

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 9591 - L2 Version 3  
Chandra X-Ray Center

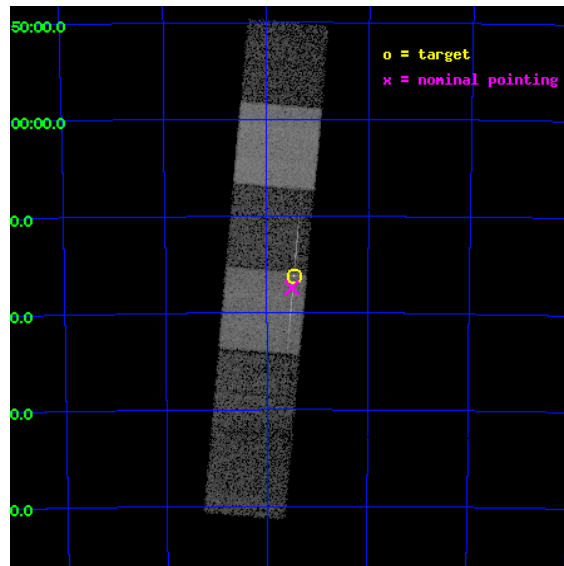
L2 Processing Date : May 1 2012

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# 1 Front

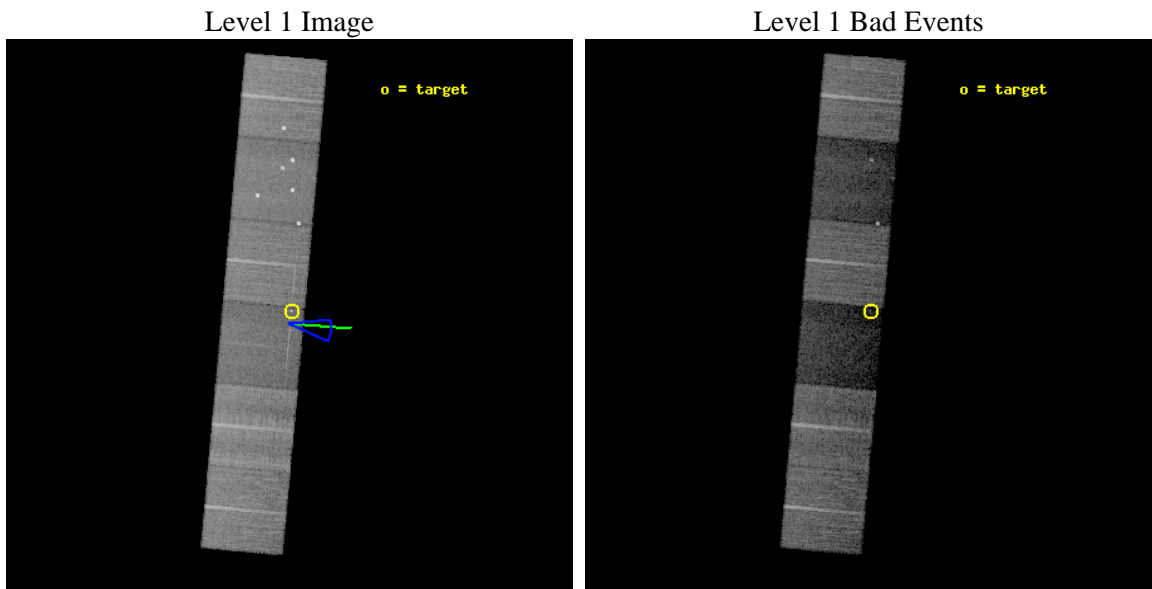
seq_num	500750	Sequence number
obs_id	9591	Observation id
title	SPATIALLY RESOLVED LETG SPECTROMETRY OF SNR1987A	Proposal title
observer	Dr. Richard McCray	Principal investigator
object	SNR1987A	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.866667	Observer's specified target RA [deg]
dec_targ	-69.26975	Observer's specified target Dec [deg]
ra_nom	83.876322750012	Nominal RA [deg]
dec_nom	-69.290468085629	Nominal Dec [deg]
roll_nom	95.165654369981	Nominal Roll [deg]
revision	3	Processing version of data
ontime	13013.791781187	Sum of GTIs [s]
livetime	12849.003313689	Livetime [s]
ontime4	13013.83282119	Sum of GTIs [s]
ontime5	13013.750741184	Sum of GTIs [s]
ontime6	13013.70970118	Sum of GTIs [s]
ontime7	13013.791781187	Sum of GTIs [s]
ontime8	13010.427800417	Sum of GTIs [s]
ontime9	13013.627621174	Sum of GTIs [s]
l2events	106720	Number of level 2 events



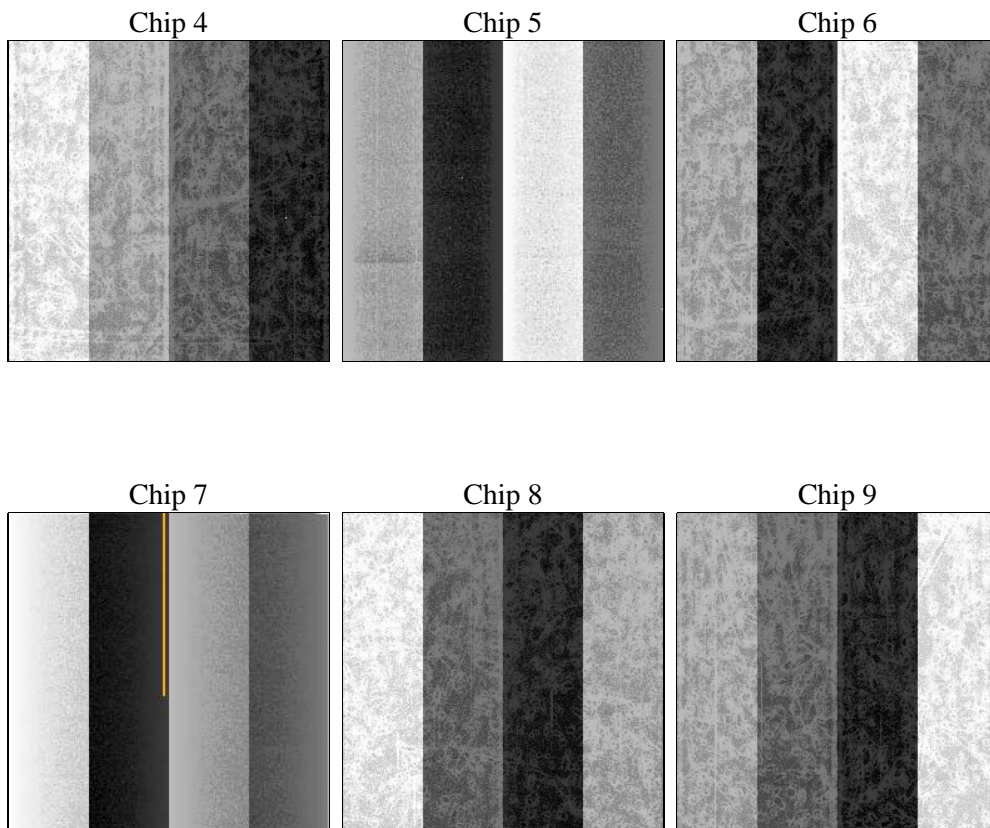
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	12974.608000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	13013.791781187	Sum of GTIs [s]
caldsver	4.4.9	&#160	ontime4	13013.83282119	Sum of GTIs [s]
date	2012-05-01T04:18:59	Date and time of file creation	ontime5	13013.750741184	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	13013.70970118	Sum of GTIs [s]
			ontime7	13013.791781187	Sum of GTIs [s]
			ontime8	13010.427800417	Sum of GTIs [s]
			ontime9	13013.627621174	Sum of GTIs [s]
			l1events	550986	Number of level 1 events

