

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 3661 - L2 Version 4
Chandra X-Ray Center

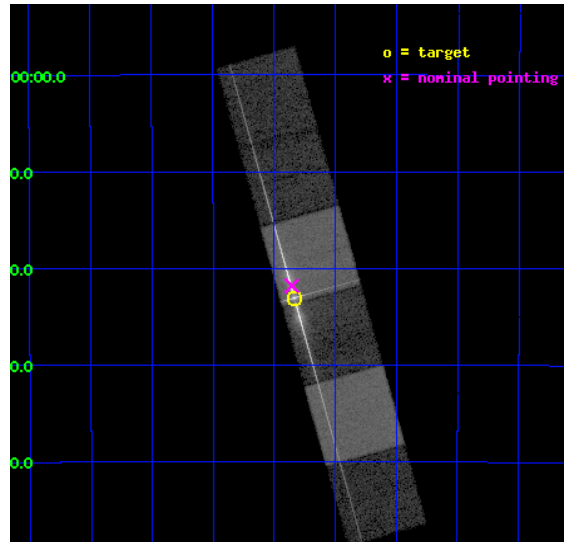
L2 Processing Date : Oct 9 2012

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1 Front

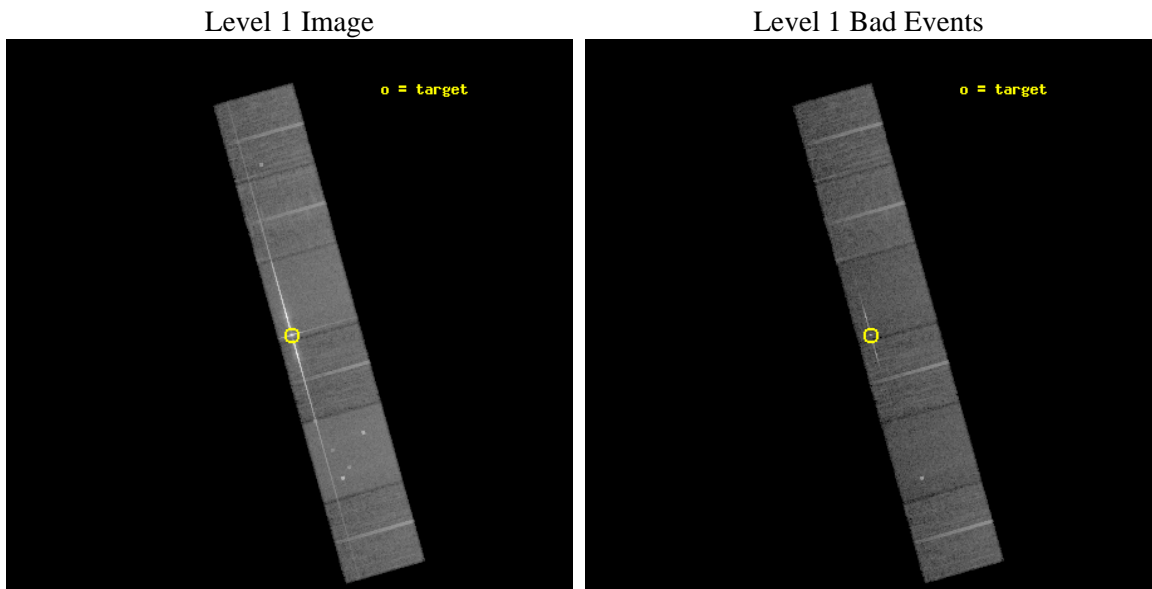
seq_num	400265	Sequence number
obs_id	3661	Observation id
title	SPECTROSCOPY OF THE HIGH-LATITUDE ACCRETING MILLISECOND PULSAR XTE J0929-314	Proposal title
observer	Prof. Deepto Chakrabarty	Principal investigator
object	XTE J0929-314	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	142.334167	Observer's specified target RA [deg]
dec_targ	-31.384083	Observer's specified target Dec [deg]
ra_nom	142.33897407522	Nominal RA [deg]
dec_nom	-31.36347360691	Nominal Dec [deg]
roll_nom	254.34375983817	Nominal Roll [deg]
revision	4	Processing version of data
ontime	17958.3999331	Sum of GTIs [s]
livetime	17730.999859897	Livetime [s]
ontime4	17958.3999331	Sum of GTIs [s]
ontime5	17958.3999331	Sum of GTIs [s]
ontime6	17958.3999331	Sum of GTIs [s]
ontime7	17958.3999331	Sum of GTIs [s]
ontime8	17958.3999331	Sum of GTIs [s]
ontime9	17958.3999331	Sum of GTIs [s]
l2events	371303	Number of level 2 events



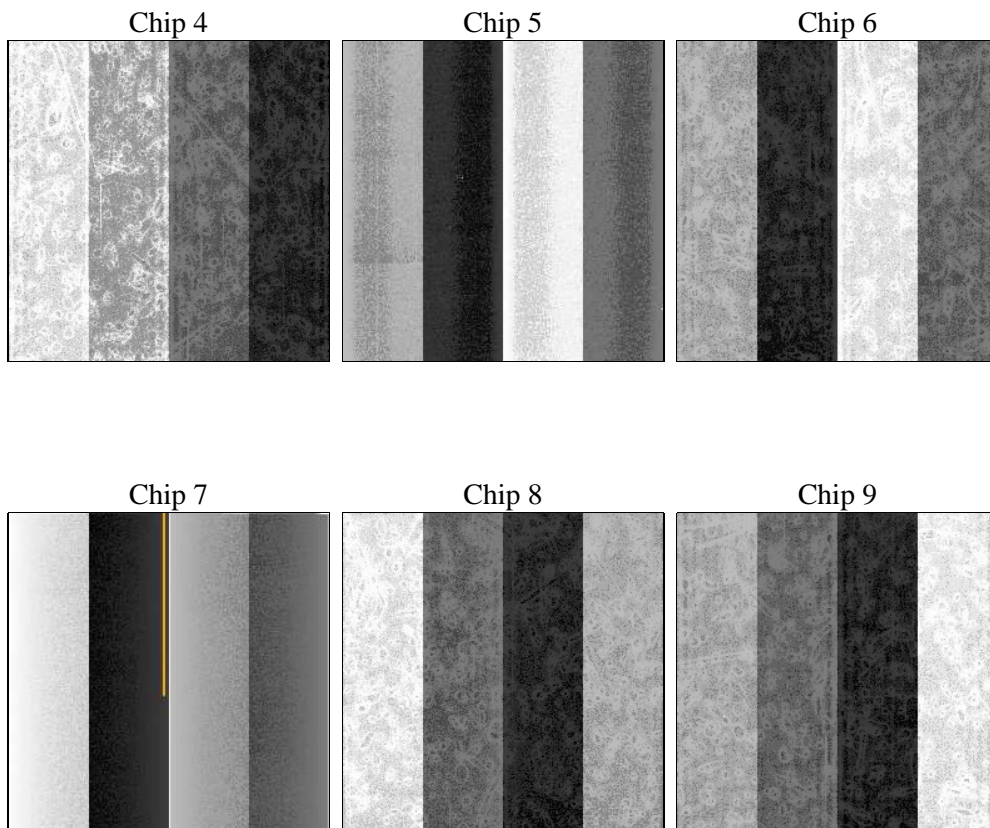
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	18000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	17958.3999331	Sum of GTIs [s]
caldsver	4.5.2	 	ontime4	17958.3999331	Sum of GTIs [s]
date	2012-10-07T11:50:42	Date and time of file creation	ontime5	17958.3999331	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	17958.3999331	Sum of GTIs [s]
			ontime7	17958.3999331	Sum of GTIs [s]
			ontime8	17958.3999331	Sum of GTIs [s]
			ontime9	17958.3999331	Sum of GTIs [s]
			l1events	1012798	Number of level 1 events

