

# V&V Reference Report

## L2 ASCDS Version : 8.4.3.1

Observation 6924 - L2 Version 3  
Chandra X-Ray Center

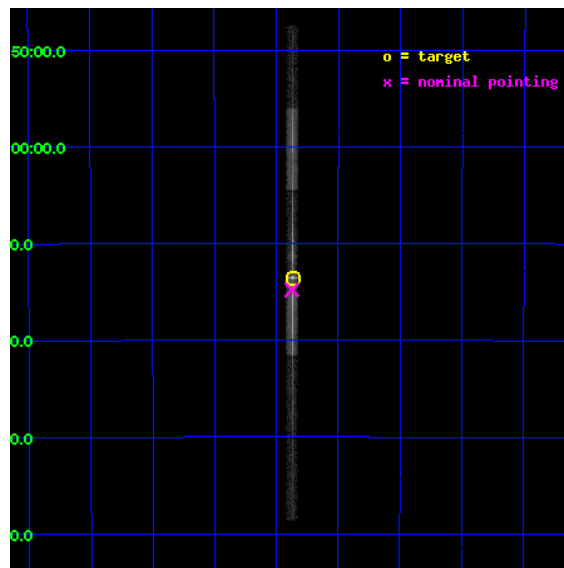
L2 Processing Date : Apr 4 2012

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# 1 Front

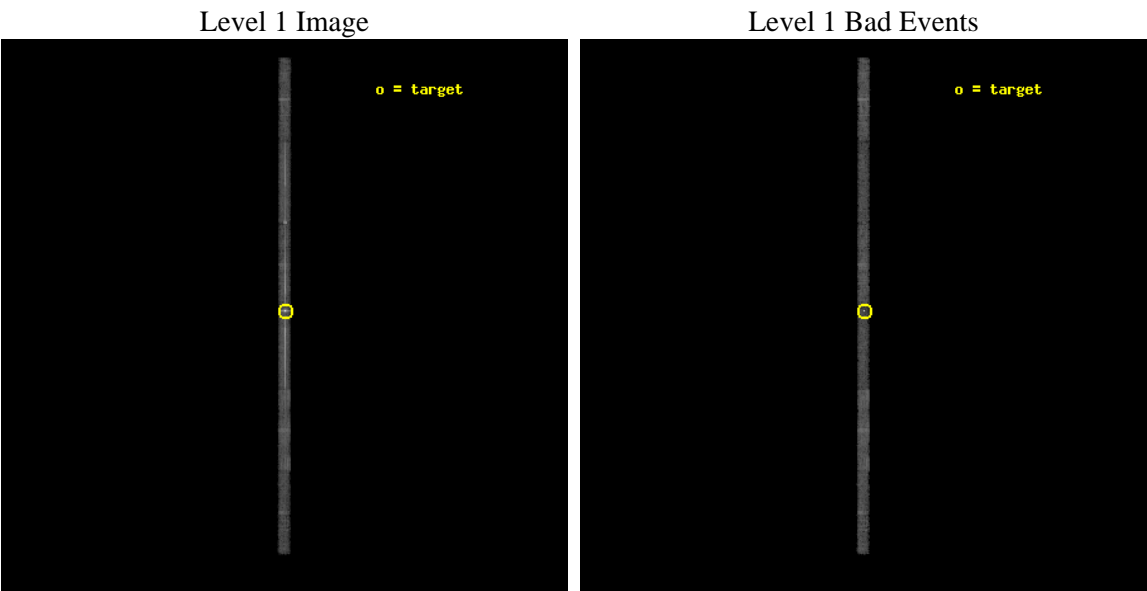
seq_num	790104	Sequence number
obs_id	6924	Observation id
title	AO7 Calibration Observations of PKS2155-304	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	PKS2155-304	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	329.716667	Observer's specified target RA [deg]
dec_targ	-30.225556	Observer's specified target Dec [deg]
ra_nom	329.71858599697	Nominal RA [deg]
dec_nom	-30.246523167672	Nominal Dec [deg]
roll_nom	90.04715245022	Nominal Roll [deg]
revision	3	Processing version of data
ontime	10030.999829113	Sum of GTIs [s]
liveltime	9475.4667499452	Livetime [s]
ontime4	10030.999829113	Sum of GTIs [s]
ontime5	10030.965432703	Sum of GTIs [s]
ontime6	10030.9243927	Sum of GTIs [s]
ontime7	10030.999829113	Sum of GTIs [s]
ontime8	10030.883352697	Sum of GTIs [s]
ontime9	10030.842312694	Sum of GTIs [s]
l2events	81832	Number of level 2 events



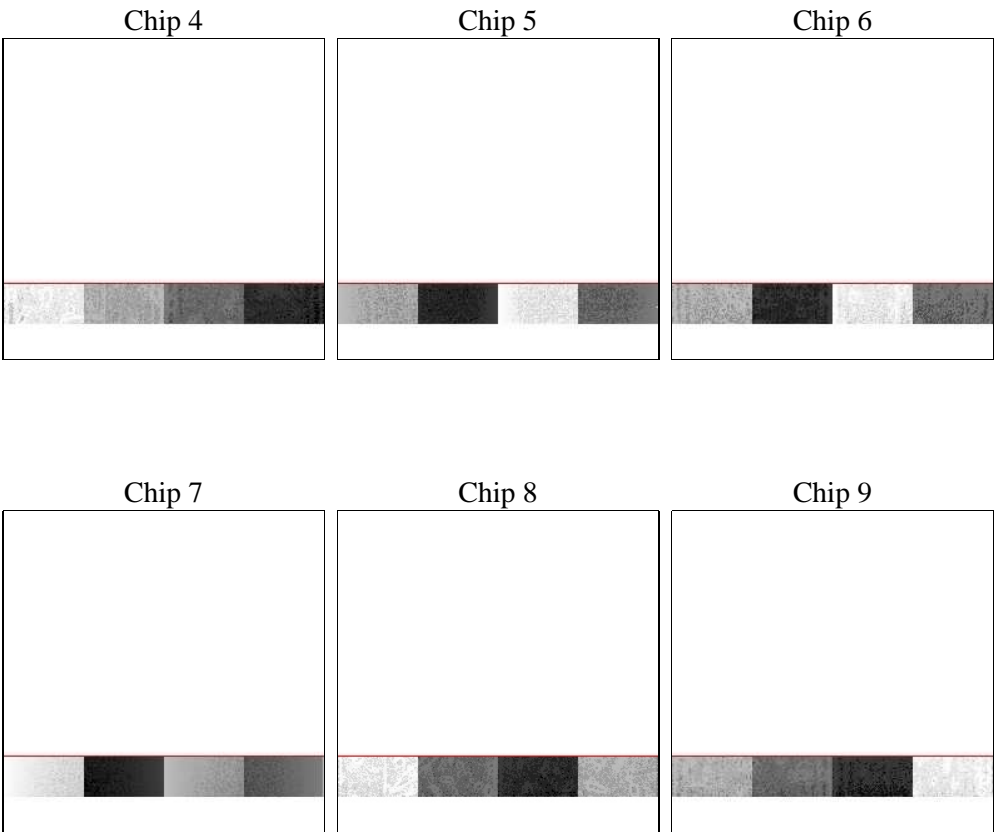
# 2 OBI

## 2.1 OBI

### 2.1.1 Images



### 2.1.2 Bias



Chip 7



Chip 8



Chip 9



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3.1	Processing system revision	ontime	10030.999829113	Sum of GTIs [s]
caldsver	4.4.9	&#160	ontime4	10030.999829113	Sum of GTIs [s]
date	2012-04-04T20:12:00	Date and time of file creation	ontime5	10030.965432703	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	10030.9243927	Sum of GTIs [s]
			ontime7	10030.999829113	Sum of GTIs [s]
			ontime8	10030.883352697	Sum of GTIs [s]
			ontime9	10030.842312694	Sum of GTIs [s]
			l1events	172320	Number of level 1 events

### 2.1.4 Events

	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	17256	25645	29770	62710	23226	13713
rejected events	14776	9381	13601	17244	17281	11459
rejected %	85%	36%	45%	27%	74%	83%

