

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 11091 - L2 Version 2
Chandra X-Ray Center

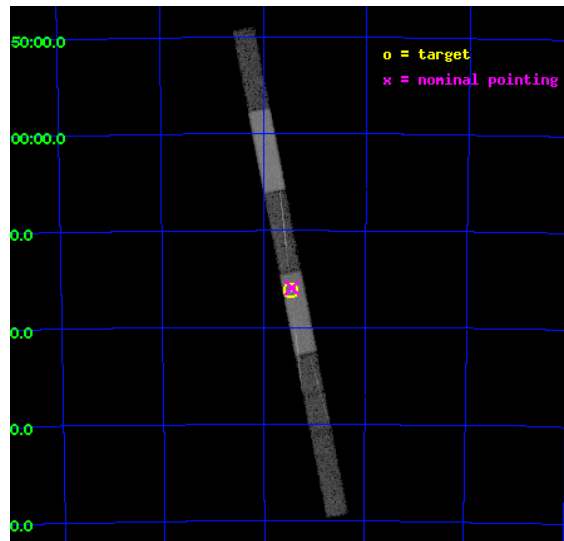
L2 Processing Date : Jul 4 2012

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
3	Gratings	17
3.1	HEG Arm	17
3.2	MEG Arm	19
A	Summary	21
A.1	Status	21
A.2	Comments	21

1 Front

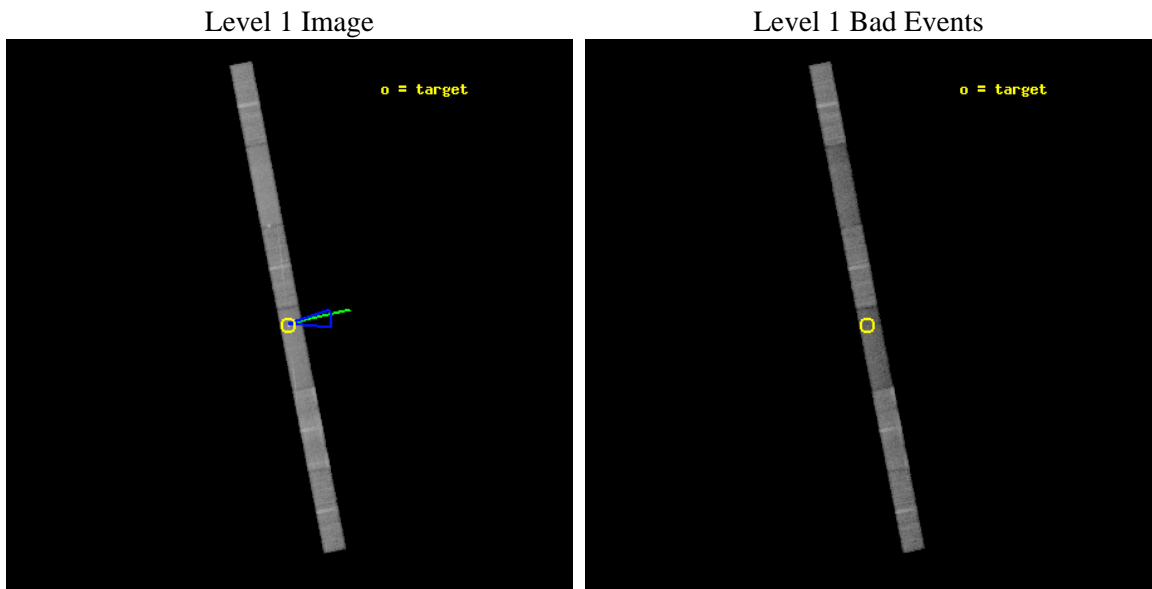
seq_num	501181	Sequence number
obs_id	11091	Observation id
title	CHANDRA CYCLE 11 SPATIAL AND SPECTRAL MONITORING OF SNR1987A	Propo
observer	Prof. David Burrows	Principal investigator
object	SNR 1987A	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.866667	Observer's specified target RA [deg]
dec_targ	-69.26975	Observer's specified target Dec [deg]
ra_nom	83.861865924024	Nominal RA [deg]
dec_nom	-69.265200142215	Nominal Dec [deg]
roll_nom	78.902129976354	Nominal Roll [deg]
revision	2	Processing version of data
ontime	29069.708826542	Sum of GTIs [s]
livetime	27923.719383061	Livetime [s]
ontime4	29069.749866545	Sum of GTIs [s]
ontime5	29069.667786539	Sum of GTIs [s]
ontime6	29069.626746535	Sum of GTIs [s]
ontime7	29069.708826542	Sum of GTIs [s]
ontime8	29069.585706532	Sum of GTIs [s]
ontime9	29069.544666529	Sum of GTIs [s]
l2events	91175	Number of level 2 events



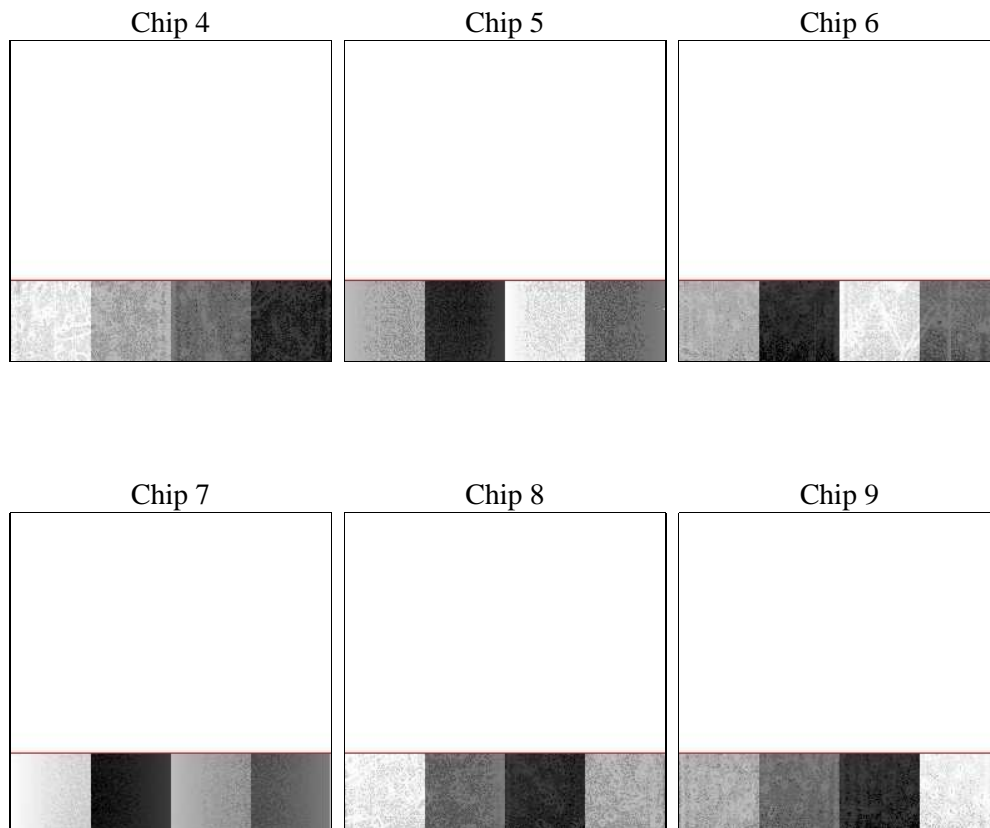
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	29000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	29069.708826542	Sum of GTIs [s]
caldbver	4.5.0	 	ontime4	29069.749866545	Sum of GTIs [s]
date	2012-07-04T03:15:05	Date and time of file creation	ontime5	29069.667786539	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	29069.626746535	Sum of GTIs [s]
			ontime7	29069.708826542	Sum of GTIs [s]
			ontime8	29069.585706532	Sum of GTIs [s]
			ontime9	29069.544666529	Sum of GTIs [s]
			l1events	381763	Number of level 1 events

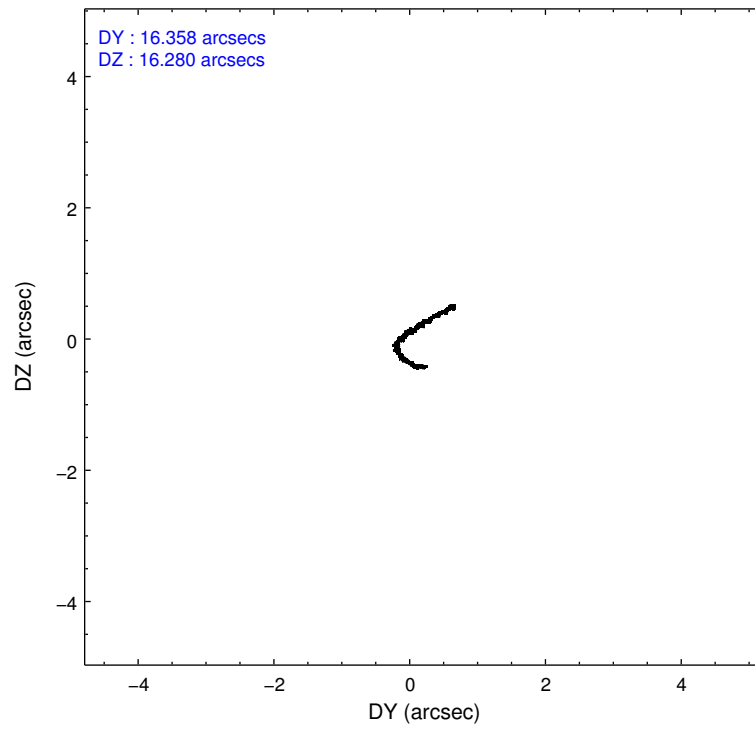
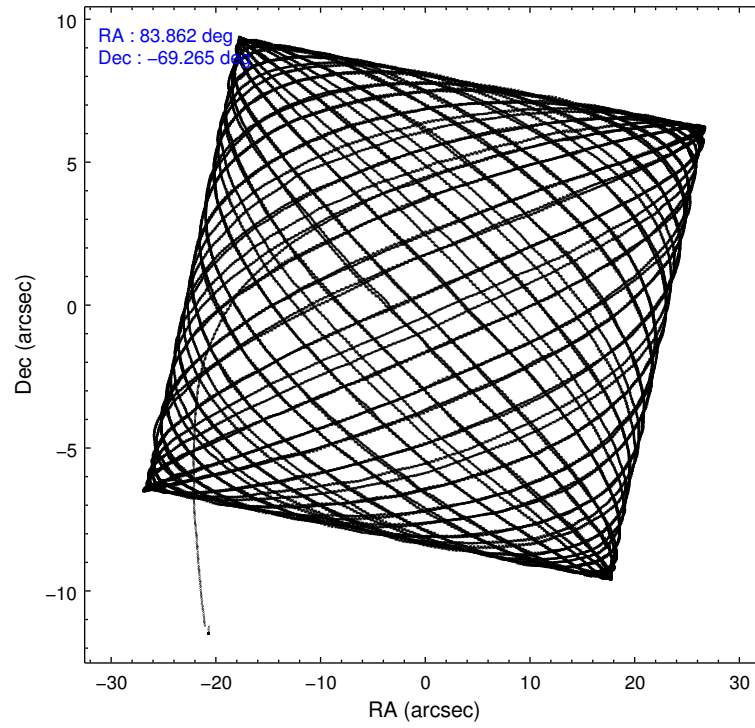
2.1.4 Events

