

V&V Reference Report

L2 ASCDS Version : 10

Observation 15474 - L2 Version 2
Chandra X-Ray Center

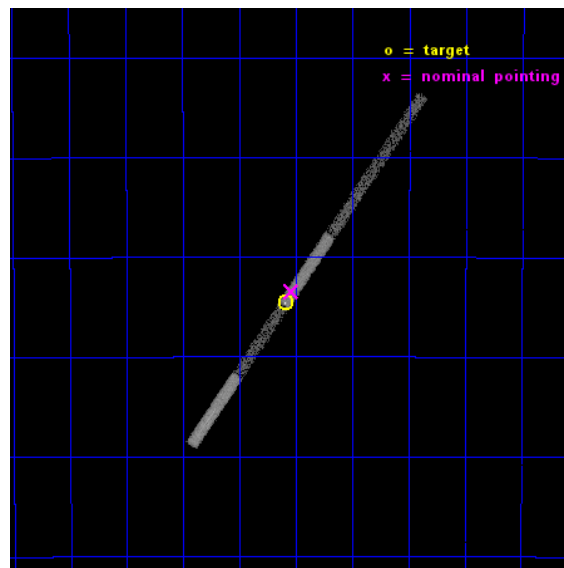
L2 Processing Date : Dec 4 2014

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1 Front

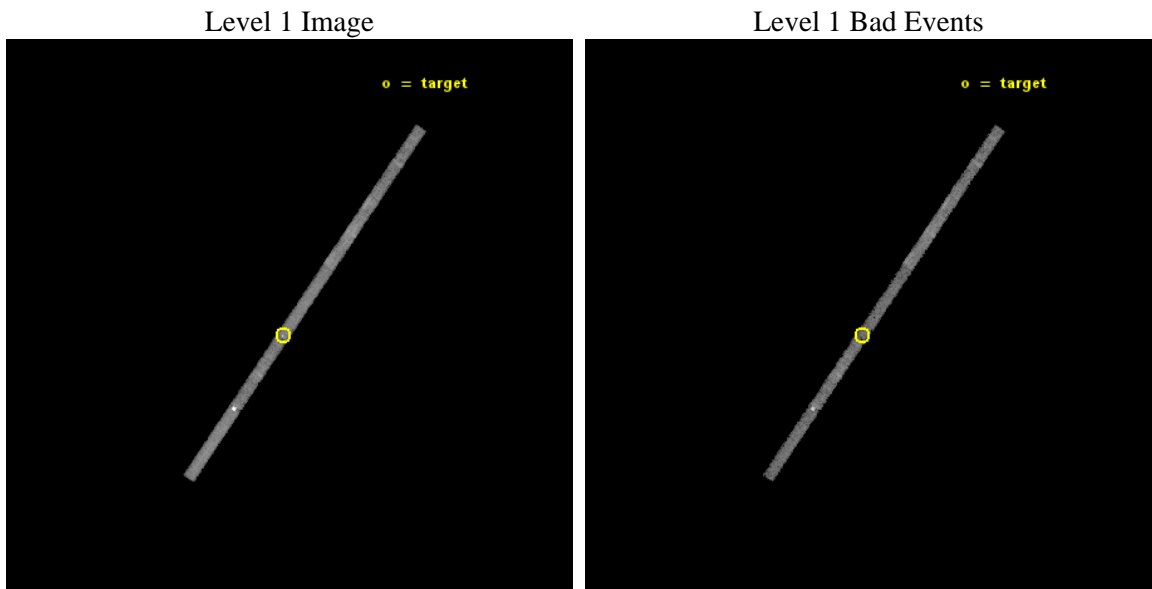
seq_num	790250	Sequence number
obs_id	15474	Observation id
title	AO-14 LETG/ACIS-S Calibration Observations of RXJ 1856	Proposal ti
observer	Dr. CXC Calibration	Principal investigator
object	RXJ 1856.5-3754	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	284.147083	Observer's specified target RA [deg]
dec_targ	-37.909611	Observer's specified target Dec [deg]
ra_nom	284.13480078218	Nominal RA [deg]
dec_nom	-37.890932325956	Nominal Dec [deg]
roll_nom	304.59395039197	Nominal Roll [deg]
revision	2	Processing version of data
ontime	12512.400497198	Sum of GTIs [s]
livetime	11711.34453126	Livetime [s]
ontime5	12512.400497198	Sum of GTIs [s]
ontime6	12512.371036589	Sum of GTIs [s]
ontime7	12512.400497198	Sum of GTIs [s]
ontime8	12511.688956559	Sum of GTIs [s]
ontime9	12512.288956583	Sum of GTIs [s]
l2events	15900	Number of level 2 events



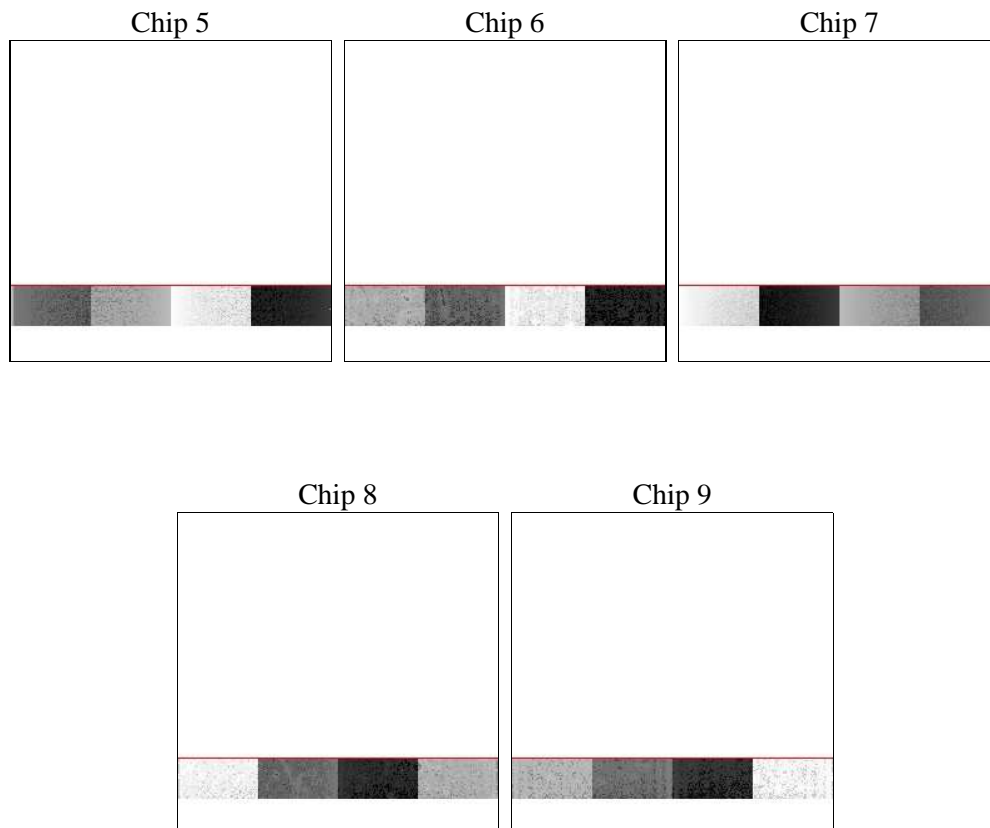
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	12512.400497198	Sum of GTIs [s]
caldbver	4.6.4	 	ontime5	12512.400497198	Sum of GTIs [s]
date	2014-12-04T22:23:01	Date and time of file creation	ontime6	12512.371036589	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	12512.400497198	Sum of GTIs [s]
			ontime8	12511.688956559	Sum of GTIs [s]
			ontime9	12512.288956583	Sum of GTIs [s]
			l1events	71599	Number of level 1 events
			tgmethod	TGDETECT	Method used to create src1a file
			zo_pos	(4008.87, 3954.07)	src1a sky pixel position

2.1.4 Events

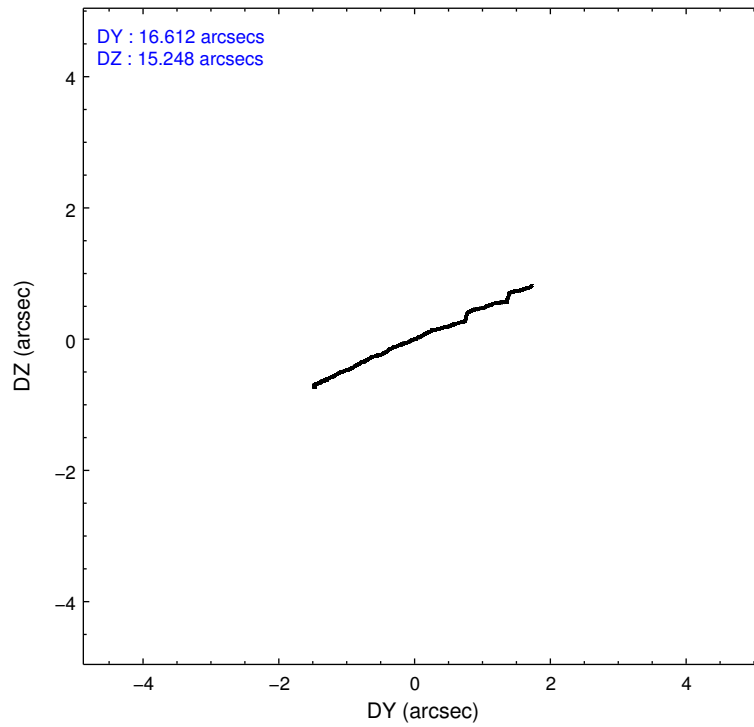
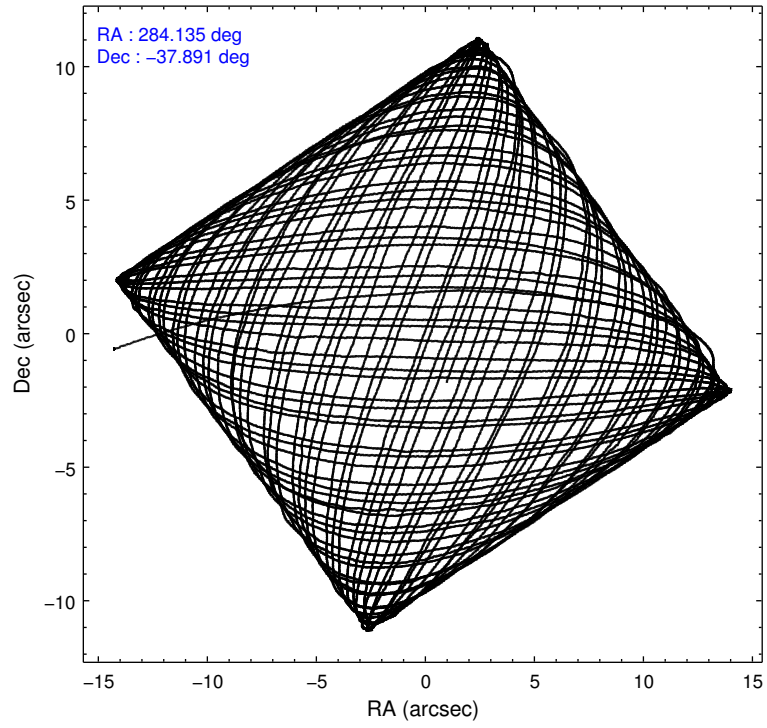
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	25288	9946	12266	14923	9176
rejected events	8585	8762	6103	11492	8020
rejected %	33%	88%	49%	77%	87%

