

V&V Reference Report

L2 ASCDS Version : 8.5.1.1

Observation 6090 - L2 Version 3
Chandra X-Ray Center

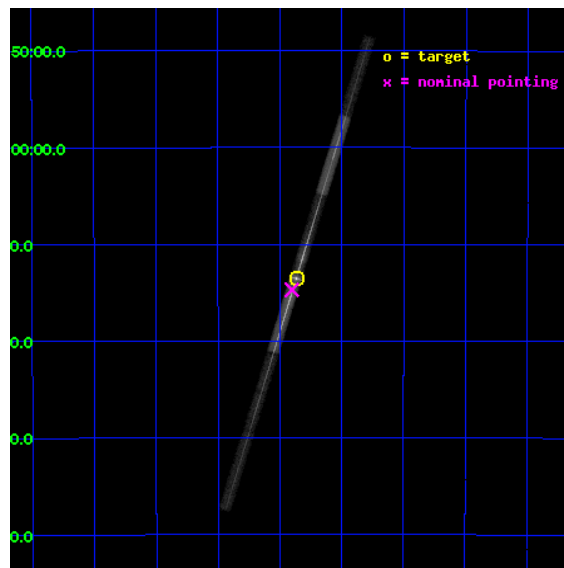
L2 Processing Date : Dec 28 2012

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1 Front

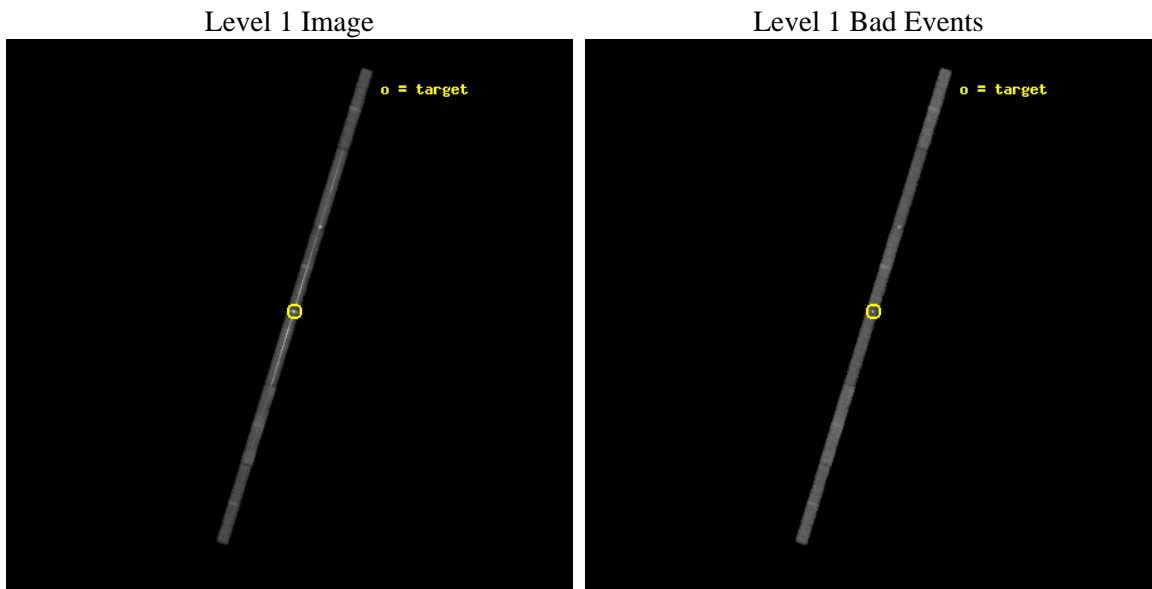
seq_num	790099	Sequence number
obs_id	6090	Observation id
title	AO6 Calibration Observations of PKS2155-304	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	PKS2155-304	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	329.716667	Observer's specified target RA [deg]
dec_targ	-30.225556	Observer's specified target Dec [deg]
ra_nom	329.72564224755	Nominal RA [deg]
dec_nom	-30.245118182659	Nominal Dec [deg]
roll_nom	107.21589646784	Nominal Roll [deg]
revision	3	Processing version of data
ontime	29140.299503744	Sum of GTIs [s]
livetime	27526.462340252	Livetime [s]
ontime4	29140.299503744	Sum of GTIs [s]
ontime5	29140.299503744	Sum of GTIs [s]
ontime6	29140.299503744	Sum of GTIs [s]
ontime7	29140.299503744	Sum of GTIs [s]
ontime8	29140.299503744	Sum of GTIs [s]
ontime9	29140.299503744	Sum of GTIs [s]
l2events	211926	Number of level 2 events



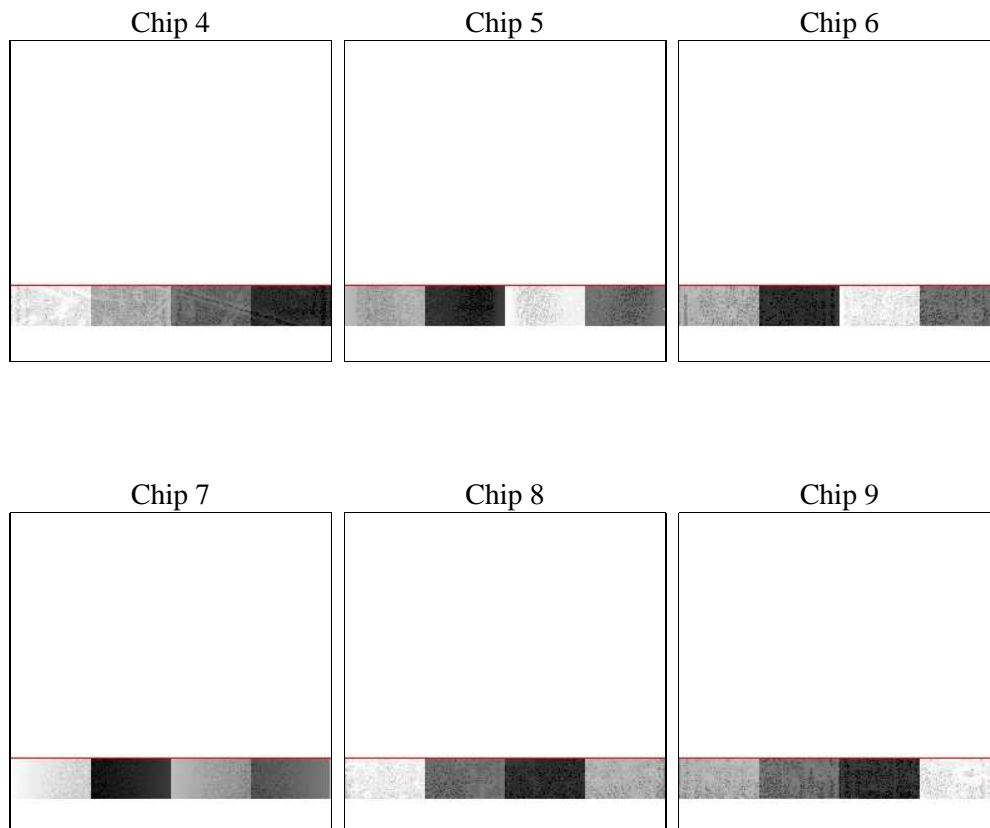
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	29000.000000	[s] Scheduled observation exposure time
ascdsver	8.5.1.1	Processing system revision	ontime	29140.299503744	Sum of GTIs [s]
caldbver	4.5.5	 	ontime4	29140.299503744	Sum of GTIs [s]
date	2012-12-23T19:16:56	Date and time of file creation	ontime5	29140.299503744	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	29140.299503744	Sum of GTIs [s]
			ontime7	29140.299503744	Sum of GTIs [s]
			ontime8	29140.299503744	Sum of GTIs [s]
			ontime9	29140.299503744	Sum of GTIs [s]
			l1events	448486	Number of level 1 events

