

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 9592 - L2 Version 2  
Chandra X-Ray Center

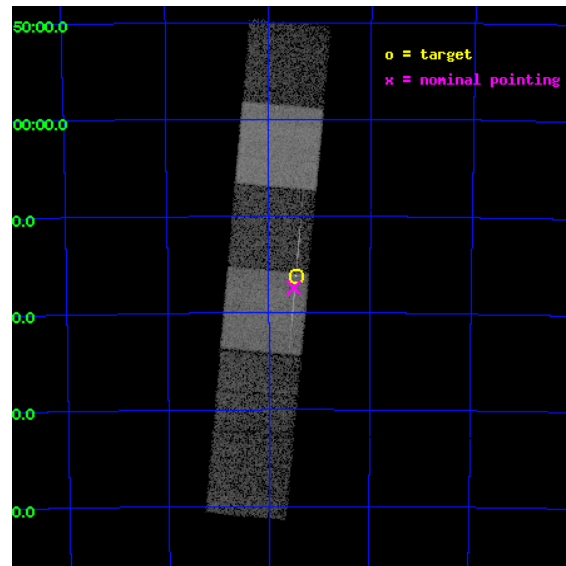
L2 Processing Date : May 1 2012

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# 1 Front

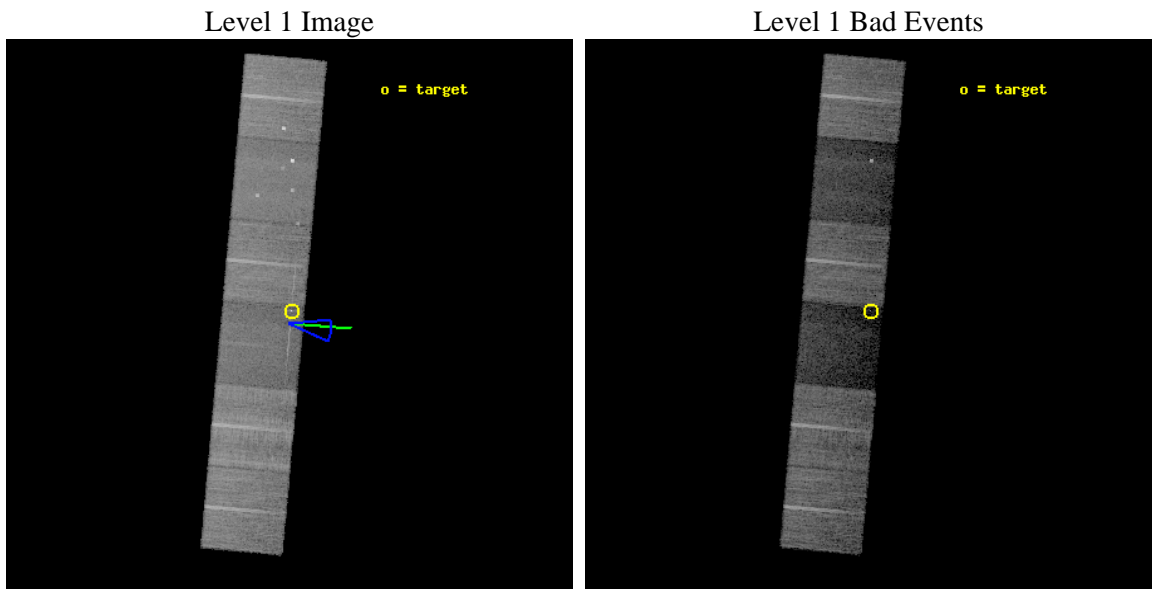
seq_num	500750	Sequence number
obs_id	9592	Observation id
title	SPATIALLY RESOLVED LETG SPECTROMETRY OF SNR1987A	Proposal title
observer	Dr. Richard McCray	Principal investigator
object	SNR1987A	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.866667	Observer's specified target RA [deg]
dec_targ	-69.26975	Observer's specified target Dec [deg]
ra_nom	83.876321972465	Nominal RA [deg]
dec_nom	-69.290396629724	Nominal Dec [deg]
roll_nom	95.165656965914	Nominal Roll [deg]
revision	2	Processing version of data
ontime	13039.999951482	Sum of GTIs [s]
livetime	12874.879620351	Livetime [s]
ontime4	13039.999951482	Sum of GTIs [s]
ontime5	13039.999951482	Sum of GTIs [s]
ontime6	13039.999951482	Sum of GTIs [s]
ontime7	13039.999951482	Sum of GTIs [s]
ontime8	13039.999951482	Sum of GTIs [s]
ontime9	13036.759050965	Sum of GTIs [s]
l2events	107639	Number of level 2 events



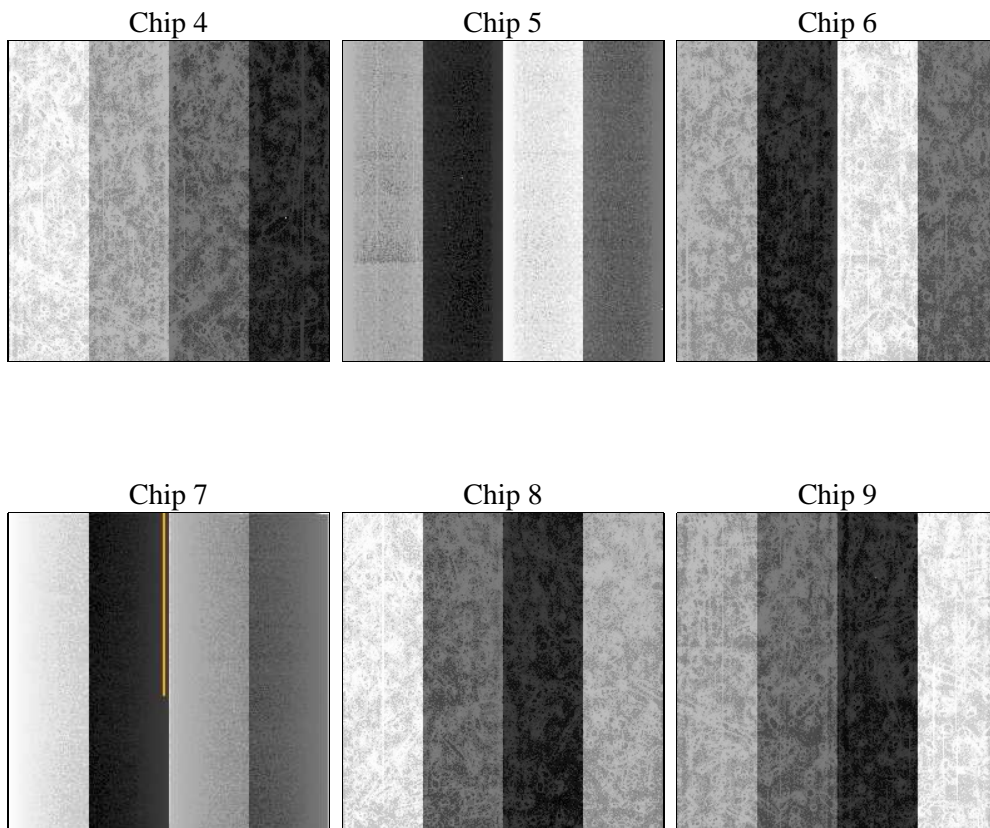
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	13000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	13039.999951482	Sum of GTIs [s]
caldsver	4.4.9	&#160	ontime4	13039.999951482	Sum of GTIs [s]
date	2012-05-01T04:30:52	Date and time of file creation	ontime5	13039.999951482	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	13039.999951482	Sum of GTIs [s]
			ontime7	13039.999951482	Sum of GTIs [s]
			ontime8	13039.999951482	Sum of GTIs [s]
			ontime9	13036.759050965	Sum of GTIs [s]
			l1events	542038	Number of level 1 events

