

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 3574 - L2 Version 3
Chandra X-Ray Center

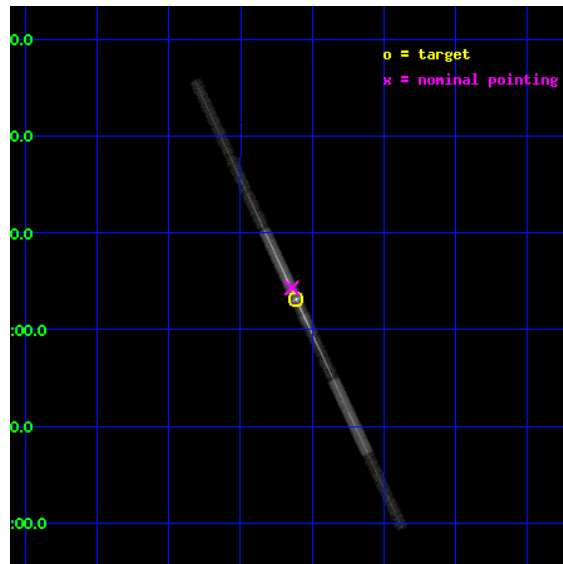
L2 Processing Date : Oct 9 2012

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1 Front

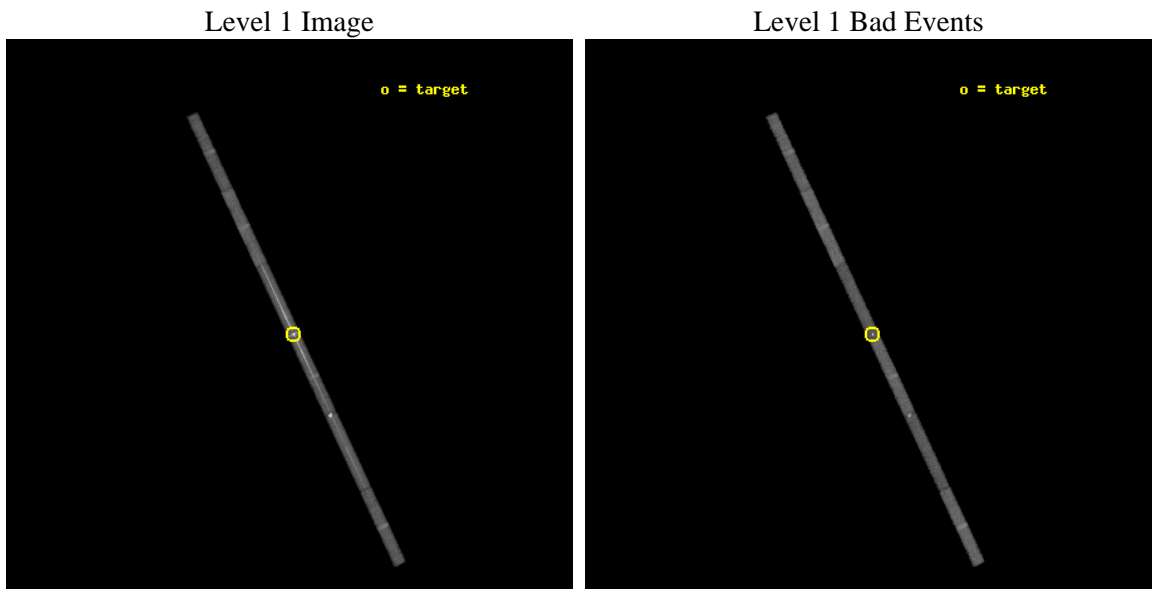
seq_num	790077	Sequence number
obs_id	3574	Observation id
title	AO4 CALIBRATION OBSERVATIONS OF 3C273	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	3C273	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	187.277917	Observer's specified target RA [deg]
dec_targ	2.052389	Observer's specified target Dec [deg]
ra_nom	187.28534695994	Nominal RA [deg]
dec_nom	2.0720503891202	Nominal Dec [deg]
roll_nom	244.86843741592	Nominal Roll [deg]
revision	3	Processing version of data
ontime	28941.499507129	Sum of GTIs [s]
livetime	27338.672210664	Livetime [s]
ontime4	28941.499507129	Sum of GTIs [s]
ontime5	28941.499507129	Sum of GTIs [s]
ontime6	28941.499507129	Sum of GTIs [s]
ontime7	28941.499507129	Sum of GTIs [s]
ontime8	28941.499507129	Sum of GTIs [s]
ontime9	28941.499507129	Sum of GTIs [s]
l2events	174131	Number of level 2 events



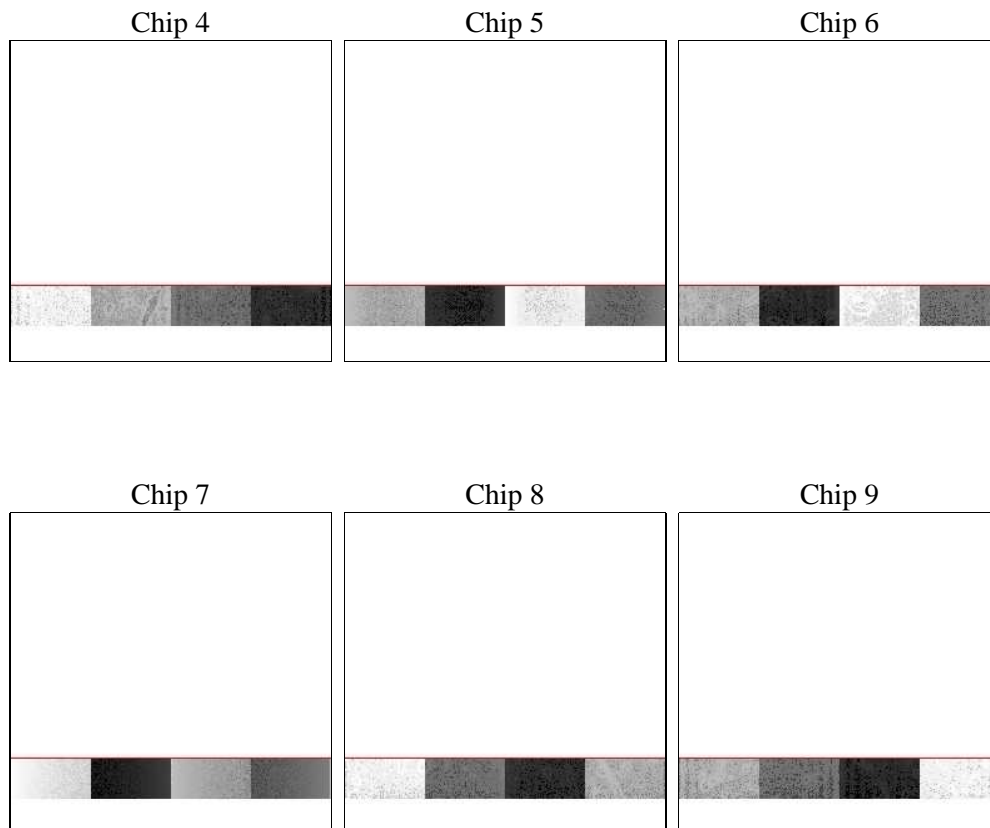
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	28710.493000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	28941.499507129	Sum of GTIs [s]
caldbver	4.5.2	 	ontime4	28941.499507129	Sum of GTIs [s]
date	2012-10-09T02:10:16	Date and time of file creation	ontime5	28941.499507129	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	28941.499507129	Sum of GTIs [s]
			ontime7	28941.499507129	Sum of GTIs [s]
			ontime8	28941.499507129	Sum of GTIs [s]
			ontime9	28941.499507129	Sum of GTIs [s]
			l1events	378079	Number of level 1 events

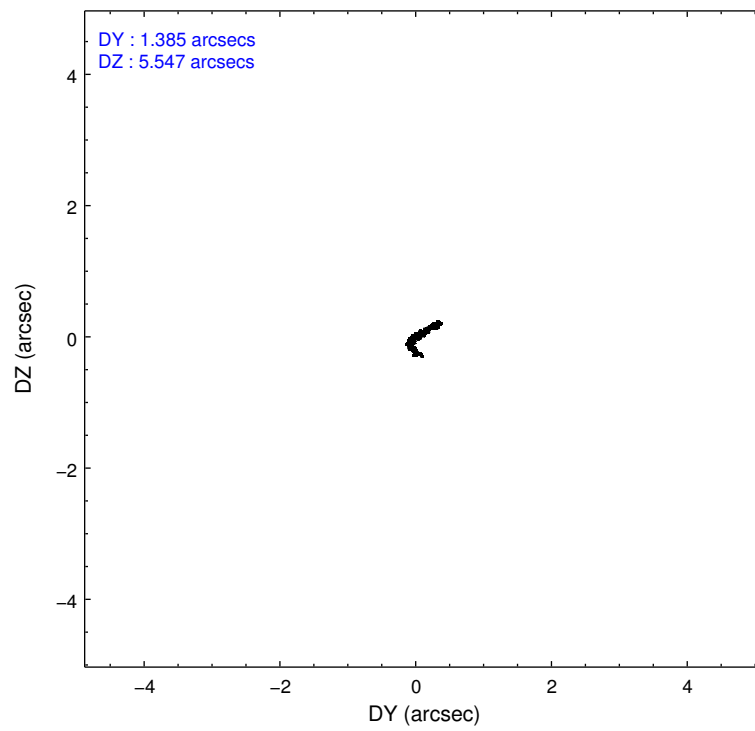
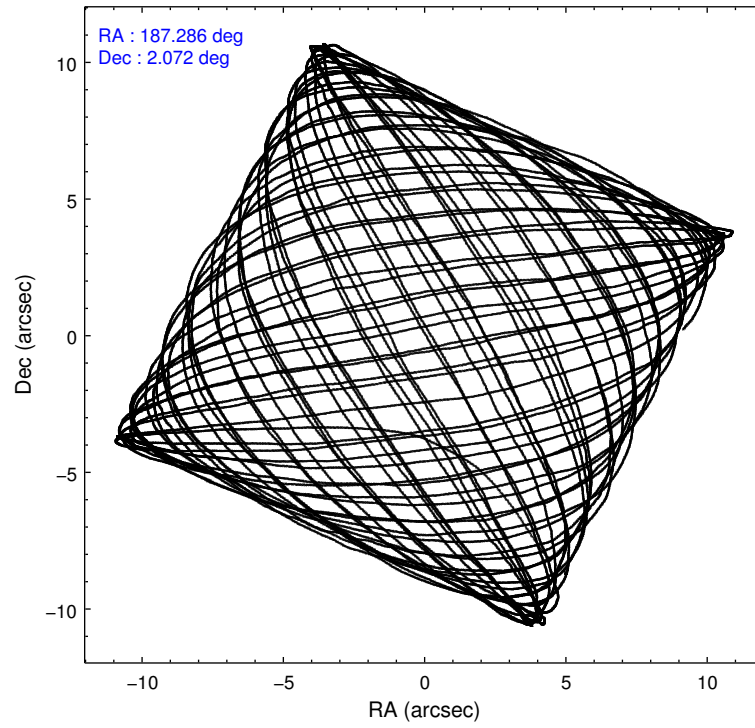
2.1.4 Events

