

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 3175 - L2 Version 5
Chandra X-Ray Center

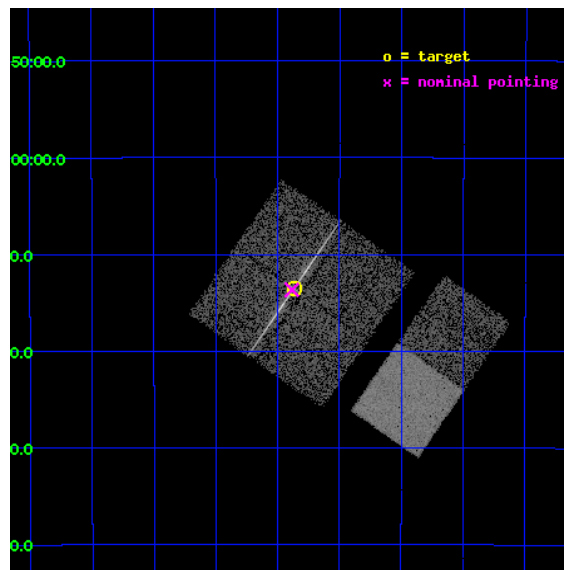
L2 Processing Date : Dec 27 2012

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1 Front

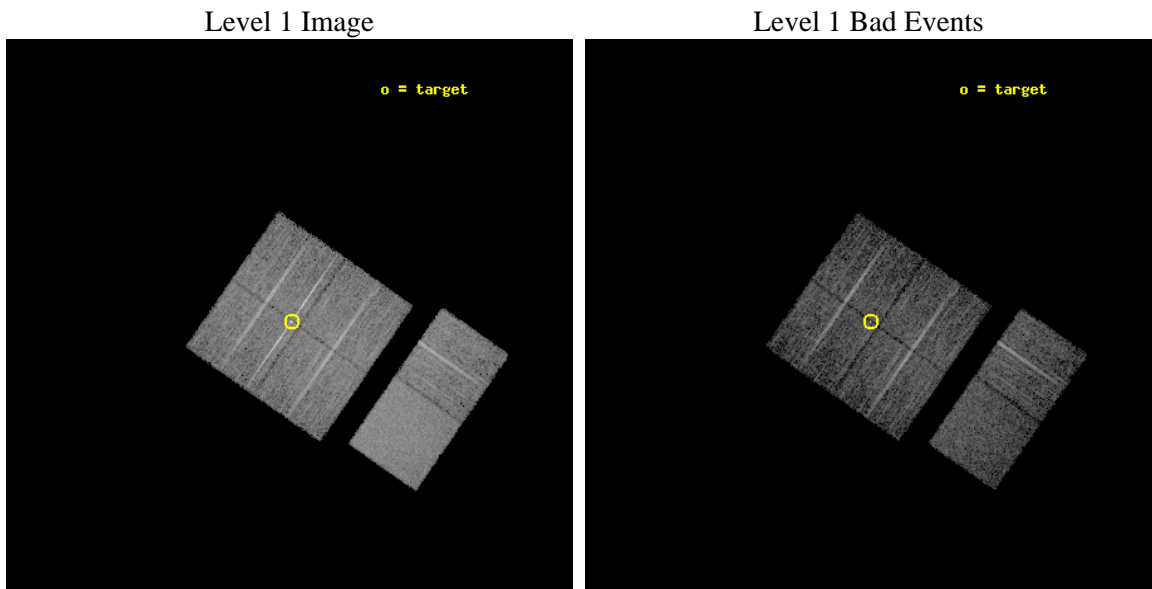
seq_num	790069	Sequence number
obs_id	3175	Observation id
title	AO3 LETG/ACIS-I CALIBRATION OBSERVATIONS OF PKS2155-304	Proposal t
observer	Dr. CXC Calibration	Principal investigator
object	PKS2155-304	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	329.716667	Observer's specified target RA [deg]
dec_targ	-30.225556	Observer's specified target Dec [deg]
ra_nom	329.72105913553	Nominal RA [deg]
dec_nom	-30.227872723936	Nominal Dec [deg]
roll_nom	124.82366359759	Nominal Roll [deg]
revision	5	Processing version of data
ontime	7785.600007236	Sum of GTIs [s]
livetime	7687.0140520189	Livetime [s]
ontime0	7785.600007236	Sum of GTIs [s]
ontime1	7785.600007236	Sum of GTIs [s]
ontime2	7785.600007236	Sum of GTIs [s]
ontime3	7785.600007236	Sum of GTIs [s]
ontime6	7785.600007236	Sum of GTIs [s]
ontime7	7785.600007236	Sum of GTIs [s]
l2events	61287	Number of level 2 events



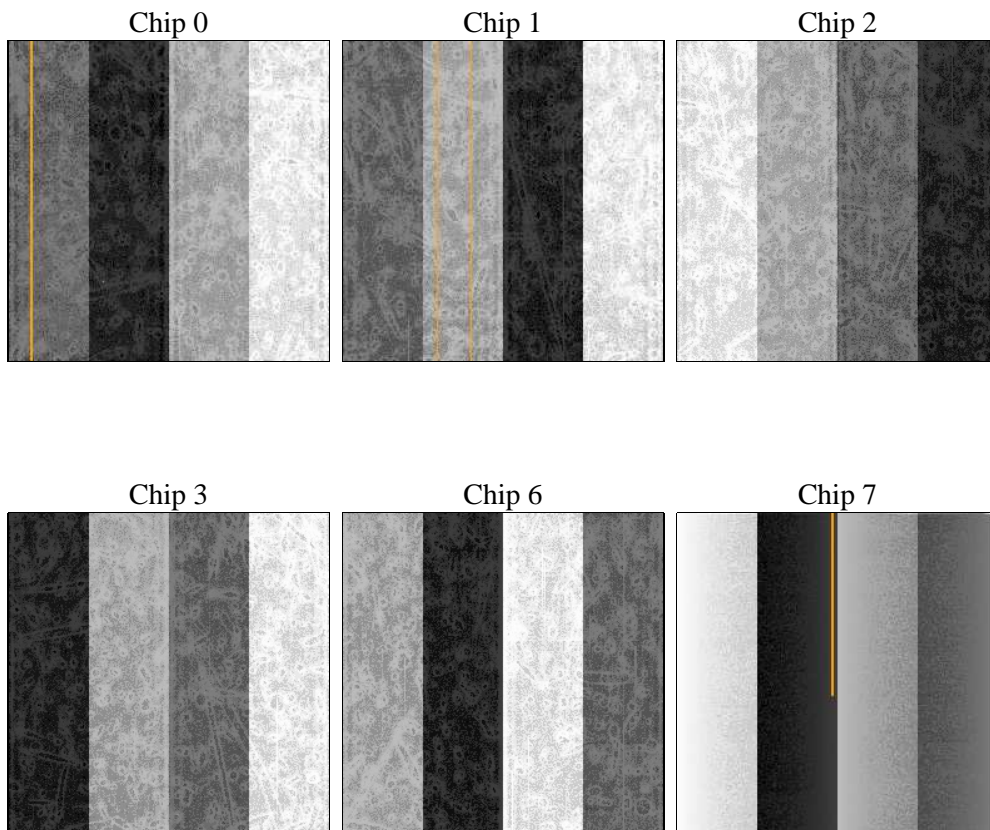
2 OBI

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	7785.600007236	Sum of GTIs [s]
caldbver	4.5.2	 	ontime0	7785.600007236	Sum of GTIs [s]
date	2012-10-04T16:22:21	Date and time of file creation	ontime1	7785.600007236	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	7785.600007236	Sum of GTIs [s]
			ontime3	7785.600007236	Sum of GTIs [s]
			ontime6	7785.600007236	Sum of GTIs [s]
			ontime7	7785.600007236	Sum of GTIs [s]
			l1events	316400	Number of level 1 events