### 2.1.4 Events

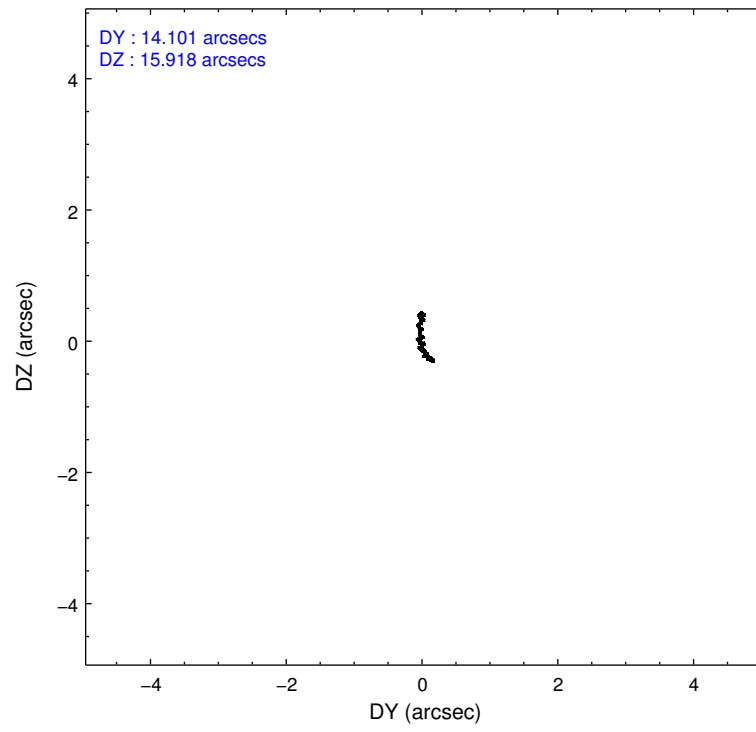
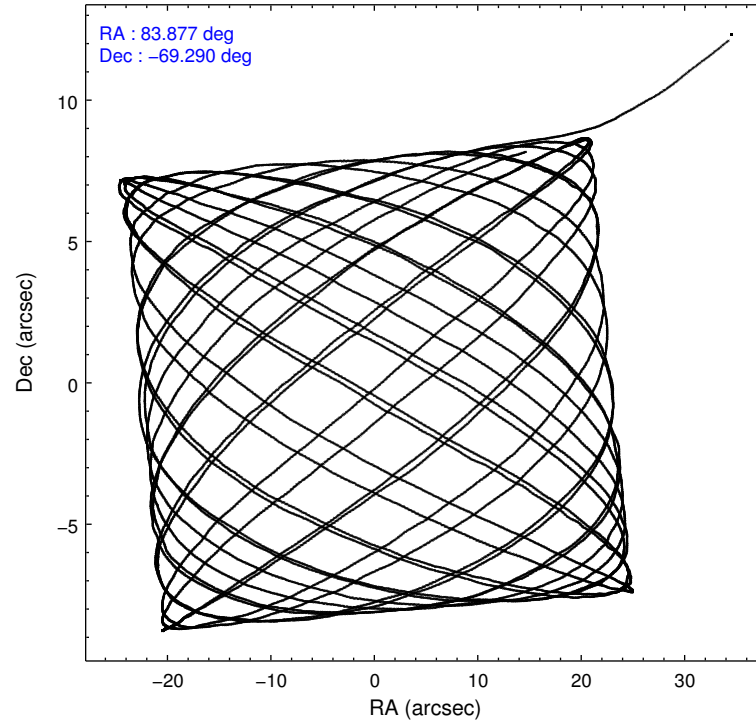
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	110497	84020	92284	57385	111147	86705	grade 0 events	5928	8194	4891	5125	8509	3240
rejected events	99404	32632	82337	22575	81918	78626		5%	9%	5%	8%	7%	3%
rejected %	89%	38%	89%	39%	73%	90%	grade 1 events	100	1168	58	149	113	53
								0%	1%	0%	0%	0%	0%
							grade 2 events	2219	16713	2000	8544	6724	1743
								2%	19%	2%	14%	6%	2%
							grade 3 events	914	2573	918	3691	3269	849
								0%	3%	0%	6%	2%	0%
							grade 4 events	883	2518	852	3593	2974	886
								0%	2%	0%	6%	2%	1%
							grade 5 events	1883	6701	1809	5408	3115	2179
								1%	7%	1%	9%	2%	2%
							grade 6 events	1154	21402	1290	13863	7756	1363
								1%	25%	1%	24%	6%	1%
							grade 7 events	97416	24751	80466	17012	78687	76392
								88%	29%	87%	29%	70%	88%

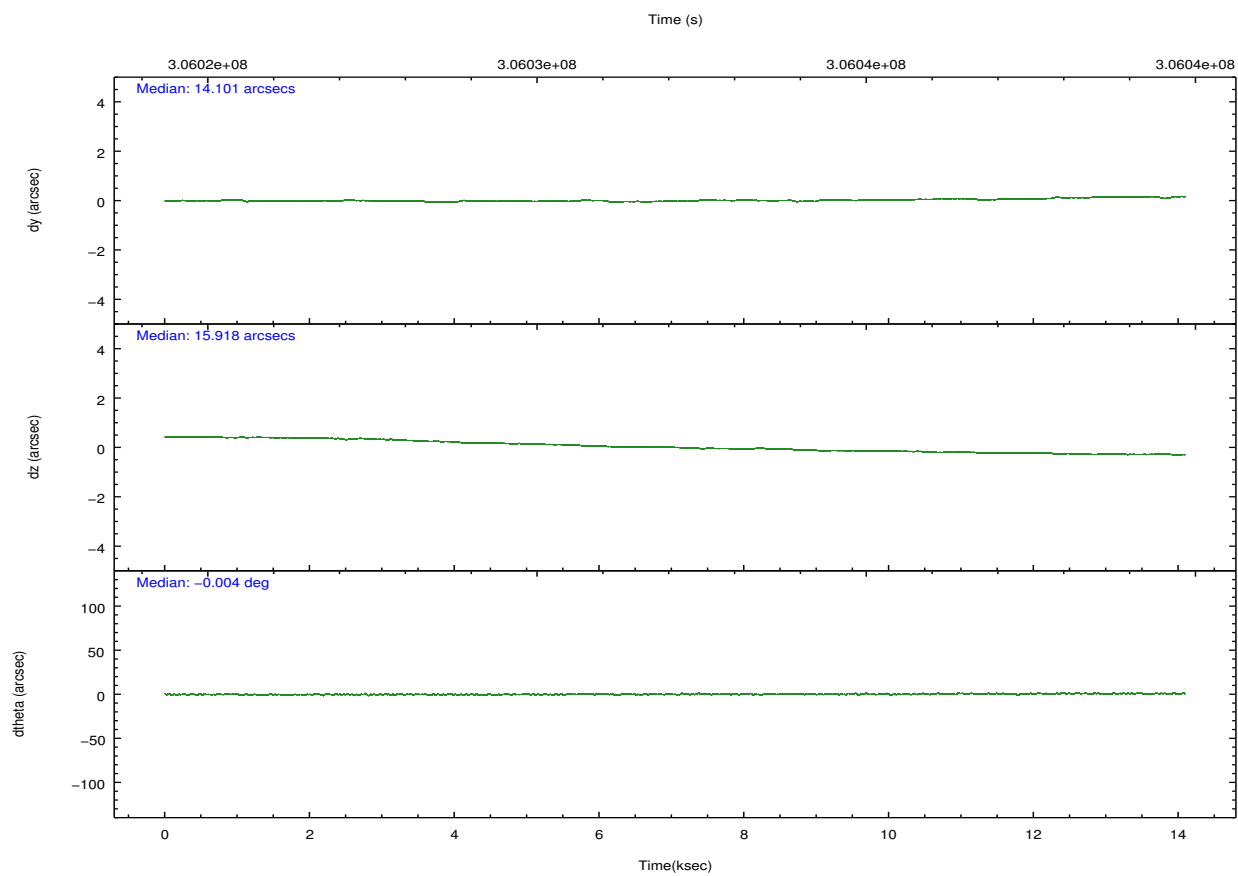
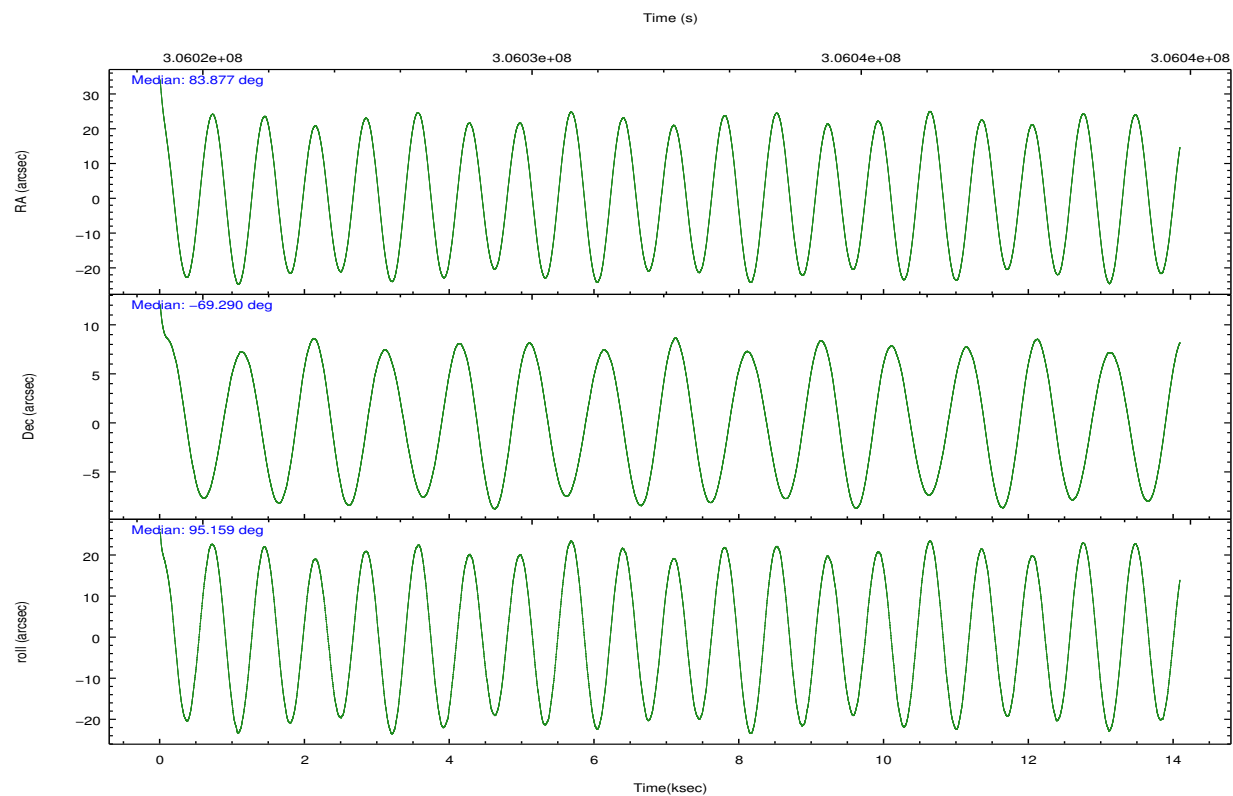


