

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 2323 - L2 Version 3
Chandra X-Ray Center

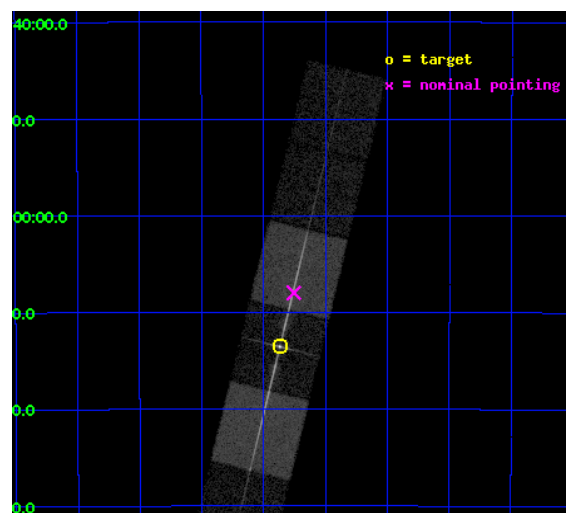
L2 Processing Date : Sep 4 2012

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1 Front

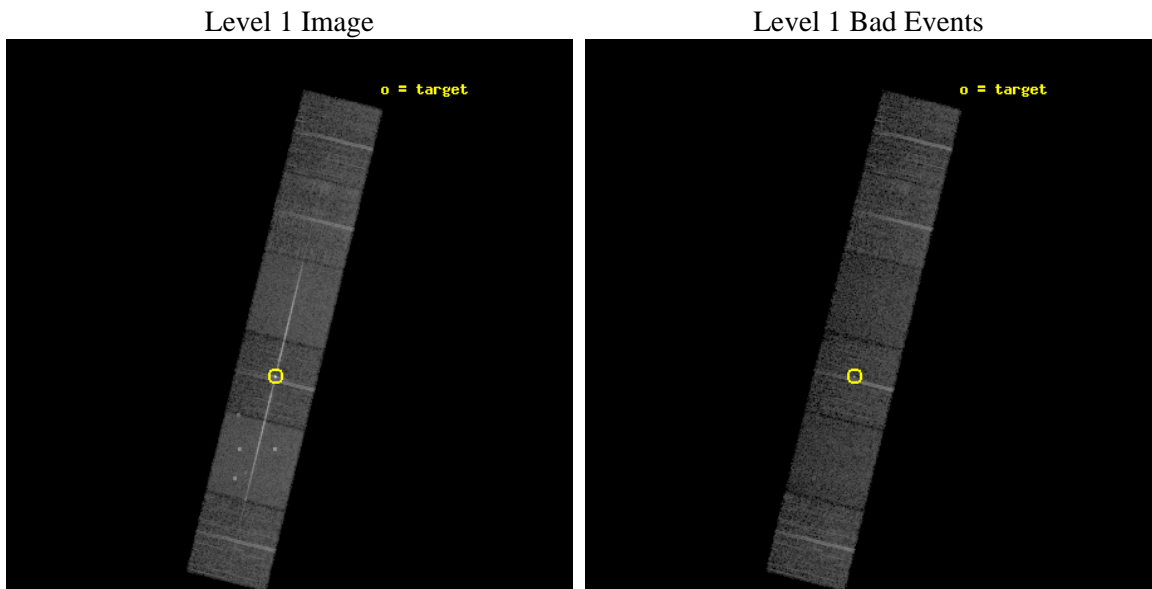
seq_num	390020	Sequence number
obs_id	2323	Observation id
title	GRATINGS CALIBRATION OBSERVATIONS OF PKS2155-304	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	PKS2155-304	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	329.716667	Observer's specified target RA [deg]
dec_targ	-30.225556	Observer's specified target Dec [deg]
ra_nom	329.68863641666	Nominal RA [deg]
dec_nom	-30.132863517045	Nominal Dec [deg]
roll_nom	283.77074811948	Nominal Roll [deg]
revision	3	Processing version of data
ontime	9091.2000084519	Sum of GTIs [s]
livetime	8976.0817598815	Livetime [s]
ontime4	9091.2000084519	Sum of GTIs [s]
ontime5	9091.2000084519	Sum of GTIs [s]
ontime6	9091.2000084519	Sum of GTIs [s]
ontime7	9091.2000084519	Sum of GTIs [s]
ontime8	9091.2000084519	Sum of GTIs [s]
ontime9	9091.2000084519	Sum of GTIs [s]
l2events	126810	Number of level 2 events



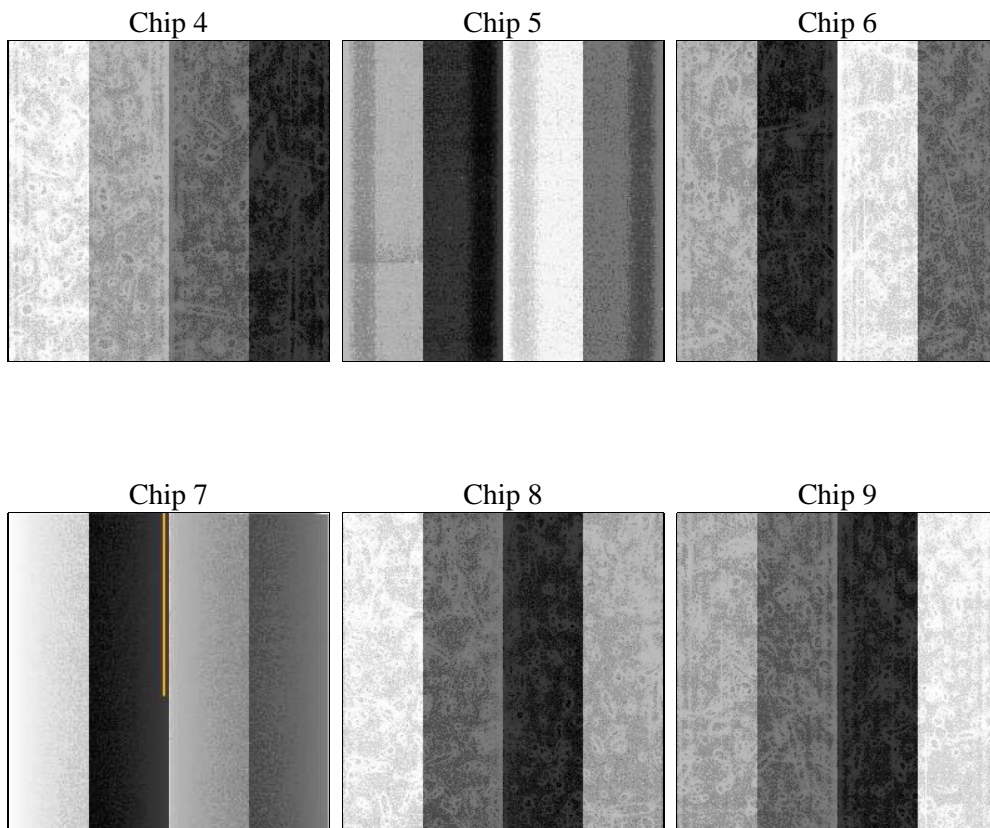
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	9000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	9091.2000084519	Sum of GTIs [s]
caldsver	4.5.1.1	 	ontime4	9091.2000084519	Sum of GTIs [s]
date	2012-09-04T04:33:27	Date and time of file creation	ontime5	9091.2000084519	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	9091.2000084519	Sum of GTIs [s]
			ontime7	9091.2000084519	Sum of GTIs [s]
			ontime8	9091.2000084519	Sum of GTIs [s]
			ontime9	9091.2000084519	Sum of GTIs [s]
			l1events	424411	Number of level 1 events