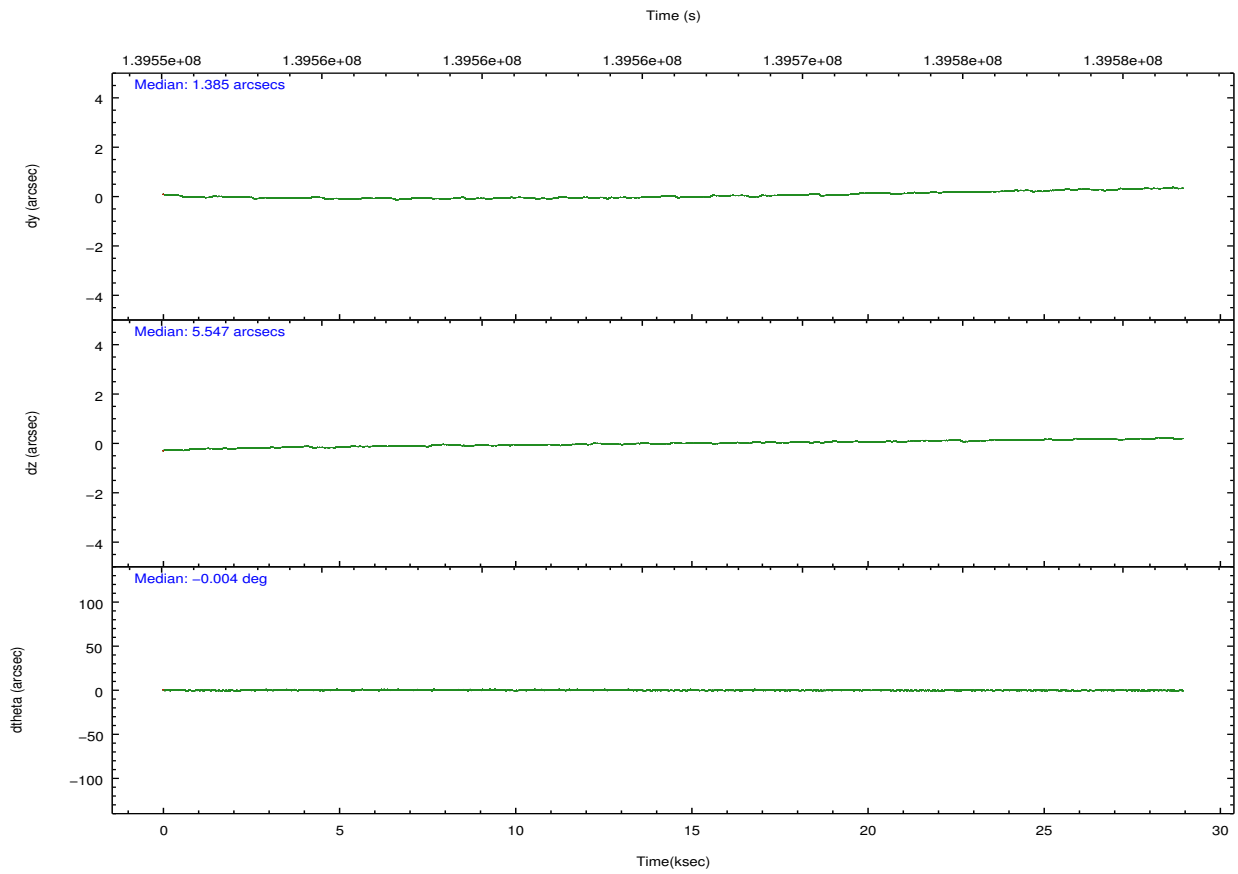
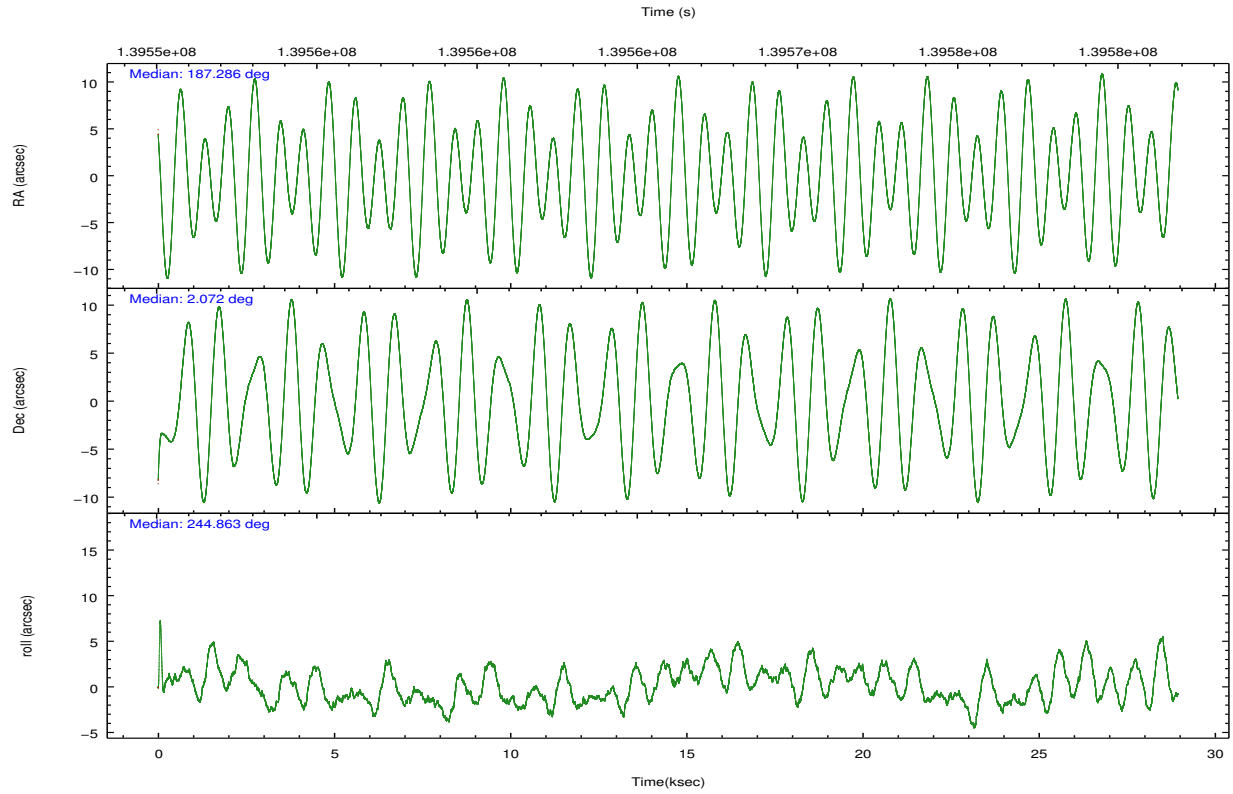
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	36711	62214	68142	132721	47063	31228	grade 0 events	2108	16685	30031	23906	4411	2019
rejected events	32160	20945	29200	31157	36630	26875		5%	26%	44%	18%	9%	6%
rejected %	87%	33%	42%	23%	77%	86%	grade 1 events	16	1326	77	950	12	9
								0%	2%	0%	0%	0%	0%
							grade 2 events	769	7021	4199	24316	1630	607
								2%	11%	6%	18%	3%	1%
							grade 3 events	584	4846	1681	11239	1072	597
								1%	7%	2%	8%	2%	1%
							grade 4 events	528	3801	1689	11177	997	622
								1%	6%	2%	8%	2%	1%
							grade 5 events	895	4128	1036	7269	1223	974
								2%	6%	1%	5%	2%	3%
							grade 6 events	598	9413	1501	31332	2421	540
								1%	15%	2%	23%	5%	1%
							grade 7 events	31213	14994	27928	22532	35297	25860
								85%	24%	40%	16%	74%	82%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-456789	ACIS-456789	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	187.282691	187.2853469599367	Subarray requested	CUSTOM	1/8
[deg] Pointing Dec	2.099165	2.072050389120241	Subarray start row	113	113
[deg] Pointing Roll	244.711915	244.8684374159236	Subarray row count	128	128
[s] Window start time (MET)	139276864.184000	139276864.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	141782464.184000	141782464.184000	[s] Primary exposure time	0.000000	0.7
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-182.132523	-182.139514760308			
[mm] SIM translation stage offset	-8	-7.993007822699838			
[s] Observation start time (MET)	139551714.184000	139550732.32658			
Observation start date	2002-06-04T04:20:50	2002-06-04T04:05:32			
[s] Observation end time (MET)	139580425.184000	139580739.20281			
Observation end date	2002-06-04T12:19:21	2002-06-04T12:25:39			
Read mode	TIMED	TIMED			