## 2.2 Compared Parameters

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	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	83.921796	83.87632197246528	CCD I2 on	N	N
[deg] Pointing Dec	-69.312539	-69.29039662972433	CCD I3 on	N	N
[deg] Pointing Roll	95.051577	95.16565696591434	CCD S0 on	O1	Y
[deg] Roll angle	100.000000	100.000000	CCD S1 on	Y	Y
[deg] Roll tolerance	15.000000	15.000000	CCD S2 on	Y	Y
Roll constraint allows 180D rotation	N	N	CCD S3 on	Y	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S4 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S5 on	O2	Y
[mm] SIM translation stage pos	-182.132523	-182.1370004450064	Number of optional ACIS chips dropped	0	0
[mm] SIM translation stage offset	-8	-7.995522138001405	On-chip summing requested	N	N
[s] Observation start time (MET)	306026151.184000	306024435.33145	Subarray requested	NONE	NONE
Observation start date	2007-09-12T23:14:46	2007-09-12T22:47:15	Alternating exposures requested	N	N
[s] Observation end time (MET)	306039151.184000	306040968.06975	[s] Primary exposure time	0.000000	3.2
Observation end date	2007-09-13T02:51:26	2007-09-13T03:22:48			
Read mode	TIMED	TIMED			

## 2.3 Aspect



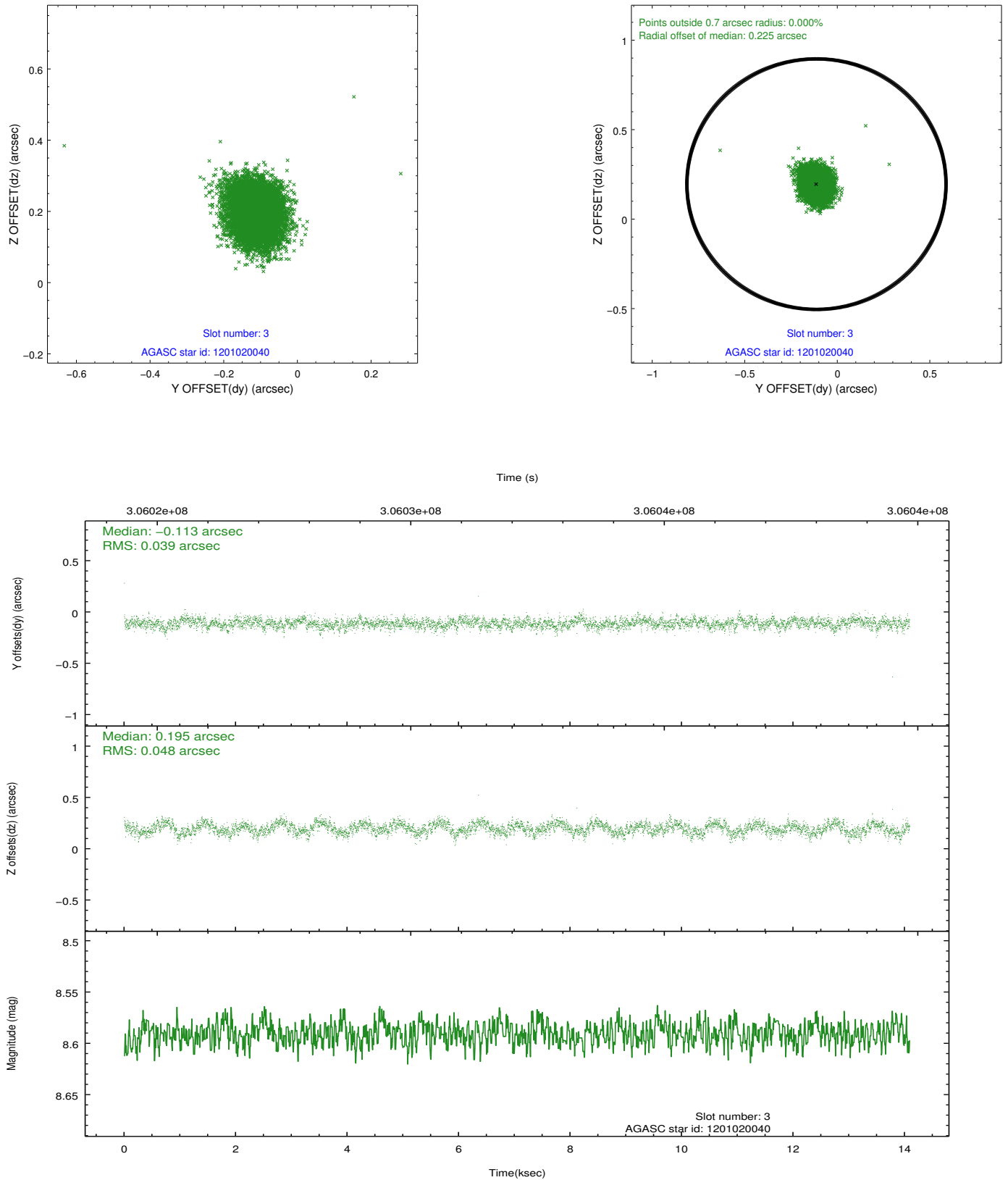


### Slot Statistics

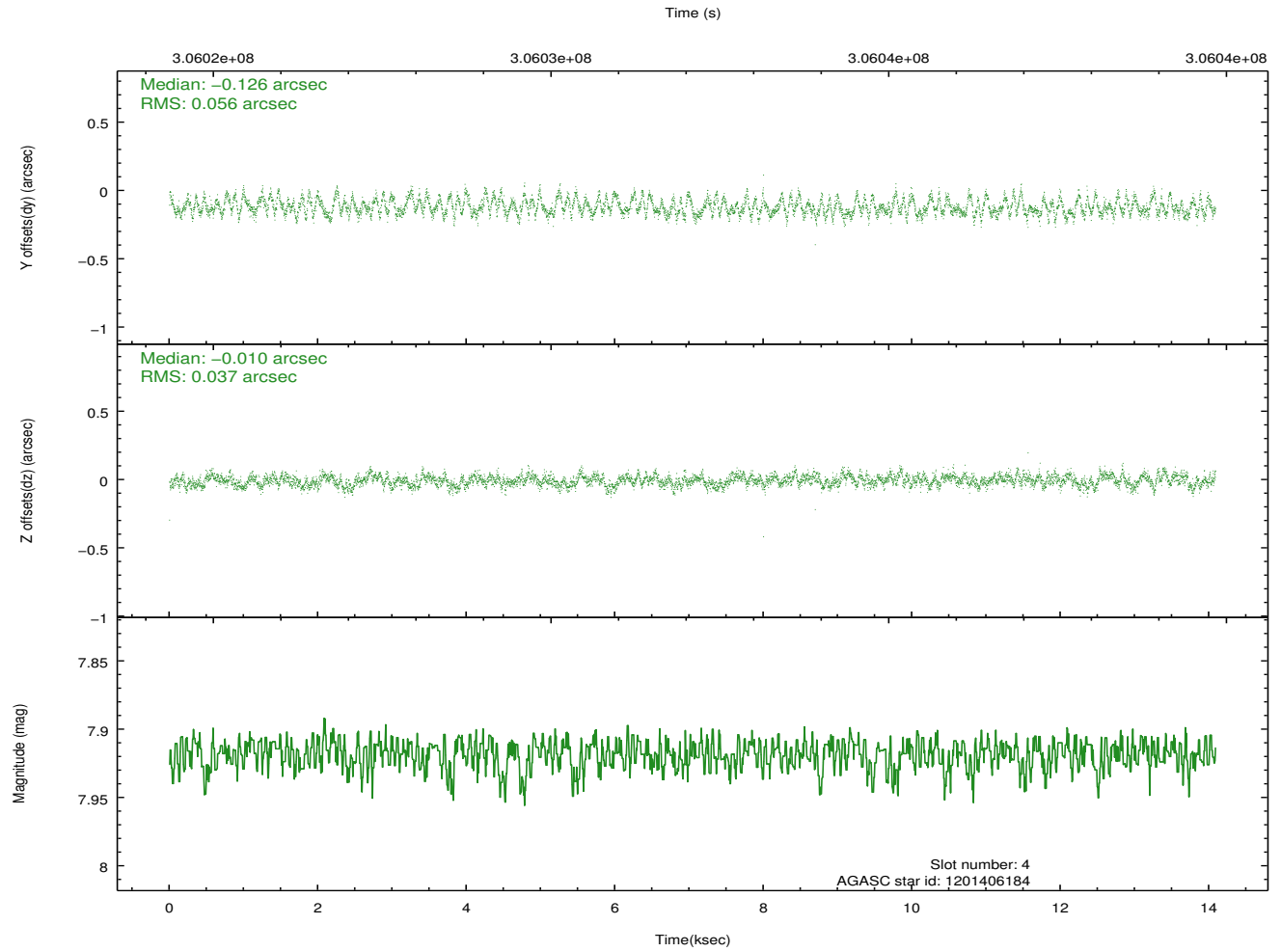
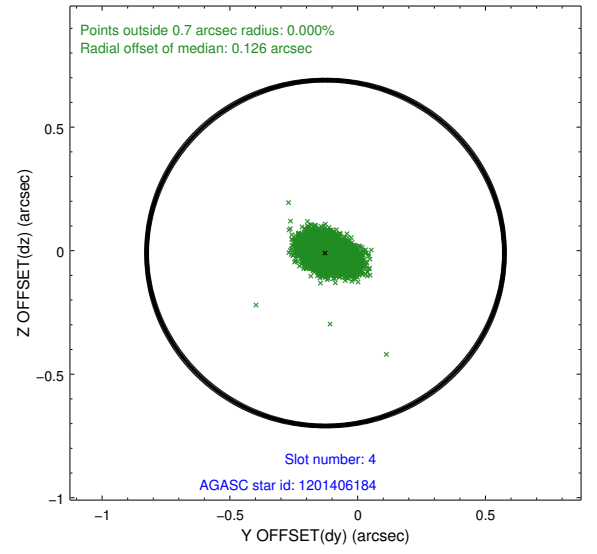
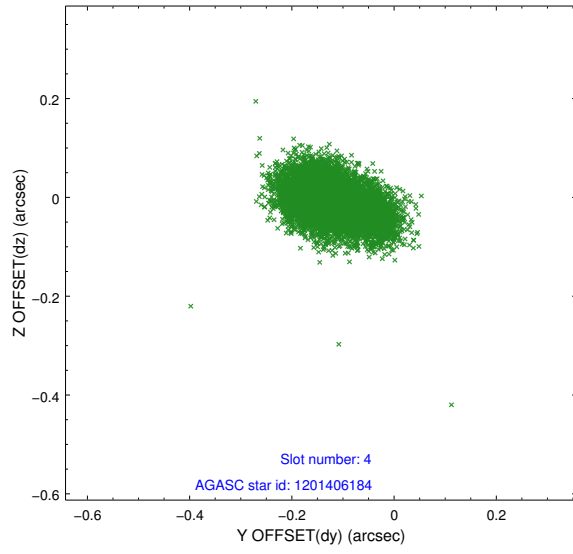
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.08	3437	-0.159	-0.135	0.008	0.013	0.000000	0.000000	-766.64	-1902.21
1	FID	ACIS-S-4	7.16	3435	0.125	0.085	0.008	0.014	0.000000	0.000000	2146.76	6.10
2	FID	ACIS-S-6	7.39	3436	0.007	0.057	0.013	0.020	0.000000	0.000000	395.92	643.84
3	GUIDE	1201020040	8.59	6870	-0.113	0.195	0.065	0.106	85.379163	-68.879396	1364.70	-2017.78
4	GUIDE	1201406184	7.92	6873	-0.126	-0.010	0.072	0.118	82.503234	-69.975517	-2243.67	1953.37
5	GUIDE	1201410616	9.32	6867	0.229	-0.163	0.102	0.165	82.516808	-69.784406	-1558.46	1892.41
6	GUIDE	1200885760	9.44	6866	0.026	-0.167	0.094	0.157	83.723637	-68.777667	1940.18	88.20
7	GUIDE	1201019672	6.86	6871	-0.019	0.142	0.062	0.096	85.312192	-68.770187	1765.49	-1974.94

