

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 3170 - L2 Version 5
Chandra X-Ray Center

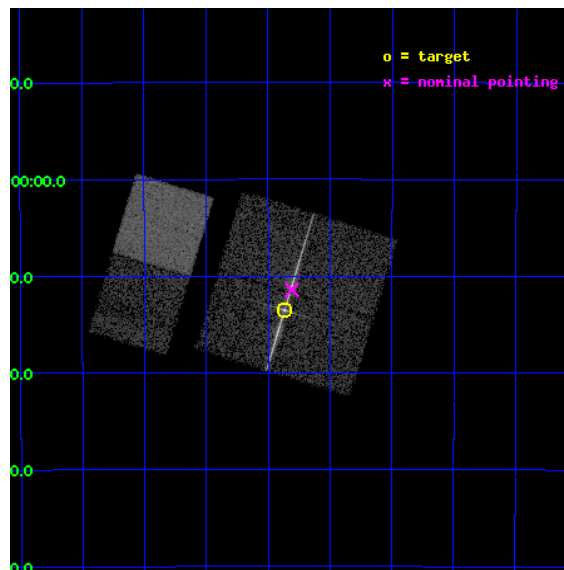
L2 Processing Date : Oct 26 2012

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1 Front

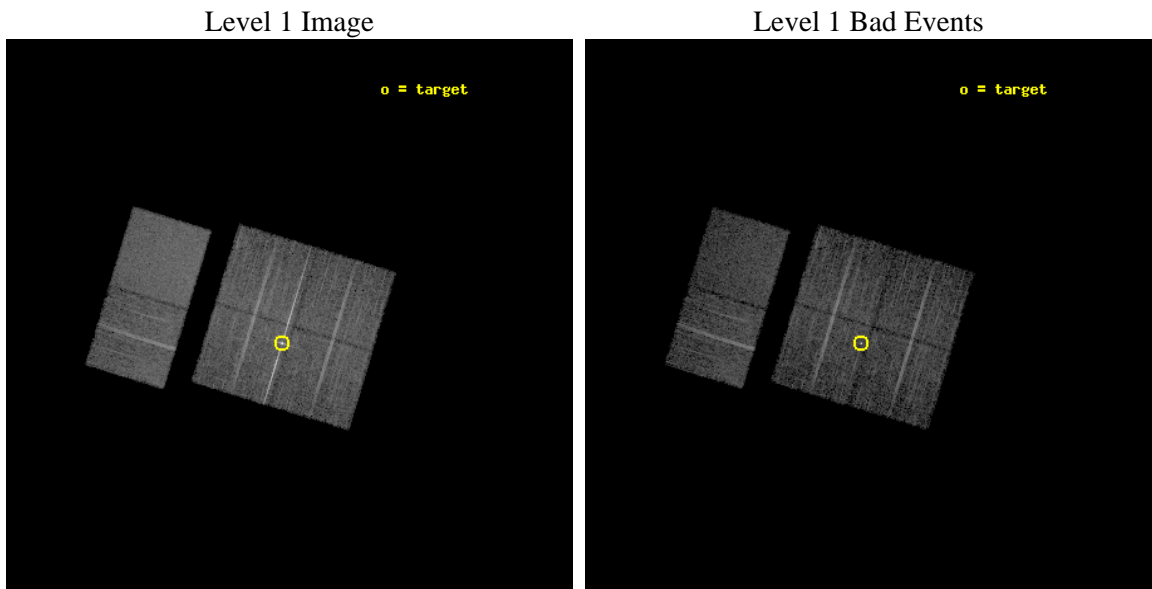
seq_num	790064	Sequence number
obs_id	3170	Observation id
title	AO3 LETG/ACIS-I CALIBRATION OBSERVATIONS OF PKS2155-304	Proposal t
observer	Dr. CXC Calibration	Principal investigator
object	PKS2155-304	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	329.716667	Observer's specified target RA [deg]
dec_targ	-30.225556	Observer's specified target Dec [deg]
ra_nom	329.70208329324	Nominal RA [deg]
dec_nom	-30.190360840102	Nominal Dec [deg]
roll_nom	287.03130457439	Nominal Roll [deg]
revision	5	Processing version of data
ontime	7753.5752454102	Sum of GTIs [s]
livetime	7655.3948070103	Livetime [s]
ontime0	7753.4931654036	Sum of GTIs [s]
ontime1	7753.5342054069	Sum of GTIs [s]
ontime2	7753.5752454102	Sum of GTIs [s]
ontime3	7753.6000072062	Sum of GTIs [s]
ontime6	7753.6000072062	Sum of GTIs [s]
ontime7	7753.6000072062	Sum of GTIs [s]
l2events	77279	Number of level 2 events



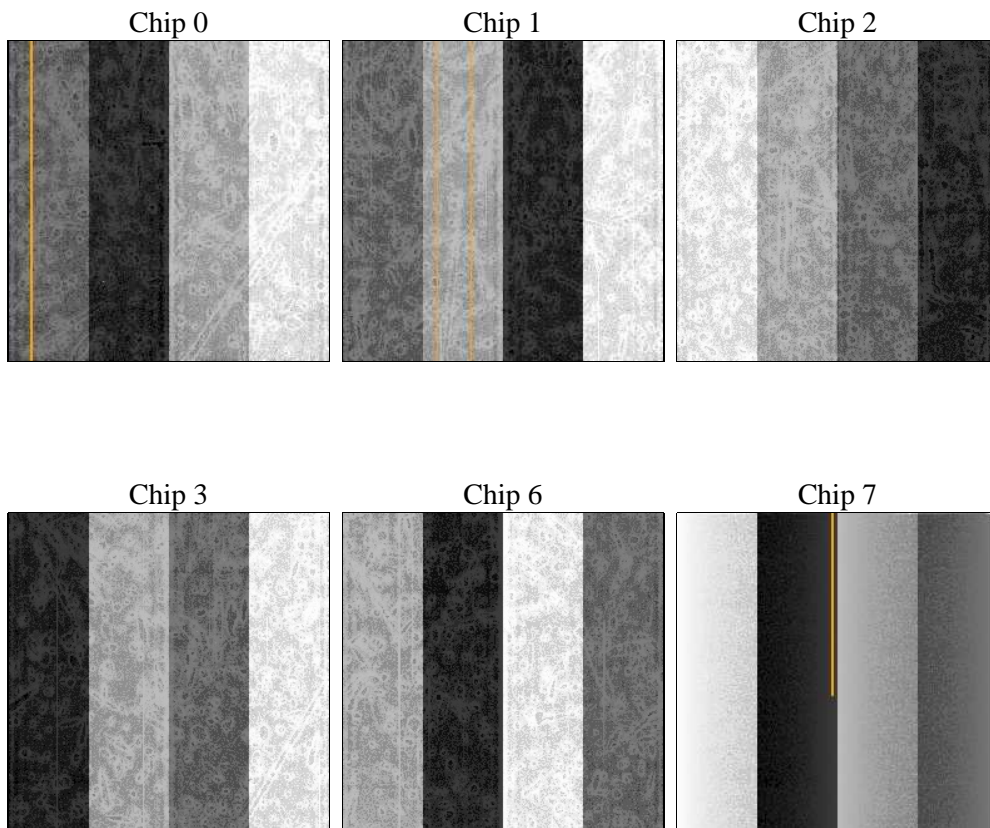
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	8000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	7753.5752454102	Sum of GTIs [s]
caldbver	4.5.2	 	ontime0	7753.4931654036	Sum of GTIs [s]
date	2012-09-28T06:00:46	Date and time of file creation	ontime1	7753.5342054069	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	7753.5752454102	Sum of GTIs [s]
			ontime3	7753.6000072062	Sum of GTIs [s]
			ontime6	7753.6000072062	Sum of GTIs [s]
			ontime7	7753.6000072062	Sum of GTIs [s]
			l1events	335928	Number of level 1 events

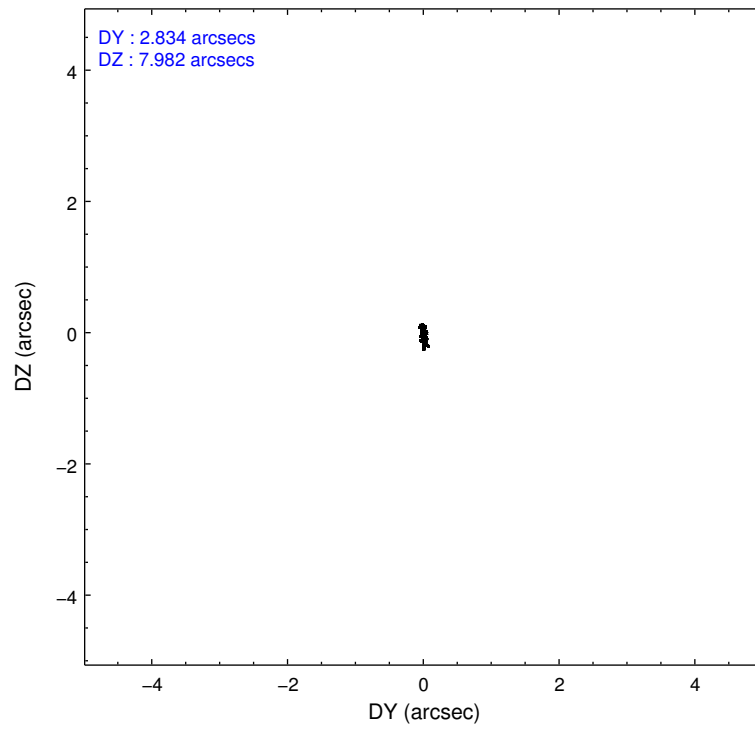
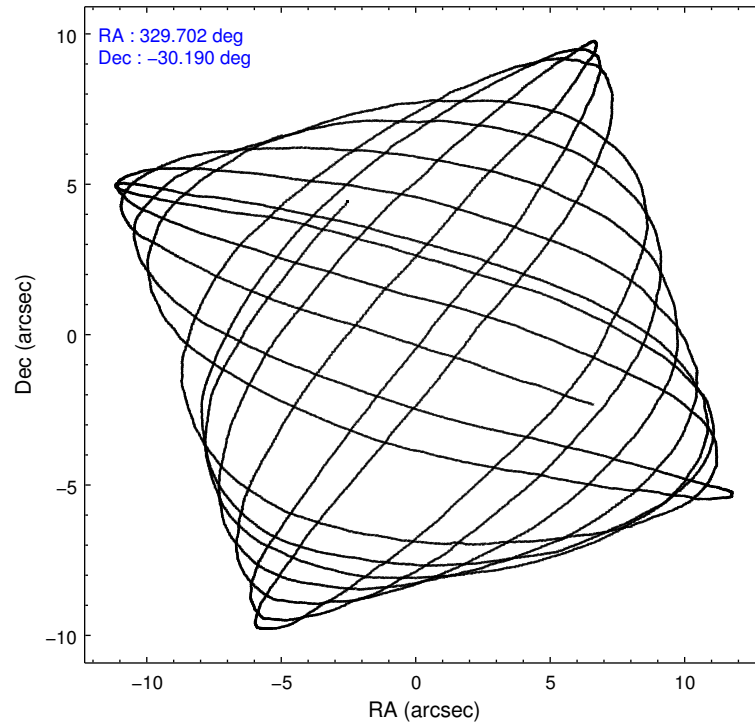
2.1.4 Events