2.3 Aspect



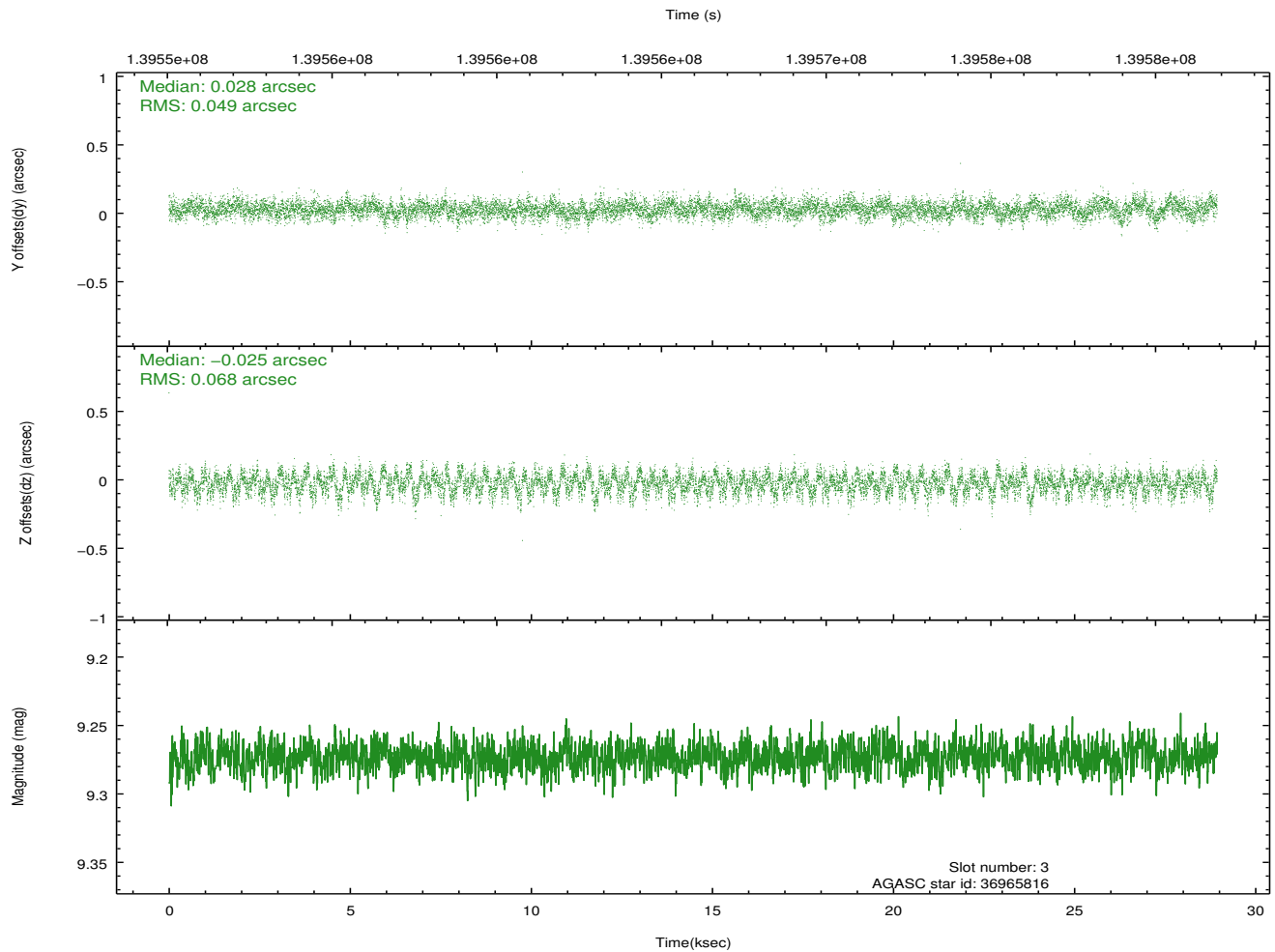
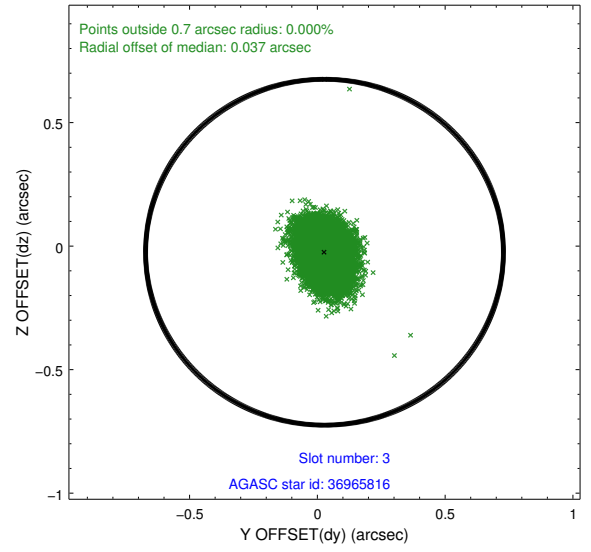
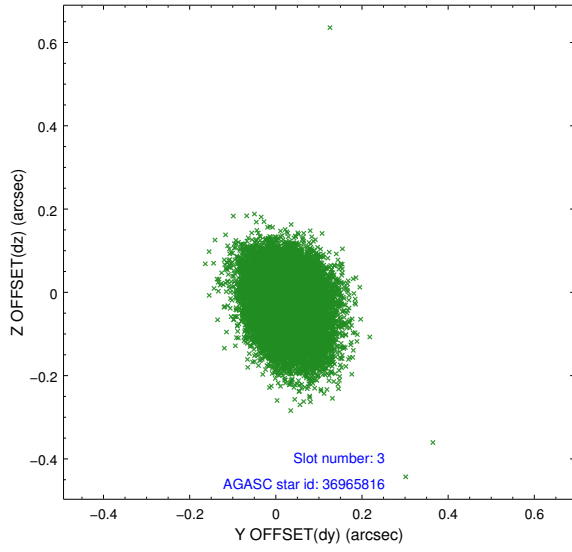


Slot Statistics

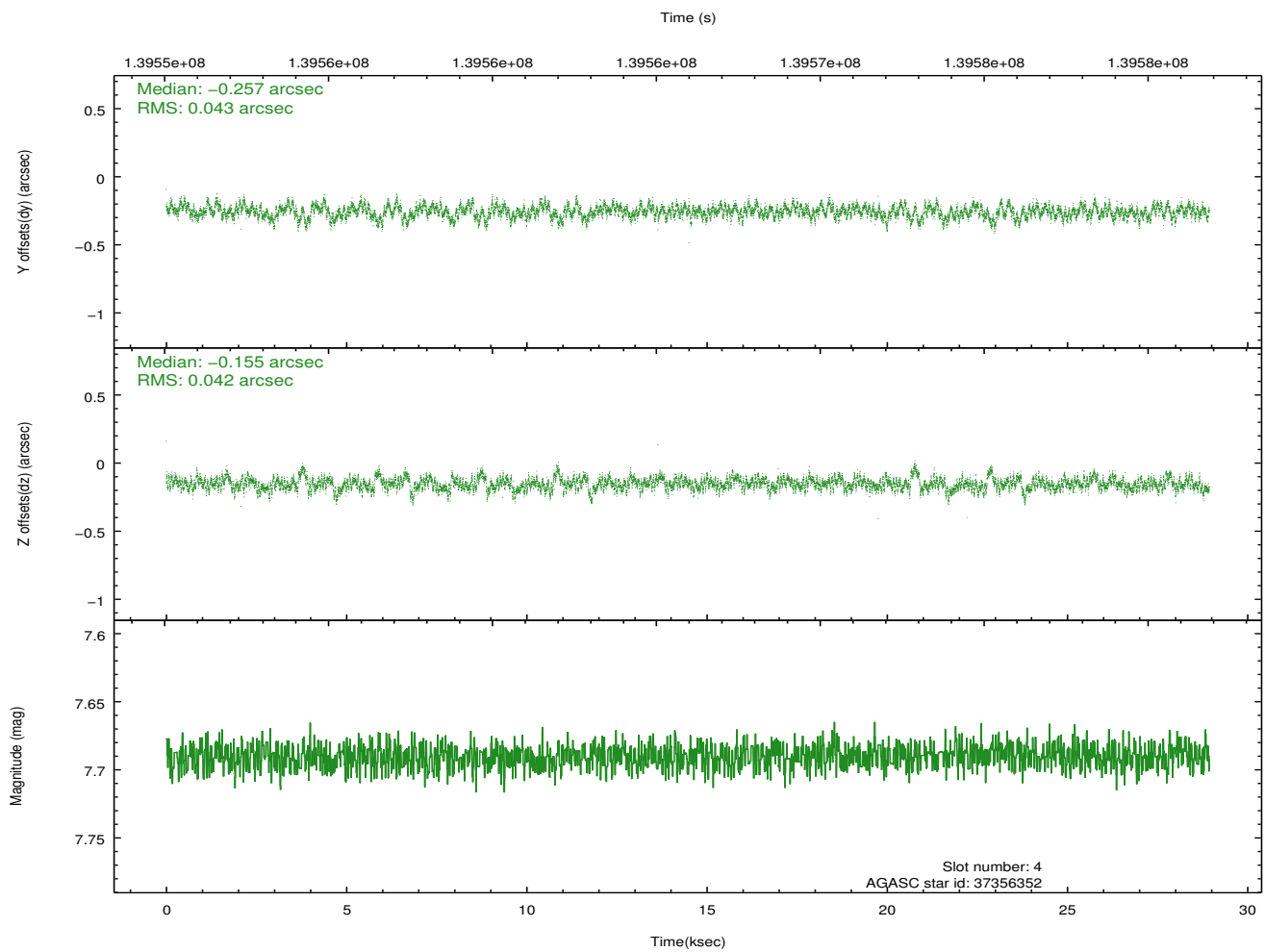
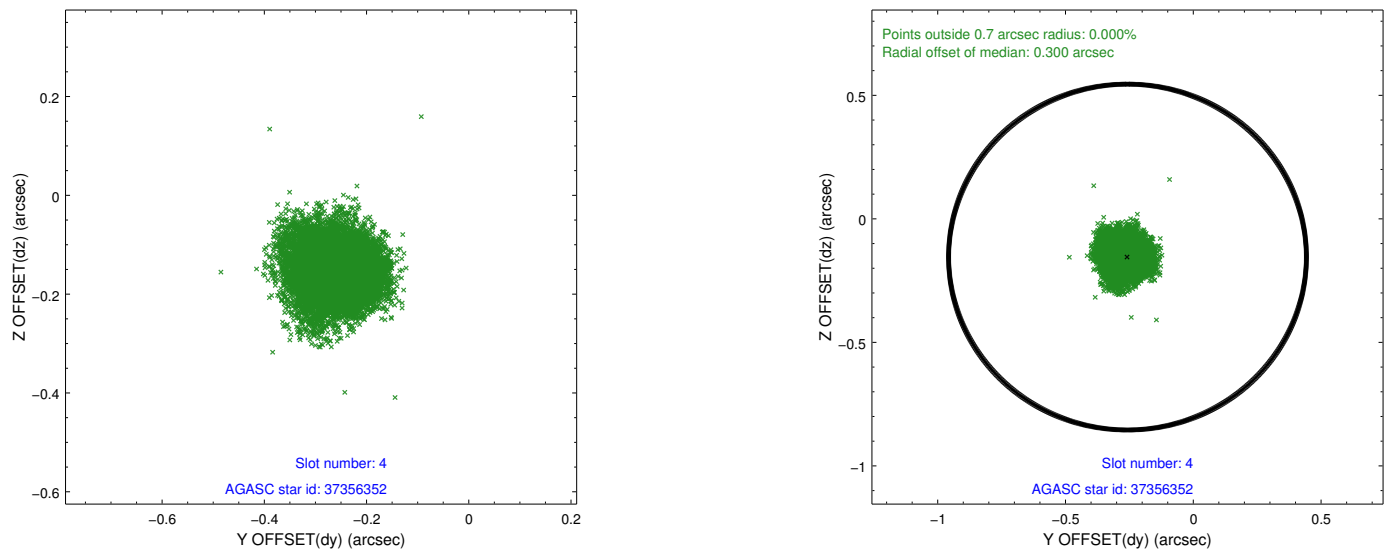
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	7059	-0.070	-0.071	0.007	0.013	0.000000	0.000000	-753.54	-1891.40
1	FID	ACIS-S-4	7.18	7059	0.089	0.053	0.006	0.010	0.000000	0.000000	2159.86	17.08
2	FID	ACIS-S-5	7.23	7060	-0.050	0.026	0.007	0.012	0.000000	0.000000	-1806.25	10.83
3	GUIDE	36965816	9.27	14111	0.028	-0.025	0.088	0.144	186.823353	1.771455	1773.91	-990.86
4	GUIDE	37356352	7.69	14118	-0.257	-0.155	0.063	0.106	187.433784	2.618460	-1921.32	-308.08
5	GUIDE	36965296	9.09	14110	0.062	-0.041	0.082	0.130	186.926292	1.837429	1400.87	-757.44
6	GUIDE	37879824	10.45	14094	-0.125	0.024	0.196	0.371	187.728661	2.497183	-1979.80	837.53
7	GUIDE	37883040	10.03	14105	0.281	0.190	0.130	0.215	187.575516	1.280402	2216.12	2212.17

