

V&V Reference Report

L2 ASCDS Version : 10.5.2

Observation 18615 - L2 Version 1
Chandra X-Ray Center

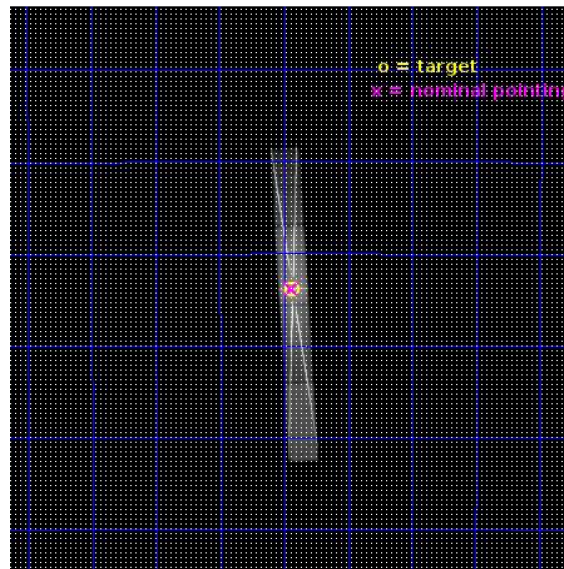
L2 Processing Date : Oct 28 2016

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1 Front

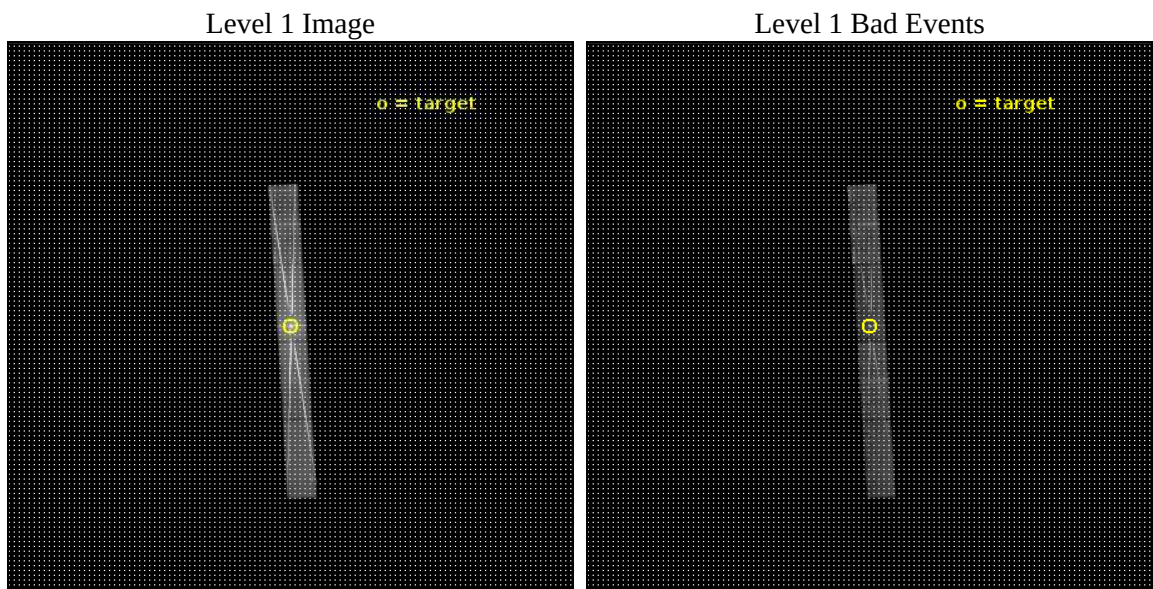
seq_num	901341	Sequence number
obs_id	18615	Observation id
title	Detect Broad High Z Lines in GX 3+1	Proposal title
observer	Claude Canizares	Principal investigator
object	GX 3+1	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	266.983333	Observer's specified target RA [deg]
dec_targ	-26.5635	Observer's specified target Dec [deg]
ra_nom	266.98562675016	Nominal RA [deg]
dec_nom	-26.563464631081	Nominal Dec [deg]
roll_nom	266.64945522044	Nominal Roll [deg]
revision	1	Processing version of data
ontime	12576.000499725	Sum of GTIs [s]
livetime	12160.124250363	Livetime [s]
ontime5	12576.000499725	Sum of GTIs [s]
ontime6	12576.000499725	Sum of GTIs [s]
ontime7	12576.000499725	Sum of GTIs [s]
ontime8	12576.000499725	Sum of GTIs [s]
l2events	822340	Number of level 2 events



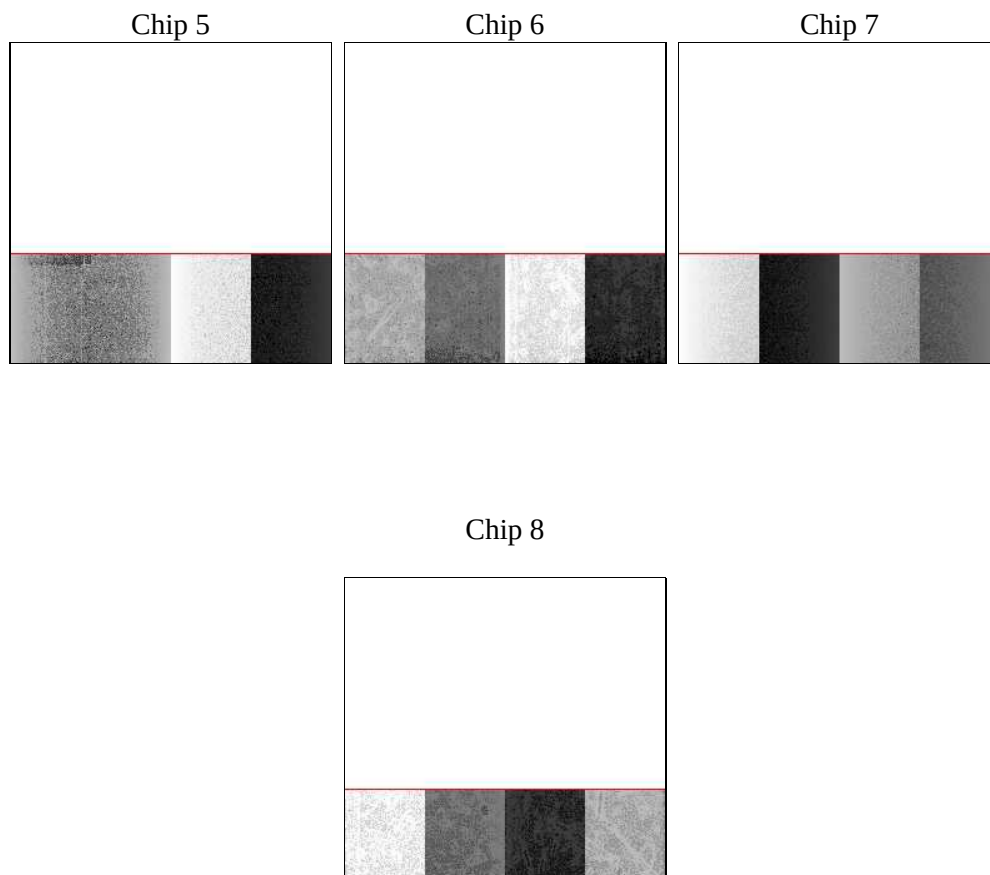
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	12500.000000	[s] Scheduled observation exposure time
ascdsver	10.5.2	Processing system revision	ontime	12576.000499725	Sum of GTIs [s]
caldbver	4.7.2	 	ontime5	12576.000499725	Sum of GTIs [s]
date	2016-10-28T04:28:48	Date and time of file creation	ontime6	12576.000499725	Sum of GTIs [s]
revision	1	Processing version of data	ontime7	12576.000499725	Sum of GTIs [s]
			ontime8	12576.000499725	Sum of GTIs [s]
			l1events	980423	Number of level 1 events
			tgmethod	FINDZO	Method used to create src1a file
			zo_pos	(4108.23, 4094.01)	src1a sky pixel position
			zo_pos_tgd	(4108.32, 4092.61)	src1a sky pixel position via radetect

2.1.4 Events

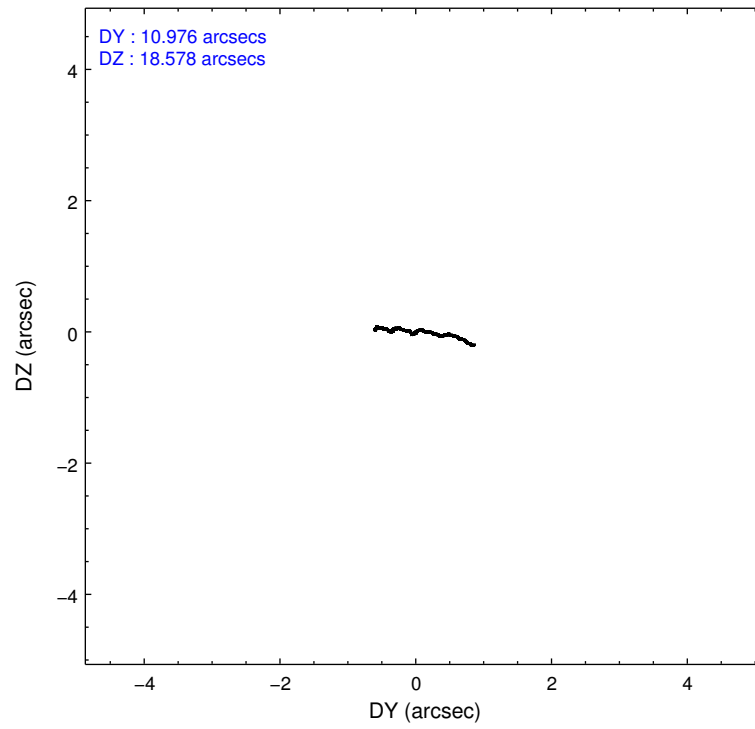
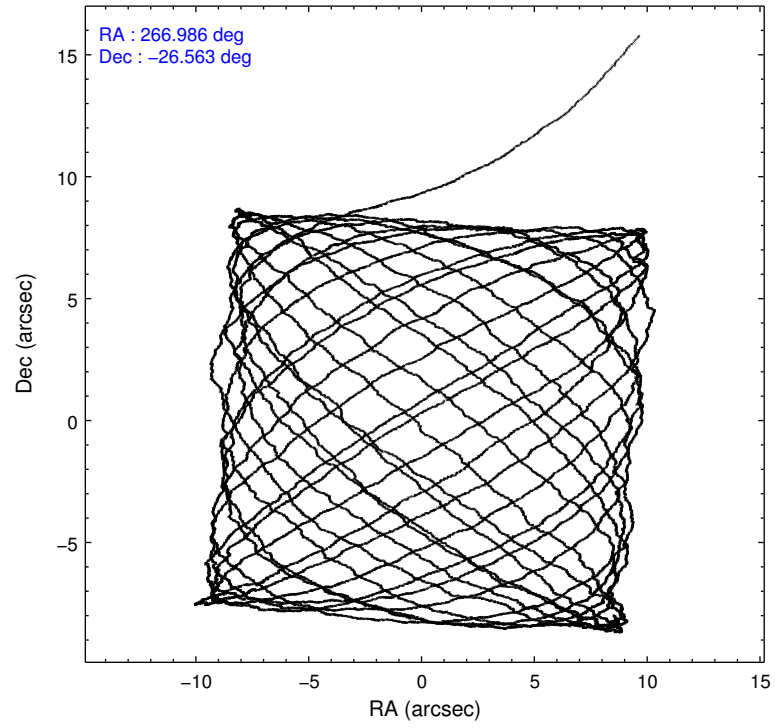
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	78959	342638	447742	111084
rejected events	23142	34642	35786	30450
rejected %	29%	10%	7%	27%

