

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 1790 - L2 Version 5
Chandra X-Ray Center

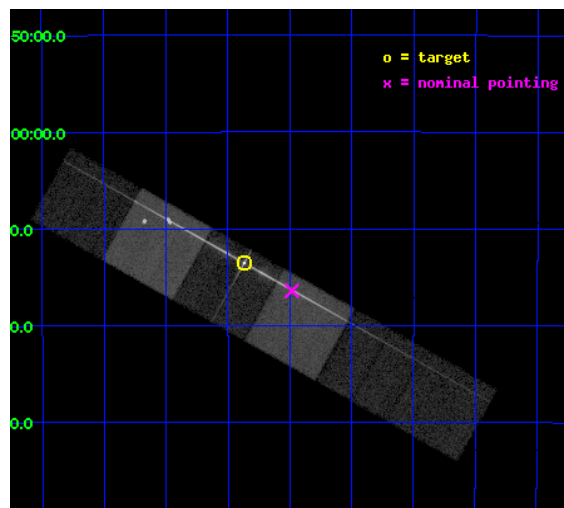
L2 Processing Date : Aug 31 2012

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
3	Gratings	17
3.1	LETG Arm	17
A	Summary	19
A.1	Status	19
A.2	Comments	19

1 Front

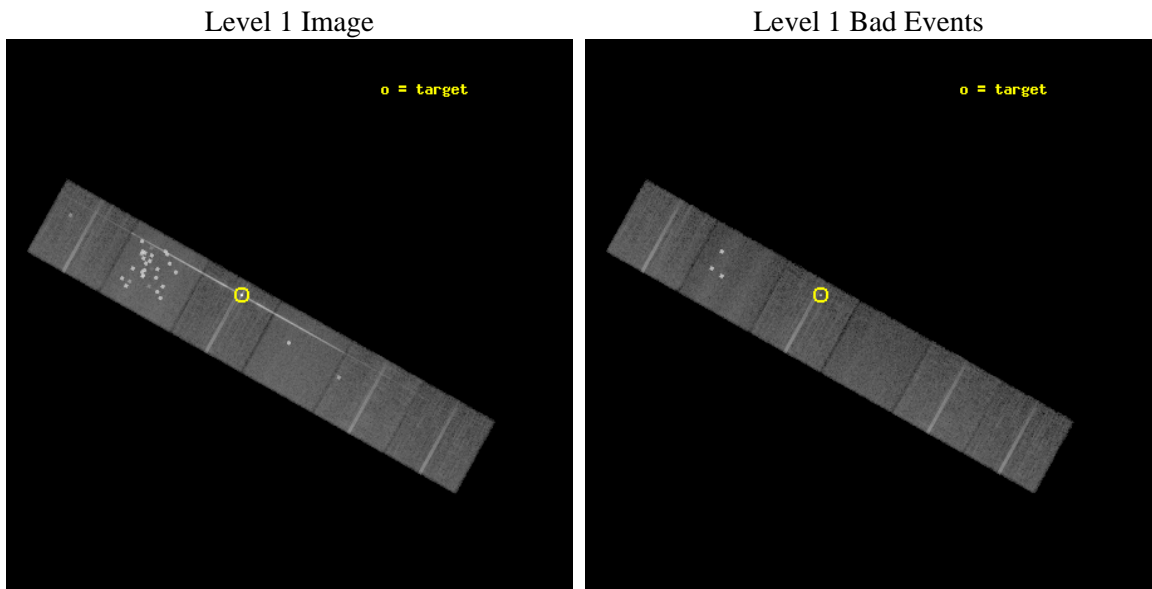
seq_num	390008	Sequence number
obs_id	1790	Observation id
title	GRATINGS CALIBRATION OBSERVATIONS OF PKS2155-304	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	PKS2155-304	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	329.716667	Observer's specified target RA [deg]
dec_targ	-30.225556	Observer's specified target Dec [deg]
ra_nom	329.62079393781	Nominal RA [deg]
dec_nom	-30.273558738753	Nominal Dec [deg]
roll_nom	29.173714578247	Nominal Roll [deg]
revision	5	Processing version of data
ontime	21156.857514039	Sum of GTIs [s]
livetime	20888.956645066	Livetime [s]
ontime4	21153.739663795	Sum of GTIs [s]
ontime5	21156.898554027	Sum of GTIs [s]
ontime6	21156.857514039	Sum of GTIs [s]
ontime7	21156.93959403	Sum of GTIs [s]
ontime8	21156.816503957	Sum of GTIs [s]
ontime9	21156.775414094	Sum of GTIs [s]
l2events	282695	Number of level 2 events



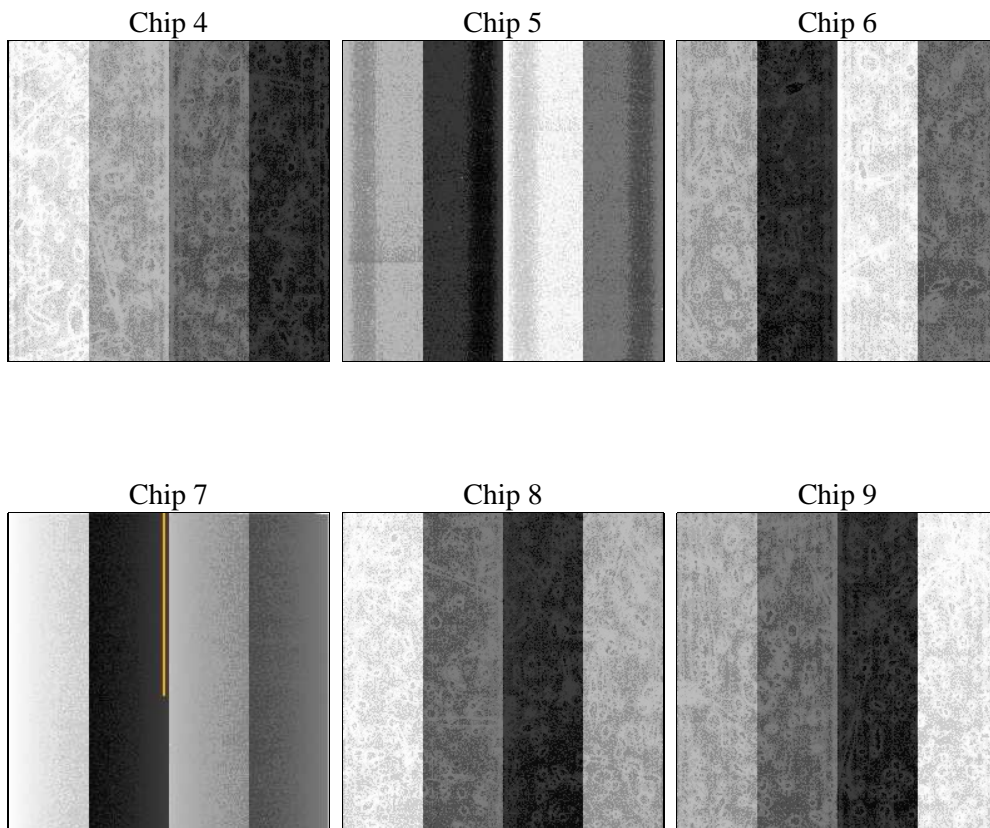
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	21400.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	21156.857514039	Sum of GTIs [s]
caldsver	4.5.1.1	 	ontime4	21153.739663795	Sum of GTIs [s]
date	2012-08-31T14:30:34	Date and time of file creation	ontime5	21156.898554027	Sum of GTIs [s]
revision	5	Processing version of data	ontime6	21156.857514039	Sum of GTIs [s]
			ontime7	21156.93959403	Sum of GTIs [s]
			ontime8	21156.816503957	Sum of GTIs [s]
			ontime9	21156.775414094	Sum of GTIs [s]
			l1events	1105304	Number of level 1 events