### 2.1.4 Events

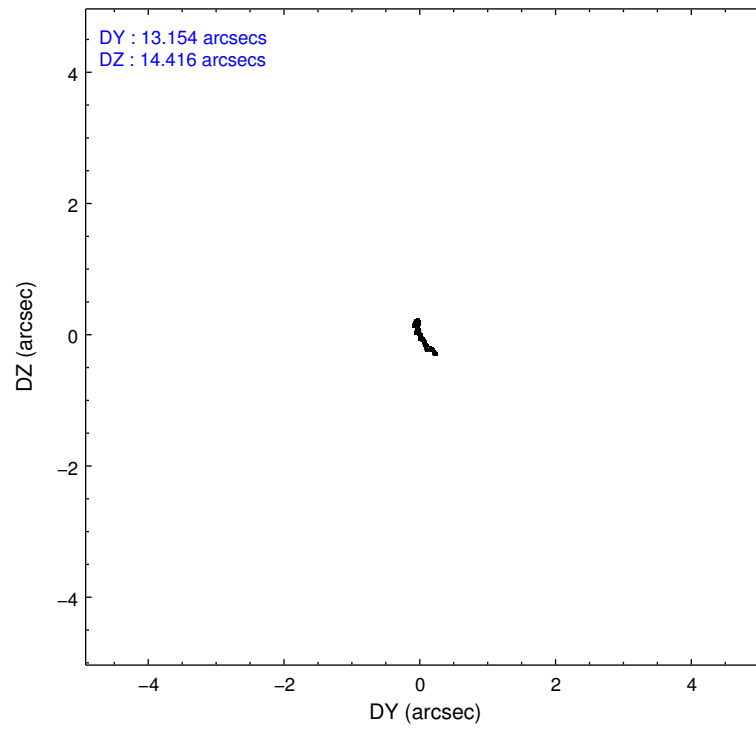
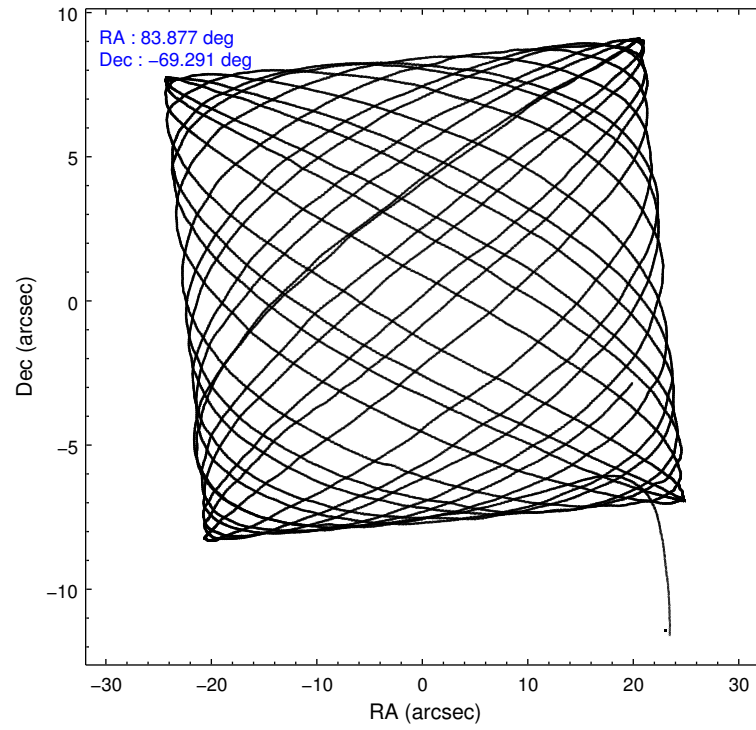
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	115136	93284	92590	56693	106559	86724	grade 0 events	6520	16215	5013	5260	8050	3227
rejected events	103599	32261	82495	22107	78185	78771		5%	17%	5%	9%	7%	3%
rejected %	89%	34%	89%	38%	73%	90%	grade 1 events	103	892	61	146	85	56
								0%	0%	0%	0%	0%	0%
							grade 2 events	2113	17948	1911	8500	6764	1666
								1%	19%	2%	14%	6%	1%
							grade 3 events	878	2621	896	3617	3056	897
								0%	2%	0%	6%	2%	1%
							grade 4 events	855	2454	939	3523	2816	793
								0%	2%	1%	6%	2%	0%
							grade 5 events	1954	7004	1835	5455	3169	2114
								1%	7%	1%	9%	2%	2%
							grade 6 events	1174	21821	1340	13703	7727	1377
								1%	23%	1%	24%	7%	1%
							grade 7 events	101539	24329	80595	16489	74892	76594
								88%	26%	87%	29%	70%	88%

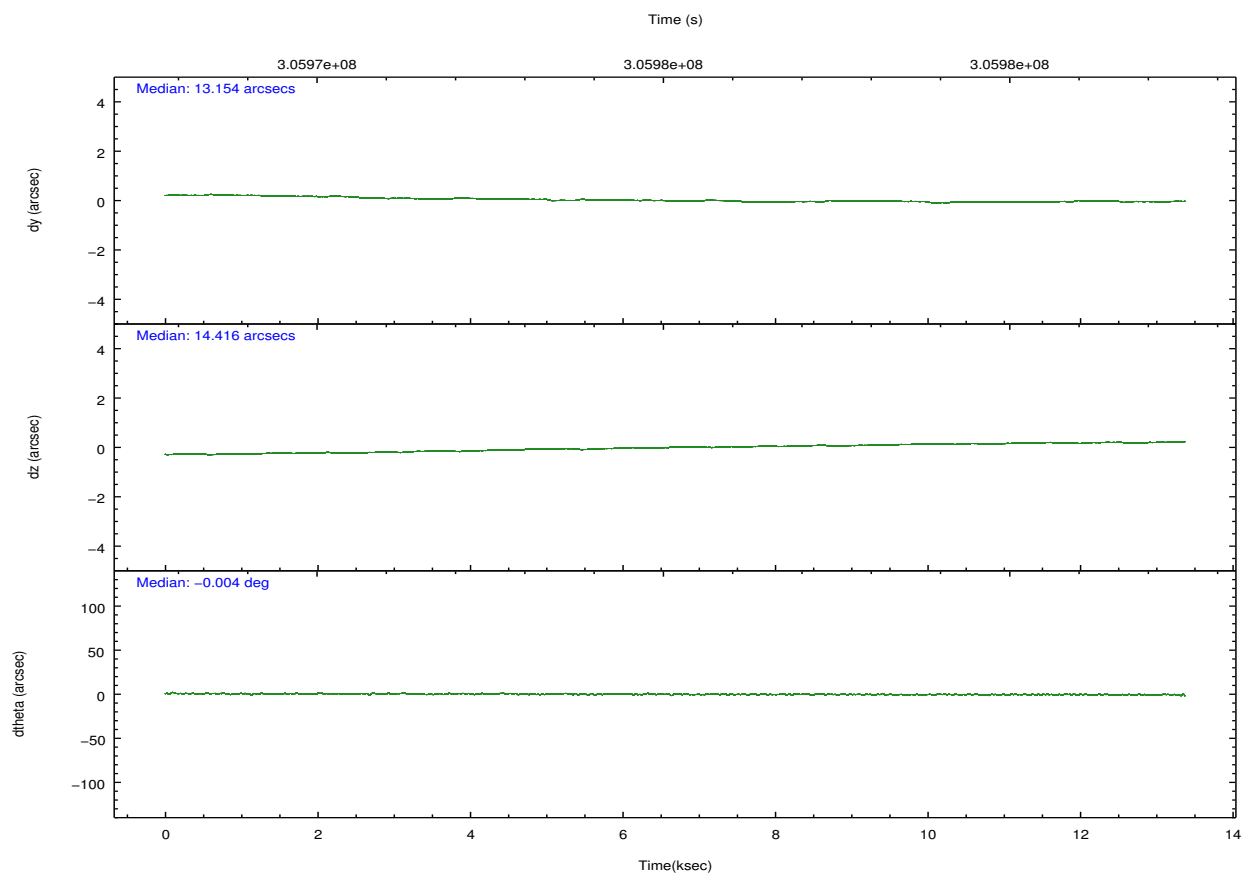
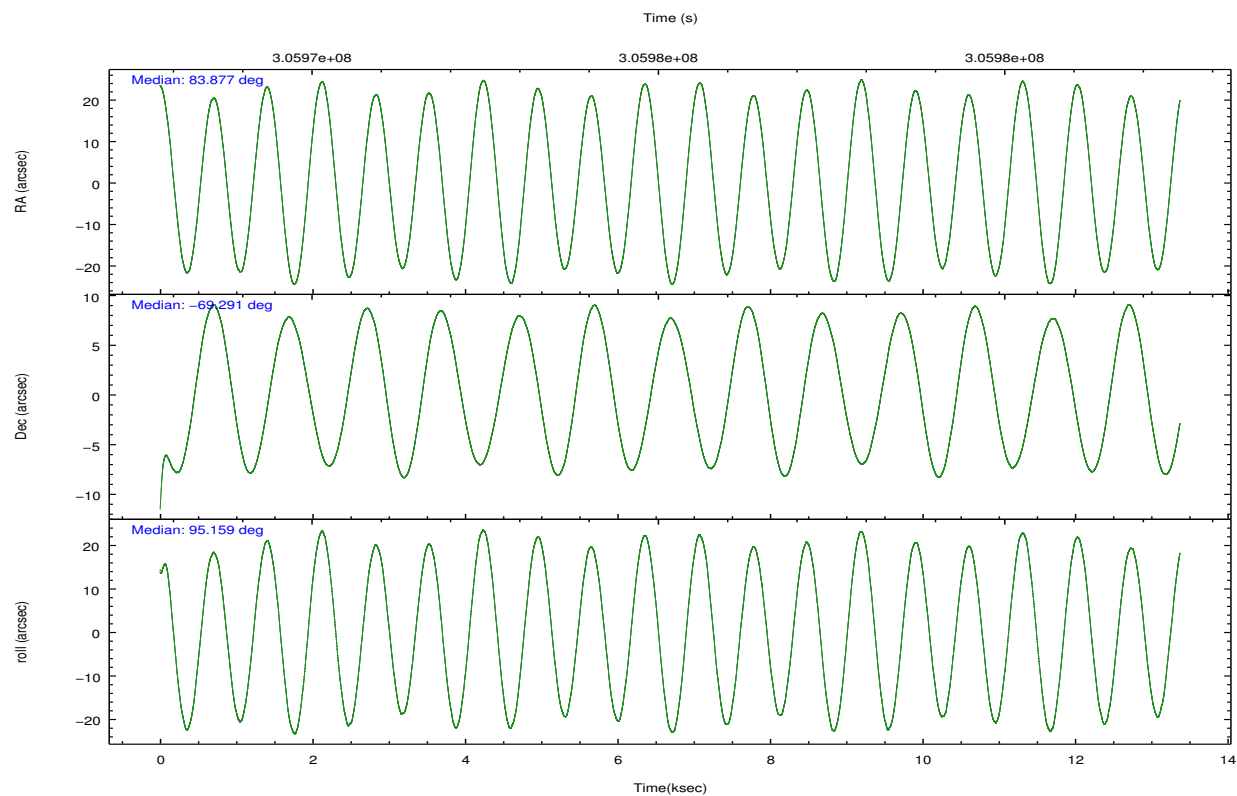