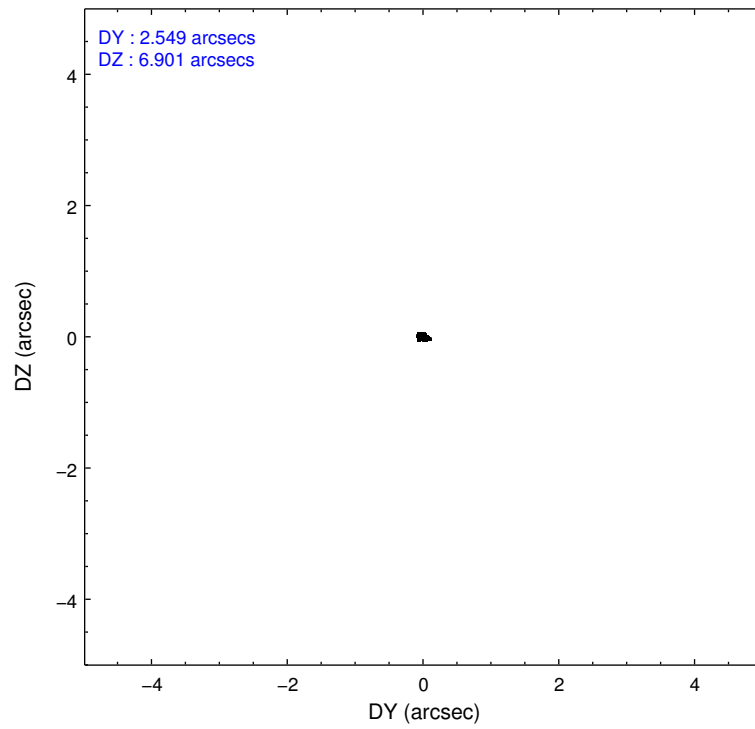
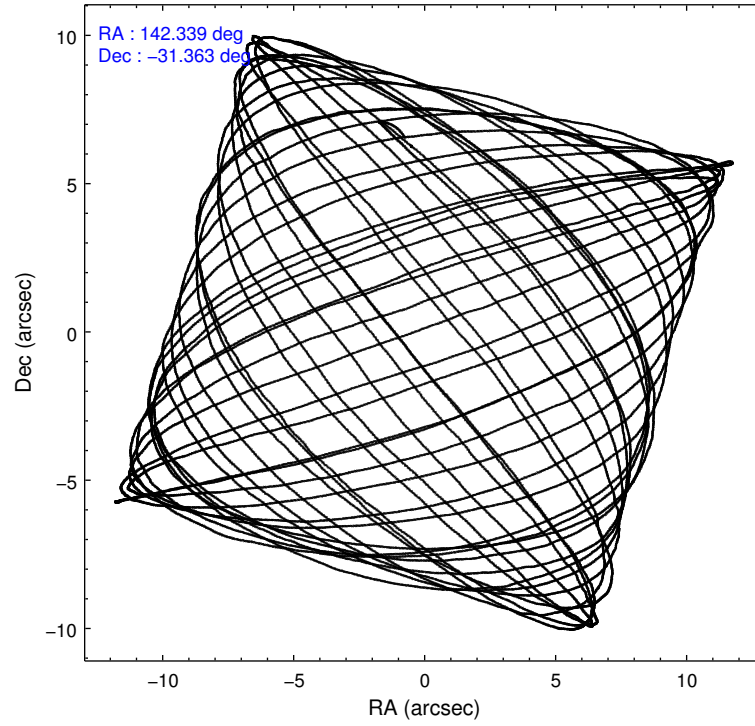
2.1.4 Events

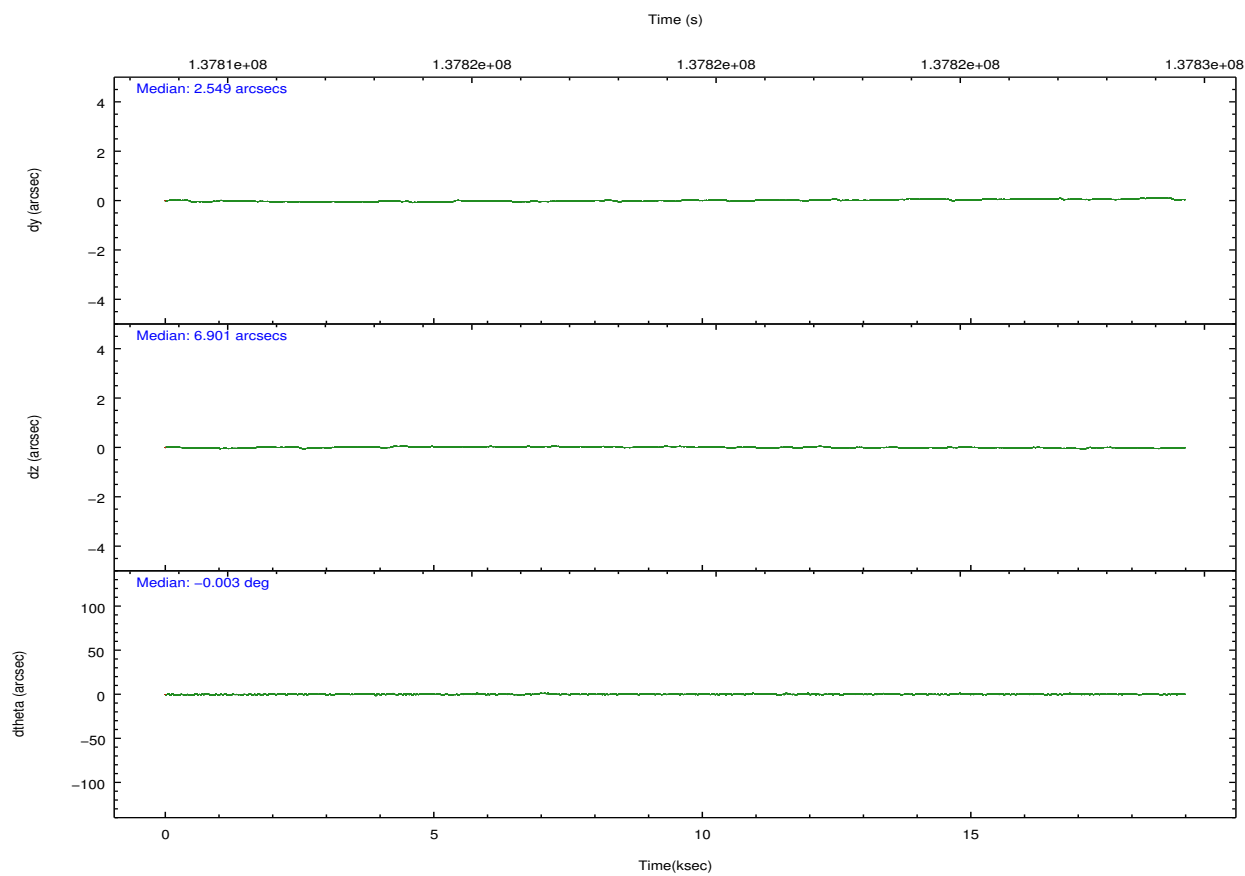
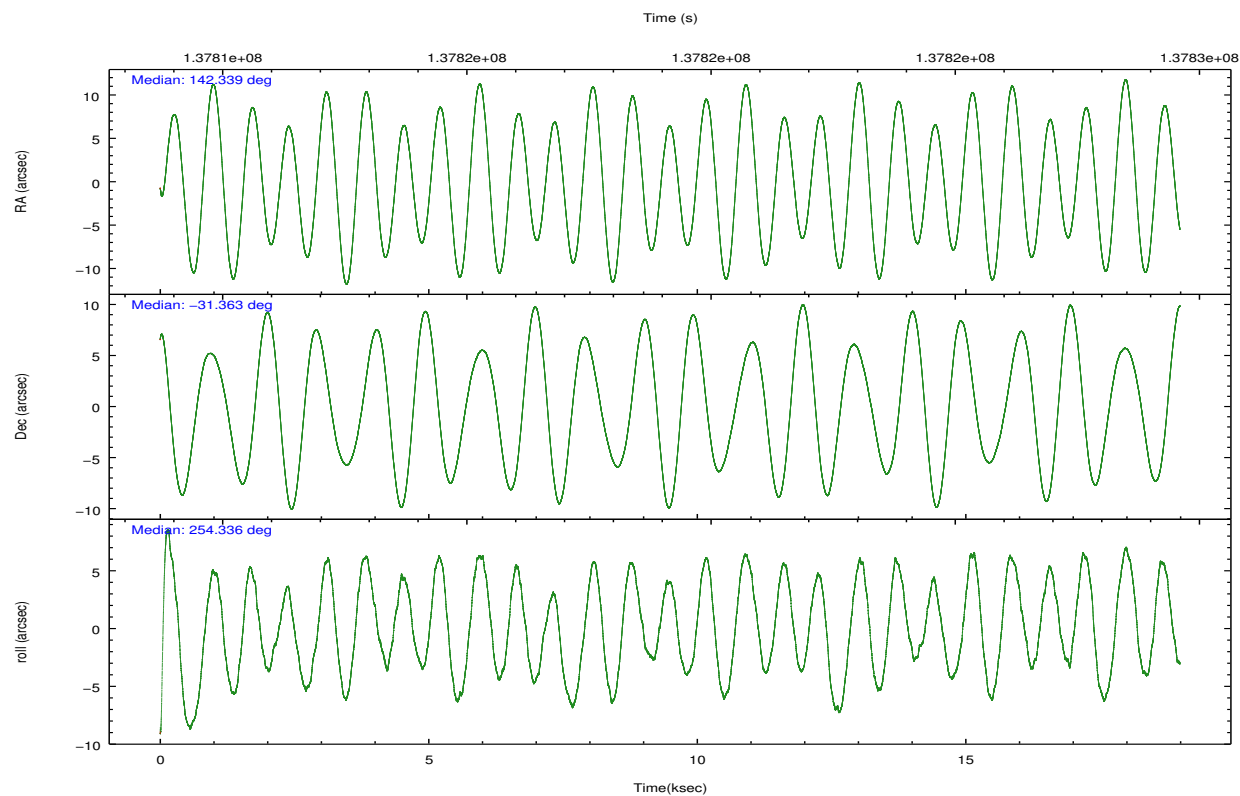
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	124609	171302	189450	266998	146098	114341	grade 0 events	6723	11621	63511	32041	13036	7626
rejected events	109536	89562	102253	93015	112431	98462		5%	6%	33%	12%	8%	6%
rejected %	87%	52%	53%	34%	76%	86%	grade 1 events	59	231	829	614	92	54
								0%	0%	0%	0%	0%	0%
							grade 2 events	3517	23199	10943	40808	6747	2946
								2%	13%	5%	15%	4%	2%
							grade 3 events	1296	4379	4052	18567	3294	1350
								1%	2%	2%	6%	2%	1%
							grade 4 events	1218	3366	3977	18454	2988	1338
								0%	1%	2%	6%	2%	1%
							grade 5 events	4205	12993	5390	16296	6123	5006
								3%	7%	2%	6%	4%	4%
							grade 6 events	2326	39202	4754	64180	7611	2625
								1%	22%	2%	24%	5%	2%
							grade 7 events	105265	76311	95994	76038	106207	93396
								84%	44%	50%	28%	72%	81%