2.1.4 Events

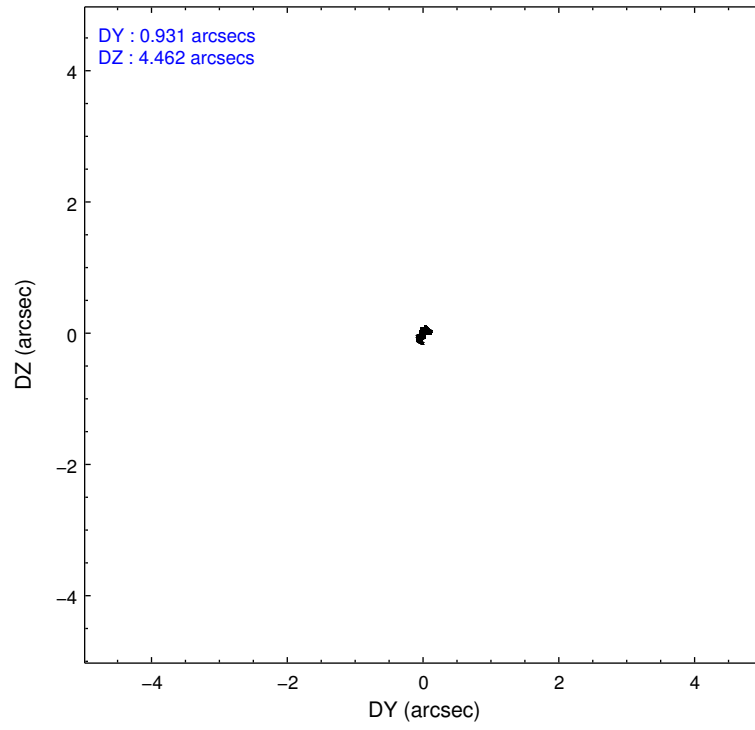
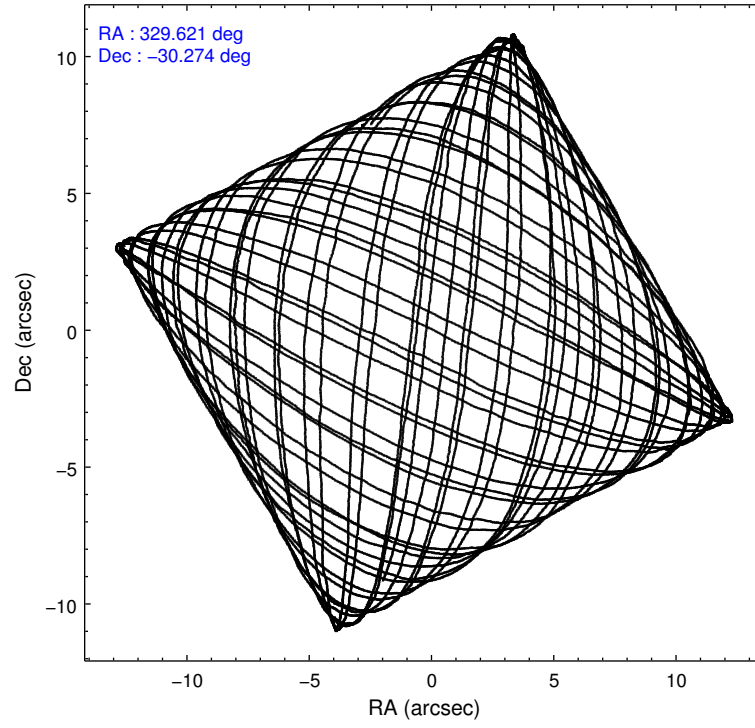
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	139574	332755	186333	171722	154503	120417	grade 0 events	4214	133333	50789	18308	10678	3023
rejected events	123520	113304	112885	88452	122492	105617		3%	40%	27%	10%	6%	2%
rejected %	88%	34%	60%	51%	79%	87%	grade 1 events	52	178	1356	102	77	28
								0%	0%	0%	0%	0%	0%
							grade 2 events	6711	26150	12140	17226	9457	6229
								4%	7%	6%	10%	6%	5%
							grade 3 events	760	6926	2587	6116	2312	778
								0%	2%	1%	3%	1%	0%
							grade 4 events	729	3884	2628	5560	2212	798
								0%	1%	1%	3%	1%	0%
							grade 5 events	2493	16566	3340	8818	3995	2989
								1%	4%	1%	5%	2%	2%
							grade 6 events	3642	49186	5320	36076	7357	3974
								2%	14%	2%	21%	4%	3%
							grade 7 events	120973	96532	108173	79516	118415	102598
								86%	29%	58%	46%	76%	85%

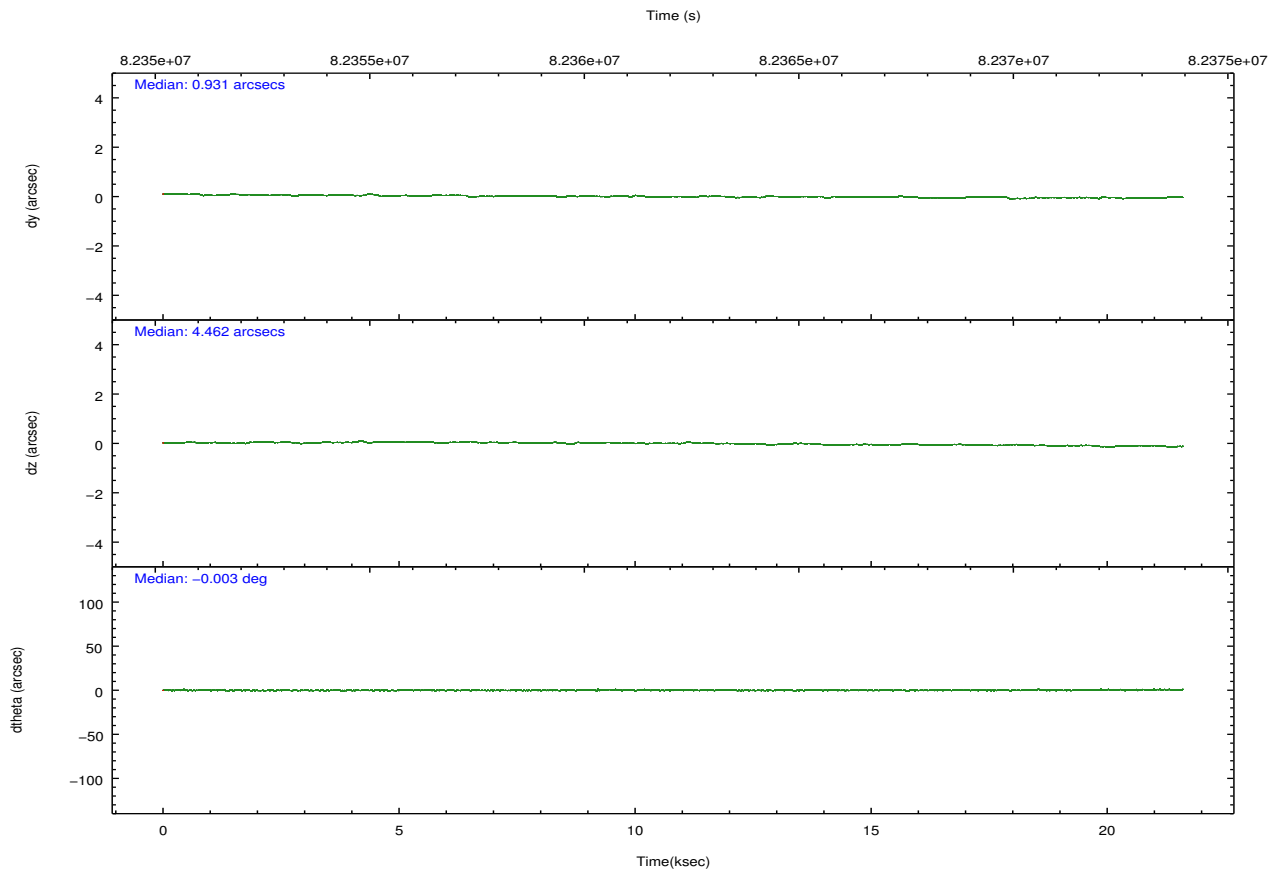
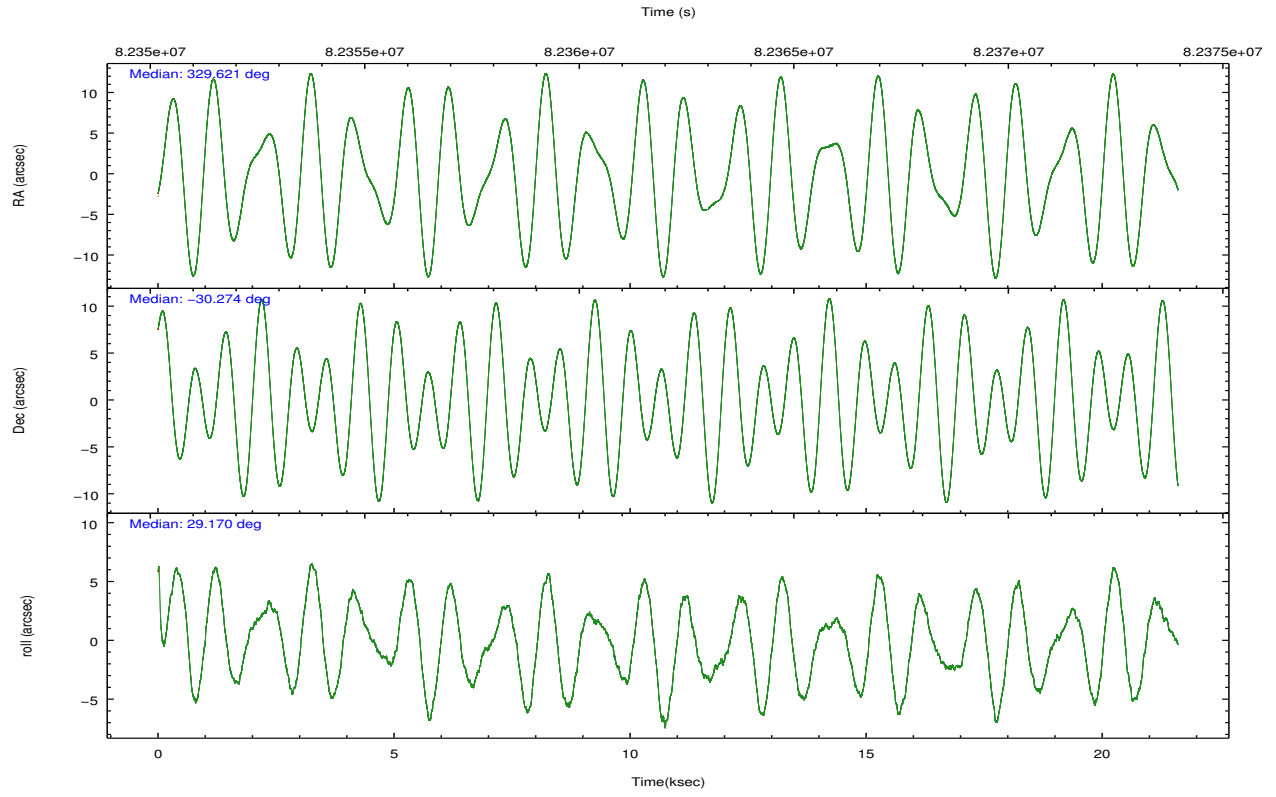
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-456789	ACIS-456789
Grating	LETG	LETG
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	329.604669	329.6207939378098
[deg] Pointing Dec	-30.297171	-30.27355873875308
[deg] Pointing Roll	29.008956	29.17371457824652
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-182.131972	-182.1344861297048
[mm] SIM translation stage offset	-8.000551	-7.998036453302973
[s] Observation start time (MET)	82351470.184000	82351015.59652101
Observation start date	2000-08-11T03:23:26	2000-08-11T03:16:55
[s] Observation end time (MET)	82372870.184000	82373109.47234701
Observation end date	2000-08-11T09:20:06	2000-08-11T09:25:09
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.2

