

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 3172 - L2 Version 5
Chandra X-Ray Center

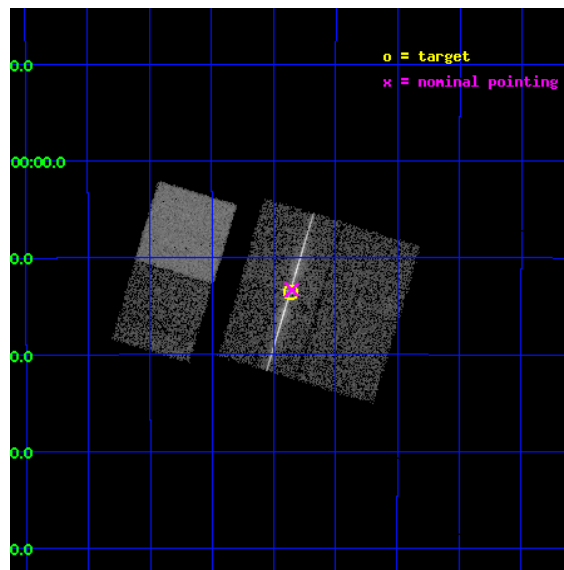
L2 Processing Date : Nov 9 2012

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1 Front

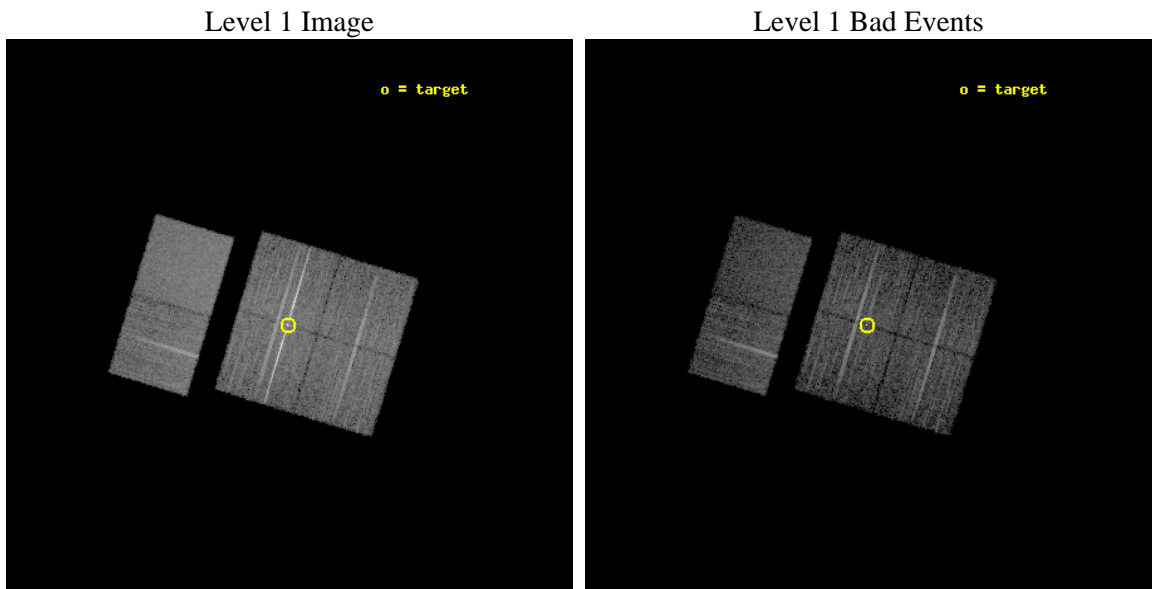
seq_num	790066	Sequence number
obs_id	3172	Observation id
title	AO3 LETG/ACIS-I CALIBRATION OBSERVATIONS OF PKS2155-304	Proposal t
observer	Dr. CXC Calibration	Principal investigator
object	PKS2155-304	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	329.716667	Observer's specified target RA [deg]
dec_targ	-30.225556	Observer's specified target Dec [deg]
ra_nom	329.71329136851	Nominal RA [deg]
dec_nom	-30.222284162943	Nominal Dec [deg]
roll_nom	286.87351696056	Nominal Roll [deg]
revision	5	Processing version of data
ontime	7753.6000072062	Sum of GTIs [s]
livetime	7655.4192552575	Livetime [s]
ontime0	7753.6000072062	Sum of GTIs [s]
ontime1	7750.359046936	Sum of GTIs [s]
ontime2	7750.3590170443	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	81283	Number of level 2 events



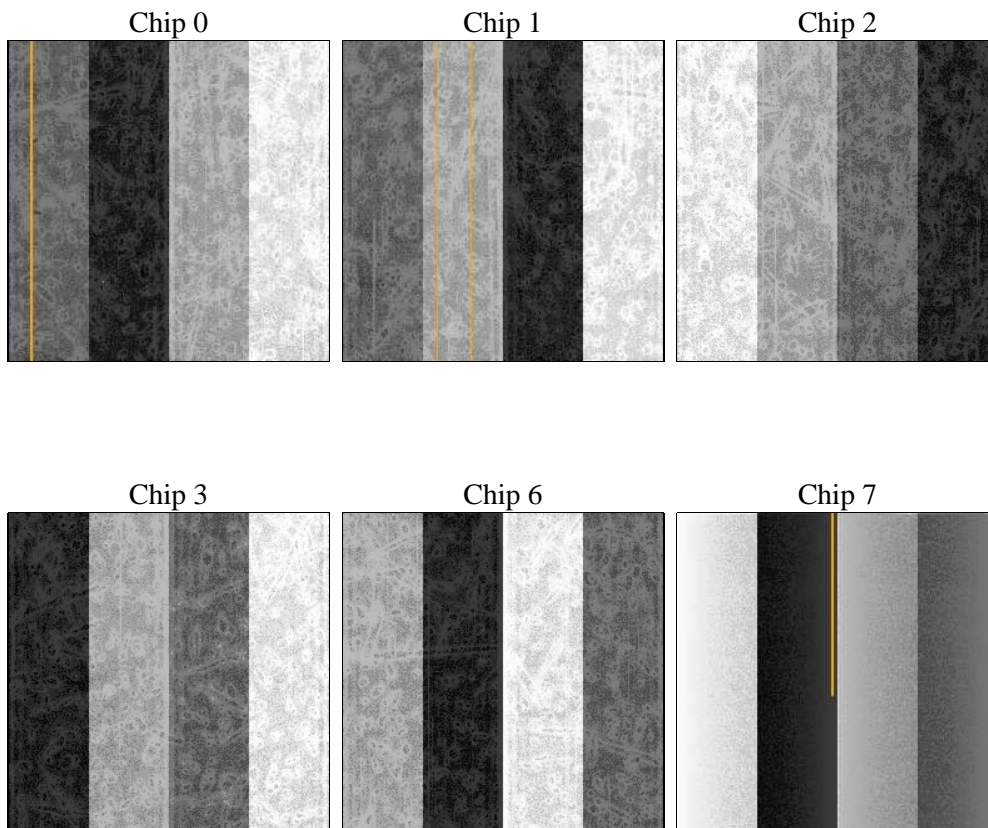
2 OBI

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	7753.6000072062	Sum of GTIs [s]
caldbver	4.5.2	 	ontime0	7753.6000072062	Sum of GTIs [s]
date	2012-09-28T06:04:20	Date and time of file creation	ontime1	7750.359046936	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	7750.3590170443	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	341544	Number of level 1 events

2.1.4 Events

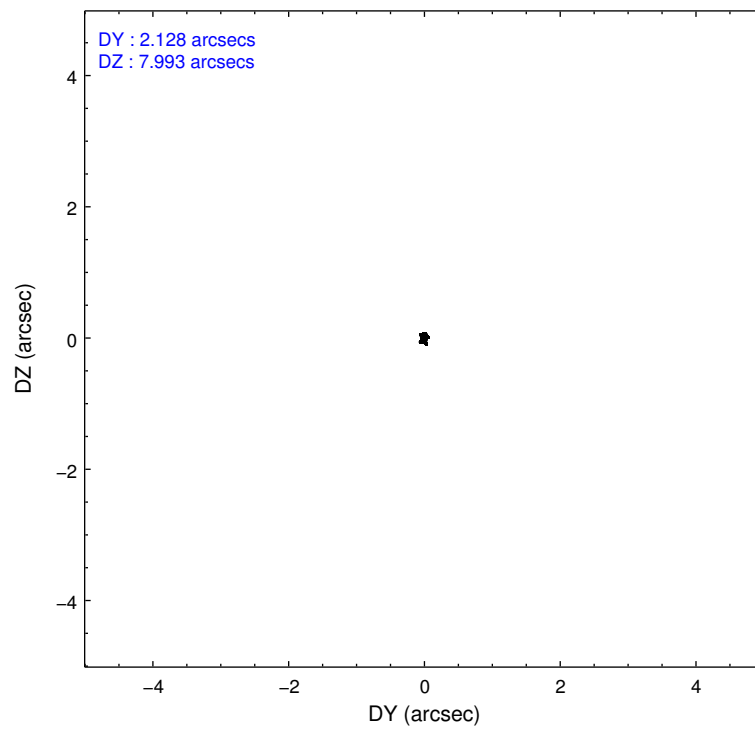
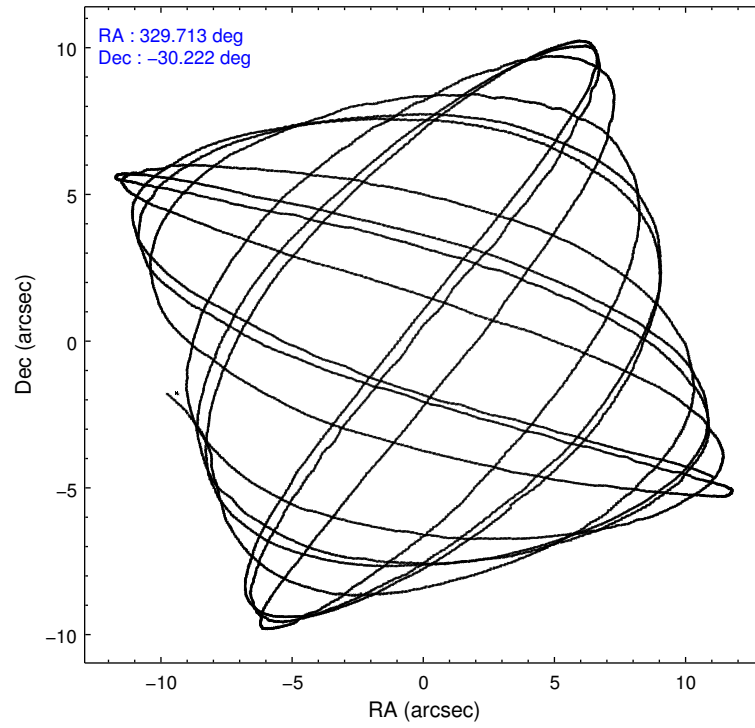
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	45808	46061	65156	68540	52447	63532
rejected events	39775	39821	43593	46744	46479	37333
rejected %	86%	86%	66%	68%	88%	58%