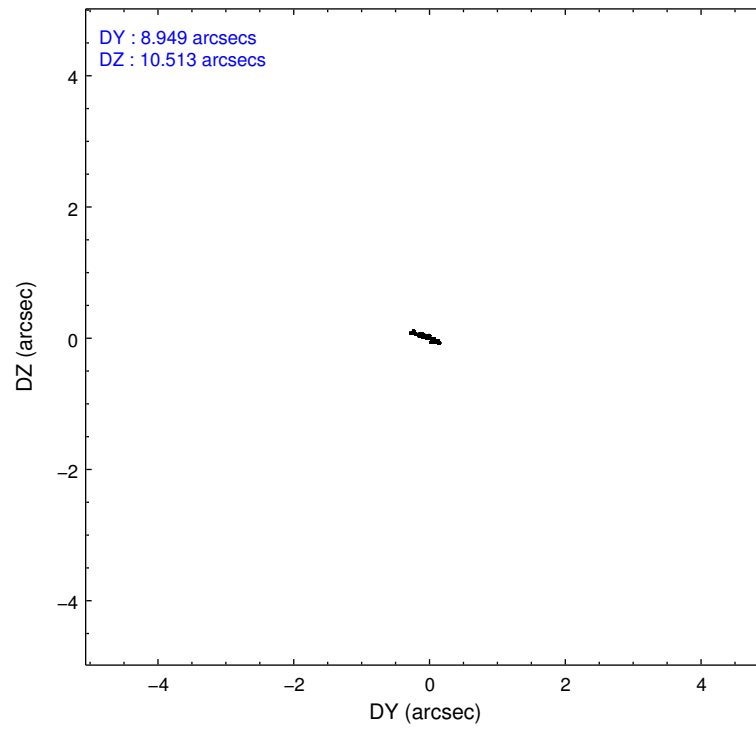
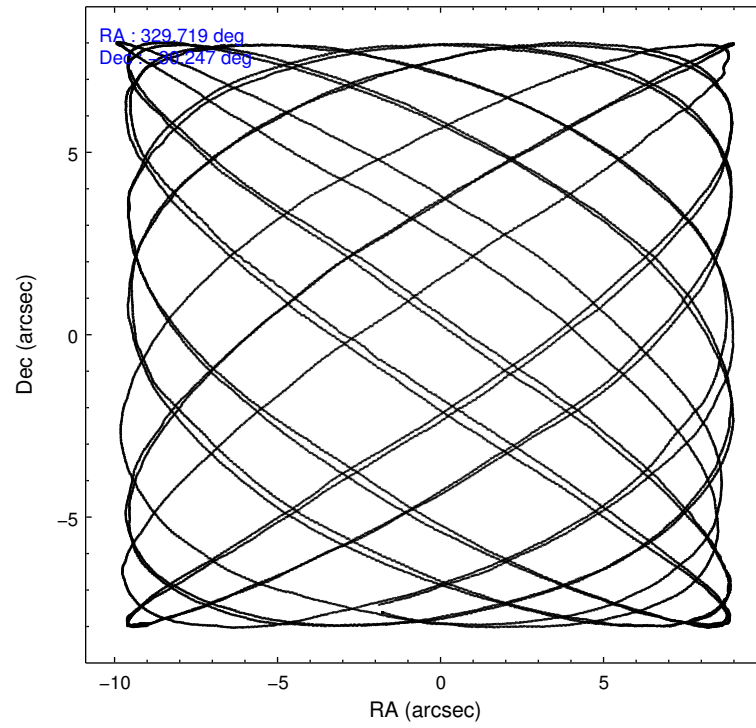
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	1190	6804	12748	12378	2426	1109
	6%	26%	42%	19%	10%	8%
grade 1 events	4	137	41	610	6	3
	0%	0%	0%	0%	0%	0%
grade 2 events	444	3271	1658	10864	993	313
	2%	12%	5%	17%	4%	2%
grade 3 events	281	1086	635	5152	623	292
	1%	4%	2%	8%	2%	2%
grade 4 events	275	1046	653	4868	602	265
	1%	4%	2%	7%	2%	1%
grade 5 events	488	1547	547	3792	657	484
	2%	6%	1%	6%	2%	3%
grade 6 events	298	4124	548	12371	1310	282
	1%	16%	1%	19%	5%	2%
grade 7 events	14276	7630	12940	12675	16609	10965
	82%	29%	43%	20%	71%	79%

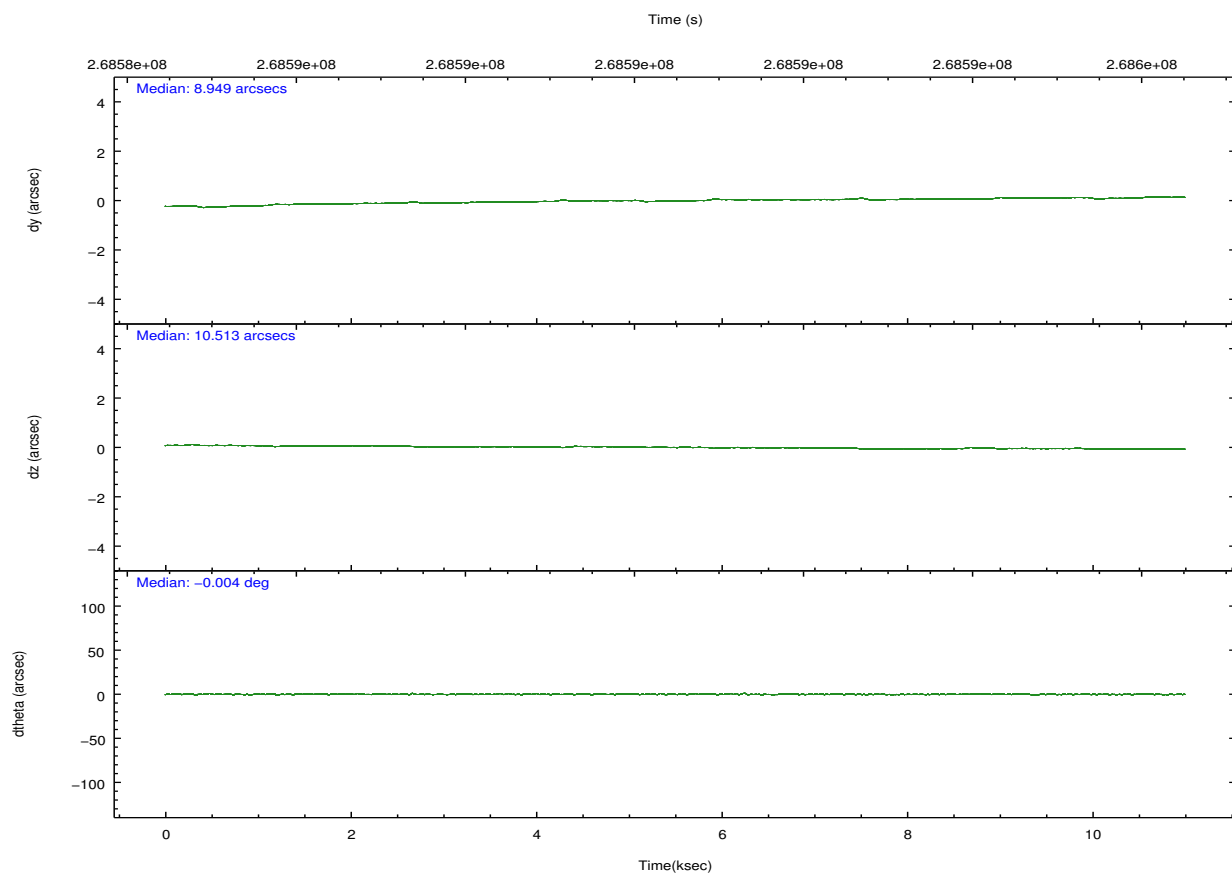
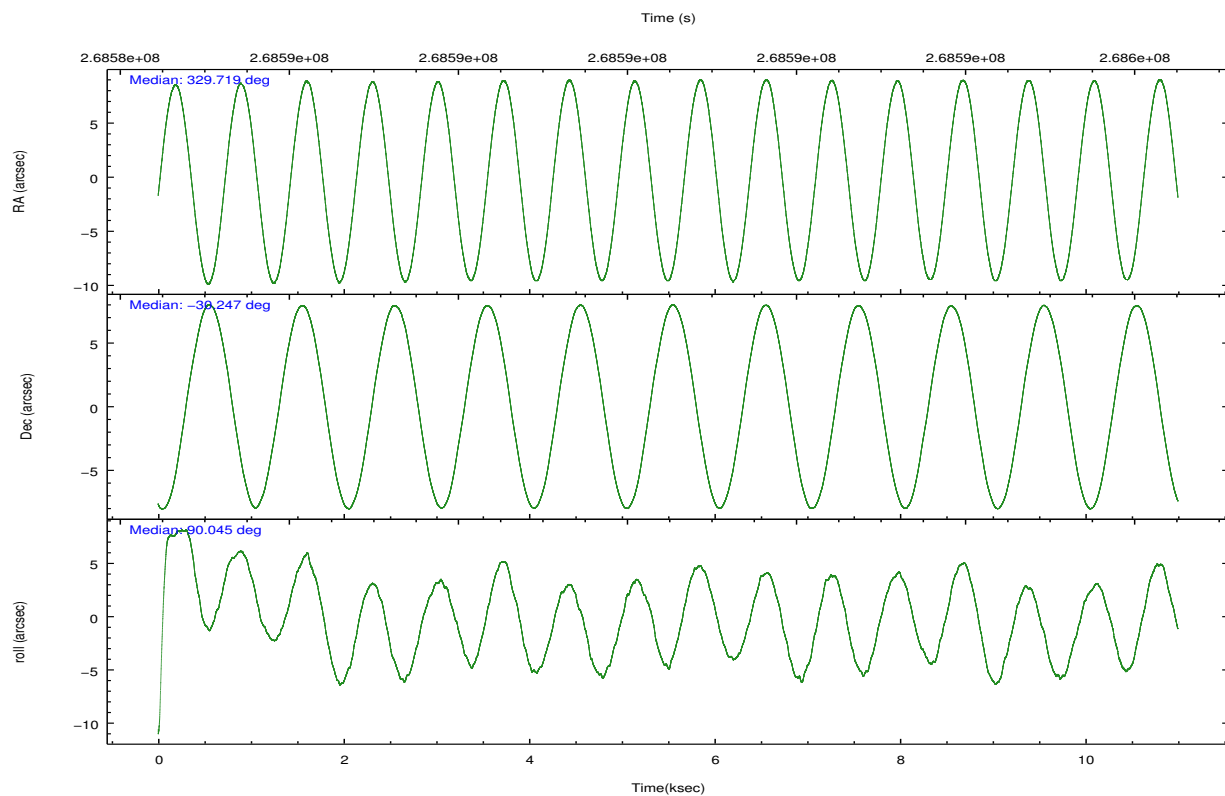