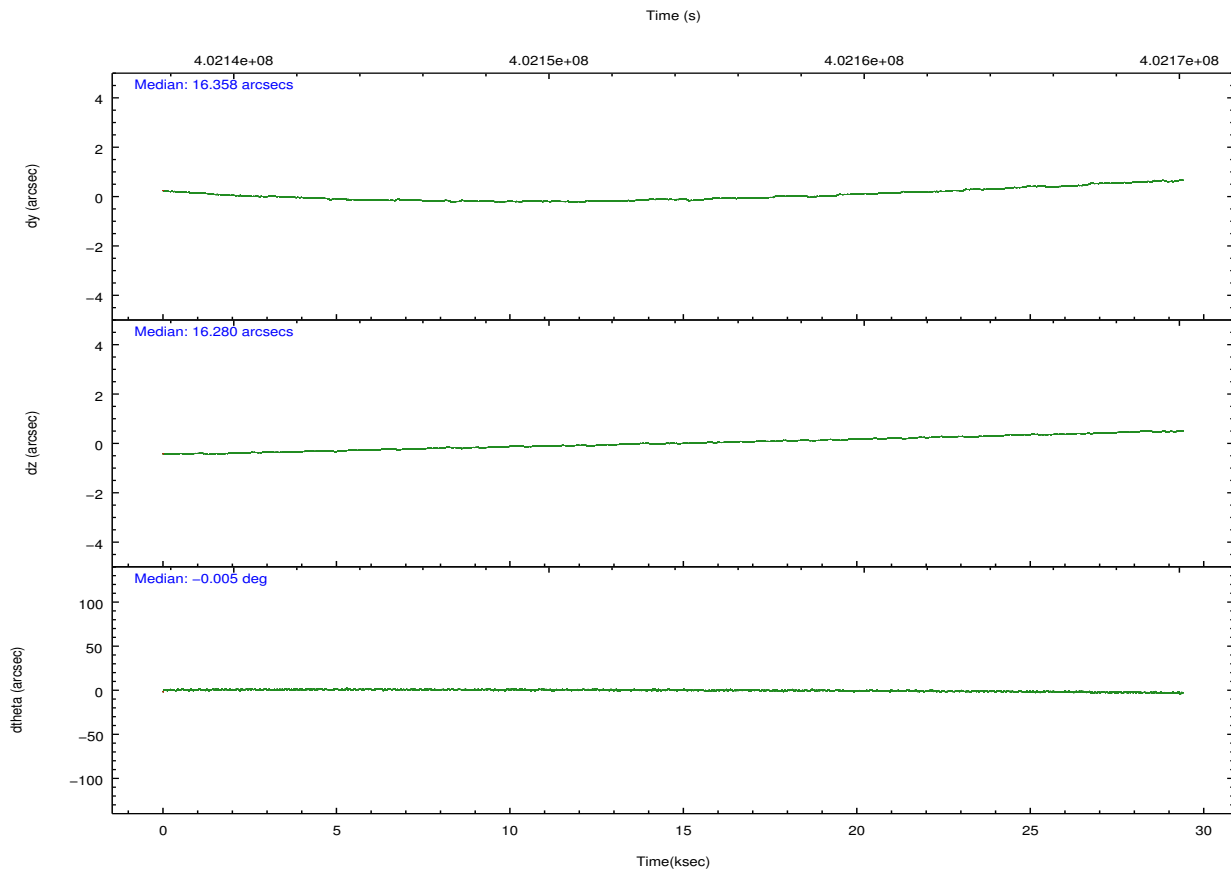
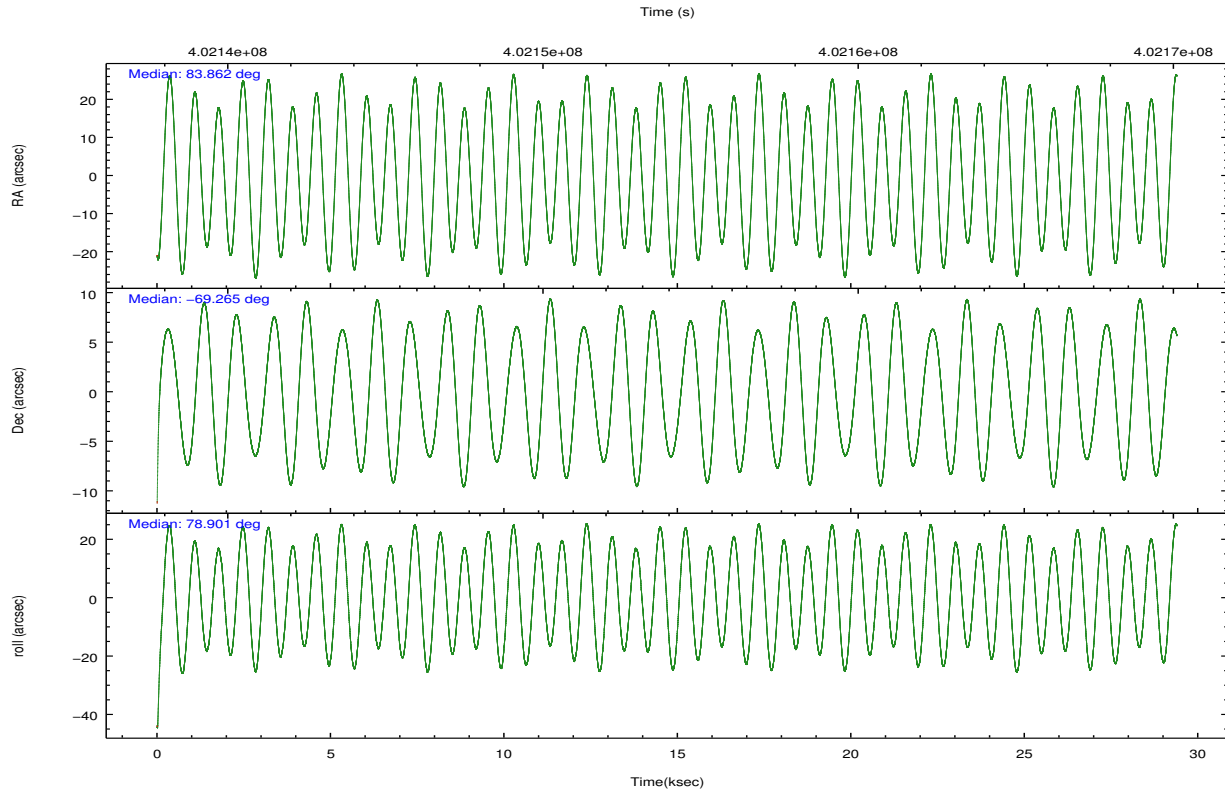
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	67161	68615	59666	57849	76412	52060	grade 0 events	2123	4342	4169	4164	5763	1867
rejected events	60389	30576	50481	25985	55539	45972		3%	6%	6%	7%	7%	3%
rejected %	89%	44%	84%	44%	72%	88%	grade 1 events	15	188	31	114	45	21
								0%	0%	0%	0%	0%	0%
							grade 2 events	1683	10048	1607	7031	4448	1241
								2%	14%	2%	12%	5%	2%
							grade 3 events	921	3114	1079	3636	2460	977
								1%	4%	1%	6%	3%	1%
							grade 4 events	937	2989	1061	3554	2300	871
								1%	4%	1%	6%	3%	1%
							grade 5 events	1656	6474	1666	5509	2646	1811
								2%	9%	2%	9%	3%	3%
							grade 6 events	1108	17547	1269	13480	5902	1132
								1%	25%	2%	23%	7%	2%
							grade 7 events	58718	23913	48784	20361	52848	44140
								87%	34%	81%	35%	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	83.887898	83.86186592402397	CCD I2 on	N	N
[deg] Pointing Dec	-69.290940	-69.26520014221477	CCD I3 on	N	N
[deg] Pointing Roll	78.769863	78.90212997635359	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)	400550466.184000	400550466.184000	CCD S4 on	Y	Y
[s] Window stop time (MET)	402624066.184000	402624066.184000	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	-181.712523	-181.7120811590428	Subarray requested	CUSTOM	1/4
[mm] SIM translation stage offset	-8.42	-8.420441423965059	Subarray start row	1	1
[s] Observation start time (MET)	402139632.184000	402138380.33091	Subarray row count	256	256
Observation start date	2010-09-29T09:26:06	2010-09-29T09:06:20	Alternating exposures requested	N	N
[s] Observation end time (MET)	402168632.184000	402169346.095	[s] Primary exposure time	0.000000	1
Observation end date	2010-09-29T17:29:26	2010-09-29T17:42:26			
Read mode	TIMED	TIMED			

