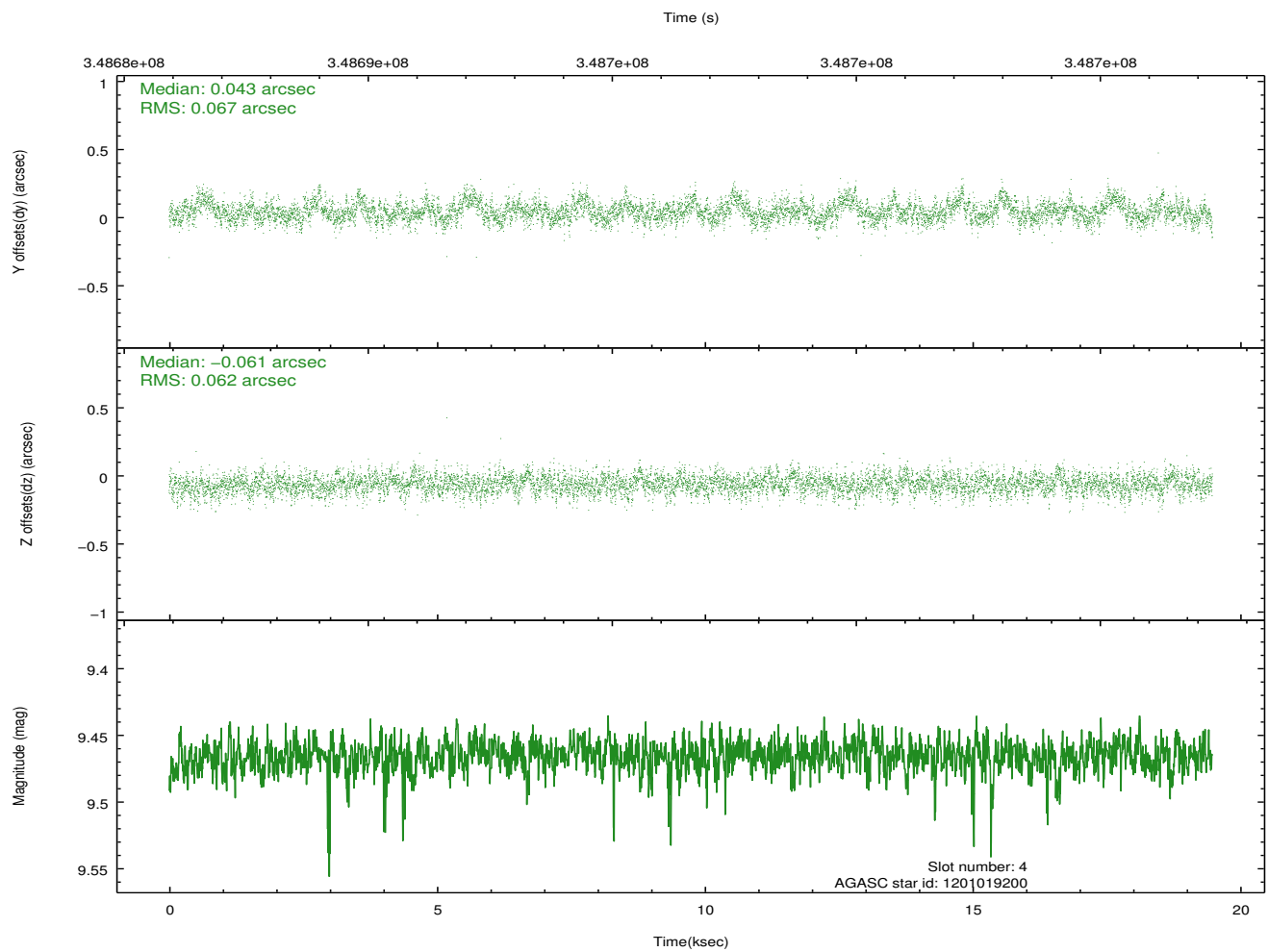
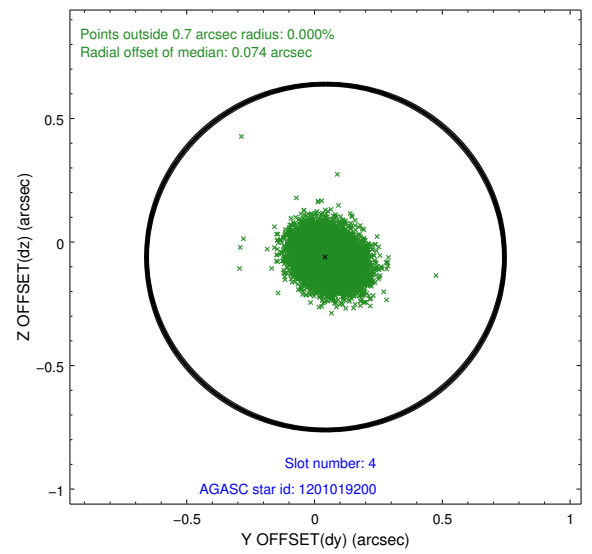
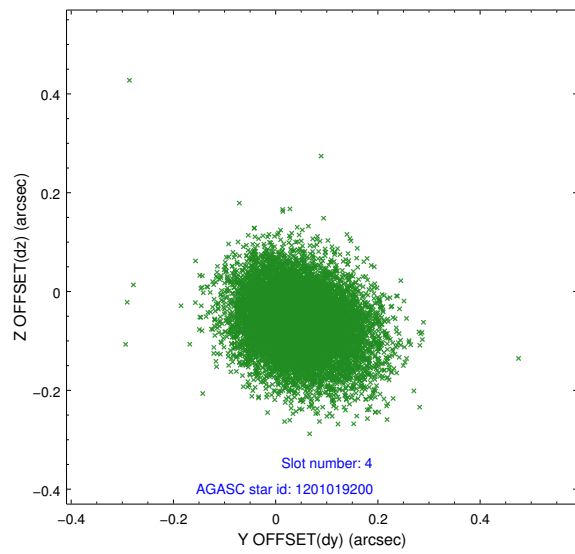
∞

2.4 Star Slots

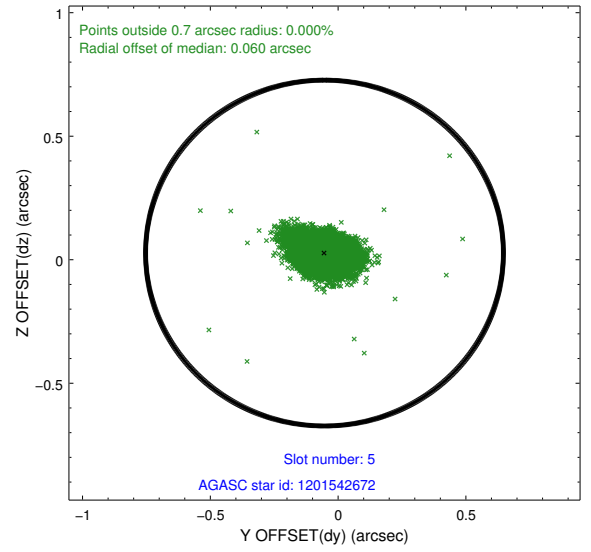
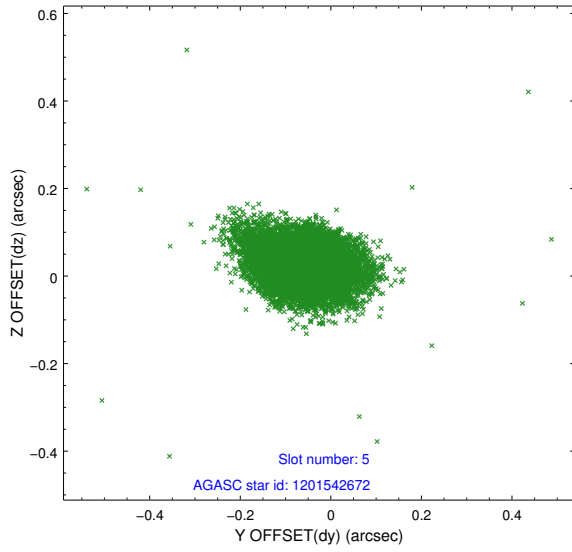
2.4.1 Slot 3