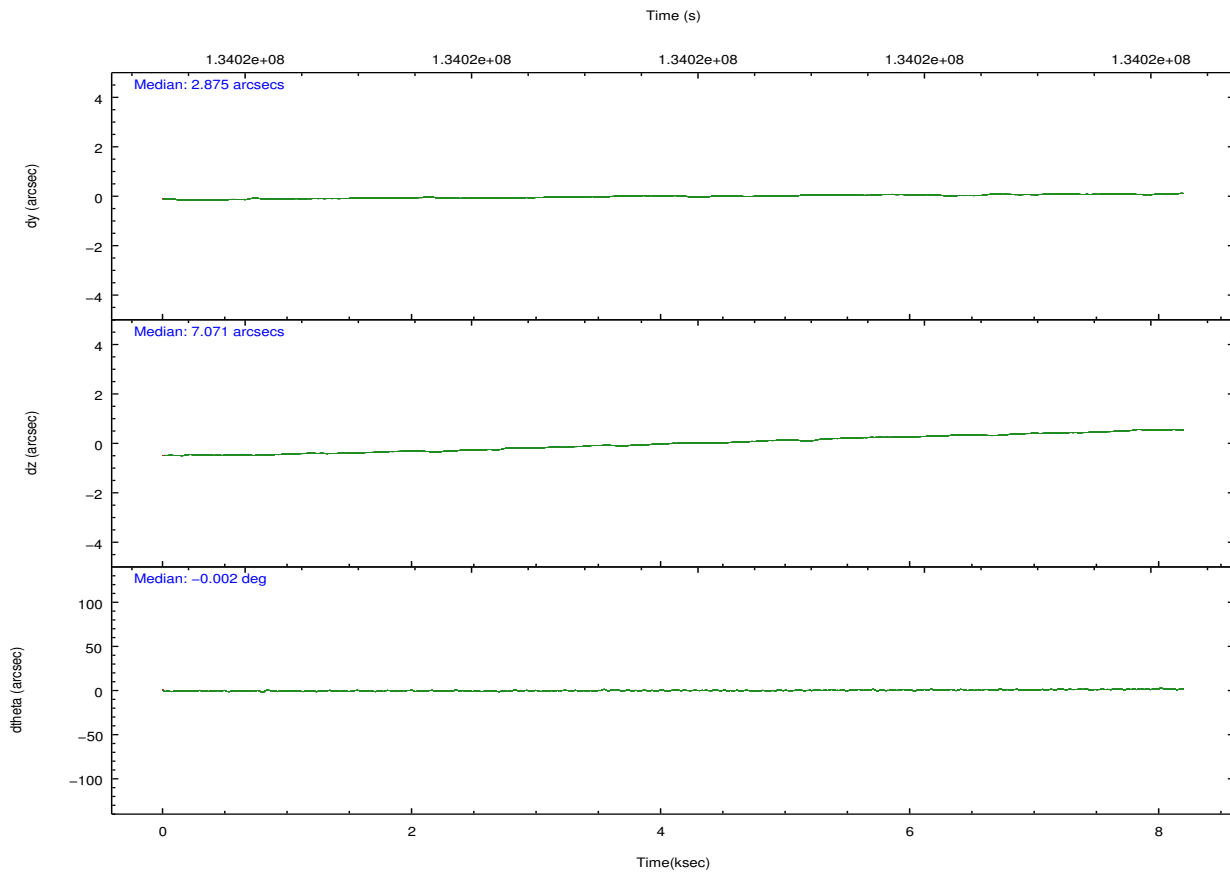
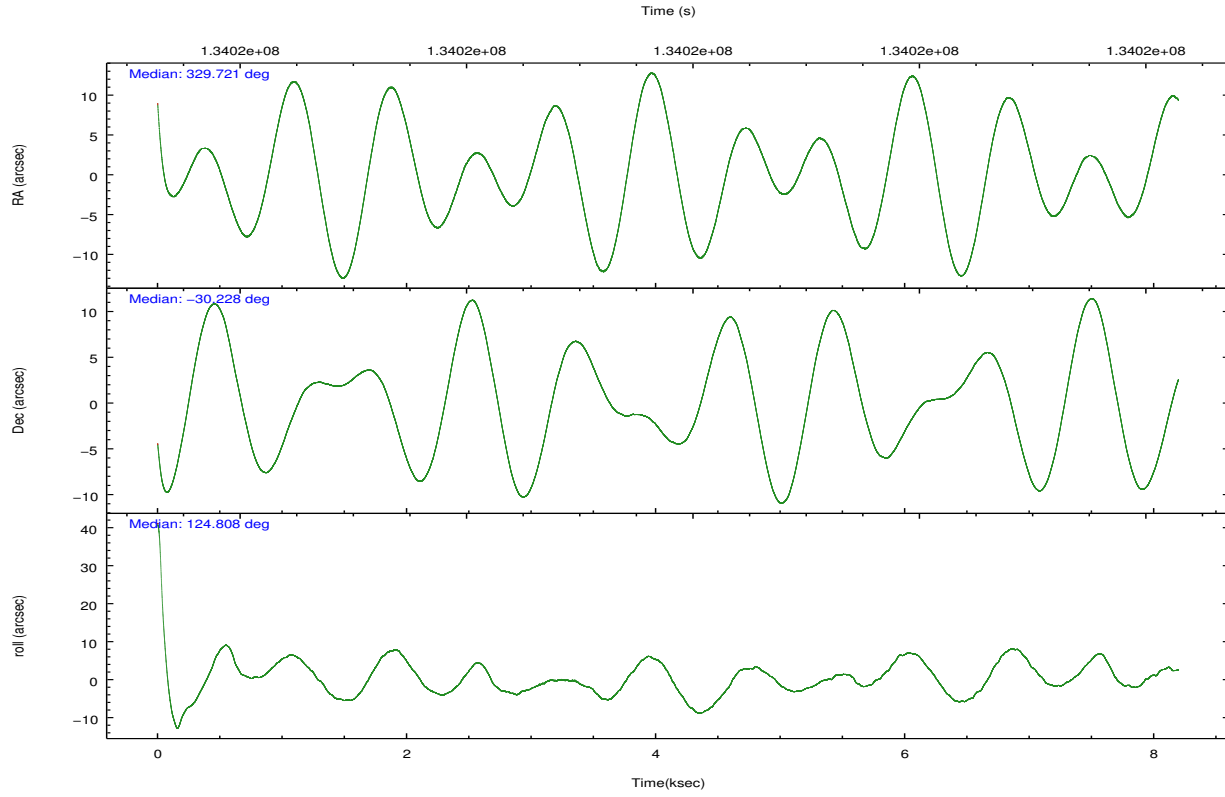
2.1.4 Events

	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	50198	52521	50354	49754	49706	63867	grade 0 events	7179	7972	2325	2320	2108	2285
rejected events	38561	39544	44808	44100	44179	37432		14%	15%	4%	4%	4%	3%
rejected %	76%	75%	88%	88%	88%	58%	grade 1 events	56	154	22	23	24	55
								0%	0%	0%	0%	0%	0%
							grade 2 events	1893	1922	1228	1179	1172	5112
								3%	3%	2%	2%	2%	8%
							grade 3 events	781	845	534	539	557	2358
								1%	1%	1%	1%	1%	3%
							grade 4 events	666	875	494	565	546	2420
								1%	1%	0%	1%	1%	3%
							grade 5 events	1759	2009	1821	2044	2147	6072
								3%	3%	3%	4%	4%	9%
							grade 6 events	1123	1368	965	1051	1144	14260
								2%	2%	1%	2%	2%	22%
							grade 7 events	36741	37376	42965	42033	42008	31305
								73%	71%	85%	84%	84%	49%

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	329.749783	329.7210591355311	Subarray requested	NONE	NONE
[deg] Pointing Dec	-30.239426	-30.22787272393553	Alternating exposures requested	N	N
[deg] Pointing Roll	124.629373	124.8236635975862	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.782348	-0.7809083437167272			
[mm] SIM defocus	0	0.001439871863259334			
[mm] SIM translation stage pos	-238.277263	-238.2741181829365			
[mm] SIM translation stage offset	4.6848	4.681665180006831			
[s] Observation start time (MET)	134015855.184000	134014851.11359			
Observation start date	2002-04-01T02:36:31	2002-04-01T02:20:51			
[s] Observation end time (MET)	134023855.184000	134024457.41398			
Observation end date	2002-04-01T04:49:51	2002-04-01T05:00:57			
Read mode	TIMED	TIMED			