## 2.2 Compared Parameters

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	OVERRIDE	OVERRIDE
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	329.7185857336912	329.7185859969734	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	-30.24655113459357	-30.24652316767169	Subarray start row	113	113
[deg] Pointing Roll	90.04715230605476	90.04715245021964	Subarray row count	128	128
[mm] SIM focus pos	-0.68282252473119	-0.68282252473119	Alternating exposures requested	N	N
[mm] SIM defocus	0.001444942264670734	0.001444942264670734	[s] Primary exposure time	0.7	0.7
[mm] SIM translation stage pos	-182.137000445	-182.137000445			
[mm] SIM translation stage offset	-7.995522658967189	-7.995522658967189			
[s] Observation start time (MET)	268584984.254331	268584984.254331			
Observation start date	2006-07-06T15:11:57	2006-07-06T14:56:24			
[s] Observation end time (MET)	268595983.529847	268595983.529847			
Observation end date	2006-07-06T17:58:37	2006-07-06T17:59:43			
Read mode	TIMED	TIMED			

## 2.3 Aspect



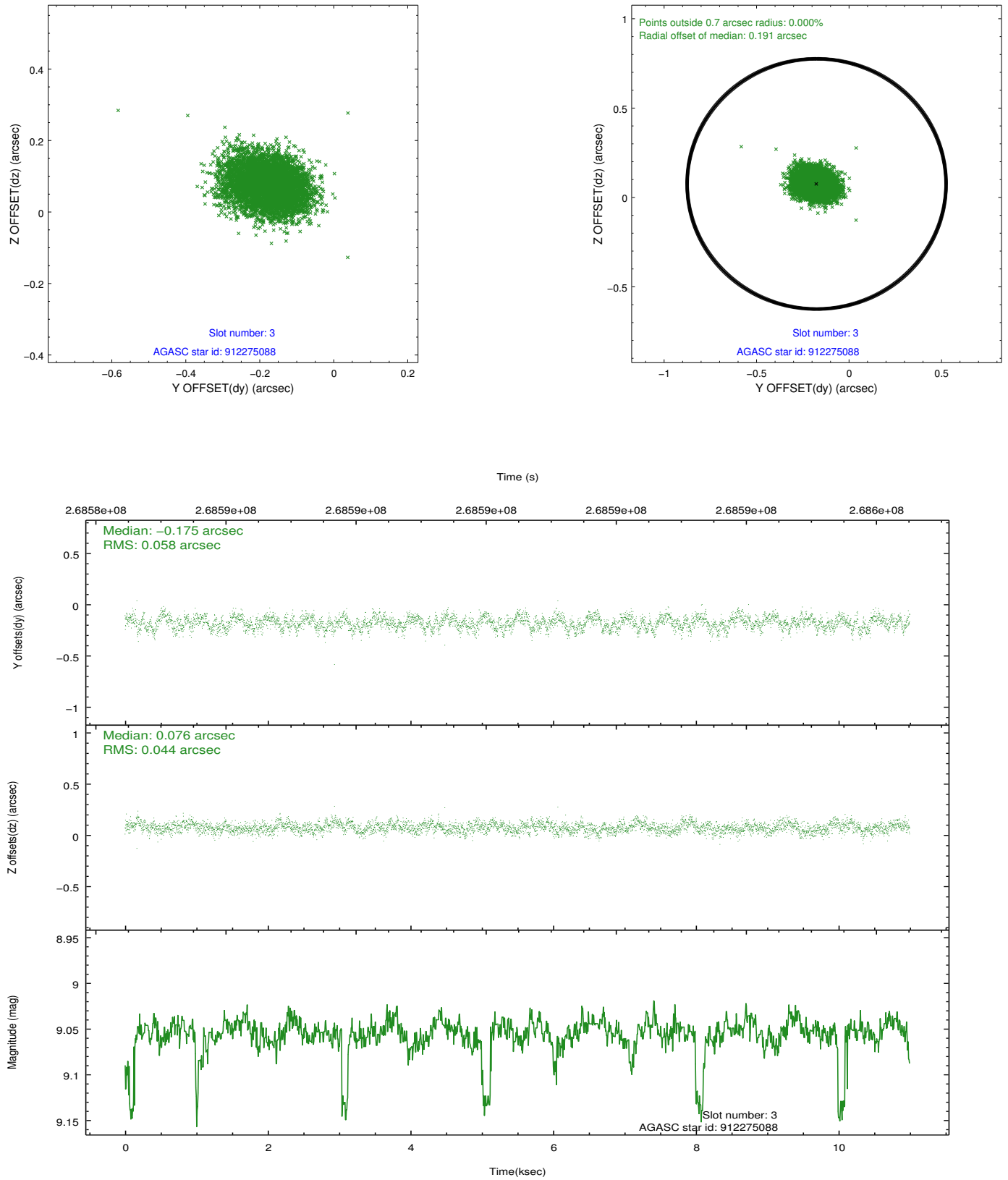


