

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 3415 - L2 Version 3
Chandra X-Ray Center

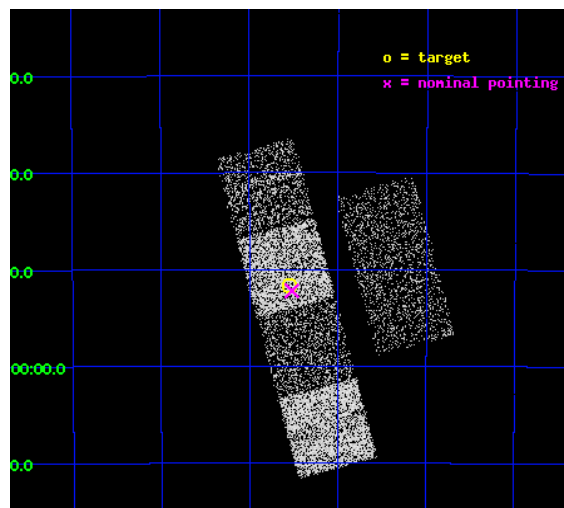
L2 Processing Date : Sep 29 2012

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1 Front

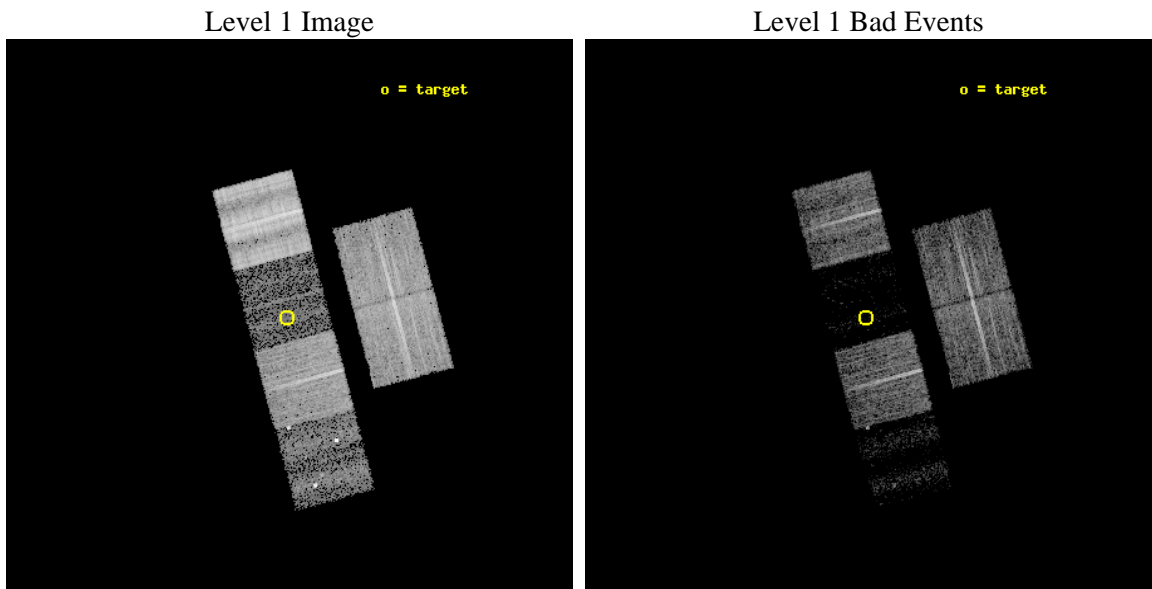
seq_num	100030	Sequence number
obs_id	3415	Observation id
title	ACIS-S LOW ENERGY SPECTROSCOPY AND PHOTOMETRIC IMAGING OF CHARGE EXCHANGE X-RAY EMISSION FROM COMET C/LINEAR WM1 (2000)	Proposal titl
observer	Dr. Carey Lisse	Principal investigator
object	C/LINEAR WM1 (2000)	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	333.38664	Observer's specified target RA [deg]
dec_targ	-51.86161	Observer's specified target Dec [deg]
ra_nom	333.38005863454	Nominal RA [deg]
dec_nom	-51.870438170267	Nominal Dec [deg]
roll_nom	255.20417540154	Nominal Roll [deg]
revision	3	Processing version of data
ontime	8505.5590476394	Sum of GTIs [s]
livetime	8397.8565375454	Livetime [s]
ontime2	8508.8000079095	Sum of GTIs [s]
ontime3	8508.8000079095	Sum of GTIs [s]
ontime5	8505.5590476543	Sum of GTIs [s]
ontime6	8505.5590476543	Sum of GTIs [s]
ontime7	8505.5590476394	Sum of GTIs [s]
ontime8	8502.3182070851	Sum of GTIs [s]
l2events	15865	Number of level 2 events



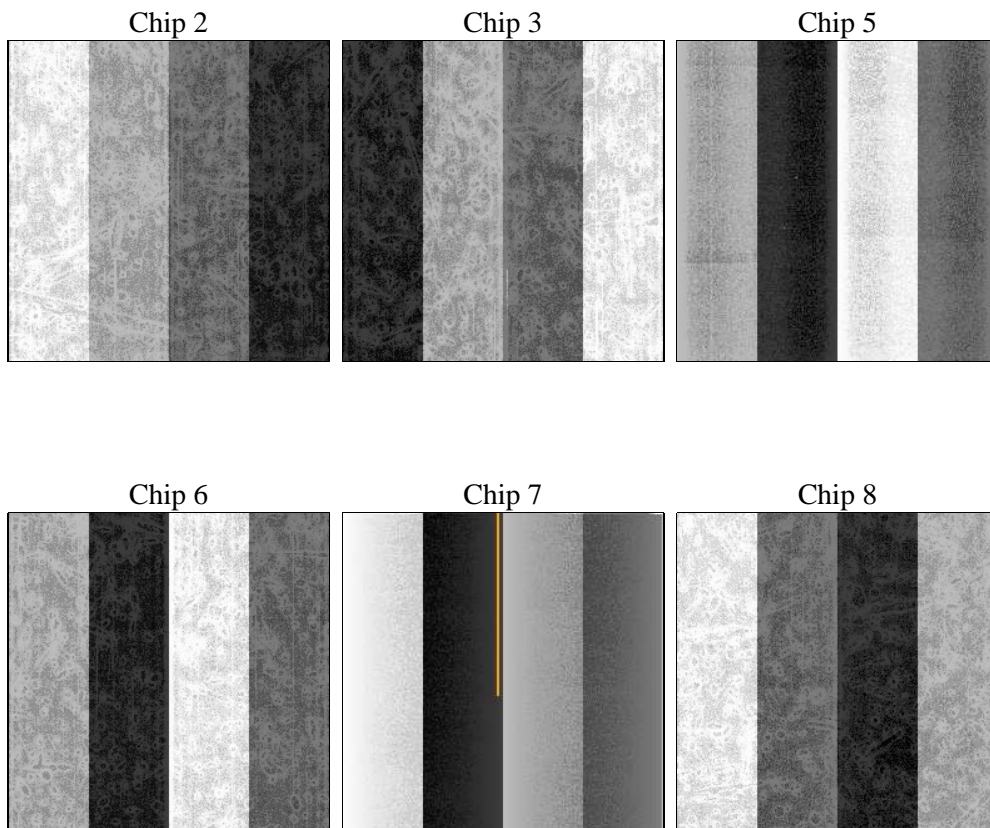
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	8750.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	8505.5590476394	Sum of GTIs [s]
caldsver	4.5.2	 	ontime2	8508.8000079095	Sum of GTIs [s]
date	2012-09-29T15:42:30	Date and time of file creation	ontime3	8508.8000079095	Sum of GTIs [s]
revision	3	Processing version of data	ontime5	8505.5590476543	Sum of GTIs [s]
			ontime6	8505.5590476543	Sum of GTIs [s]
			ontime7	8505.5590476394	Sum of GTIs [s]
			ontime8	8502.3182070851	Sum of GTIs [s]
			l1events	231692	Number of level 1 events