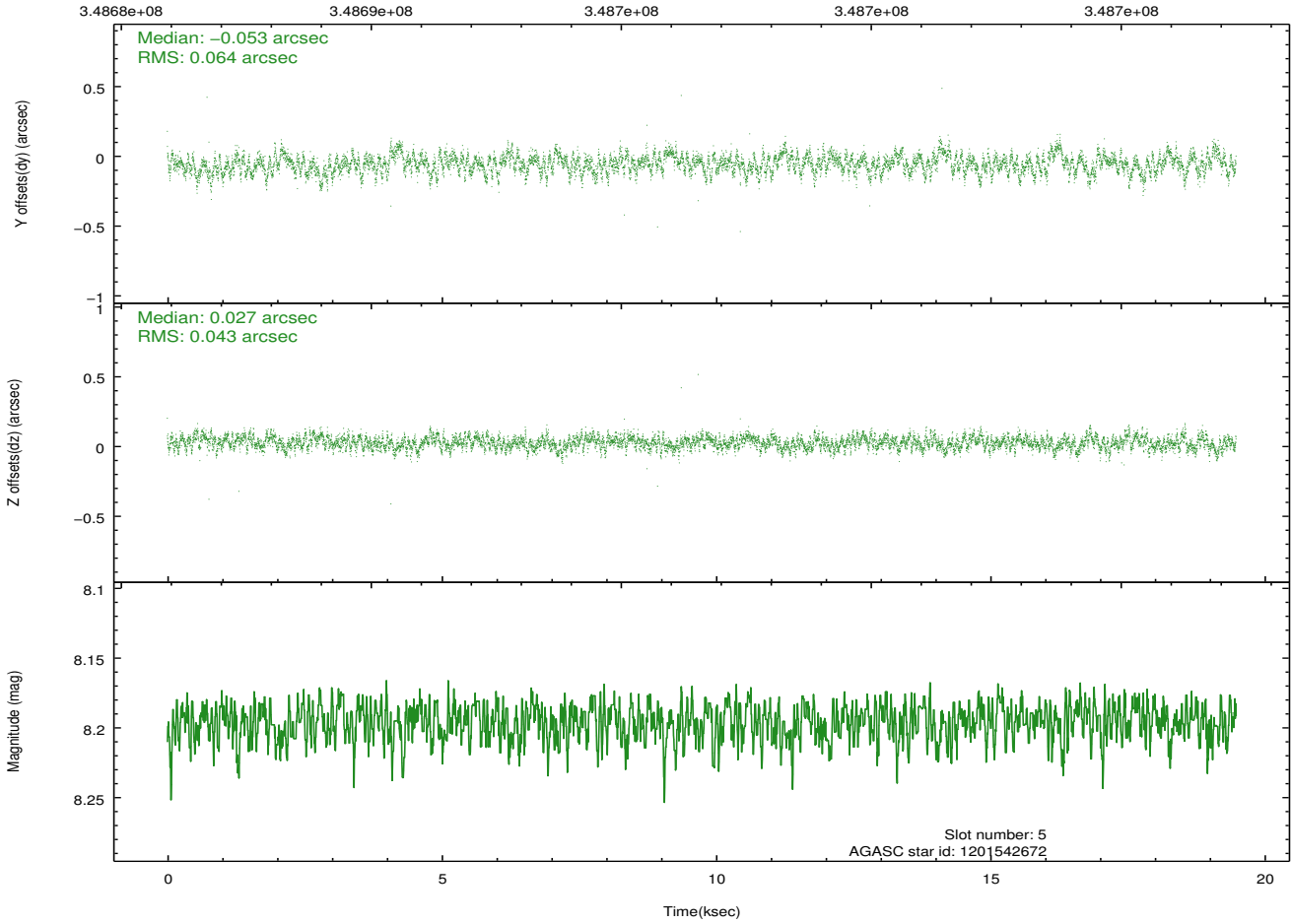
2.4.2 Slot 4



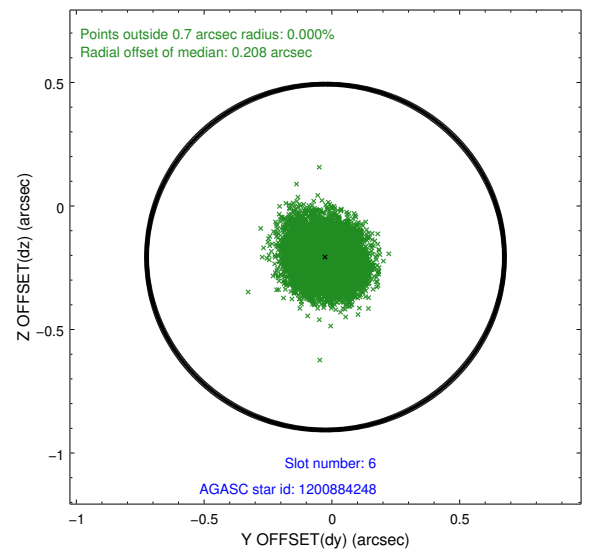
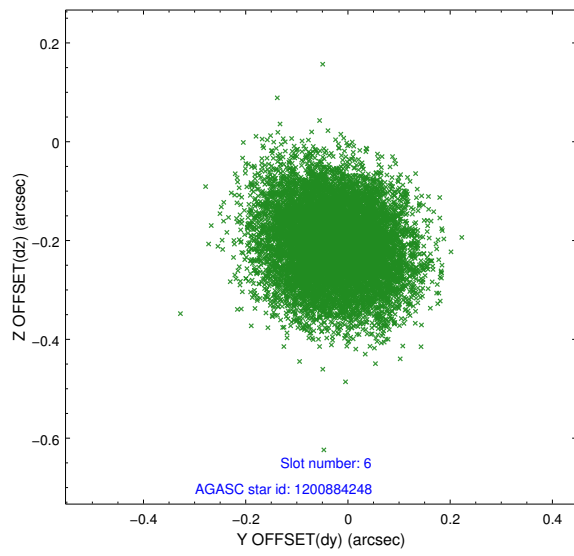
2.4.3 Slot 5



