

V&V Reference Report

L2 ASCDS Version : 8.4.4

Observation 9144 - L2 Version 2
Chandra X-Ray Center

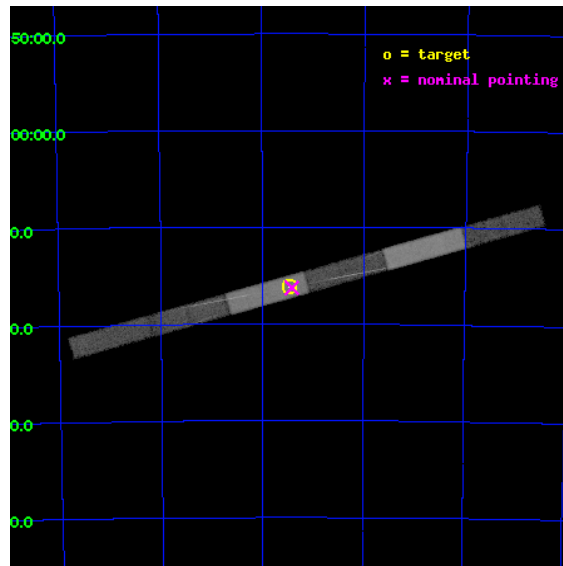
L2 Processing Date : May 17 2012

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1 Front

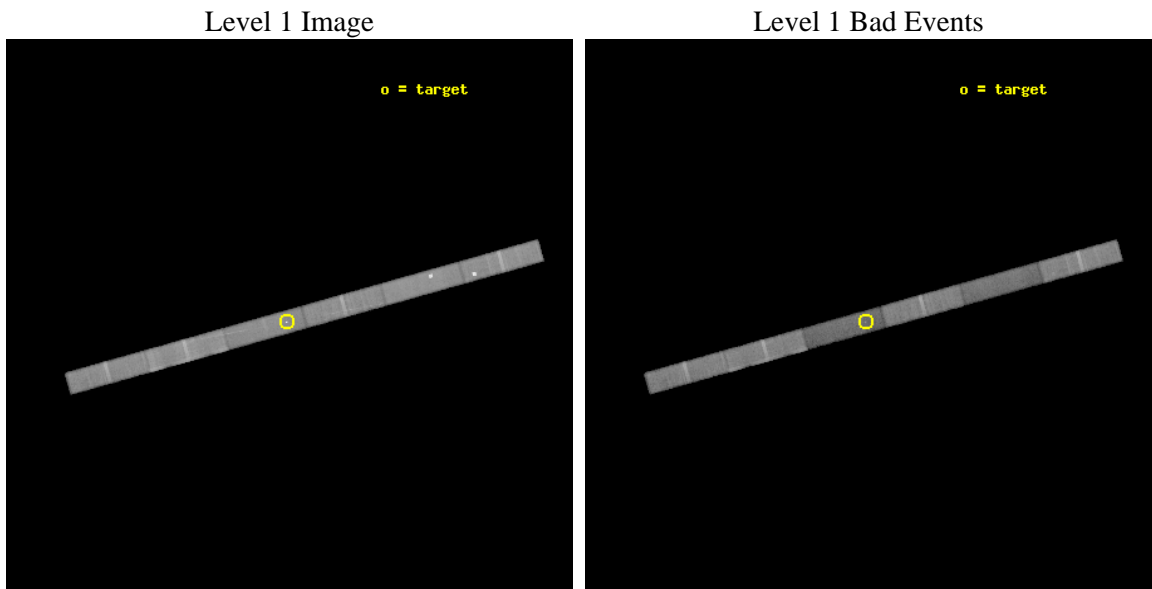
seq_num	501005	Sequence number
obs_id	9144	Observation id
title	AO9 Chandra Monitoring of SNR 1987A	Proposal title
observer	Prof. David Burrows	Principal investigator
object	SNR 1987A	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.866667	Observer's specified target RA [deg]
dec_targ	-69.26975	Observer's specified target Dec [deg]
ra_nom	83.853527131097	Nominal RA [deg]
dec_nom	-69.27108388139	Nominal Dec [deg]
roll_nom	164.36285878584	Nominal Roll [deg]
revision	2	Processing version of data
ontime	43594.100944877	Sum of GTIs [s]
livetime	42026.143727971	Livetime [s]
ontime4	43594.100944877	Sum of GTIs [s]
ontime5	43594.100944877	Sum of GTIs [s]
ontime6	43592.95990485	Sum of GTIs [s]
ontime7	43594.100944877	Sum of GTIs [s]
ontime8	43594.100944877	Sum of GTIs [s]
ontime9	43591.818894565	Sum of GTIs [s]
l2events	141373	Number of level 2 events



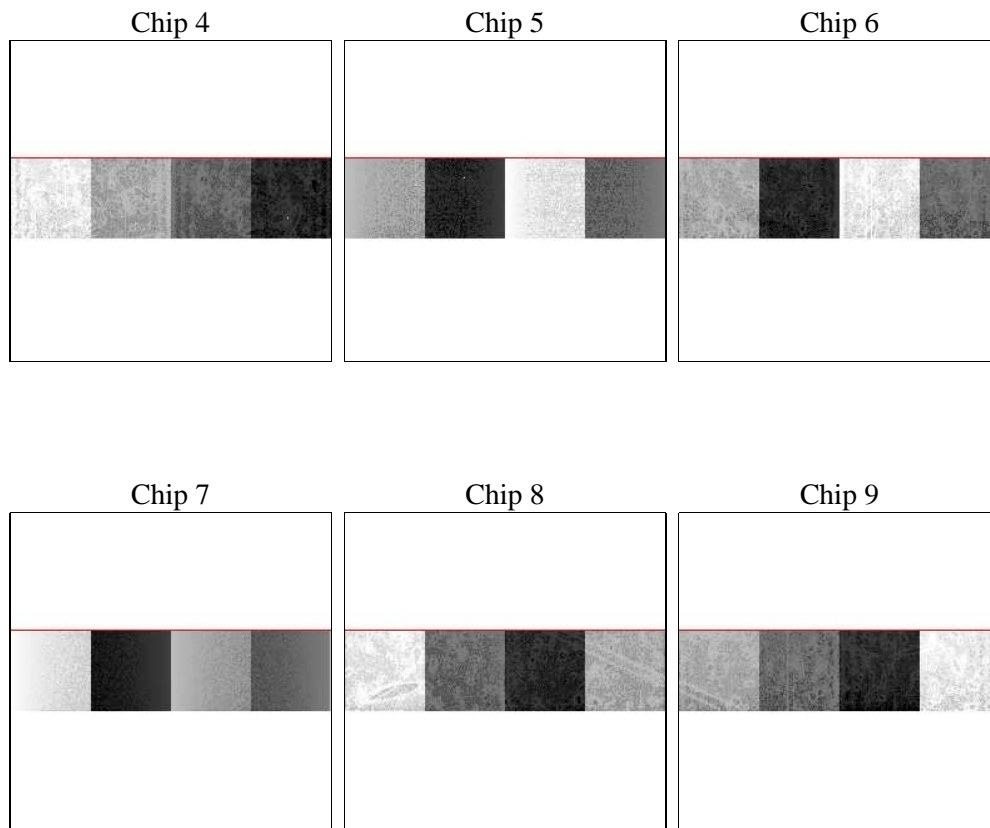
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	43500.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	43594.100944877	Sum of GTIs [s]
caldsver	4.4.9	 	ontime4	43594.100944877	Sum of GTIs [s]
date	2012-05-17T15:41:34	Date and time of file creation	ontime5	43594.100944877	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	43592.95990485	Sum of GTIs [s]
			ontime7	43594.100944877	Sum of GTIs [s]
			ontime8	43594.100944877	Sum of GTIs [s]
			ontime9	43591.818894565	Sum of GTIs [s]
			l1events	662832	Number of level 1 events

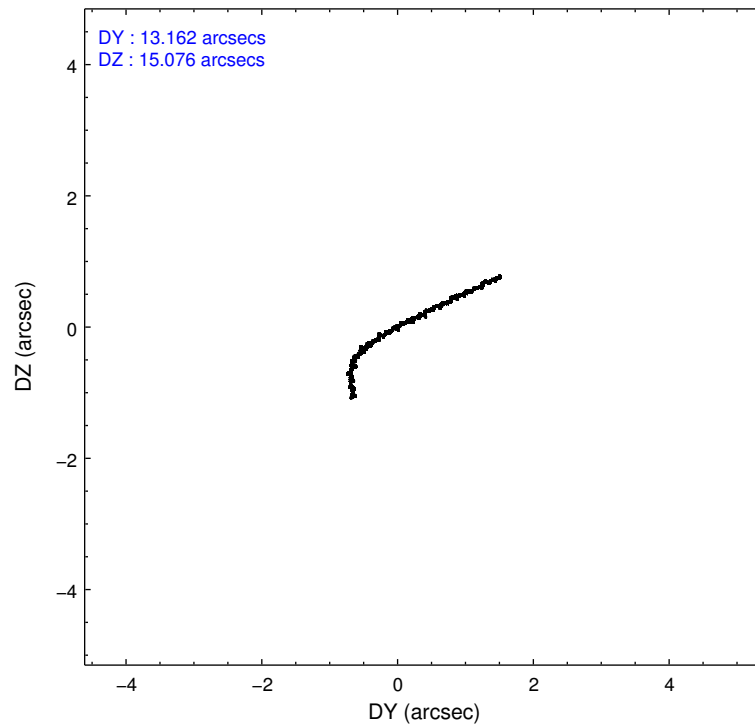
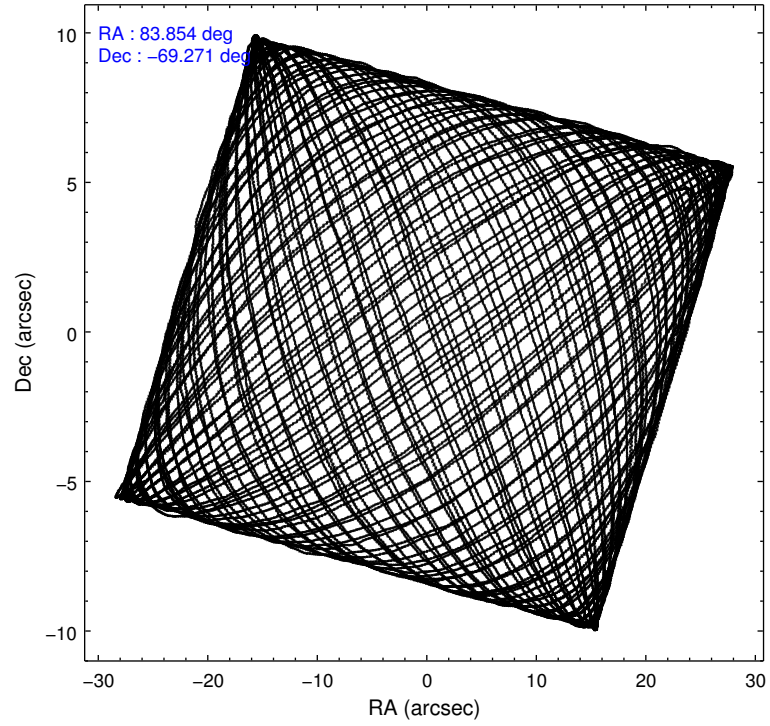
2.1.4 Events