## 2.2 Compared Parameters

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	83.87632275001243	CCD I2 on	N	N
[deg] Pointing Dec	-69.312539	-69.2904680856287	CCD I3 on	N	N
[deg] Pointing Roll	95.051577	95.16565436998097	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	-182.1344861297048	Number of optional ACIS chips dropped	0	0
[mm] SIM translation stage offset	-8	-7.998036453302973	On-chip summing requested	N	N
[s] Observation start time (MET)	305968694.184000	305967668.26622	Subarray requested	NONE	NONE
Observation start date	2007-09-12T07:17:09	2007-09-12T07:01:08	Alternating exposures requested	N	N
[s] Observation end time (MET)	305981669.184000	305982420.06693	[s] Primary exposure time	0.000000	3.2
Observation end date	2007-09-12T10:53:24	2007-09-12T11:07:00			
Read mode	TIMED	TIMED			

## 2.3 Aspect



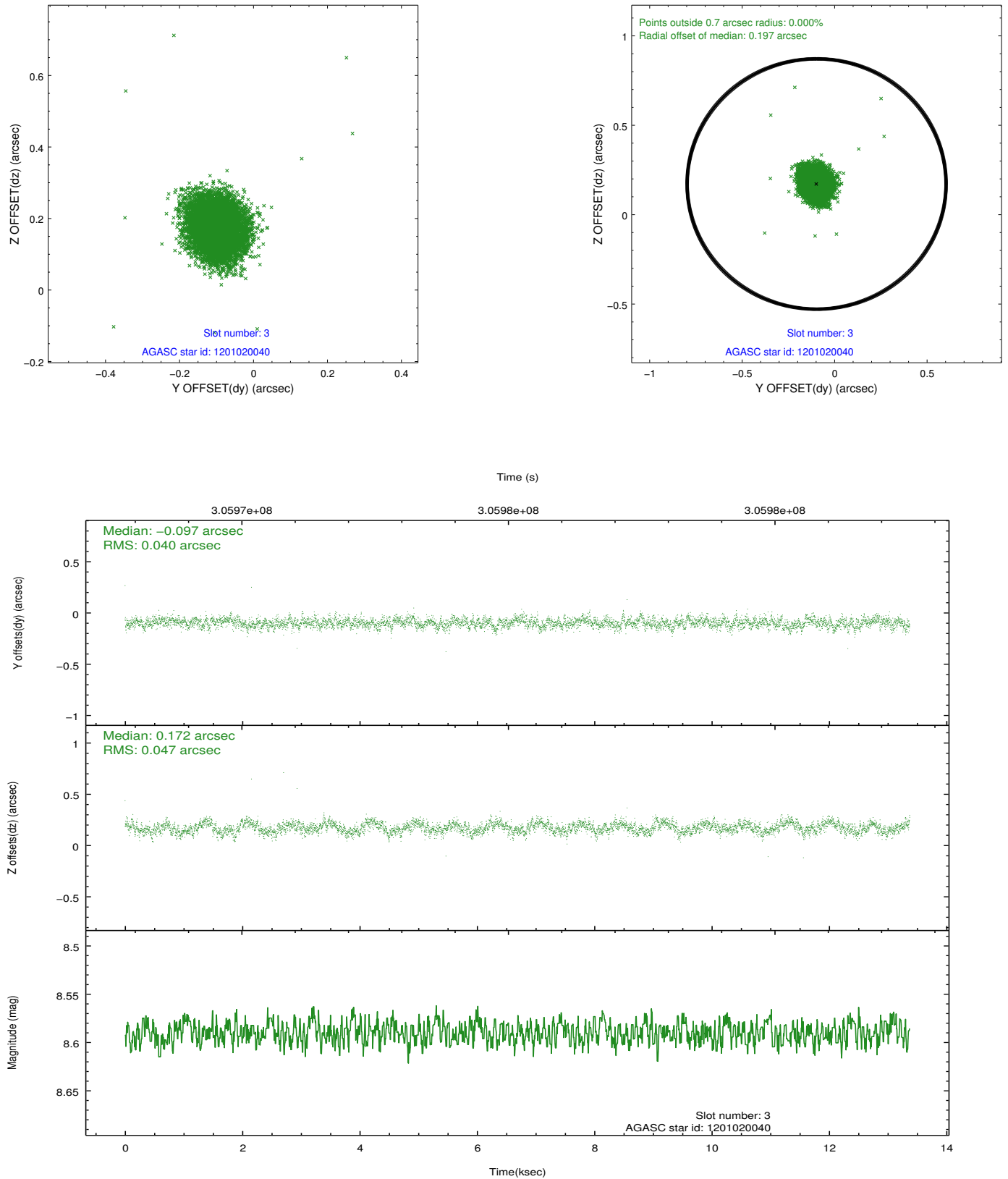


### Slot Statistics

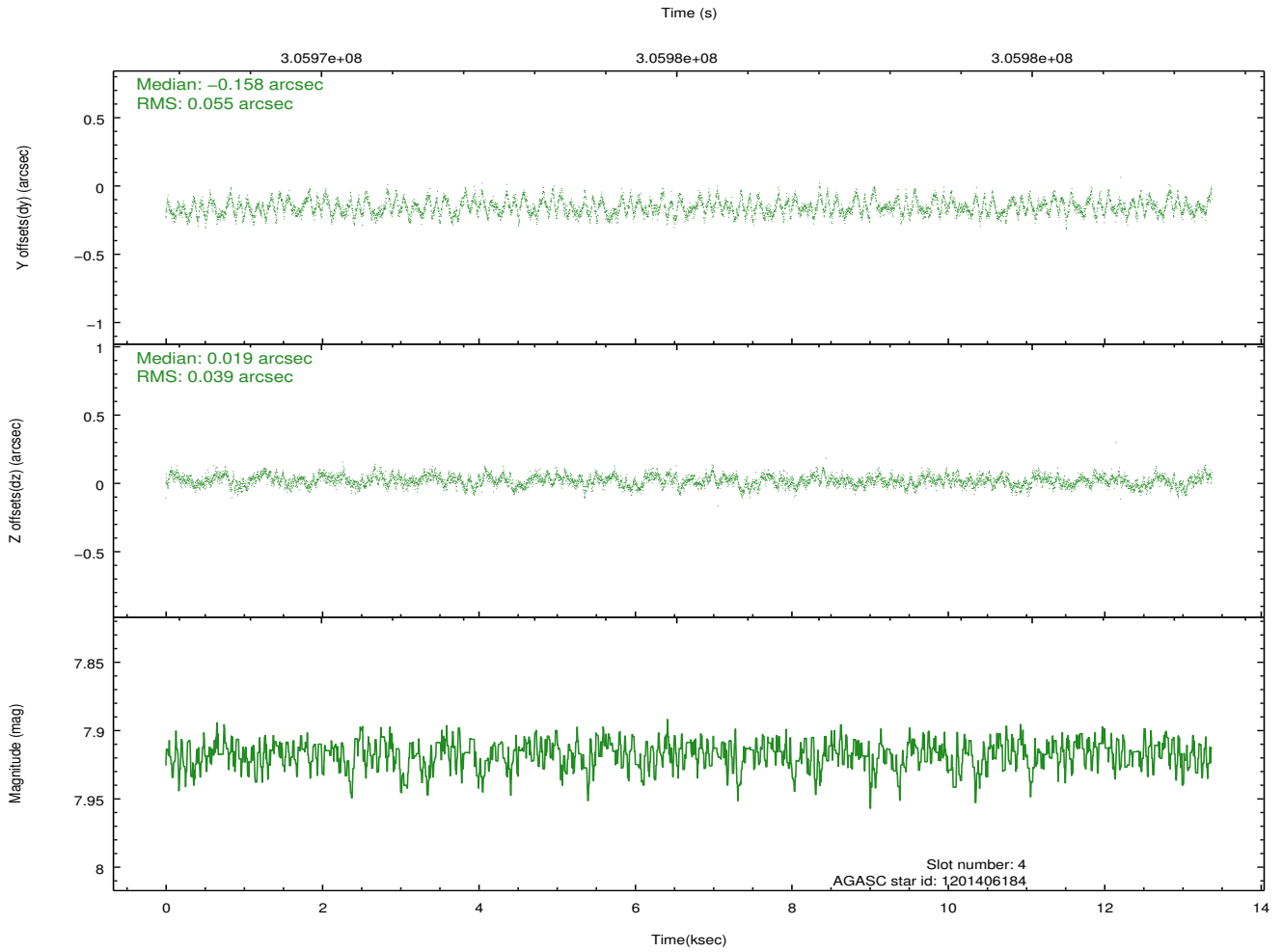
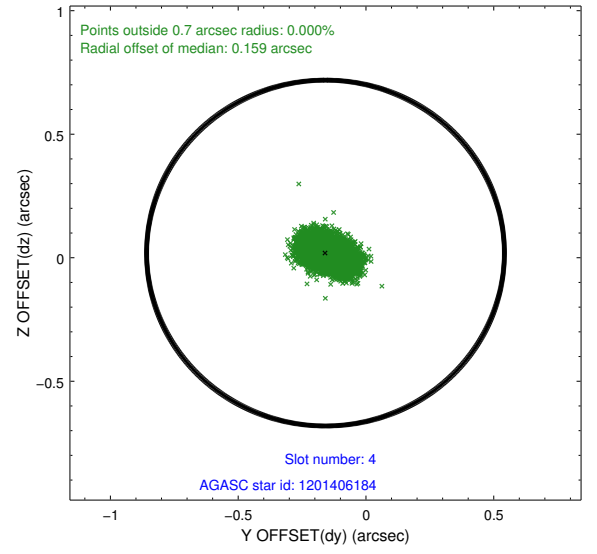