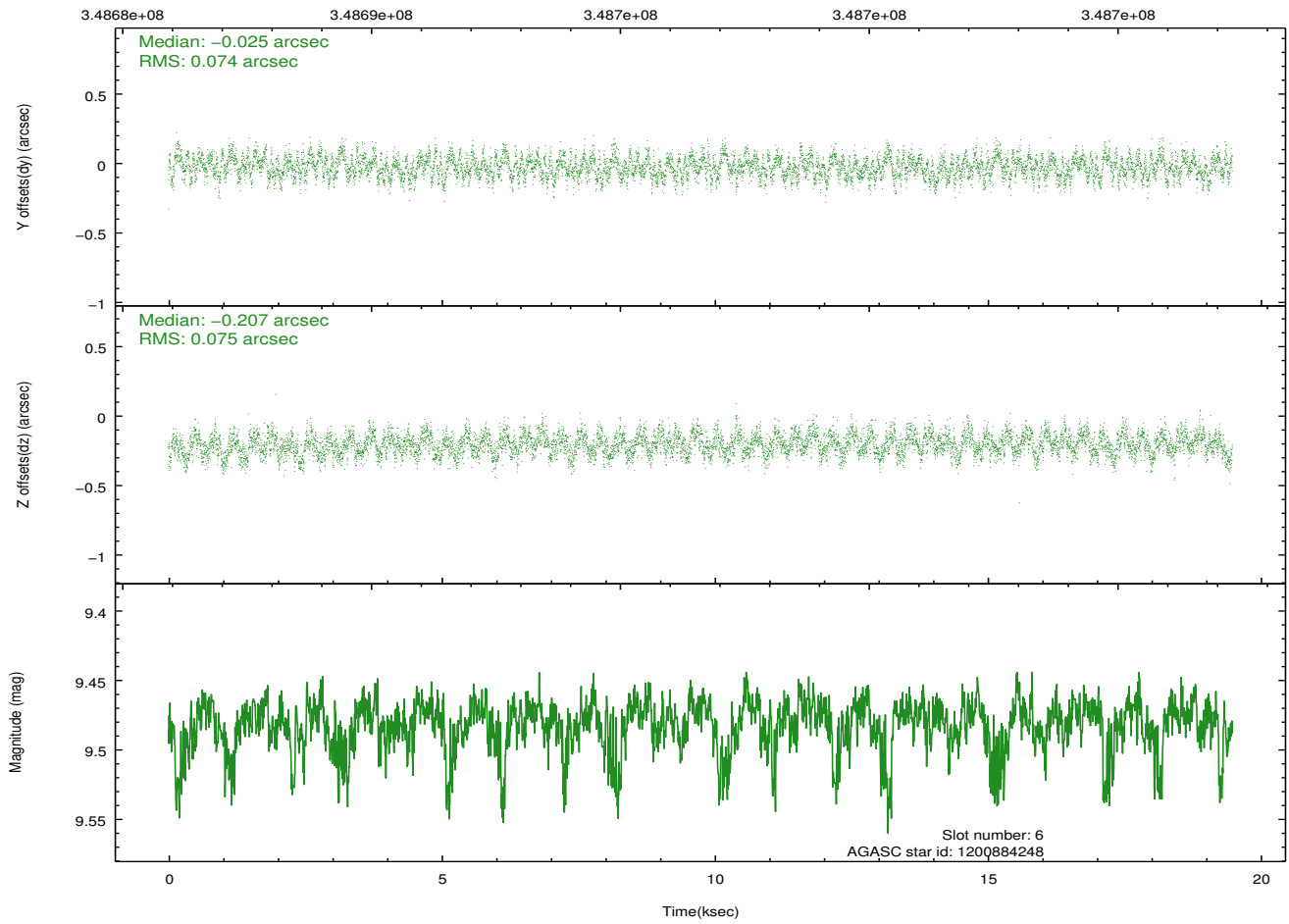
Time (s)



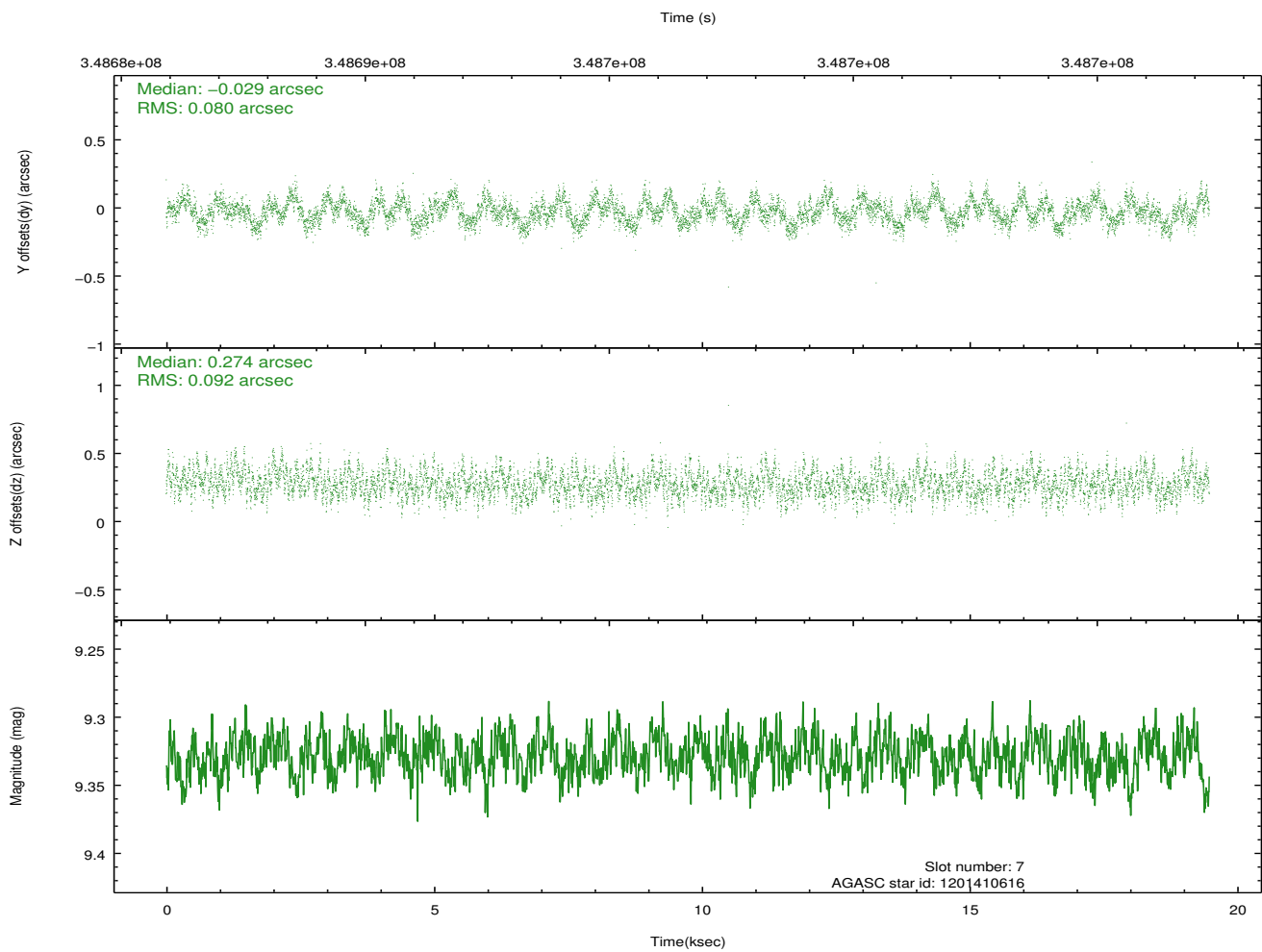
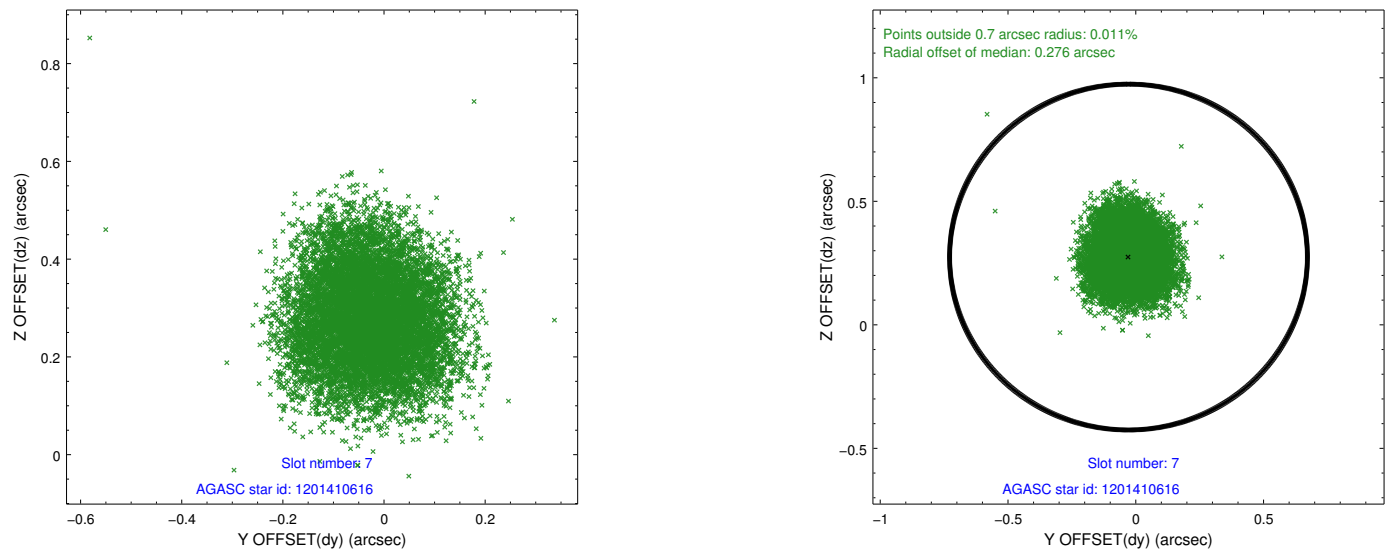
2.4.4 Slot 6