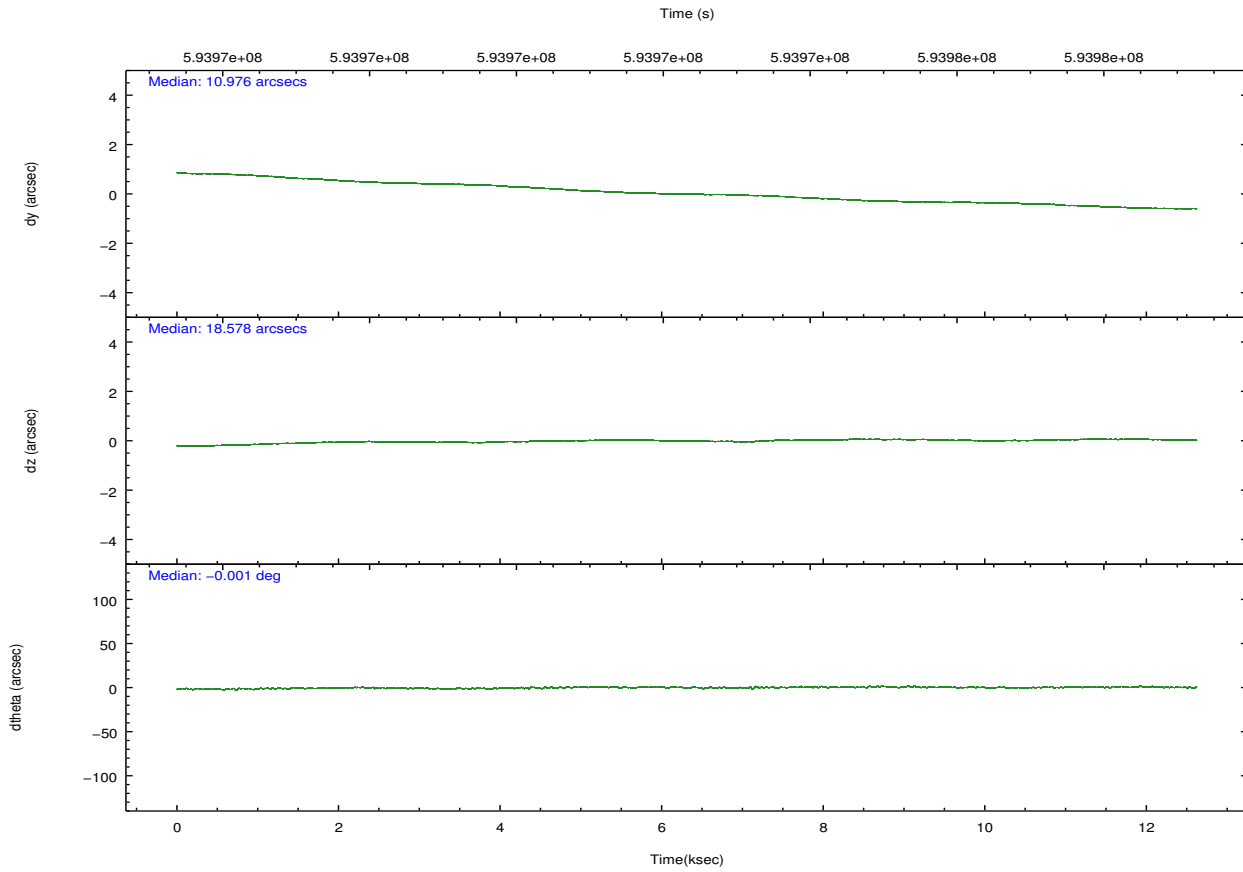
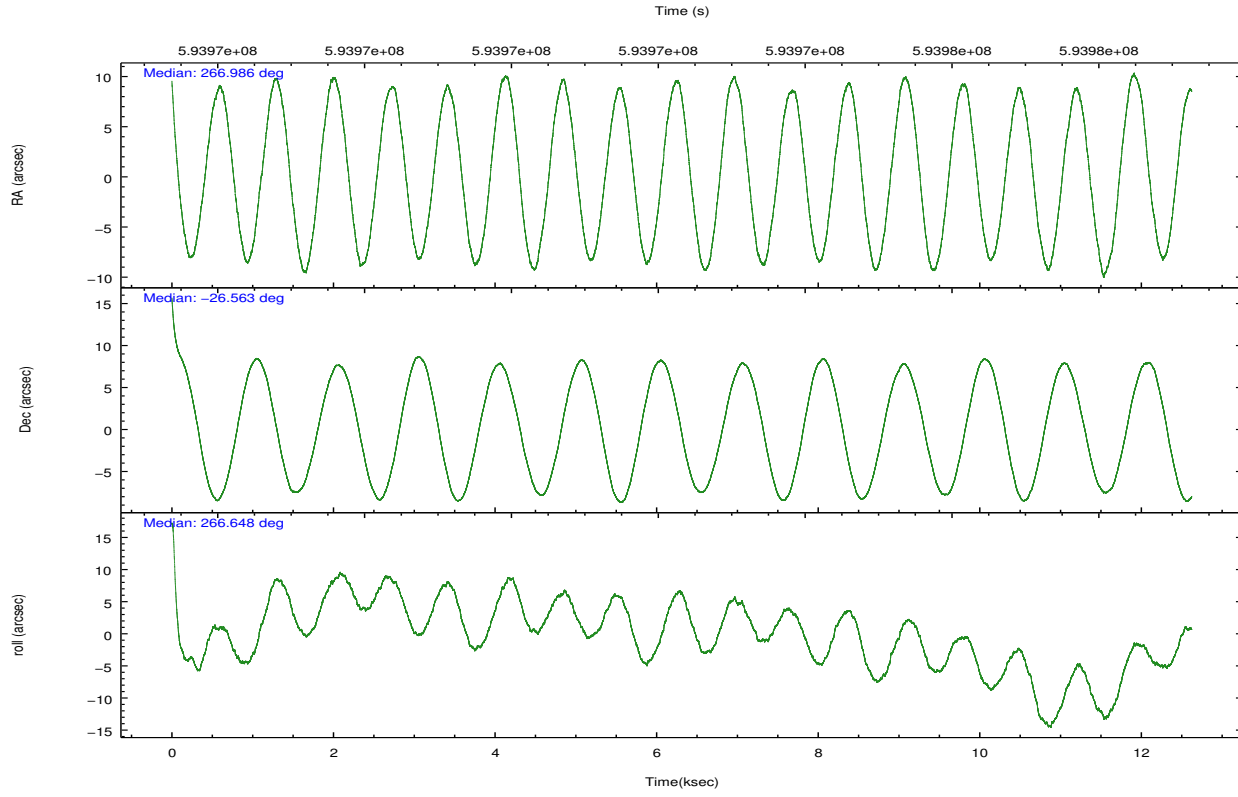
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	12853	220081	77115	57164
	16%	64%	17%	51%
grade 1 events	109	2582	1451	261
	0%	0%	0%	0%
grade 2 events	16549	41198	100141	10523
	20%	12%	22%	9%
grade 3 events	4315	14497	43851	3854
	5%	4%	9%	3%
grade 4 events	4379	14298	43449	3783
	5%	4%	9%	3%
grade 5 events	4065	3628	10320	2162
	5%	1%	2%	1%
grade 6 events	17734	17993	147439	5321
	22%	5%	32%	4%
grade 7 events	18955	28361	23976	28016
	24%	8%	5%	25%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-5678	ACIS-5678	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	266.971521	266.9856267501609	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-26.539109	-26.5634646310811	Subarray start row	1	1
[deg] Pointing Roll	266.486520	266.649455220443	Subarray row count	350	350
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	1.2
[mm] SIM translation stage pos	-182.132523	-182.1370004450064			
[mm] SIM translation stage offset	-8	-7.995522138001405			
[s] Observation start time (MET)	593966106.184000	593964802.39948			
Observation start date	2016-10-27T14:33:58	2016-10-27T14:13:22			
[s] Observation end time (MET)	593978606.184000	593979577.7753299			
Observation end date	2016-10-27T18:02:18	2016-10-27T18:19:37			
Read mode	TIMED	TIMED			