2.4 Star Slots

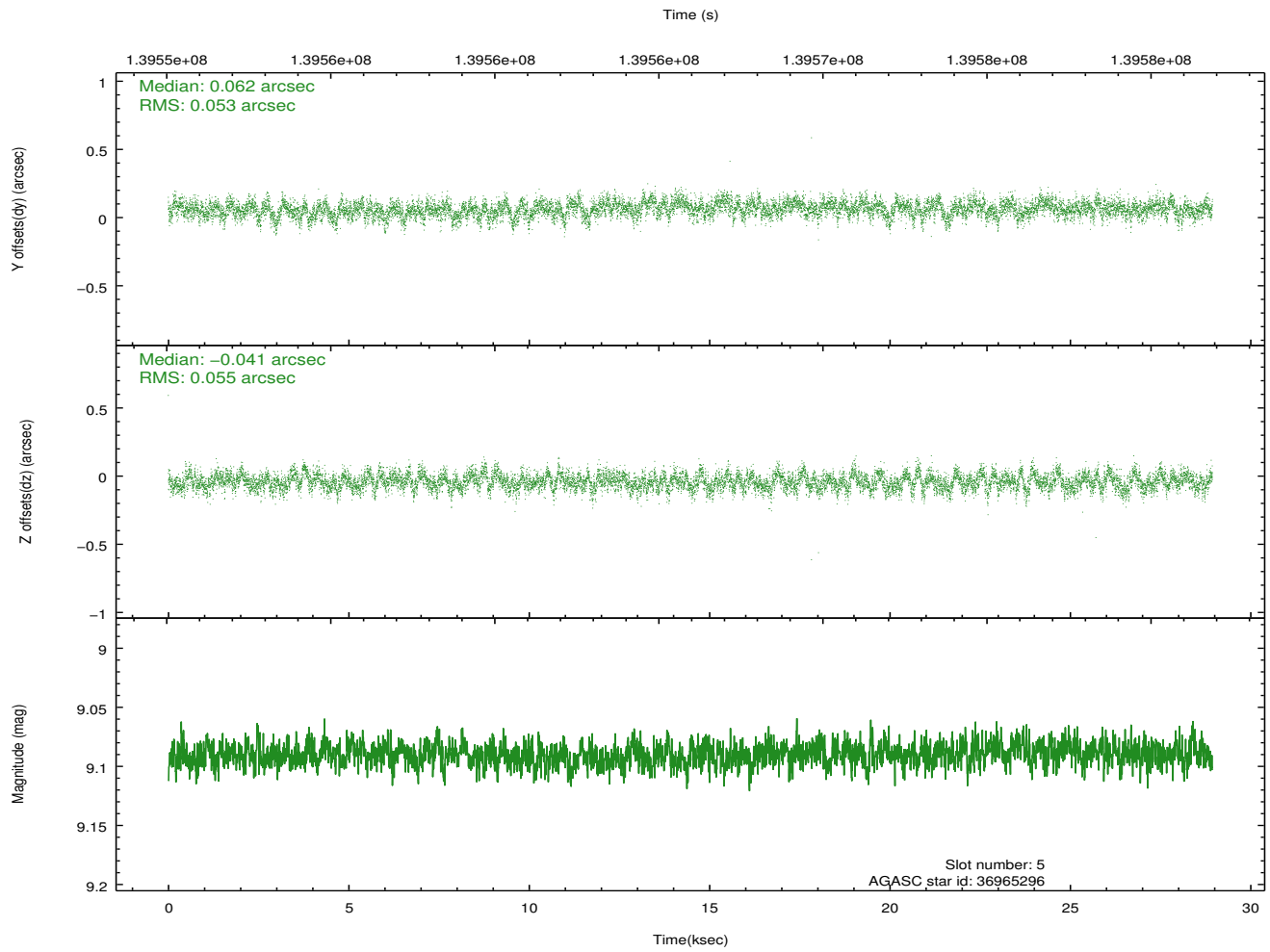
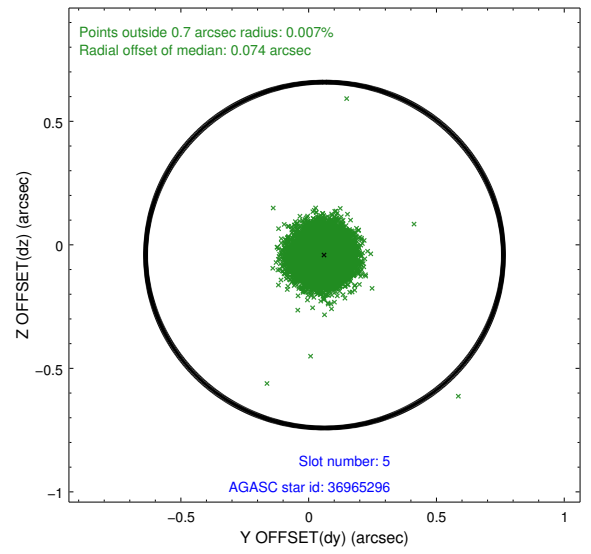
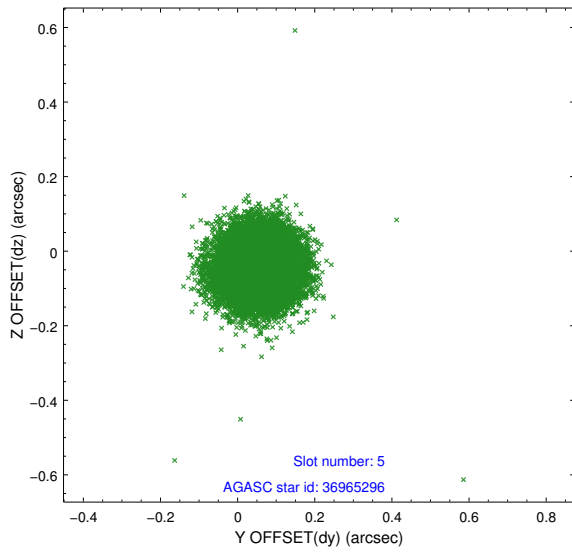
2.4.1 Slot 3