### Slot Statistics

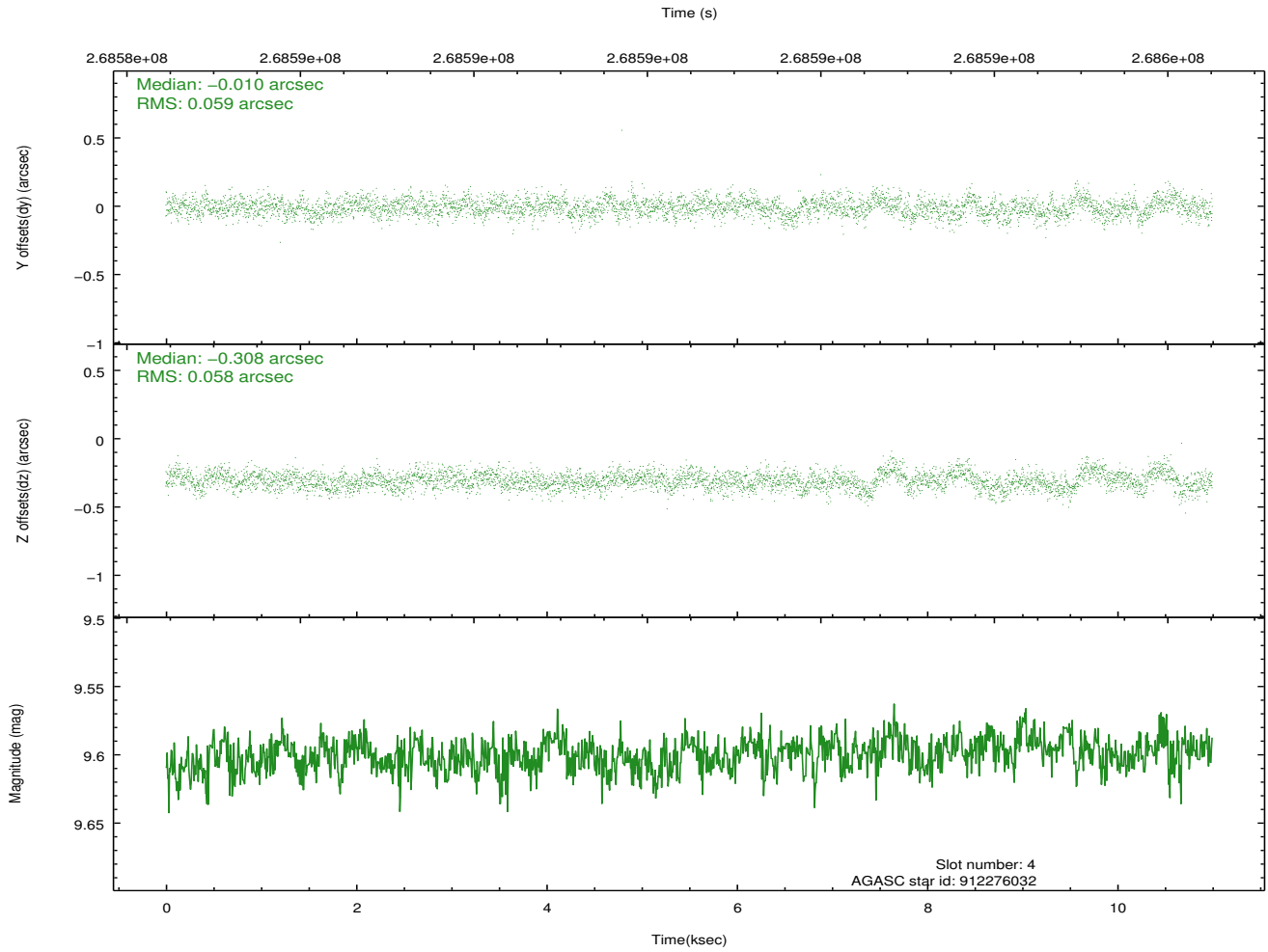
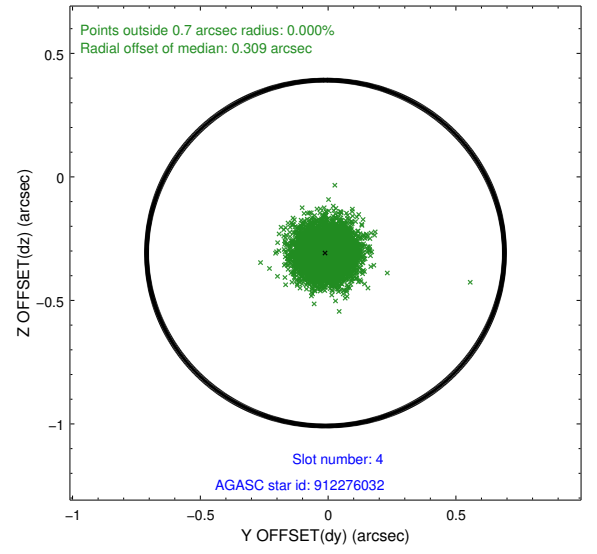
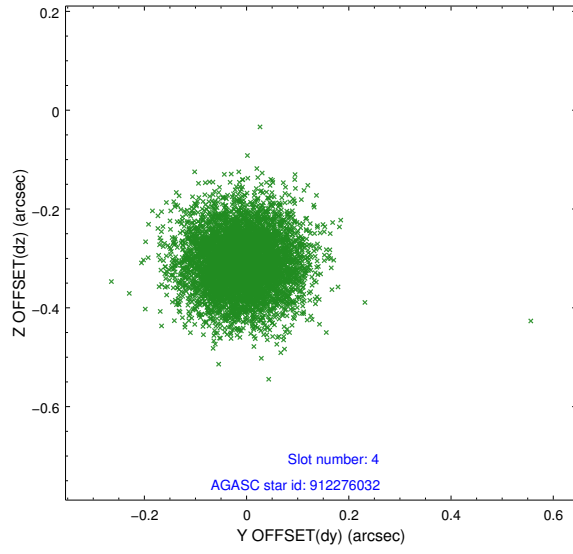
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	2683	-0.060	-0.110	0.007	0.012	0.000000	0.000000	-761.21	-1896.60
1	FID	ACIS-S-4	7.18	2683	0.150	0.058	0.011	0.021	0.000000	0.000000	2152.05	11.50
2	FID	ACIS-S-5	7.23	2683	-0.121	0.059	0.010	0.018	0.000000	0.000000	-1813.52	5.69
3	GUIDE	912275088	9.05	5344	-0.175	0.076	0.079	0.126	329.619228	-29.738698	1911.34	364.78
4	GUIDE	912276032	9.60	5361	-0.010	-0.308	0.087	0.143	329.395967	-29.803466	1676.08	1061.25
5	GUIDE	981468128	9.35	5361	0.134	0.449	0.089	0.143	329.756350	-30.158334	402.13	-65.87
6	GUIDE	981471664	6.35	5366	-0.038	-0.254	0.054	0.084	328.981826	-30.605916	-1221.71	2330.27
7	GUIDE	981475568	8.18	5362	0.084	0.034	0.072	0.119	328.999408	-30.923402	-2364.08	2267.45

## 2.4 Star Slots

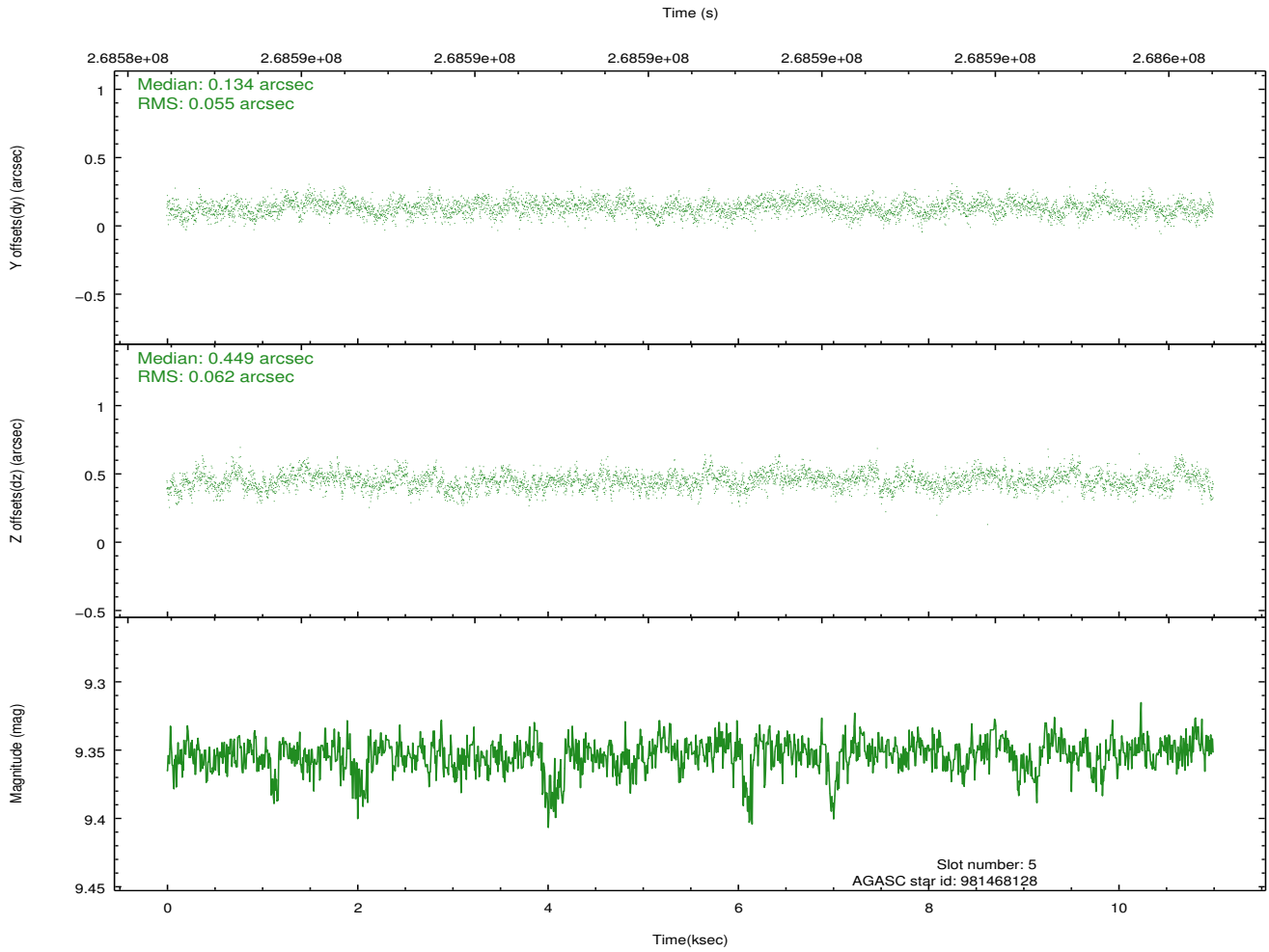
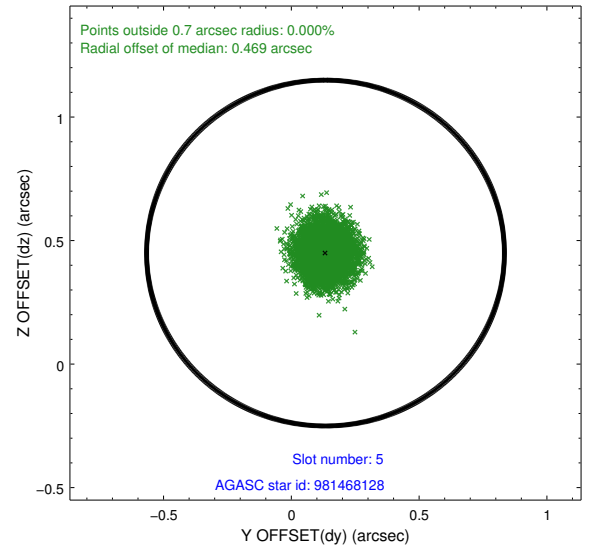
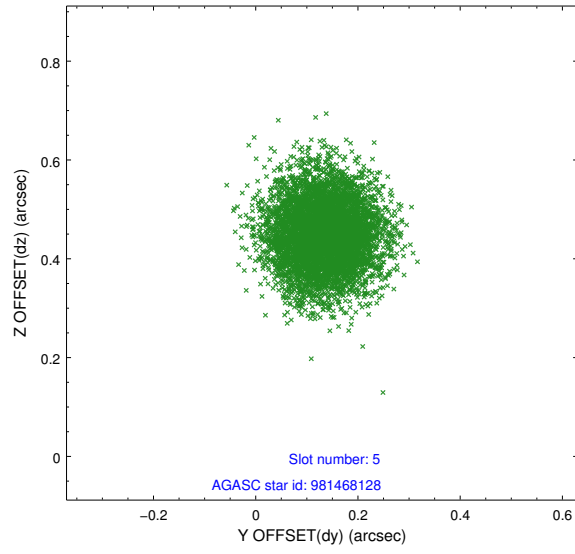
### 2.4.1 Slot 3