2.3 Aspect



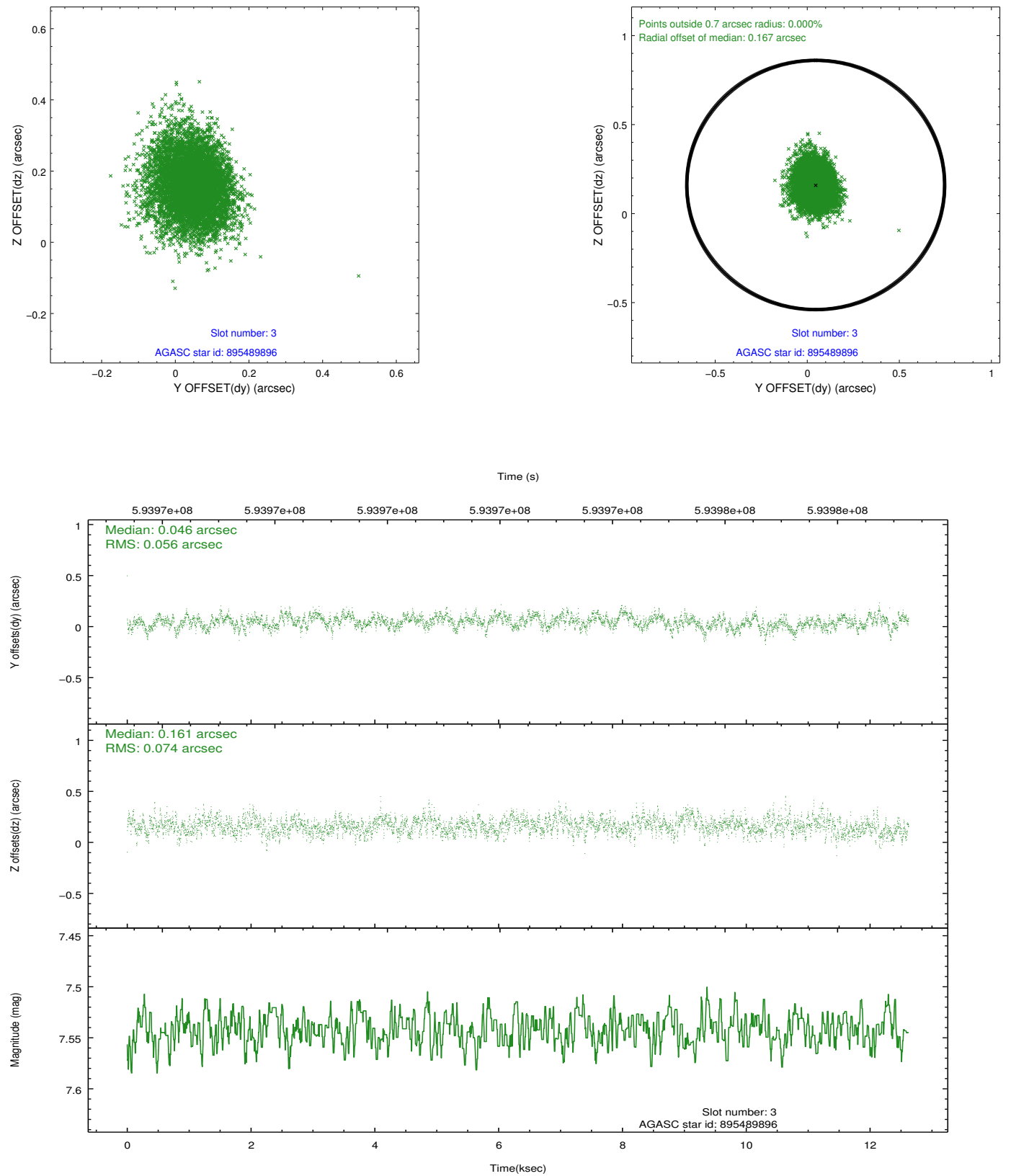


Slot Statistics

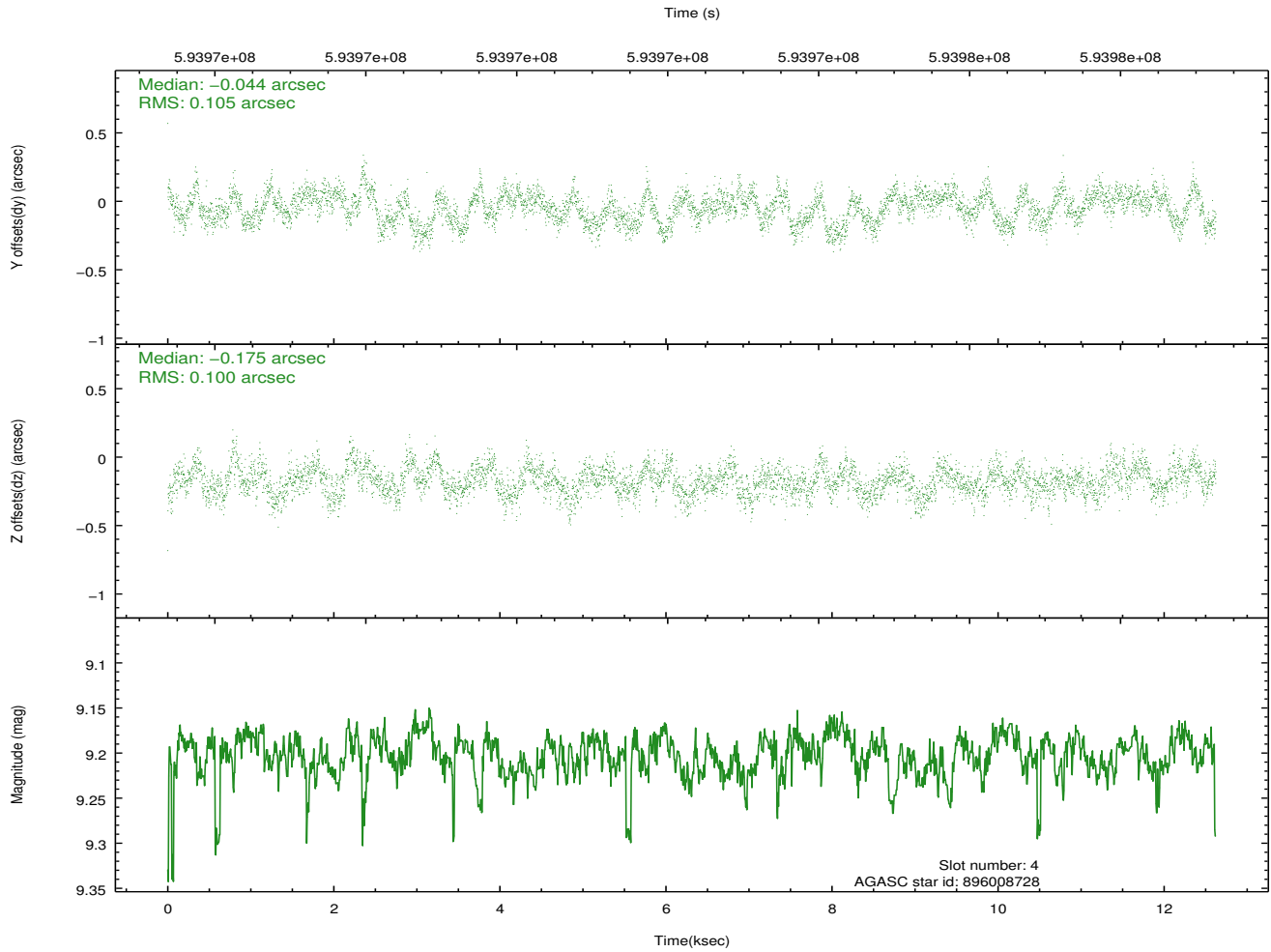
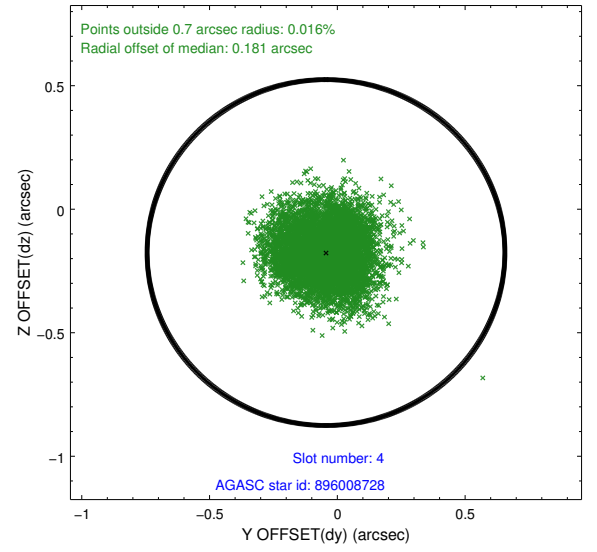
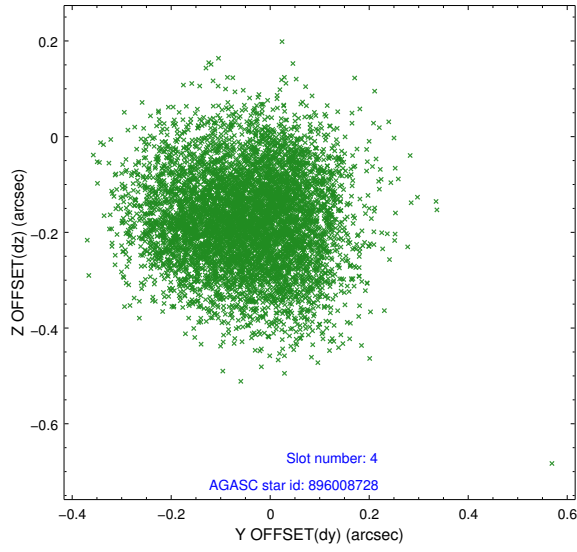
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.04	3079	-0.253	-0.166	0.007	0.012	0.000000	0.000000	-763.65	-1904.88
1	FID		ACIS-S-4	7.12	3079	0.275	0.146	0.008	0.012	0.000000	0.000000	2150.06	3.31
2	FID		ACIS-S-6	7.36	3079	-0.050	0.027	0.009	0.016	0.000000	0.000000	399.15	641.11
3	GUIDE	used	895489896	7.54	6156	0.046	0.161	0.098	0.160	266.605795	-26.200300	-1143.01	-1253.60
4	GUIDE	used	896008728	9.20	6152	-0.044	-0.175	0.158	0.245	267.399580	-27.194977	2275.01	1512.78
5	GUIDE	used	896009152	7.30	6158	-0.250	-0.130	0.120	0.193	267.588100	-27.061669	1762.45	2088.61
6	GUIDE	used	896013056	8.52	6153	0.062	0.020	0.098	0.162	266.762141	-26.954413	1534.66	-578.50
7	GUIDE	used	896015112	9.15	6148	0.193	0.119	0.119	0.201	266.684847	-26.286161	-850.42	-979.26