2.3 Aspect



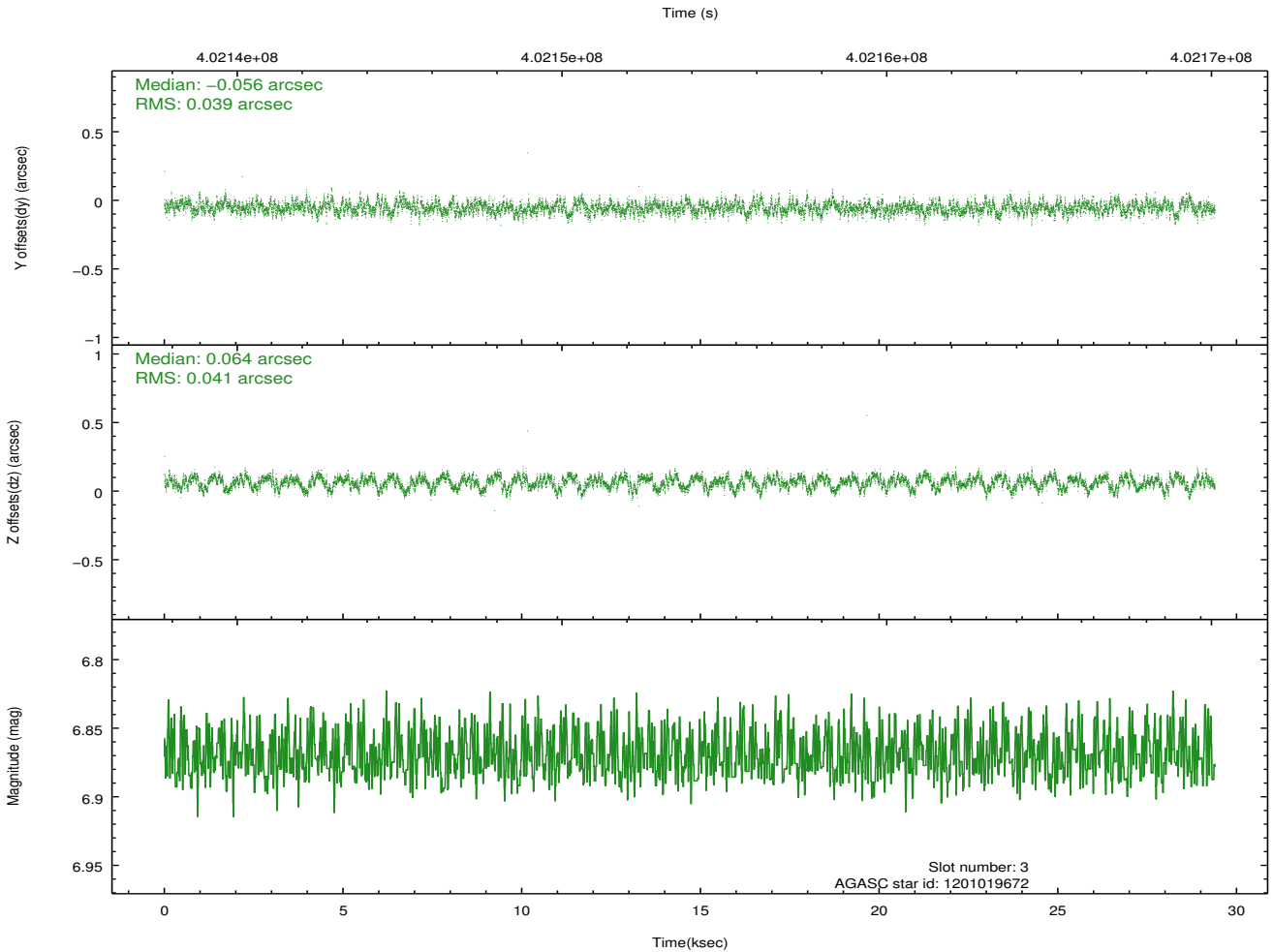
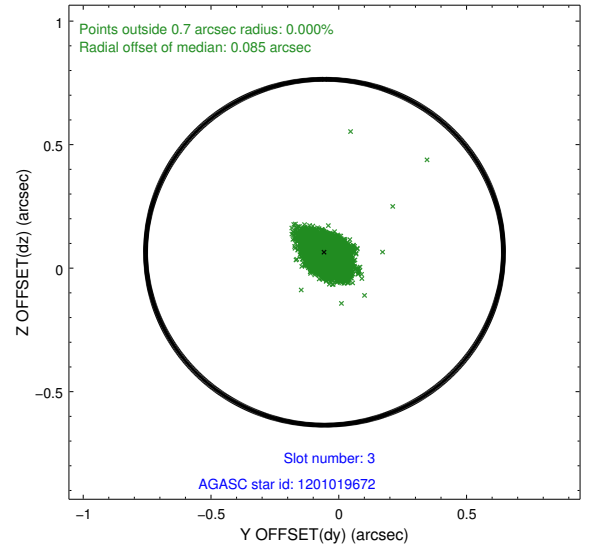
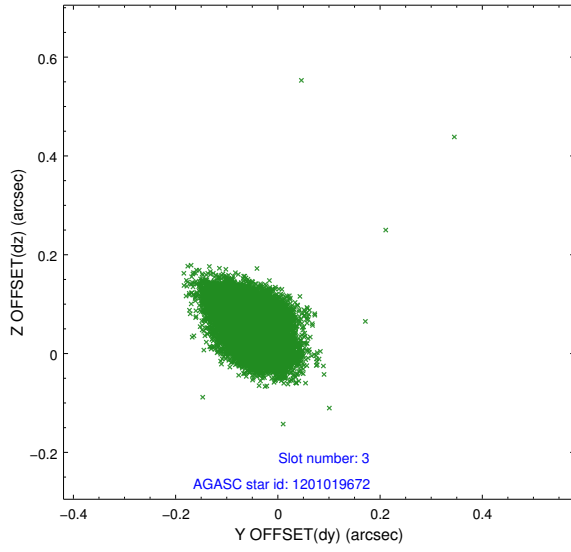


Slot Statistics

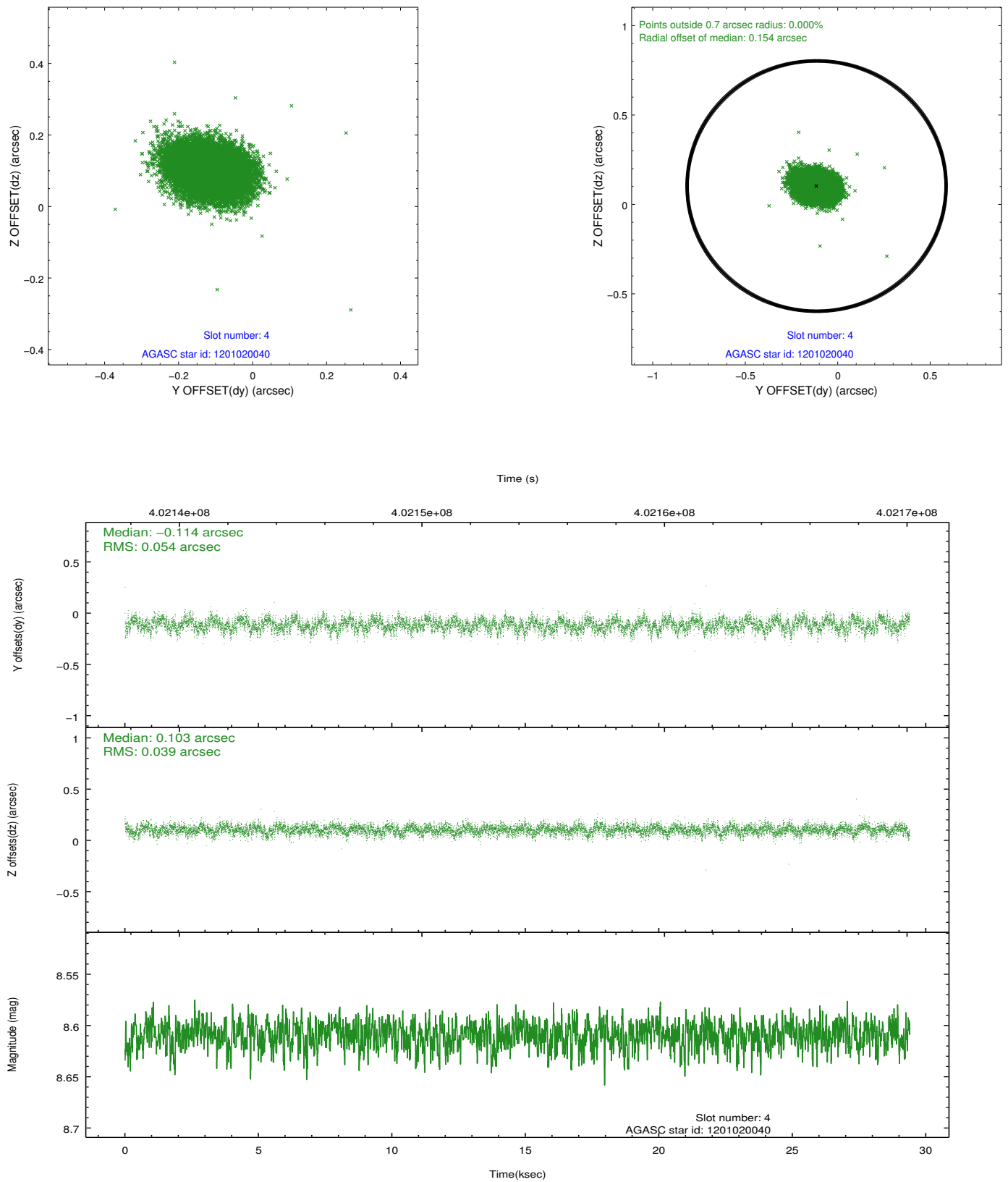
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	6.96	7170	0.101	0.135	0.010	0.019	0.000000	0.000000	927.31	-1906.65
1	FID	ACIS-S-2	6.88	7170	-0.188	-0.103	0.010	0.018	0.000000	0.000000	-768.83	-1911.54
2	FID	ACIS-S-6	7.17	7170	0.068	-0.029	0.012	0.023	0.000000	0.000000	392.91	634.41
3	GUIDE	1201019672	6.87	14339	-0.056	0.064	0.059	0.098	85.312192	-68.770187	2179.60	-1459.73
4	GUIDE	1201020040	8.61	14330	-0.114	0.103	0.070	0.116	85.379163	-68.879396	1807.28	-1612.98
5	GUIDE	1201542672	8.19	14337	0.058	0.003	0.061	0.097	84.492488	-69.957531	-2209.70	-1199.85
6	GUIDE	1201410616	9.33	14320	0.202	-0.183	0.097	0.157	82.516808	-69.784406	-2093.03	1323.20
7	GUIDE	1201541752	7.36	14339	-0.084	0.013	0.053	0.086	85.373891	-70.033762	-2288.92	-2316.44

