

V&V Reference Report

L2 ASCDS Version : 10.5.1.1

Observation 17899 - L2 Version 1
Chandra X-Ray Center

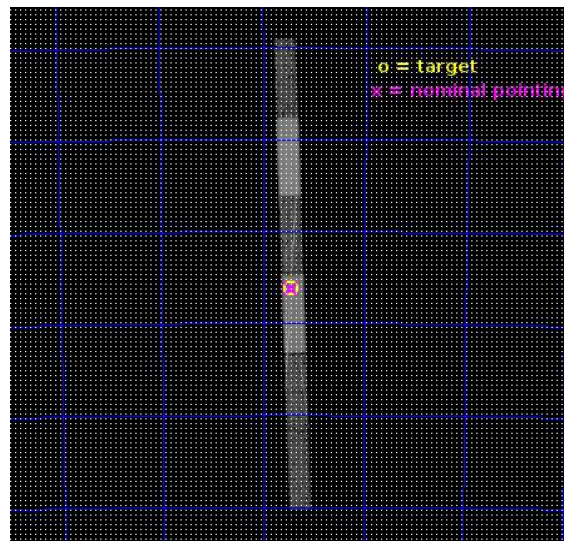
L2 Processing Date : Sep 19 2016

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1 Front

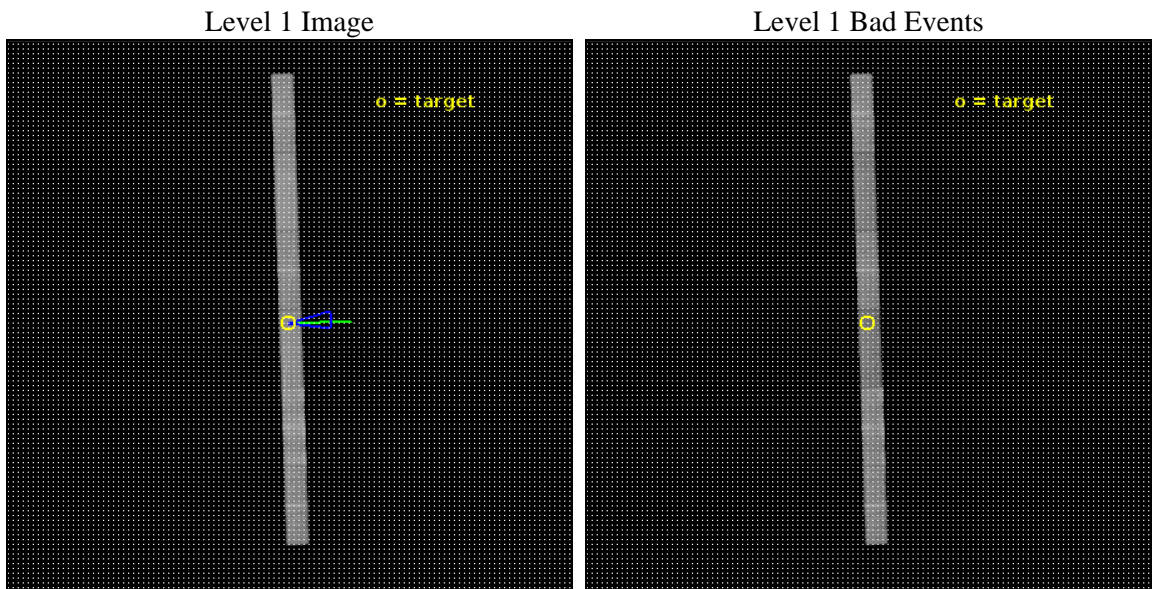
seq_num	502518	Sequence number
obs_id	17899	Observation id
title	CHANDRA CYCLE 17 SPATIAL AND SPECTRAL MONITORING OF SN 1987A	Propo
observer	David Burrows	Principal investigator
object	SNR 1987A	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.866667	Observer's specified target RA [deg]
dec_targ	-69.26975	Observer's specified target Dec [deg]
ra_nom	83.860877200818	Nominal RA [deg]
dec_nom	-69.270701619225	Nominal Dec [deg]
roll_nom	88.151194923034	Nominal Roll [deg]
revision	1	Processing version of data
ontime	27089.700587273	Sum of GTIs [s]
livetime	26115.360238028	Livetime [s]
ontime4	27089.700587273	Sum of GTIs [s]
ontime5	27089.700587273	Sum of GTIs [s]
ontime6	27089.700587273	Sum of GTIs [s]
ontime7	27089.700587273	Sum of GTIs [s]
ontime8	27089.700587273	Sum of GTIs [s]
ontime9	27089.68128562	Sum of GTIs [s]
l2events	84482	Number of level 2 events



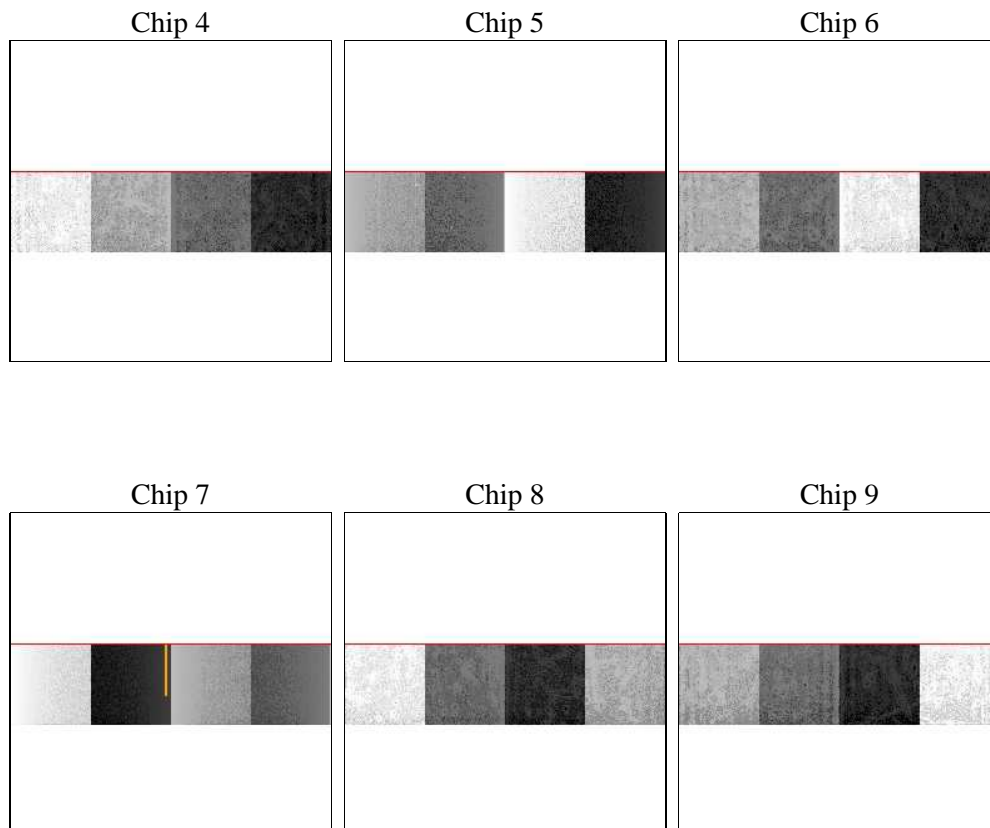
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	27000.000000	[s] Scheduled observation exposure time
ascdsver	10.5.1.1	Processing system revision	ontime	27089.700587273	Sum of GTIs [s]
caldbver	4.7.2	 	ontime4	27089.700587273	Sum of GTIs [s]
date	2016-09-20T02:03:59	Date and time of file creation	ontime5	27089.700587273	Sum of GTIs [s]
revision	1	Processing version of data	ontime6	27089.700587273	Sum of GTIs [s]
			ontime7	27089.700587273	Sum of GTIs [s]
			ontime8	27089.700587273	Sum of GTIs [s]
			ontime9	27089.68128562	Sum of GTIs [s]
			l1events	341163	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zpc_pos	(4082.16, 4103.20)	src1a sky pixel position

2.1.4 Events

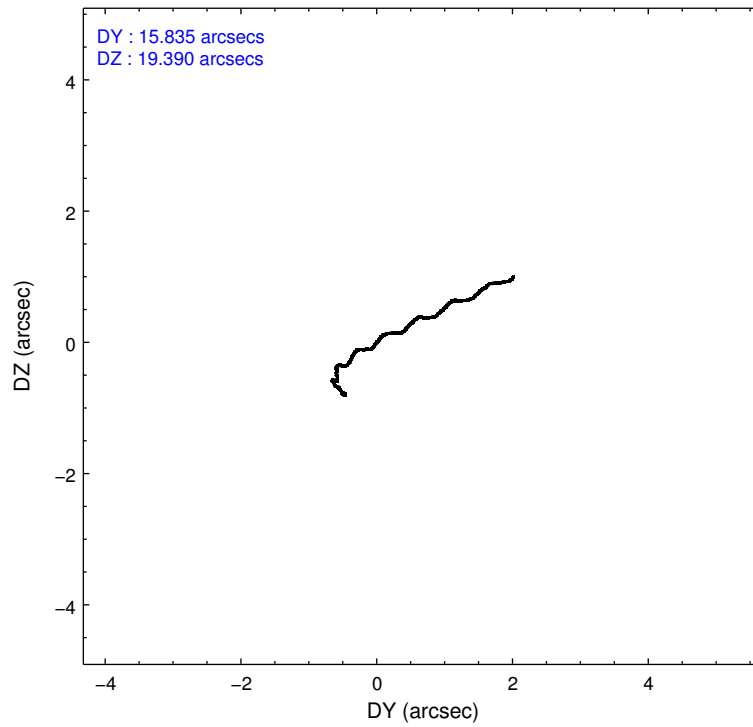
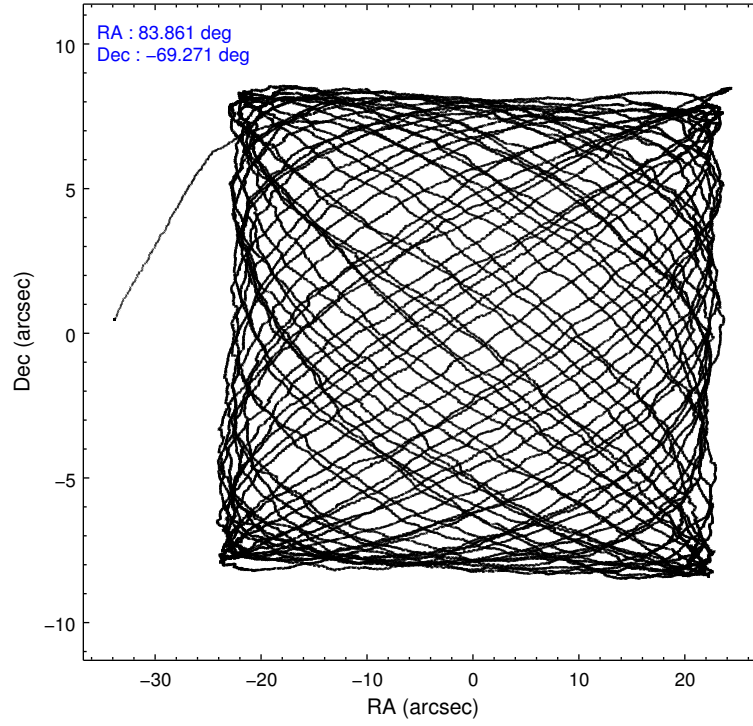
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	55527	64904	50930	56683	66503	46616
rejected events	49537	30852	42761	25559	48355	41179
rejected %	89%	47%	83%	45%	72%	88%

