

V&V Reference Report

L2 ASCDS Version : 10.2.2

Observation 15661 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Dec 11 2014

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1 Front

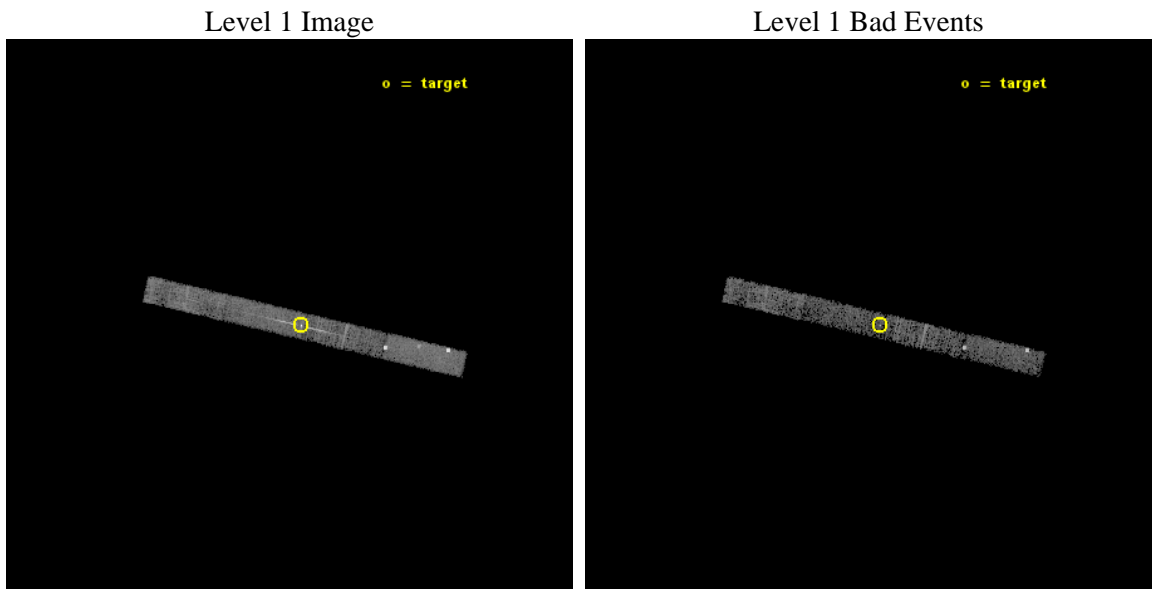
seq_num	702926	Sequence number
obs_id	15661	Observation id
title	Mapping the AGN Broad Line Region by Reverberation	Proposal title
observer	Prof. Bradley Peterson	Principal investigator
object	NGC 5548	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	214.497917	Observer's specified target RA [deg]
dec_targ	25.136778	Observer's specified target Dec [deg]
ra_nom	214.52110543935	Nominal RA [deg]
dec_nom	25.13882167432	Nominal Dec [deg]
roll_nom	192.90252802916	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5061.8216307163	Sum of GTIs [s]
livetime	4862.2739094716	Livetime [s]
ontime5	5061.780590713	Sum of GTIs [s]
ontime6	5061.7395507097	Sum of GTIs [s]
ontime7	5061.8216307163	Sum of GTIs [s]
ontime8	5061.6985107064	Sum of GTIs [s]
l2events	17825	Number of level 2 events



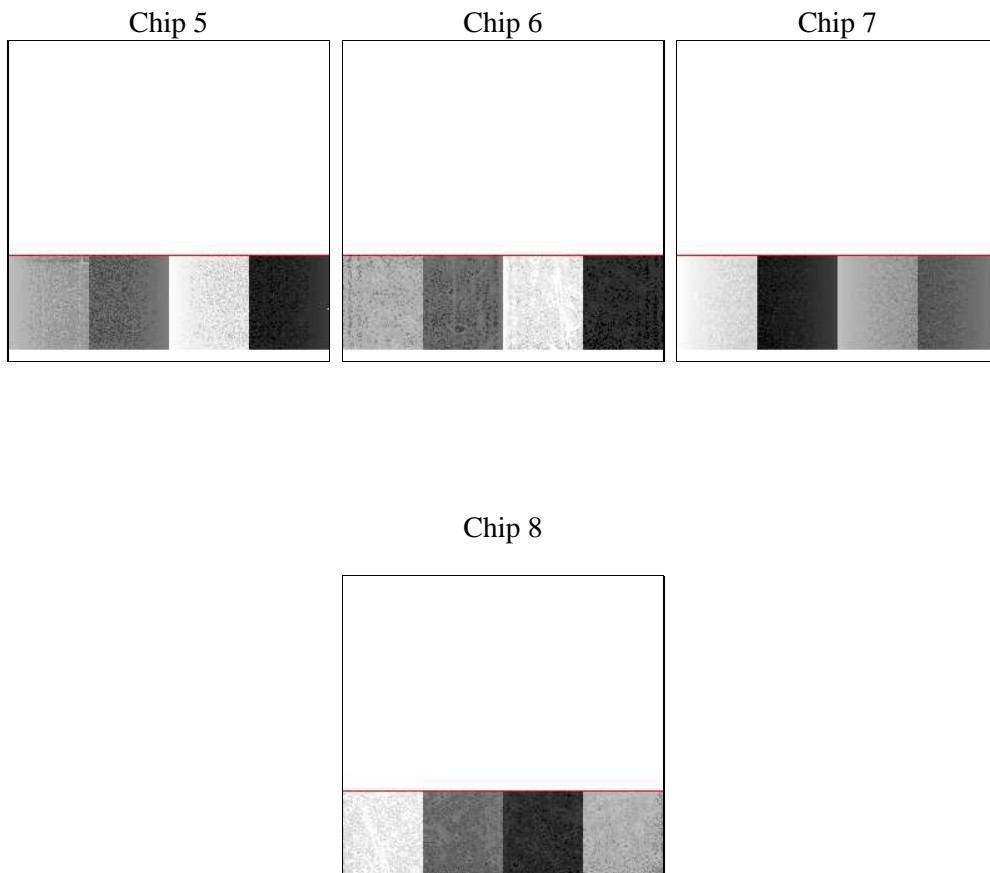
2 OBI

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	5061.8216307163	Sum of GTIs [s]
caldsver	4.6.4	 	ontime5	5061.780590713	Sum of GTIs [s]
date	2014-12-11T12:54:20	Date and time of file creation	ontime6	5061.7395507097	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	5061.8216307163	Sum of GTIs [s]
			ontime8	5061.6985107064	Sum of GTIs [s]
			l1events	58449	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4249.45, 4081.84)	src1a sky pixel position

2.1.4 Events

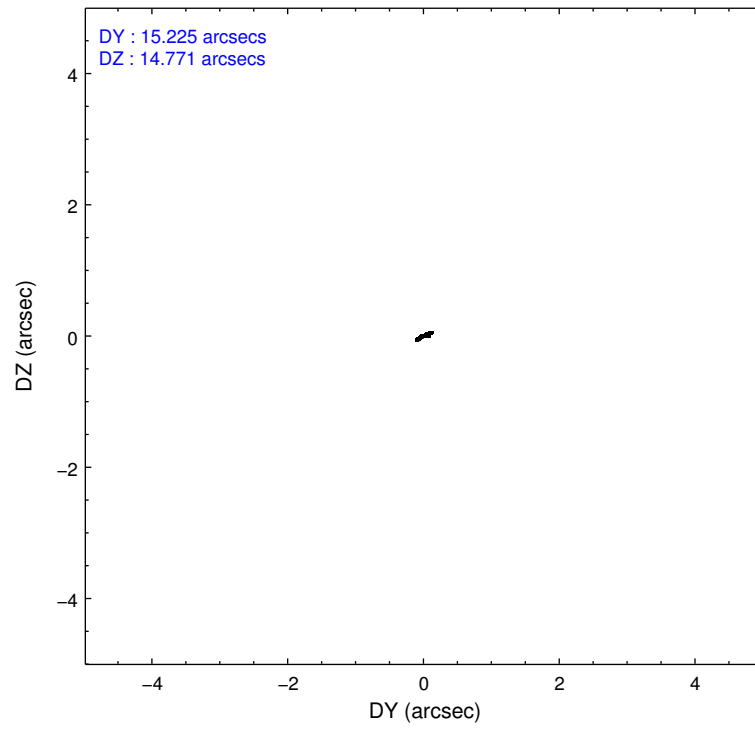
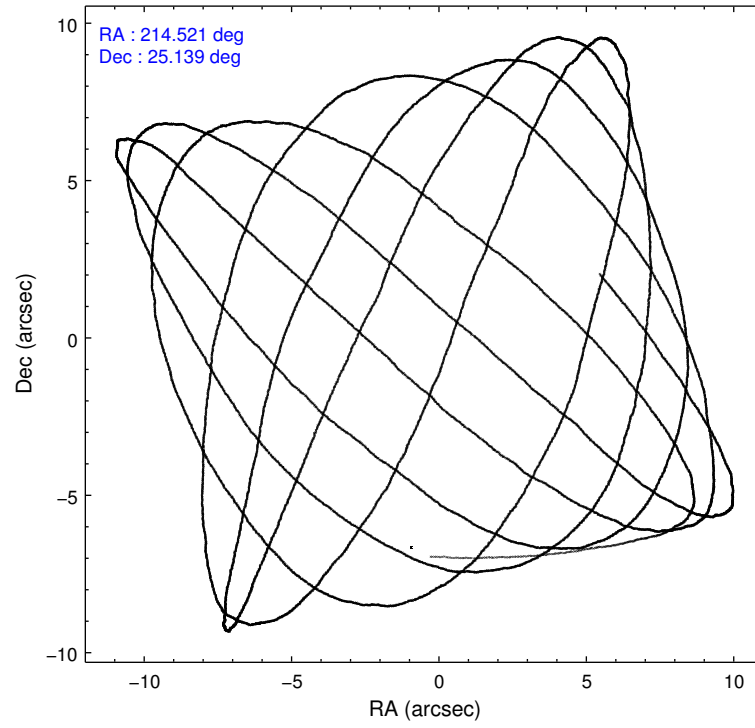
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	21802	10360	14375	11912
rejected events	9530	7564	5773	8846
rejected %	43%	73%	40%	74%