2.4 Star Slots

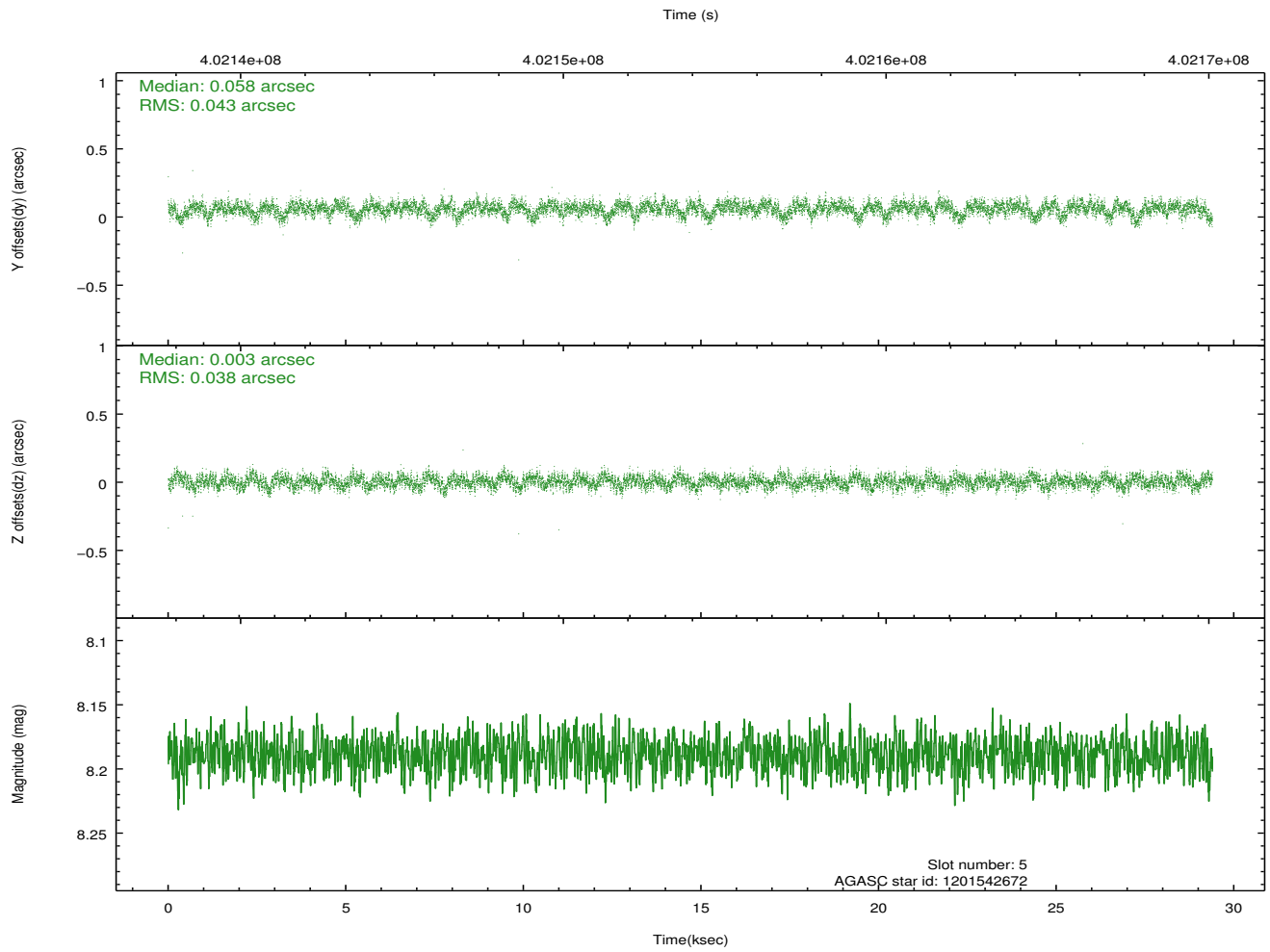
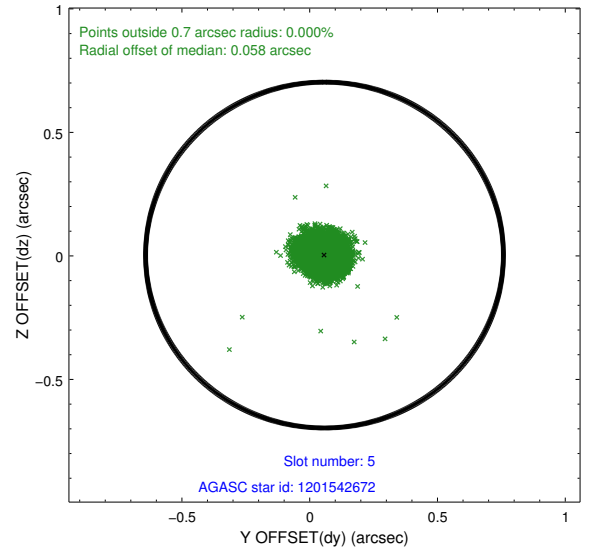
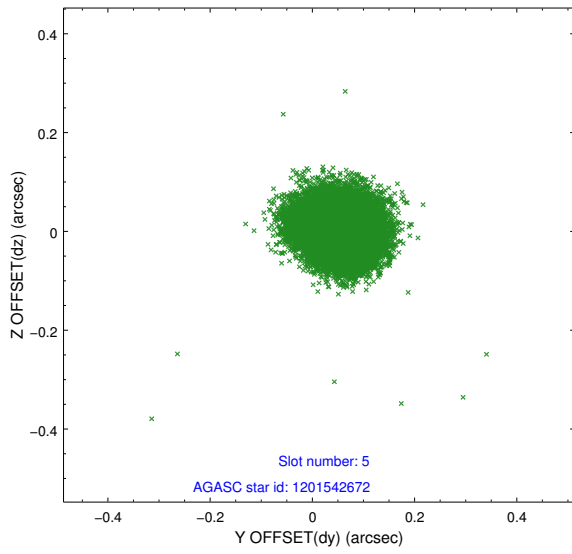
2.4.1 Slot 3



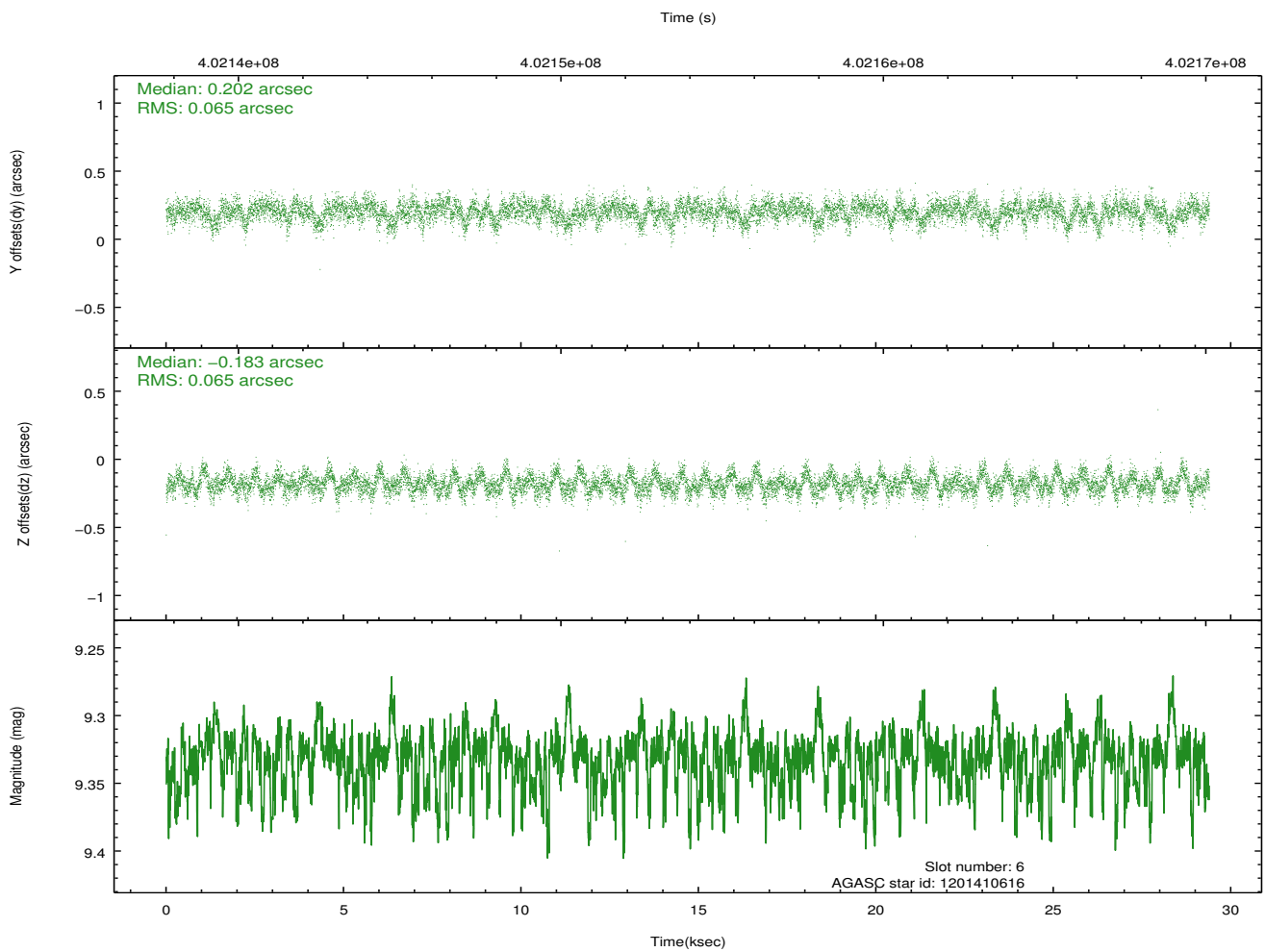
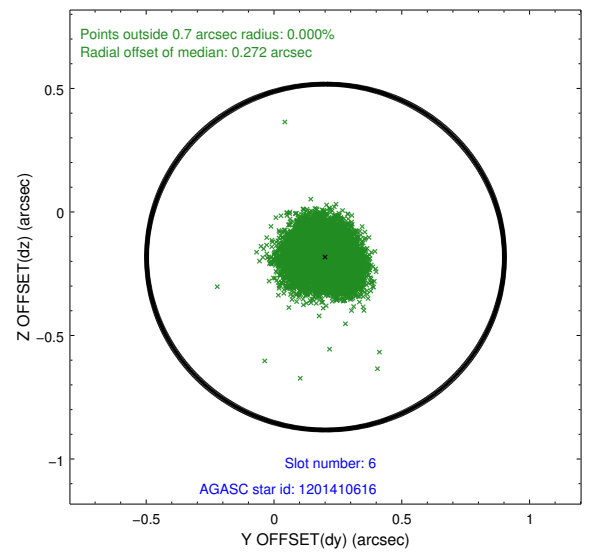
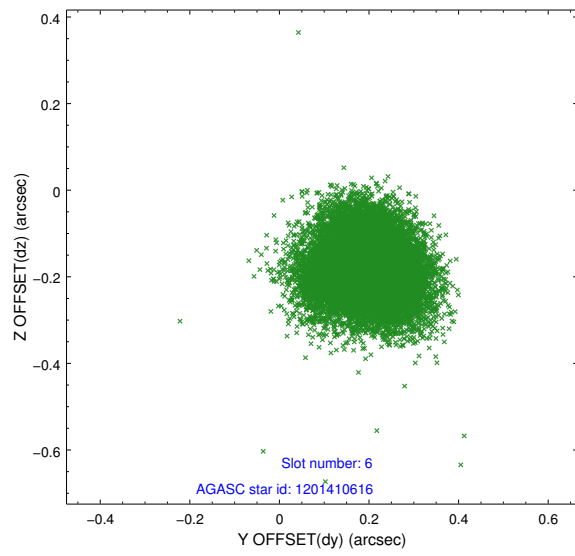
2.4.2 Slot 4