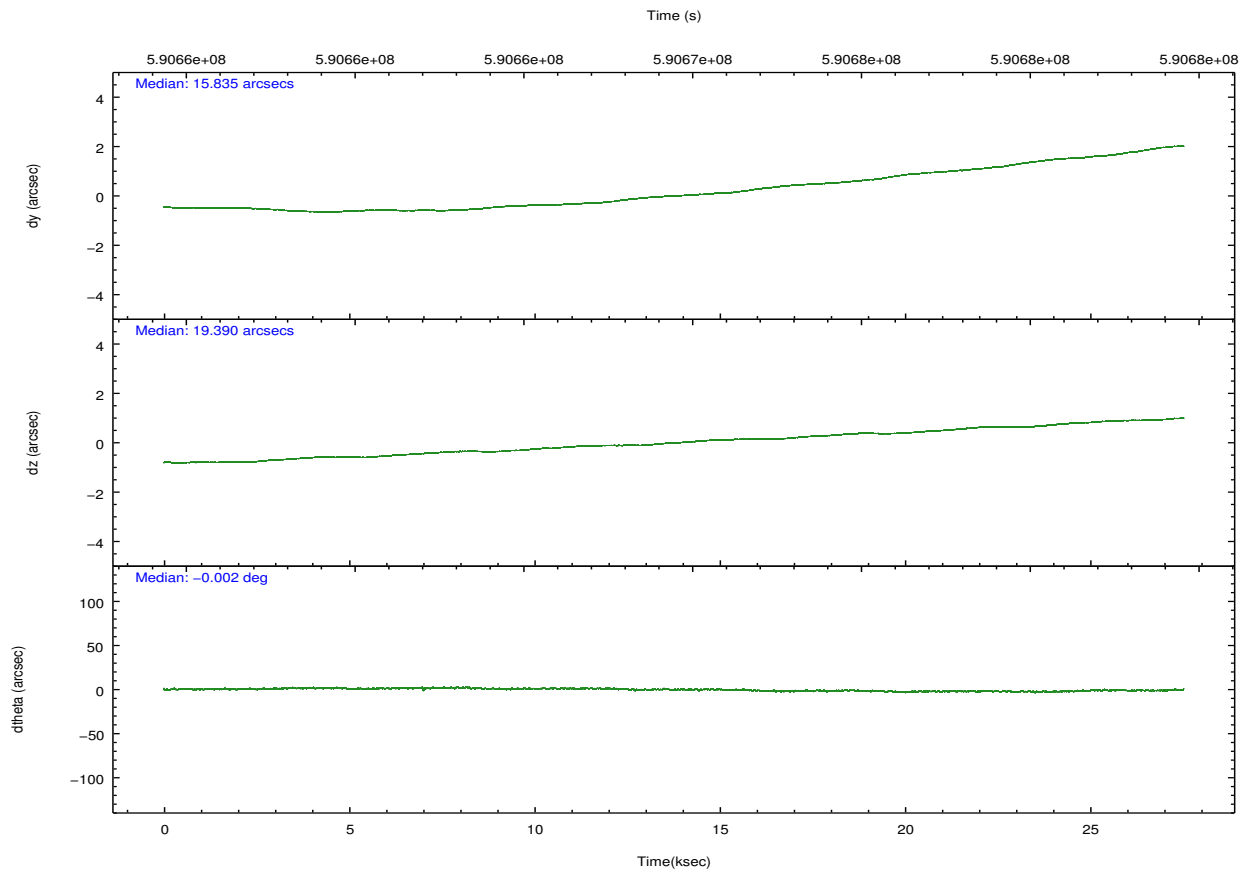
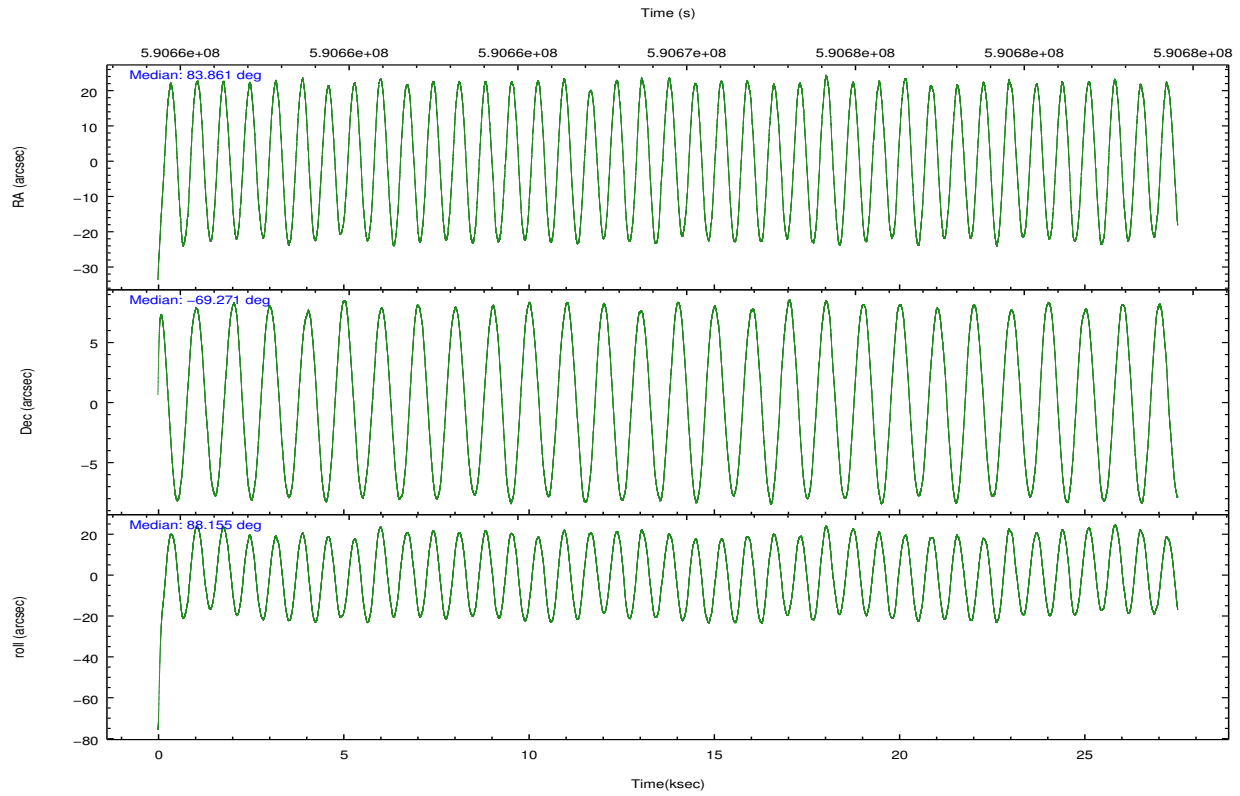
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	1989	3304	3853	4206	5091	1699
	3%	5%	7%	7%	7%	3%
grade 1 events	42	175	18	100	34	24
	0%	0%	0%	0%	0%	0%
grade 2 events	1443	10531	1395	7146	4249	1123
	2%	16%	2%	12%	6%	2%
grade 3 events	862	1936	880	3488	1837	809
	1%	2%	1%	6%	2%	1%
grade 4 events	781	1917	863	3388	1764	761
	1%	2%	1%	5%	2%	1%
grade 5 events	1887	5726	1770	5565	2779	2023
	3%	8%	3%	9%	4%	4%
grade 6 events	916	16367	1178	12898	5207	1046
	1%	25%	2%	22%	7%	2%
grade 7 events	47607	24948	40973	19892	45542	39131
	85%	38%	80%	35%	68%	83%

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	83.898401	83.86087720081791	CCD I2 on	N	N
[deg] Pointing Dec	-69.294710	-69.27070161922491	CCD I3 on	N	N
[deg] Pointing Roll	88.029686	88.15119492303408	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)	589939268.184000	589939268.184000	CCD S4 on	Y	Y
[s] Window stop time (MET)	592012868.184000	592012868.184000	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	-190.1400660498719	Subarray requested	CUSTOM	1/4
[mm] SIM translation stage offset	0	0.00754346686406393	Subarray start row	351	351
[s] Observation start time (MET)	590656184.184000	590654806.09628	Subarray row count	256	256
Observation start date	2016-09-19T07:08:36	2016-09-19T06:46:46	Alternating exposures requested	N	N
[s] Observation end time (MET)	590683184.184000	590683798.22295	[s] Primary exposure time	0.000000	1.1
Observation end date	2016-09-19T14:38:36	2016-09-19T14:49:58			
Read mode	TIMED	TIMED			