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	142.330668	142.3389740752152	Subarray requested	NONE	NONE
[deg] Pointing Dec	-31.337157	-31.36347360691011	Alternating exposures requested	N	N
[deg] Pointing Roll	254.182815	254.3437598381693	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-182.132523	-182.1344861297048			
[mm] SIM translation stage offset	-8	-7.998036453302973			
[s] Observation start time (MET)	137810651.184000	137809287.49301			
Observation start date	2002-05-15T00:43:07	2002-05-15T00:21:27			
[s] Observation end time (MET)	137828651.184000	137829329.31883			
Observation end date	2002-05-15T05:43:07	2002-05-15T05:55:29			
Read mode	TIMED	TIMED			

2.3 Aspect



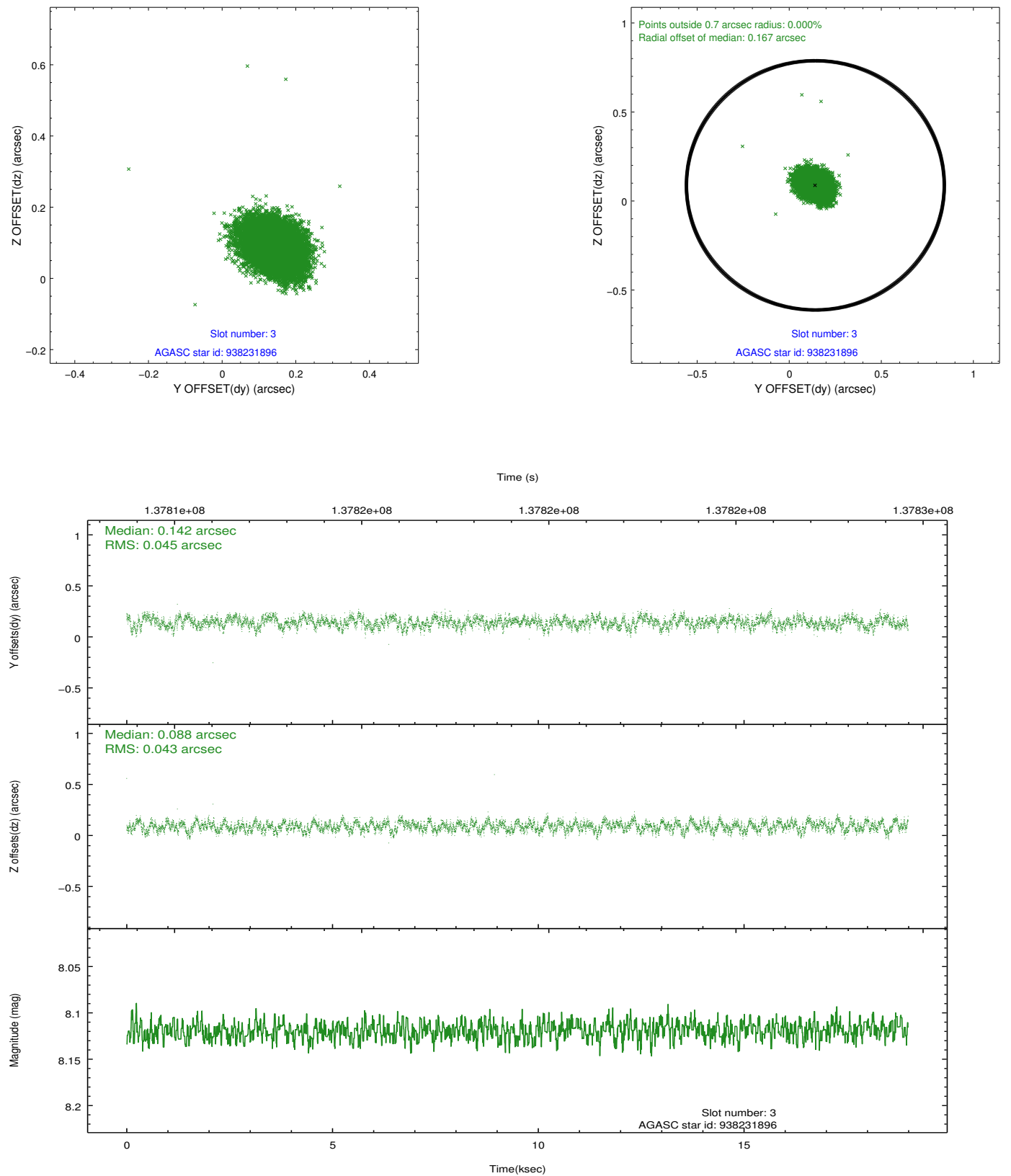


Slot Statistics

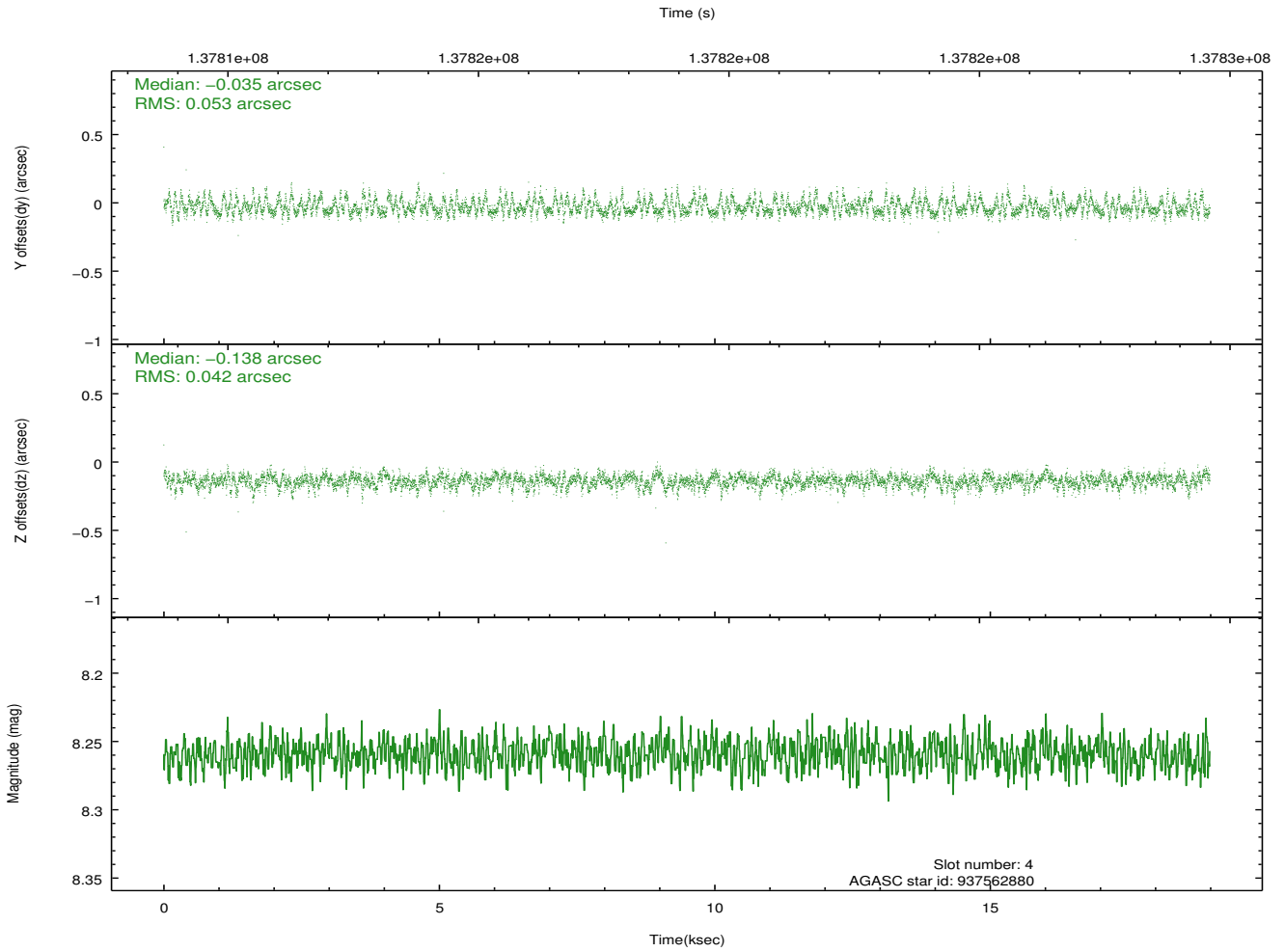
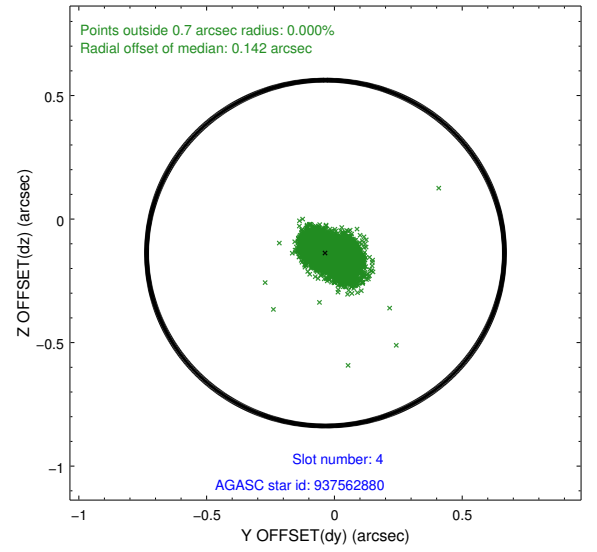
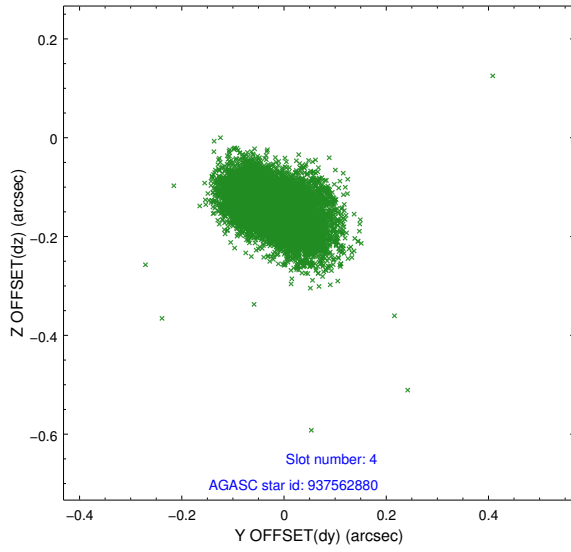
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	4632	-0.032	-0.118	0.007	0.011	0.000000	0.000000	-754.66	-1892.93
1	FID	ACIS-S-4	7.18	4630	0.033	0.047	0.006	0.011	0.000000	0.000000	2158.61	15.41
2	FID	ACIS-S-5	7.23	4629	-0.033	0.079	0.007	0.012	0.000000	0.000000	-1807.22	9.41
3	GUIDE	938231896	8.12	9258	0.142	0.088	0.067	0.105	142.617033	-32.103400	2416.15	1593.54
4	GUIDE	937562880	8.26	9262	-0.035	-0.138	0.068	0.122	141.495546	-31.369017	819.73	-2434.73
5	GUIDE	937696560	8.55	9260	-0.134	-0.147	0.057	0.091	143.127288	-31.389604	-477.72	2409.82
6	GUIDE	937563104	8.87	9260	-0.107	0.012	0.071	0.117	141.734781	-30.979662	-732.34	-2117.81
7	GUIDE	938231176	9.53	9252	0.130	0.185	0.110	0.181	142.829575	-31.948206	1704.02	2068.10