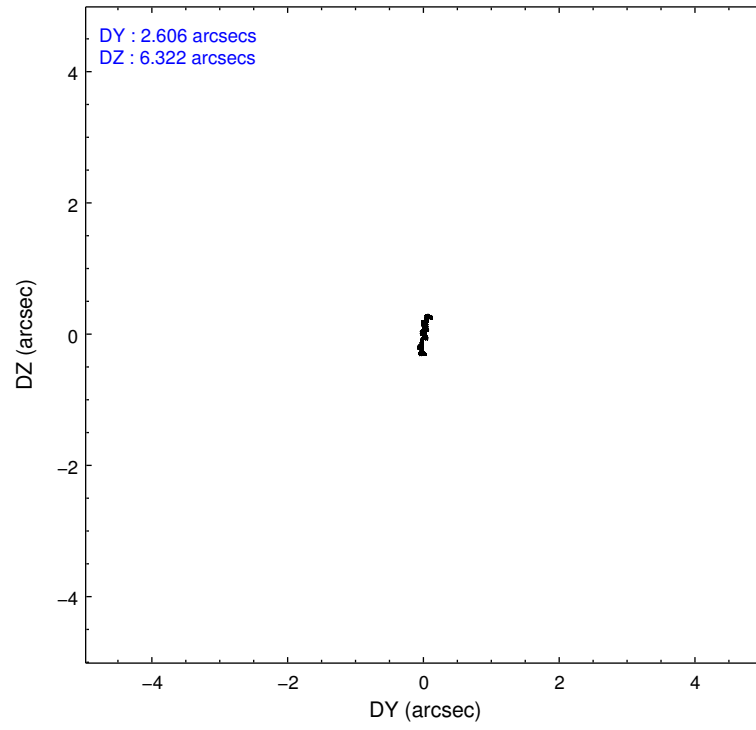
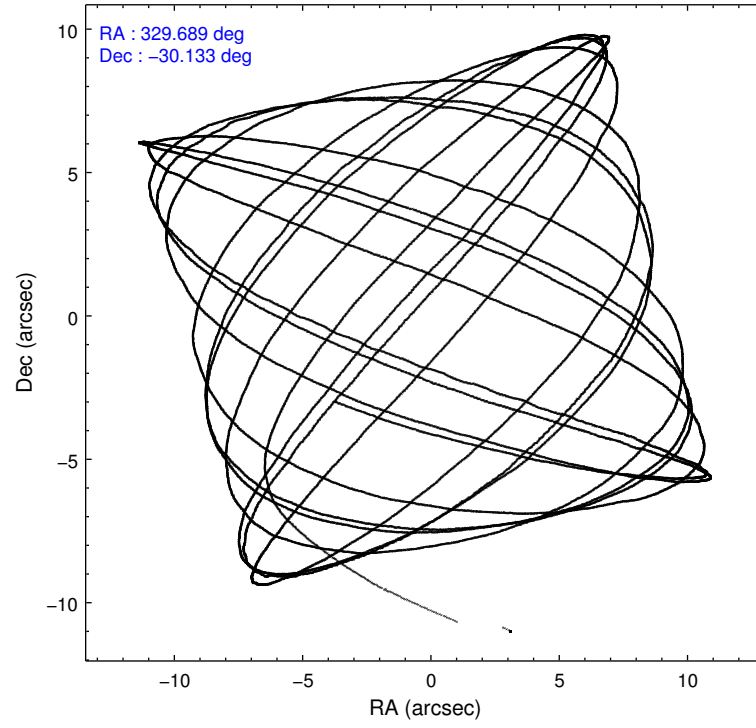
2.1.4 Events

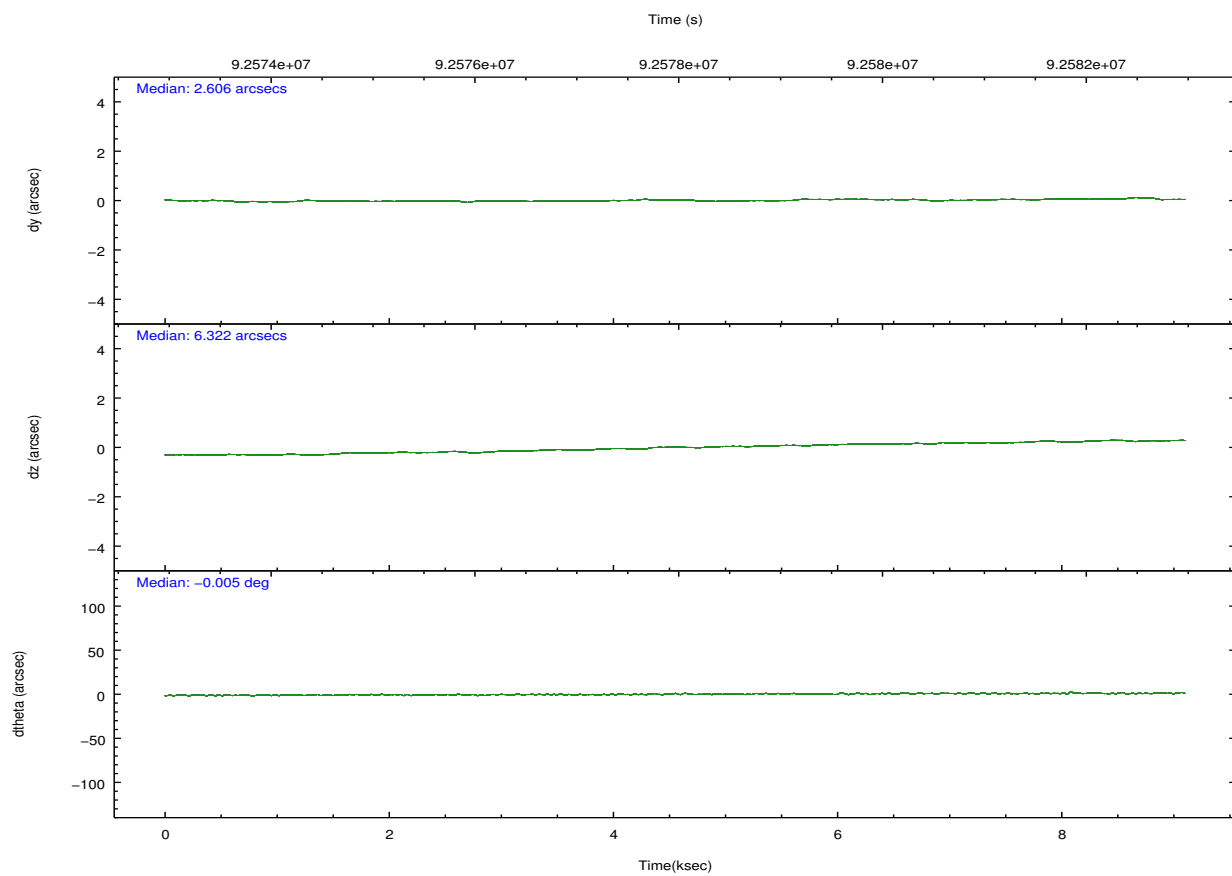
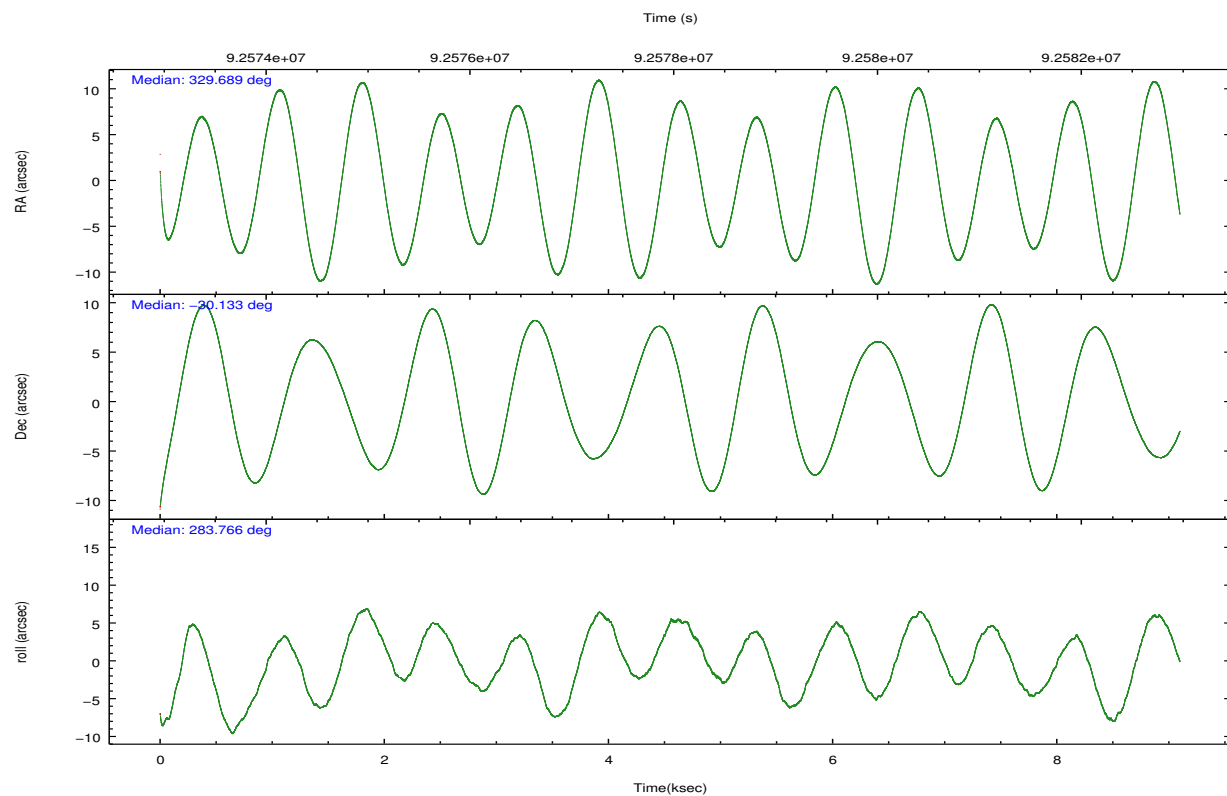
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	59818	87355	77917	79060	67244	53017	grade 0 events	3028	12896	22795	7694	4682	2714
rejected events	53064	39738	47778	39113	53404	46732		5%	14%	29%	9%	6%	5%
rejected %	88%	45%	61%	49%	79%	88%	grade 1 events	24	210	635	68	33	30
								0%	0%	0%	0%	0%	0%
							grade 2 events	1501	12231	3474	8583	2939	1289
								2%	14%	4%	10%	4%	2%
							grade 3 events	641	2459	1293	3951	1397	613
								1%	2%	1%	4%	2%	1%
							grade 4 events	553	2333	1306	3915	1327	568
								0%	2%	1%	4%	1%	1%
							grade 5 events	1878	5595	2401	6522	2806	2294
								3%	6%	3%	8%	4%	4%
							grade 6 events	1091	18117	1542	16168	3580	1171
								1%	20%	1%	20%	5%	2%
							grade 7 events	51102	33514	44471	32159	50480	44338
								85%	38%	57%	40%	75%	83%