2.4 Star Slots

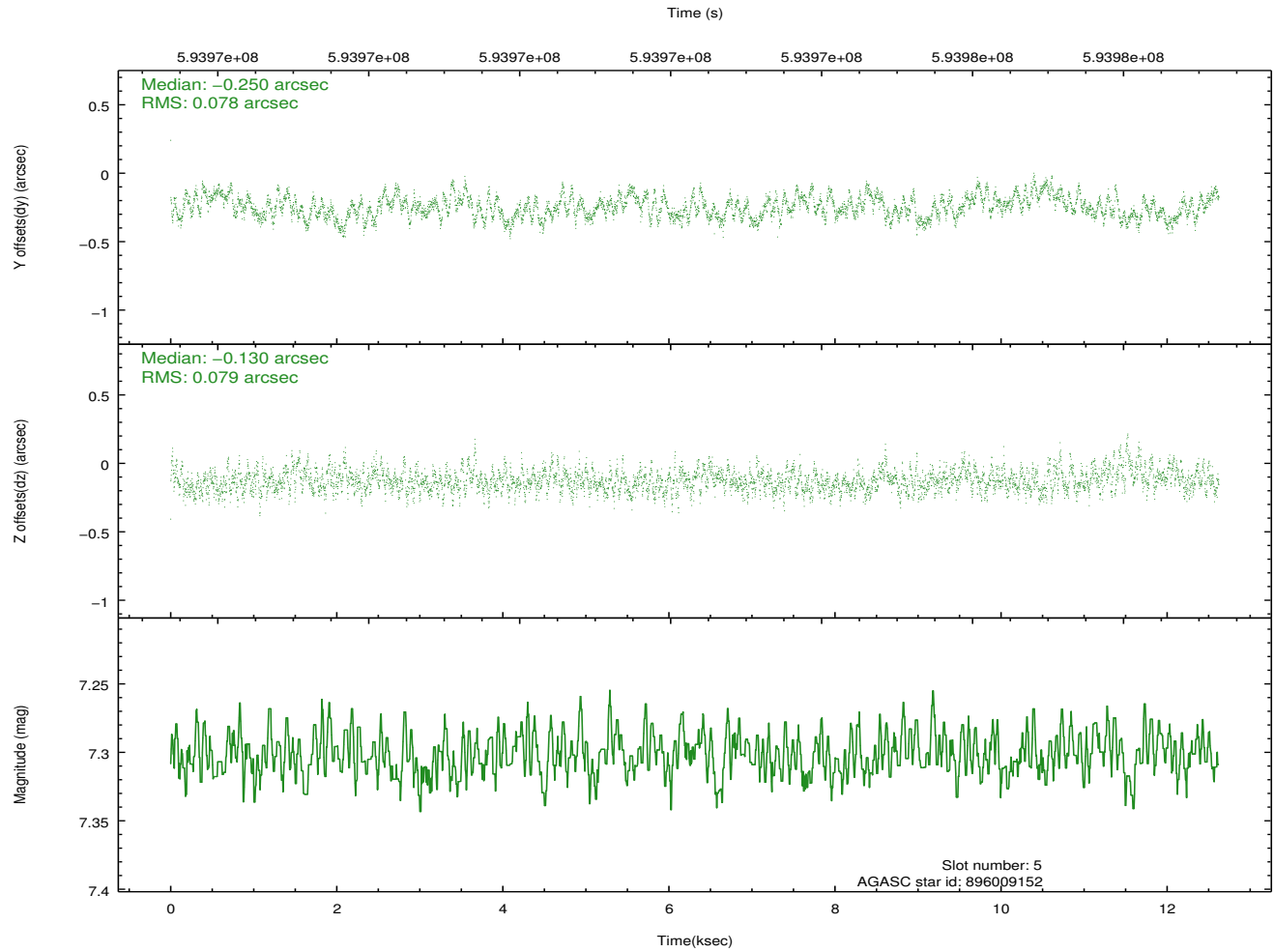
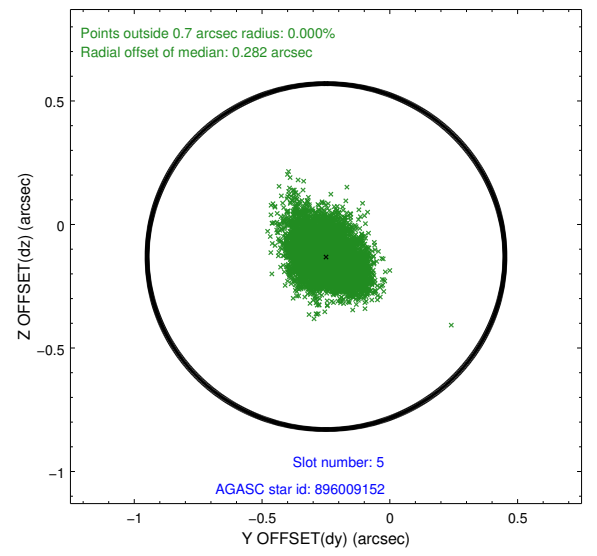
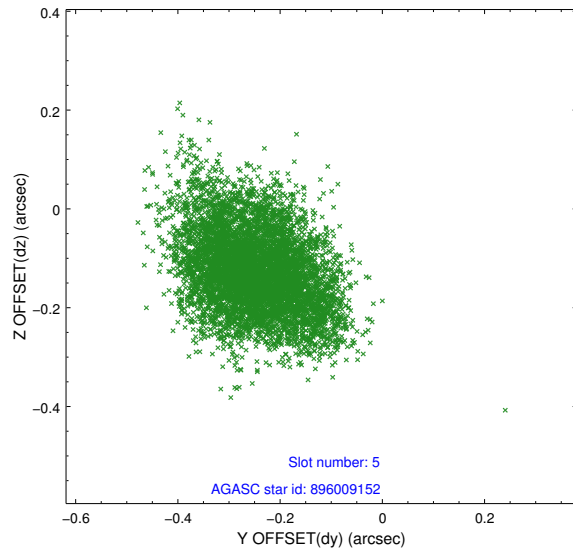
2.4.1 Slot 3



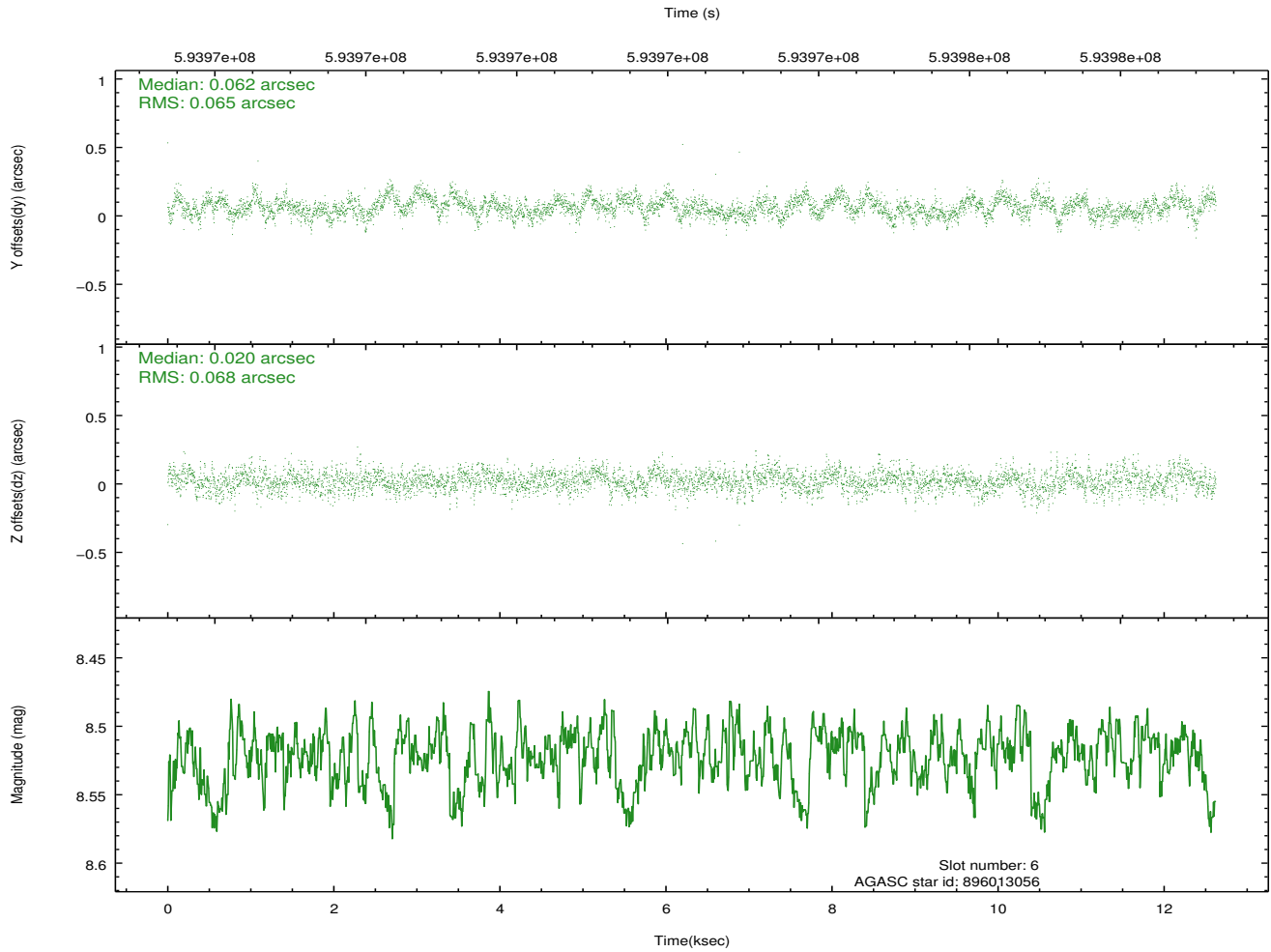
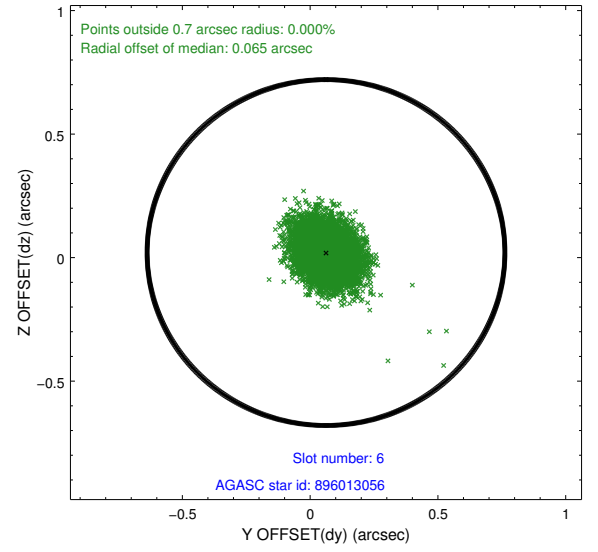
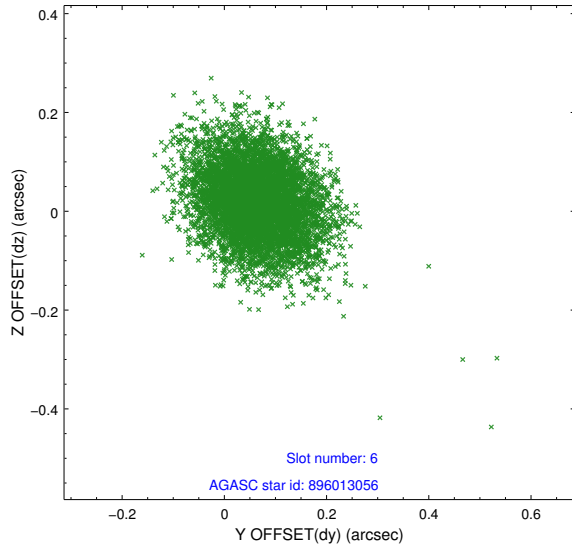
2.4.2 Slot 4



