

V&V Reference Report

L2 ASCDS Version : 10.1.1

Observation 16204 - L2 Version 2
Chandra X-Ray Center

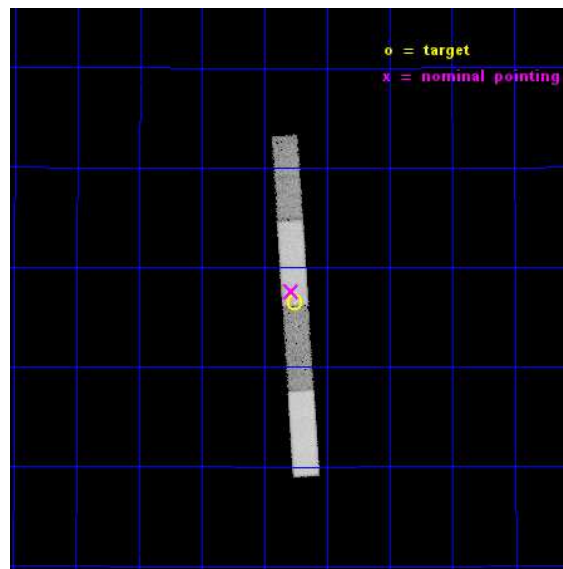
L2 Processing Date : Dec 8 2014

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
3	Gratings	17
3.1	LETG Arm	17
A	Summary	19
A.1	Status	19
A.2	Comments	19

1 Front

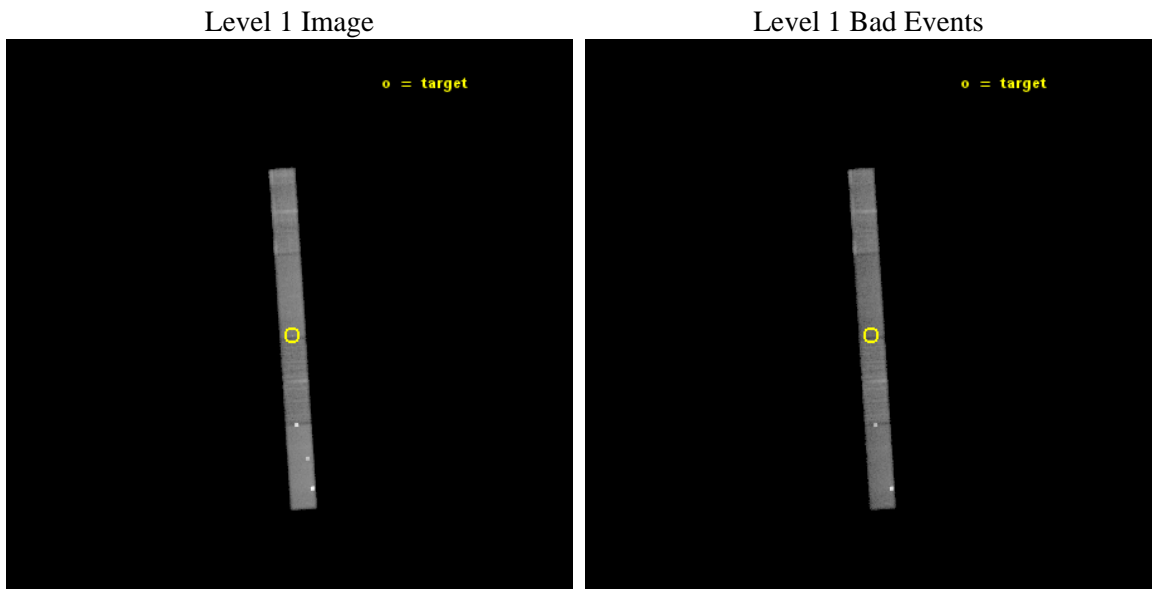
seq_num	200948	Sequence number
obs_id	16204	Observation id
title	Accretion-Driven Physics on the Young Star BP Tauri	Proposal title
observer	Dr. Nancy Brickhouse	Principal investigator
object	BP Tau	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	64.815833	Observer's specified target RA [deg]
dec_targ	29.107472	Observer's specified target Dec [deg]
ra_nom	64.821230691927	Nominal RA [deg]
dec_nom	29.12640556484	Nominal Dec [deg]
roll_nom	266.15400329531	Nominal Roll [deg]
revision	2	Processing version of data
ontime	40014.923805237	Sum of GTIs [s]
livetime	38437.450823443	Livetime [s]
ontime5	40014.882765234	Sum of GTIs [s]
ontime6	40014.84172523	Sum of GTIs [s]
ontime7	40014.923805237	Sum of GTIs [s]
ontime8	40014.800685227	Sum of GTIs [s]
l2events	93294	Number of level 2 events



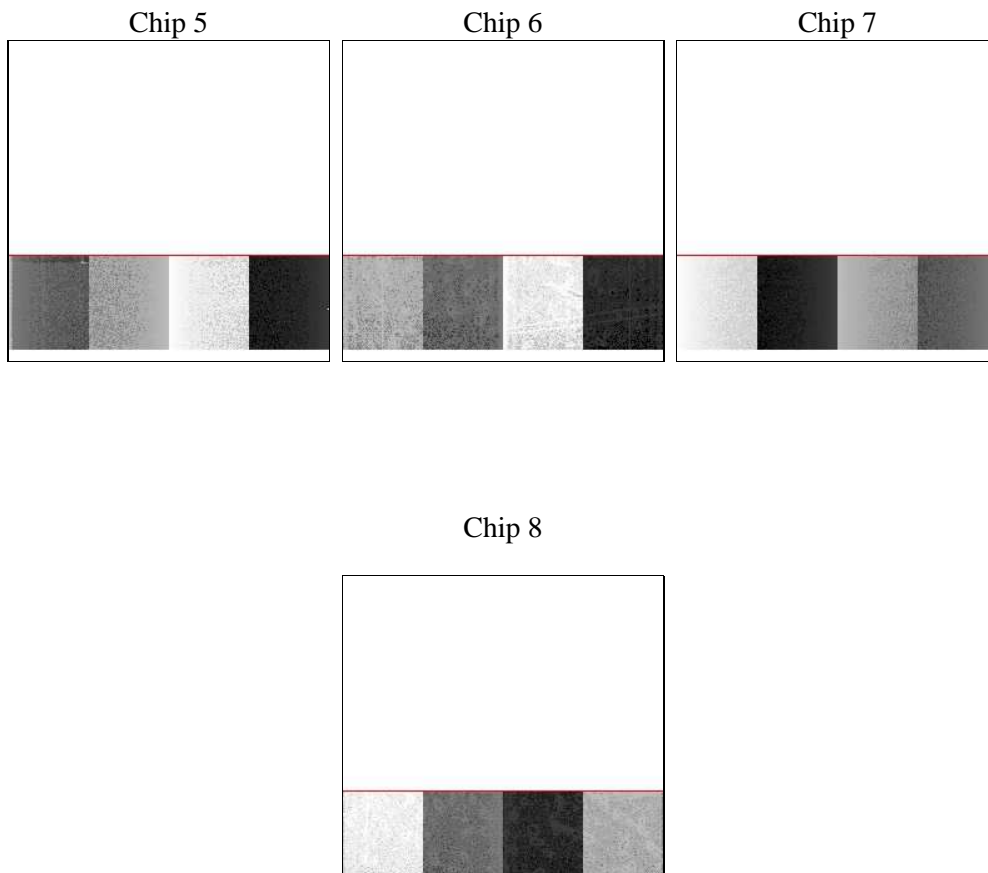
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	39950.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	40014.923805237	Sum of GTIs [s]
caldsver	4.6.4	 	ontime5	40014.882765234	Sum of GTIs [s]
date	2014-12-08T13:14:14	Date and time of file creation	ontime6	40014.84172523	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	40014.923805237	Sum of GTIs [s]
			ontime8	40014.800685227	Sum of GTIs [s]
			l1events	385942	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4130.07, 3958.07)	src1a sky pixel position

2.1.4 Events

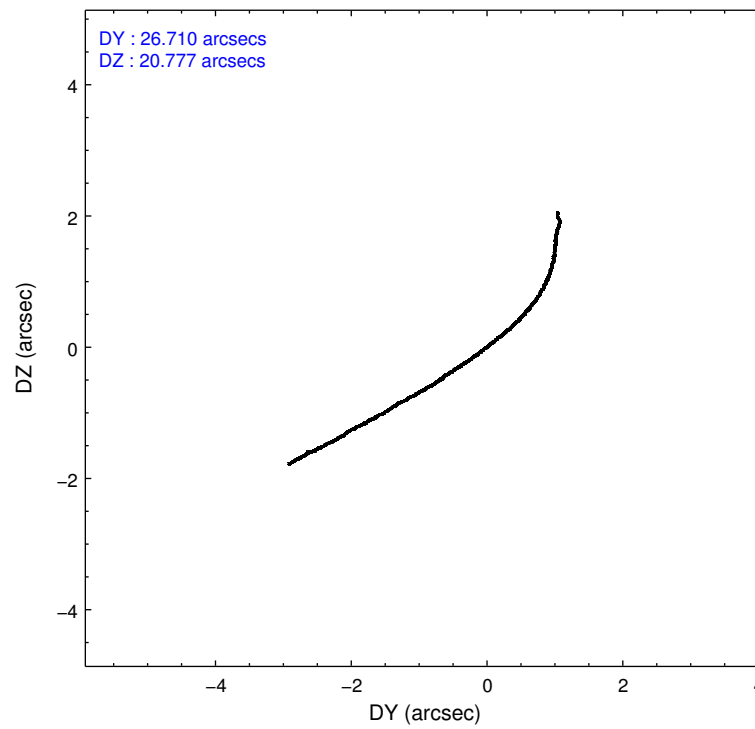
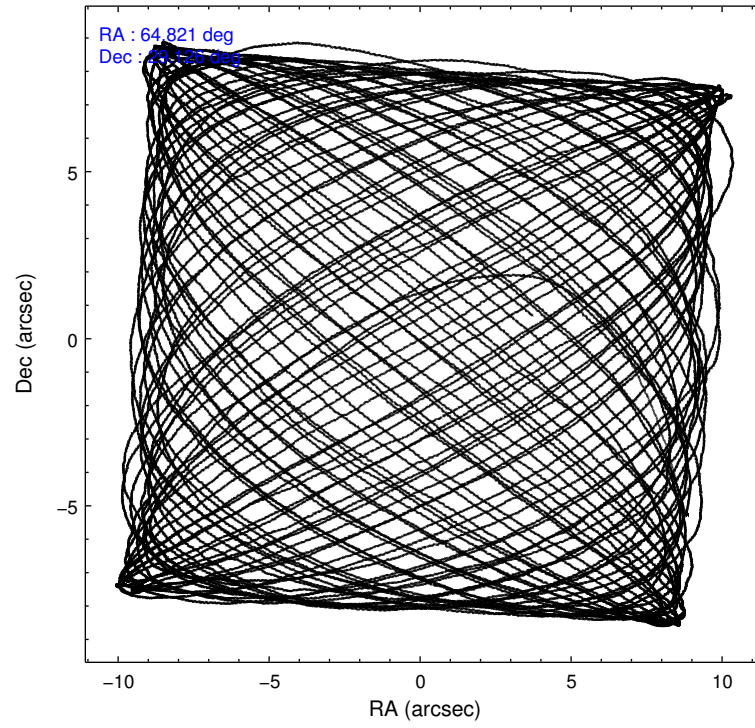
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	154218	64698	80146	86880
rejected events	69709	56736	44801	64313
rejected %	45%	87%	55%	74%