2.1.4 Events

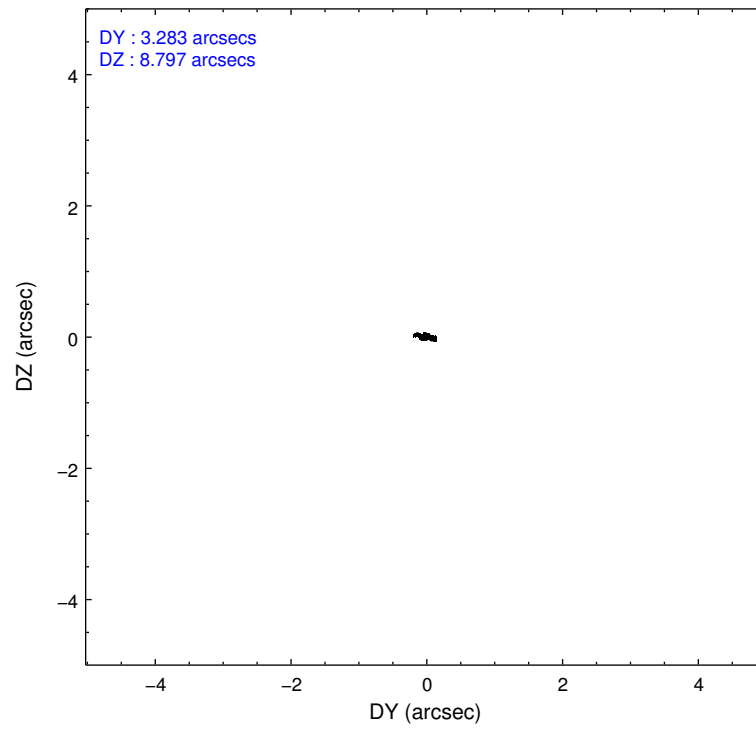
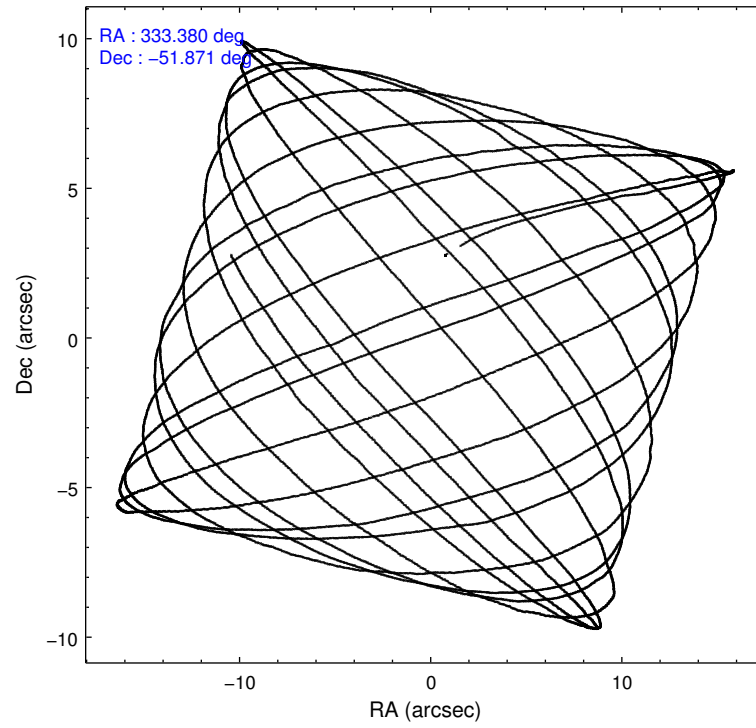
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	43541	38825	13736	40029	7106	88455
rejected events	40577	37536	4123	37295	1415	41971
rejected %	93%	96%	30%	93%	19%	47%

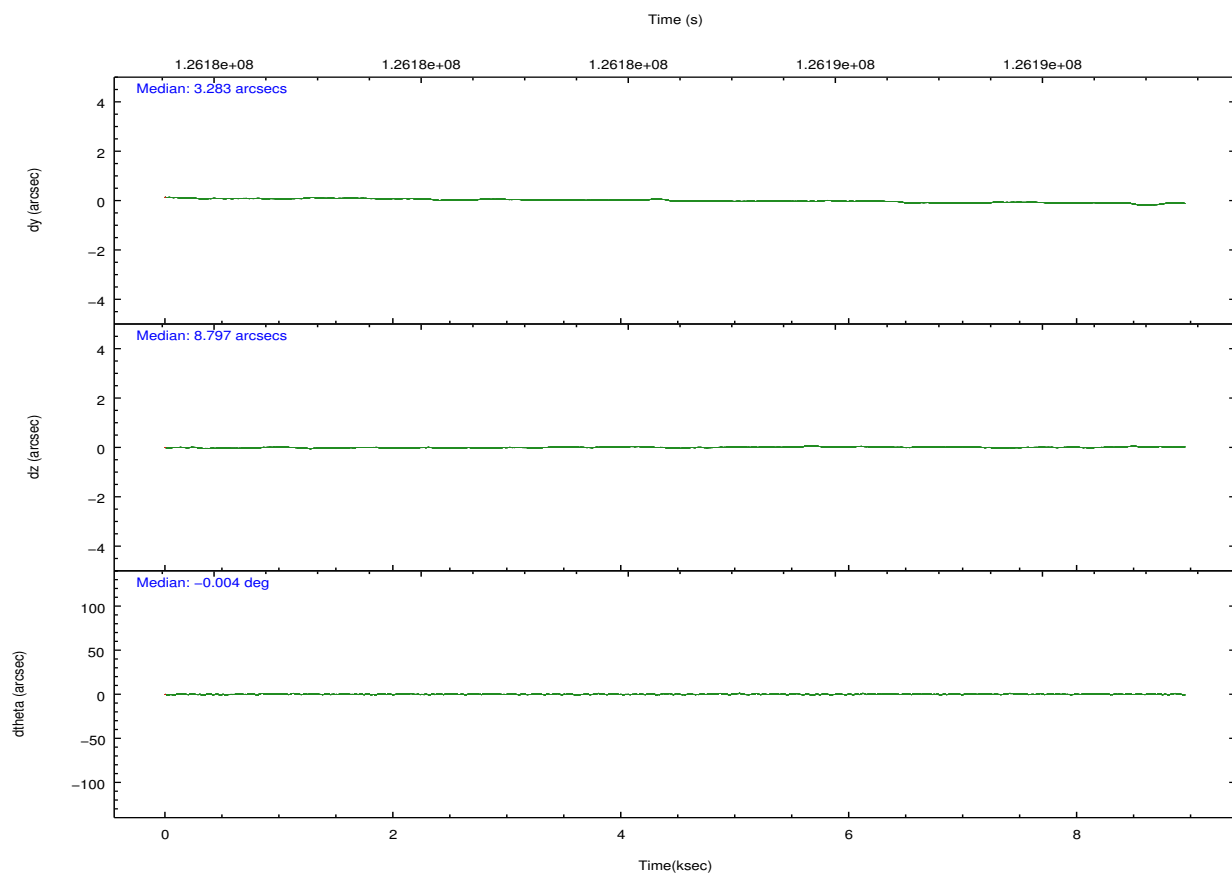
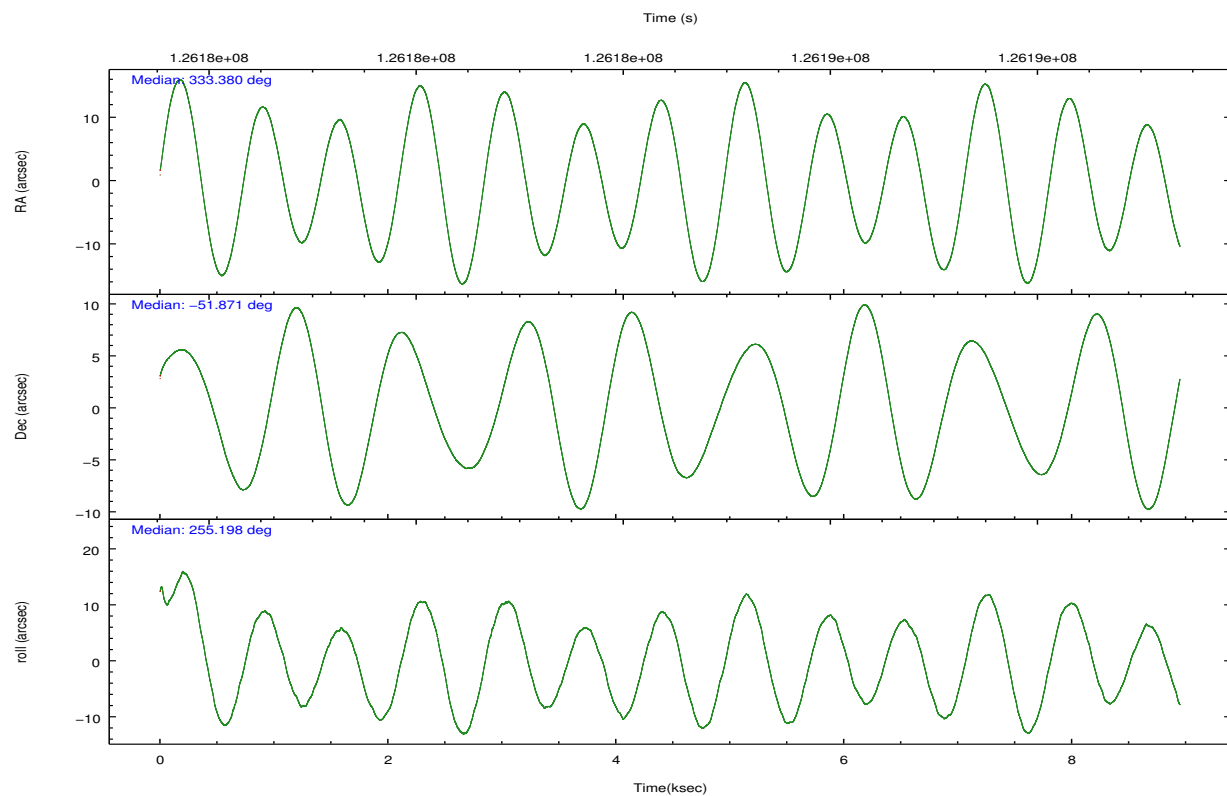
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	1480	623	4173	1525	1507	14550
	3%	1%	30%	3%	21%	16%
grade 1 events	13	7	224	14	23	145
	0%	0%	1%	0%	0%	0%
grade 2 events	799	241	2826	665	2004	5868
	1%	0%	20%	1%	28%	6%
grade 3 events	212	187	915	231	801	8616
	0%	0%	6%	0%	11%	9%
grade 4 events	295	158	869	209	760	7680
	0%	0%	6%	0%	10%	8%
grade 5 events	65	43	661	35	241	654
	0%	0%	4%	0%	3%	0%
grade 6 events	180	80	832	109	621	9836
	0%	0%	6%	0%	8%	11%
grade 7 events	40497	37486	3236	37241	1149	41106
	93%	96%	23%	93%	16%	46%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	Obspar file type	PREDICTED	ACTUAL
Grating	LETG	LETG	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	333.367913	333.3800586345398	Subarray requested	NONE	NONE
[deg] Pointing Dec	-51.844203	-51.87043817026747	Alternating exposures requested	N	N
[deg] Pointing Roll	255.037989	255.2041754015431	[s] Primary exposure time	0.000000	3.2
[s] Window start time (MET)	126144064.184000	126144064.184000			
[s] Window stop time (MET)	126230404.184000	126230404.184000			
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
[s] Observation start time (MET)	126180177.184000	126179800.50981			
Observation start date	2001-12-31T10:01:53	2001-12-31T09:56:40			
[s] Observation end time (MET)	126188927.184000	126189060.87268			
Observation end date	2001-12-31T12:27:43	2001-12-31T12:31:00			
Read mode	TIMED	TIMED			