2.3 Aspect



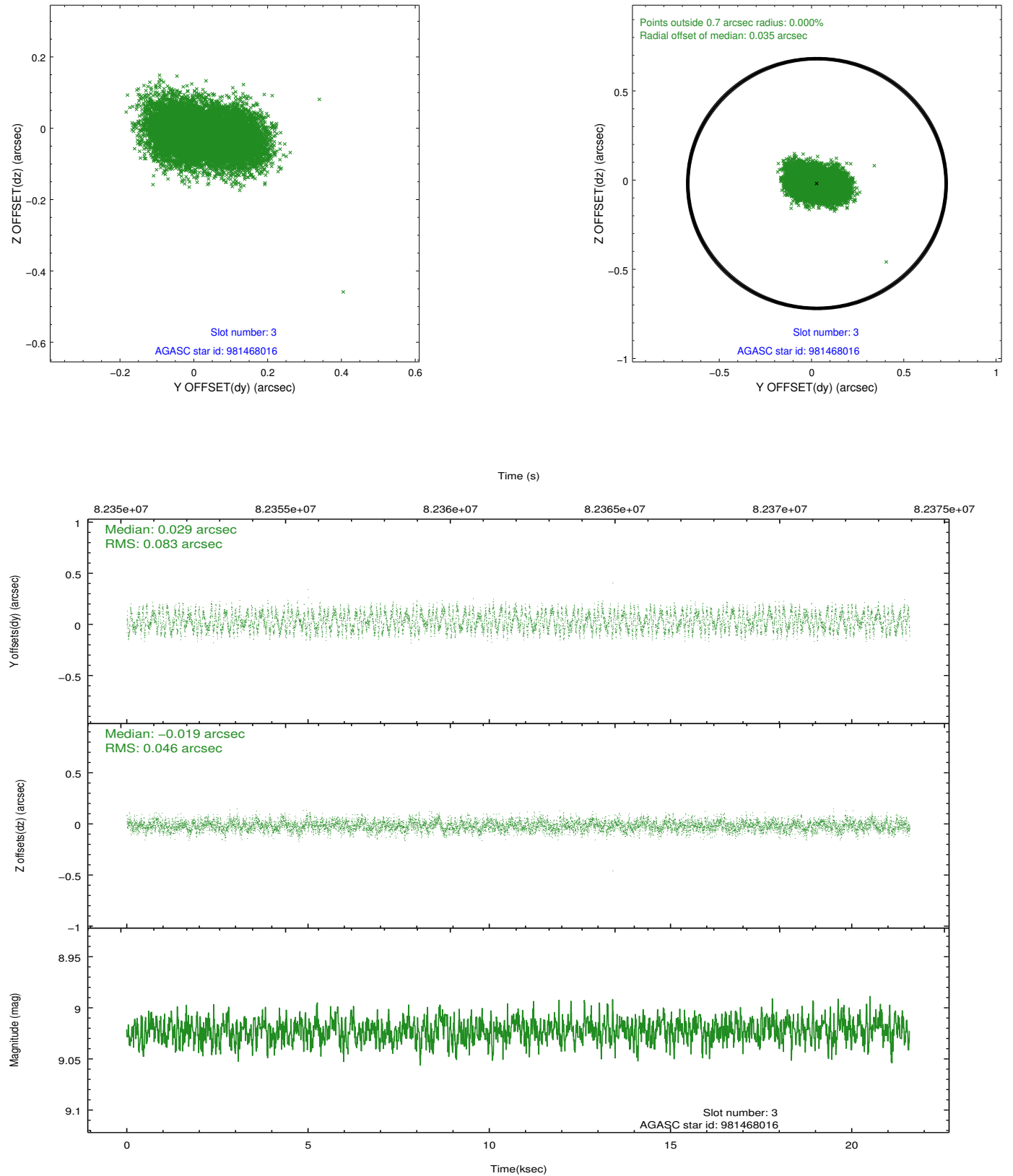


Slot Statistics

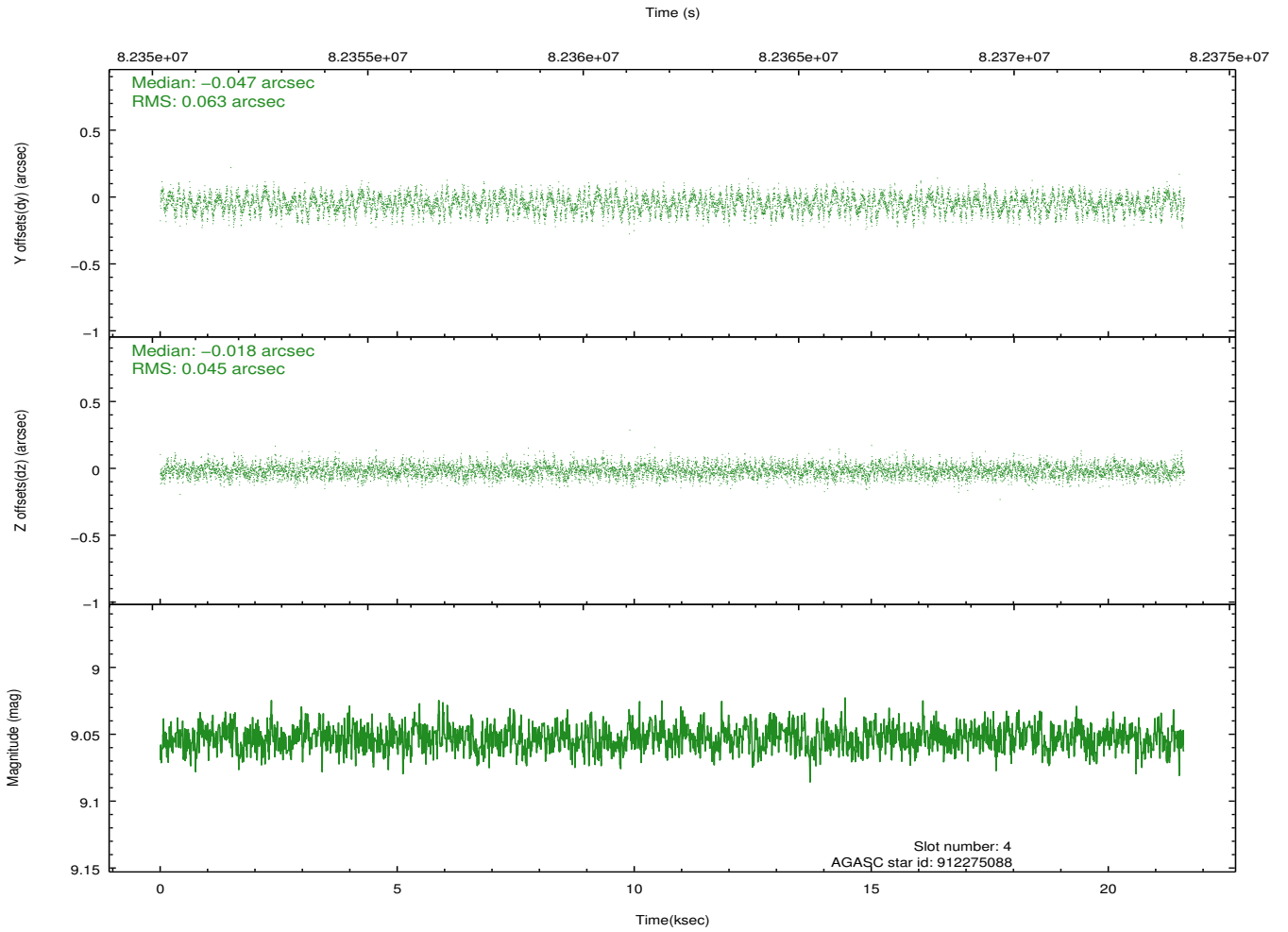
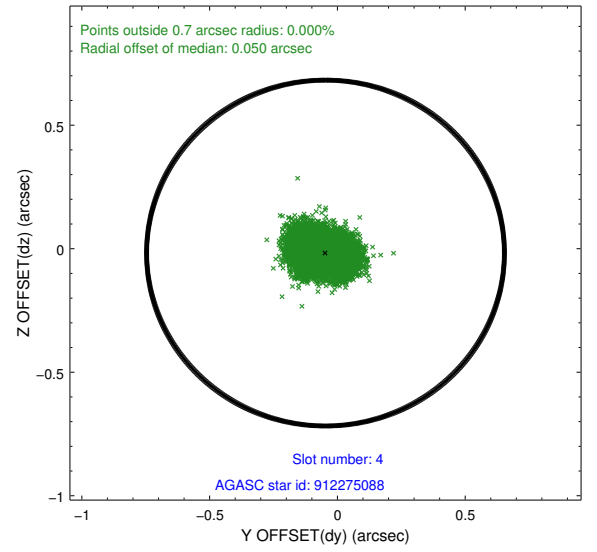
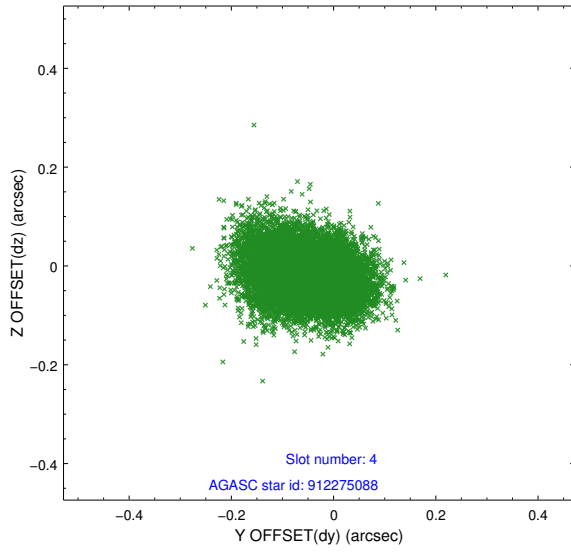
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	5268	-0.070	-0.098	0.007	0.011	0.000000	0.000000	-753.04	-1890.40
1	FID	ACIS-S-4	7.19	5268	0.103	0.060	0.006	0.011	0.000000	0.000000	2160.36	18.00
2	FID	ACIS-S-5	7.22	5269	-0.064	0.046	0.007	0.012	0.000000	0.000000	-1805.64	11.88
3	GUIDE	981468016	9.02	10535	0.029	-0.019	0.104	0.157	328.842457	-30.034984	-1623.65	1970.61
