

V&V Reference Report

L2 ASCDS Version : 10.2.2

Observation 15662 - L2 Version 3
Chandra X-Ray Center

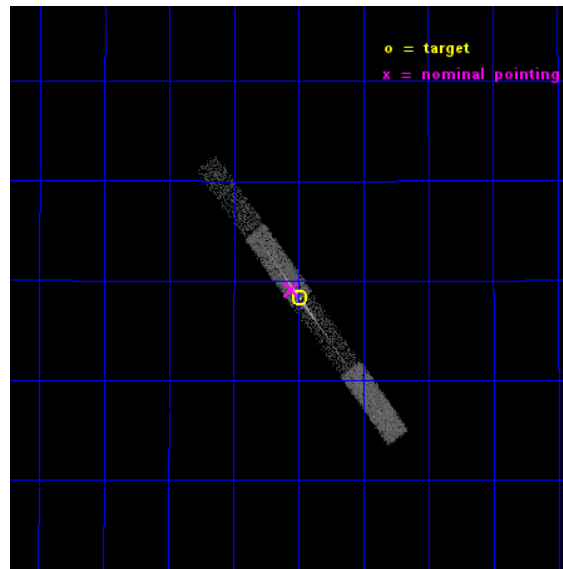
L2 Processing Date : Dec 11 2014

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1 Front

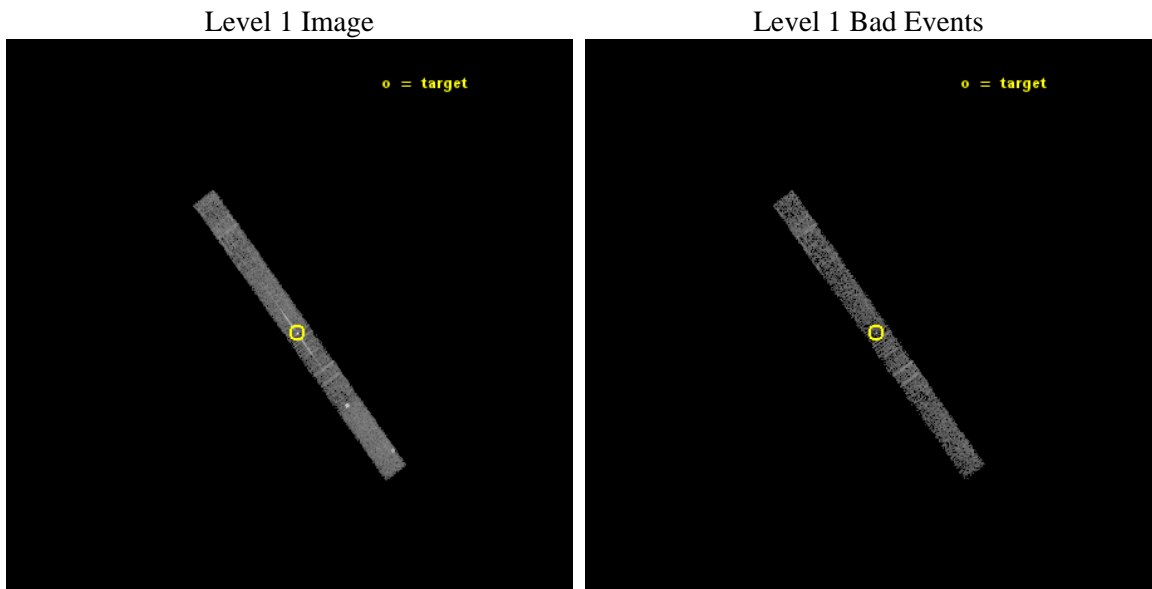
seq_num	702927	Sequence number
obs_id	15662	Observation id
title	Mapping the AGN Broad Line Region by Reverberation	Proposal title
observer	Prof. Bradley Peterson	Principal investigator
object	NGC 5548	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	214.497917	Observer's specified target RA [deg]
dec_targ	25.136778	Observer's specified target Dec [deg]
ra_nom	214.51385644367	Nominal RA [deg]
dec_nom	25.151978578854	Nominal Dec [deg]
roll_nom	233.89463608029	Nominal Roll [deg]
revision	3	Processing version of data
ontime	5063.9115446806	Sum of GTIs [s]
livetime	4864.2814346044	Livetime [s]
ontime5	5063.8705046773	Sum of GTIs [s]
ontime6	5063.829464674	Sum of GTIs [s]
ontime7	5063.9115446806	Sum of GTIs [s]
ontime8	5063.7884246707	Sum of GTIs [s]
l2events	16158	Number of level 2 events



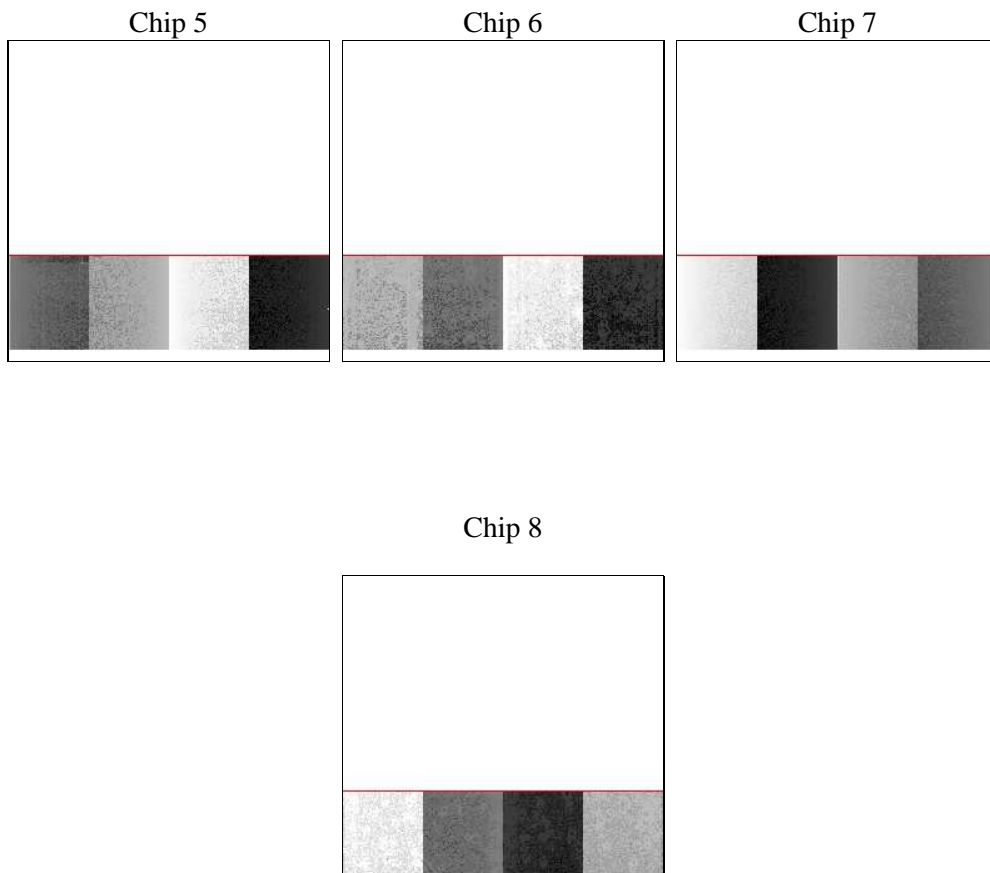
2 OBI

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	5063.9115446806	Sum of GTIs [s]
caldsver	4.6.4	 	ontime5	5063.8705046773	Sum of GTIs [s]
date	2014-12-12T04:19:42	Date and time of file creation	ontime6	5063.829464674	Sum of GTIs [s]
revision	3	Processing version of data	ontime7	5063.9115446806	Sum of GTIs [s]
			ontime8	5063.7884246707	Sum of GTIs [s]
			l1events	46300	Number of level 1 events
			tgmetho	TGDETECT	Method used to create src1a file
			zo_pos	(4201.07, 3986.50)	src1a sky pixel position

2.1.4 Events

	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	13712	9463	13145	9980
rejected events	5908	7140	5599	7424
rejected %	43%	75%	42%	74%