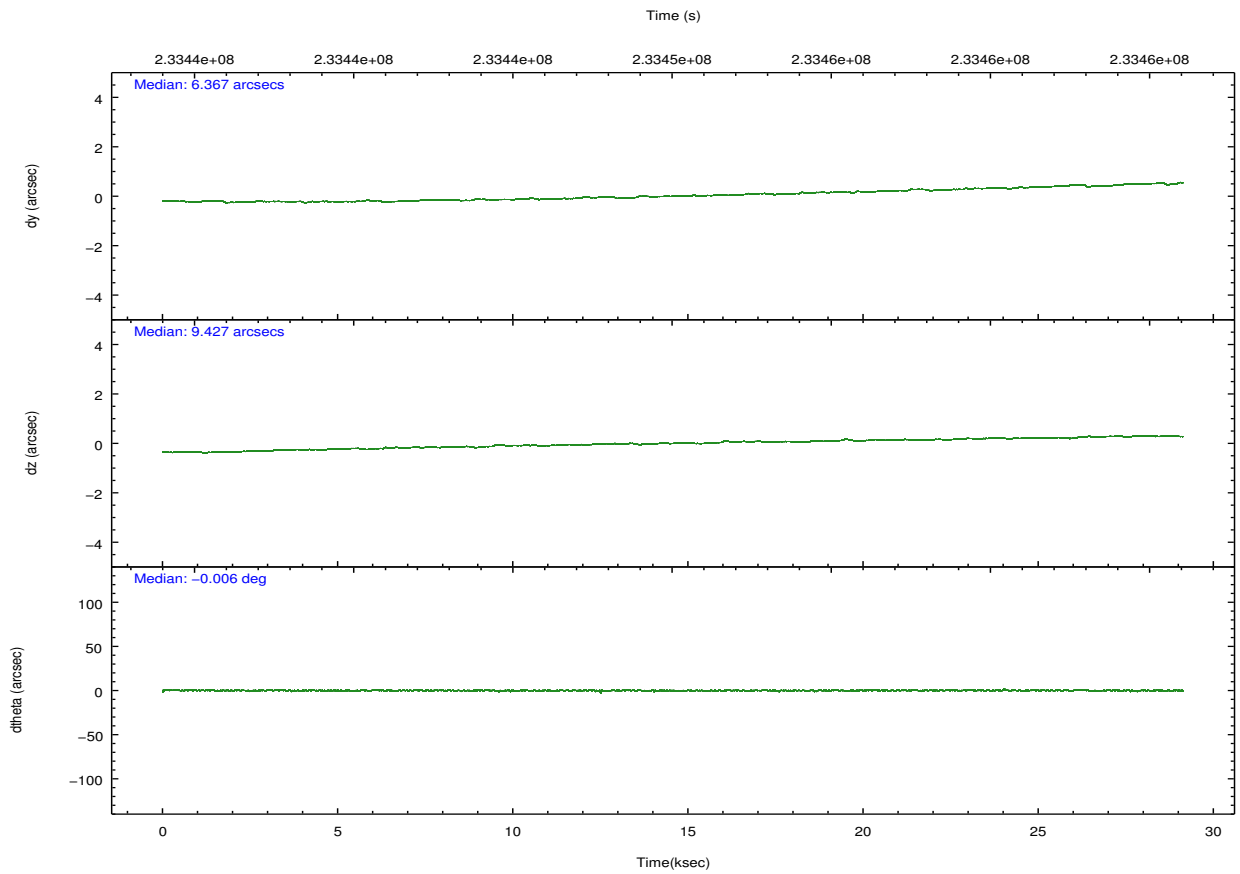
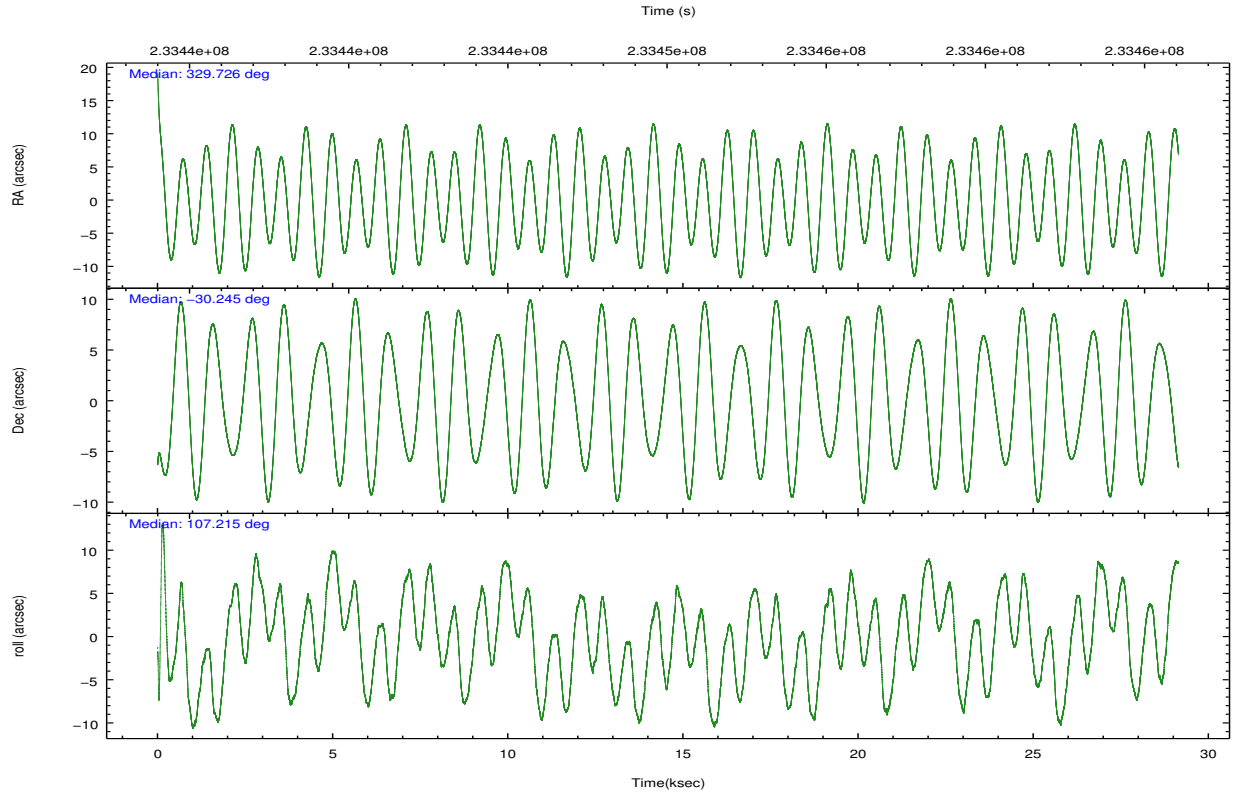
2.1.4 Events

	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	45298	67947	79088	163985	56247	35921	grade 0 events	2924	15263	35960	31483	6050	2715
rejected events	39342	28185	33699	44019	42751	30430		6%	22%	45%	19%	10%	7%
rejected %	86%	41%	42%	26%	76%	84%	grade 1 events	7	1500	94	1561	24	11
								0%	2%	0%	0%	0%	0%
							grade 2 events	1031	8457	4634	29262	2219	845
								2%	12%	5%	17%	3%	2%
							grade 3 events	761	2849	1890	13651	1393	690
								1%	4%	2%	8%	2%	1%
							grade 4 events	708	3503	1836	13233	1319	728
								1%	5%	2%	8%	2%	2%
							grade 5 events	1205	5199	1232	9727	1732	1313
								2%	7%	1%	5%	3%	3%
							grade 6 events	795	11910	1504	33715	3035	742
								1%	17%	1%	20%	5%	2%
							grade 7 events	37867	19266	31938	31353	40475	28877
								83%	28%	40%	19%	71%	80%

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	329.749062	329.7256422475483	Subarray requested	CUSTOM	1/8
[deg] Pointing Dec	-30.263341	-30.24511818265914	Subarray start row	113	113
[deg] Pointing Roll	107.071084	107.2158964678424	Subarray row count	128	128
[s] Window start time (MET)	226022464.184000	226022464.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	239155264.184000	239155264.184000	[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)	233435603.184000	233433865.81662			
Observation start date	2005-05-25T19:12:19	2005-05-25T18:44:25			
[s] Observation end time (MET)	233464603.184000	233466445.95561			
Observation end date	2005-05-26T03:15:39	2005-05-26T03:47:25			
Read mode	TIMED	TIMED			