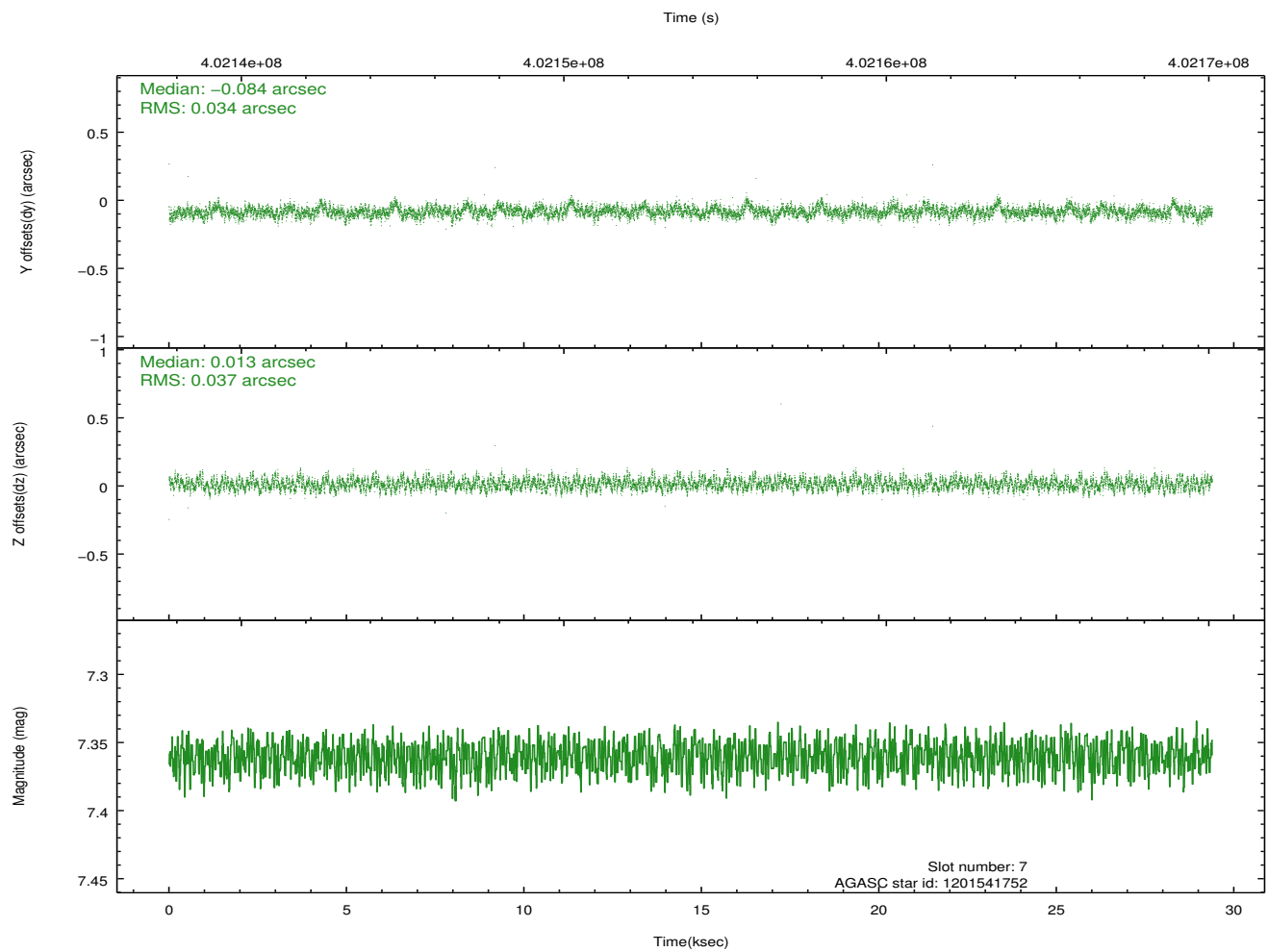
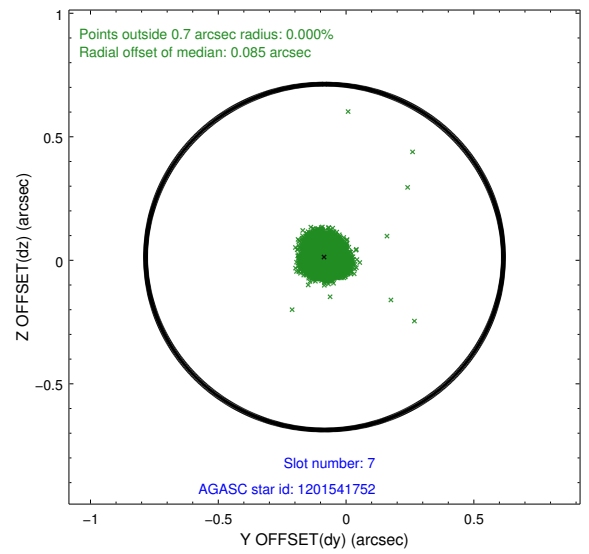
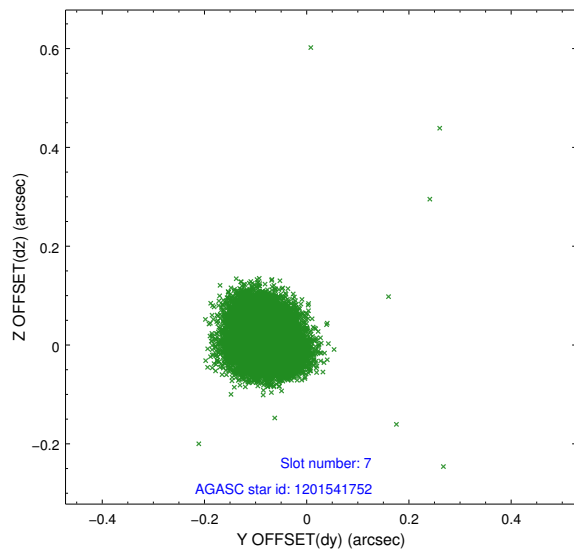
2.4.3 Slot 5



2.4.4 Slot 6

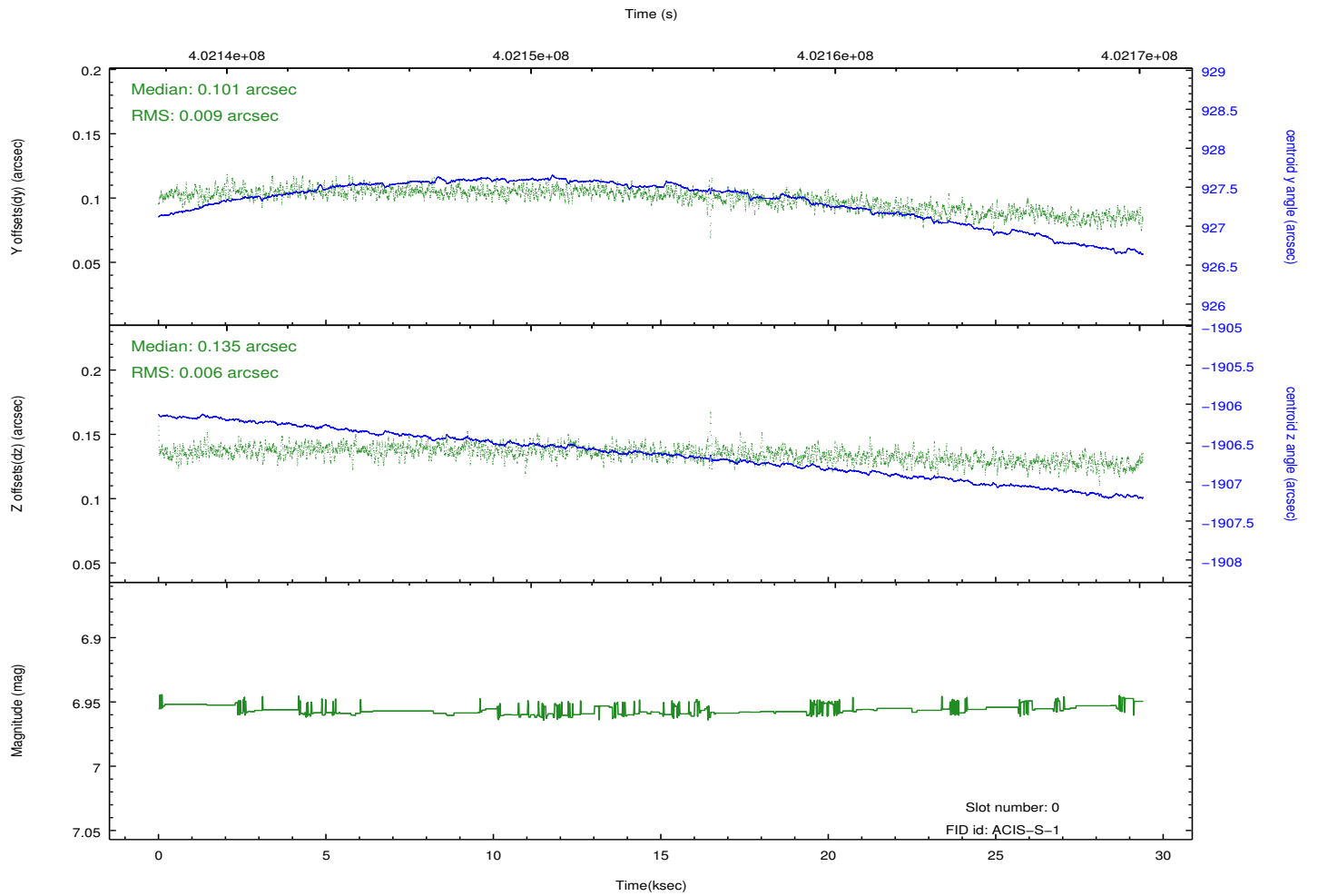
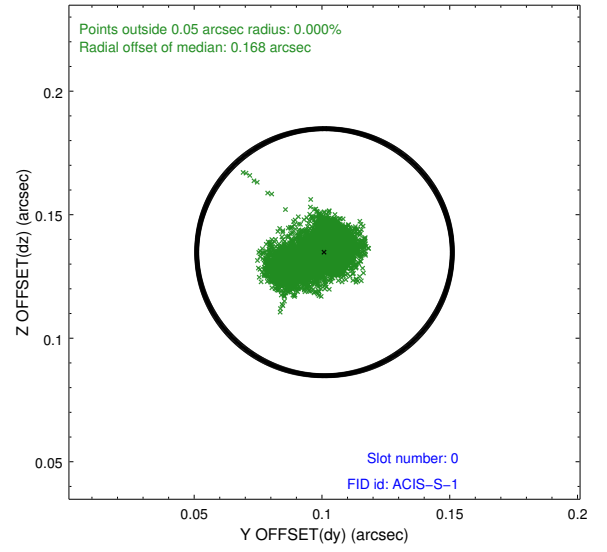
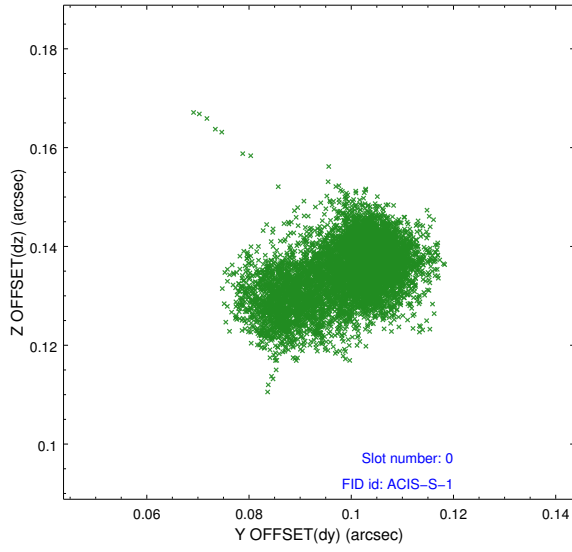