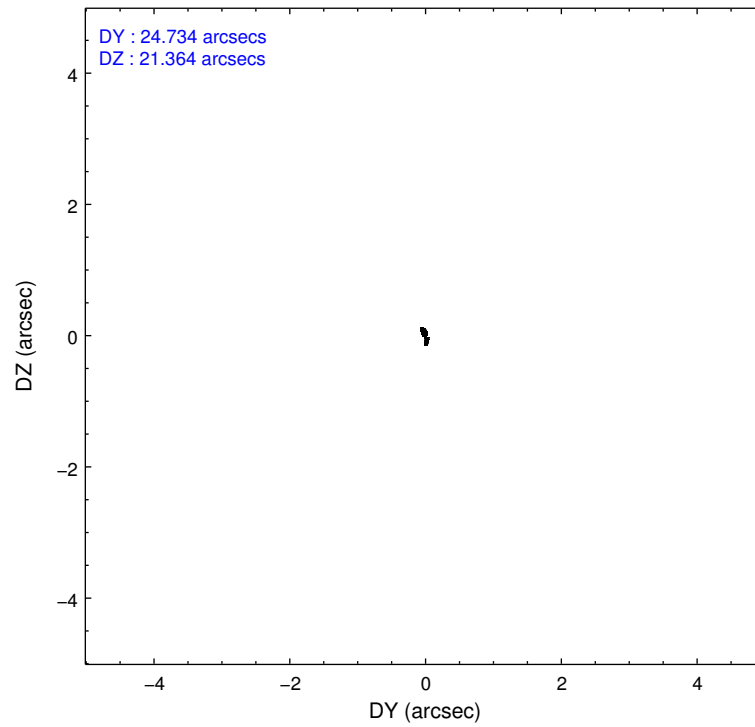
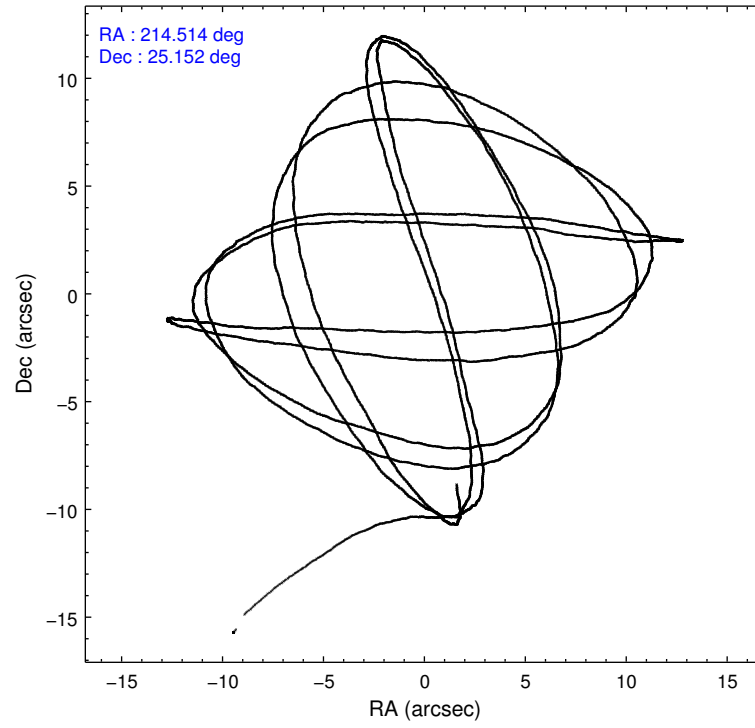
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	1828	1315	999	712
	13%	13%	7%	7%
grade 1 events	48	4	13	3
	0%	0%	0%	0%
grade 2 events	2060	359	1629	577
	15%	3%	12%	5%
grade 3 events	569	191	755	303
	4%	2%	5%	3%
grade 4 events	455	191	767	280
	3%	2%	5%	2%
grade 5 events	1048	347	1039	528
	7%	3%	7%	5%
grade 6 events	2898	267	3400	684
	21%	2%	25%	6%
grade 7 events	4806	6789	4543	6893
	35%	71%	34%	69%

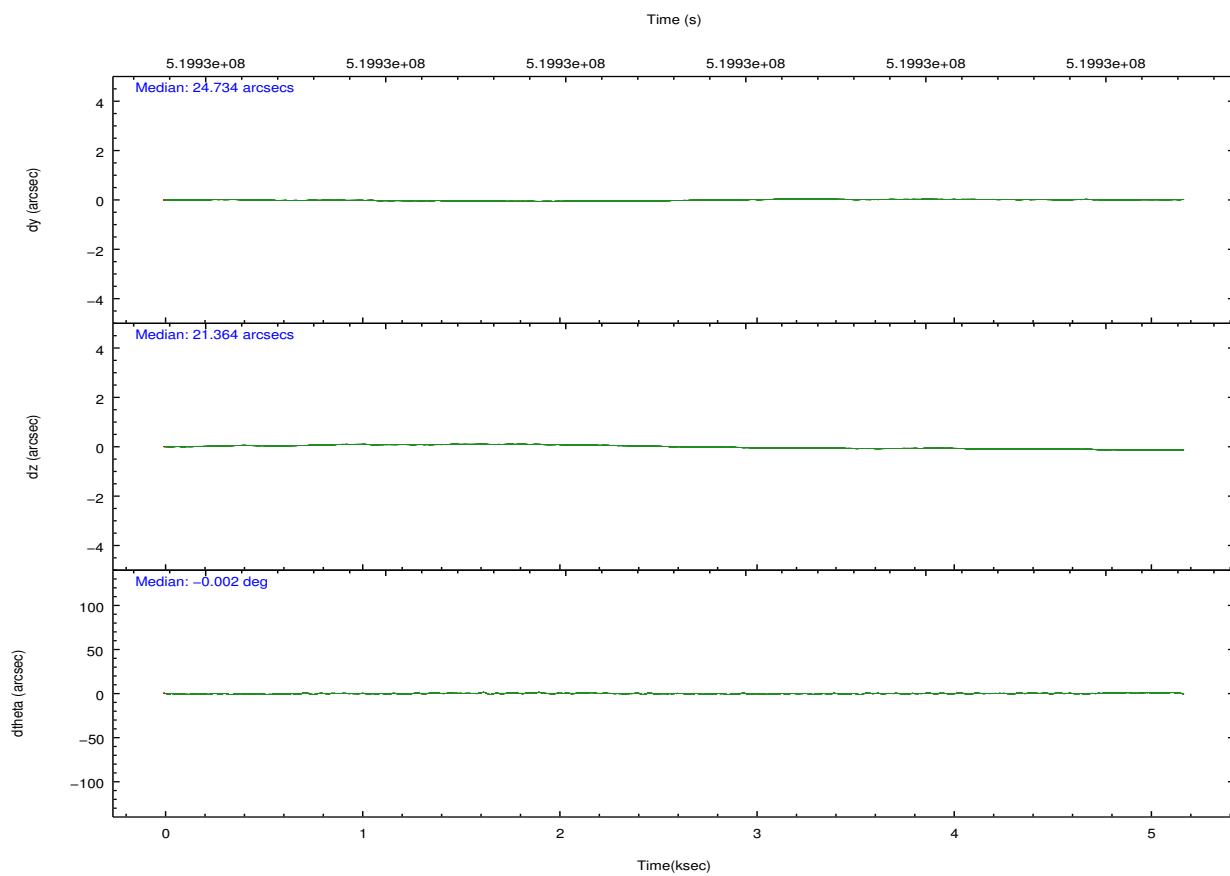
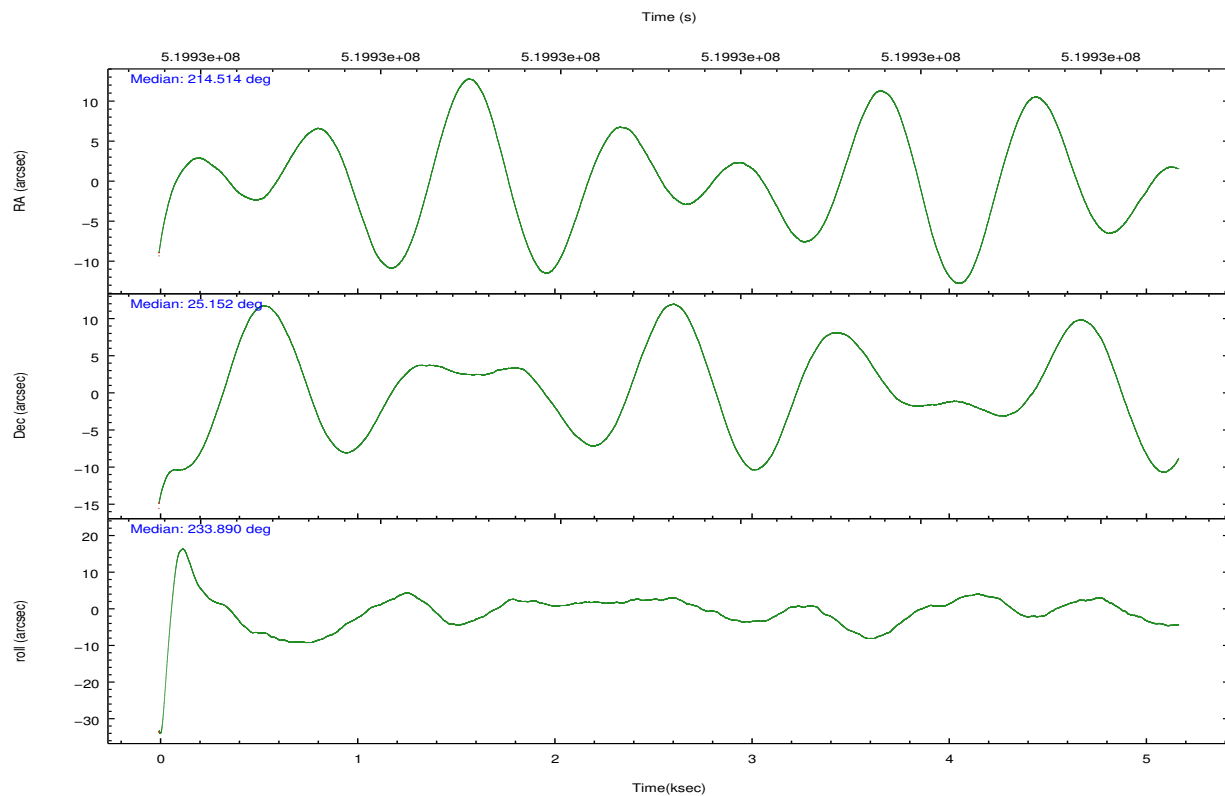
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-5678	ACIS-5678
Grating	LETG	LETG
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	214.516637	214.5138564436715
[deg] Pointing Dec	25.179323	25.15197857885392
[deg] Pointing Roll	233.736972	233.8946360802877
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-182.132523	-182.1370004450064
[mm] SIM translation stage offset	-8	-7.995522138001405
[s] Observation start time (MET)	519929189.184000	519928373.5588
Observation start date	2014-06-23T16:45:22	2014-06-23T16:32:53
[s] Observation end time (MET)	519934189.184000	519935193.39668
Observation end date	2014-06-23T18:08:42	2014-06-23T18:26:33
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	CUSTOM	CUSTOM
Subarray start row	37	37
Subarray row count	302	302
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	1