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	329.666565	329.6886364166577	Subarray requested	NONE	NONE
[deg] Pointing Dec	-30.113269	-30.13286351704516	Alternating exposures requested	N	N
[deg] Pointing Roll	283.603058	283.770748119479	[s] Primary exposure time	0.000000	3.2
[s] Window start time (MET)	89424064.184000	89424064.184000			
[s] Window stop time (MET)	94608064.184000	94608064.184000			
[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)	92573516.184000	92572474.8576			
Observation start date	2000-12-07T10:50:52	2000-12-07T10:34:34			
[s] Observation end time (MET)	92582516.184000	92582649.52048901			
Observation end date	2000-12-07T13:20:52	2000-12-07T13:24:09			
Read mode	TIMED	TIMED			

2.3 Aspect



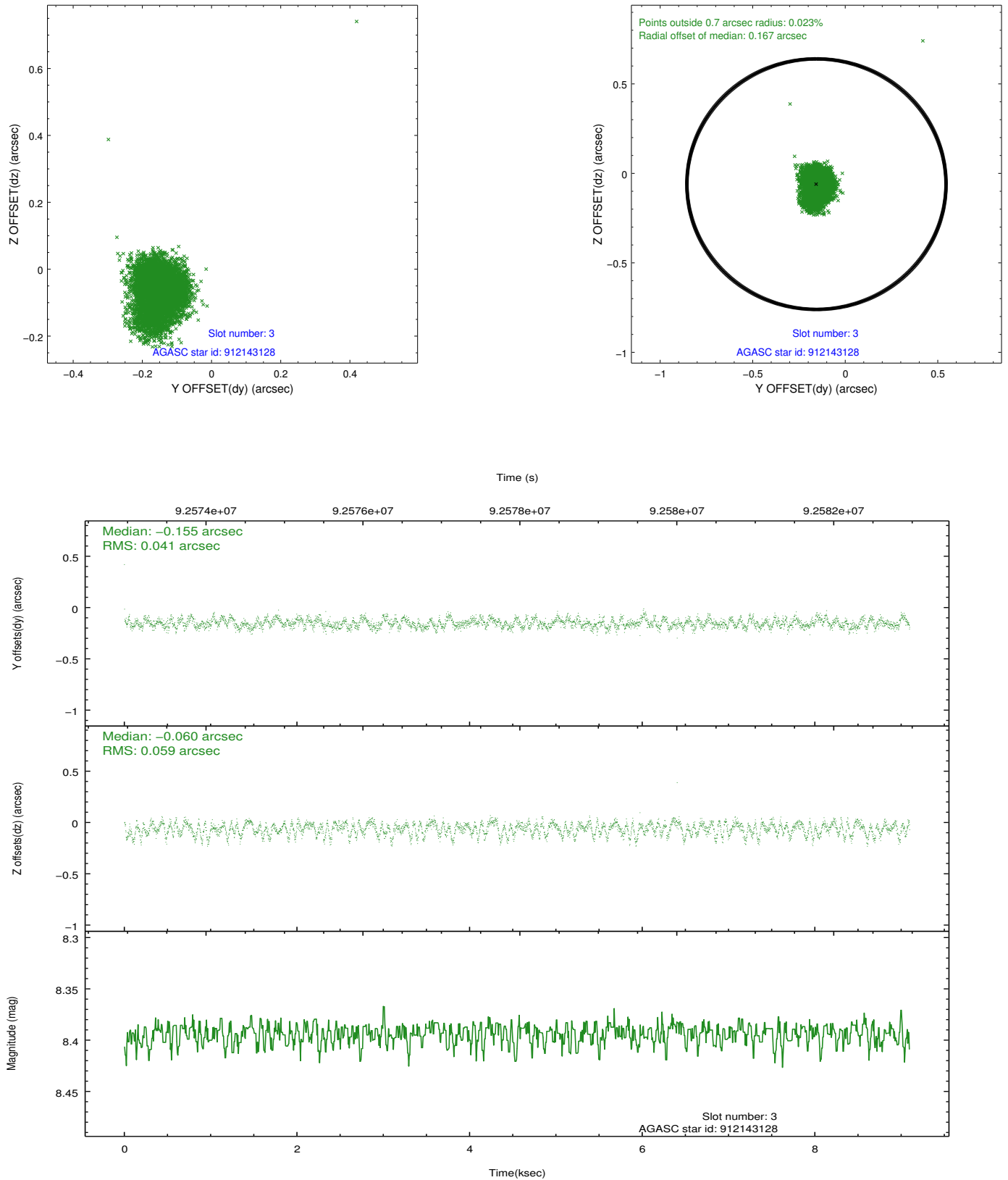


Slot Statistics

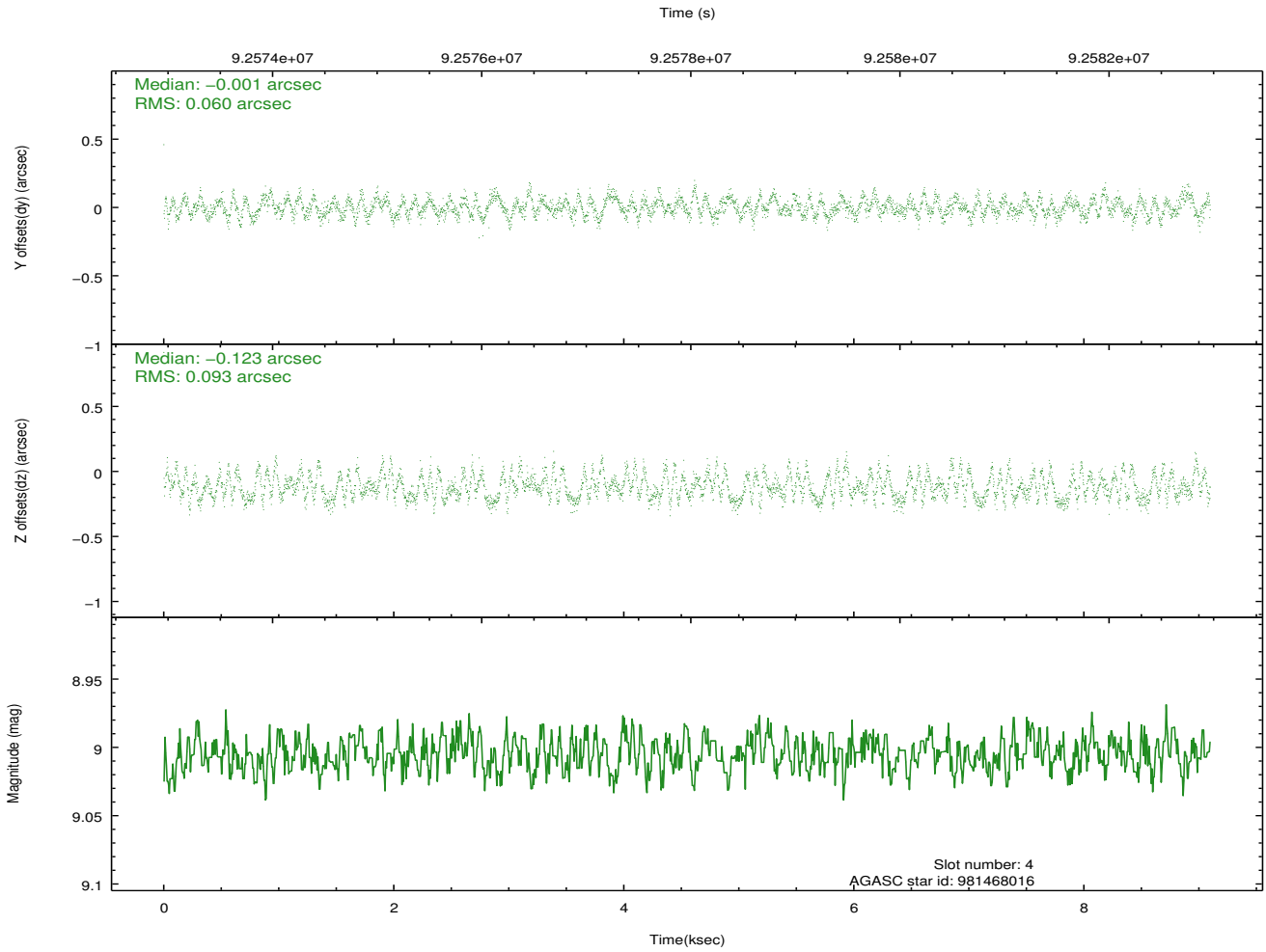
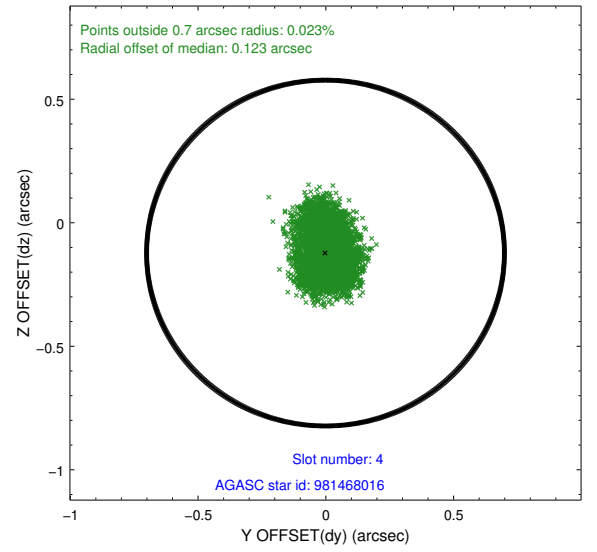
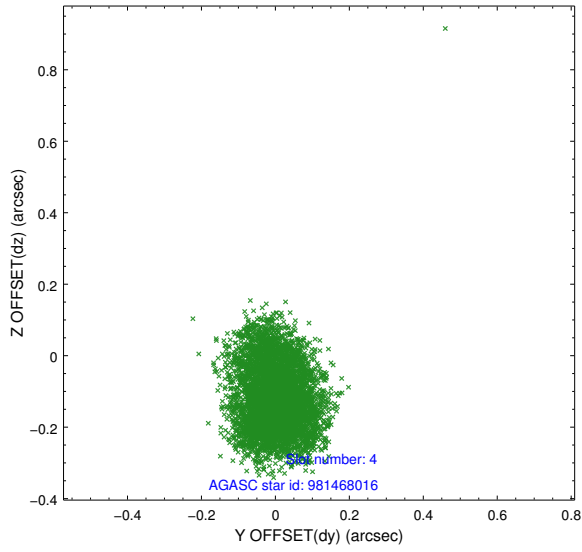
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.12	2220	-0.034	-0.002	0.007	0.012	0.000000	0.000000	-755.26	-1727.46
1	FID	ACIS-S-4	7.20	2220	-0.010	0.017	0.005	0.010	0.000000	0.000000	2157.75	180.46
2	FID	ACIS-S-5	7.23	2220	0.012	-0.006	0.007	0.011	0.000000	0.000000	-1807.30	174.74
3	GUIDE	912143128	8.39	4438	-0.155	-0.060	0.075	0.119	328.924992	-29.706140	-1963.38	-1911.62
4	GUIDE	981468016	9.00	4437	-0.001	-0.123	0.118	0.183	328.842457	-30.034984	-870.13	-2433.40
5	GUIDE	912275088	9.05	4437	-0.005	0.016	0.067	0.109	329.619228	-29.738698	-1346.48	172.14
6	GUIDE	981478152	9.41	4436	0.067	0.119	0.074	0.120	329.415589	-30.057192	-380.35	-713.21
7	GUIDE	981469488	9.60	4370	0.091	0.048	0.088	0.140	329.261199	-30.045155	-534.12	-1171.45