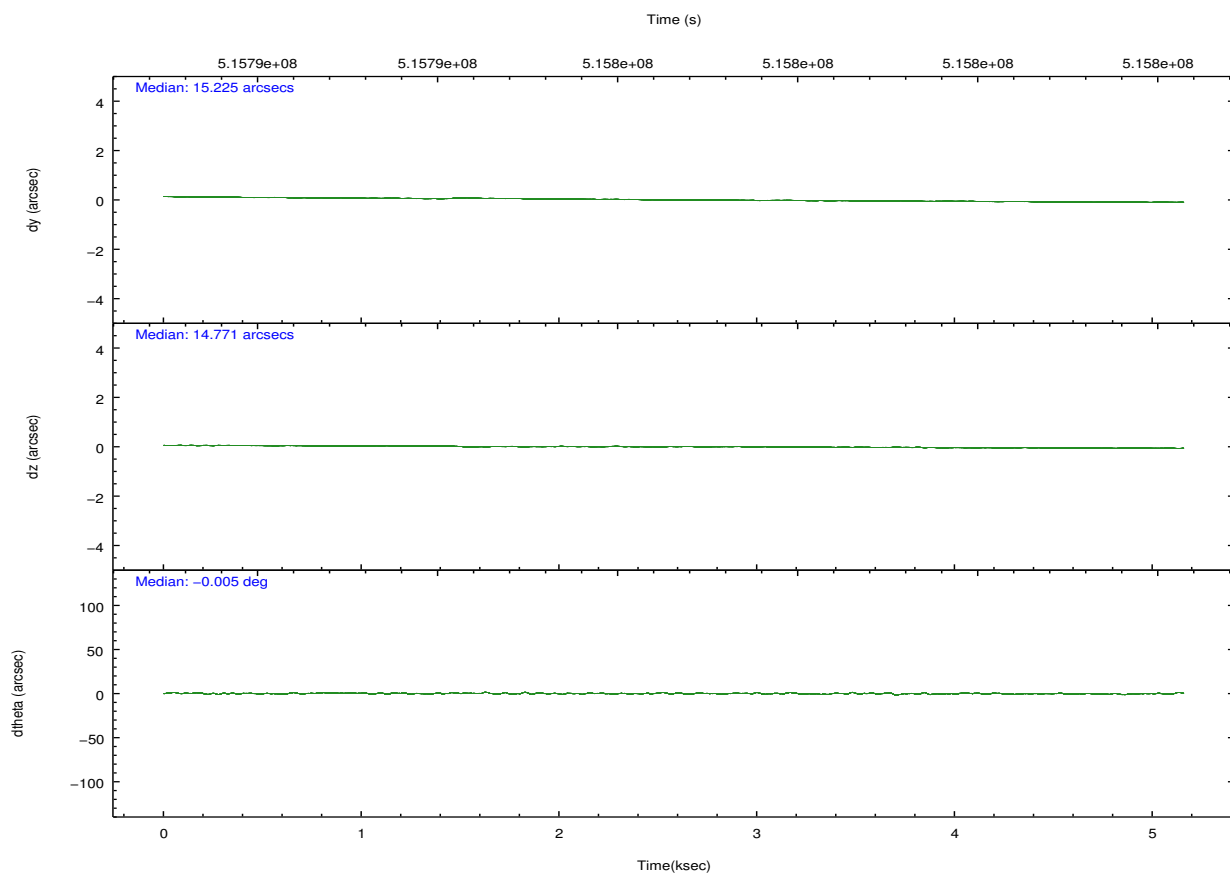
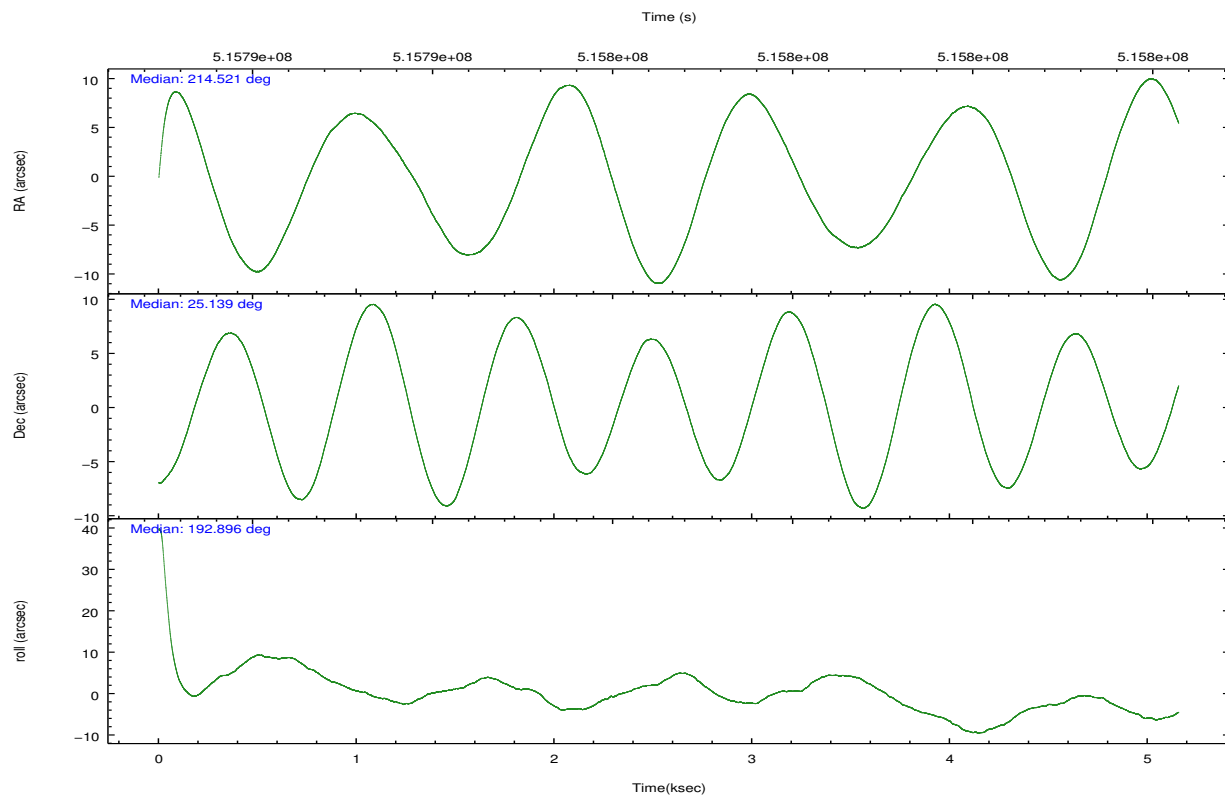
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	3535	1650	1160	810
	16%	15%	8%	6%
grade 1 events	2435	4	11	9
	11%	0%	0%	0%
grade 2 events	3594	415	1979	660
	16%	4%	13%	5%
grade 3 events	1108	253	853	373
	5%	2%	5%	3%
grade 4 events	624	201	847	332
	2%	1%	5%	2%
grade 5 events	1579	362	1072	558
	7%	3%	7%	4%
grade 6 events	3418	277	3765	891
	15%	2%	26%	7%
grade 7 events	5509	7198	4688	8279
	25%	69%	32%	69%

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	214.542881	214.5211054393526	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	25.157778	25.13882167431997	Subarray start row	37	37
[deg] Pointing Roll	192.736557	192.9025280291585	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)	515792896.184000	515791426.18016			
Observation start date	2014-05-06T19:47:09	2014-05-06T19:23:46			
[s] Observation end time (MET)	515797896.184000	515798930.20558			
Observation end date	2014-05-06T21:10:29	2014-05-06T21:28:50			
Read mode	TIMED	TIMED			