2.3 Aspect



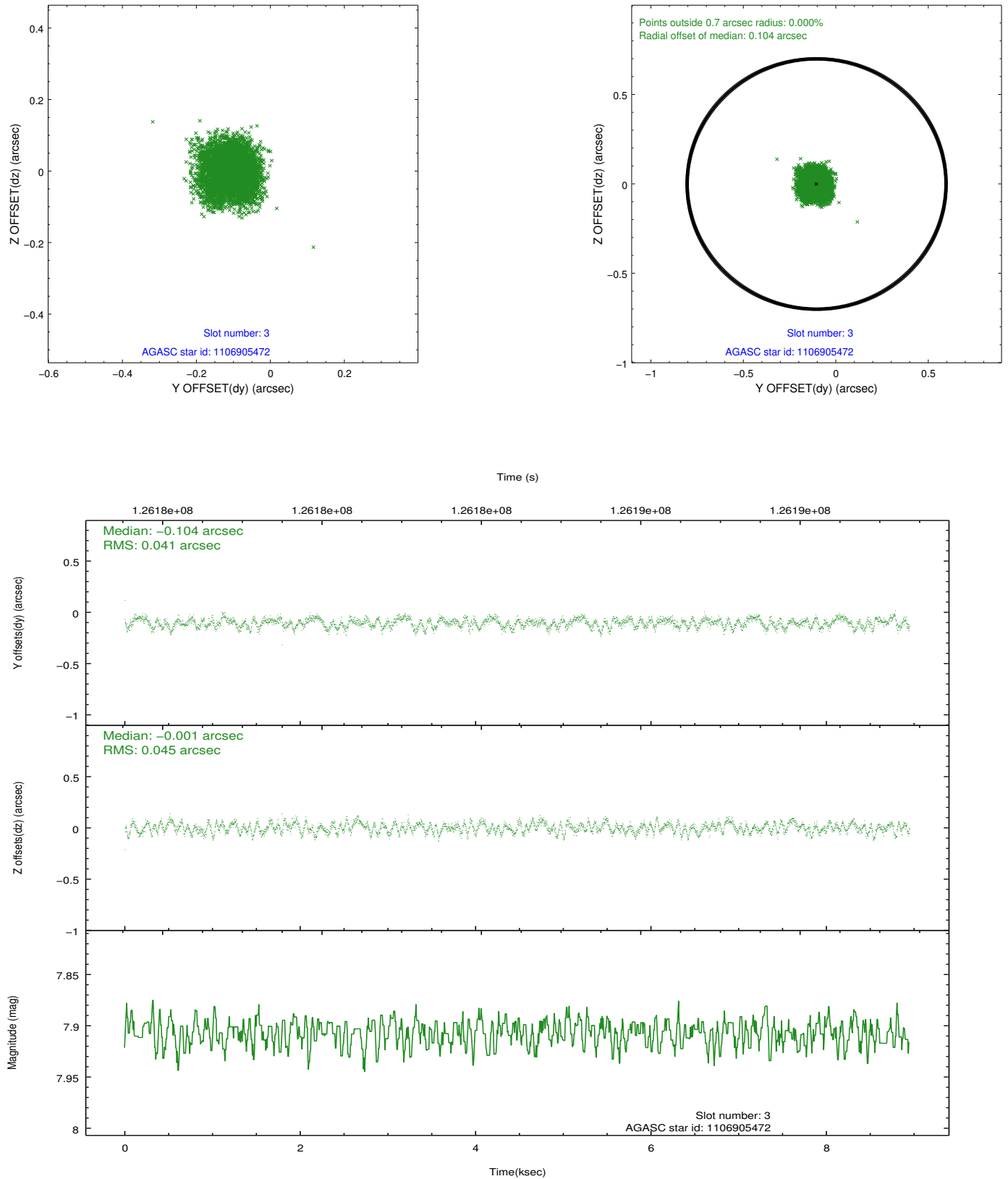


Slot Statistics

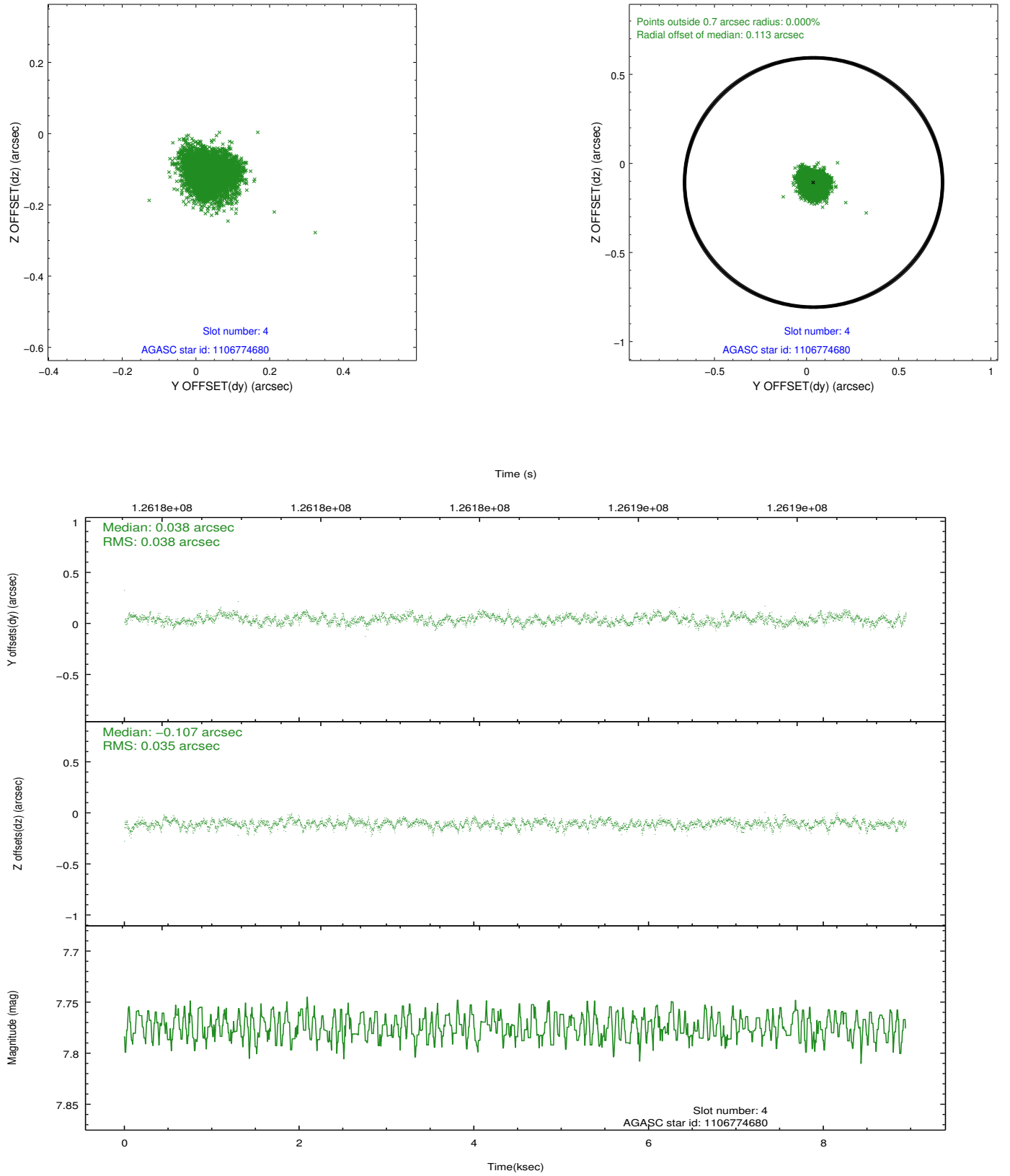
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	2182	-0.014	-0.009	0.007	0.011	0.000000	0.000000	-755.93	-1730.02
1	FID	ACIS-S-4	7.20	2182	-0.026	0.009	0.007	0.013	0.000000	0.000000	2157.05	177.86
2	FID	ACIS-S-5	7.24	2183	0.008	0.009	0.007	0.012	0.000000	0.000000	-1807.98	172.21
3	GUIDE	1106905472	7.91	4359	-0.104	-0.001	0.065	0.103	333.959376	-52.158506	760.49	1554.48
4	GUIDE	1106774680	7.78	4364	0.038	-0.107	0.054	0.087	332.589342	-51.960089	858.09	-1558.74
5	GUIDE	1106775976	8.78	4364	-0.121	-0.015	0.074	0.118	332.311048	-51.807893	497.63	-2303.37
6	GUIDE	1106907400	9.06	4363	-0.012	-0.070	0.082	0.129	334.001770	-51.303937	-2241.62	875.86
7	GUIDE	1156324896	9.30	4361	0.201	0.196	0.082	0.134	334.141564	-52.628198	2298.20	2363.98