2.4 Star Slots

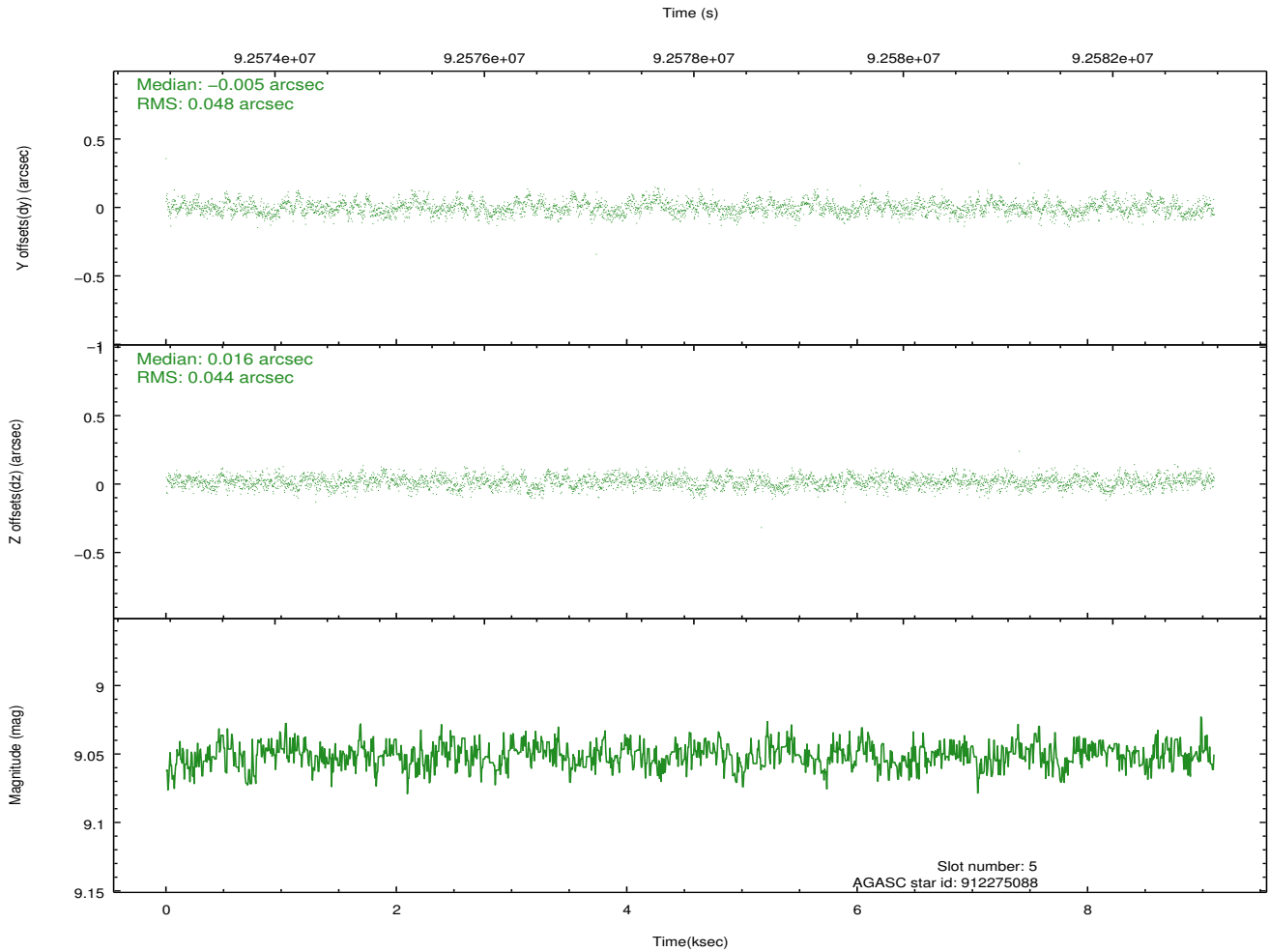
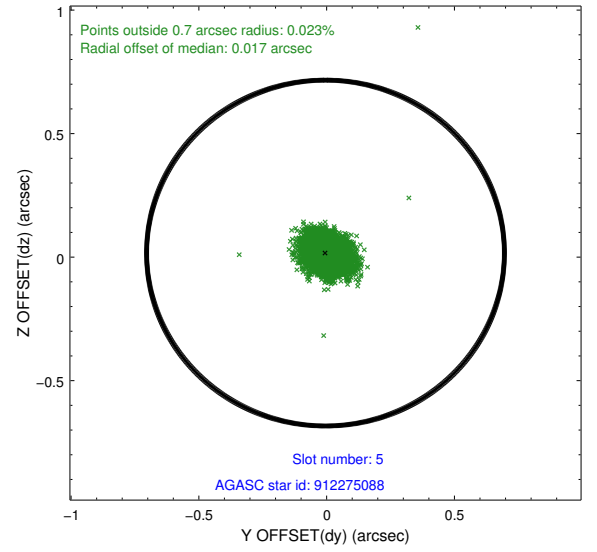
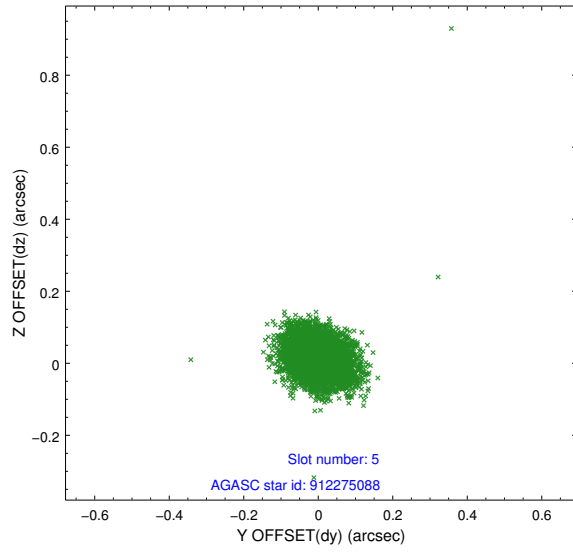
2.4.1 Slot 3



