

V&V Reference Report

L2 ASCDS Version : 10.2.1

Observation 15659 - L2 Version 2
Chandra X-Ray Center

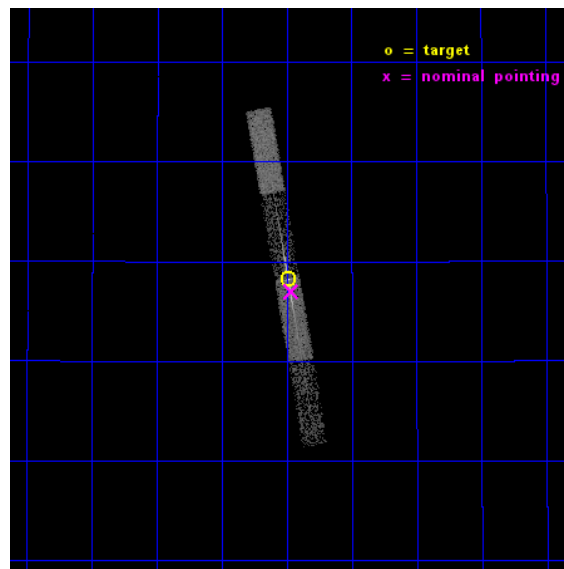
L2 Processing Date : Dec 10 2014

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1 Front

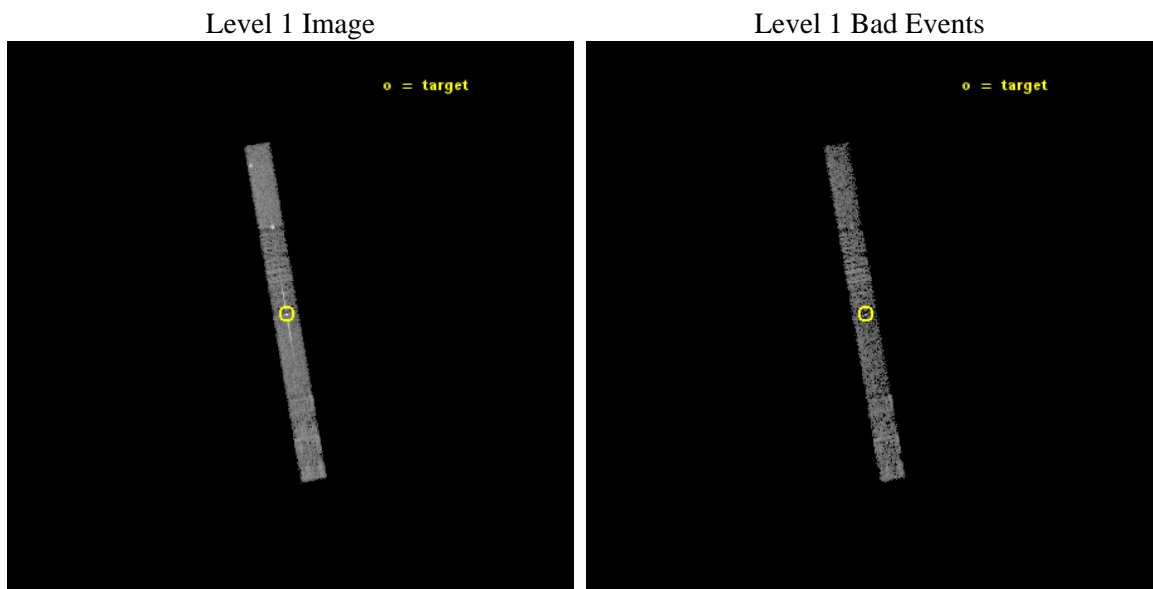
seq_num	702924	Sequence number
obs_id	15659	Observation id
title	Mapping the AGN Broad Line Region by Reverberation	Proposal title
observer	Prof. Bradley Peterson	Principal investigator
object	NGC 5548	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	214.497917	Observer's specified target RA [deg]
dec_targ	25.136778	Observer's specified target Dec [deg]
ra_nom	214.49098153409	Nominal RA [deg]
dec_nom	25.116688313875	Nominal Dec [deg]
roll_nom	79.961851574814	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5064.0	Sum of GTIs [s]
liveltime	4864.366402828	Livetime [s]
ontime5	5064.0	Sum of GTIs [s]
ontime6	5064.0	Sum of GTIs [s]
ontime7	5064.0	Sum of GTIs [s]
ontime8	5064.0	Sum of GTIs [s]
l2events	17063	Number of level 2 events



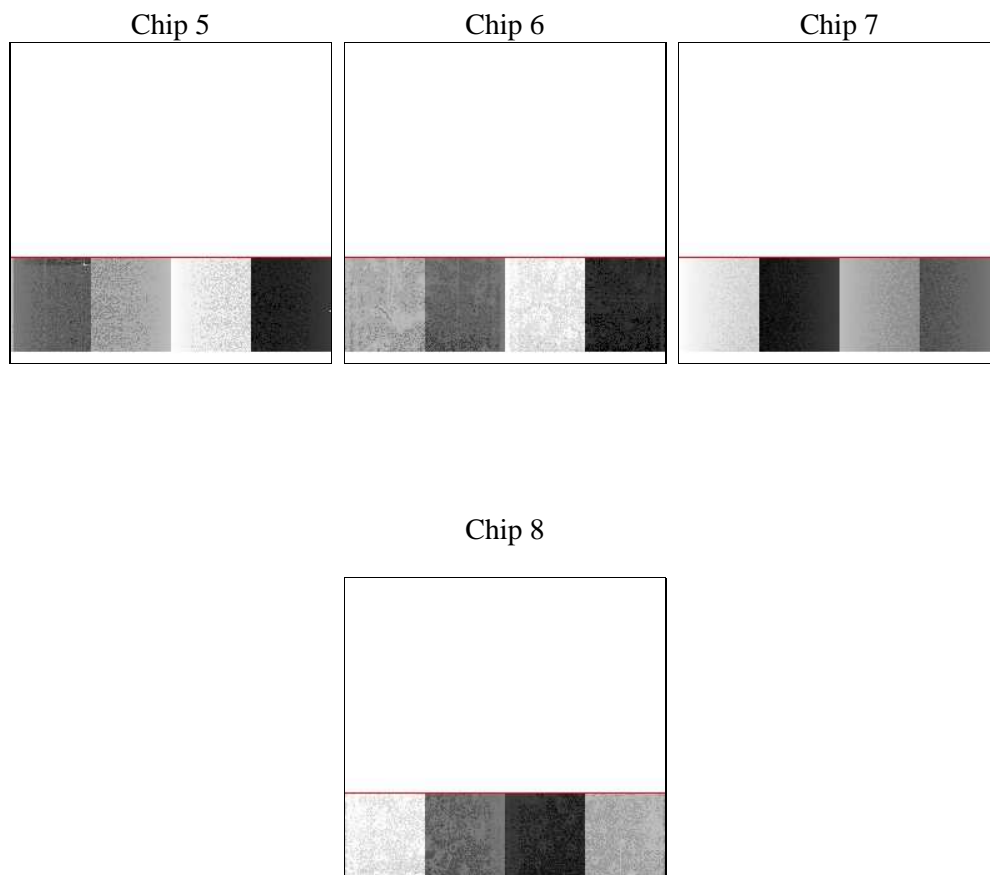
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	5064.0	Sum of GTIs [s]
caldsver	4.6.4	 	ontime5	5064.0	Sum of GTIs [s]
date	2014-12-10T05:48:40	Date and time of file creation	ontime6	5064.0	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	5064.0	Sum of GTIs [s]
			ontime8	5064.0	Sum of GTIs [s]
			l1events	48535	Number of level 1 events
			tgmeth	TGDETECT	Method used to create src1a file
			zo_pos	(4048.64, 4243.47)	src1a sky pixel position