2.3 Aspect

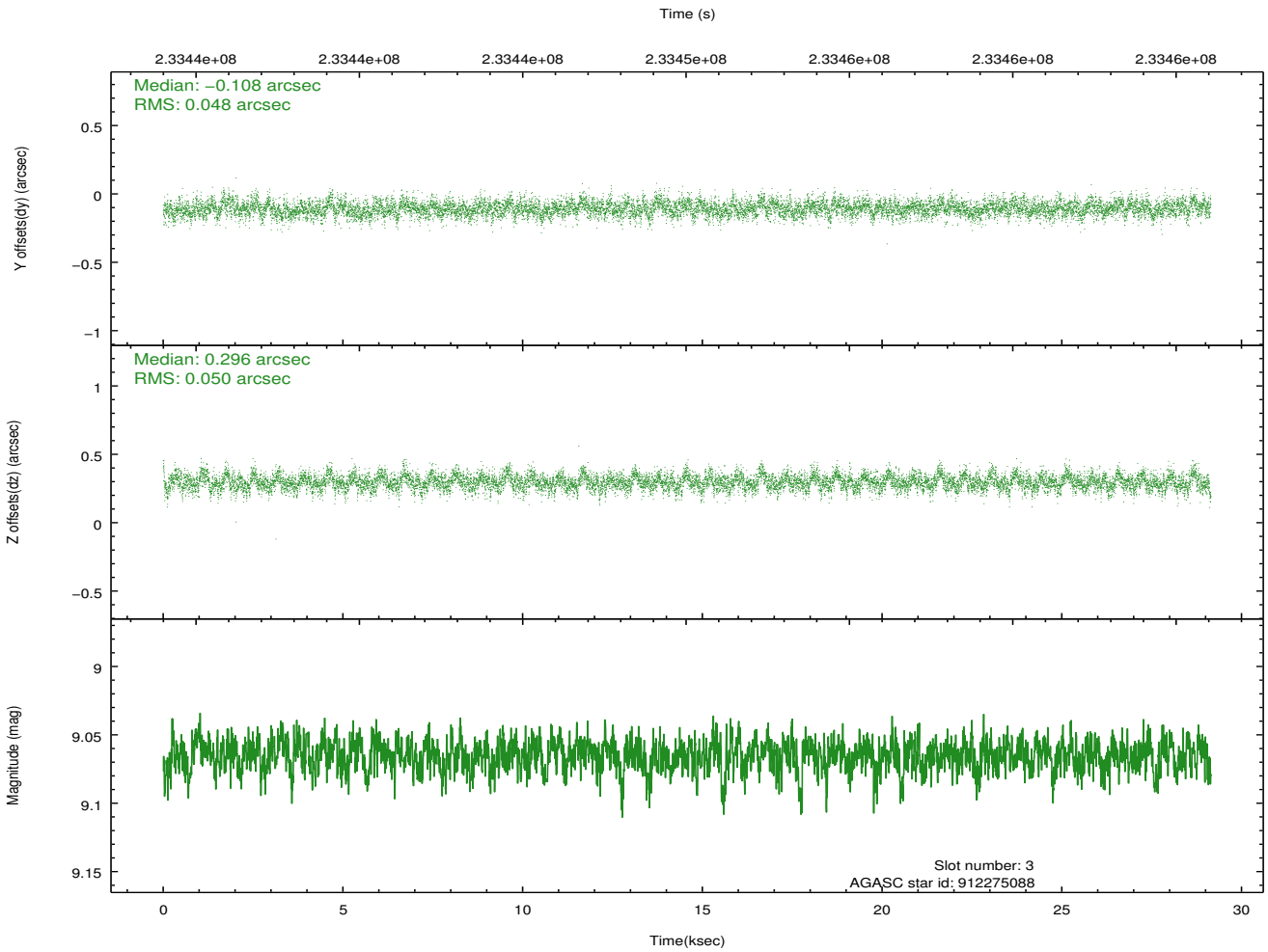
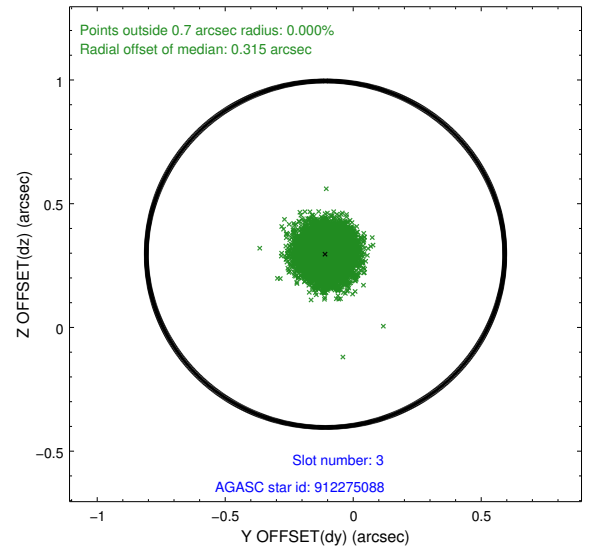
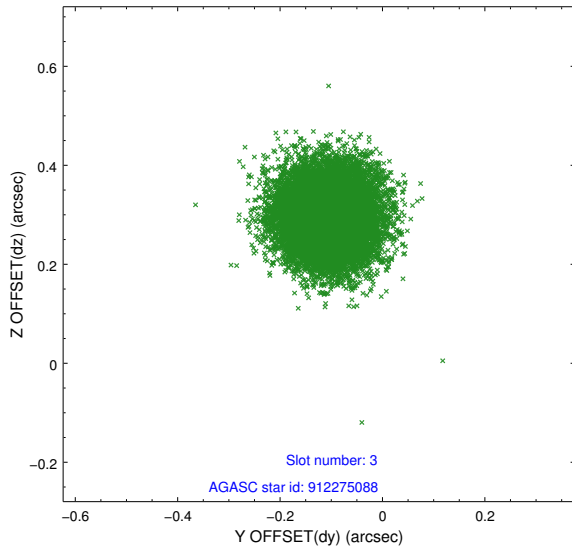


Slot Statistics

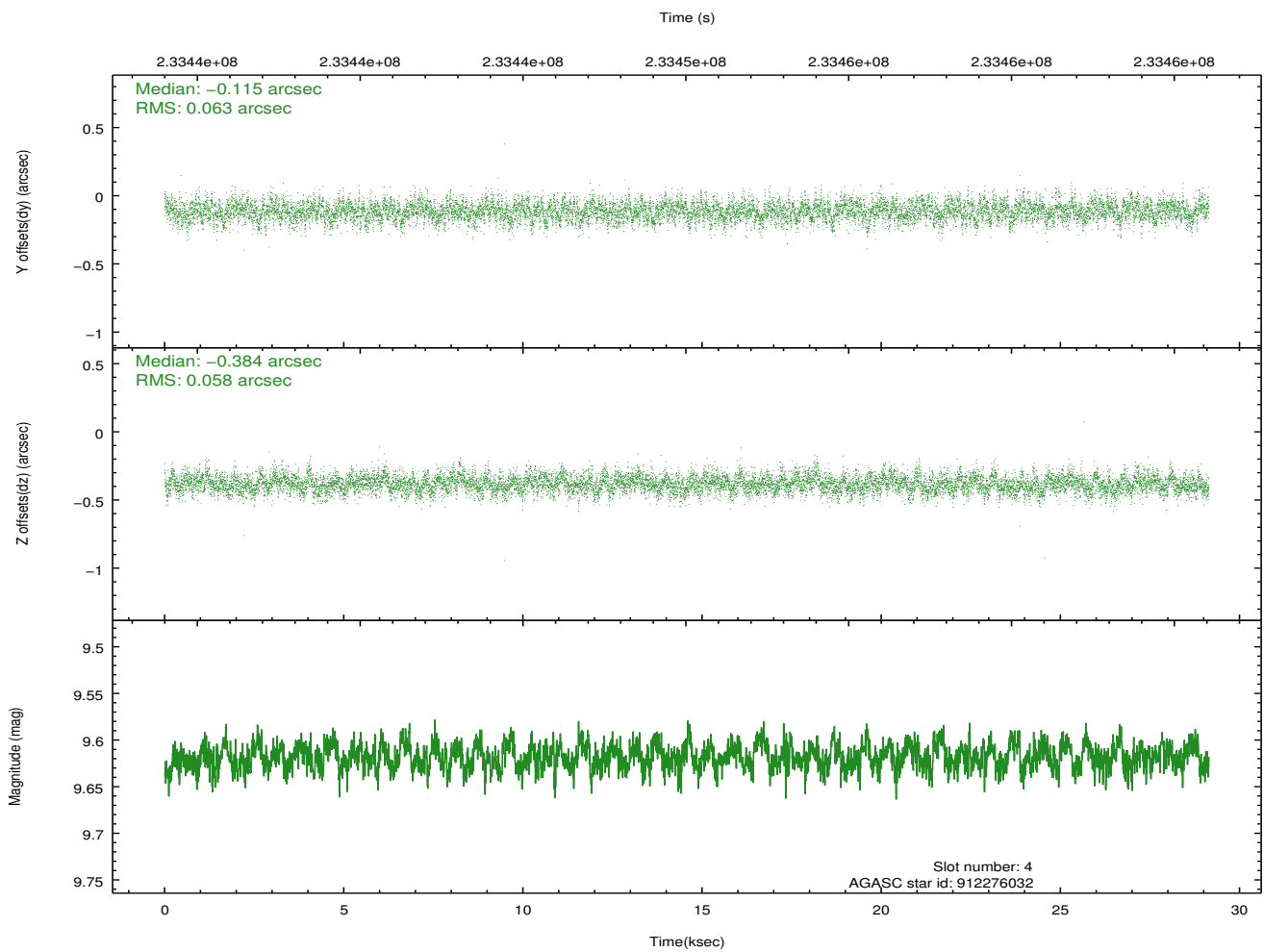
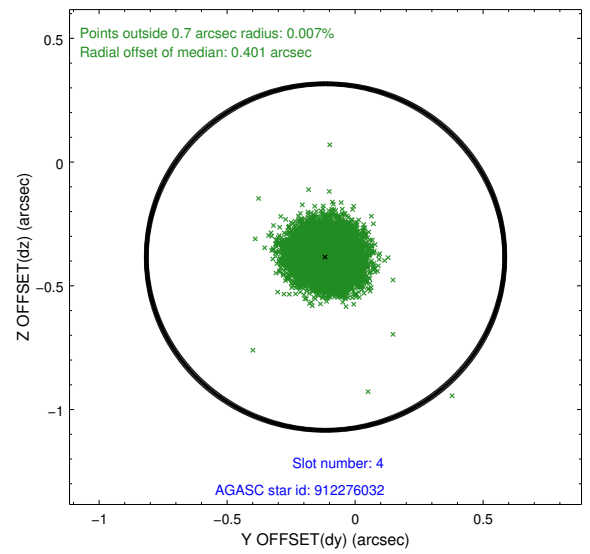
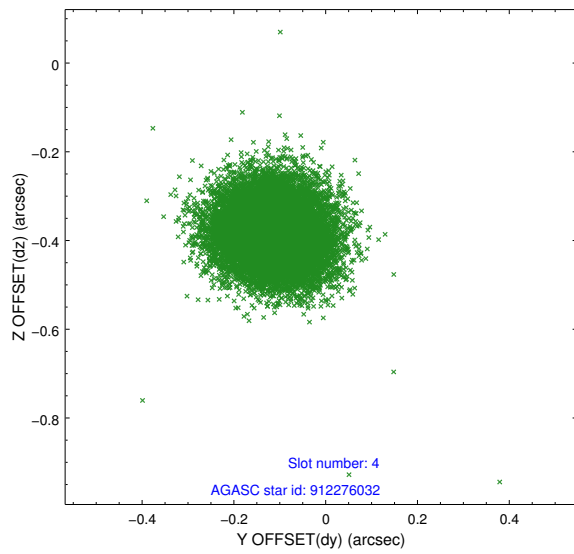
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.18	7108	0.022	0.105	0.012	0.018	0.000000	0.000000	937.50	-1890.83
1	FID	ACIS-S-5	7.23	7107	-0.107	0.032	0.010	0.017	0.000000	0.000000	-1811.59	6.52
2	FID	ACIS-S-6	7.41	7107	0.064	-0.126	0.015	0.024	0.000000	0.000000	402.99	650.43
3	GUIDE	912275088	9.07	14213	-0.108	0.296	0.074	0.121	329.619228	-29.738698	1924.63	-165.97
4	GUIDE	912276032	9.62	14208	-0.115	-0.384	0.091	0.147	329.395967	-29.803466	1905.10	568.70
5	GUIDE	981468128	9.35	14208	0.289	0.197	0.092	0.159	329.756350	-30.158334	355.34	-132.39
6	GUIDE	981469488	9.59	14206	-0.150	-0.051	0.111	0.175	329.261199	-30.045155	1194.22	1223.78
7	GUIDE	981478152	9.39	14203	0.085	-0.059	0.100	0.161	329.415589	-30.057192	1013.47	776.03

