

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 1046 - L2 Version 3
Chandra X-Ray Center

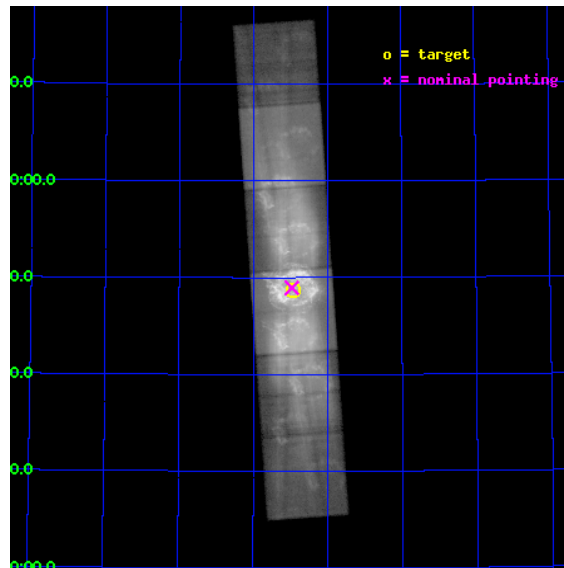
L2 Processing Date : Jan 3 2013

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

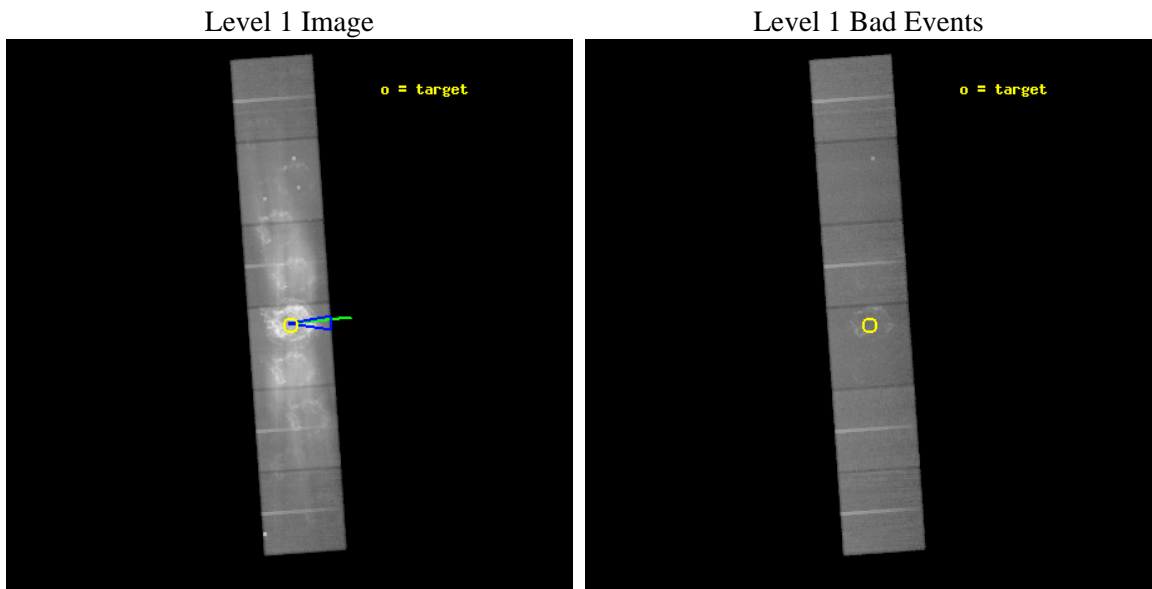
seq_num	500112	Sequence number
obs_id	1046	Observation id
title	HIGH RESOLUTION SPECTRA OF YOUNG SUPERNOVA REMNANTS	Proposal title
observer	Prof Claude Canizares	Principal investigator
object	CAS A	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	350.866667	Observer's specified target RA [deg]
dec_targ	58.811806	Observer's specified target Dec [deg]
ra_nom	350.87057410748	Nominal RA [deg]
dec_nom	58.815806203476	Nominal Dec [deg]
roll_nom	85.955941475223	Nominal Roll [deg]
revision	3	Processing version of data
ontime	69942.277184367	Sum of GTIs [s]
livetime	69056.625956476	Livetime [s]
ontime4	69942.277363926	Sum of GTIs [s]
ontime5	69952.000065133	Sum of GTIs [s]
ontime6	69939.036264166	Sum of GTIs [s]
ontime7	69942.277184367	Sum of GTIs [s]
ontime8	69942.277254239	Sum of GTIs [s]
ontime9	69945.518164635	Sum of GTIs [s]
l2events	8415211	Number of level 2 events



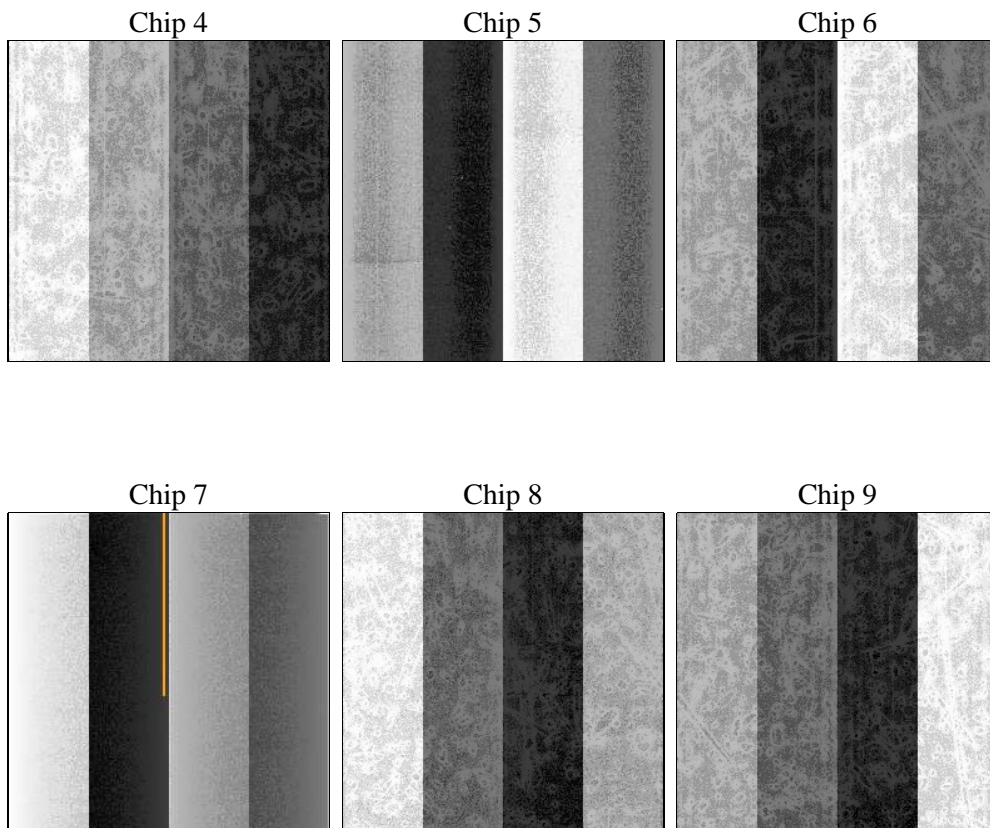
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	70000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	69942.277184367	Sum of GTIs [s]
caldbver	4.5.1.1	 	ontime4	69942.277363926	Sum of GTIs [s]
date	2012-09-17T04:40:36	Date and time of file creation	ontime5	69952.000065133	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	69939.036264166	Sum of GTIs [s]
			ontime7	69942.277184367	Sum of GTIs [s]
			ontime8	69942.277254239	Sum of GTIs [s]
			ontime9	69945.518164635	Sum of GTIs [s]
			l1events	11220213	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	605596	1188198	2343796	4982409	1469918	630296	grade 0 events	120109	232210	1539413	998142	783244	182853
rejected events	434356	346565	422967	371888	459181	387412		19%	19%	65%	20%	53%	29%
rejected %	71%	29%	18%	7%	31%	61%	grade 1 events	614	898	6600	3742	3208	782
								0%	0%	0%	0%	0%	0%
							grade 2 events	24139	244648	203420	1191243	110096	27544
								3%	20%	8%	23%	7%	4%
							grade 3 events	8259	66431	64243	536735	37911	10020
								1%	5%	2%	10%	2%	1%
							grade 4 events	8009	63740	63383	531071	36784	9766
								1%	5%	2%	10%	2%	1%
							grade 5 events	16073	53409	23676	83693	25622	19640
								2%	4%	1%	1%	1%	3%
							grade 6 events	10731	234640	50454	1353798	42740	12714
								1%	19%	2%	27%	2%	2%
							grade 7 events	417662	292222	392607	283985	430313	366977
								68%	24%	16%	5%	29%	58%

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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	350.894083	350.8705741074829	Subarray requested	NONE	NONE
[deg] Pointing Dec	58.791382	58.81580620347582	Alternating exposures requested	N	N
[deg] Pointing Roll	85.779220	85.9559414752228	[s] Primary exposure time	0.000000	3.2
[deg] Roll angle	90.000000	90.000000			
[deg] Roll tolerance	10.000000	10.000000			
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)	107198633.184000	107197520.33445			
Observation start date	2001-05-25T17:22:49	2001-05-25T17:05:20			
[s] Observation end time (MET)	107268633.184000	107269663.93726			
Observation end date	2001-05-26T12:49:29	2001-05-26T13:07:43			
Read mode	TIMED	TIMED			