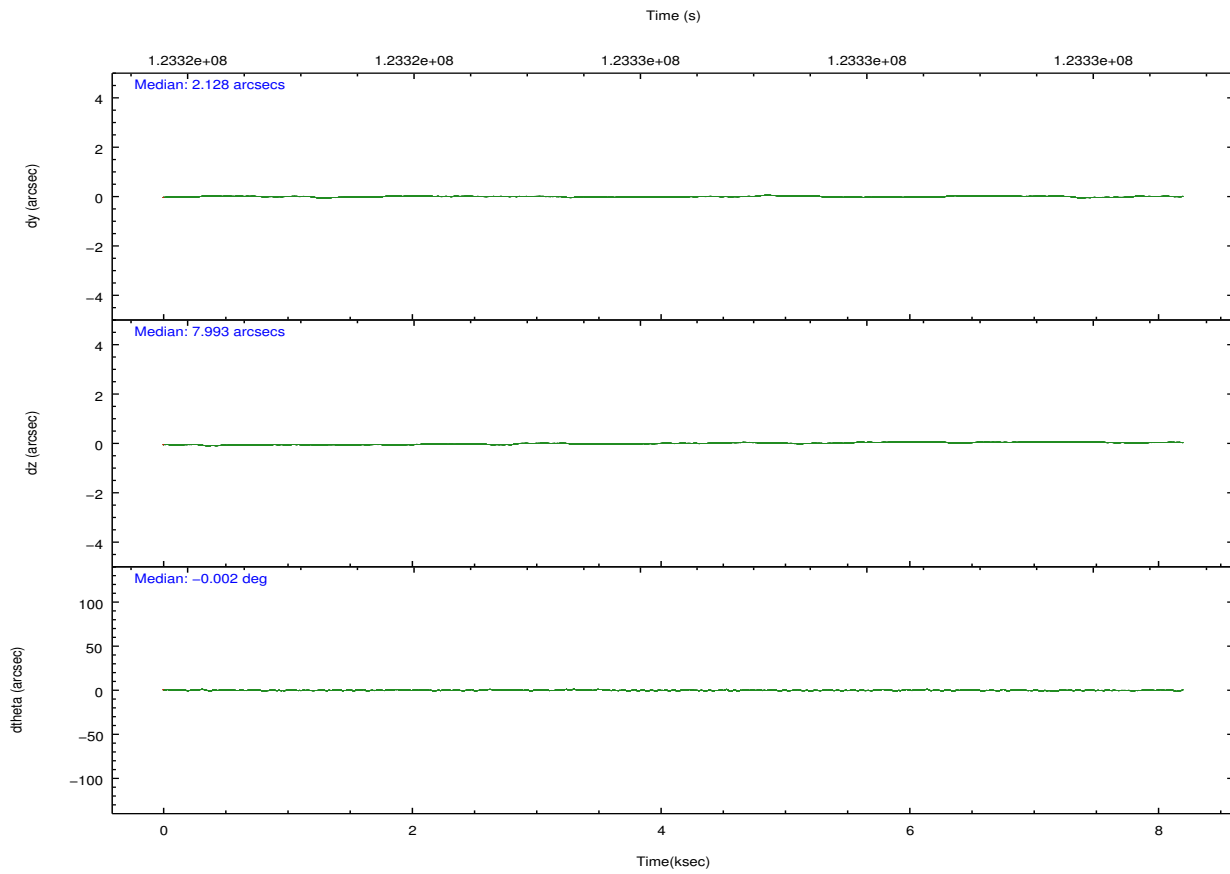
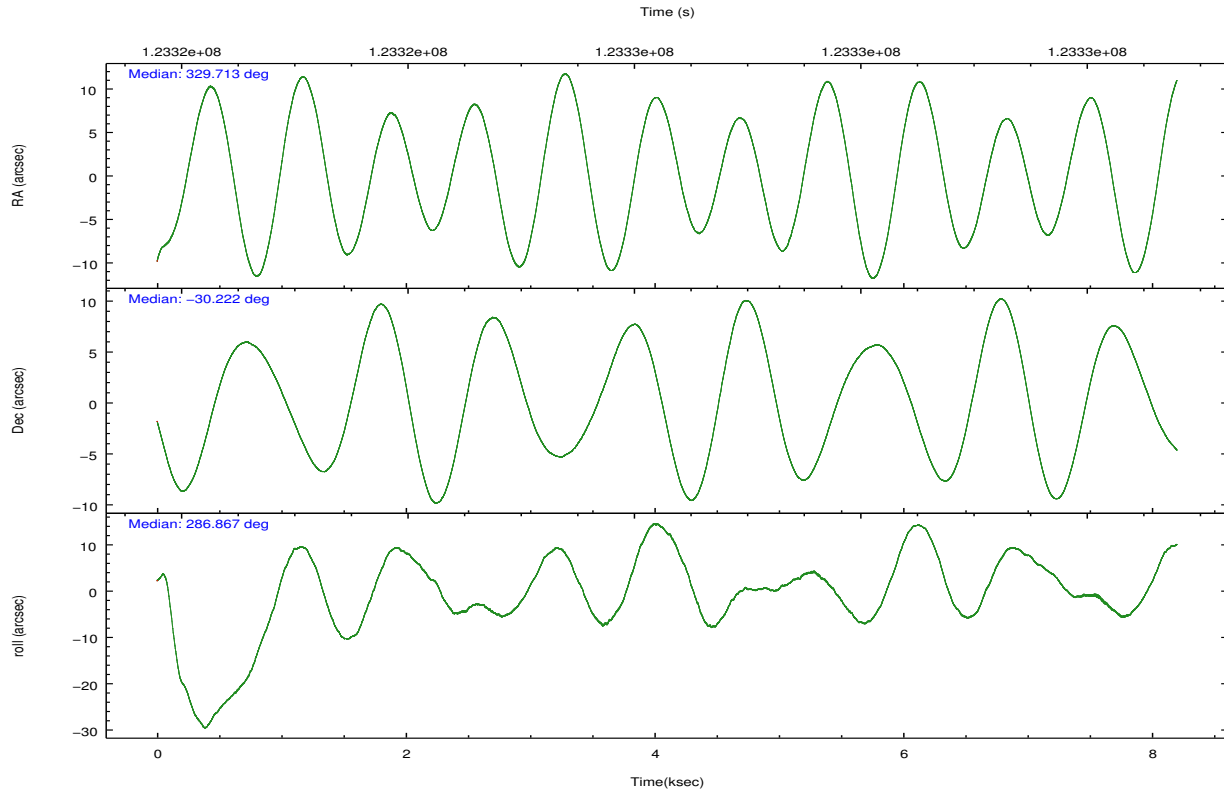
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
grade 0 events	2491	2513	15753	15710	2351	2291
	5%	5%	24%	22%	4%	3%
grade 1 events	15	16	173	215	25	72
	0%	0%	0%	0%	0%	0%
grade 2 events	1338	1337	2680	2684	1262	5266
	2%	2%	4%	3%	2%	8%
grade 3 events	595	604	889	984	590	2370
	1%	1%	1%	1%	1%	3%
grade 4 events	581	583	914	939	543	2383
	1%	1%	1%	1%	1%	3%
grade 5 events	1723	1839	1864	2158	2212	6066
	3%	3%	2%	3%	4%	9%
grade 6 events	1035	1205	1343	1499	1226	13909
	2%	2%	2%	2%	2%	21%
grade 7 events	38030	37964	41540	44351	44238	31175
	83%	82%	63%	64%	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	329.690125	329.7132913685076	Subarray requested	NONE	NONE
[deg] Pointing Dec	-30.203543	-30.22228416294264	Alternating exposures requested	N	N
[deg] Pointing Roll	286.653175	286.8735169605644	[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	-226.272463	-226.2682626179875			
[mm] SIM translation stage offset	-7.32	-7.32419038494217			
[s] Observation start time (MET)	123322388.184000	123322012.24531			
Observation start date	2001-11-28T08:12:04	2001-11-28T08:06:52			
[s] Observation end time (MET)	123330388.184000	123331122.44568			
Observation end date	2001-11-28T10:25:24	2001-11-28T10:38:42			
Read mode	TIMED	TIMED			