2.1.4 Events

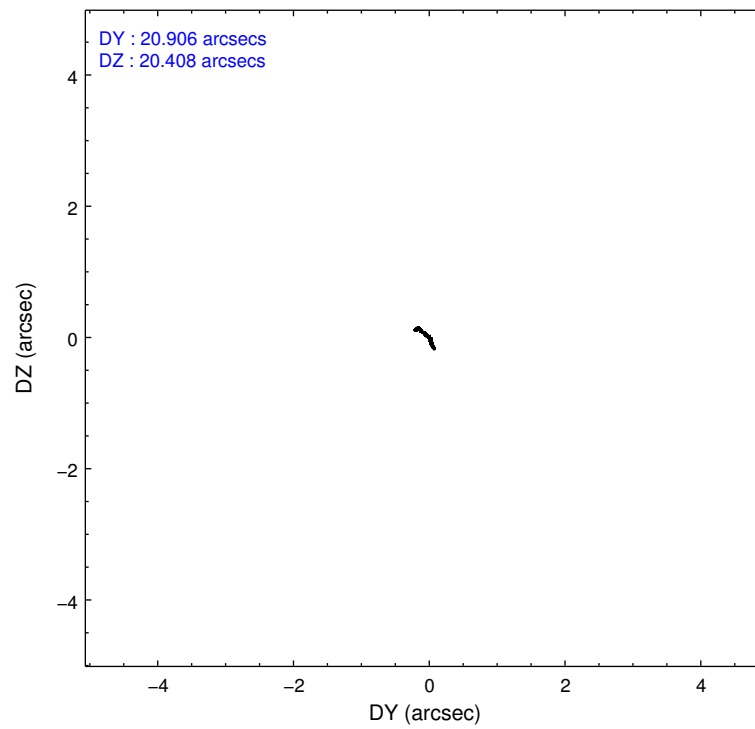
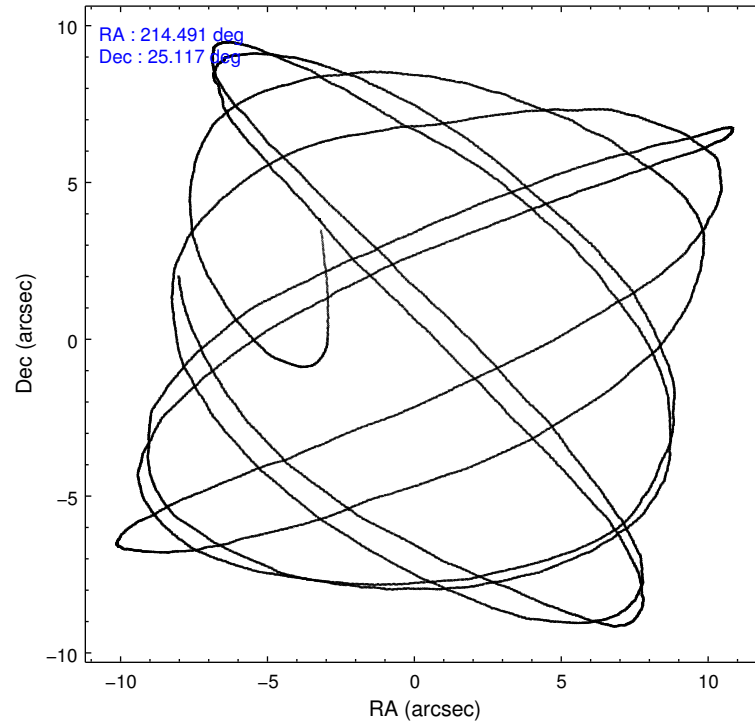
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	13657	9665	13468	11745
rejected events	6217	7078	5589	8468
rejected %	45%	73%	41%	72%

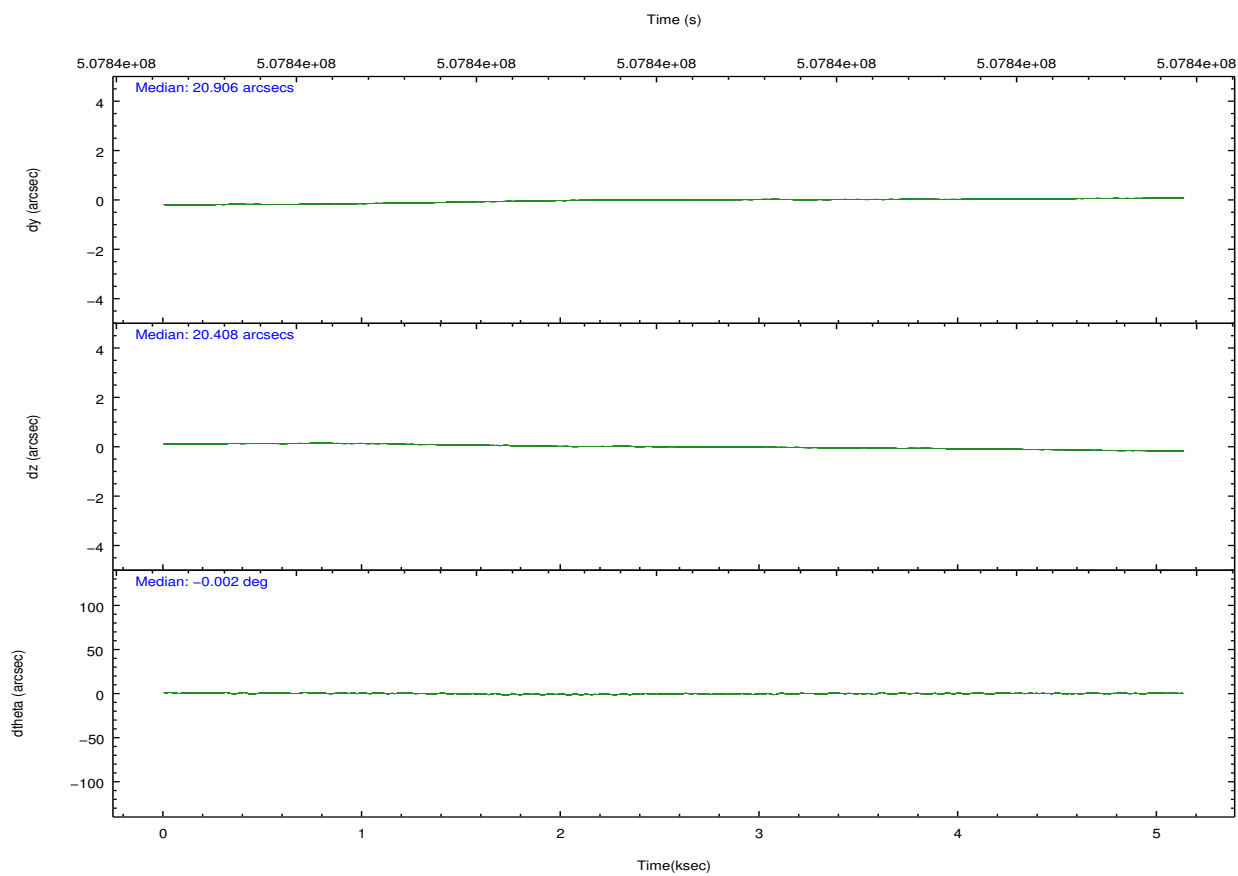
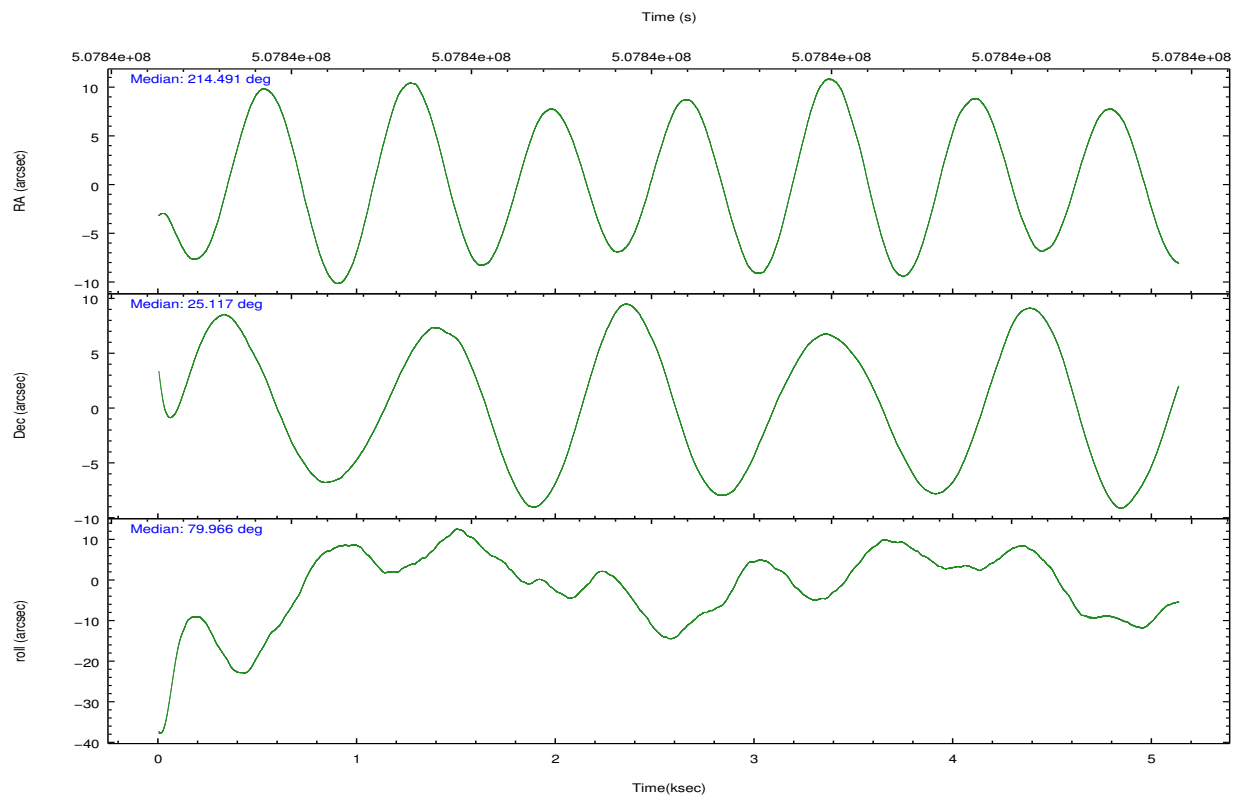
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	1679	1494	1042	882
	12%	15%	7%	7%
grade 1 events	88	8	22	9
	0%	0%	0%	0%
grade 2 events	1716	399	1718	735
	12%	4%	12%	6%
grade 3 events	466	195	822	352
	3%	2%	6%	2%
grade 4 events	474	195	794	362
	3%	2%	5%	3%
grade 5 events	1030	348	1075	496
	7%	3%	7%	4%
grade 6 events	3105	304	3504	946
	22%	3%	26%	8%
grade 7 events	5099	6722	4491	7963
	37%	69%	33%	67%