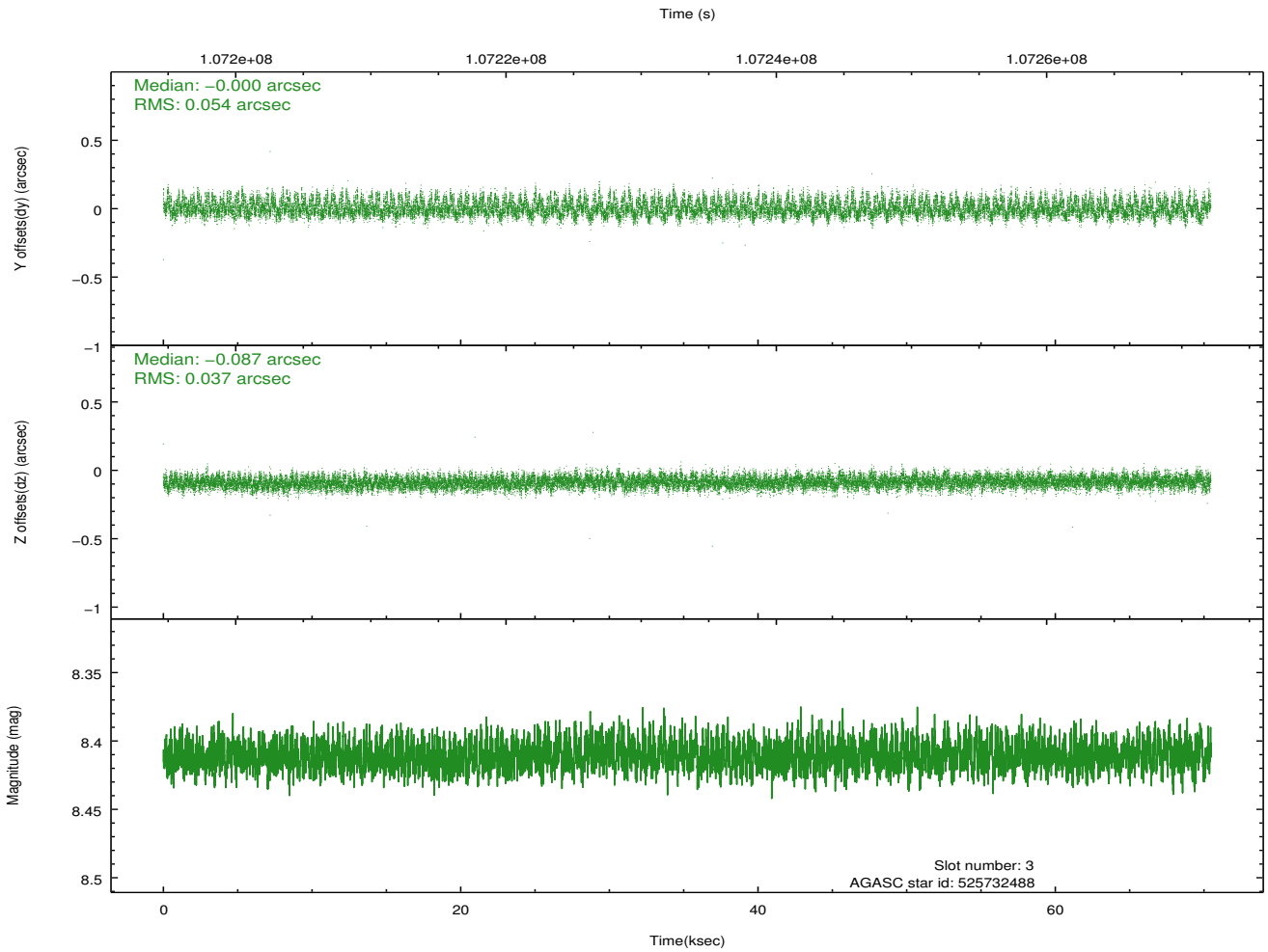
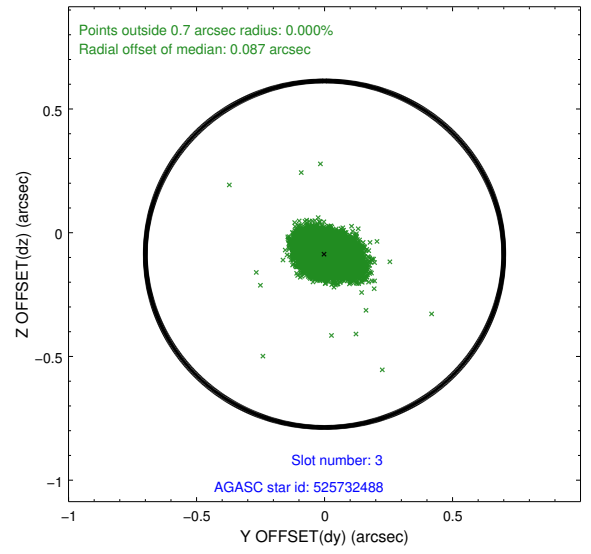
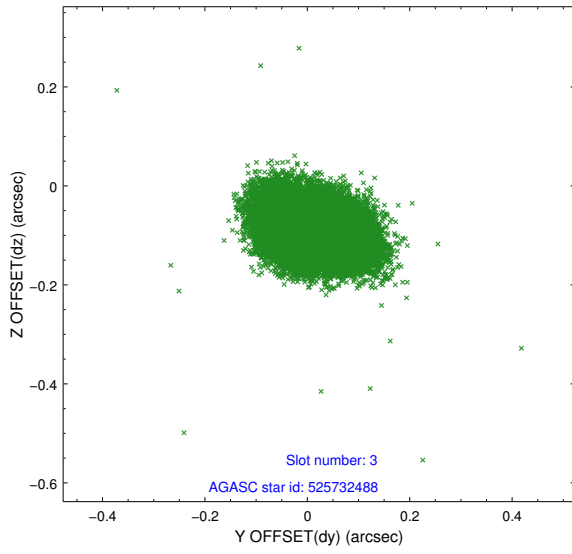
2.3 Aspect

Slot Statistics

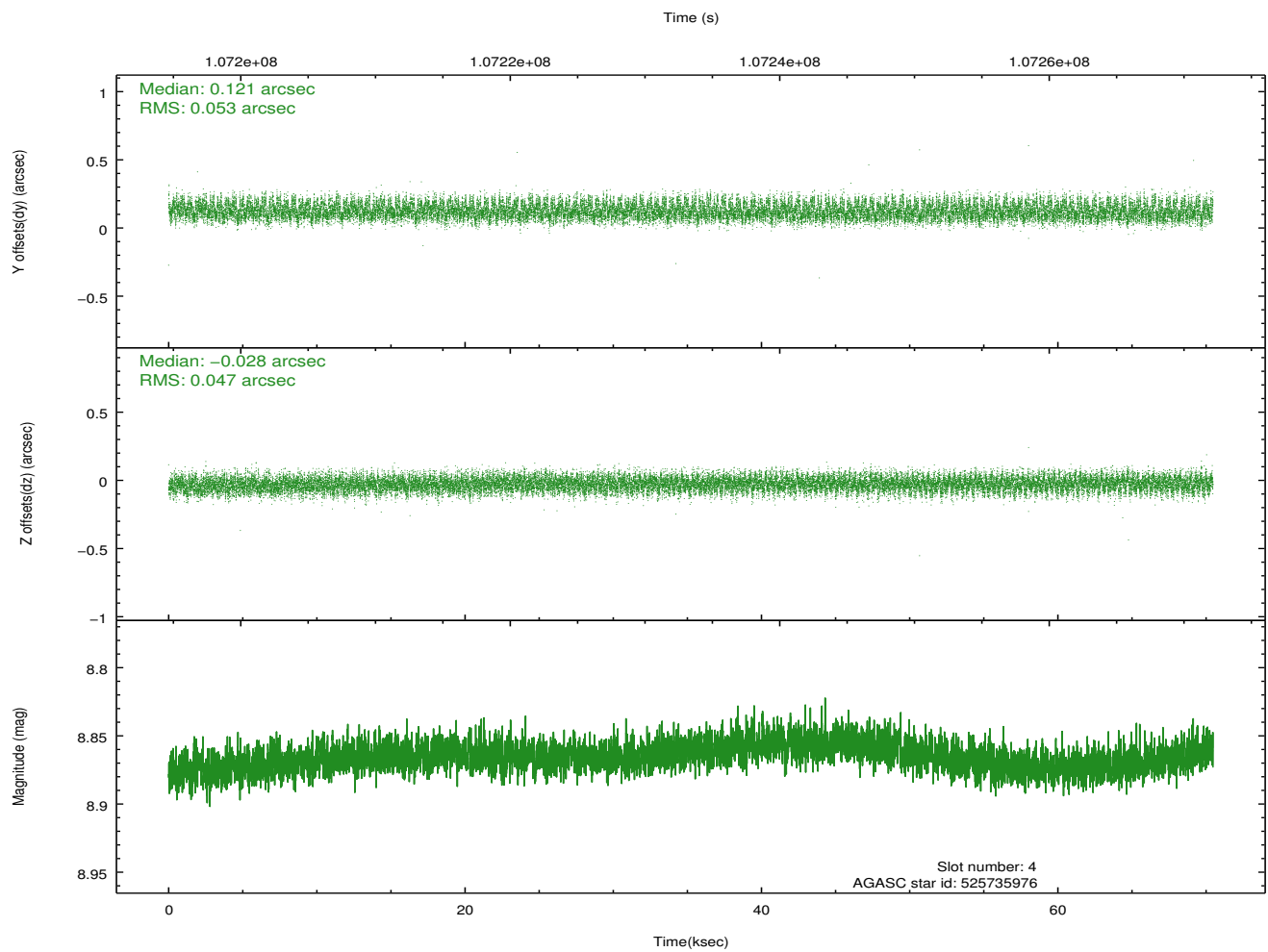
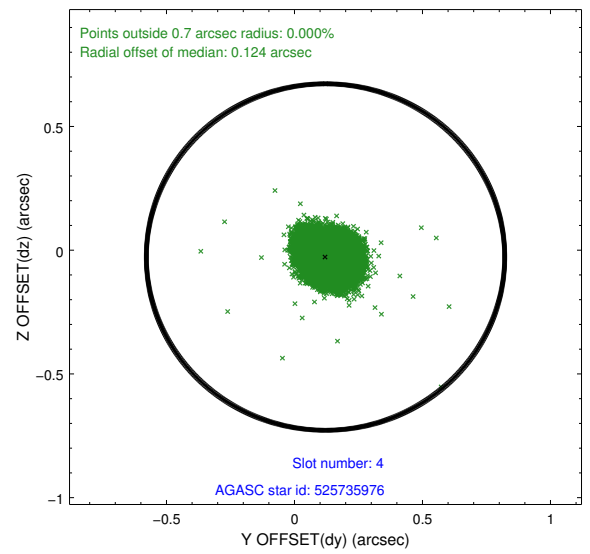
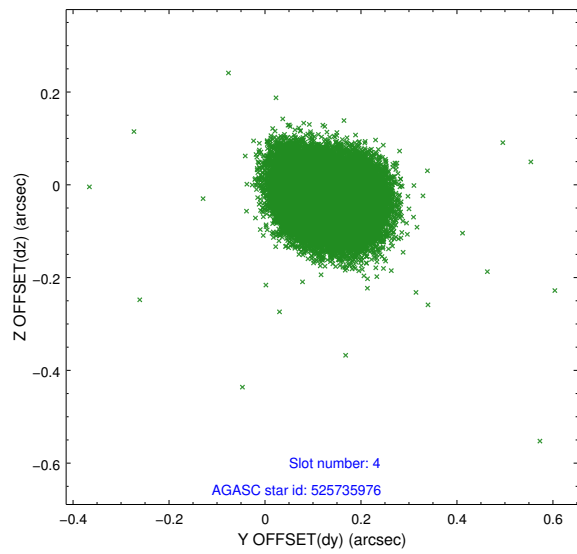
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	17186	-0.003	-0.007	0.007	0.013	0.000000	0.000000	-755.55	-1728.62
1	FID	ACIS-S-4	7.19	17186	-0.045	0.003	0.006	0.011	0.000000	0.000000	2157.72	179.93
2	FID	ACIS-S-5	7.24	17186	0.017	0.013	0.007	0.013	0.000000	0.000000	-1808.44	173.55
3	GUIDE	525732488	8.41	34361	-0.000	-0.087	0.069	0.114	350.087090	58.516915	-1088.23	1441.64
4	GUIDE	525735976	8.87	34355	0.121	-0.028	0.076	0.119	350.142956	58.277622	-1941.43	1283.13
5	GUIDE	525732528	9.37	34347	-0.085	0.013	0.106	0.175	351.607241	59.298932	1925.42	-1171.32
6	GUIDE	525737208	9.38	34359	-0.089	0.061	0.105	0.166	351.154109	59.407897	2249.21	-310.77
7	GUIDE	525734296	9.50	34346	0.044	0.039	0.084	0.136	351.276372	58.418153	-1284.93	-816.81