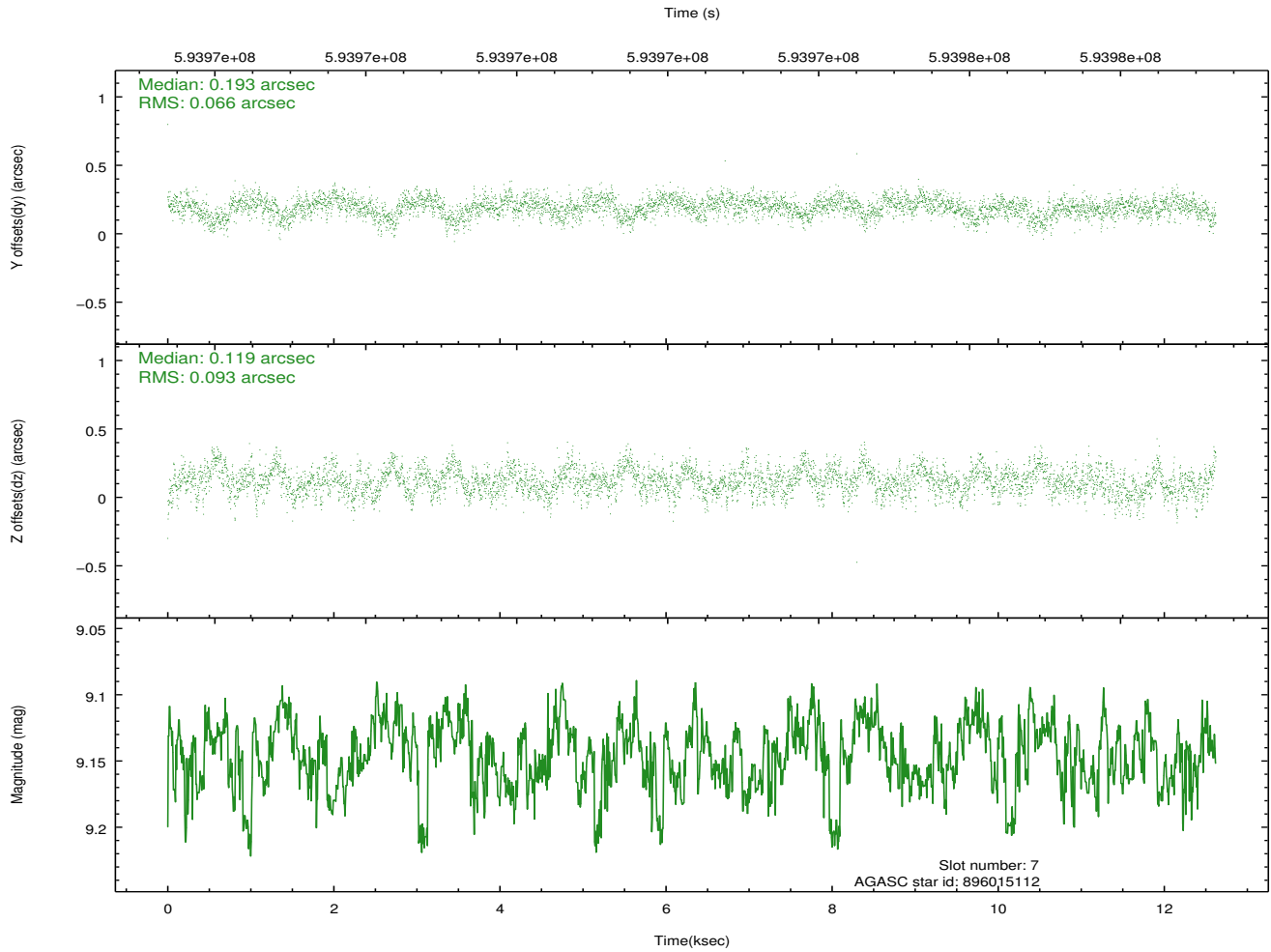
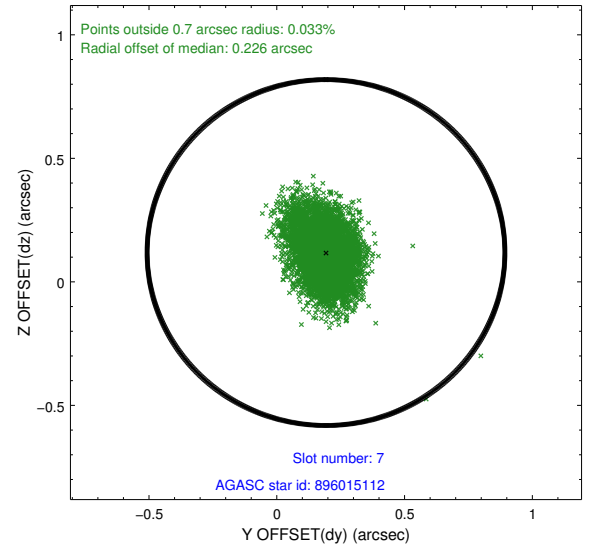
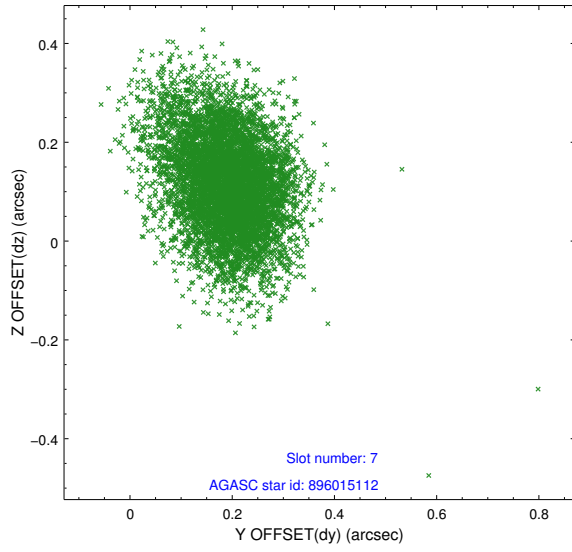
2.4.3 Slot 5