2.4.5 Slot 7

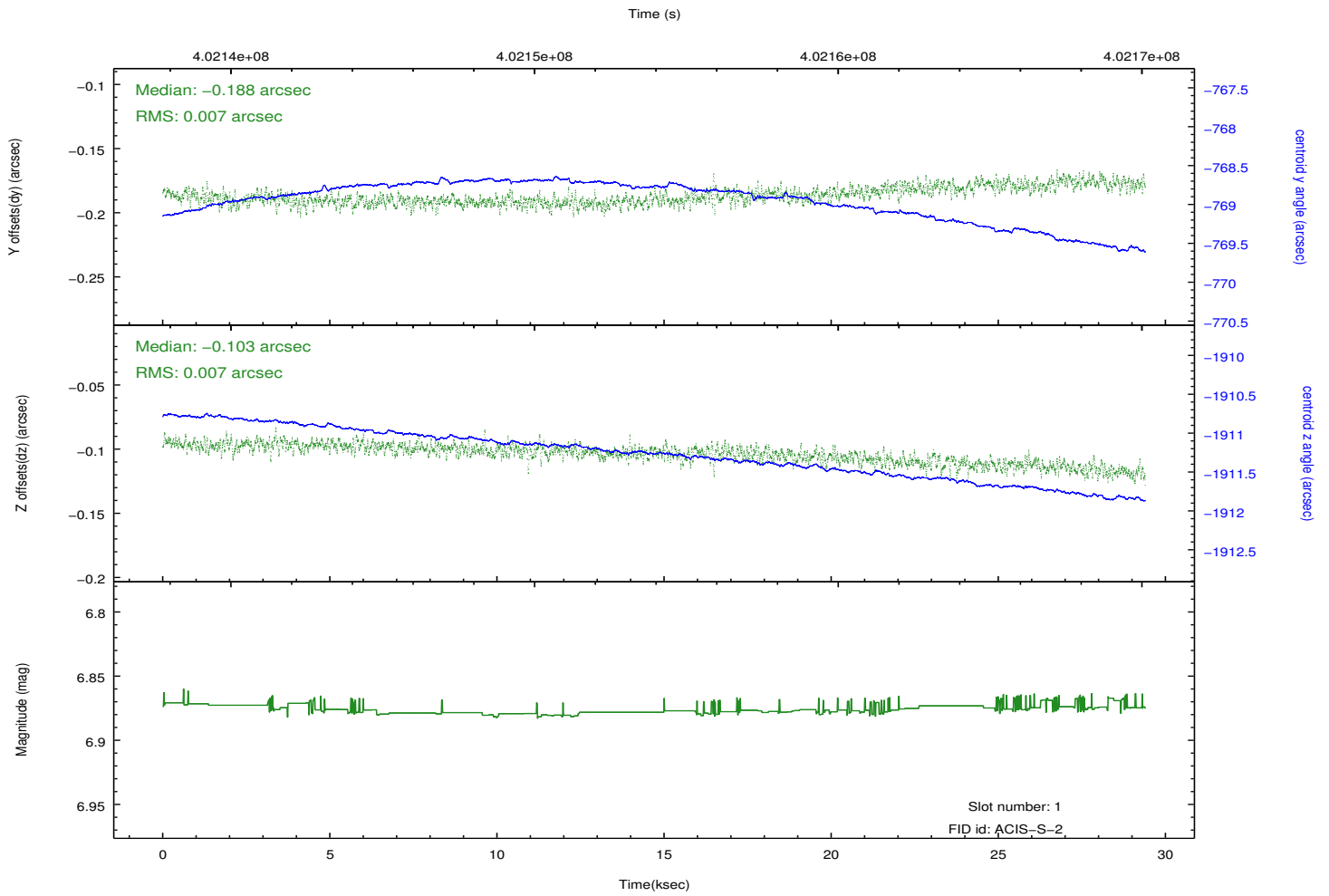
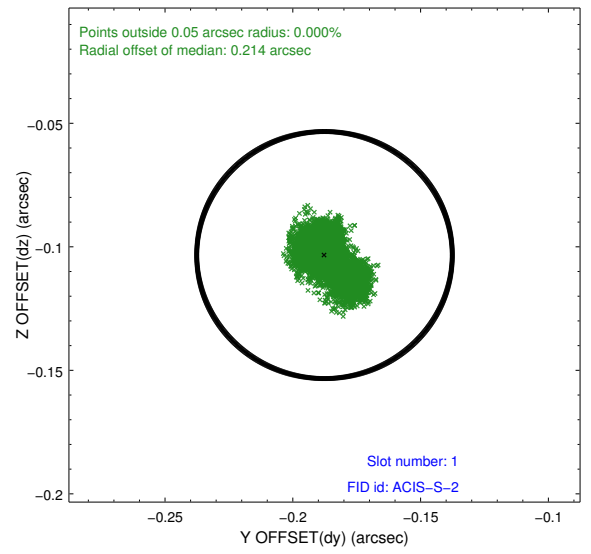
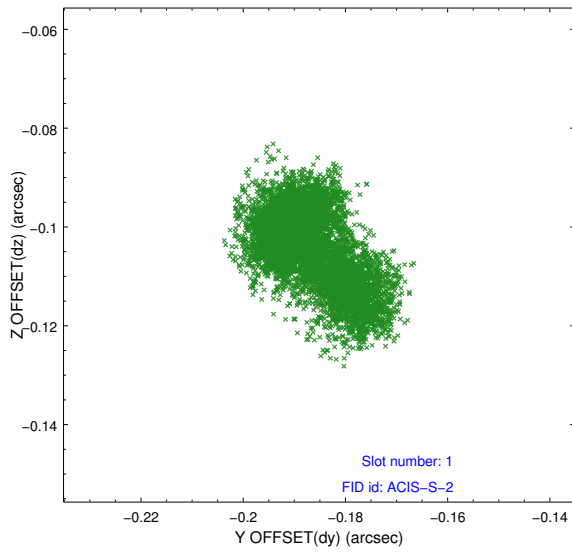


2.5 FID Slots

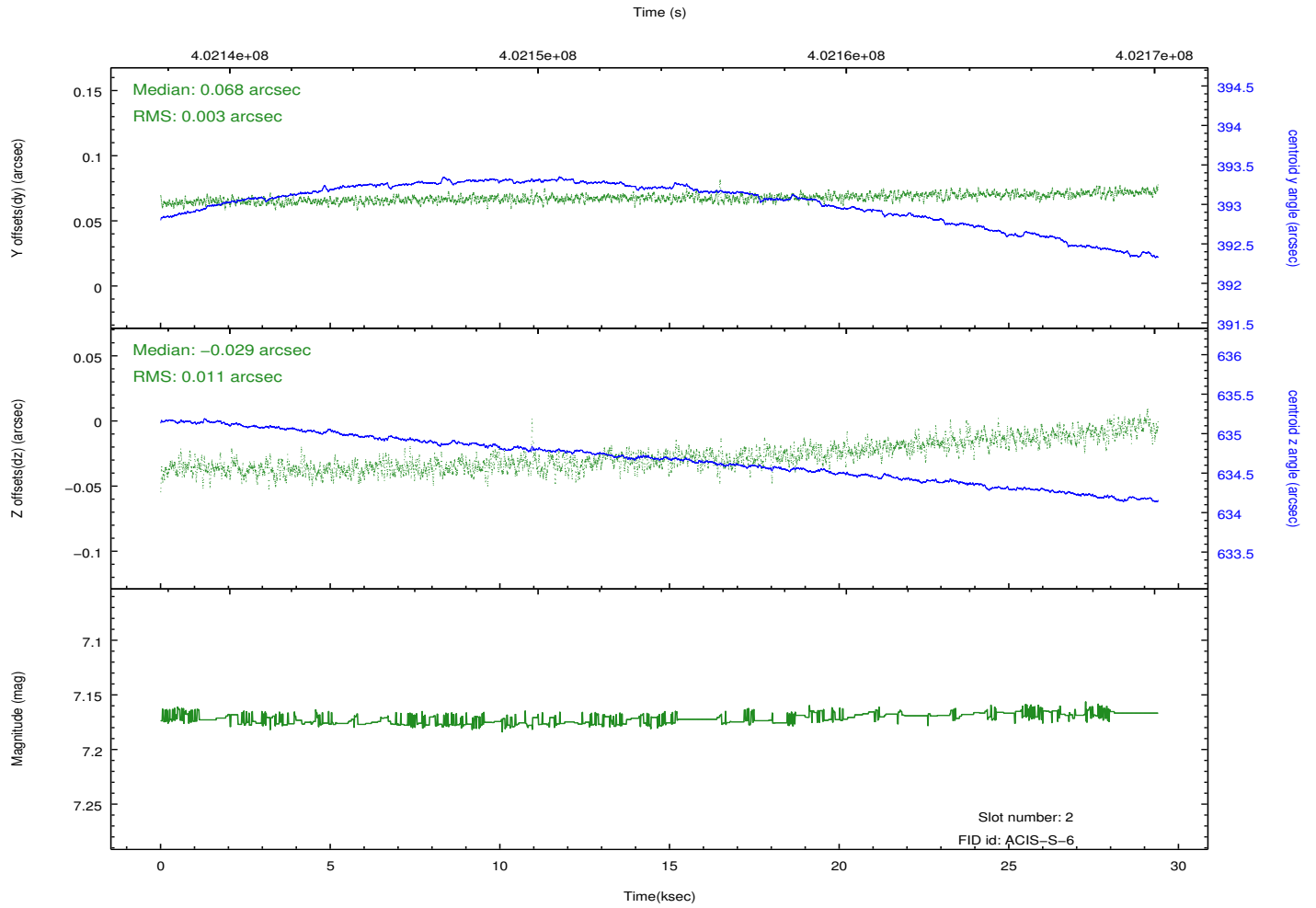
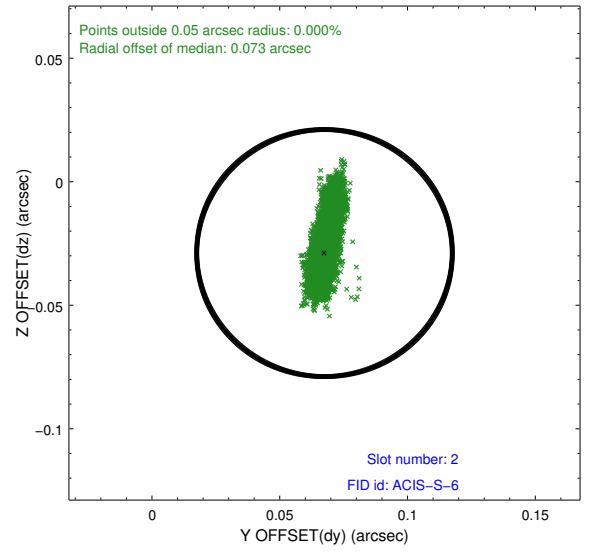
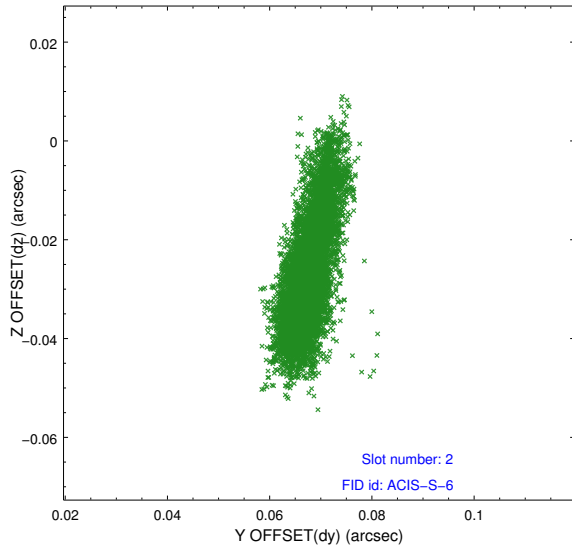
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