2.3 Aspect



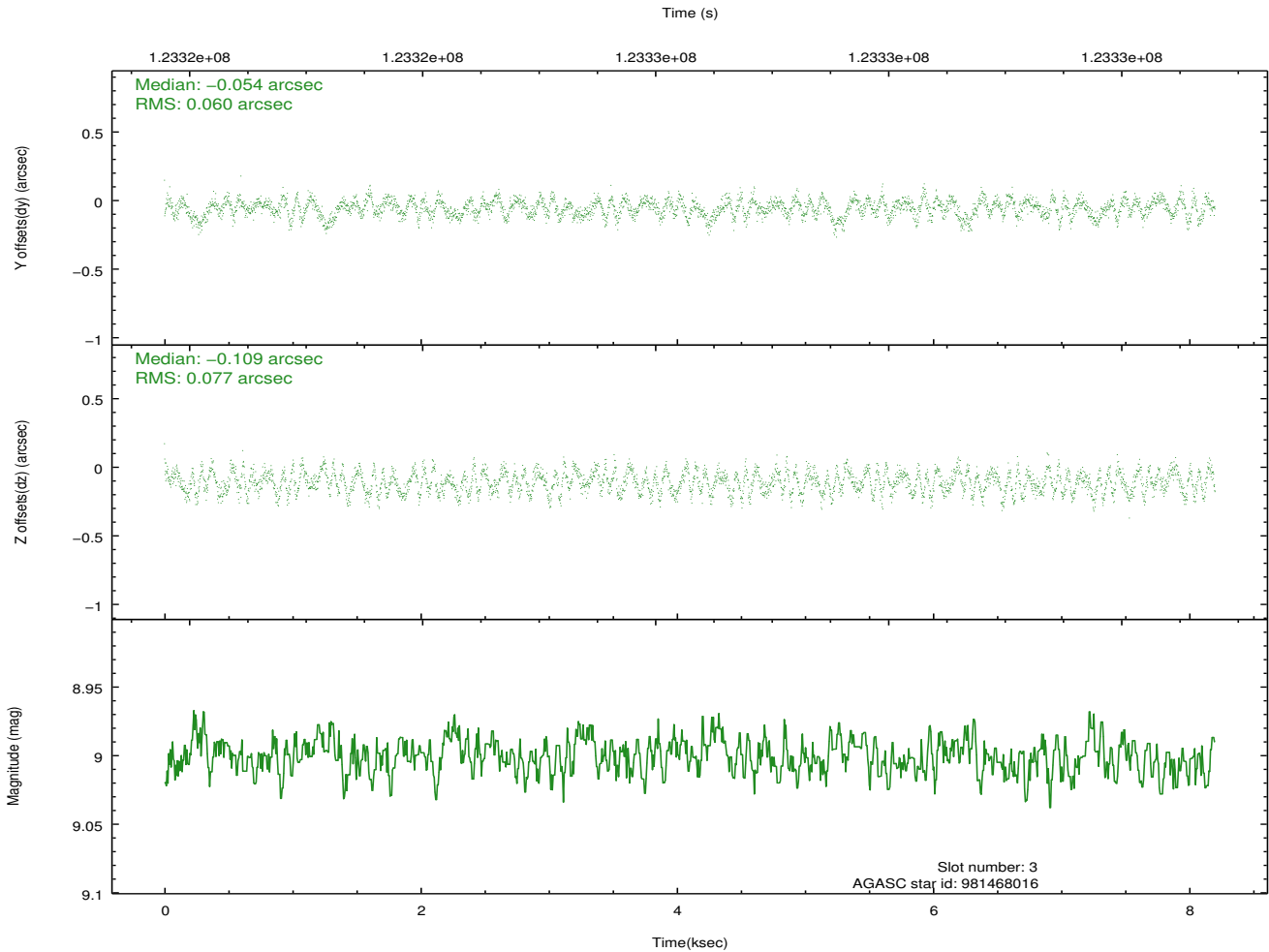
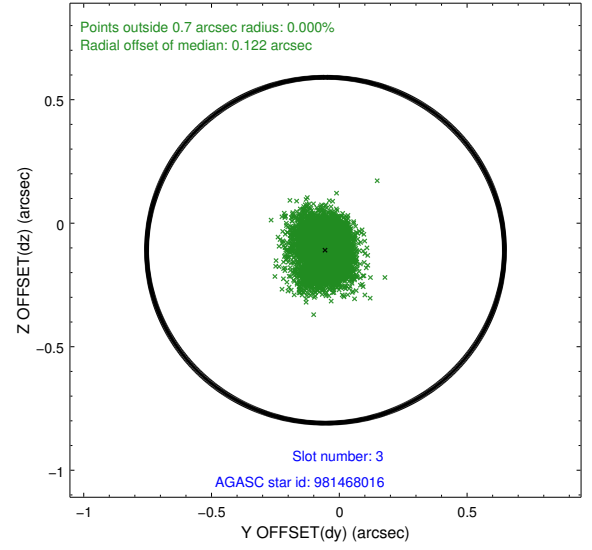
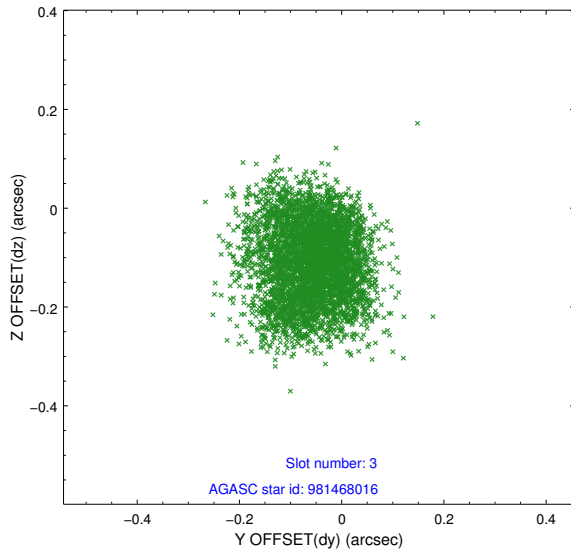