4	GUIDE	912275088	9.05	10536	-0.047	-0.018	0.083	0.134	329.619228	-29.738698	1014.58	1736.65
5	GUIDE	981478152	9.41	10533	0.020	0.042	0.078	0.126	329.415589	-30.057192	-96.38	1041.22
6	GUIDE	981468128	9.36	10537	0.018	-0.034	0.069	0.114	329.756350	-30.158334	655.23	208.16
7	GUIDE	981469488	9.60	10533	-0.023	0.029	0.087	0.144	329.261199	-30.045155	-496.83	1311.31

2.4 Star Slots

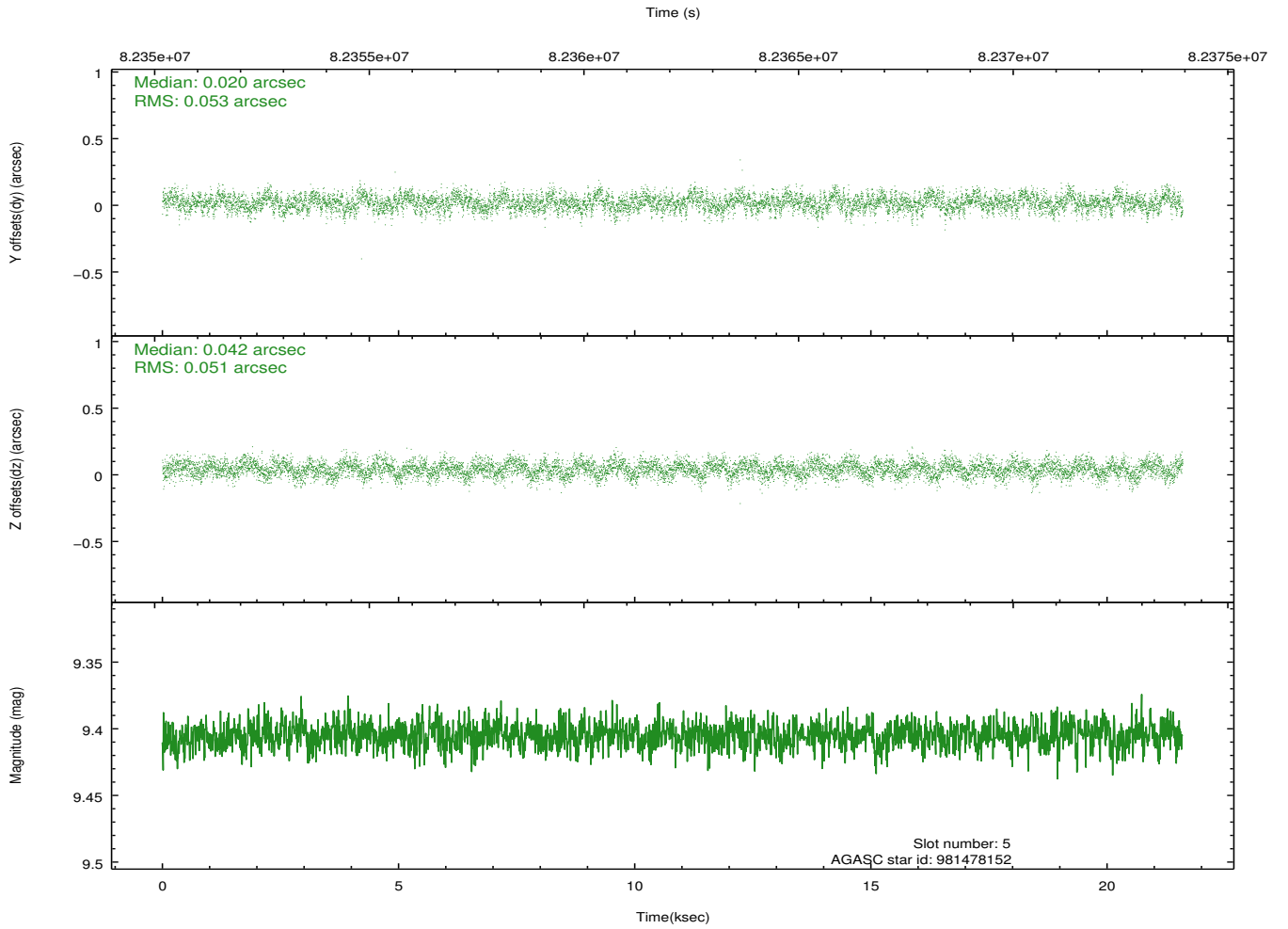
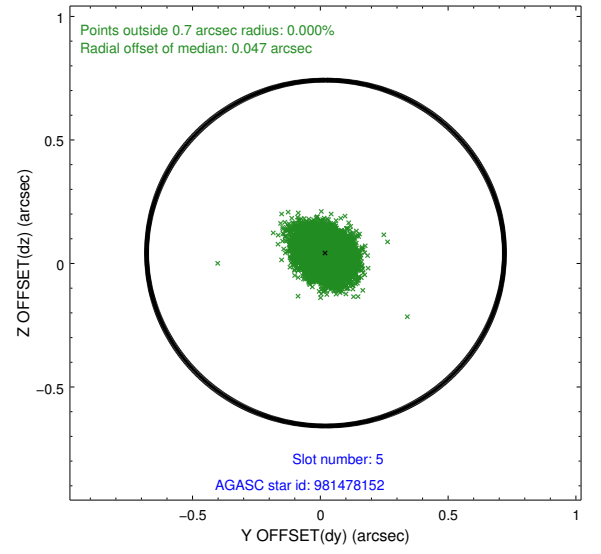
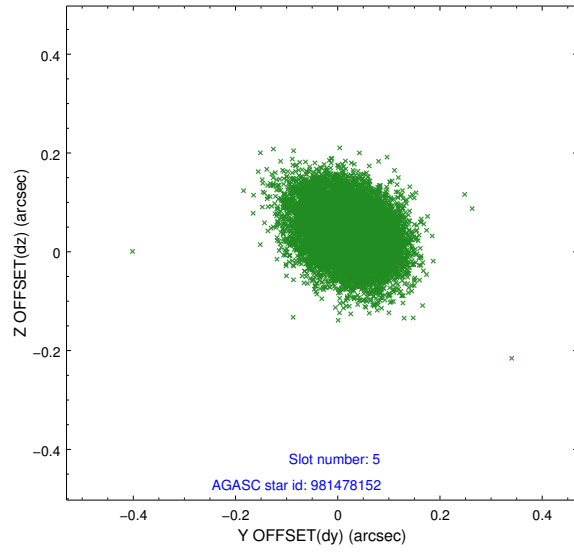
2.4.1 Slot 3