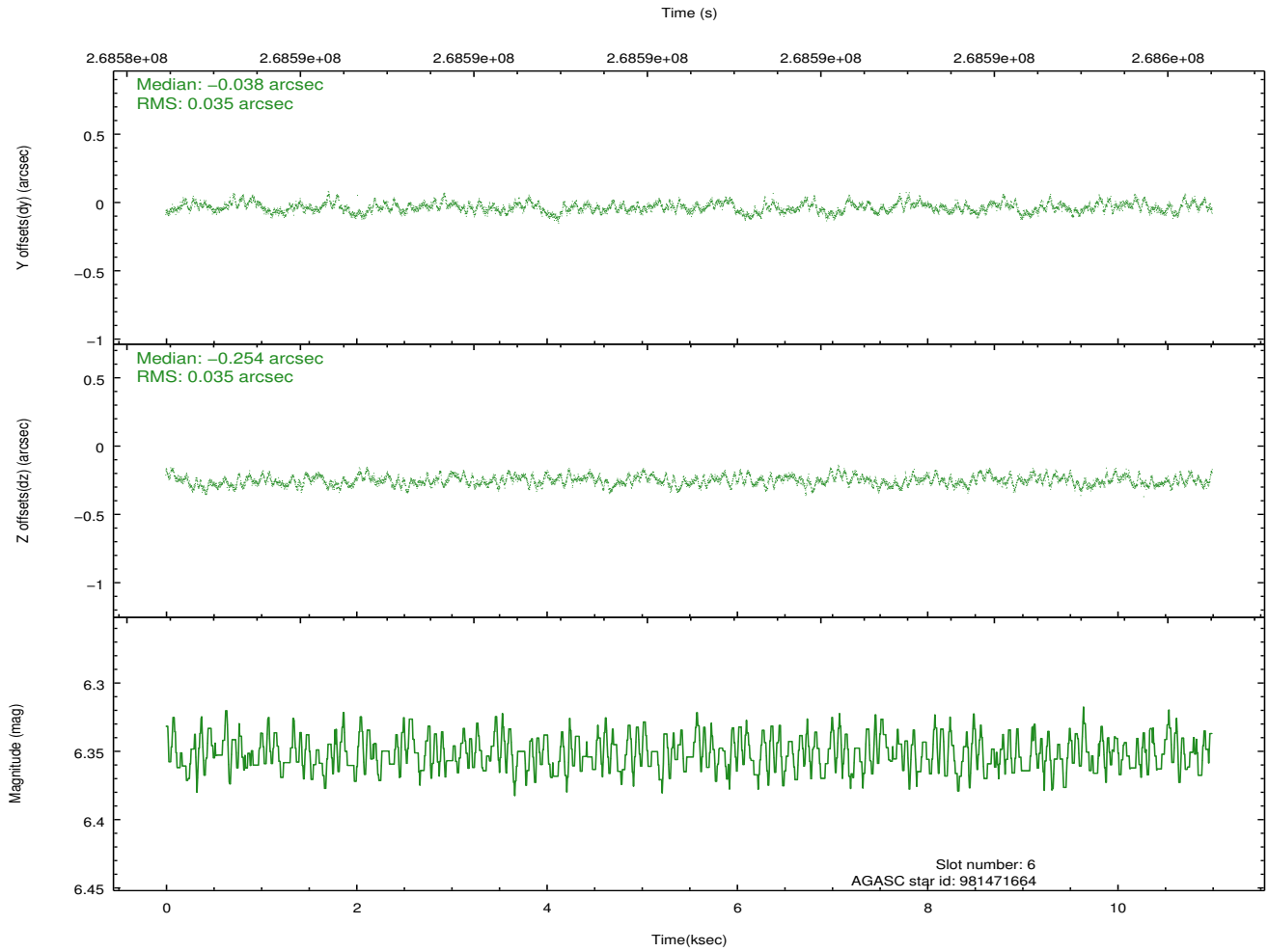
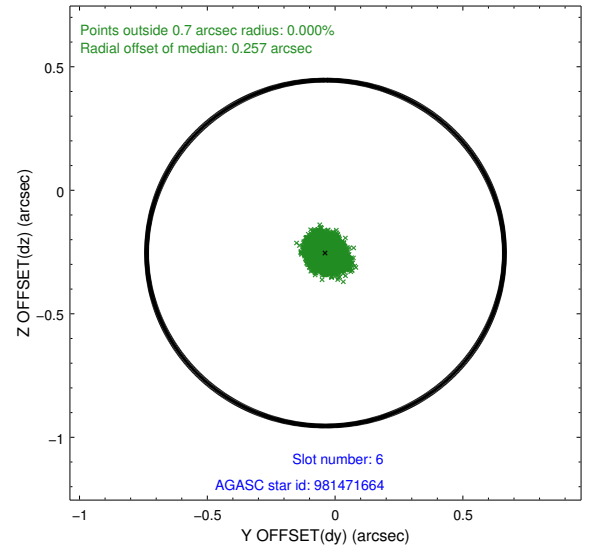
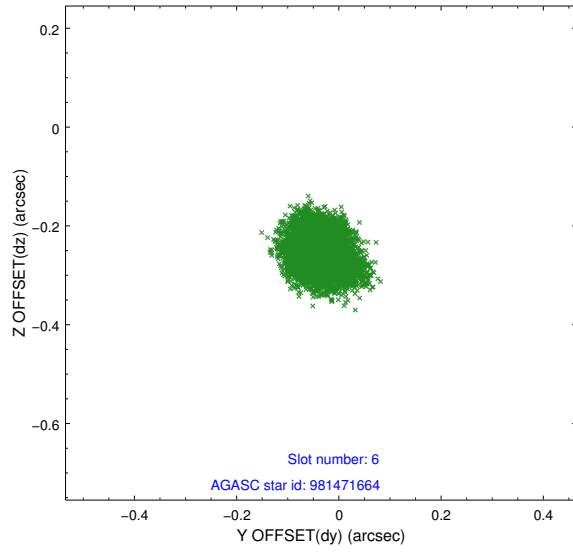
## 2.4.2 Slot 4