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	LETG	LETG	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	214.501747	214.4909815340928	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	25.091118	25.11668831387532	Subarray start row	37	37
[deg] Pointing Roll	79.800698	79.96185157481365	Subarray row count	302	302
[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
[mm] SIM translation stage pos	-182.132523	-182.1370004450064			
[mm] SIM translation stage offset	-8	-7.995522138001405			
[s] Observation start time (MET)	507839658.184000	507838540.42939			
Observation start date	2014-02-03T18:33:11	2014-02-03T18:15:40			
[s] Observation end time (MET)	507844658.184000	507845439.19227			
Observation end date	2014-02-03T19:56:31	2014-02-03T20:10:39			
Read mode	TIMED	TIMED			

2.3 Aspect



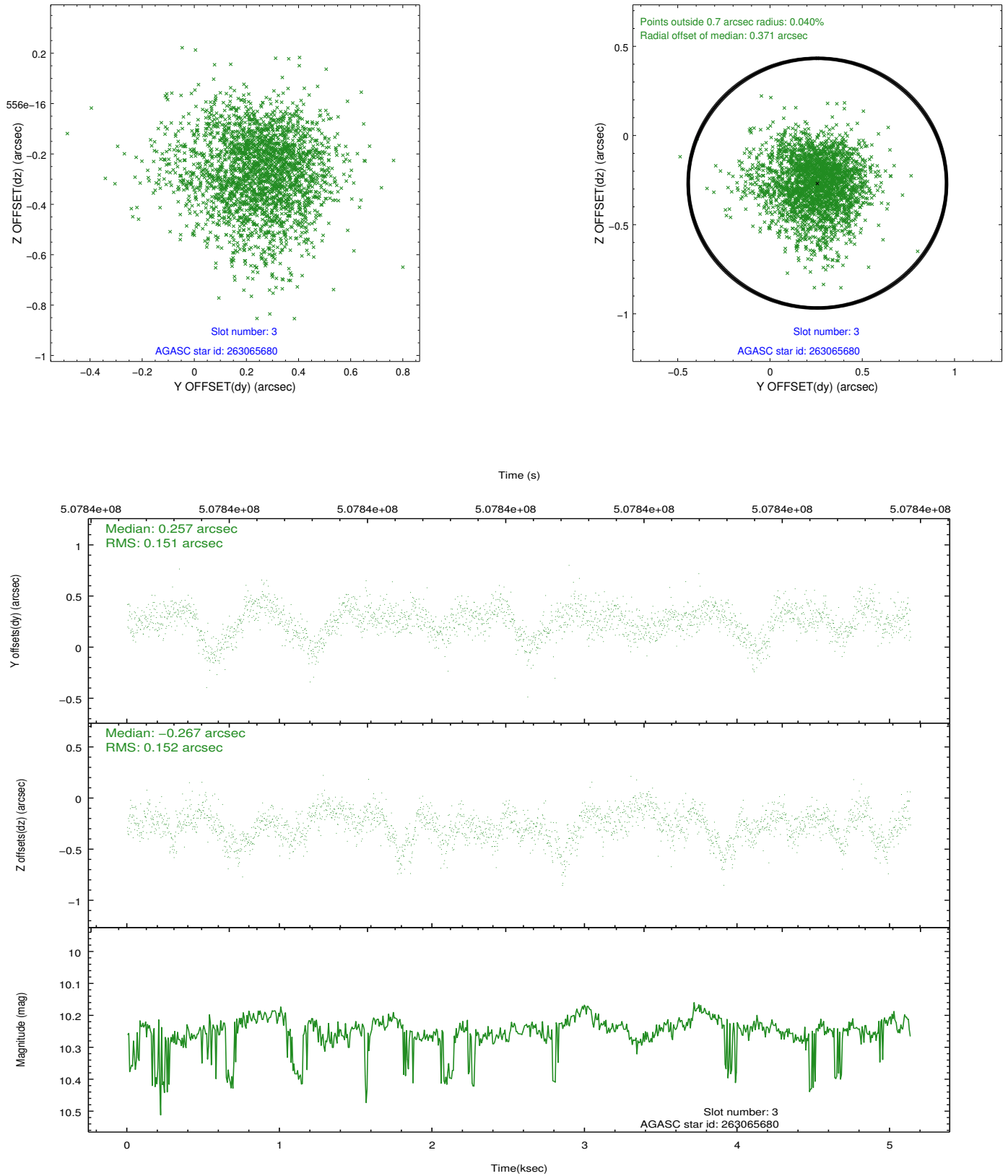


Slot Statistics

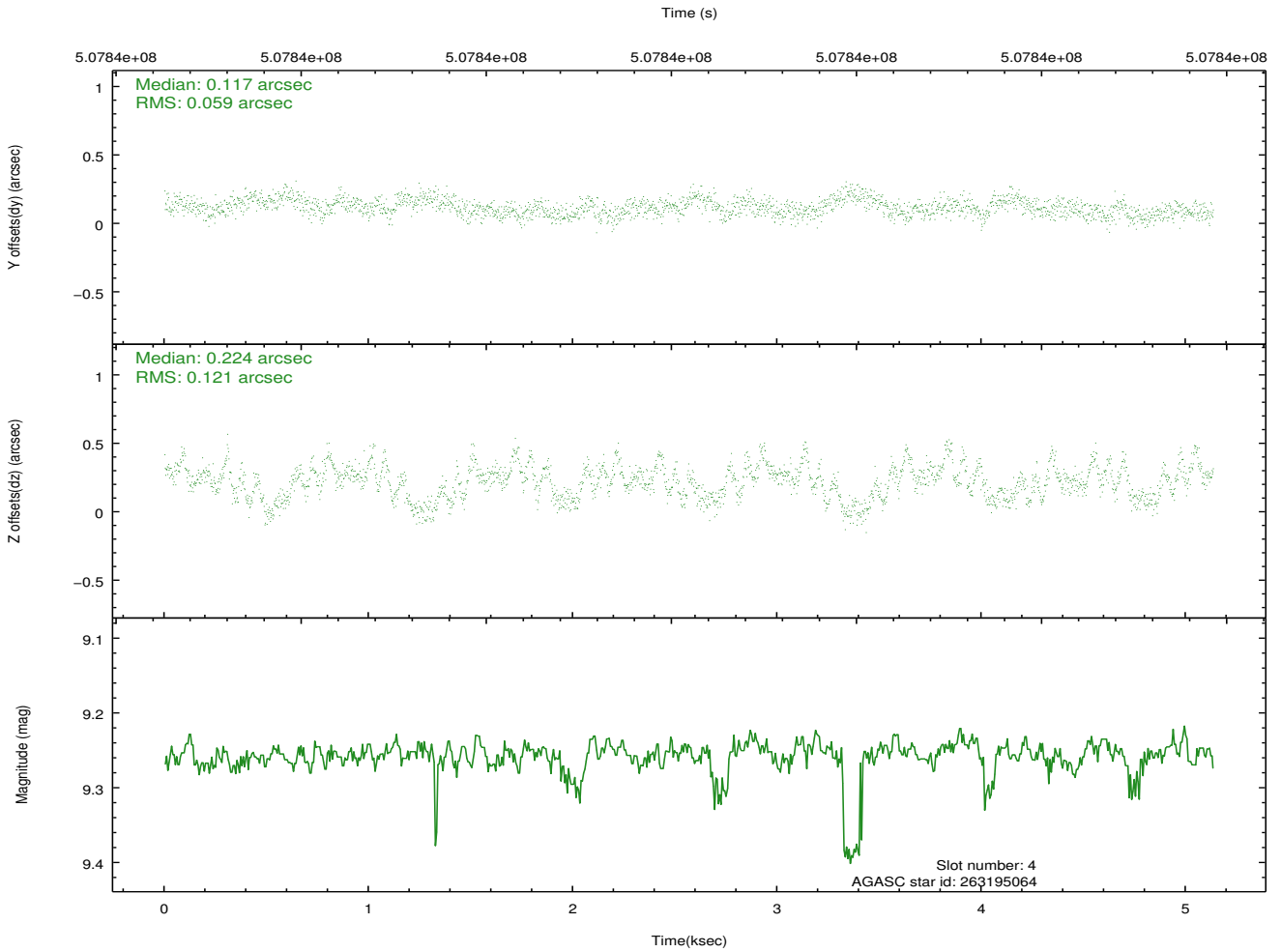
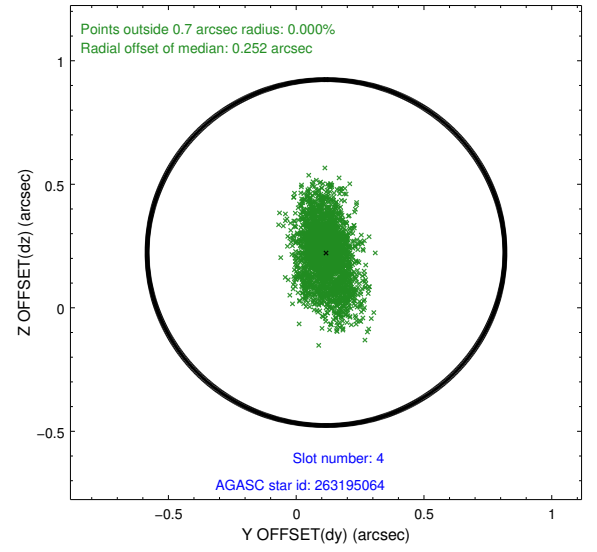
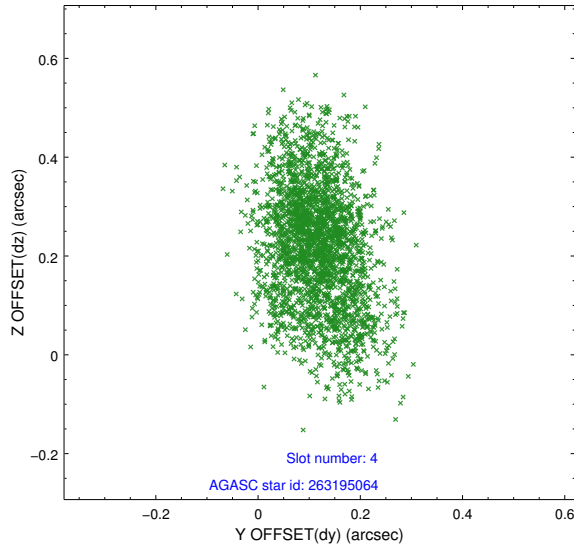
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.97	1252	-0.235	-0.148	0.008	0.015	0.000000	0.000000	-773.72	-1906.77
1	FID		ACIS-S-4	7.05	1252	0.216	0.153	0.006	0.011	0.000000	0.000000	2139.52	0.54
2	FID		ACIS-S-6	7.27	1252	-0.009	0.002	0.008	0.013	0.000000	0.000000	390.08	639.19
3	GUIDE	used	263065680	10.25	2499	0.257	-0.267	0.224	0.374	214.256976	24.497205	-2244.70	410.75
4	GUIDE	used	263195064	9.26	2501	0.117	0.224	0.142	0.245	215.129983	24.745063	-857.90	-2240.25
5	GUIDE	used	263464688	9.17	2502	-0.193	-0.145	0.102	0.169	214.654702	25.305283	847.30	-354.12
6	GUIDE	used	263595296	9.77	2503	-0.247	-0.092	0.243	0.363	214.929889	25.645337	2212.53	-1014.43
7	GUIDE	used	263192808	9.59	2502	0.065	0.317	0.167	0.271	215.197131	24.910235	-231.68	-2349.12