2.4.4 Slot 6

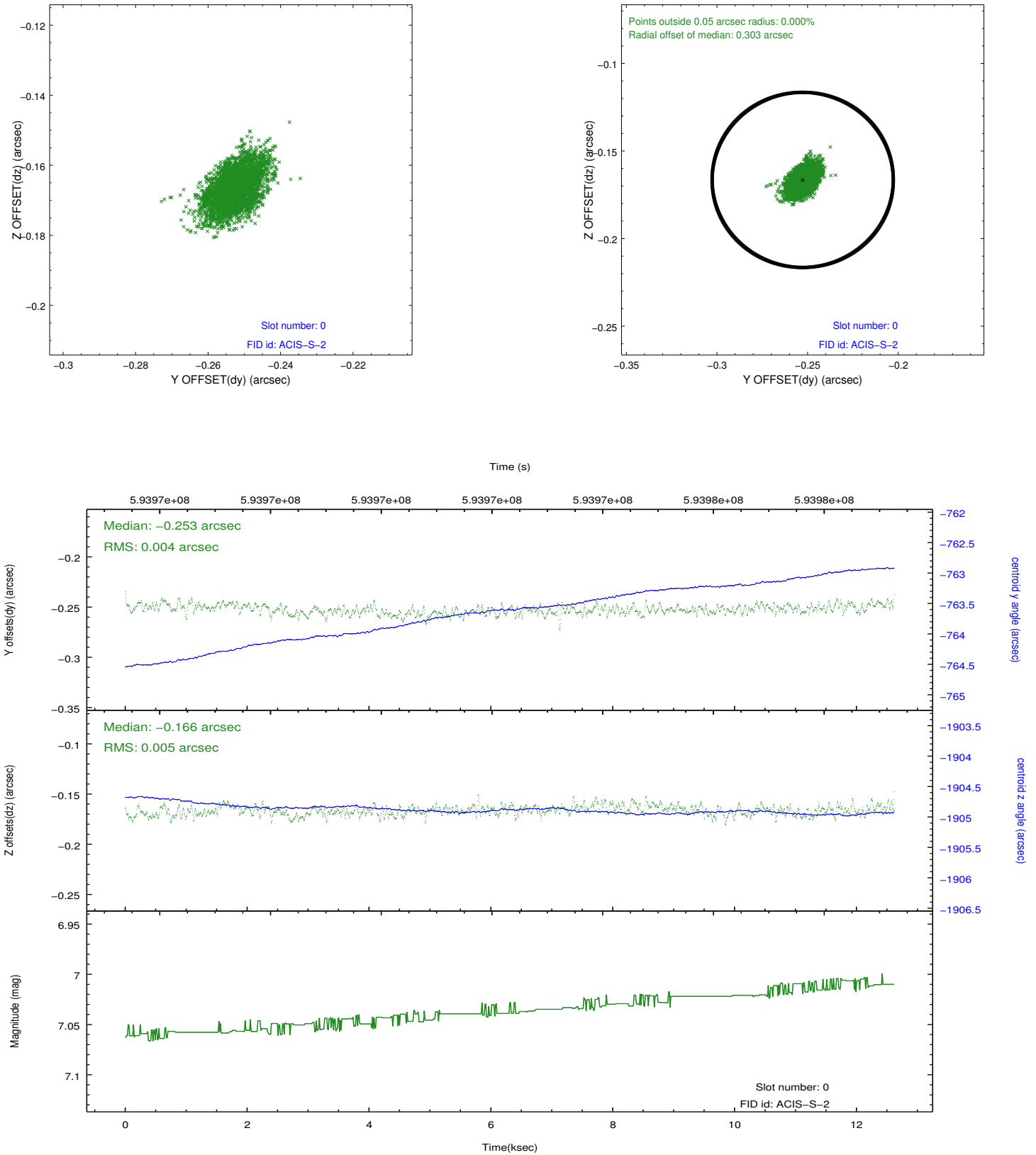


2.4.5 Slot 7

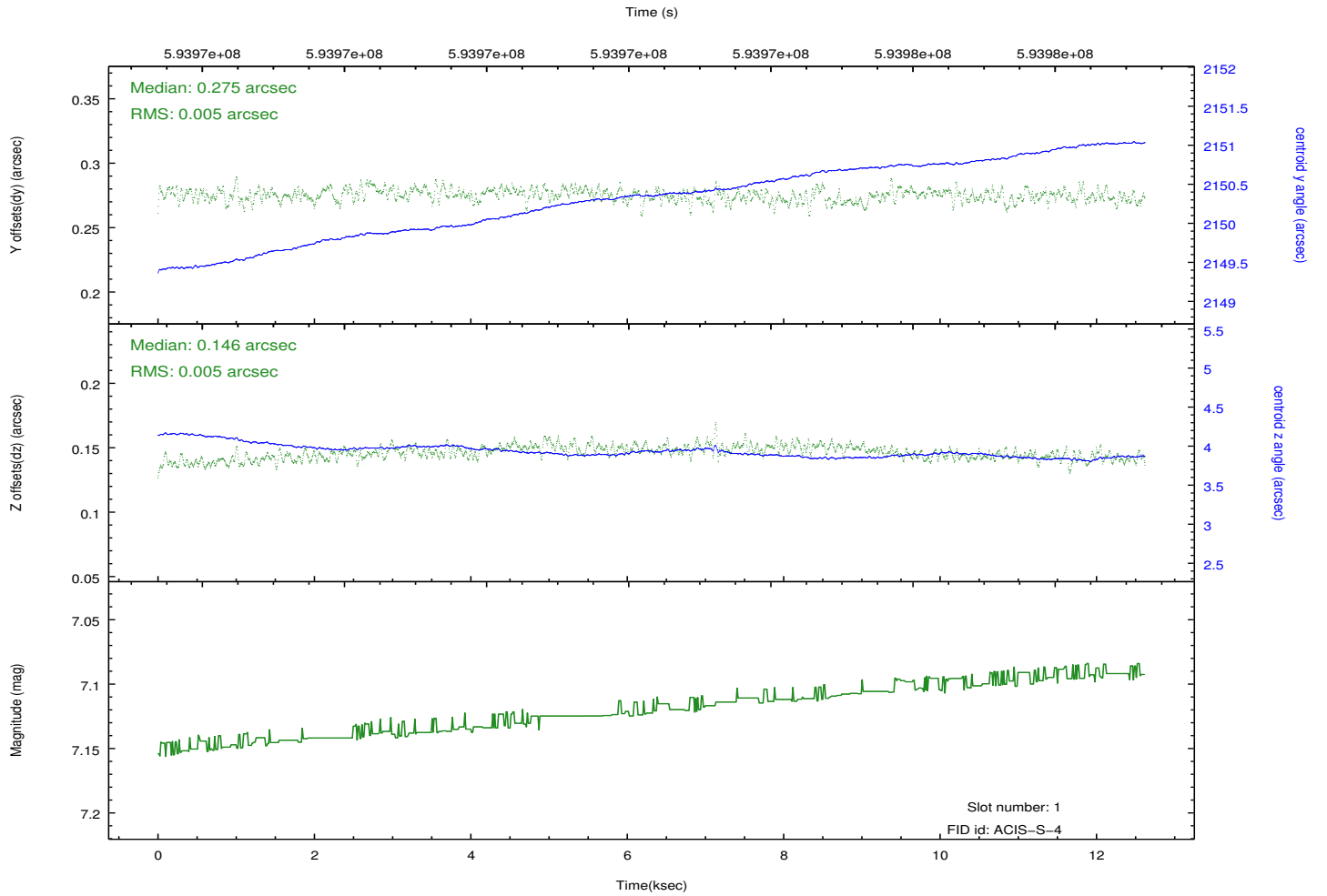
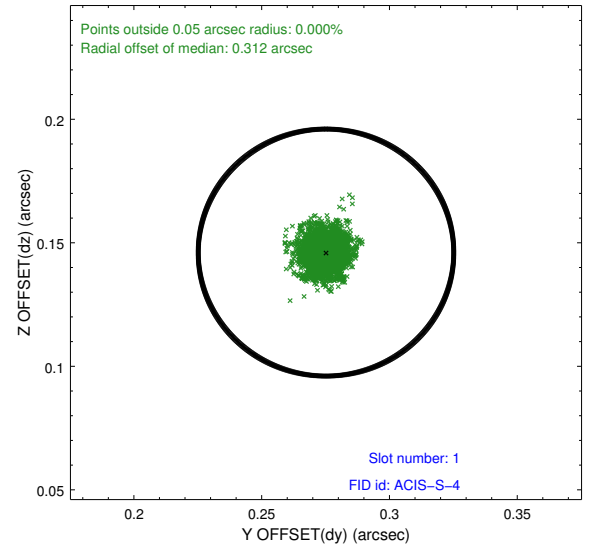
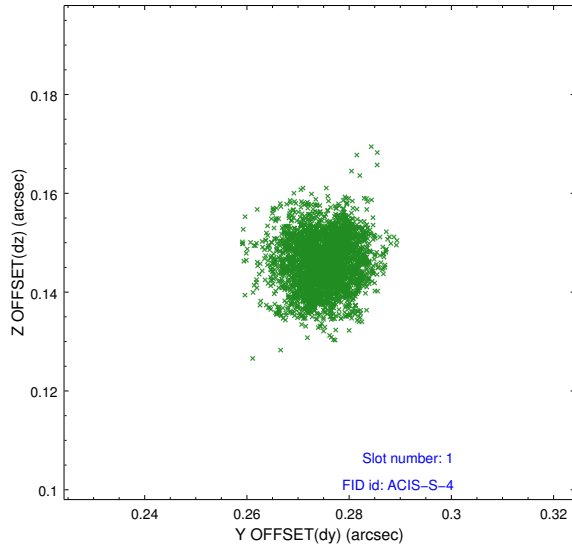