## 2.4 Star Slots

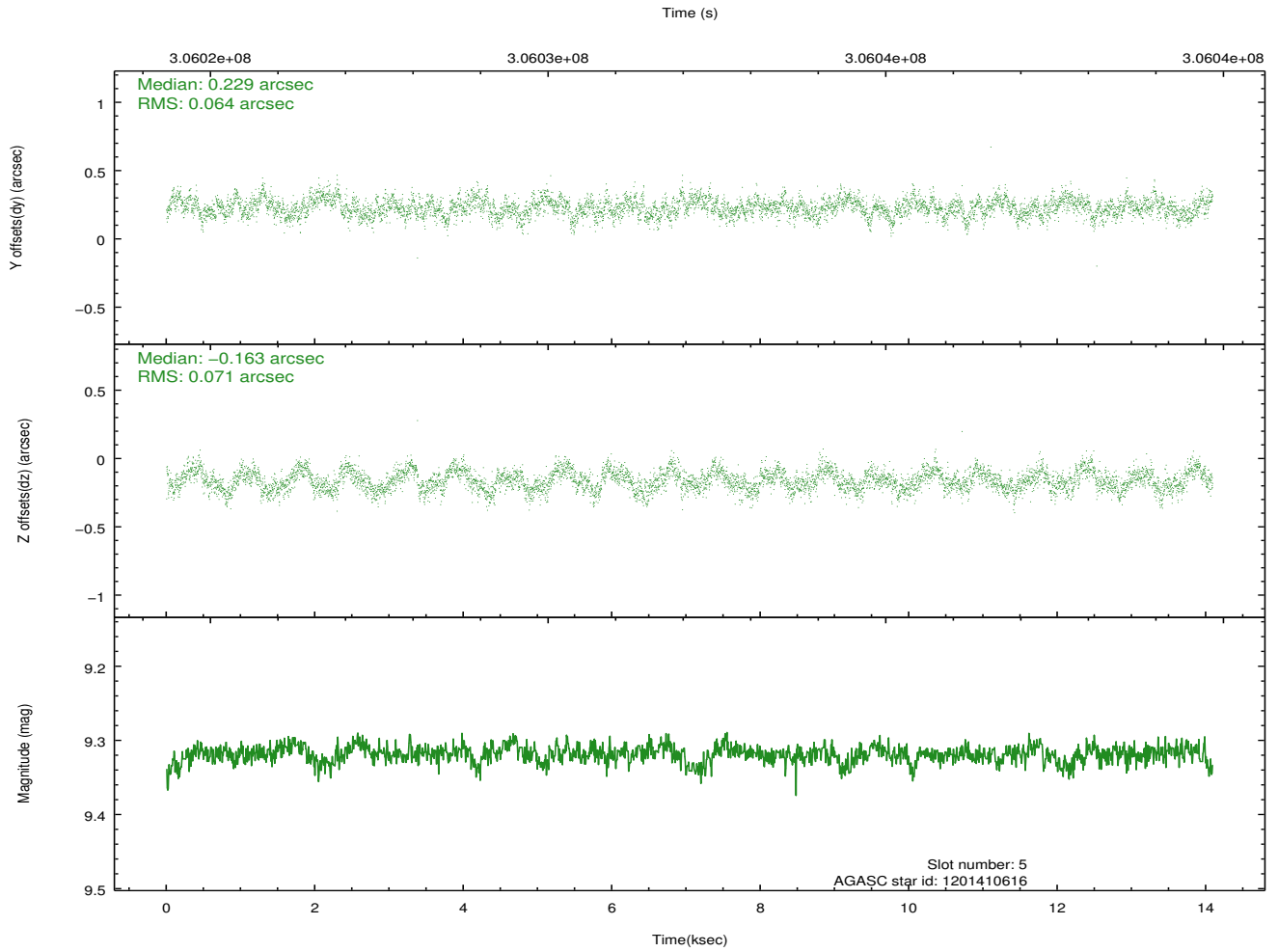
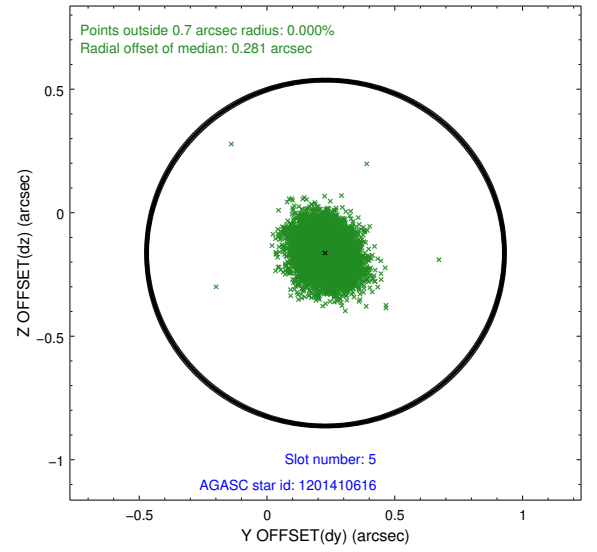
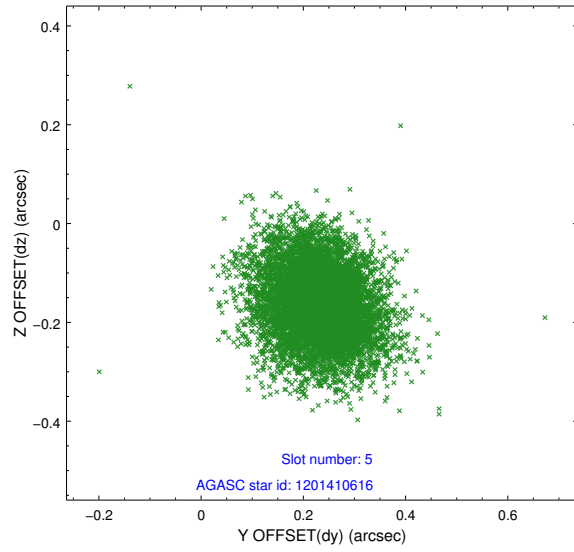
### 2.4.1 Slot 3