2.4 Star Slots

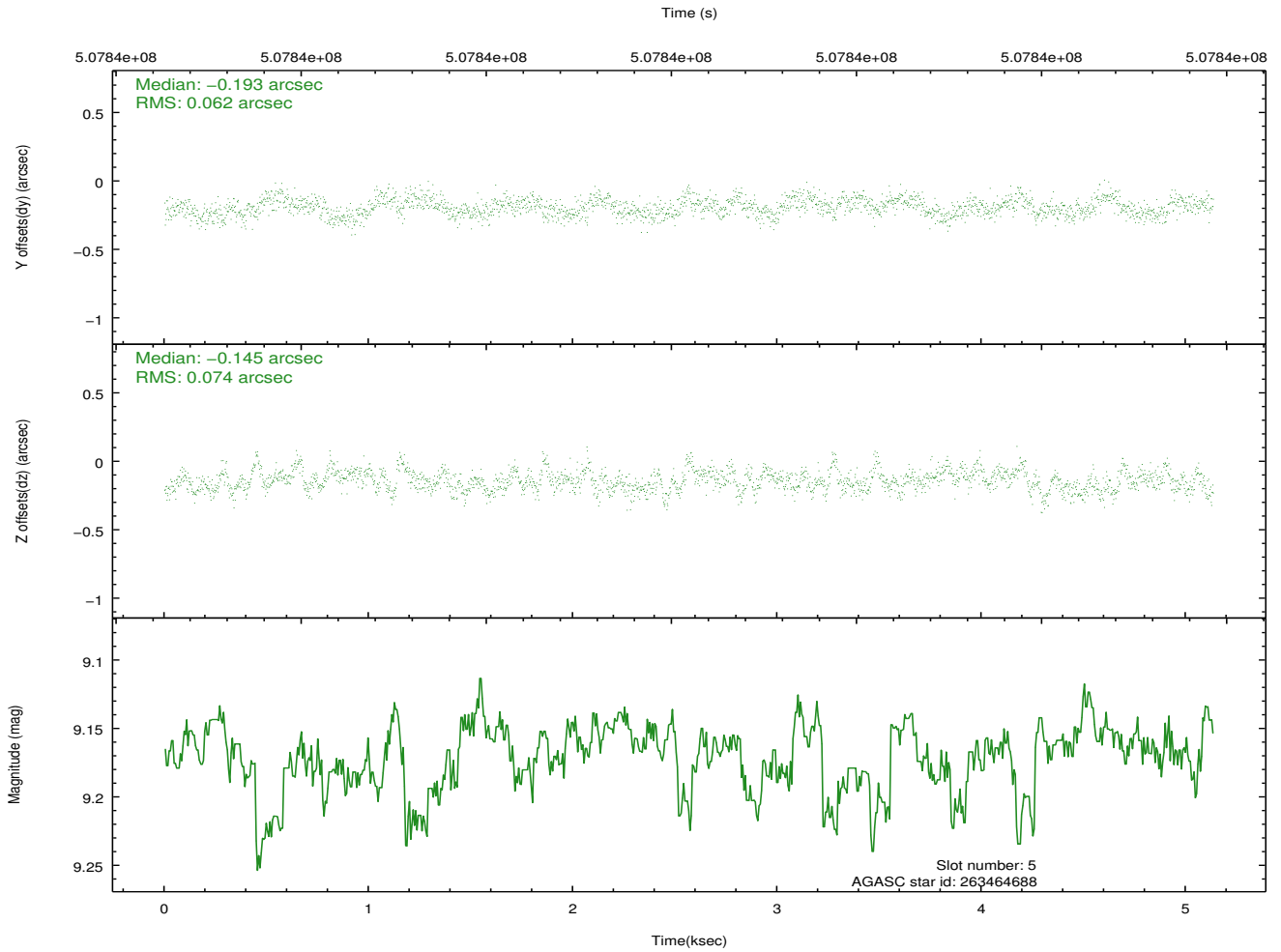
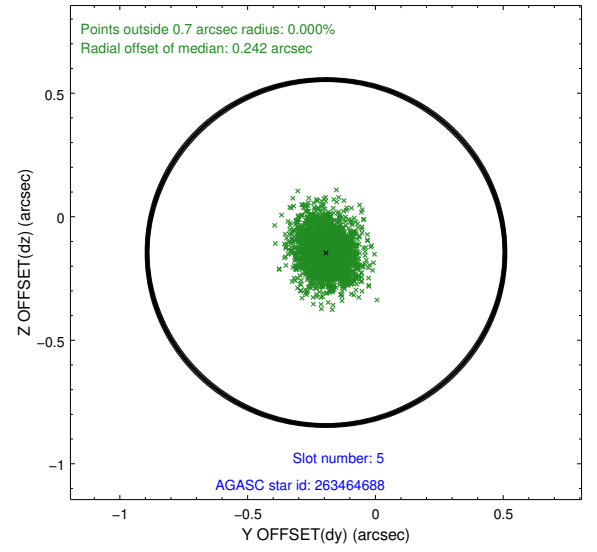
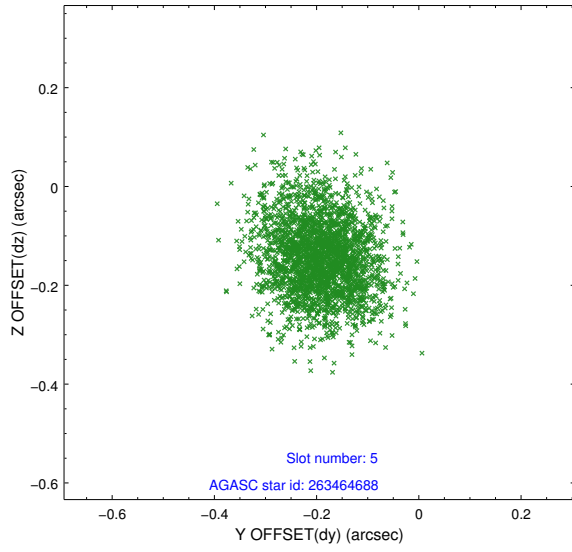
2.4.1 Slot 3