Time (s)

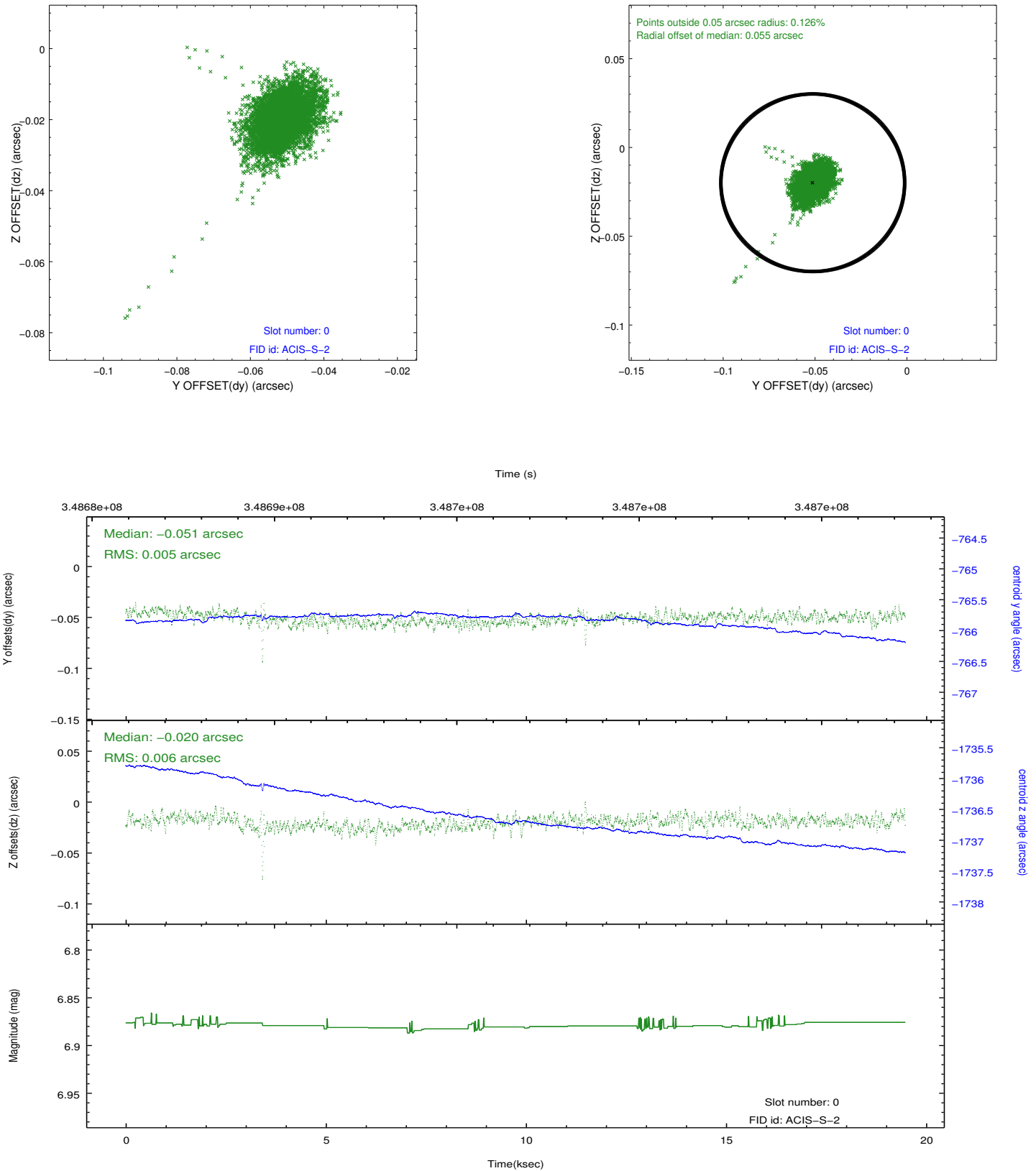


2.4.5 Slot 7

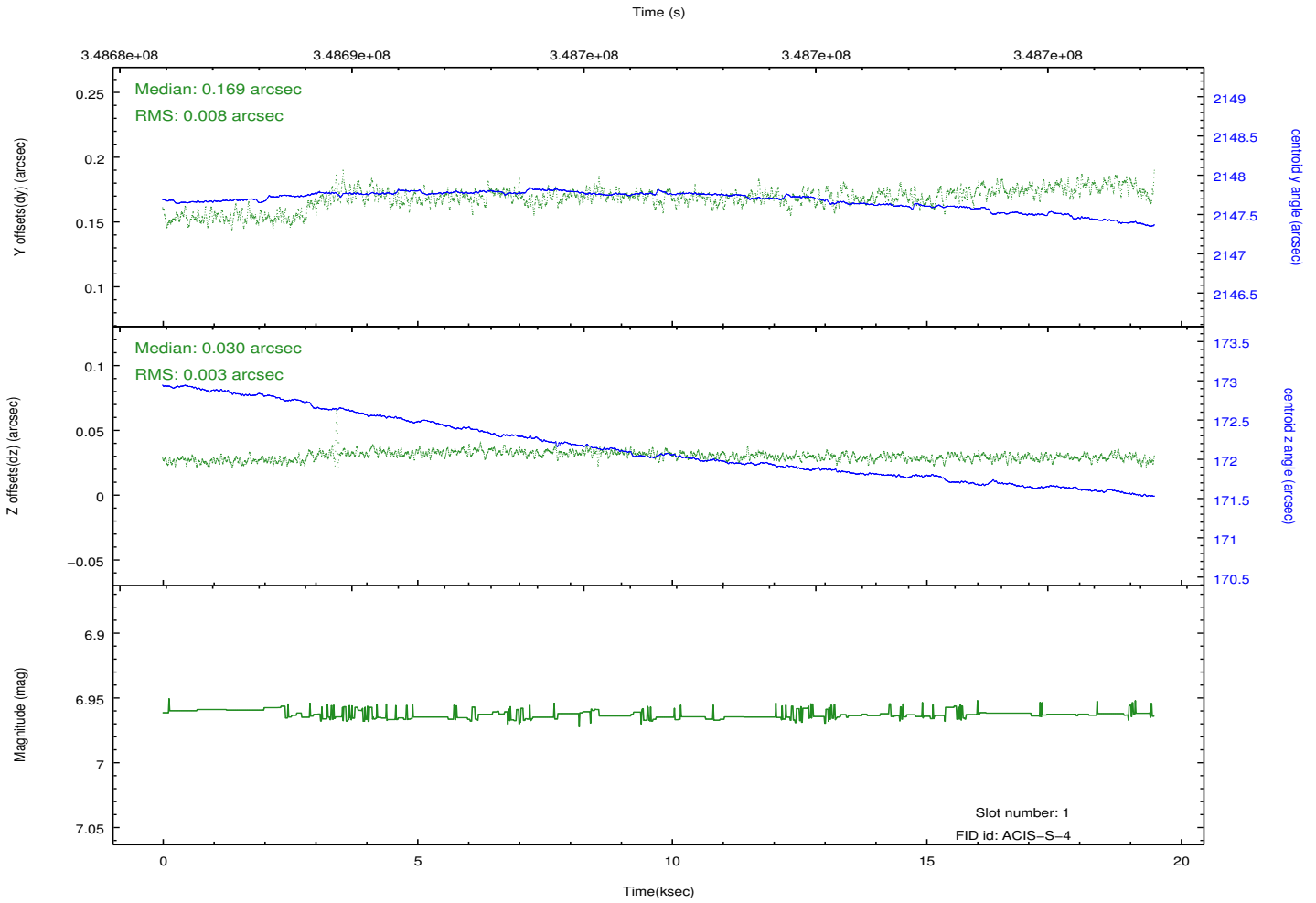
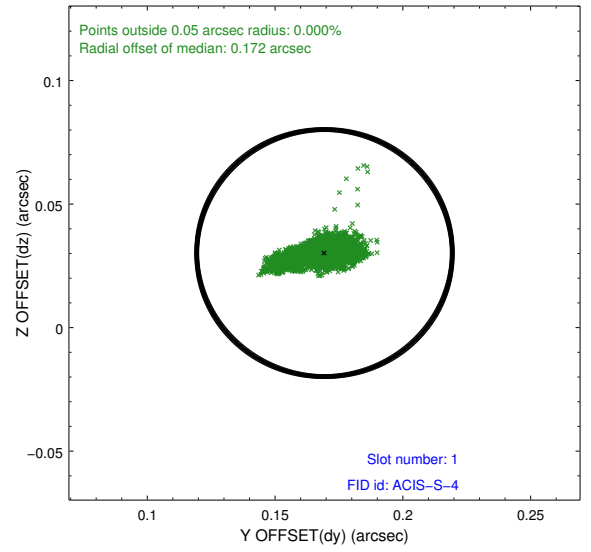
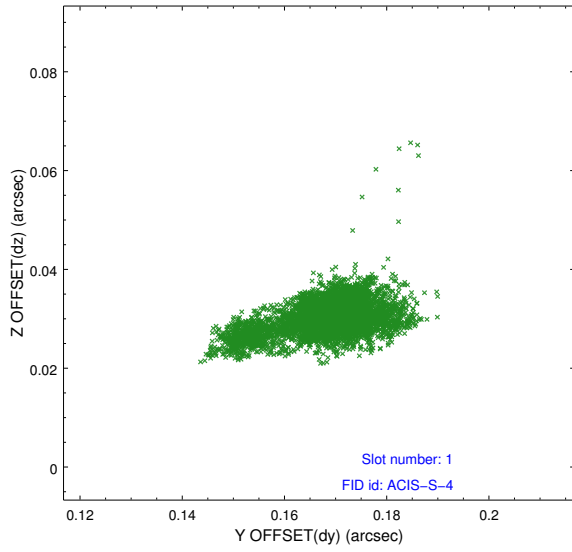