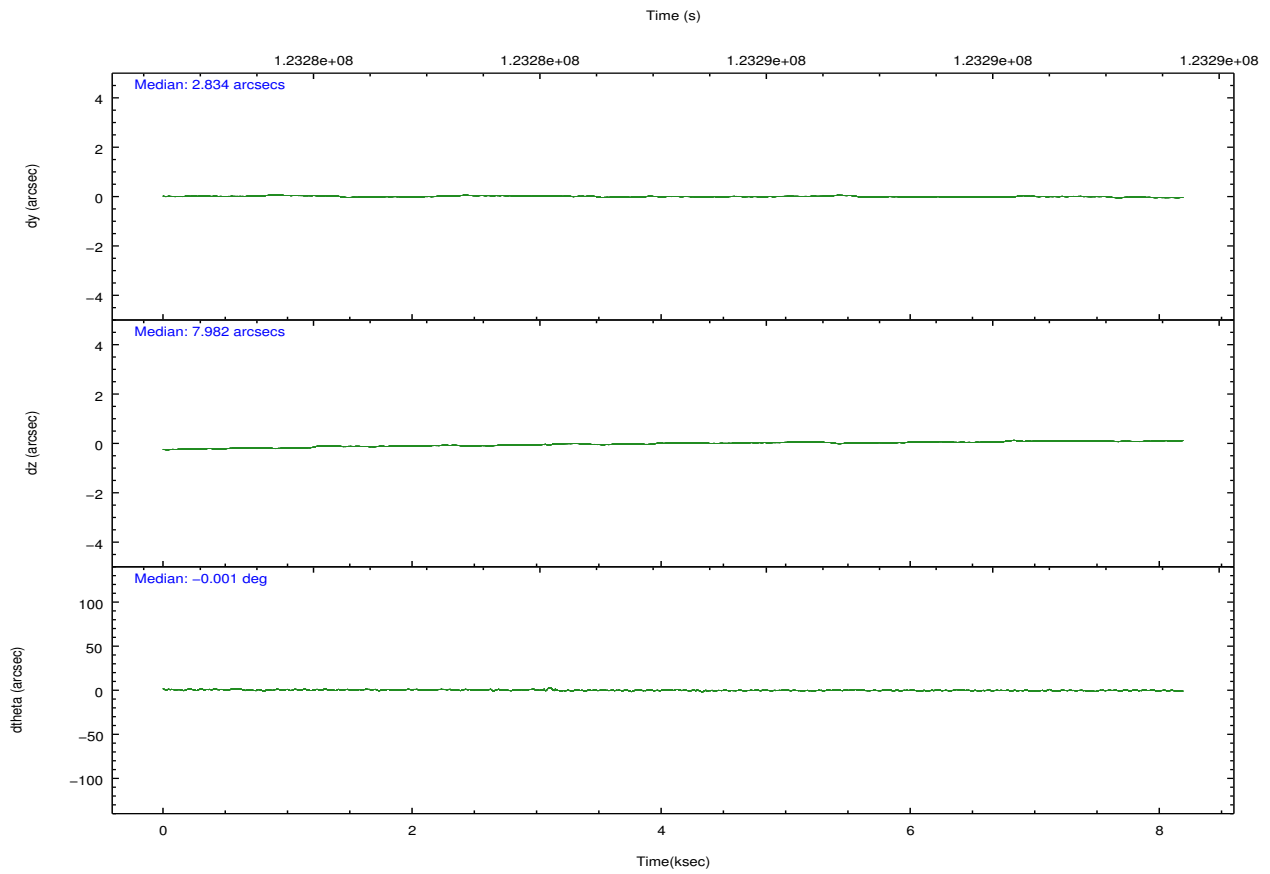
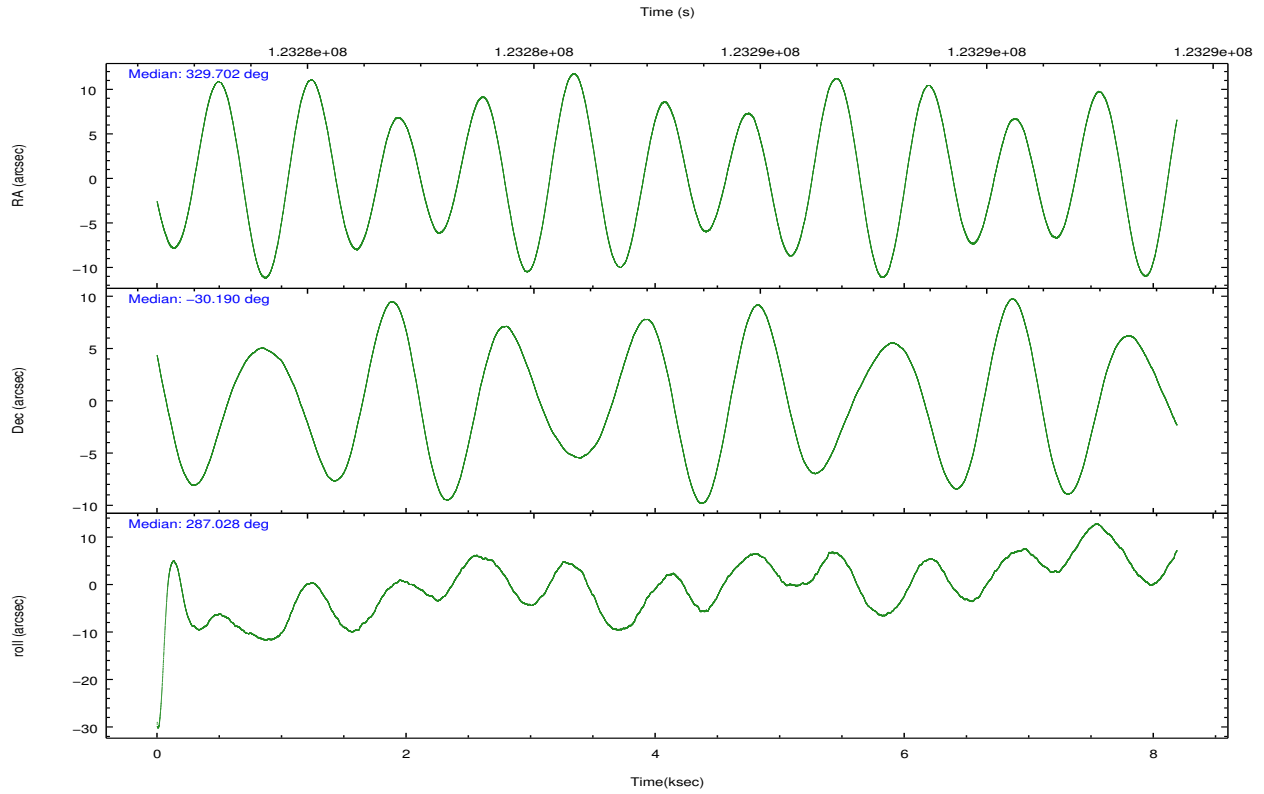
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	46217	46409	68216	60358	51914	62814	grade 0 events	3026	2661	15272	9919	2442	2345
rejected events	39504	39798	45721	45684	45819	36611		6%	5%	22%	16%	4%	3%
rejected %	85%	85%	67%	75%	88%	58%	grade 1 events	22	20	627	80	33	53
								0%	0%	0%	0%	0%	0%
							grade 2 events	1467	1454	3158	2047	1314	5129
								3%	3%	4%	3%	2%	8%
							grade 3 events	579	654	1100	738	570	2332
								1%	1%	1%	1%	1%	3%
							grade 4 events	519	618	1145	726	550	2392
								1%	1%	1%	1%	1%	3%
							grade 5 events	1812	1929	2359	1941	2116	6125
								3%	4%	3%	3%	4%	9%
							grade 6 events	1130	1235	1836	1254	1227	14015
								2%	2%	2%	2%	2%	22%
							grade 7 events	37662	37838	42719	43653	43662	30423
								81%	81%	62%	72%	84%	48%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-012367	ACIS-012367	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	329.678896	329.7020832932447	Subarray requested	NONE	NONE
[deg] Pointing Dec	-30.171704	-30.19036084010218	Alternating exposures requested	N	N
[deg] Pointing Roll	286.810961	287.0313045743864	[s] Primary exposure time	0.000000	3.2
[s] Window start time (MET)	120960064.184000	120960064.184000			
[s] Window stop time (MET)	126144064.184000	126144064.184000			
[mm] SIM focus pos	-0.782348	-0.7809083437167272			
[mm] SIM defocus	0	0.001439871863259334			
[mm] SIM translation stage pos	-233.592463	-233.5874344608287			
[mm] SIM translation stage offset	0	-0.005018542100998502			
[s] Observation start time (MET)	123281271.184000	123280894.88117			
Observation start date	2001-11-27T20:46:47	2001-11-27T20:41:34			
[s] Observation end time (MET)	123289271.184000	123290301.81904			
Observation end date	2001-11-27T23:00:07	2001-11-27T23:18:21			
Read mode	TIMED	TIMED			