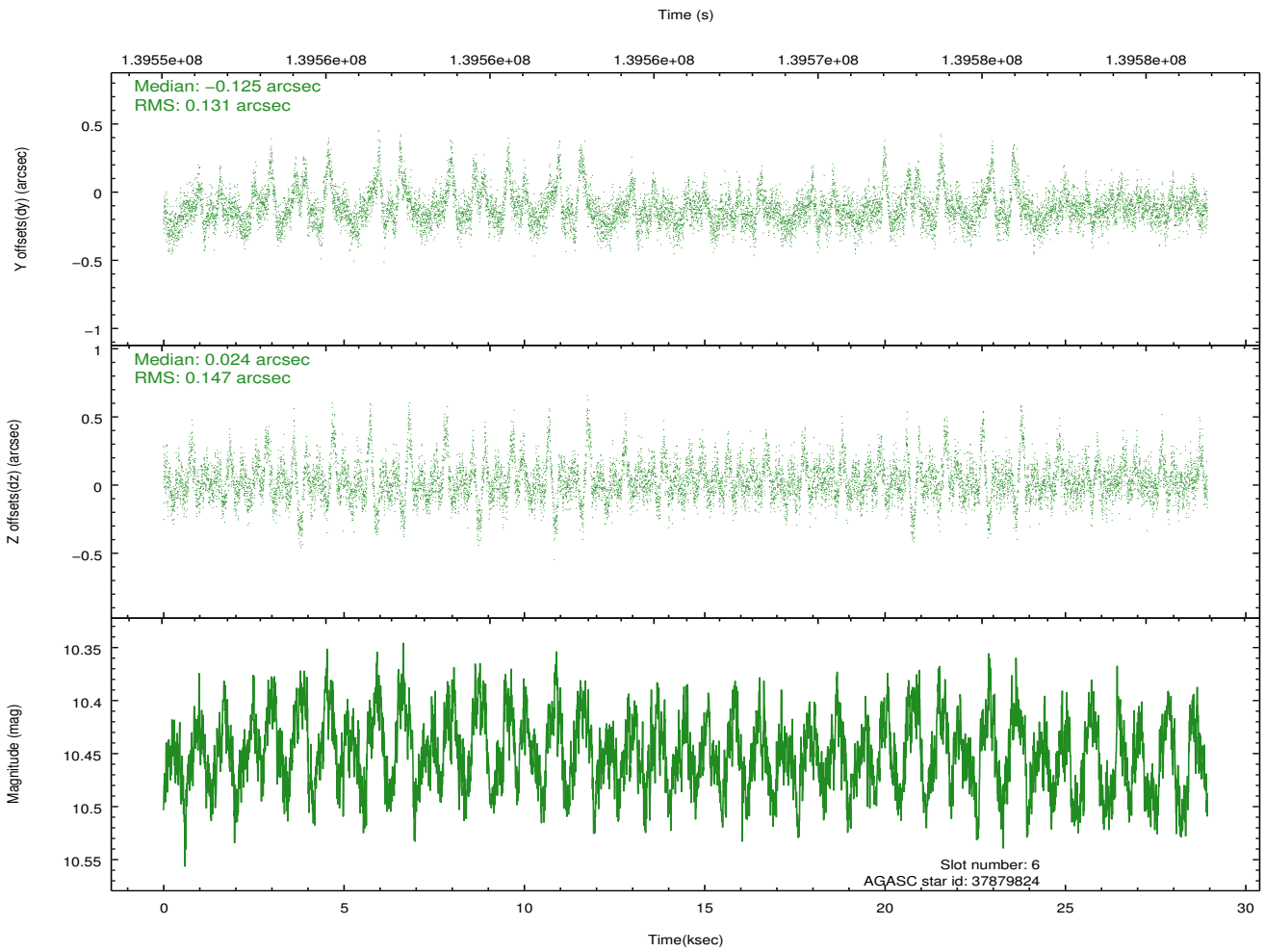
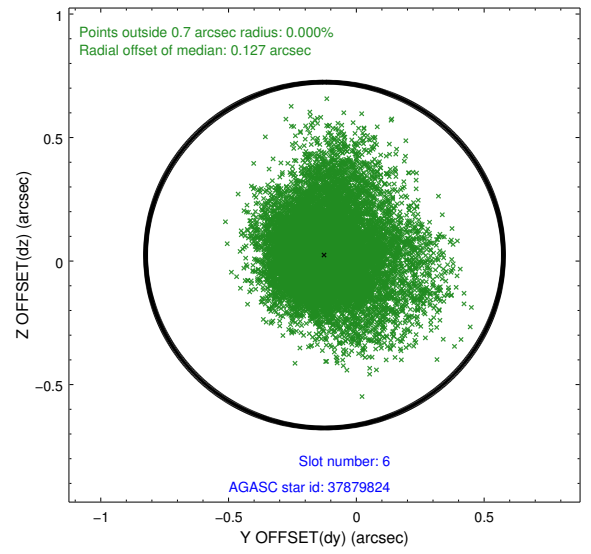
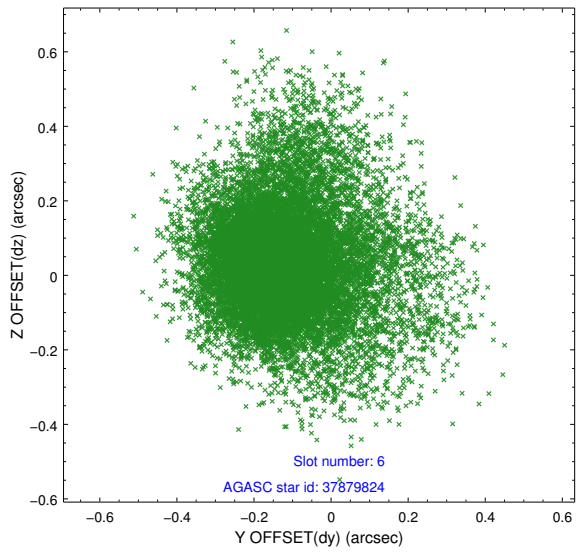
2.4.2 Slot 4



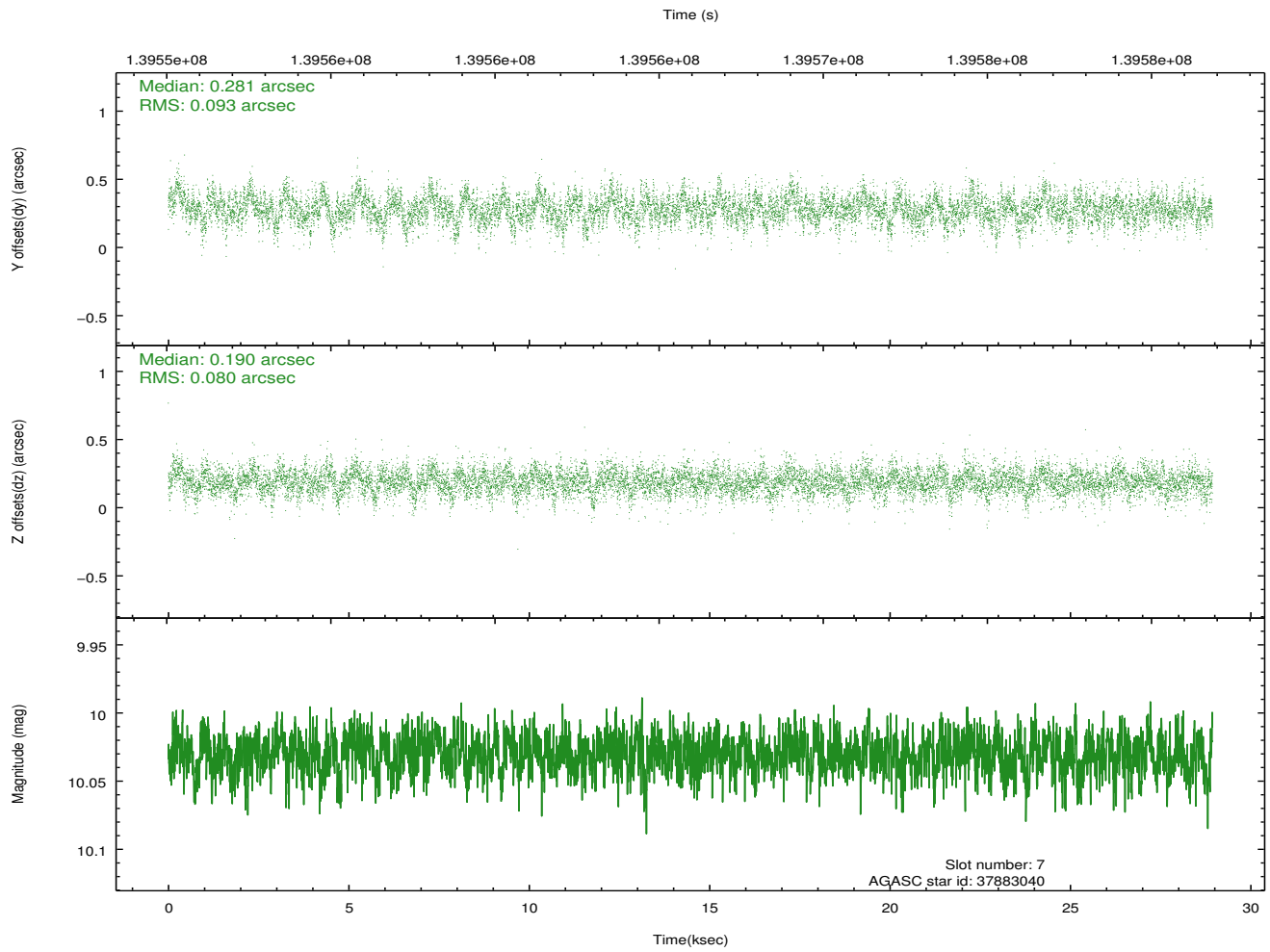
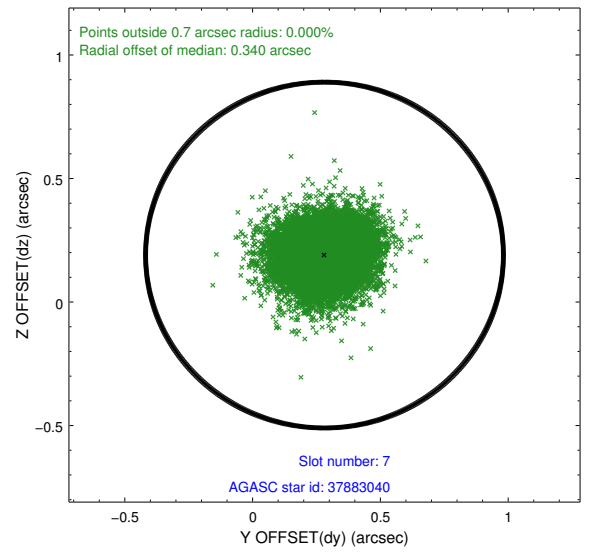
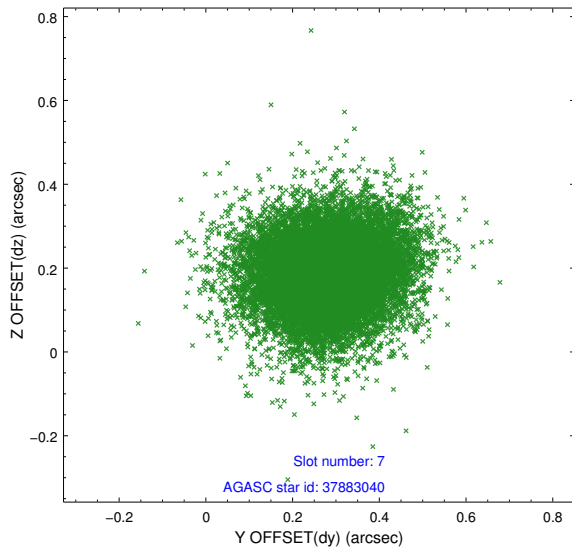
2.4.3 Slot 5