2.5 FID Slots

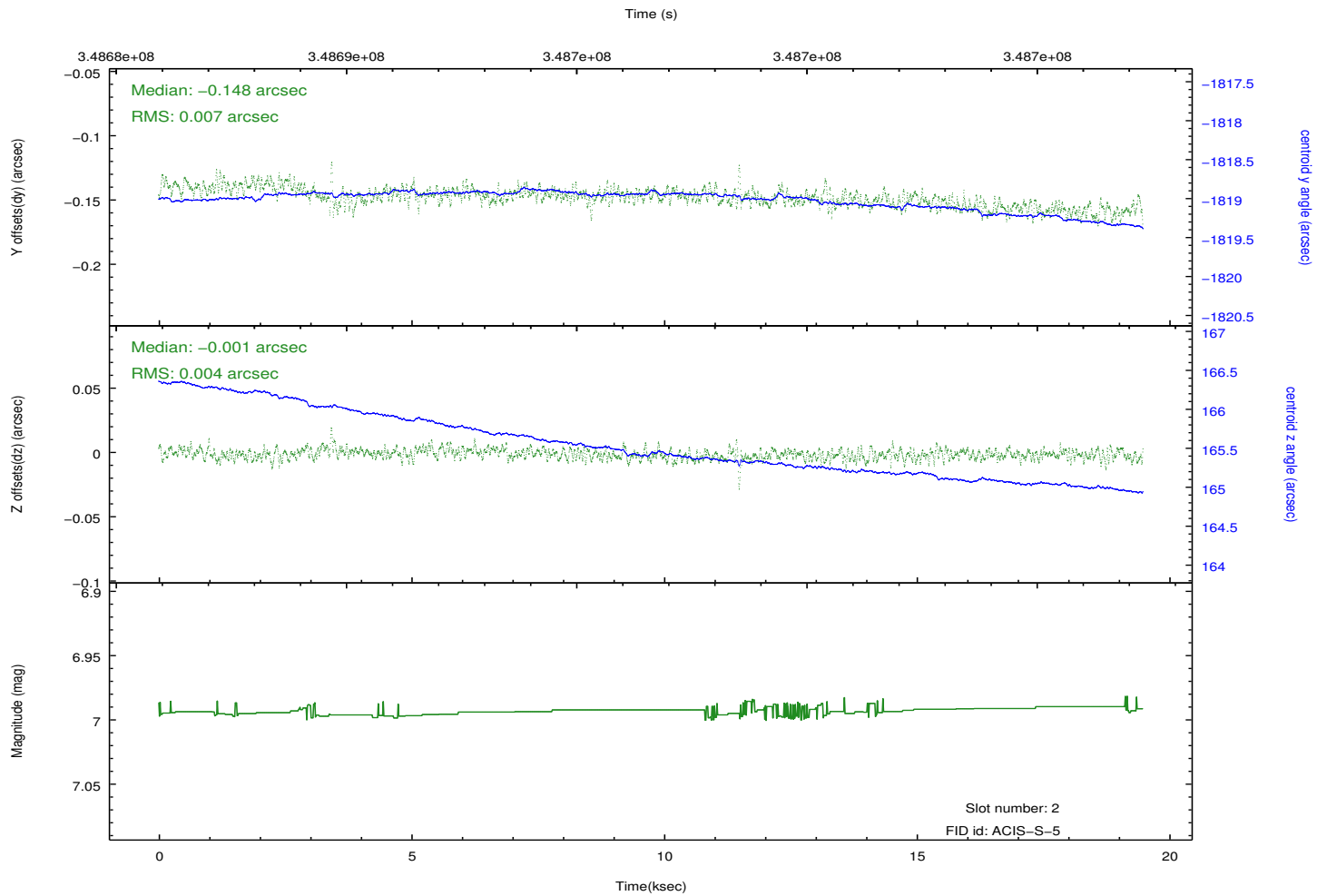
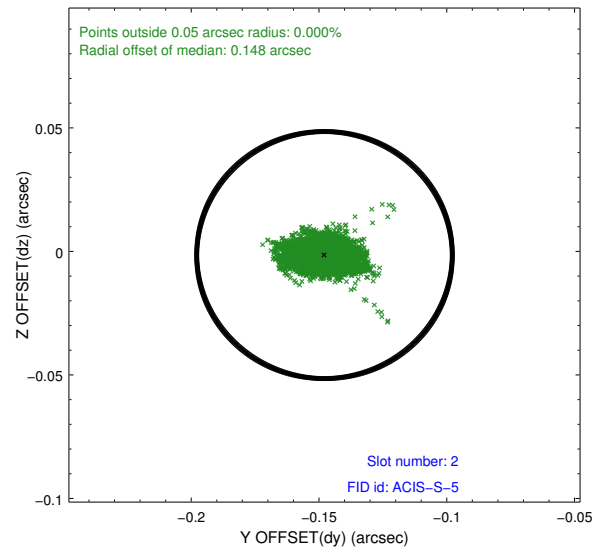
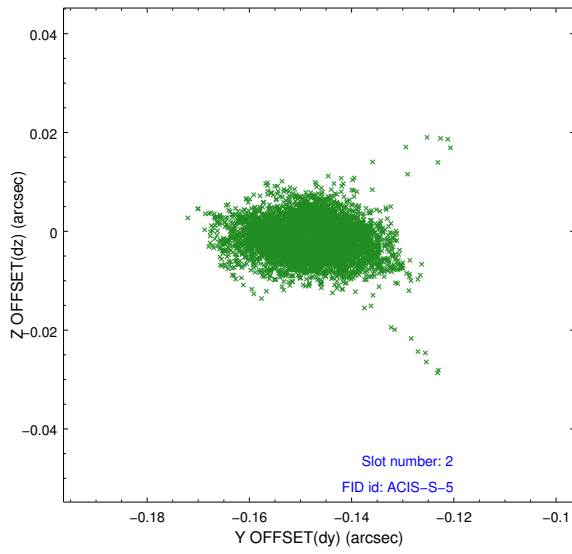
2.5.1 Slot 0