2.3 Aspect

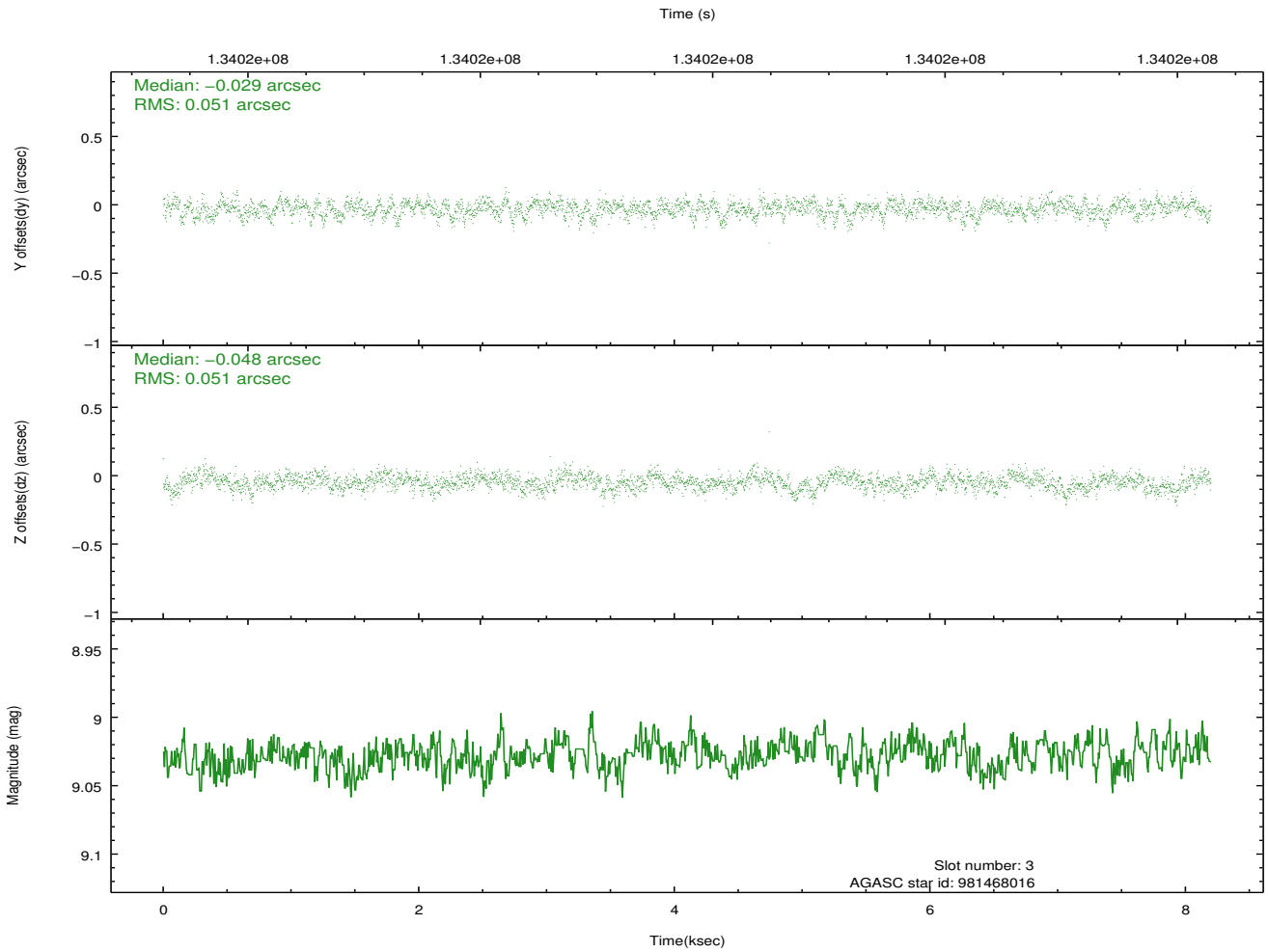
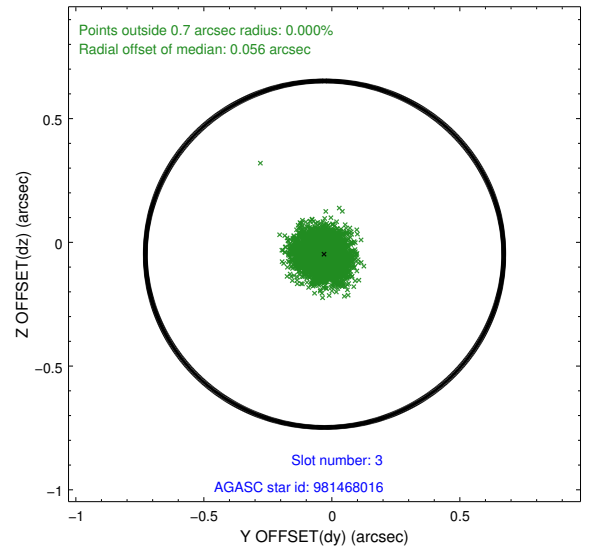
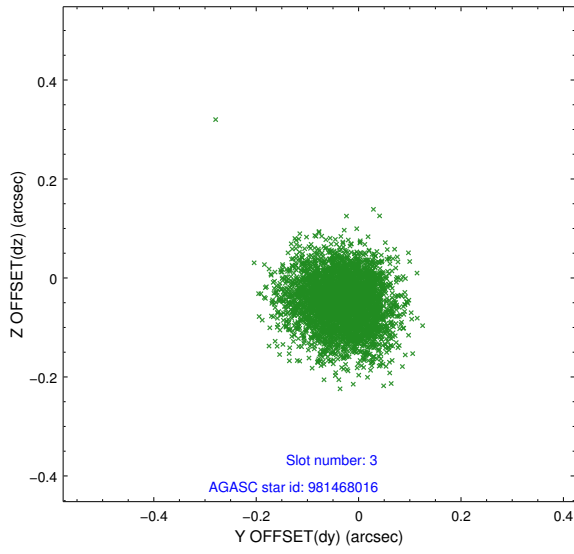


Slot Statistics

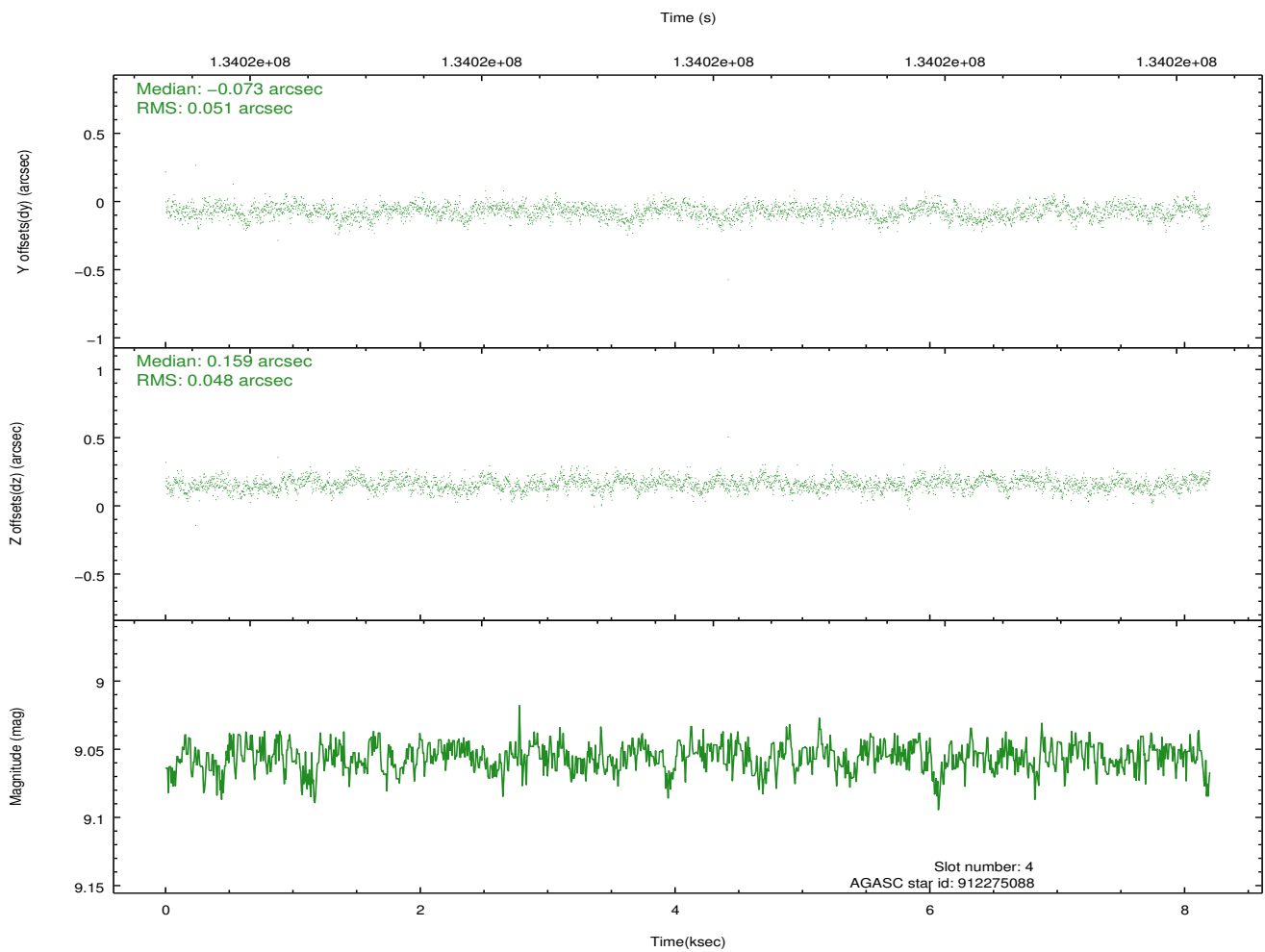
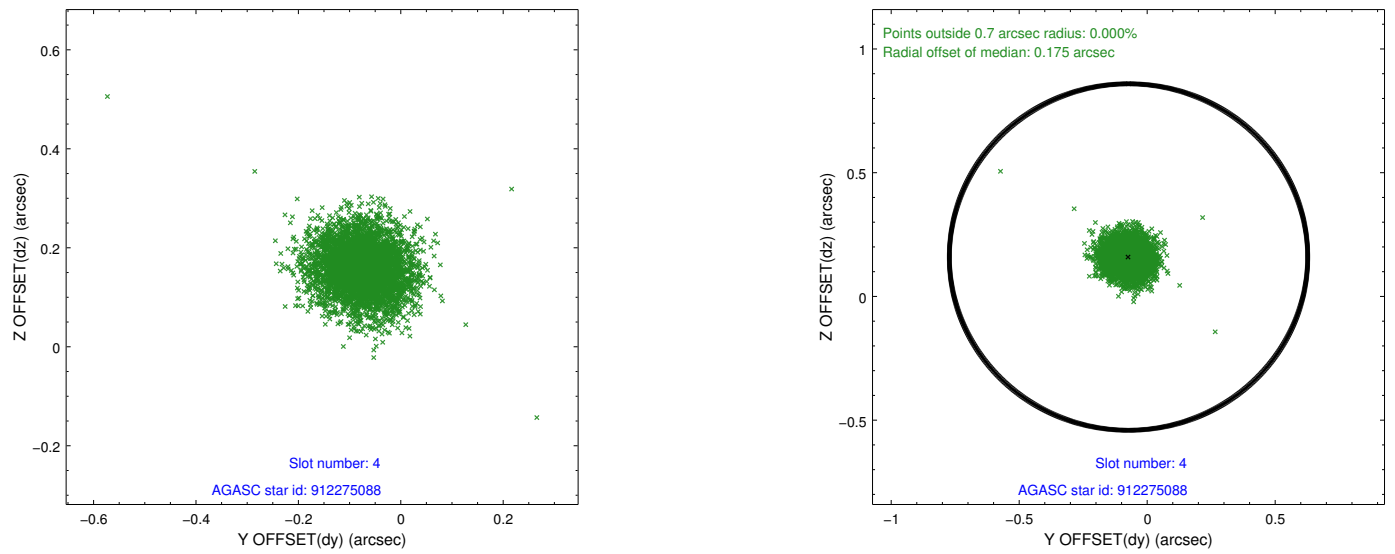
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.26	2000	-0.091	0.107	0.020	0.028	0.000000	0.000000	936.93	-734.07
1	FID	ACIS-I-5	7.24	2000	-0.012	-0.019	0.008	0.014	0.000000	0.000000	-1810.72	1163.00
2	FID	ACIS-I-6	7.25	2000	0.011	-0.018	0.014	0.021	0.000000	0.000000	401.84	1808.27
3	GUIDE	981468016	9.03	3995	-0.029	-0.048	0.077	0.124	328.842457	-30.034984	2203.22	1915.15
4	GUIDE	912275088	9.06	3984	-0.073	0.159	0.073	0.118	329.619228	-29.738698	1716.18	-687.77
5	GUIDE	981478152	9.38	3999	0.019	-0.150	0.147	0.212	329.415589	-30.057192	1131.11	484.48
6	GUIDE	981468128	9.36	4000	0.189	0.145	0.088	0.146	329.756350	-30.158334	229.55	-182.81
7	GUIDE	981469488	9.59	3995	-0.094	-0.105	0.097	0.166	329.261199	-30.045155	1438.22	857.10