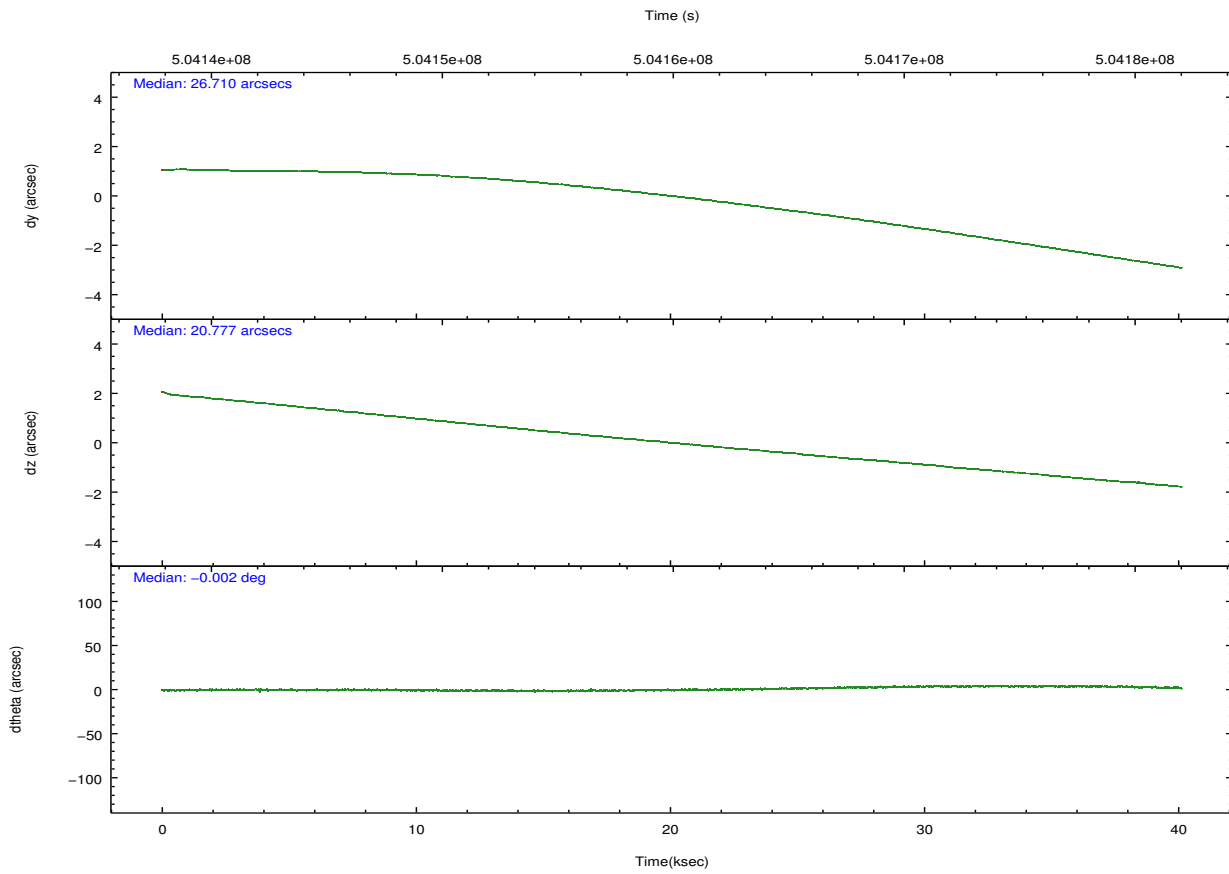
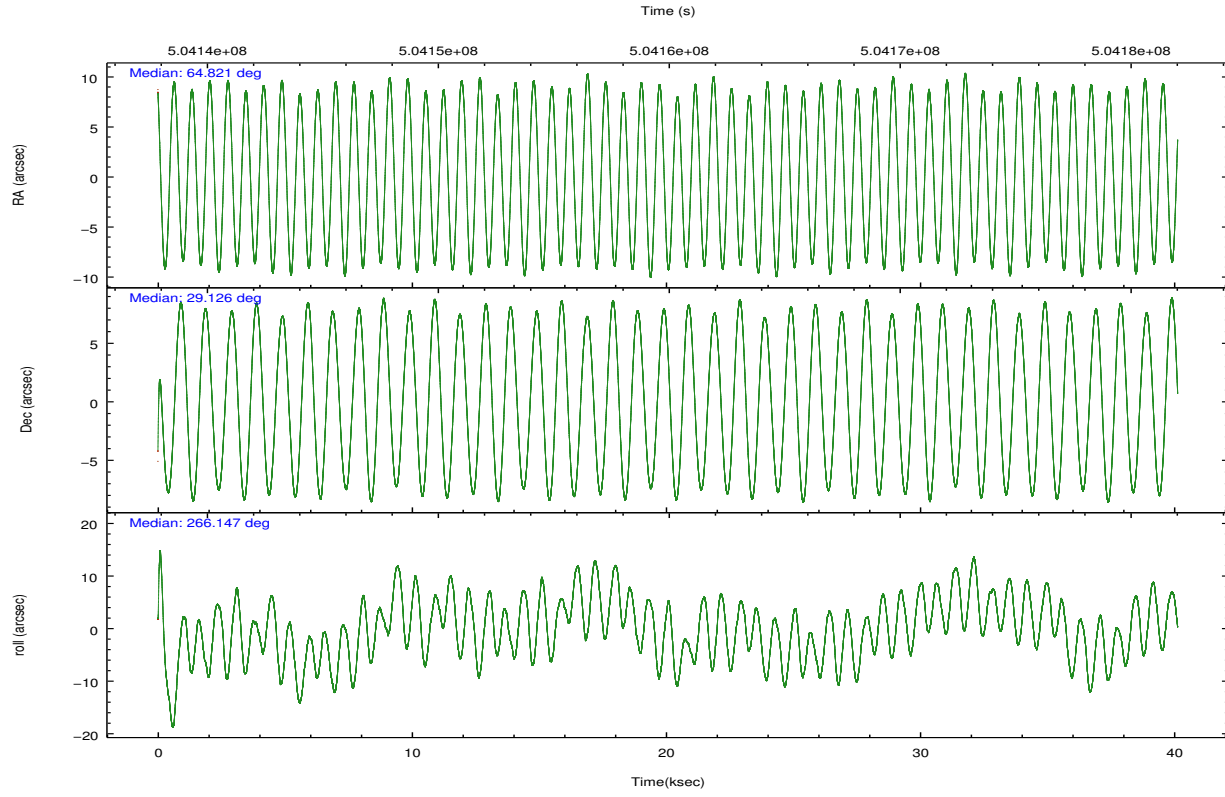
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	17754	2349	3030	5850
	11%	3%	3%	6%
grade 1 events	1881	19	86	44
	1%	0%	0%	0%
grade 2 events	28851	1753	7138	4759
	18%	2%	8%	5%
grade 3 events	4692	1131	3626	2804
	3%	1%	4%	3%
grade 4 events	5549	1113	3502	2636
	3%	1%	4%	3%
grade 5 events	21702	2846	8169	4196
	14%	4%	10%	4%
grade 6 events	27668	1616	18049	6518
	17%	2%	22%	7%
grade 7 events	46121	53871	36546	60073
	29%	83%	45%	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	64.807047	64.82123069192696	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	29.150779	29.1264055648402	Subarray start row	37	37
[deg] Pointing Roll	266.004283	266.1540032953096	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)	504140040.184000	504139081.526			
Observation start date	2013-12-22T22:52:53	2013-12-22T22:38:01			
[s] Observation end time (MET)	504179990.184000	504180684.74078			
Observation end date	2013-12-23T09:58:43	2013-12-23T10:11:24			
Read mode	TIMED	TIMED			