2.4 Star Slots

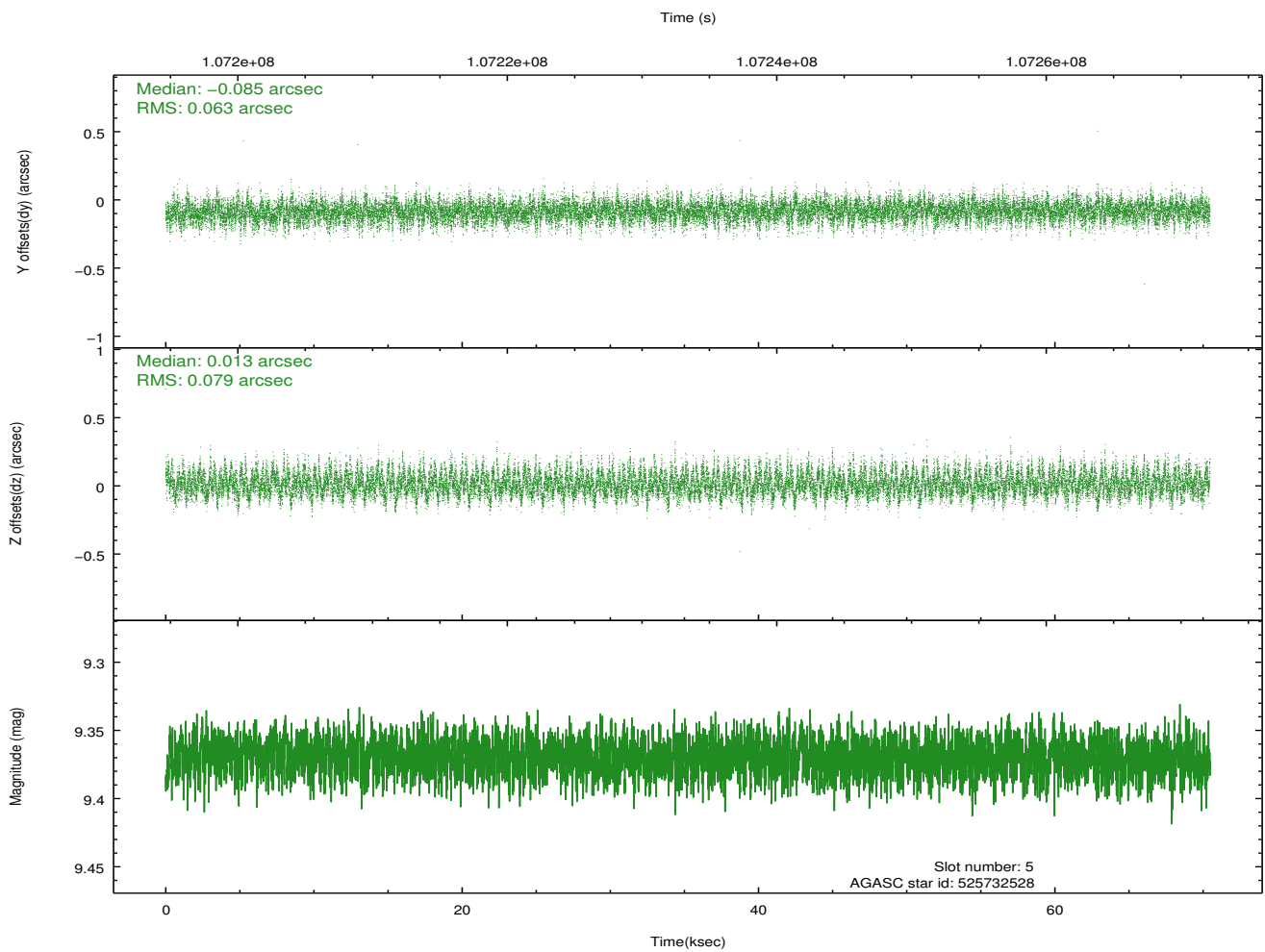
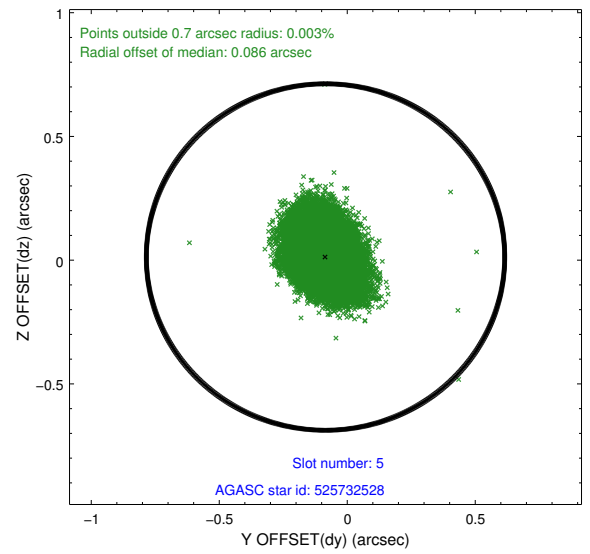
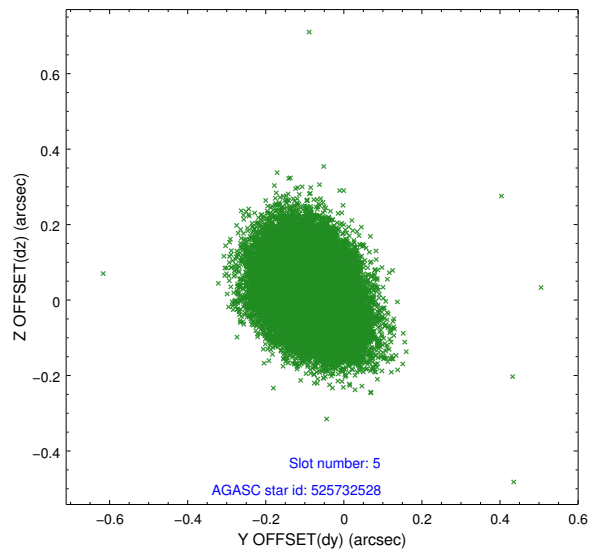
2.4.1 Slot 3