2.4 Star Slots

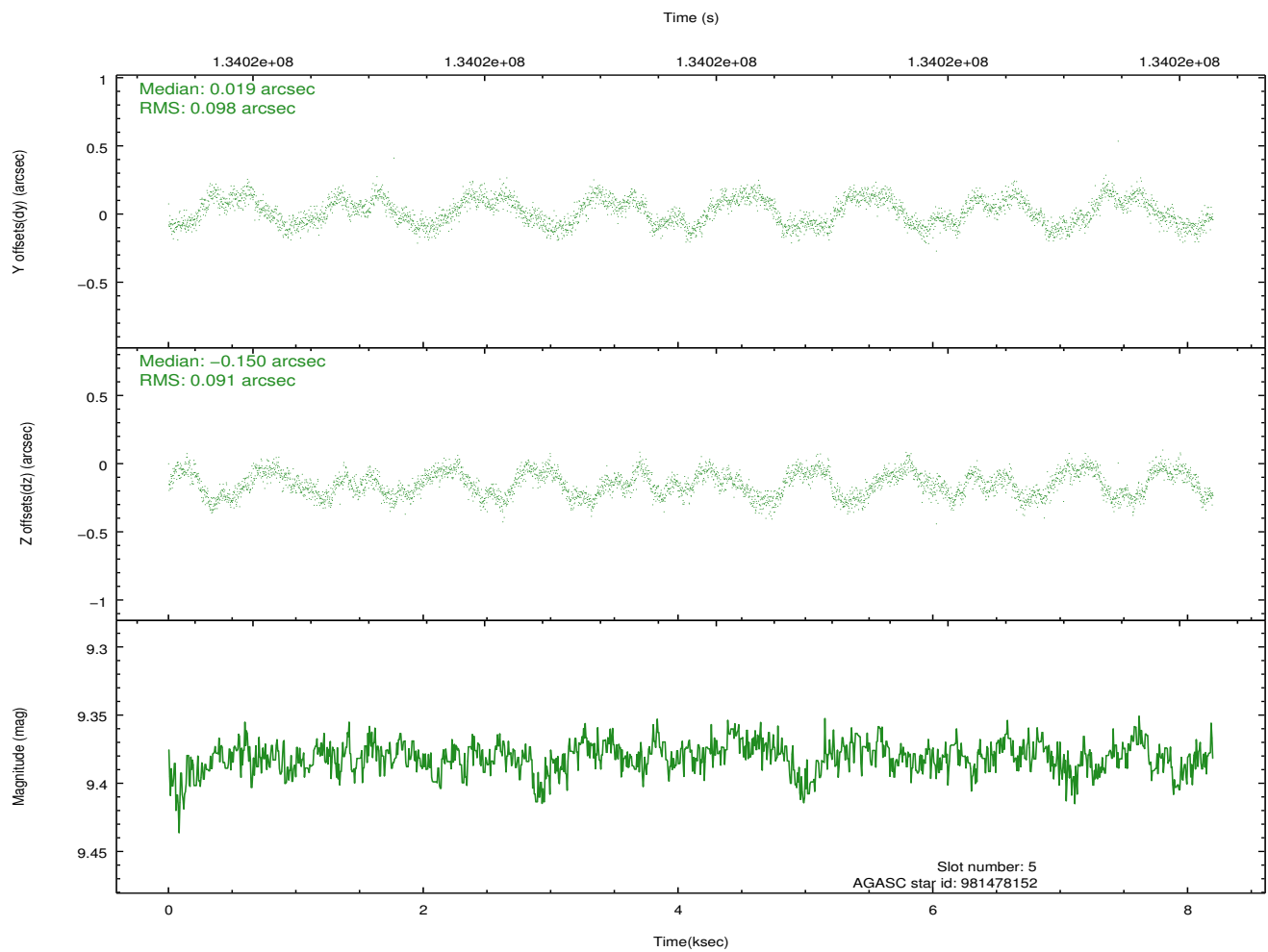
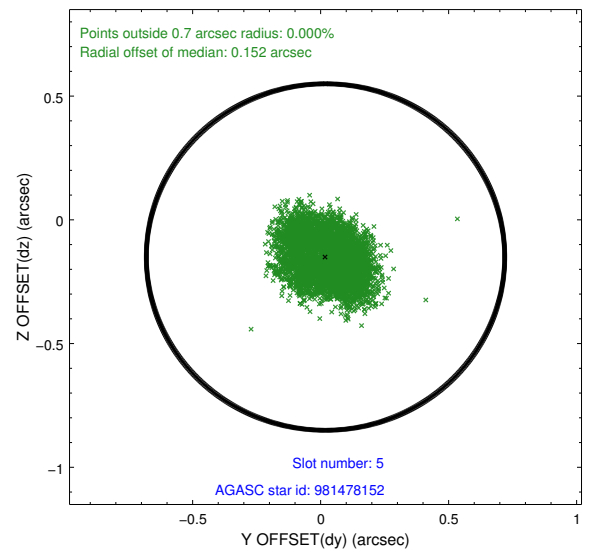
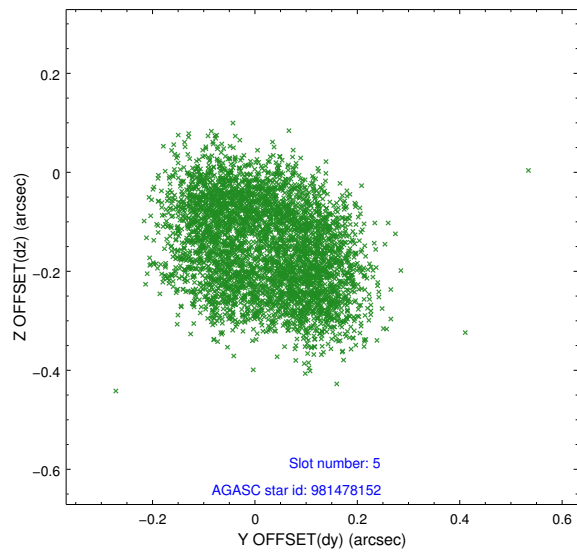
2.4.1 Slot 3