2.3 Aspect





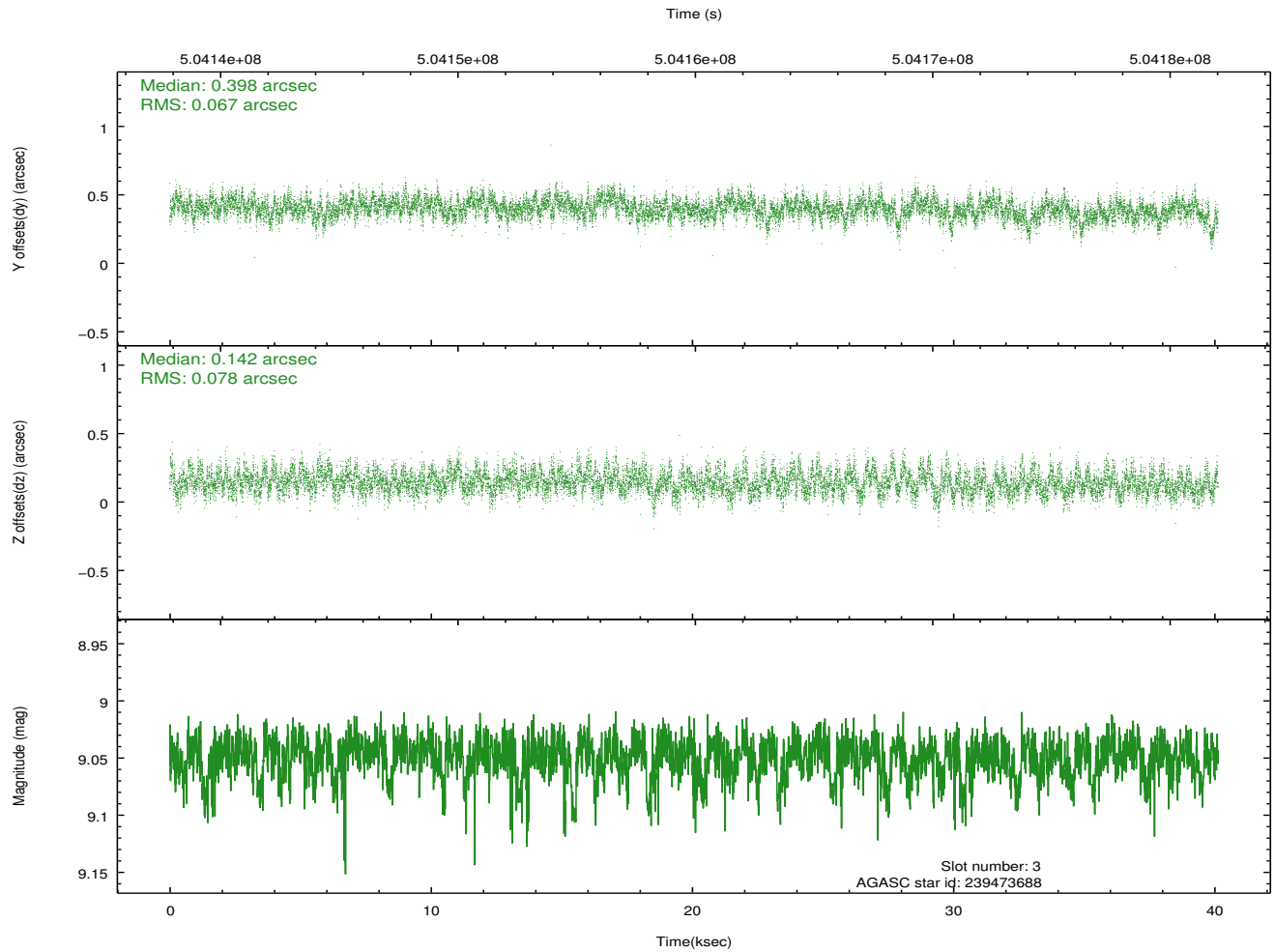
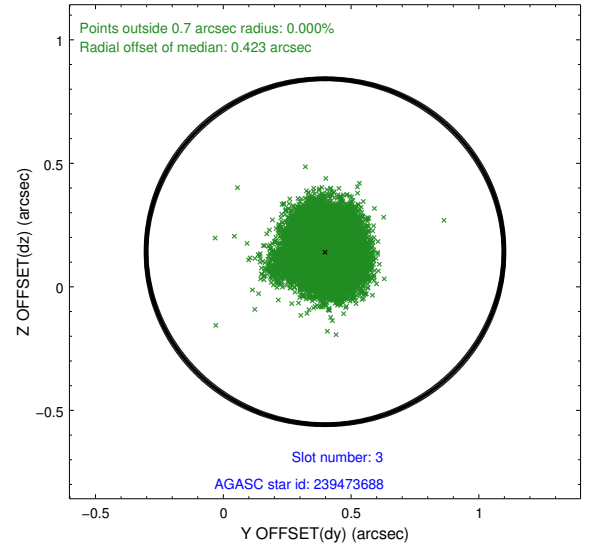
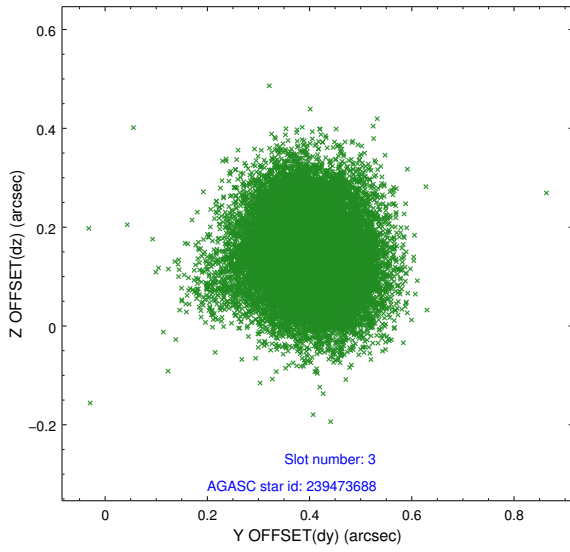
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.99	9789	-0.257	-0.170	0.021	0.049	0.000000	0.000000	-779.41	-1907.20
1	FID		ACIS-S-4	7.07	9789	0.249	0.158	0.018	0.030	0.000000	0.000000	2134.43	1.46
2	FID		ACIS-S-6	7.30	9786	-0.019	0.020	0.038	0.065	0.000000	0.000000	382.91	638.78
3	GUIDE	used	239473688	9.05	19564	0.398	0.142	0.109	0.178	64.269515	29.469356	-1029.52	-1760.75
4	GUIDE	used	239608216	9.14	19567	-0.134	-0.055	0.166	0.247	65.047957	29.223057	-312.79	736.95
5	GUIDE	used	239612528	8.20	19574	-0.179	-0.123	0.080	0.131	65.157445	28.892017	851.17	1166.95
6	GUIDE	used	239613168	8.38	19569	-0.303	-0.343	0.078	0.126	65.055525	28.814853	1151.31	866.35
7	GUIDE	used	239469928	9.87	19156	0.239	0.381	0.207	0.329	64.569996	29.807027	-2305.18	-903.30

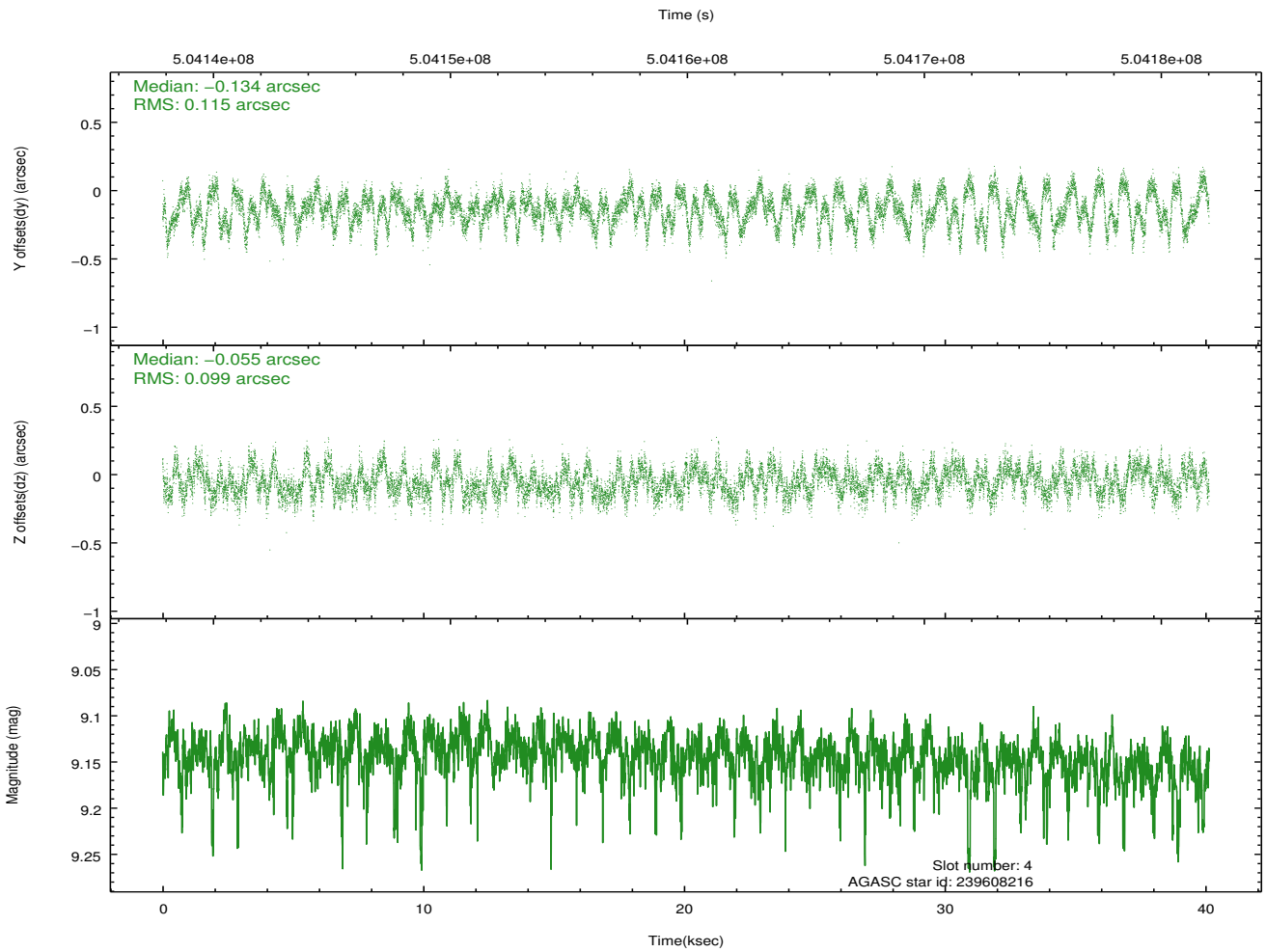
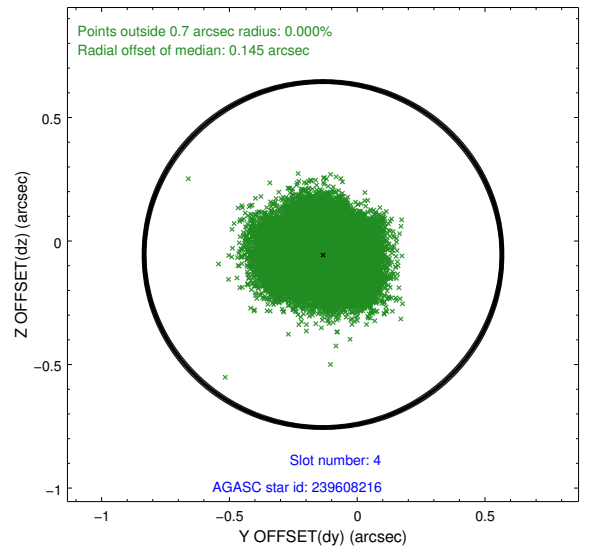
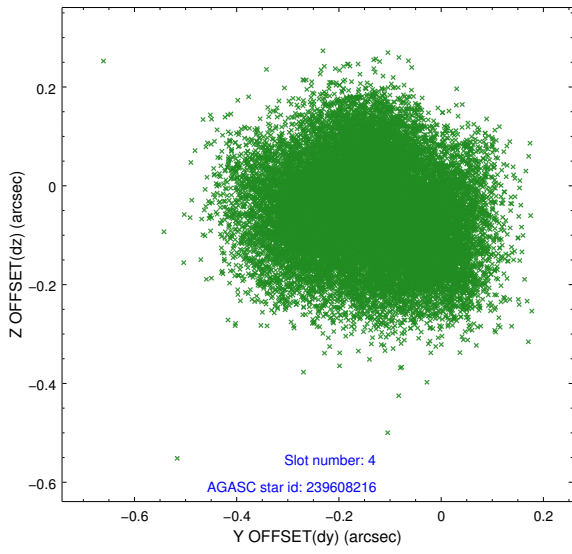
∞