Slot Statistics

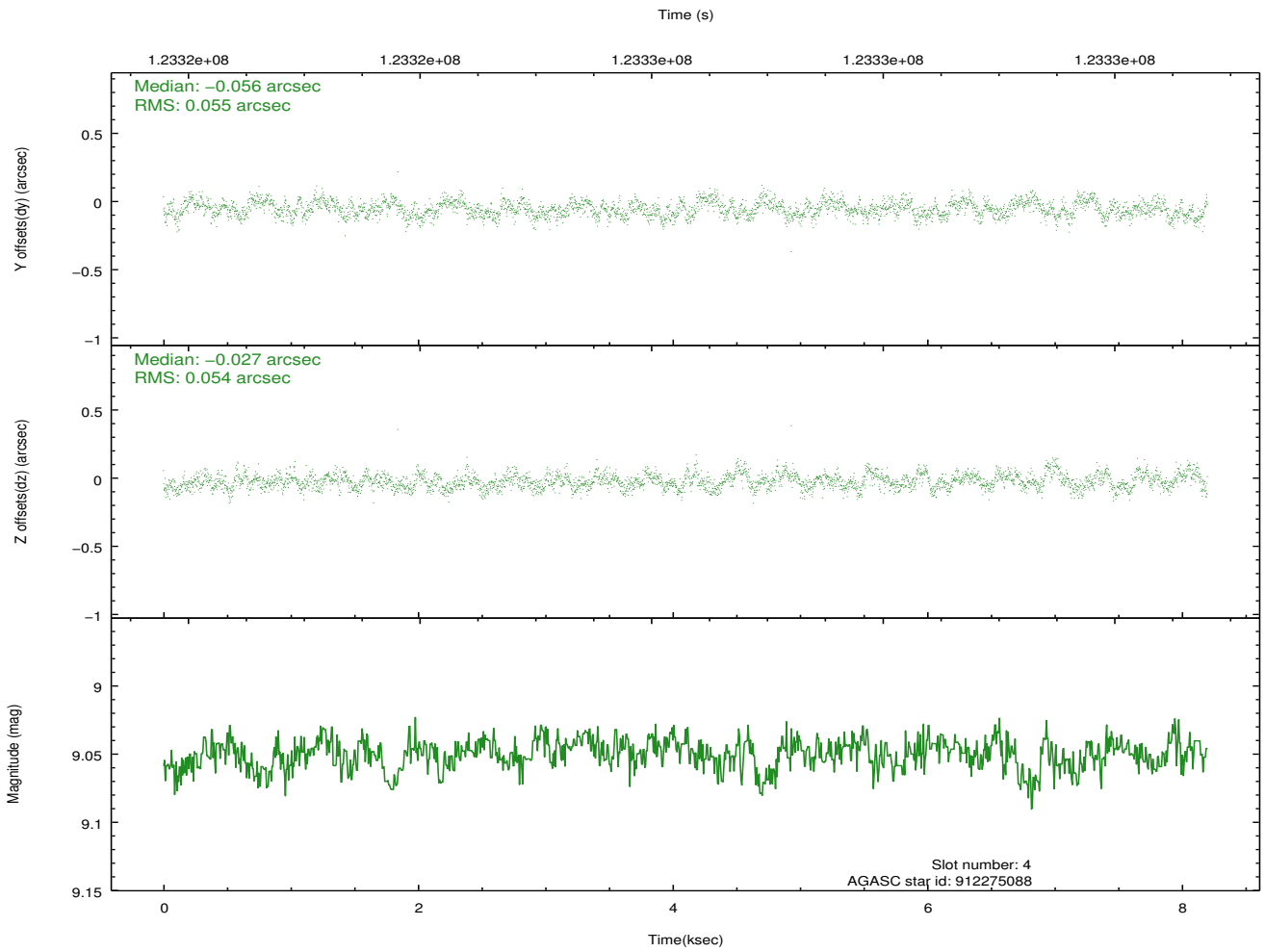
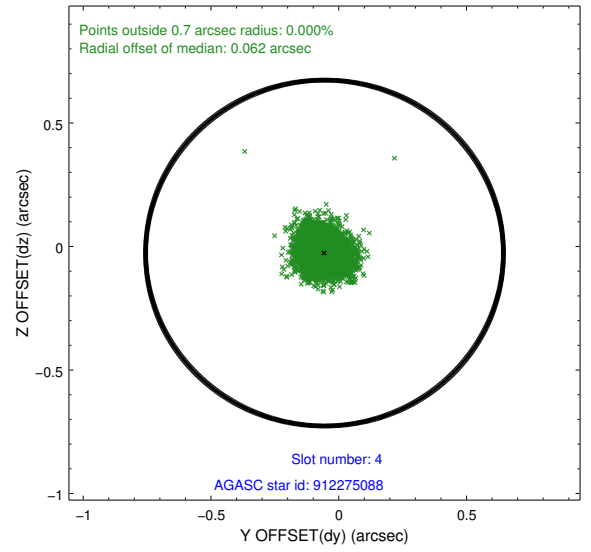
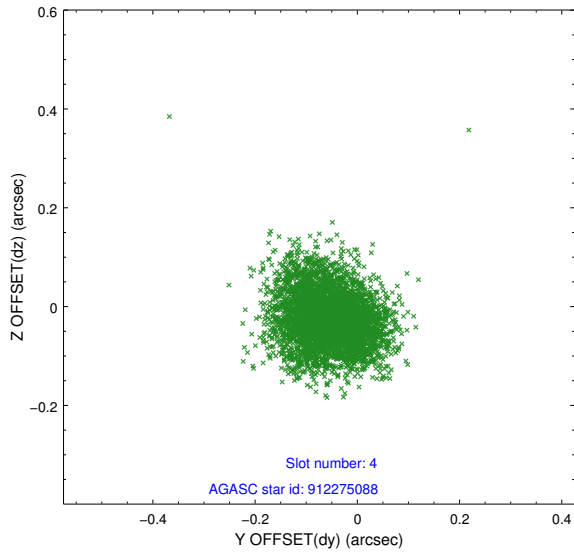
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.23	2001	0.041	0.004	0.006	0.011	0.000000	0.000000	937.60	-981.75
1	FID	ACIS-I-5	7.23	2001	-0.139	0.070	0.006	0.010	0.000000	0.000000	-1810.31	915.38
2	FID	ACIS-I-6	7.26	2001	0.007	-0.004	0.006	0.011	0.000000	0.000000	402.37	1560.59
3	GUIDE	981468016	9.00	4000	-0.054	-0.109	0.107	0.163	328.842457	-30.034984	-1327.96	-2359.38
4	GUIDE	912275088	9.05	4000	-0.056	-0.027	0.082	0.130	329.619228	-29.738698	-1666.21	267.26
5	GUIDE	981478152	9.41	3991	-0.001	0.149	0.075	0.125	329.415589	-30.057192	-748.37	-667.91
6	GUIDE	981468128	9.37	3997	0.051	-0.022	0.101	0.168	329.756350	-30.158334	-96.01	244.77
7	GUIDE	981469488	9.60	3997	0.061	0.008	0.100	0.160	329.261199	-30.045155	-925.86	-1117.11

2.4 Star Slots

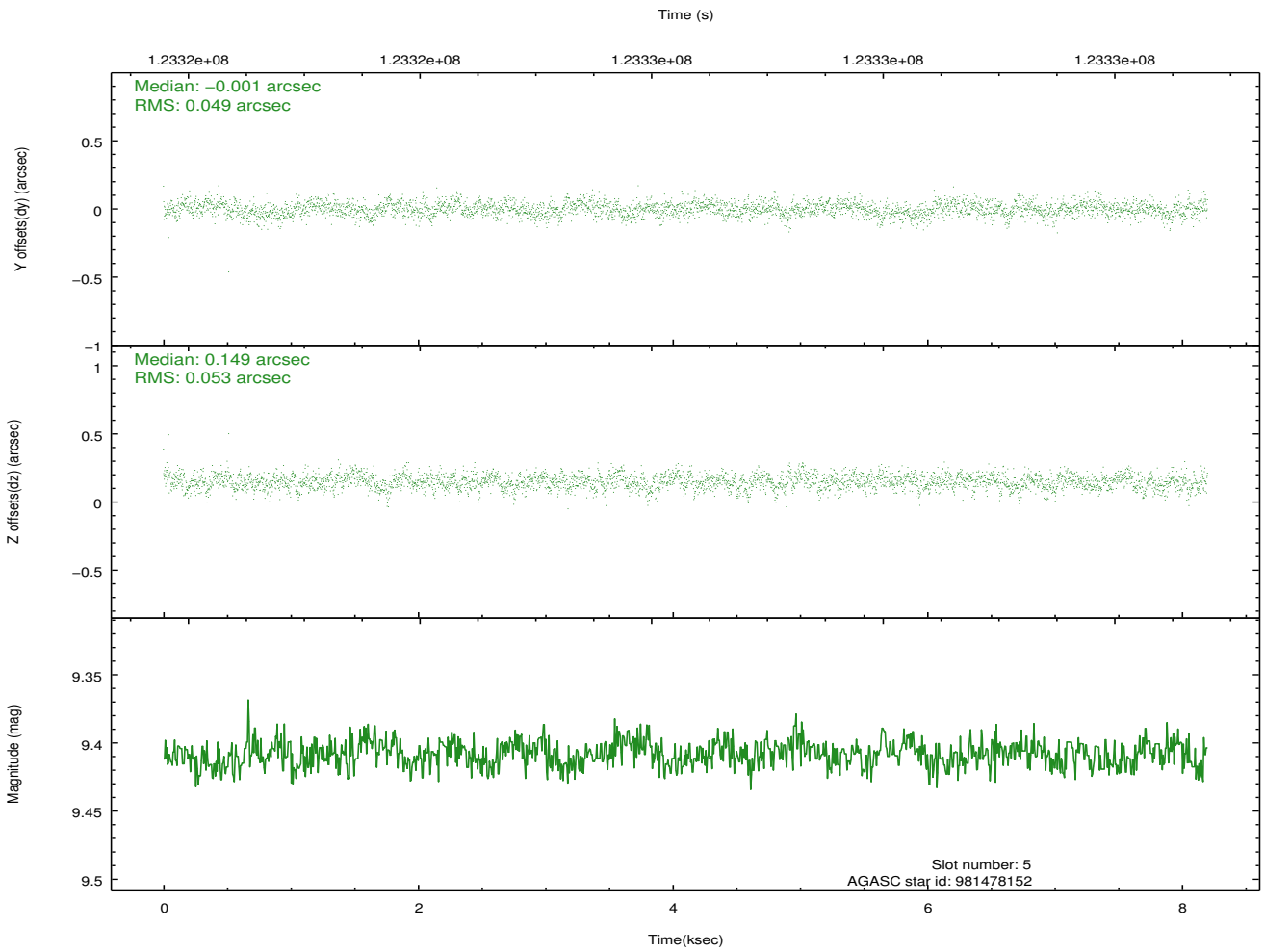
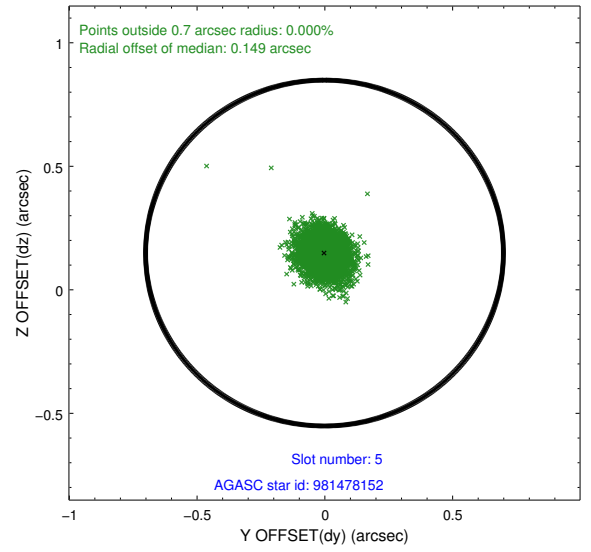
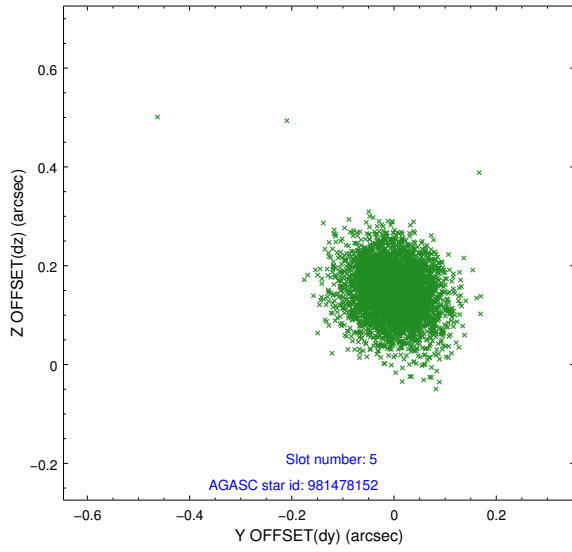
2.4.1 Slot 3