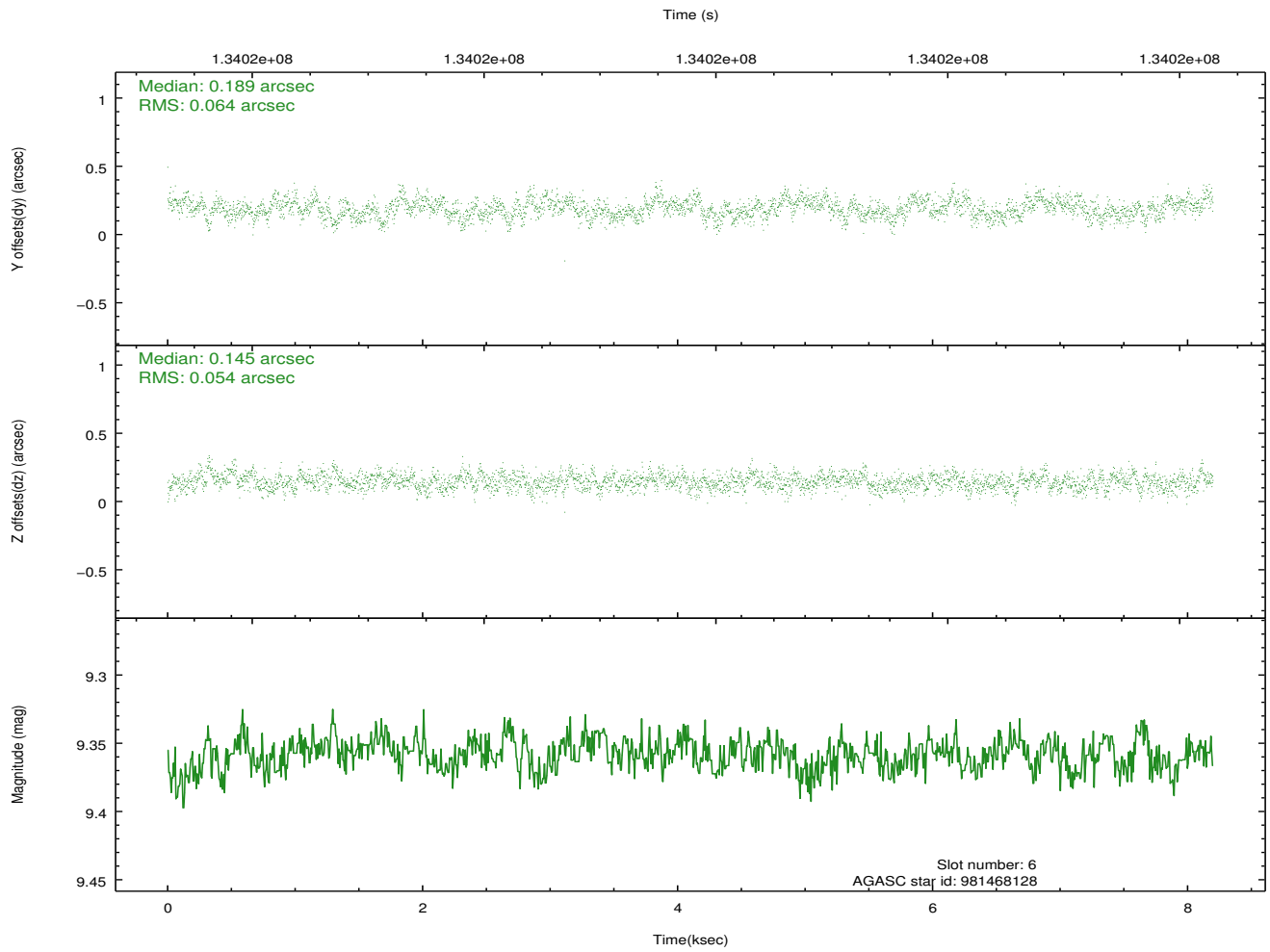
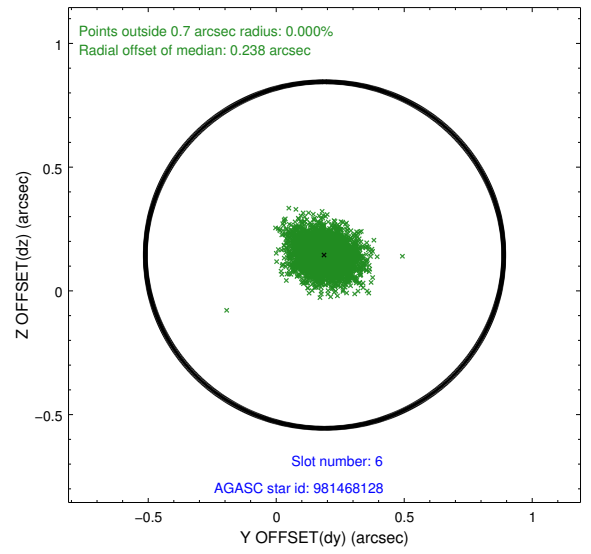
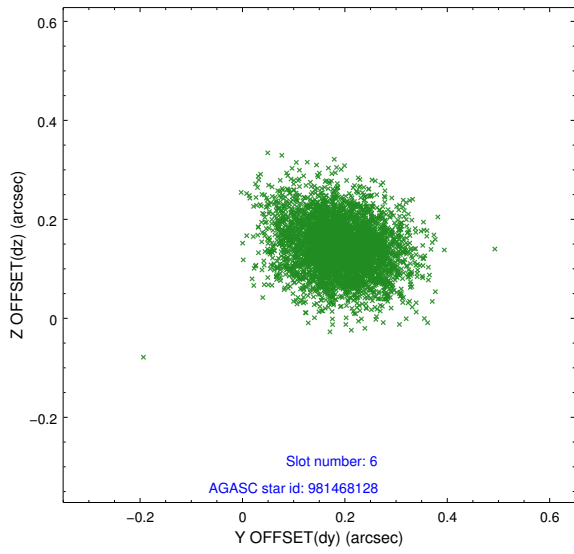
2.4.2 Slot 4



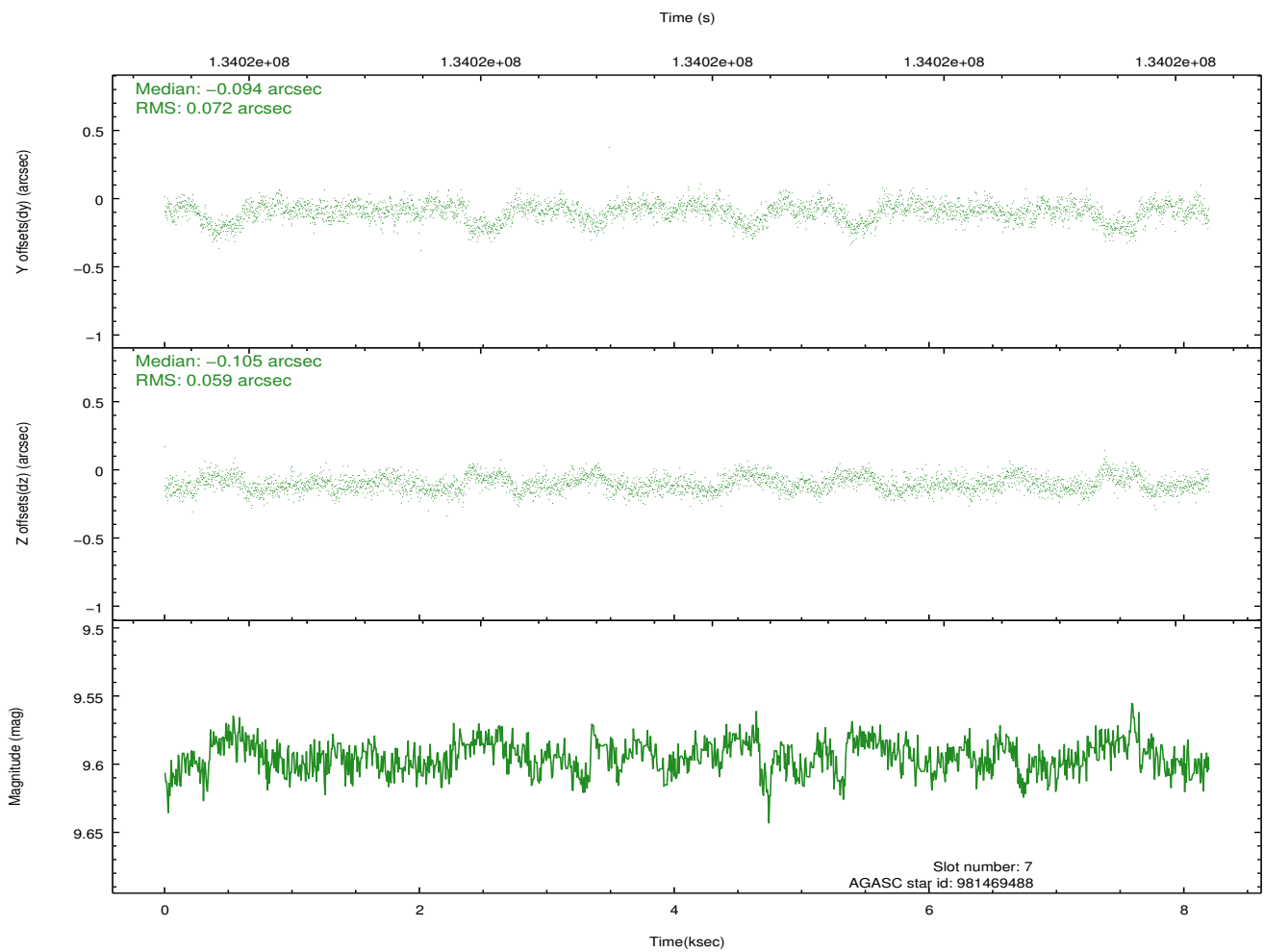
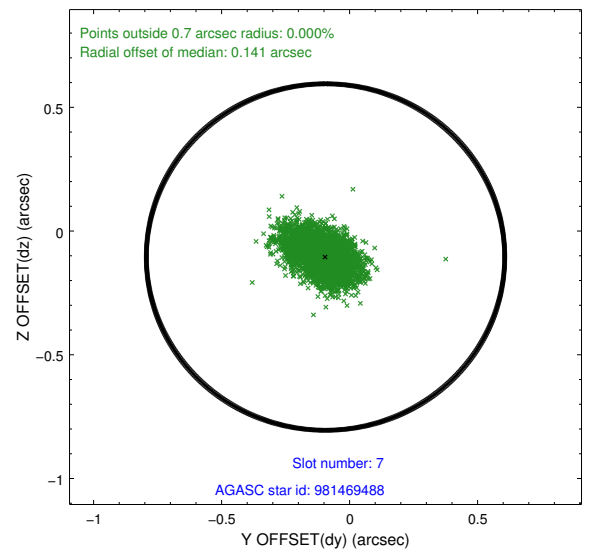
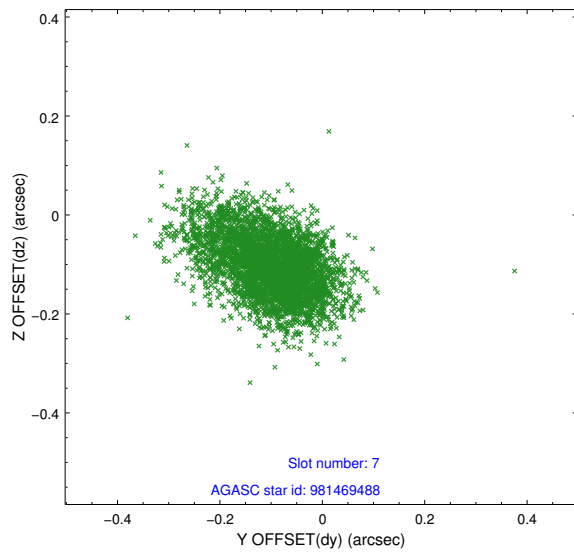
2.4.3 Slot 5