2.4.4 Slot 6

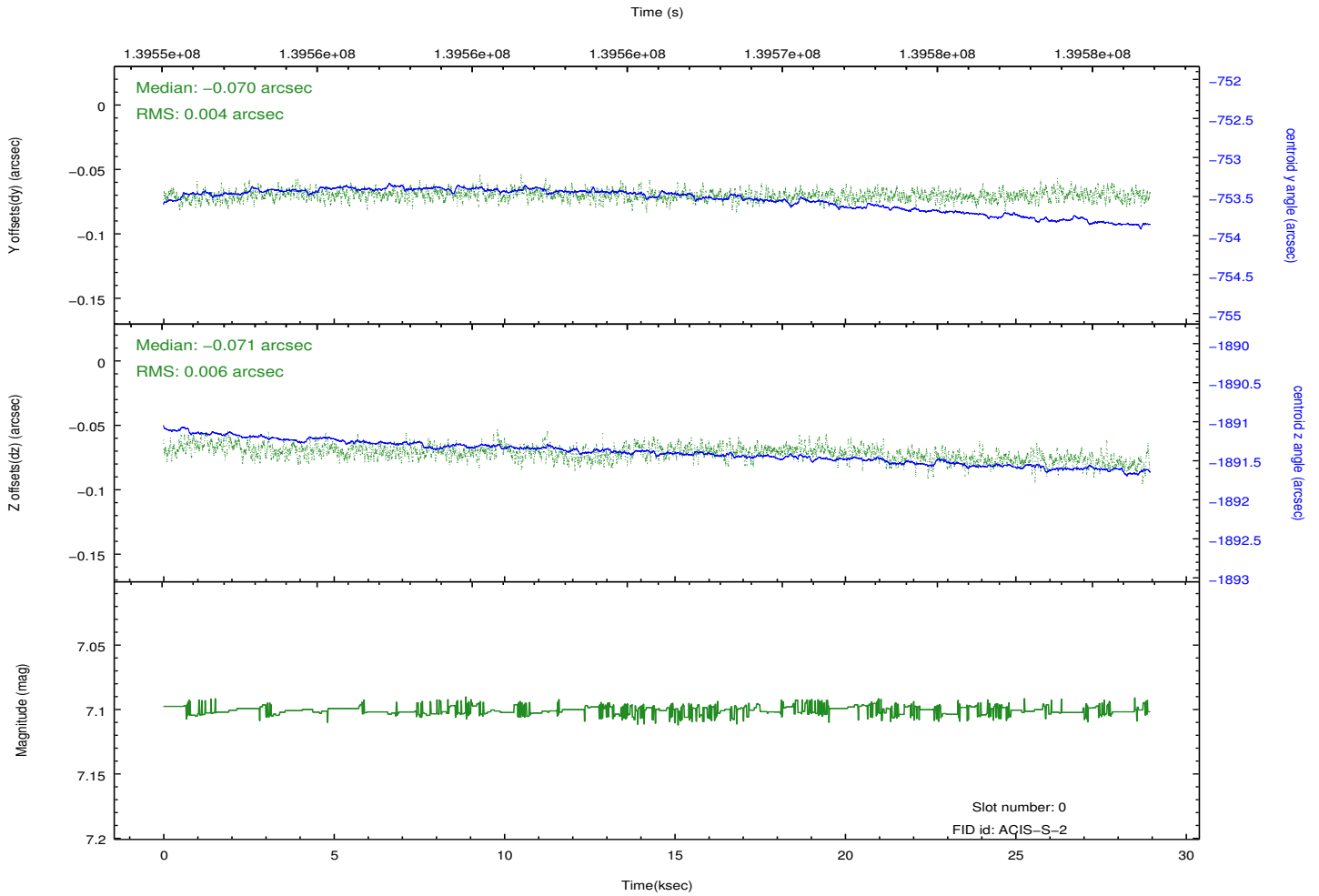
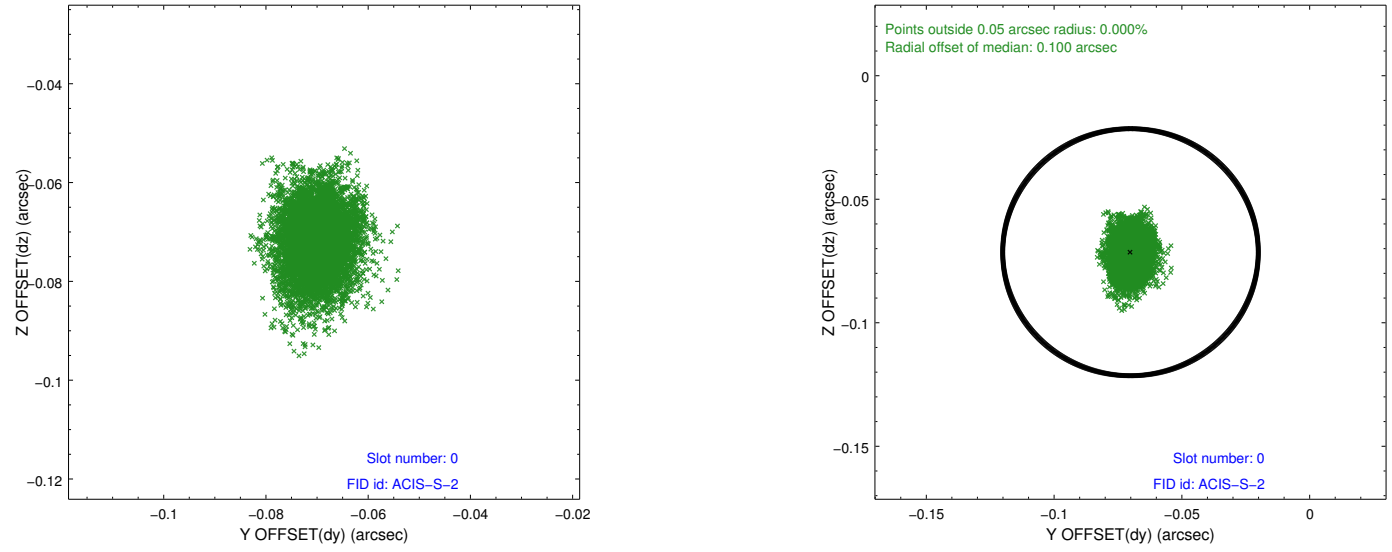


2.4.5 Slot 7

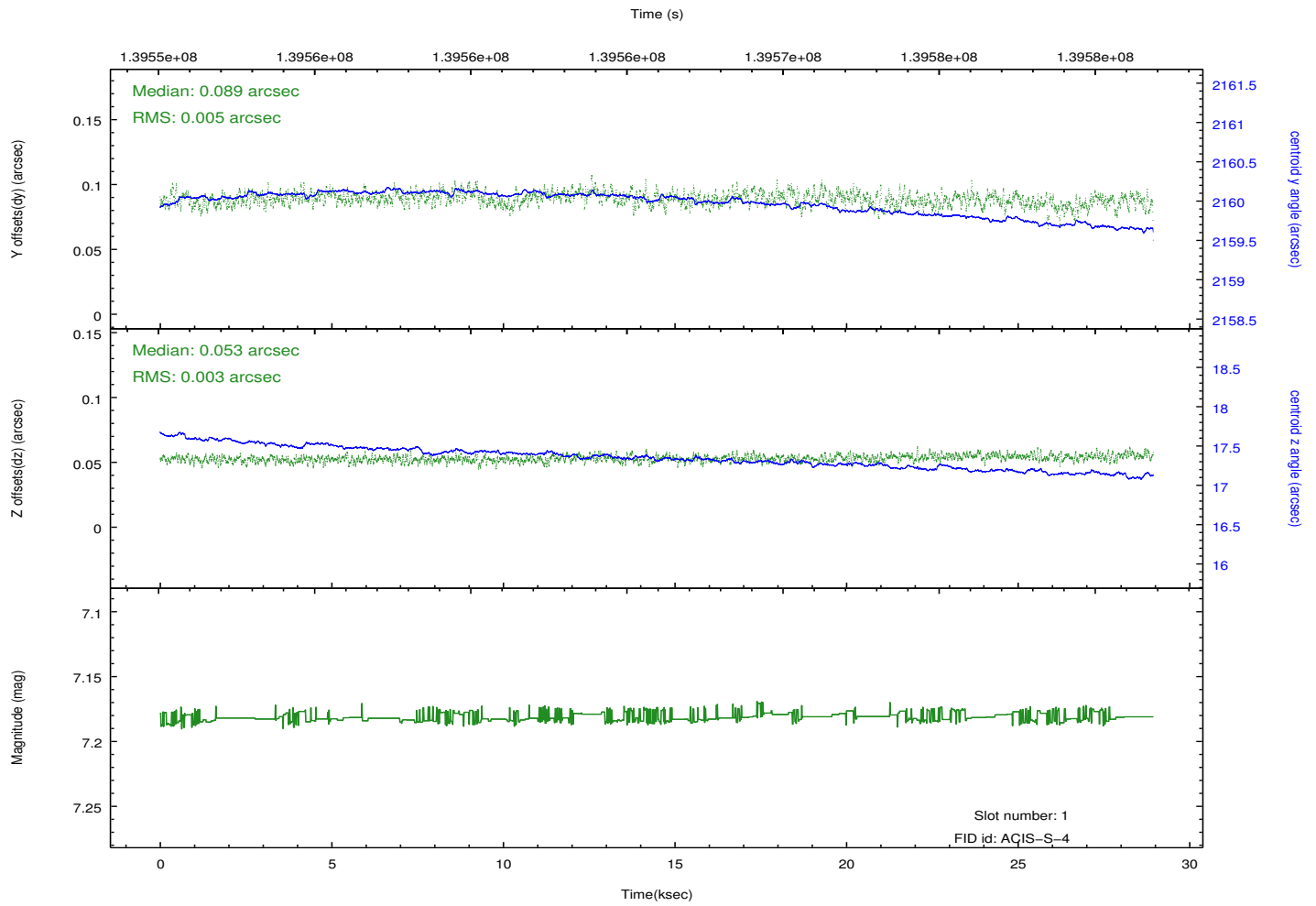
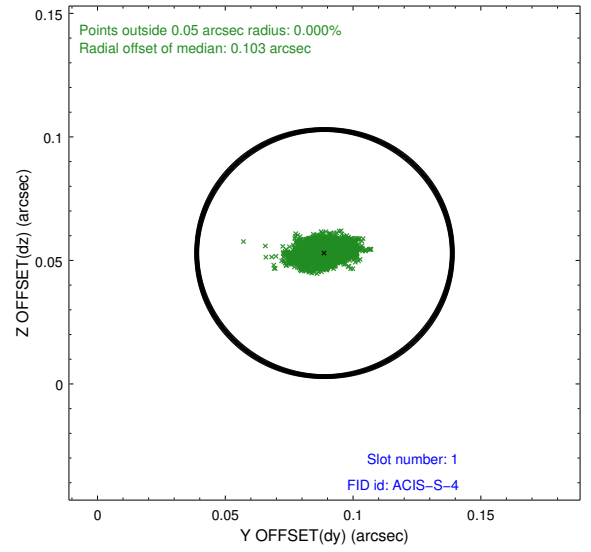
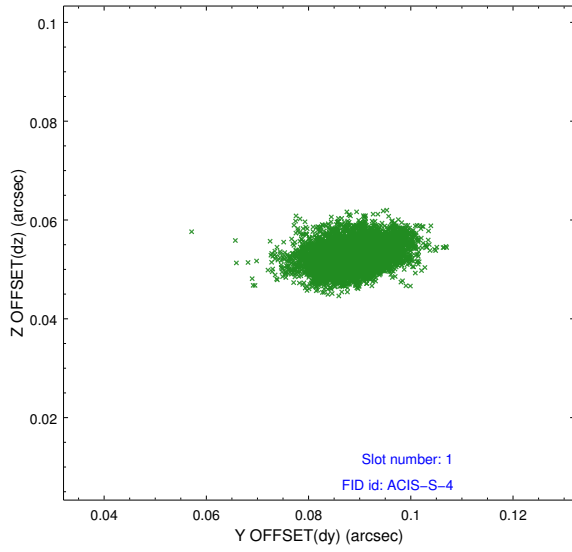