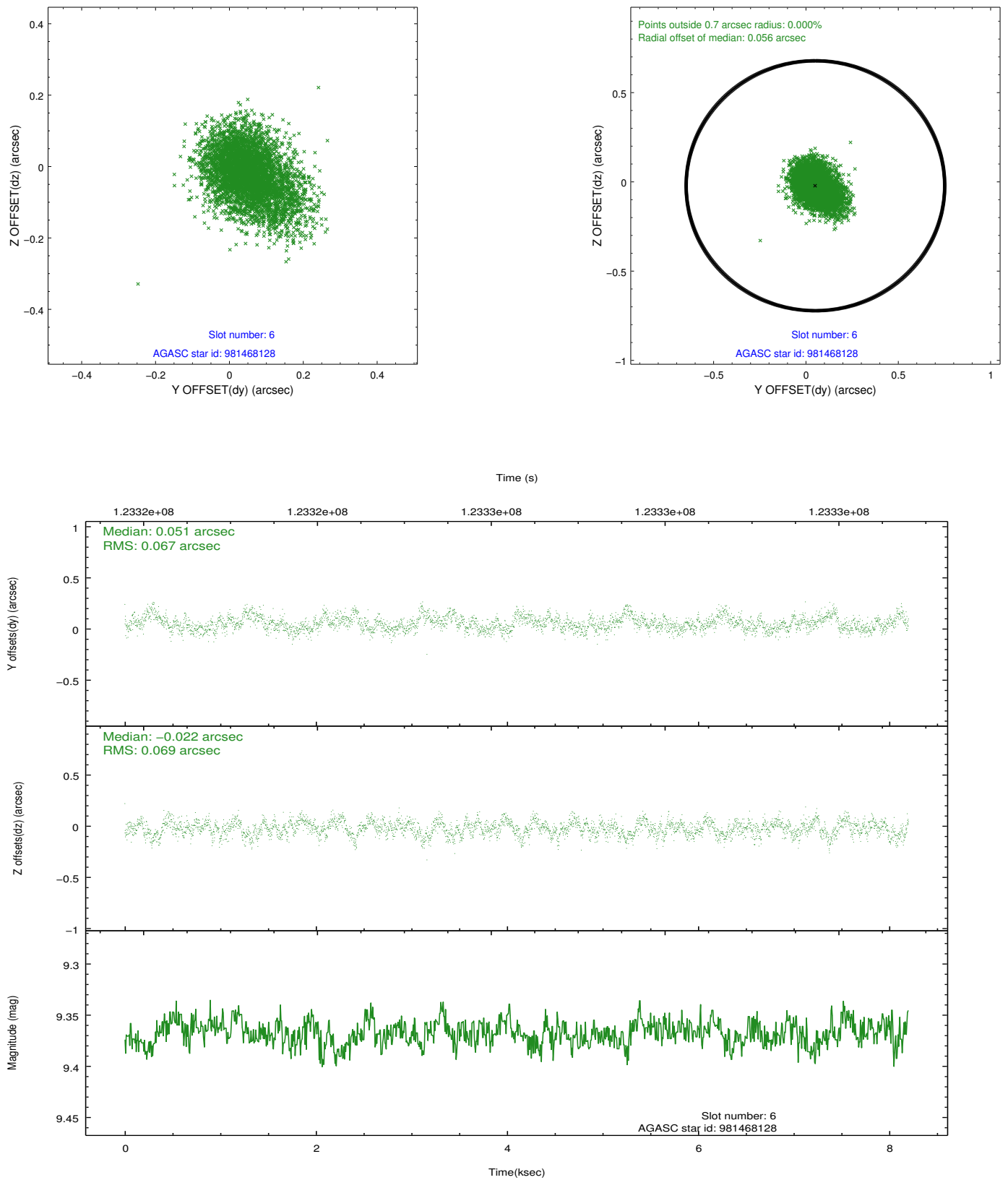
2.4.2 Slot 4



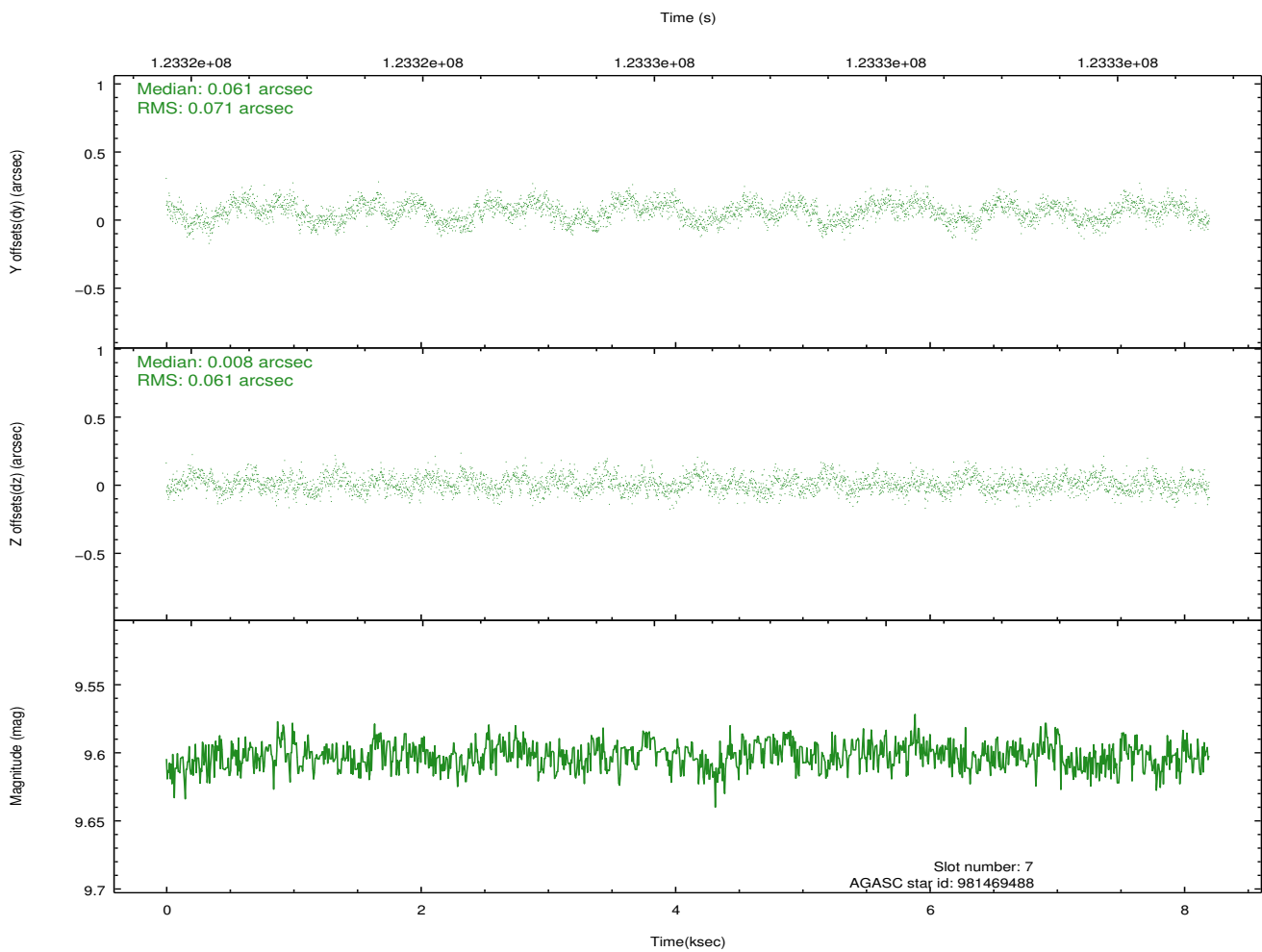
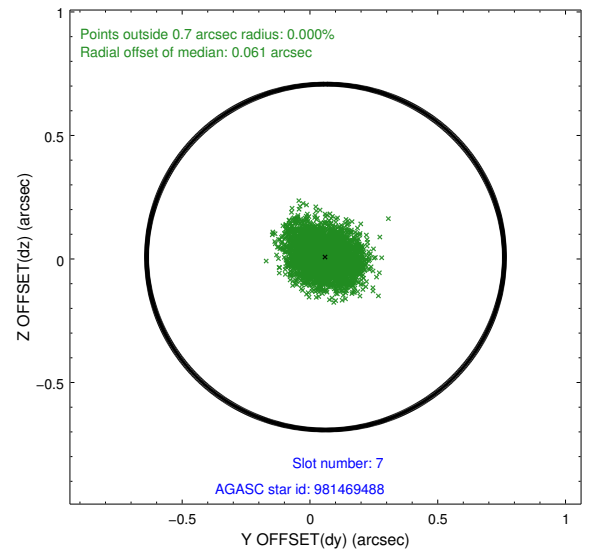
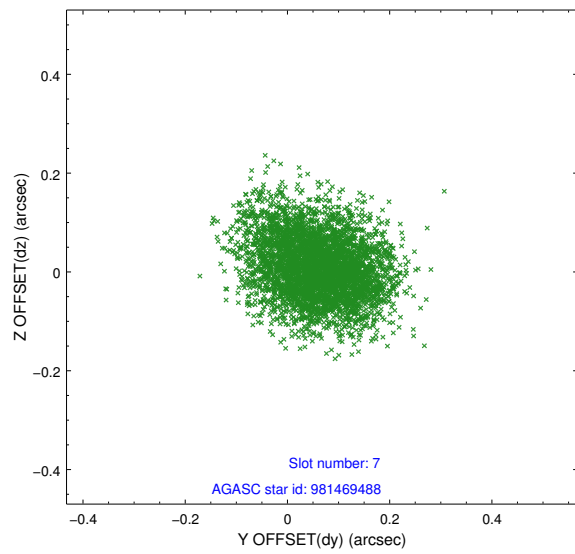
2.4.3 Slot 5