2.3 Aspect



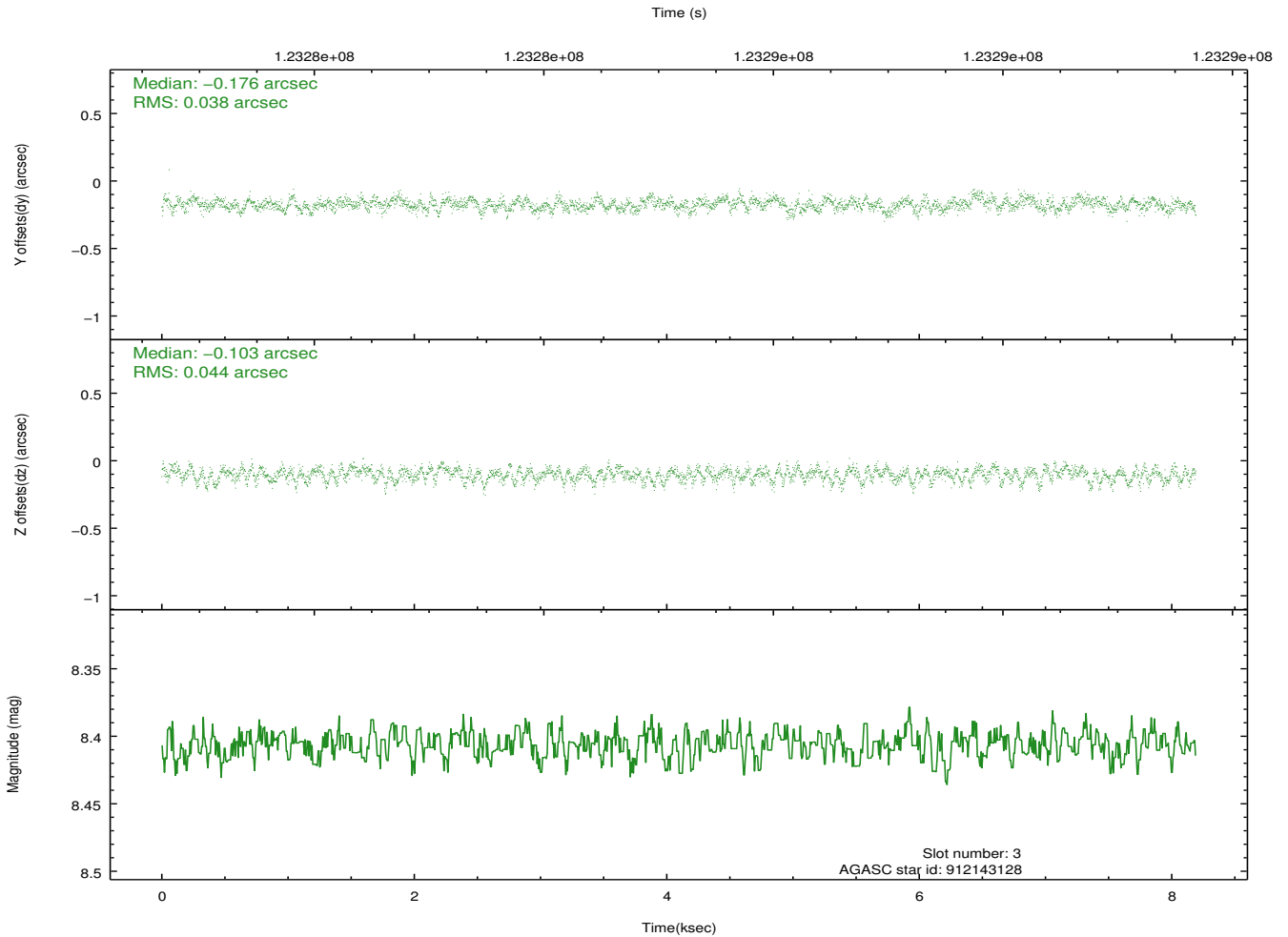
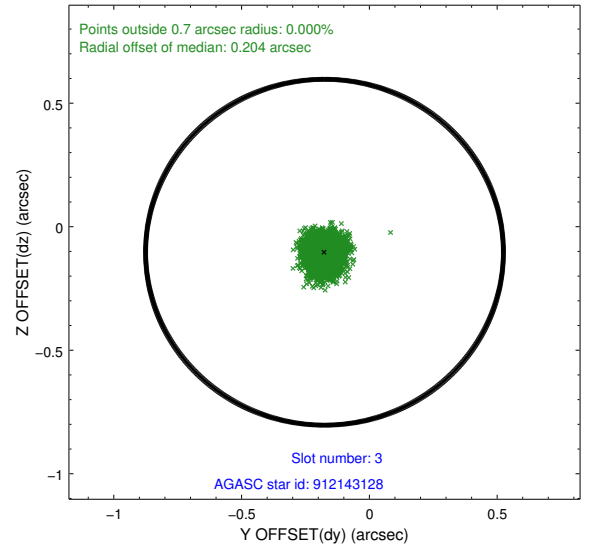
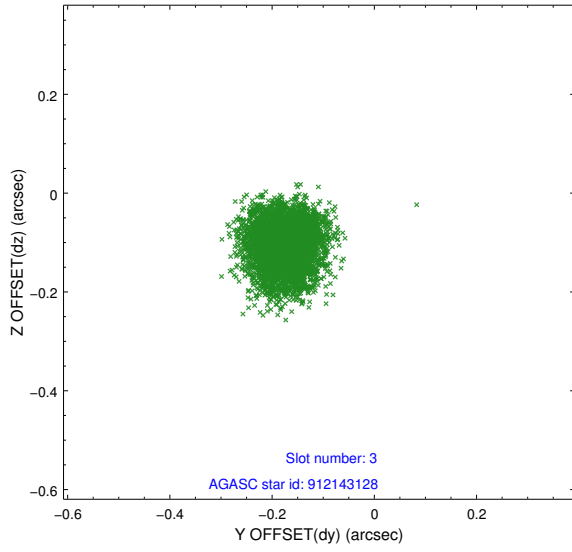


Slot Statistics

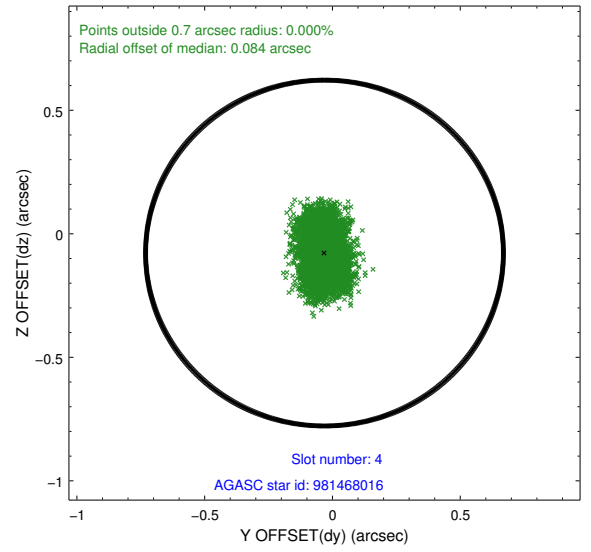
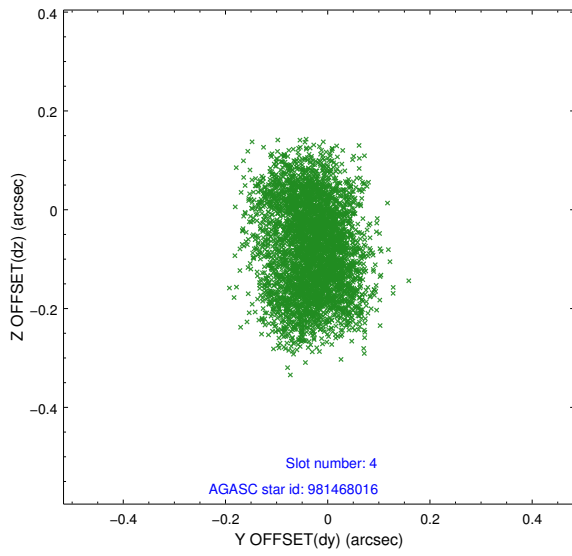
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.24	1998	-0.020	0.055	0.008	0.015	0.000000	0.000000	936.93	-831.33
1	FID	ACIS-I-5	7.24	1998	-0.039	0.042	0.007	0.012	0.000000	0.000000	-1810.79	1065.84
2	FID	ACIS-I-6	7.26	1998	-0.033	-0.027	0.007	0.012	0.000000	0.000000	401.76	1711.02
3	GUIDE	912143128	8.41	3996	-0.176	-0.103	0.062	0.098	328.924992	-29.706140	-2277.99	-1773.85
4	GUIDE	981468016	9.01	3990	-0.031	-0.078	0.114	0.175	328.842457	-30.034984	-1215.91	-2355.86
5	GUIDE	912275088	9.05	3996	0.017	0.016	0.070	0.114	329.619228	-29.738698	-1545.86	272.20
6	GUIDE	981478152	9.40	3988	0.054	0.143	0.083	0.133	329.415589	-30.057192	-630.75	-665.68
7	GUIDE	981469488	9.60	3984	0.135	0.024	0.087	0.142	329.261199	-30.045155	-809.72	-1114.57