2.4 Star Slots

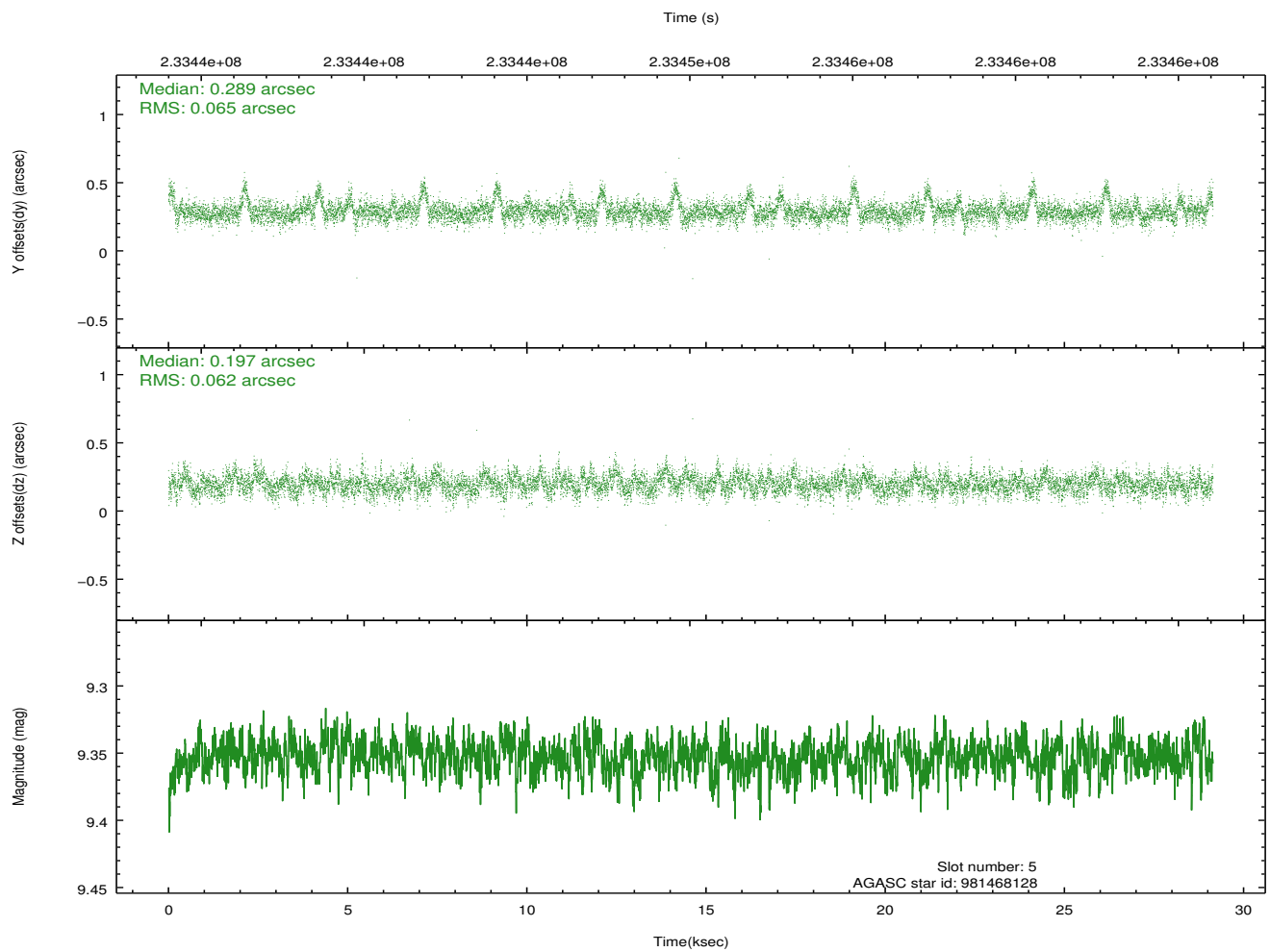
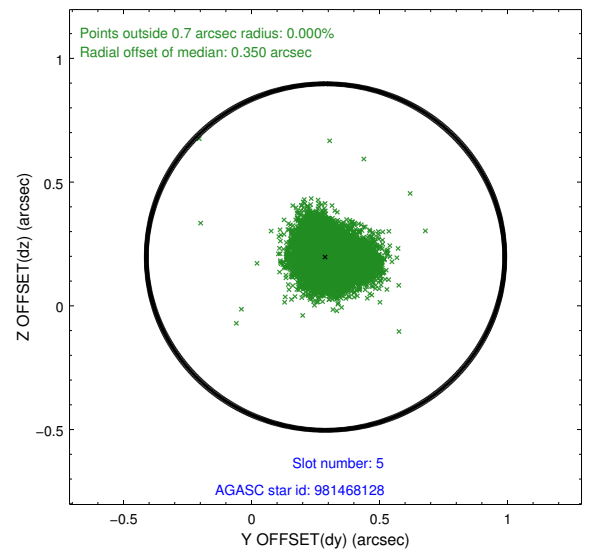
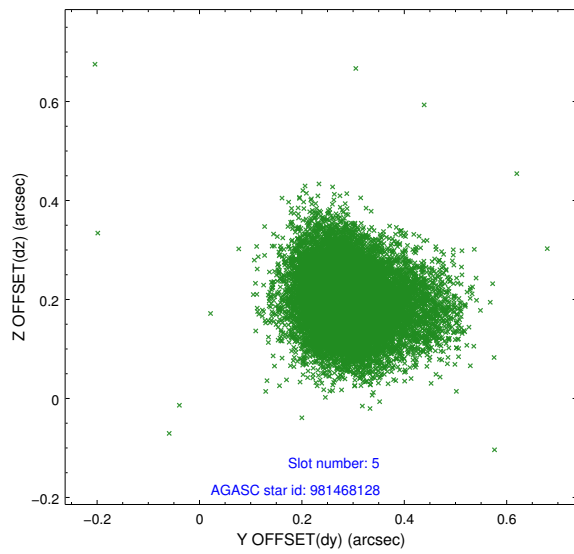
2.4.1 Slot 3