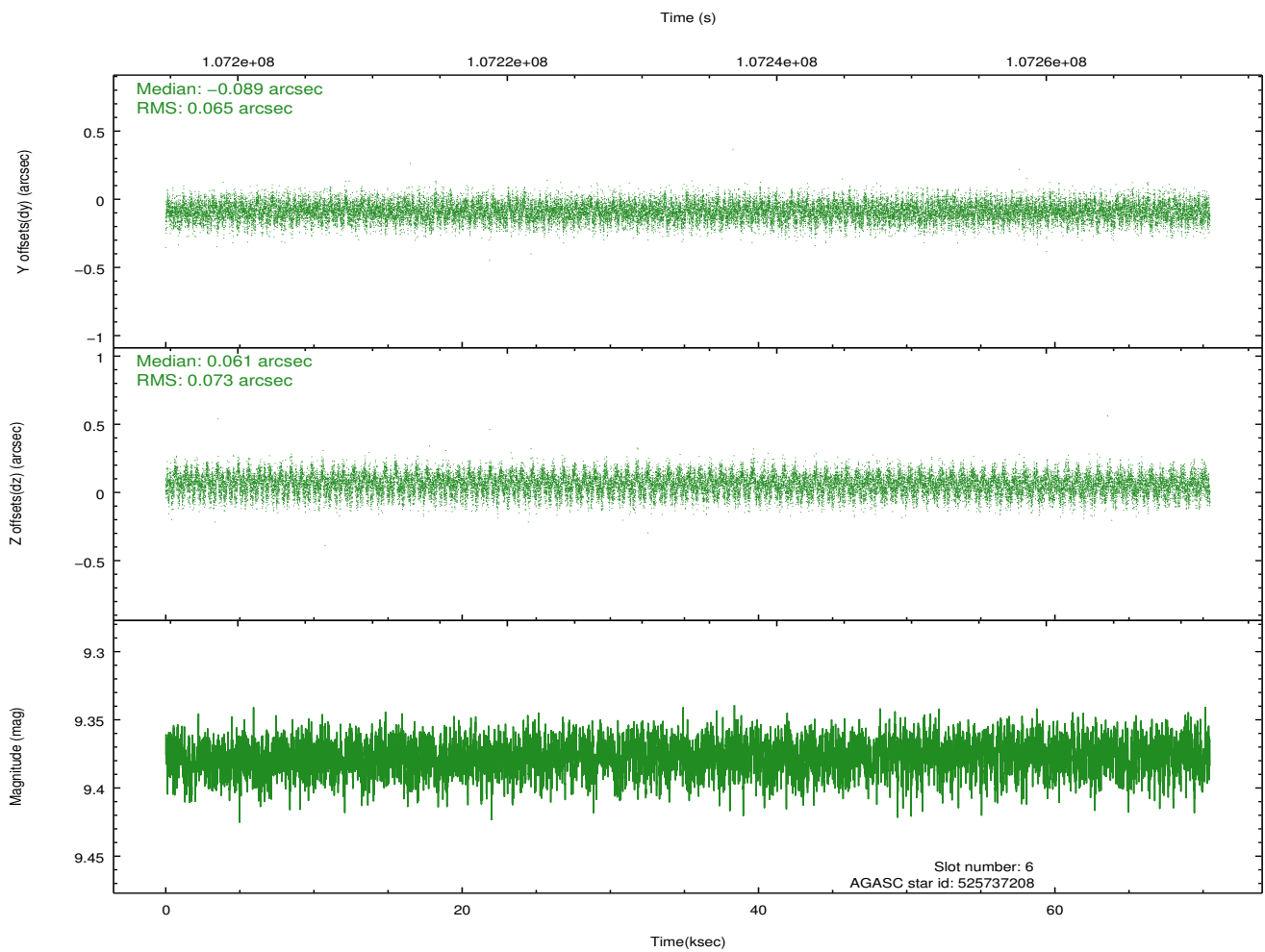
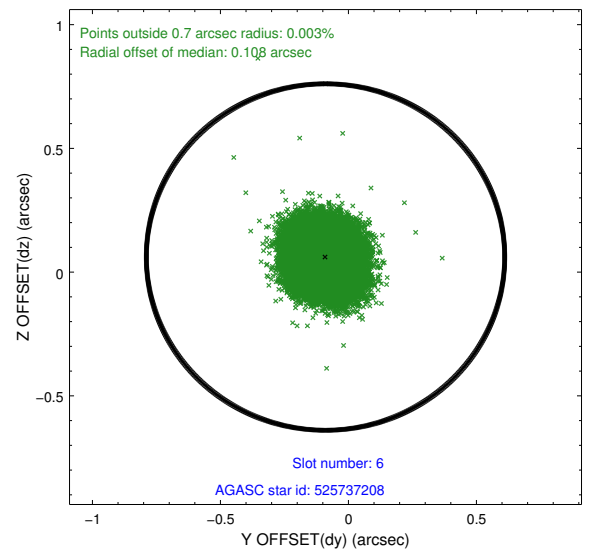
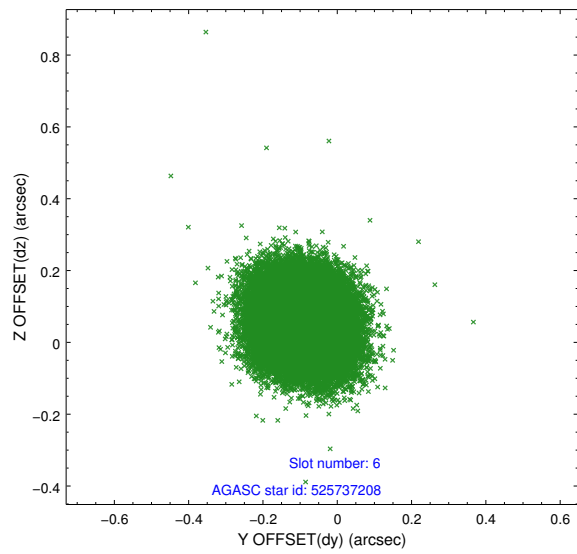
2.4.2 Slot 4



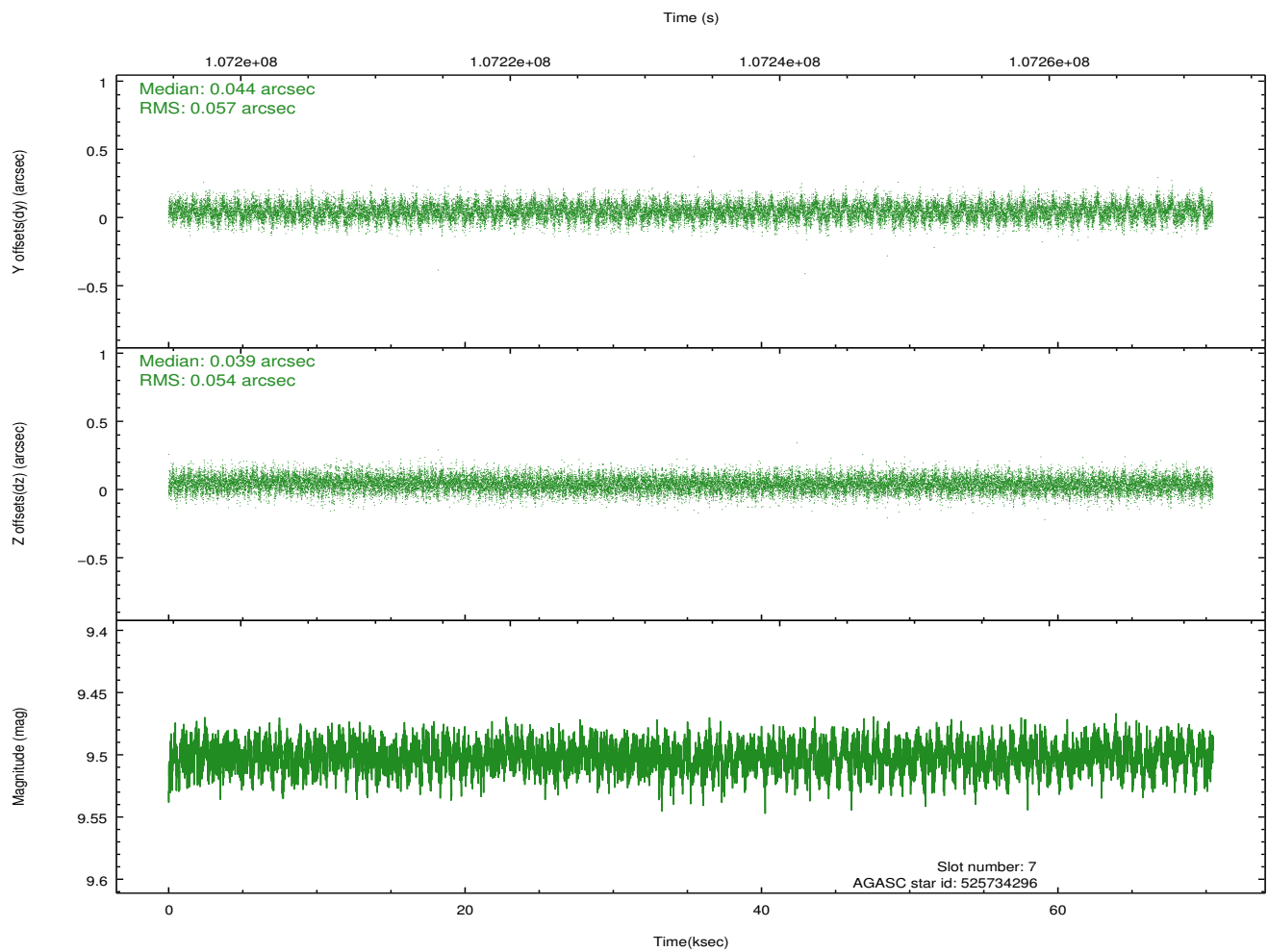
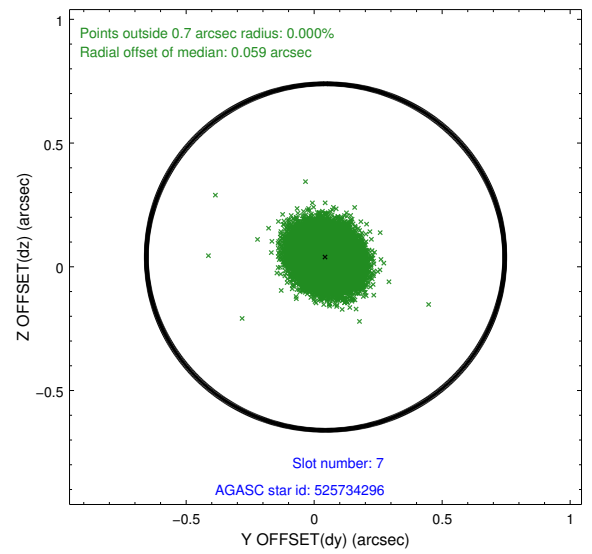
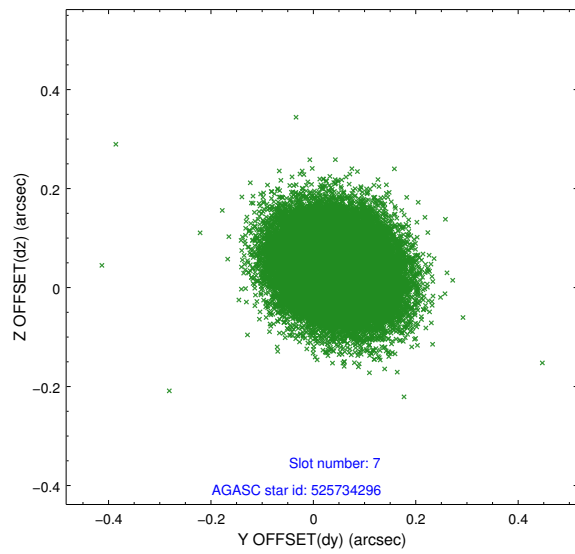
2.4.3 Slot 5