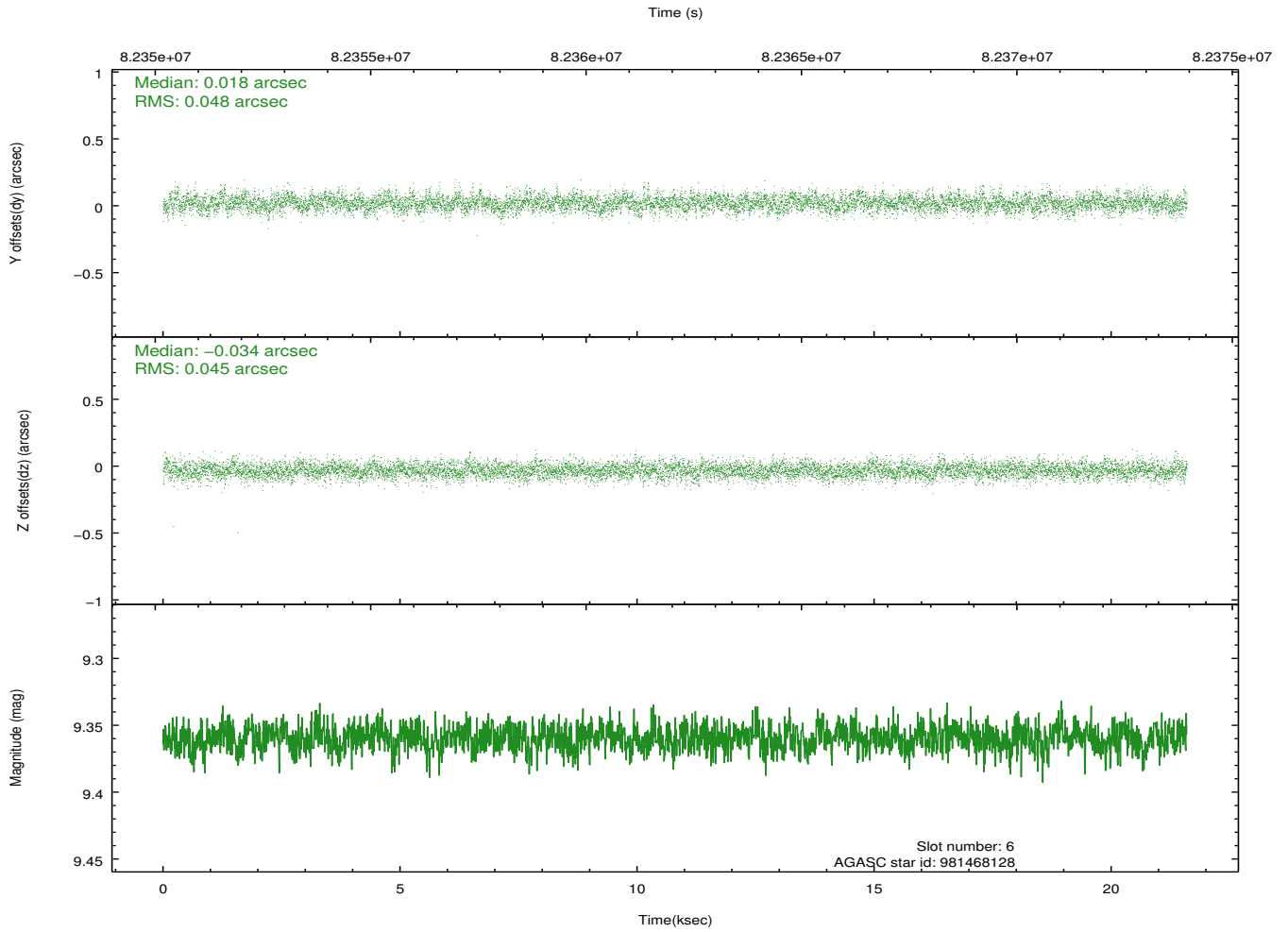
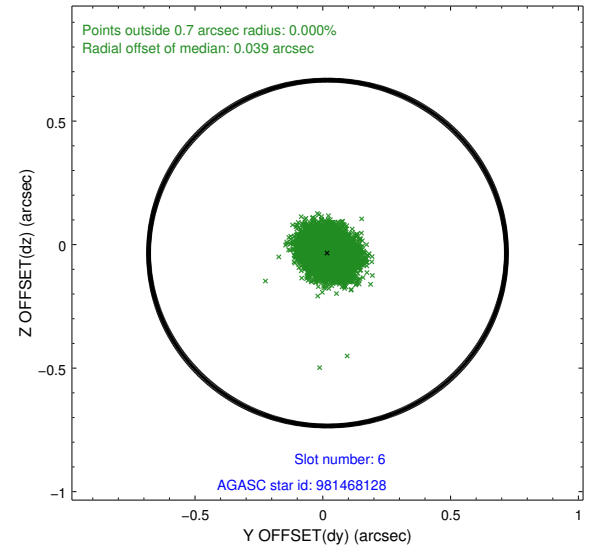
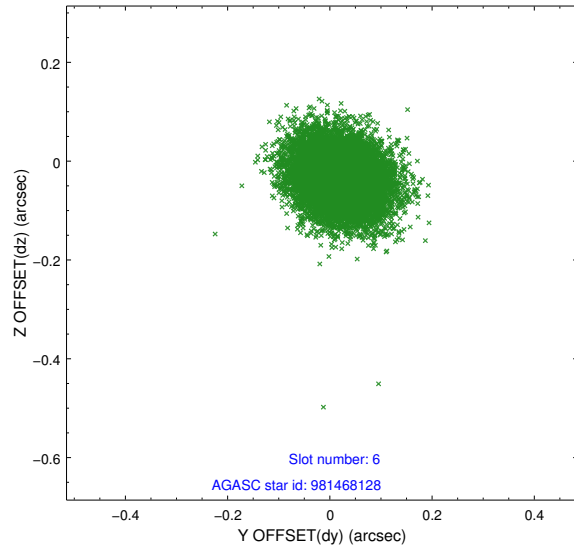
2.4.2 Slot 4