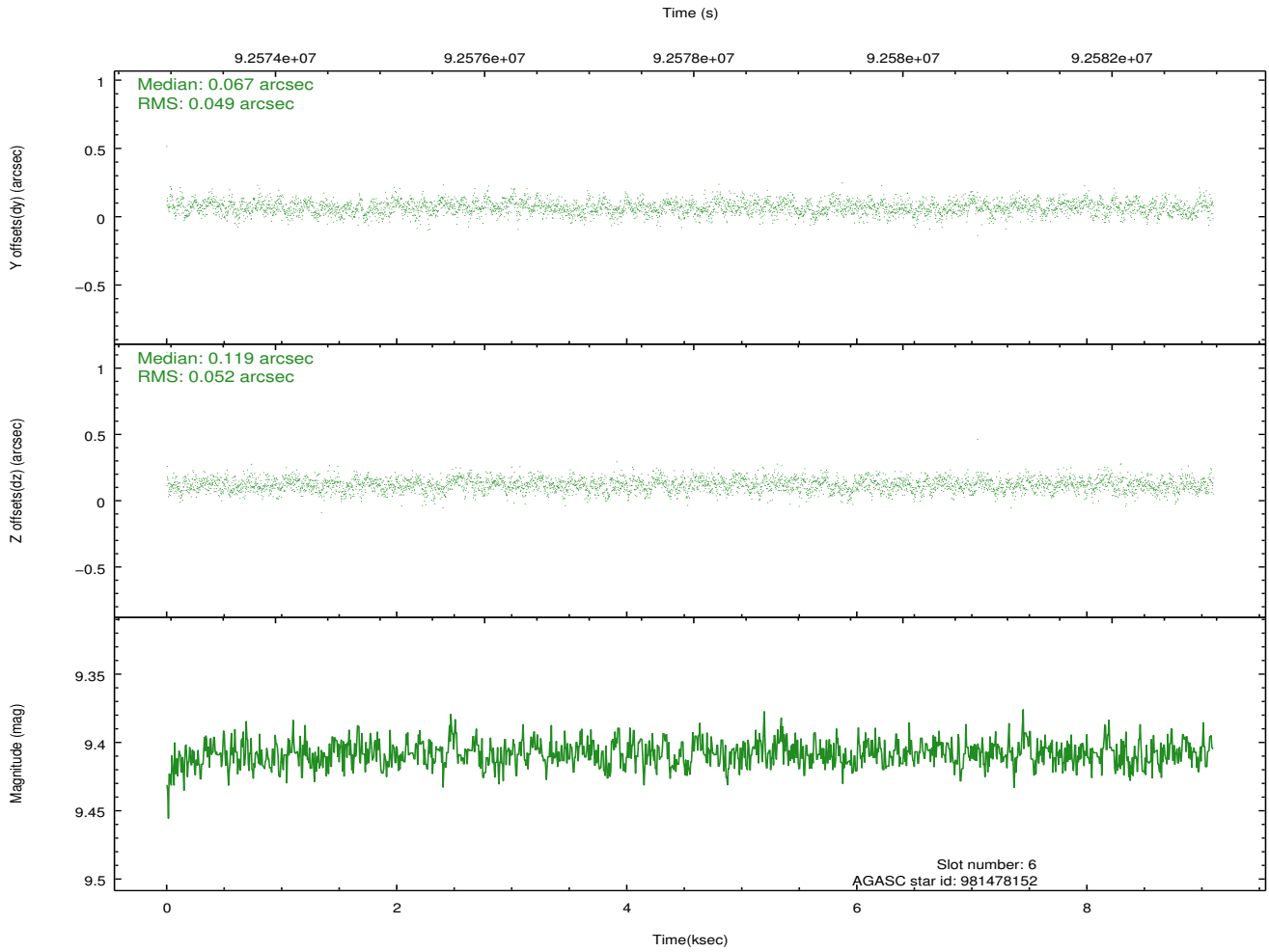
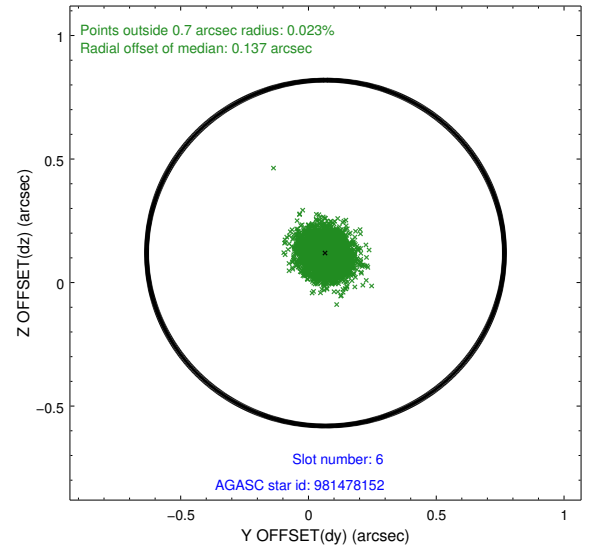
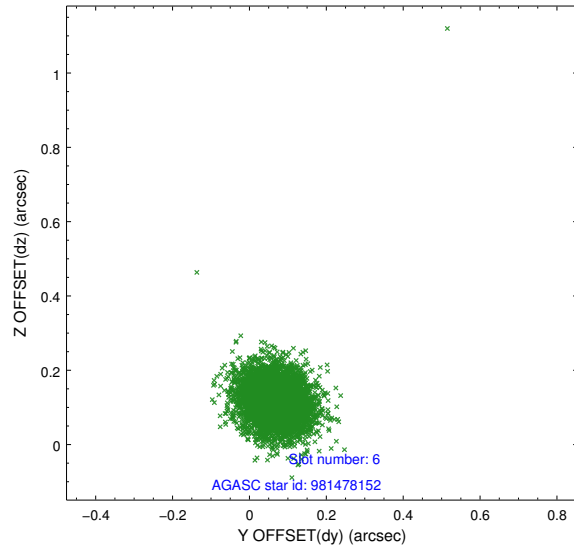
2.4.2 Slot 4