2.5 FID Slots

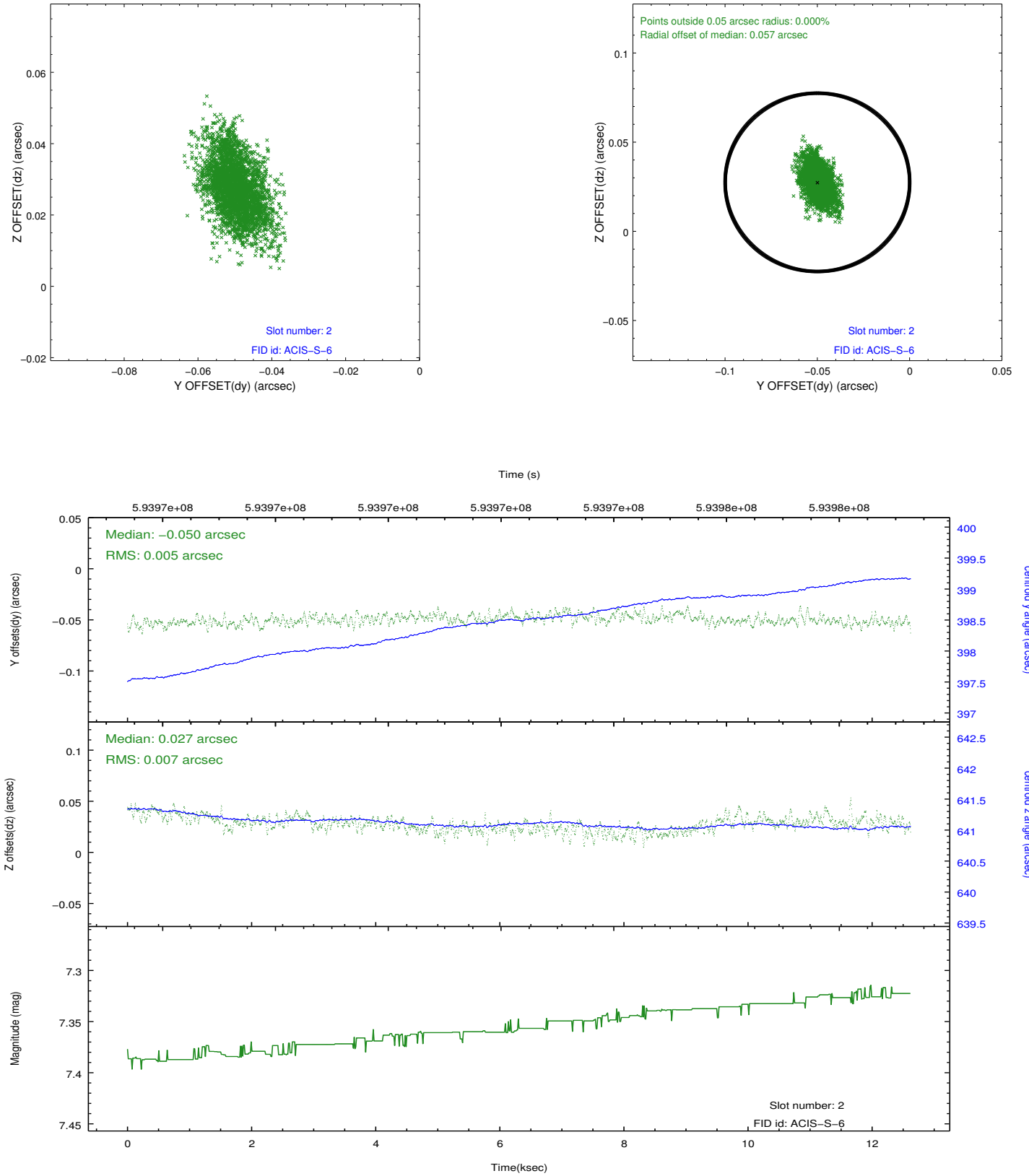
2.5.1 Slot 0



2.5.2 Slot 1

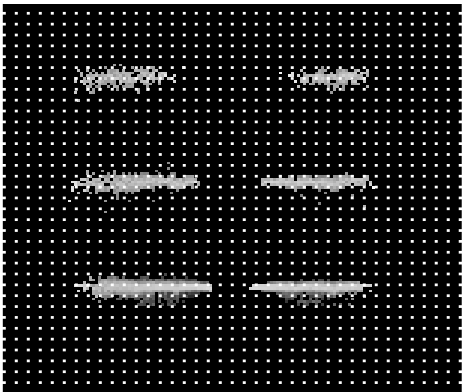


2.5.3 Slot 2

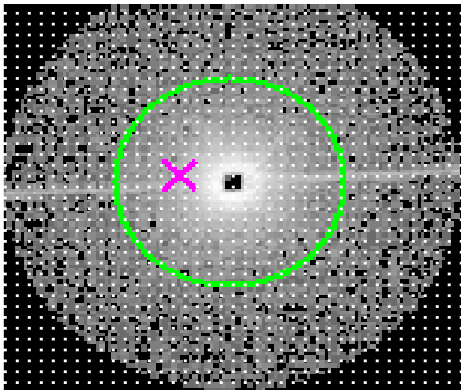


3 Gratings

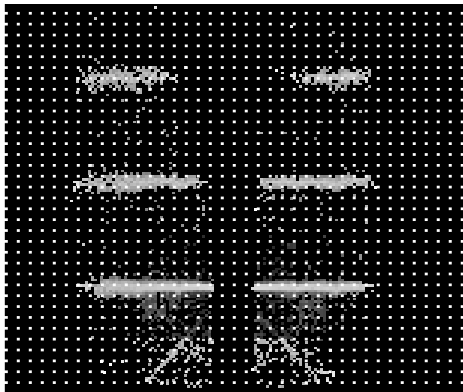
3.1 HEG Arm



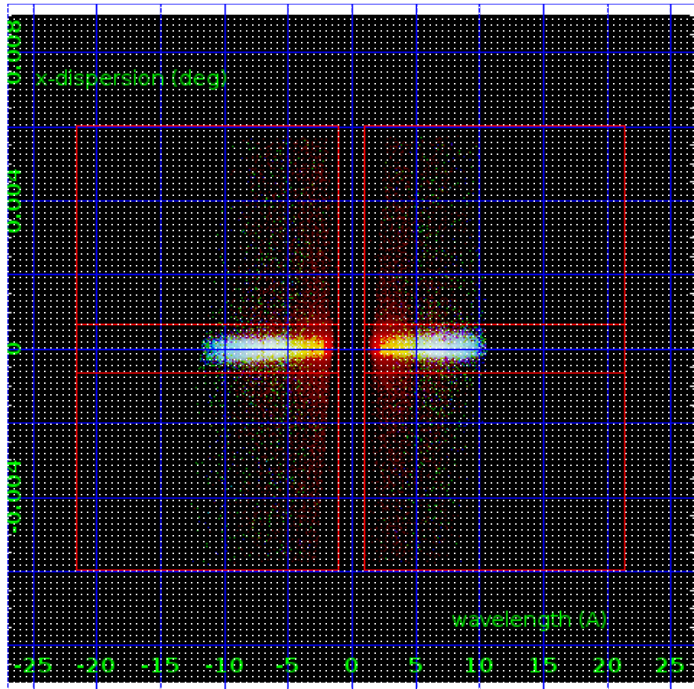
HEG Order Sort 123



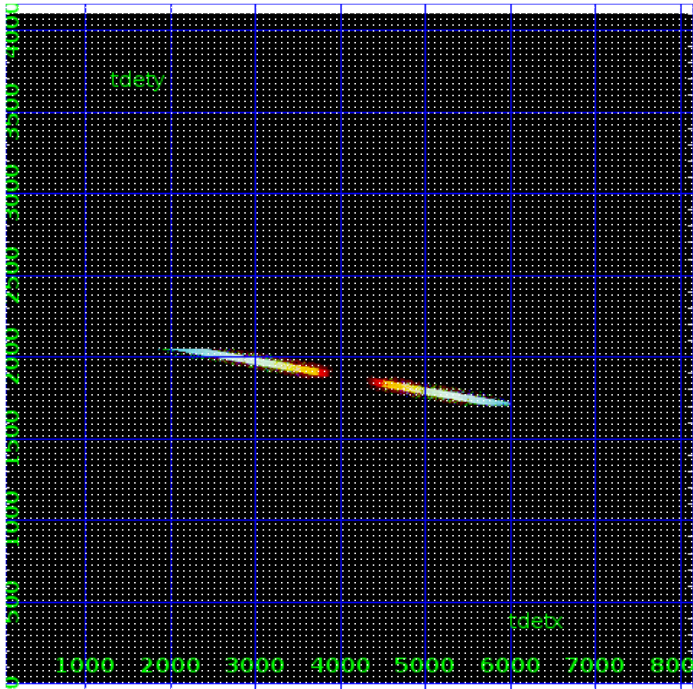
HEG Zero Order



HEG Order Sort ALL

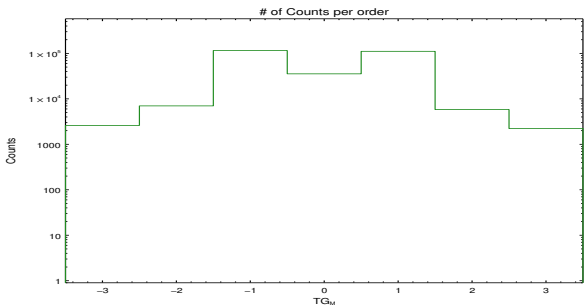


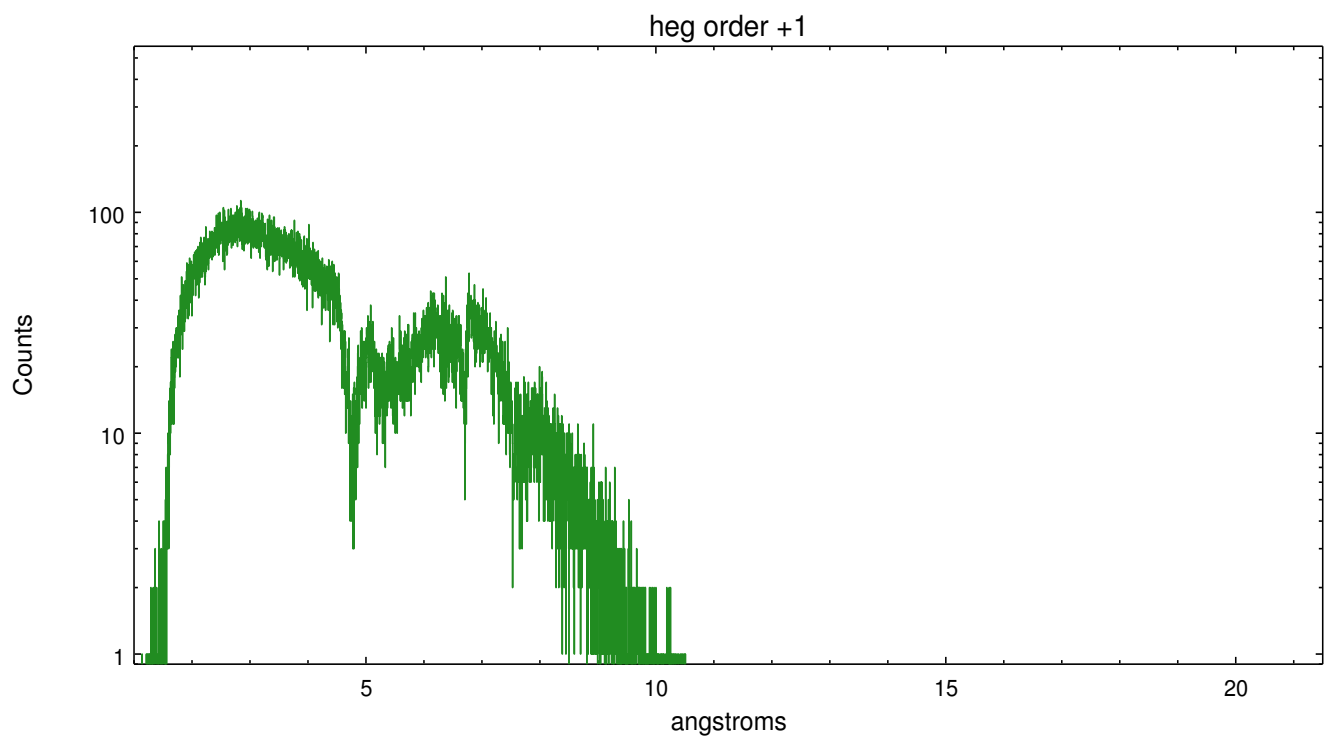
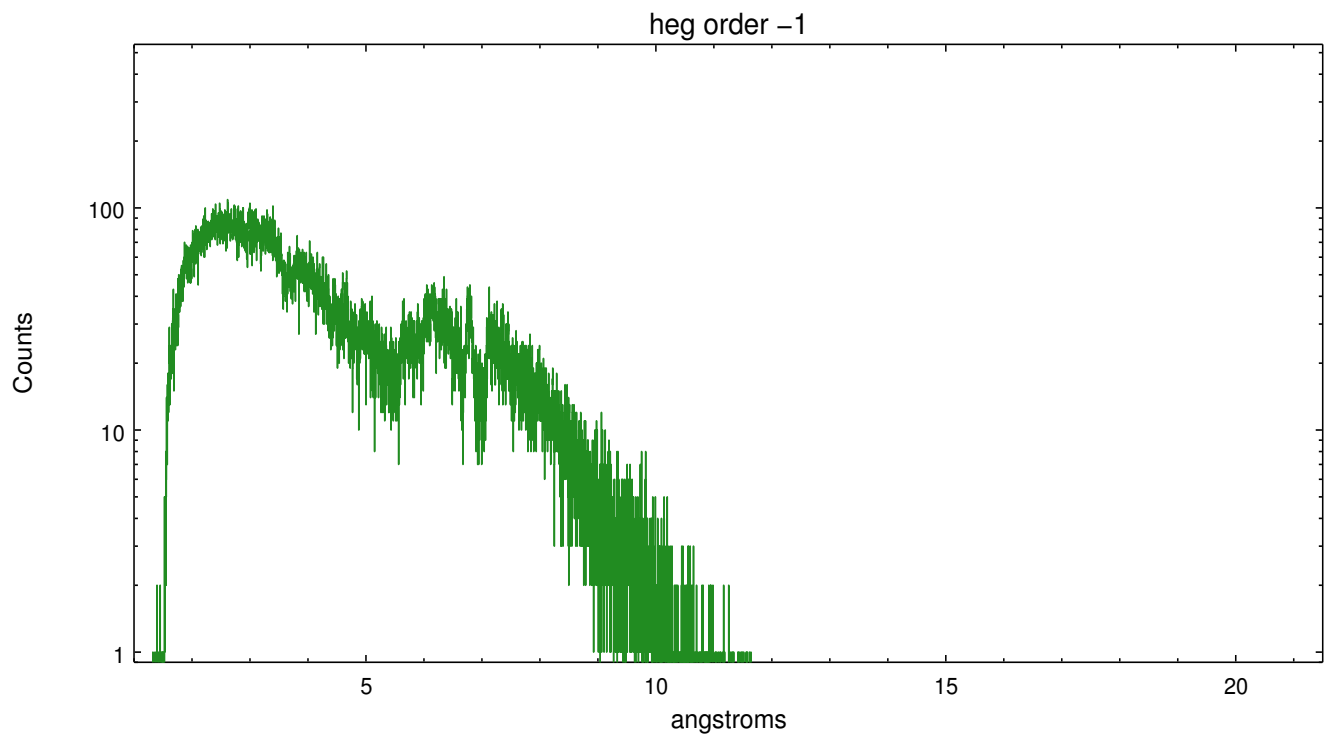
Spot Image HEG



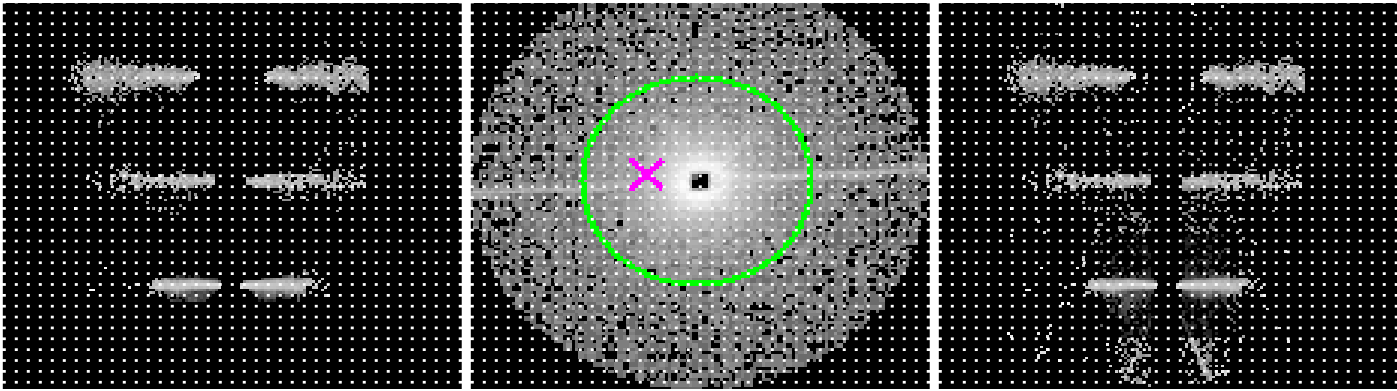
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2606	7008	115415	35527	110970	5819	2222