2.5 FID Slots

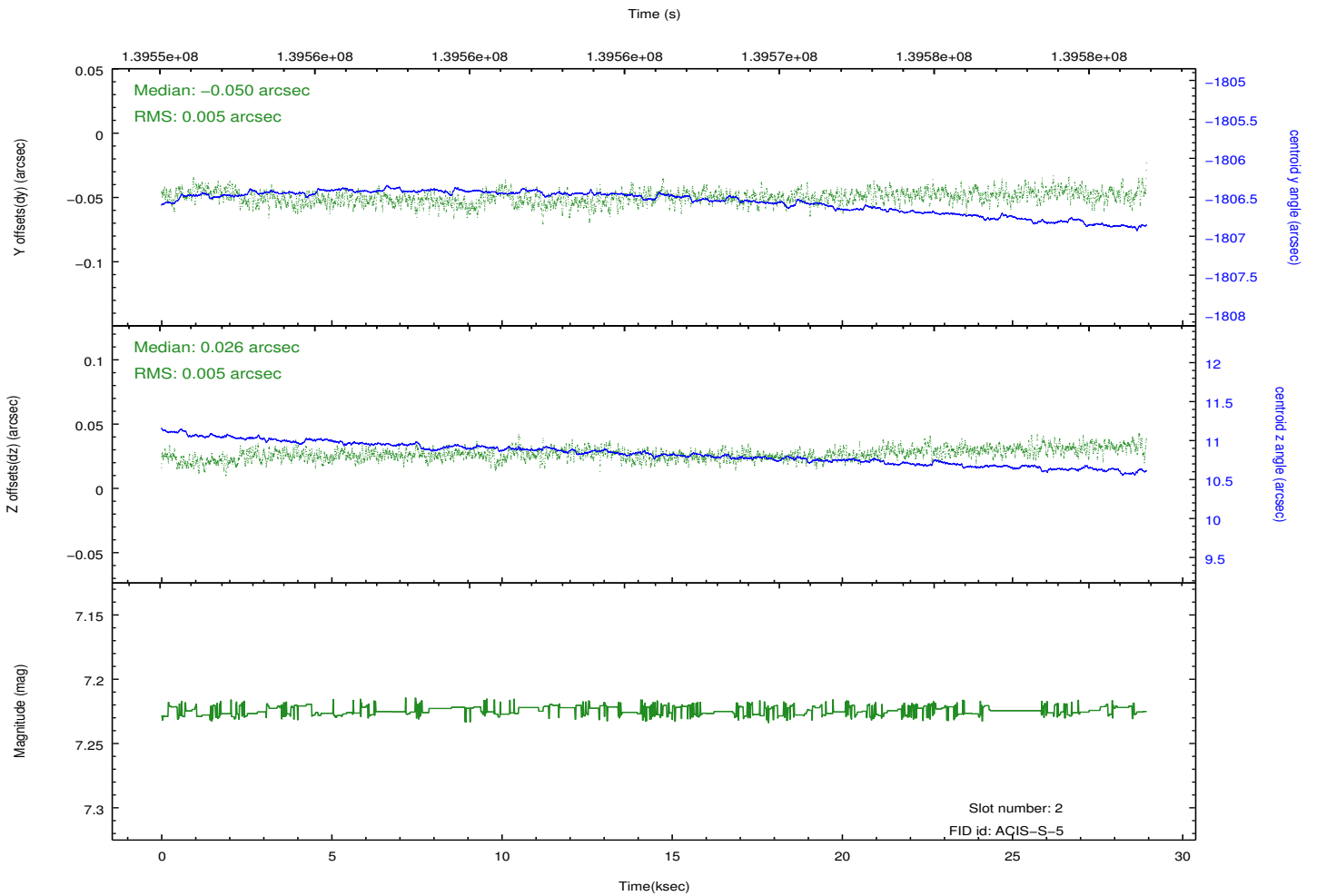
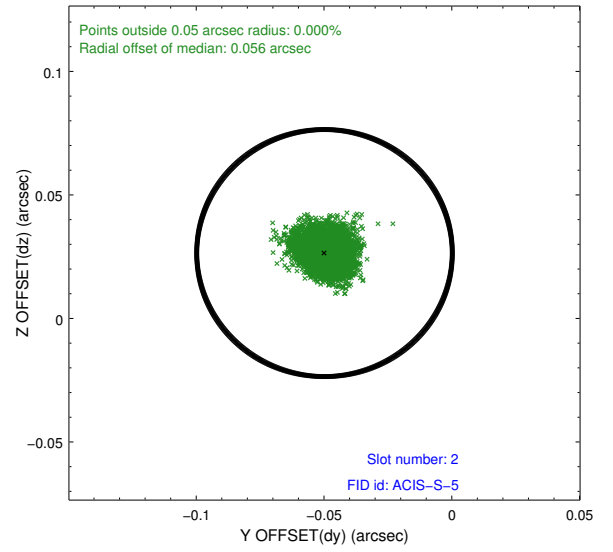
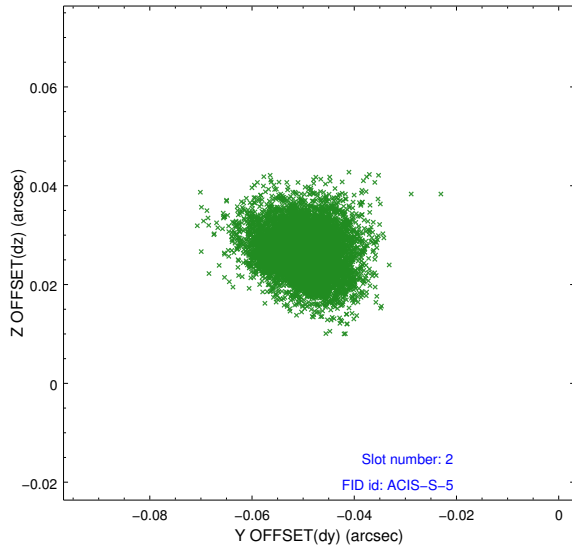
2.5.1 Slot 0