2.3 Aspect



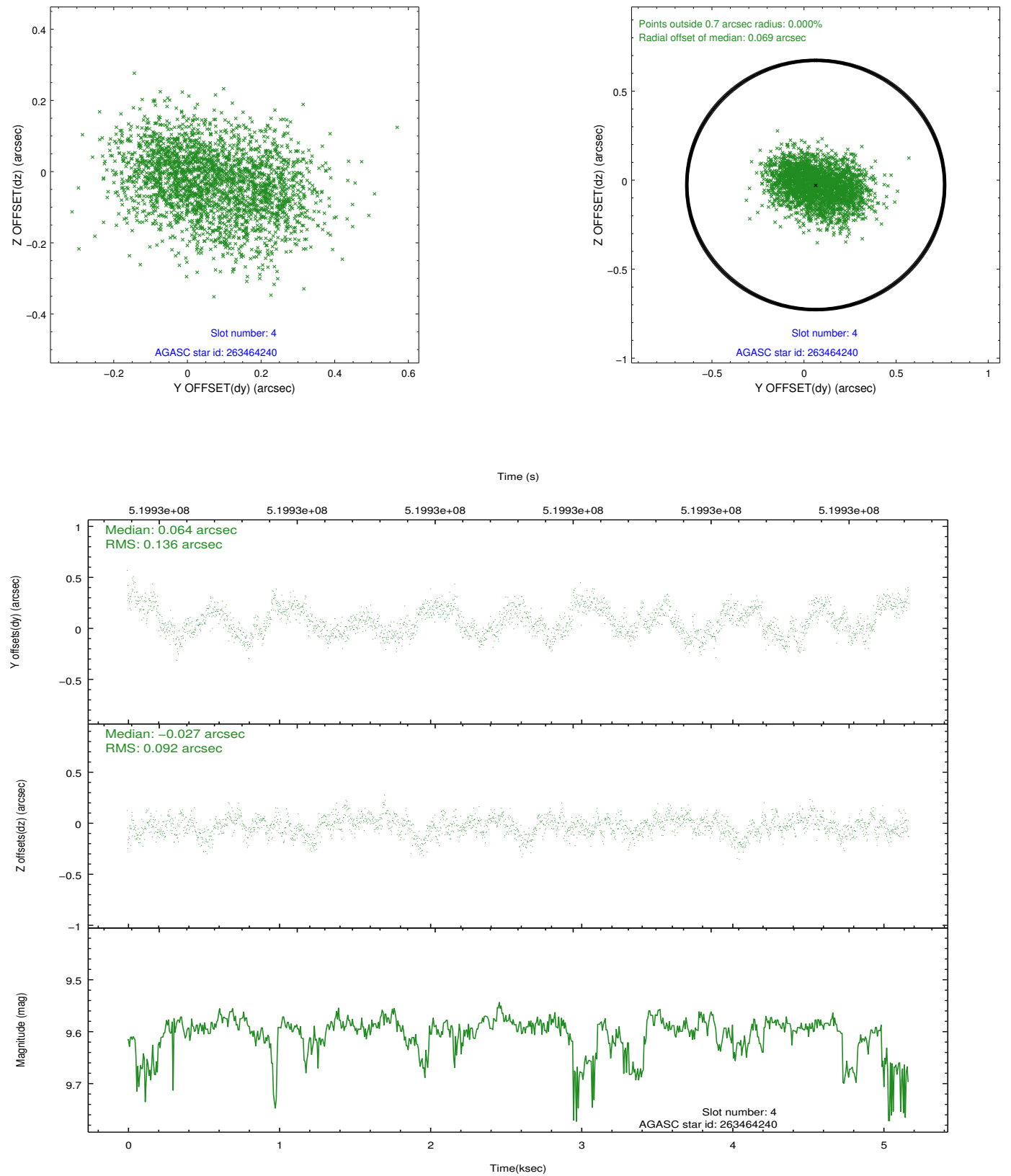


Slot Statistics

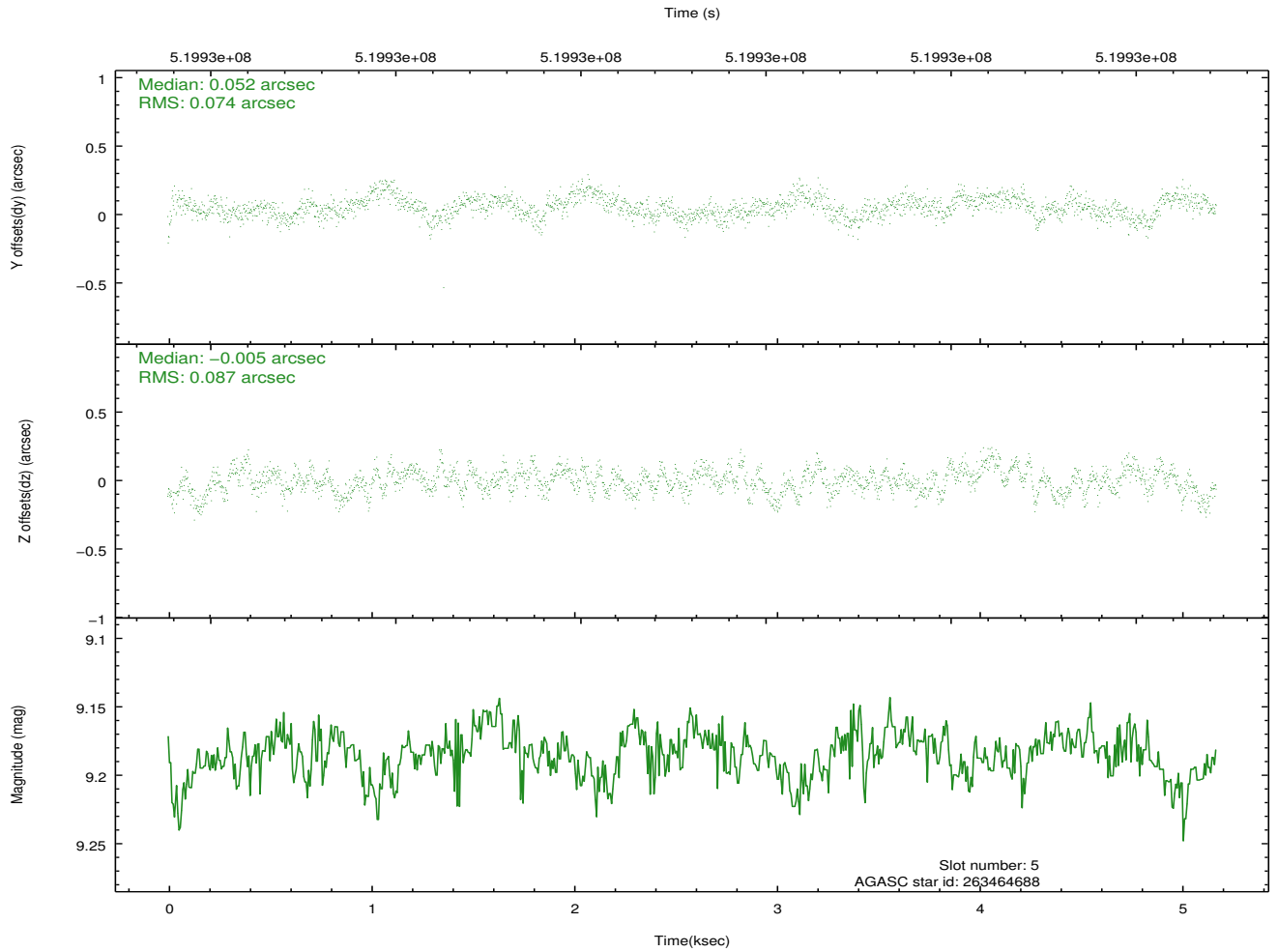
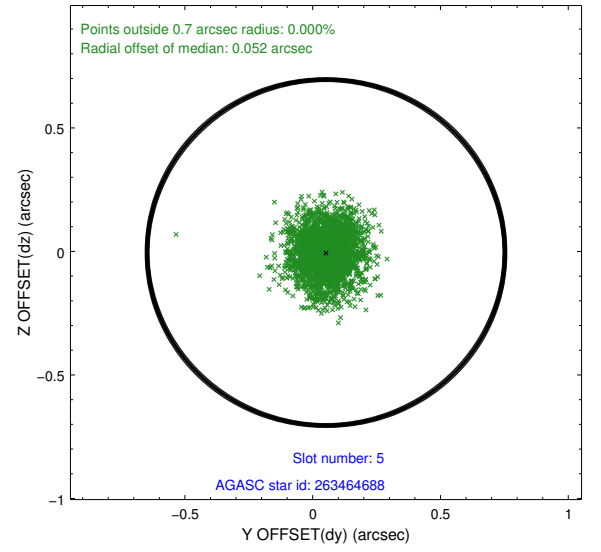
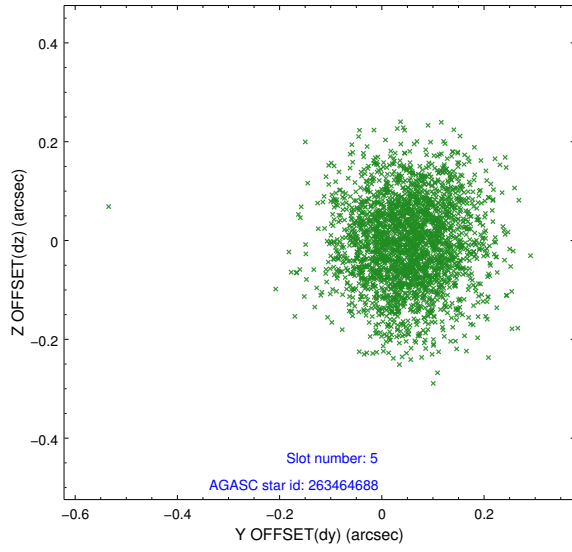
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.96	1262	-0.266	-0.186	0.005	0.010	0.000000	0.000000	-777.72	-1907.78
1	FID		ACIS-S-4	7.05	1262	0.264	0.157	0.006	0.010	0.000000	0.000000	2135.61	-0.42
2	FID		ACIS-S-6	7.27	1262	-0.025	0.036	0.007	0.012	0.000000	0.000000	386.08	638.25
3	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