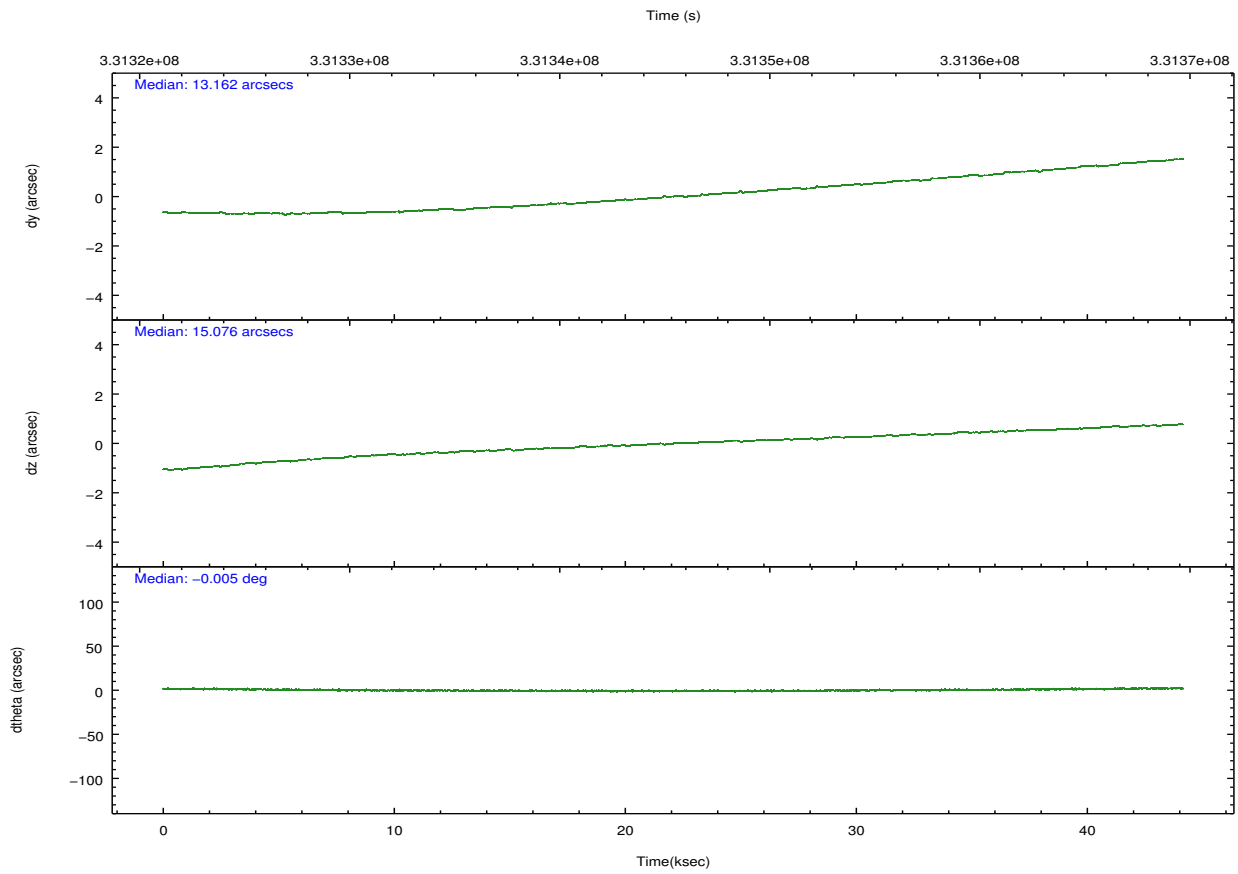
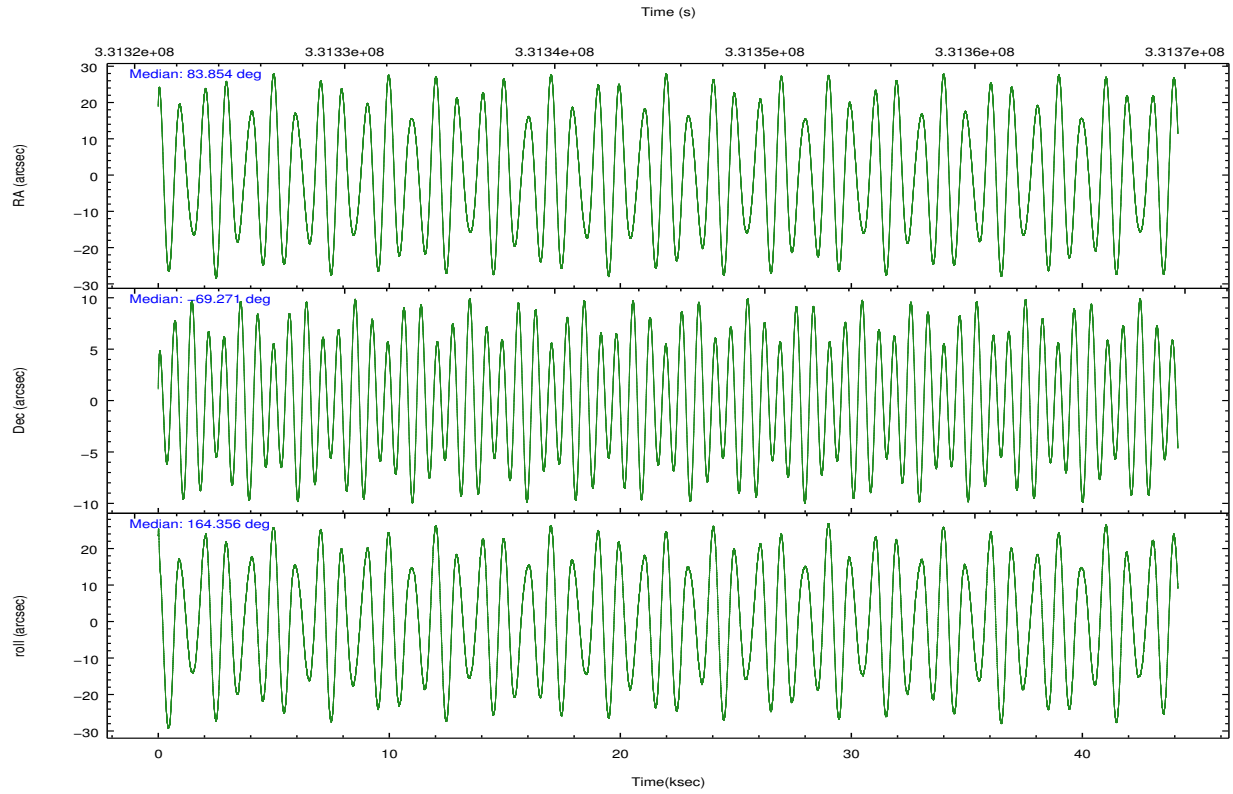
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	129300	119908	100767	92267	127942	92648	grade 0 events	19480	17036	5555	6699	9144	3406
rejected events	102518	50268	87928	41388	97340	82303		15%	14%	5%	7%	7%	3%
rejected %	79%	41%	87%	44%	76%	88%	grade 1 events	134	246	53	153	55	41
								0%	0%	0%	0%	0%	0%
							grade 2 events	2428	17908	2210	11659	6419	1912
								1%	14%	2%	12%	5%	2%
							grade 3 events	1629	3938	1595	5780	3522	1646
								1%	3%	1%	6%	2%	1%
							grade 4 events	1520	3730	1546	5696	3399	1534
								1%	3%	1%	6%	2%	1%
							grade 5 events	3145	10154	2998	9168	4458	3264
								2%	8%	2%	9%	3%	3%
							grade 6 events	1726	27031	1933	21047	8120	1847
								1%	22%	1%	22%	6%	1%
							grade 7 events	99238	39865	84877	32065	92825	78998
								76%	33%	84%	34%	72%	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	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	83.928035	83.85352713109651	CCD I2 on	N	N
[deg] Pointing Dec	-69.263924	-69.27108388139027	CCD I3 on	N	N
[deg] Pointing Roll	164.275913	164.3628587858381	CCD S0 on	O1	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	Y	Y
[s] Observation start time (MET)	331323966.184000	331322472.83376	CCD S5 on	Y	Y
Observation start date	2008-07-01T18:25:01	2008-07-01T18:01:12	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	331367466.184000	331368313.3985	On-chip summing requested	N	N
Observation end date	2008-07-02T06:30:01	2008-07-02T06:45:13	Subarray requested	CUSTOM	1/4
Read mode	TIMED	TIMED	Subarray start row	393	393
			Subarray row count	256	256
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	1.1