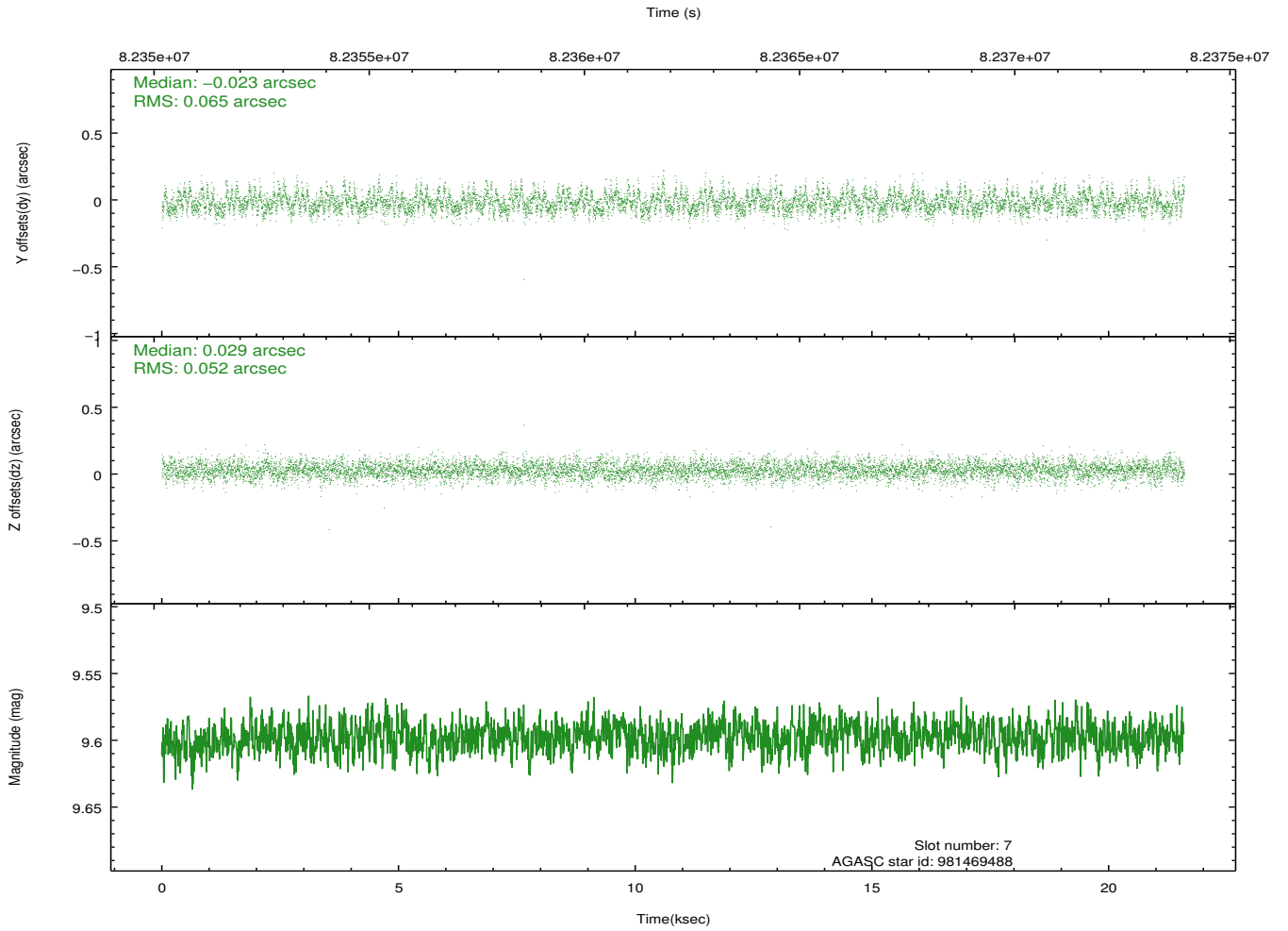
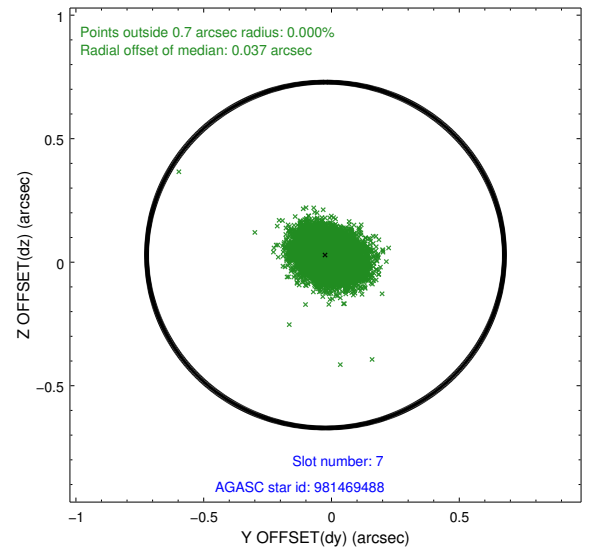
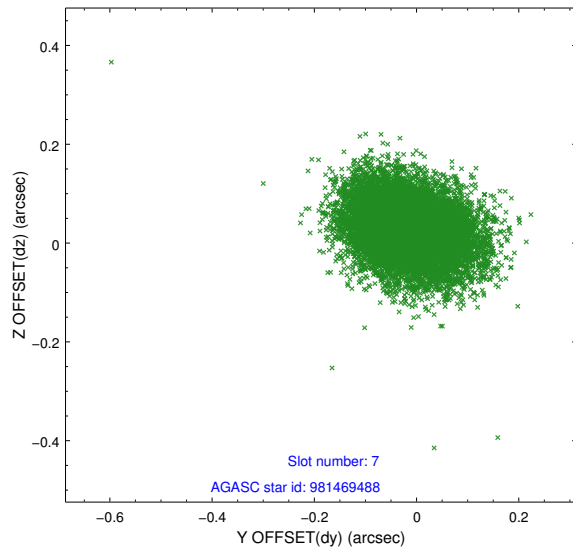
2.4.3 Slot 5