2.5.2 Slot 1

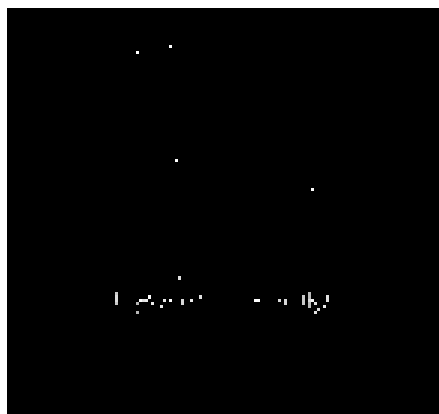


2.5.3 Slot 2

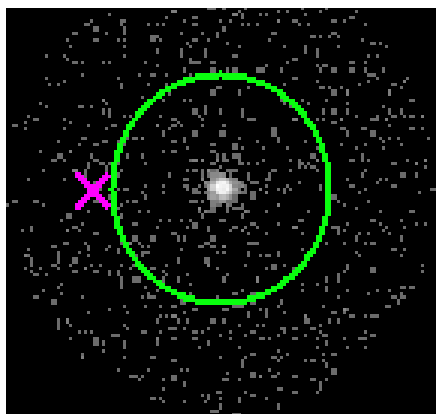


3 Gratings

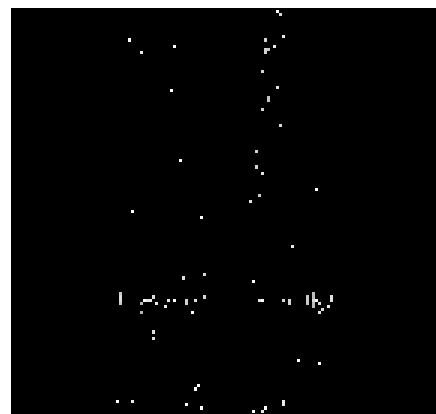
3.1 HEG Arm



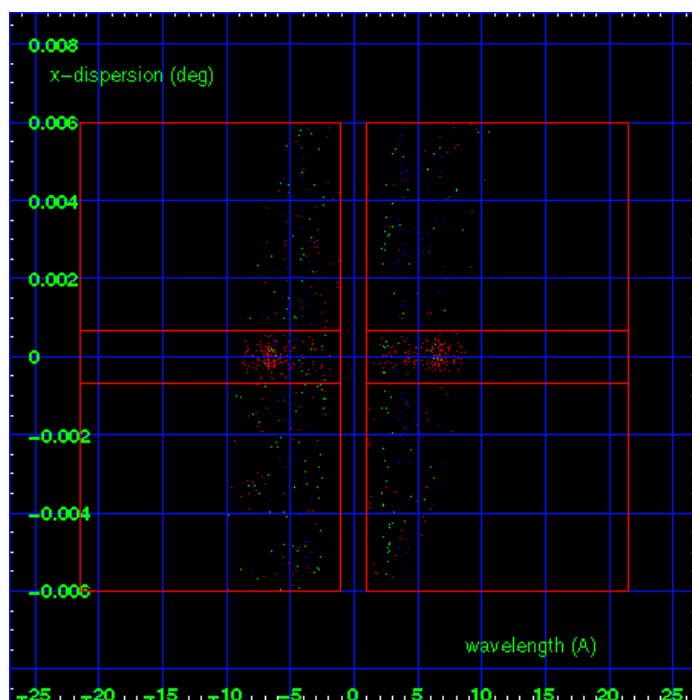
HEG Order Sort 123