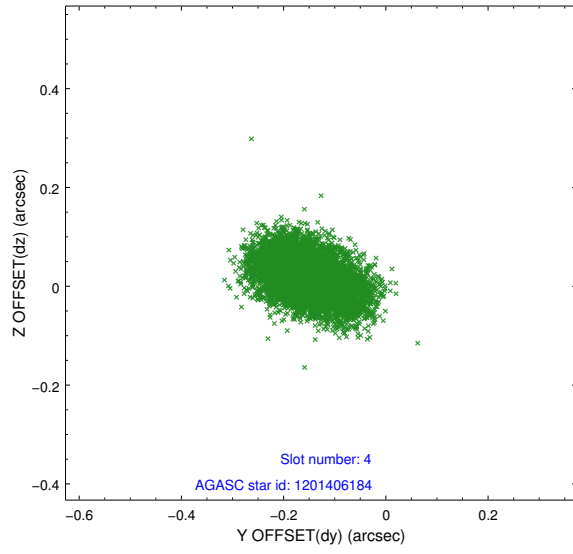
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.08	3263	-0.144	-0.101	0.006	0.011	0.000000	0.000000	-765.66	-1900.63
1	FID	ACIS-S-4	7.17	3261	0.130	0.084	0.006	0.010	0.000000	0.000000	2147.71	7.62
2	FID	ACIS-S-6	7.39	3261	-0.013	0.024	0.007	0.012	0.000000	0.000000	396.89	645.35
3	GUIDE	1201020040	8.59	6523	-0.097	0.172	0.064	0.103	85.379163	-68.879396	1364.97	-2017.82
4	GUIDE	1201406184	7.92	6523	-0.158	0.019	0.071	0.119	82.503234	-69.975517	-2243.45	1953.36
5	GUIDE	1201410616	9.32	6517	0.208	-0.141	0.101	0.159	82.516808	-69.784406	-1558.26	1892.43
6	GUIDE	1200885760	9.44	6518	0.047	-0.167	0.095	0.162	83.723637	-68.777667	1940.44	88.21
7	GUIDE	1201019672	6.86	6524	0.003	0.115	0.063	0.098	85.312192	-68.770187	1765.78	-1974.98

## 2.4 Star Slots

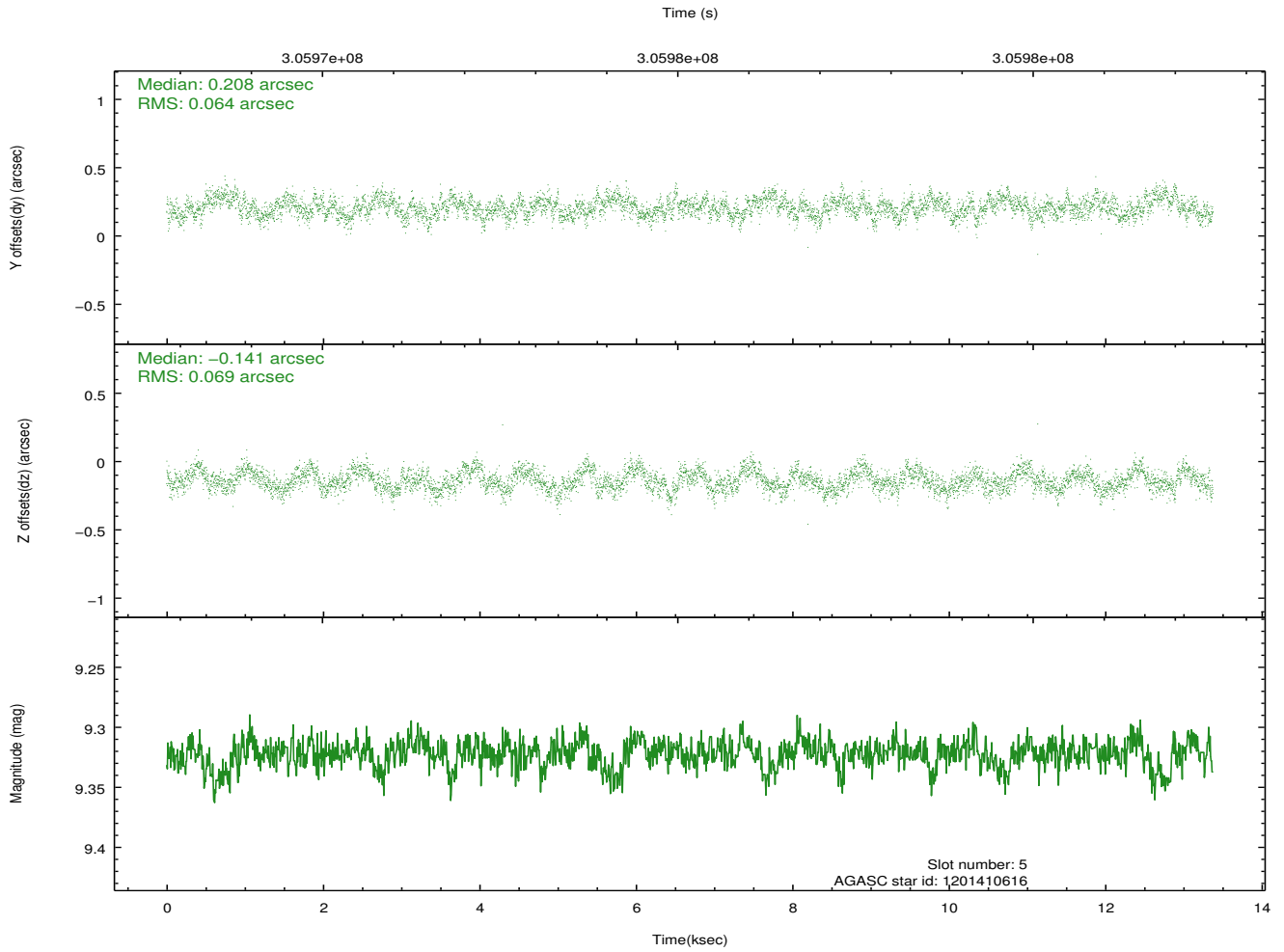
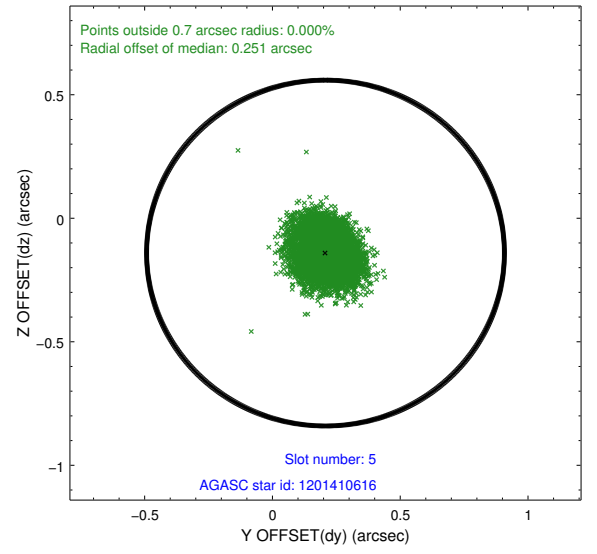
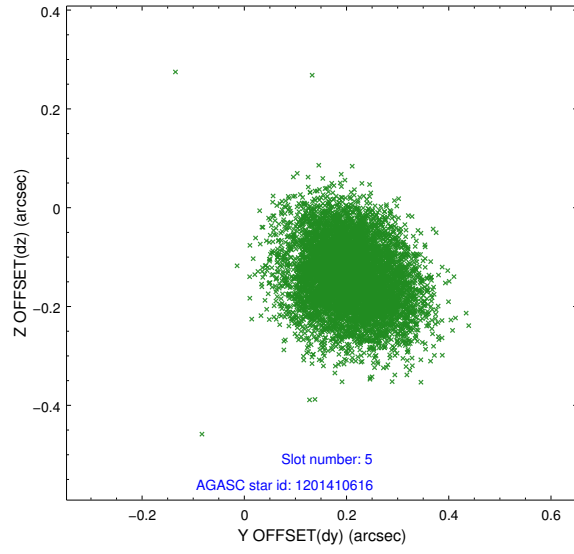
### 2.4.1 Slot 3