2.3 Aspect



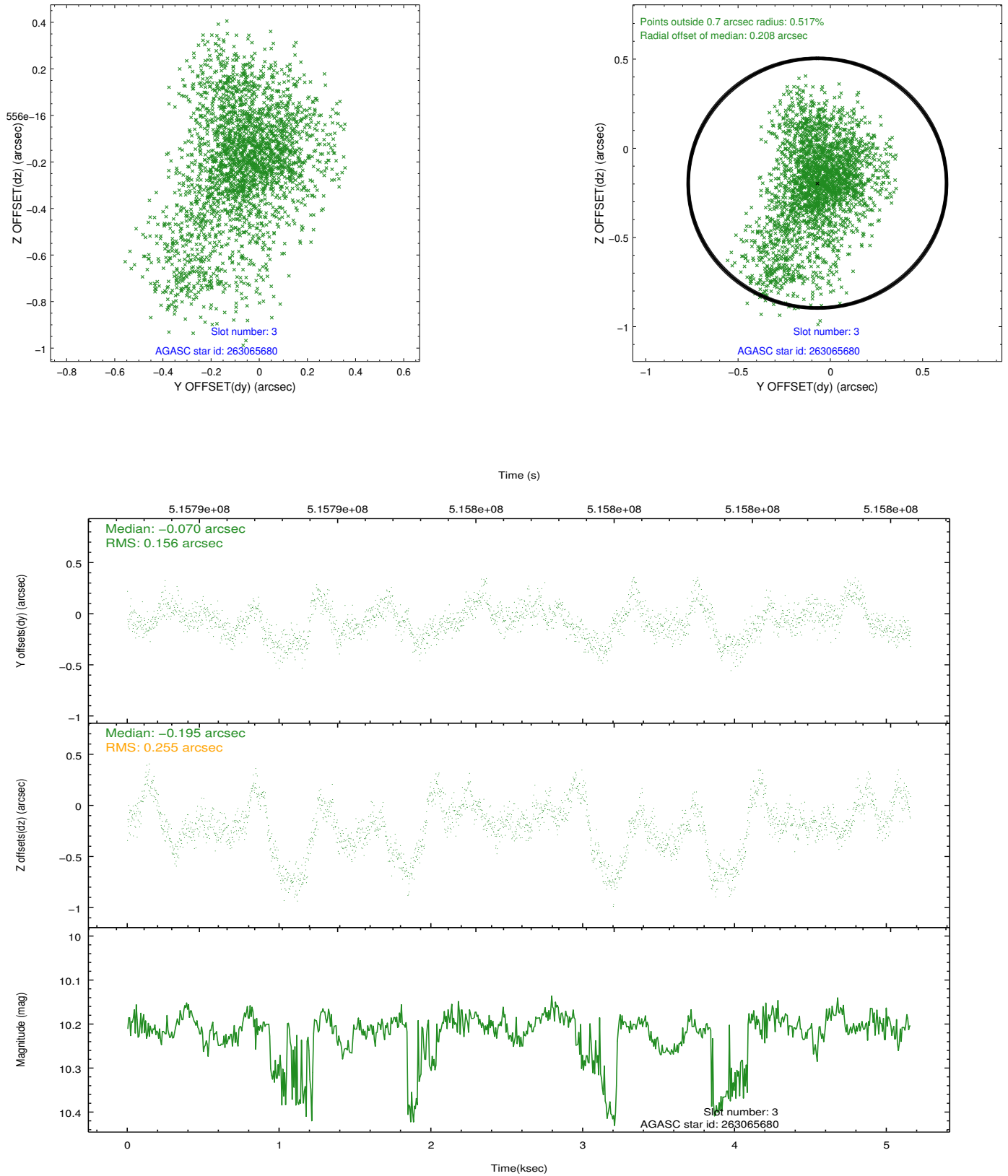


Slot Statistics

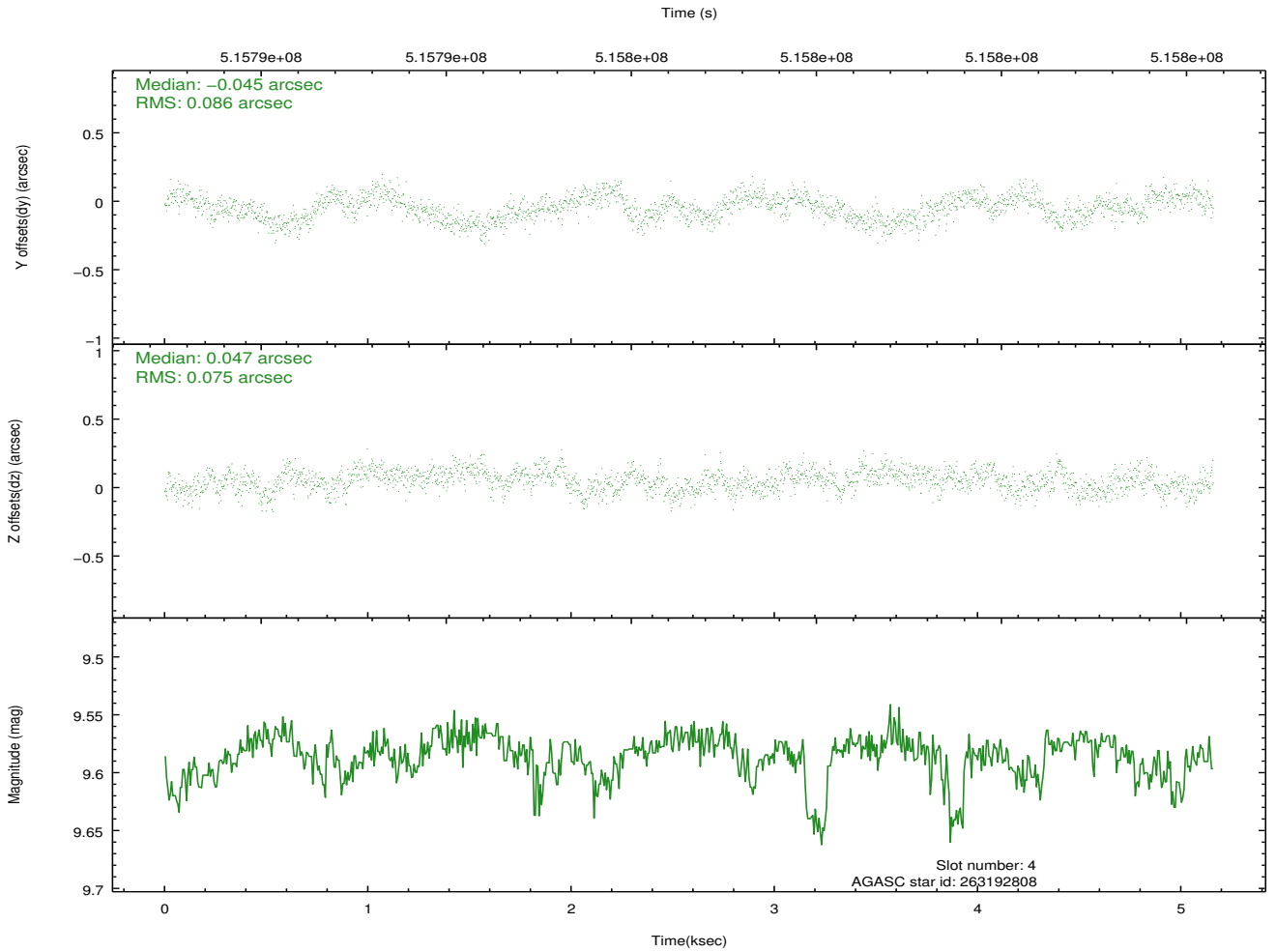
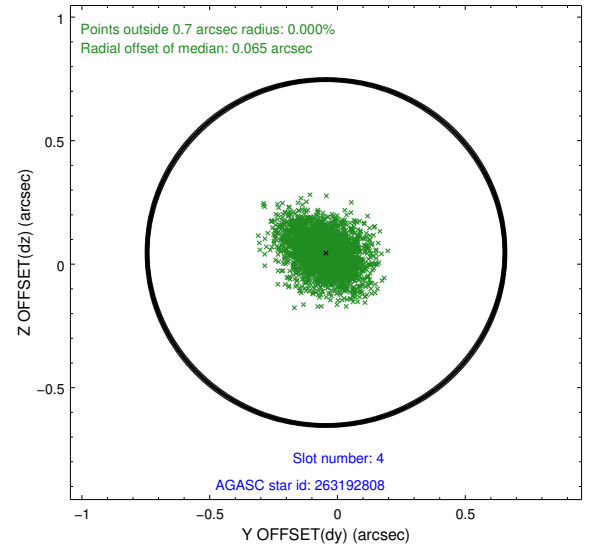
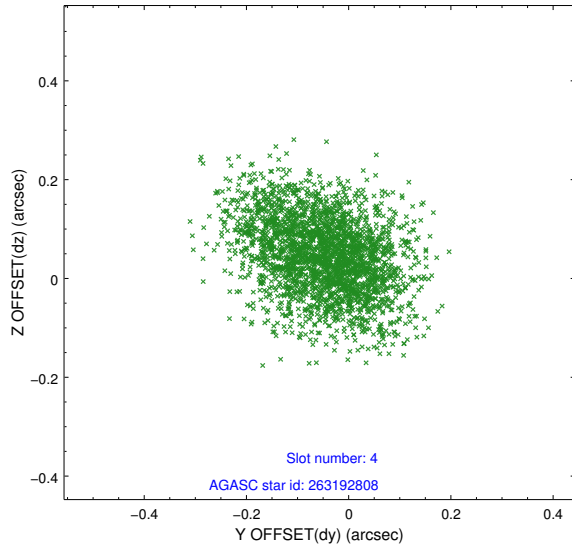
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-1	7.14	1258	-0.029	0.125	0.005	0.011	0.000000	0.000000	928.35	-1896.37
1	FID		ACIS-S-4	7.11	1258	0.092	-0.035	0.006	0.010	0.000000	0.000000	2146.55	6.25
2	FID		ACIS-S-6	7.35	1258	-0.086	-0.078	0.007	0.012	0.000000	0.000000	395.76	644.92
3	GUIDE	used	263065680	10.21	2516	-0.070	-0.195	0.312	0.556	214.256976	24.497205	1437.75	2112.44
4	GUIDE	used	263192808	9.58	2517	-0.045	0.047	0.122	0.198	215.197131	24.910235	-1887.86	1336.30
5	GUIDE	used	263195064	9.26	2516	-0.086	-0.031	0.131	0.212	215.129983	24.745063	-1545.97	1868.72
6	GUIDE	used	263464688	9.18	2516	0.073	0.059	0.161	0.249	214.654702	25.305283	-472.00	-436.82
7	GUIDE	used	263595296	9.79	2514	0.143	0.125	0.174	0.272	214.929889	25.645337	-1612.24	-1436.63

