

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 7176 - L2 Version 4  
Chandra X-Ray Center

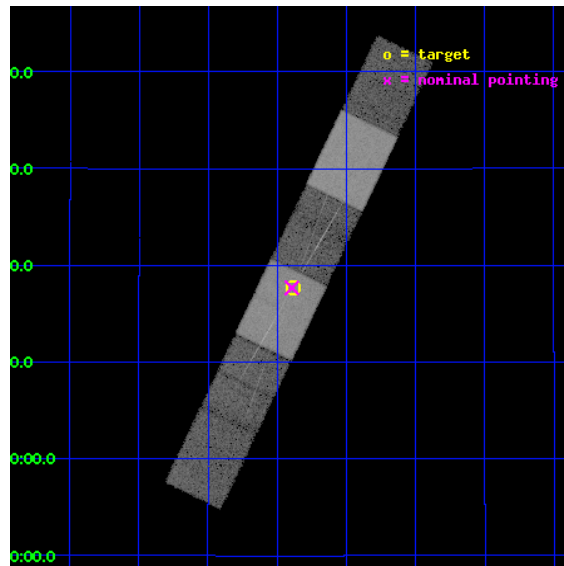
L2 Processing Date : Mar 8 2013

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# 1 Front

seq_num	300148	Sequence number
obs_id	7176	Observation id
title	Chandra HETG Spectroscopy of the VY Sculptoris Star TT Ari	Proposa
observer	Christopher Mauche	Principal investigator
object	TT Ari	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	31.72125	Observer's specified target RA [deg]
dec_targ	15.295278	Observer's specified target Dec [deg]
ra_nom	31.723467509991	Nominal RA [deg]
dec_nom	15.294673386192	Nominal Dec [deg]
roll_nom	115.65604384786	Nominal Roll [deg]
revision	4	Processing version of data
ontime	24417.5	Sum of GTIs [s]
livetime	24023.136196203	Livetime [s]
ontime4	24417.5	Sum of GTIs [s]
ontime5	24417.5	Sum of GTIs [s]
ontime6	24417.5	Sum of GTIs [s]
ontime7	24417.5	Sum of GTIs [s]
ontime8	24417.5	Sum of GTIs [s]
ontime9	24414.959009826	Sum of GTIs [s]
l2events	236951	Number of level 2 events

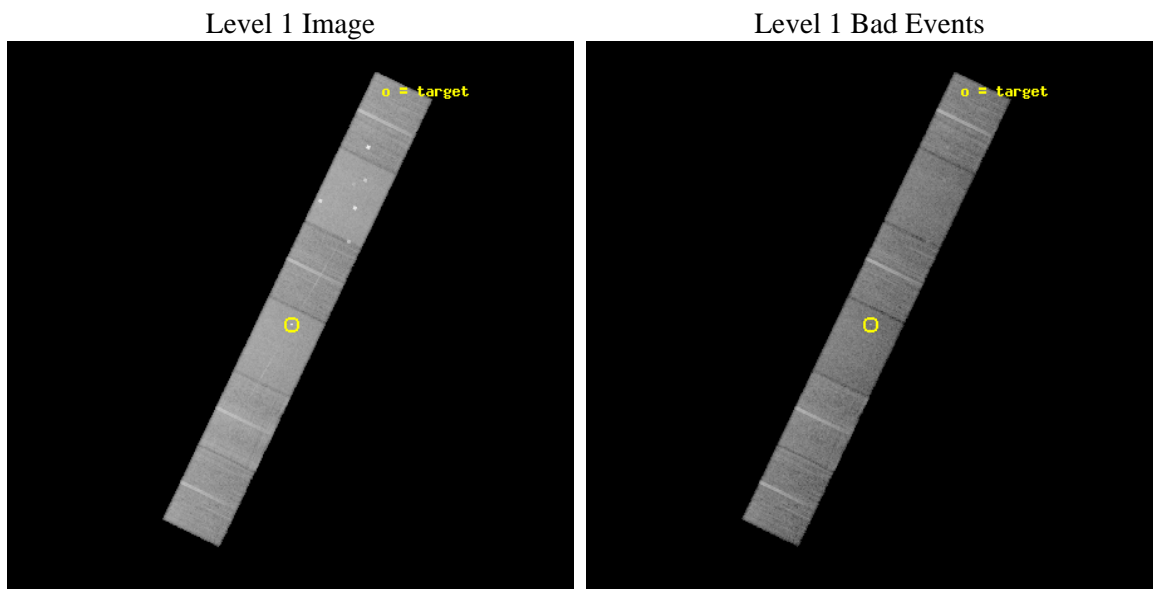




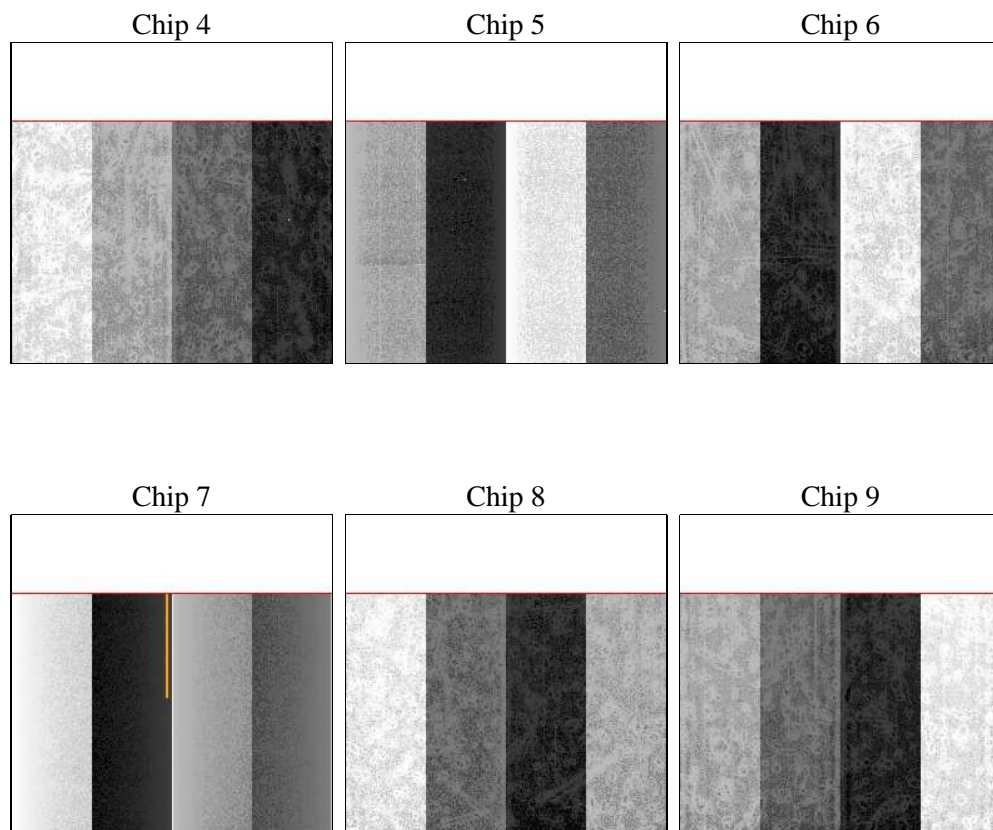
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	24300.000000	[s] Scheduled observation exposure time
ascdsver	8.5.1.1	Processing system revision	ontime	24417.5	Sum of GTIs [s]
caldsver	4.5.6	&#160	ontime4	24417.5	Sum of GTIs [s]
date	2013-03-08T00:43:32	Date and time of file creation	ontime5	24417.5	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	24417.5	Sum of GTIs [s]
			ontime7	24417.5	Sum of GTIs [s]
			ontime8	24417.5	Sum of GTIs [s]
			ontime9	24414.959009826	Sum of GTIs [s]
			l1events	1069434	Number of level 1 events