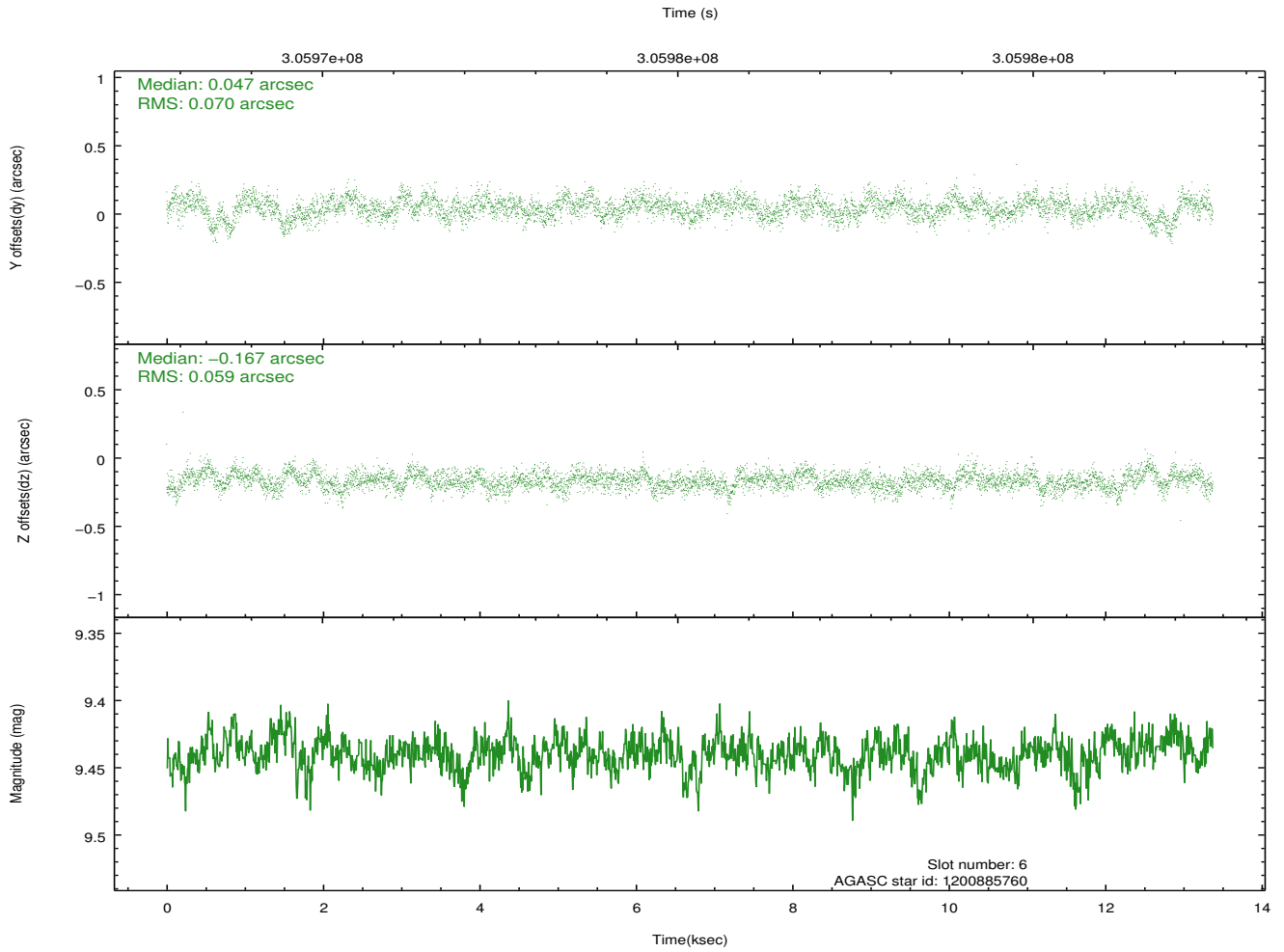
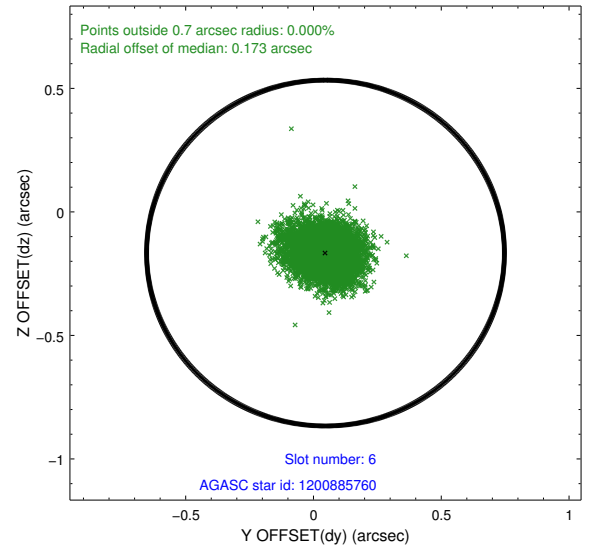
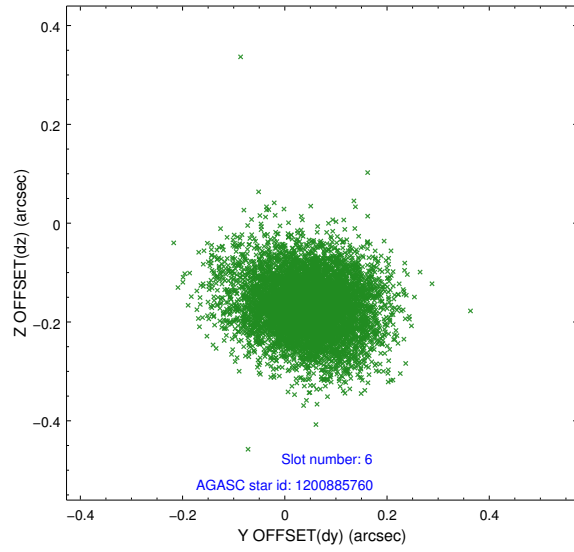
## 2.4.2 Slot 4