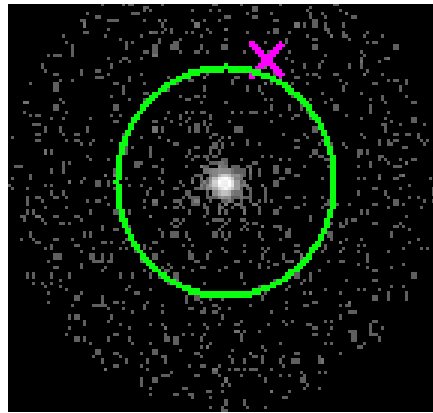


3 Gratings

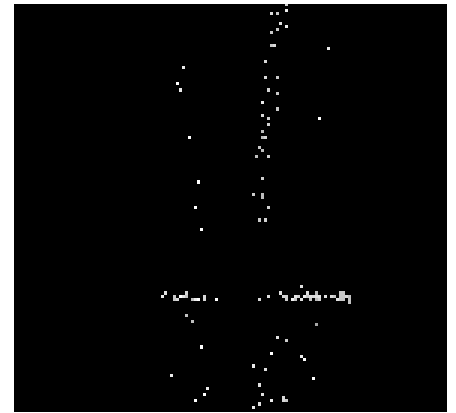
3.1 HEG Arm



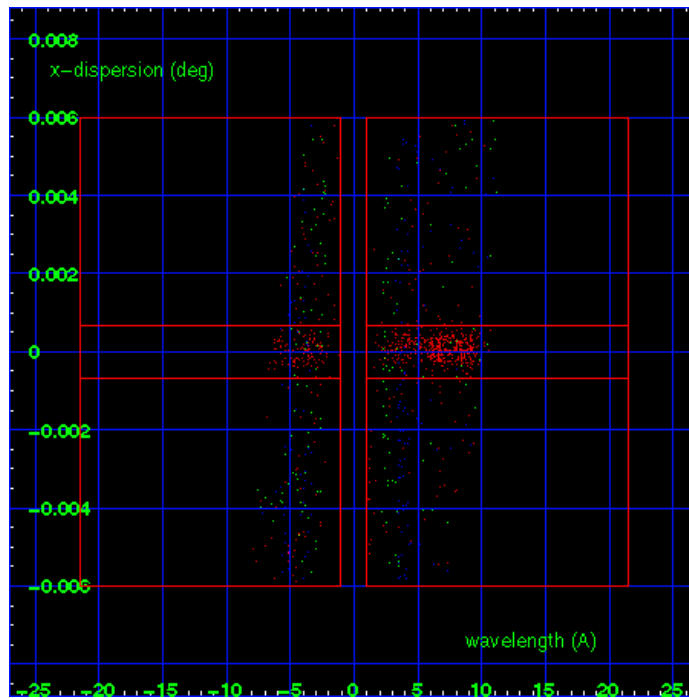
HEG Order Sort 123



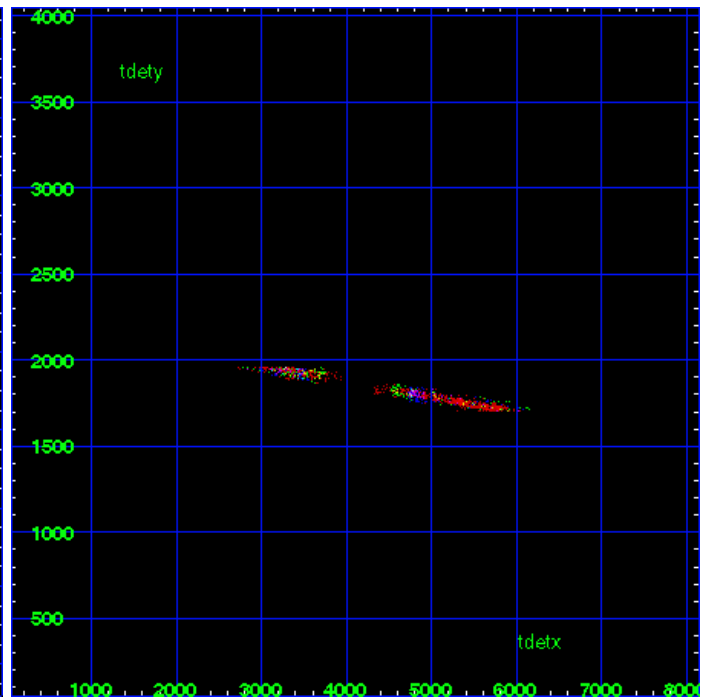
HEG Zero Order



HEG Order Sort ALL

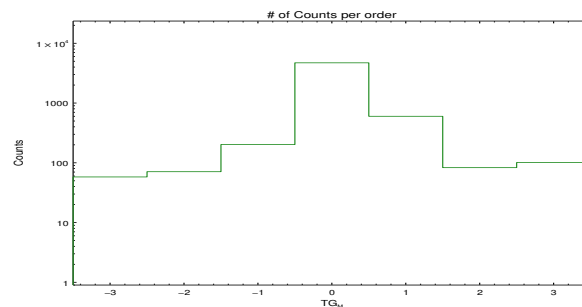


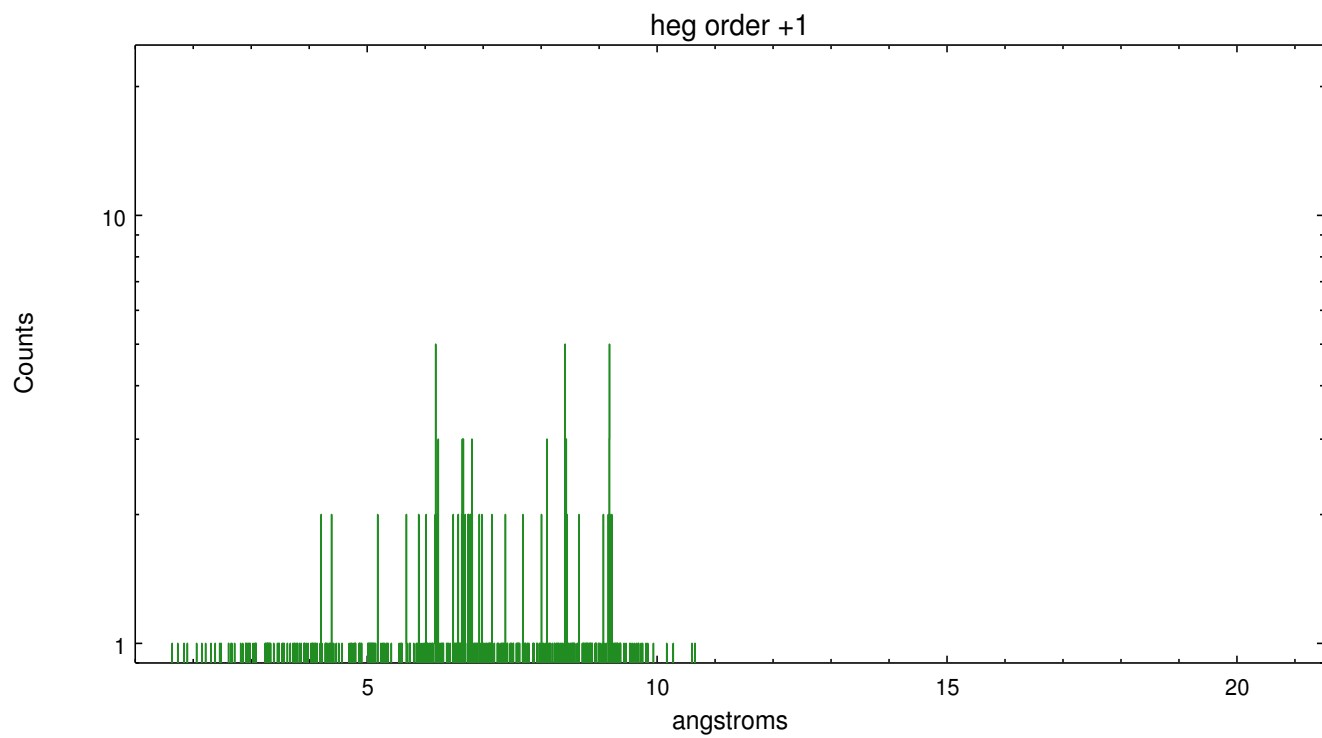
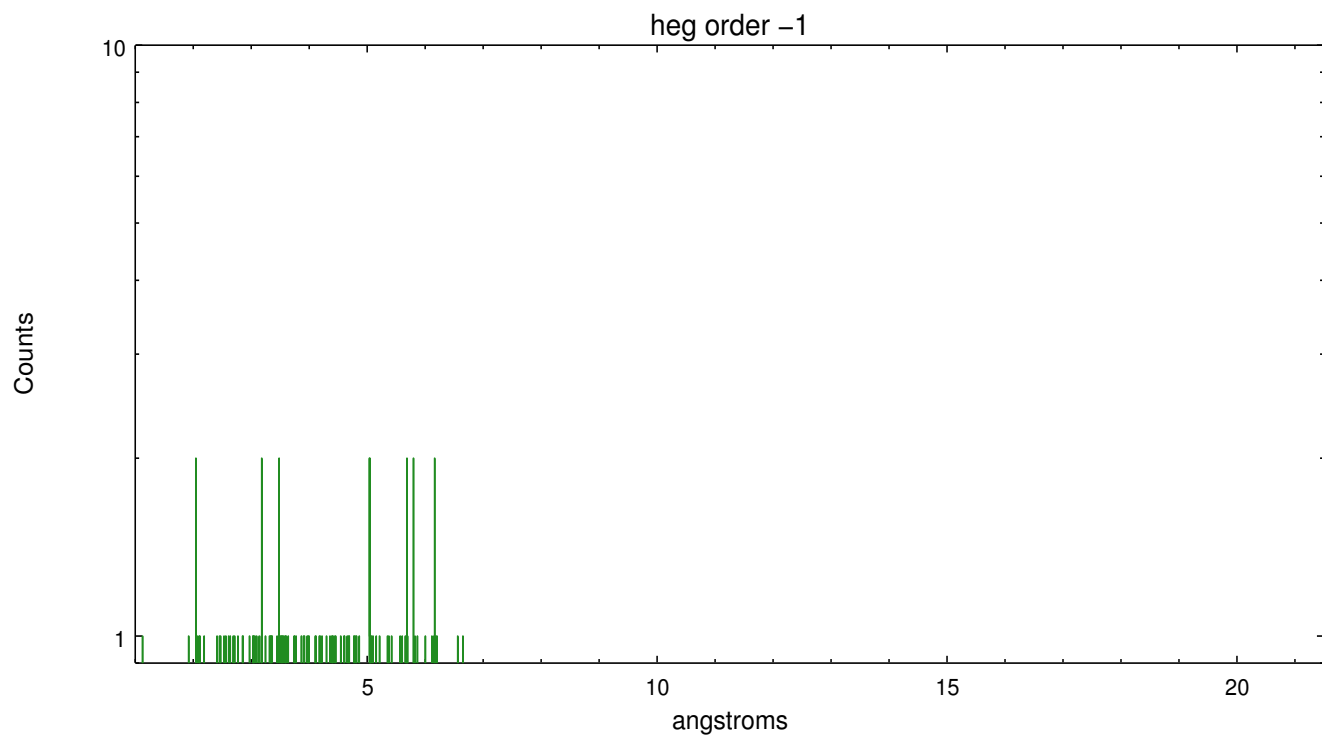
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	58	71	202	4713	600	83	101