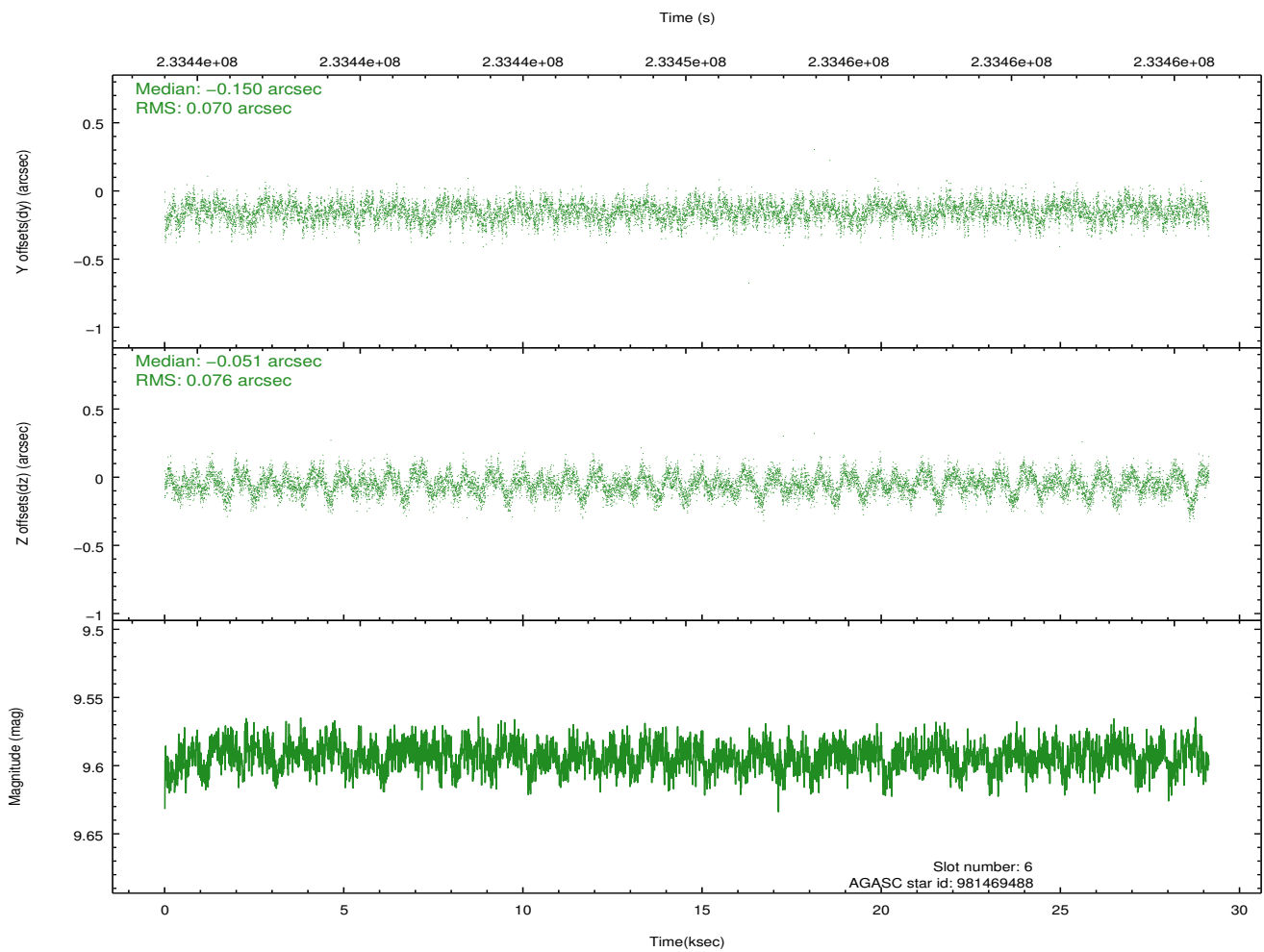
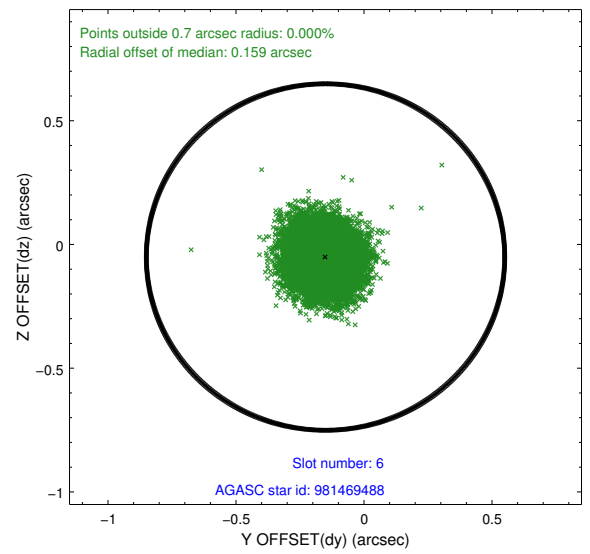
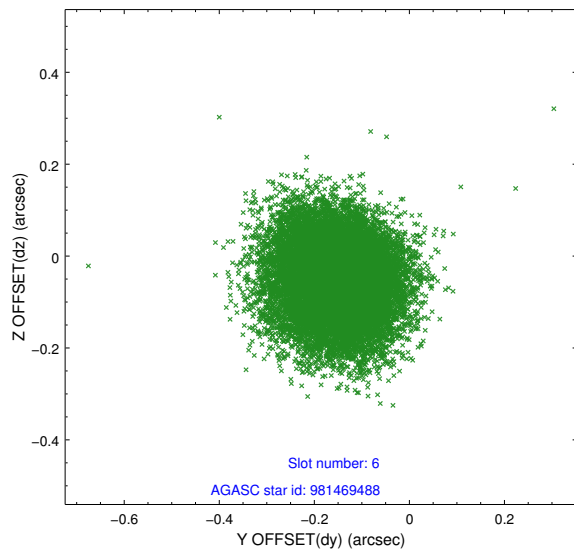
2.4.2 Slot 4



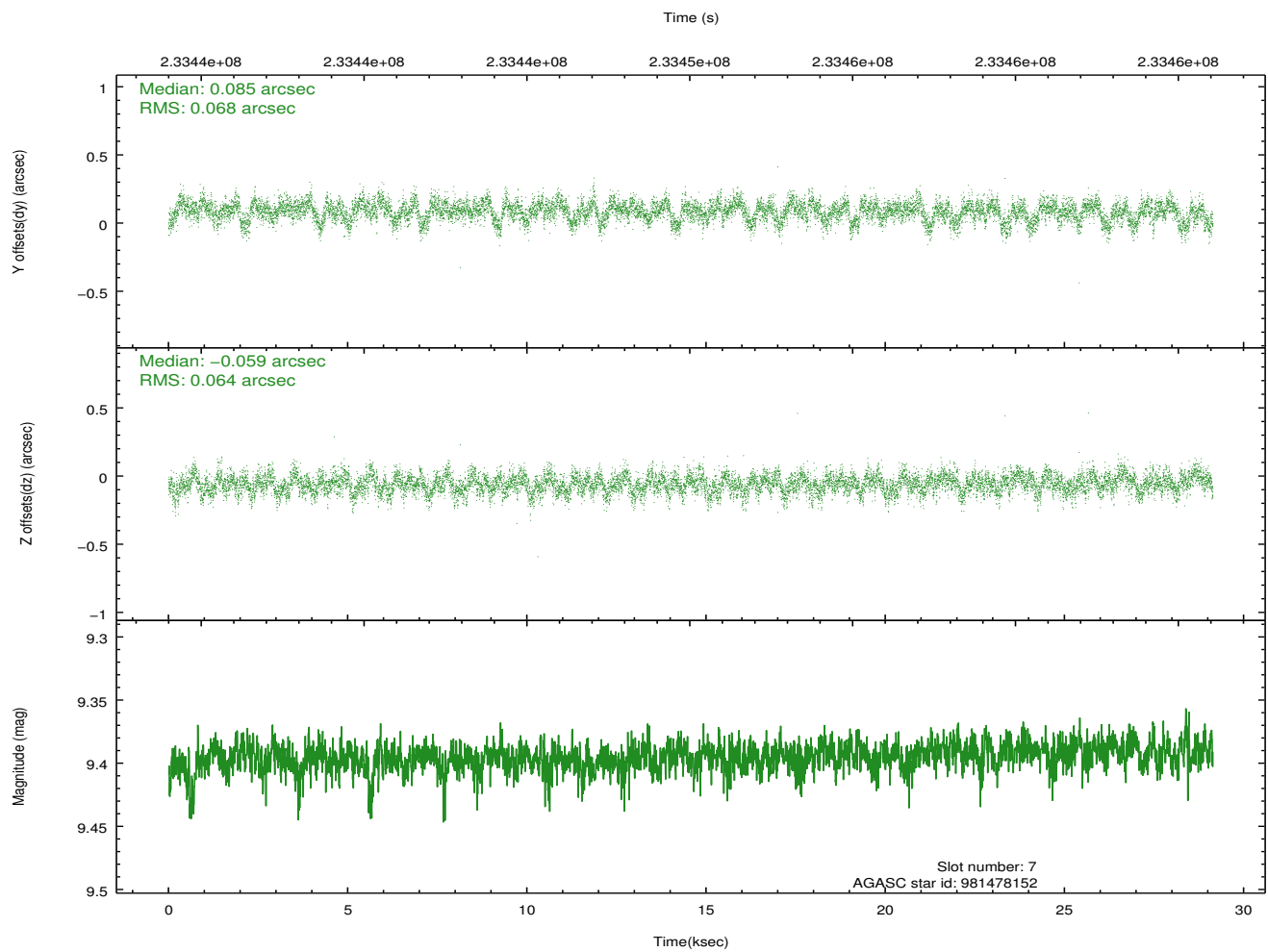
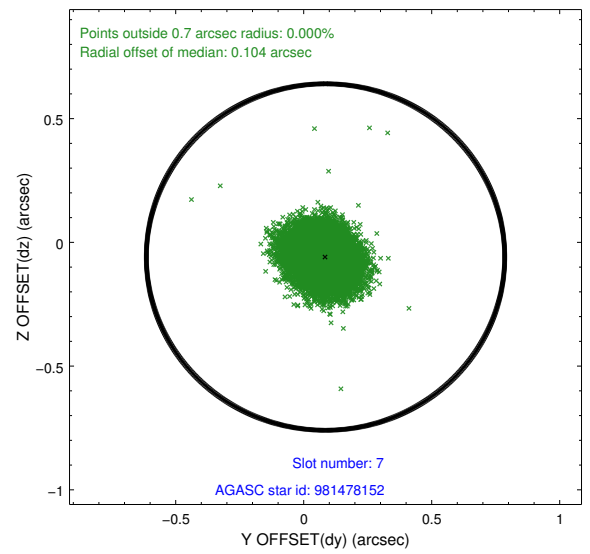
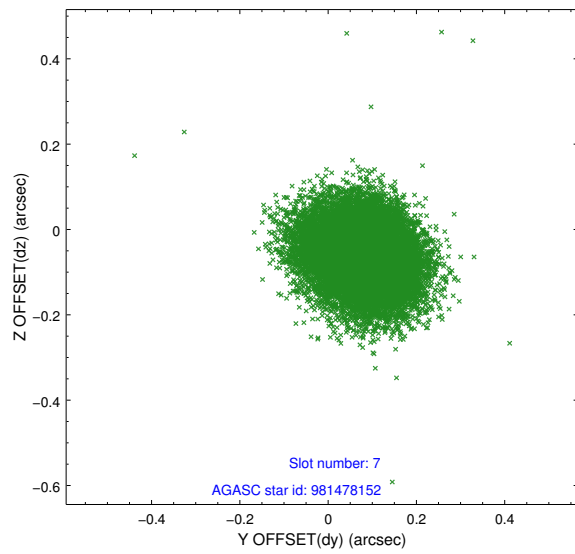
2.4.3 Slot 5