2.3 Aspect





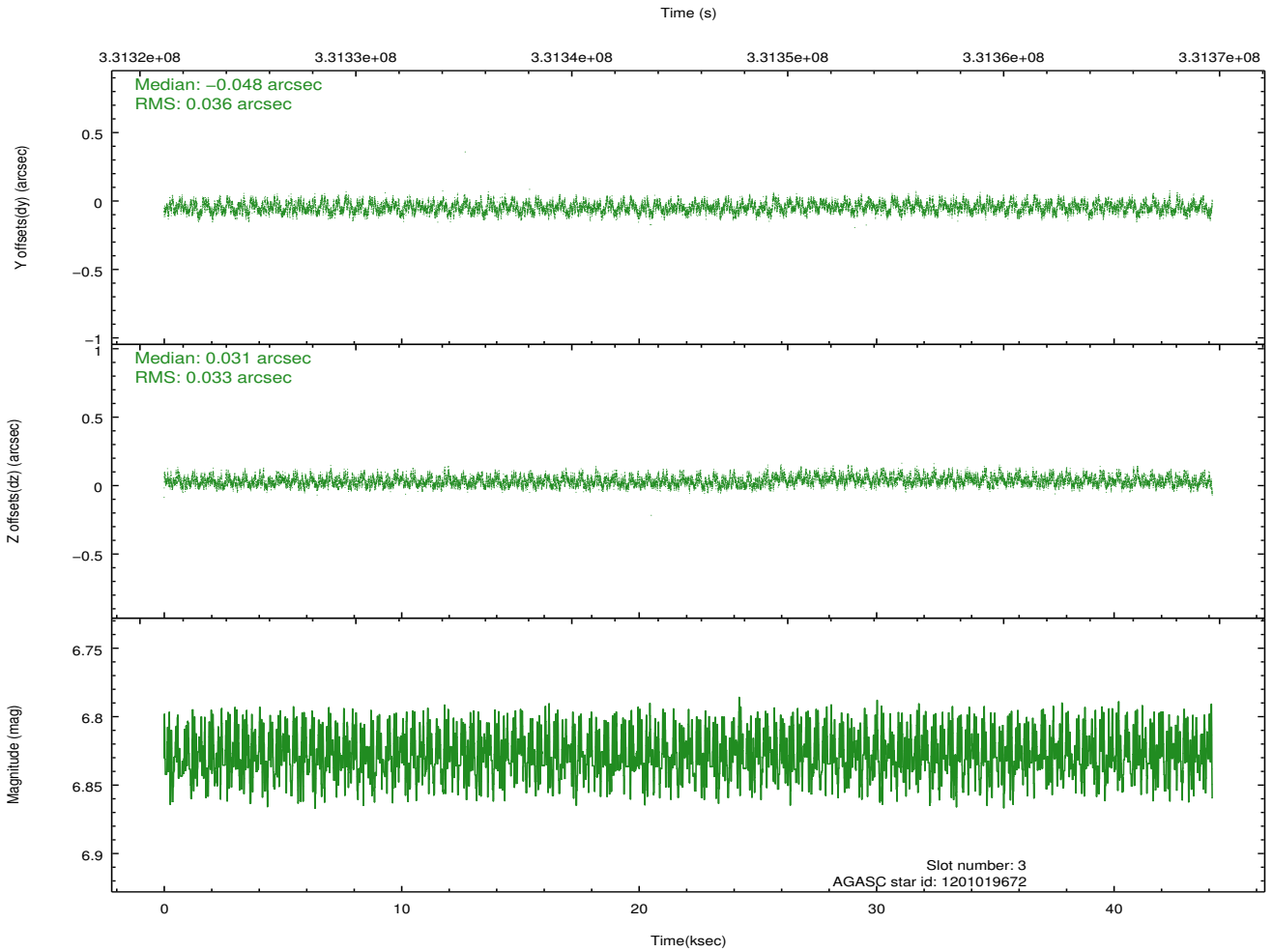
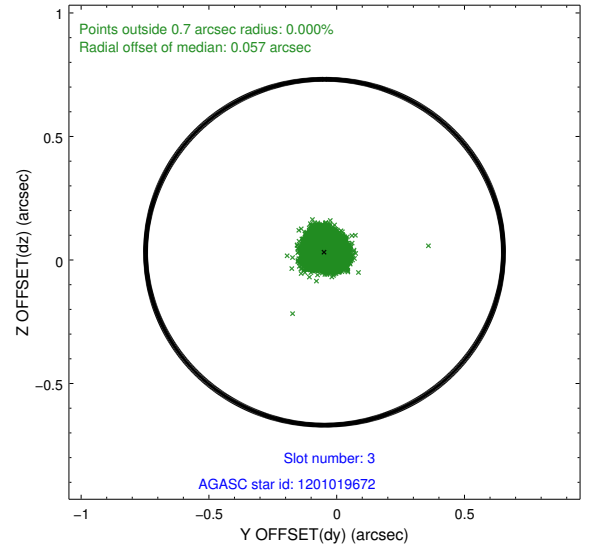
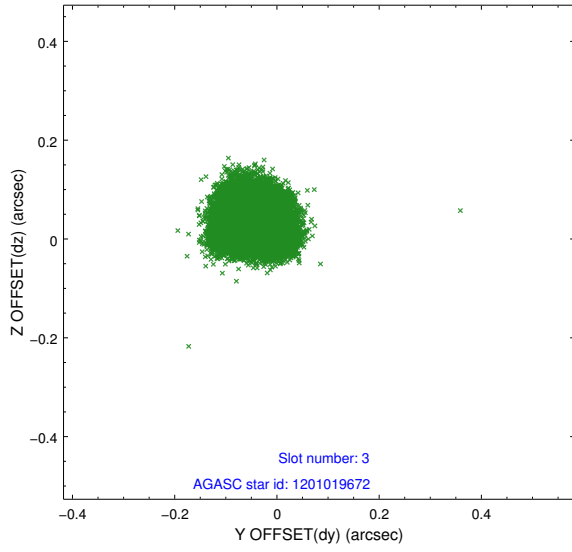
Slot Statistics

slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.89	10766	-0.058	-0.021	0.015	0.026	0.000000	0.000000	-766.24	-1736.45
1	FID	ACIS-S-4	6.98	10767	0.161	0.033	0.029	0.039	0.000000	0.000000	2147.23	172.13
2	FID	ACIS-S-5	7.01	10767	-0.134	-0.005	0.017	0.023	0.000000	0.000000	-1819.18	165.71
3	GUIDE	1201019672	6.83	21533	-0.048	0.031	0.053	0.083	85.312192	-68.770187	-1260.05	-2180.21
4	GUIDE	1201020040	8.59	21522	0.107	0.152	0.079	0.135	85.379163	-68.879396	-1442.12	-1821.07
5	GUIDE	1201542672	8.20	21531	-0.009	-0.233	0.075	0.124	84.492488	-69.957531	-1348.05	2216.18
6	GUIDE	1200884248	9.44	21502	-0.052	0.236	0.119	0.210	83.880915	-68.565170	741.75	-2404.14
7	GUIDE	1201410616	9.32	21437	-0.005	-0.188	0.122	0.195	82.516808	-69.784406	1176.59	2298.94

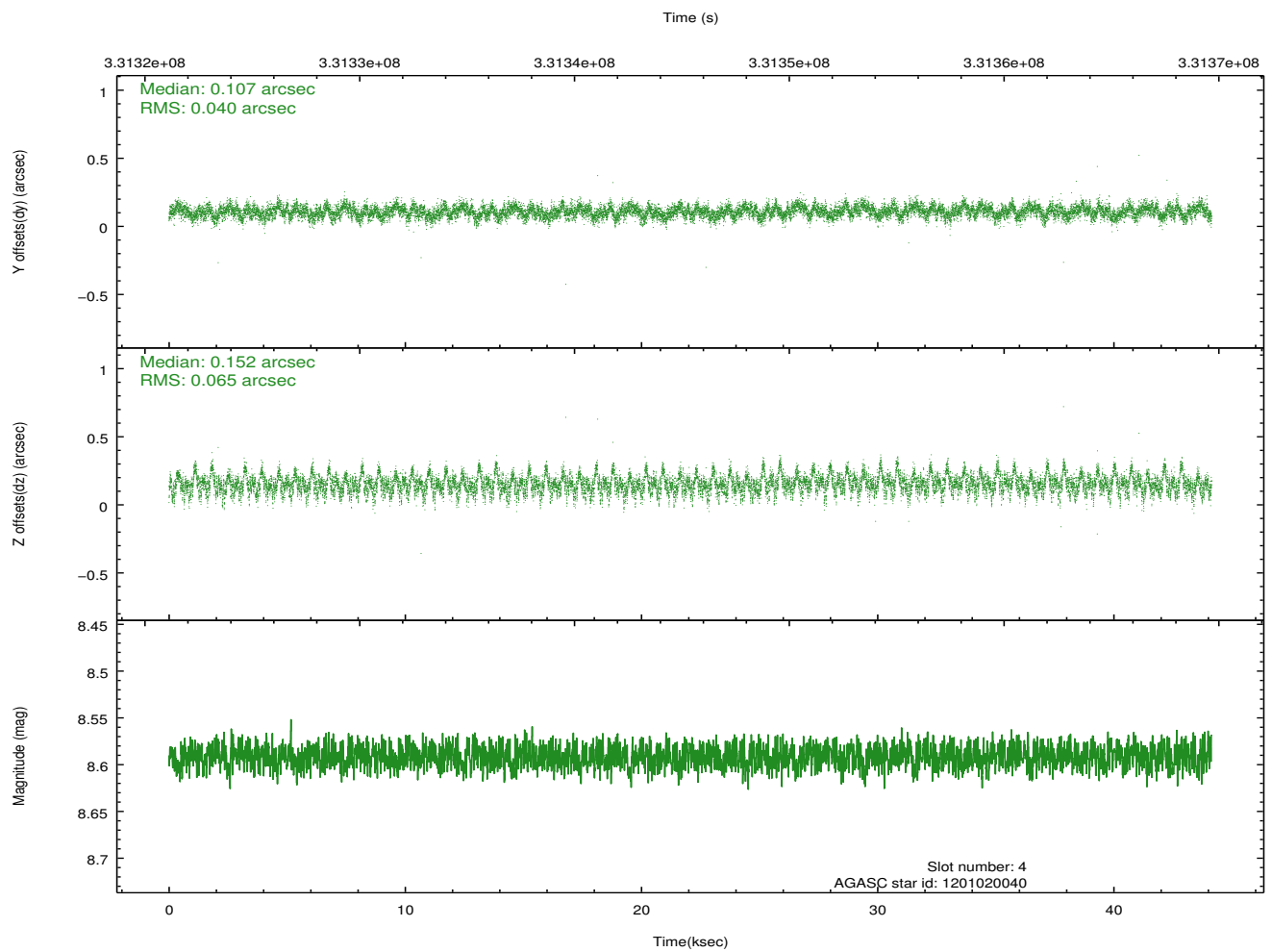
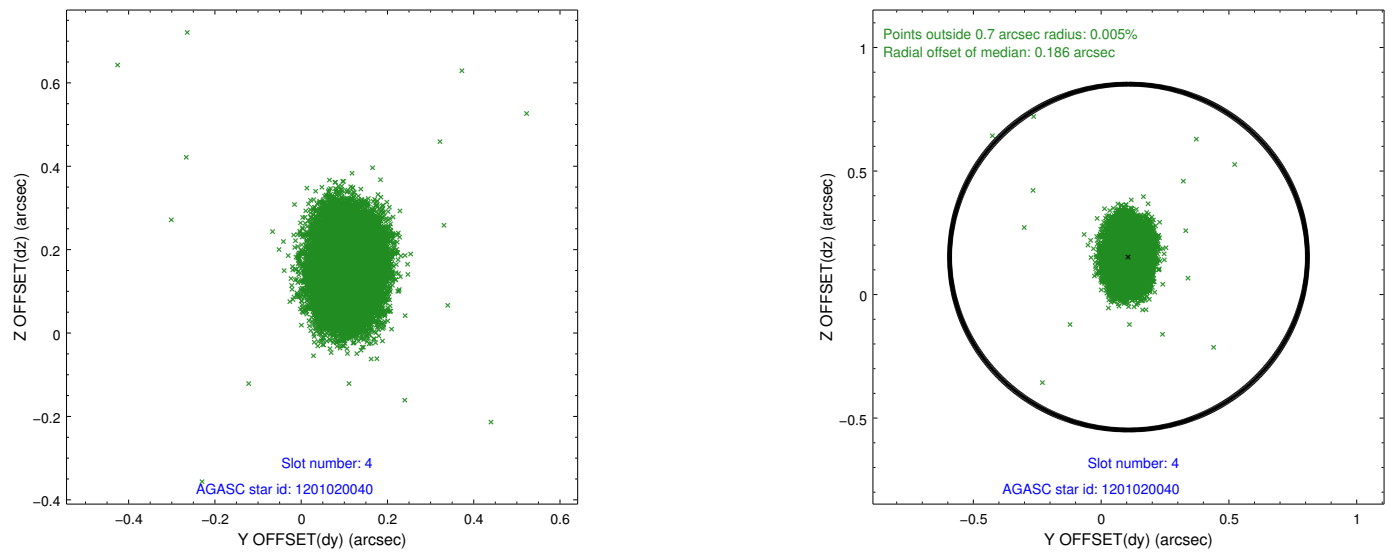
∞