### 2.4.3 Slot 5

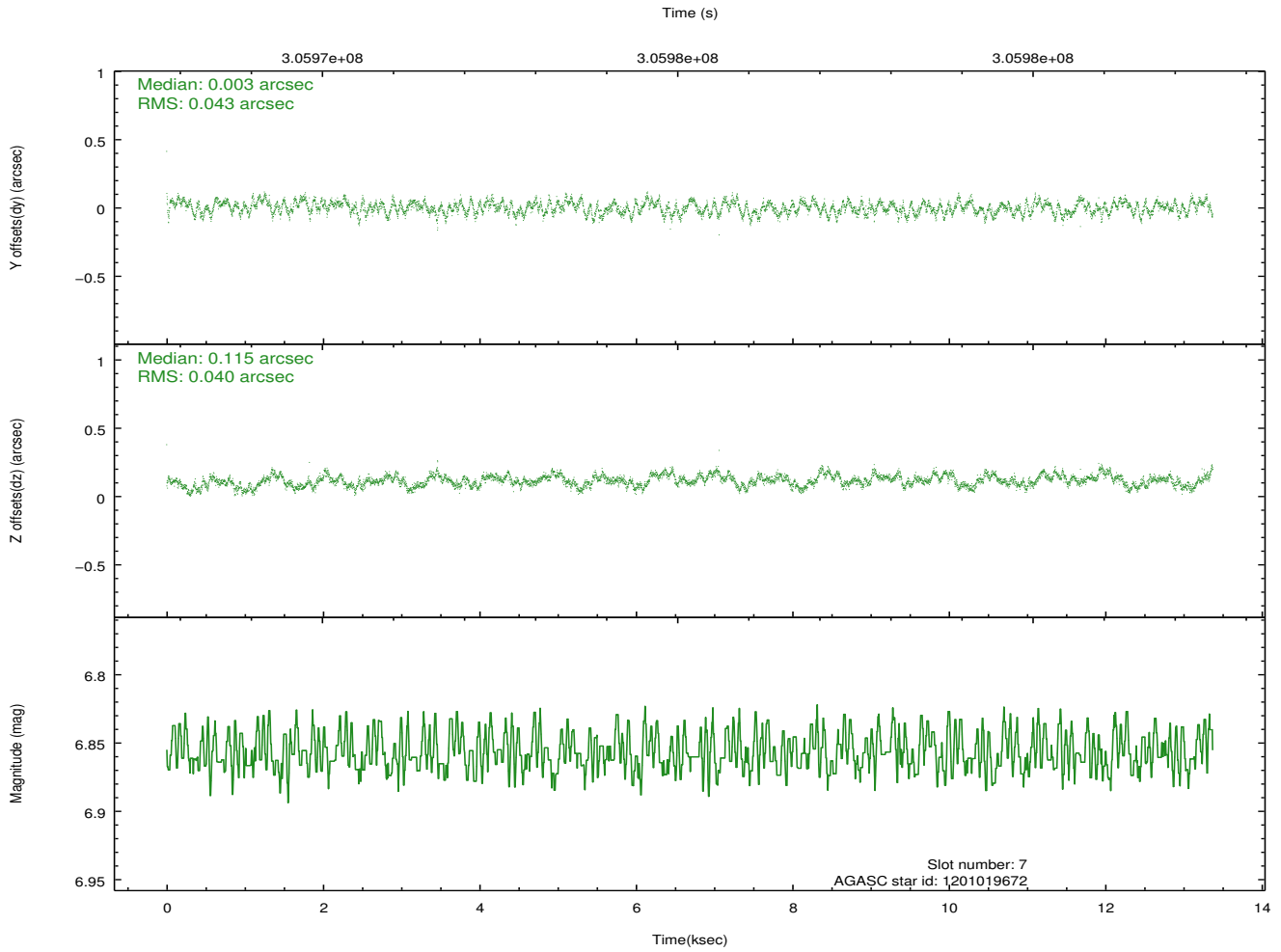
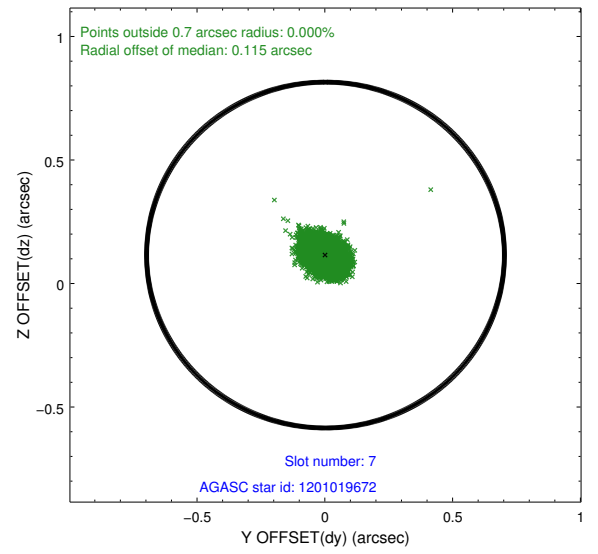
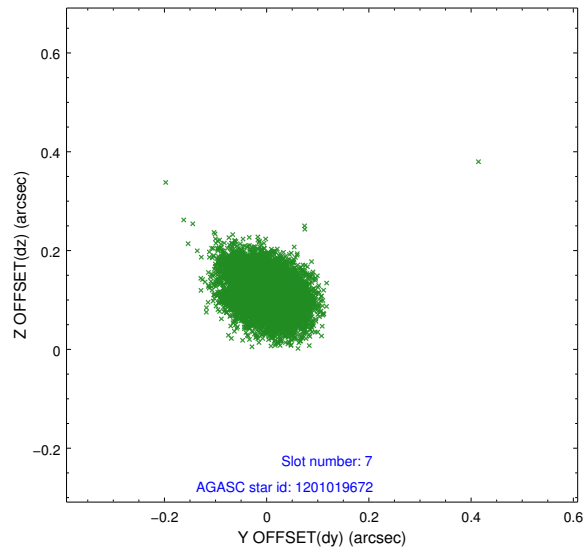