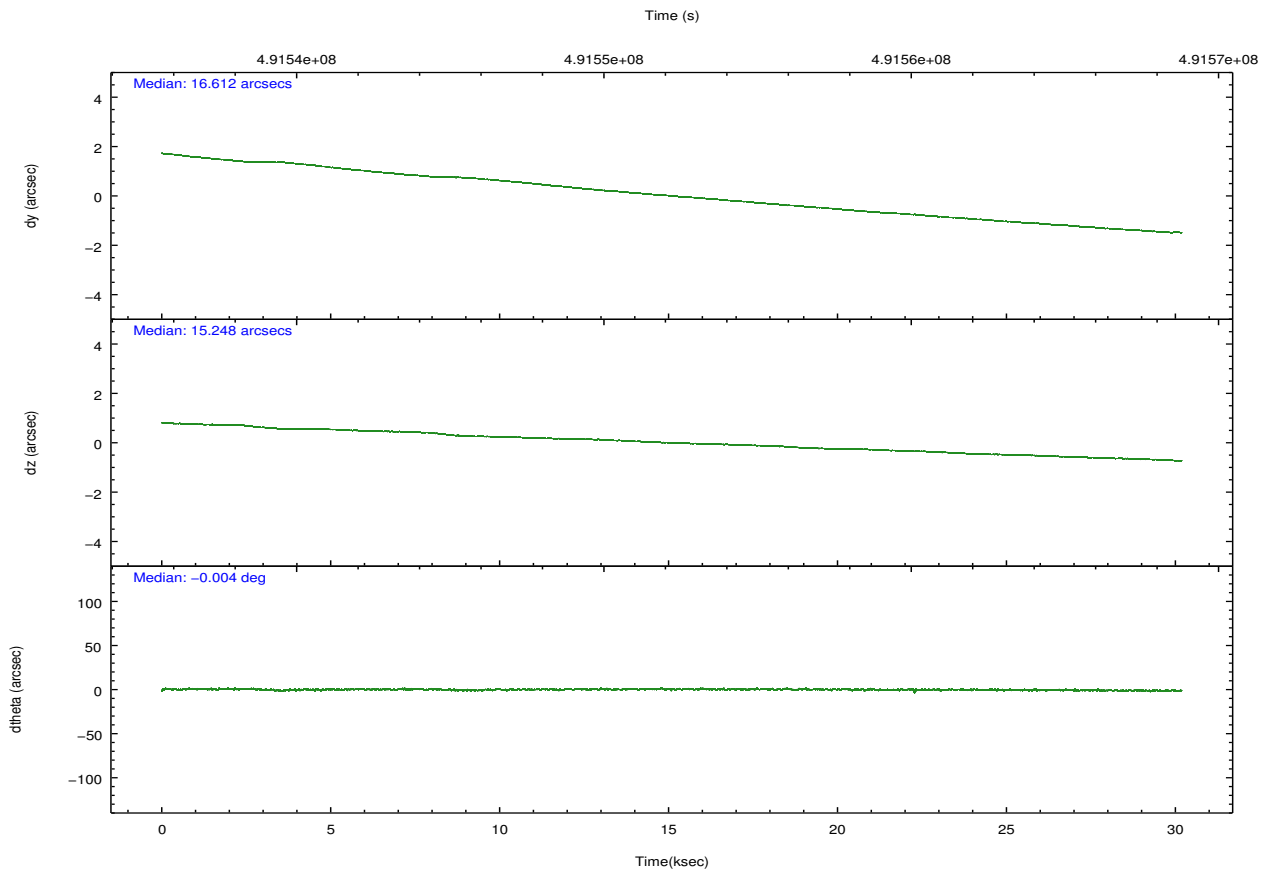
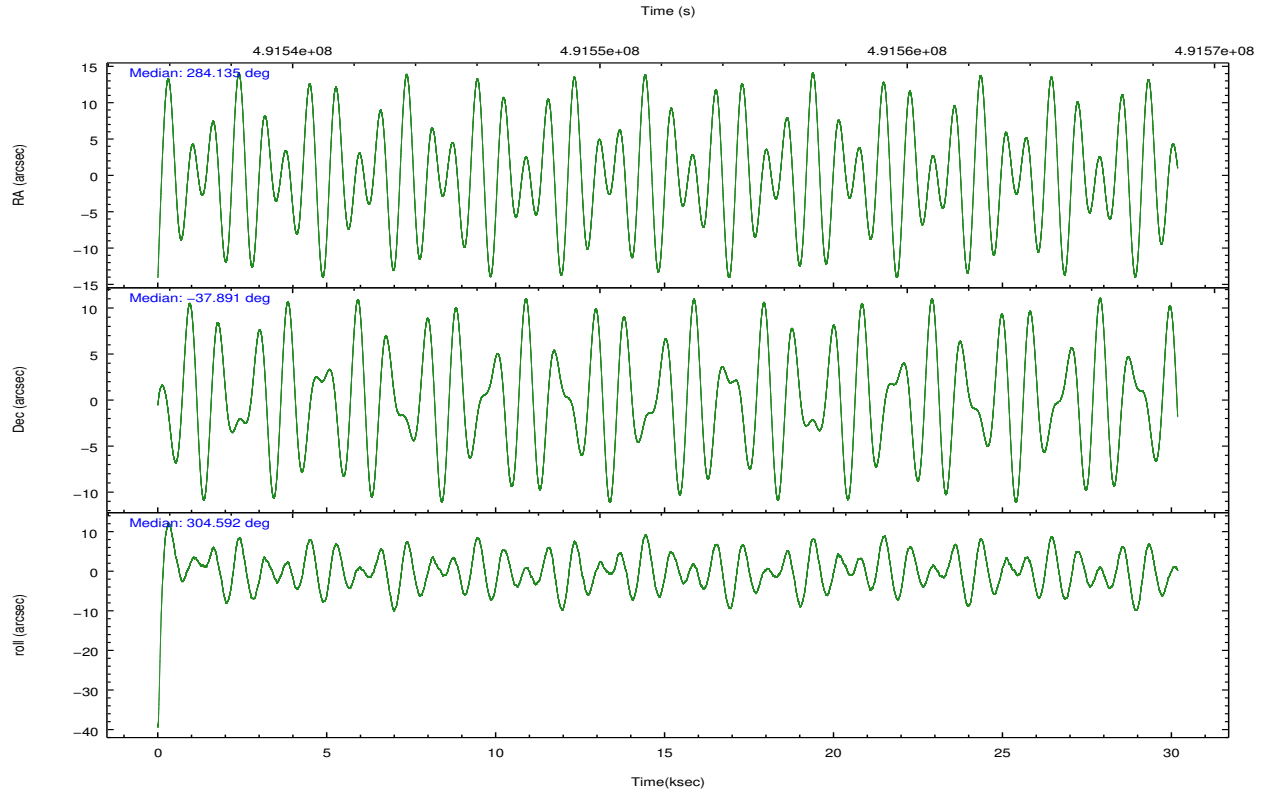
	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	5725	323	1203	899	357
	22%	3%	9%	6%	3%
grade 1 events	1181	3	13	5	2
	4%	0%	0%	0%	0%
grade 2 events	4917	219	1200	726	195
	19%	2%	9%	4%	2%
grade 3 events	715	217	677	417	202
	2%	2%	5%	2%	2%
grade 4 events	1299	224	652	411	180
	5%	2%	5%	2%	1%
grade 5 events	2154	384	1148	582	378
	8%	3%	9%	3%	4%
grade 6 events	4048	202	2431	978	223
	16%	2%	19%	6%	2%
grade 7 events	5249	8374	4942	10905	7639
	20%	84%	40%	73%	83%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-56789	ACIS-56789	Obspar file type	PREDICTED	ACTUAL
Grating	LETG	LETG	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	284.103299	284.1348007821784	CCD I2 on	N	N
[deg] Pointing Dec	-37.879538	-37.89093232595609	CCD I3 on	N	N
[deg] Pointing Roll	304.417988	304.5939503919703	CCD S0 on	O1	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-182.132523	-182.1344861297048	CCD S3 on	Y	Y
[mm] SIM translation stage offset	-8	-7.998036453302973	CCD S4 on	Y	Y
[s] Observation start time (MET)	491537306.184000	491535644.96181	CCD S5 on	Y	Y
Observation start date	2013-07-30T02:07:19	2013-07-30T01:40:44	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	491567306.184000	491568249.70108	On-chip summing requested	N	N
Observation end date	2013-07-30T10:27:19	2013-07-30T10:44:09	Subarray requested	CUSTOM	1/8
Read mode	TIMED	TIMED	Subarray start row	113	113
			Subarray row count	128	128
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	0.6