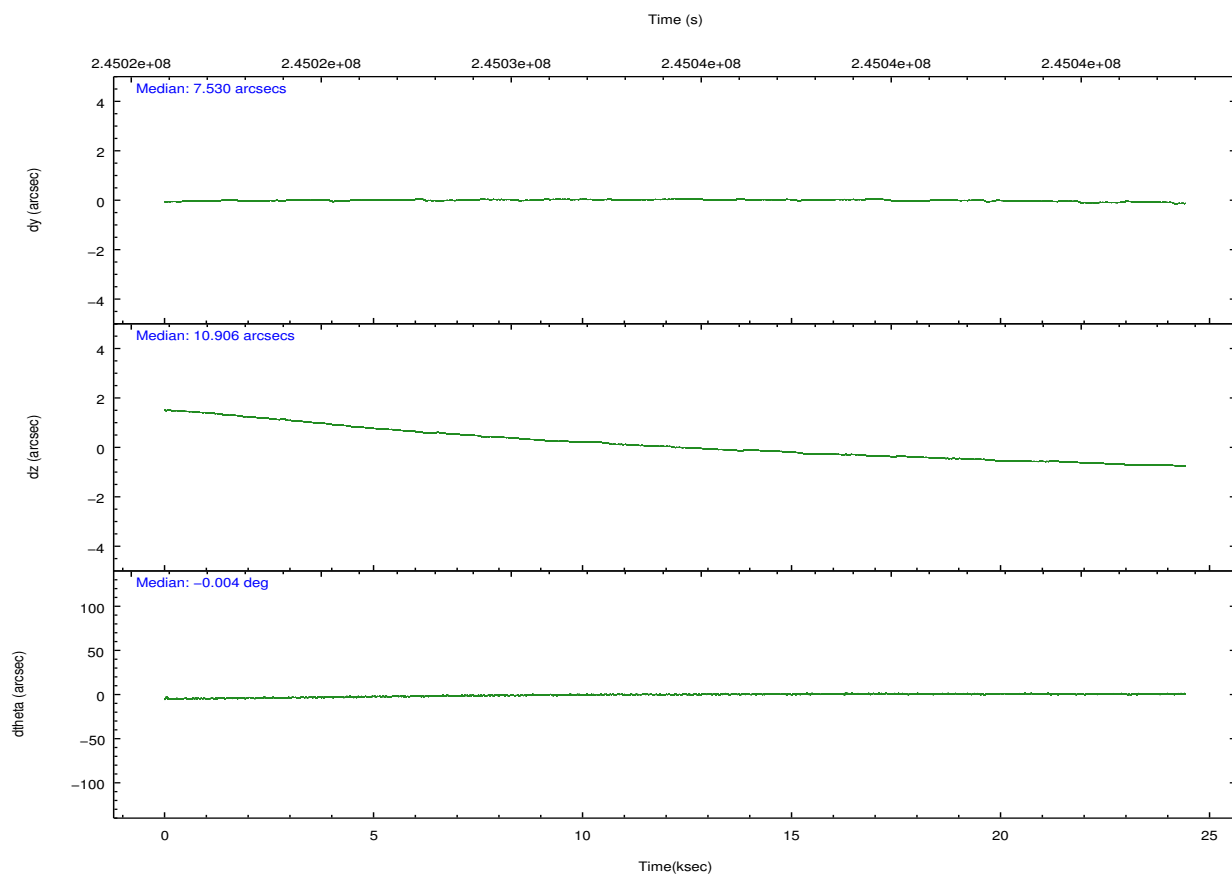
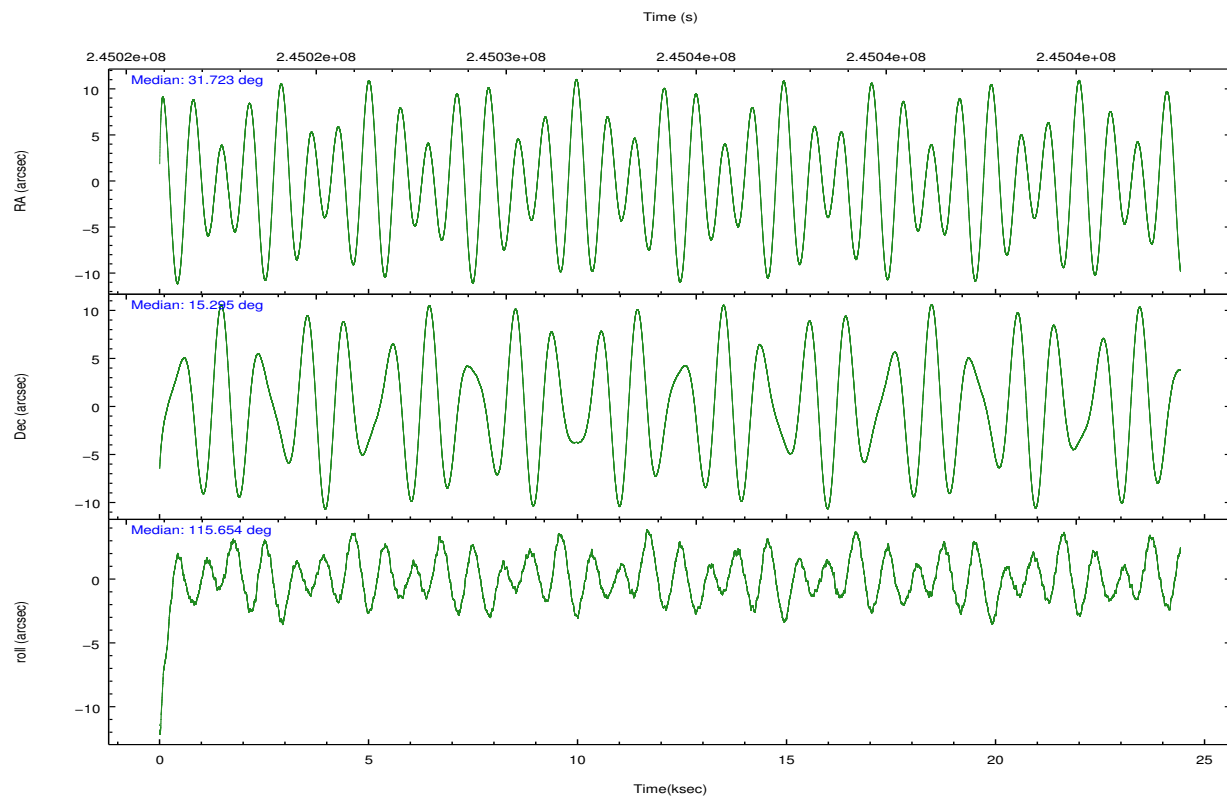
### 2.1.4 Events