2.4.4 Slot 6

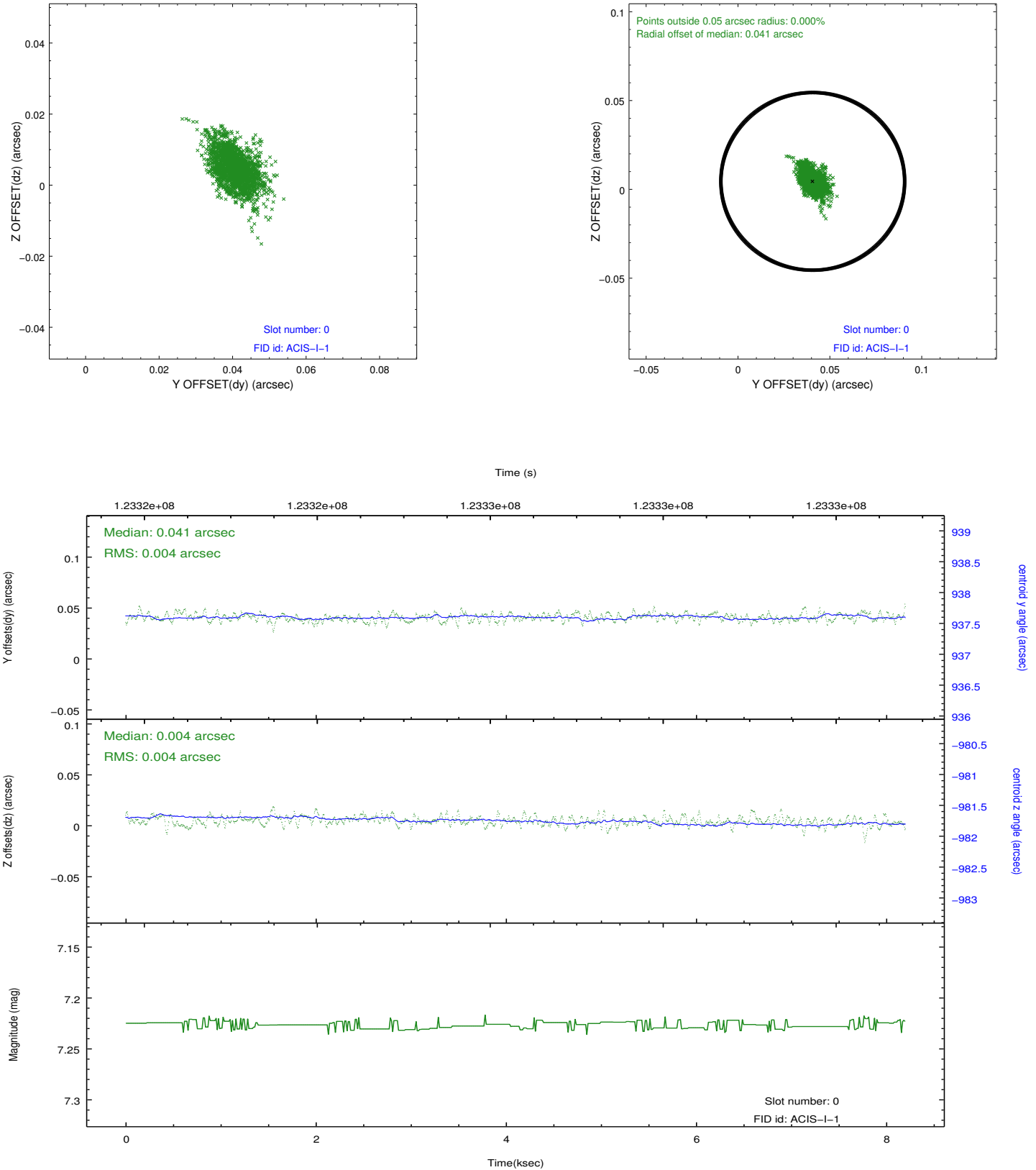


2.4.5 Slot 7

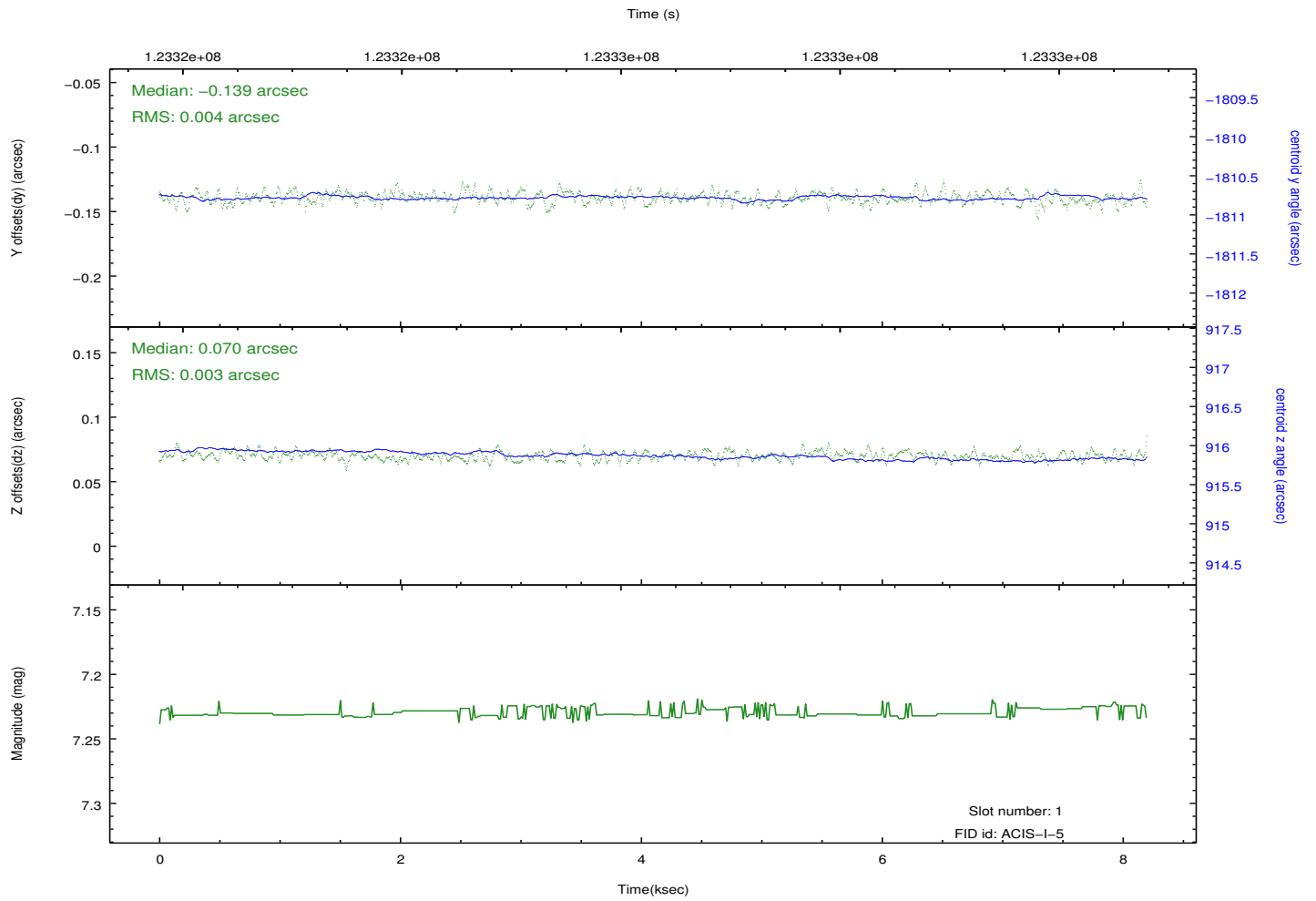
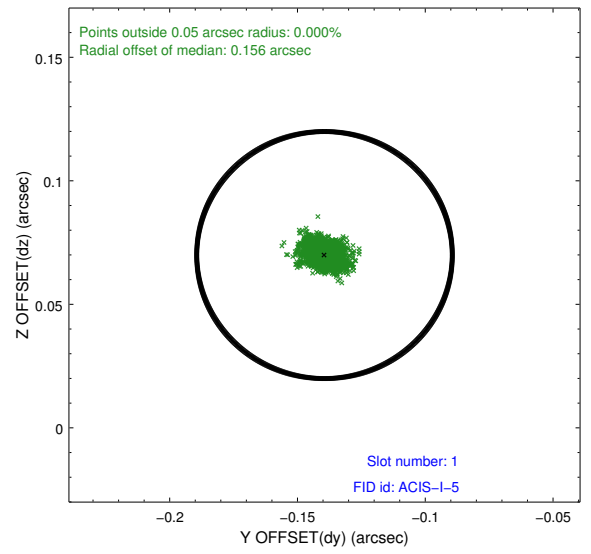
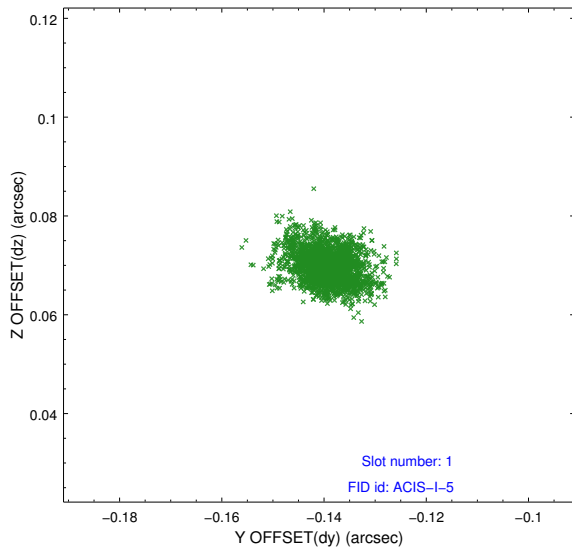