2.4 Star Slots

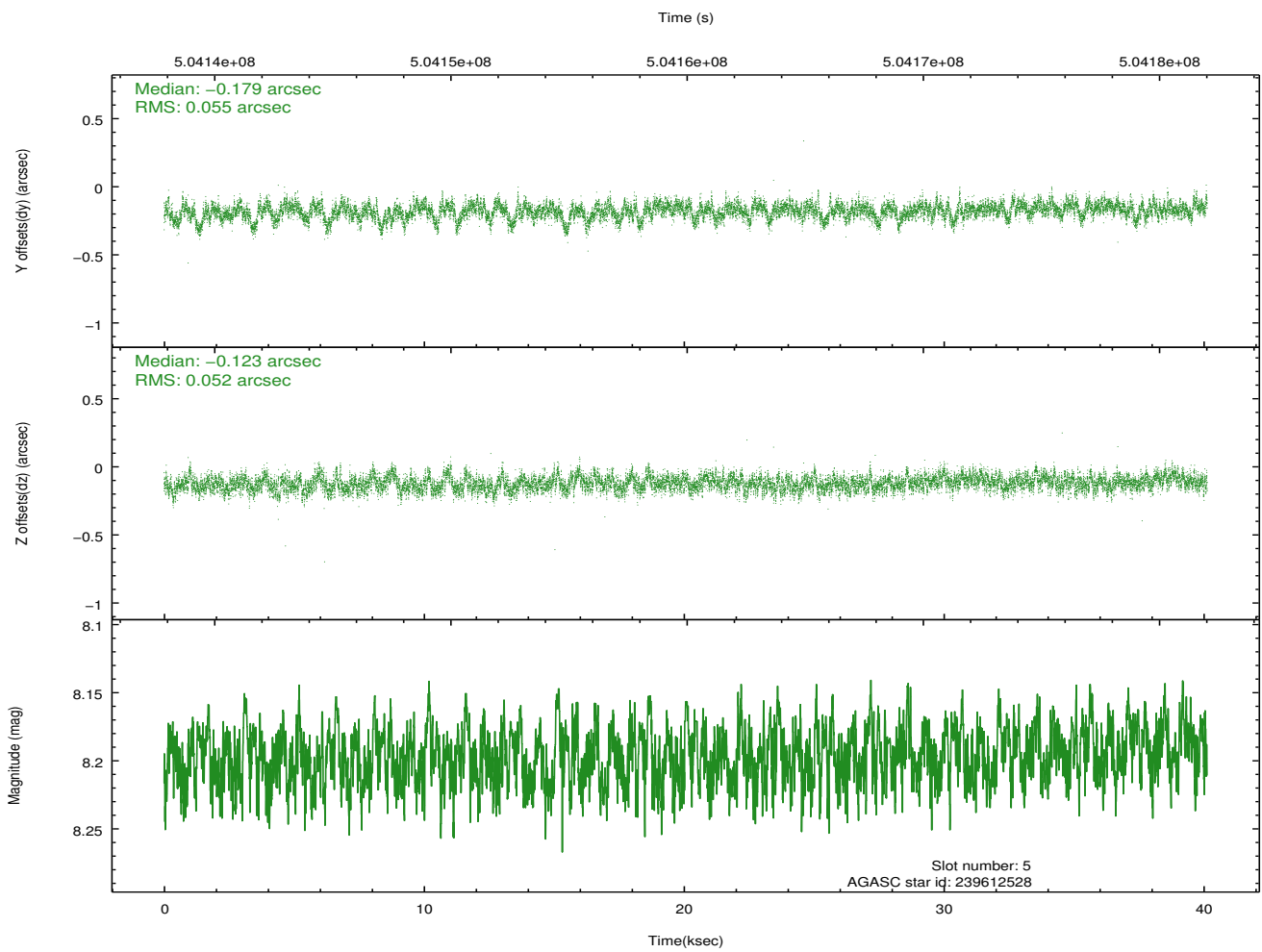
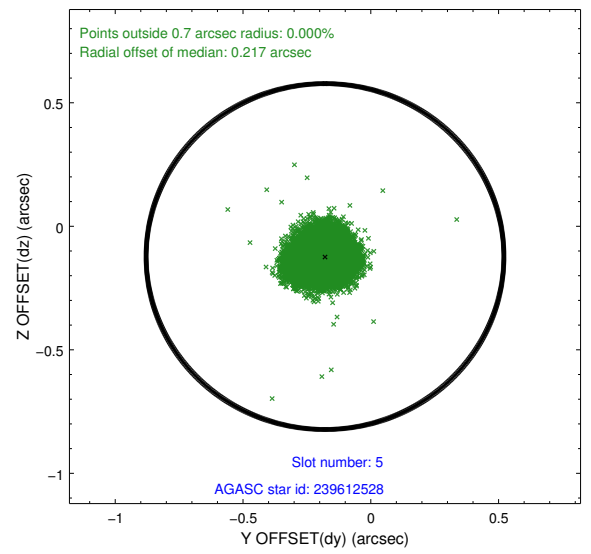
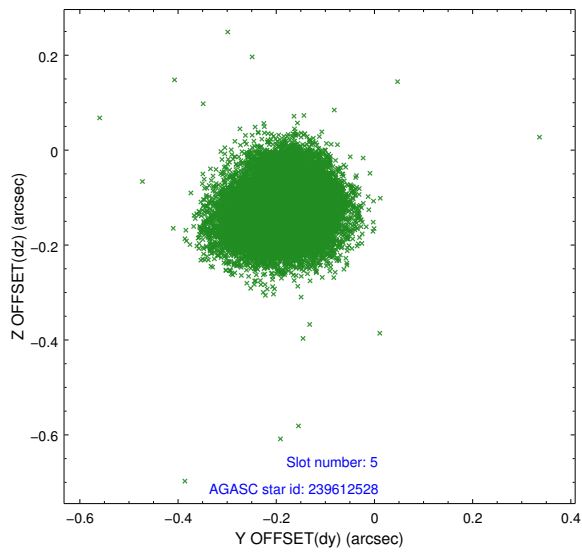
2.4.1 Slot 3