2.3 Aspect





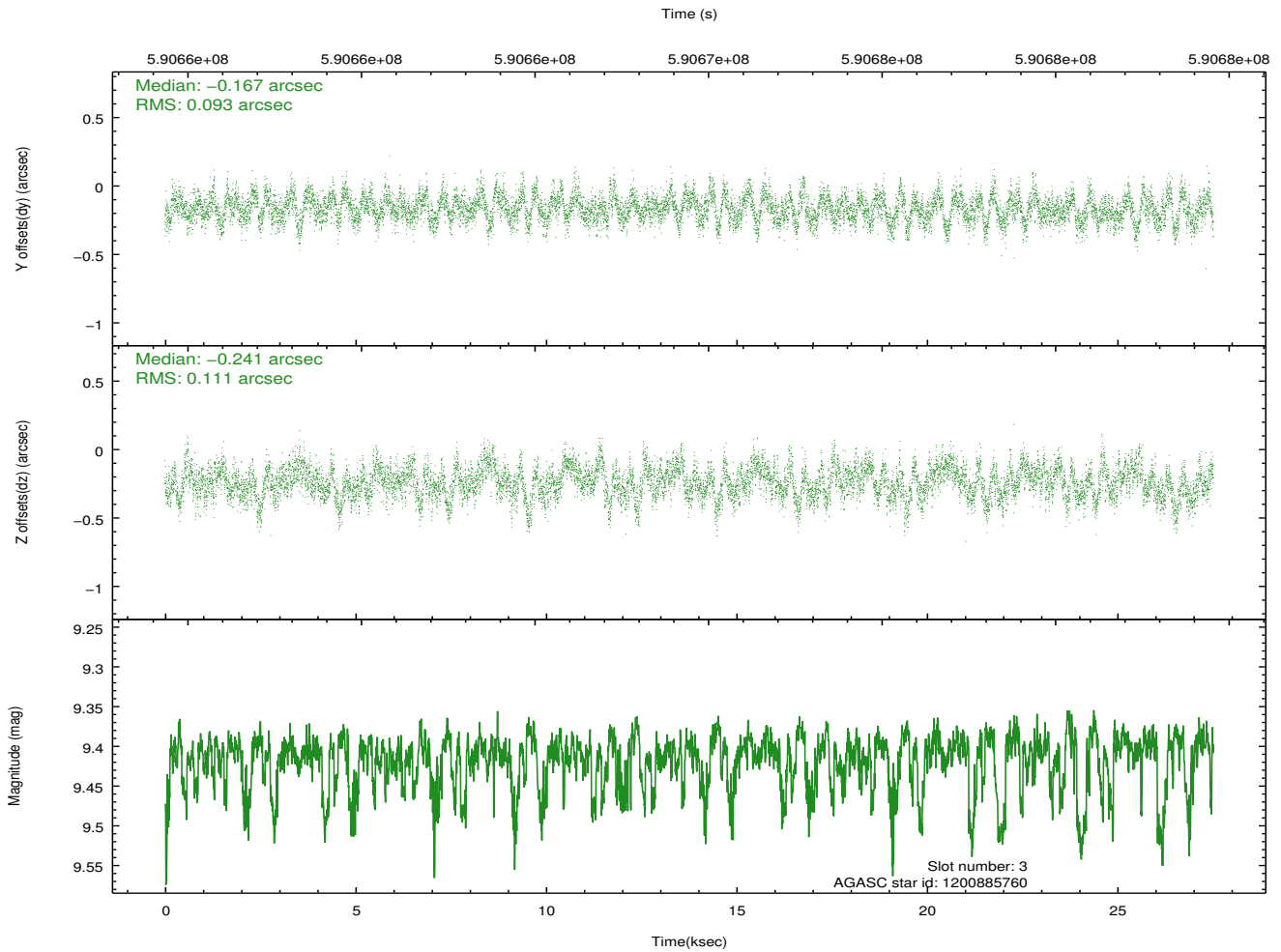
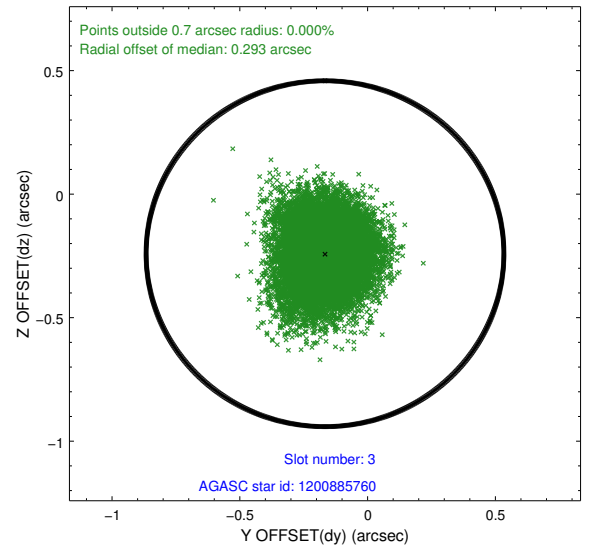
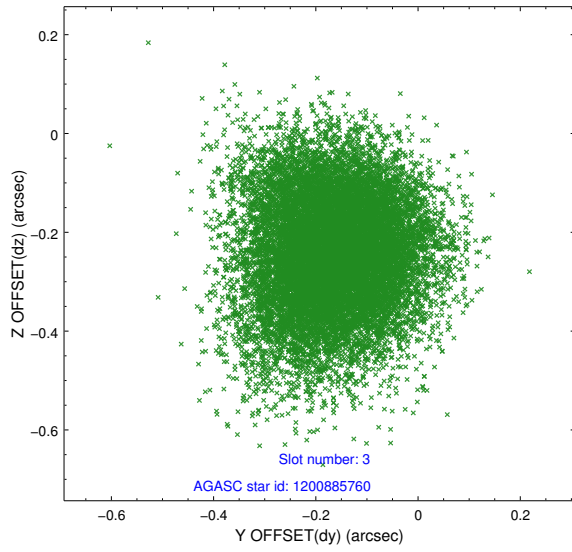
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.99	6713	-0.277	-0.178	0.013	0.019	0.000000	0.000000	-769.40	-1741.06
1	FID		ACIS-S-4	7.10	6713	0.305	0.162	0.013	0.019	0.000000	0.000000	2144.46	167.58
2	FID		ACIS-S-6	7.23	6712	-0.056	0.023	0.009	0.016	0.000000	0.000000	392.99	804.99
3	GUIDE	used	1200885760	9.41	13404	-0.167	-0.241	0.155	0.250	83.723637	-68.777667	1852.26	291.46
4	GUIDE	used	1201019672	6.85	13425	0.027	0.105	0.100	0.171	85.312192	-68.770187	1929.93	-1777.26
5	GUIDE	used	1201020040	8.59	13416	-0.091	0.218	0.137	0.225	85.379163	-68.879396	1537.61	-1868.59
6	GUIDE	used	1201410616	9.30	13414	0.107	-0.318	0.127	0.207	82.516808	-69.784406	-1839.56	1656.31
7	GUIDE	used	1201542672	8.17	13423	0.121	0.225	0.136	0.212	84.492488	-69.957531	-2359.81	-814.74

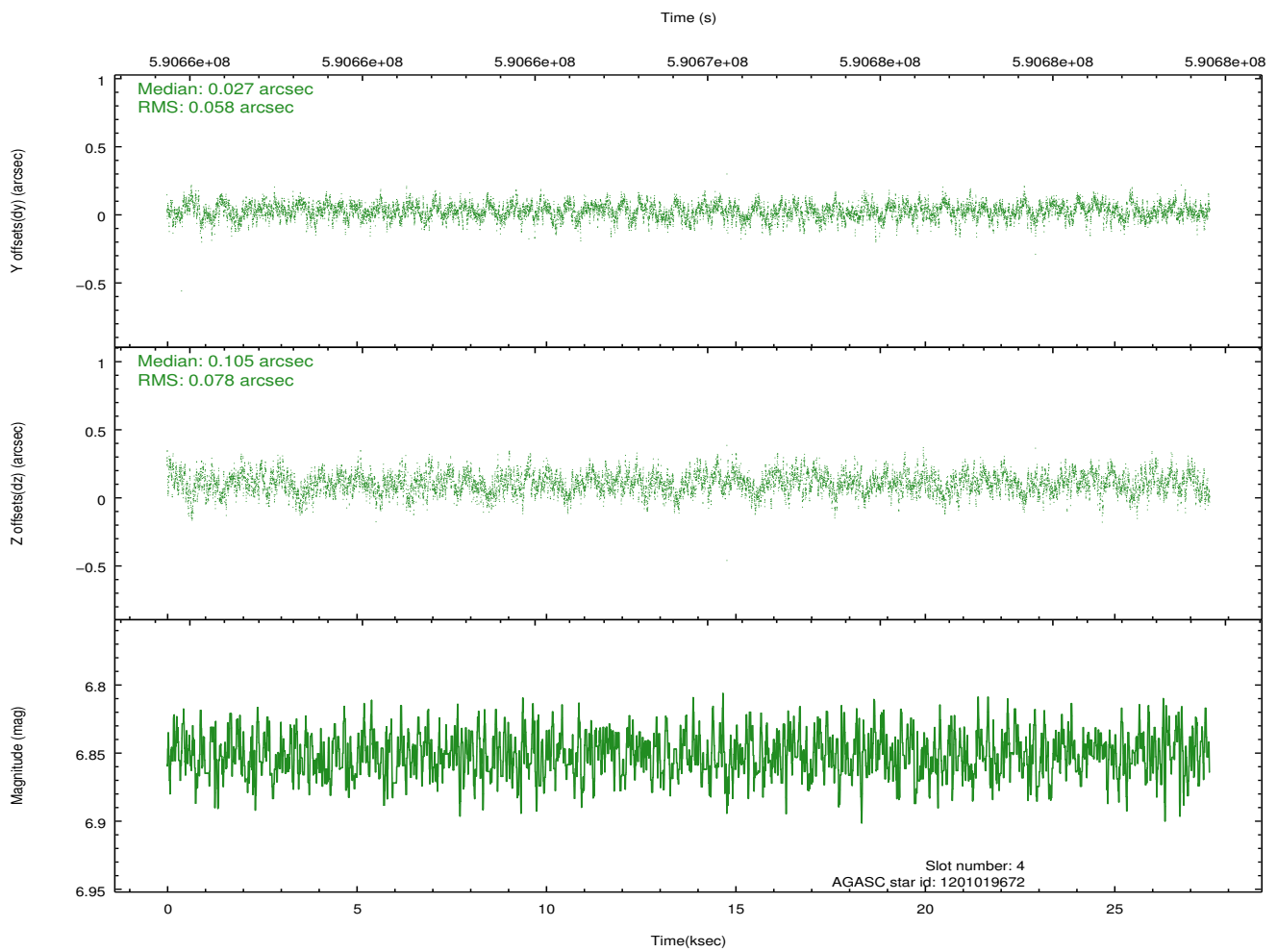
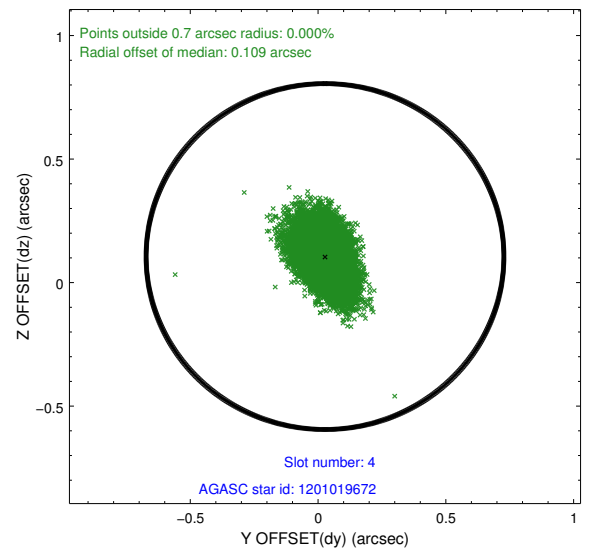
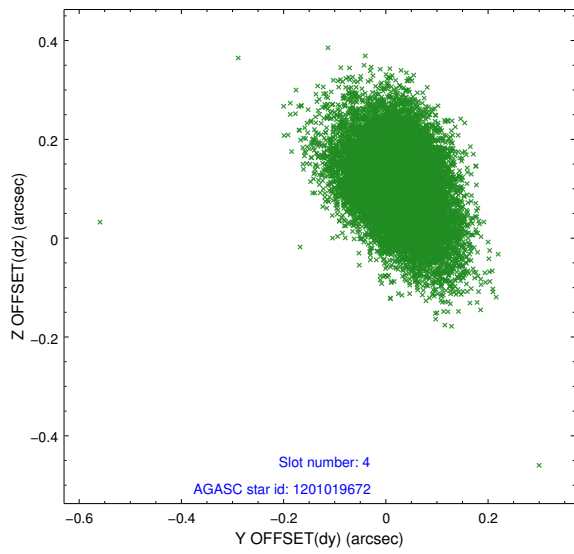
∞