4	GUIDE	used	263464240	9.60	2524	0.064	-0.027	0.176	0.275	213.729943	25.011897	1998.00	-1717.53
5	GUIDE	used	263464688	9.19	2520	0.052	-0.005	0.120	0.198	214.654702	25.305283	-630.72	93.32
6	GUIDE	used	263595296	9.76	2520	-0.079	0.100	0.191	0.298	214.929889	25.645337	-2148.15	88.36
7	GUIDE	used	263192808	9.59	2523	-0.039	-0.056	0.156	0.266	215.197131	24.910235	-539.01	2361.68

2.4 Star Slots

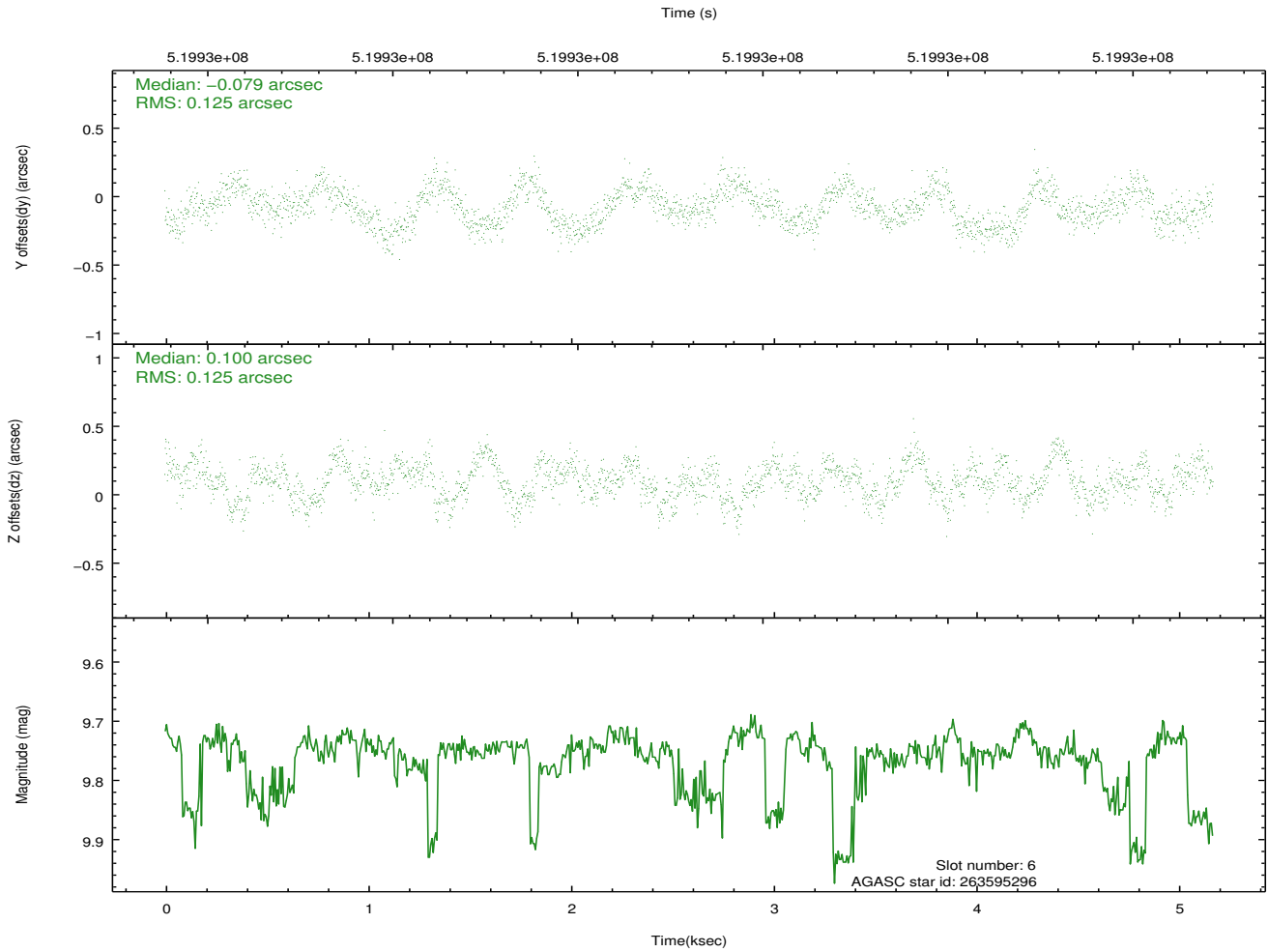
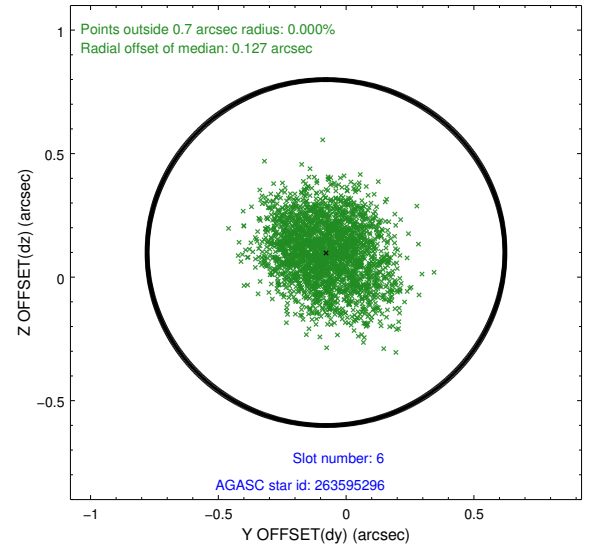
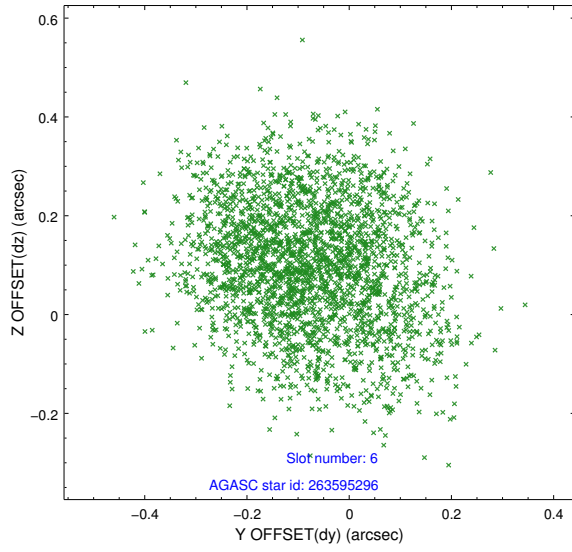
2.4.1 Slot 4