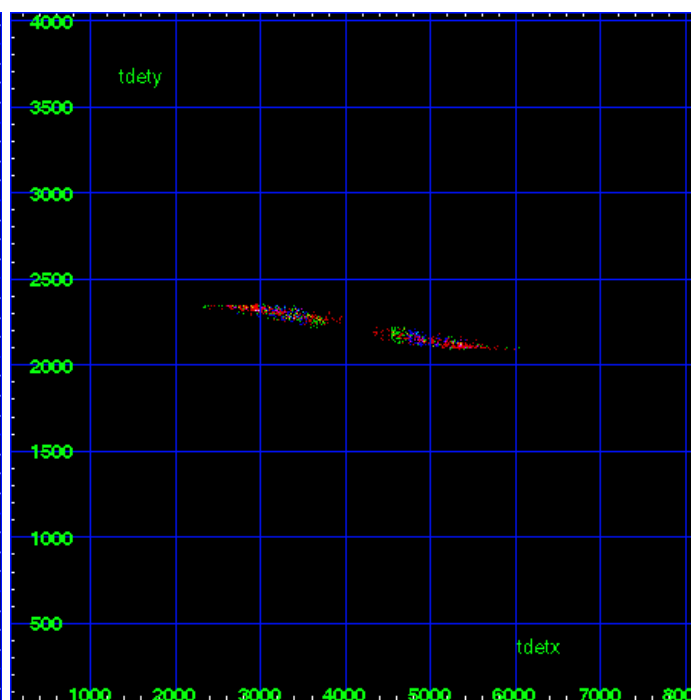
HEG Zero Order



HEG Order Sort ALL

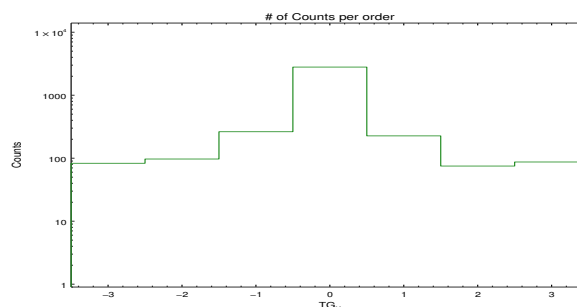


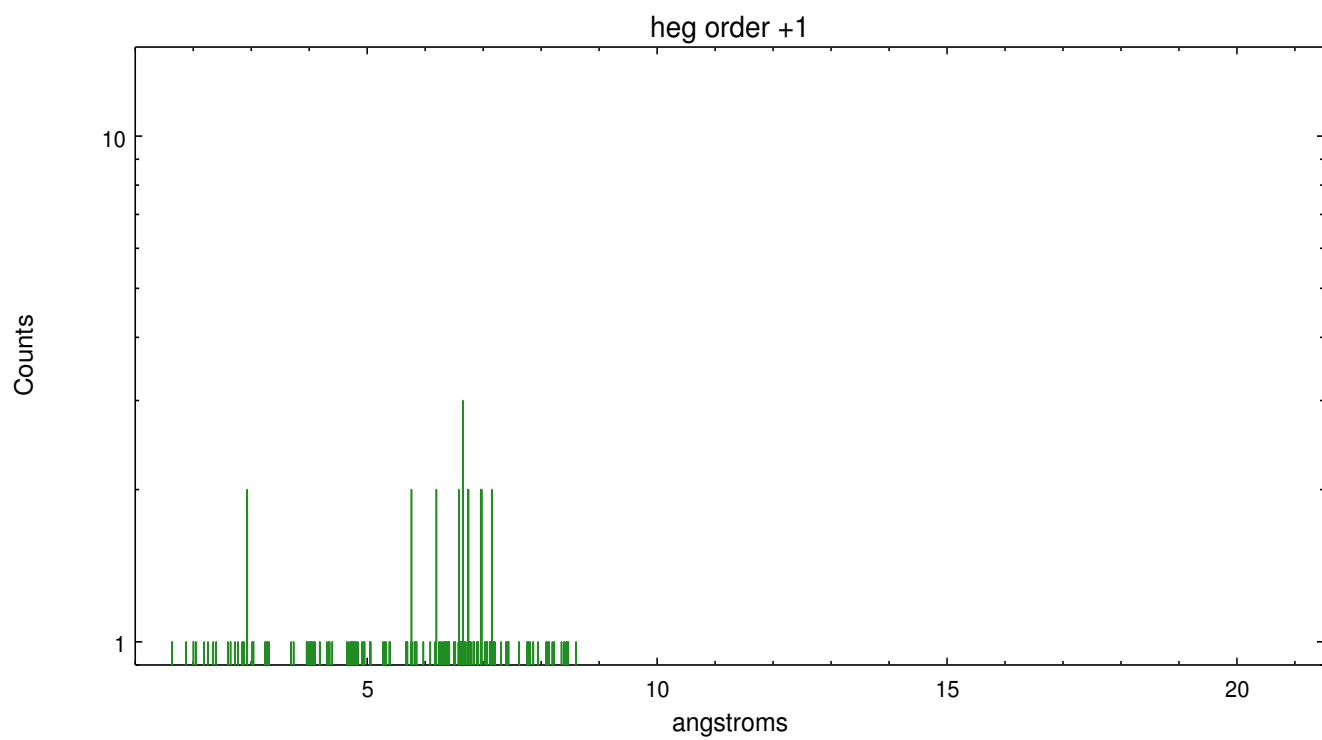
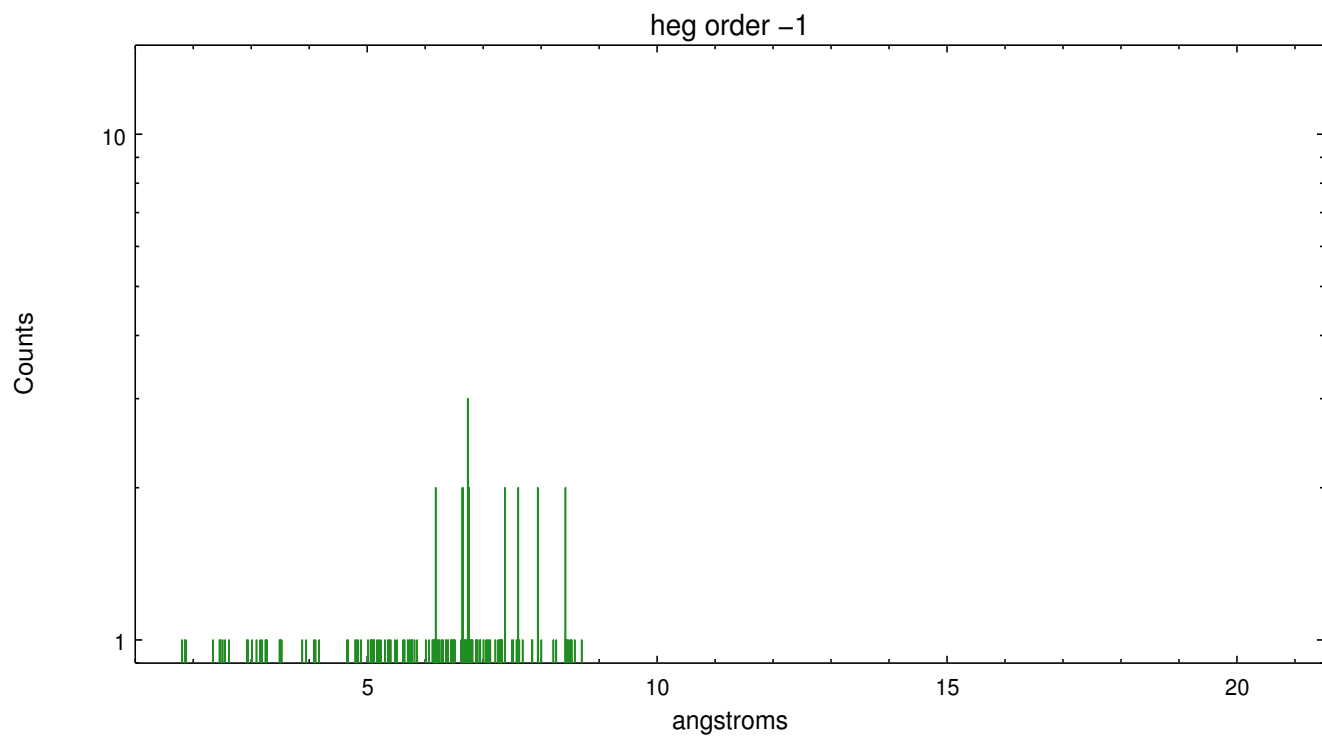
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	83	97	263	2795	226	75	87