2.4 Star Slots

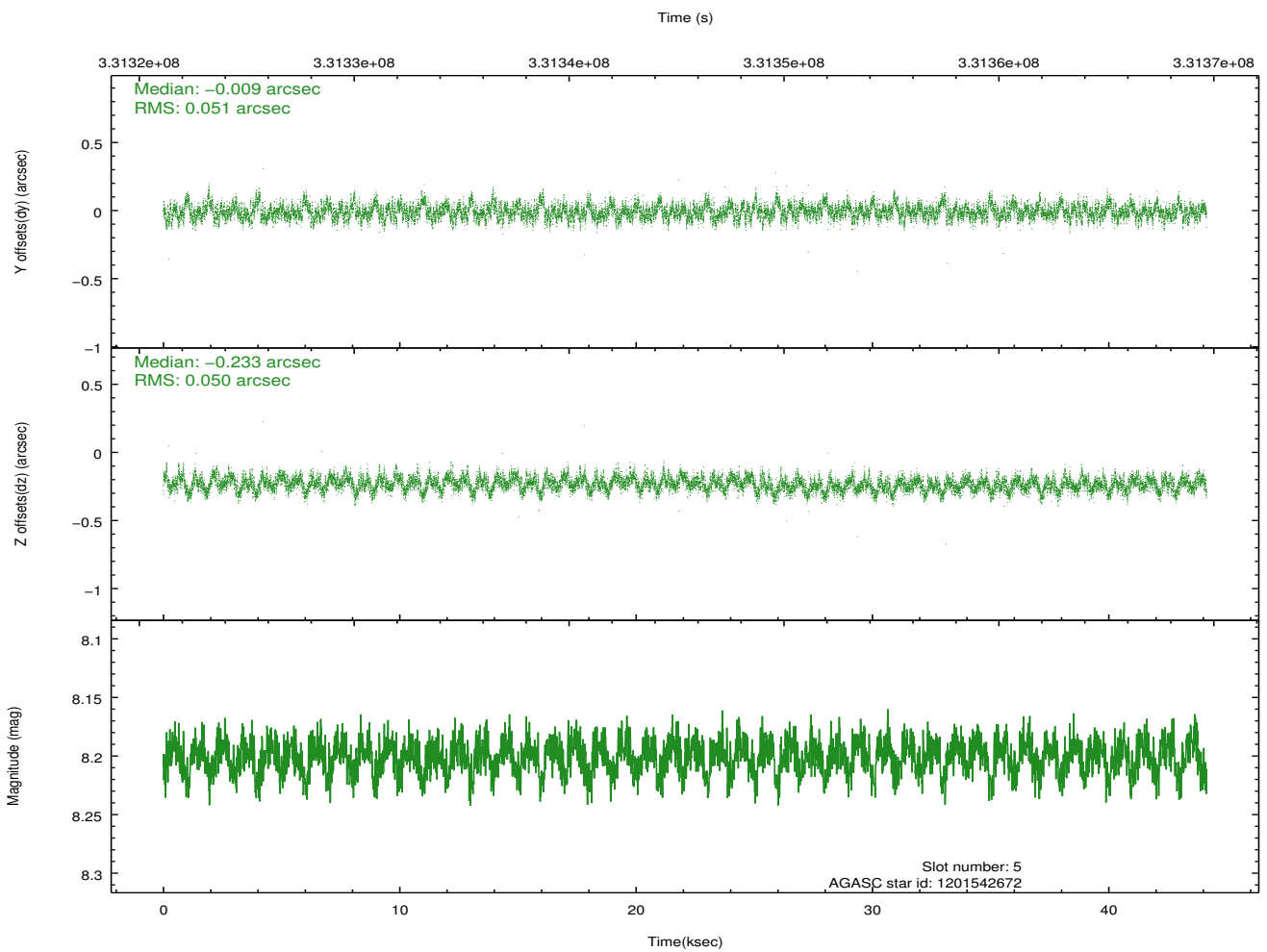
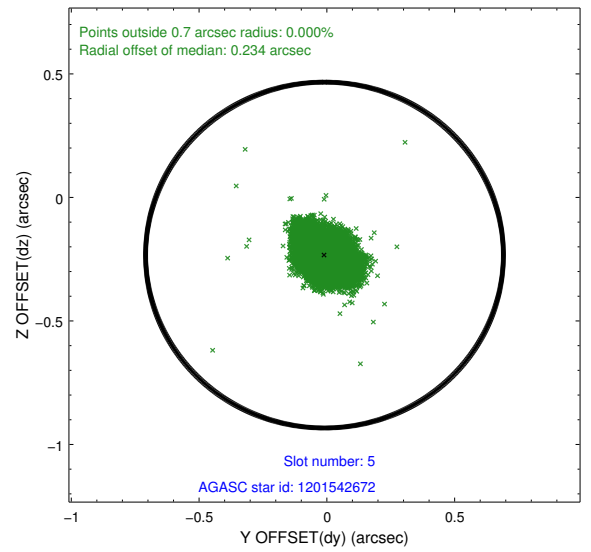
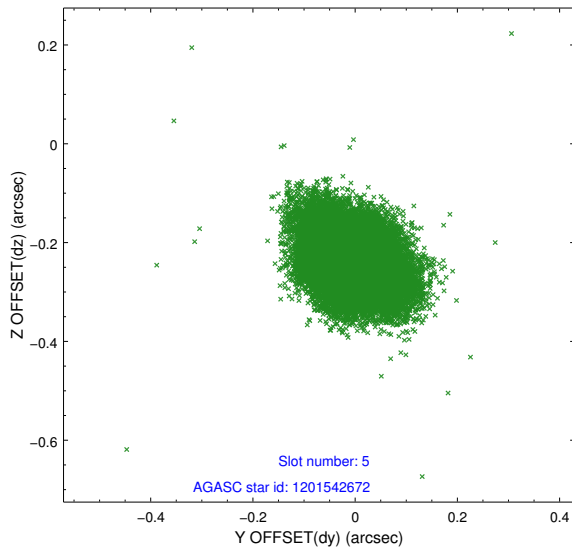
2.4.1 Slot 3



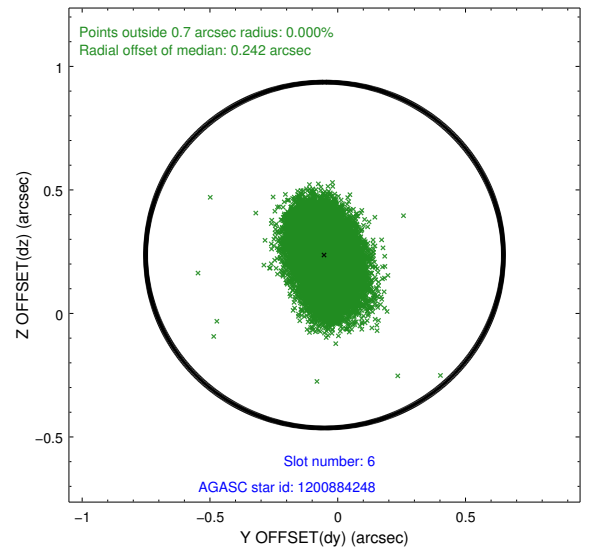
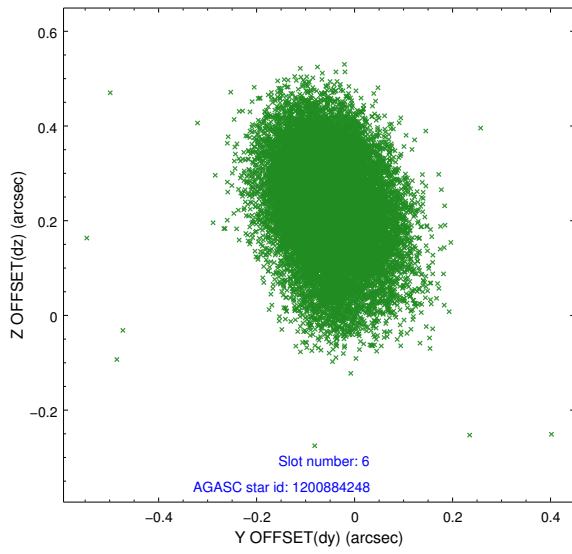
2.4.2 Slot 4