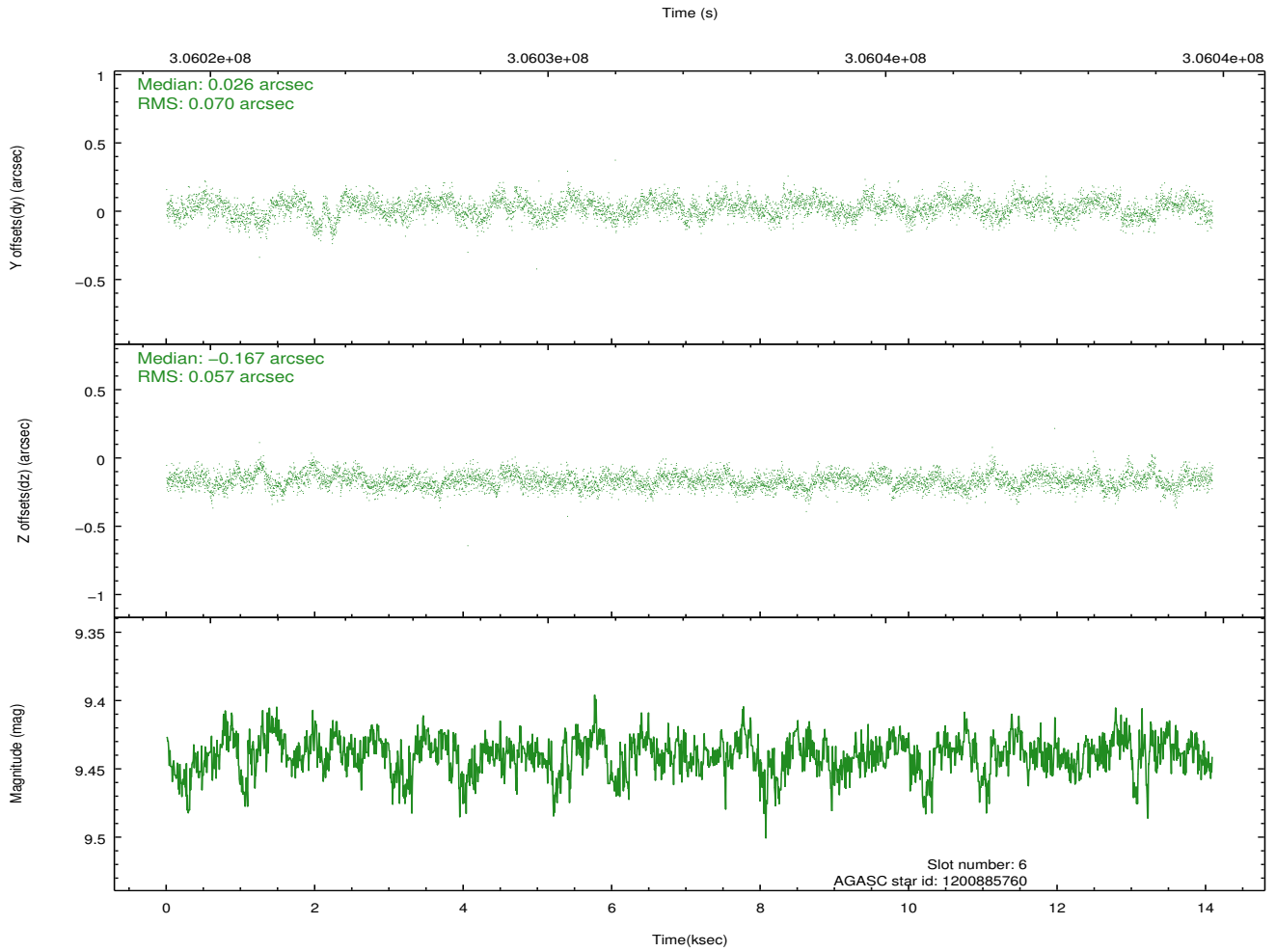
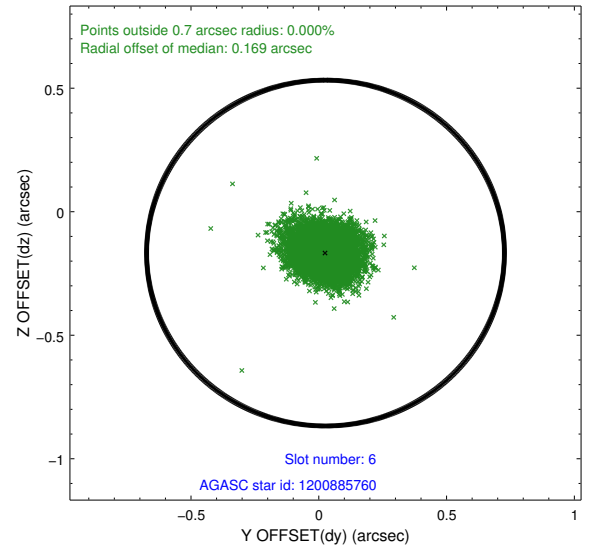
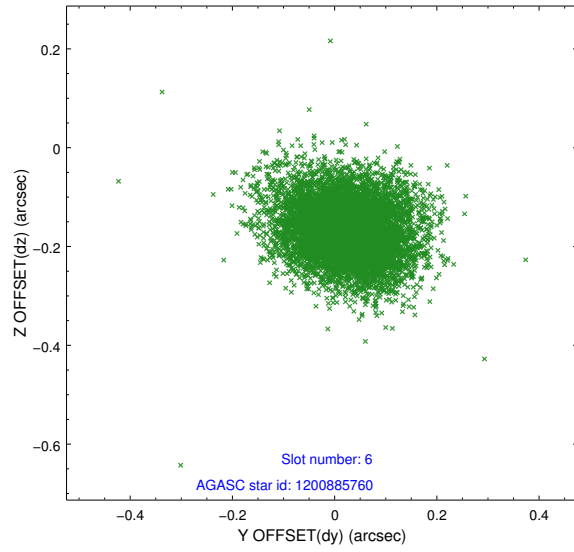
## 2.4.2 Slot 4