2.3 Aspect





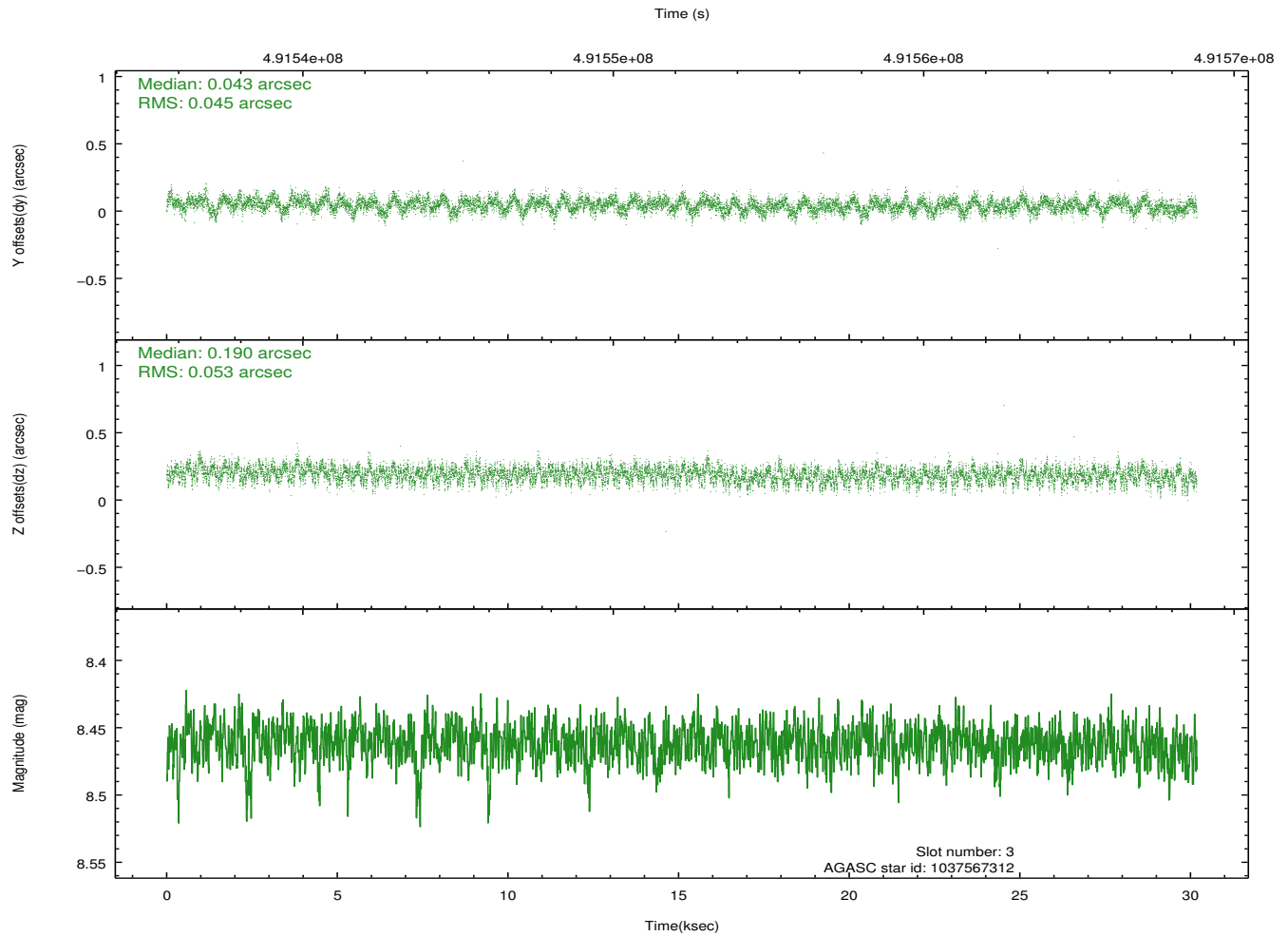
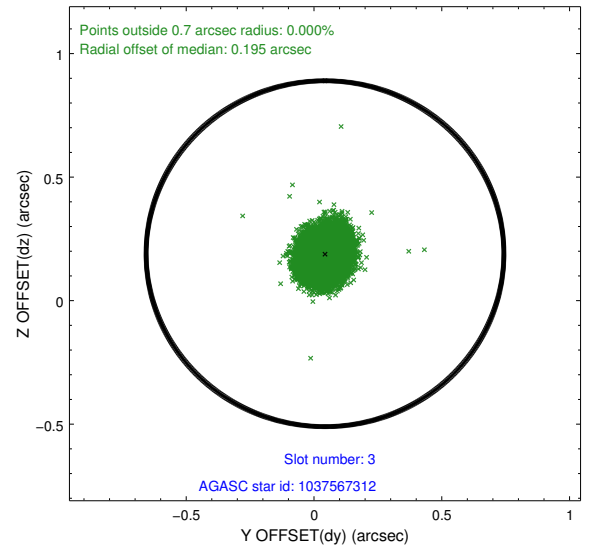
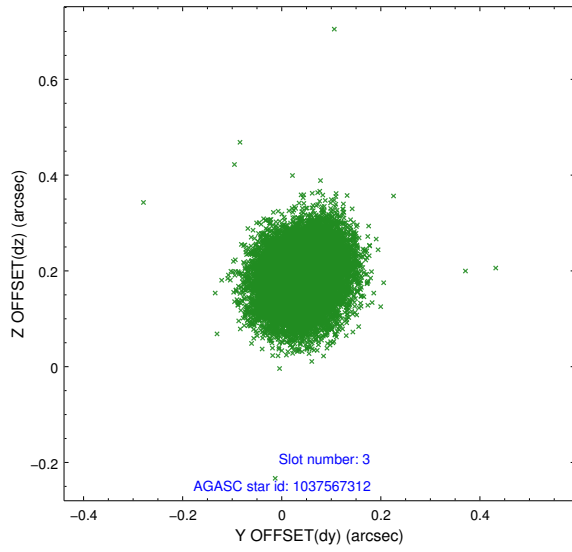
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-1	7.06	7361	-0.022	0.112	0.011	0.024	0.000000	0.000000	926.88	-1896.95
1	FID		ACIS-S-4	7.05	7362	0.084	-0.037	0.011	0.026	0.000000	0.000000	2144.47	6.92
2	FID		ACIS-S-6	7.26	7362	-0.085	-0.062	0.012	0.021	0.000000	0.000000	392.90	644.37
3	GUIDE	used	1037567312	8.46	14722	0.043	0.190	0.075	0.119	283.456056	-37.976515	-744.43	-1715.75
4	GUIDE	used	1037567328	8.85	14720	-0.003	-0.117	0.097	0.150	284.052016	-37.647288	-771.99	351.90
5	GUIDE	used	1037568192	8.68	14715	-0.065	-0.102	0.081	0.130	284.446060	-38.037443	1019.99	479.54
6	GUIDE	used	1037576824	8.73	14716	0.011	0.116	0.083	0.129	284.177029	-38.323536	1436.83	-731.36
7	GUIDE	used	1037578168	8.09	14722	0.017	-0.082	0.064	0.103	284.493659	-38.169059	1488.69	319.26