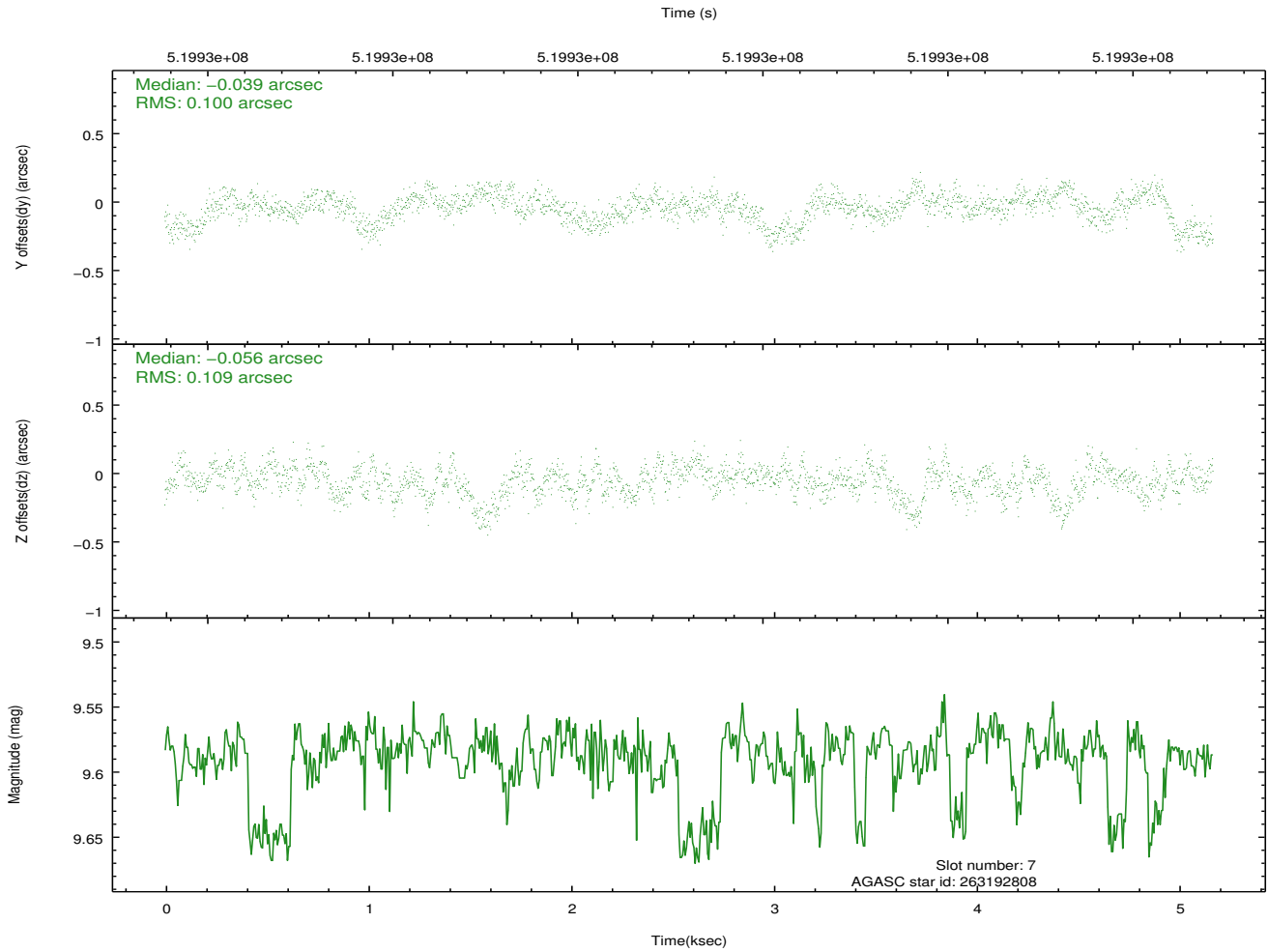
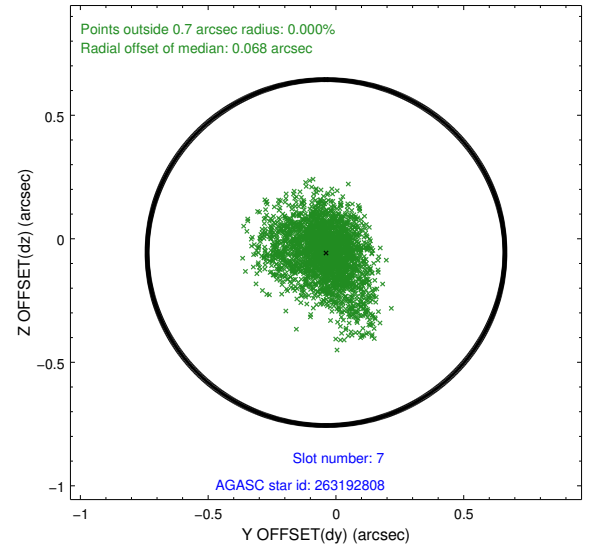
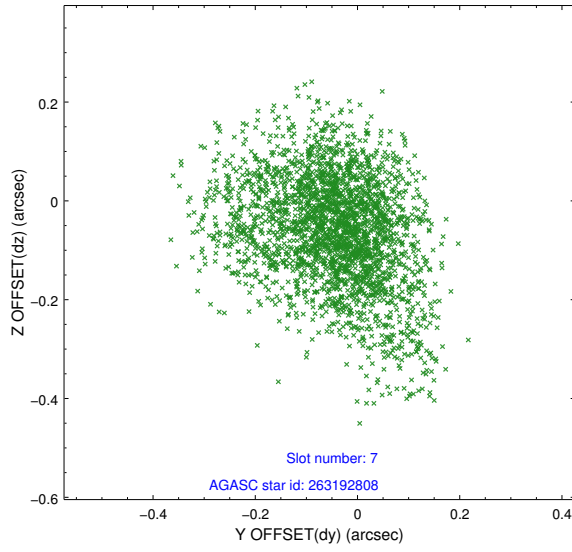
2.4.2 Slot 5