2.4.4 Slot 6

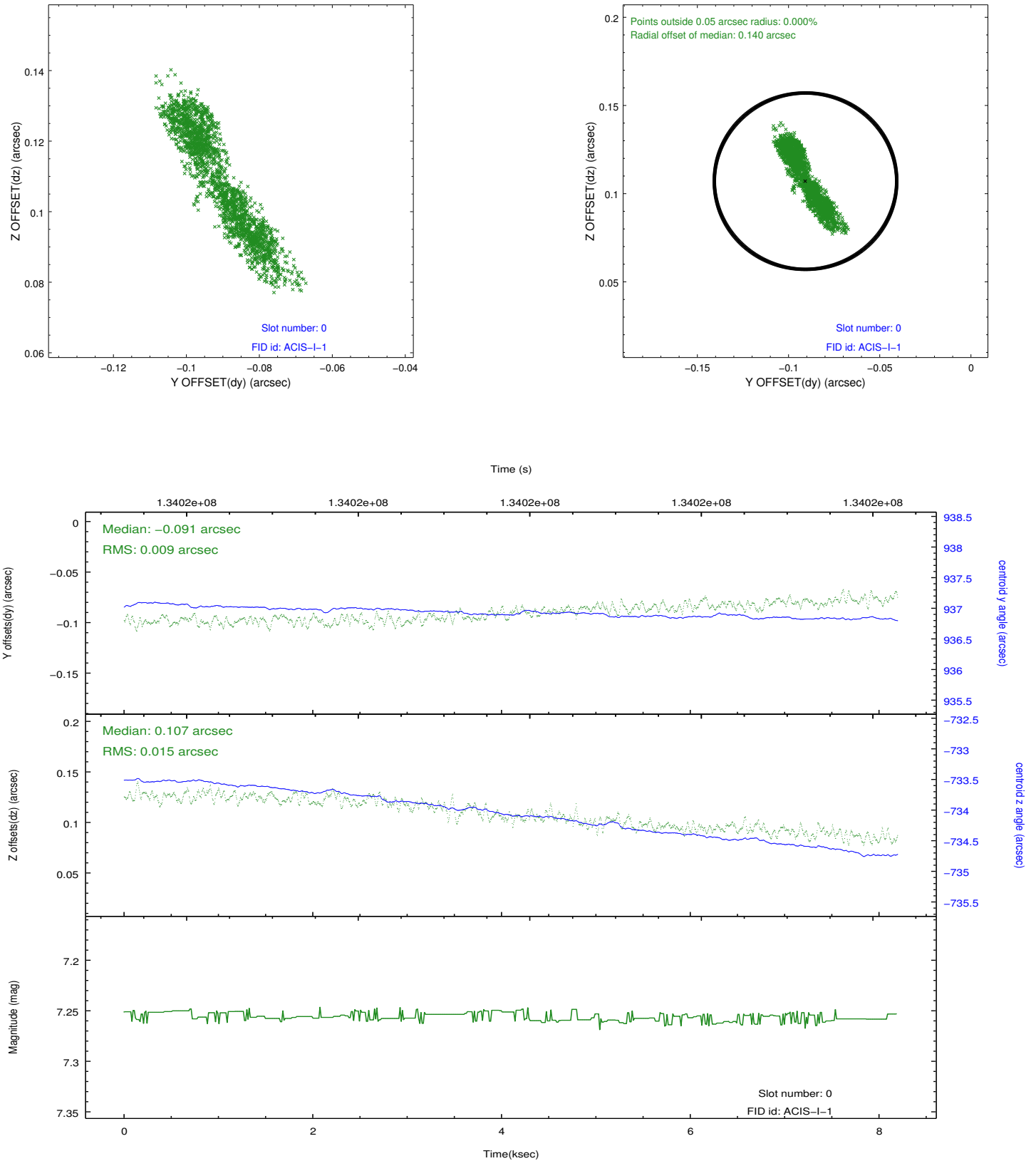


2.4.5 Slot 7

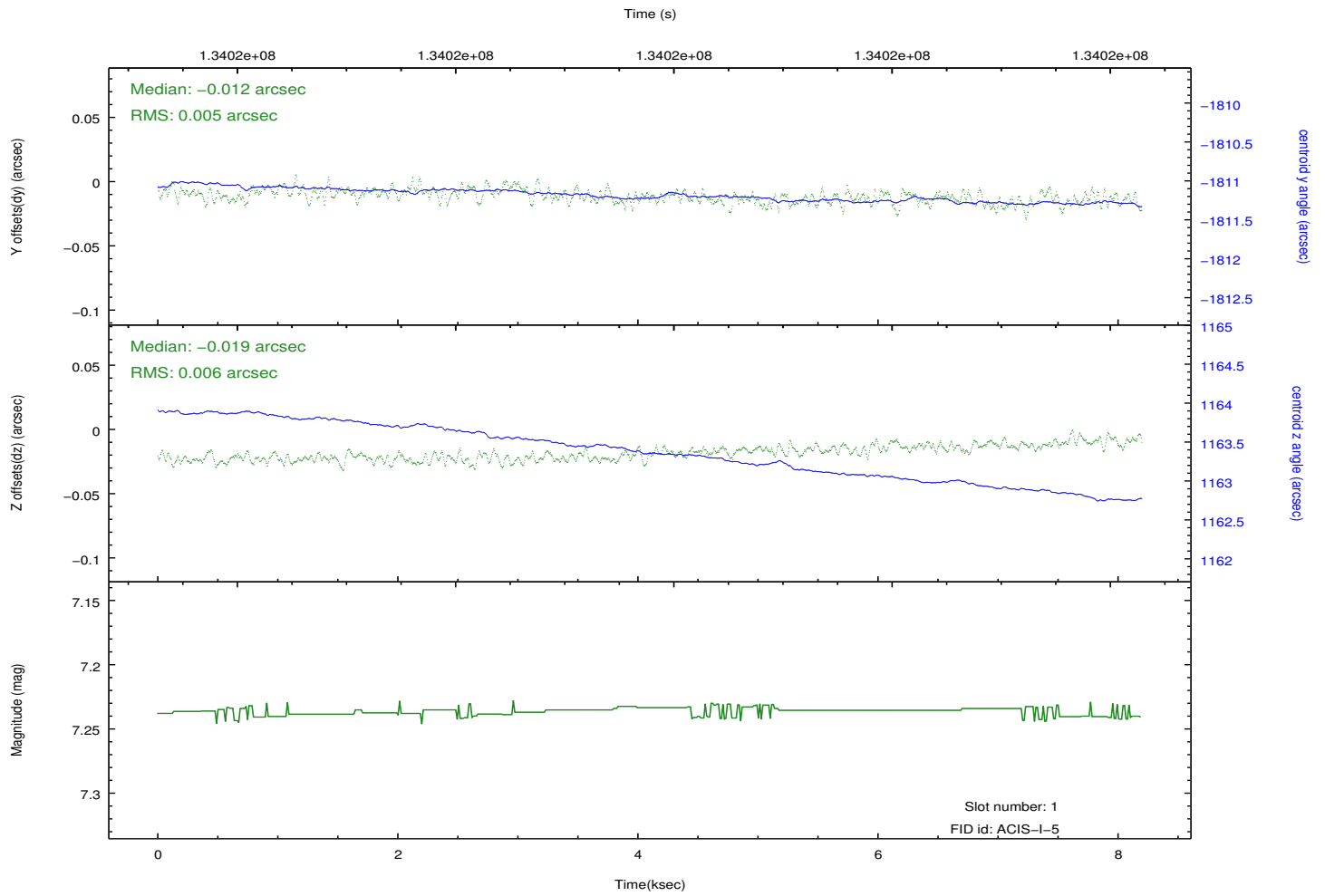
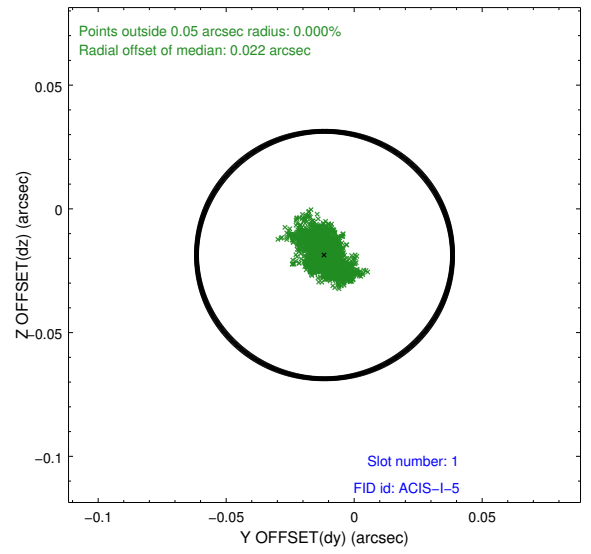
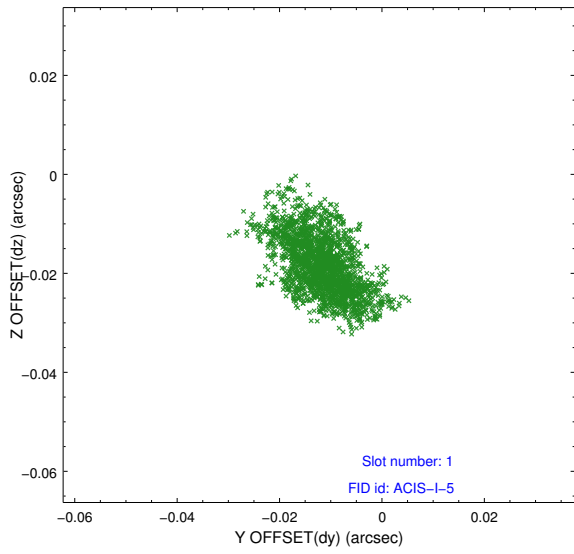