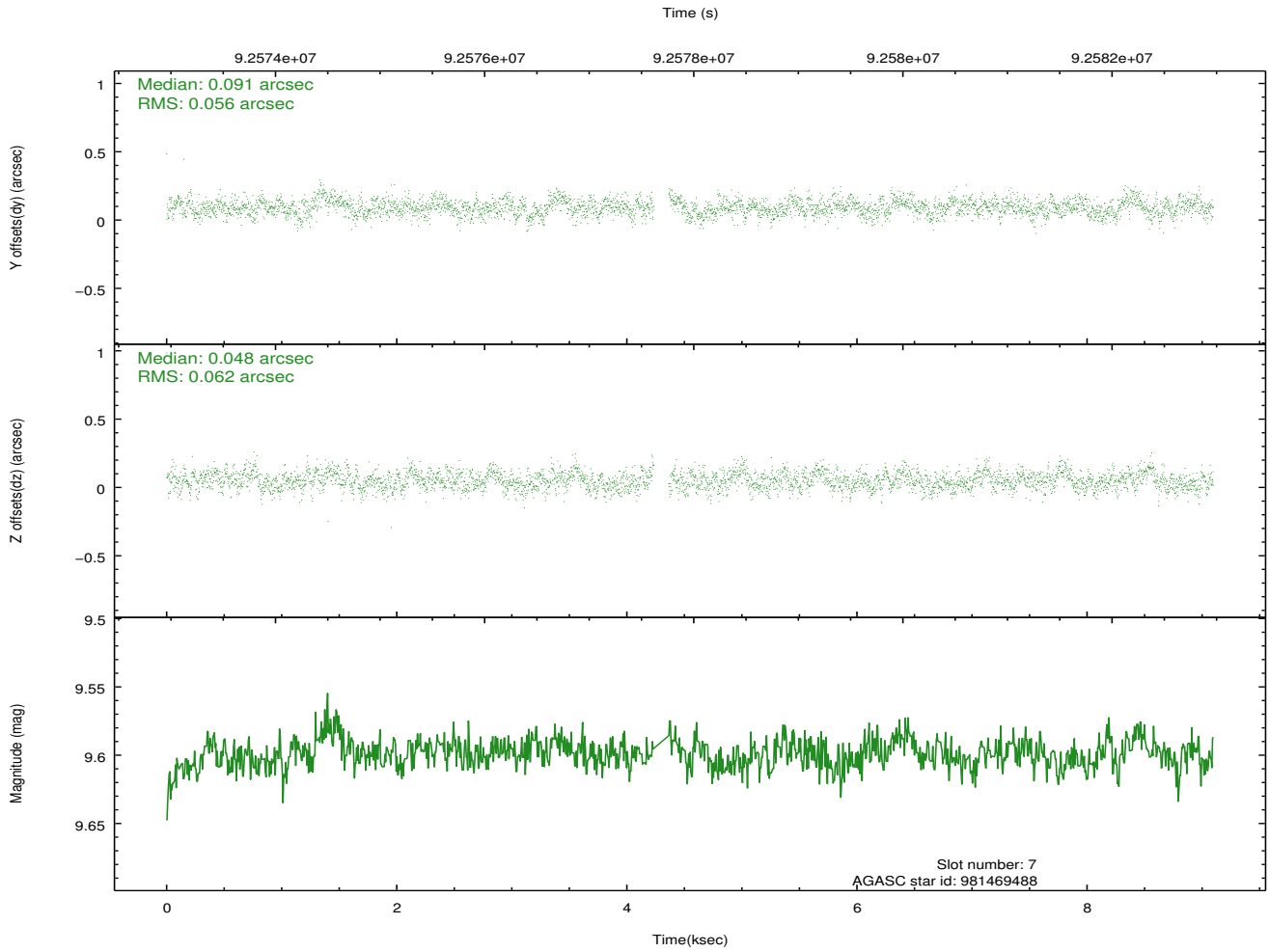
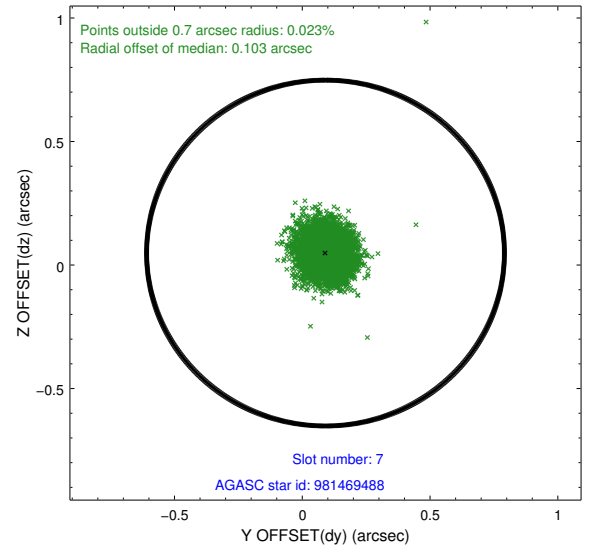
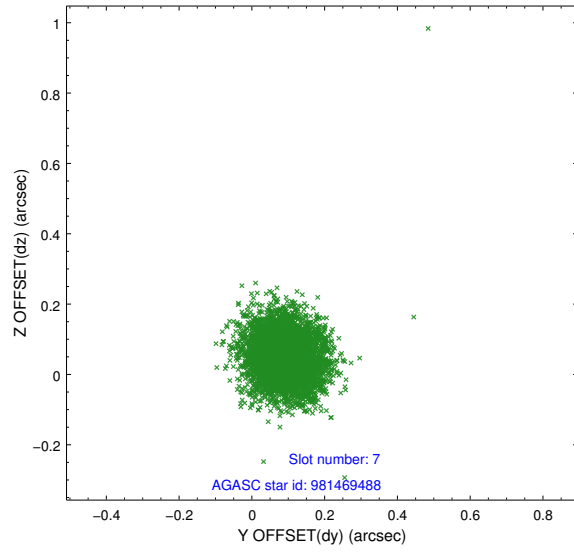
2.4.3 Slot 5