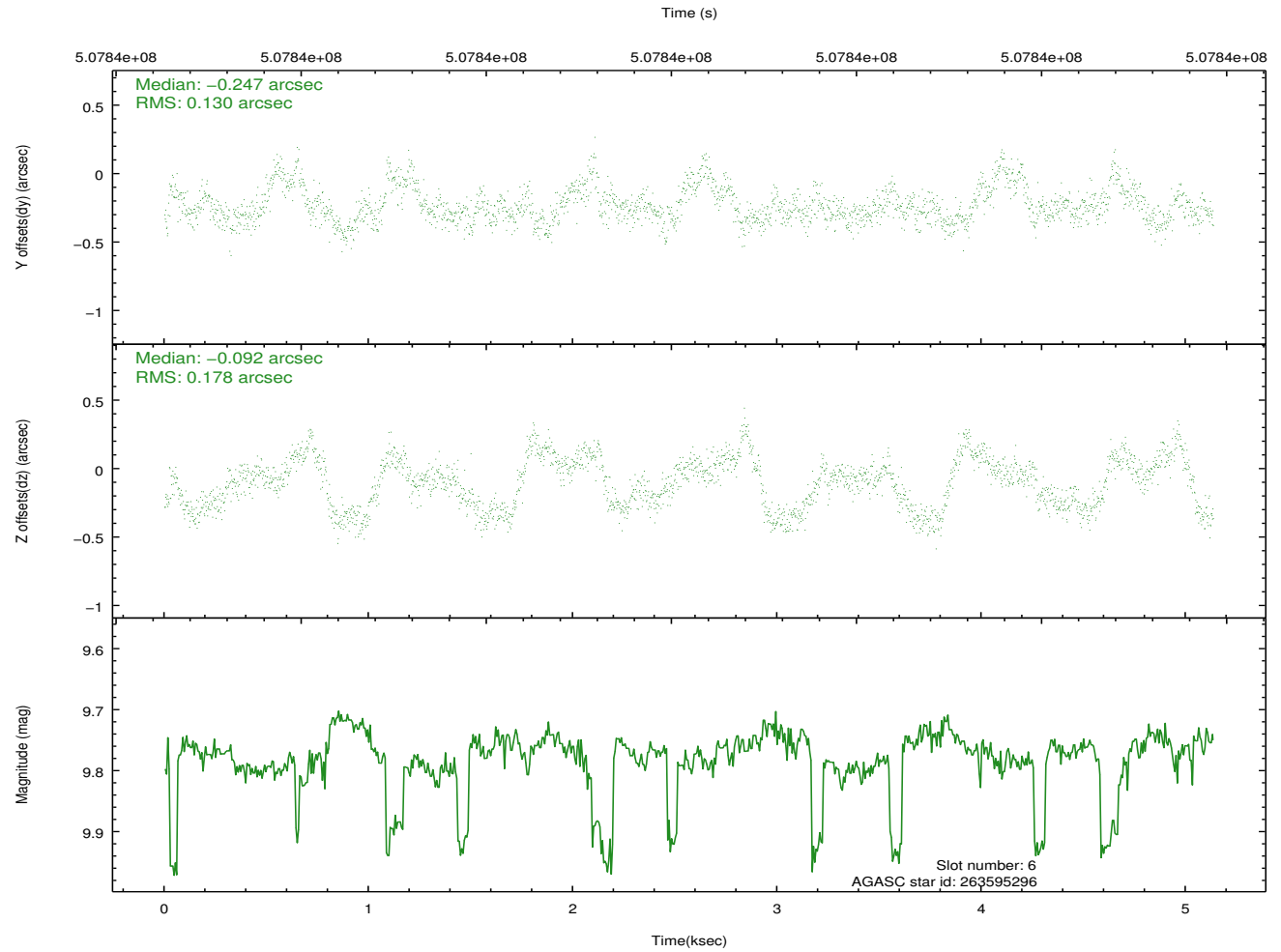
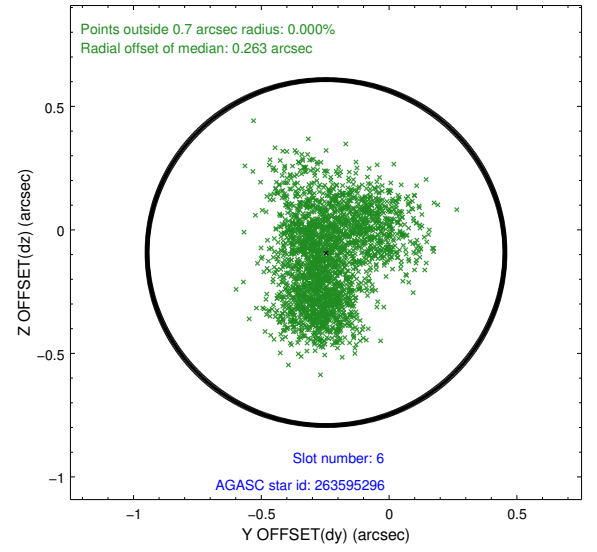
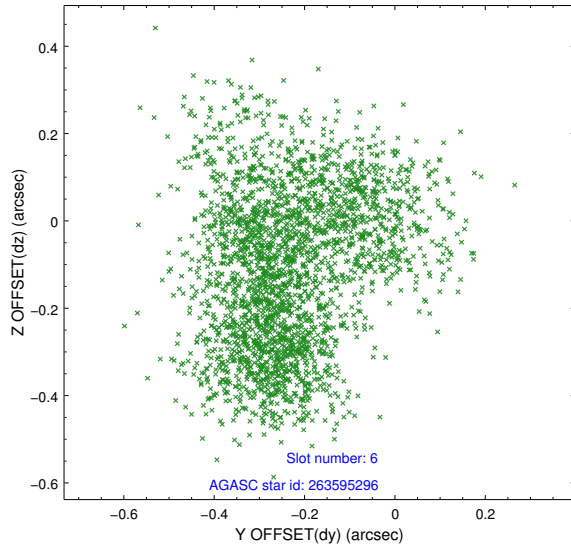
2.4.2 Slot 4