### 2.4.3 Slot 5

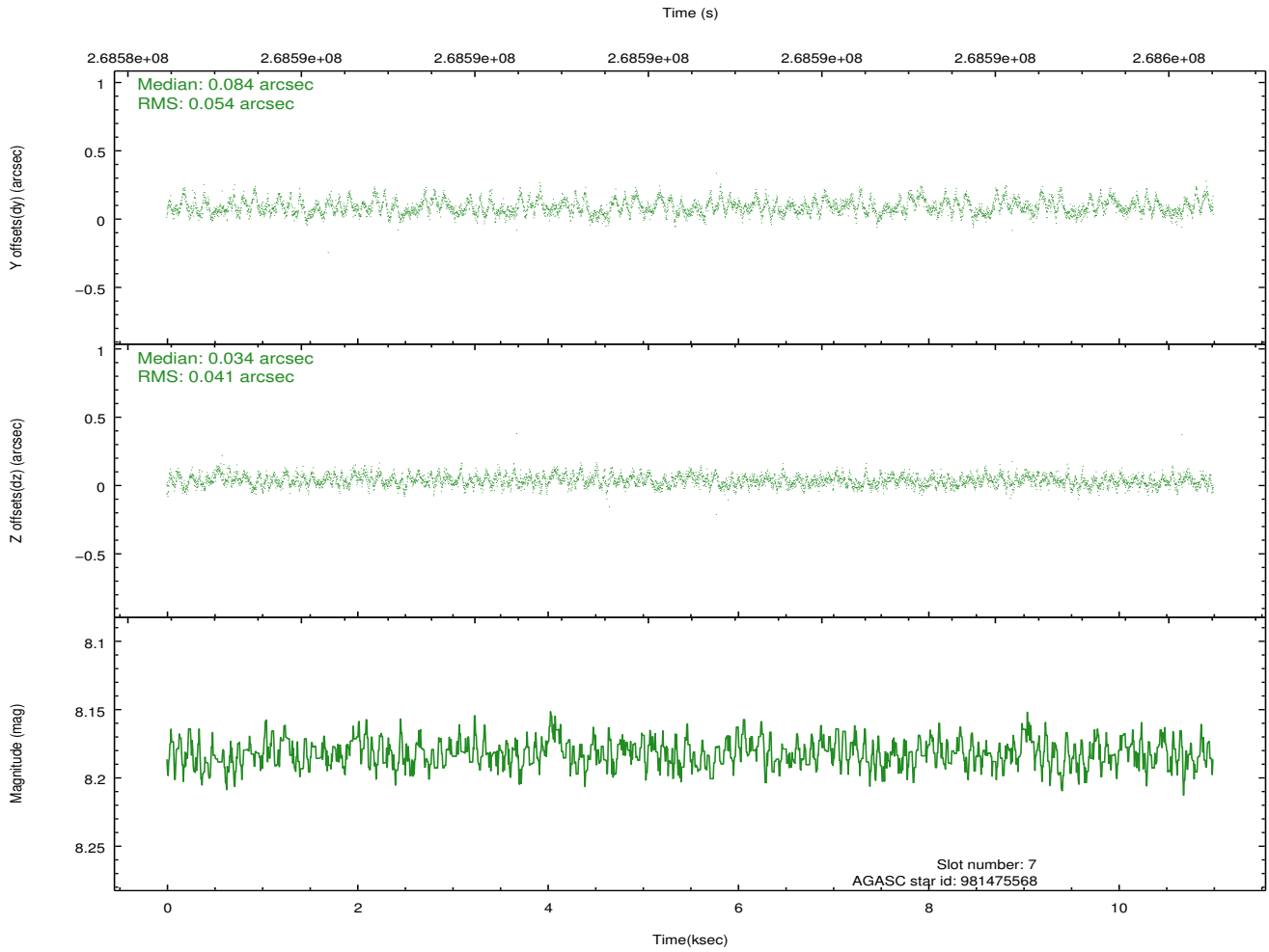
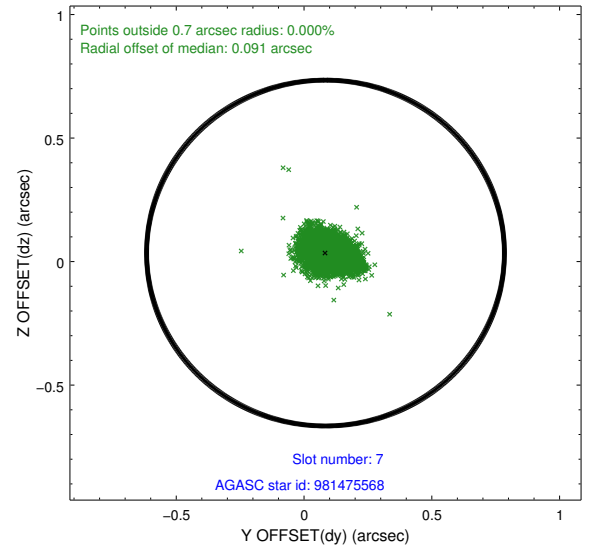
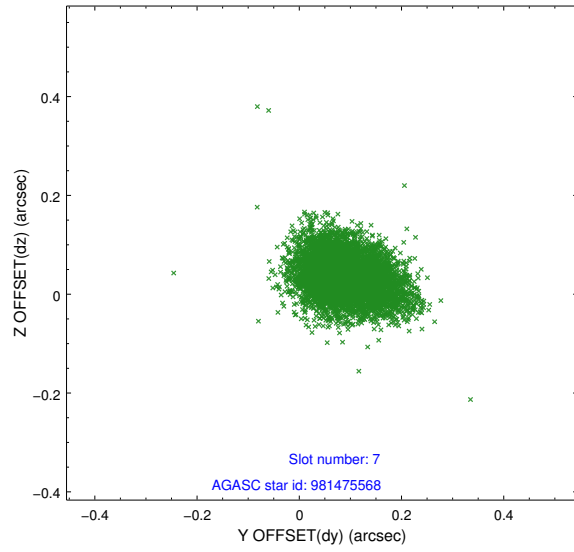