2.4 Star Slots

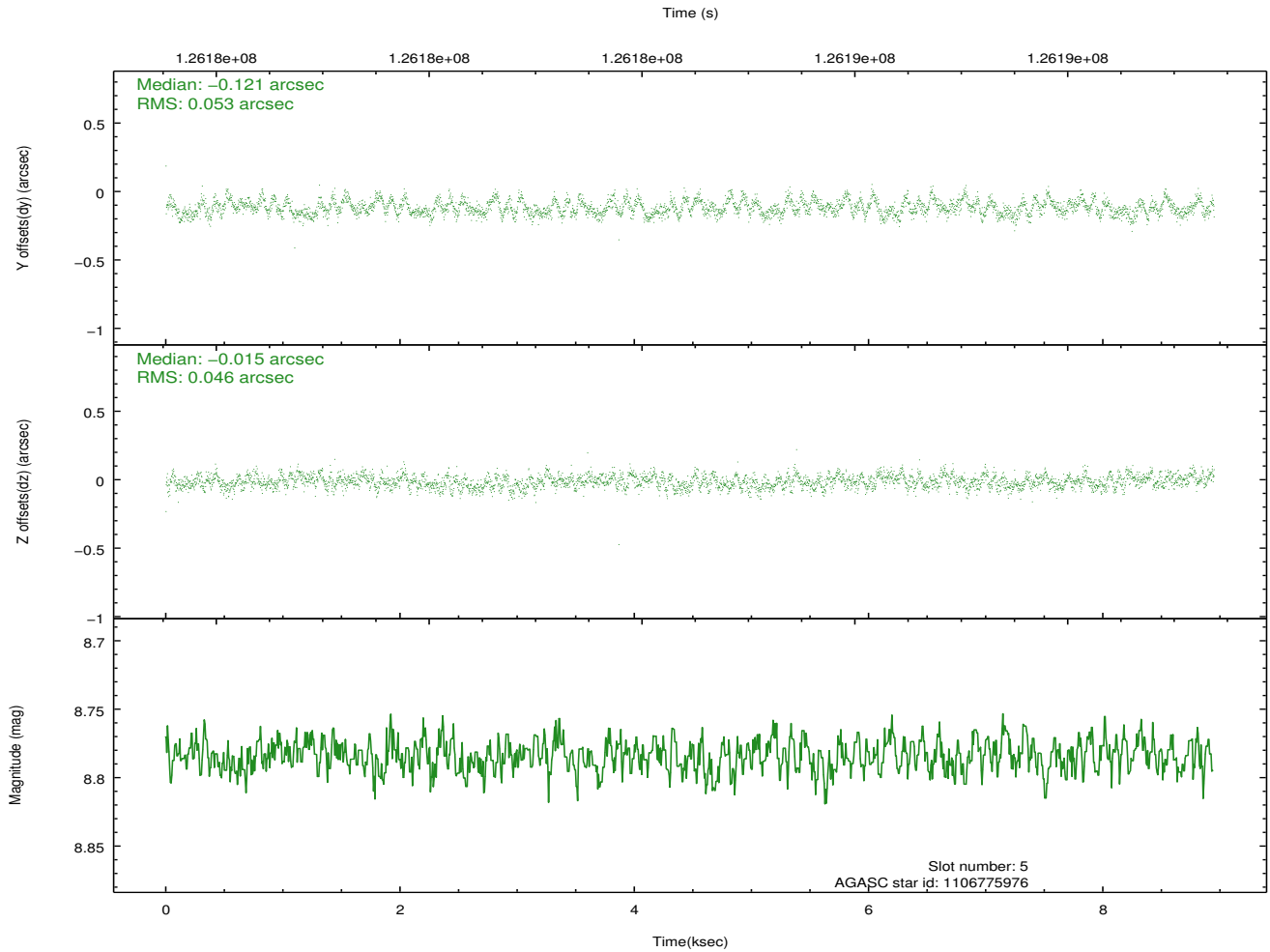
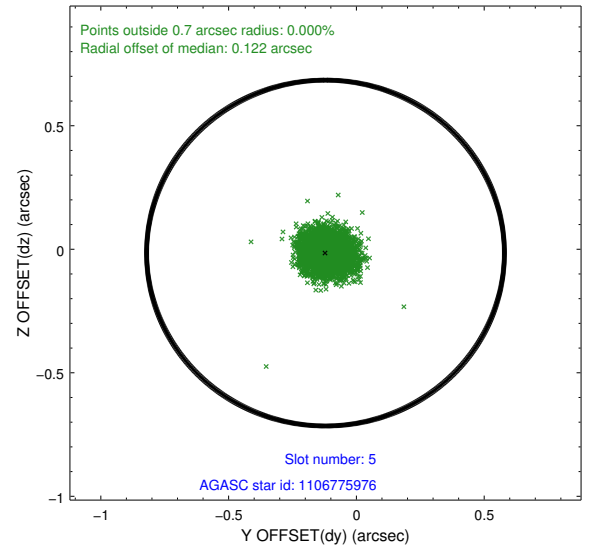
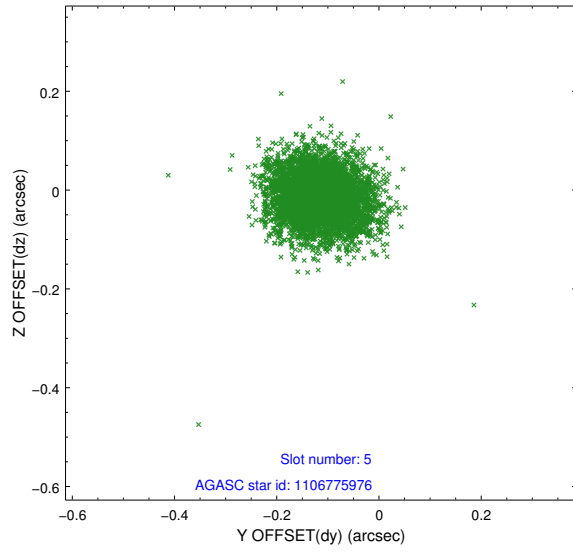
2.4.1 Slot 3