2.4 Star Slots

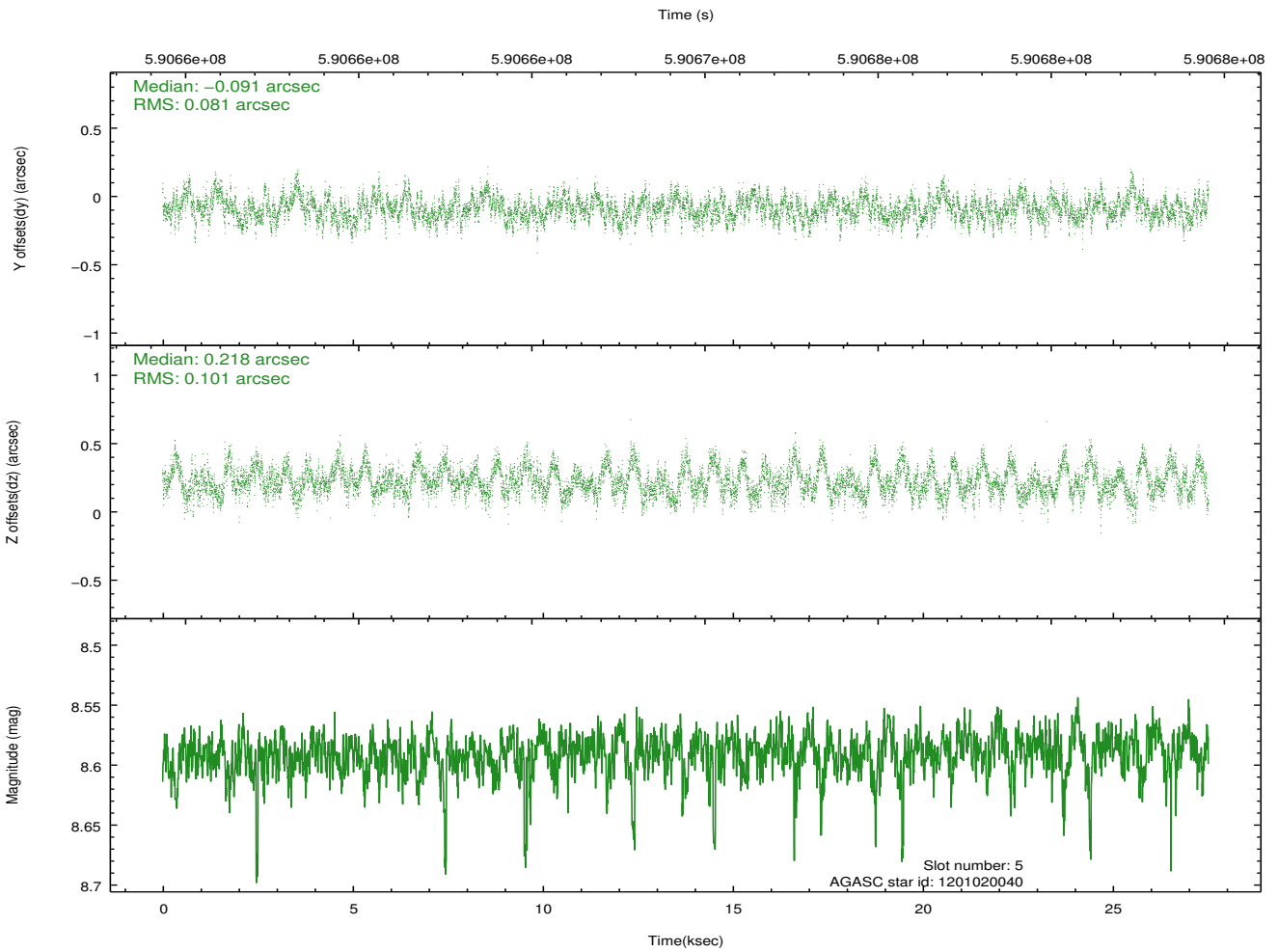
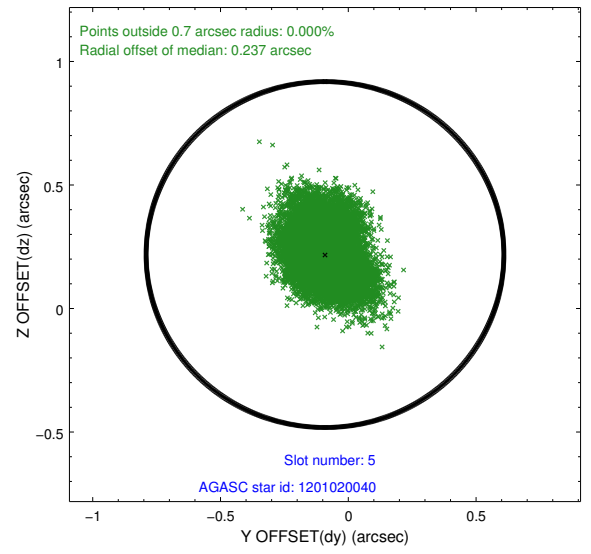
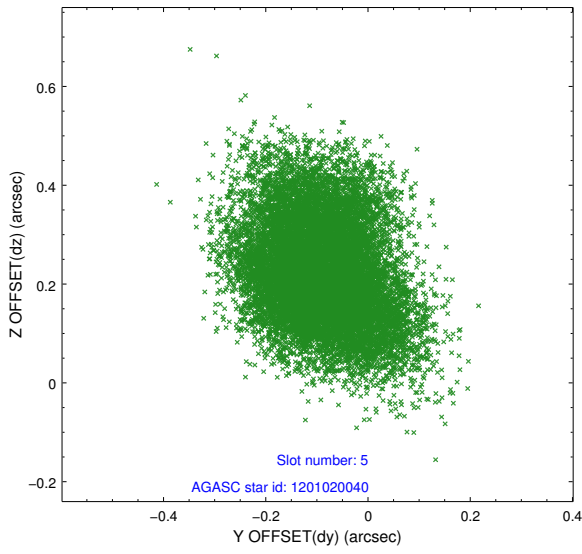
2.4.1 Slot 3



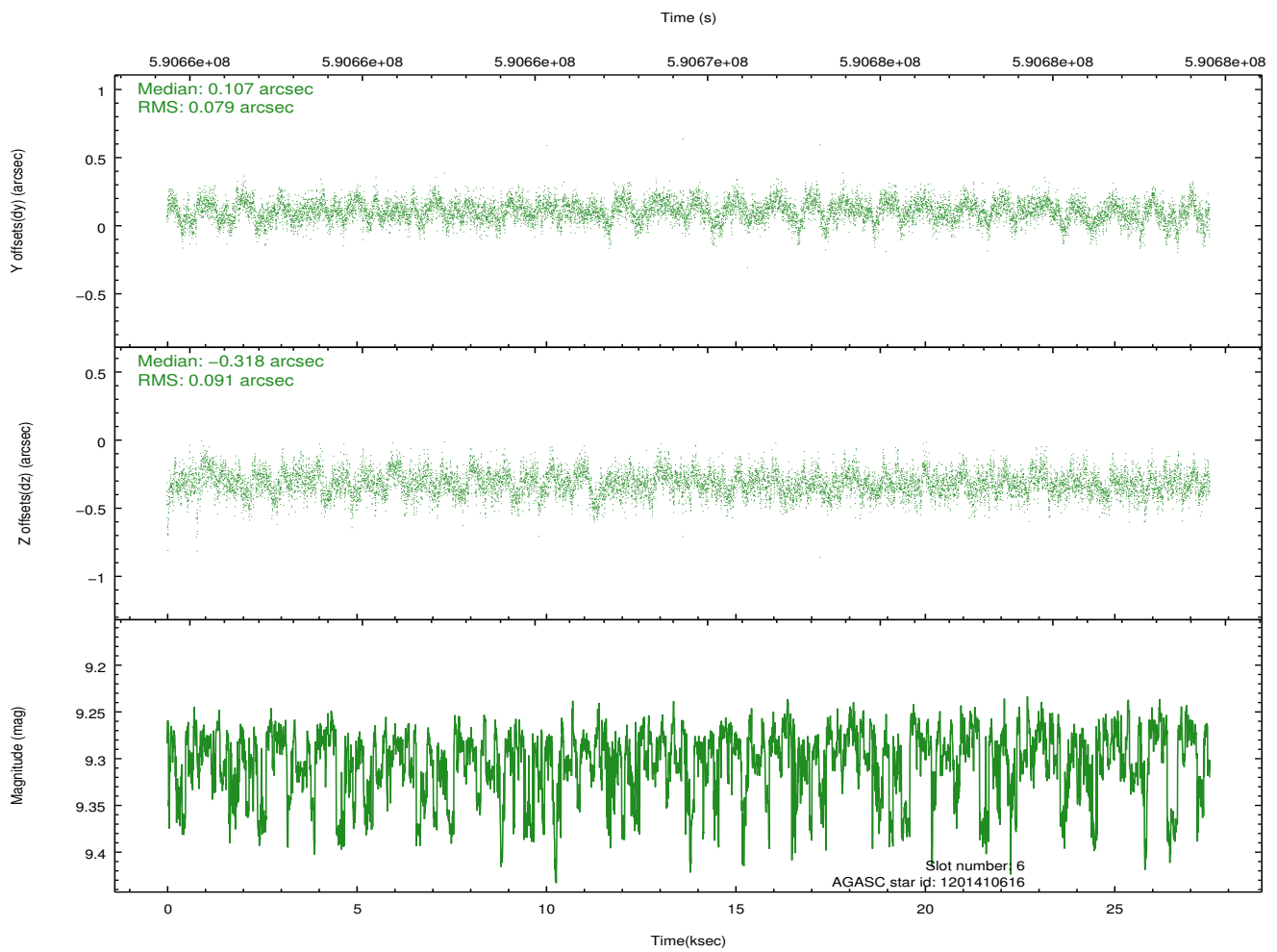
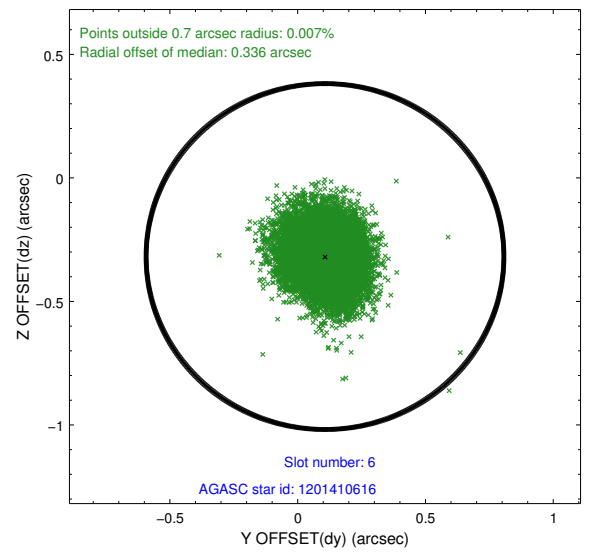
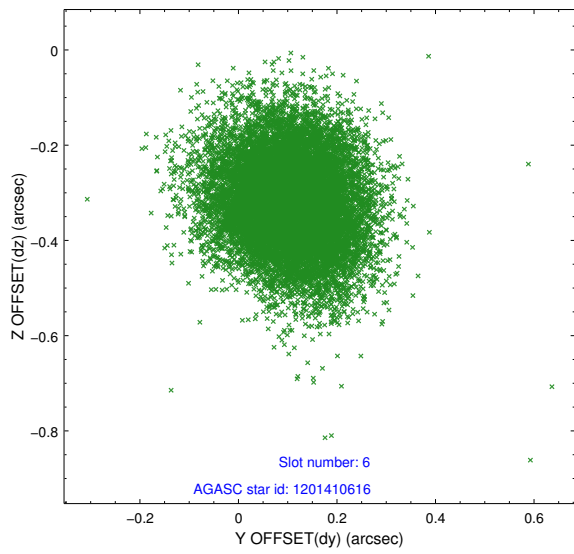
2.4.2 Slot 4