	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	165006	226665	145595	199855	188662	143651	grade 0 events	14274	17186	7936	7669	13158	7248
rejected events	140665	121019	127090	116592	147889	125977		8%	7%	5%	3%	6%	5%
rejected %	85%	53%	87%	58%	78%	87%	grade 1 events	150	398	73	224	95	64
								0%	0%	0%	0%	0%	0%
							grade 2 events	3886	29752	3811	17395	9261	3639
								2%	13%	2%	8%	4%	2%
							grade 3 events	1960	4668	1799	7781	4511	1896
								1%	2%	1%	3%	2%	1%
							grade 4 events	1846	4475	1854	7715	4101	1879
								1%	1%	1%	3%	2%	1%
							grade 5 events	6191	16787	6659	18556	8864	6990
								3%	7%	4%	9%	4%	4%
							grade 6 events	2913	52121	3521	44658	10790	3507
								1%	22%	2%	22%	5%	2%
							grade 7 events	133786	101278	119942	95857	137882	118428
								81%	44%	82%	47%	73%	82%

## 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	HETG	HETG	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	31.746992	31.72346750999086	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	15.279613	15.29467338619154	Subarray start row	1	1
[deg] Pointing Roll	115.493208	115.6560438478599	Subarray row count	774	774
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	2.5
[mm] SIM translation stage pos	-187.132523	-187.1254020033014			
[mm] SIM translation stage offset	-3	-3.007120579706367			
[s] Observation start time (MET)	245022221.184000	245020930.15991			
Observation start date	2005-10-06T21:42:37	2005-10-06T21:22:10			
[s] Observation end time (MET)	245046521.184000	245046826.7861			
Observation end date	2005-10-07T04:27:37	2005-10-07T04:33:46			
Read mode	TIMED	TIMED			