2.4.4 Slot 6

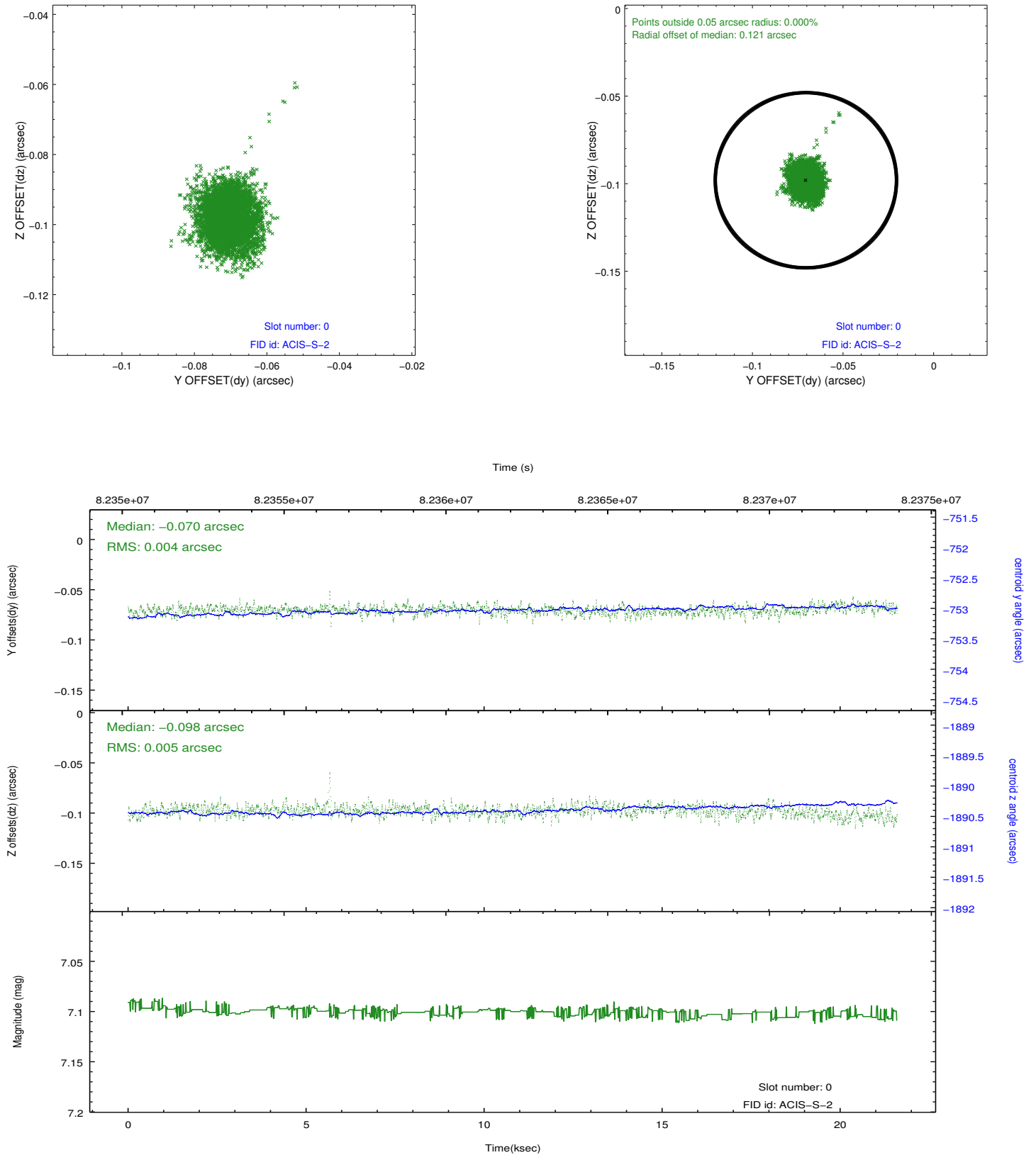


2.4.5 Slot 7

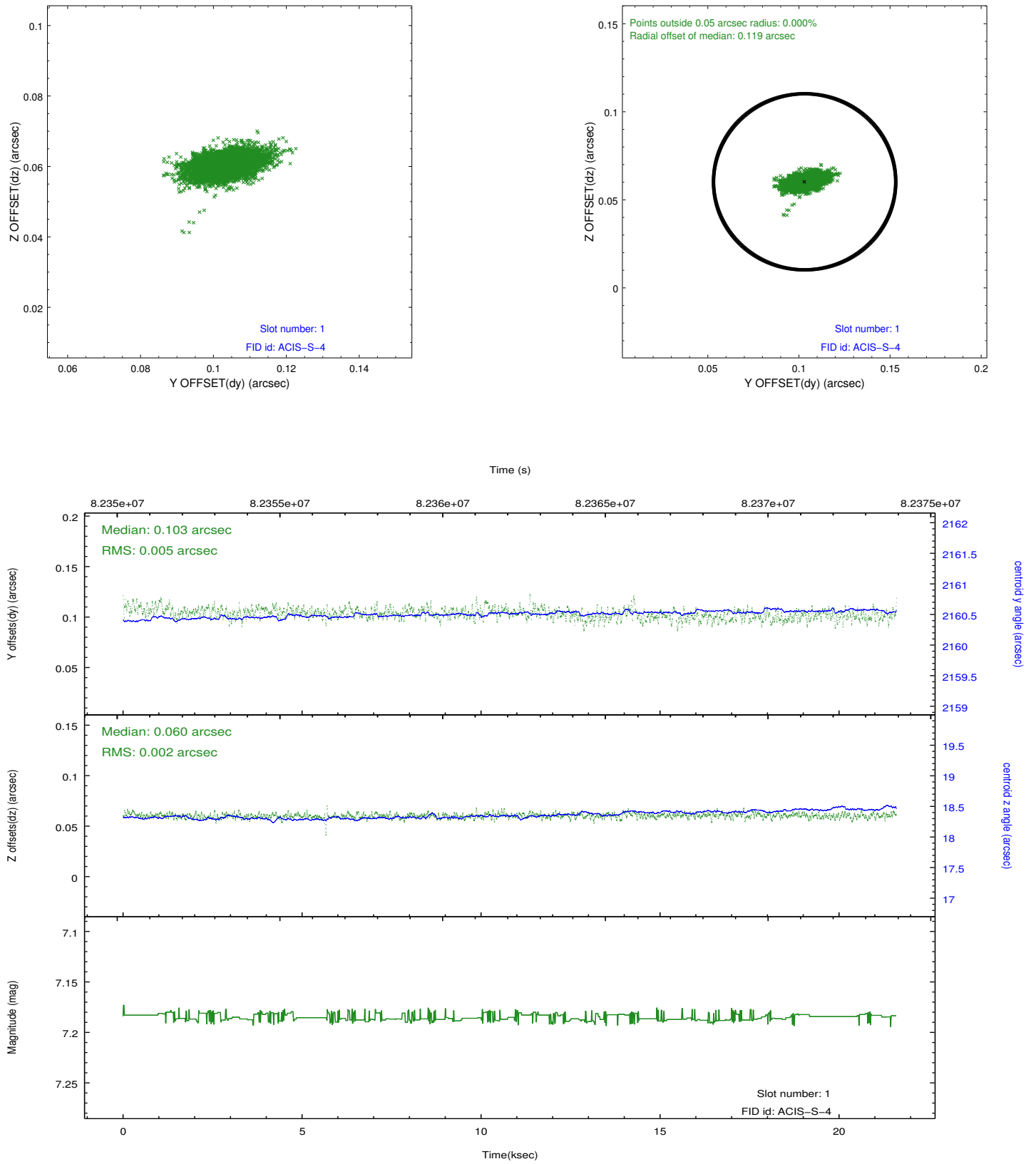


2.5 FID Slots

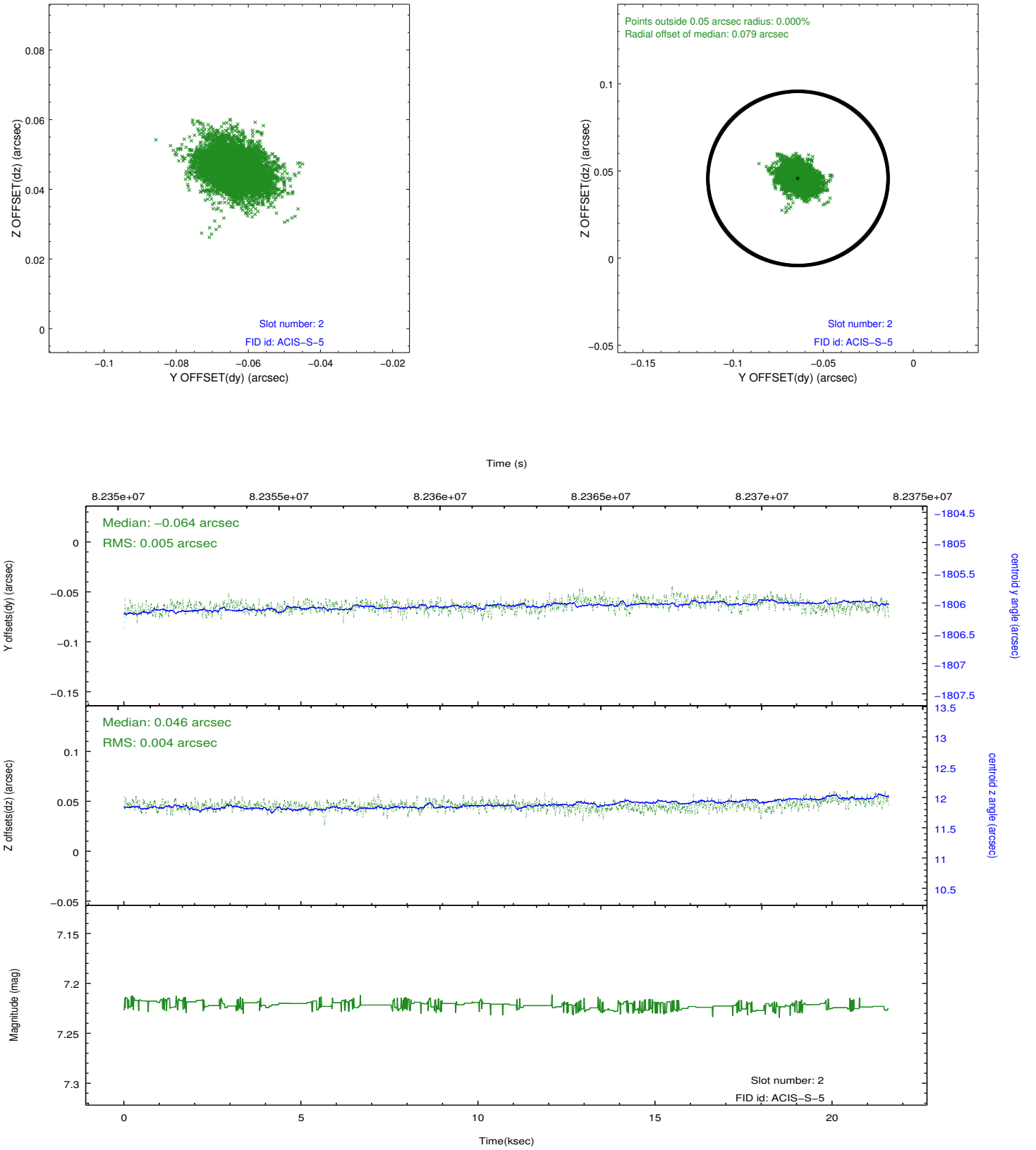
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