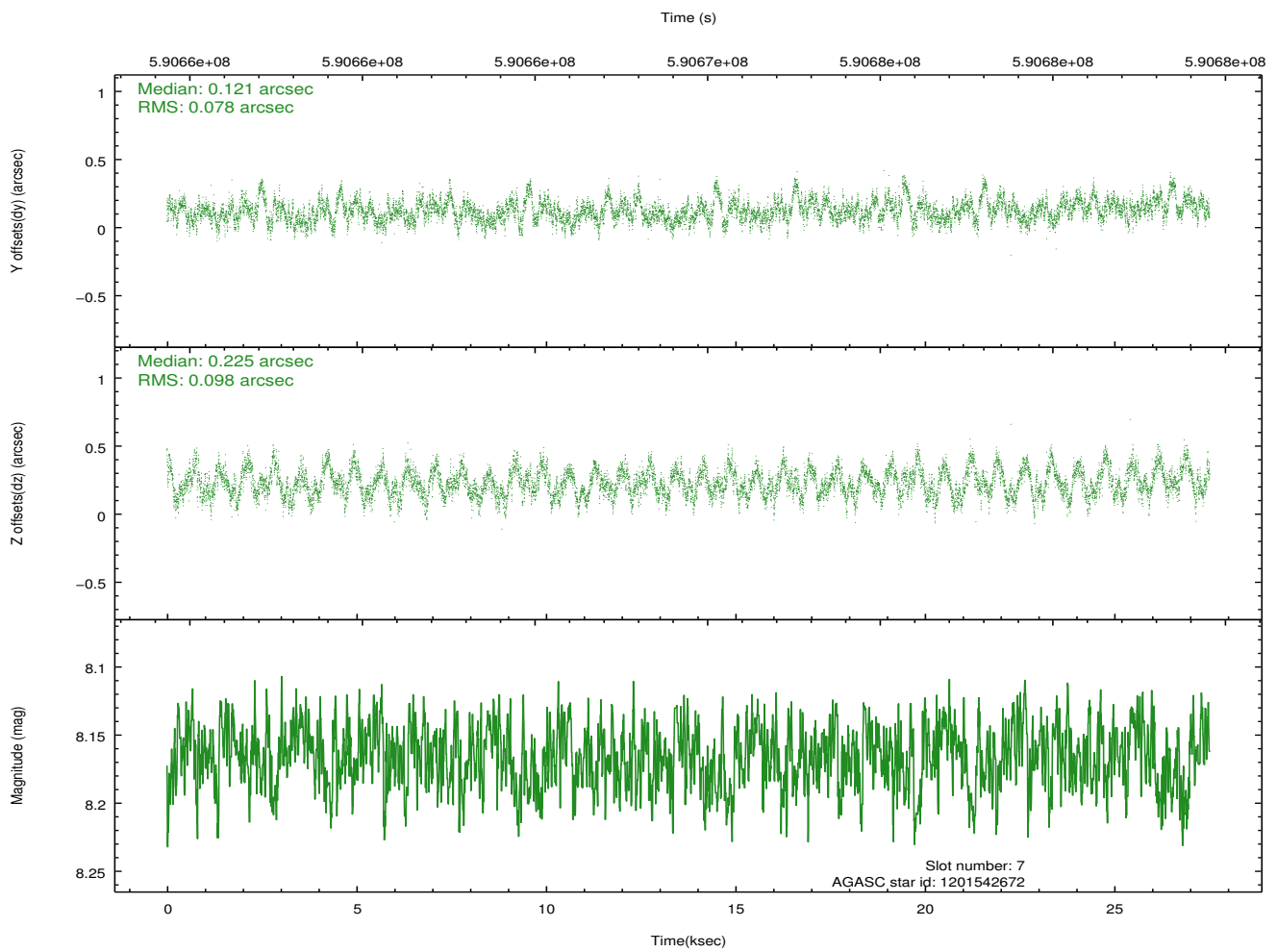
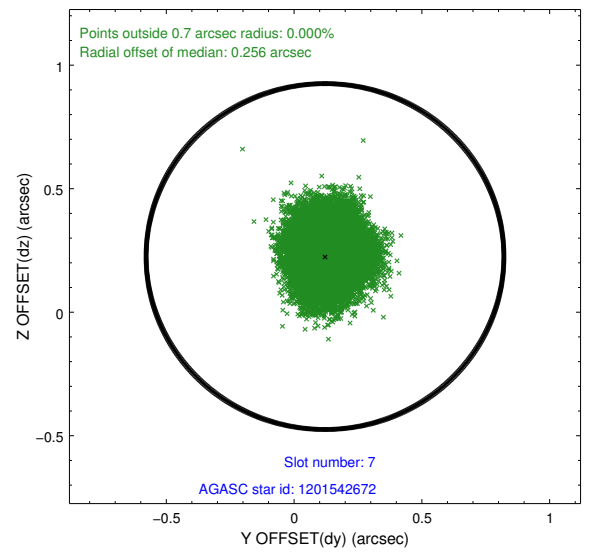
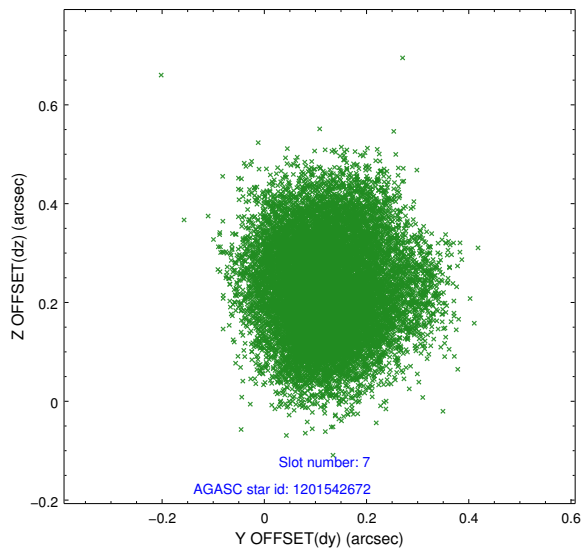
2.4.3 Slot 5



2.4.4 Slot 6

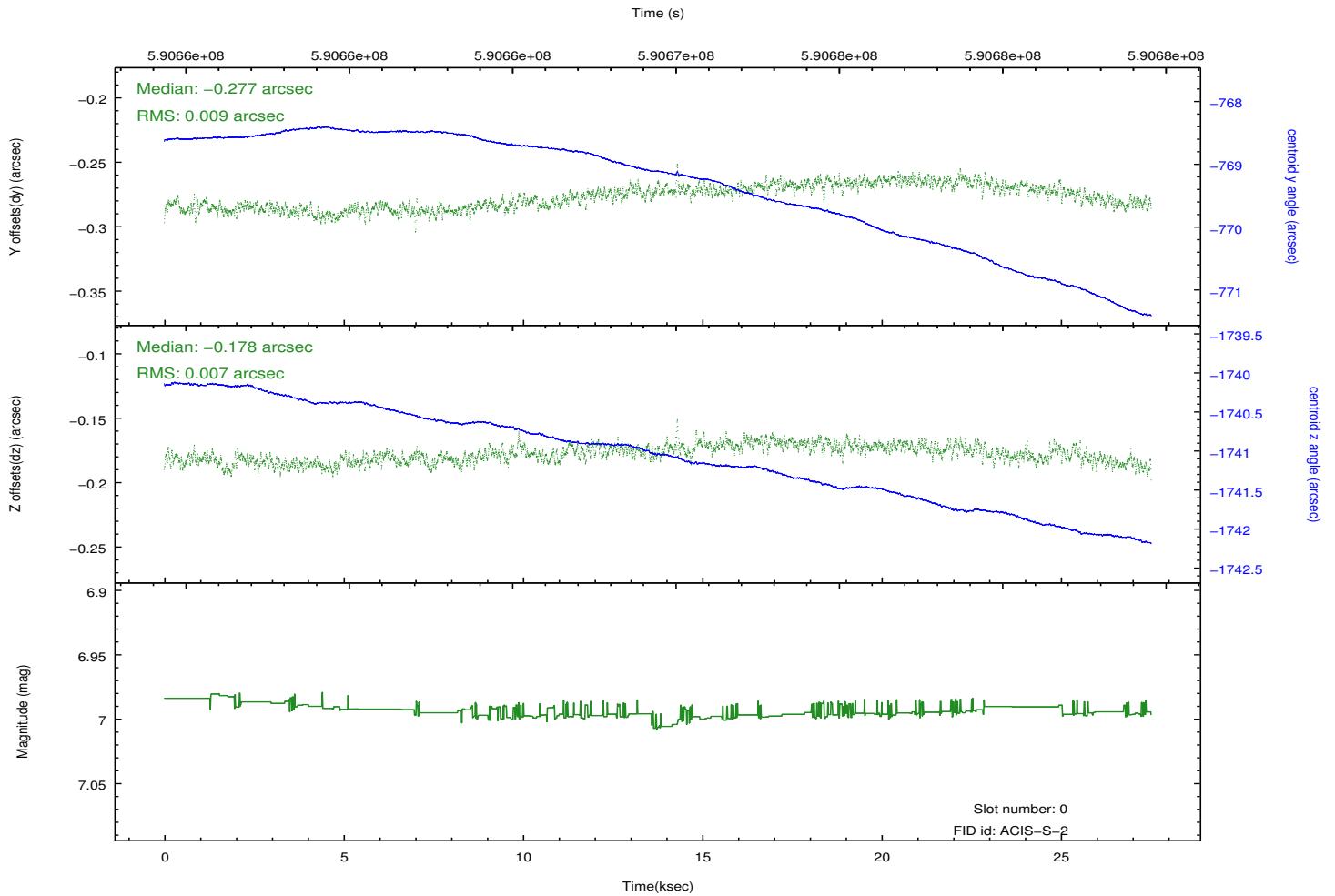
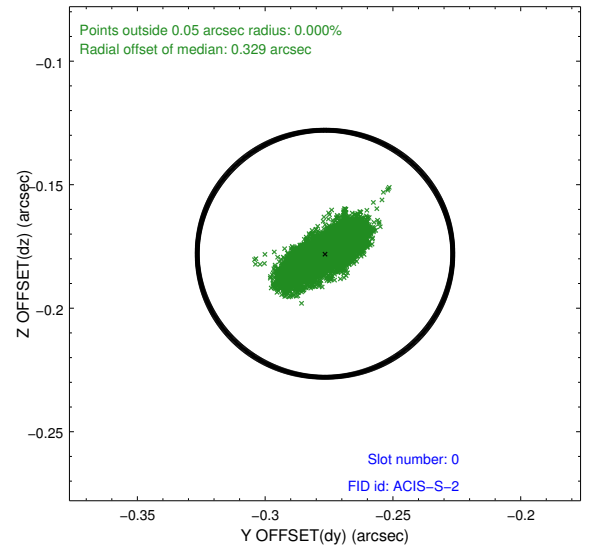
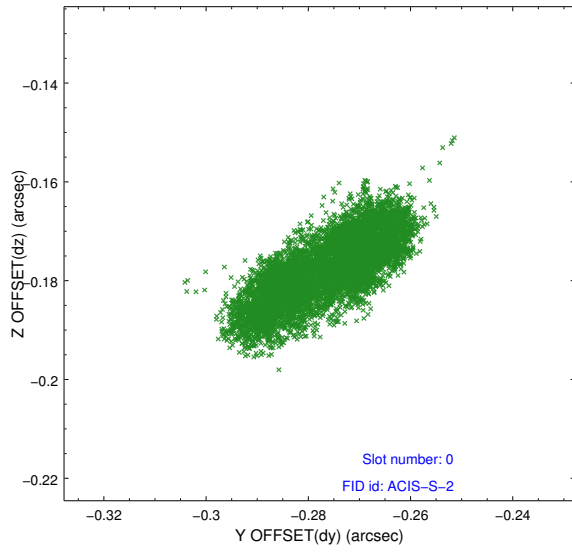