2.5 FID Slots

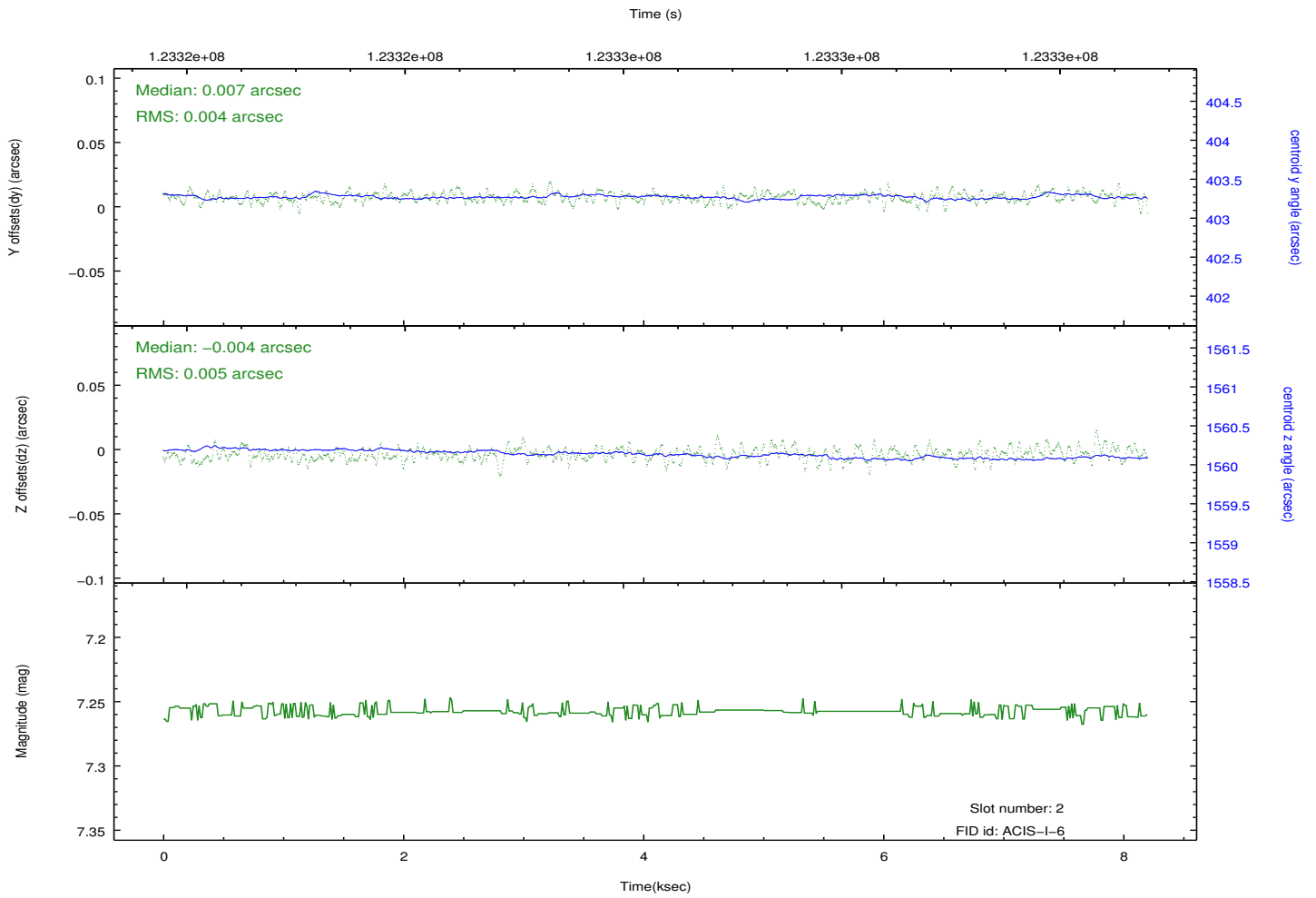
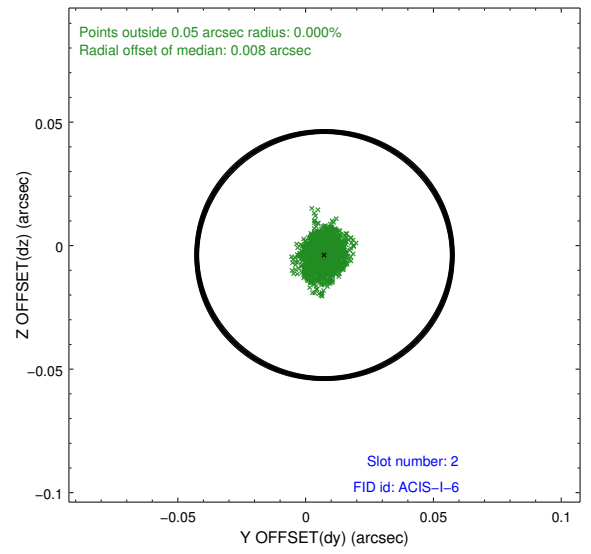
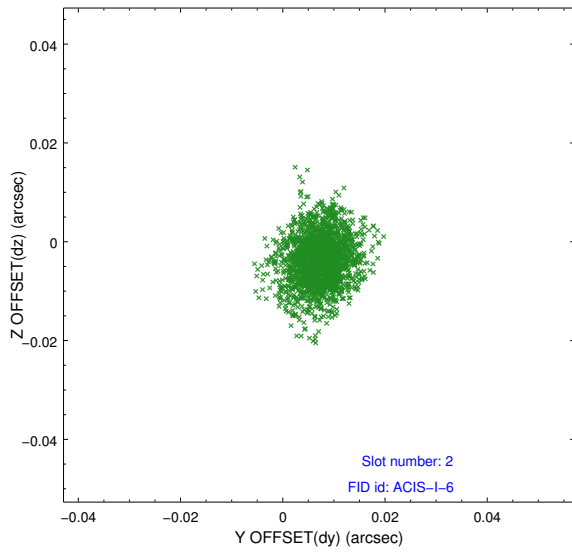
2.5.1 Slot 0