2.4 Star Slots

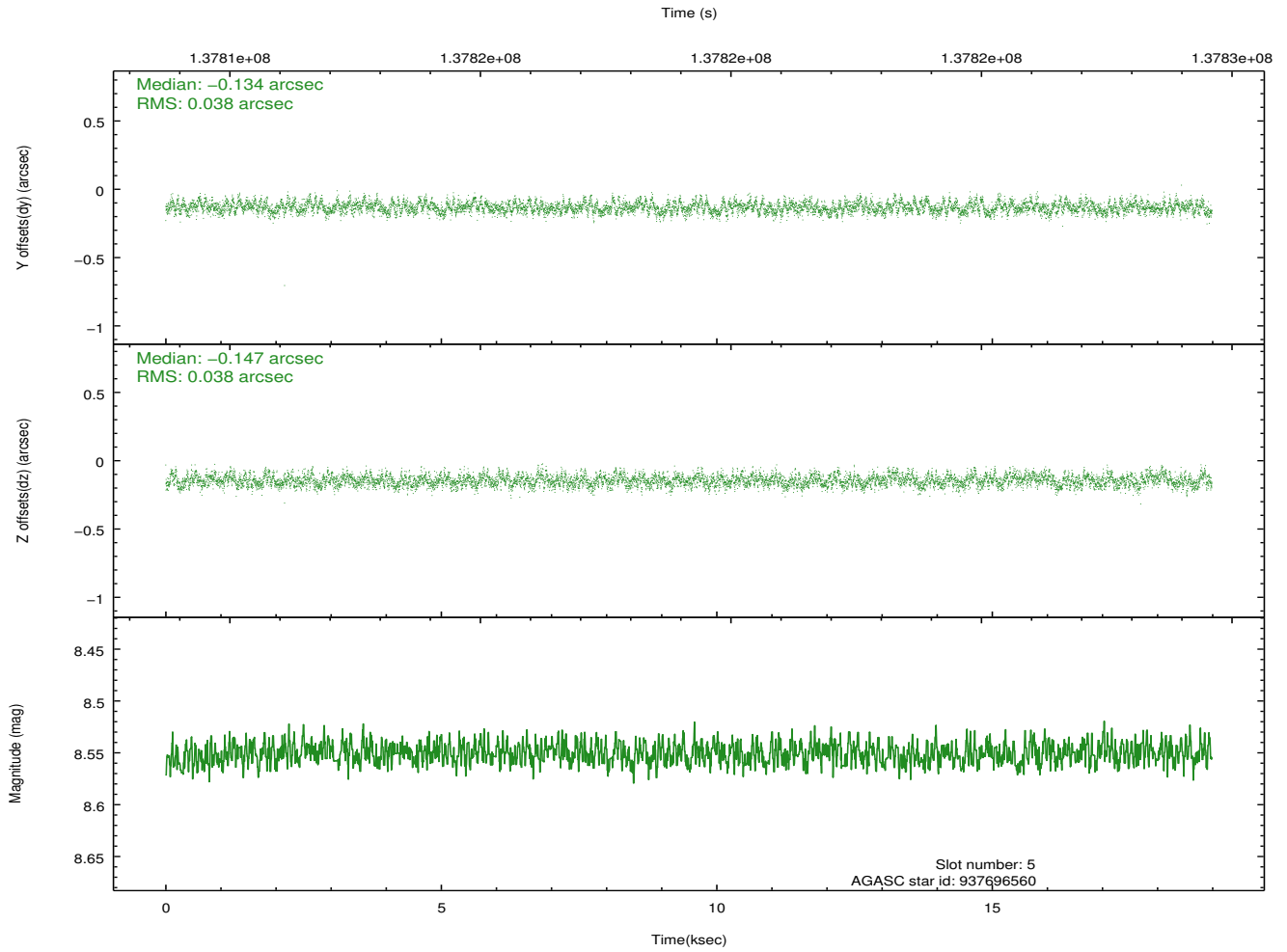
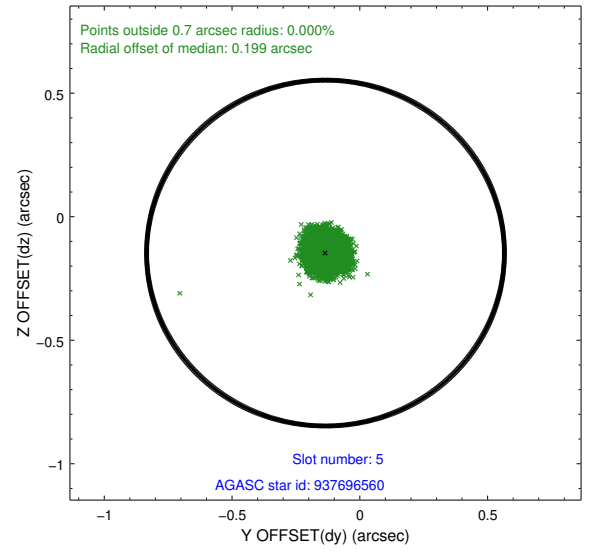
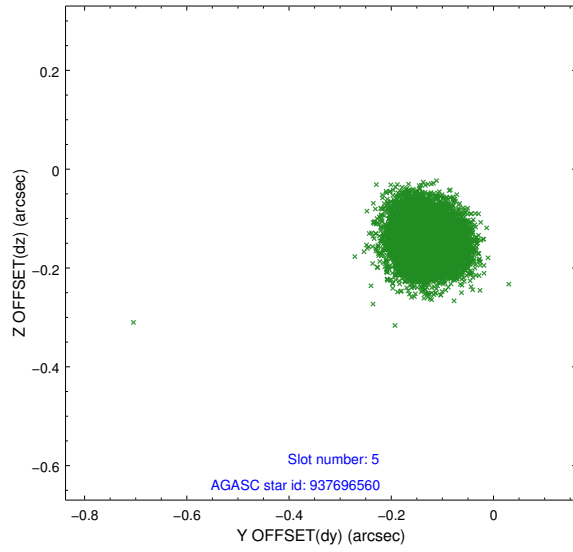
2.4.1 Slot 3