## 2.3 Aspect

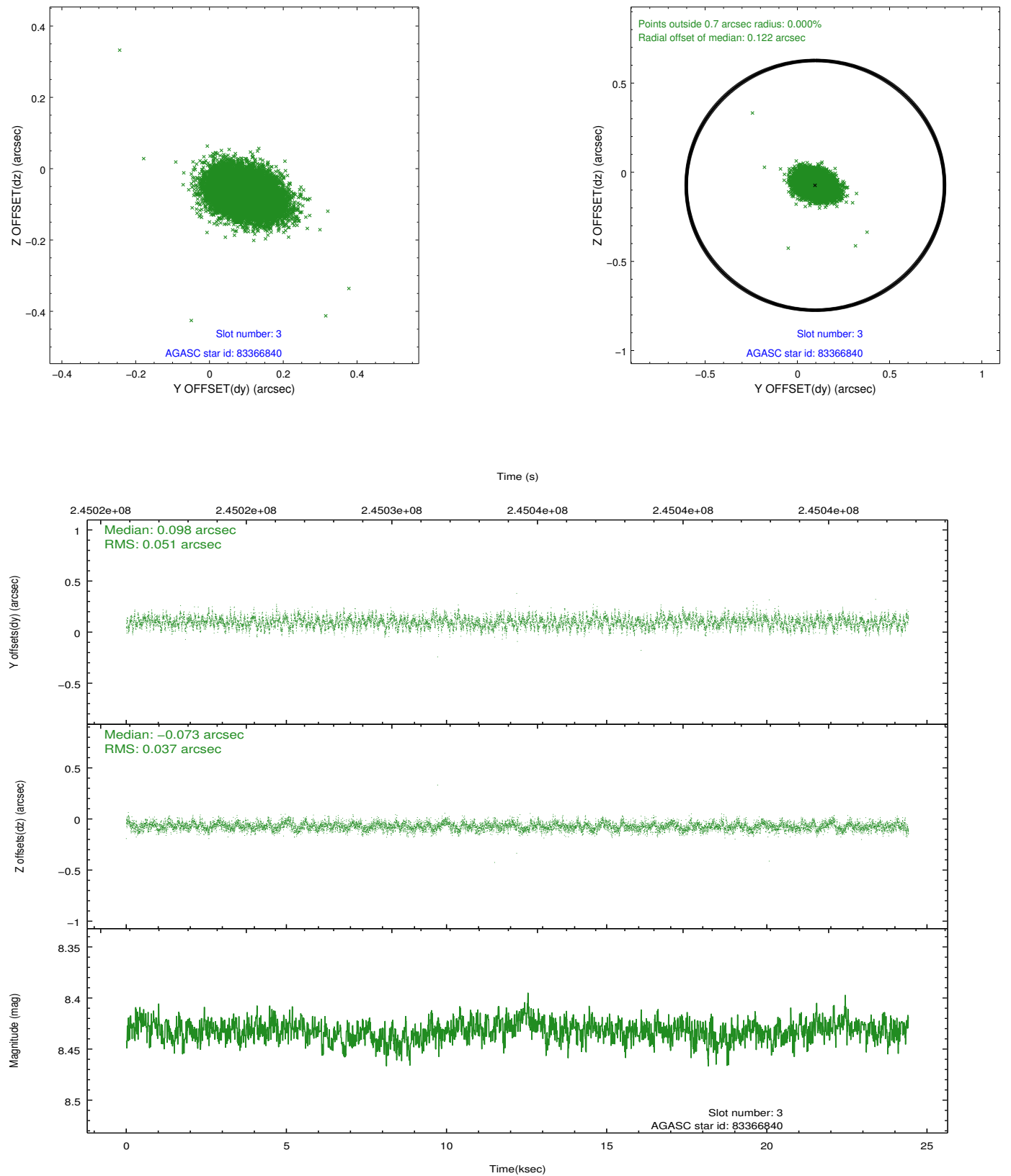


Slot Statistics

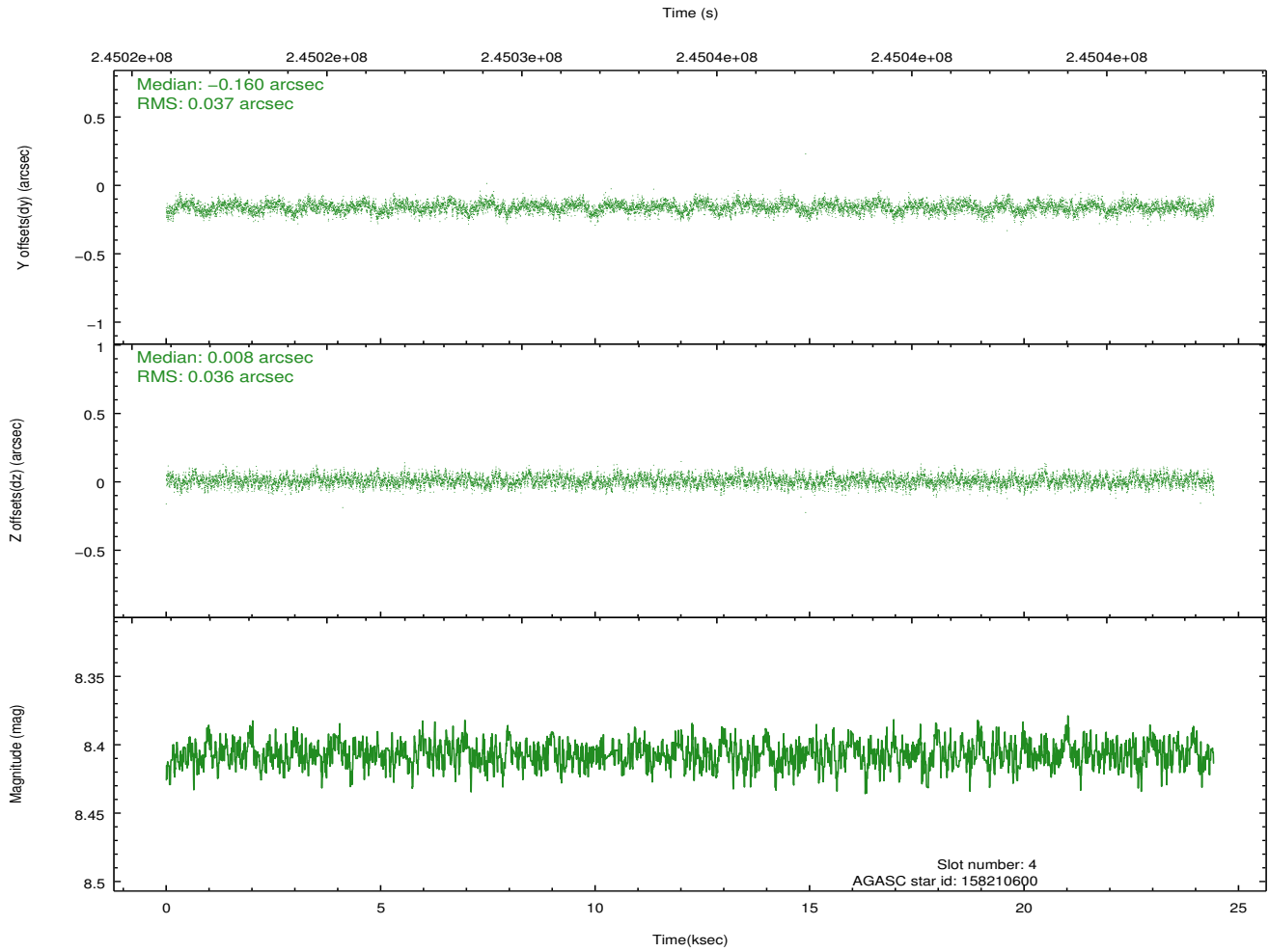
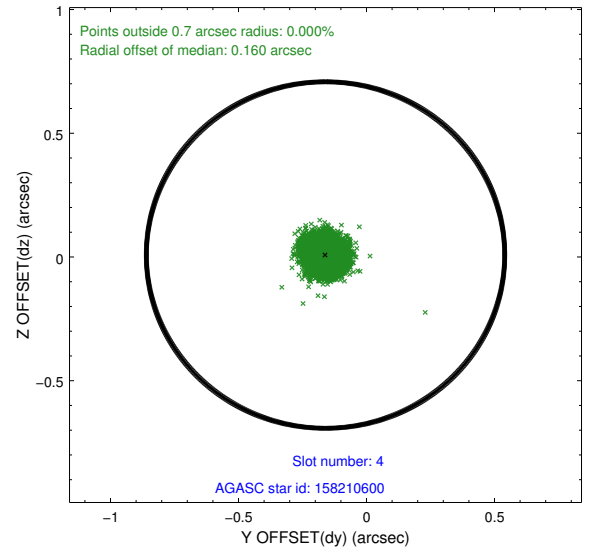
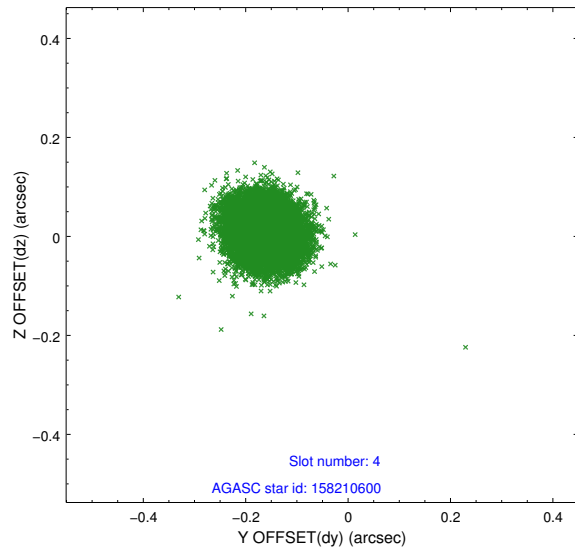
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	5957	-0.054	-0.101	0.012	0.029	0.000000	0.000000	-760.14	-1794.50
1	FID	ACIS-S-4	7.19	5957	0.116	0.054	0.009	0.018	0.000000	0.000000	2153.26	113.98
2	FID	ACIS-S-5	7.23	5957	-0.092	0.057	0.010	0.026	0.000000	0.000000	-1812.85	107.81
3	GUIDE	83366840	8.43	11910	0.098	-0.073	0.066	0.107	31.673303	14.583774	-2150.48	1309.95
4	GUIDE	158210600	8.41	11909	-0.160	0.008	0.055	0.088	31.131603	15.630068	2059.54	1381.74
5	GUIDE	158211640	9.28	11909	0.077	-0.004	0.081	0.133	31.349537	15.537415	1432.45	844.47
6	GUIDE	158215416	9.23	11906	-0.027	-0.045	0.098	0.157	31.249092	15.295299	797.05	1535.59
7	GUIDE	159131712	7.91	11909	0.015	0.117	0.065	0.104	32.565244	15.023039	-2053.28	-2172.69