2.4.3 Slot 6

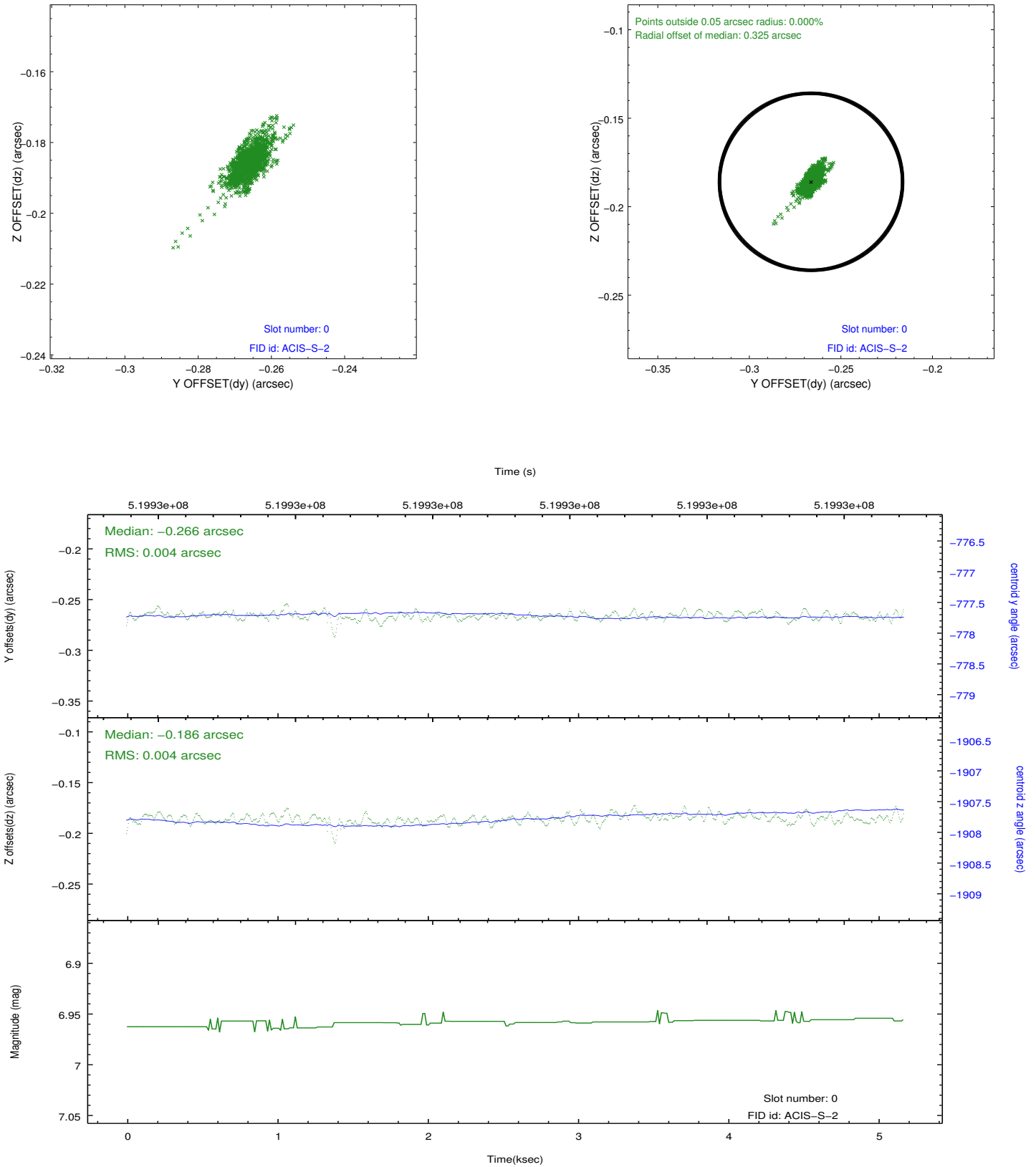


2.4.4 Slot 7

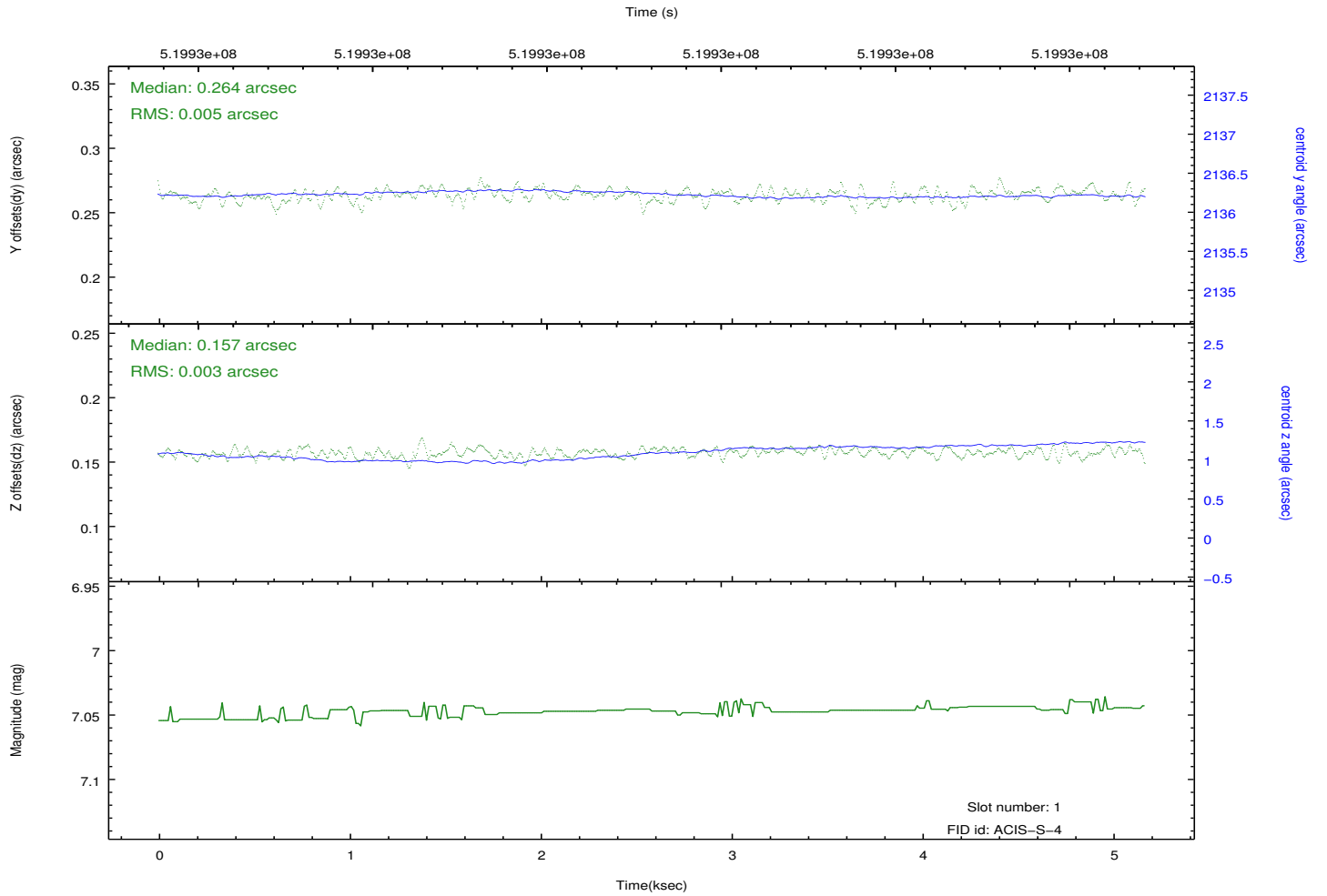
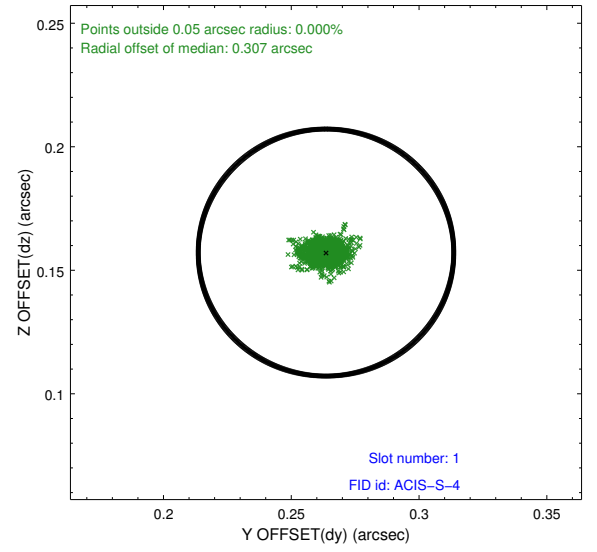
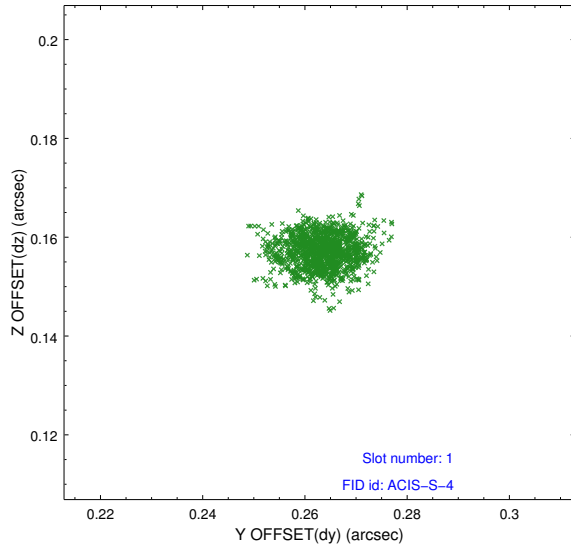