2.5.2 Slot 1

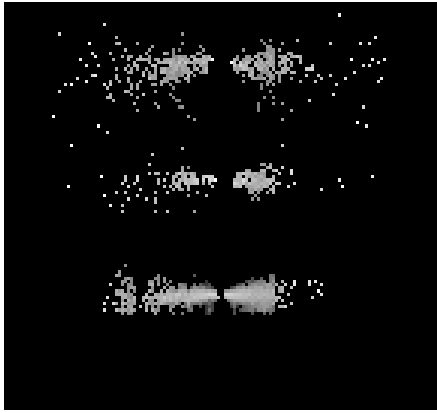


2.5.3 Slot 2

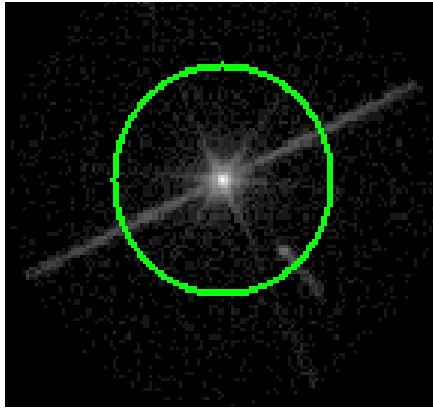


3 Gratings

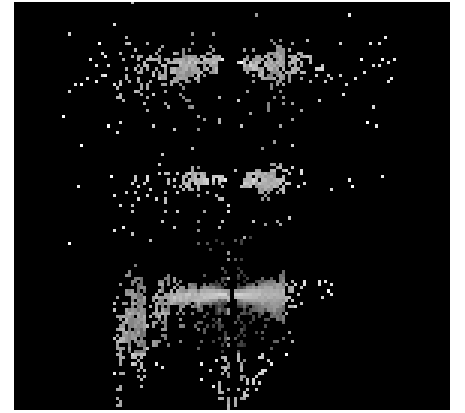
3.1 LETG Arm



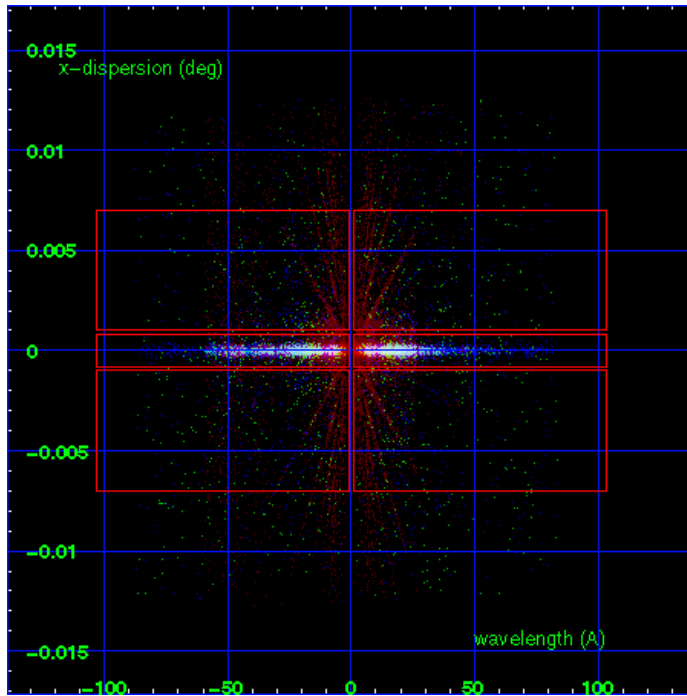
LETG Order Sort 123



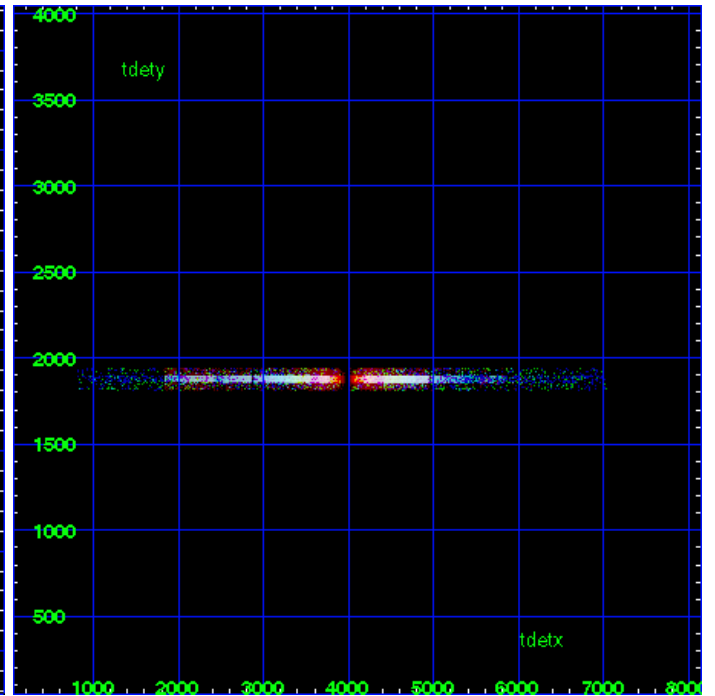
LETG Zero Order



LETG Order Sort ALL

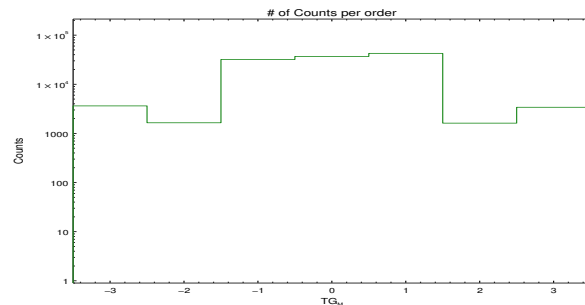


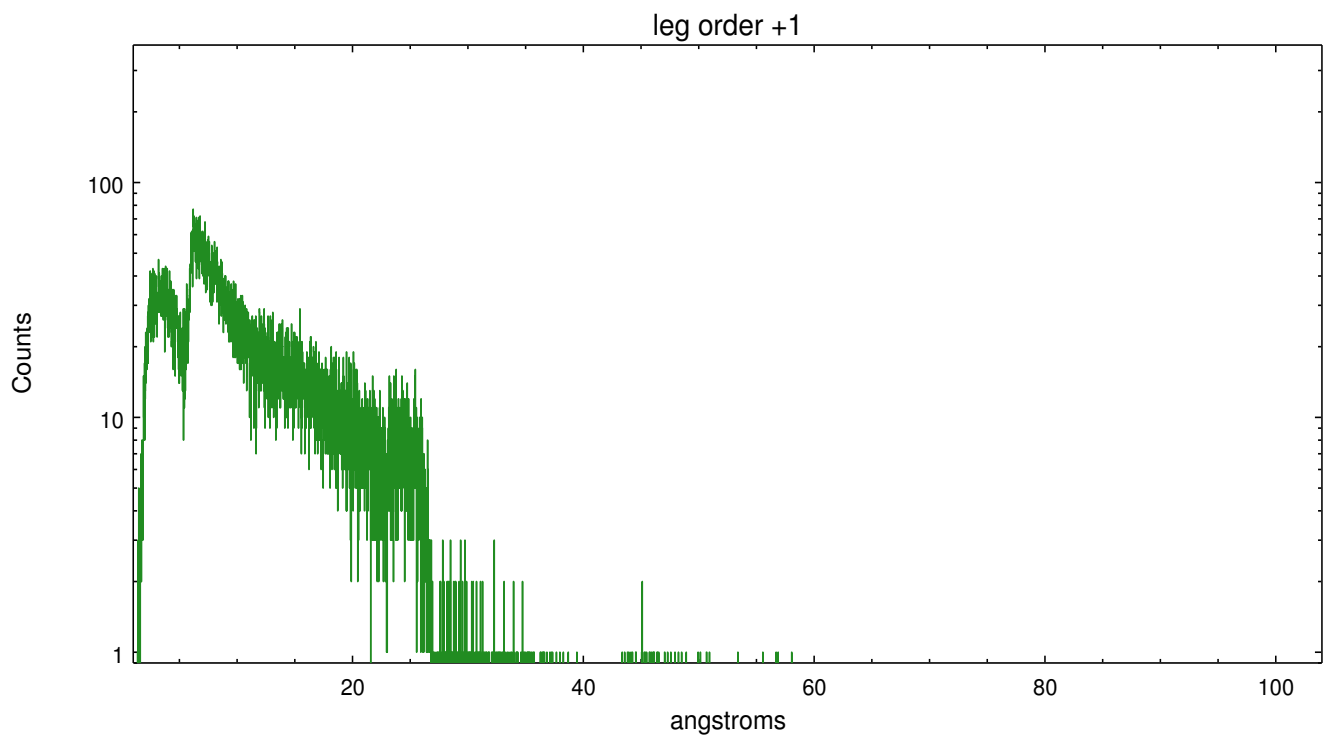
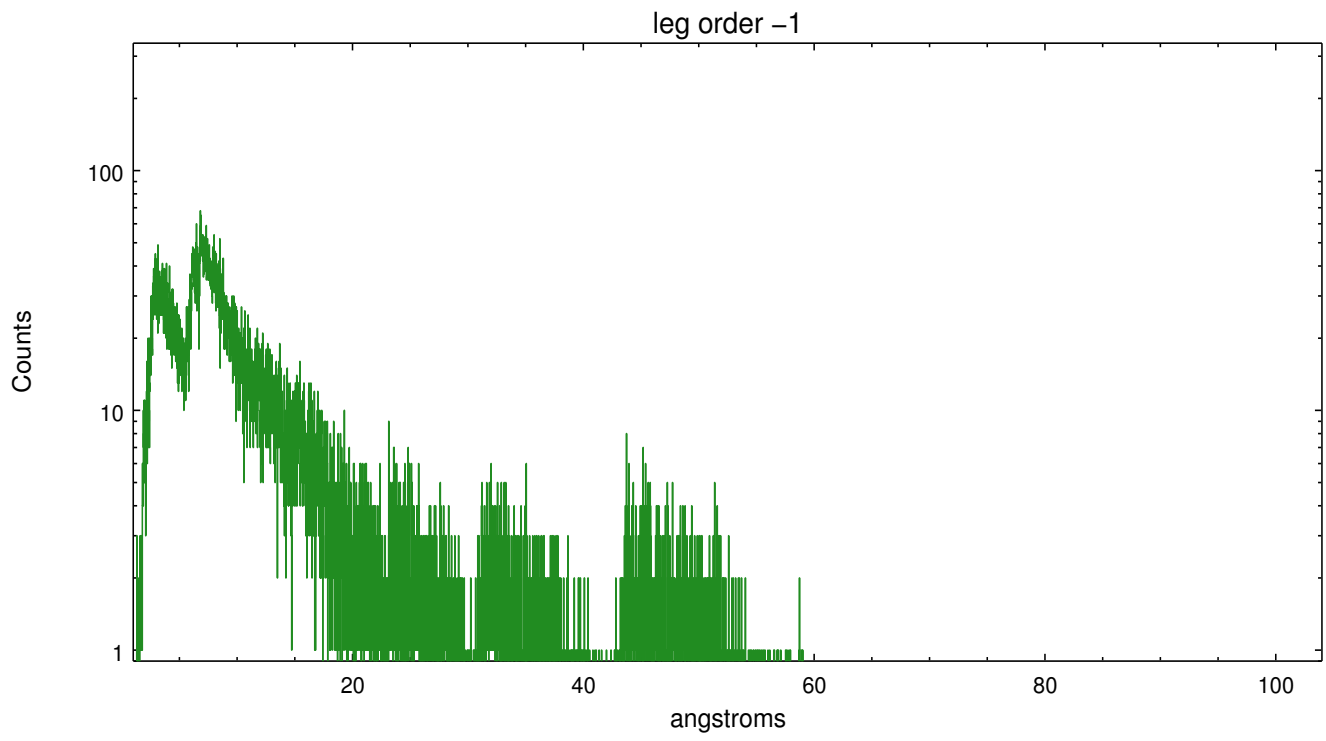
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	3632	1647	31967	36898	42543	1617	3401





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.10.25
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	28.941

A.2 Comments

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=4150.96, y=3952.87) into the *src1a.fits file table. These corrected coordinates were determined using a software tool developed by CXC called findzero, which is expected to be released in CIAO as tg_findzo (currently in ISIS as findzo). The tool calculates the point of intersection of the readout streak and the meg arm. In this case, the findzo option to use initial guess coordinates was used. The zeroth order source position determined by the standard pipeline processing using the tool tgdetect was not used in this processing. 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.

===

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.