2.4.4 Slot 6

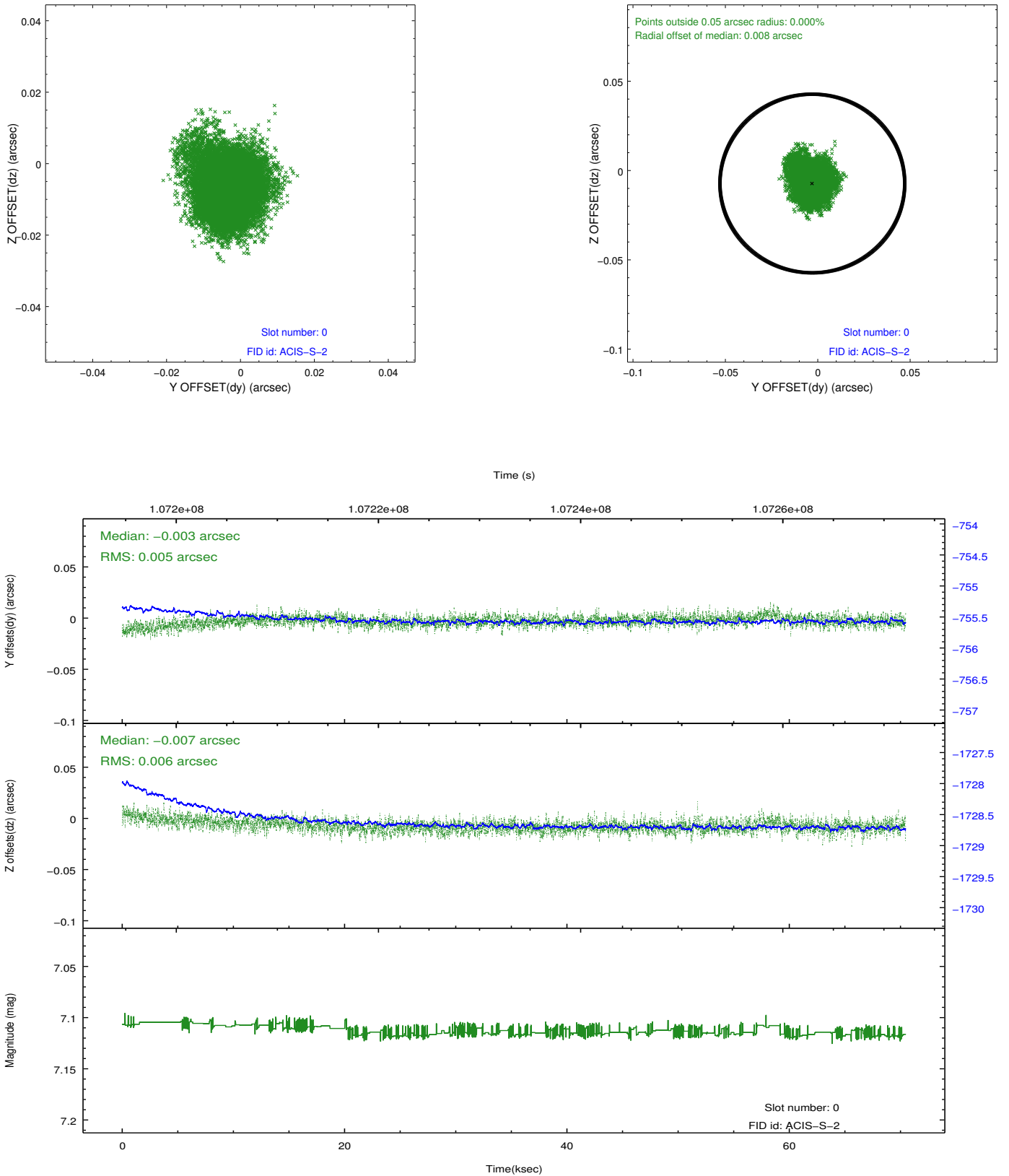


2.4.5 Slot 7

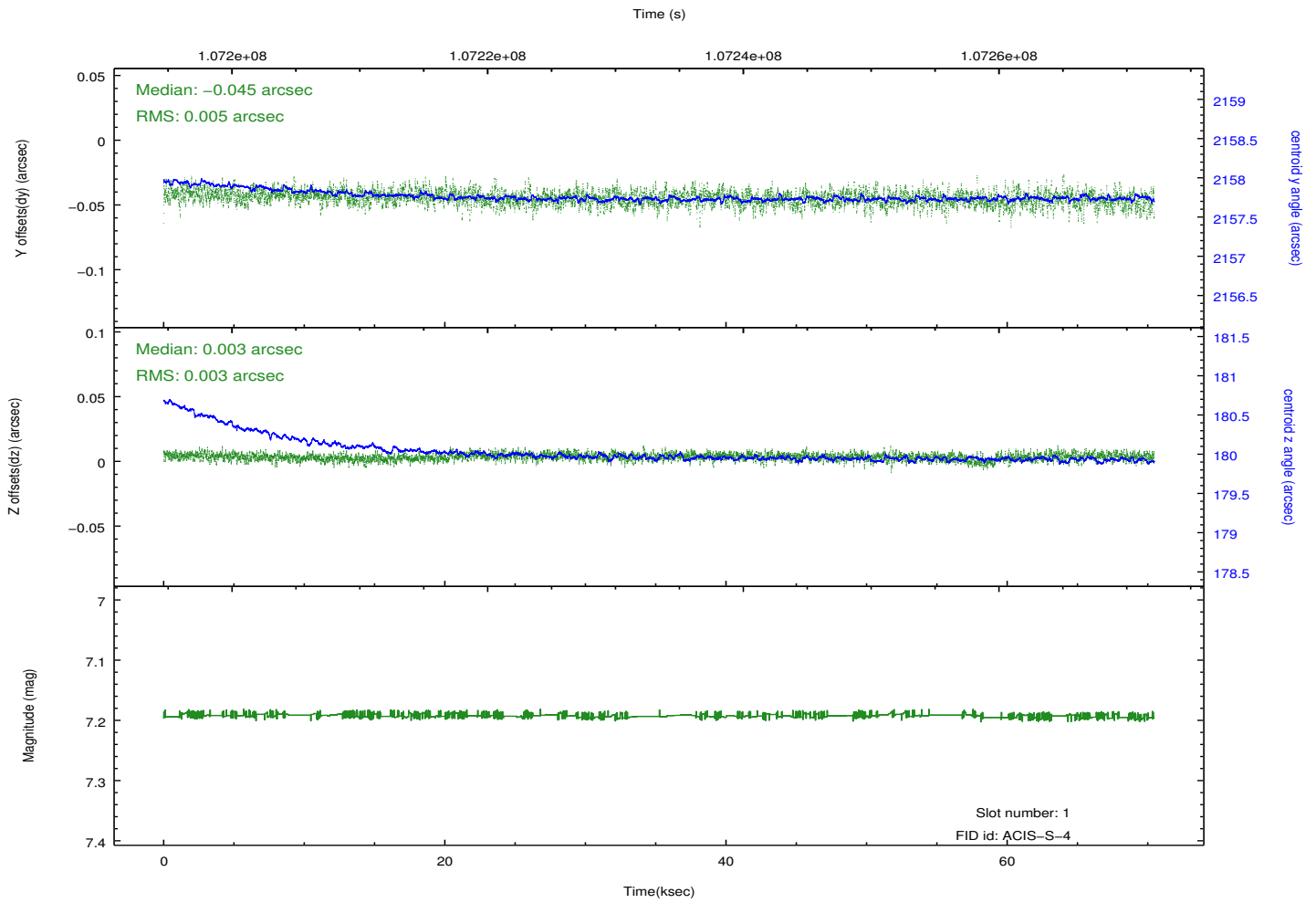
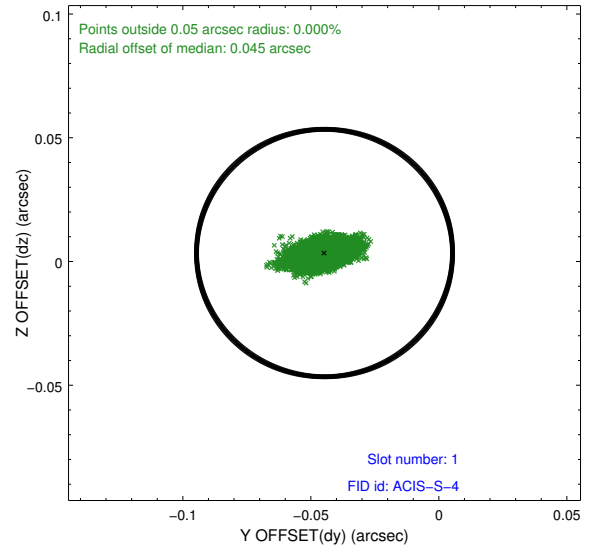
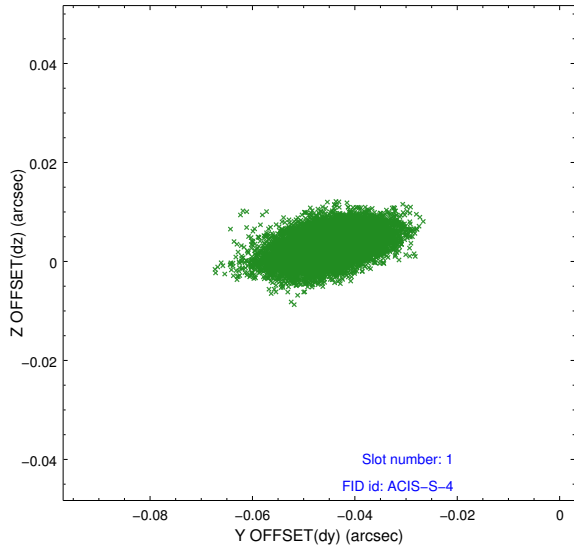