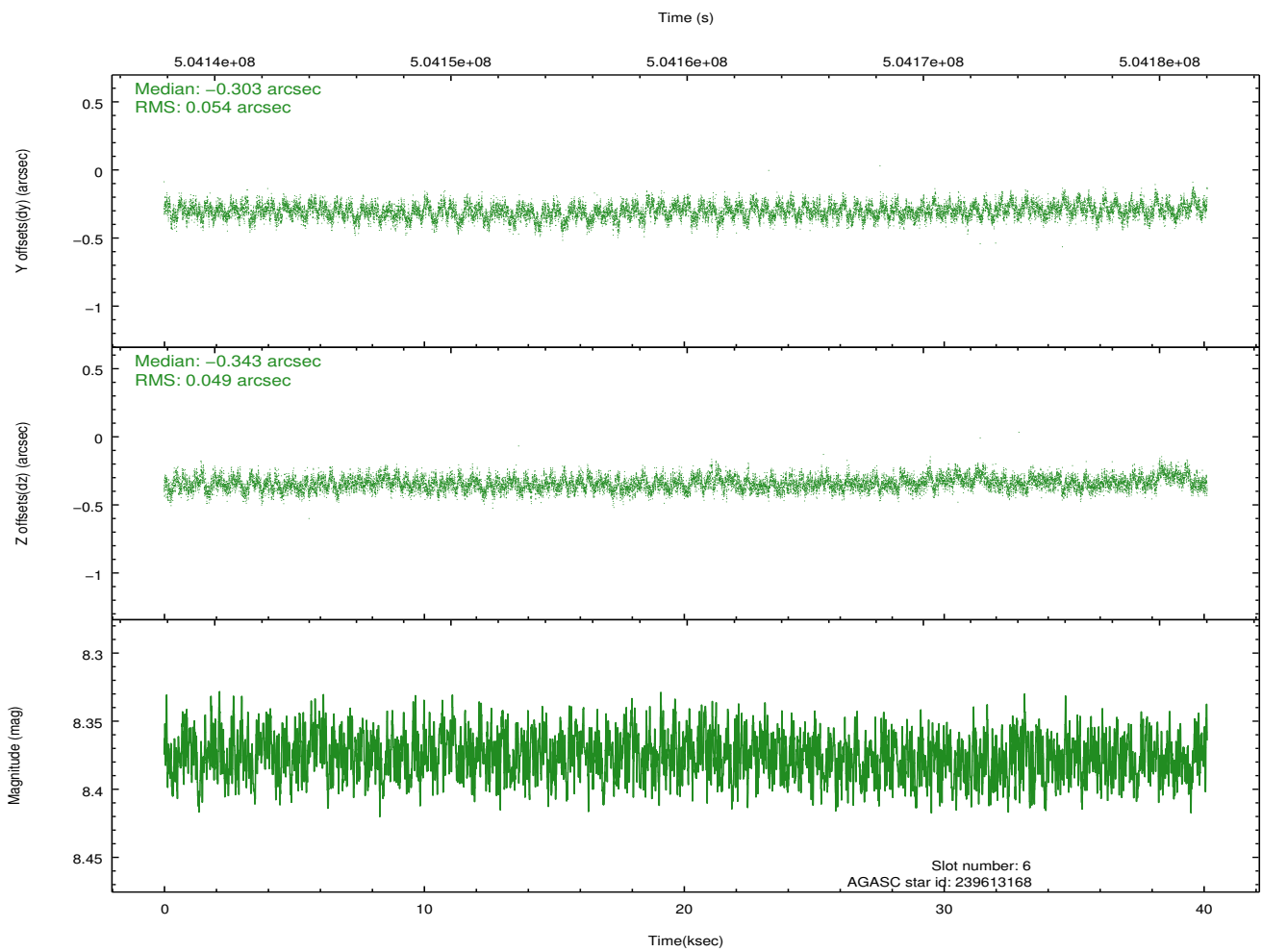
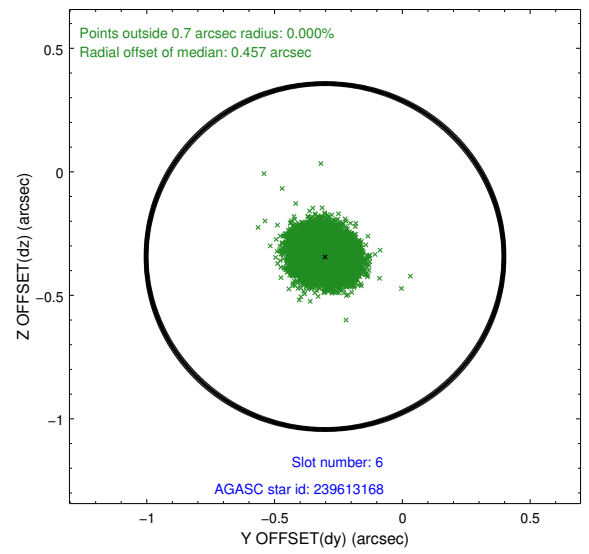
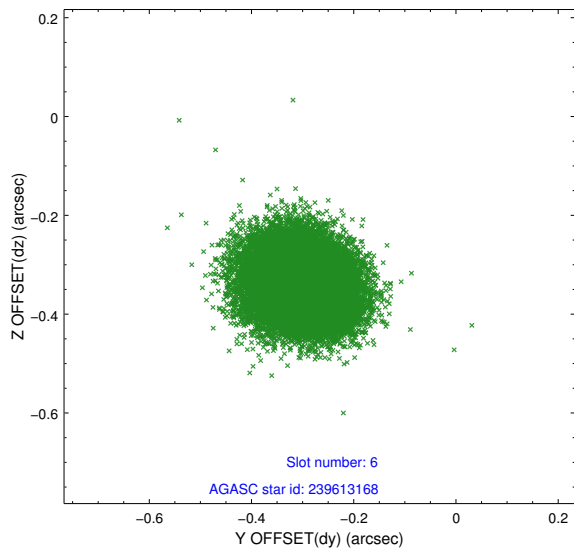
2.4.2 Slot 4



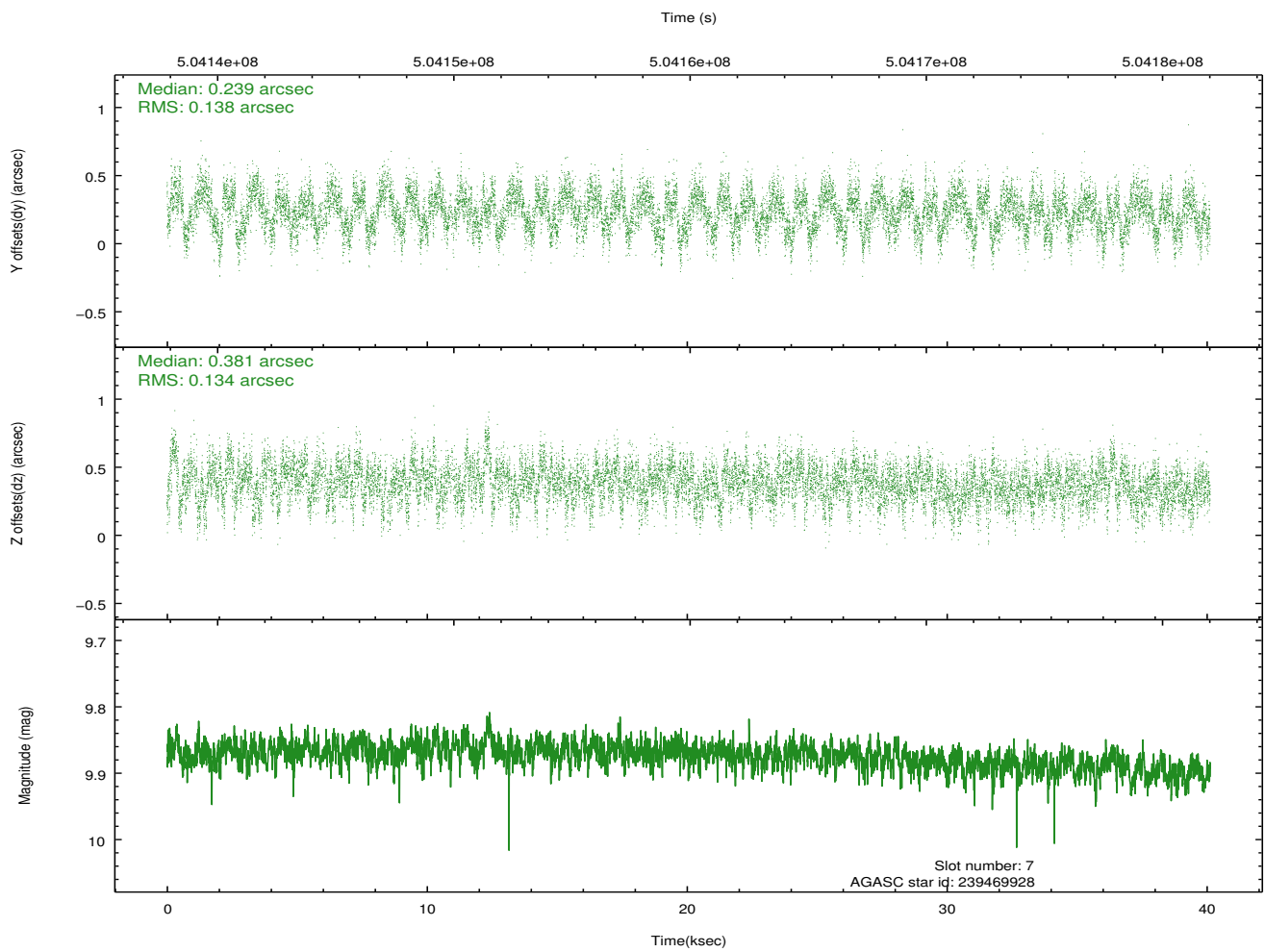
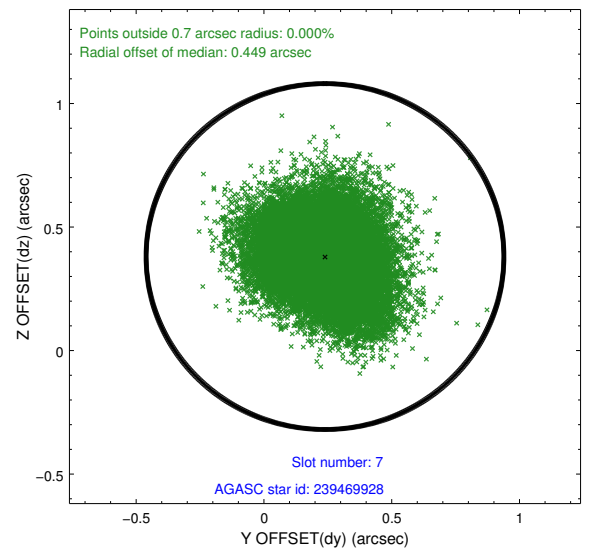
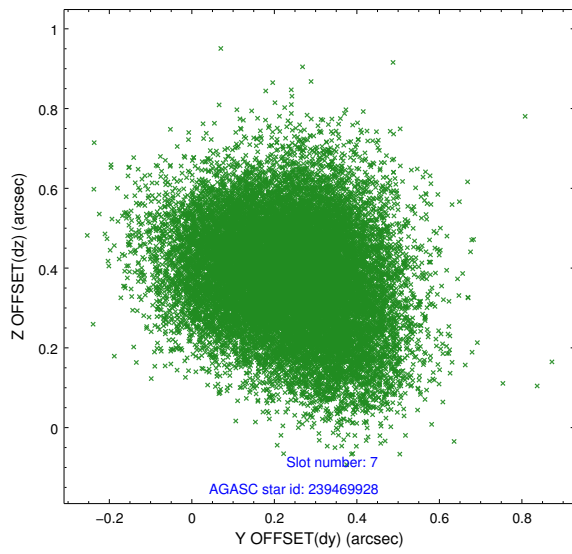
2.4.3 Slot 5