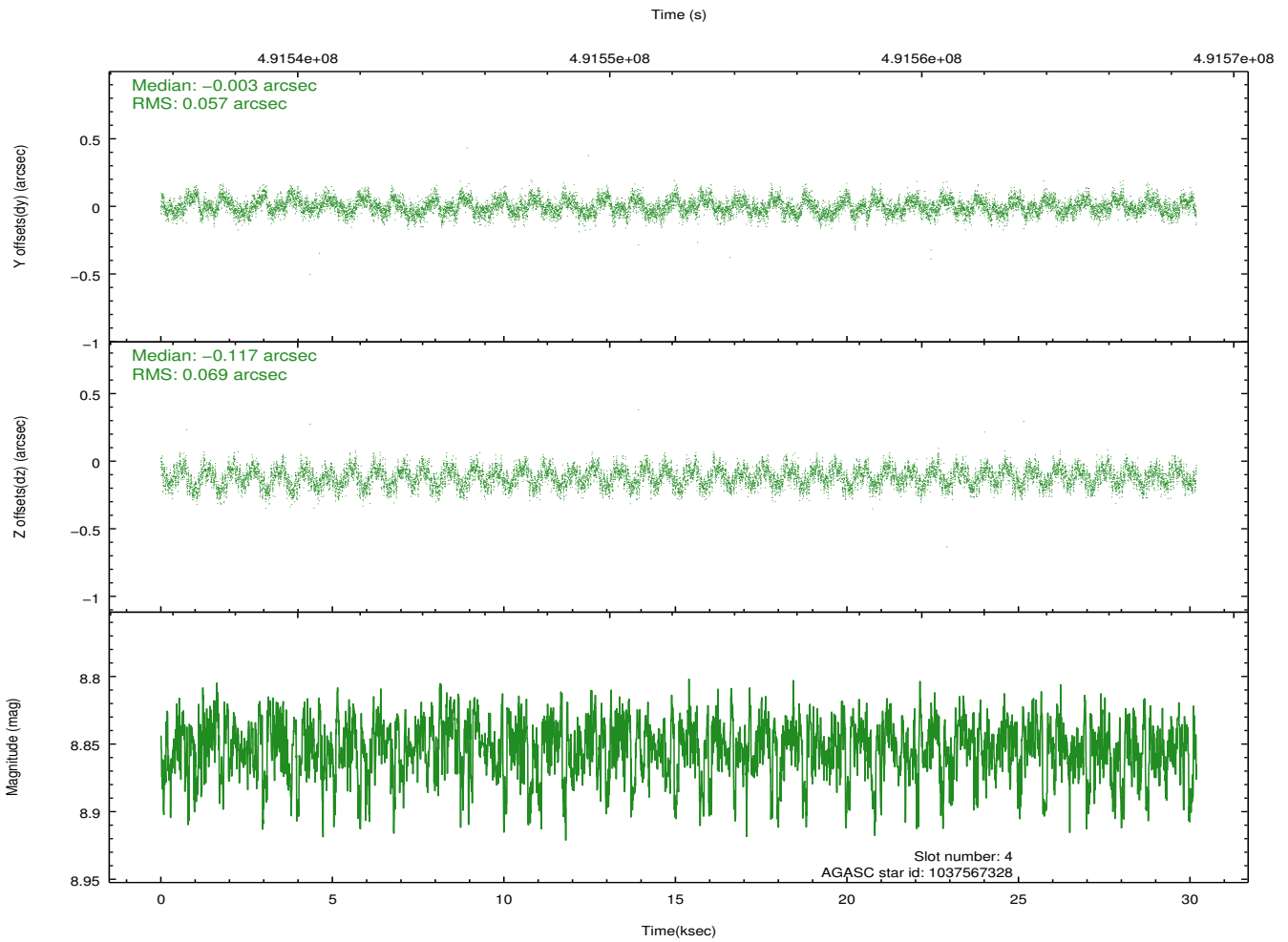
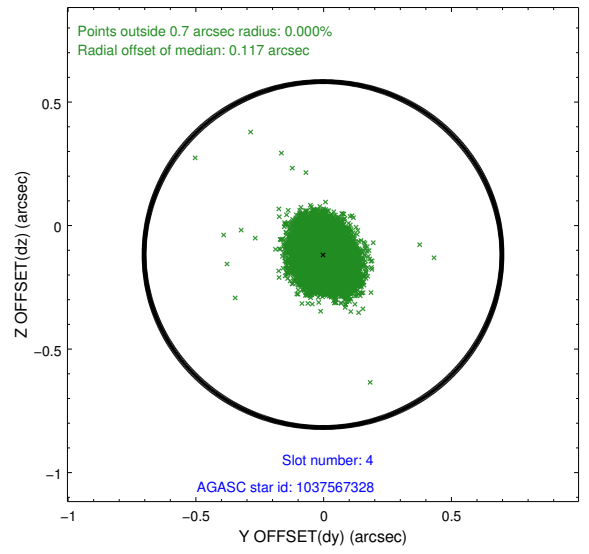
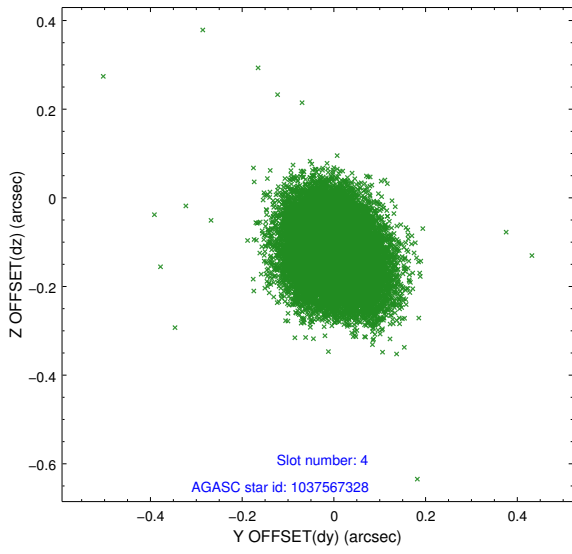
∞

2.4 Star Slots

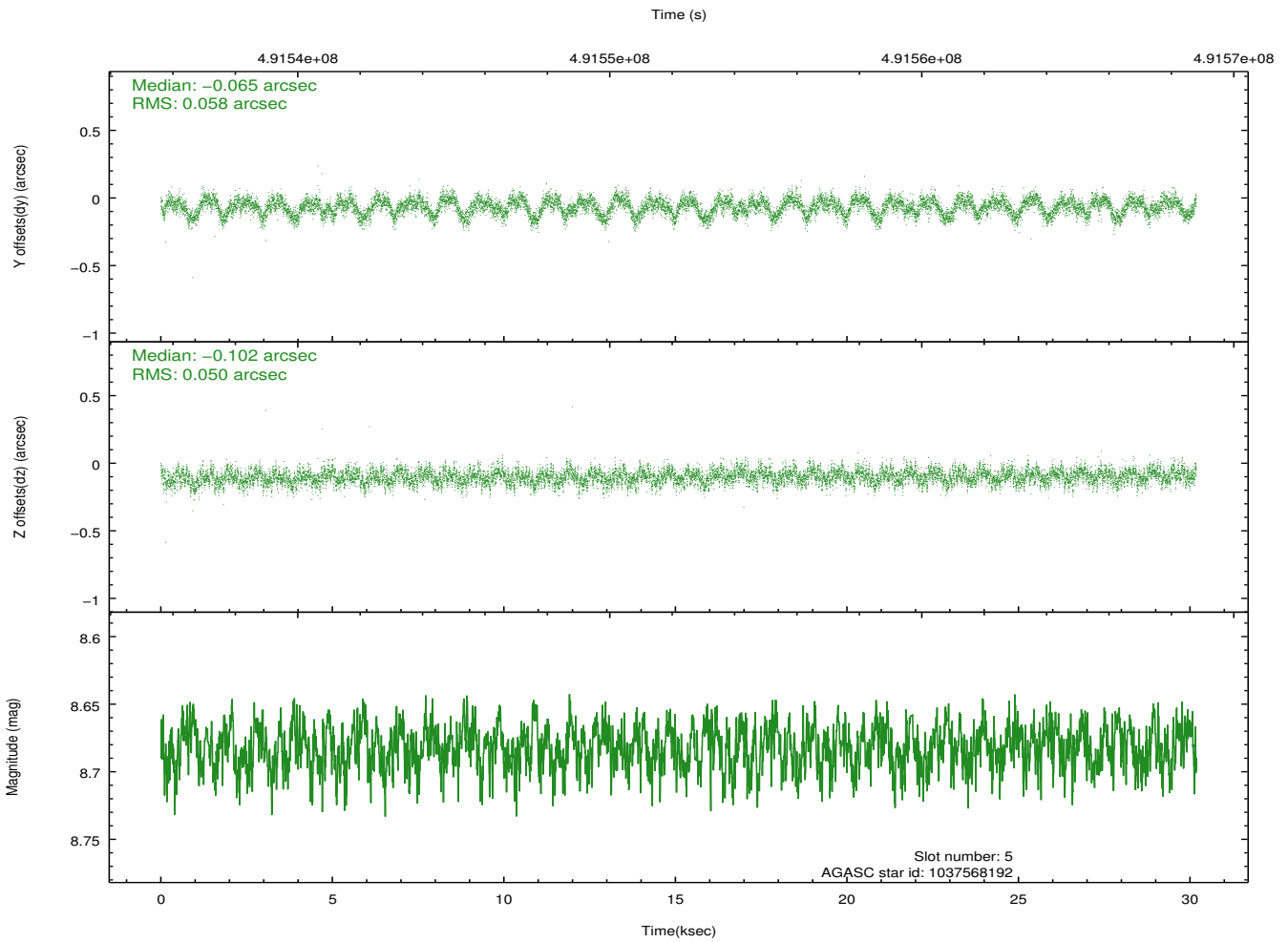
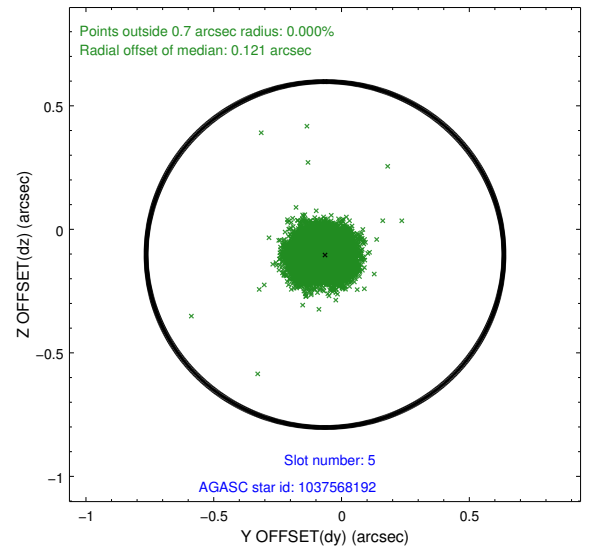
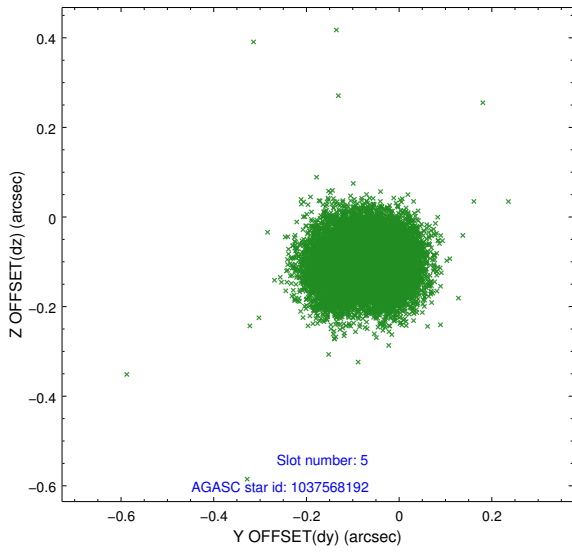
2.4.1 Slot 3