2.5 FID Slots

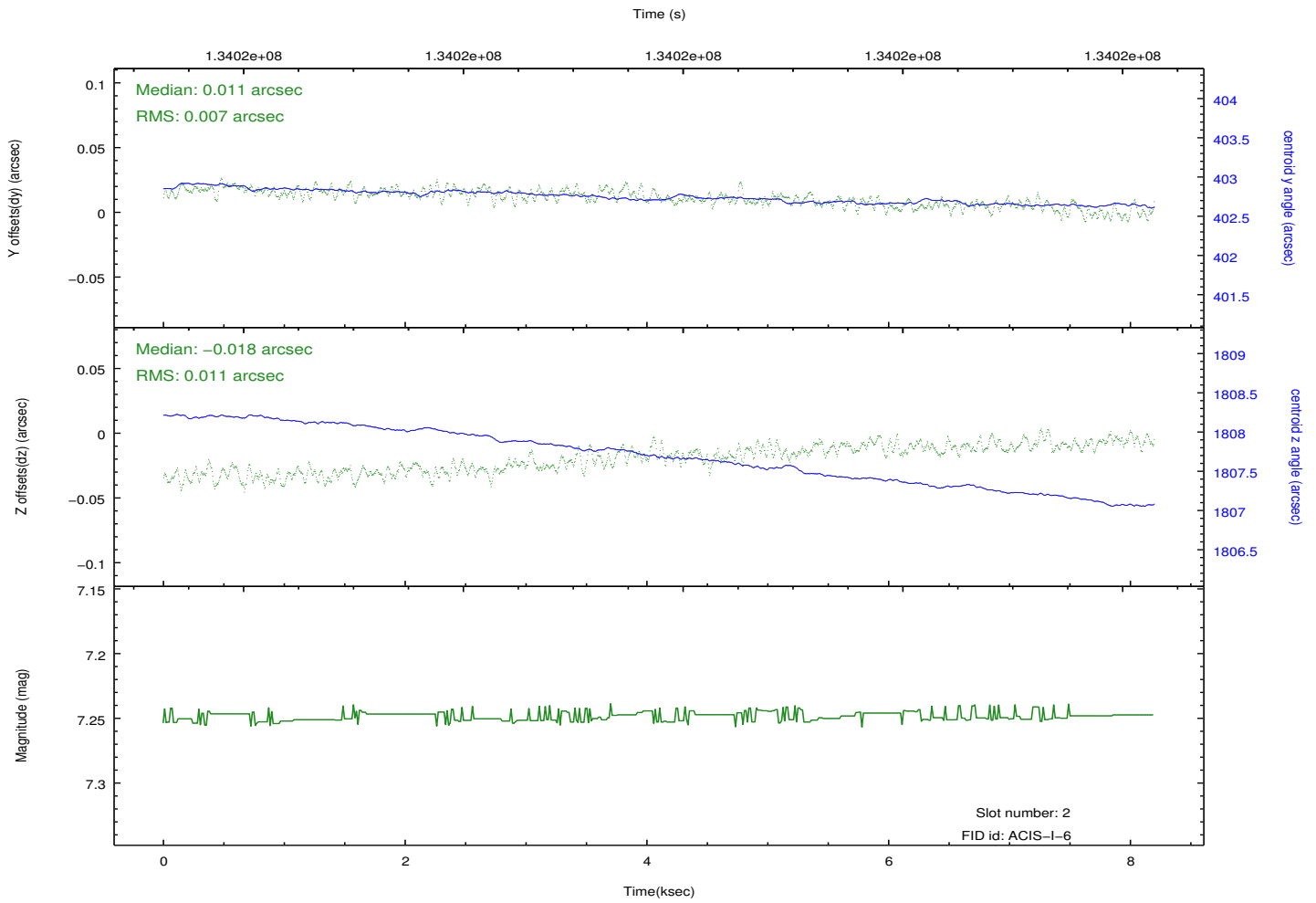
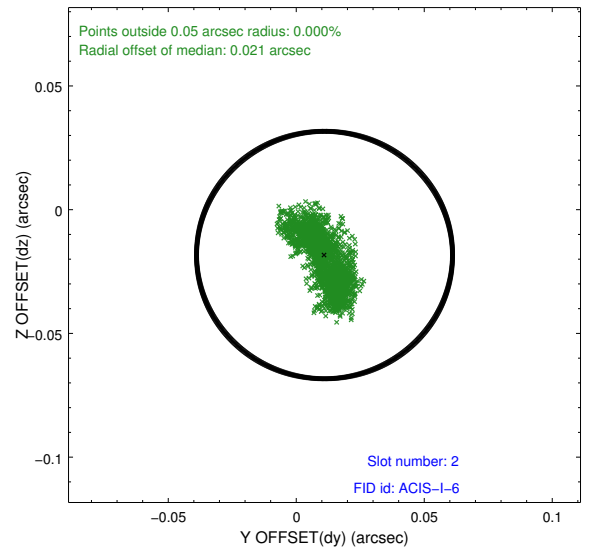
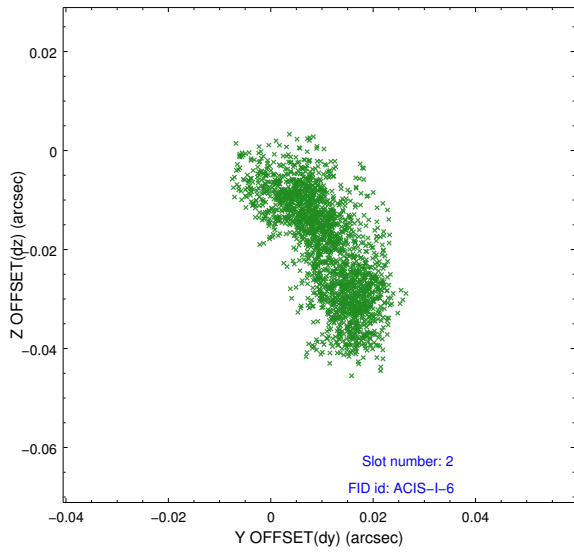
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