2.4.4 Slot 6

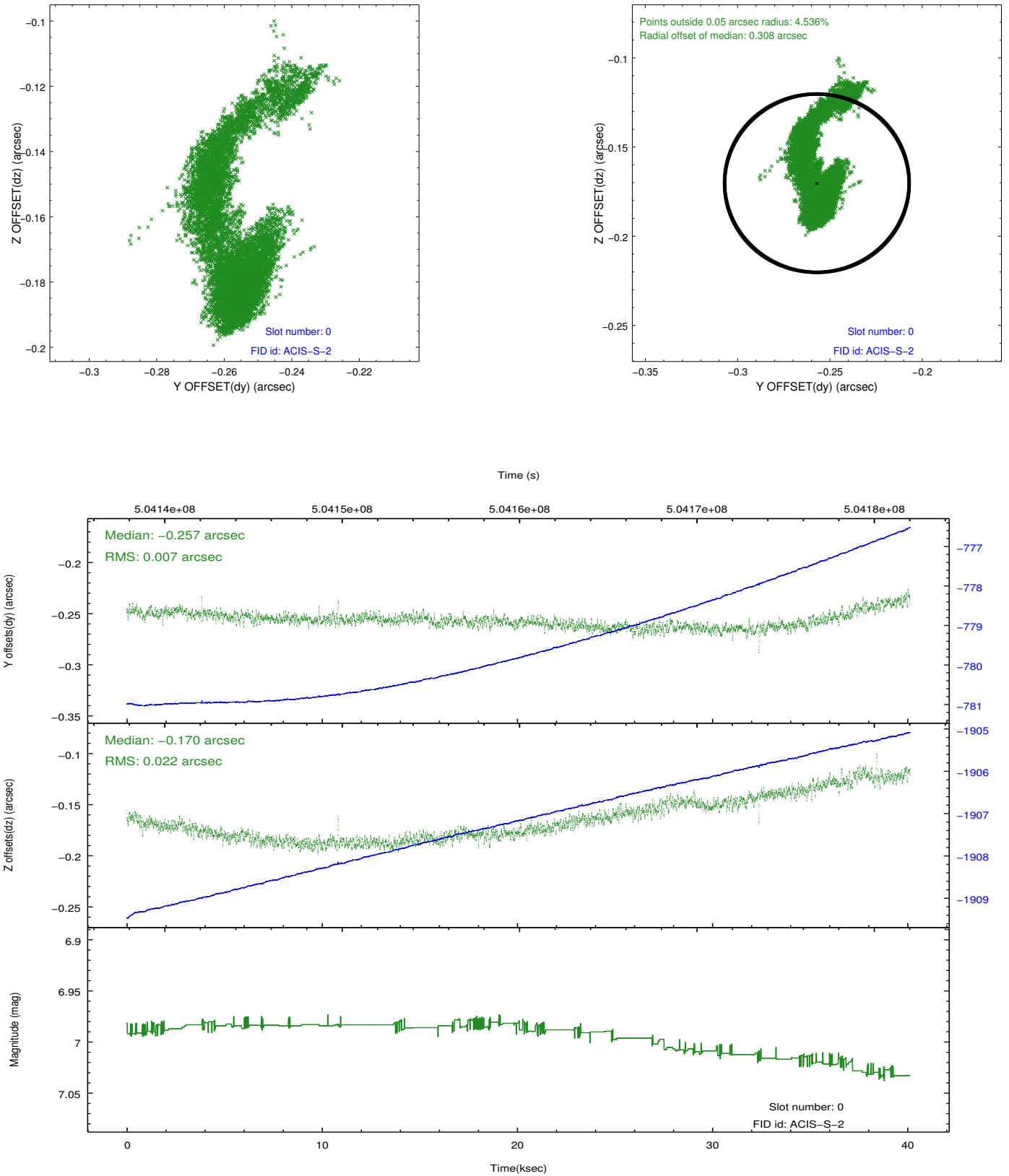


2.4.5 Slot 7

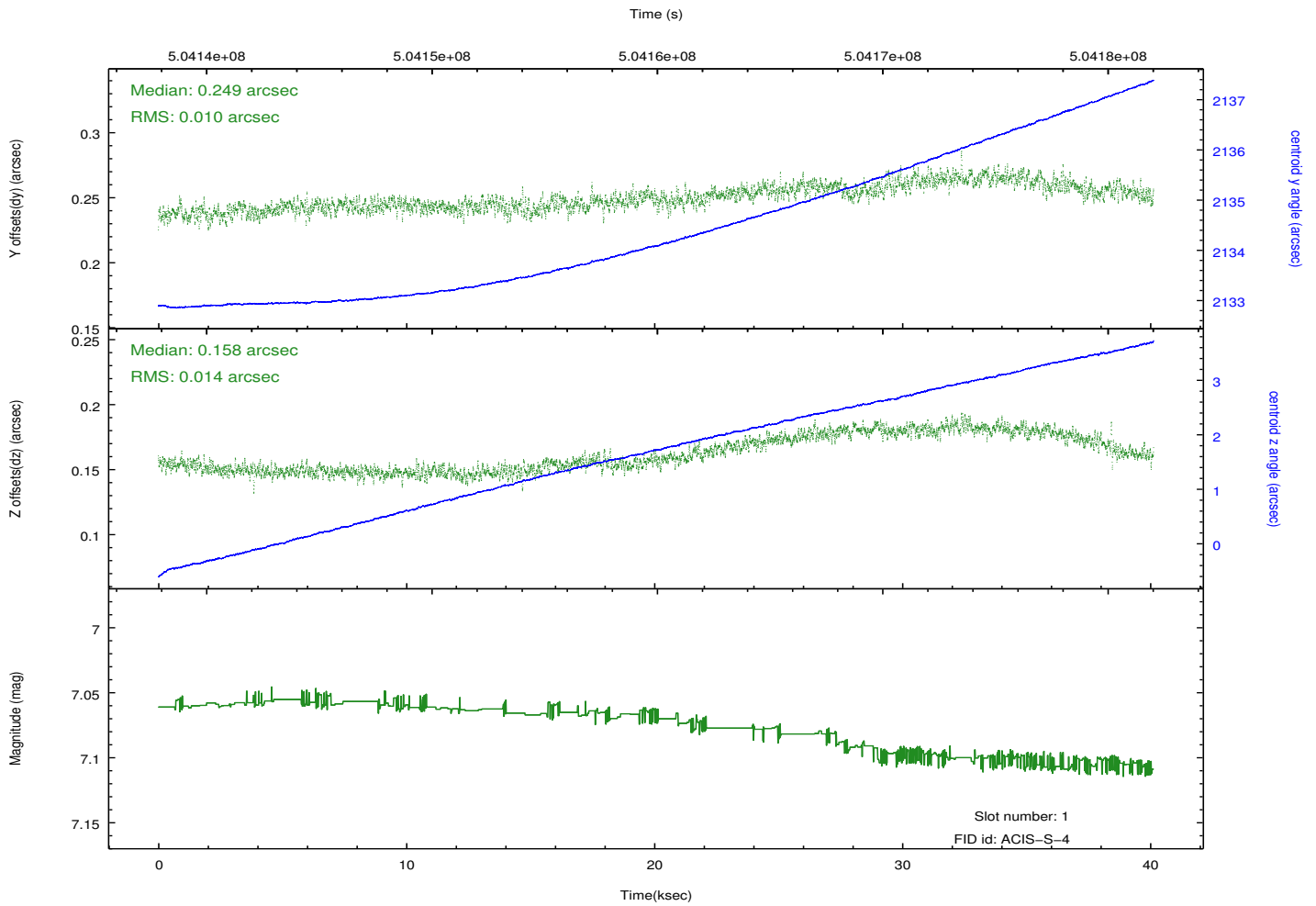
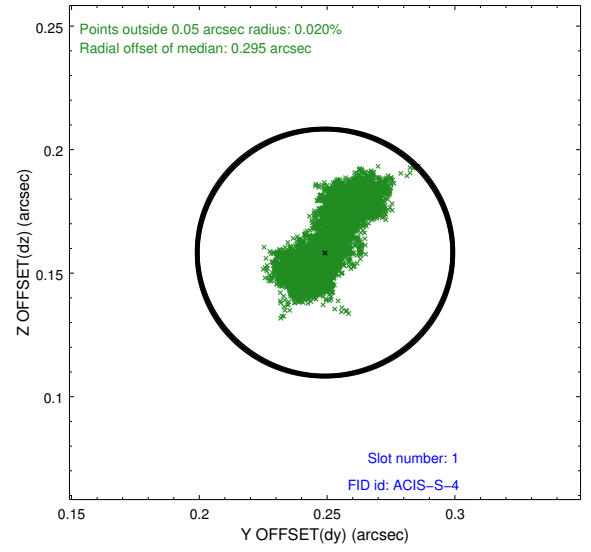
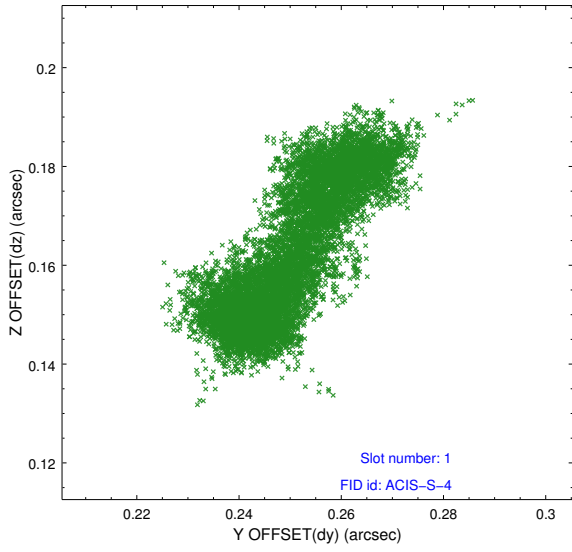