2.5.2 Slot 1

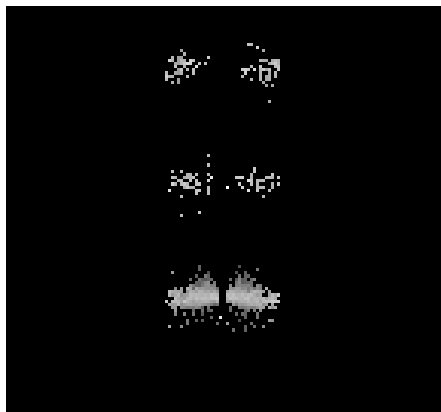


2.5.3 Slot 2

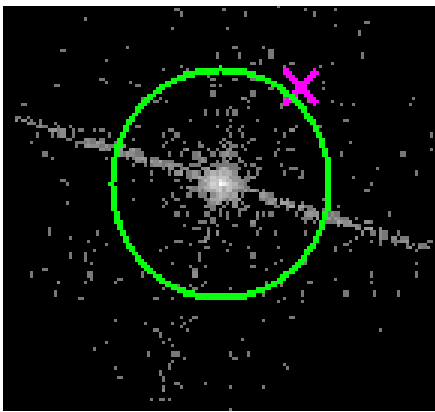


3 Gratings

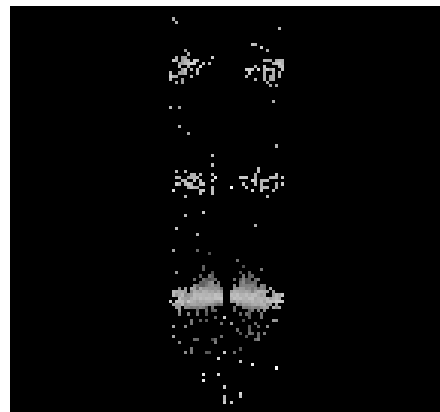
3.1 LETG Arm



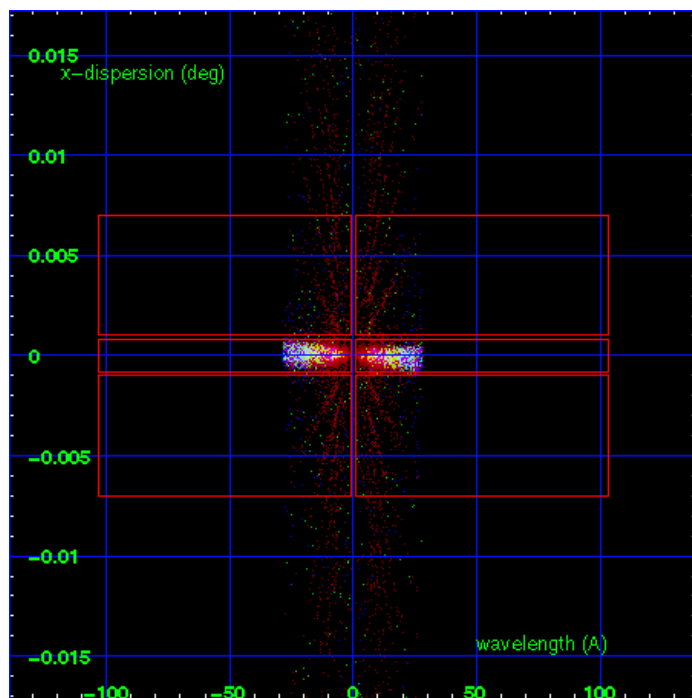
LETG Order Sort 123



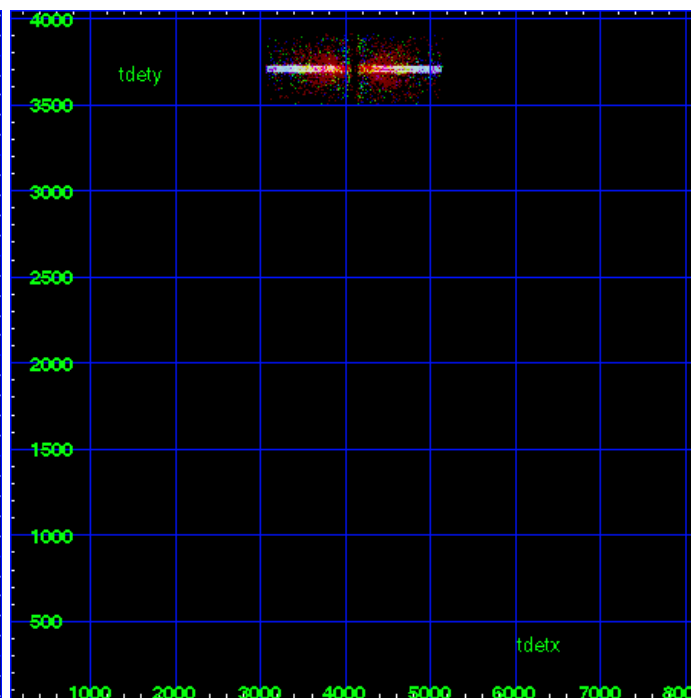
LETG Zero Order



LETG Order Sort ALL

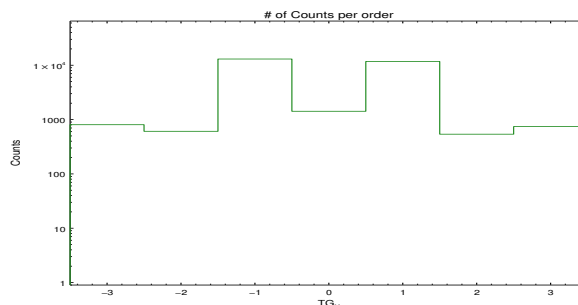


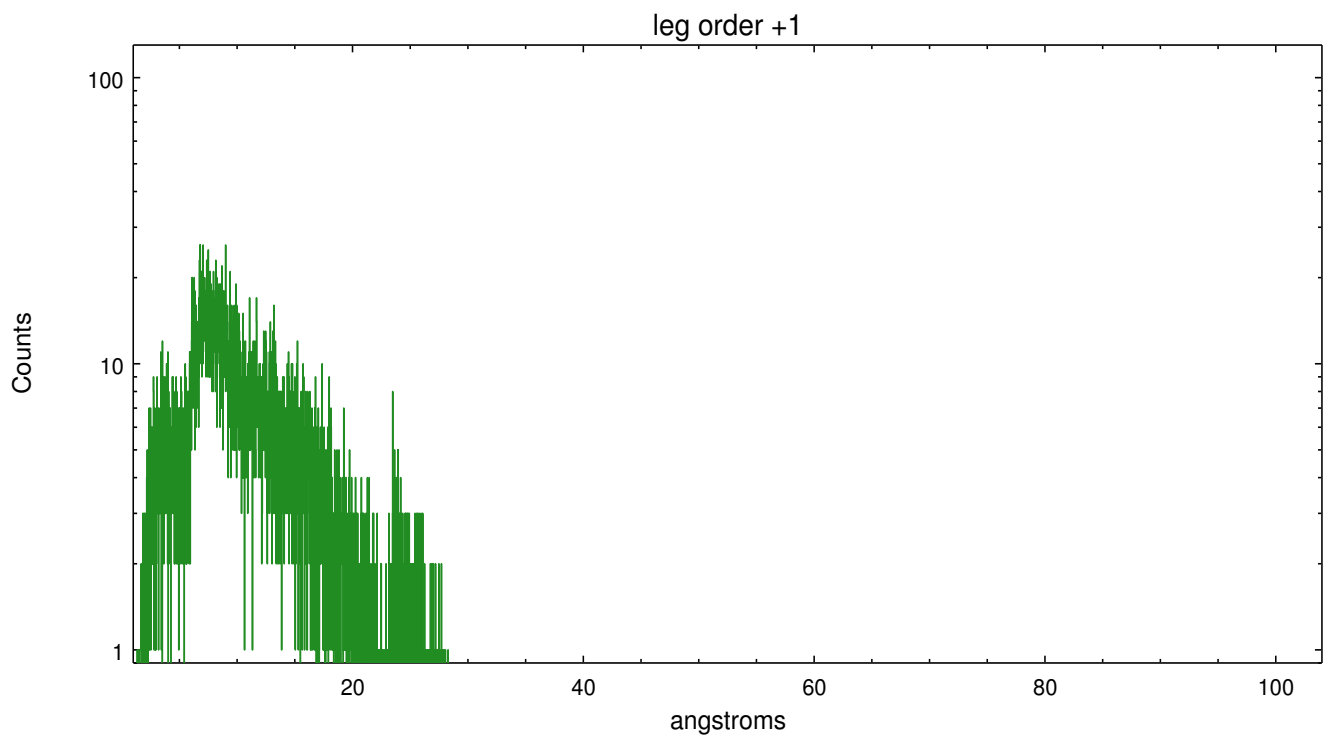
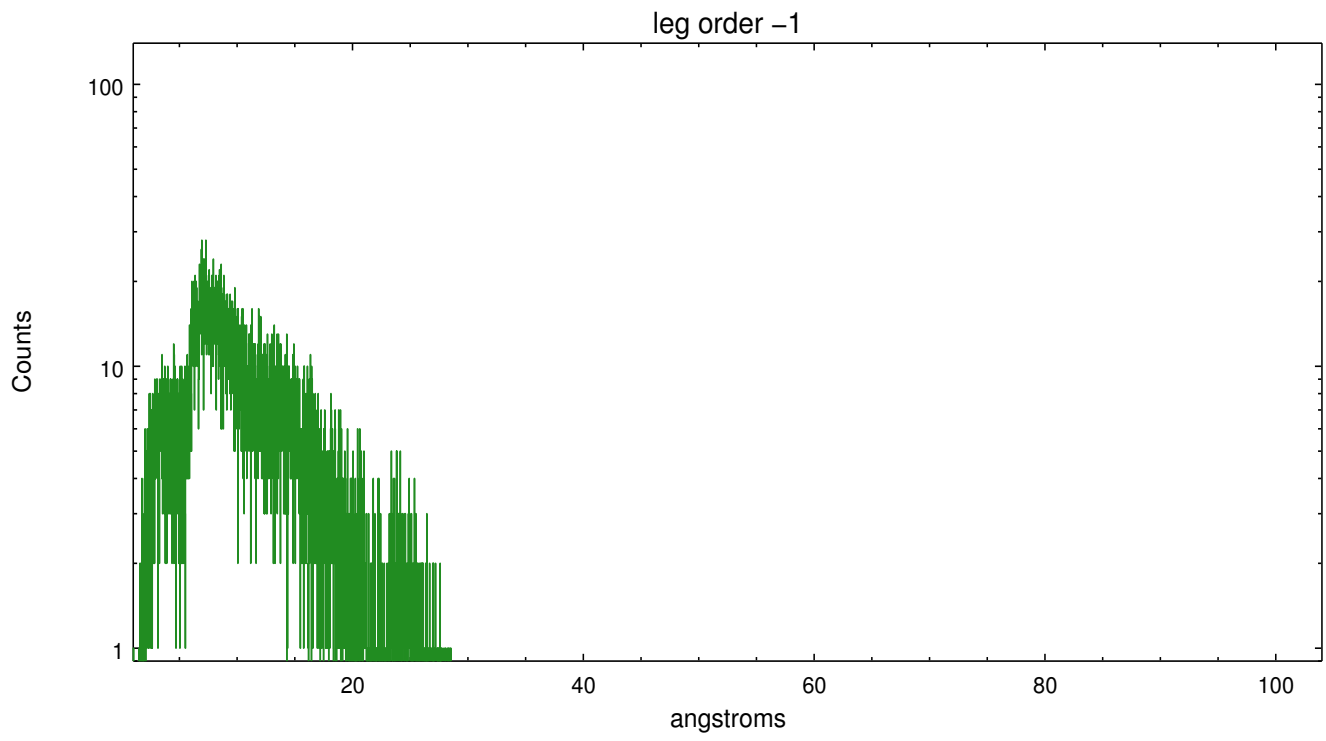
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	805	608	13023	1421	11726	538	743





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=4073.44`, `y=4070.88`) 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.

===

Zeroth order image of the source falls between two CCD chips during most of the observation, and only occasionally dithers onto the chip. This placement of the zeroth order has no affect on the dispersed spectrum.