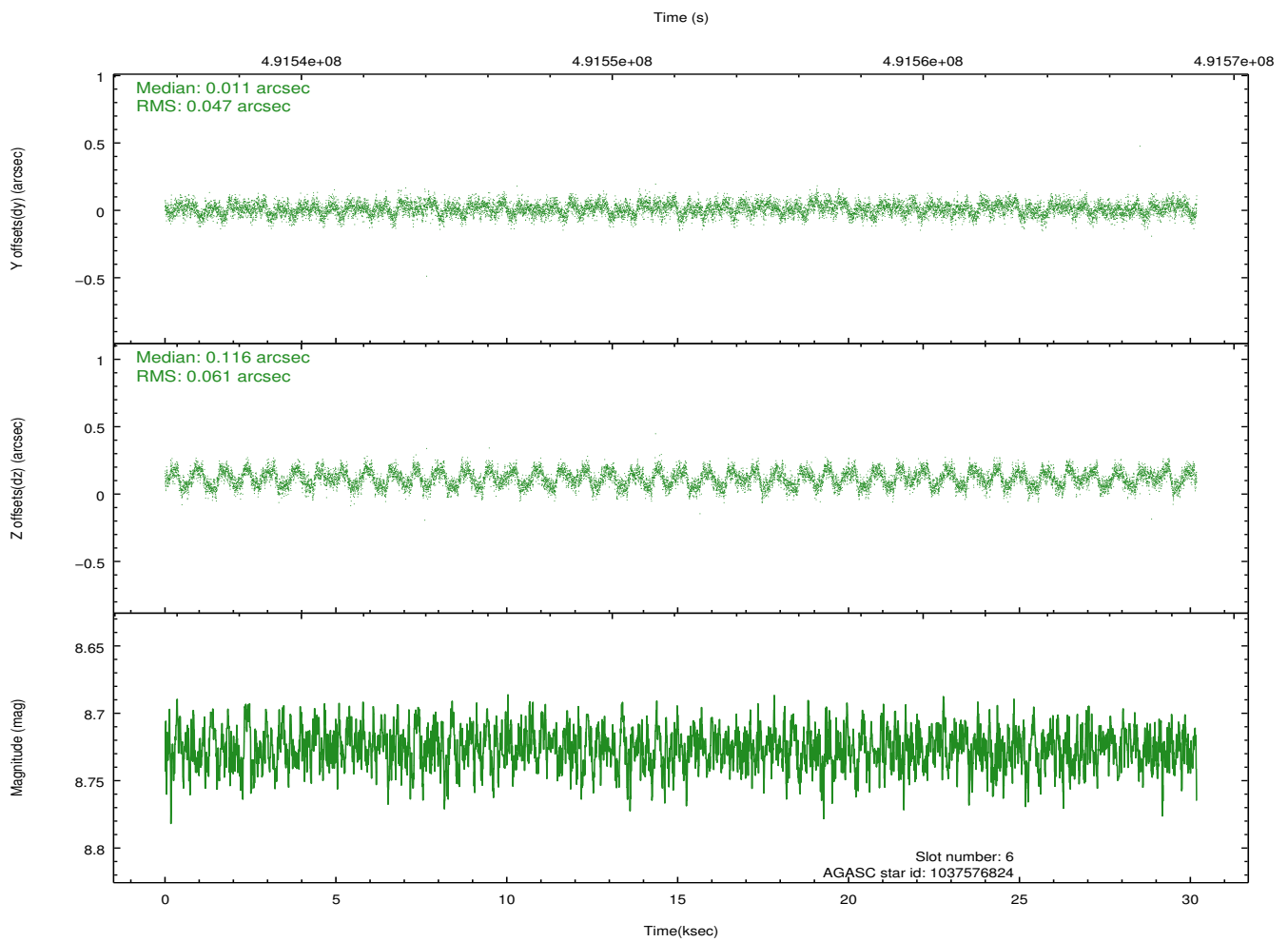
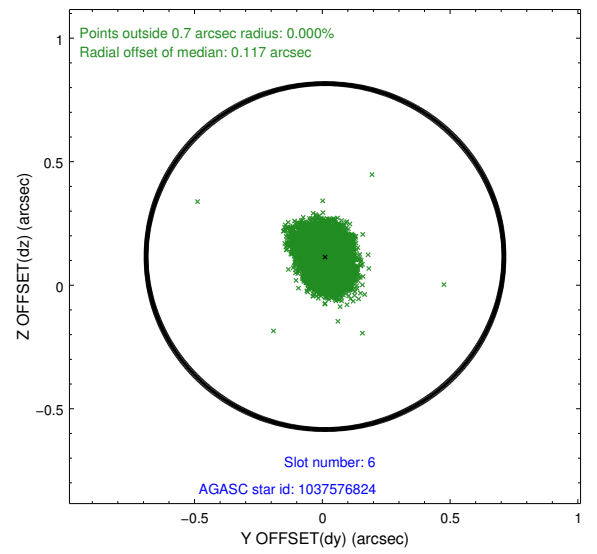
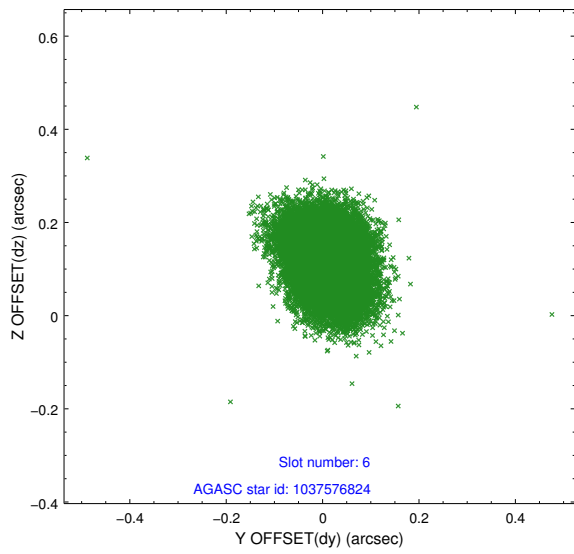
2.4.2 Slot 4



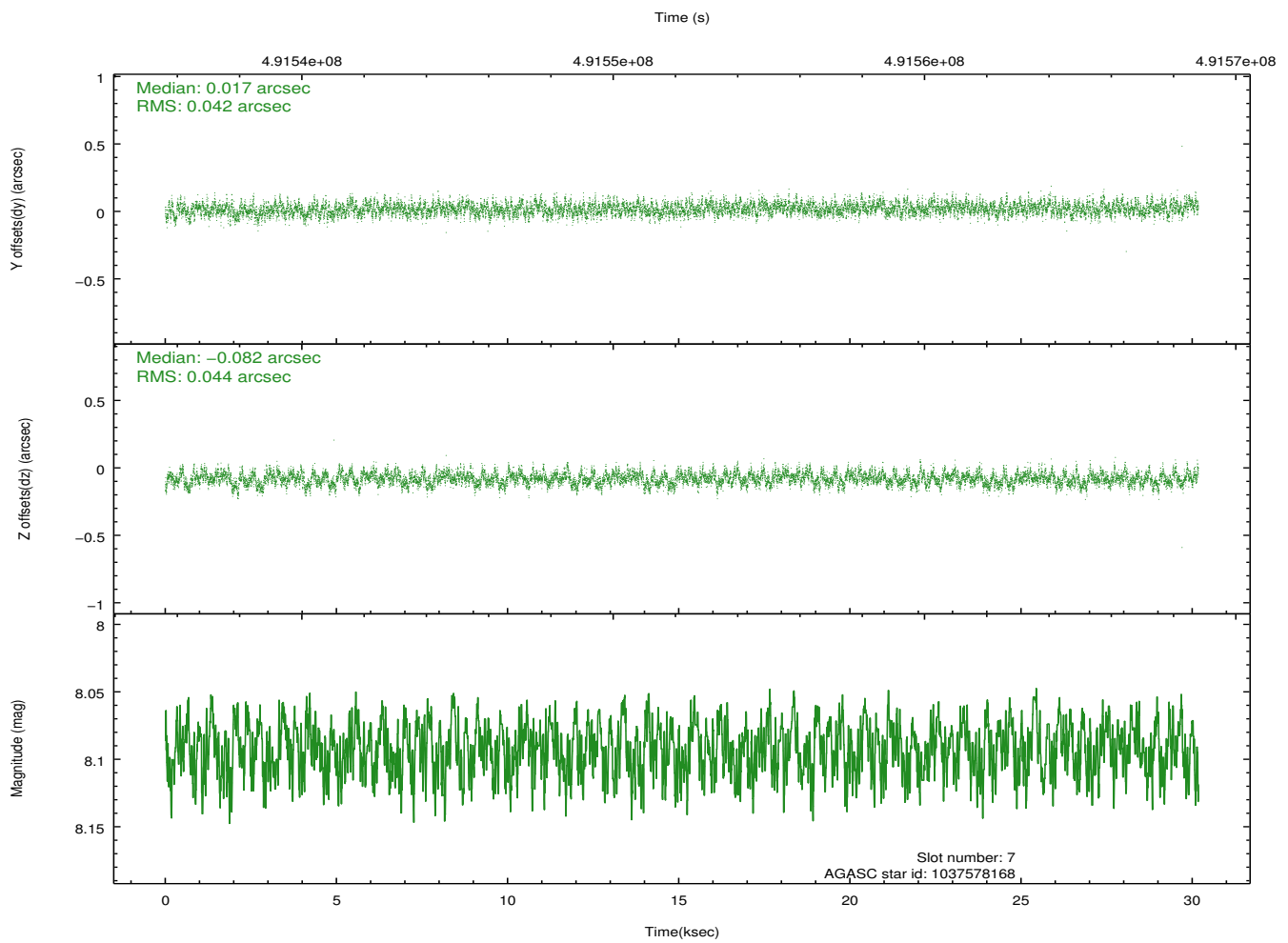
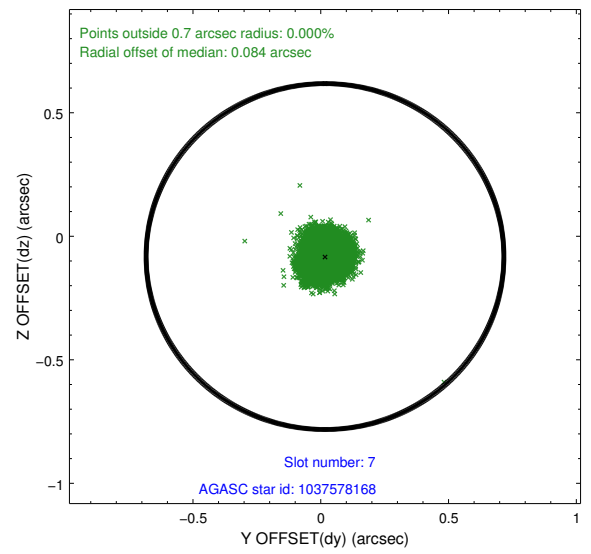
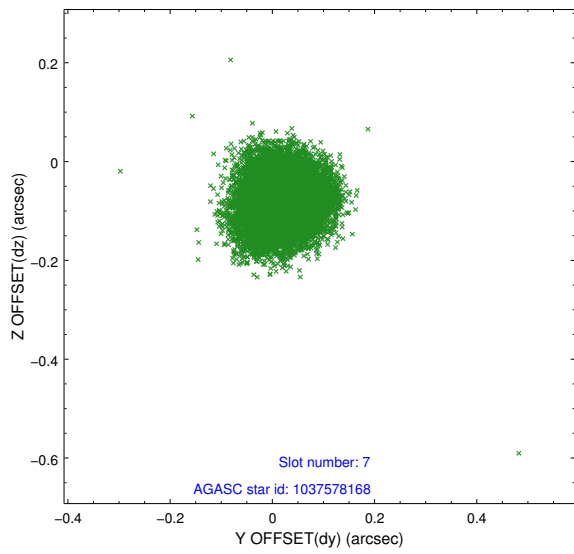
2.4.3 Slot 5