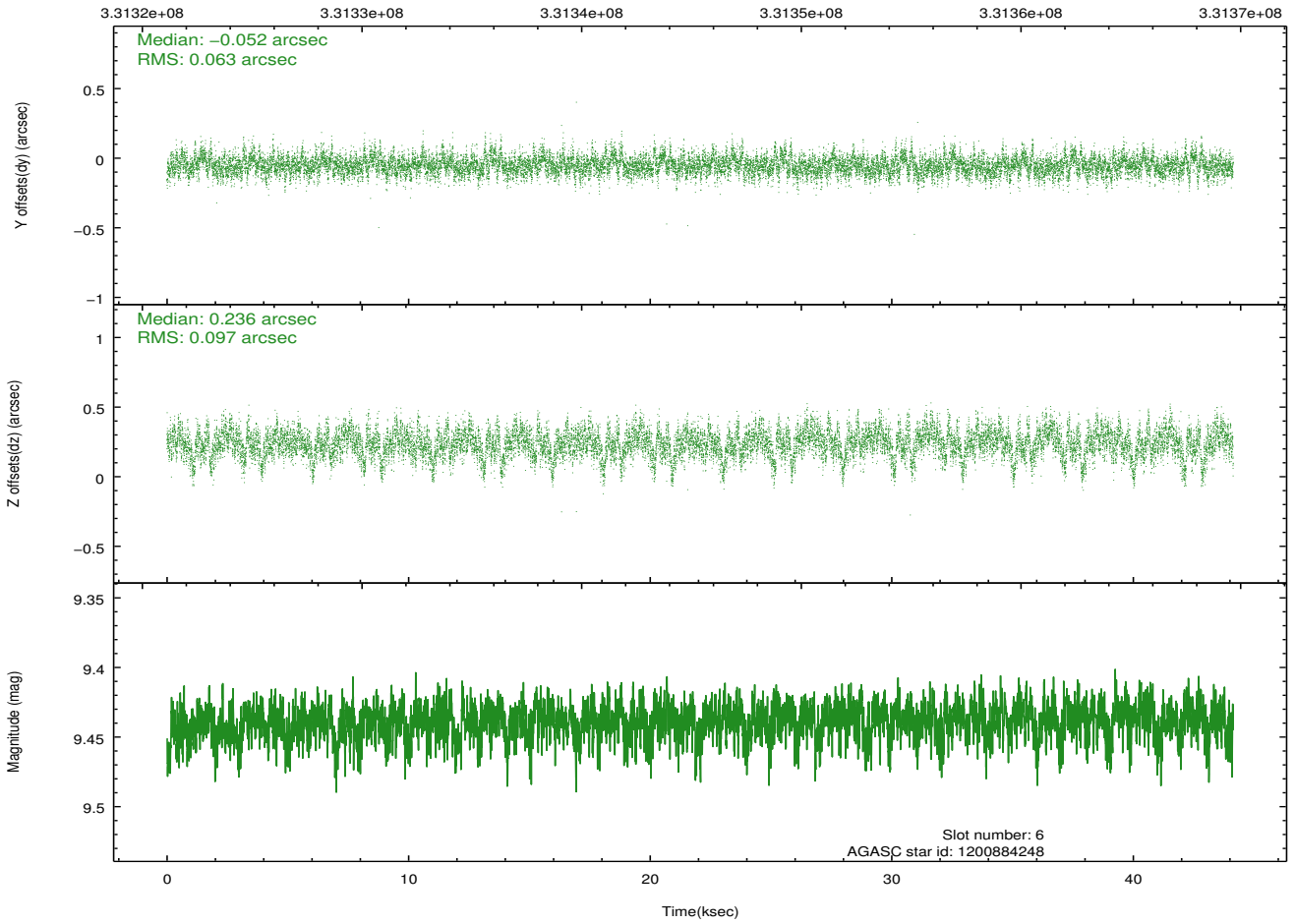
2.4.3 Slot 5



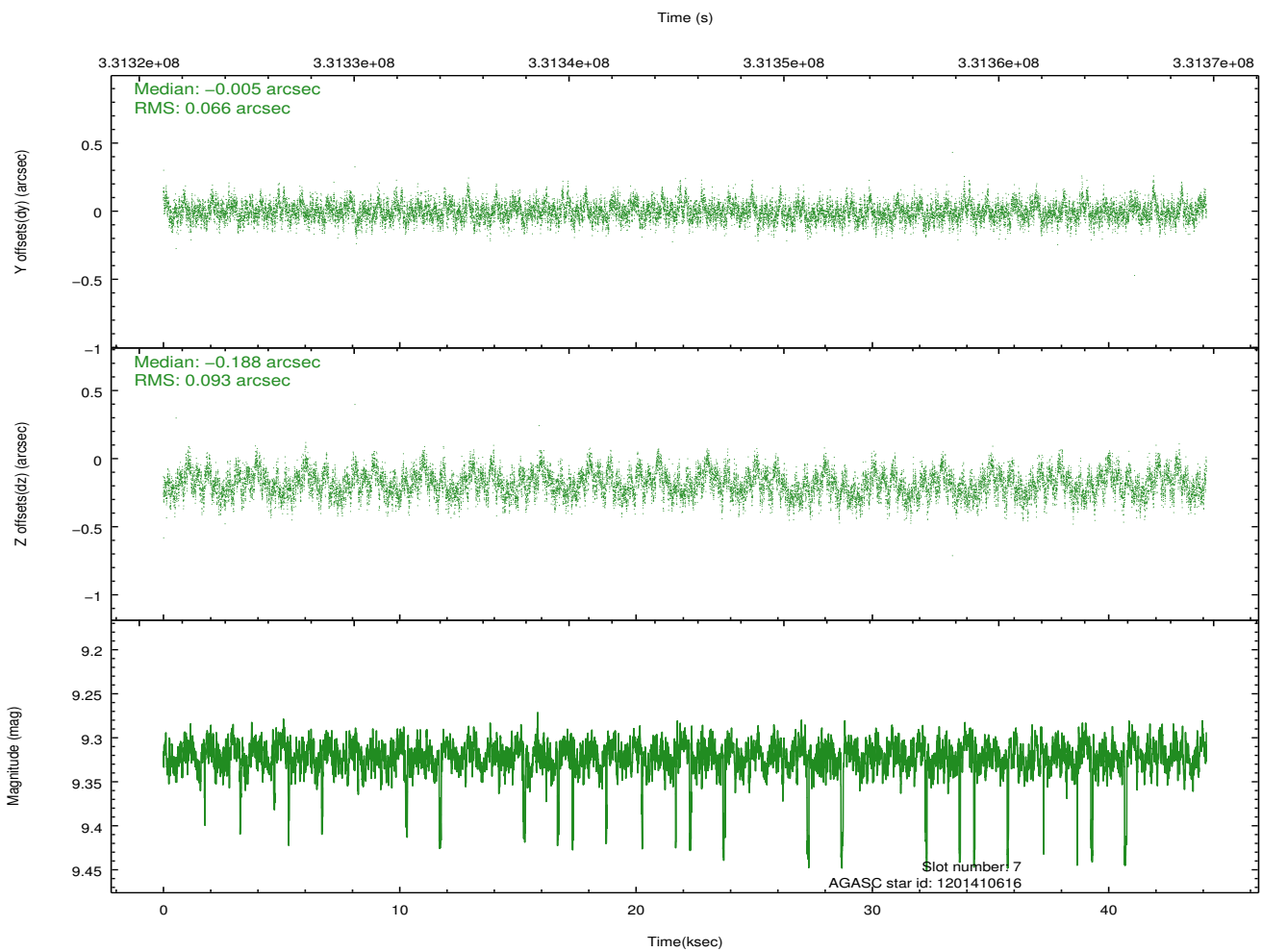
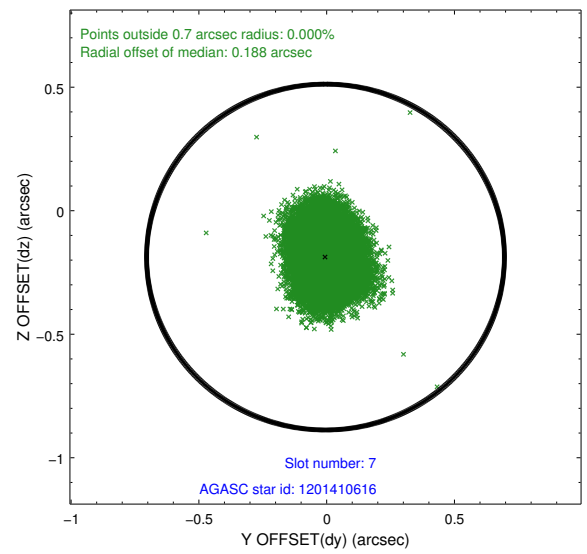
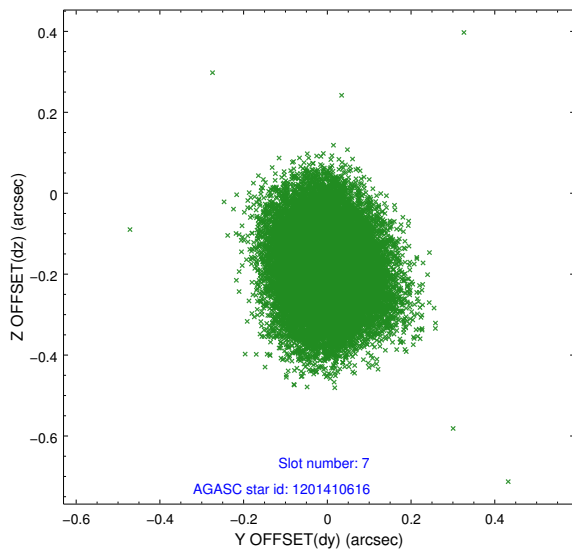
2.4.4 Slot 6



Time (s)