2.4.5 Slot 7

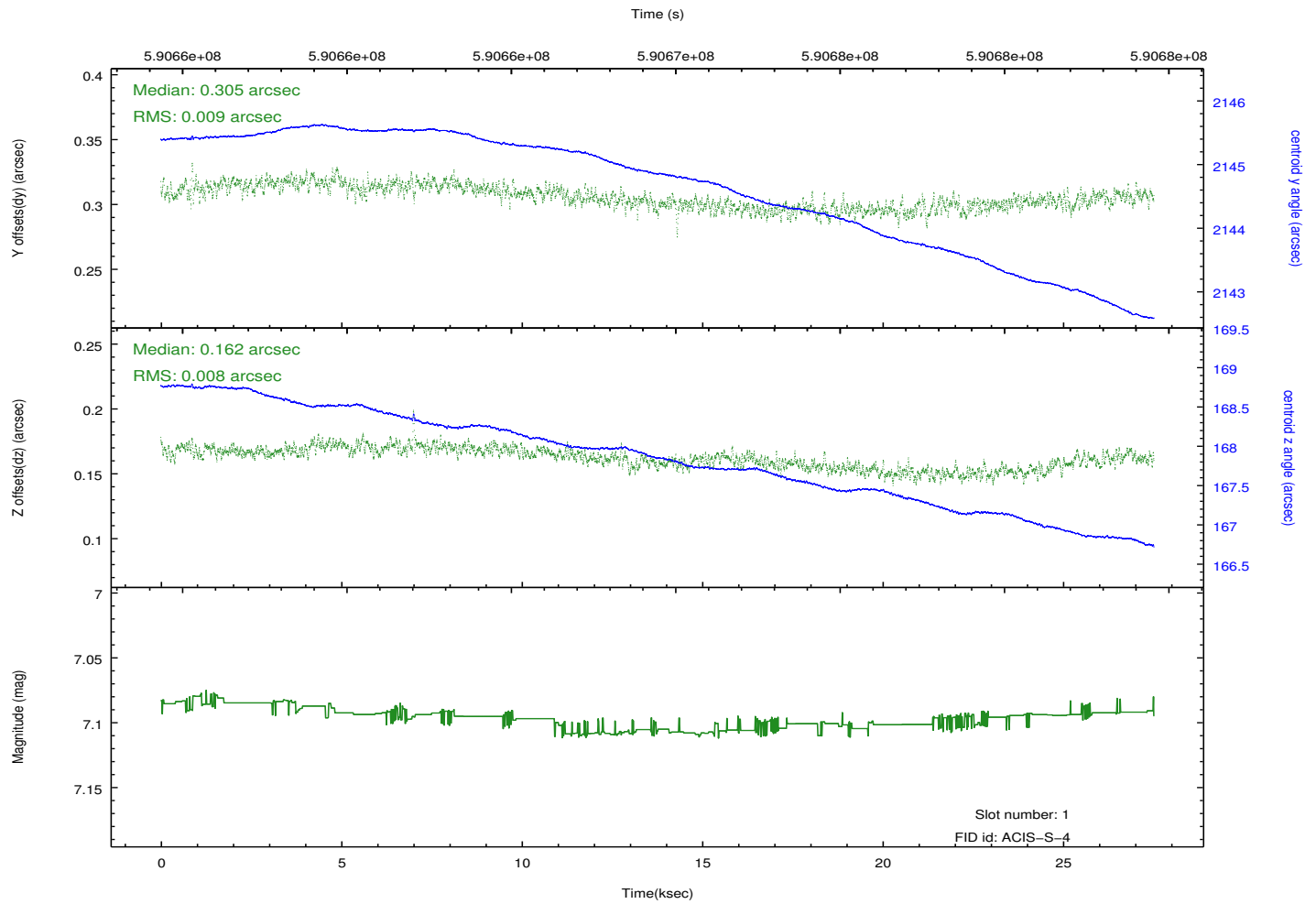
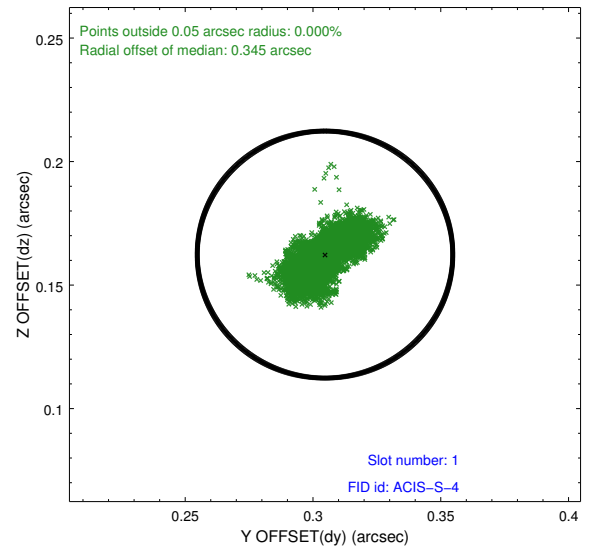
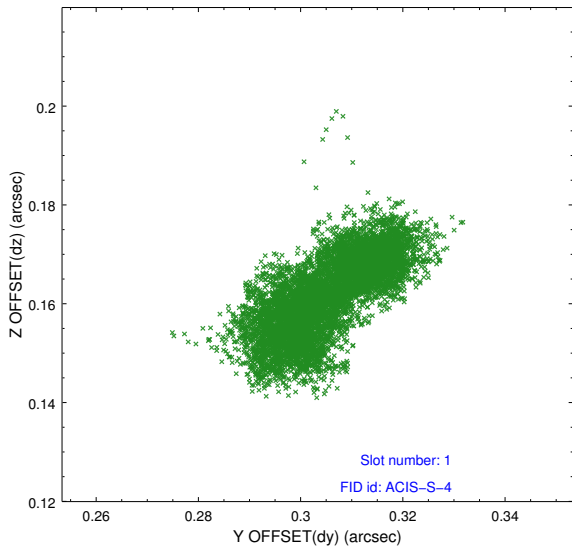


2.5 FID Slots

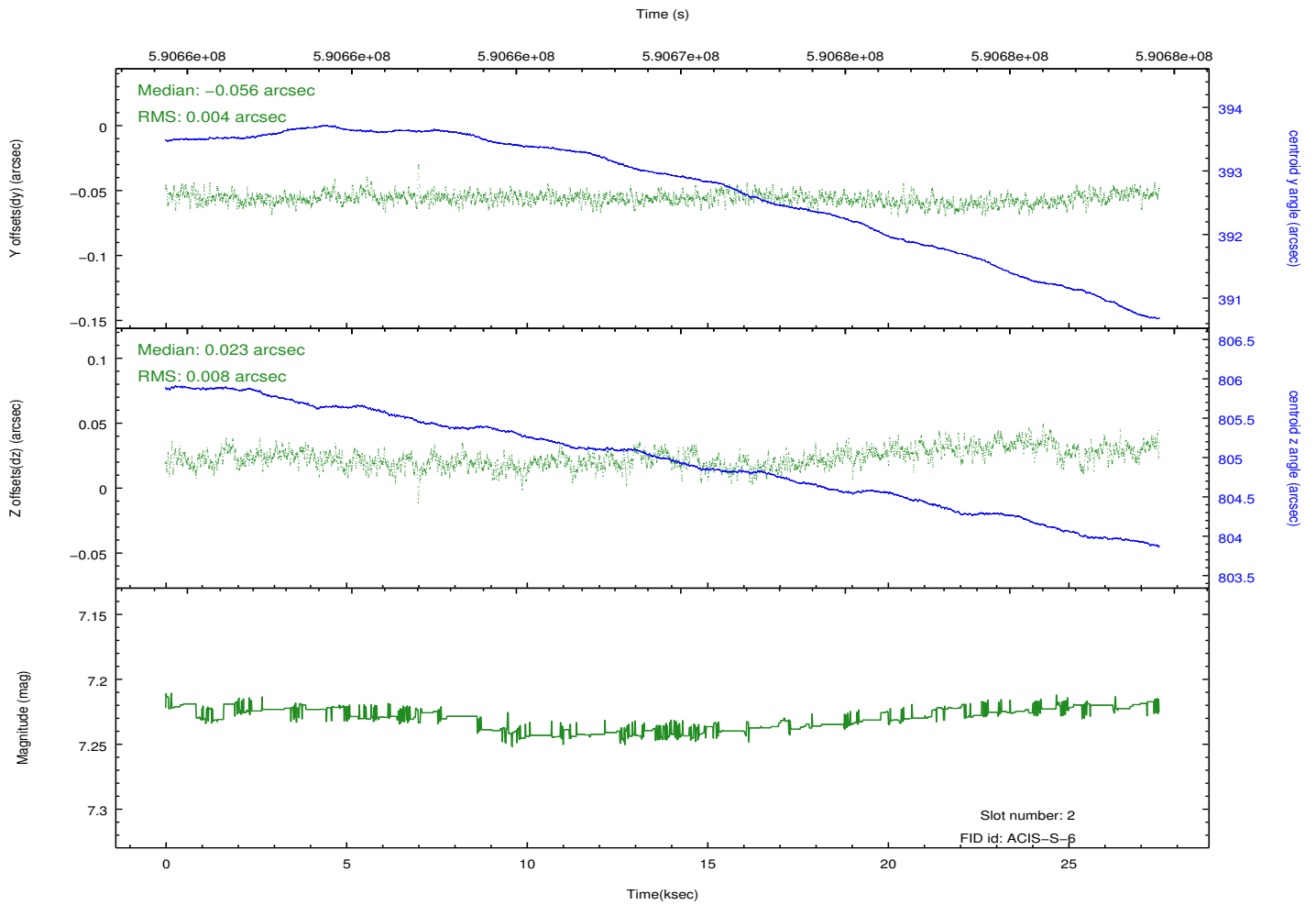
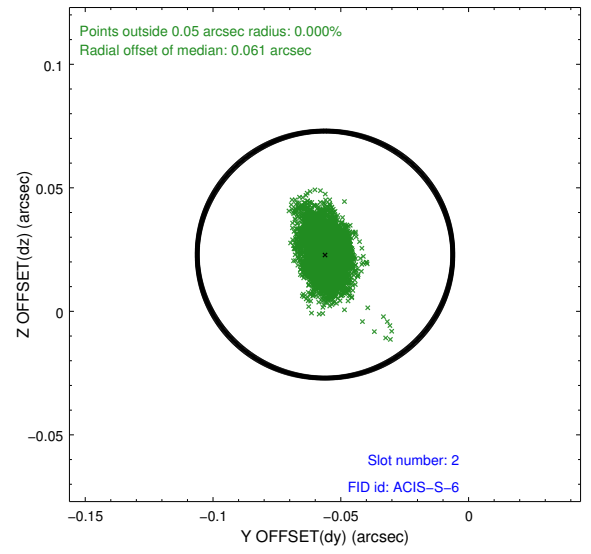
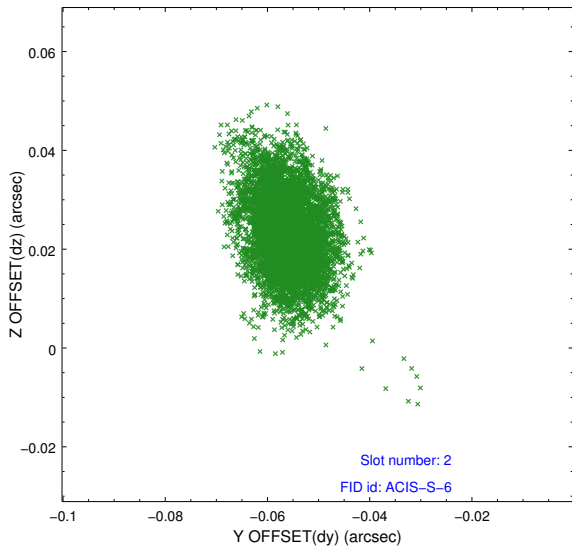
2.5.1 Slot 0