2.4 Star Slots

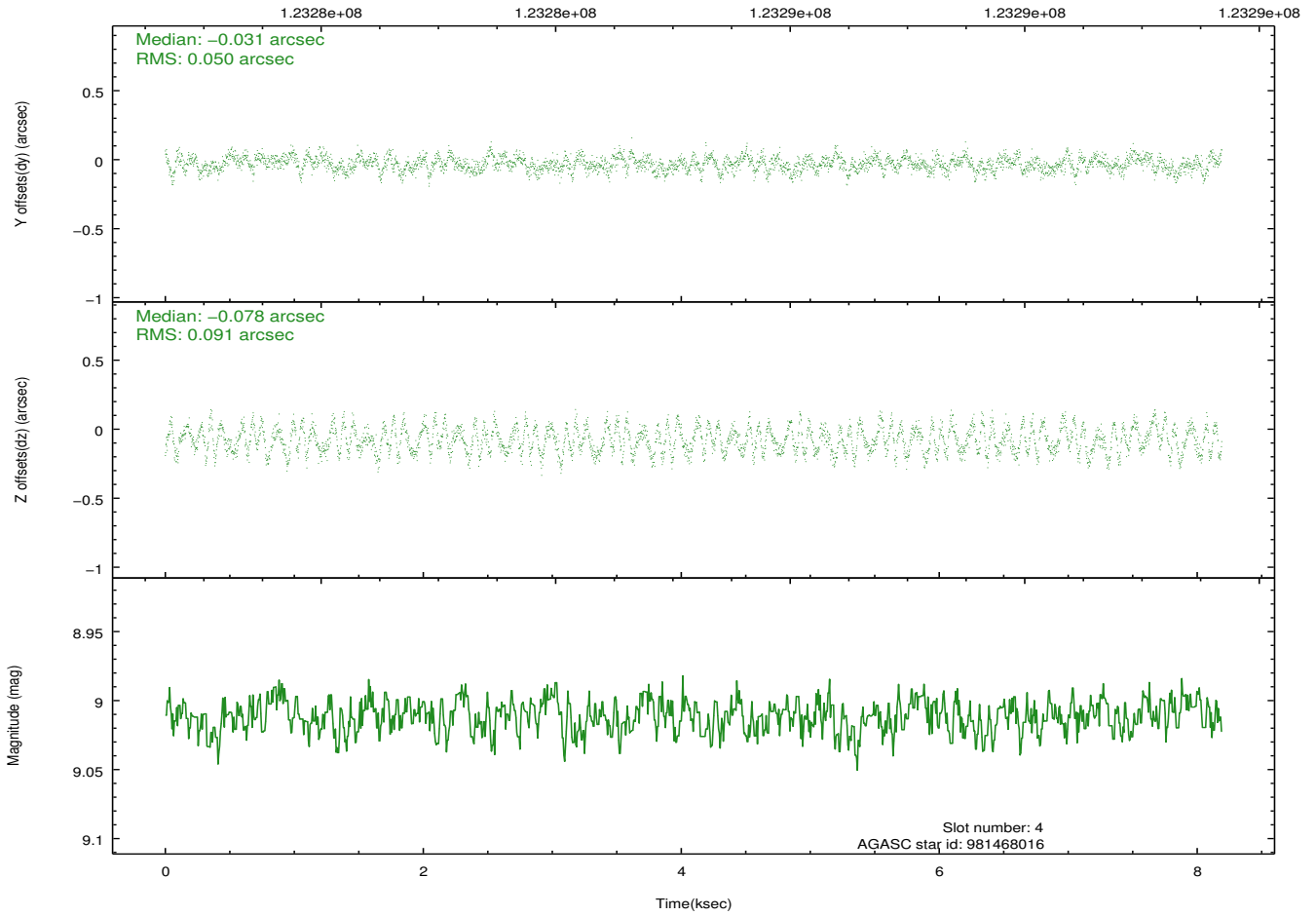
2.4.1 Slot 3



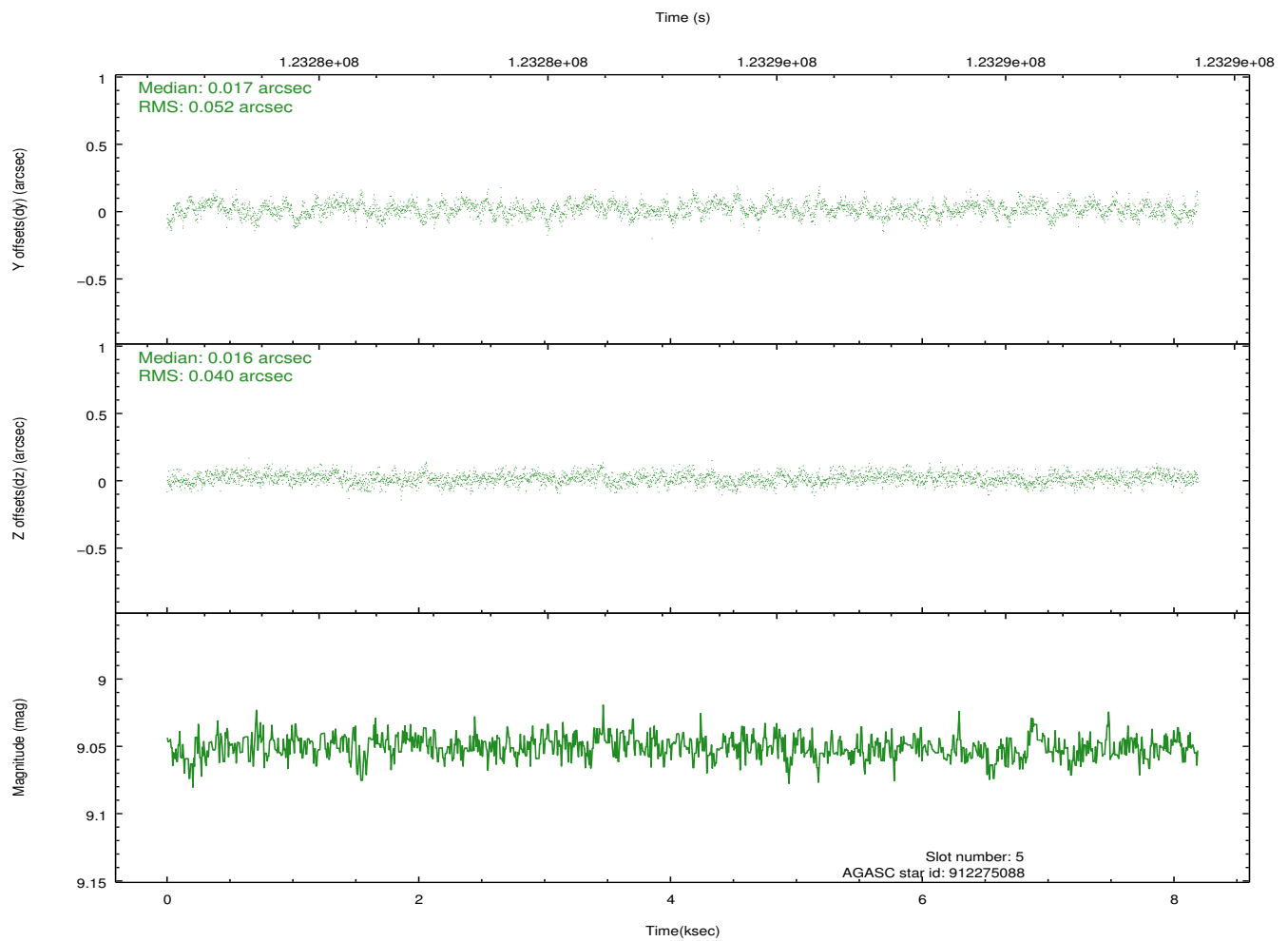
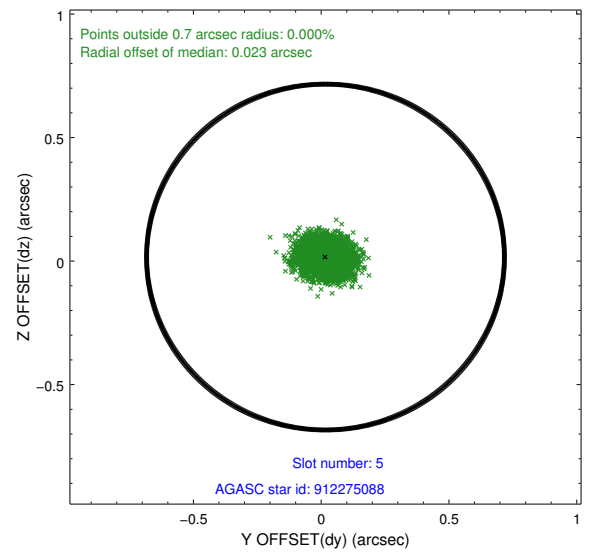
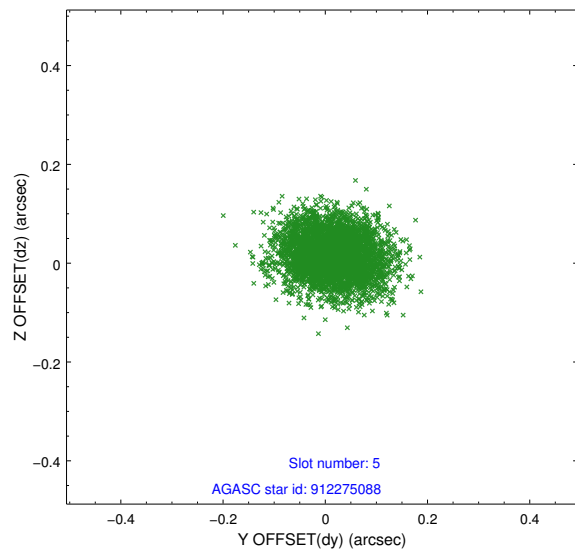
2.4.2 Slot 4