2.5 FID Slots

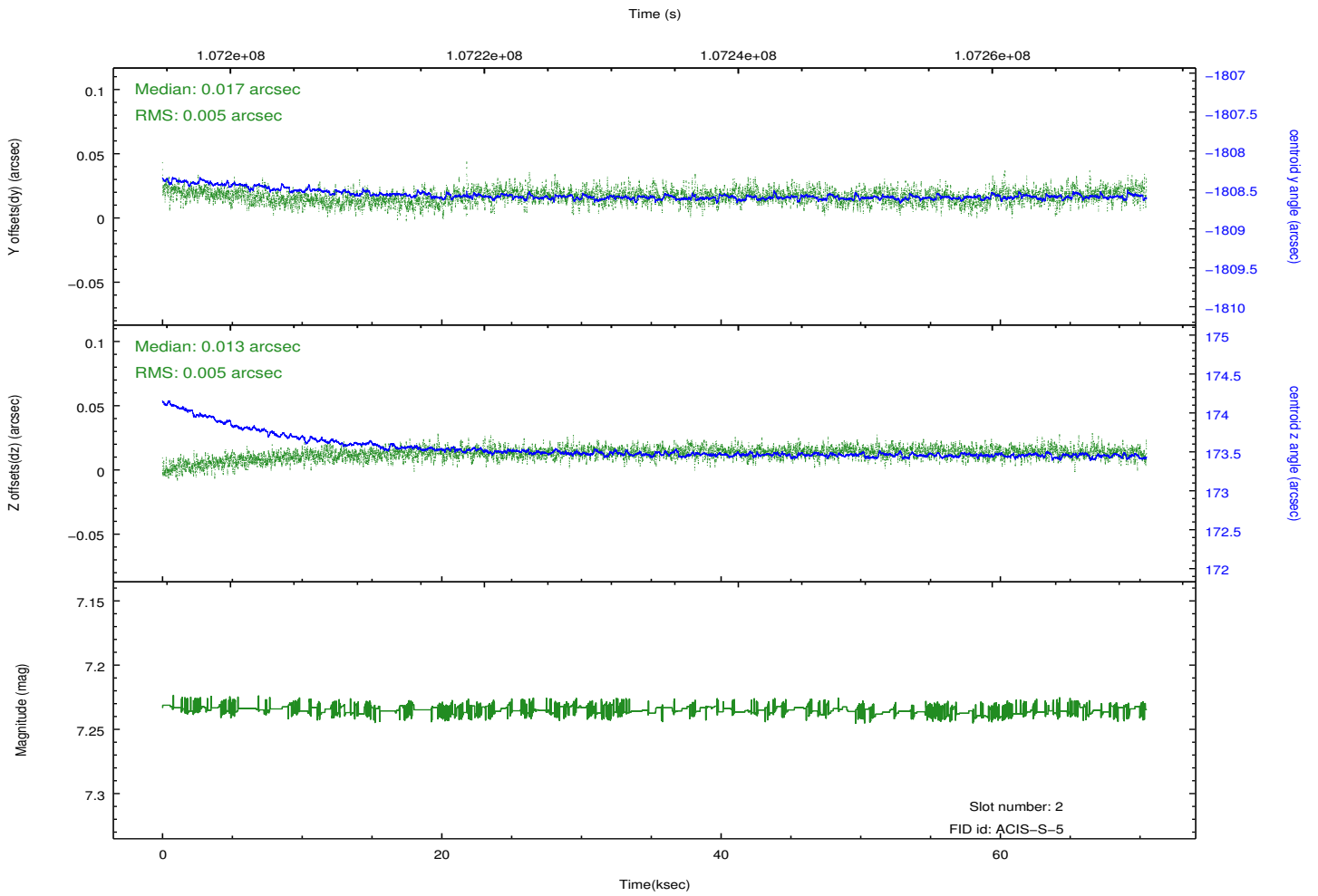
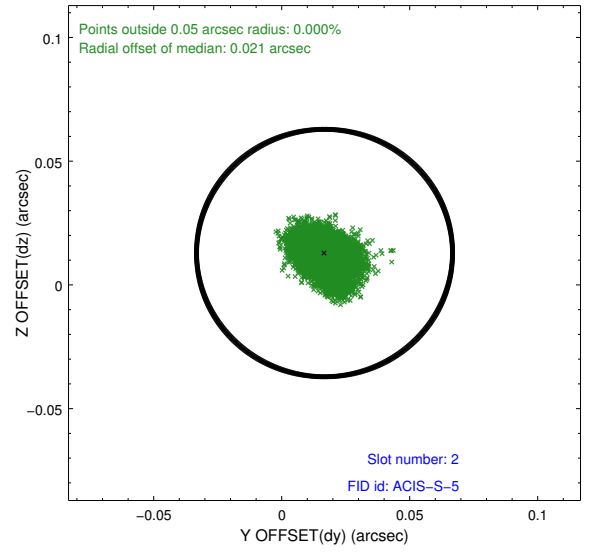
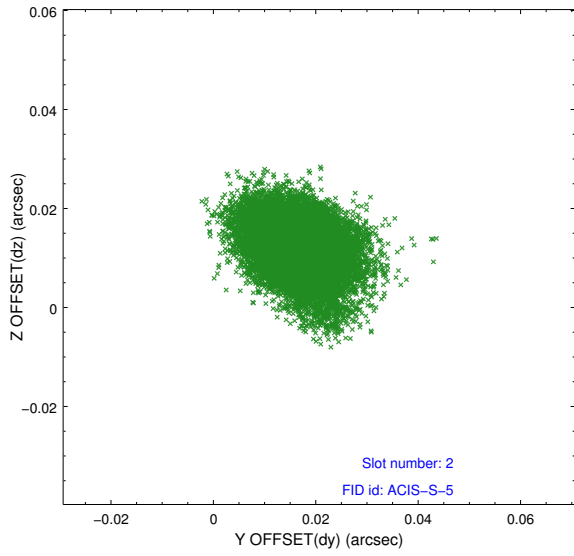
2.5.1 Slot 0