2.4.4 Slot 6

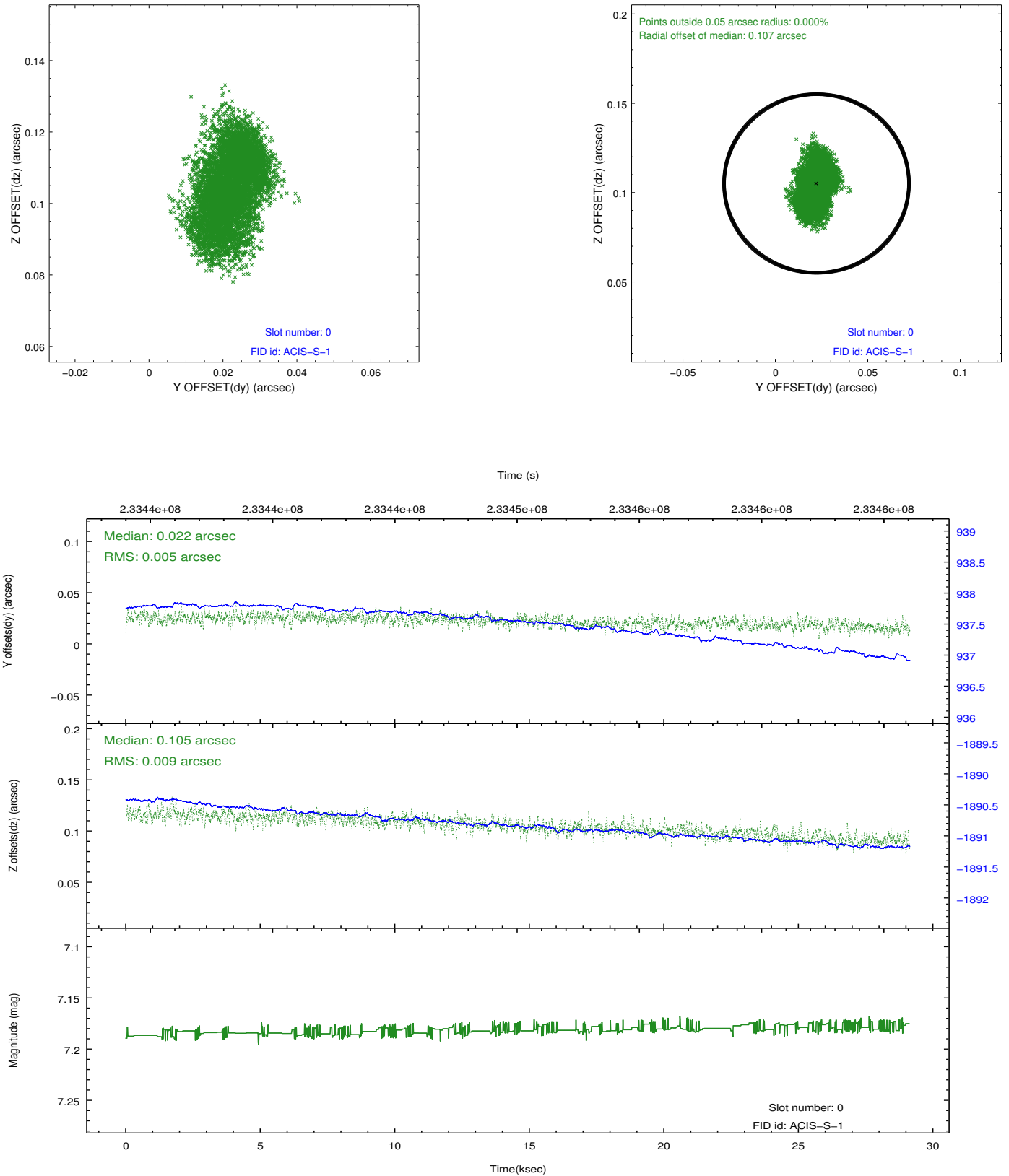


2.4.5 Slot 7

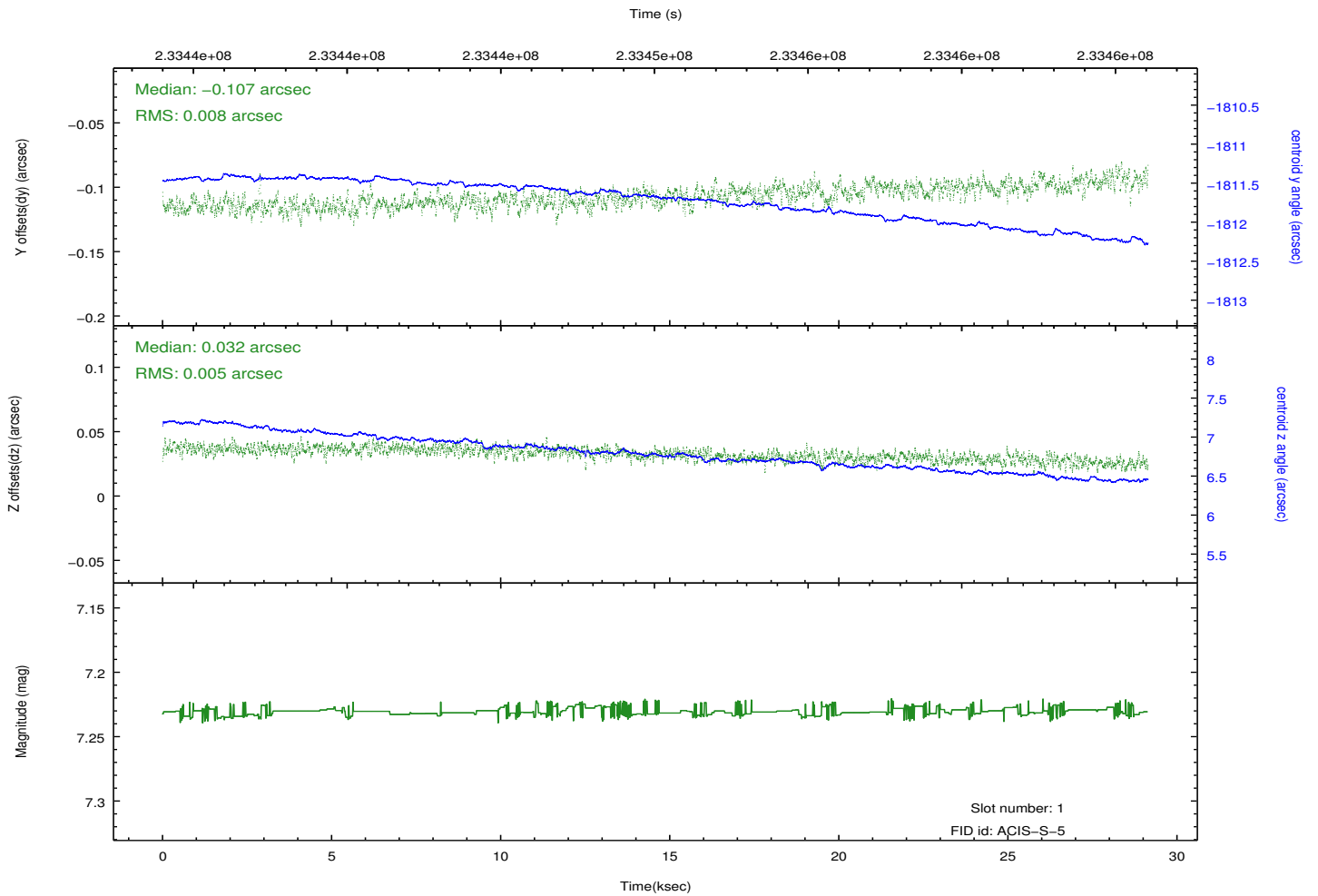
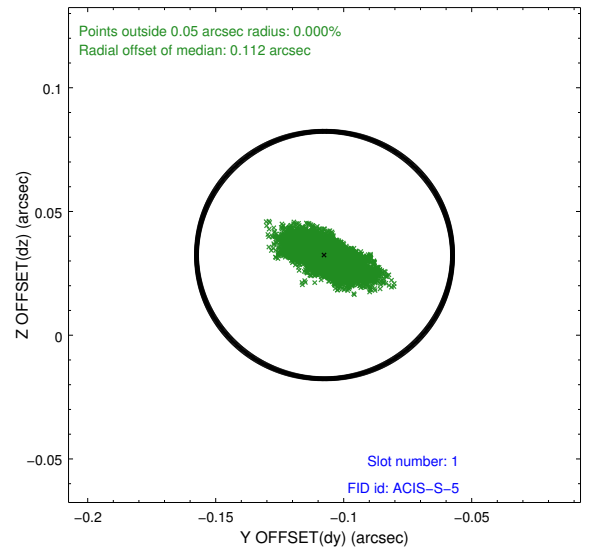
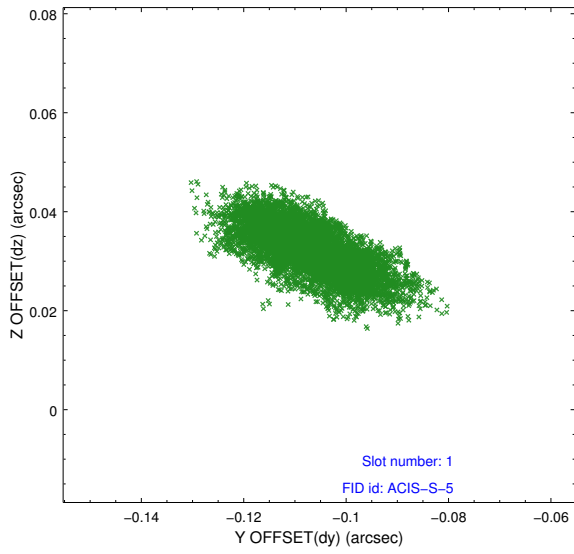