2.5 FID Slots

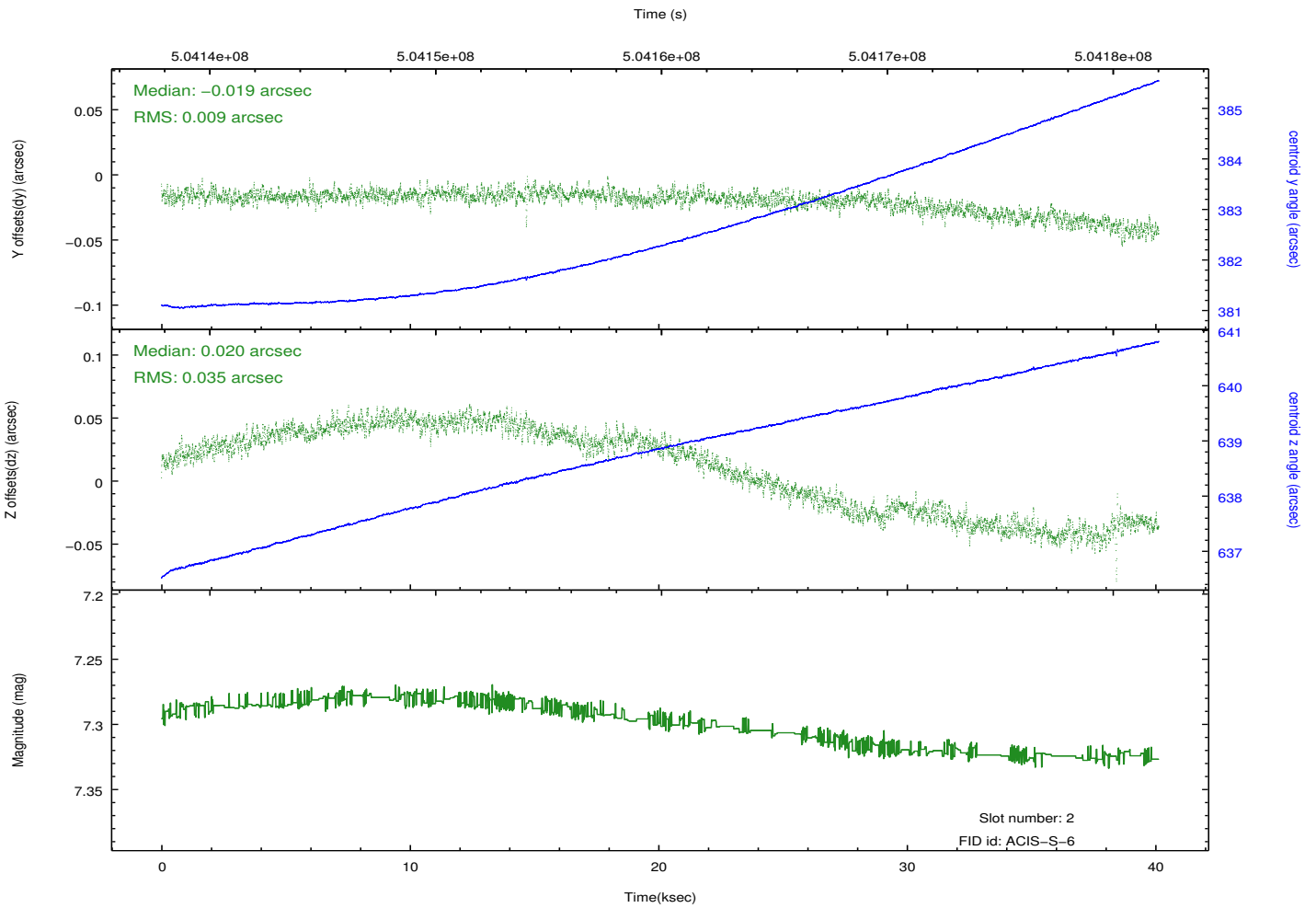
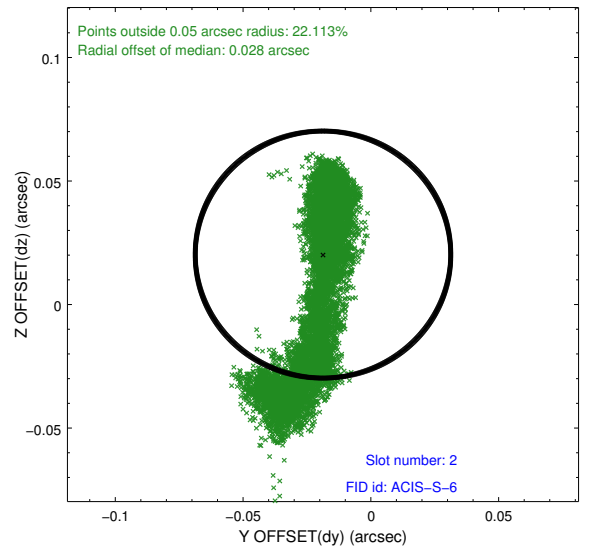
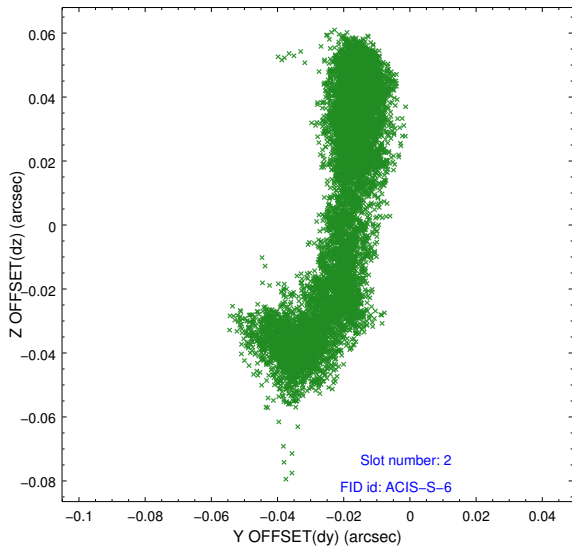
2.5.1 Slot 0