2.5 FID Slots

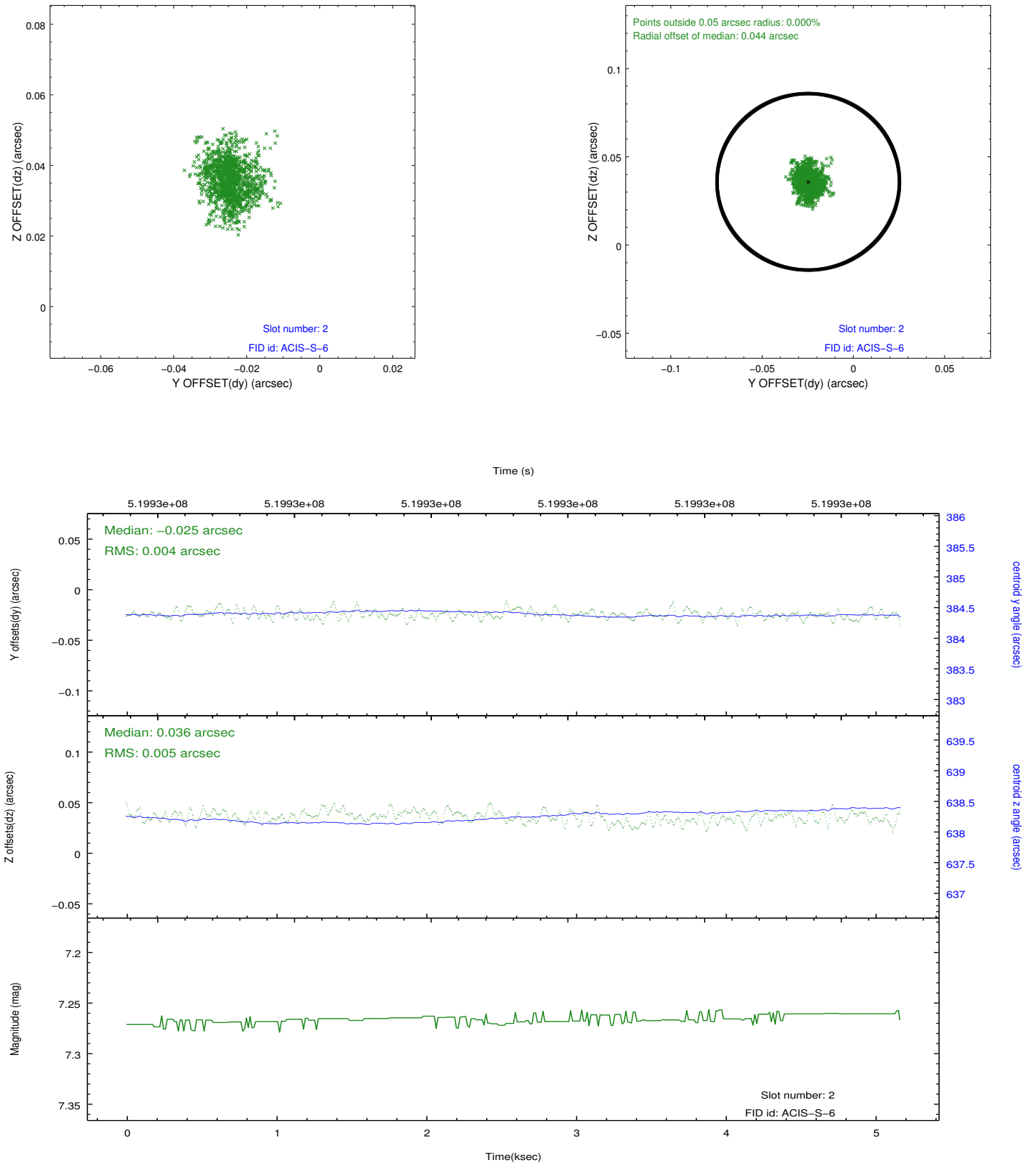
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