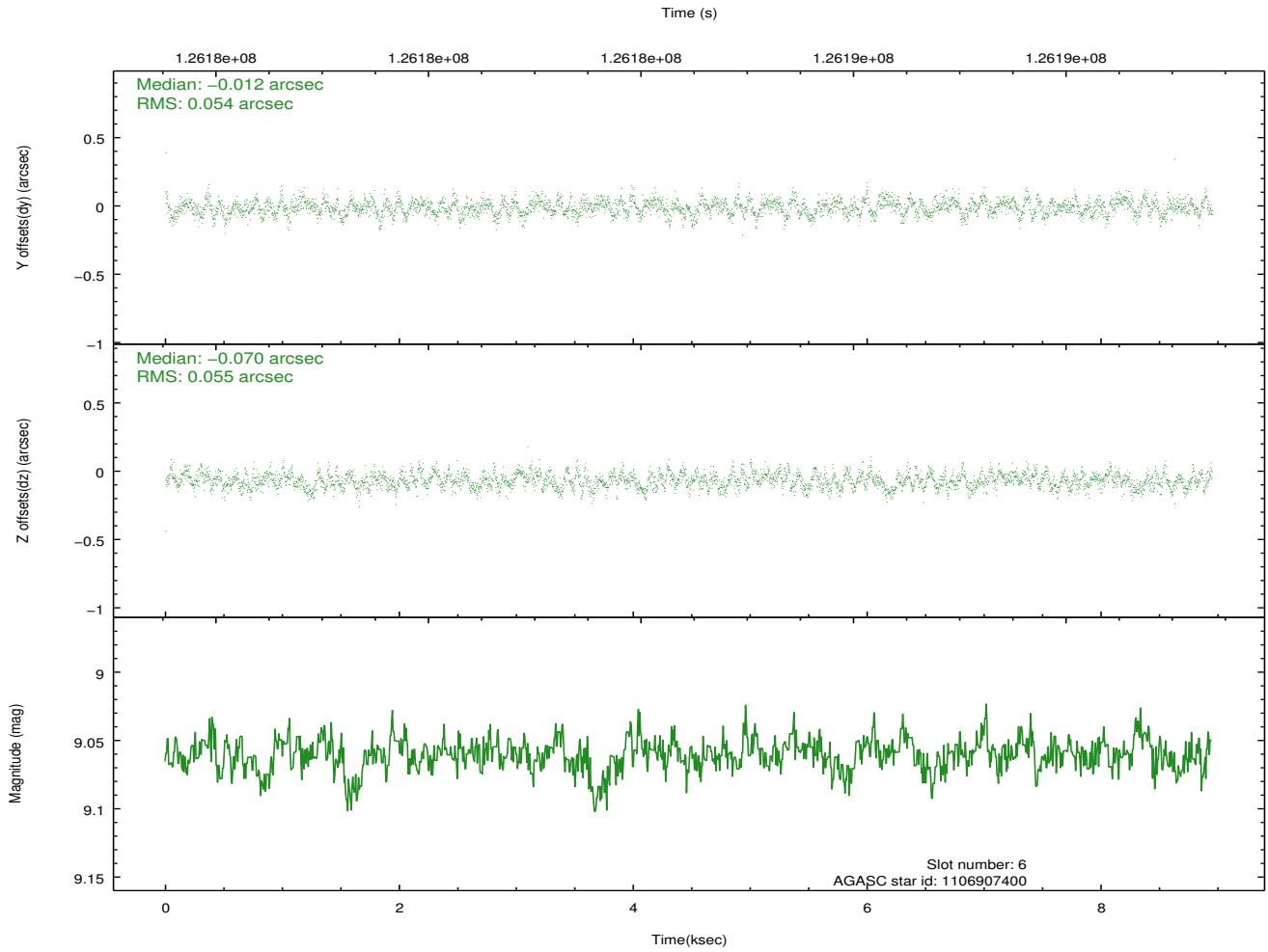
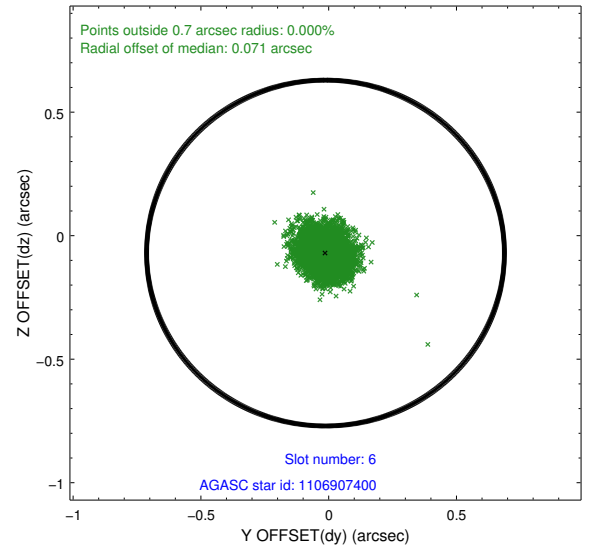
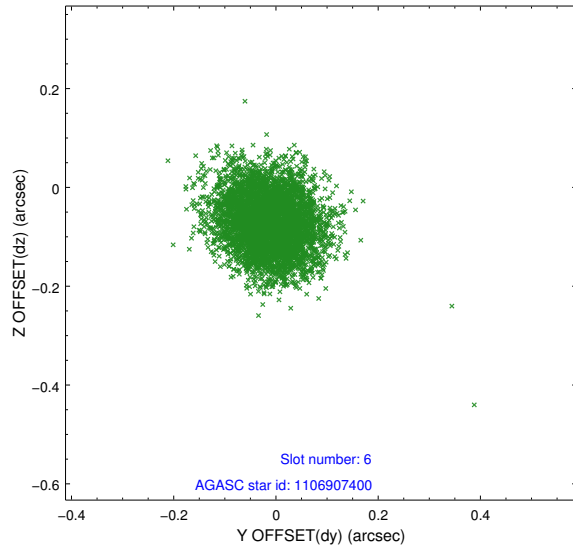
2.4.2 Slot 4



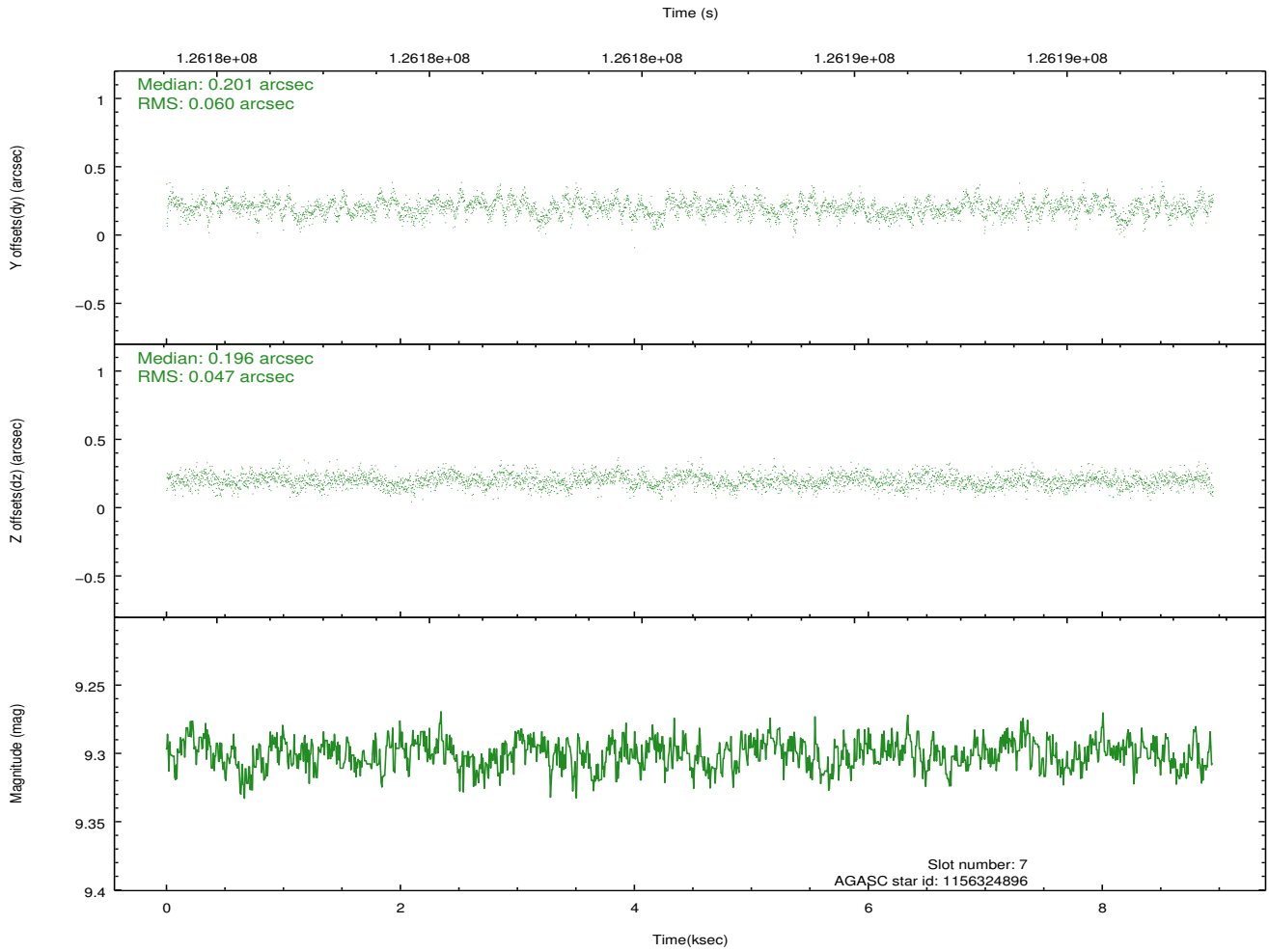
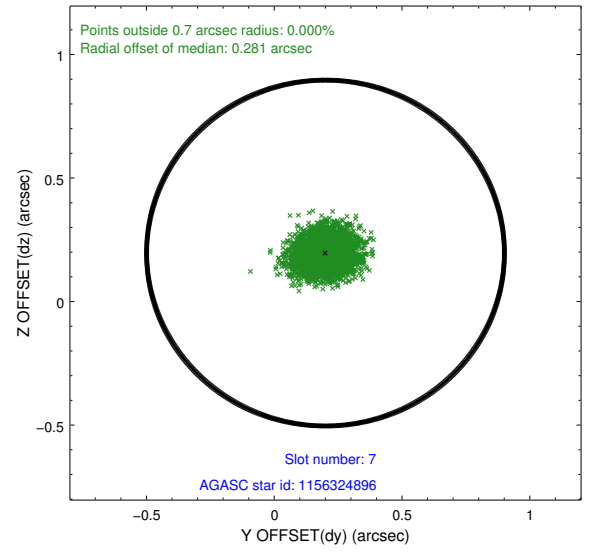
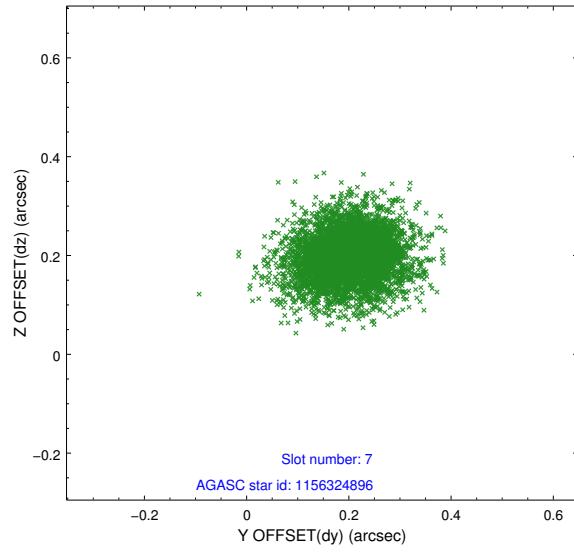
2.4.3 Slot 5