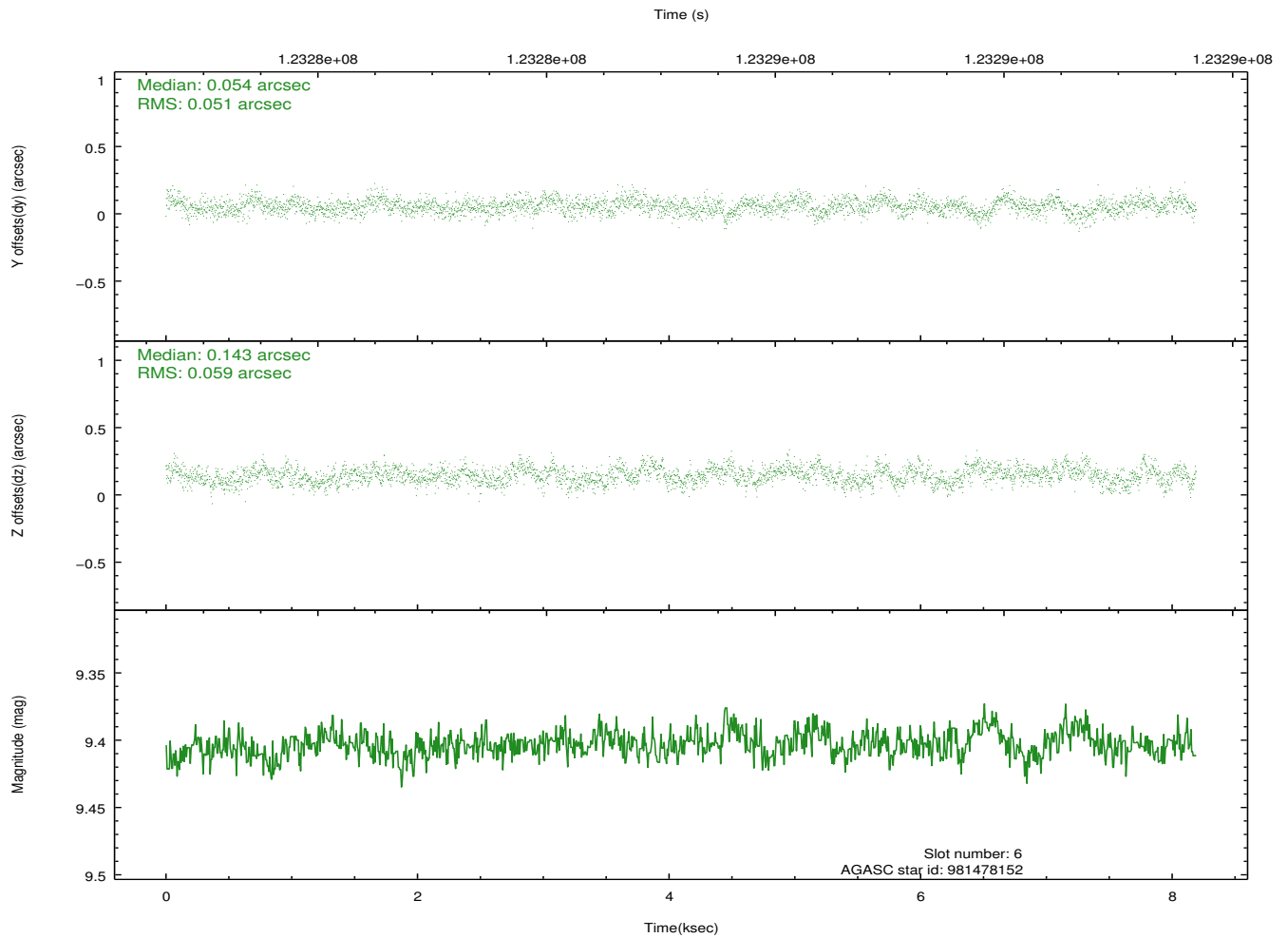
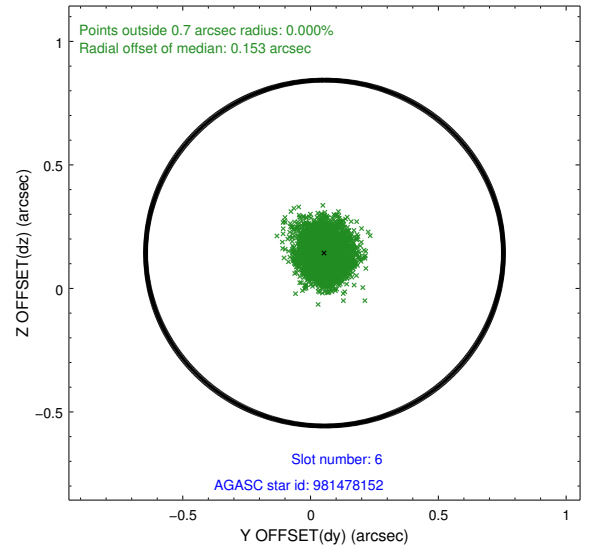
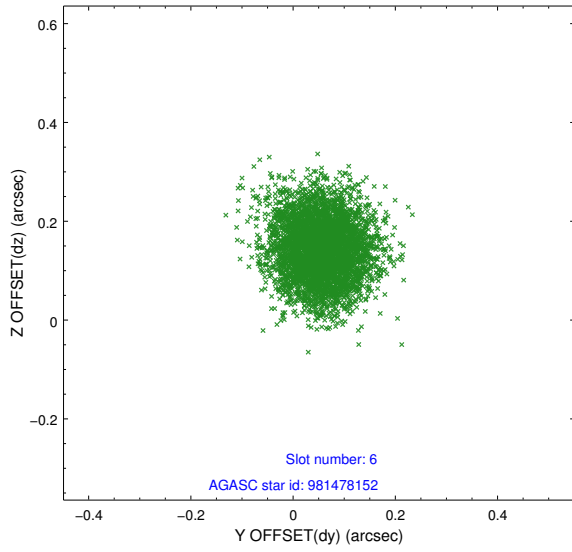
Time (s)



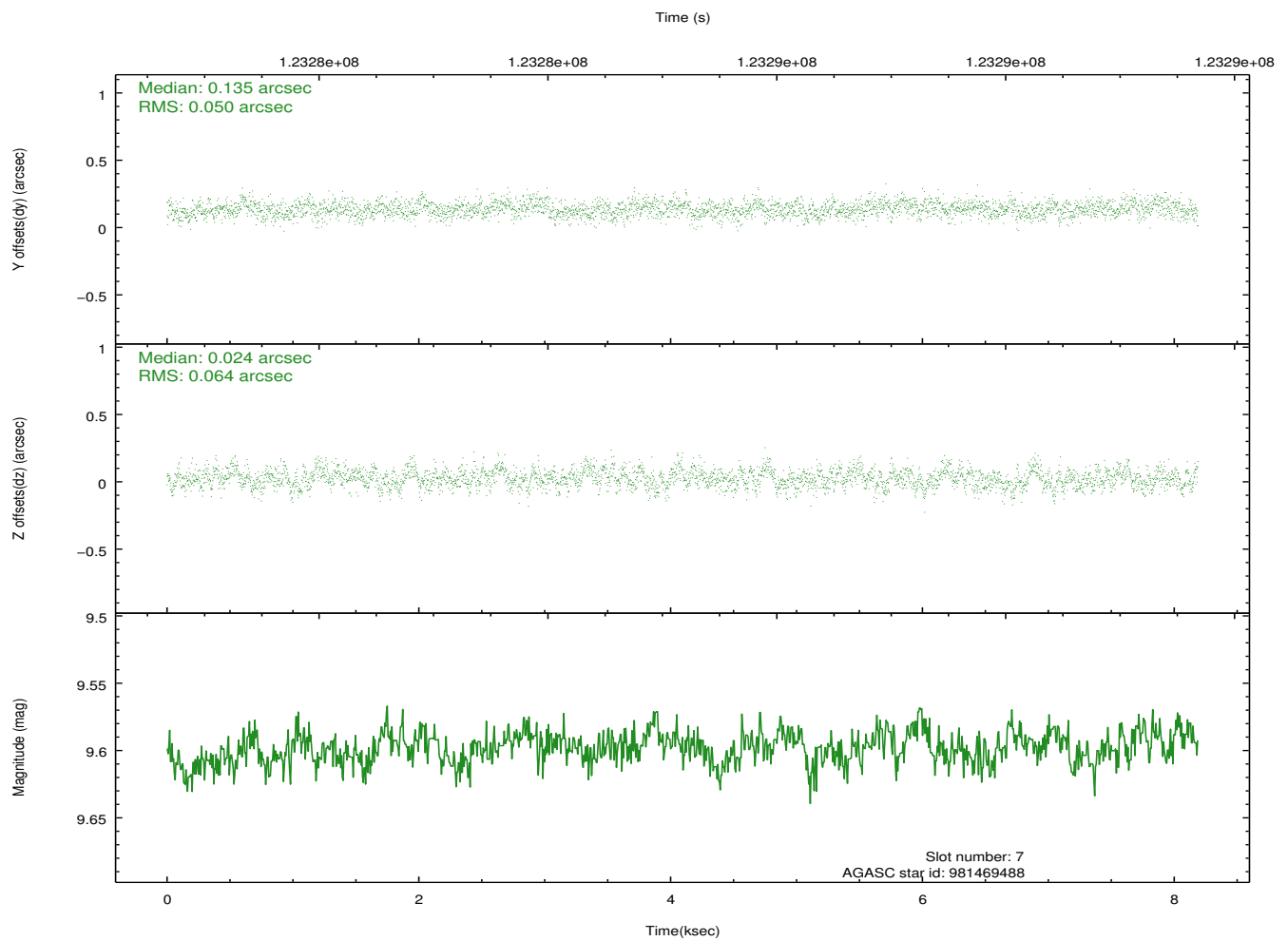
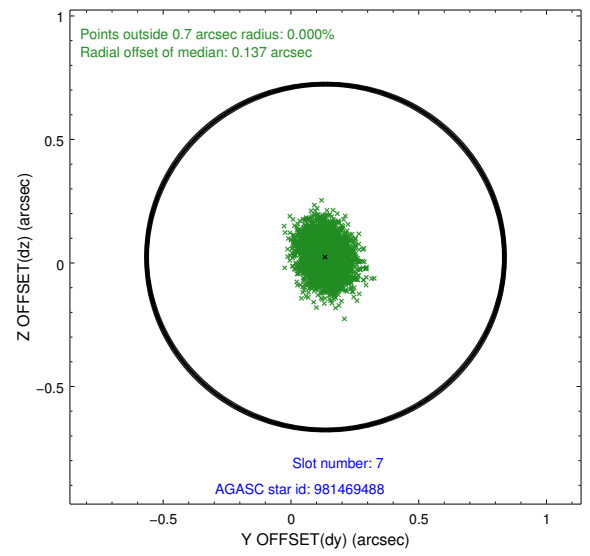
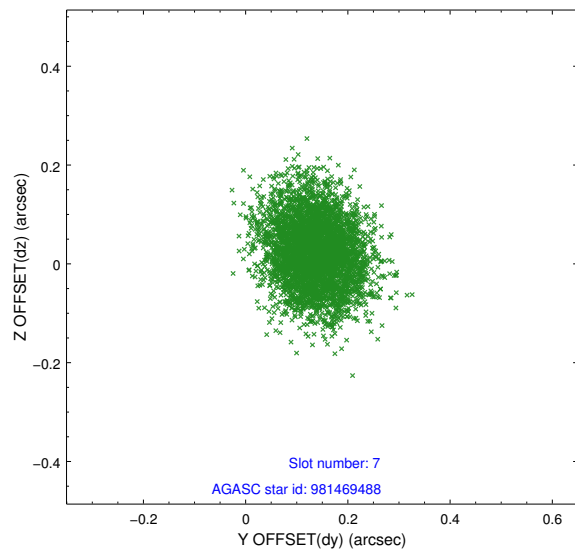
2.4.3 Slot 5