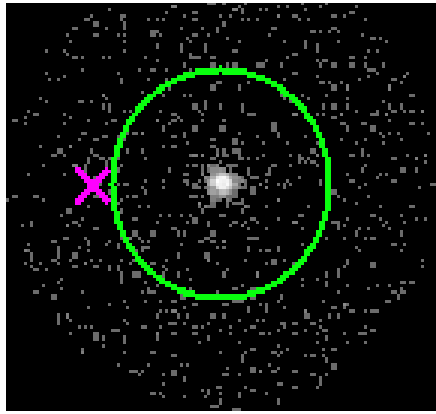




3.2 MEG Arm



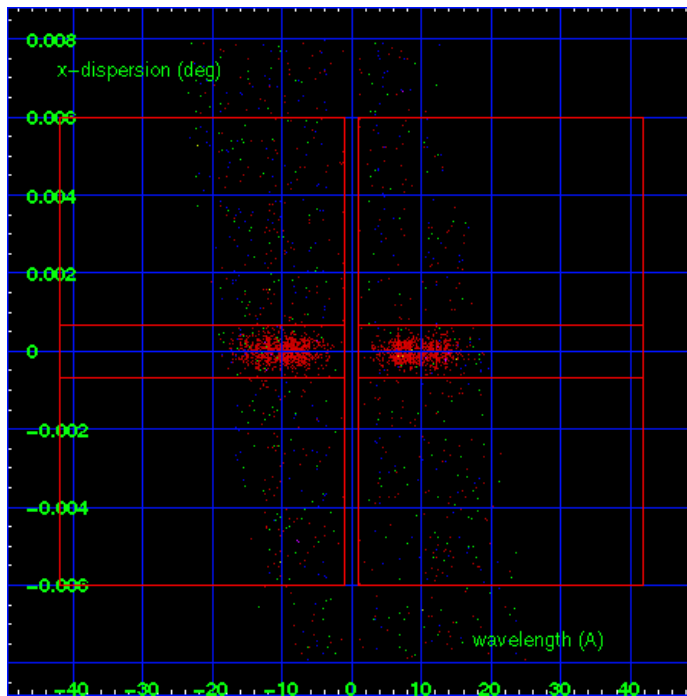
MEG Order Sort 123



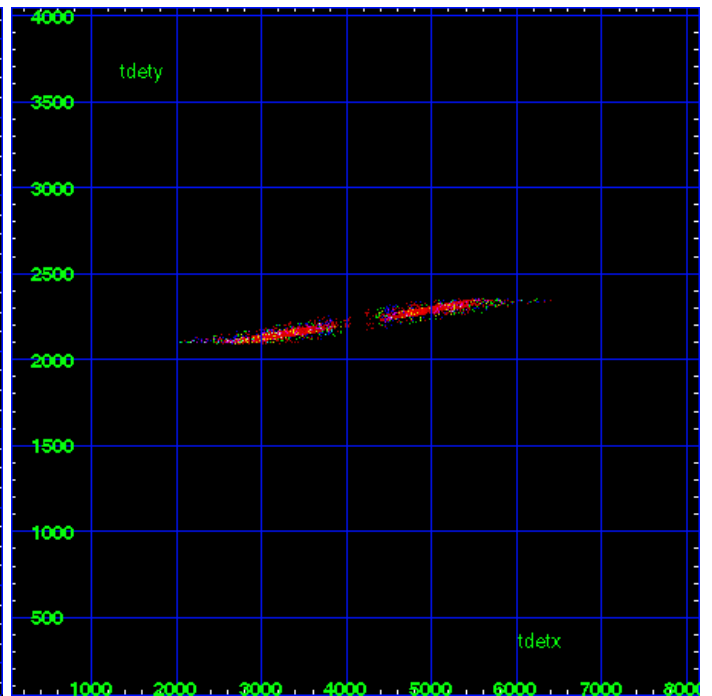
MEG Zero Order



MEG Order Sort ALL

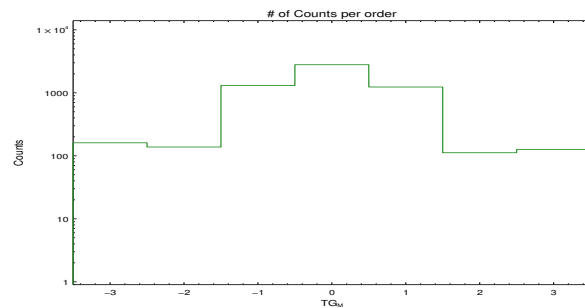


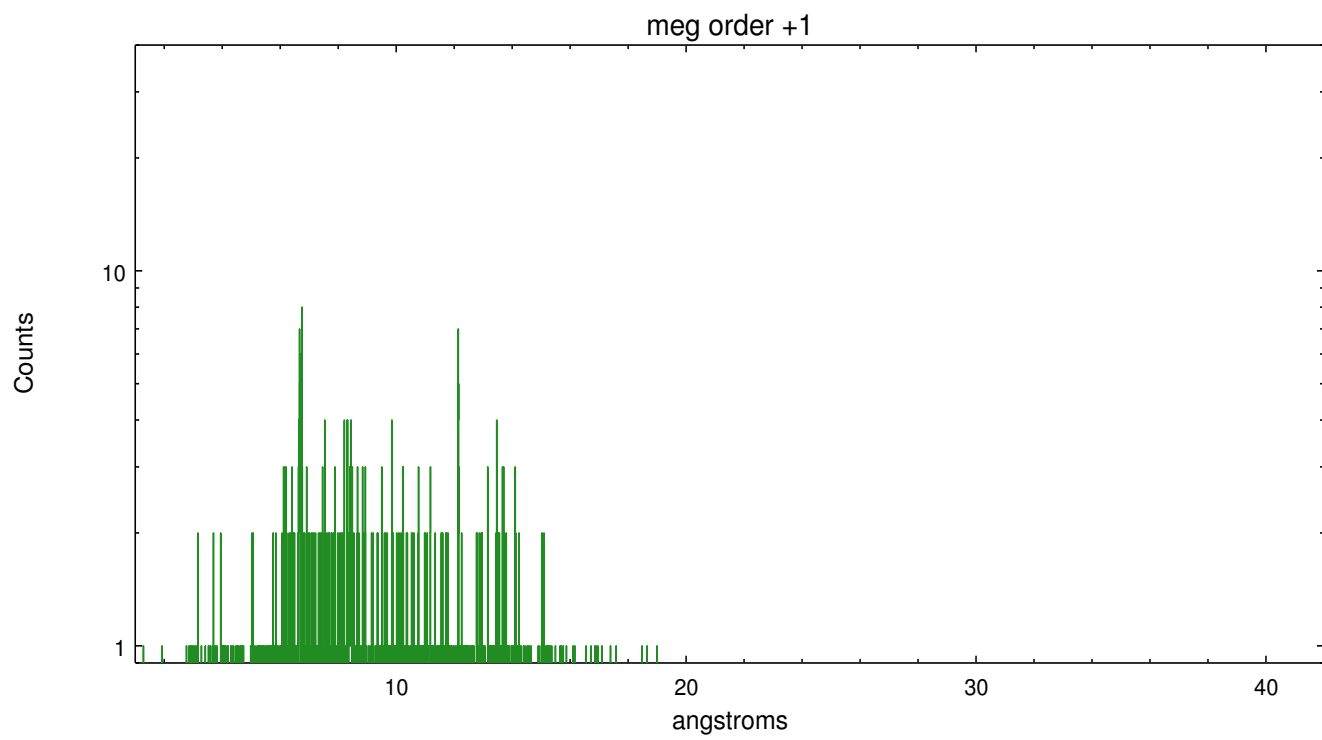
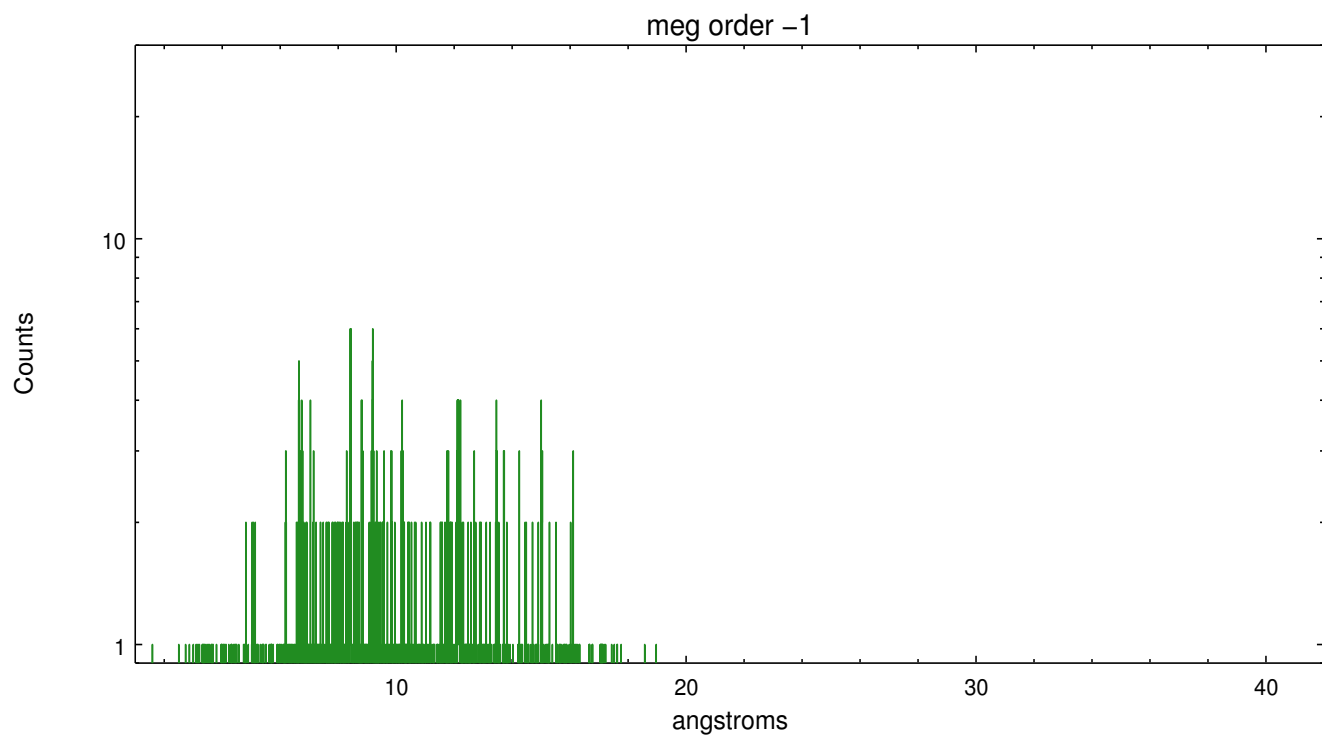
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	161	138	1307	2795	1237	112	126





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	19.4777004

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. ===