### 2.4.3 Slot 5

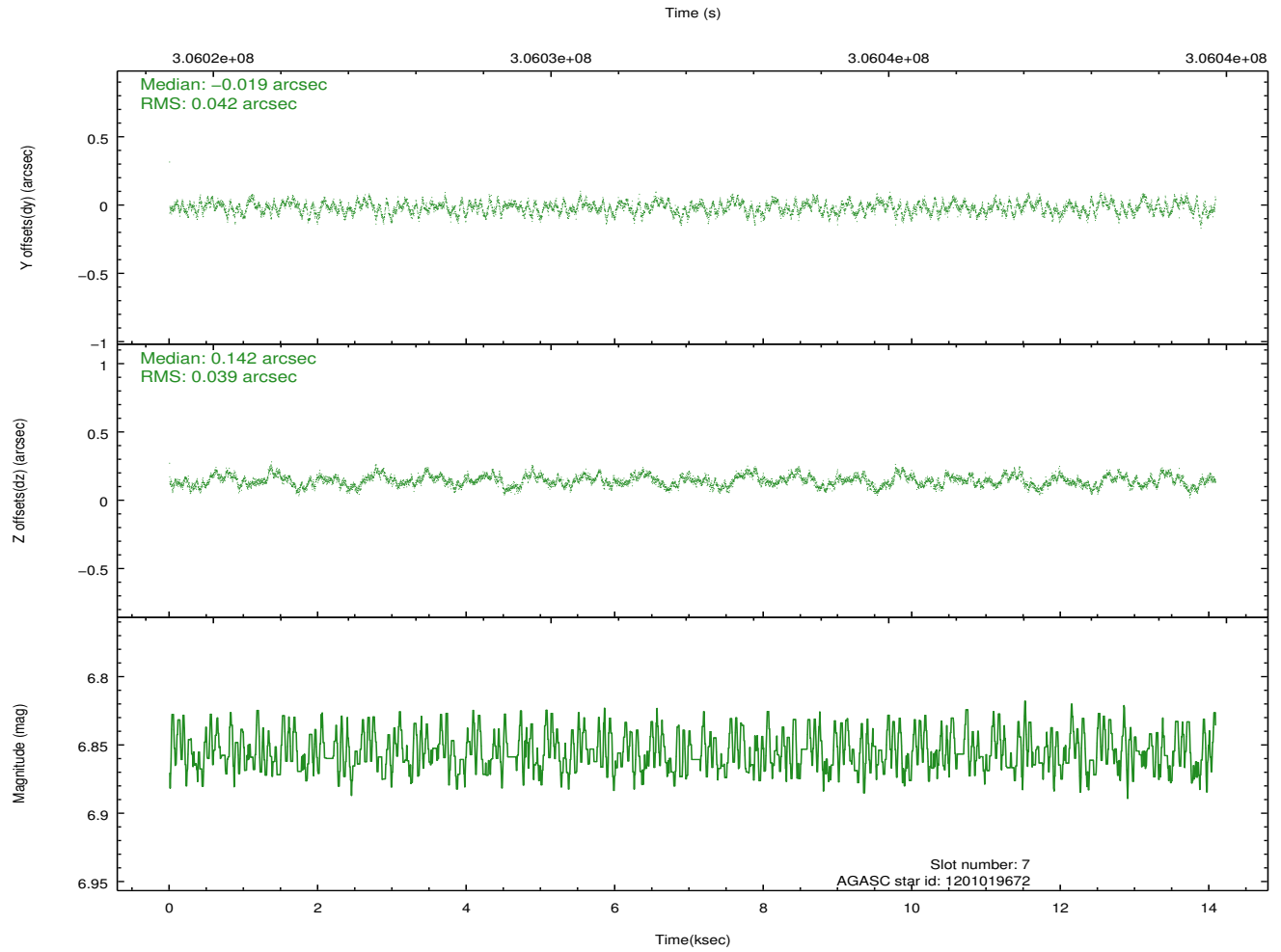
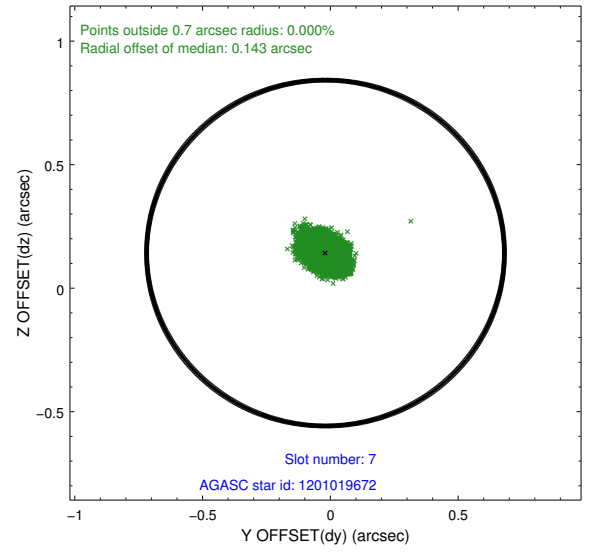
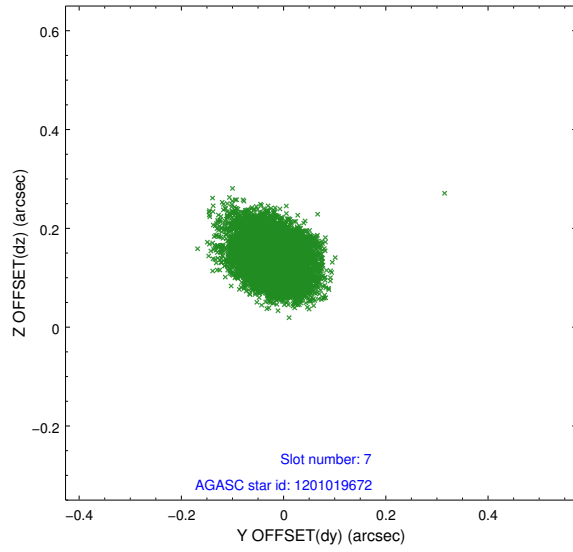