2.5.2 Slot 1

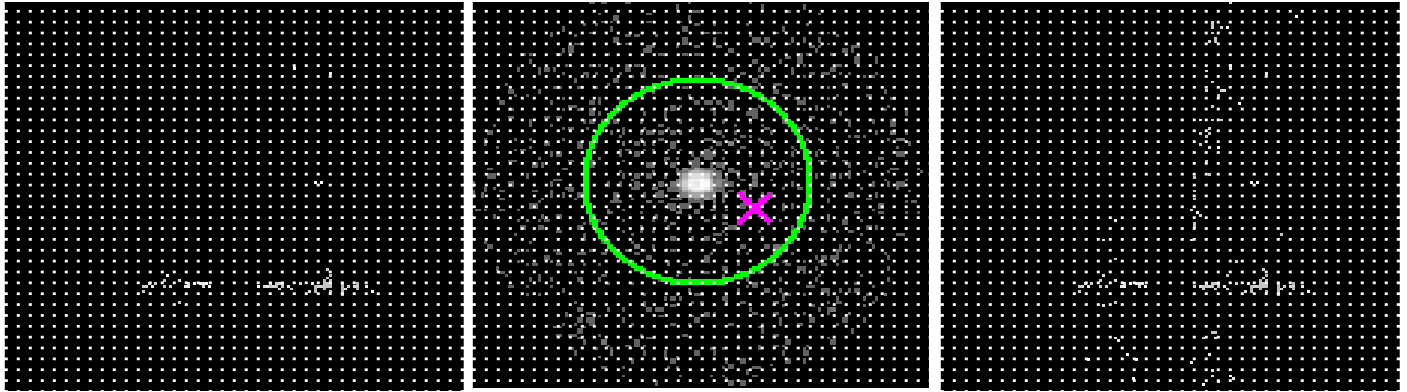


2.5.3 Slot 2



3 Gratings

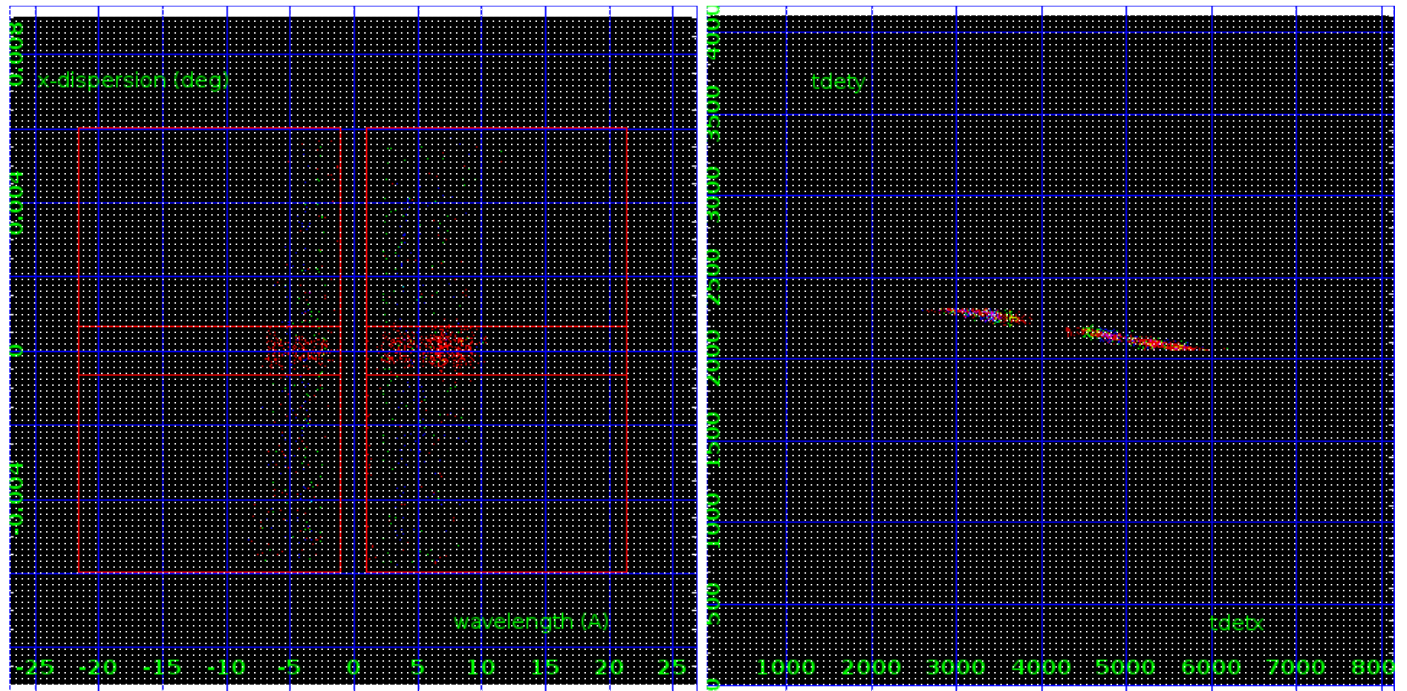
3.1 HEG Arm



HEG Order Sort 123

HEG Zero Order

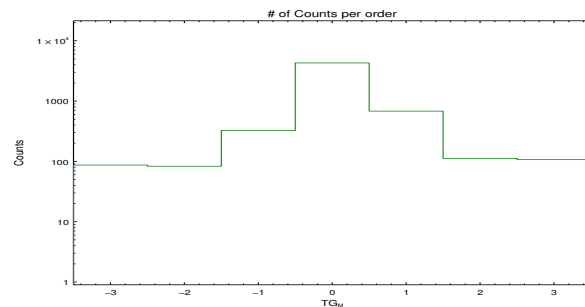
HEG Order Sort ALL

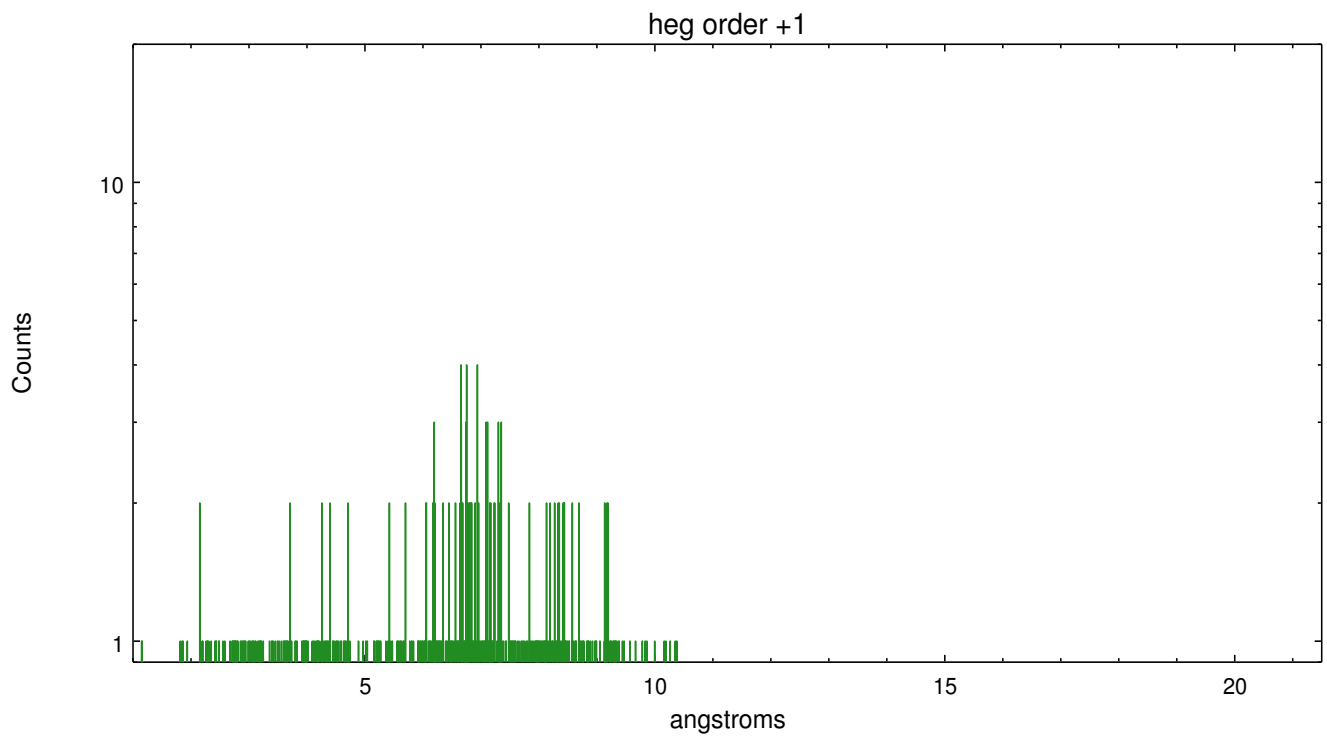
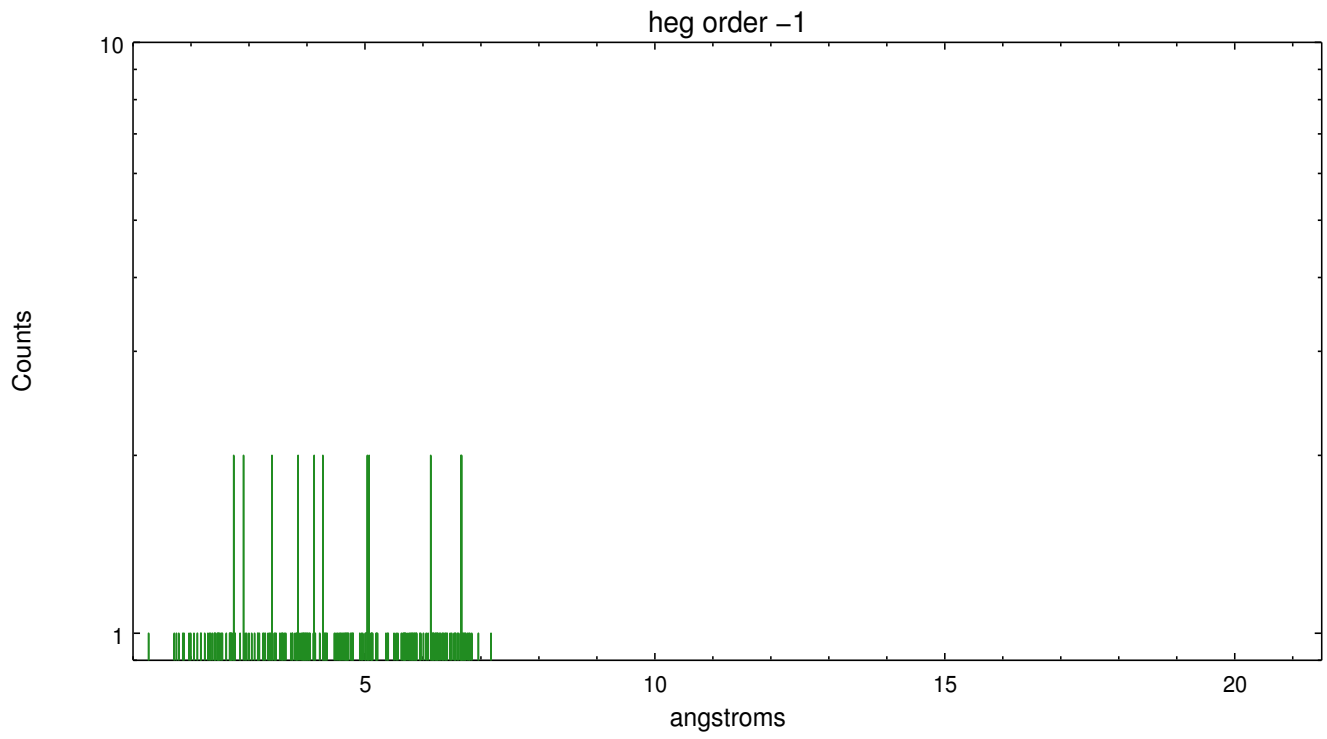