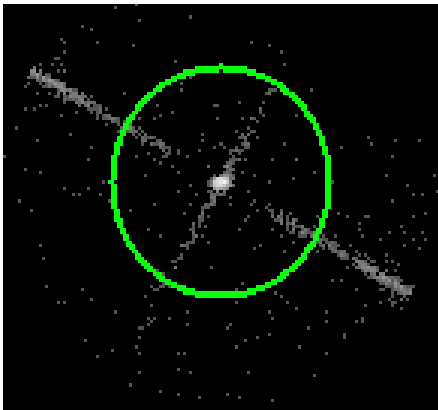


3 Gratings

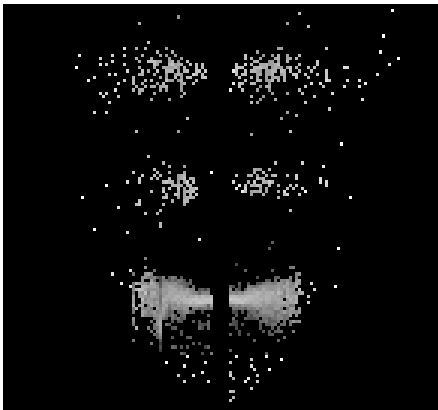
3.1 LETG Arm



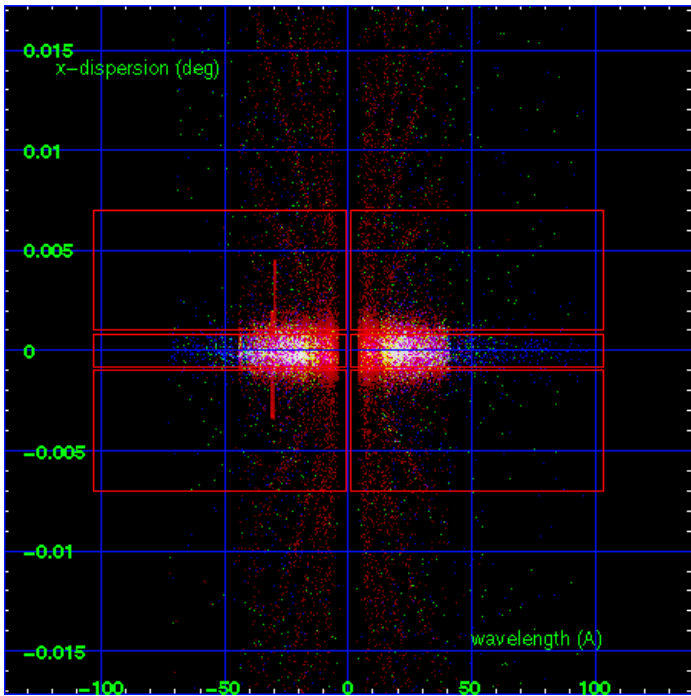
LETG Order Sort 123



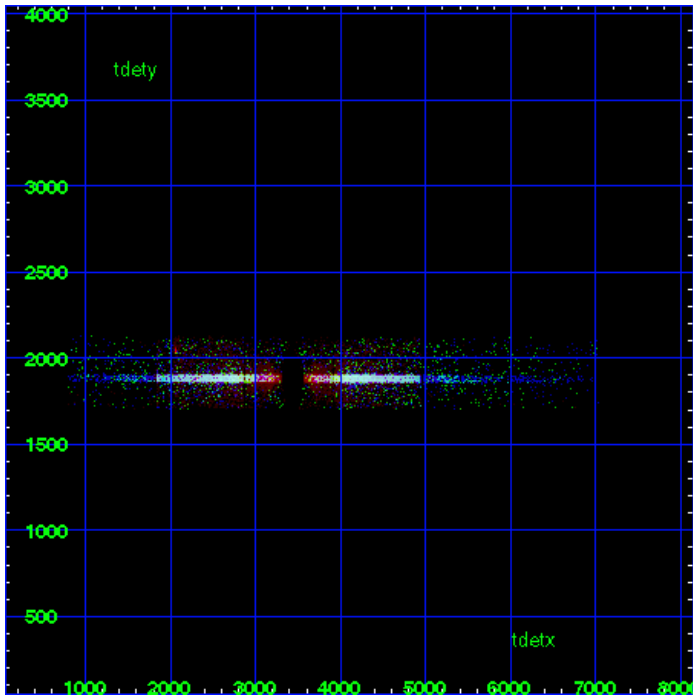
LETG Zero Order



LETG Order Sort ALL

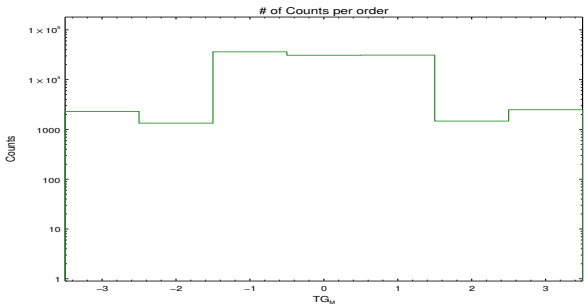


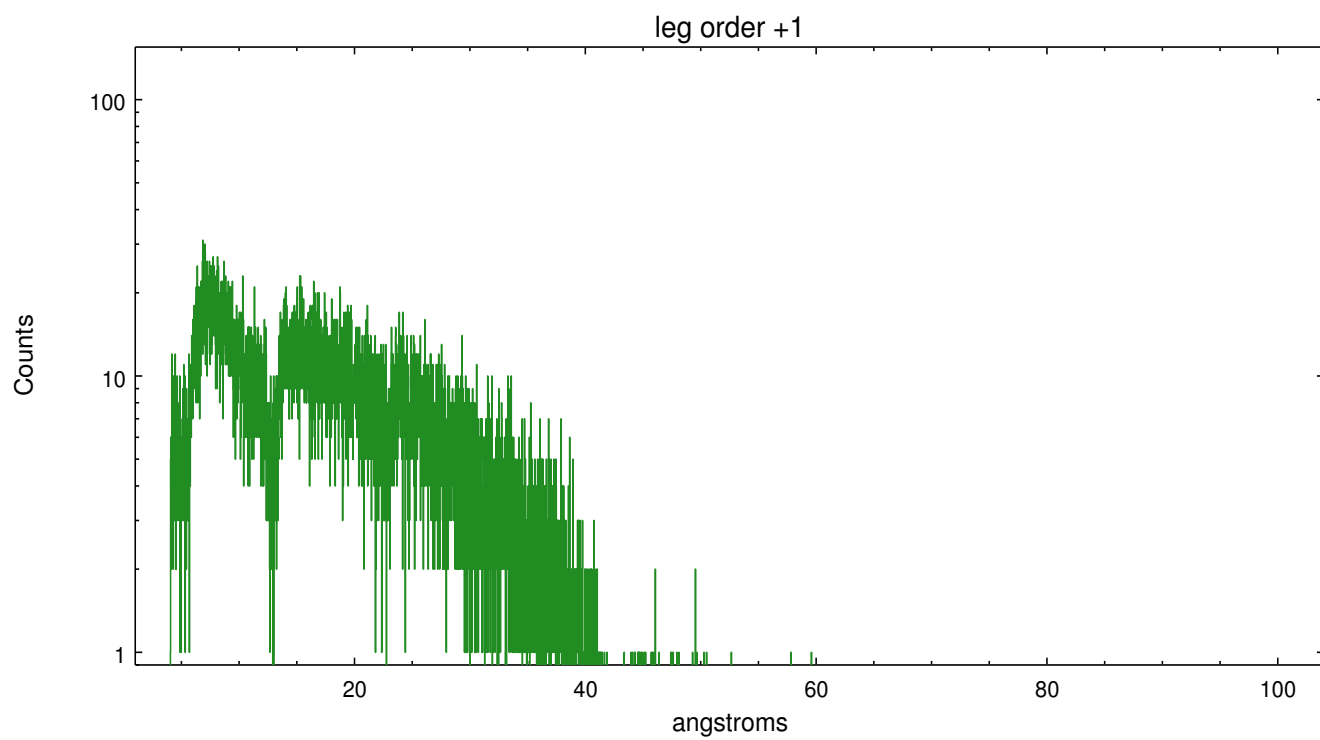
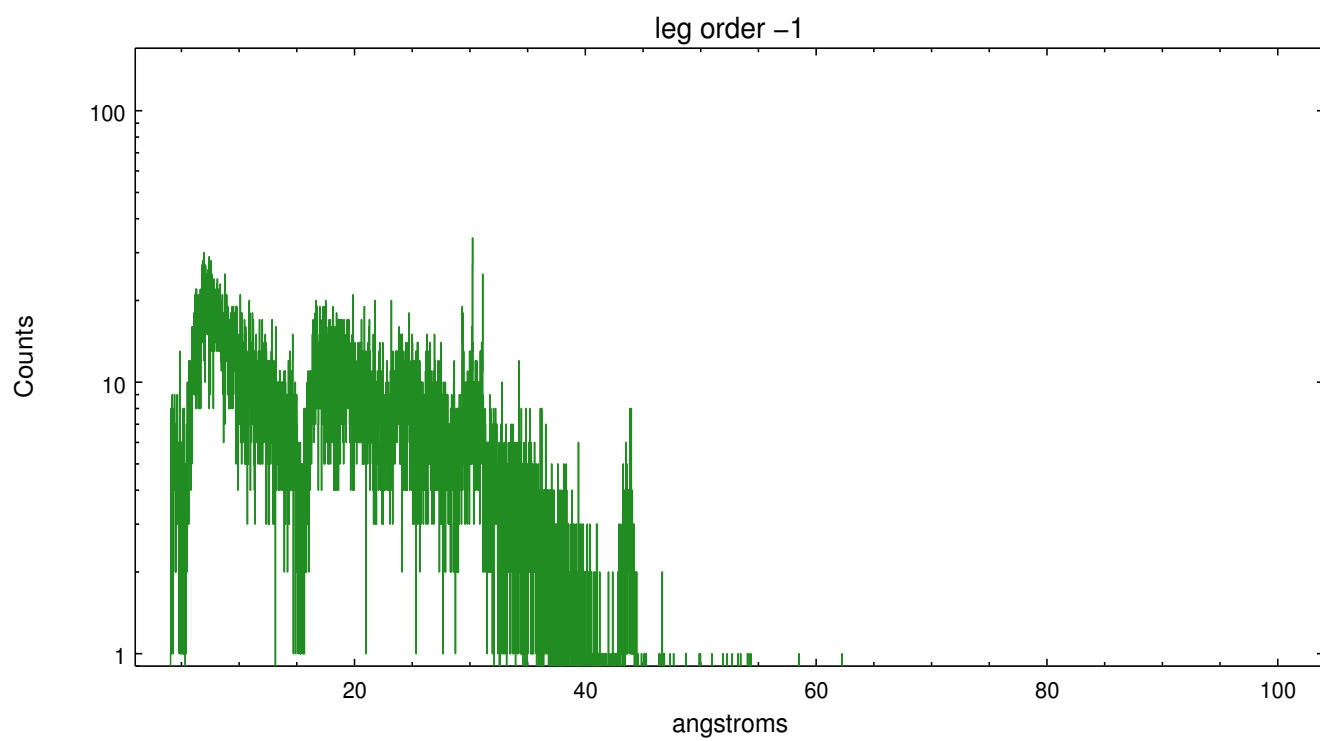
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	2300	1338	36198	30919	31144	1471	2486





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.09.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	21.158

A.2 Comments

This is an off-axis calibration observation. The PSF is significantly extended. The source position from tgdetect is the centroid of the zeroth order emission, and is not the brightest point. This may or may not be appropriate, depending on the desired analysis.

===

This calibration observation was acquired with the focal plane temperature raised from -120C to -110C, for attempted recalibration of ACIS for the 1999-09-16 through 2000-01-28 period. The current reprocessing of the data applies no charge-transfer inefficiency (CTI) adjustment to the data because the ACIS CTI adjustment has not been calibrated at this temperature. However, if the observation includes one or both back-illuminated CCDs ACIS-S1 and ACIS-S3, then a time-dependent gain adjustment is applied to the data for these CCDs.

===

Several bad pixels are not removed in the Level 2 event data. Two of these

bad pixels fall on the dispersed spectral order. These bad pixels mimic the dither pattern and thus affect an array of pixels in the event data.