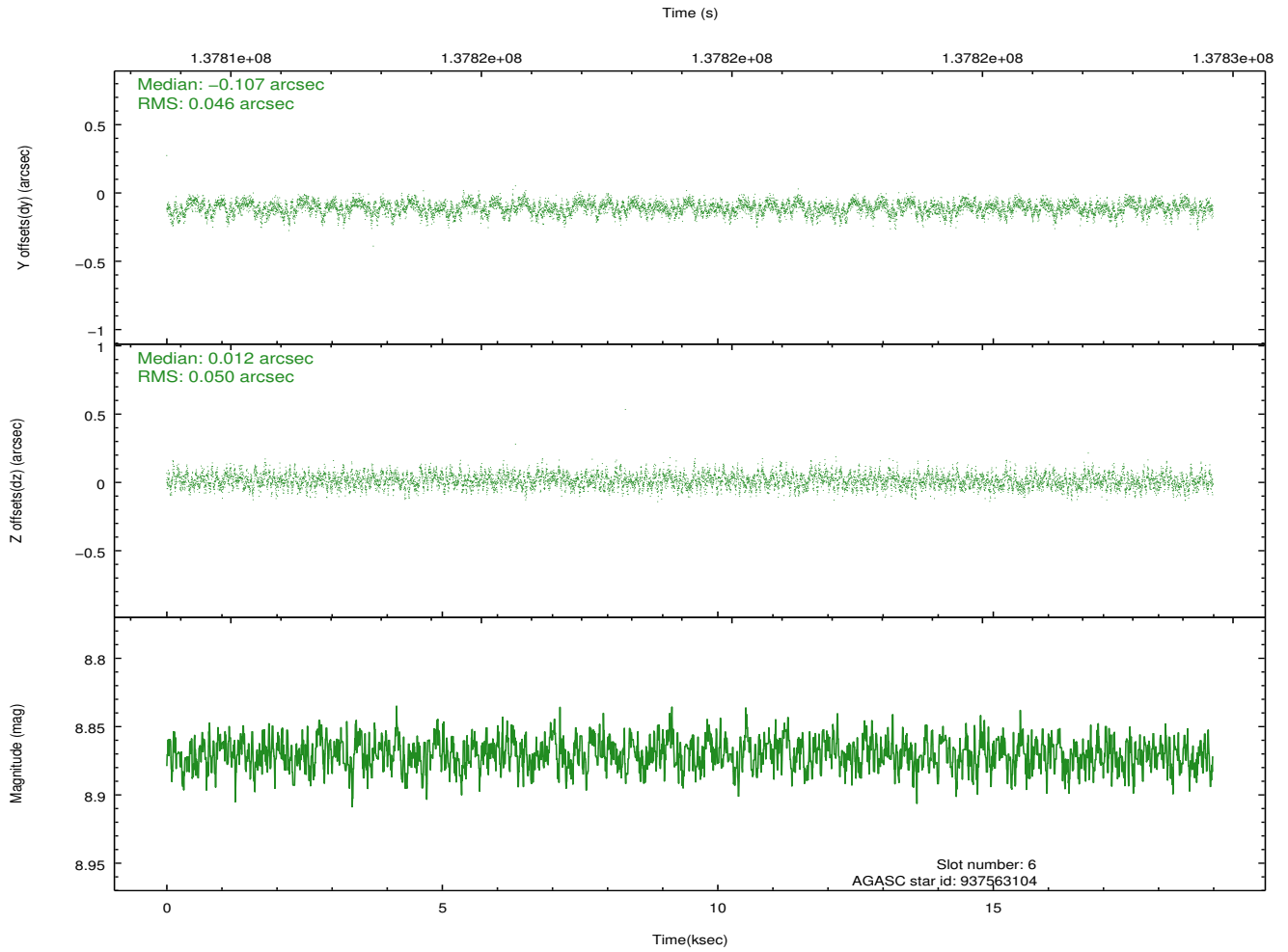
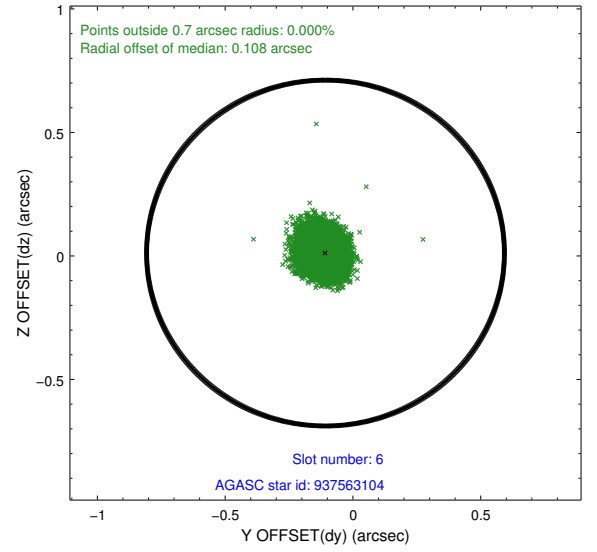
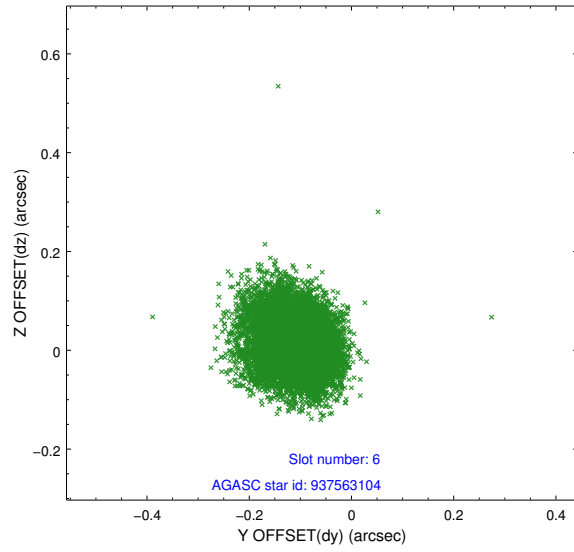
2.4.2 Slot 4