## 2.4.4 Slot 6



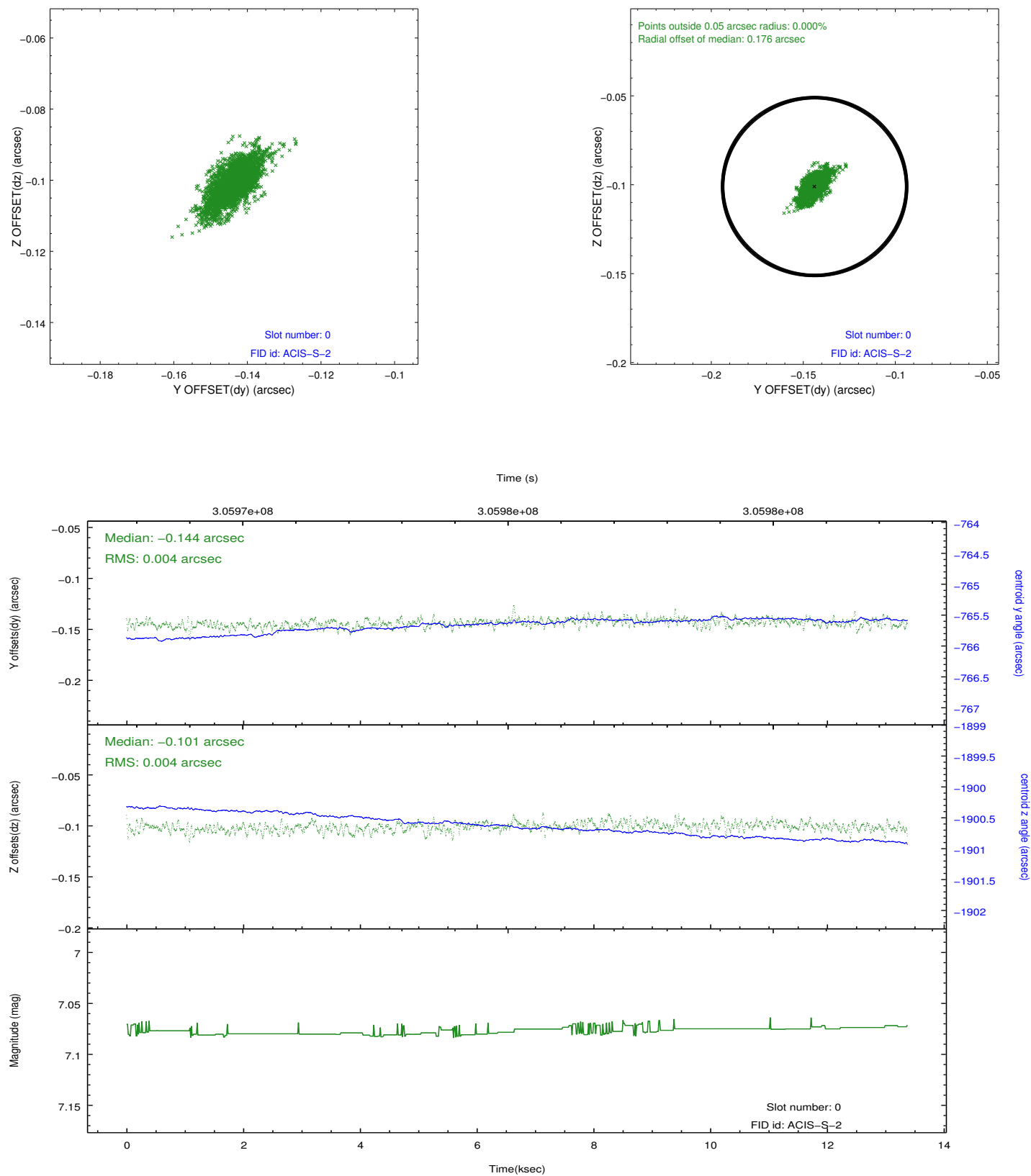


## 2.4.5 Slot 7

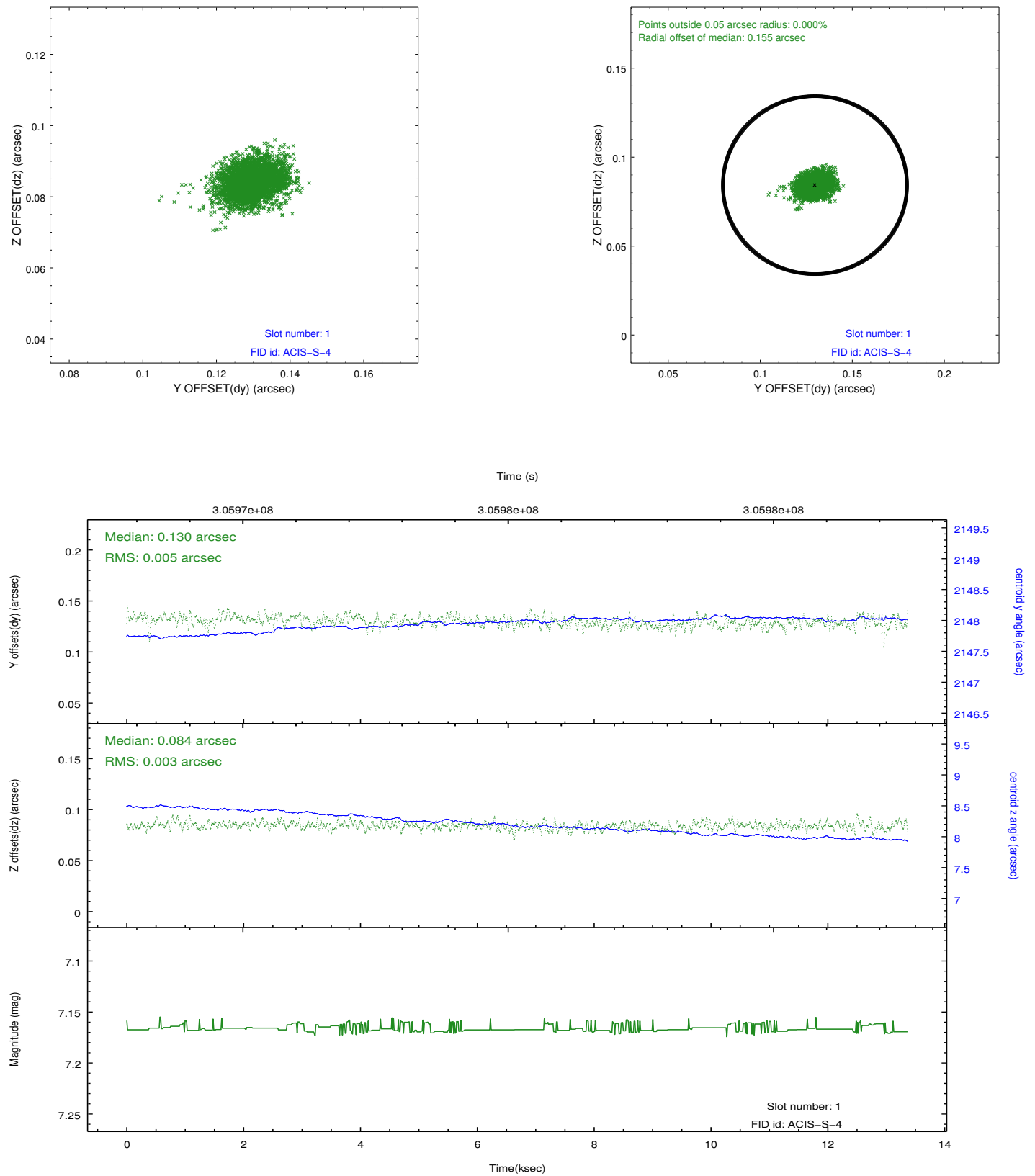


## 2.5 FID Slots

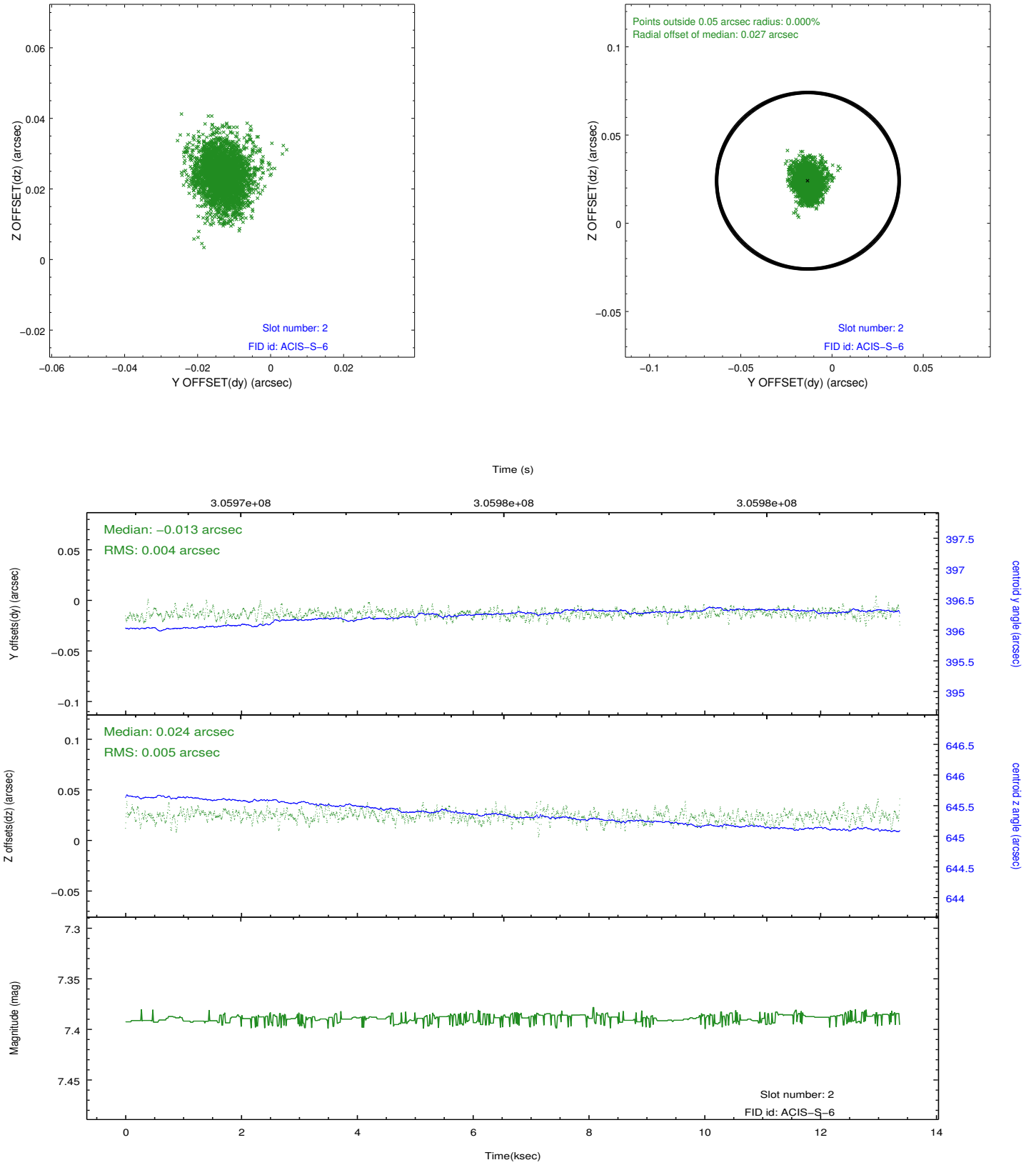
### 2.5.1 Slot 0



## 2.5.2 Slot 1

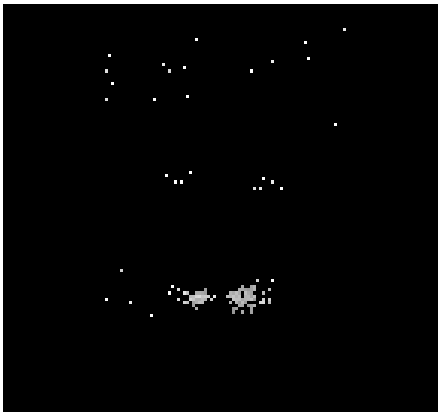


### 2.5.3 Slot 2

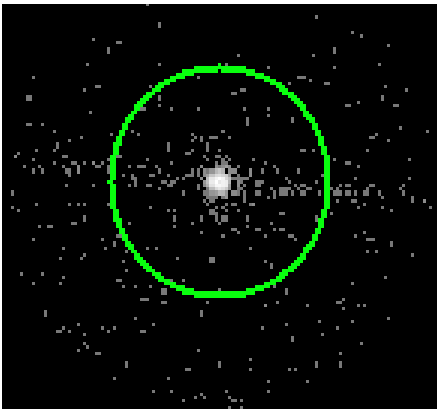


# 3 Gratings

## 3.1 LETG Arm



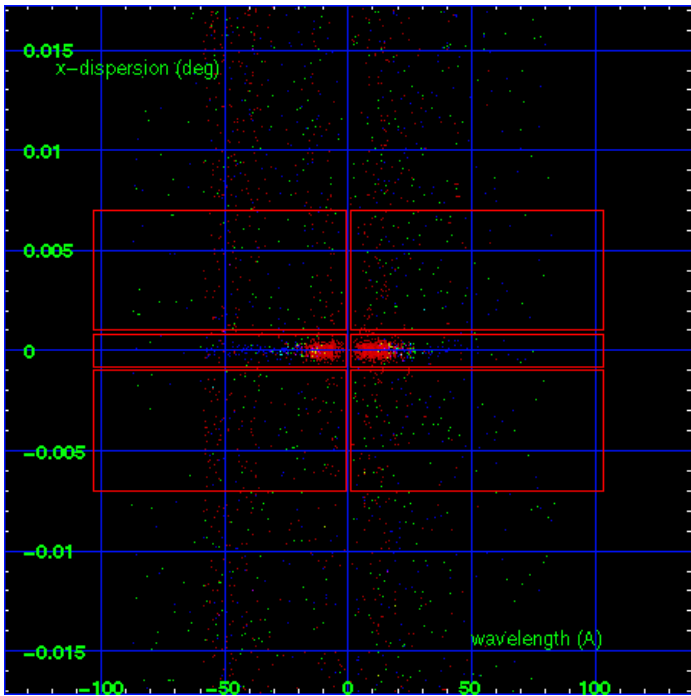
LETG Order Sort 123