2.4 Star Slots

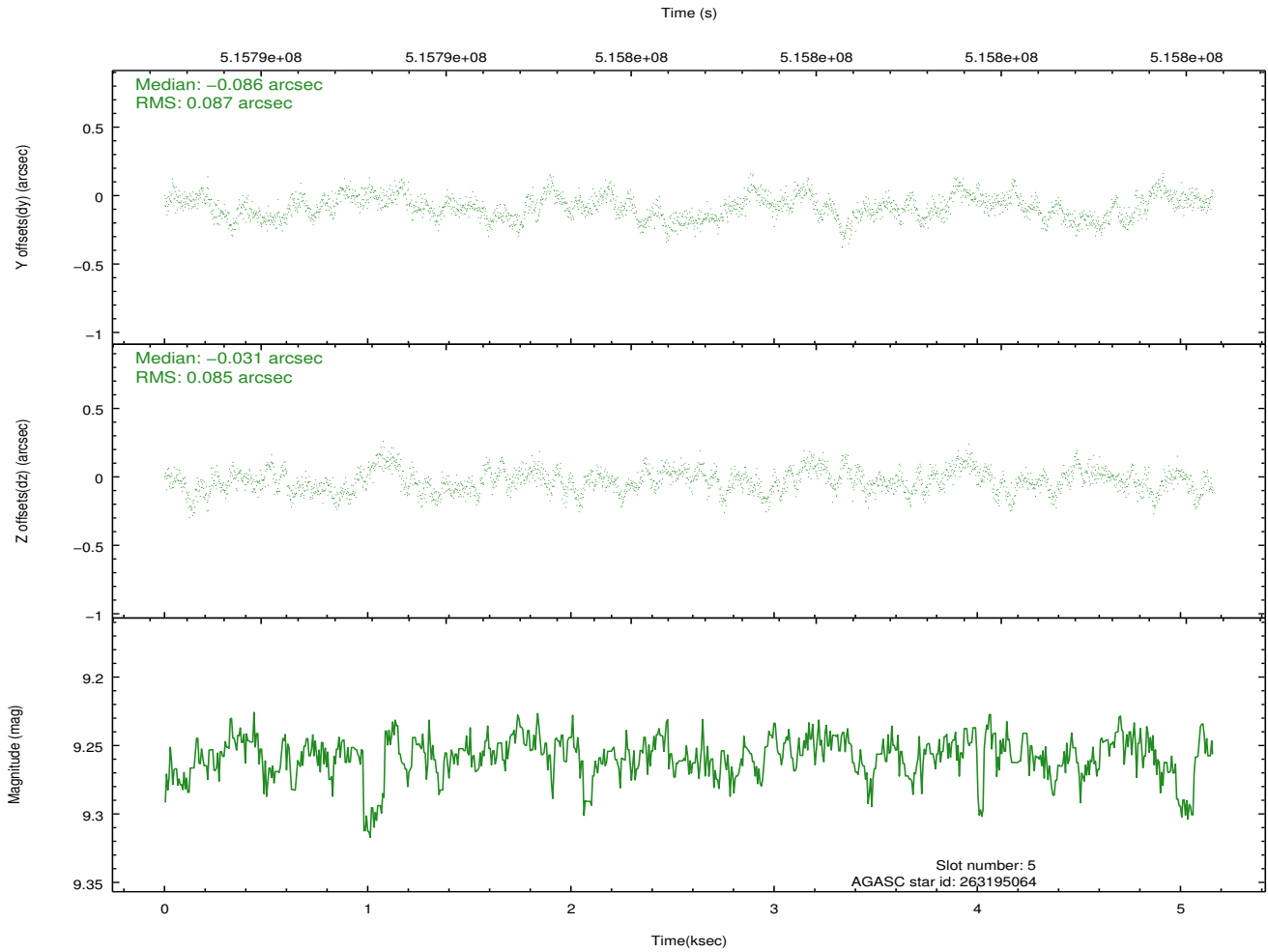
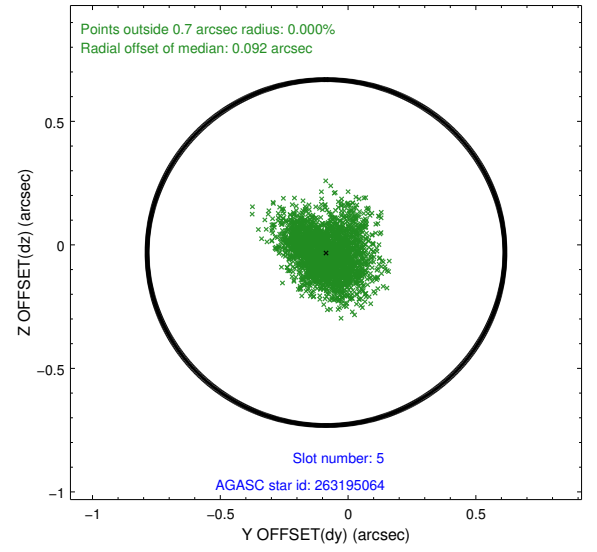
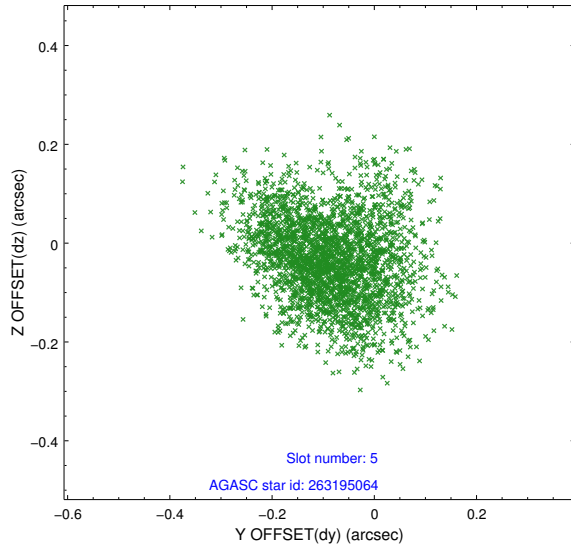
2.4.1 Slot 3