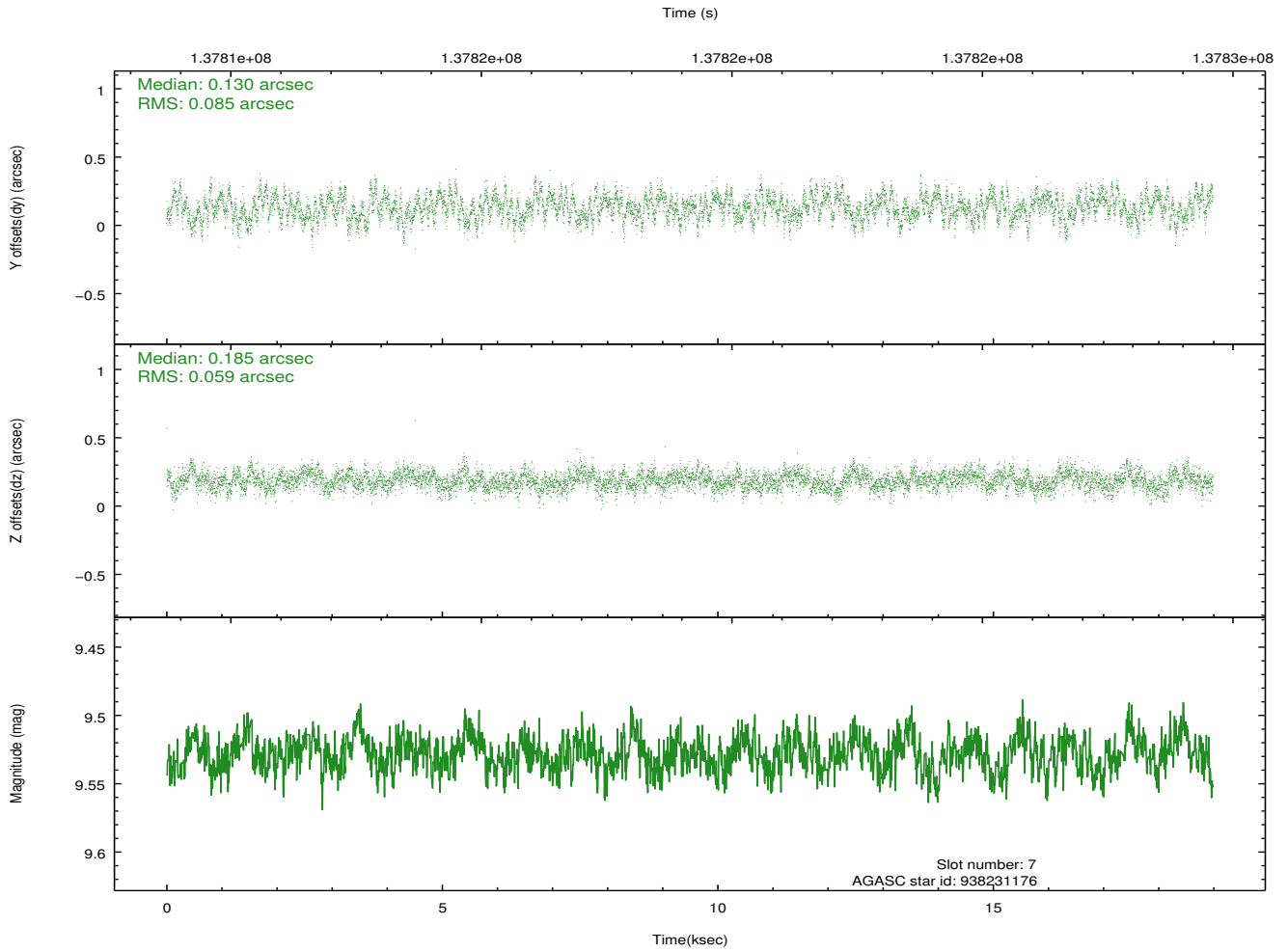
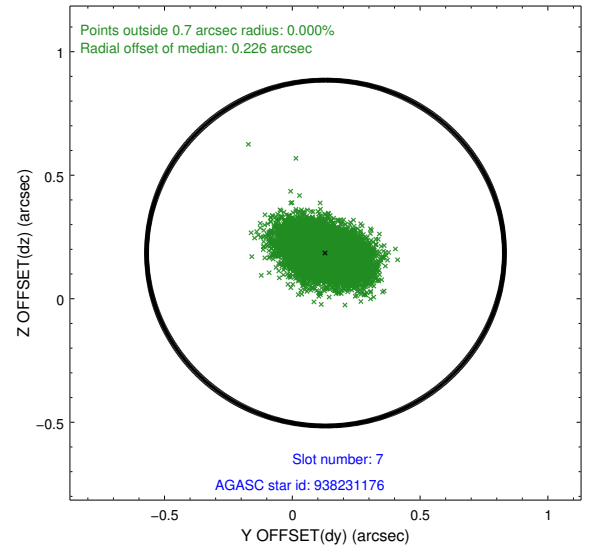
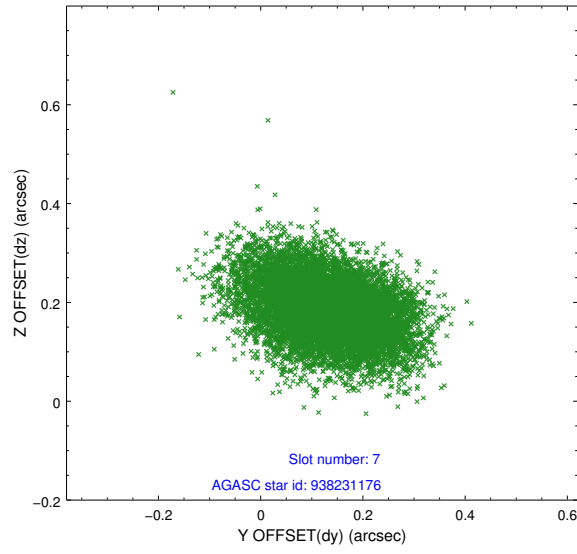
2.4.3 Slot 5