## 2.4.4 Slot 6



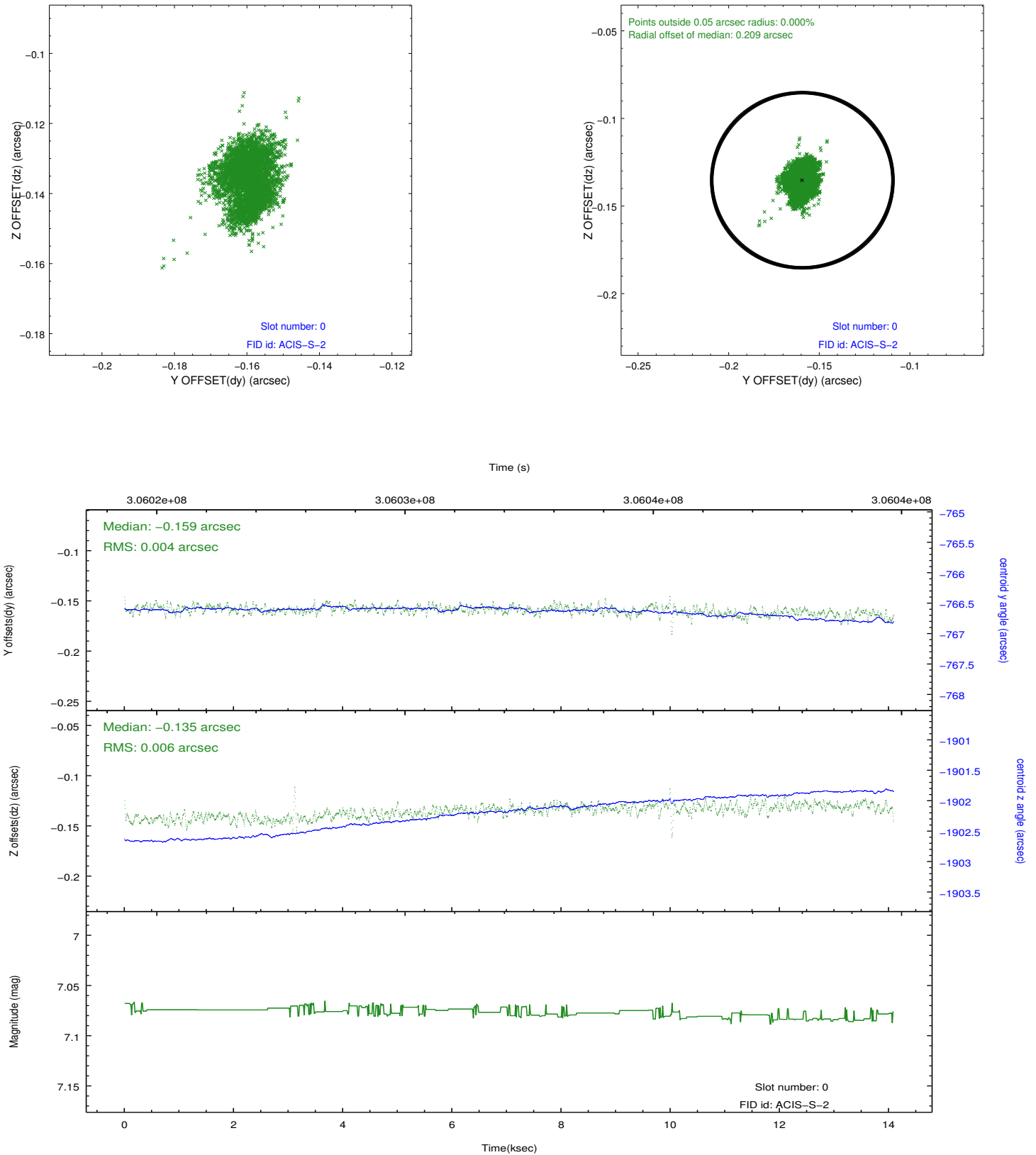


## 2.4.5 Slot 7

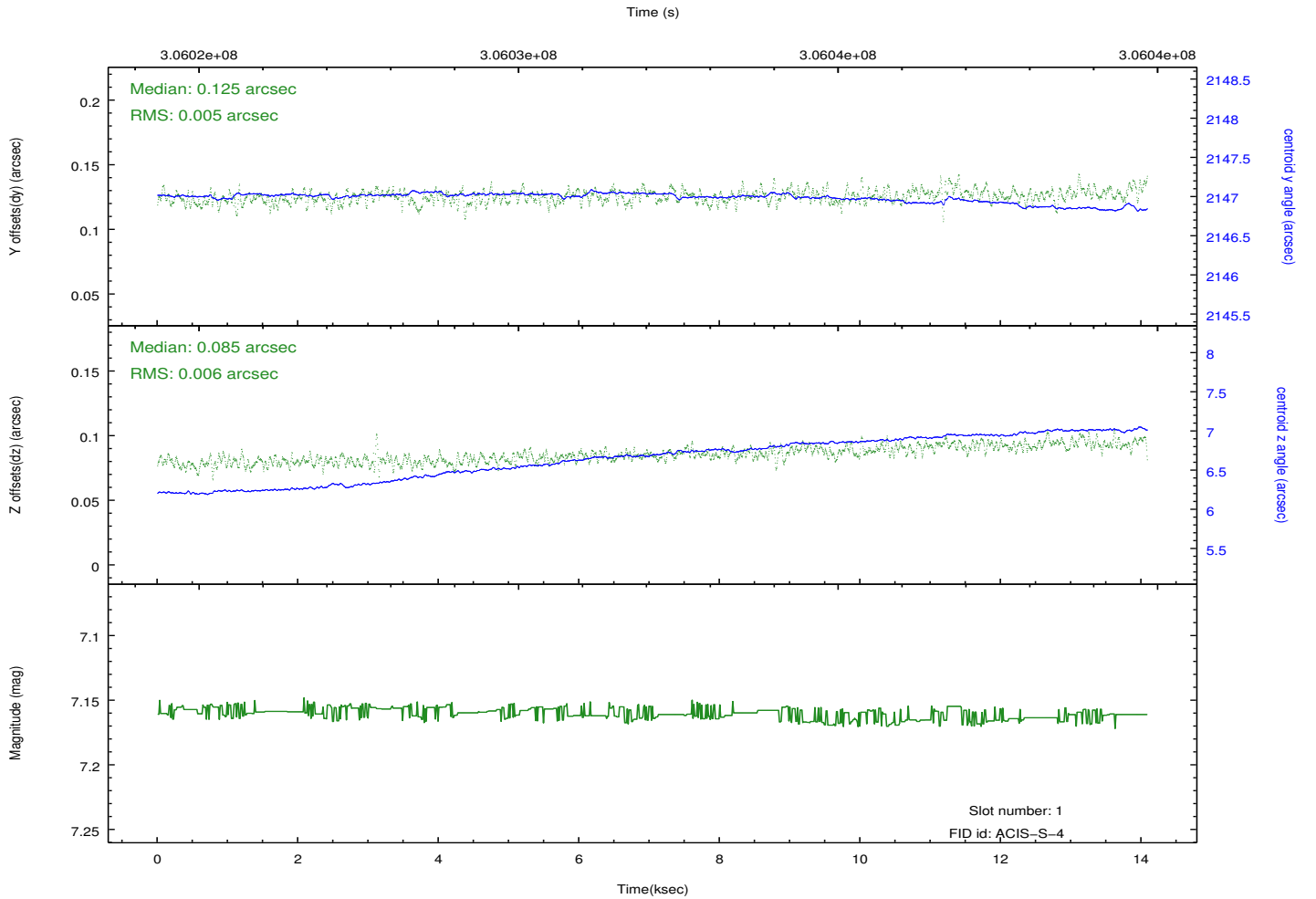
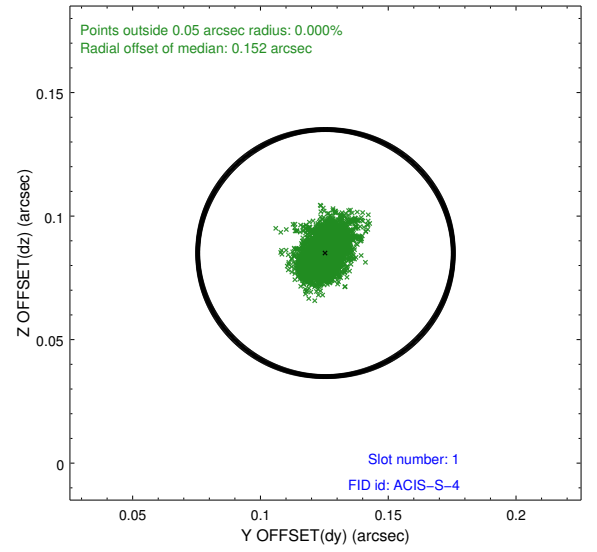
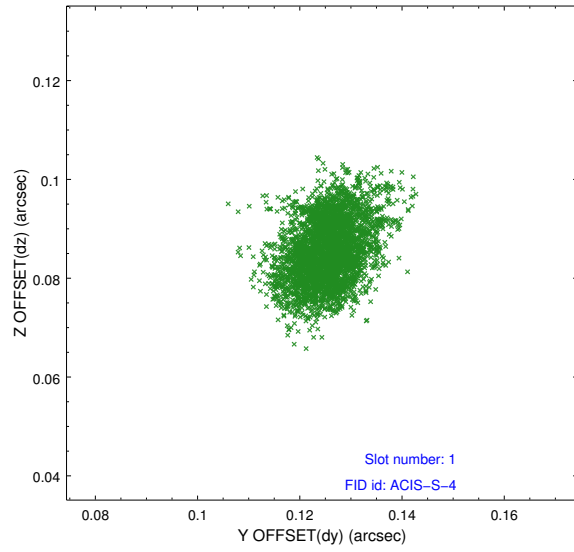


## 2.5 FID Slots

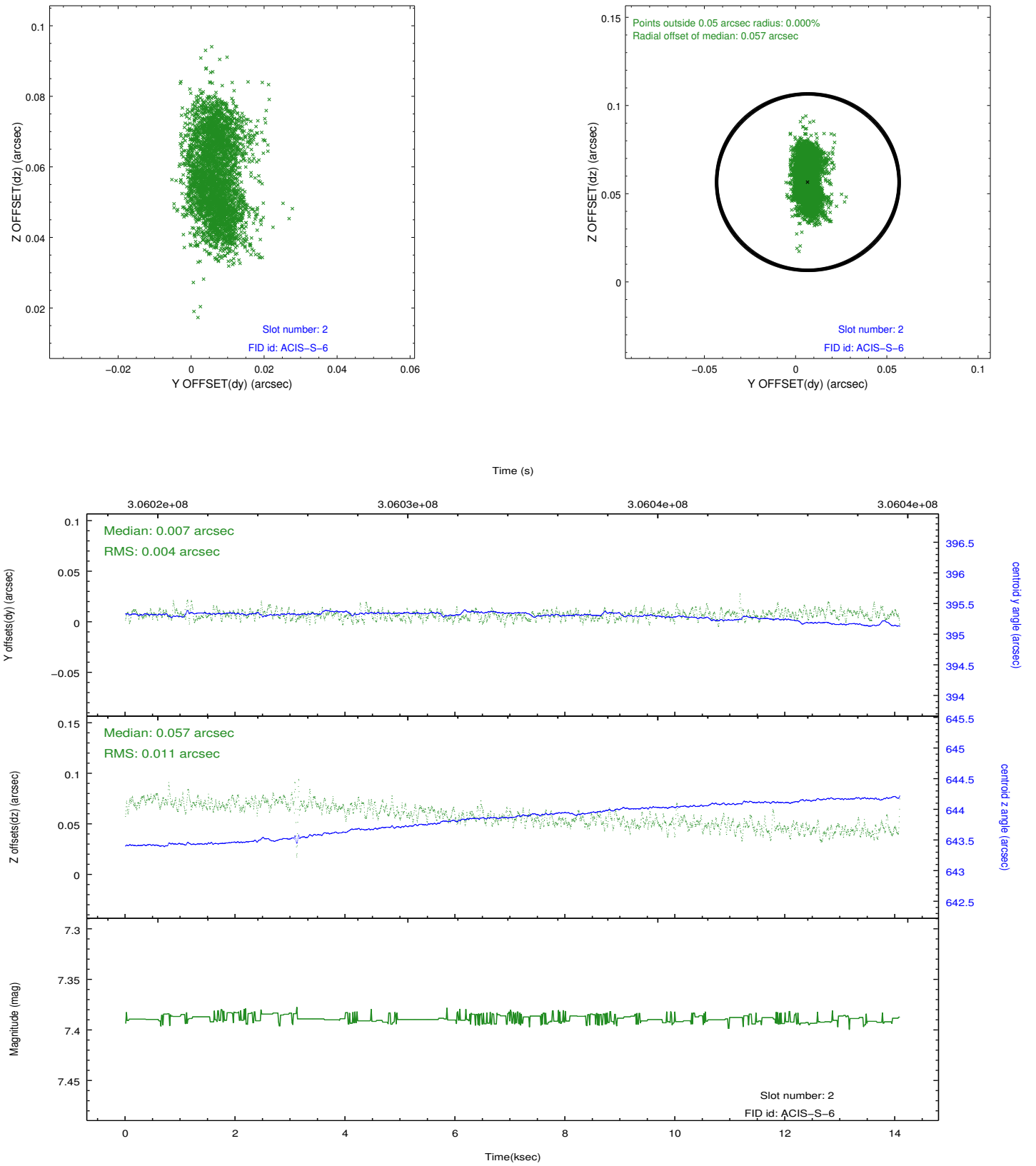
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