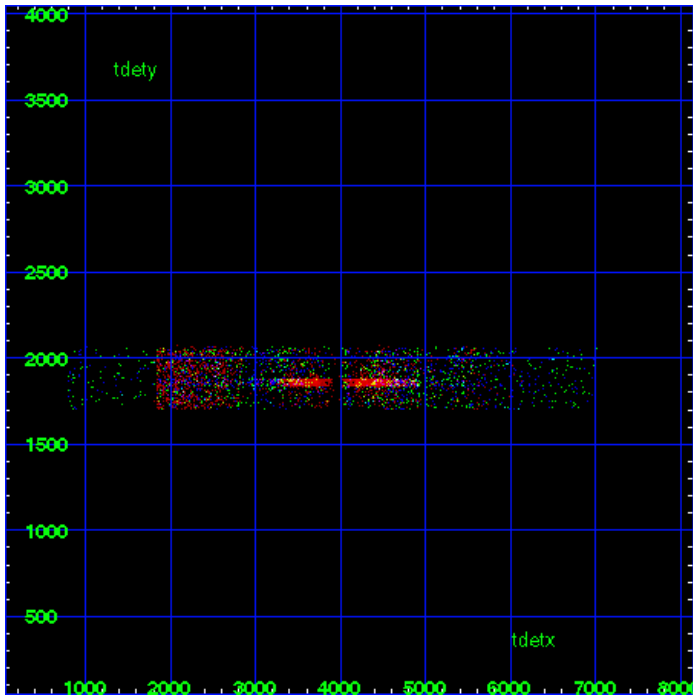
LETG Zero Order



LETG Order Sort ALL

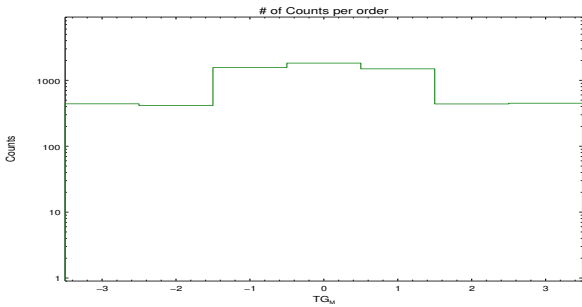


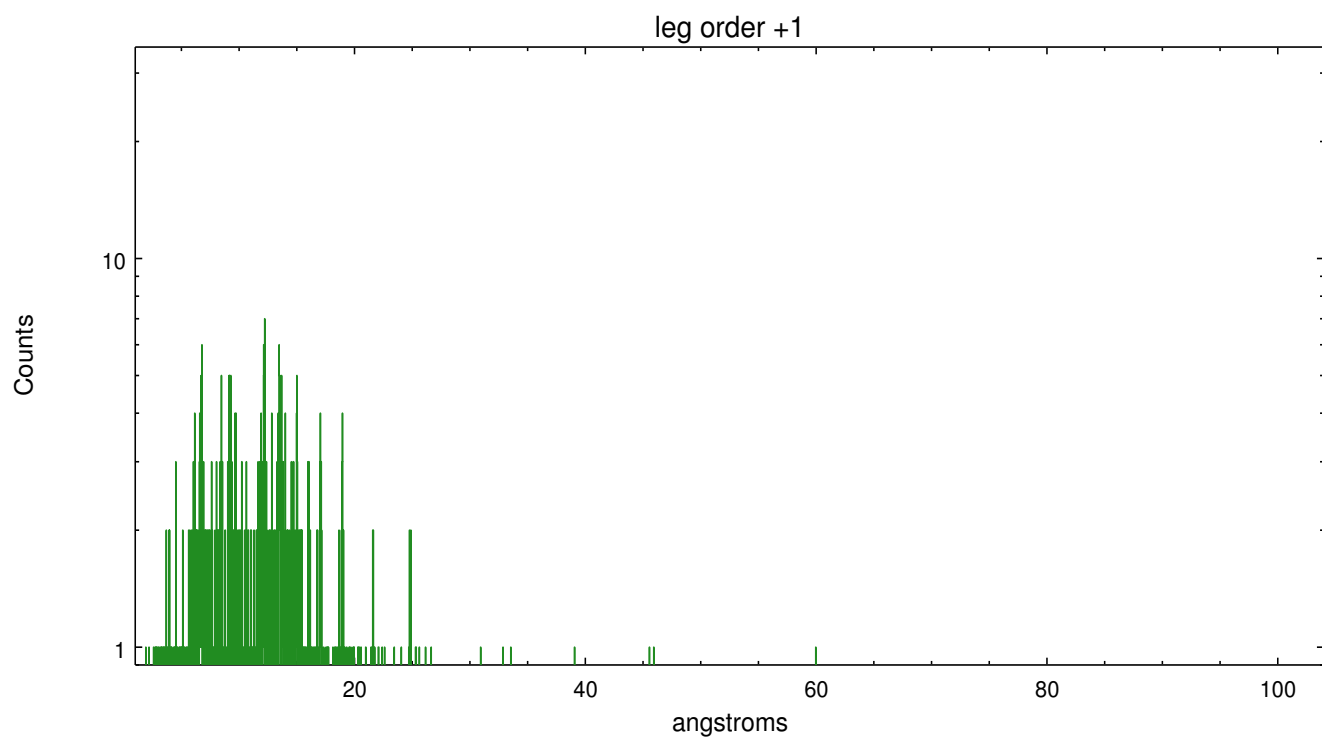
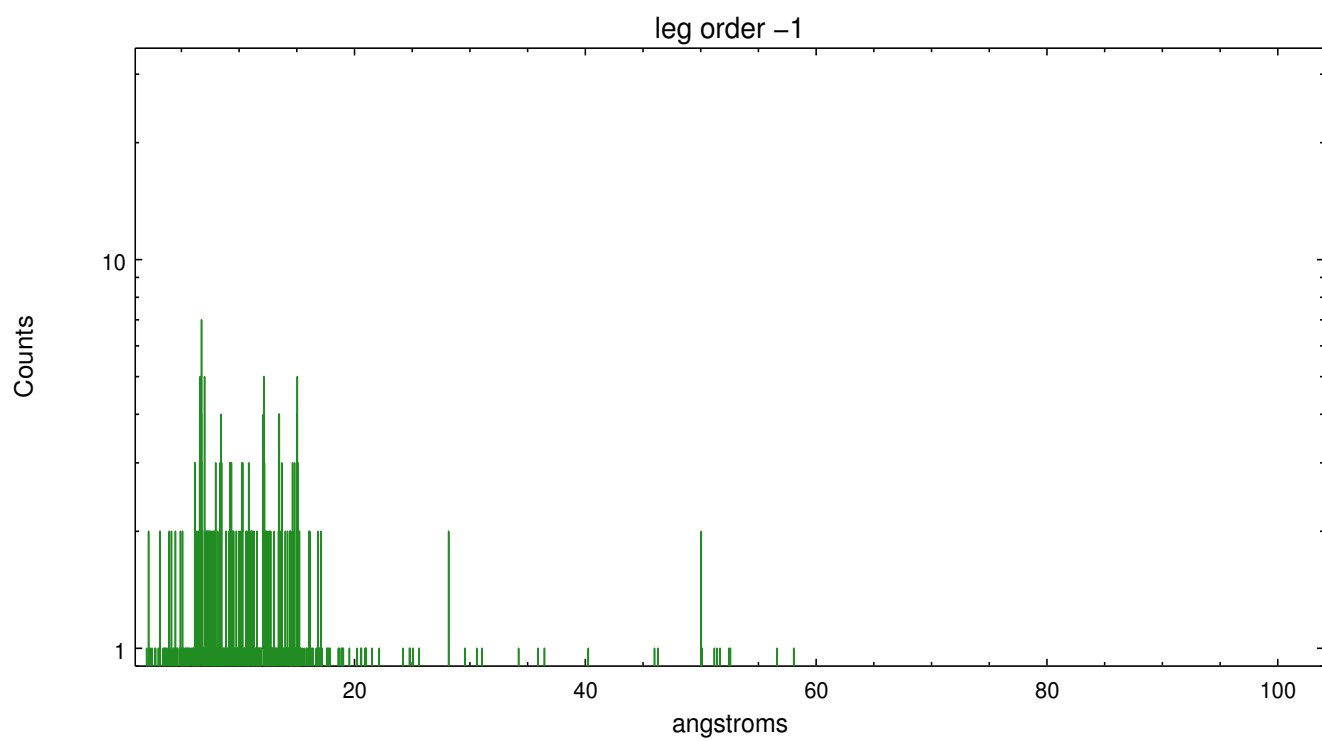
Spot Image LETG



Full Detector LETG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	440	415	1561	1824	1493	438	449





# 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	13.0143999

## 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.