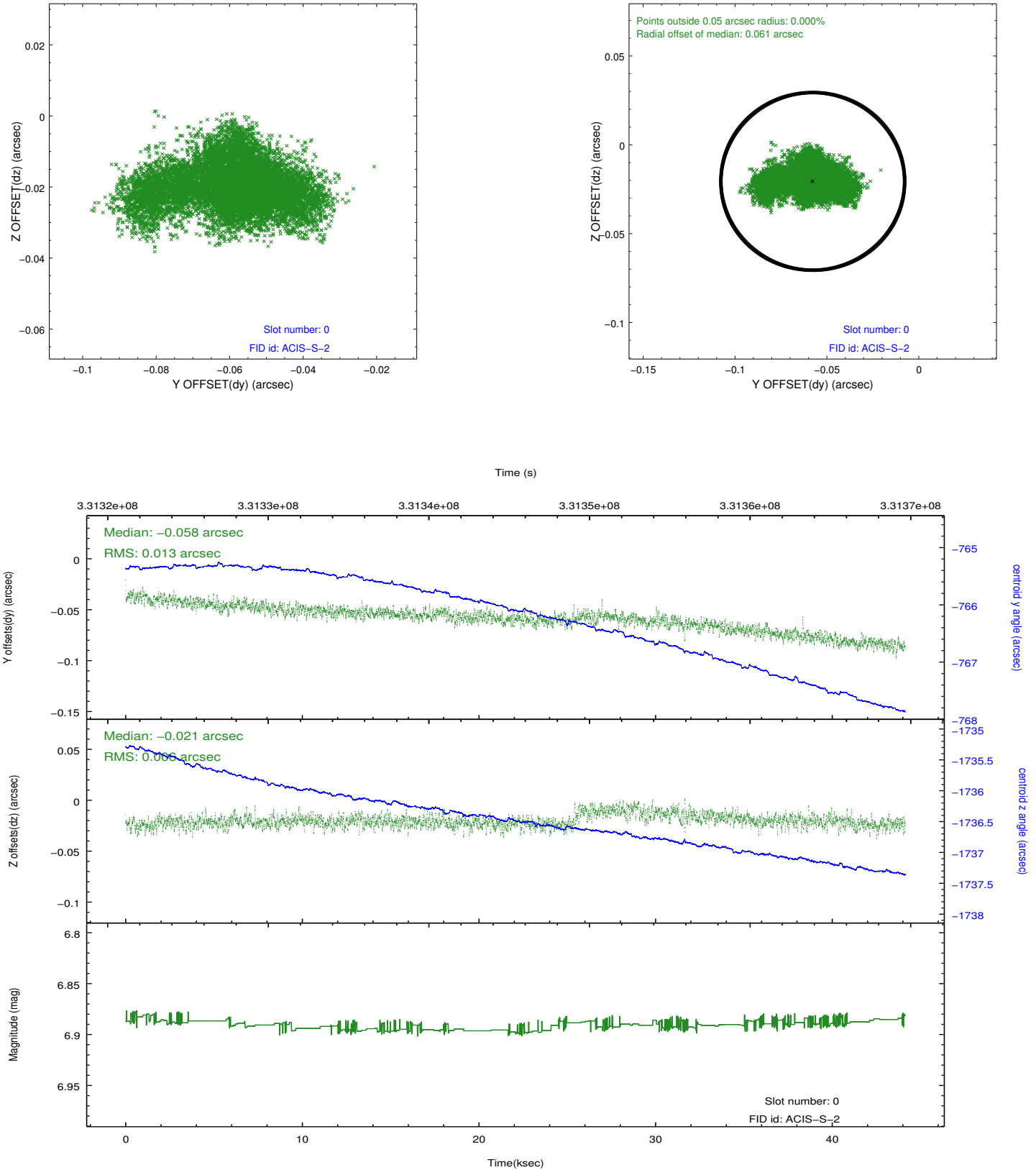


2.4.5 Slot 7

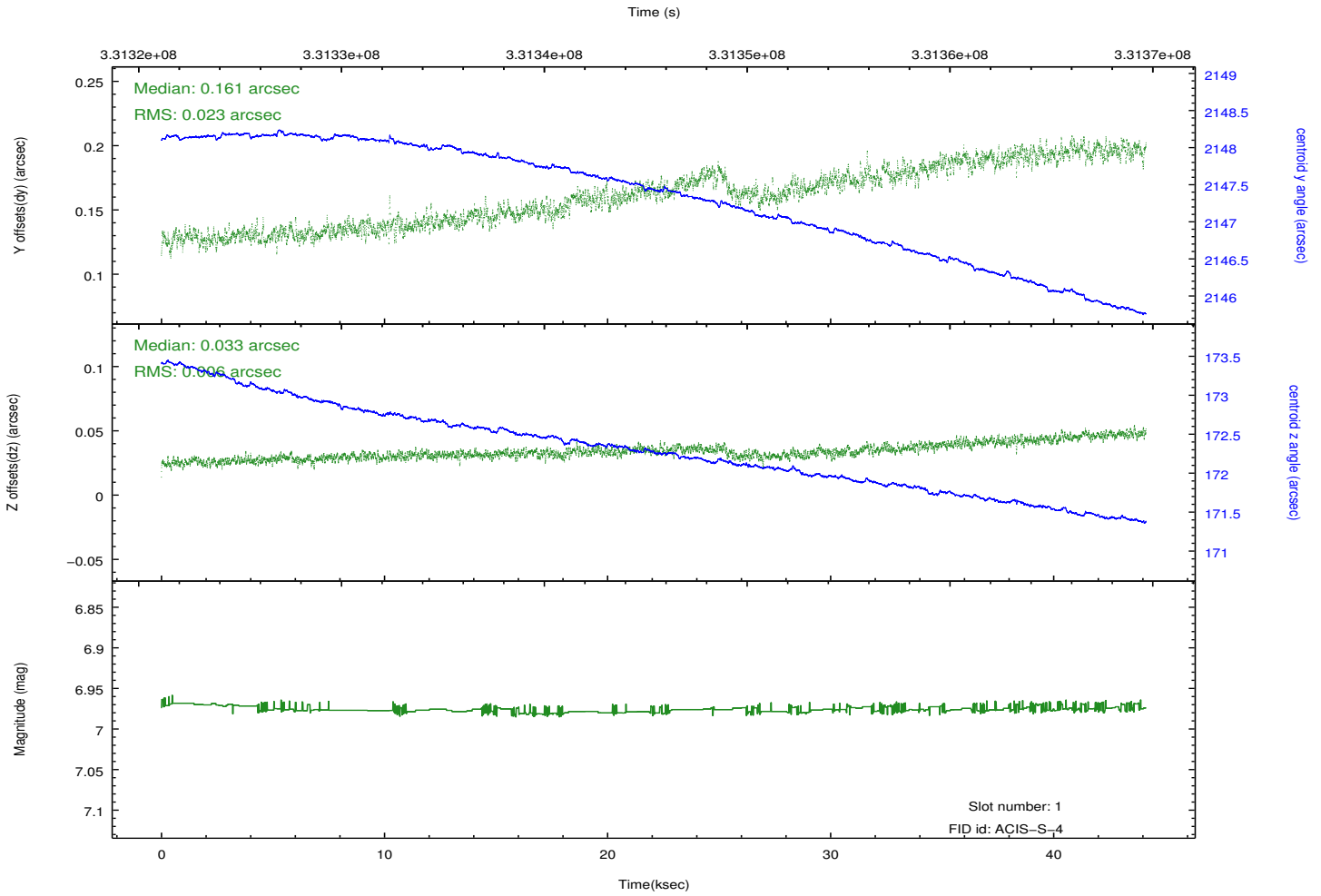
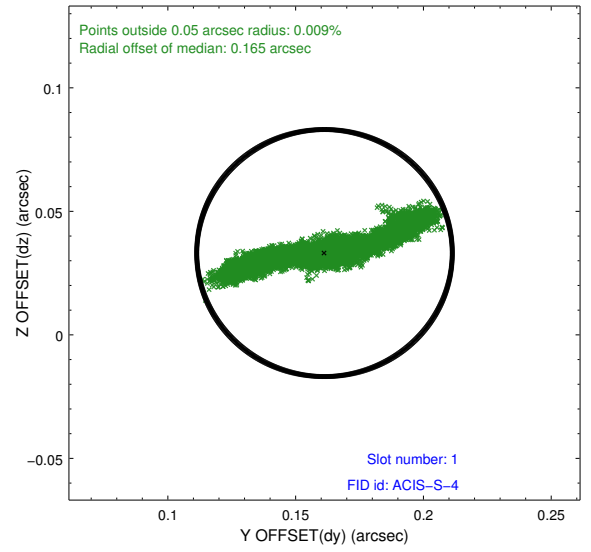
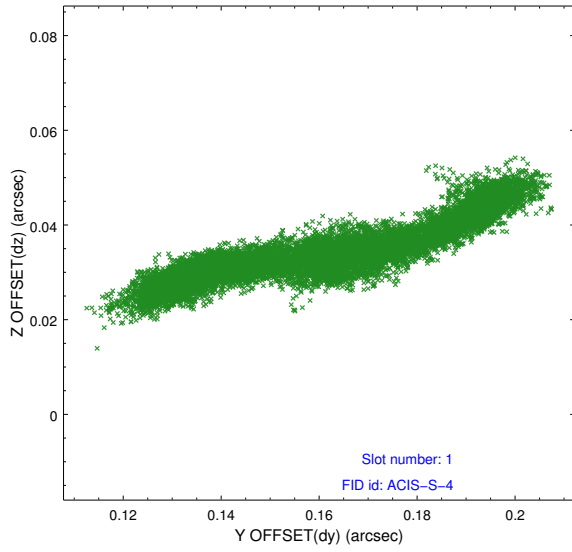


2.5 FID Slots

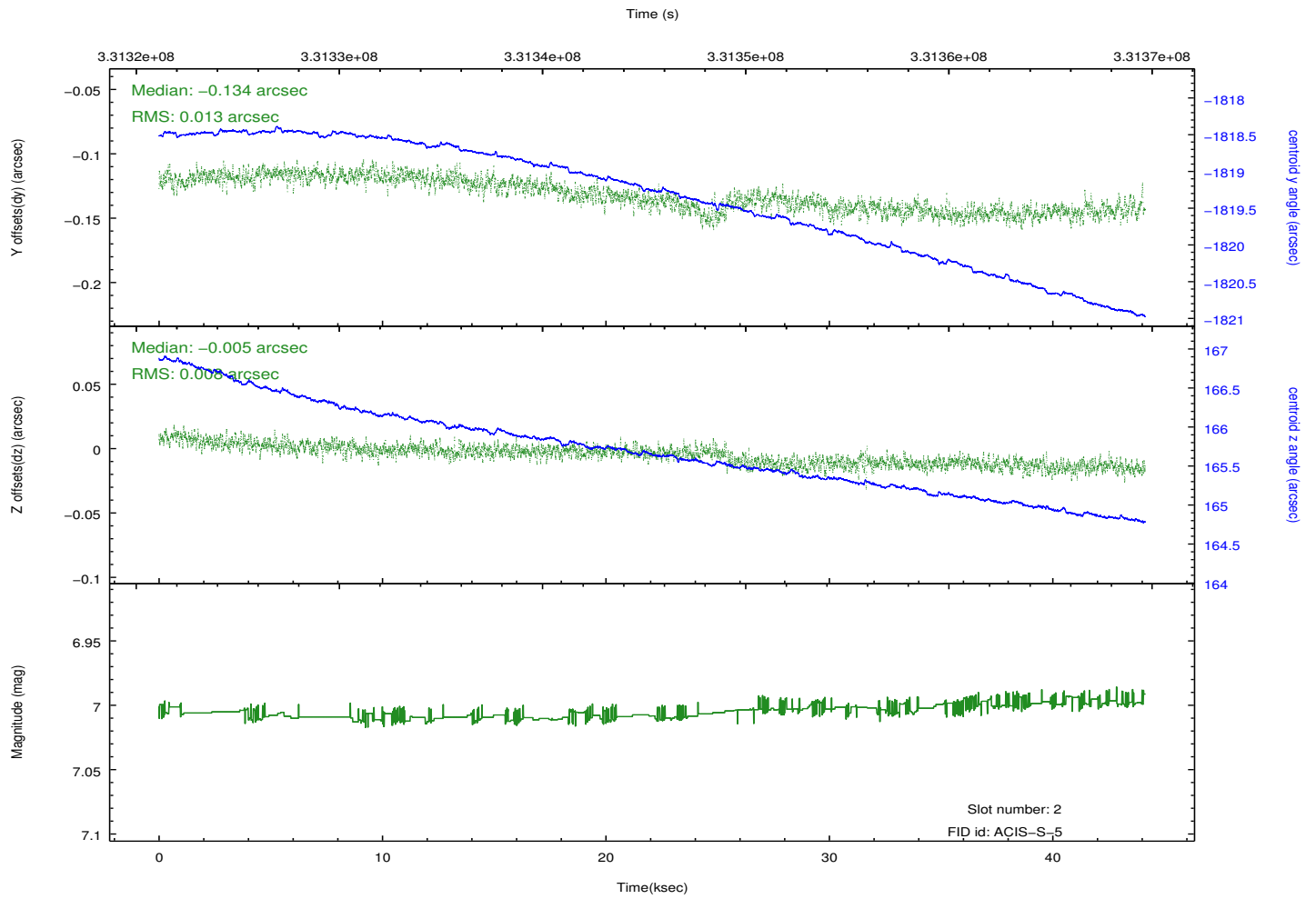
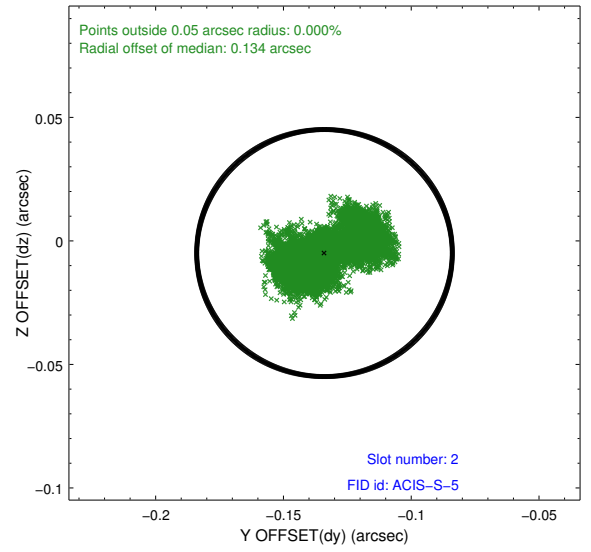
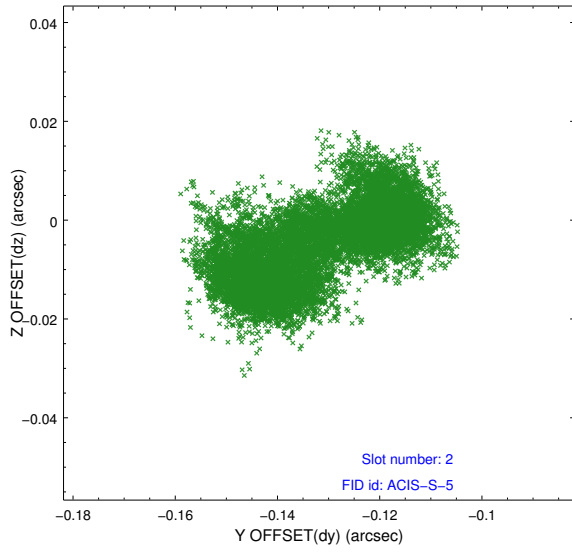
2.5.1 Slot 0