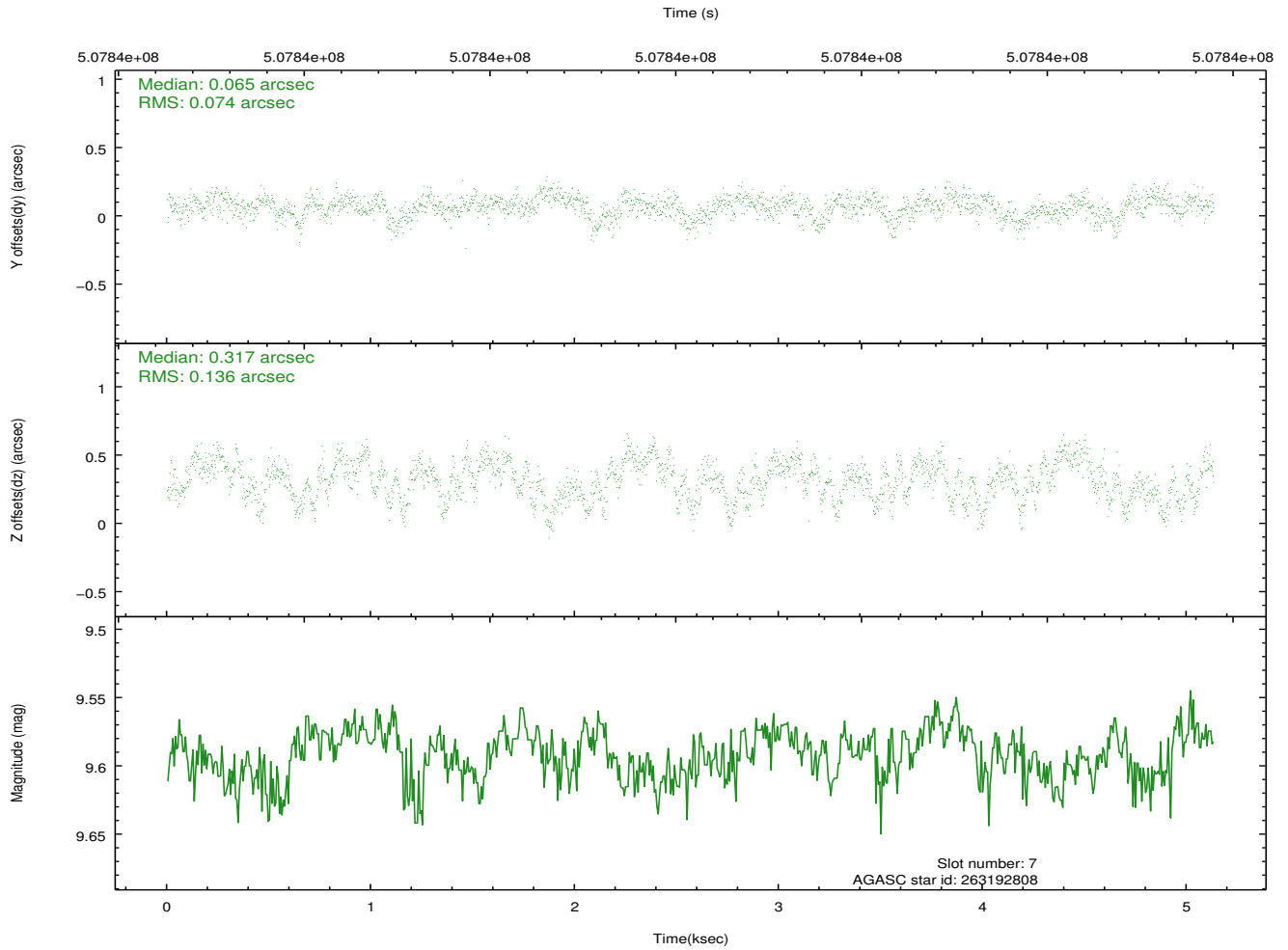
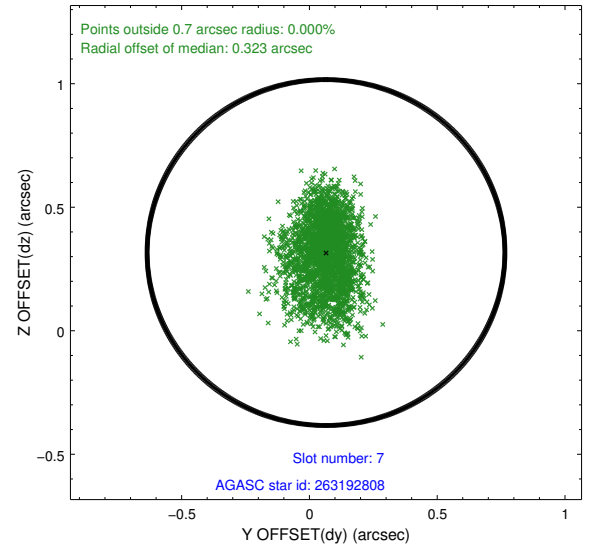
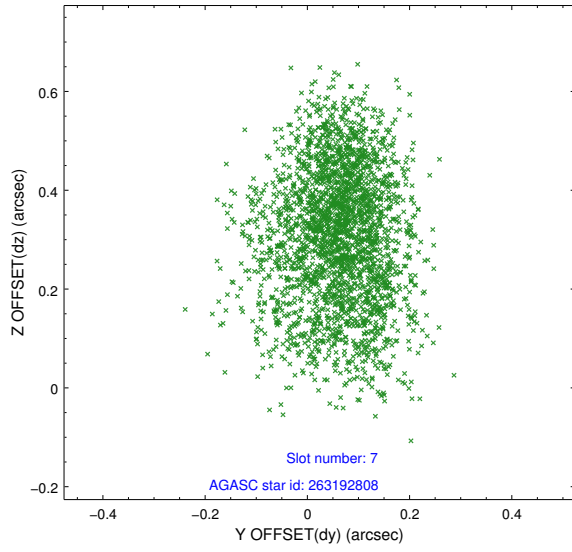
2.4.3 Slot 5