## 2.4.4 Slot 6



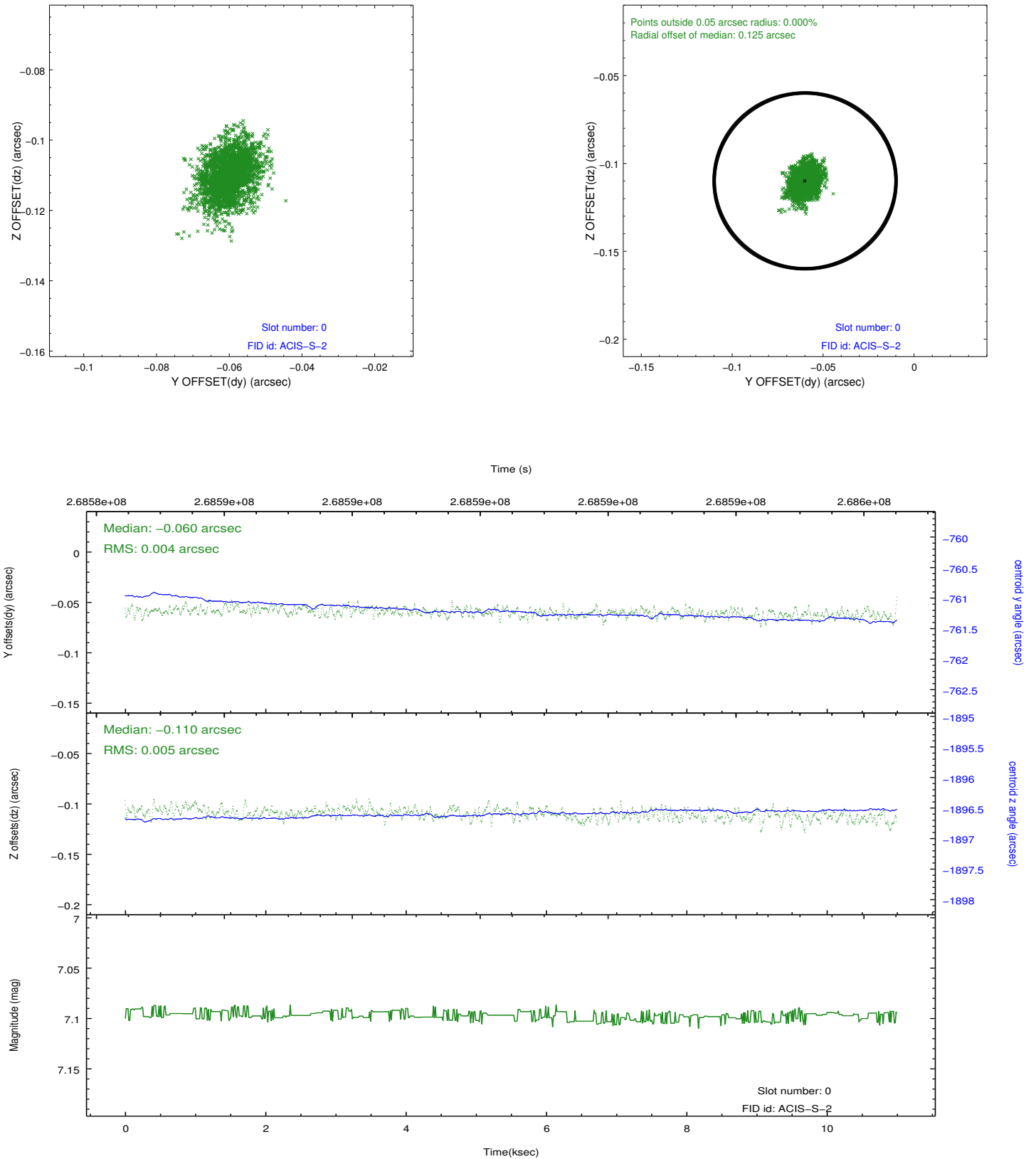


## 2.4.5 Slot 7

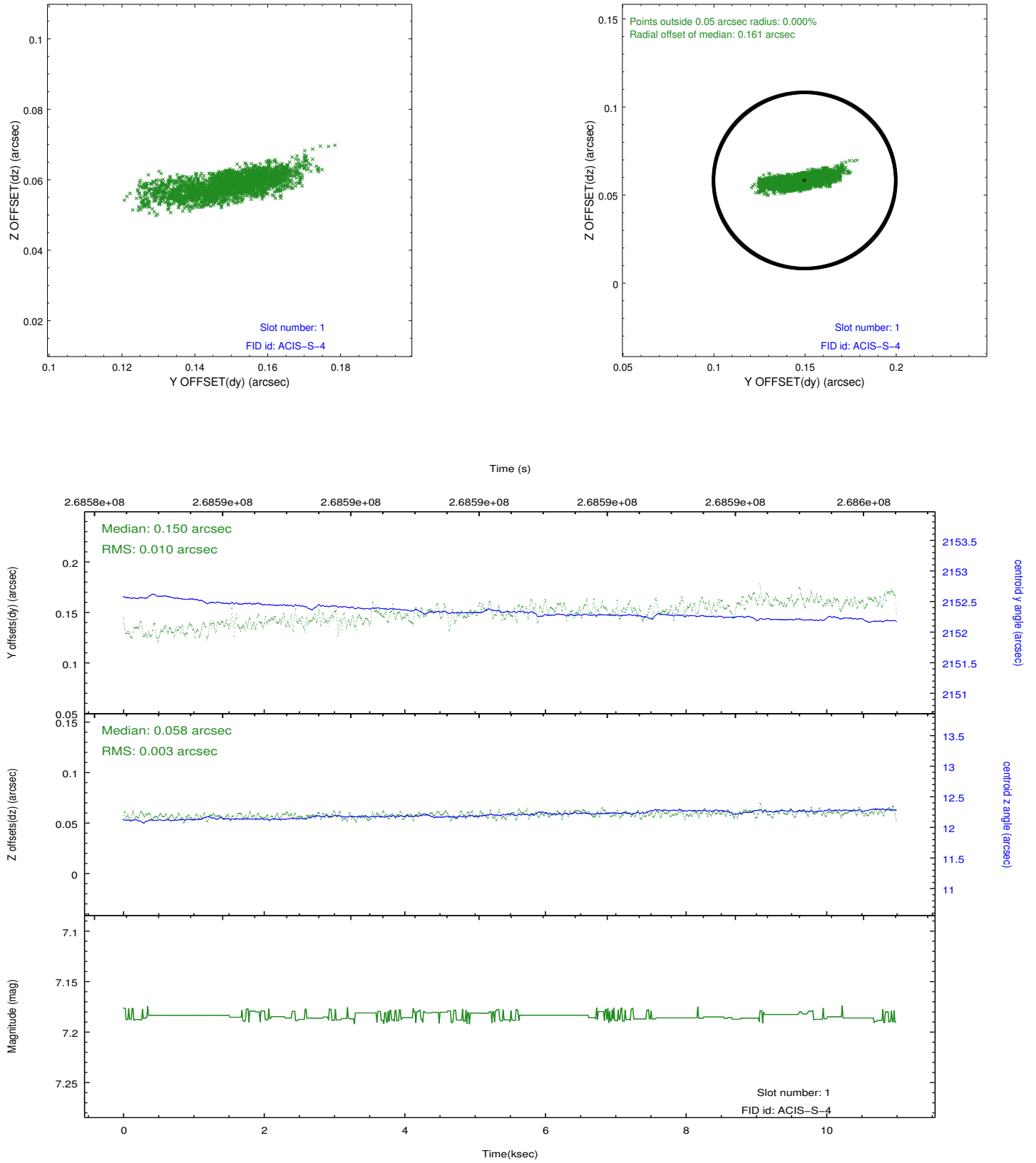


## 2.5 FID Slots

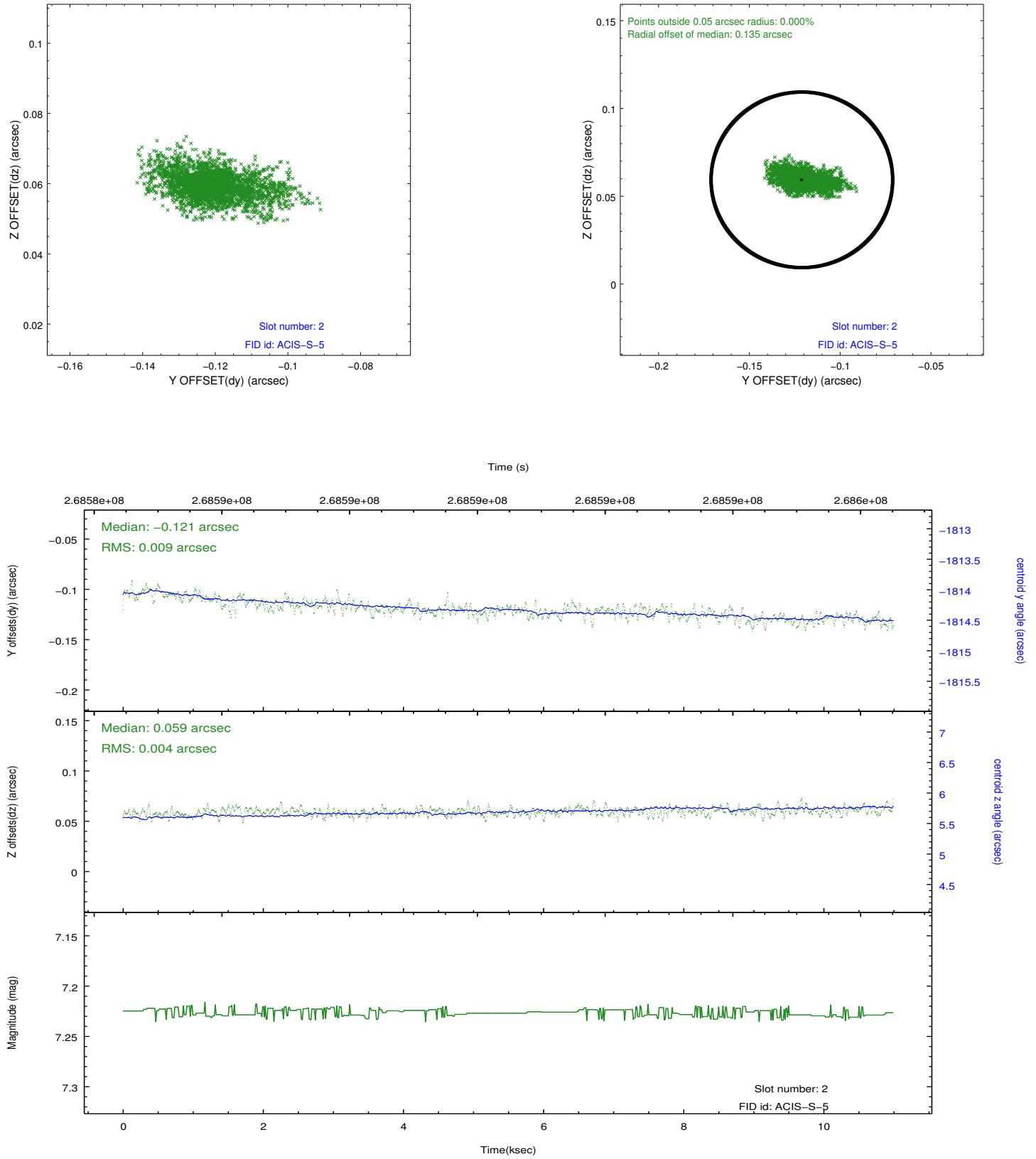
### 2.5.1 Slot 0



## 2.5.2 Slot 1

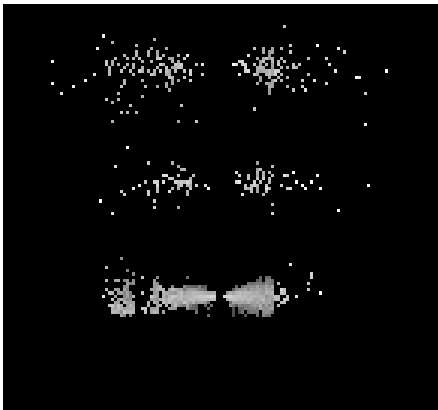


### 2.5.3 Slot 2

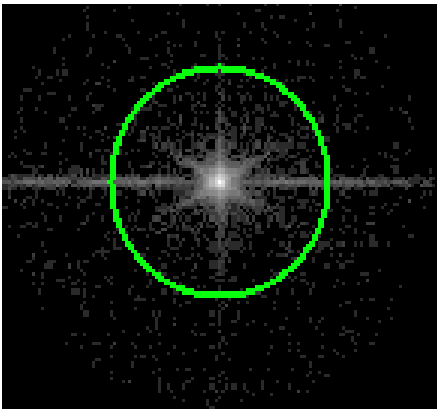


# 3 Gratings

## 3.1 LETG Arm



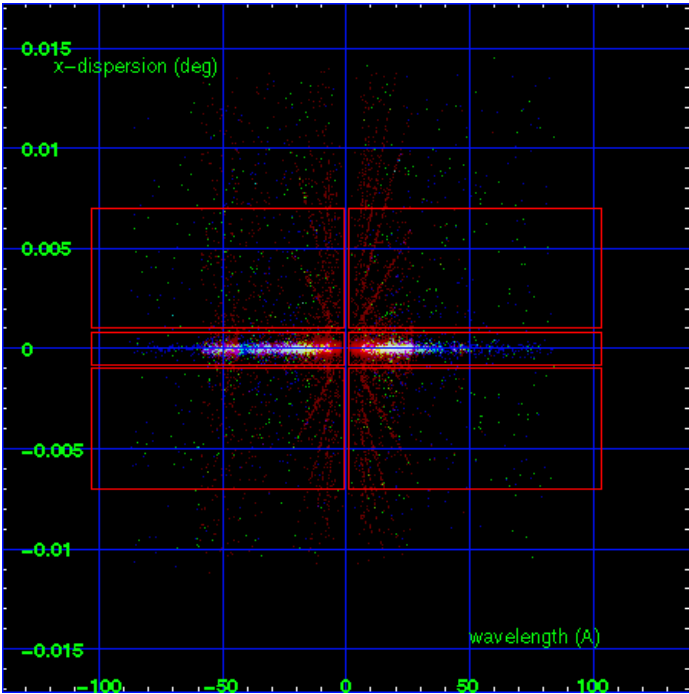
LETG Order Sort 123



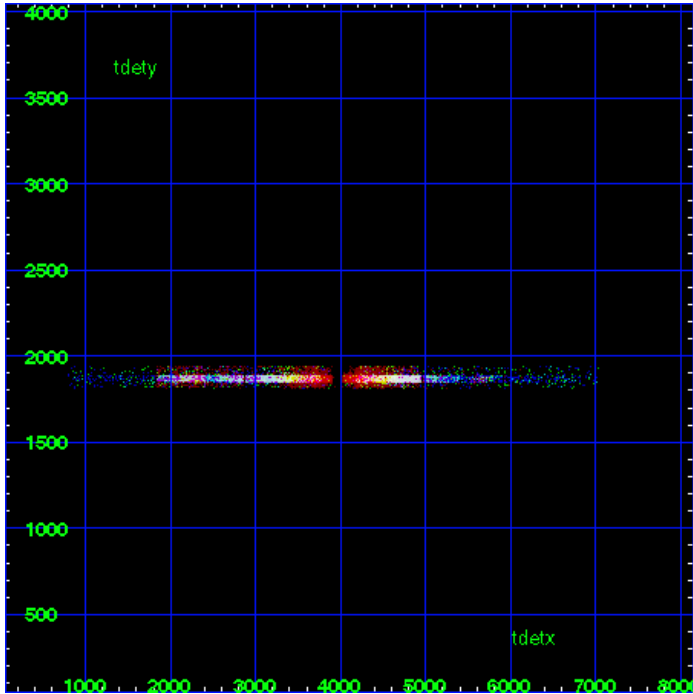