2.4.4 Slot 6

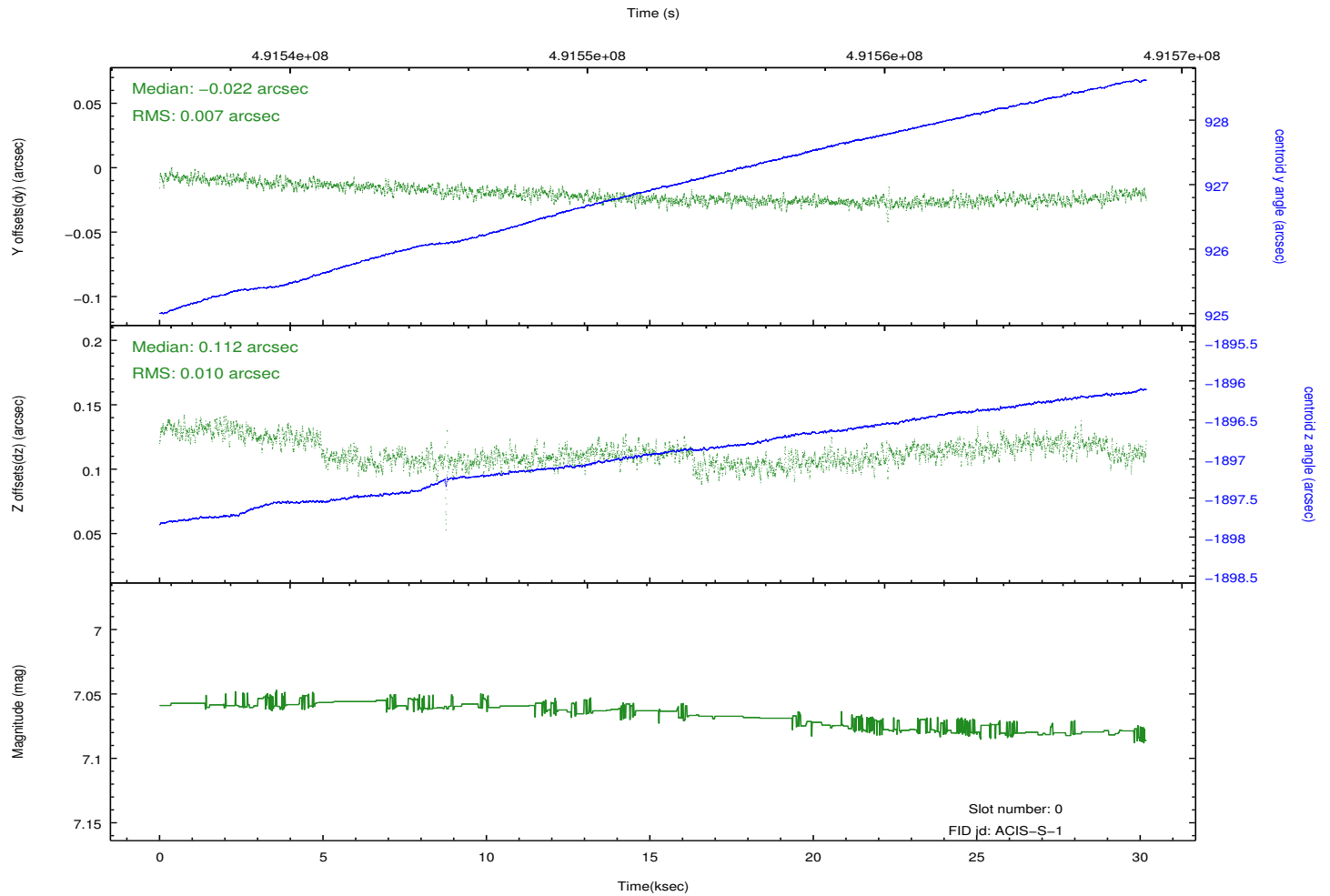
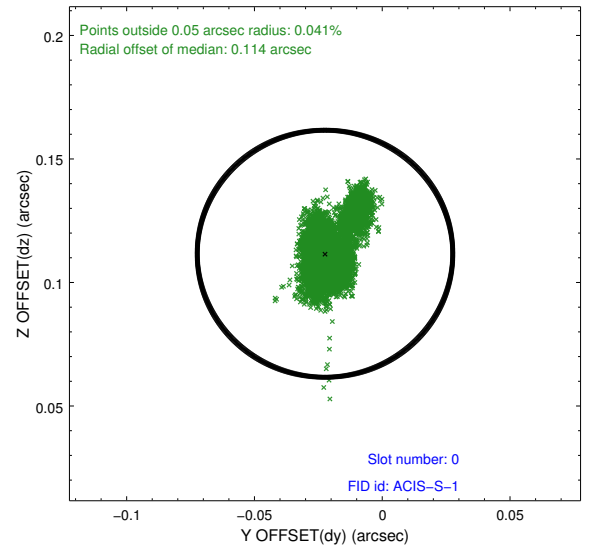
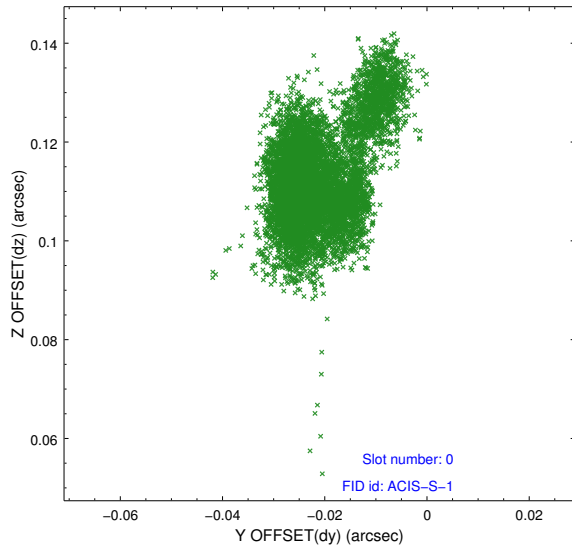


2.4.5 Slot 7

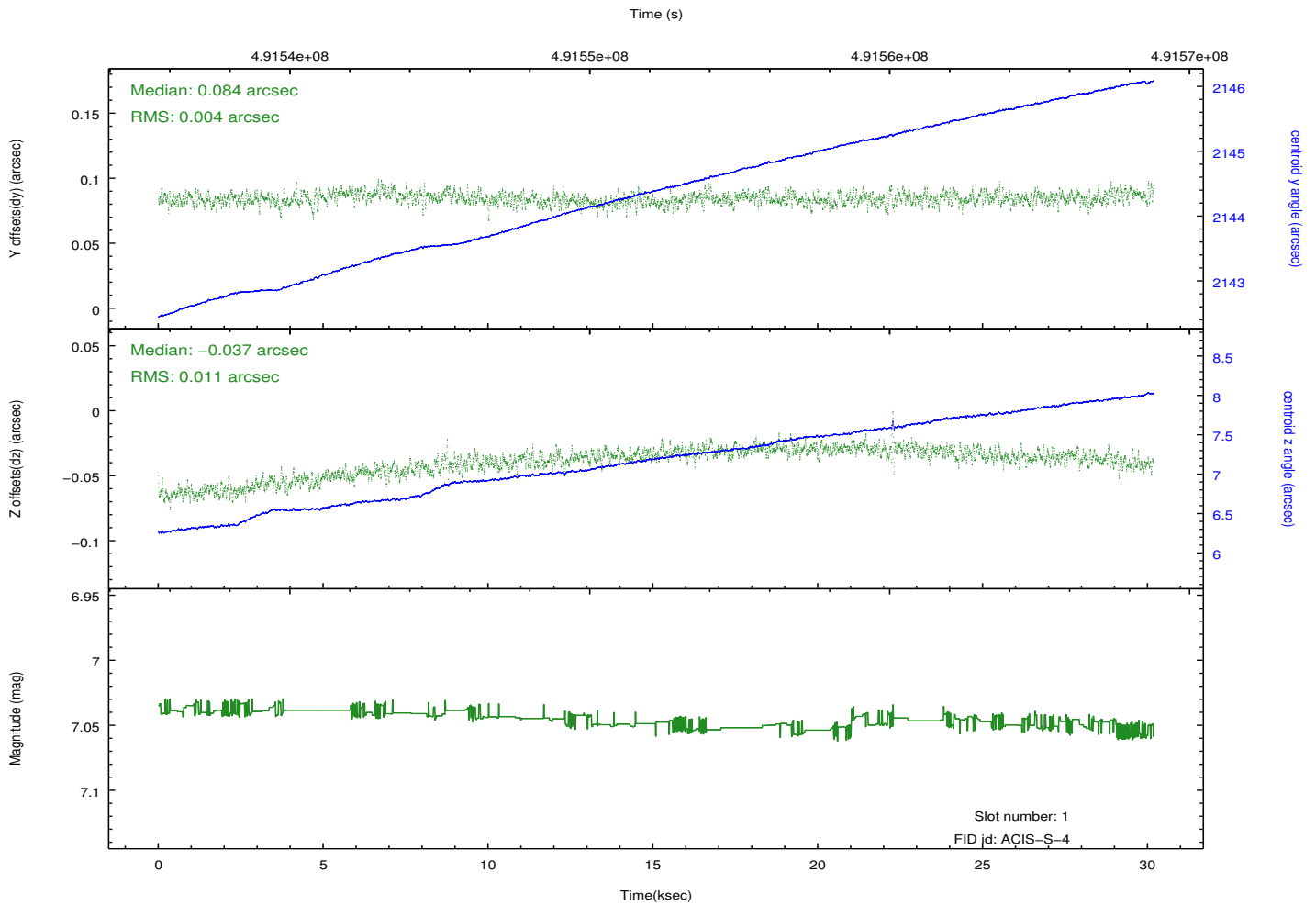
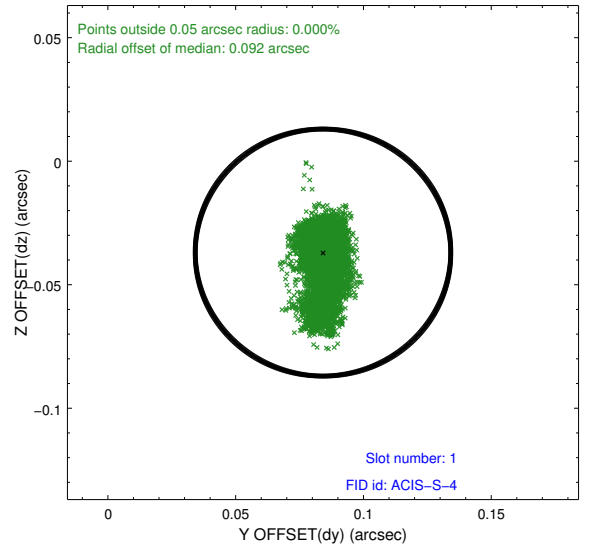
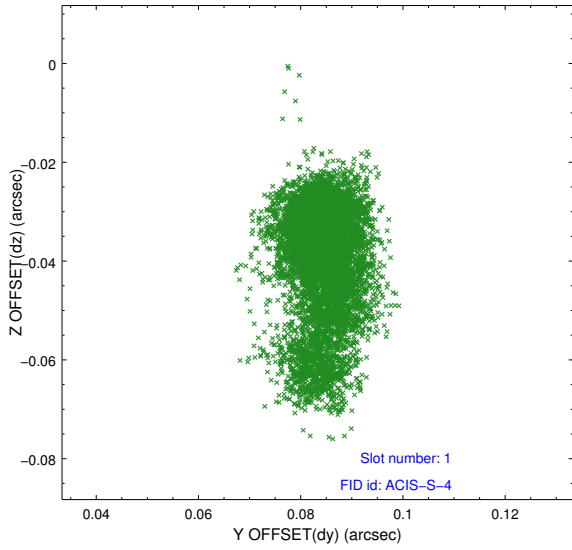