2.4.4 Slot 6

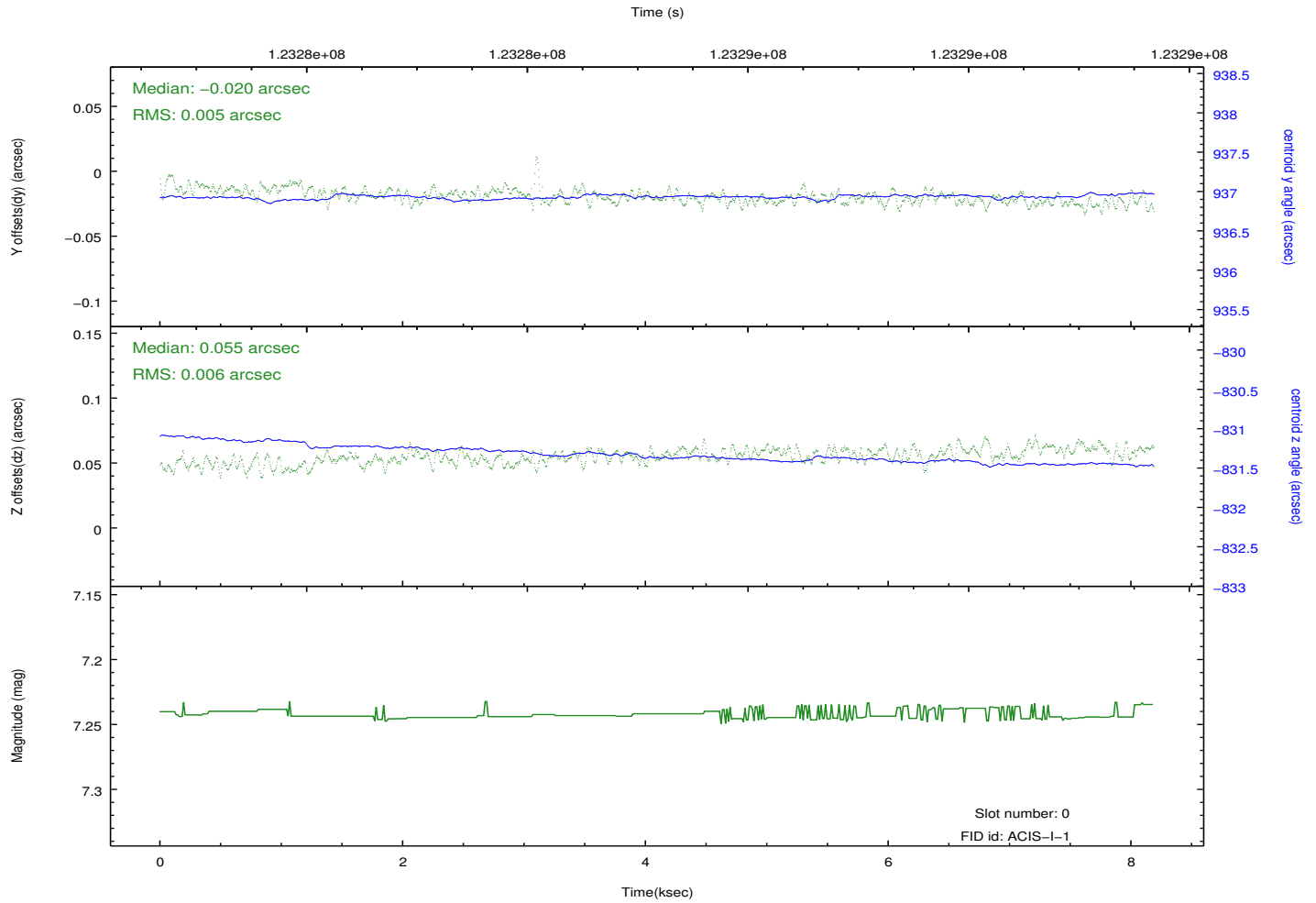
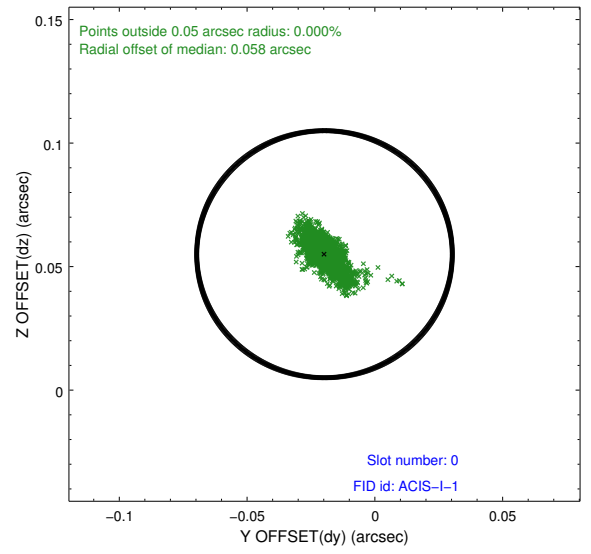
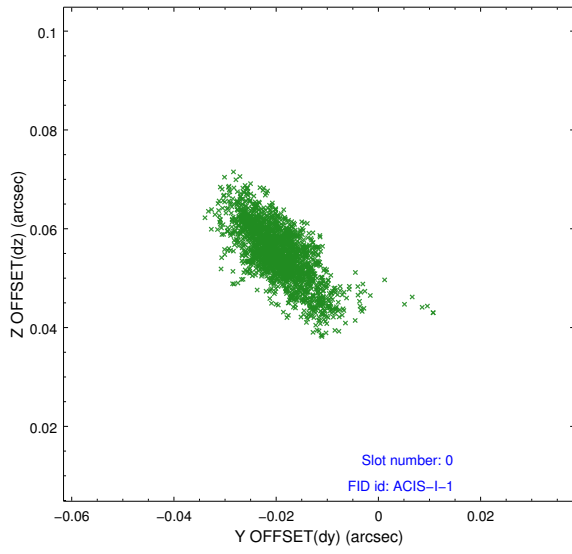


2.4.5 Slot 7

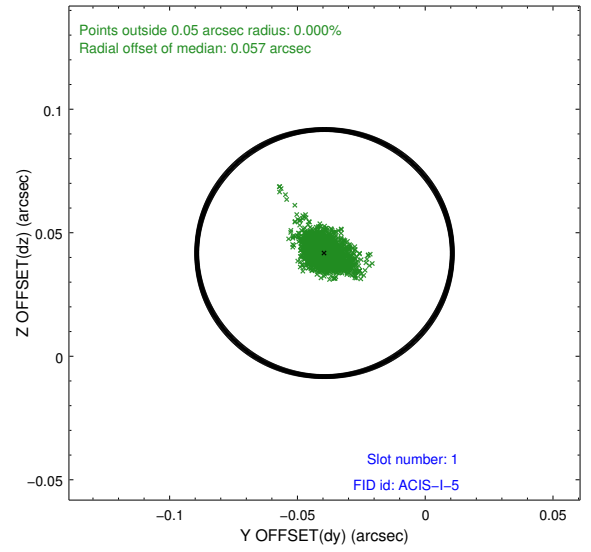
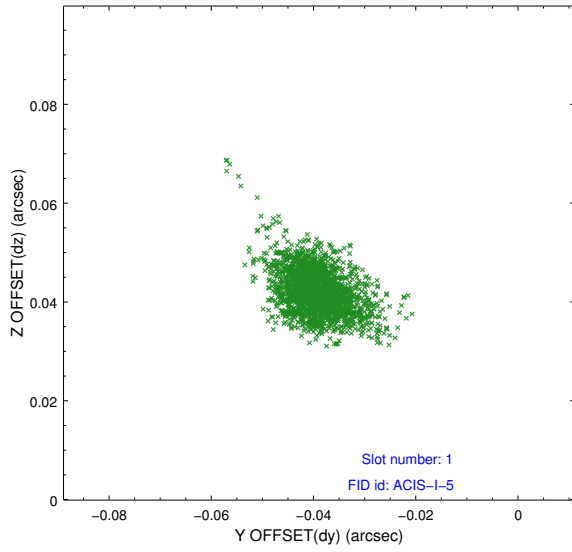