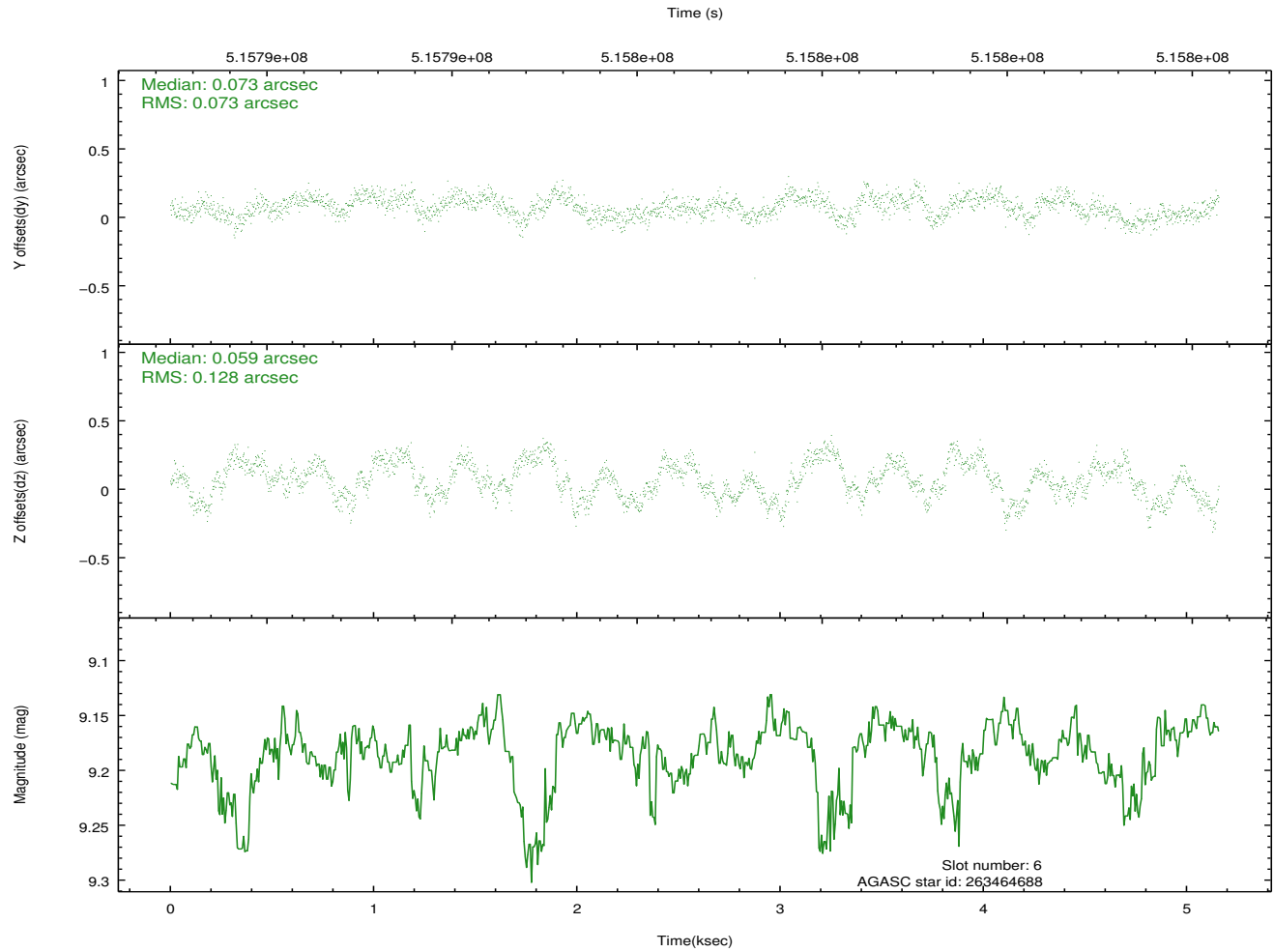
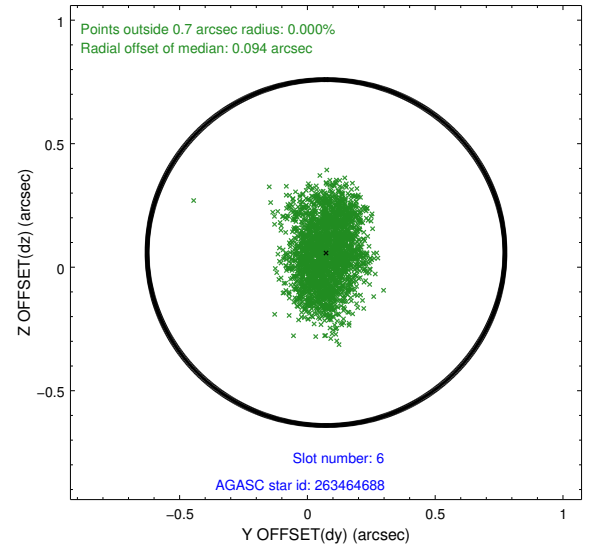
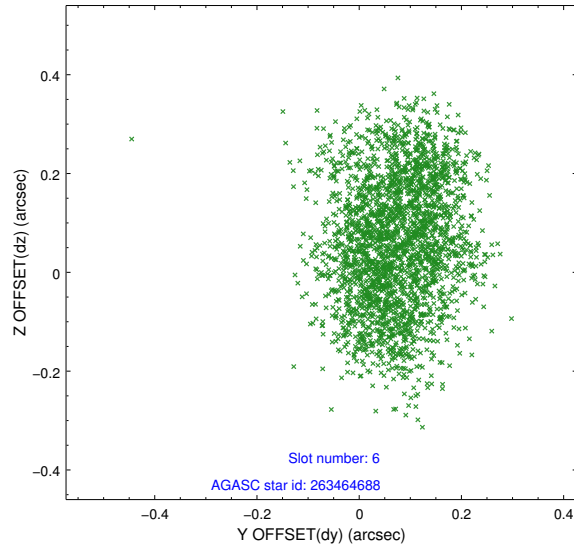
2.4.2 Slot 4



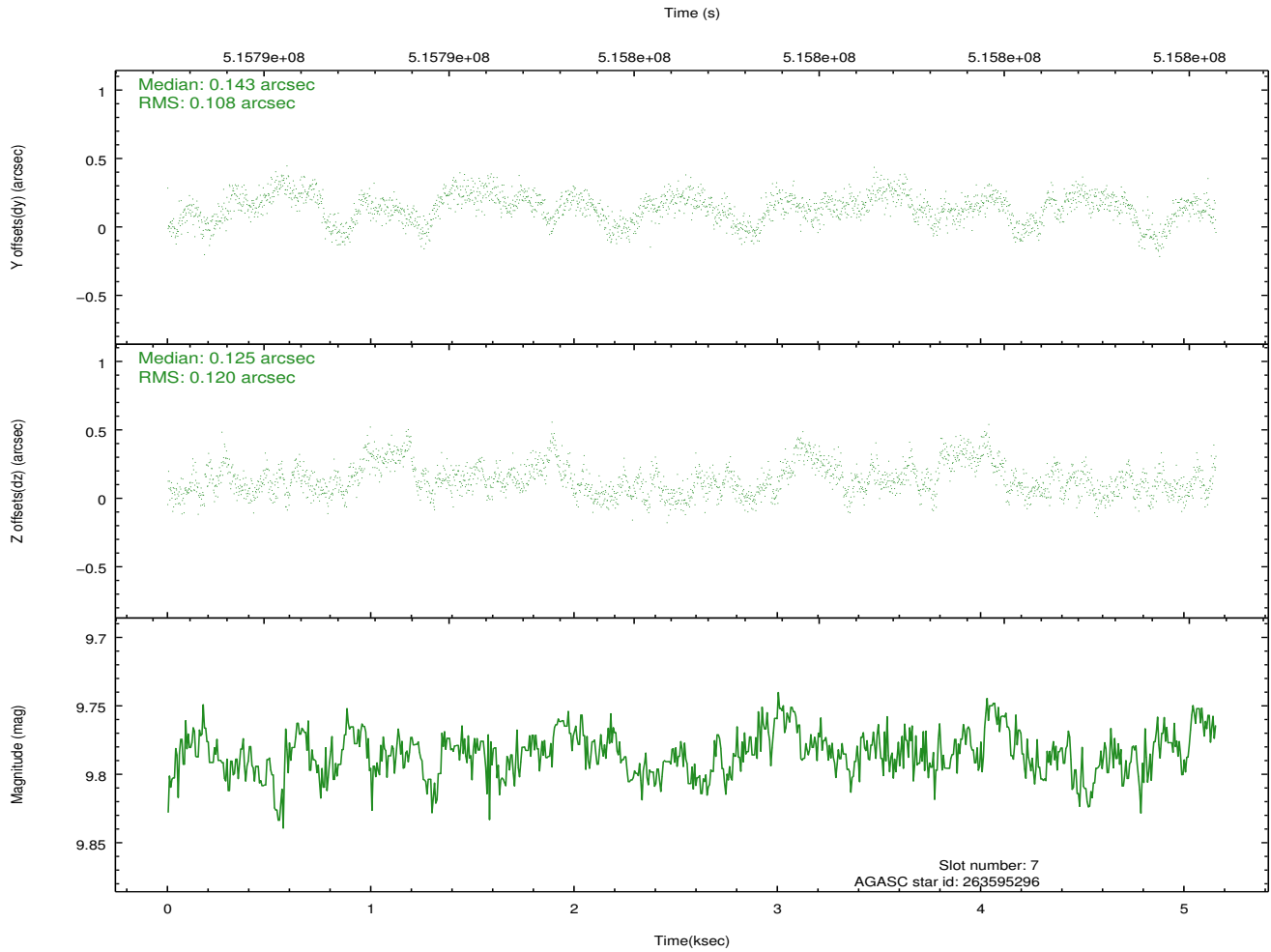
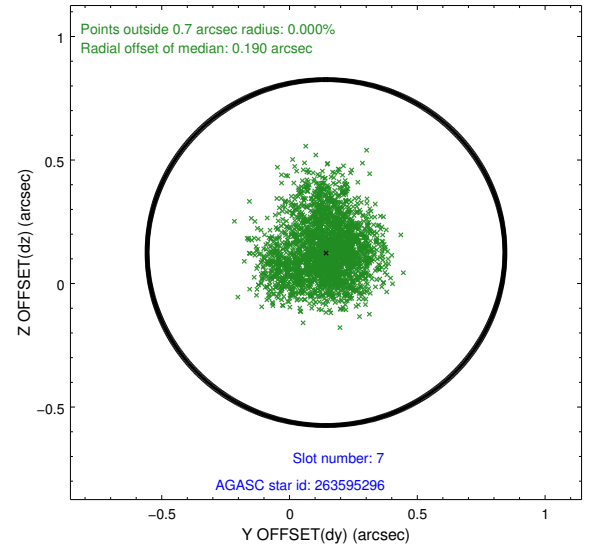
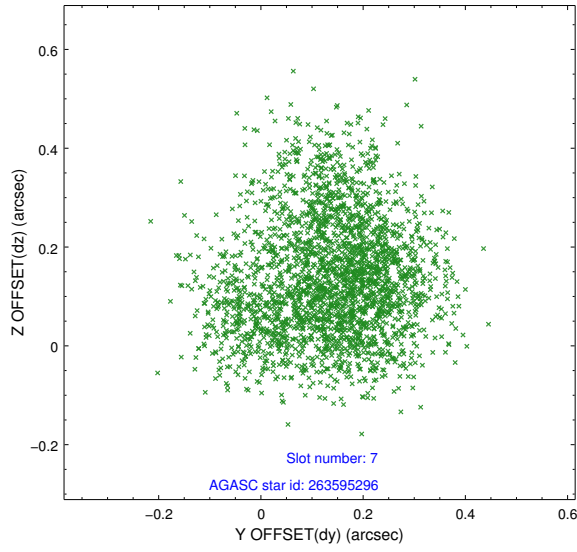
2.4.3 Slot 5