Spot Image HEG

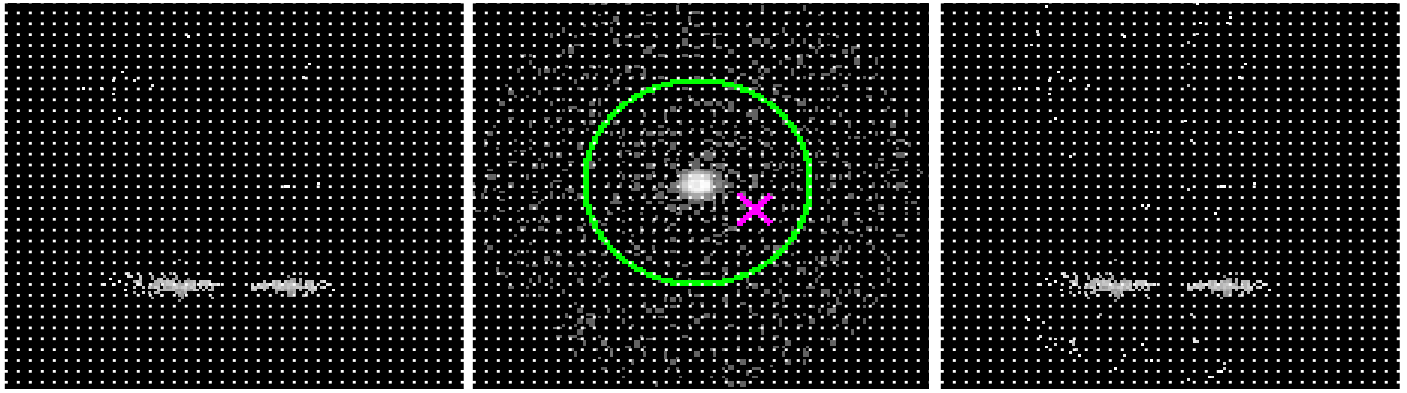
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	87	83	325	4286	681	112	107





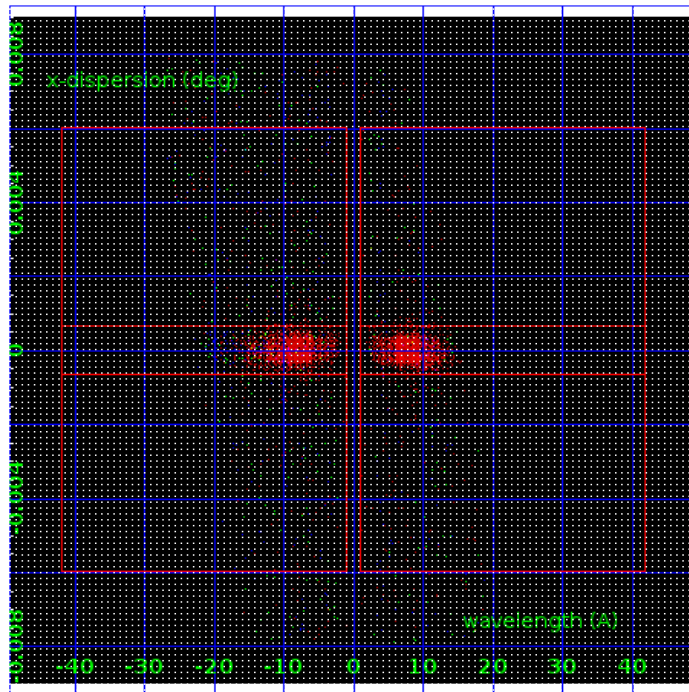
3.2 MEG Arm



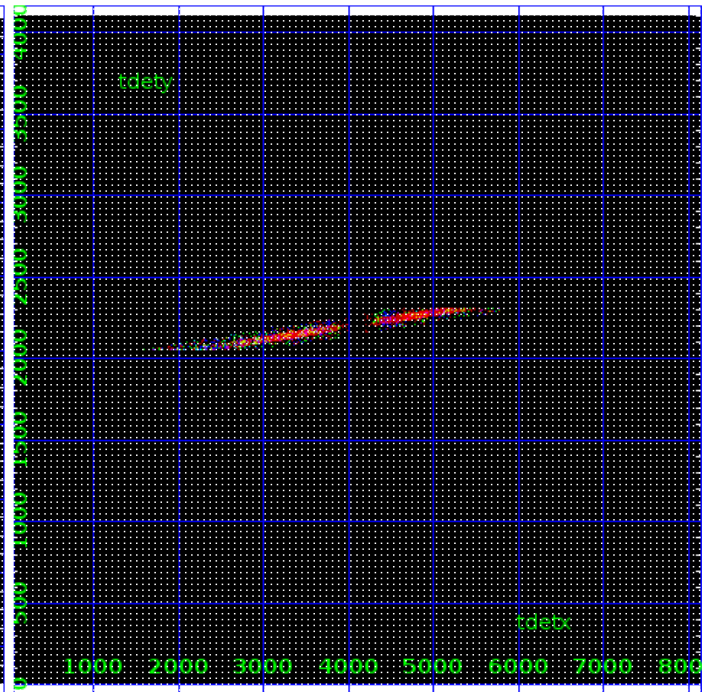
MEG Order Sort 123

MEG Zero Order

MEG Order Sort ALL

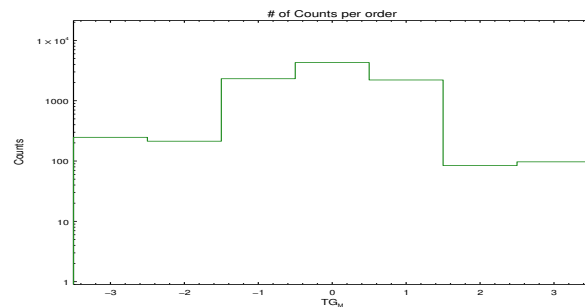


Spot Image MEG

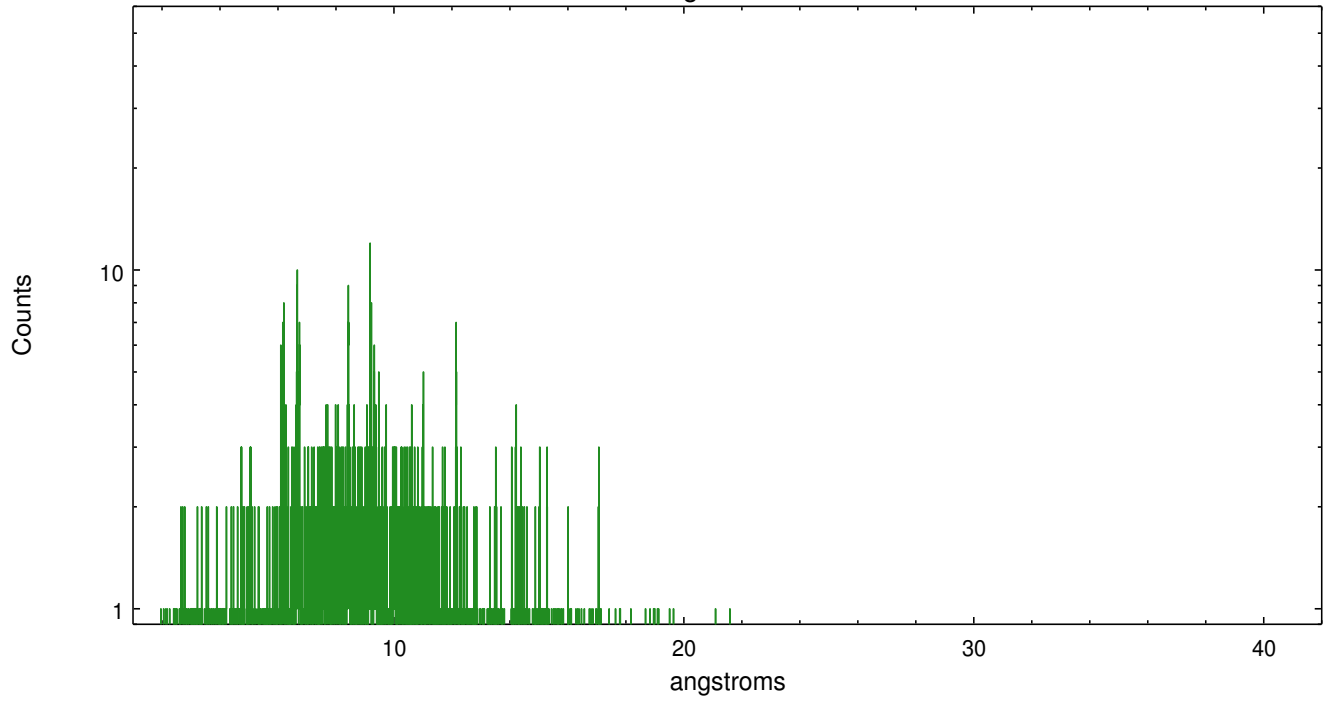


Full Detector MEG

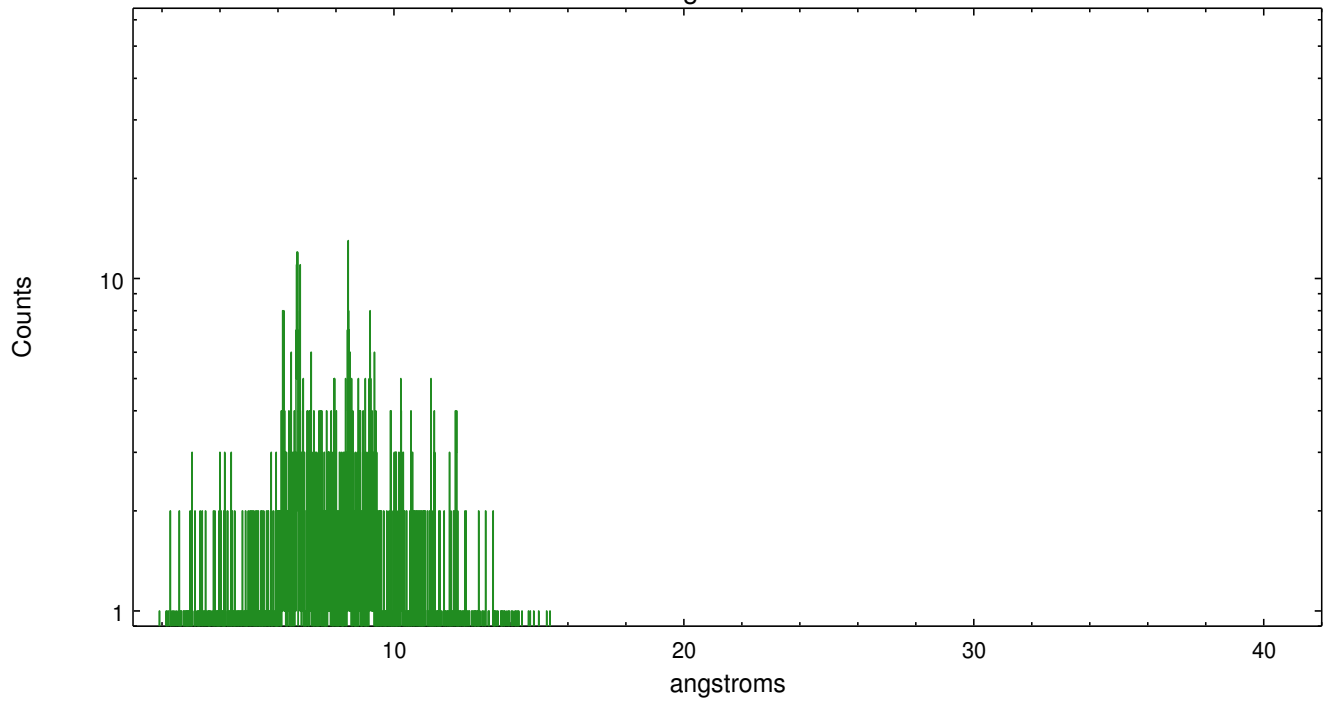
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	247	213	2316	4286	2207	84	97



meg order -1



meg order +1



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2016.09.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	27.089700587273

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.

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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.