2.5 FID Slots

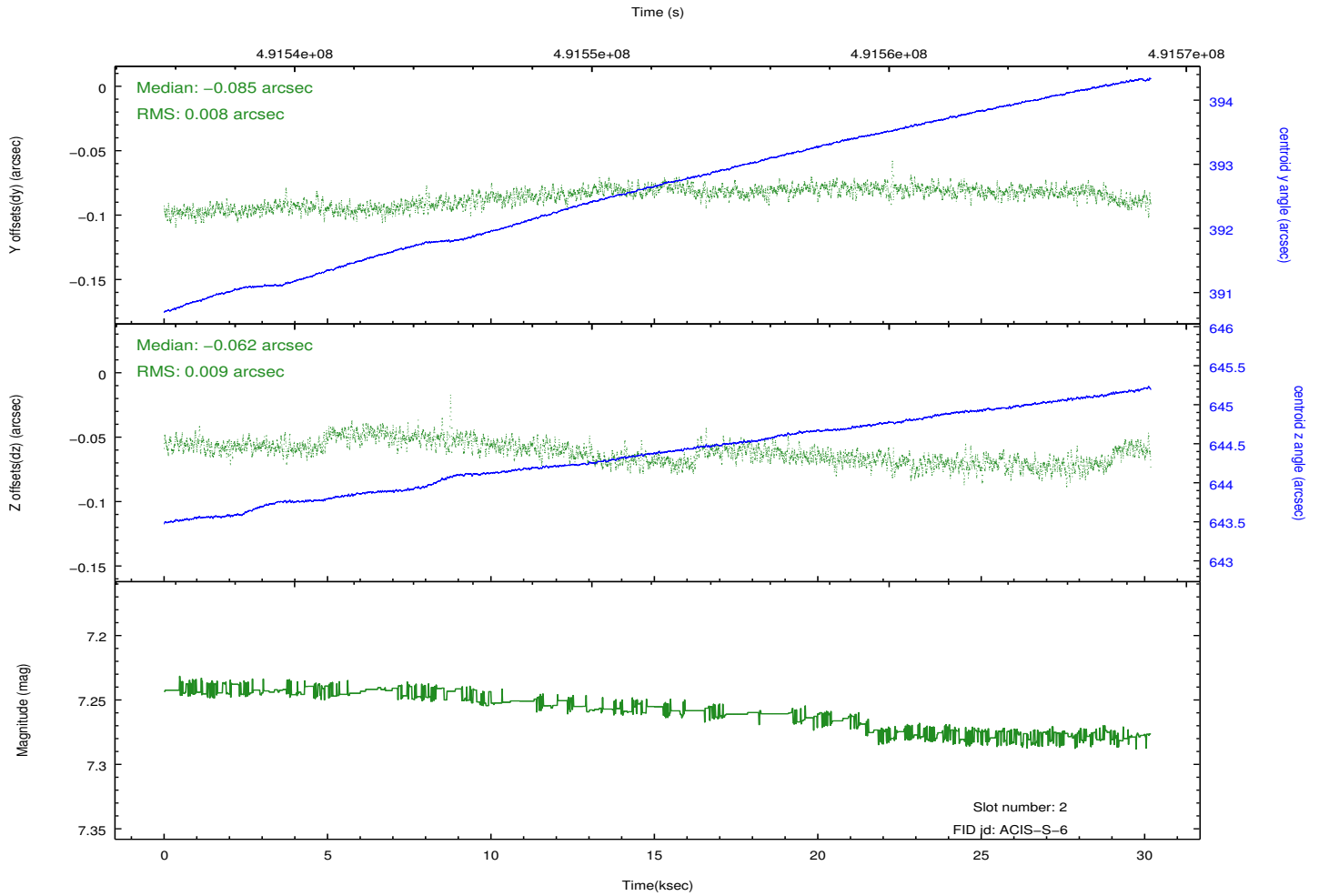
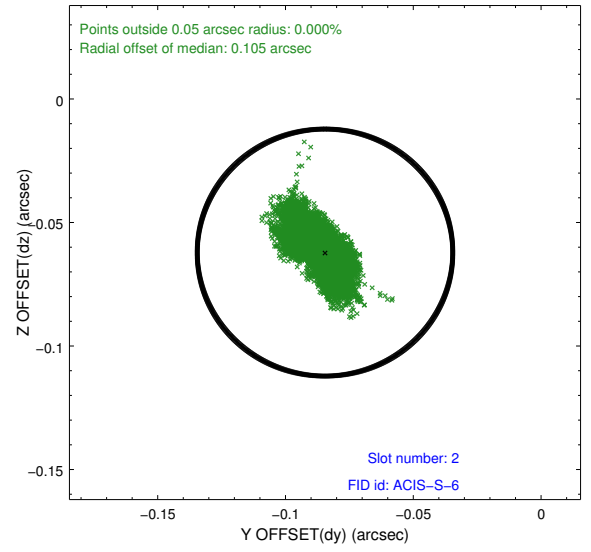
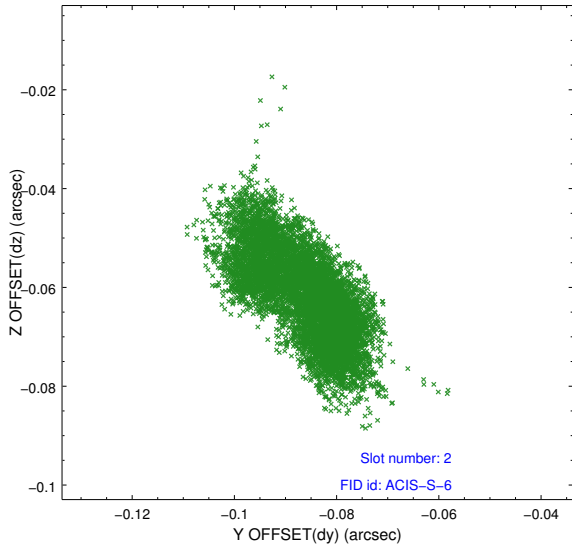
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