2.4.4 Slot 6

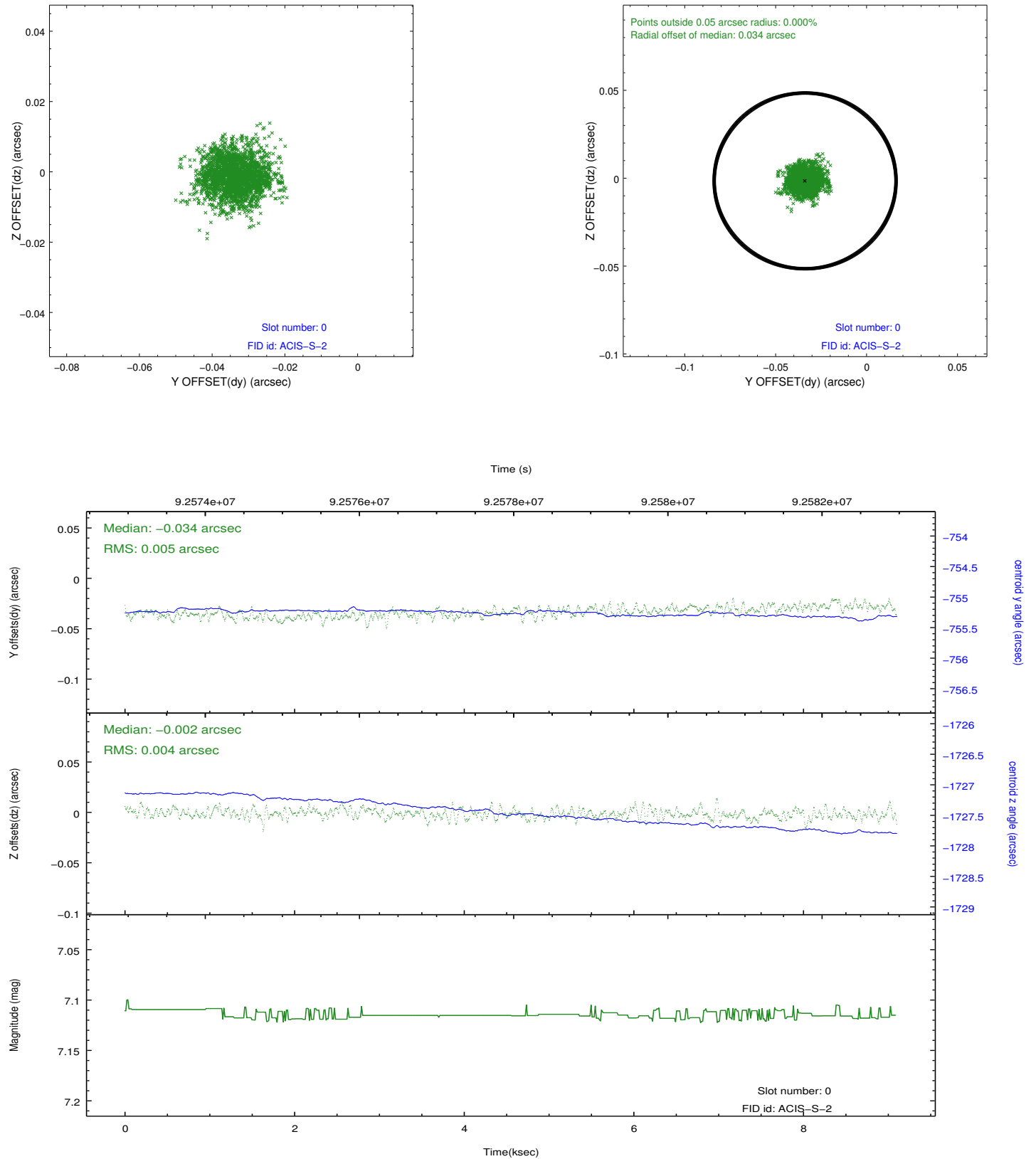


2.4.5 Slot 7

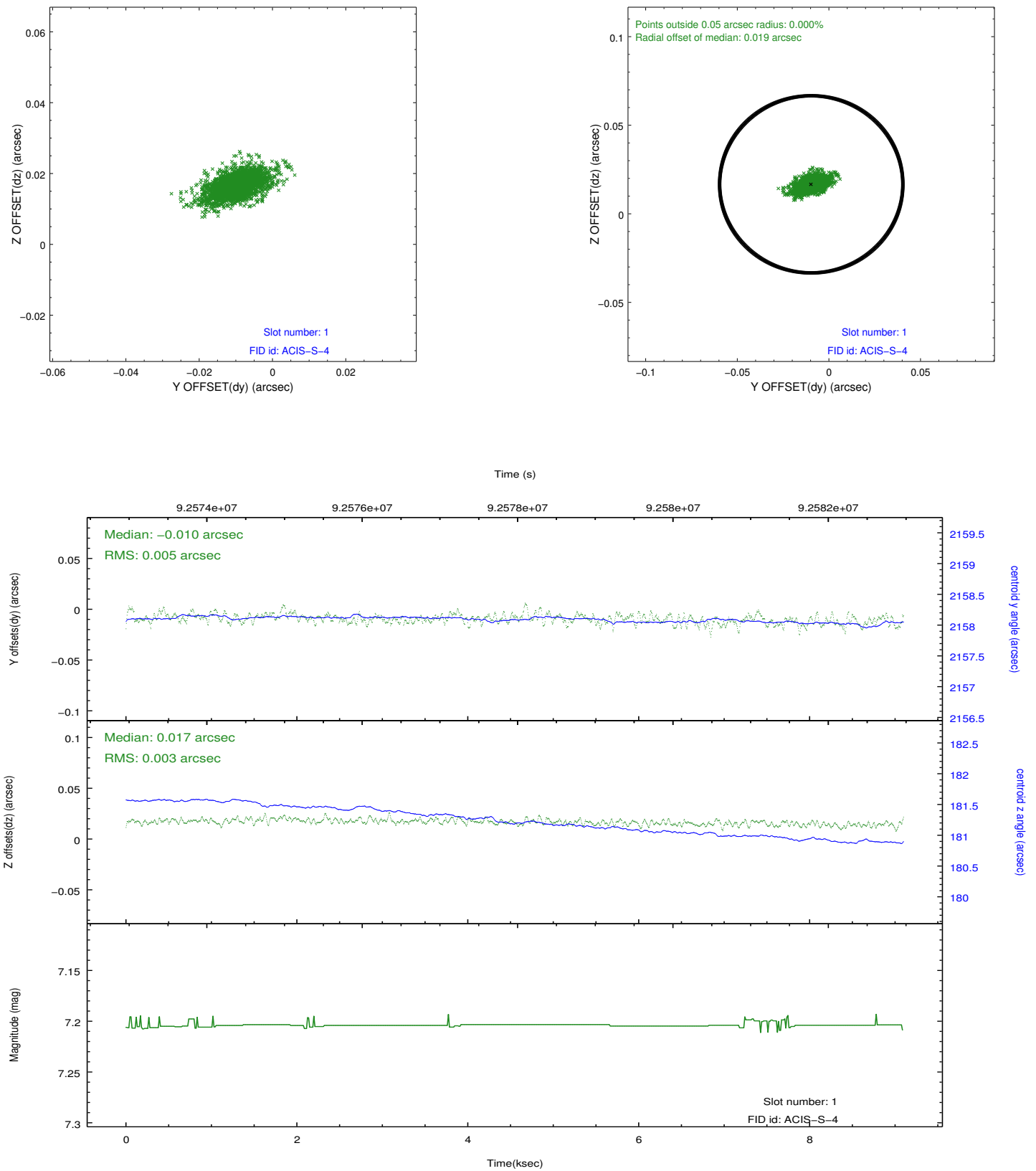


2.5 FID Slots

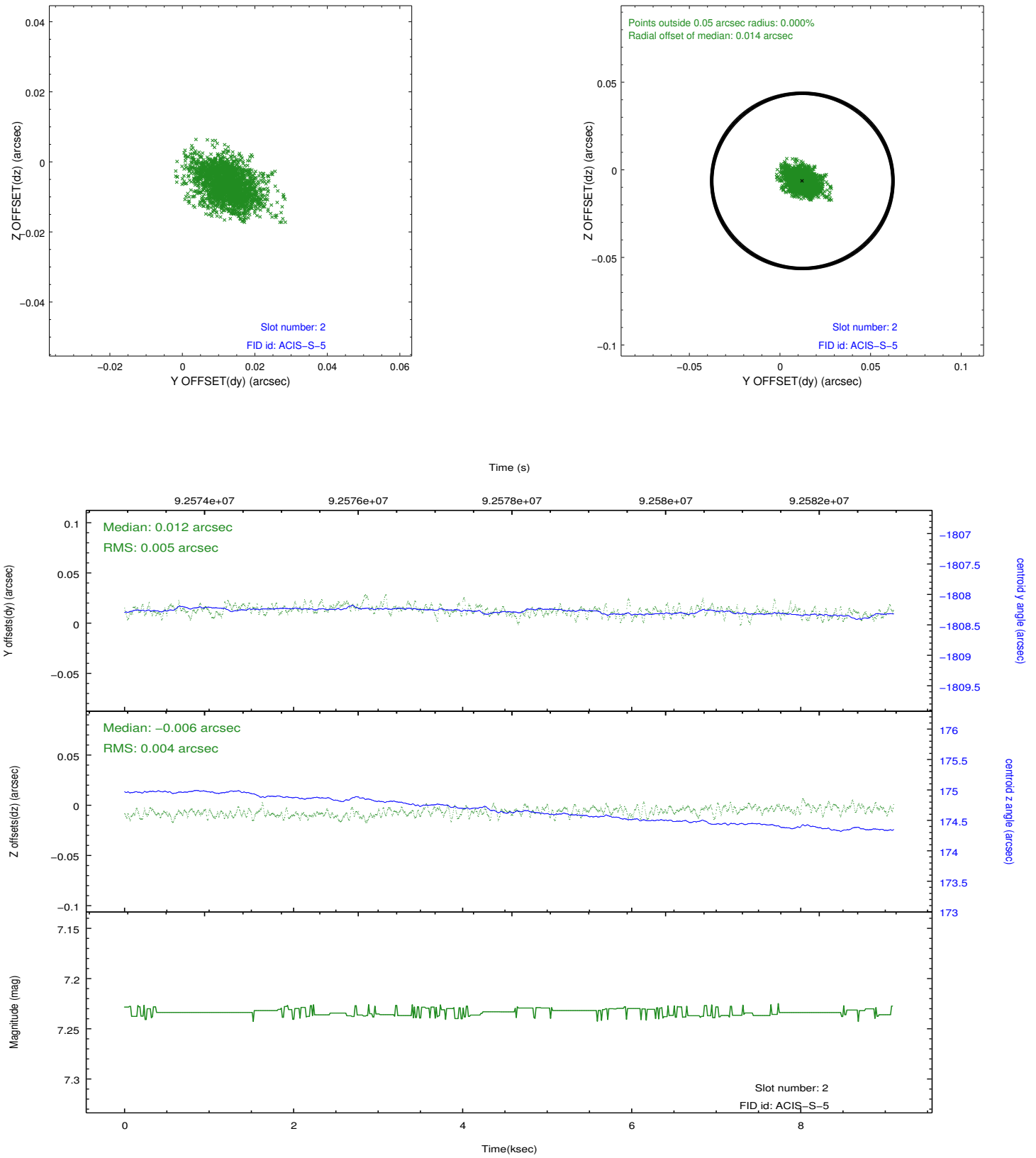
2.5.1 Slot 0



2.5.2 Slot 1

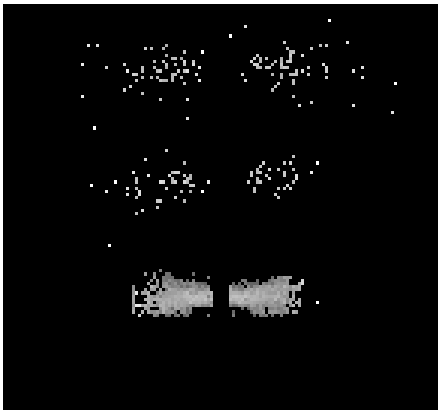


2.5.3 Slot 2

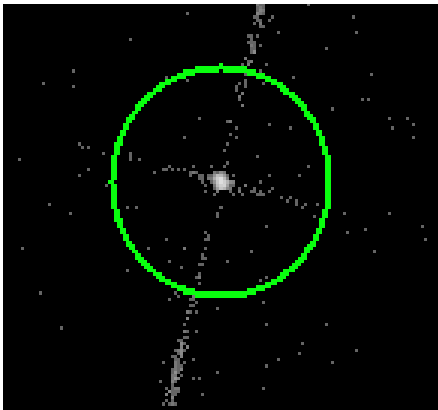


3 Gratings

3.1 LETG Arm



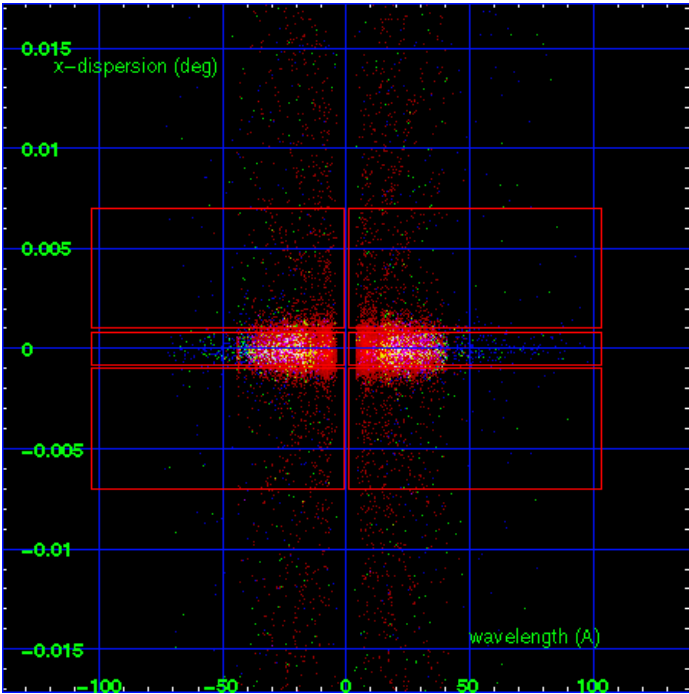
LETG Order Sort 123



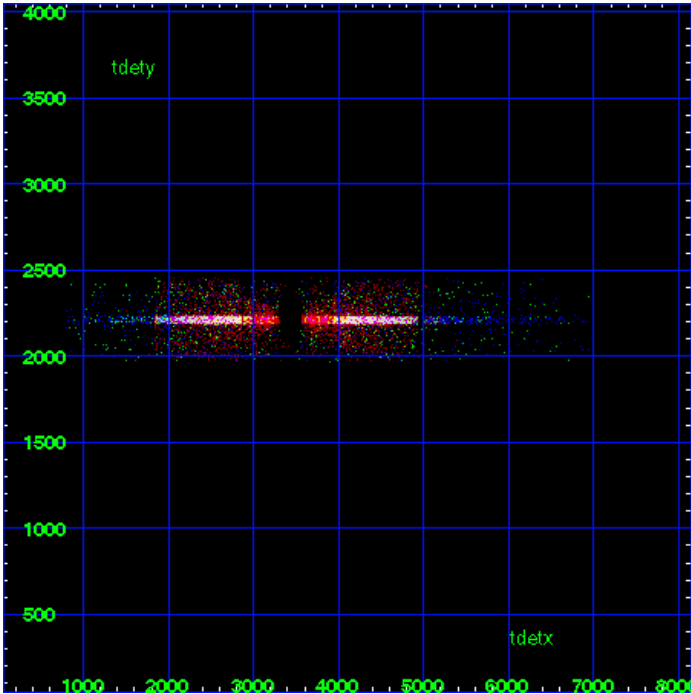
LETG Zero Order



LETG Order Sort ALL

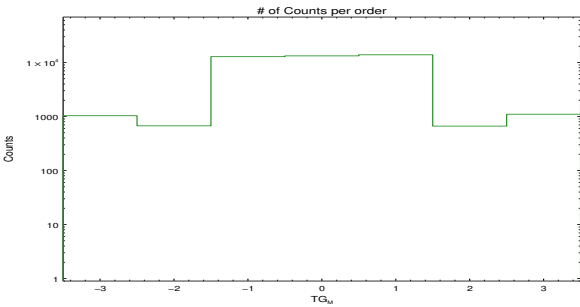


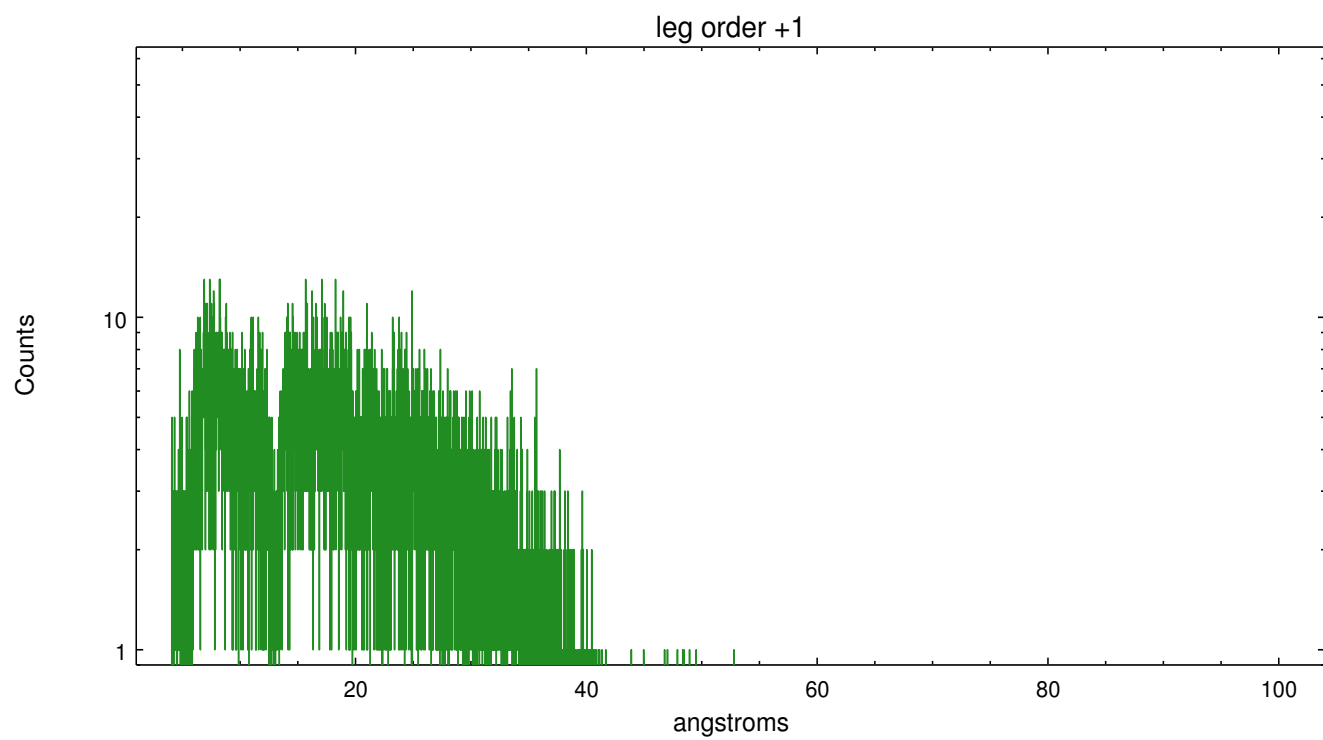
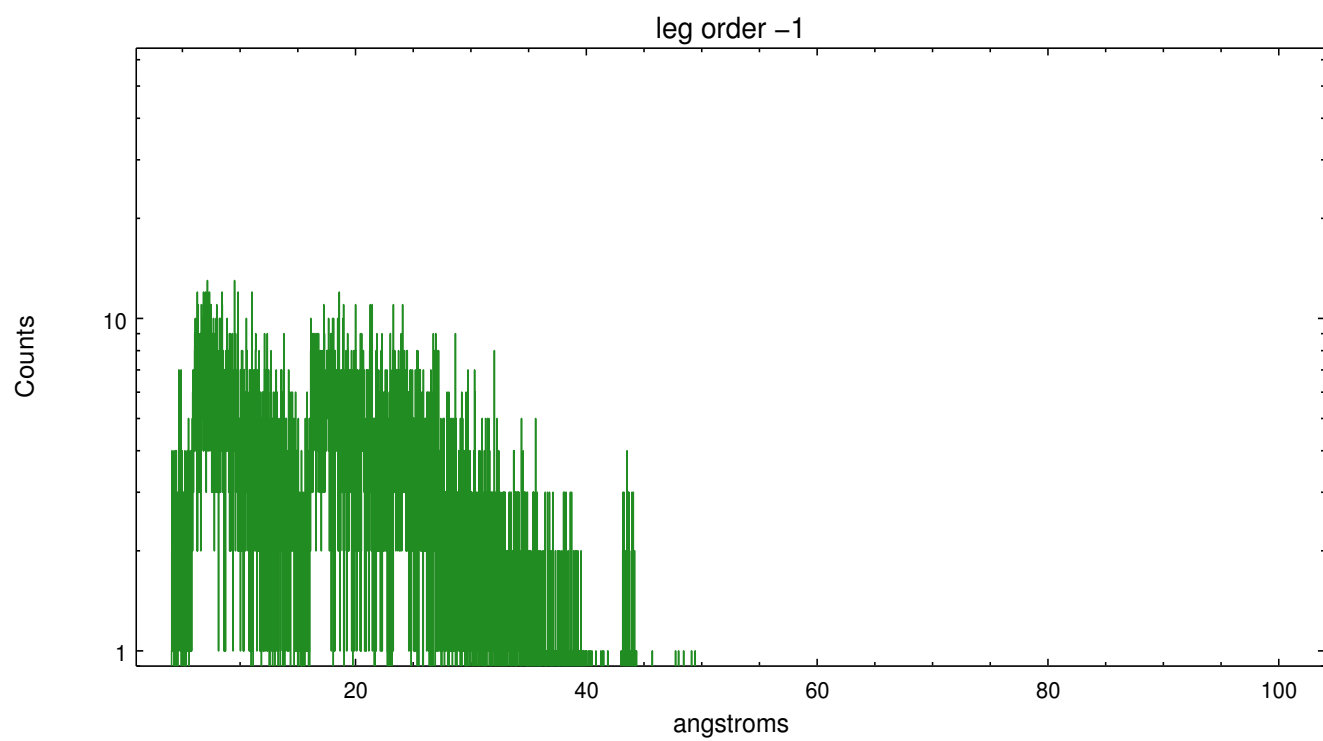
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1035	672	12826	13260	13878	664	1104





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.091

A.2 Comments

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.

===

Off-axis source gratings observation. WARNING: there are no standard ciao tools for analysis of grating spectra from extended sources. The shape of an emission 'line' will be the shape of the zero order spatial structure convolved with the instrumental LSF. Grating extractions can be used, but need to be combined with custom spatial-spectral analysis, since wavelength is multi-valued at any particular diffraction angle. WARNING: The user will need to deconvolve the PSF of the off-axis source to get an accurate determination of the zeroth order position, then use software tools such as CIAO to specify the coordinates of the zeroth order before running the tools to resolve the dispersed events. The spectral data supplied in this processing are only energy-calibrated for the results of `tgdetect`, which uses the source-detection tool `celldetect`.