2.5.2 Slot 1

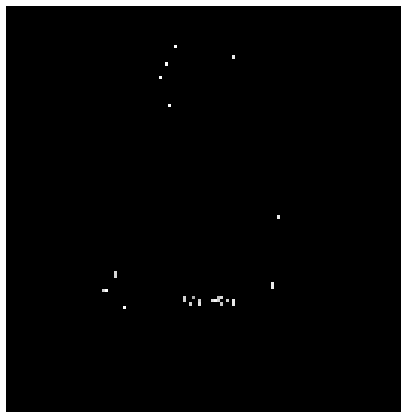


2.5.3 Slot 2

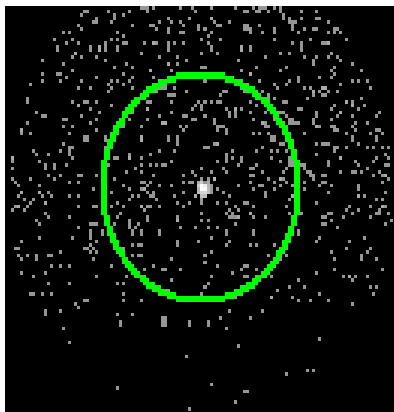


3 Gratings

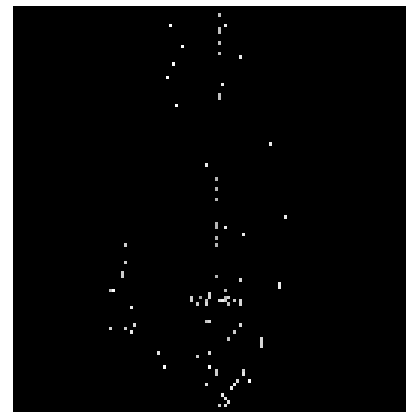
3.1 LETG Arm



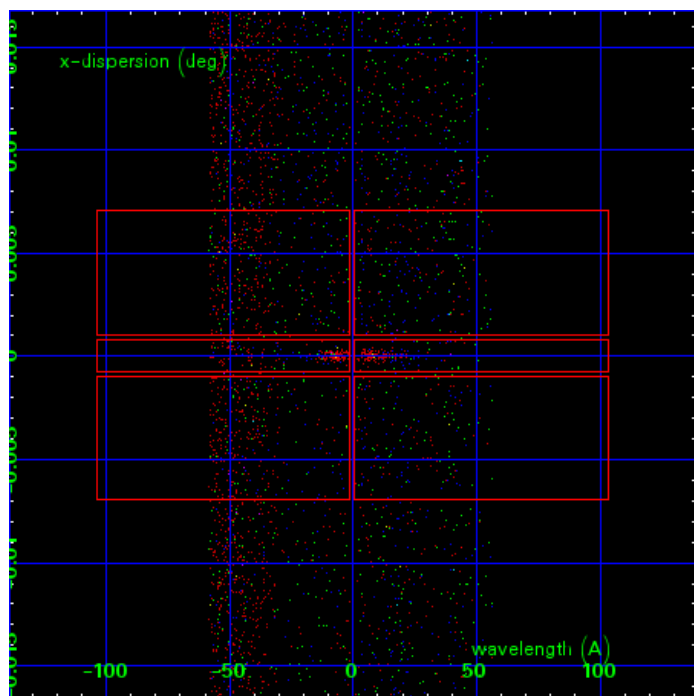
LETG Order Sort 123



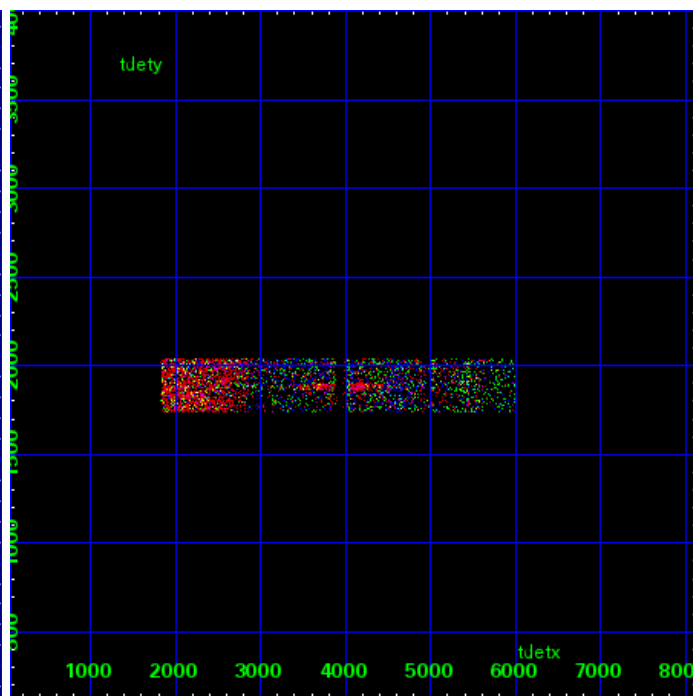
LETG Zero Order



LETG Order Sort ALL

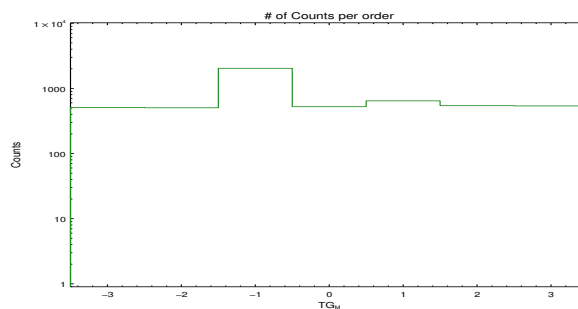


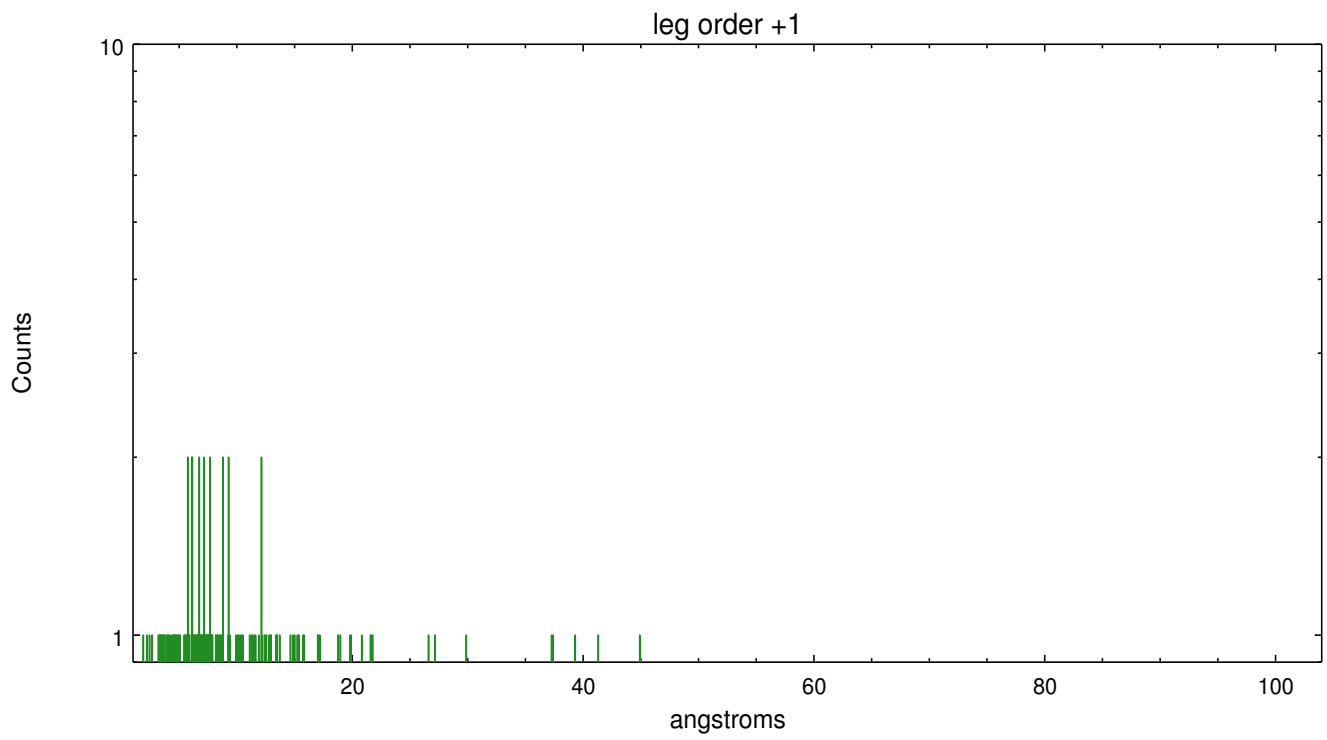
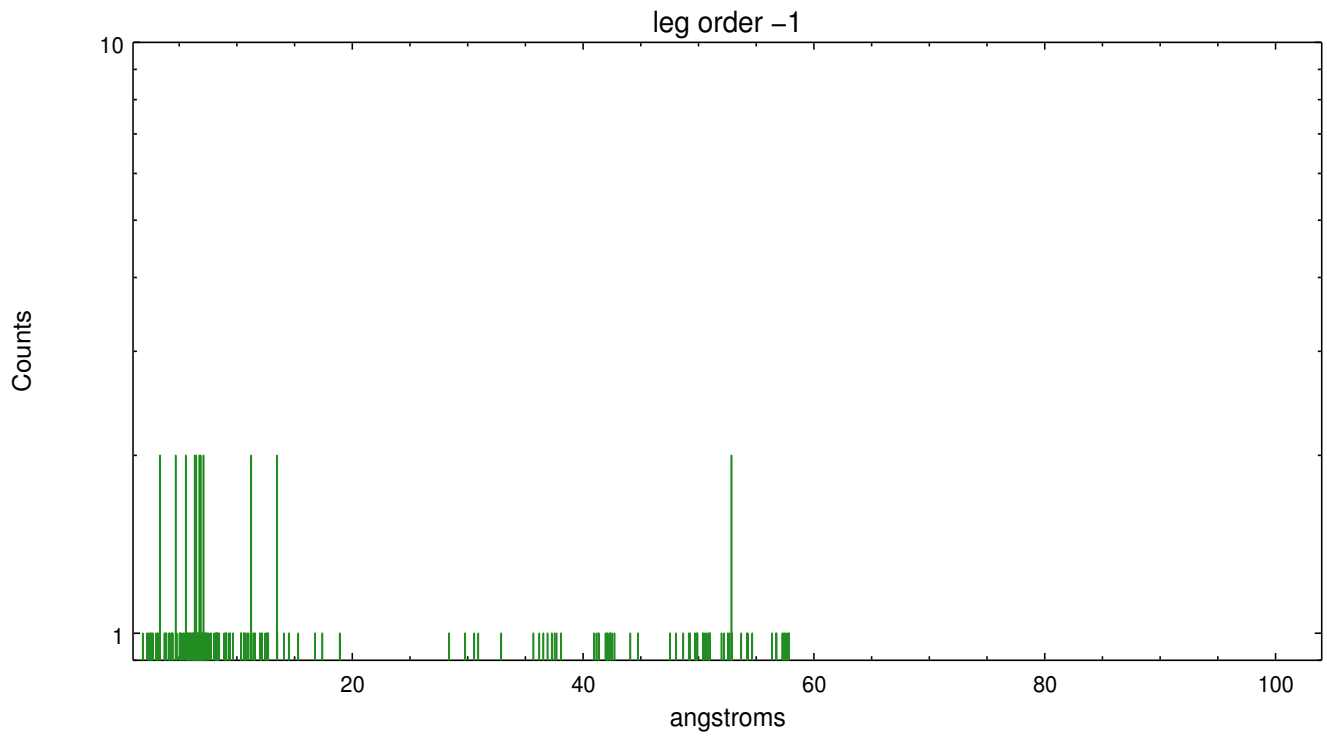
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	509	504	2034	524	644	543	538





A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2015.11.06
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	40.014923805237

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.

=====

Joint Proposal: NOAO

=====

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. 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.