2.5 FID Slots

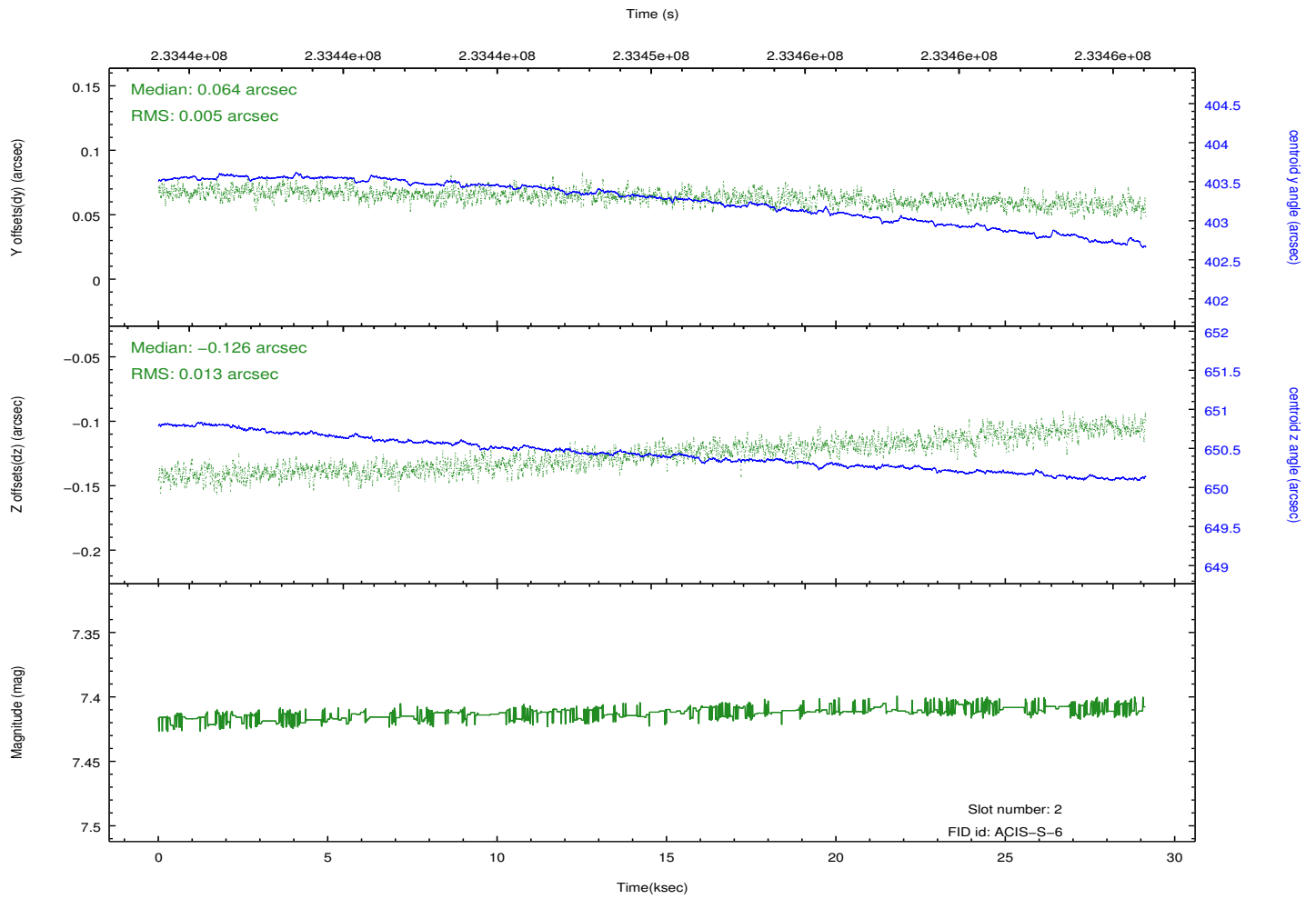
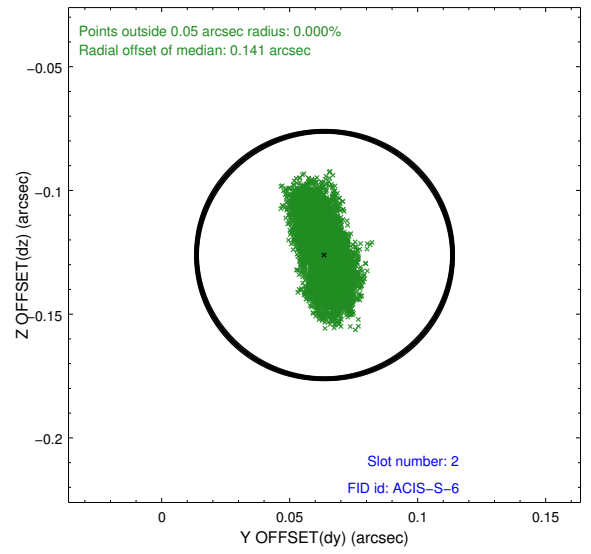
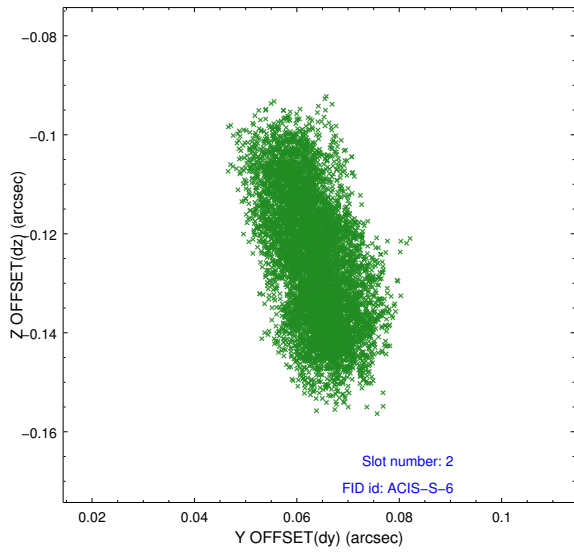
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