## 2.4 Star Slots

### 2.4.1 Slot 3

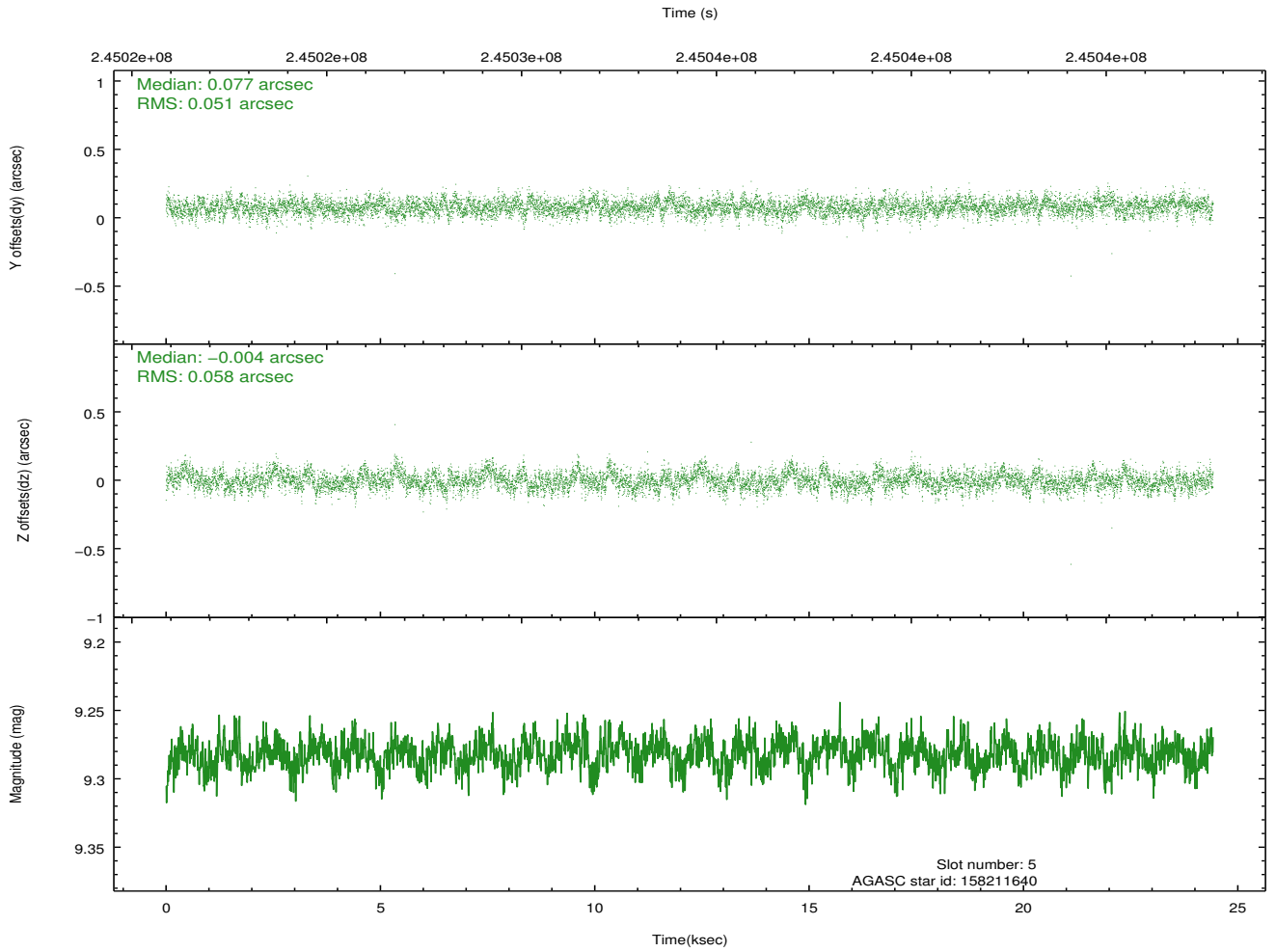
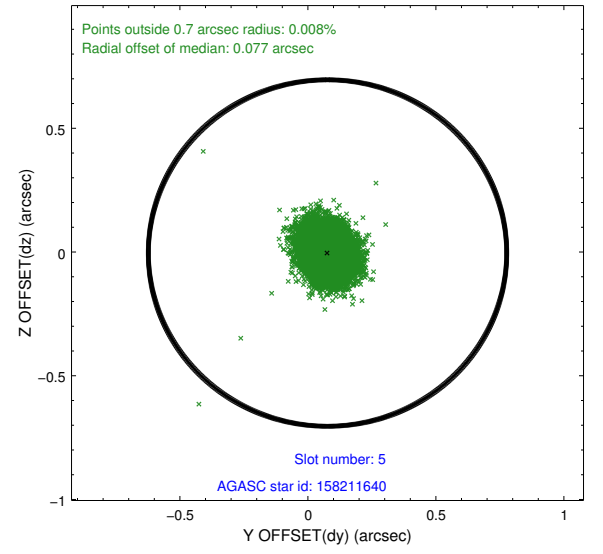
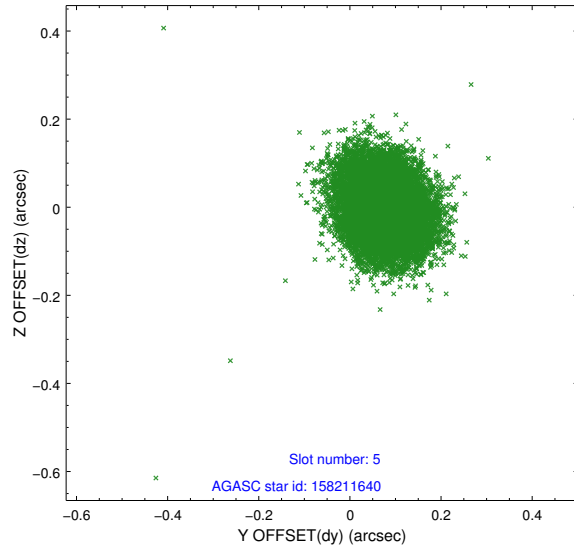