2.4.4 Slot 6

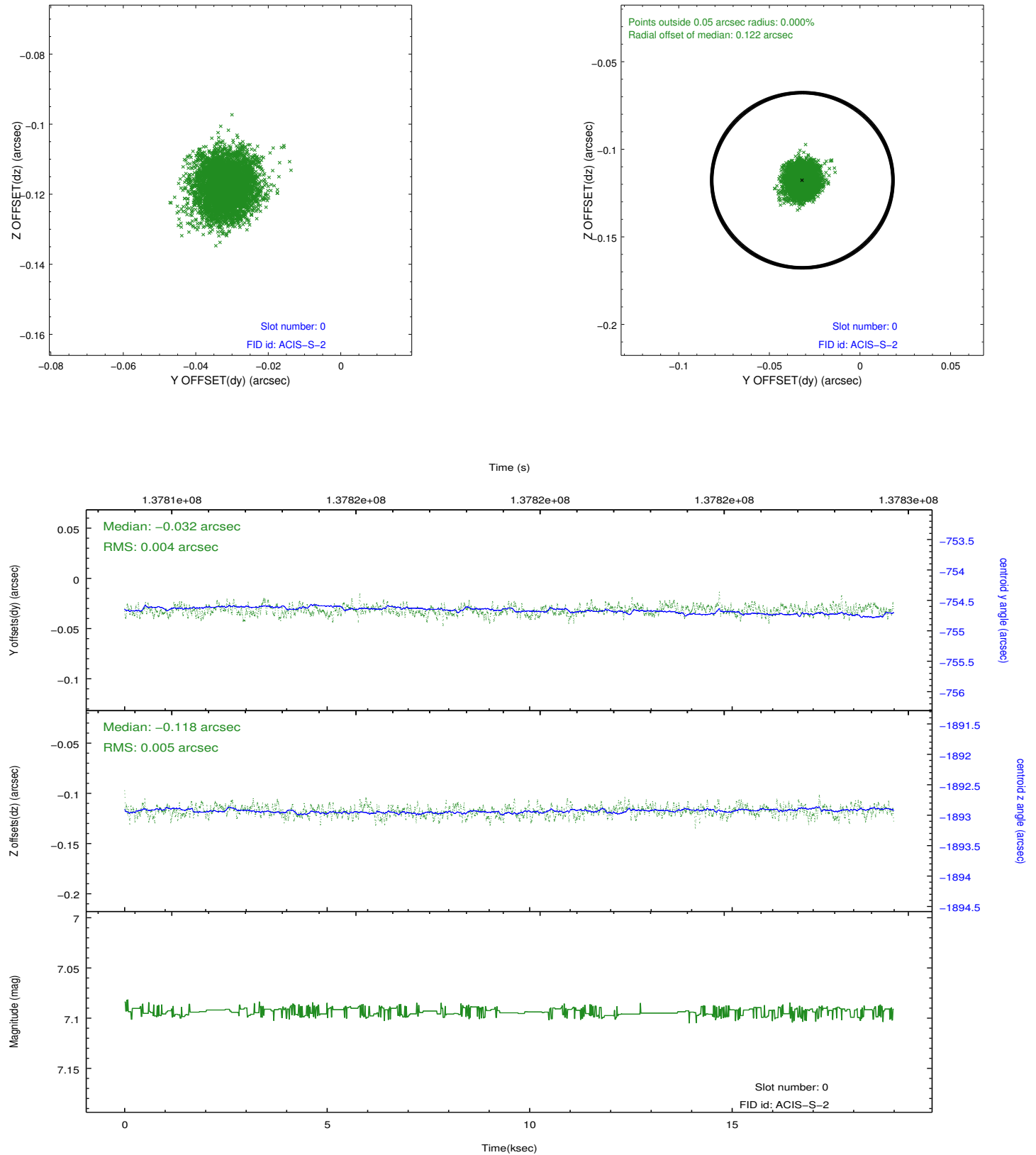


2.4.5 Slot 7

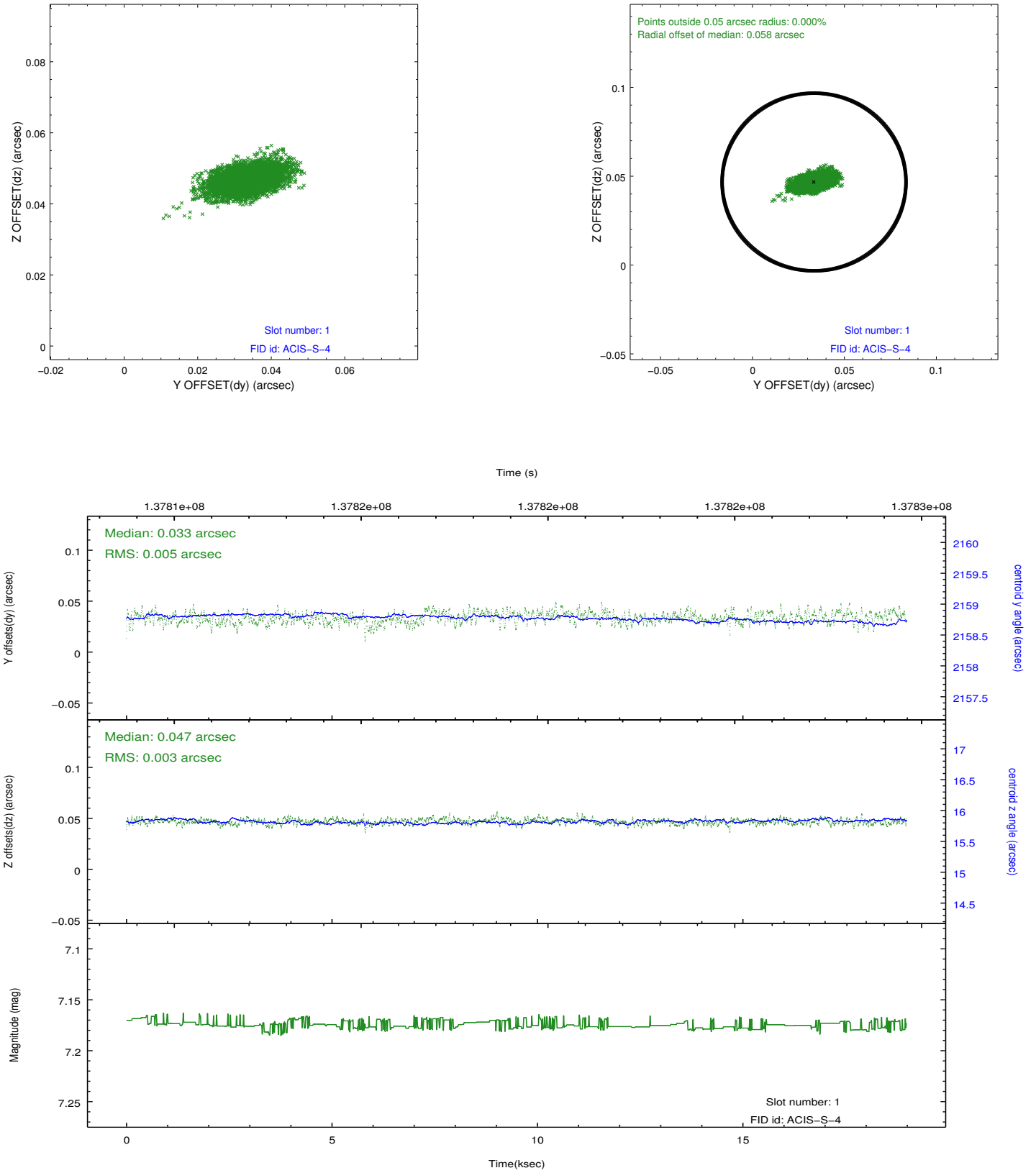


2.5 FID Slots

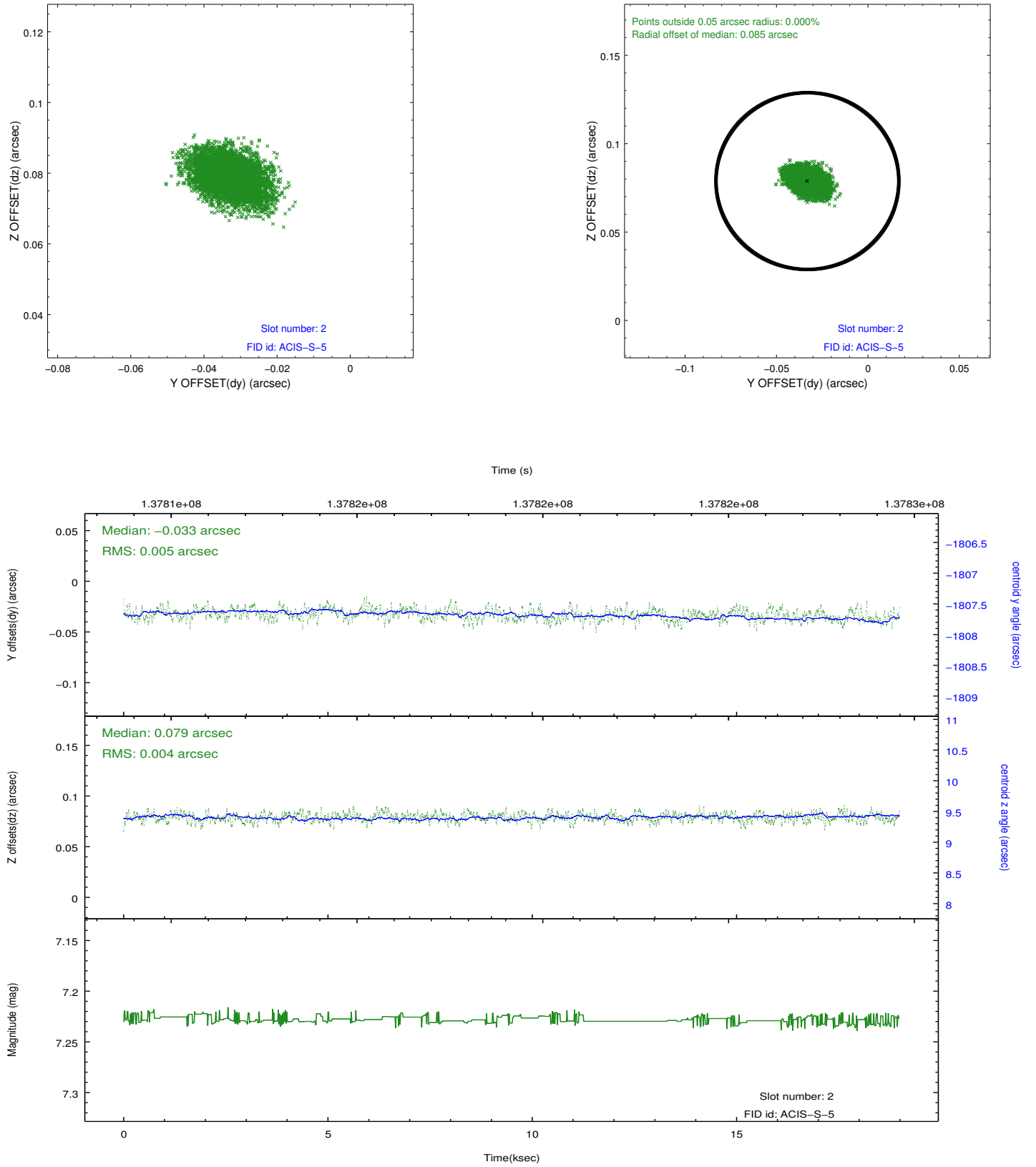
2.5.1 Slot 0



2.5.2 Slot 1

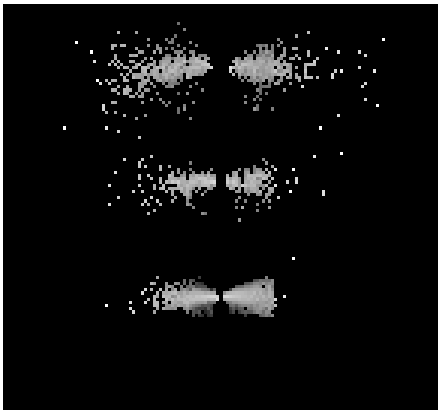


2.5.3 Slot 2

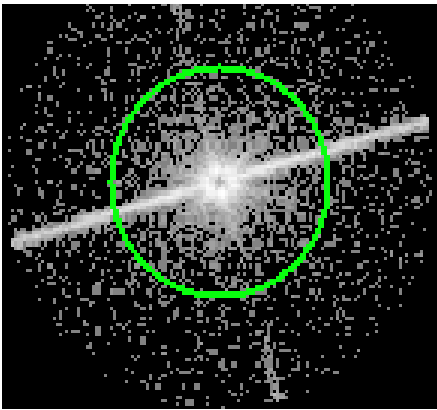


3 Gratings

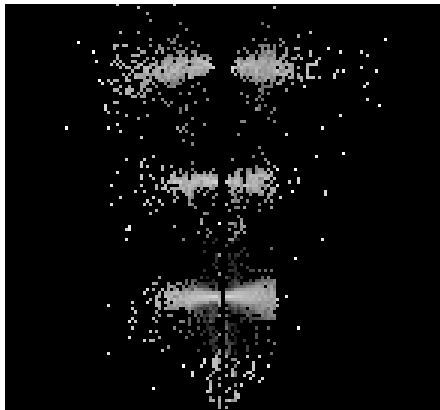
3.1 LETG Arm



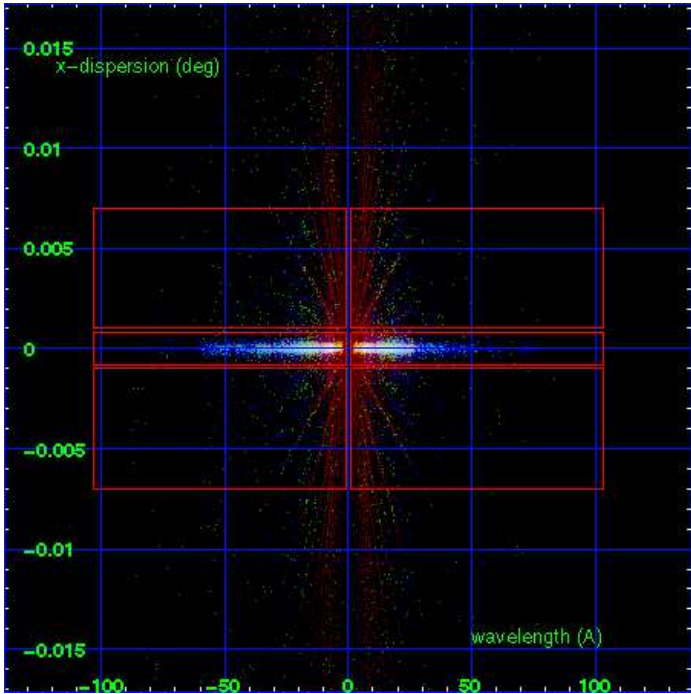
LETG Order Sort 123



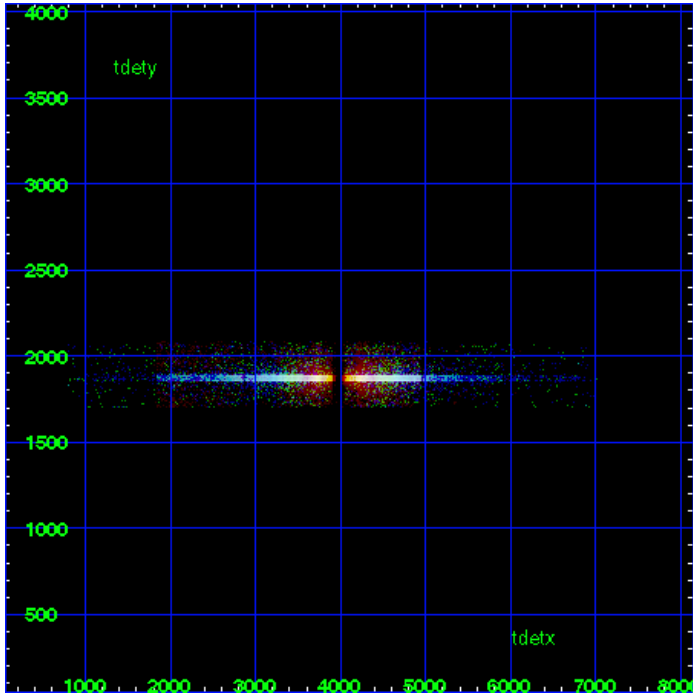
LETG Zero Order



LETG Order Sort ALL

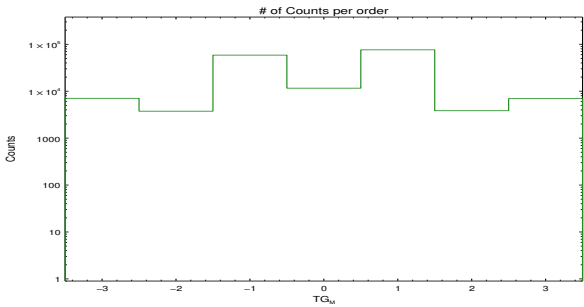


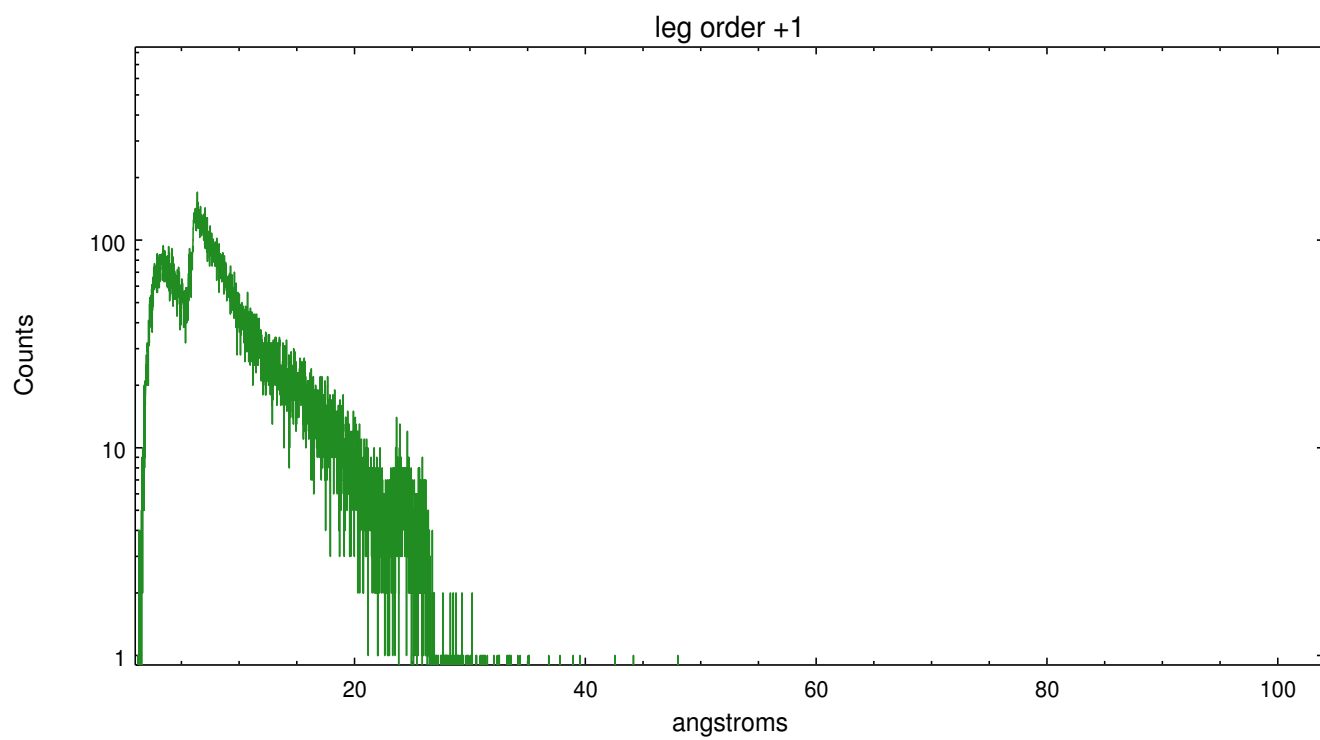