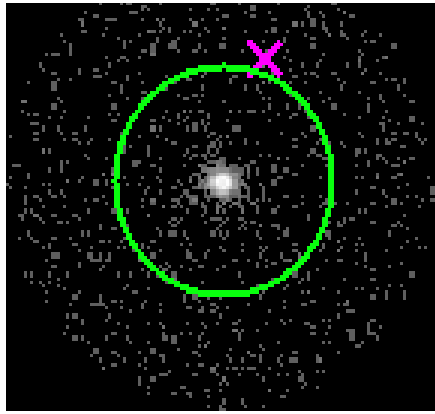




3.2 MEG Arm



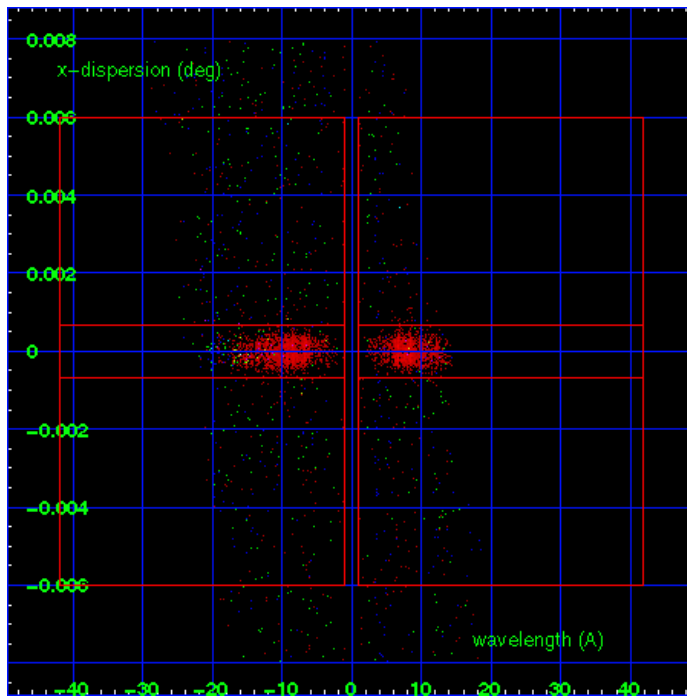
MEG Order Sort 123



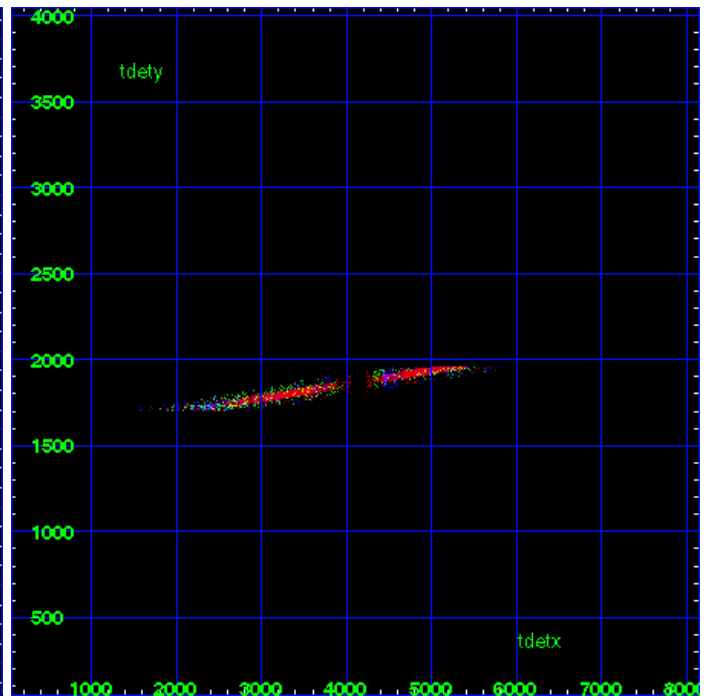
MEG Zero Order



MEG Order Sort ALL

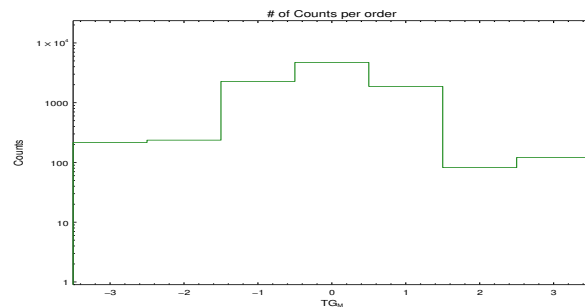


Spot Image MEG

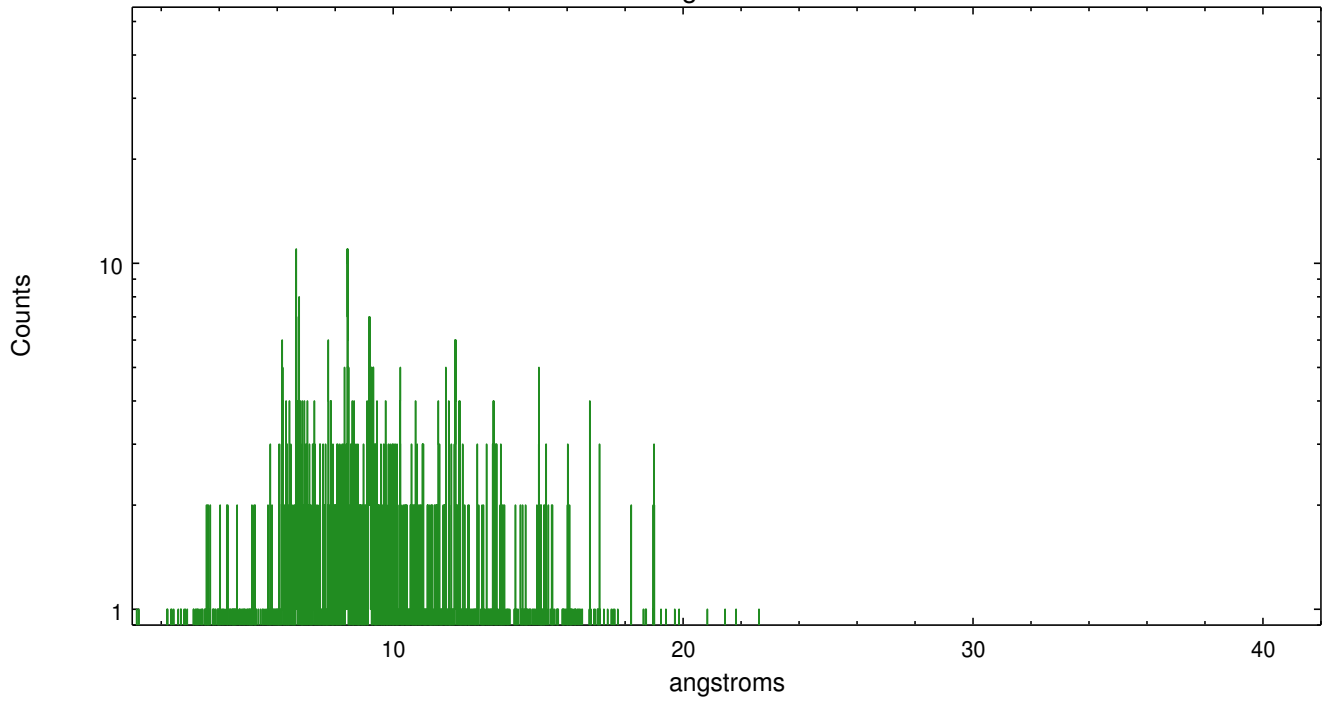


Full Detector MEG

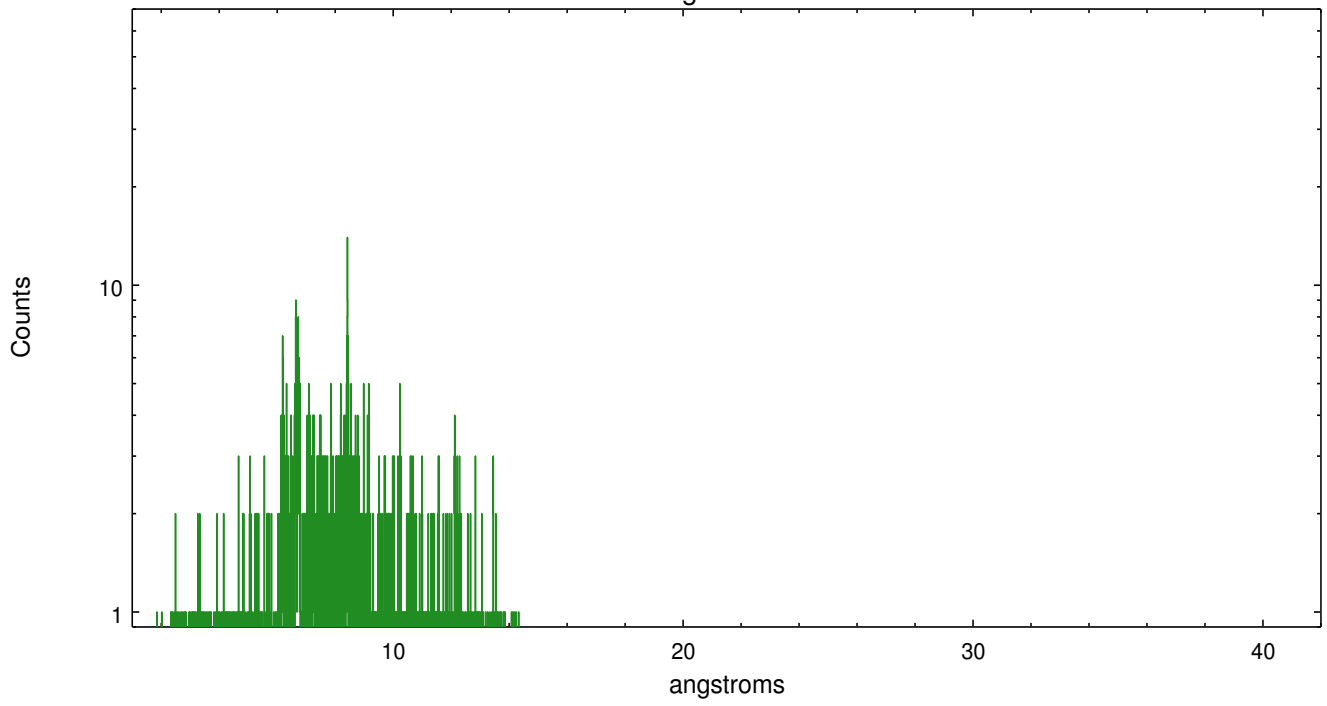
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	216	236	2270	4713	1872	82	121



meg order -1



meg order +1



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.07.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.069708829284

A.2 Comments

Roll constraint met. ===

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.

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 and the off-center placement of the target eliminate counts from the soft ends of the spectral arms for both HEG negative (>7A) and MEG positive (>15A) orders.