2.5 FID Slots

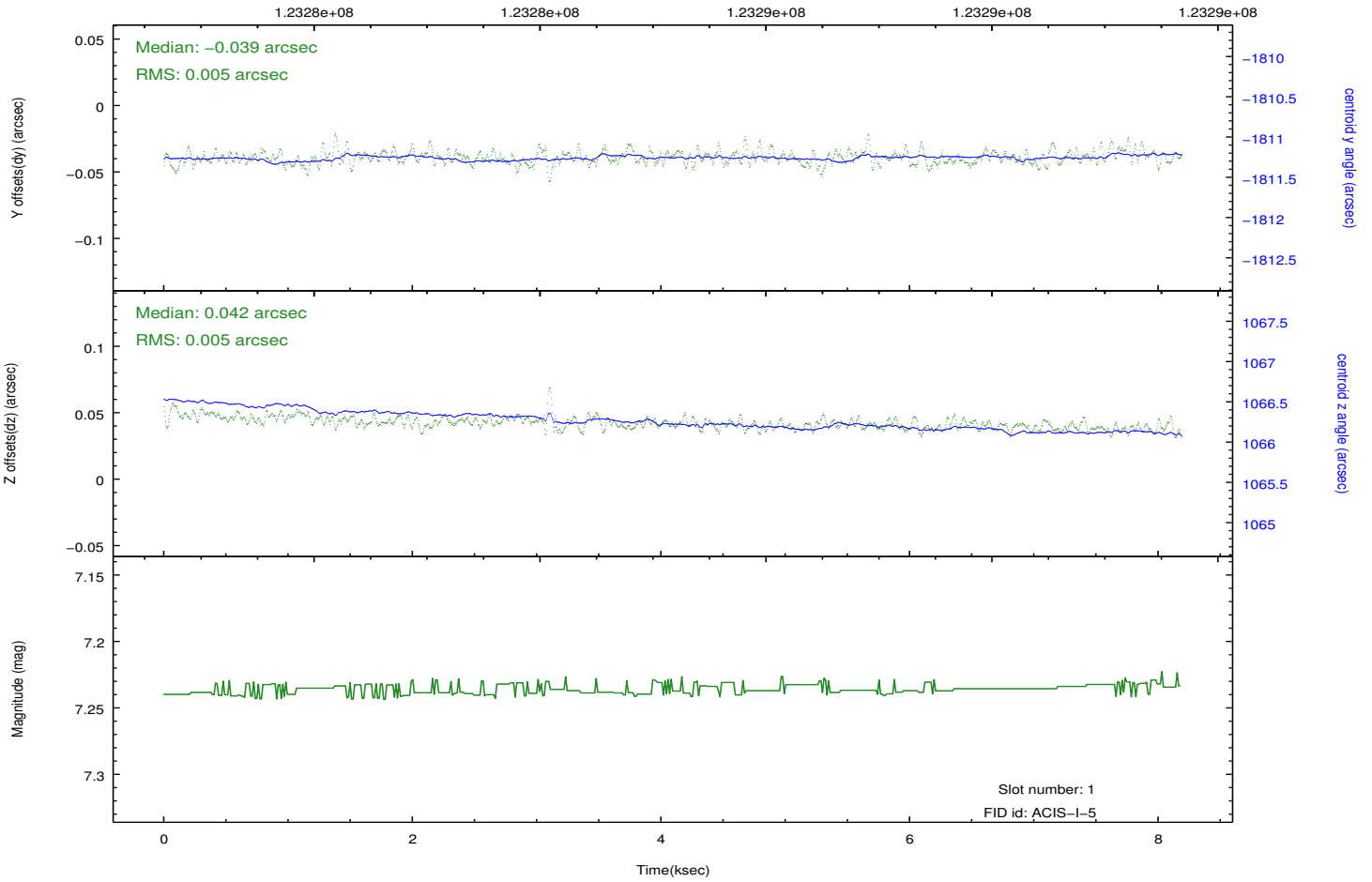
2.5.1 Slot 0



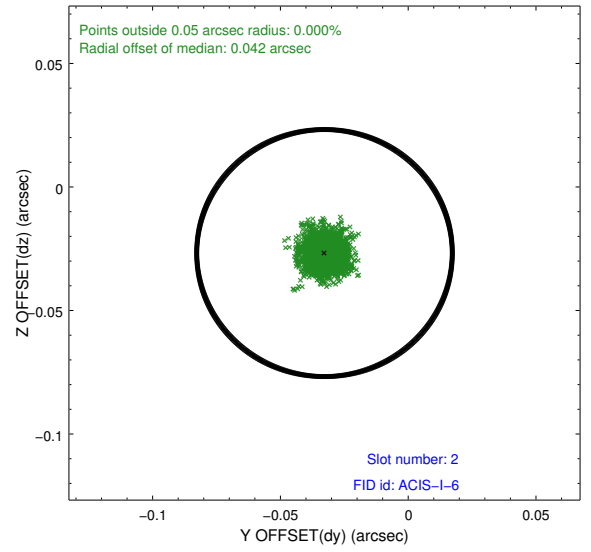
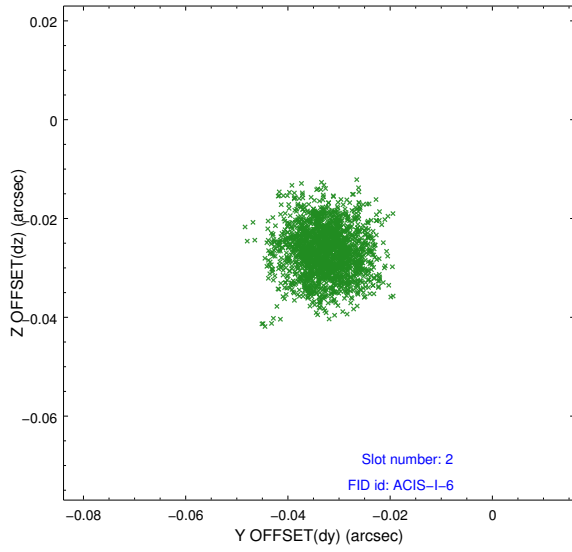
2.5.2 Slot 1



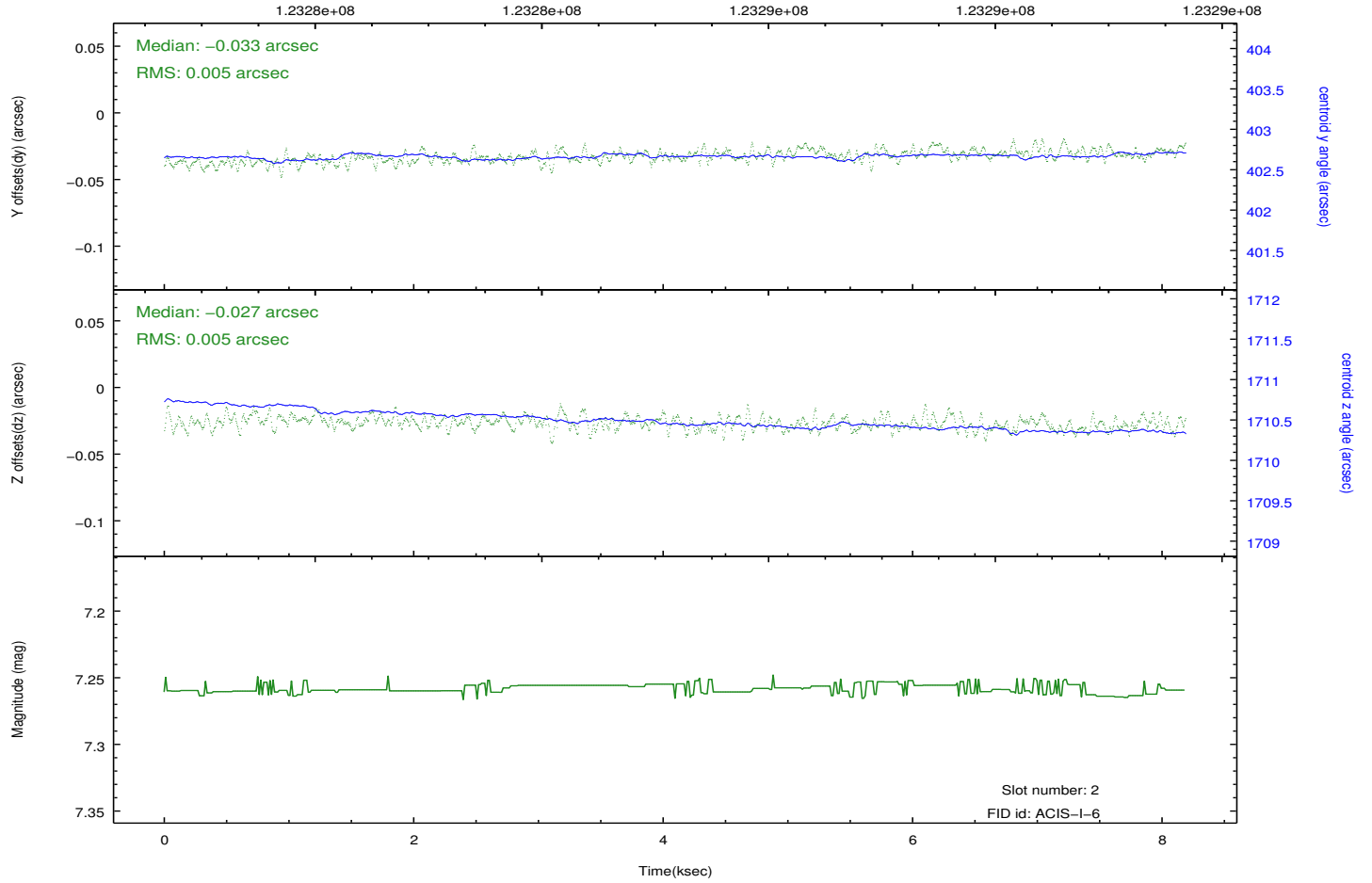
Time (s)



2.5.3 Slot 2



Time (s)