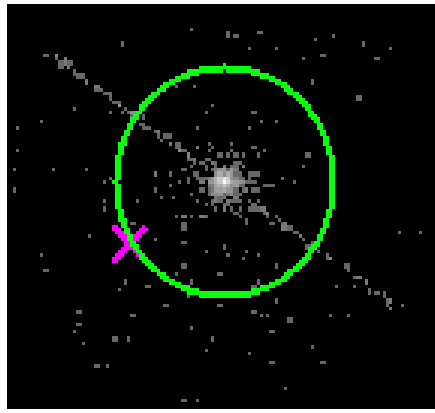


3 Gratings

3.1 LETG Arm



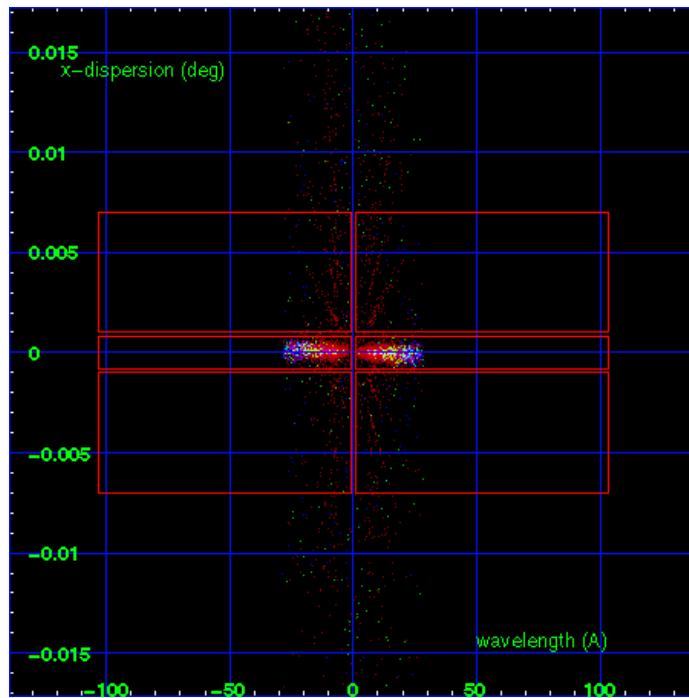
LETG Order Sort 123



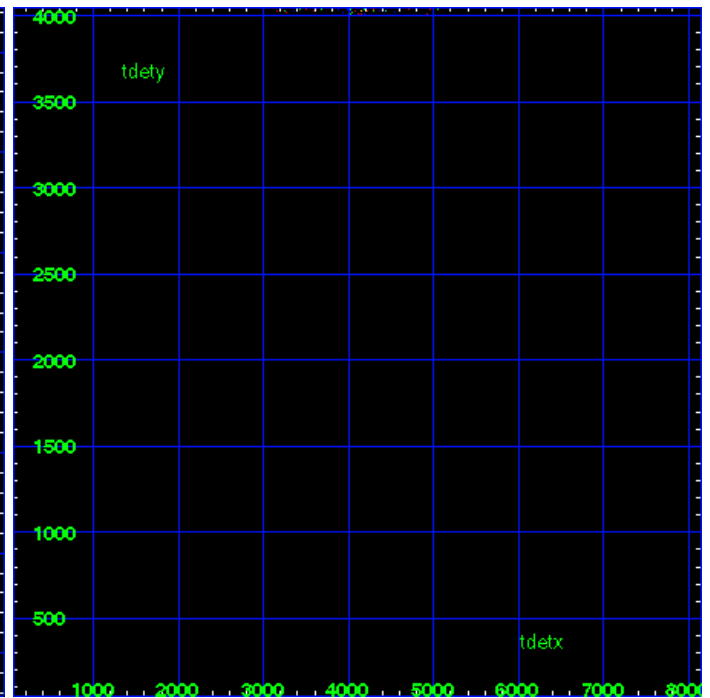
LETG Zero Order



LETG Order Sort ALL

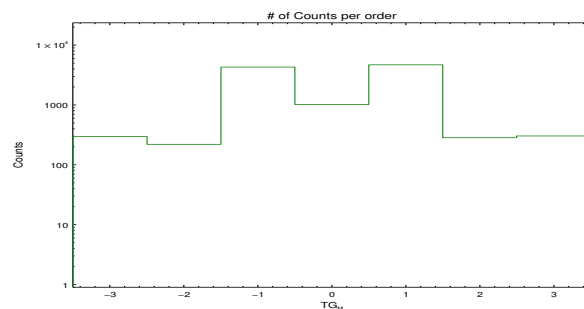


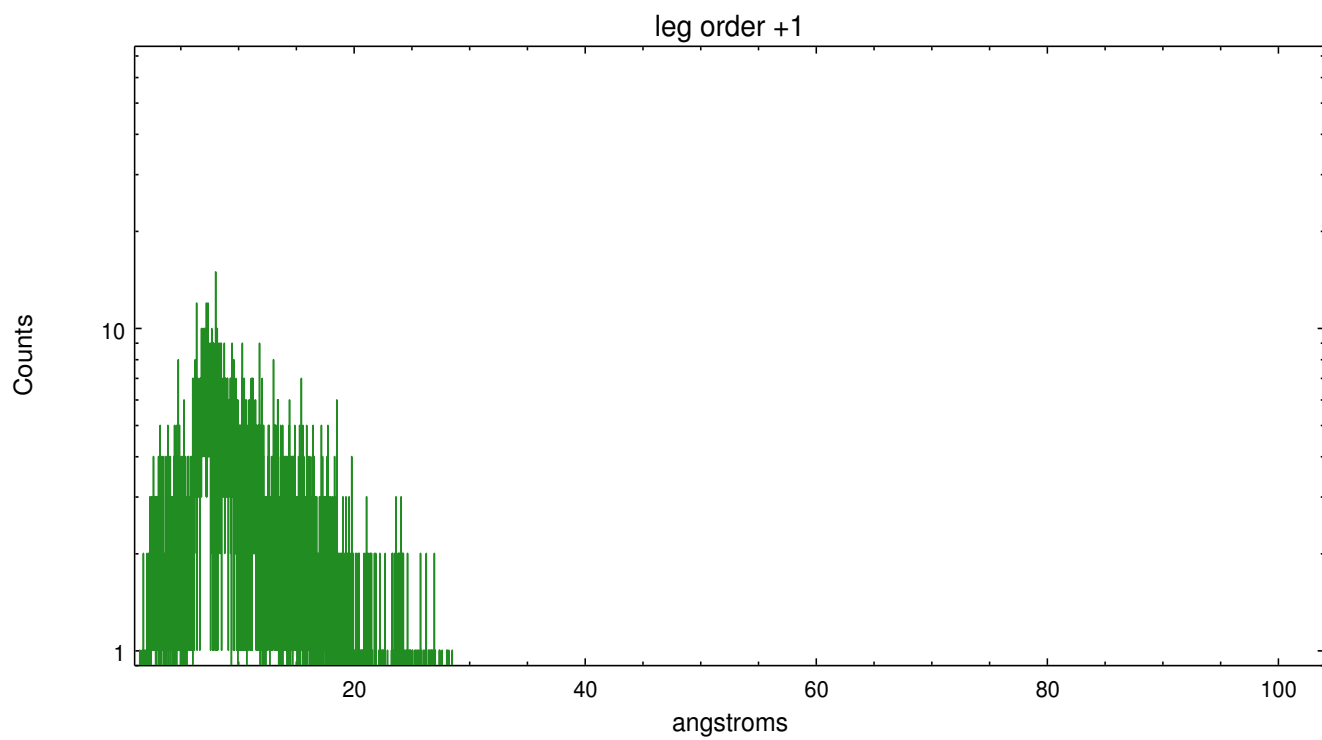
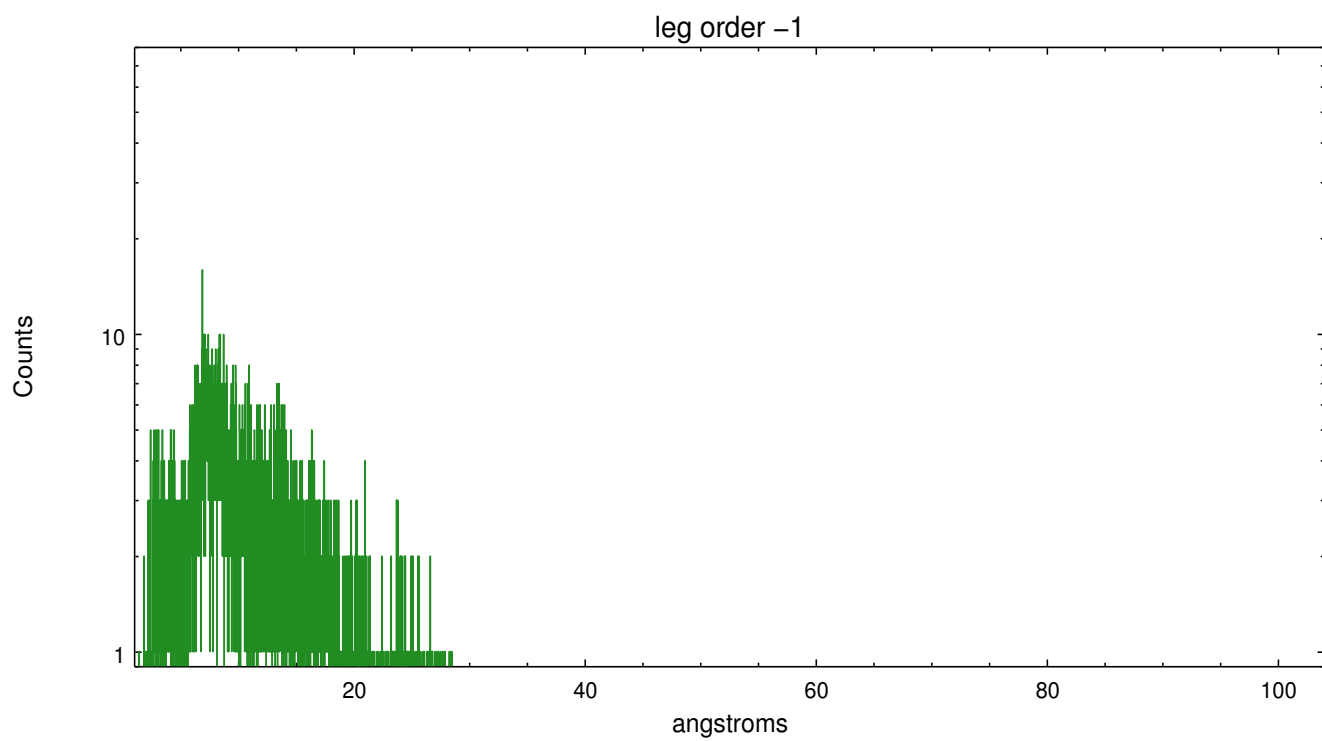
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	297	220	4325	1023	4718	284	304





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.01.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	7.788

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 ($x=4122.16$, $y=4112.0$) 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.