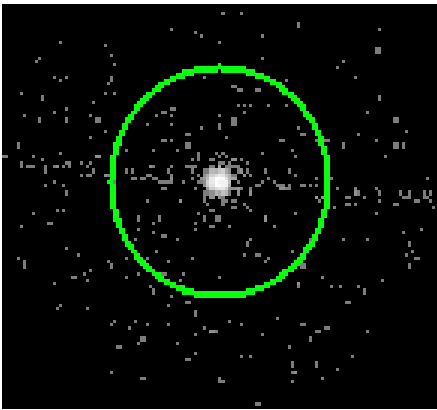


# 3 Gratings

## 3.1 LETG Arm



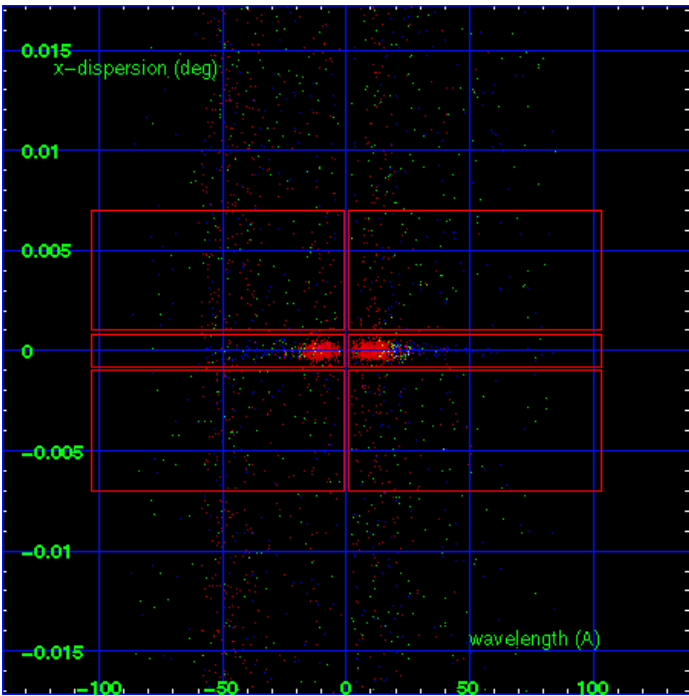
LETG Order Sort 123



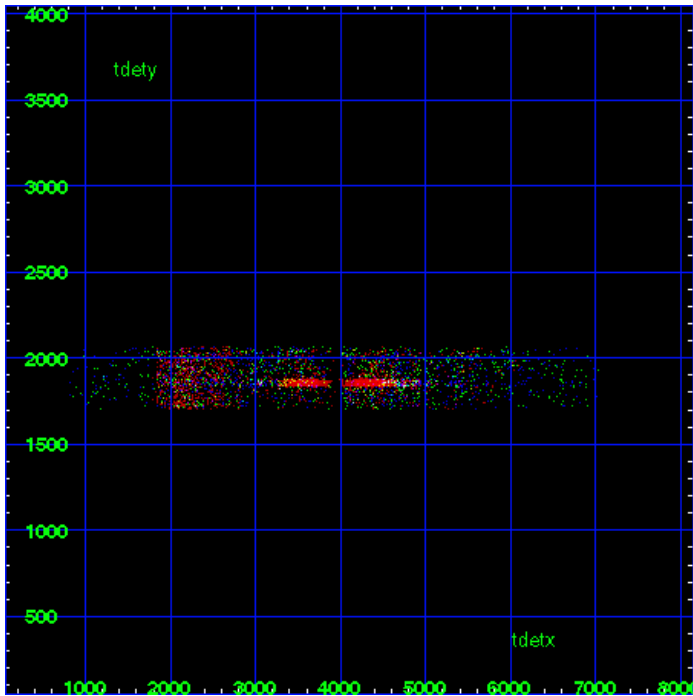
LETG Zero Order



LETG Order Sort ALL

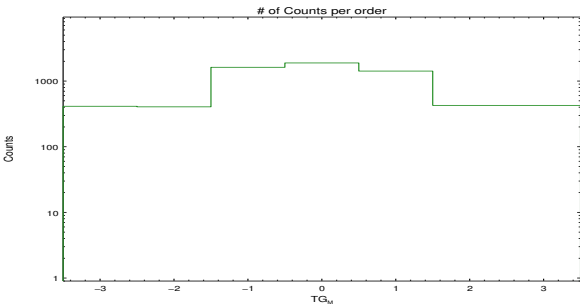


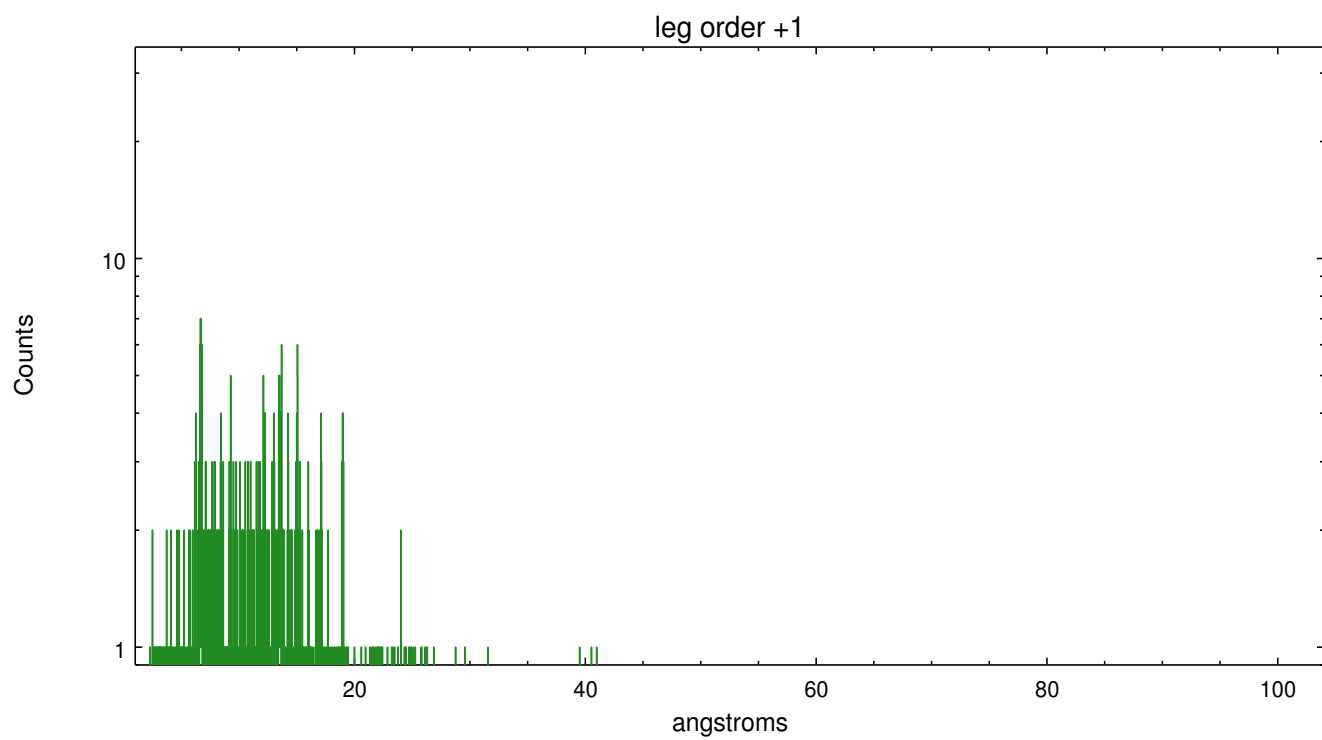
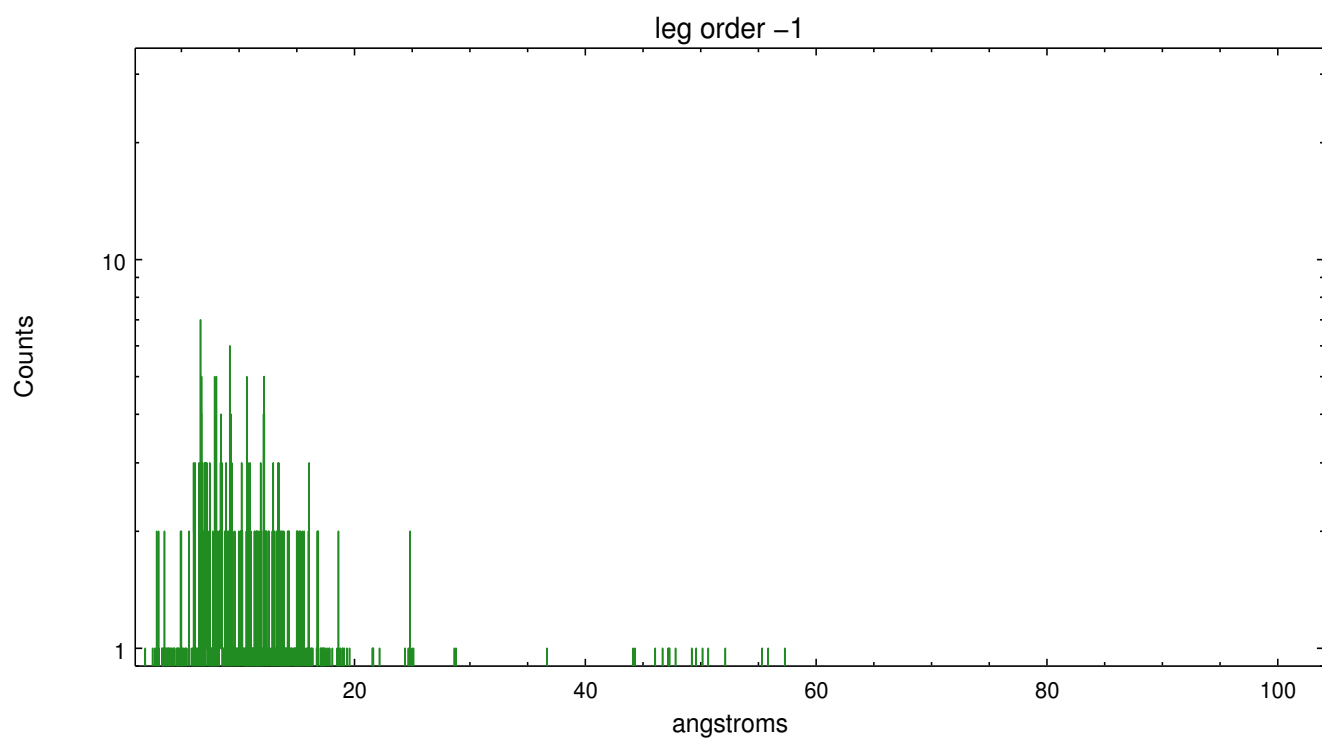
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	413	405	1620	1888	1419	426	426





# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.05.09
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	13.0399999

## A.2 Comments

Warning: Extended source, dia ~ 3 arc seconds; nominal extraction includes whole source and could be narrowed to reduce background. Background events dominate below 30A. Extraction is centered in supernova remnant, but is not positioned at the brightest region.

===

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.