2.4.4 Slot 6

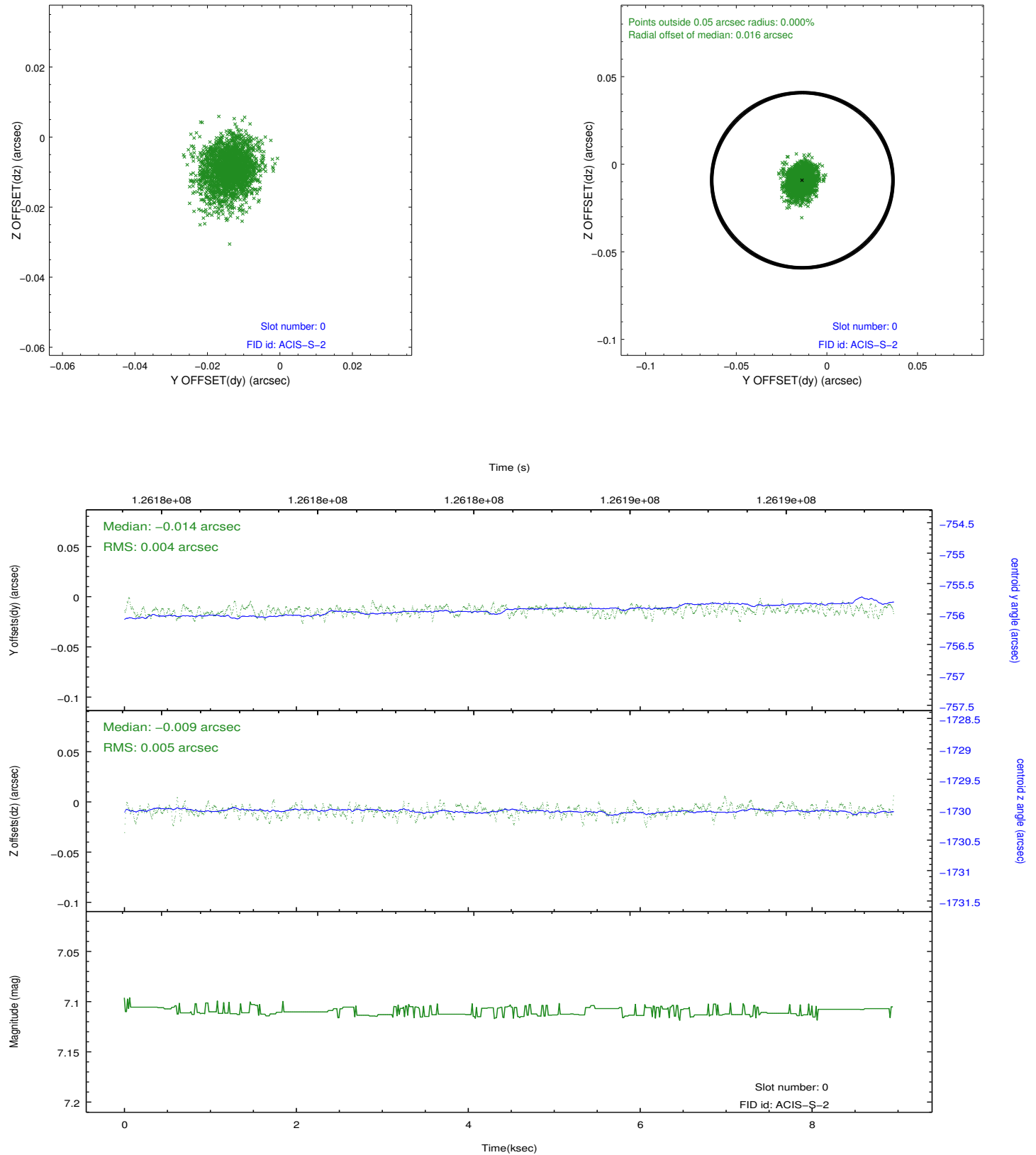


2.4.5 Slot 7

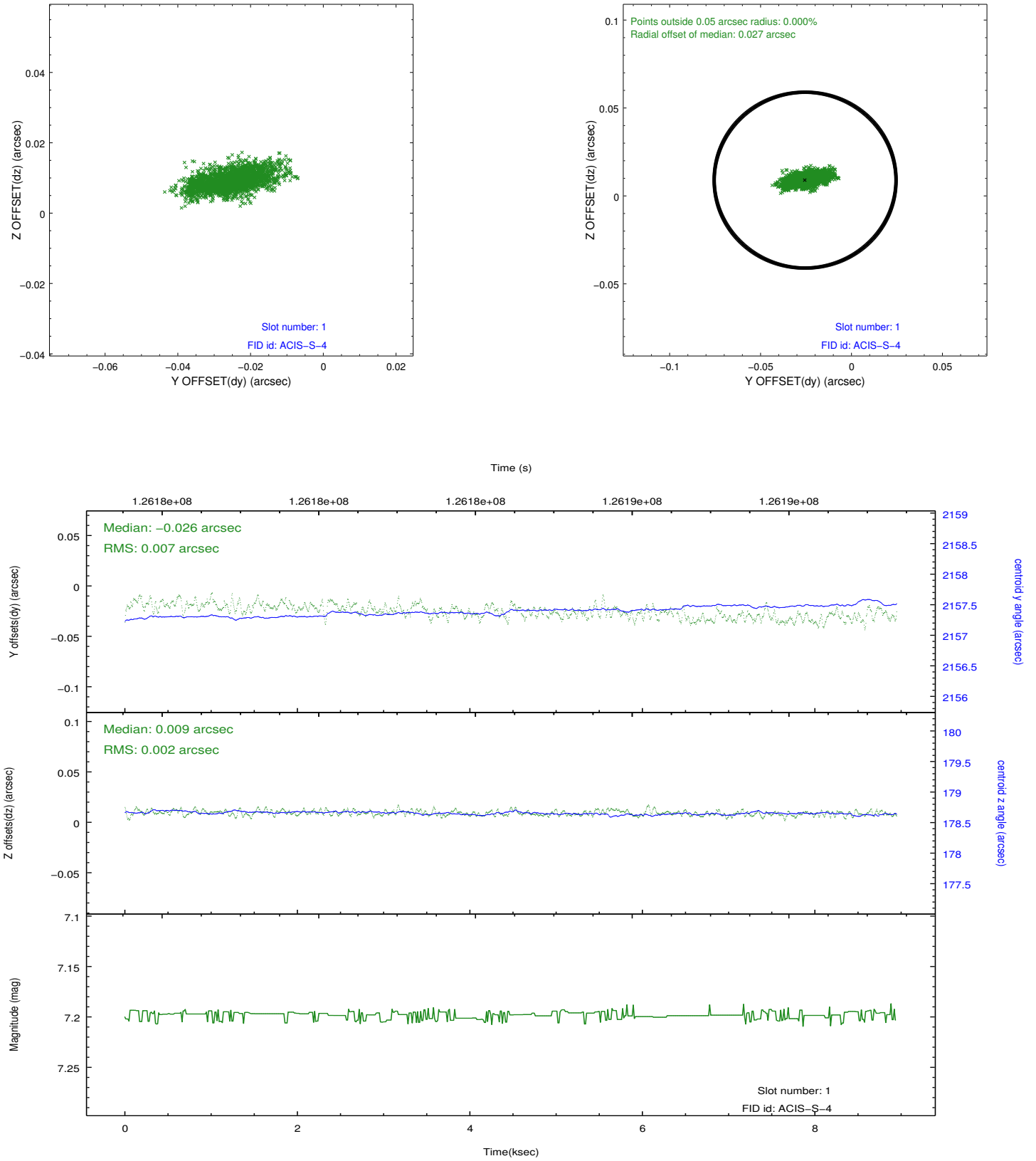


2.5 FID Slots

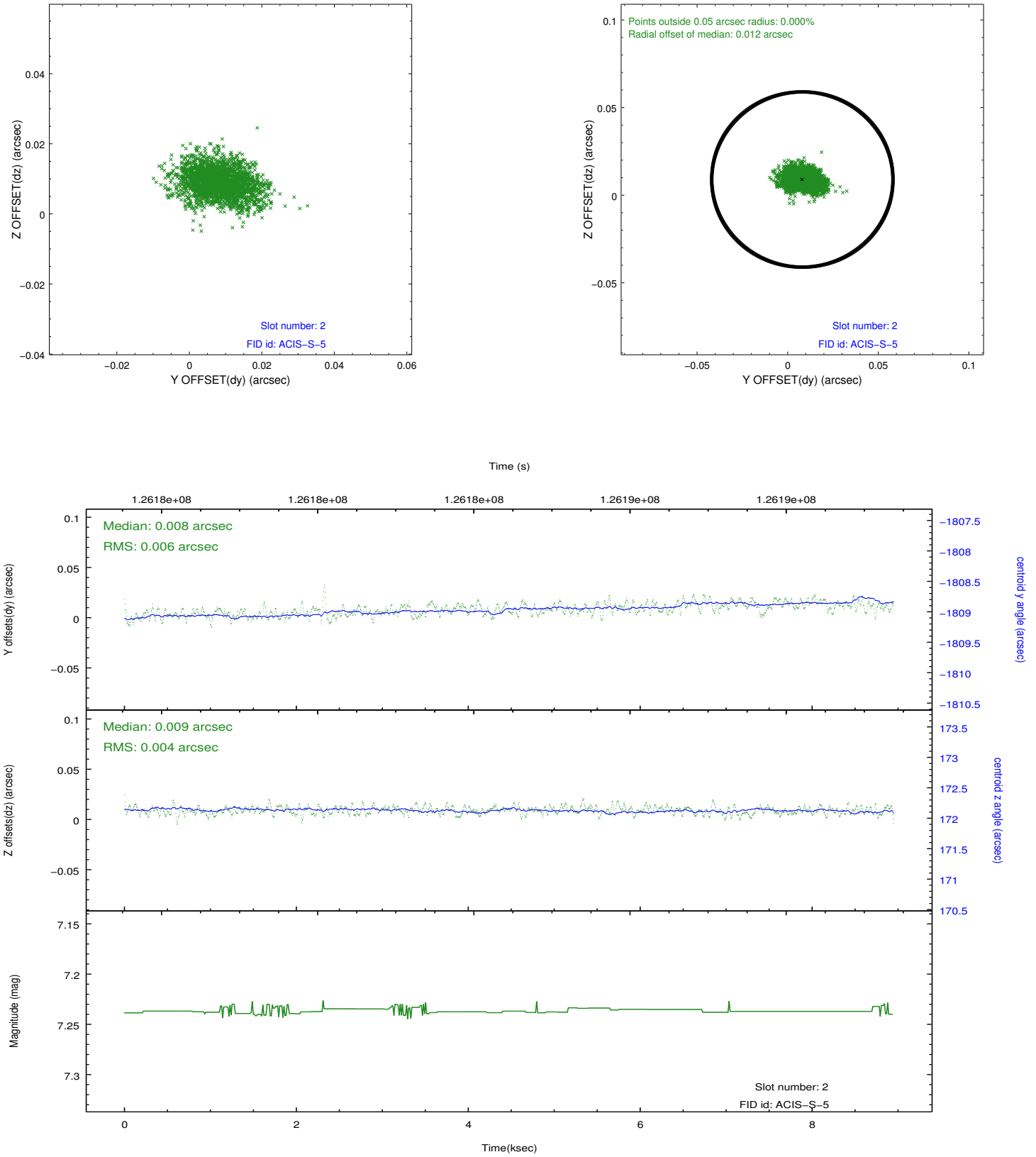
2.5.1 Slot 0



2.5.2 Slot 1

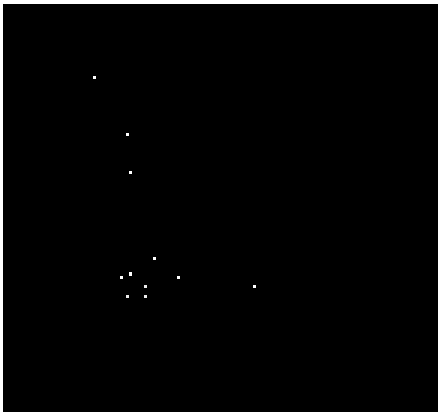


2.5.3 Slot 2

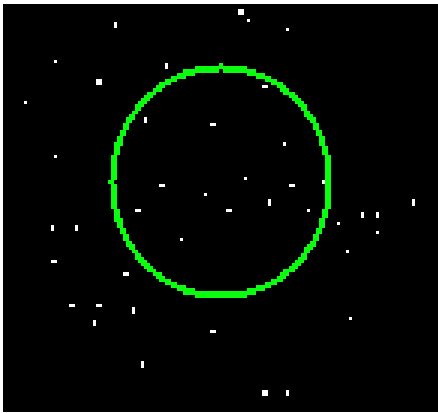


3 Gratings

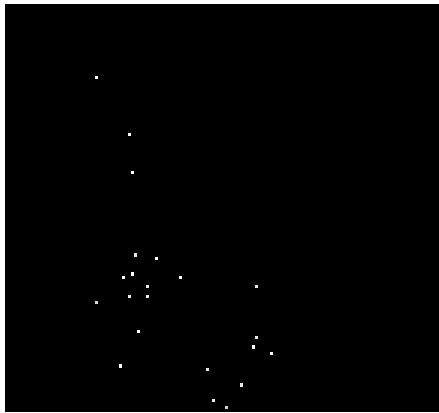
3.1 LETG Arm



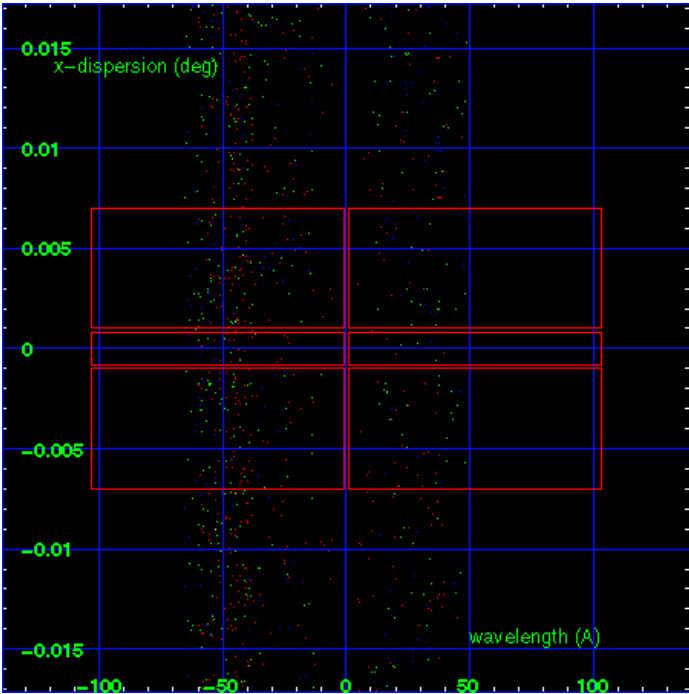
LETG Order Sort 123



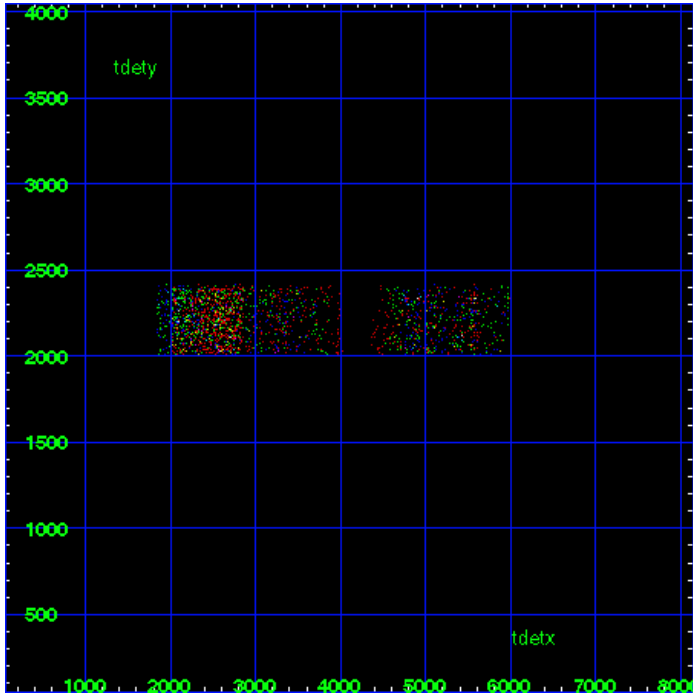
LETG Zero Order



LETG Order Sort ALL

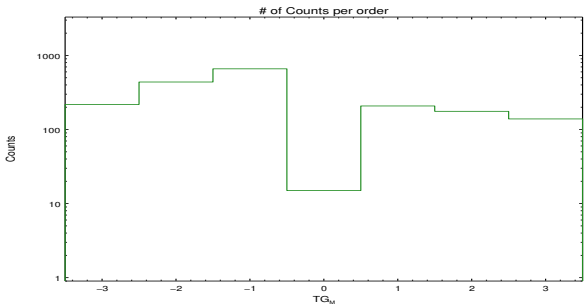


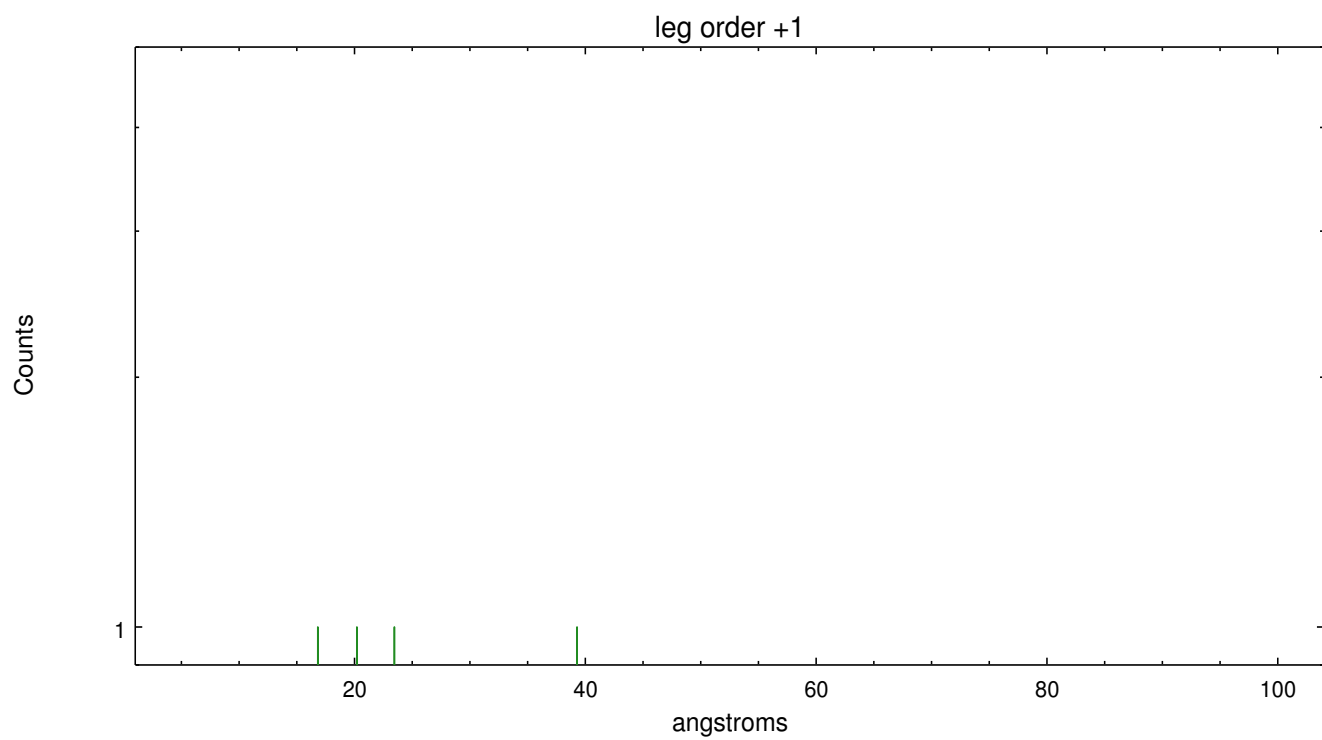
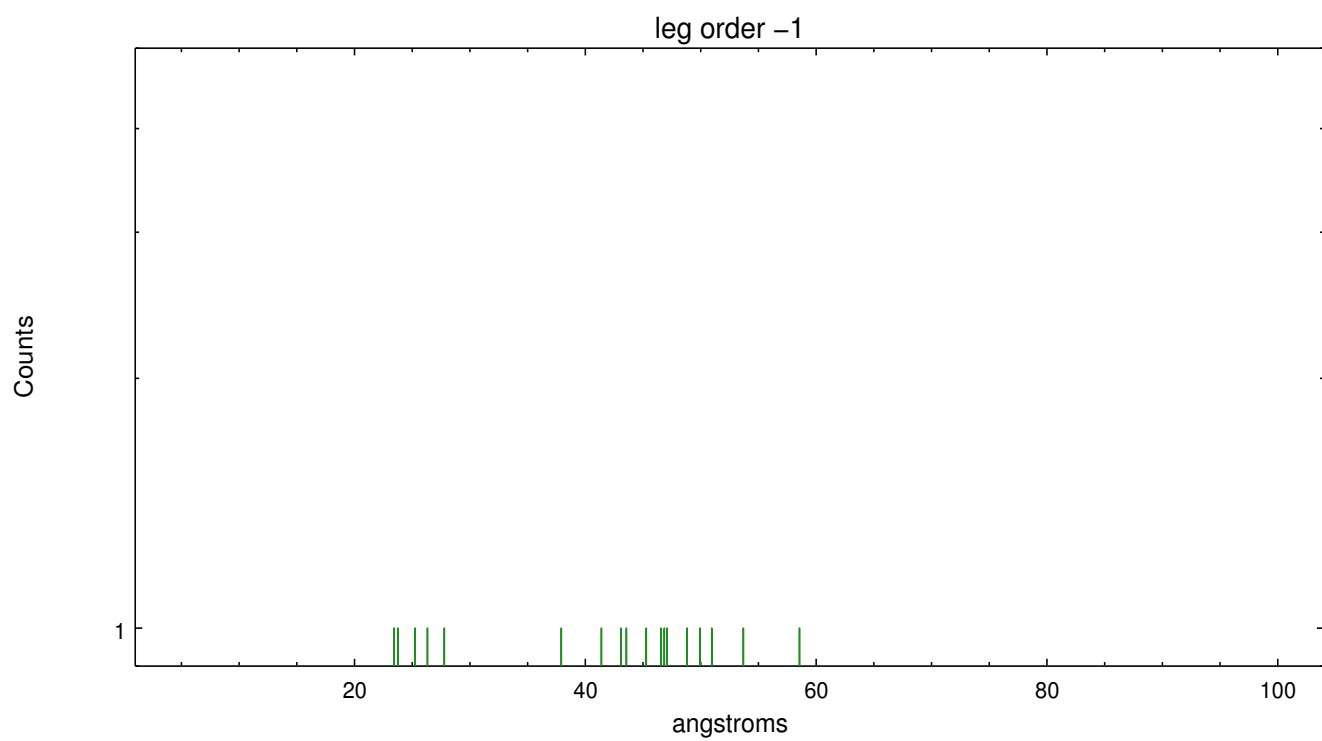
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	218	438	660	15	208	176	139





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.10.05
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	8.508

A.2 Comments

This is an observation of a moving target. Event positions are in the reference from of Chandra, not of the comet. Users should run a software tool such as `sso_freeze` to reposition the events in the reference from of the comet, then run normal data analysis tools such as `tgdetect` and spectral extraction. Streak on chip 8 is not fully removed with pipeline processing. Additional analysis procedures by the user may improve the uniformity of chip 8.

===

Energy filter allowed only events with energies 0.1 to 2.0 keV to be recorded.

===

Standard software processing technique using the tool `tgdetect` failed to determine an accurate position for the zeroth order for this observation. The target is moving through the field of view during the observation. The processing software defaulted to the coordinates supplied by the user for the position of the zeroth order for the grating spectral extraction. Spectra products from this processing, which does not include `sso_freeze`, are not useful.

===

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.