2.4.4 Slot 6

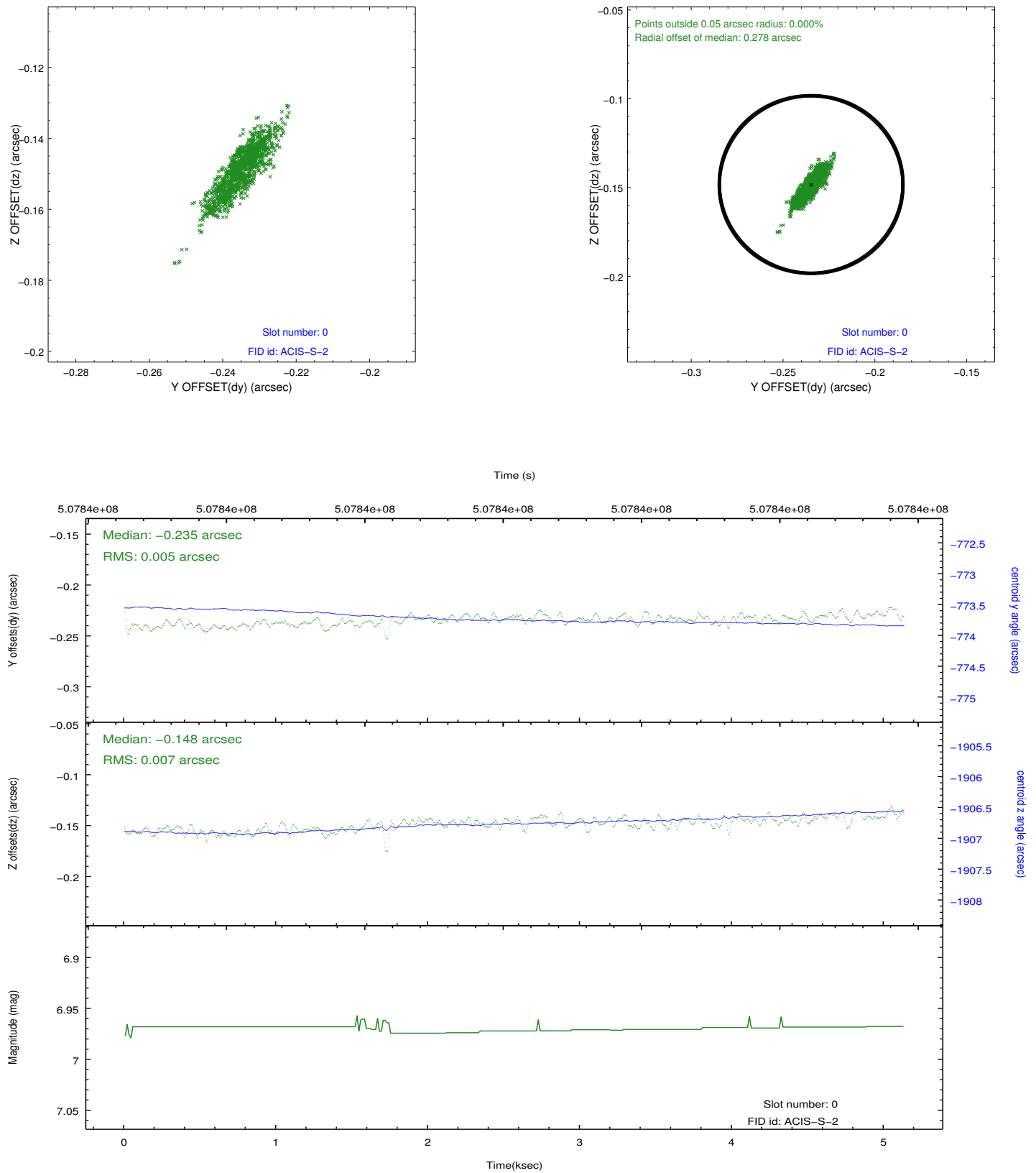


2.4.5 Slot 7

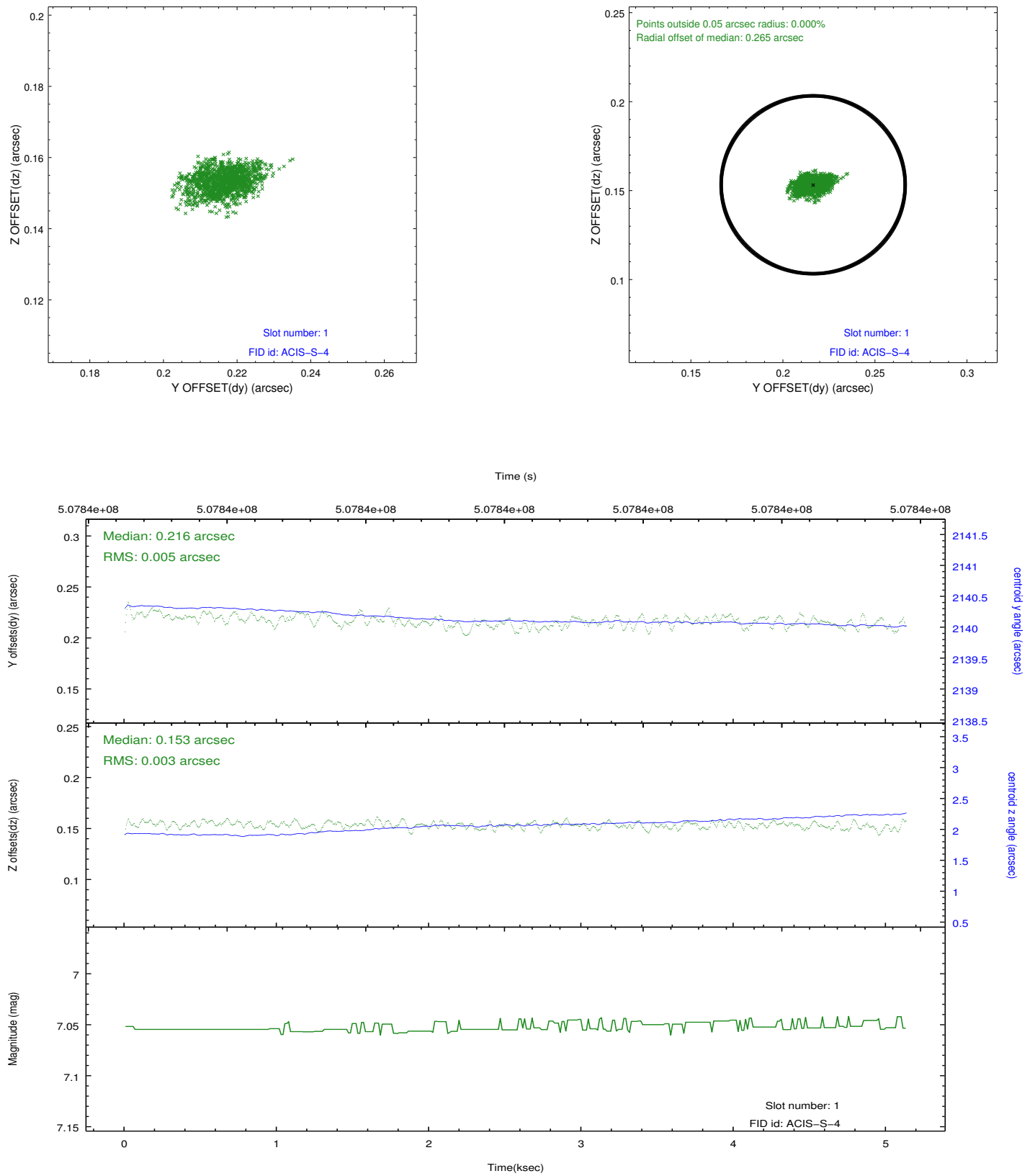


2.5 FID Slots

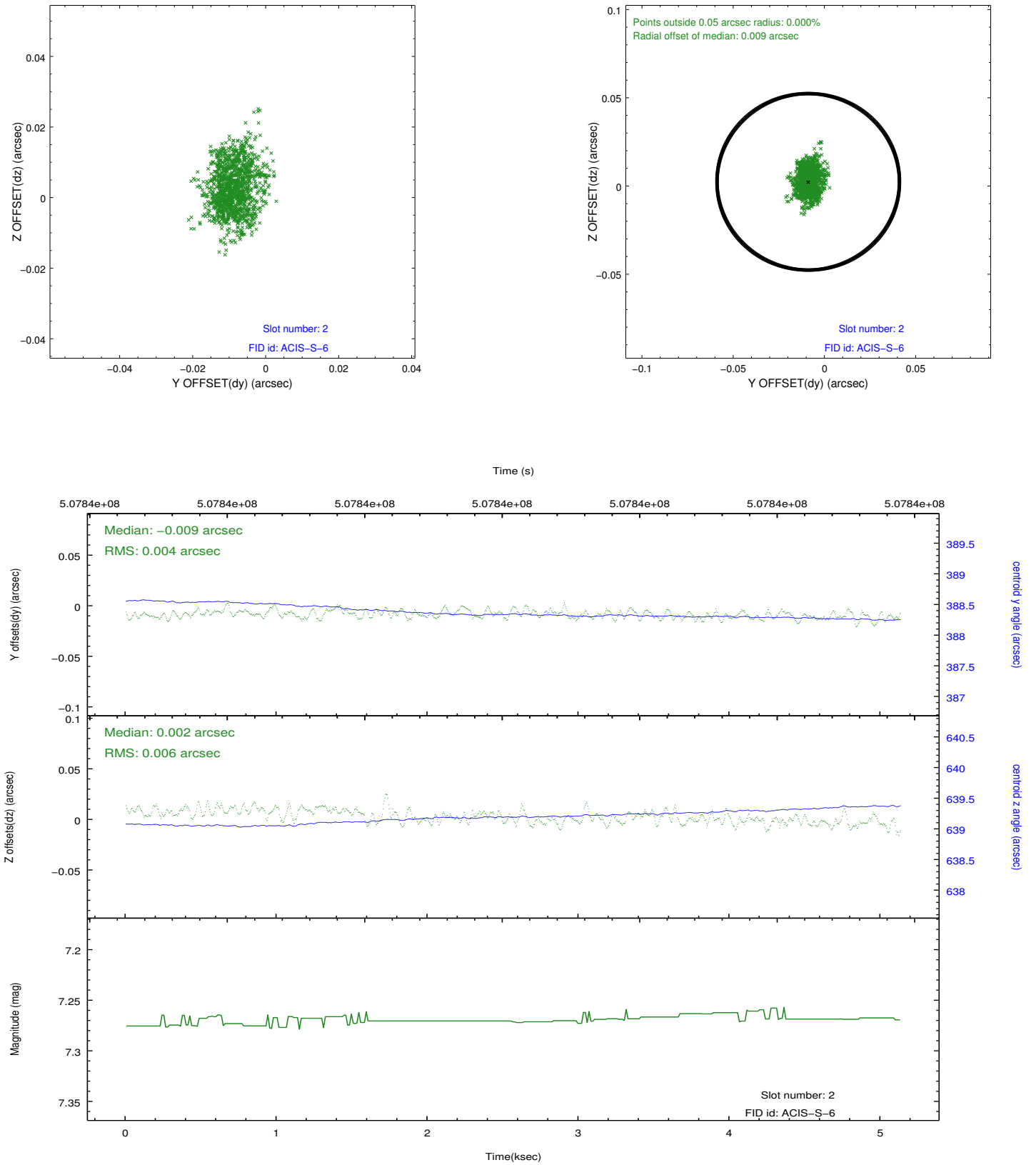
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