2.4.4 Slot 6

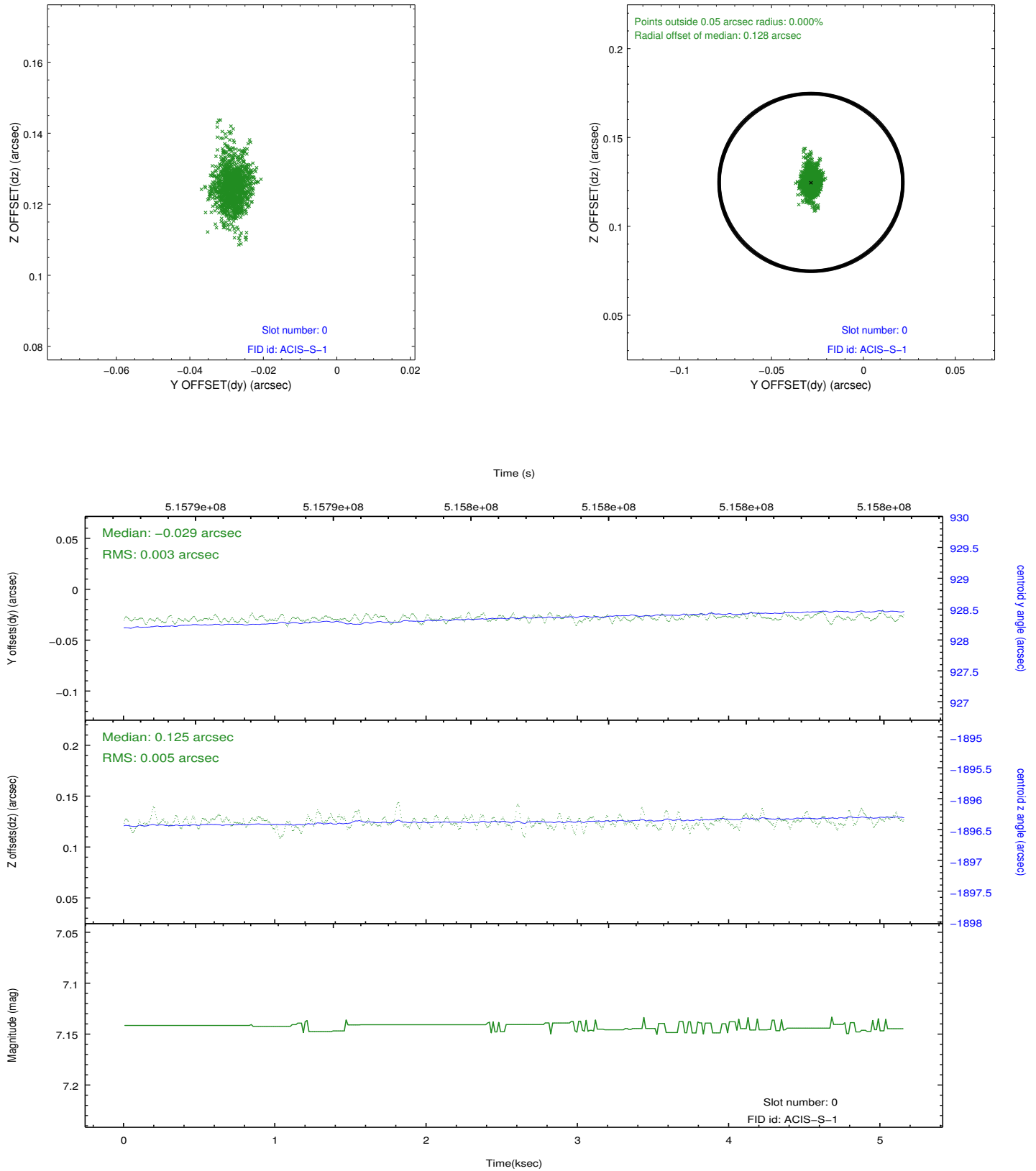


2.4.5 Slot 7

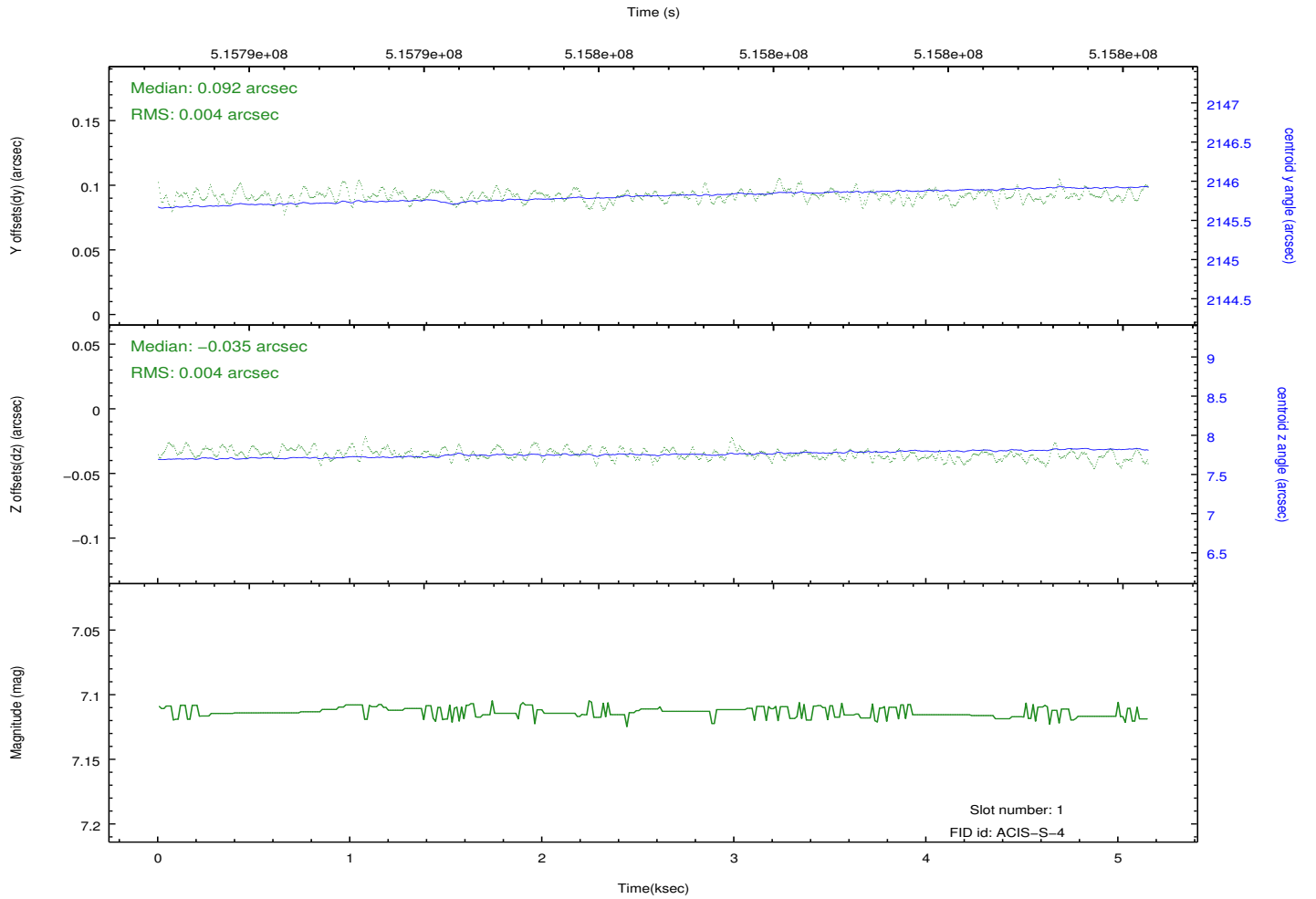
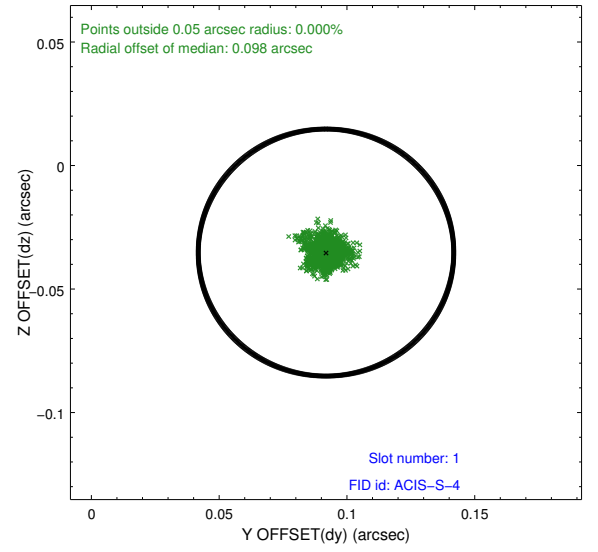
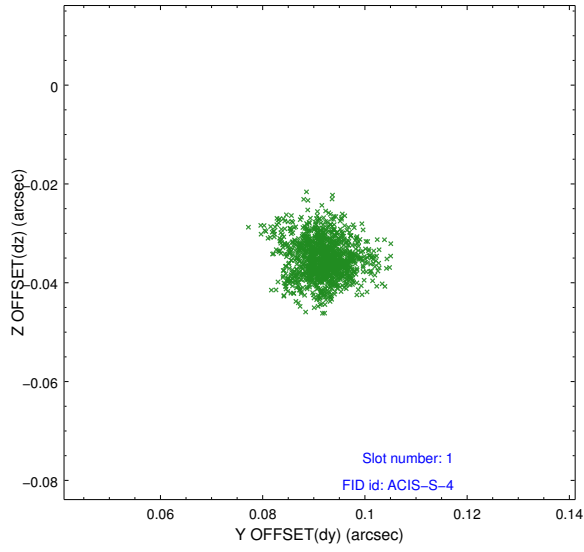