## 2.4.2 Slot 4

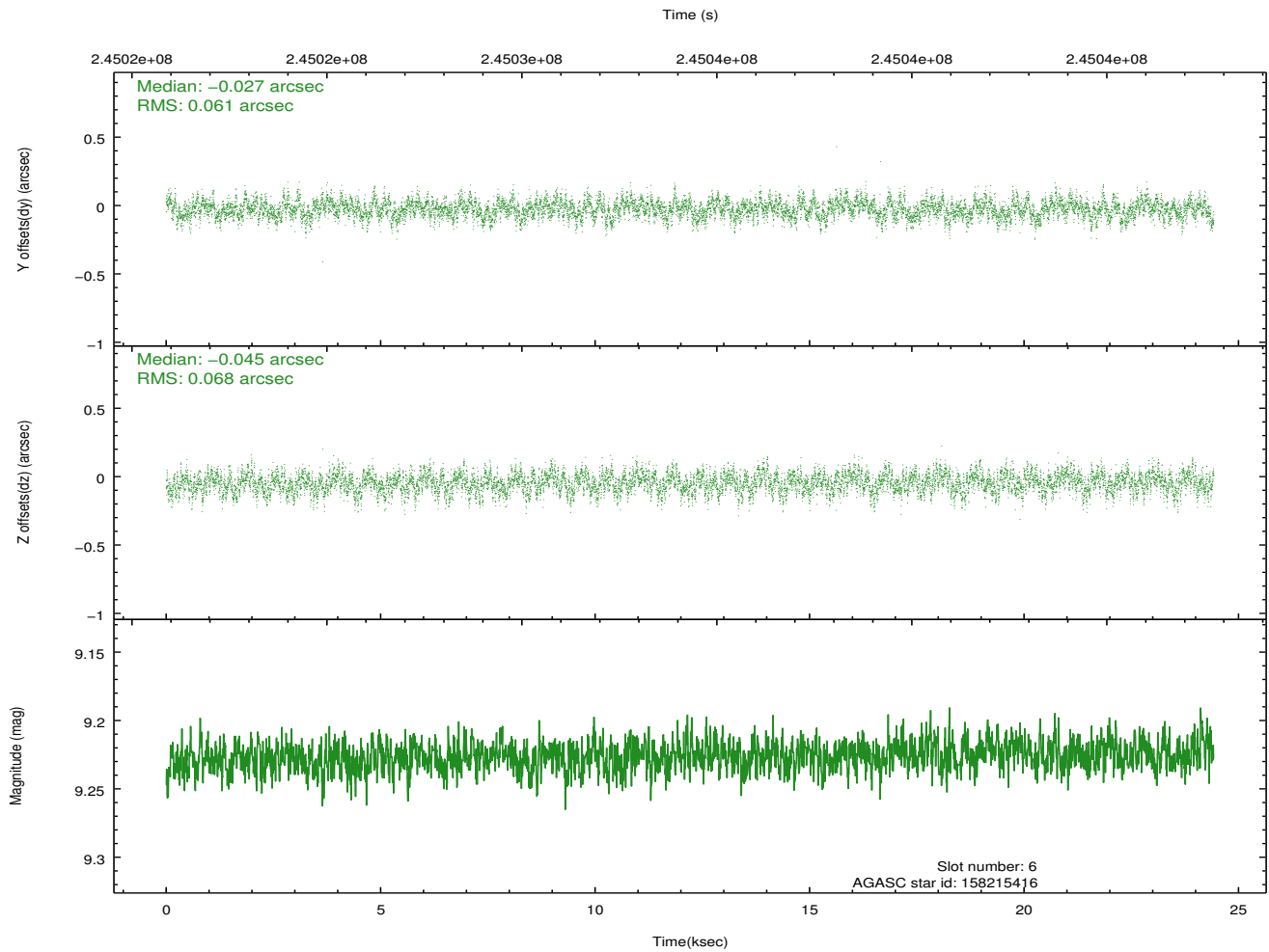
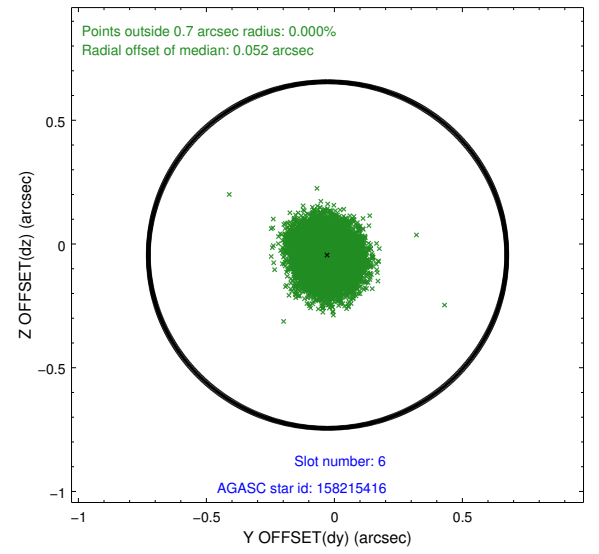
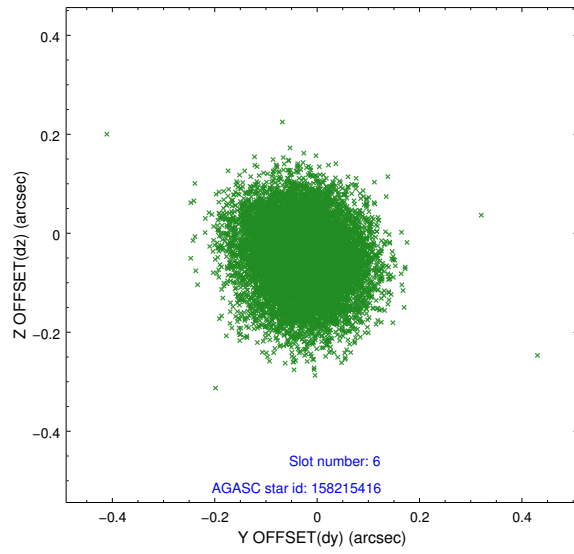