2.5.2 Slot 1

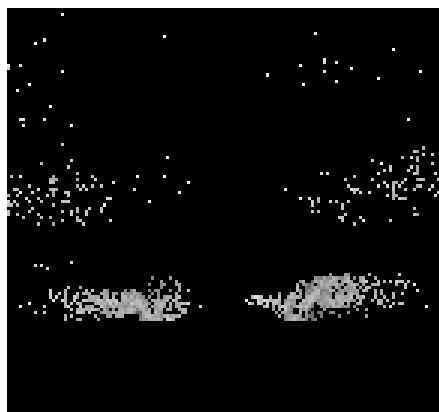


2.5.3 Slot 2

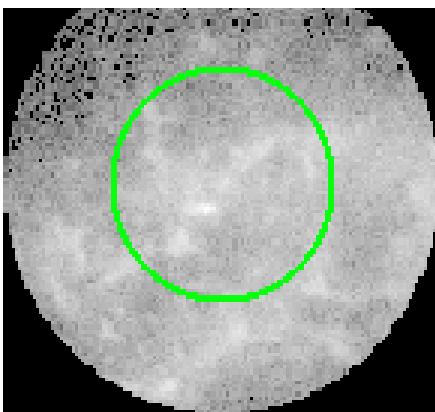


3 Gratings

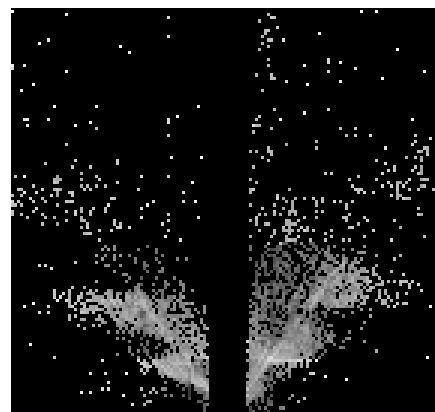
3.1 HEG Arm



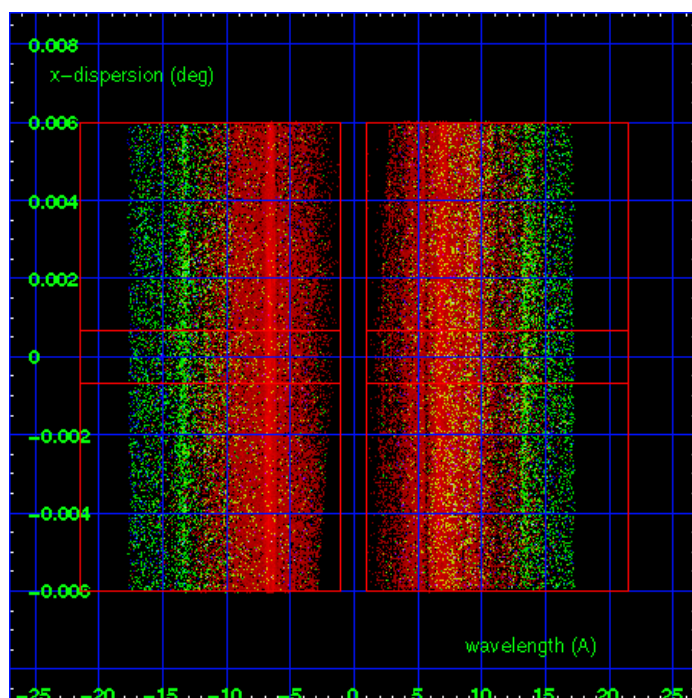
HEG Order Sort 123



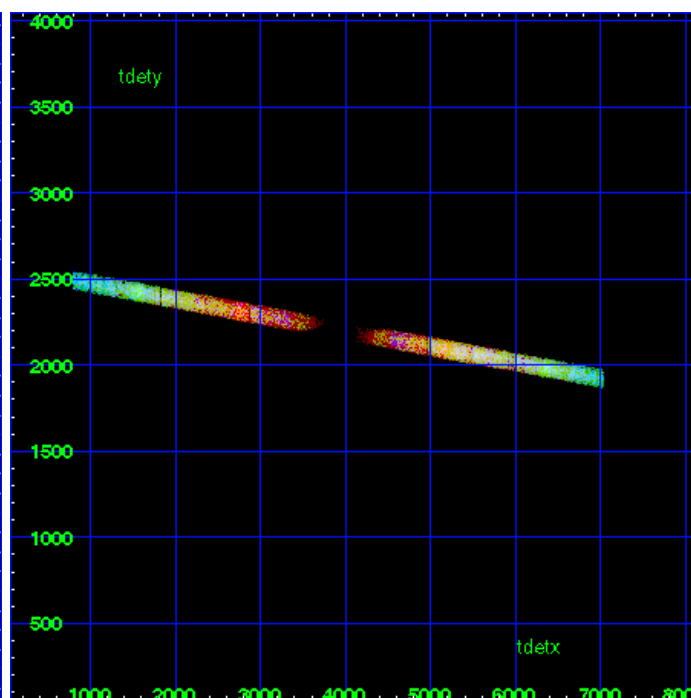
HEG Zero Order



HEG Order Sort ALL

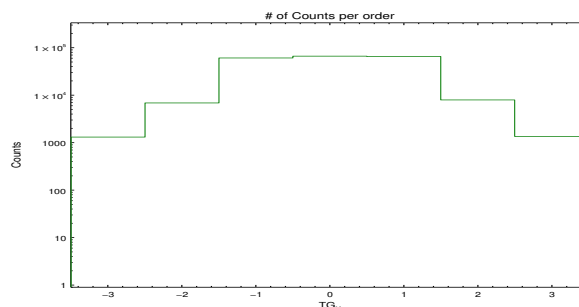


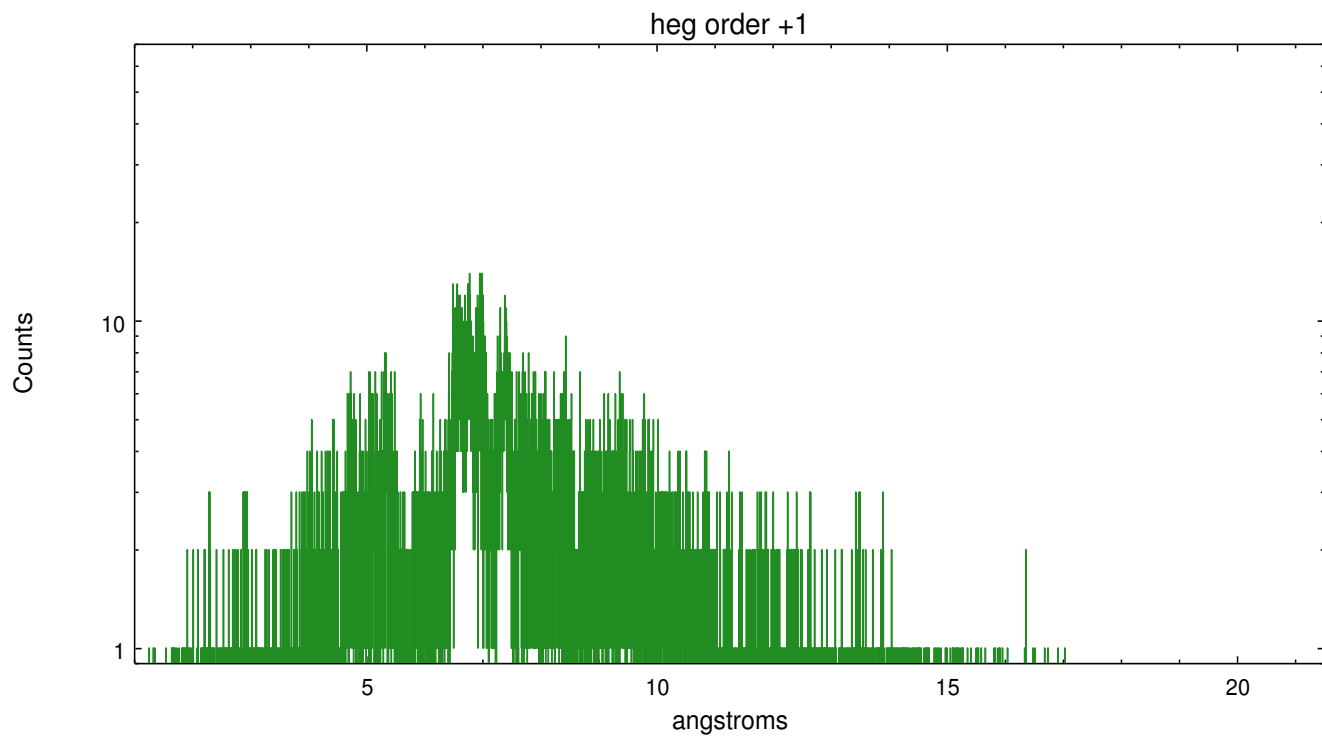
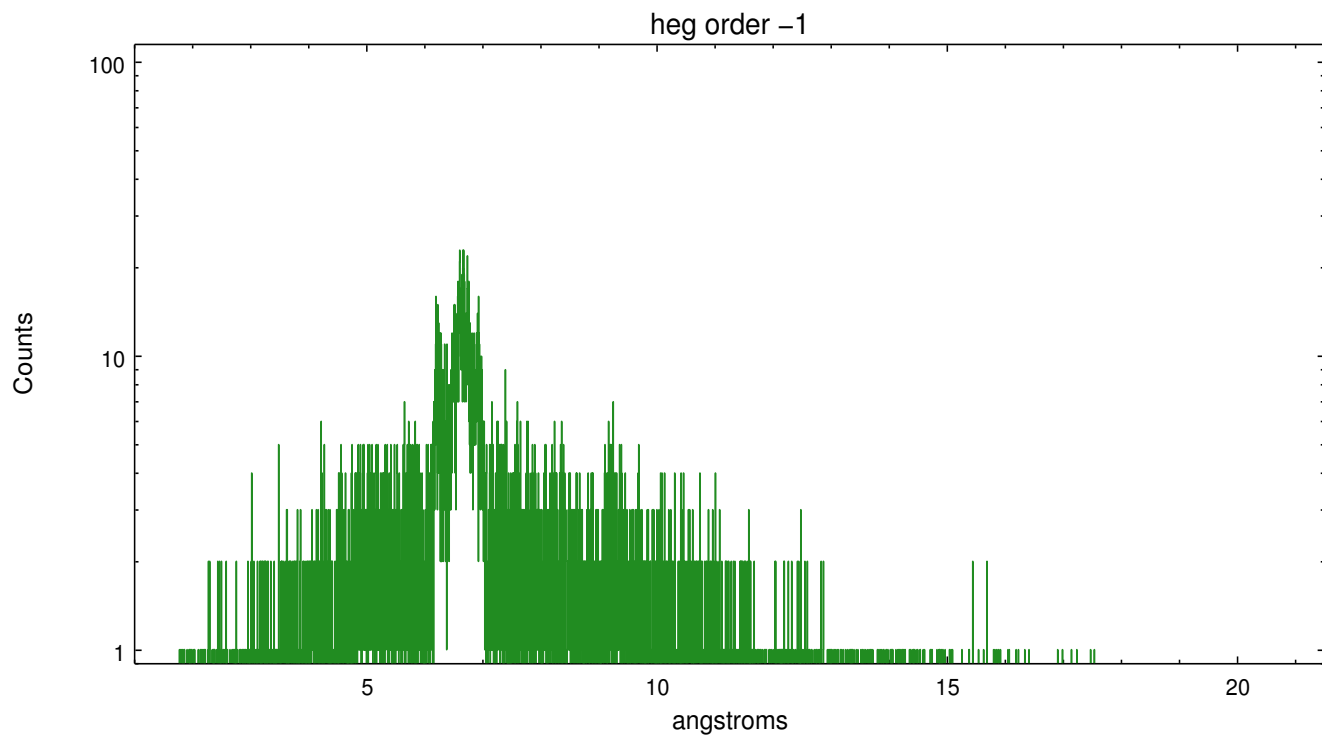
Spot Image HEG



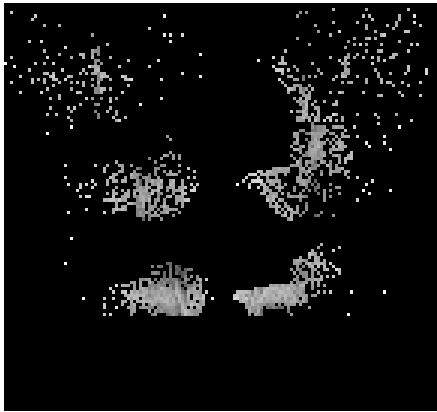
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1313	6899	61324	66904	66027	7987	1356