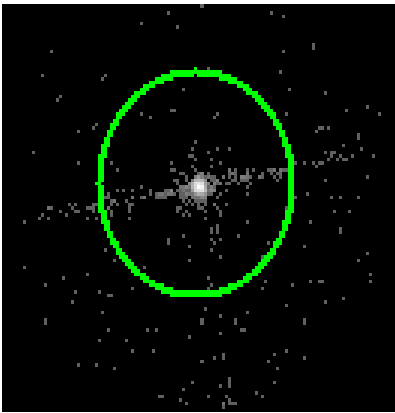


3 Gratings

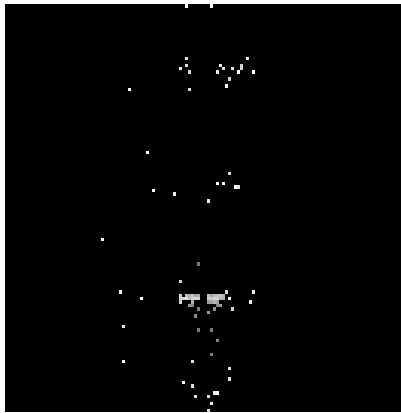
3.1 LETG Arm



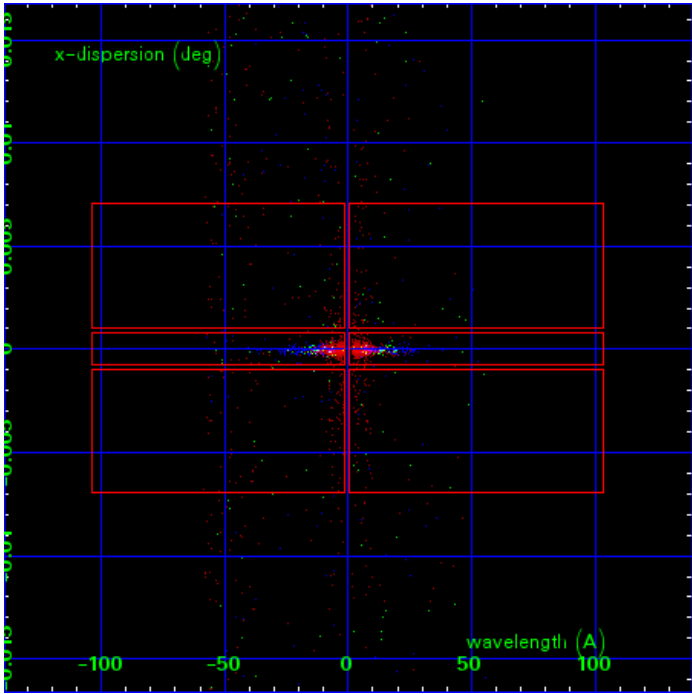
LETG Order Sort 123



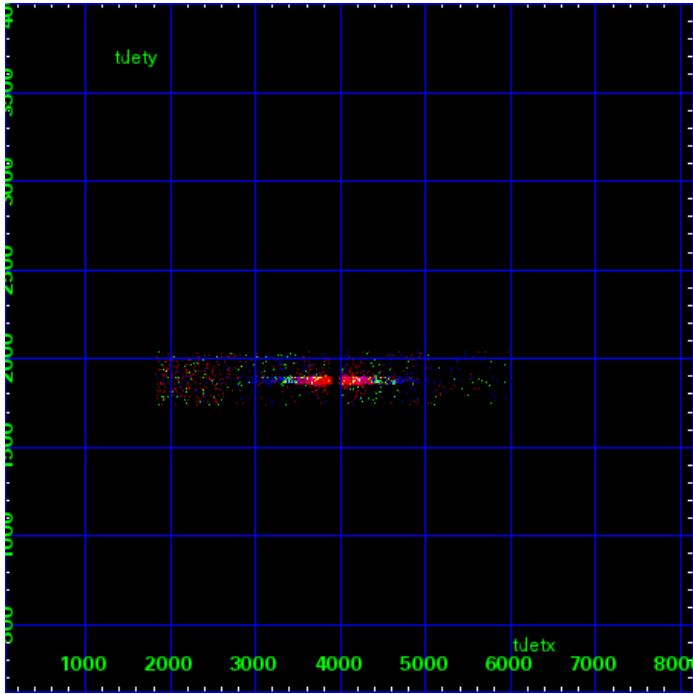
LETG Zero Order



LETG Order Sort ALL

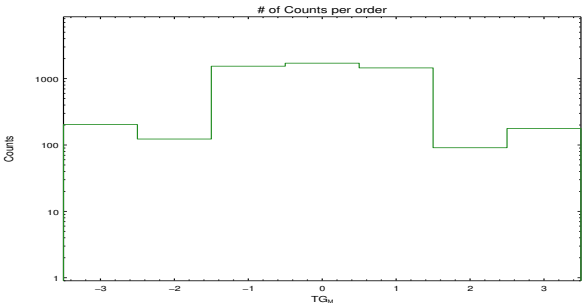


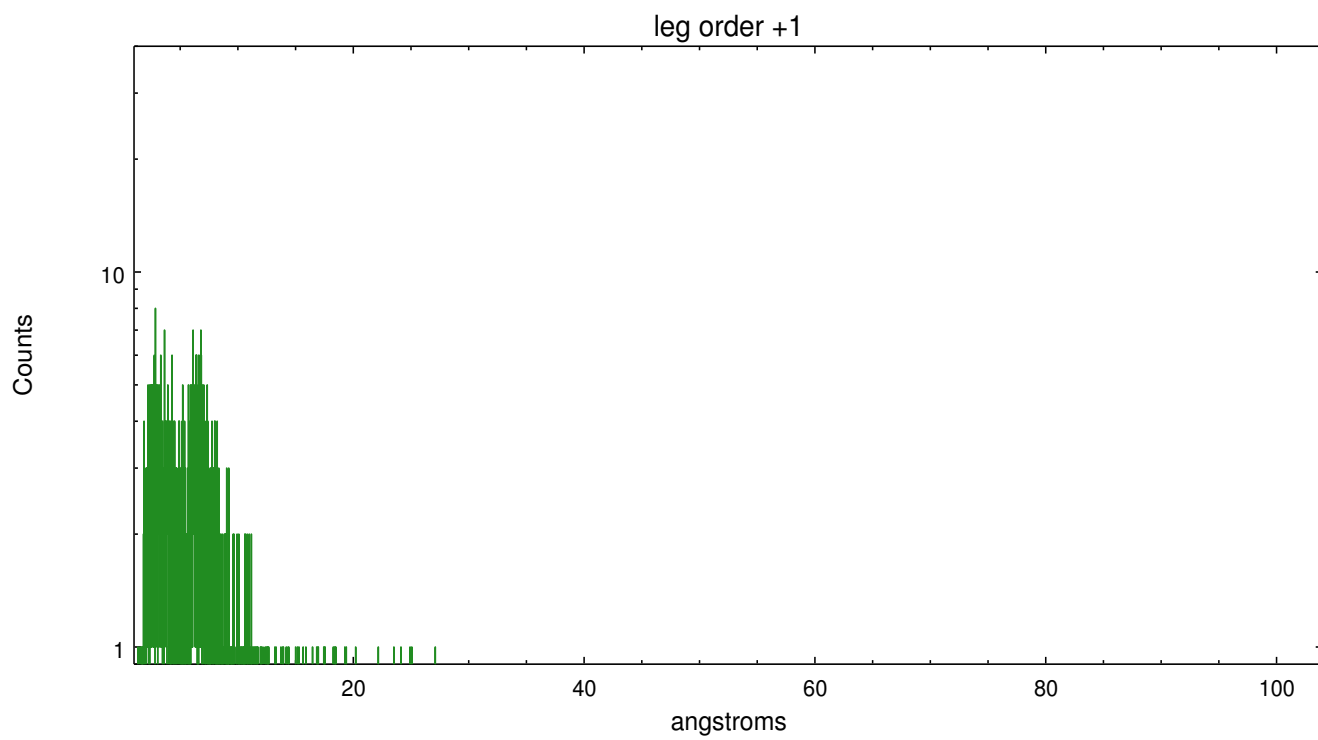
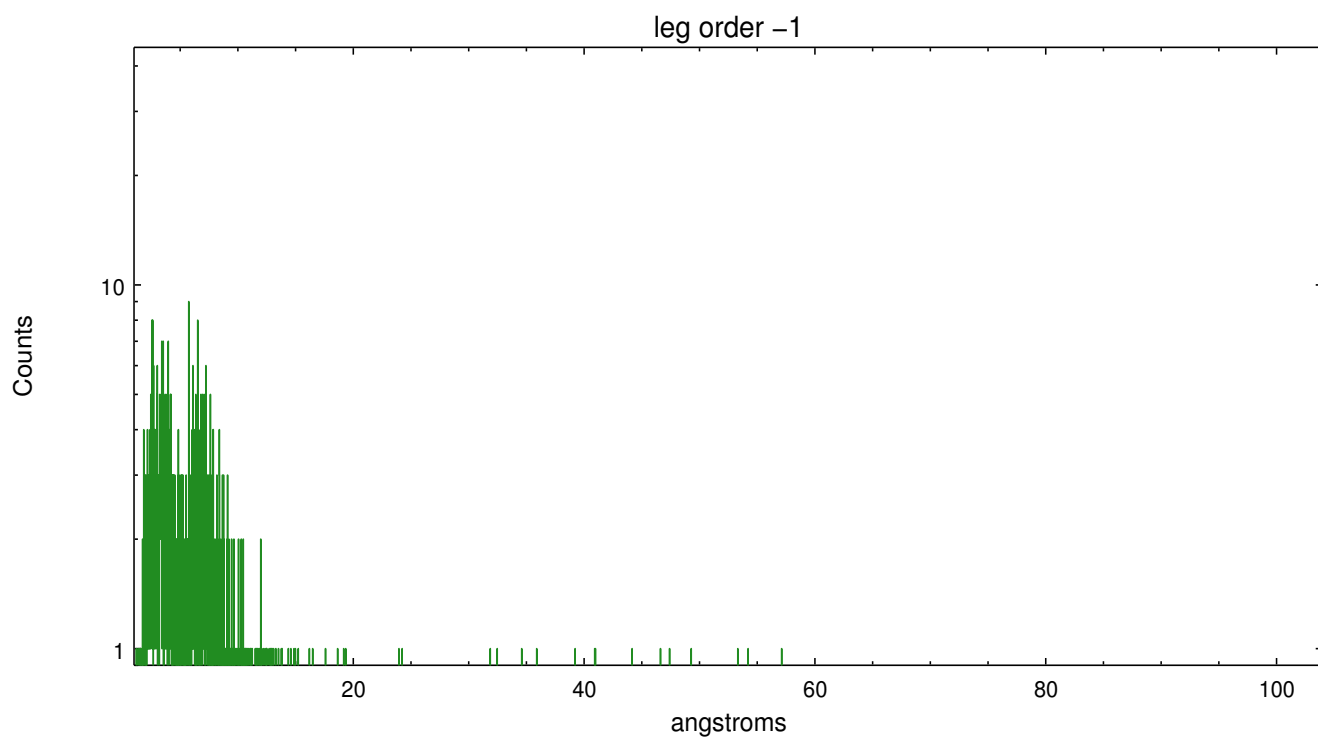
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	203	123	1539	1709	1451	91	177





A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2015.11.05
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.064

A.2 Comments

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.

=====

Zeroth order source is dithered just to the edge of the CCD chip. Flux measurements of the zeroth order might show a variability associated with the dither frequency.

=====

Gain and CTI correction are not well calibrated on CCD_ID 5 (ACIS-S1). Default order sorting can clip some regions, particularly longward of 30A (first order). User-specified custom processing parameters may be required in tg_resolve_events (osipfile=none, osort_lo, osort_hi ~0.5) though this can allow more zeroth order background at short wavelengths.