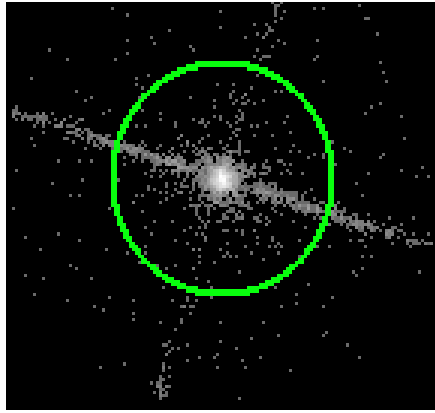


3 Gratings

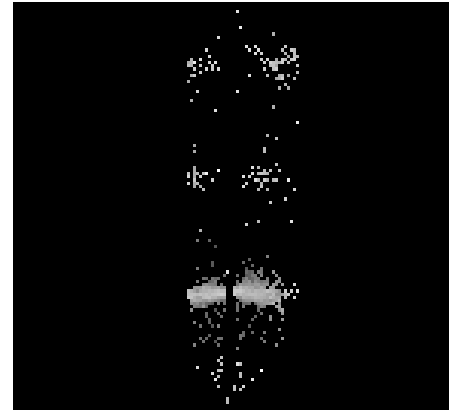
3.1 LETG Arm



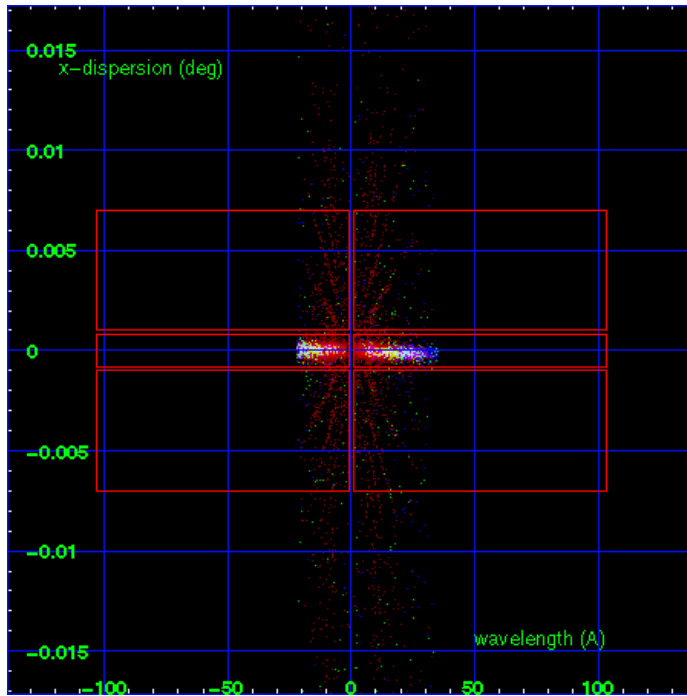
LETG Order Sort 123



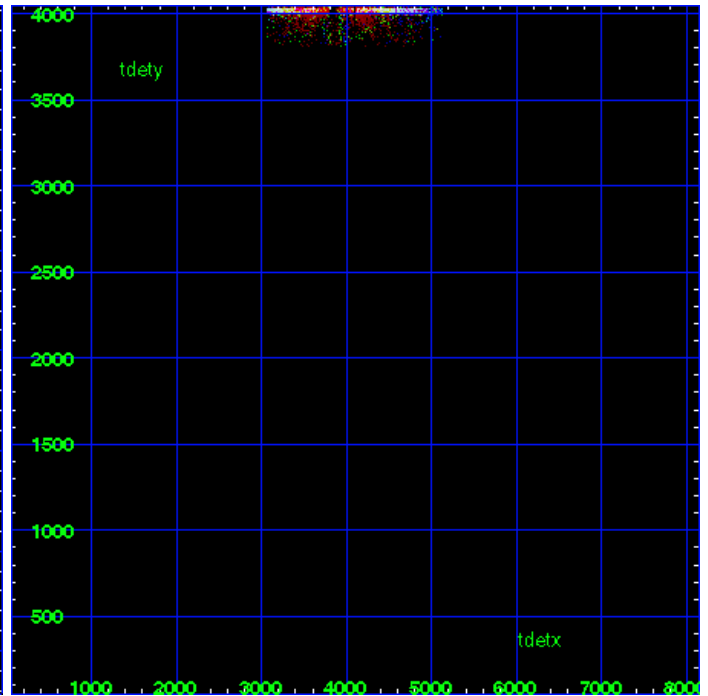
LETG Zero Order



LETG Order Sort ALL

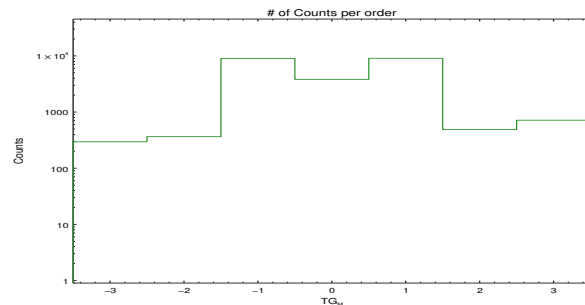


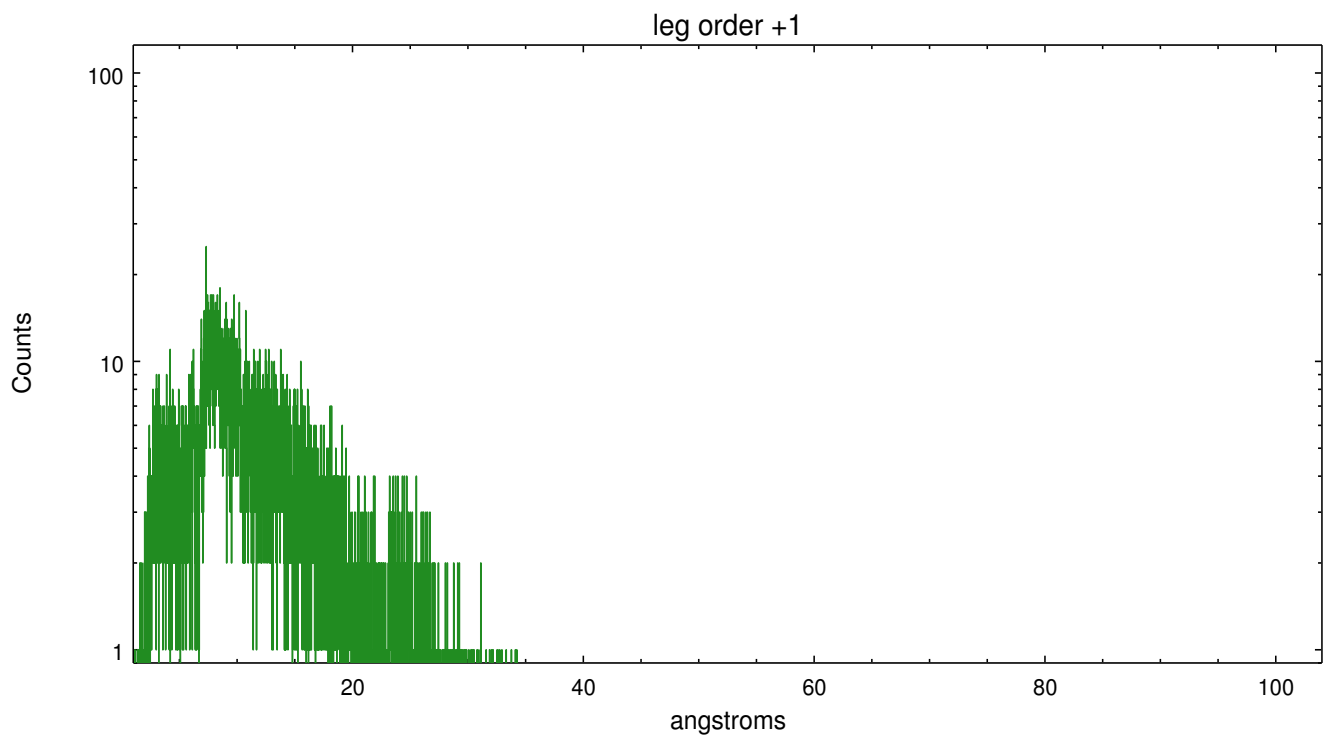
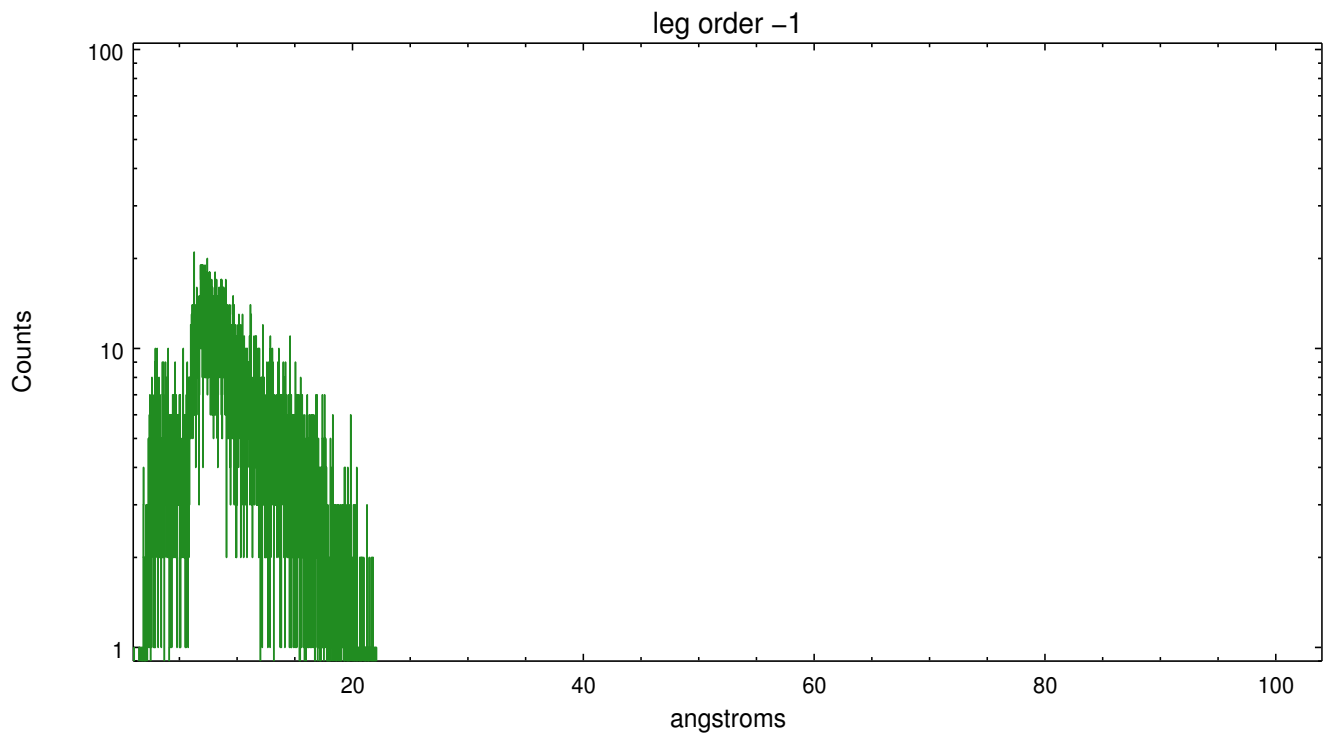
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	295	364	8999	3827	9068	487	716





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.12.18
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	7.756

A.2 Comments

Non-standard grating/detector combination required custom parameters. Used flat order-sorting in `tg_resolve_events`, since there is no 'osip' table for ACIS-I. `=== pset grt_lev15 osipfile=none=== pset grt_lev15 osort_lo=0.3=== pset grt_lev15 osort_hi=0.3===` Zeroth order piled up. Standard data processing software did not correctly locate the zeroth order due to pileup. Manual intervention was used to input the correct sky coordinates (`x=4002.5, y=3839.0`) into the `*src1a.fits` file table. These corrected coordinates were determined by eye because neither the pipeline tool `tgdetect` nor the `findzero` tool was successful in identifying the piled up zeroth order so close to a chip boundary. The determination of the position by eye is expected to be in error by up to 1-2 pixels. The newly determined zeroth order coordinates have been placed in the `*src1a.fits` file, replacing the coordinates determined by `tgdetect`. Note that these corrected coordinates of the zeroth order cannot be reproduced by running `tgdetect` on the data.