2.5.2 Slot 1

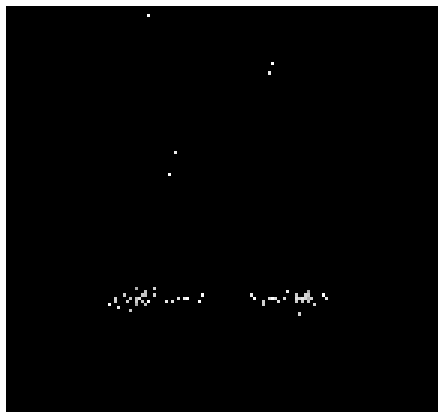


2.5.3 Slot 2

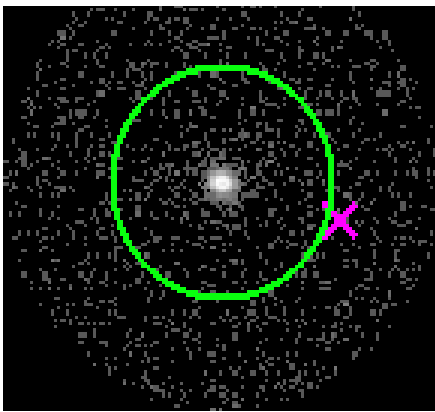


3 Gratings

3.1 HEG Arm



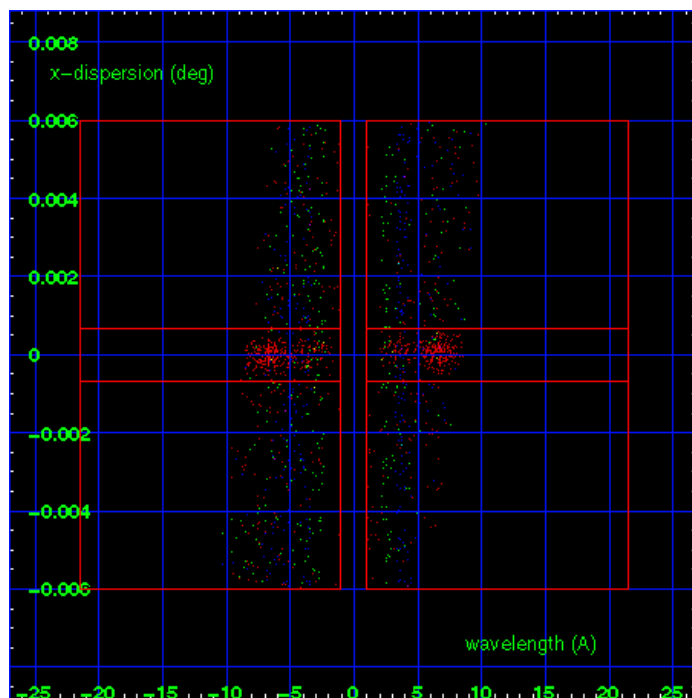
HEG Order Sort 123



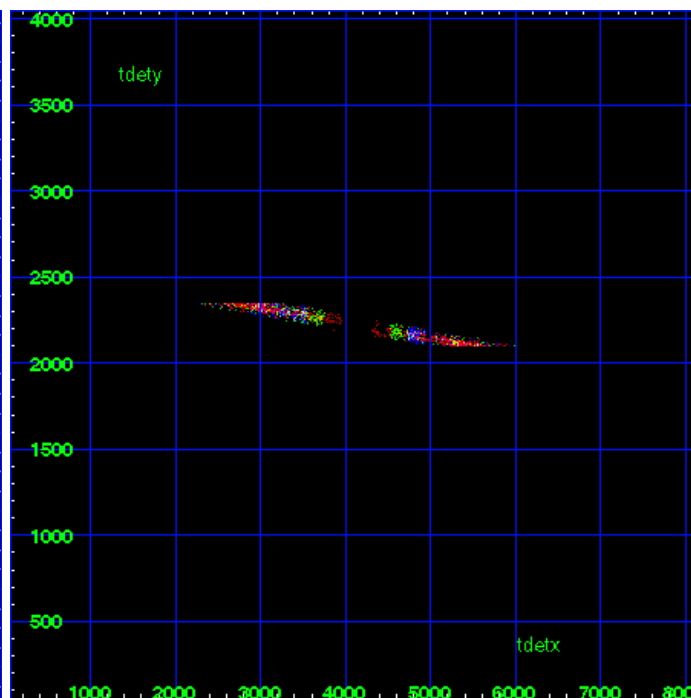
HEG Zero Order



HEG Order Sort ALL

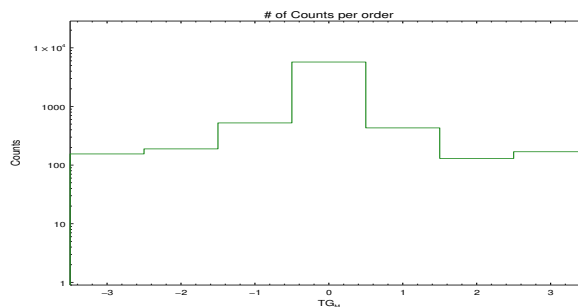


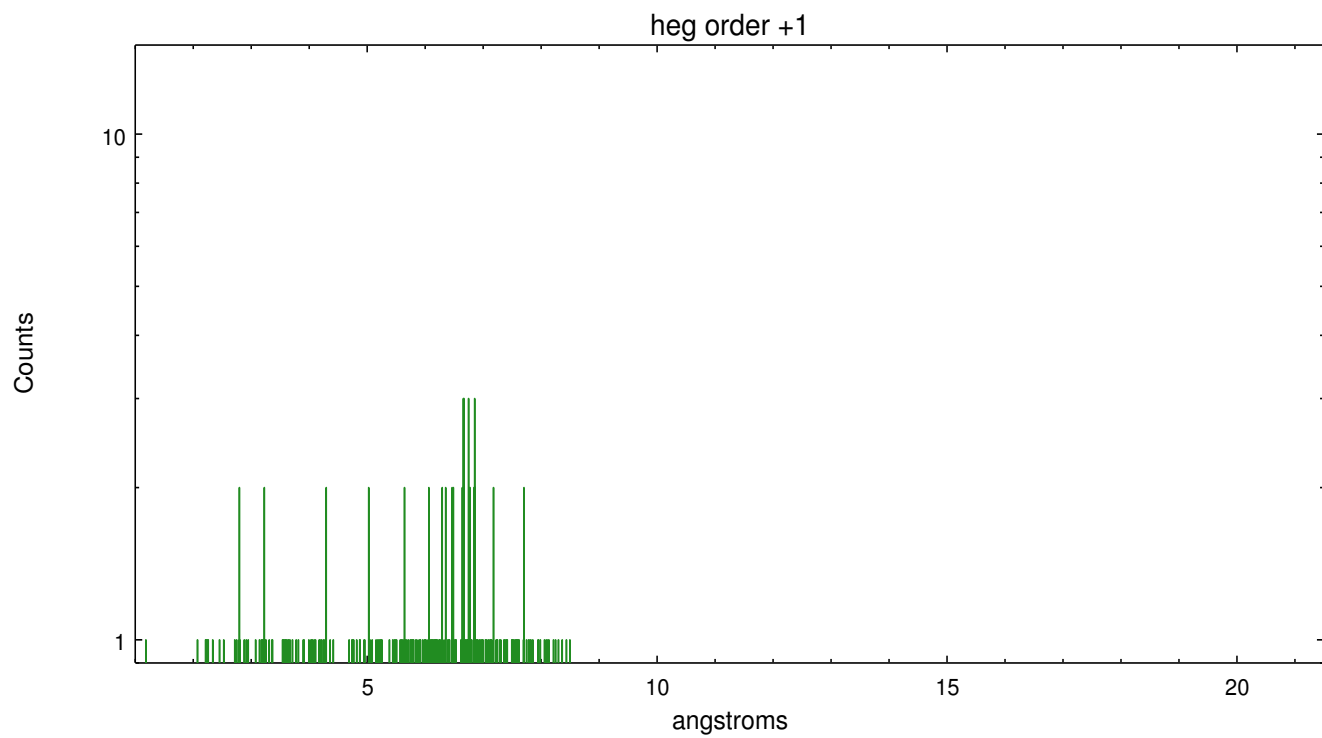
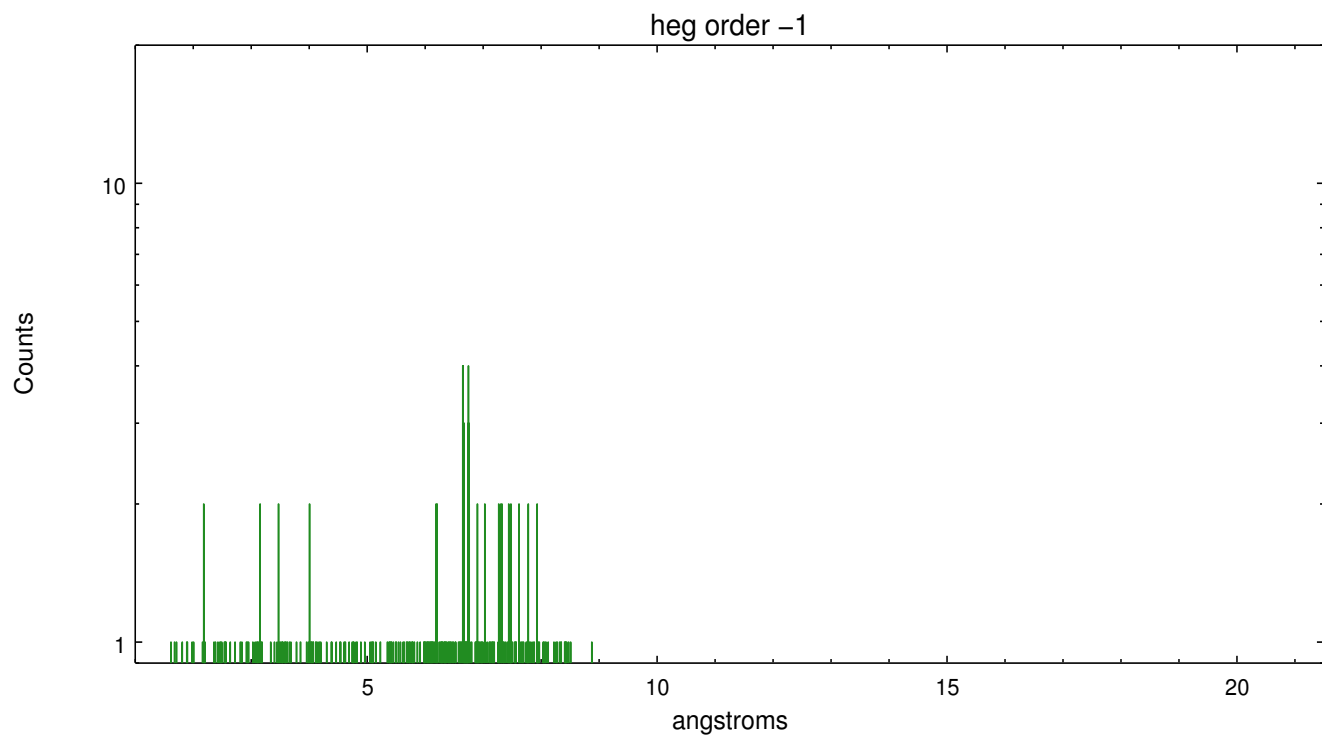
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	155	189	524	5724	431	130	169