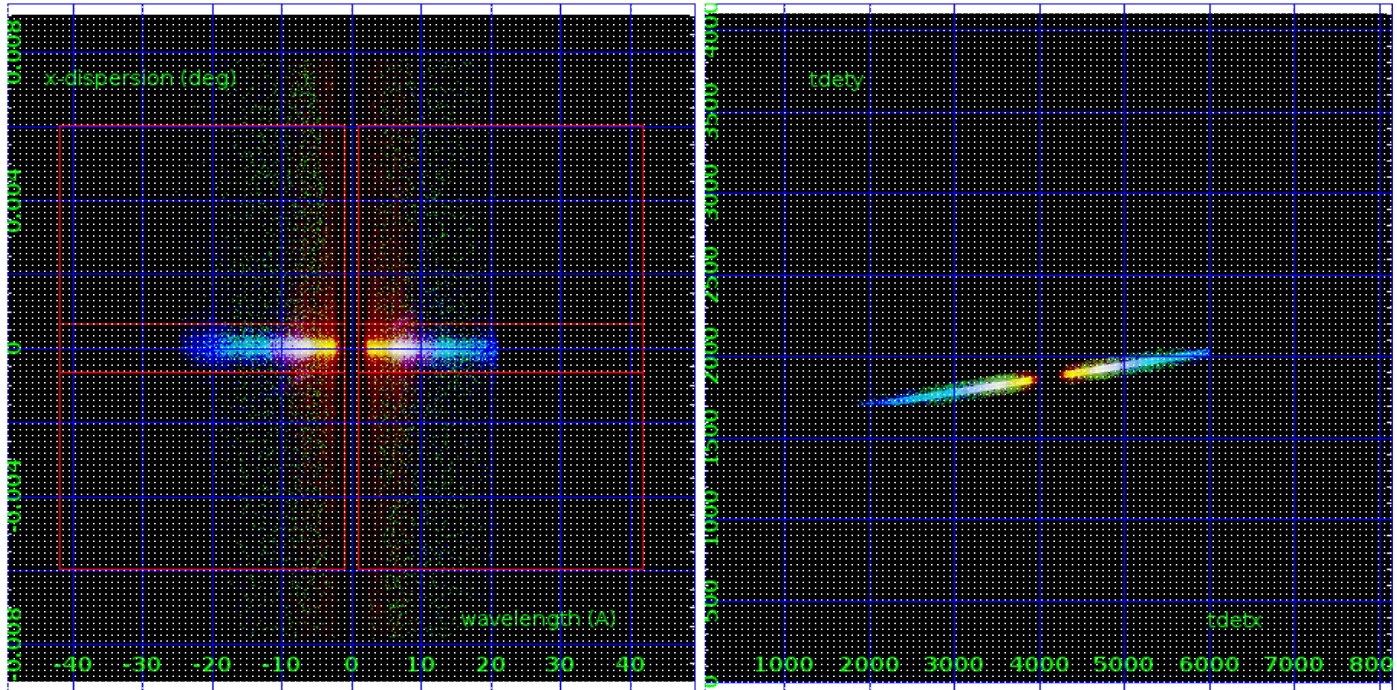
3.2 MEG Arm



MEG Order Sort 123

MEG Zero Order

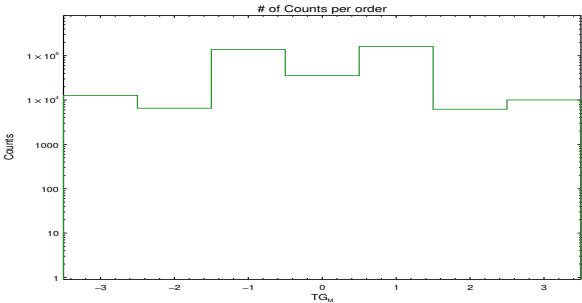
MEG Order Sort ALL

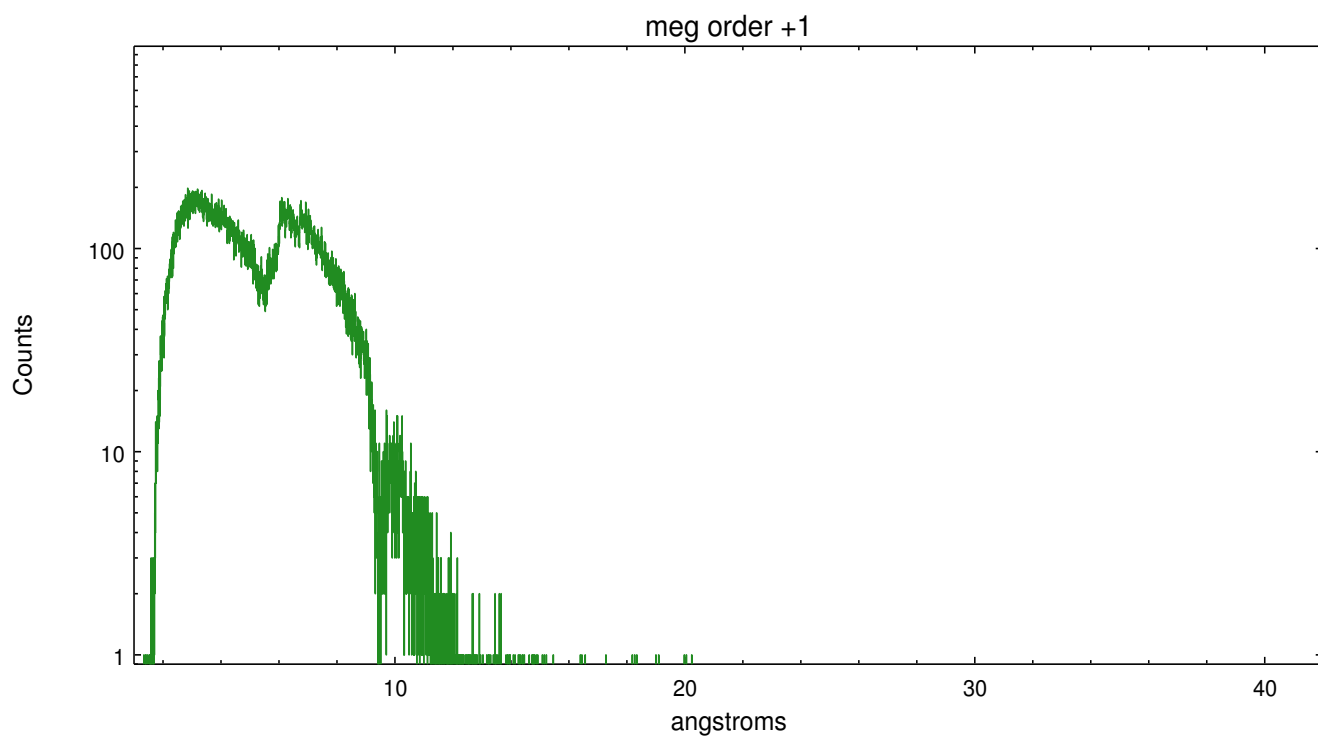
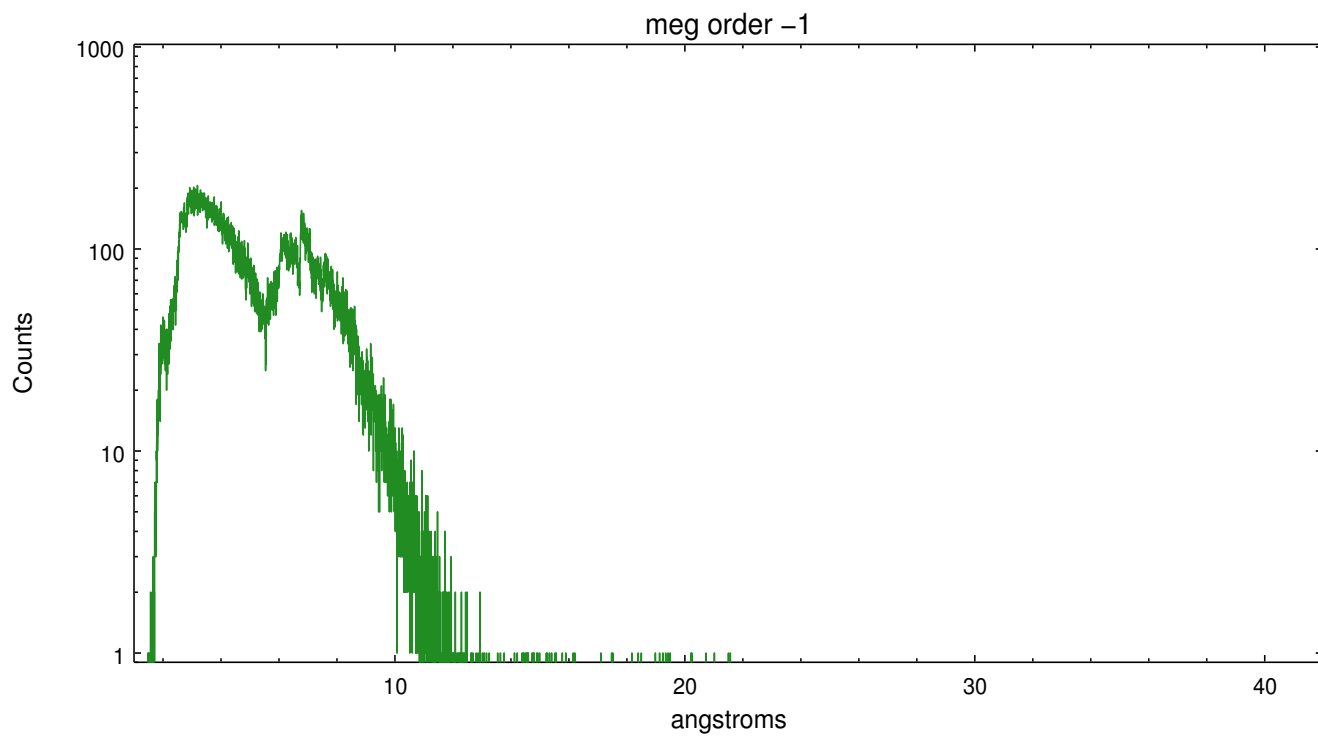


Spot Image MEG

Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	12718	6542	137972	35527	162153	6202	10071





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2016.10.28
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	12.576000499725

A.2 Comments

Zeroth order piled up. The zeroth order sky position was determined using a software tool developed by CXC called findzero, which is available in CIAO as part of the tgdetect2 tool. The tool calculates the point of intersection of the readout streak on the ACIS CCD and the meg or leg dispersed spectral arm, rather than using a centroid position of the source. The findzero results are more accurate than source centroid in this case. Faint grating spectra can be seen in an image of bad events. This is probably due to pileup in the spectrum, causing migration to bad grades. This should be considered in analysis.

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