LETG Zero Order



LETG Order Sort ALL

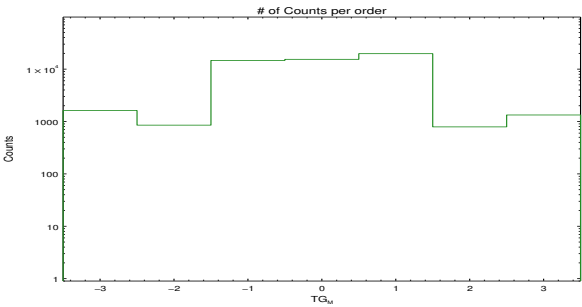


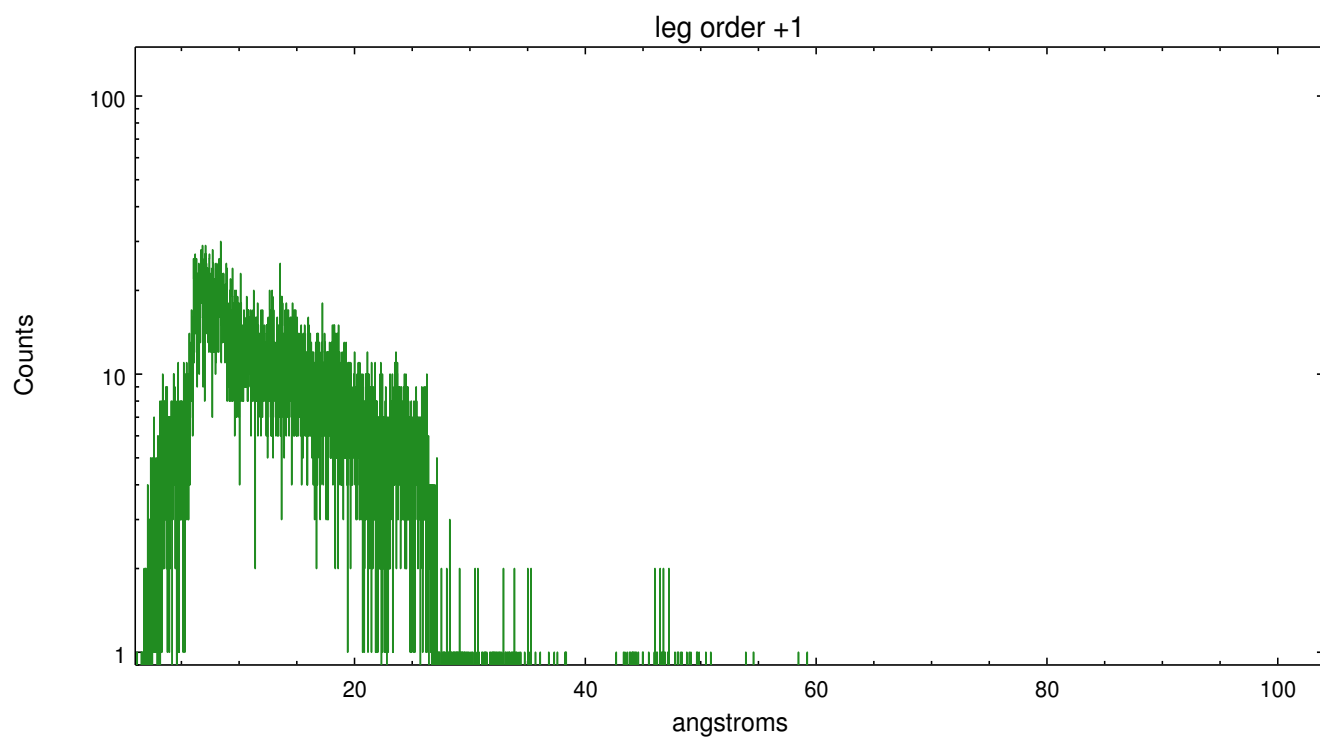
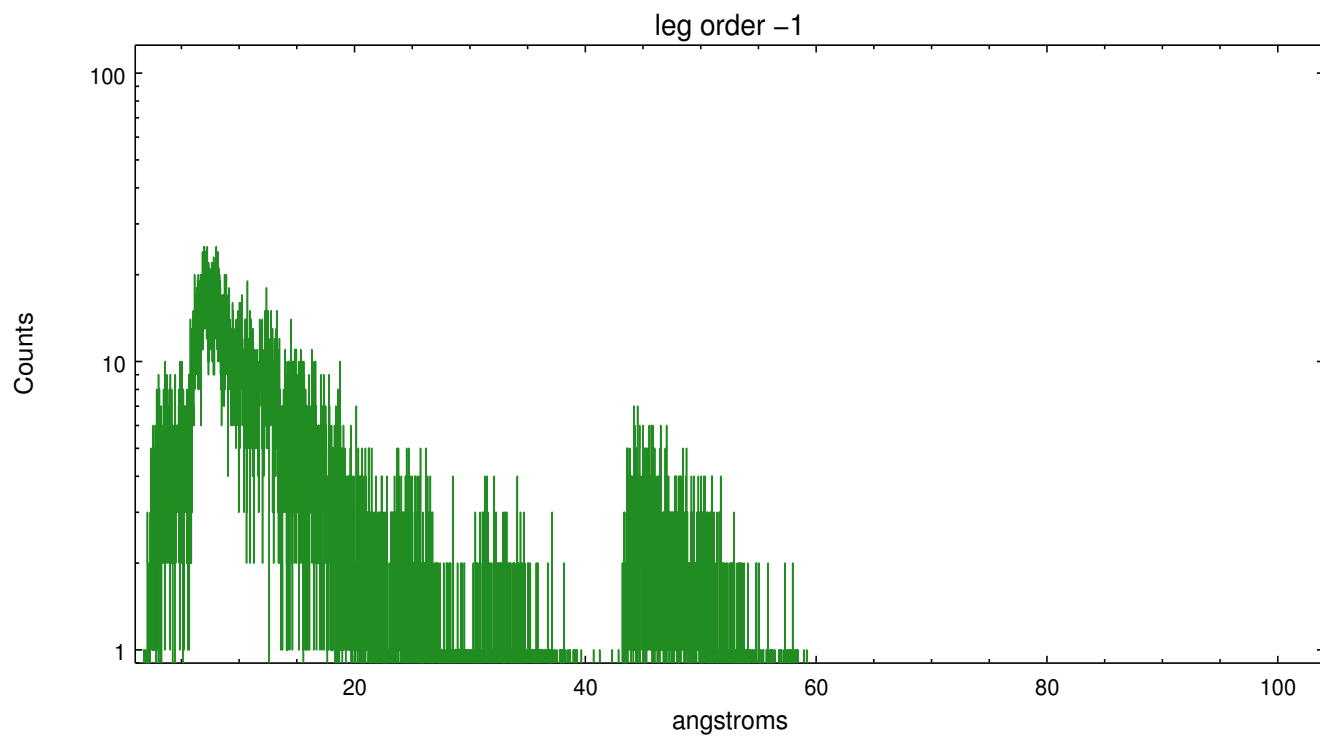
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	1622	852	14679	15382	19749	790	1333





# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.04.05
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.03025

## 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.