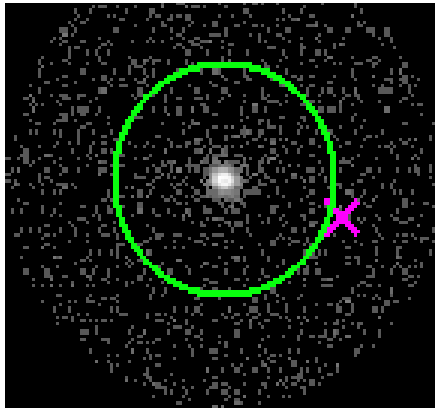




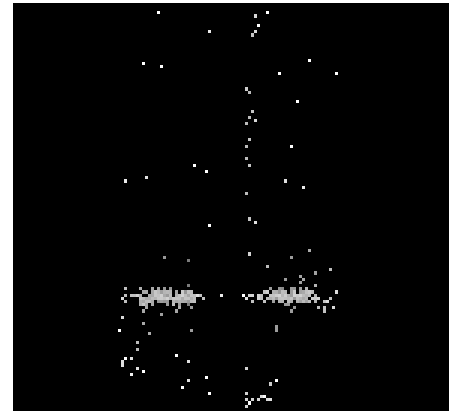
3.2 MEG Arm



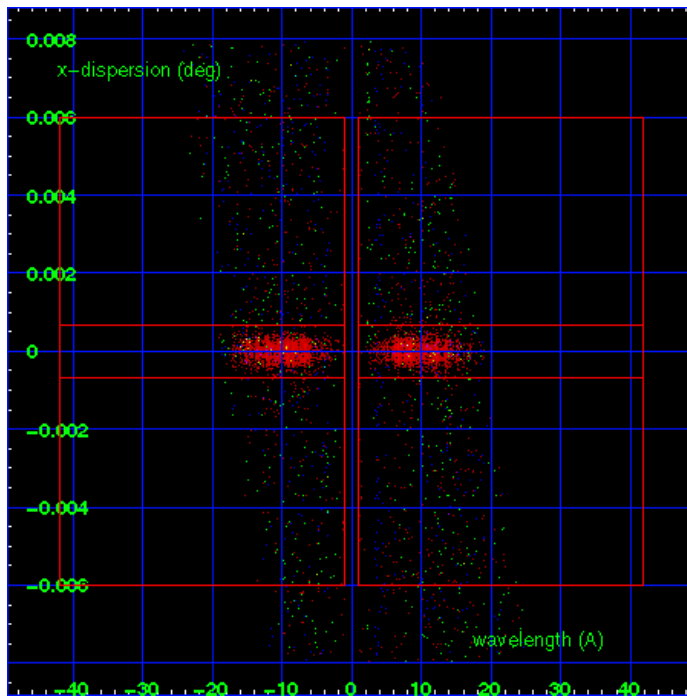
MEG Order Sort 123



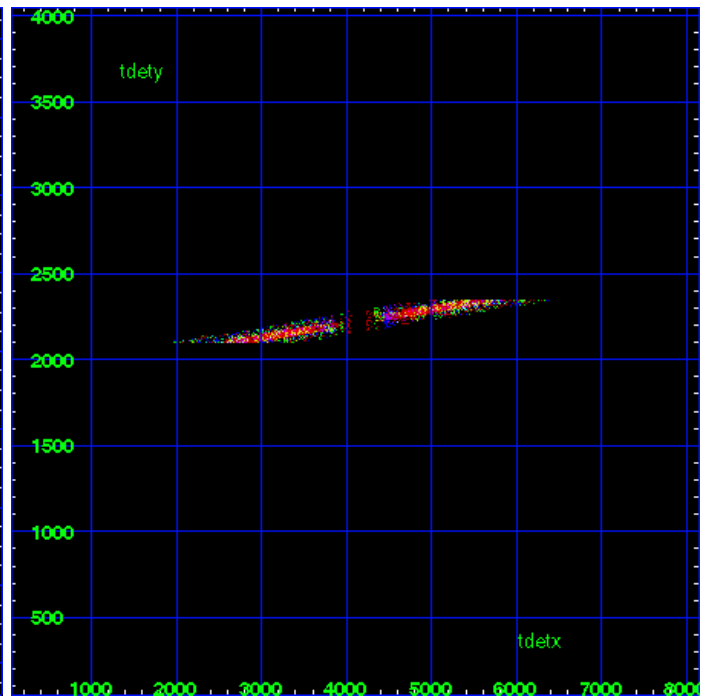
MEG Zero Order



MEG Order Sort ALL

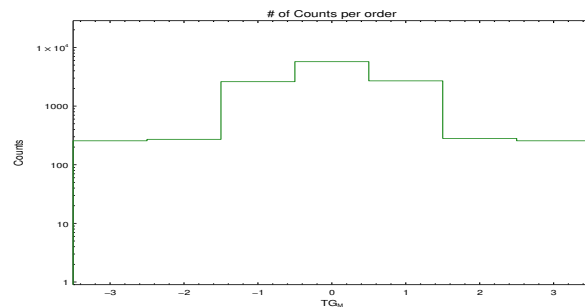


Spot Image MEG

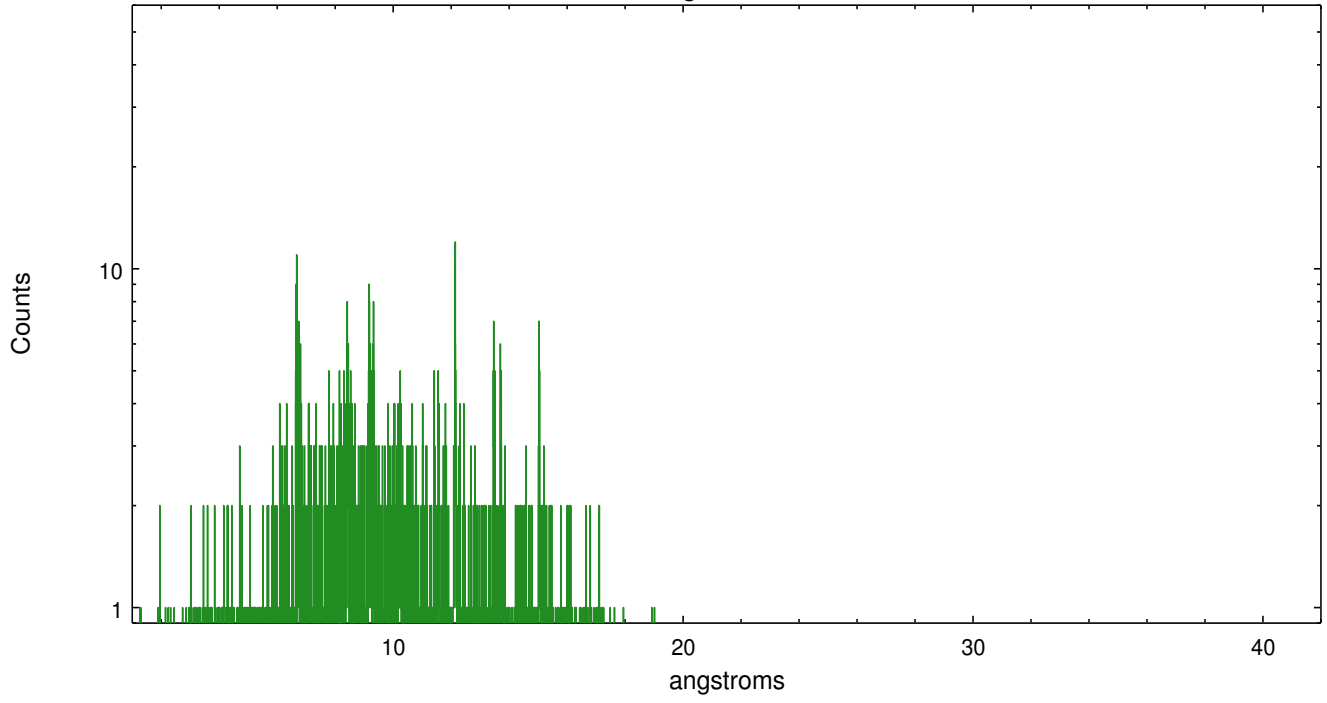


Full Detector MEG

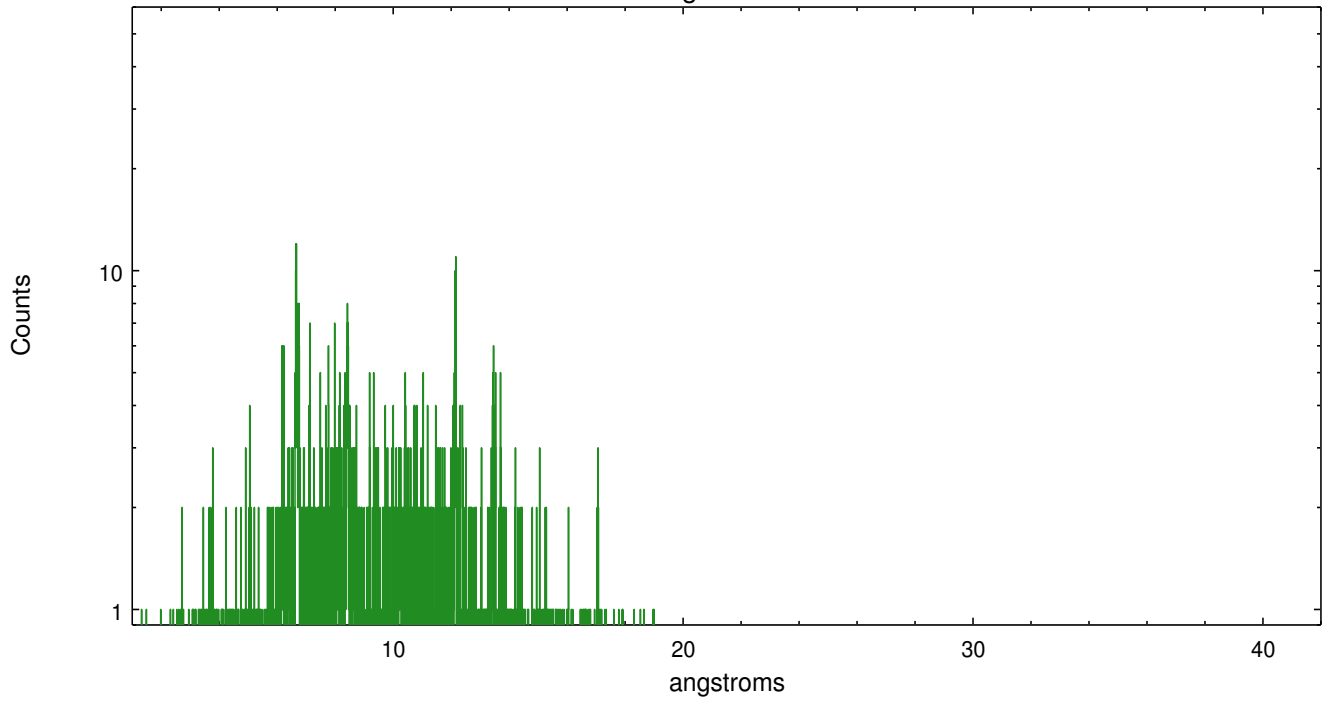
	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	256	271	2610	5724	2695	281	256



meg order -1



meg order +1



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.05.18
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	43.5941009

A.2 Comments

Warning: Extended source, dia ~ 3 arc seconds; nominal extraction includes whole source and could be narrowed to reduce background. Extraction is centered in supernova remnant, but is not positioned at any of the brighter emission regions. Wavelength calibration only applies to the zeroth order position
selected for this processing by the automatic software tool tgdetect. User may want to select a specific emission knot or region, then use that position as th zeroth order to re-extract the spectrum, starting at tg_create_mask.
===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.