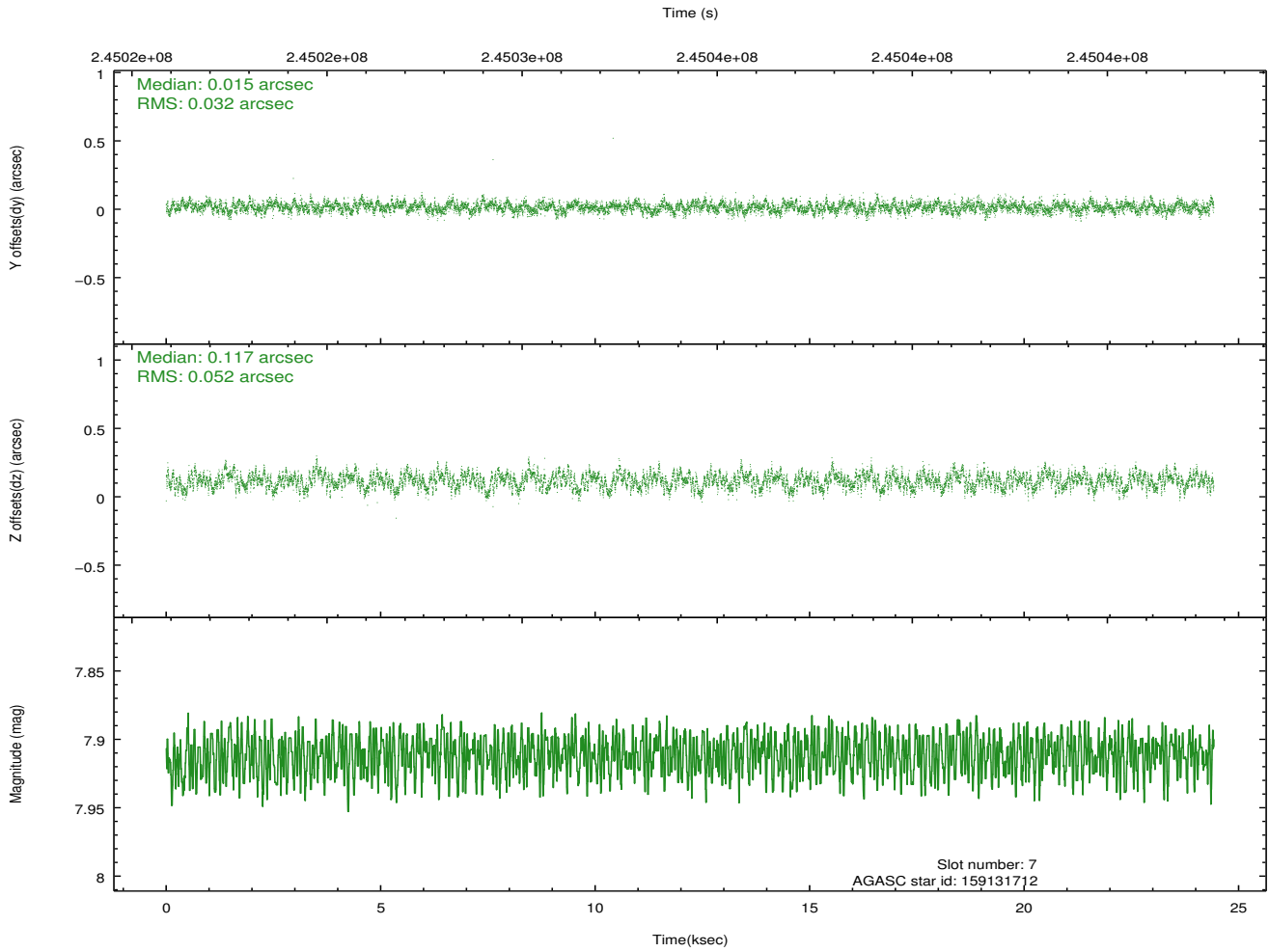
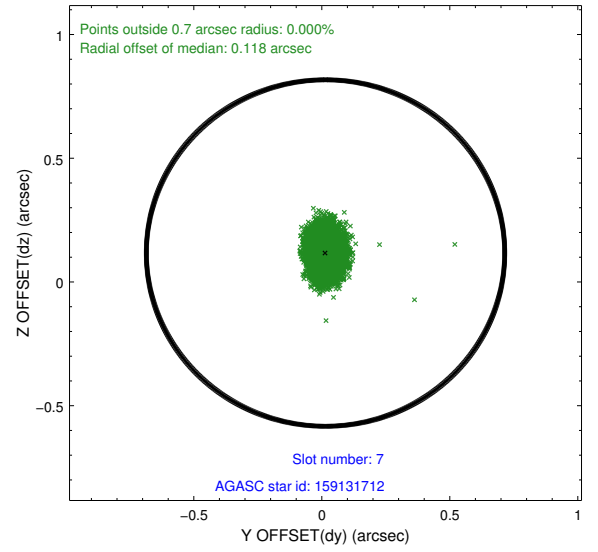
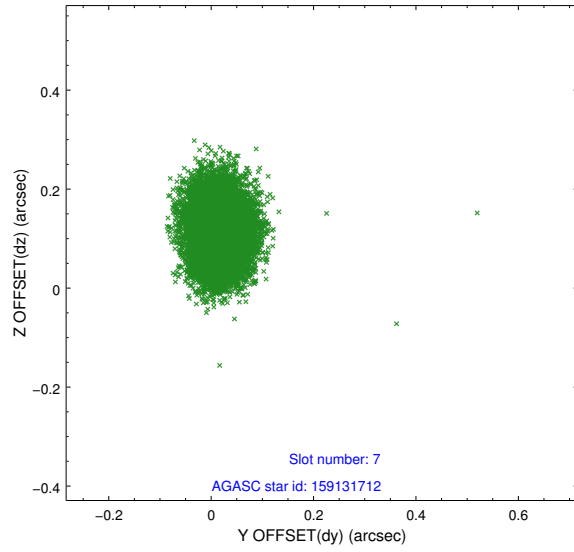
### 2.4.3 Slot 5