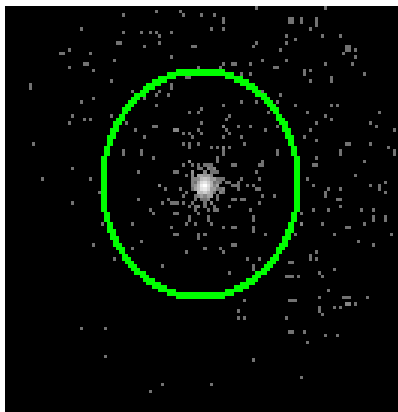


3 Gratings

3.1 LETG Arm



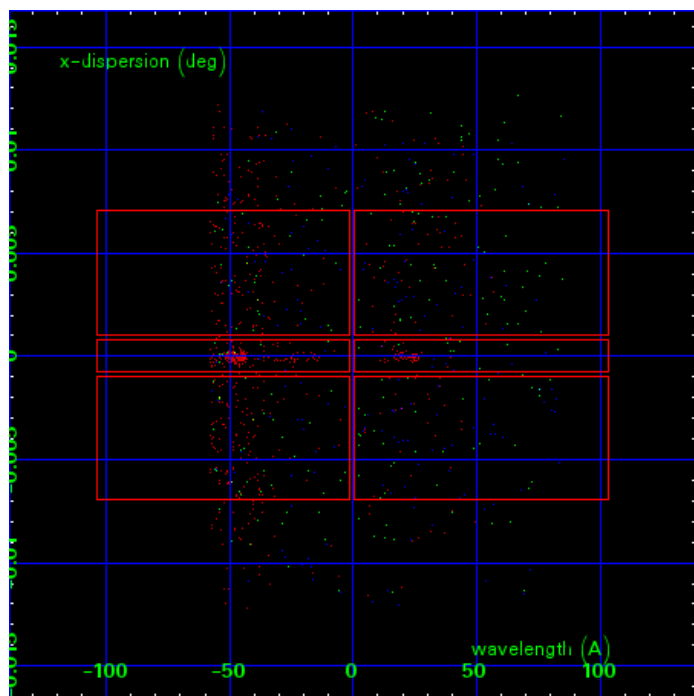
LETG Order Sort 123



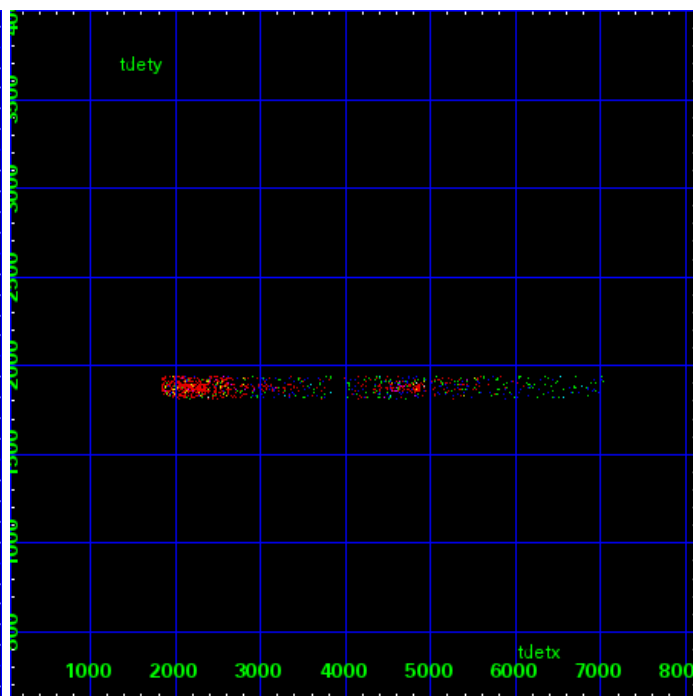
LETG Zero Order



LETG Order Sort ALL

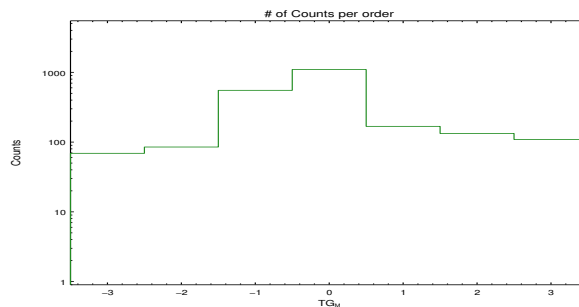


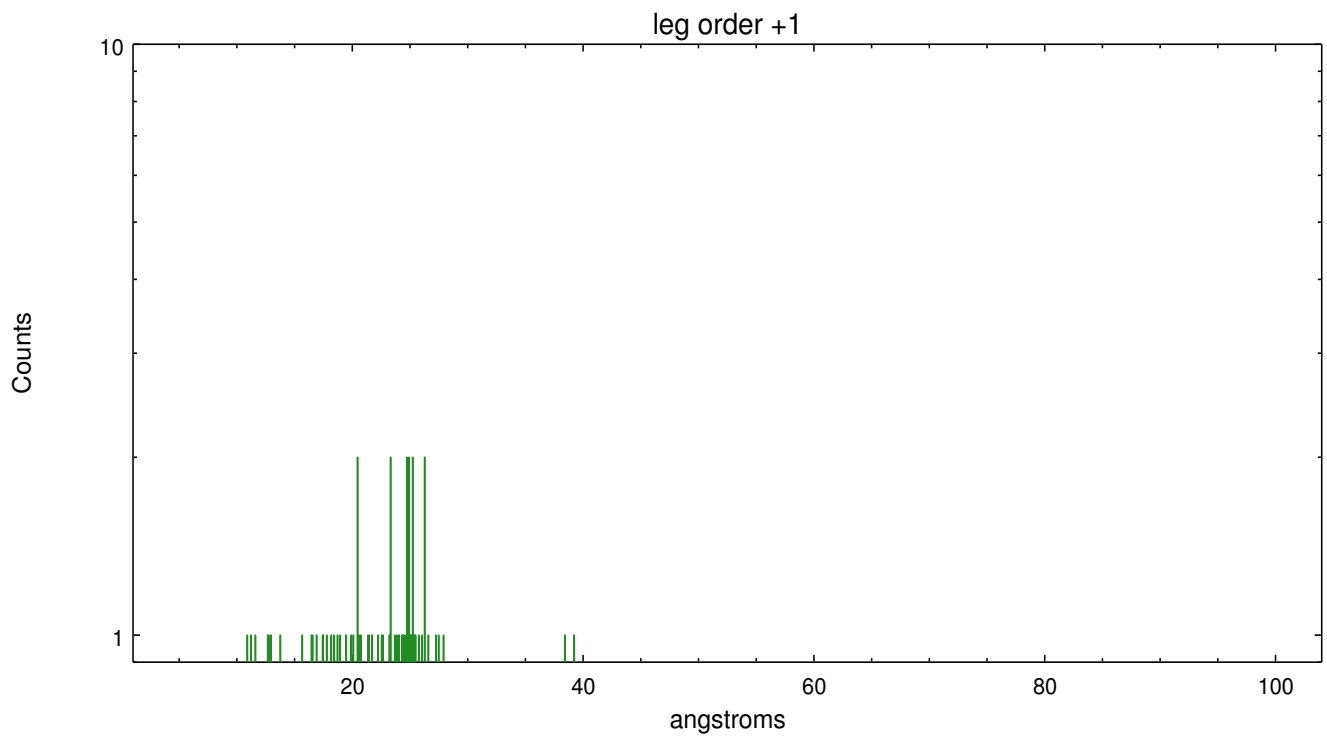
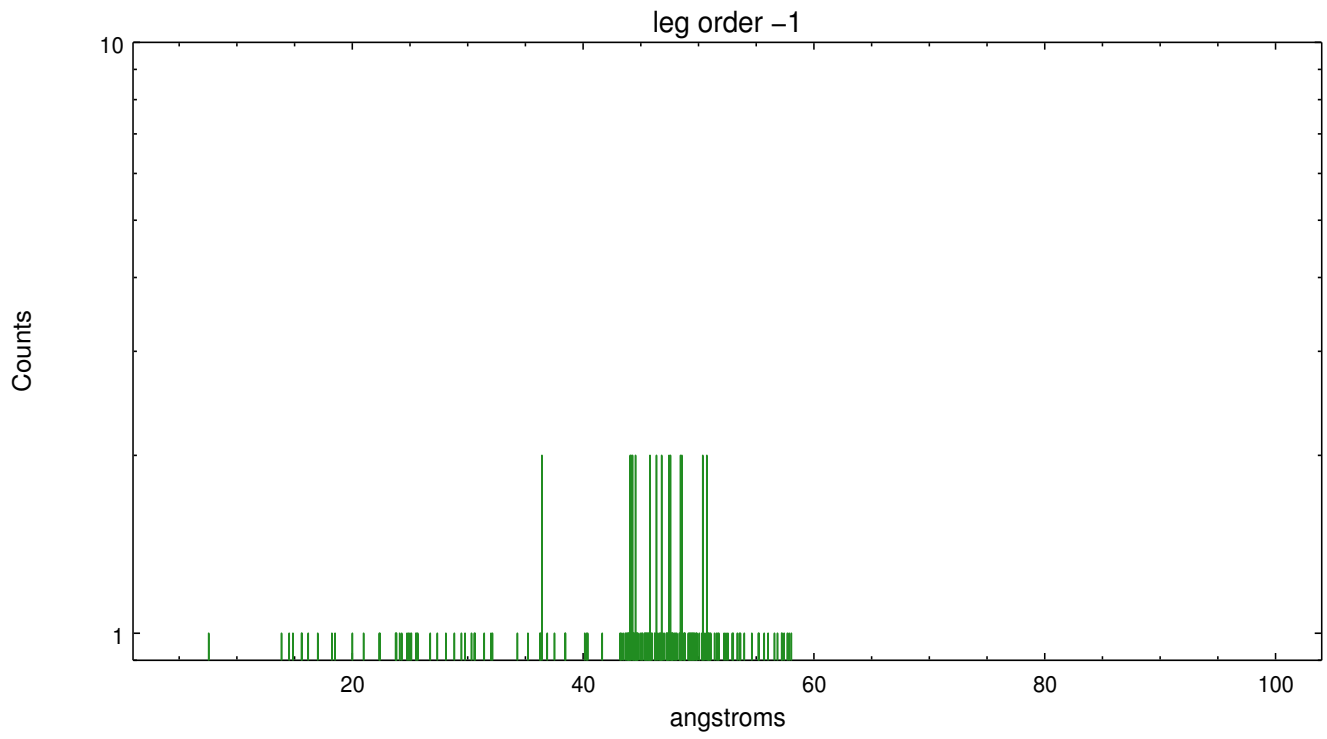
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	69	85	552	1097	168	133	109





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2015.11.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	12.512400497198

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.

====

Source is very close to chip edge and is slightly dithered into the gap. Caution should be taken in interpreting variability and flux.

====Unexpectedly short ONTIME of 12512.40 seconds is due to an apparent ACIS FEP anomaly. The FEPS apparently shut down unexpectedly during the observation. it is confirm that the 449 second delay between the last complete exposure packets at 211:20084 (211:05:34:44) and the final, incomplete packets at 211:20533 (211:05:42:13) is entirely consistent with the FEP watchdog countdown time of $(2^{32}-1)/9.6e6 = 447.4$ seconds. There are no problems with the data marked good GTI.