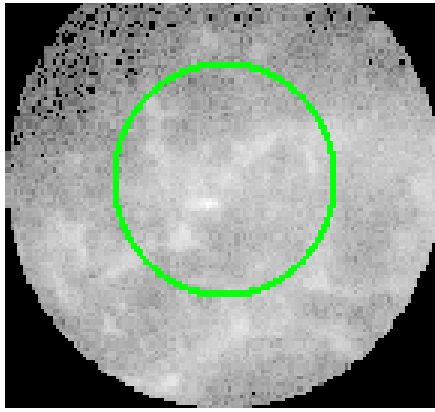




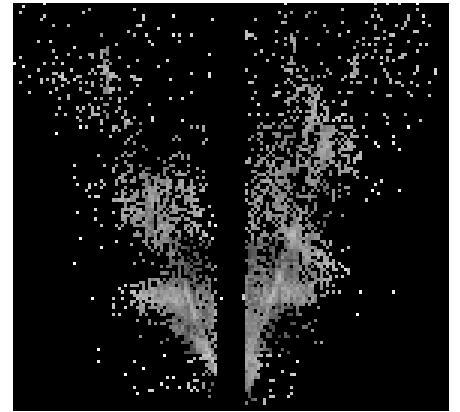
3.2 MEG Arm



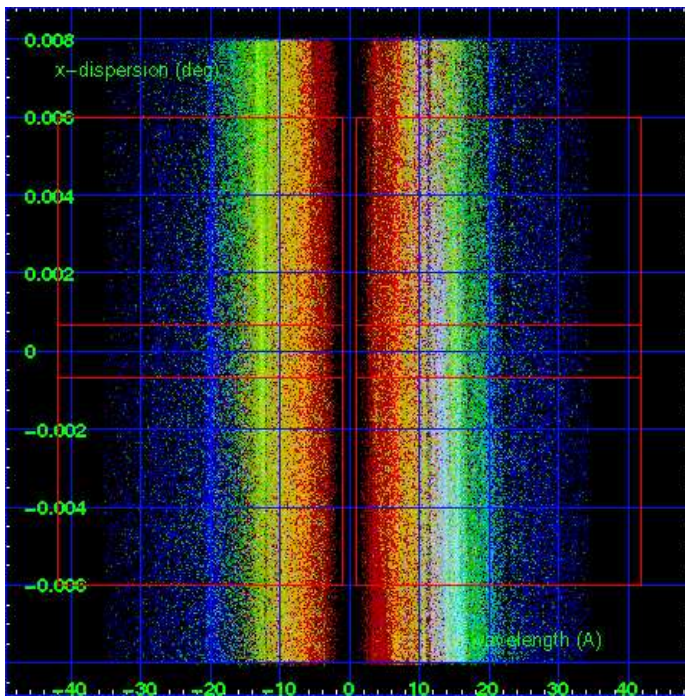
MEG Order Sort 123



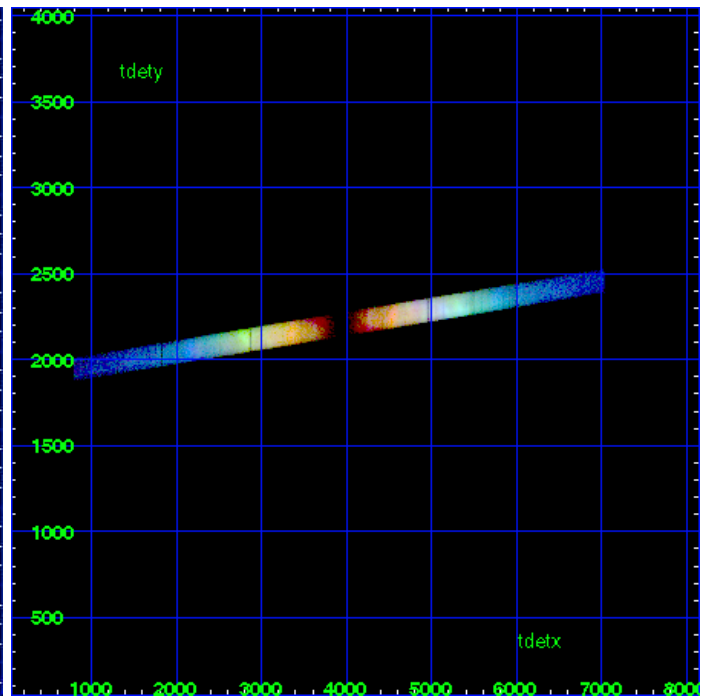
MEG Zero Order



MEG Order Sort ALL

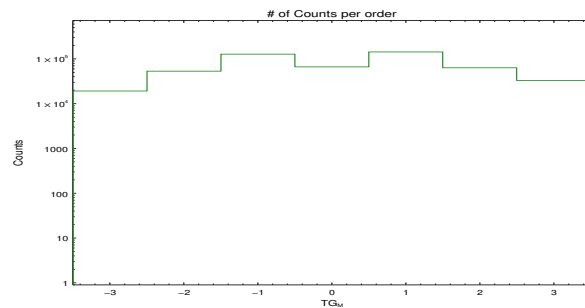


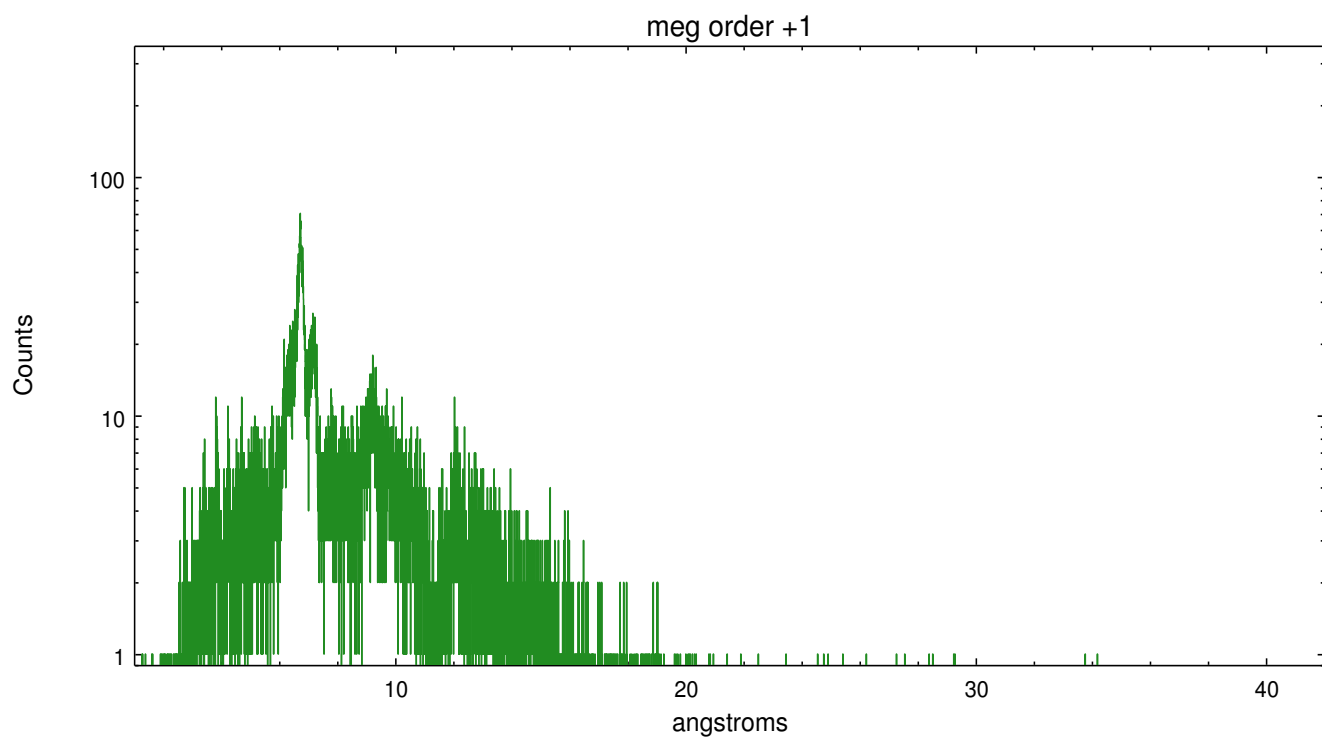
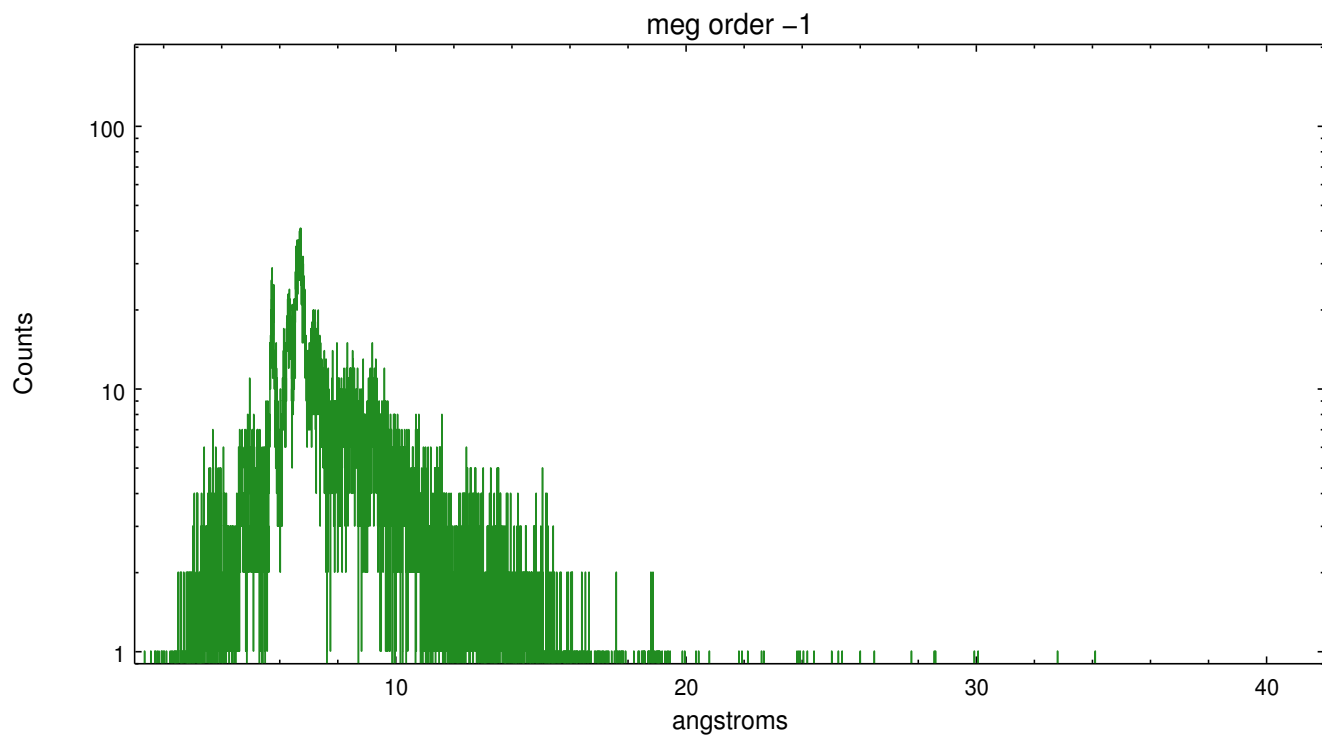
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	19316	53624	128777	66904	144363	63846	33309





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.01.14
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	69.932

A.2 Comments

Mega-Warning: Very Extended source - special analysis needed. Comment: Here the extraction is done just on a bright Si feature near the northern rim (R6 in Lazendic et al. 2006) and shows a high Si f/r line ratio. The sky coordinates of the knot used for the zeroth order position is x=4096.625, y=4284.375. The location was determined by eye. This extraction is for demonstration purposes.

===

WARNING: Zeroth order selected by pipeline tools is on an emission knot north of the center of the supernova remnant. The user will need 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. The spectral data supplied in this processing are only energy-calibrated for the particular emission knot selected. However, 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. The zeroth order used for extracting the spectral data in this processing is not located at the position of the brightest X-ray emission in the filament. ===

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.