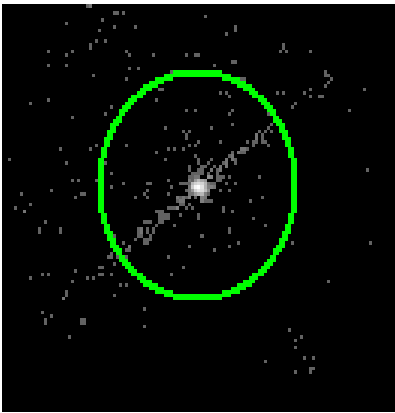


3 Gratings

3.1 LETG Arm



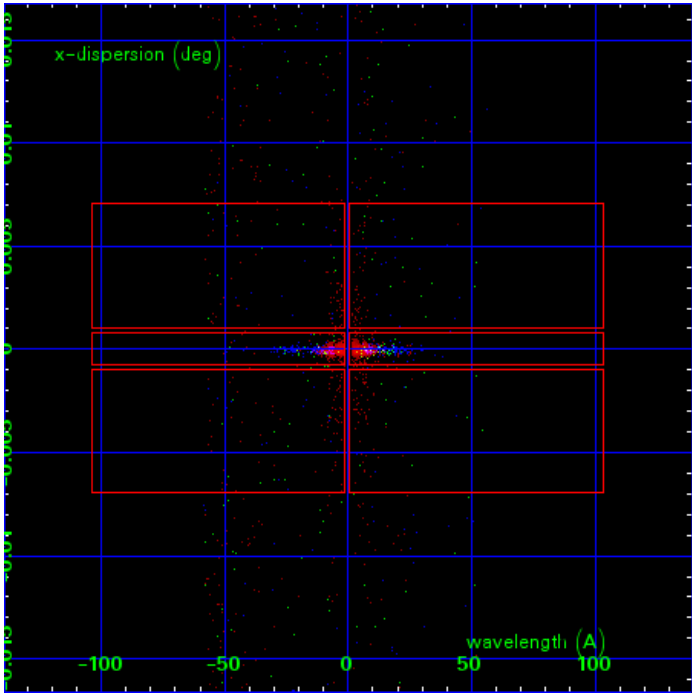
LETG Order Sort 123



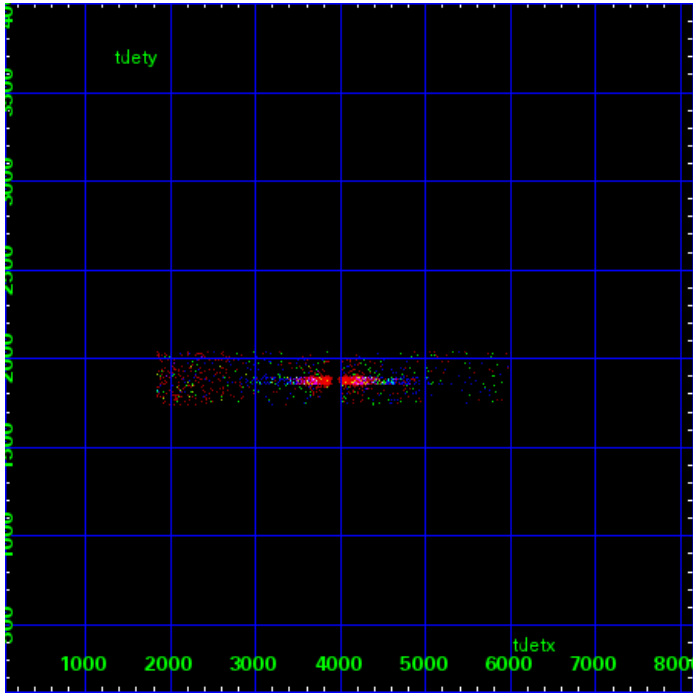
LETG Zero Order



LETG Order Sort ALL

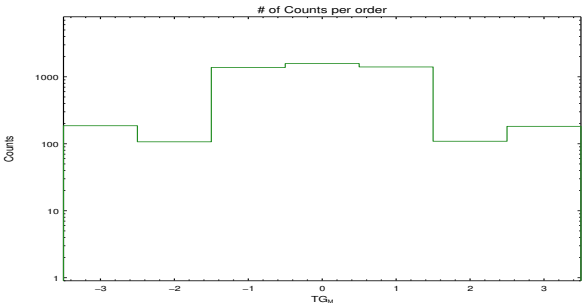


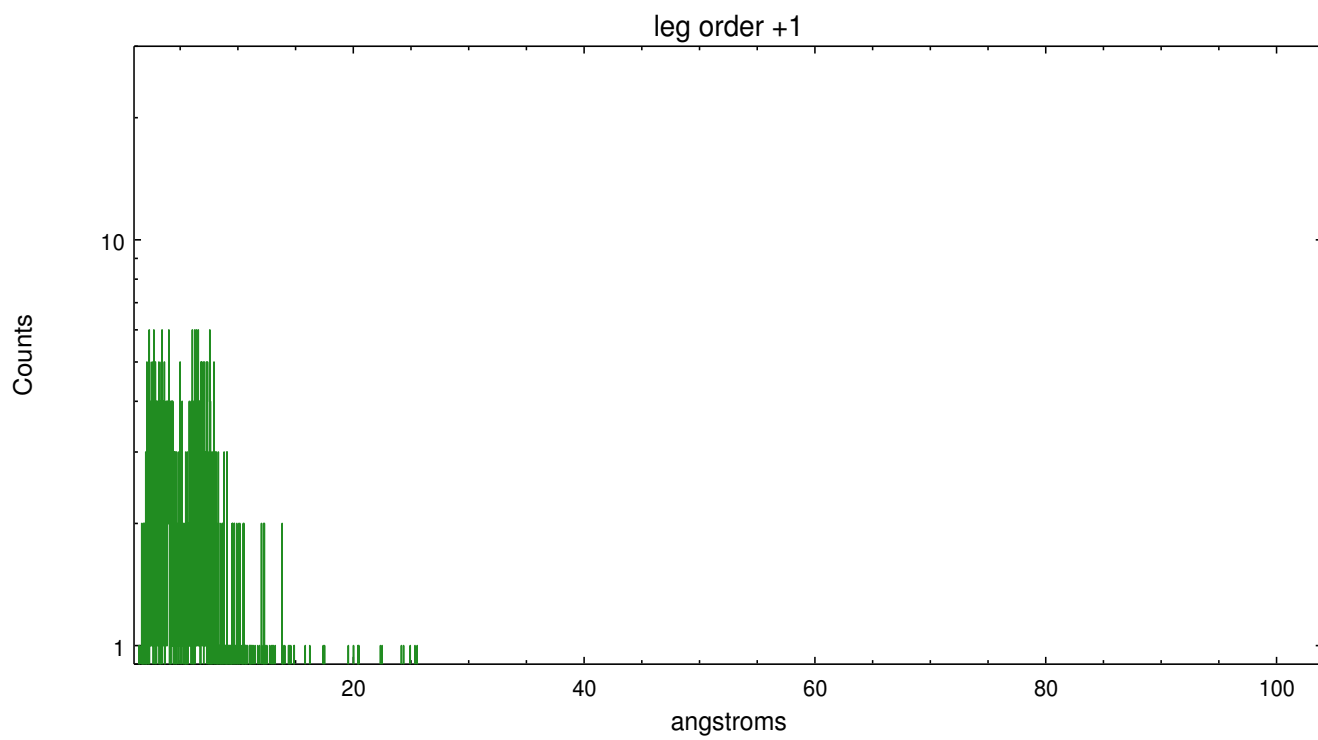
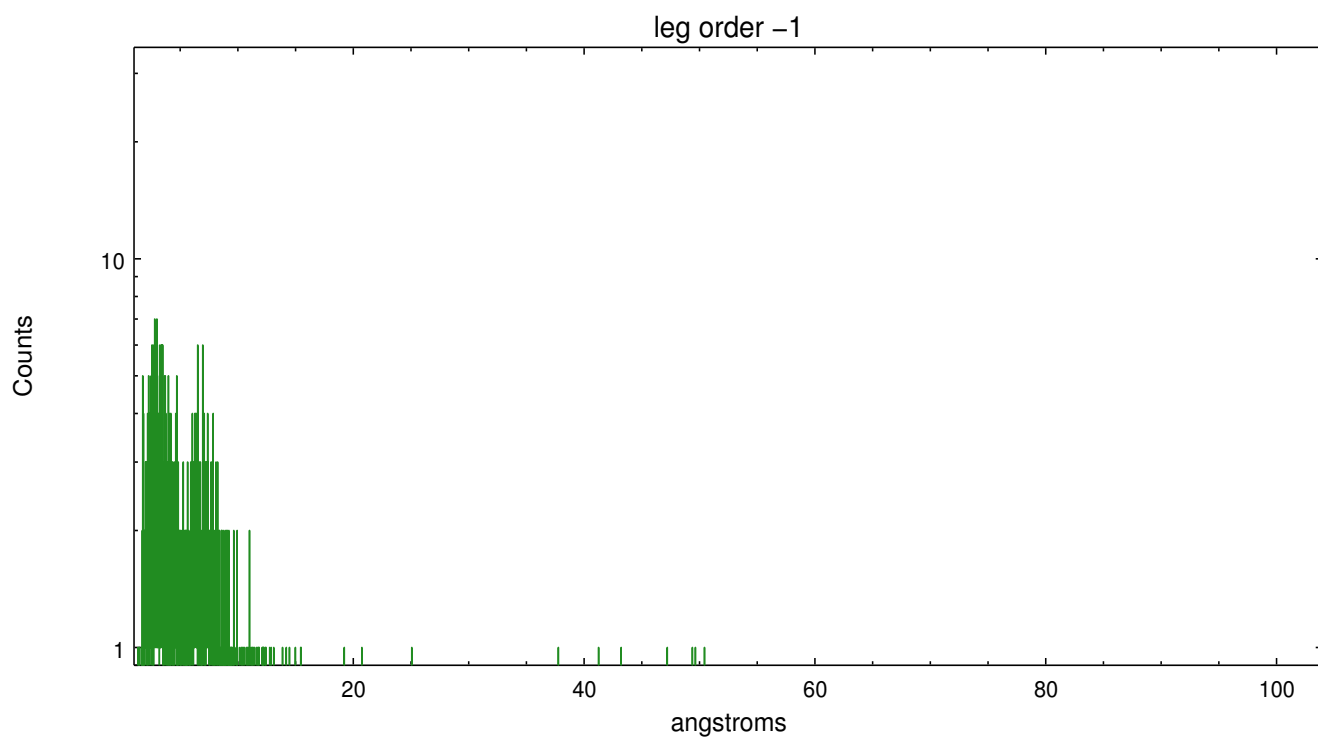
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	186	107	1379	1574	1403	109	182





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	5.0639115446806

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.

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The guide star in slot 3 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this guide star from the solution.

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Joint Proposal: CX0-HST

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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.

=====

The source's zeroth order falls very close to the gap between the CCD chips. Any suggestion of source variability should consider this possibility. Dithering over the chip boundary can give a false indication of variability.