2.5 FID Slots

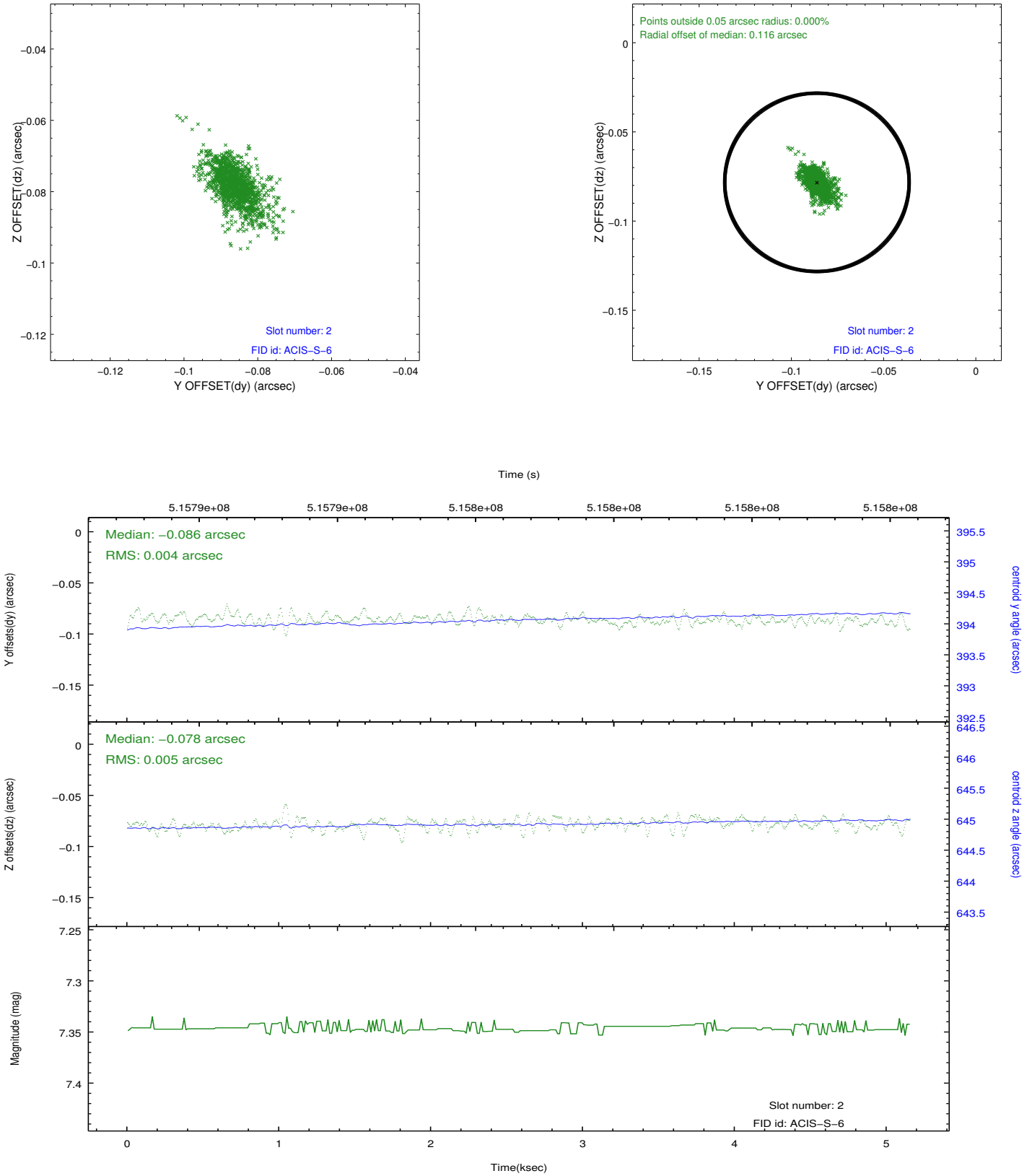
2.5.1 Slot 0



2.5.2 Slot 1

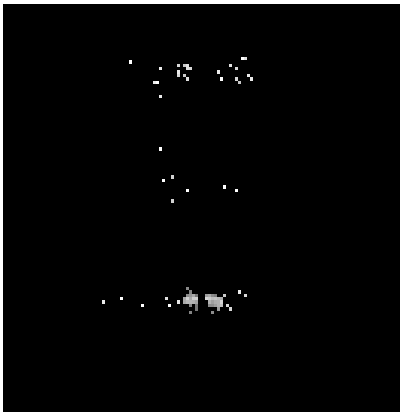


2.5.3 Slot 2

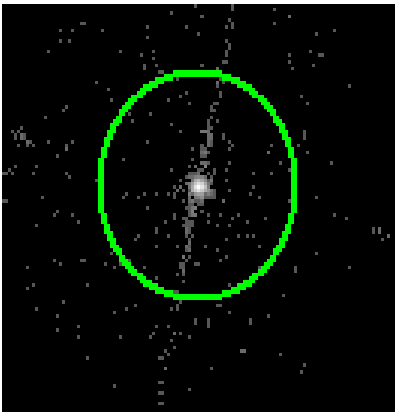


3 Gratings

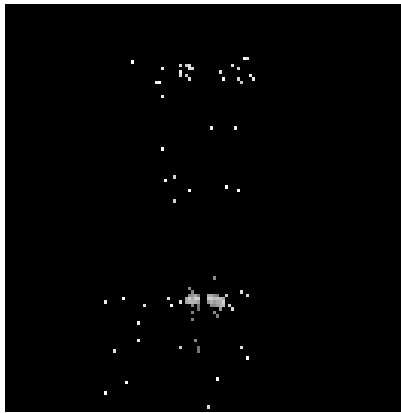
3.1 LETG Arm



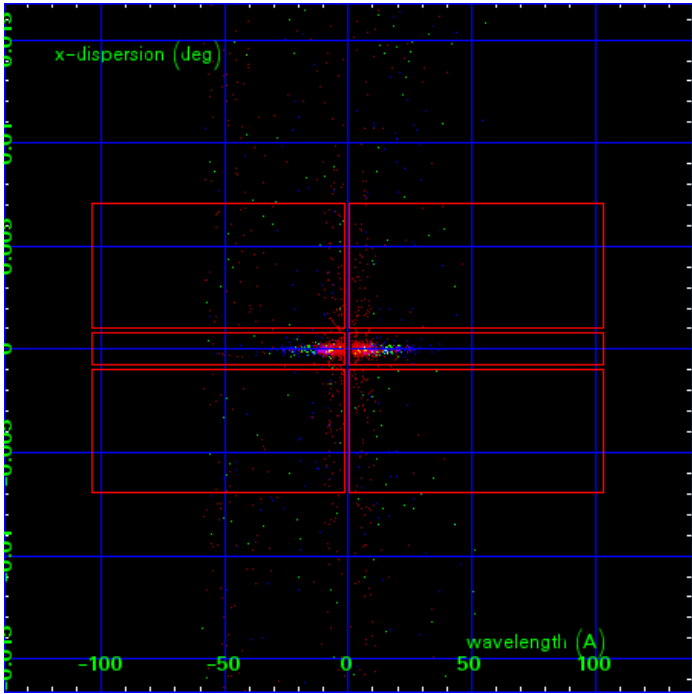
LETG Order Sort 123



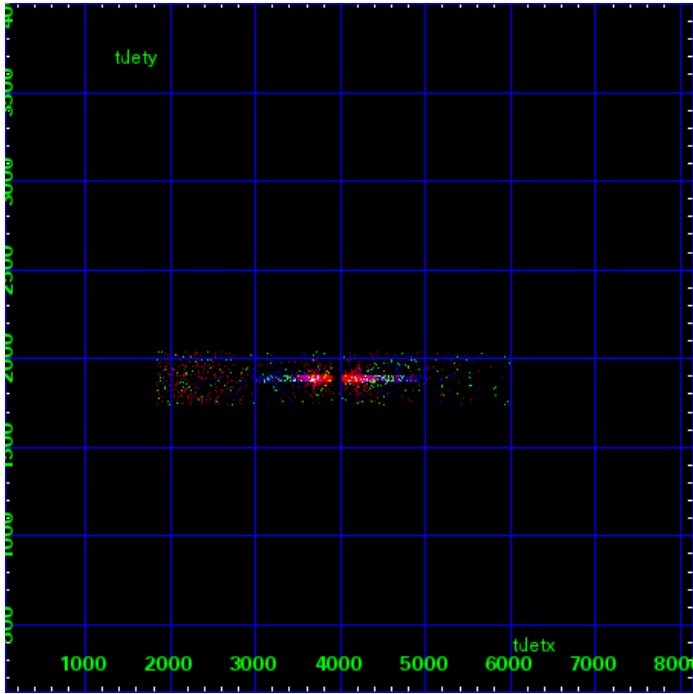
LETG Zero Order



LETG Order Sort ALL

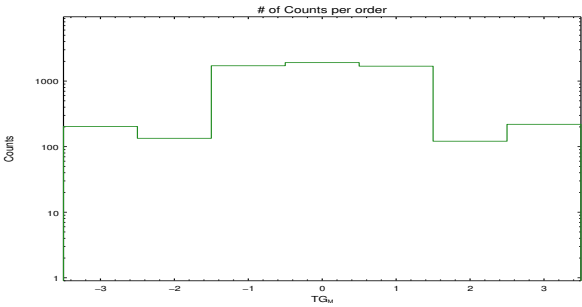


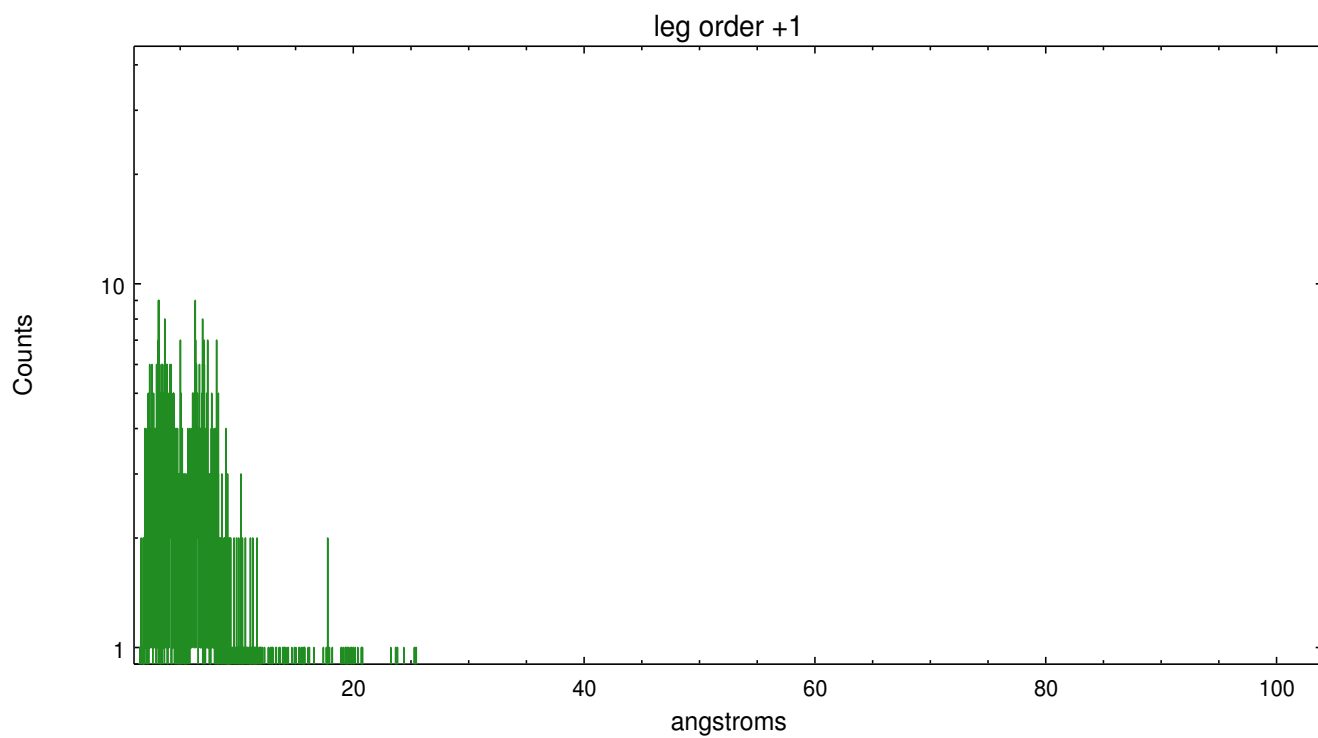
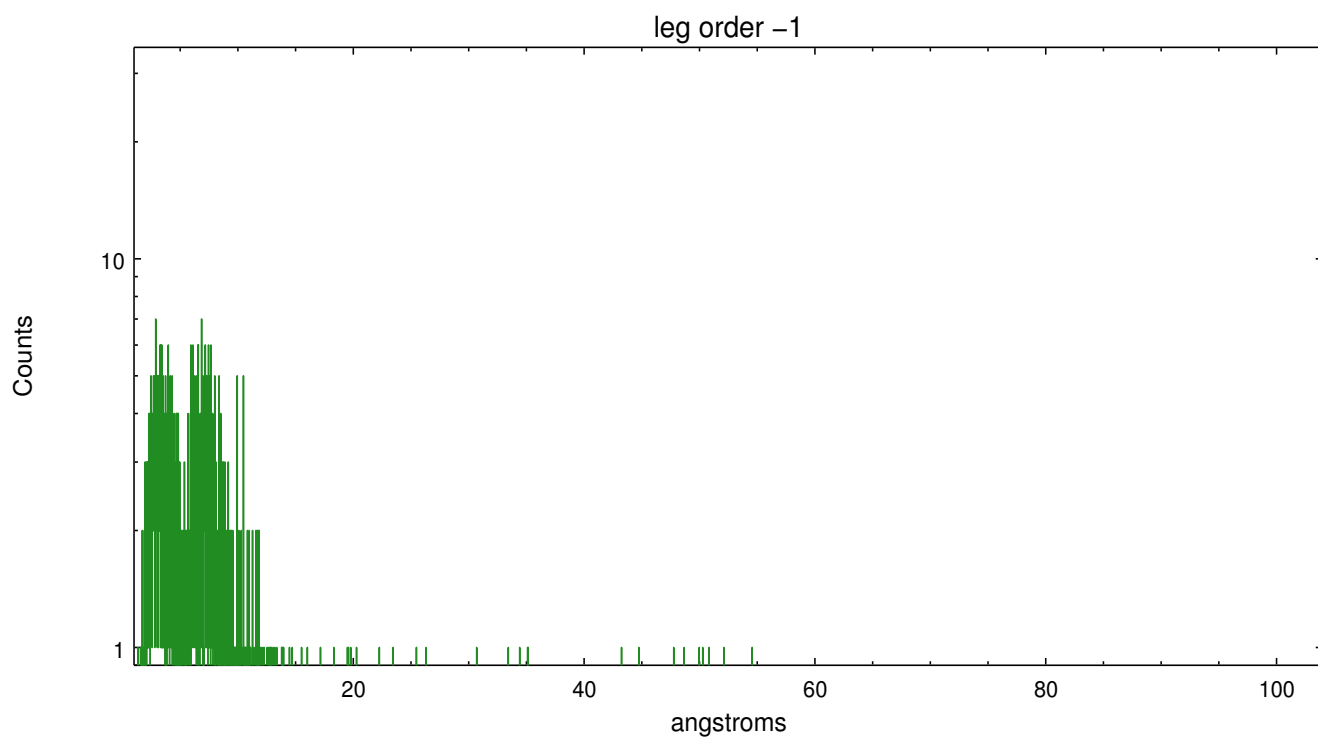
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	203	134	1713	1912	1687	121	219





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	5.0618216307163

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.

=====

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.

=====

Joint Proposal: CXO-HST

=====

The source's zeroth order falls very close to the gap between the CCD chips. Although it does not appear to have been dithered over this gap, any suggestion of source variability should consider this possibility. Dithering over the chip boundary can give a false indication of variability.