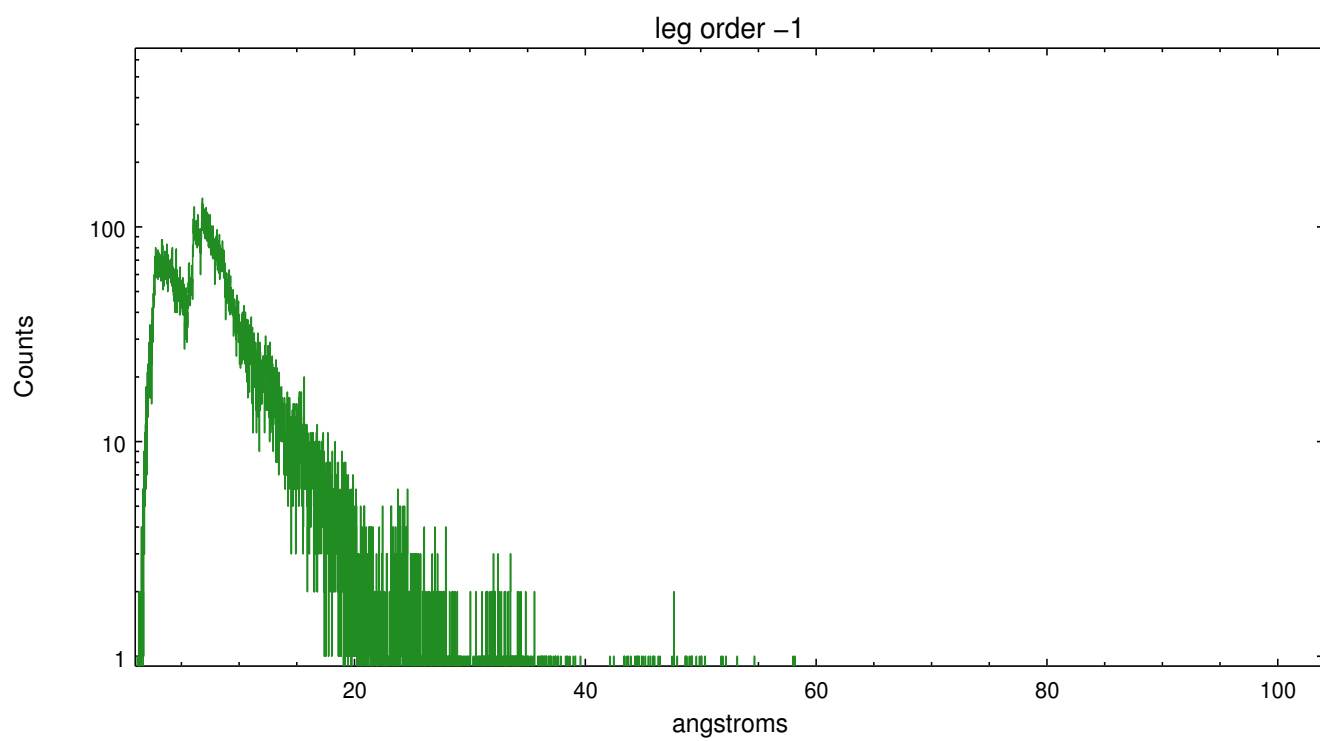
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	7057	3750	58761	11601	76155	3839	6948





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.10.26
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	17.961

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=4126.9, y=3944.19) 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. 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.

===

A spectrum is visible in the bad-events image. This is likely due to pileup causing grade migration into bad grade events.

===

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.