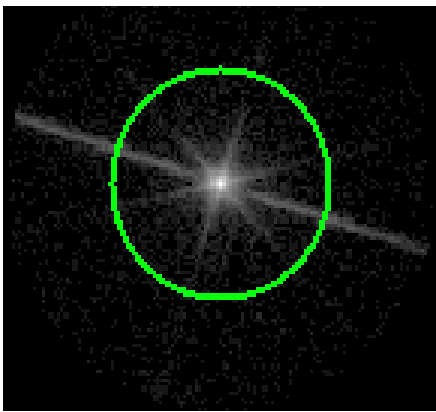


3 Gratings

3.1 LETG Arm



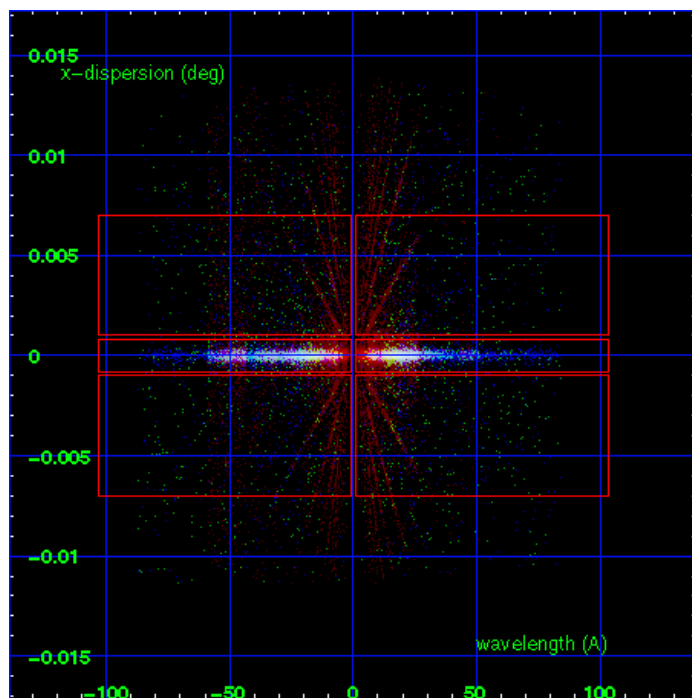
LETG Order Sort 123



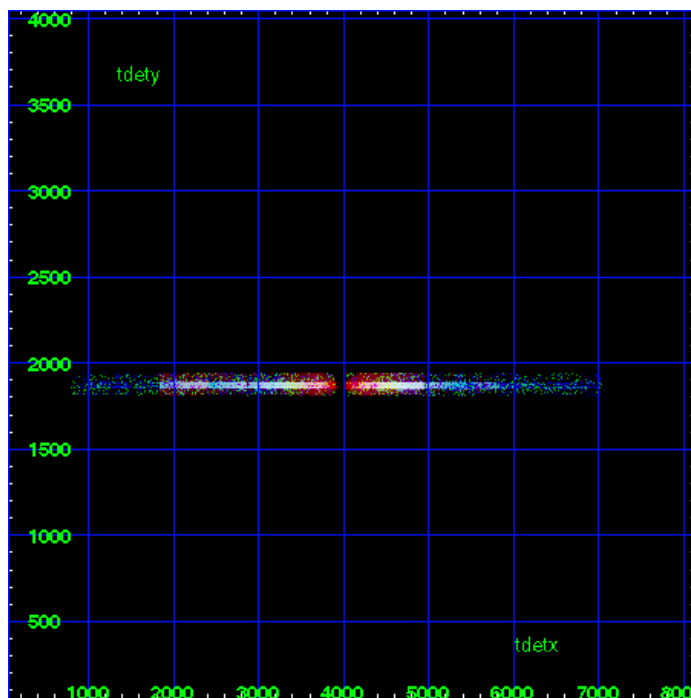
LETG Zero Order



LETG Order Sort ALL

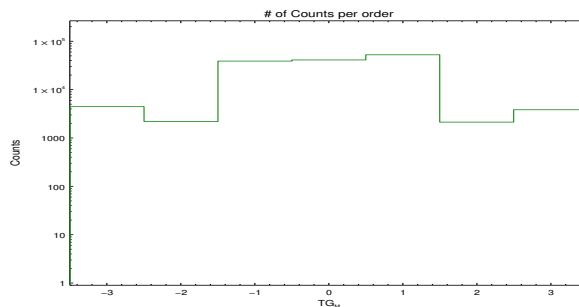


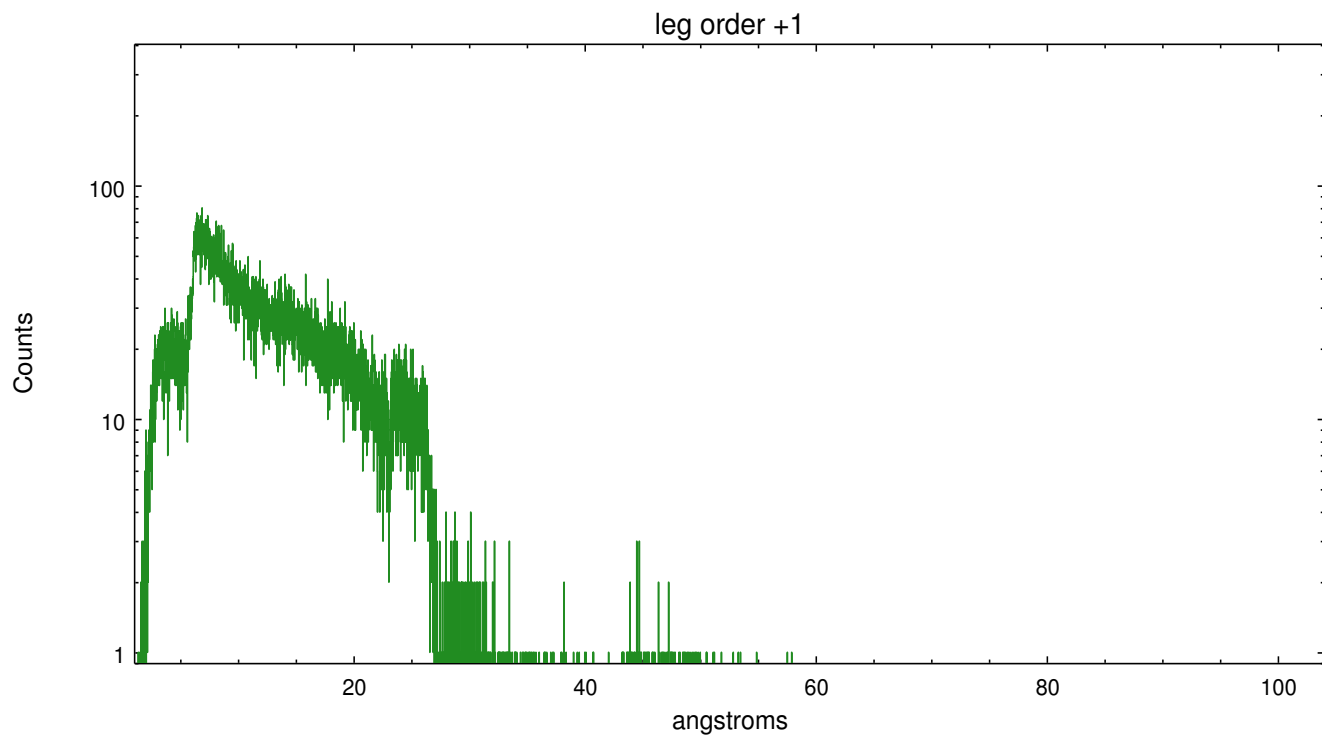
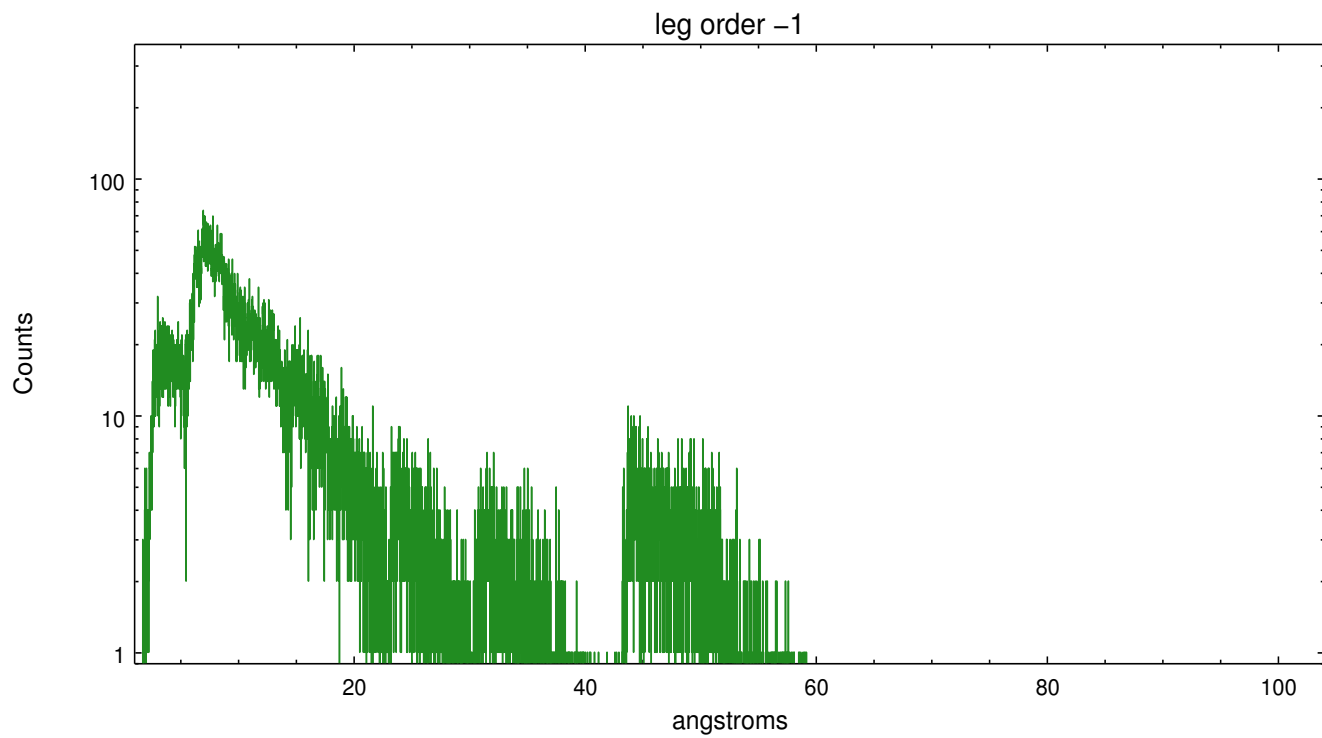
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	4467	2205	39245	41455	53010	2133	3855





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.01.24
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.14029

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=4151.5, y=4239.73) into the *src1a.fits file table. These corrected coordinates were determined using a software tool developed by CXC called tg_findzo, available in CIAO. The tool calculates the point of intersection of the readout streak and the leg 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.

===

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.