## 2.4.4 Slot 6

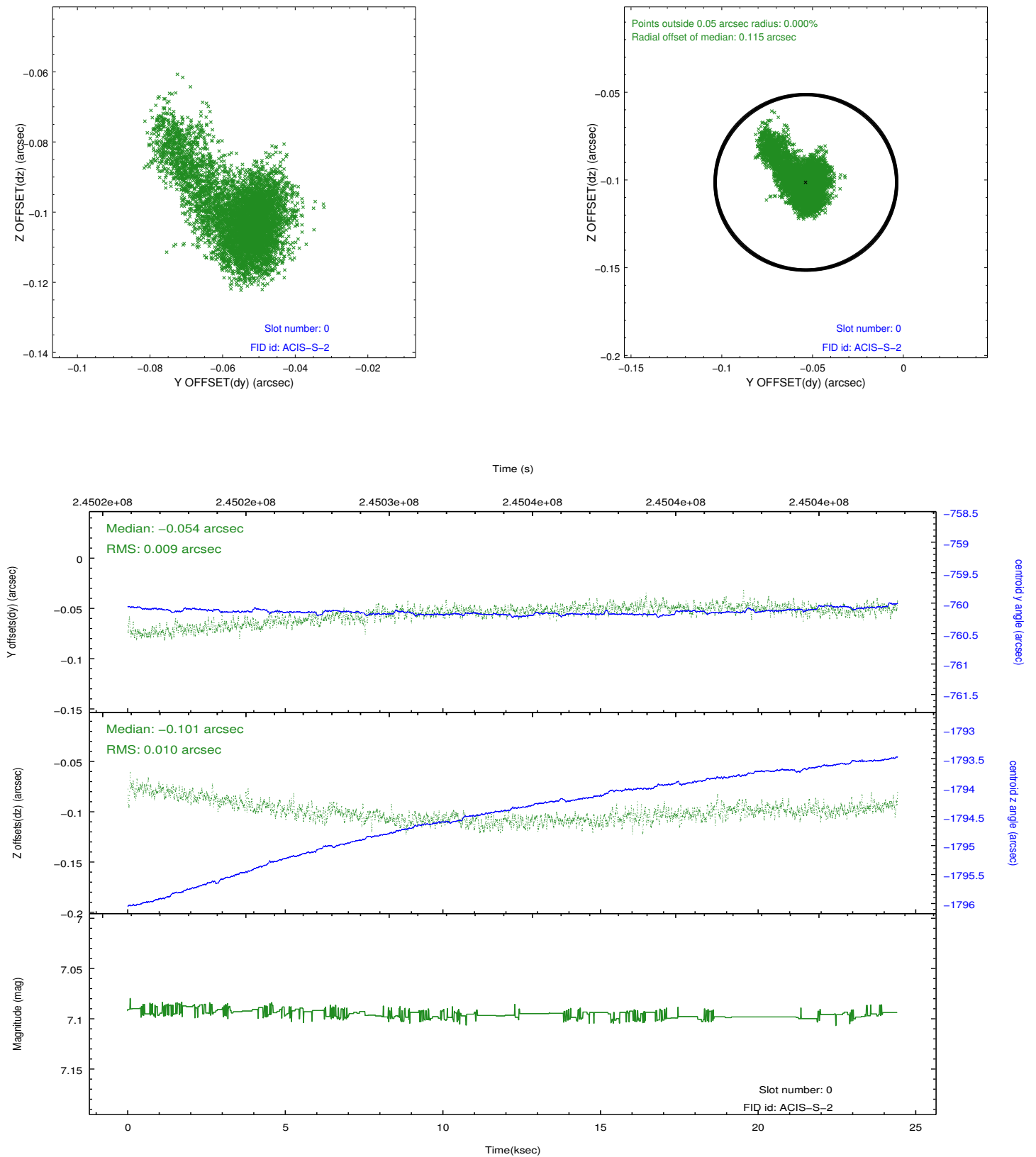


### 2.4.5 Slot 7

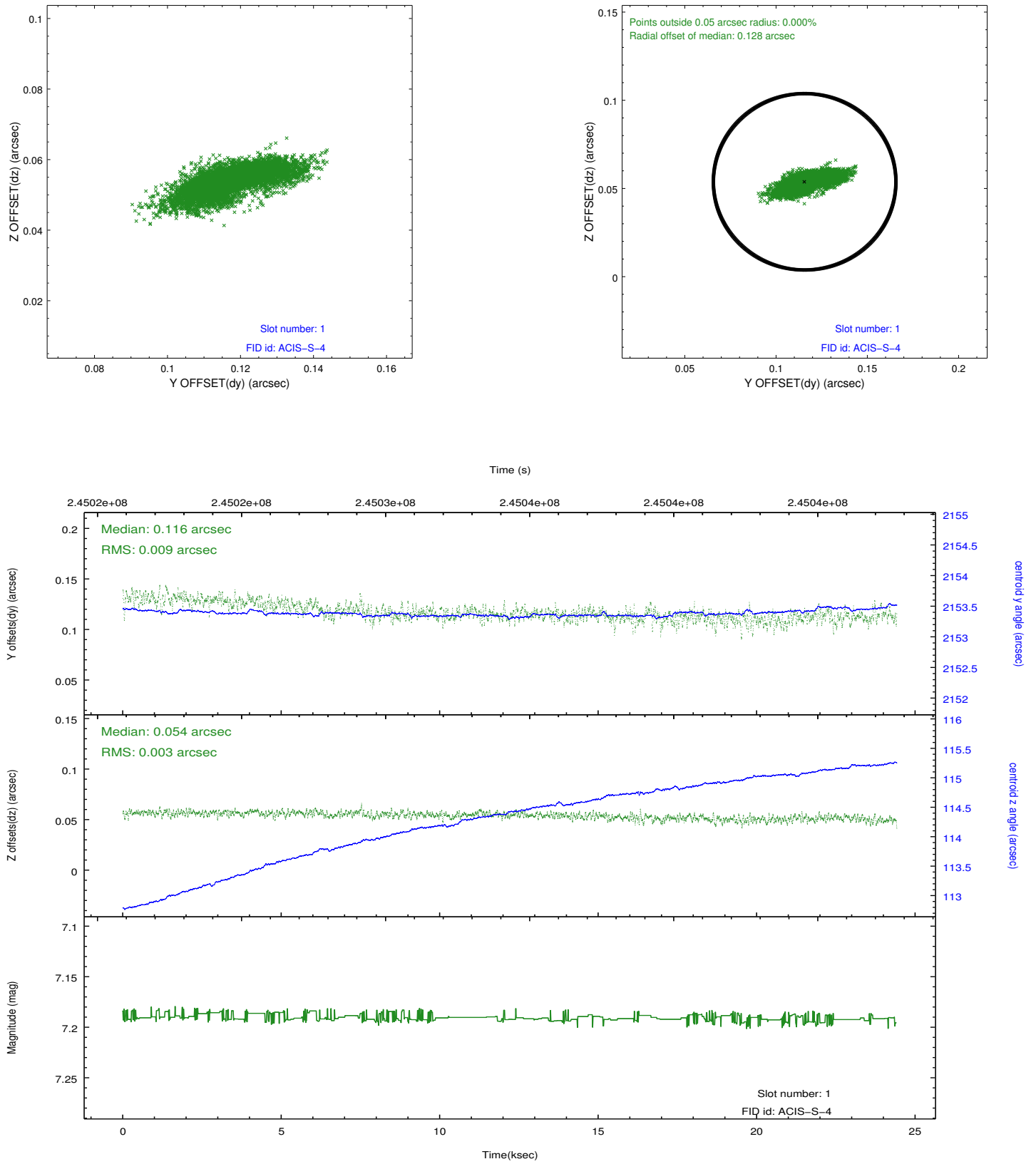


## 2.5 FID Slots

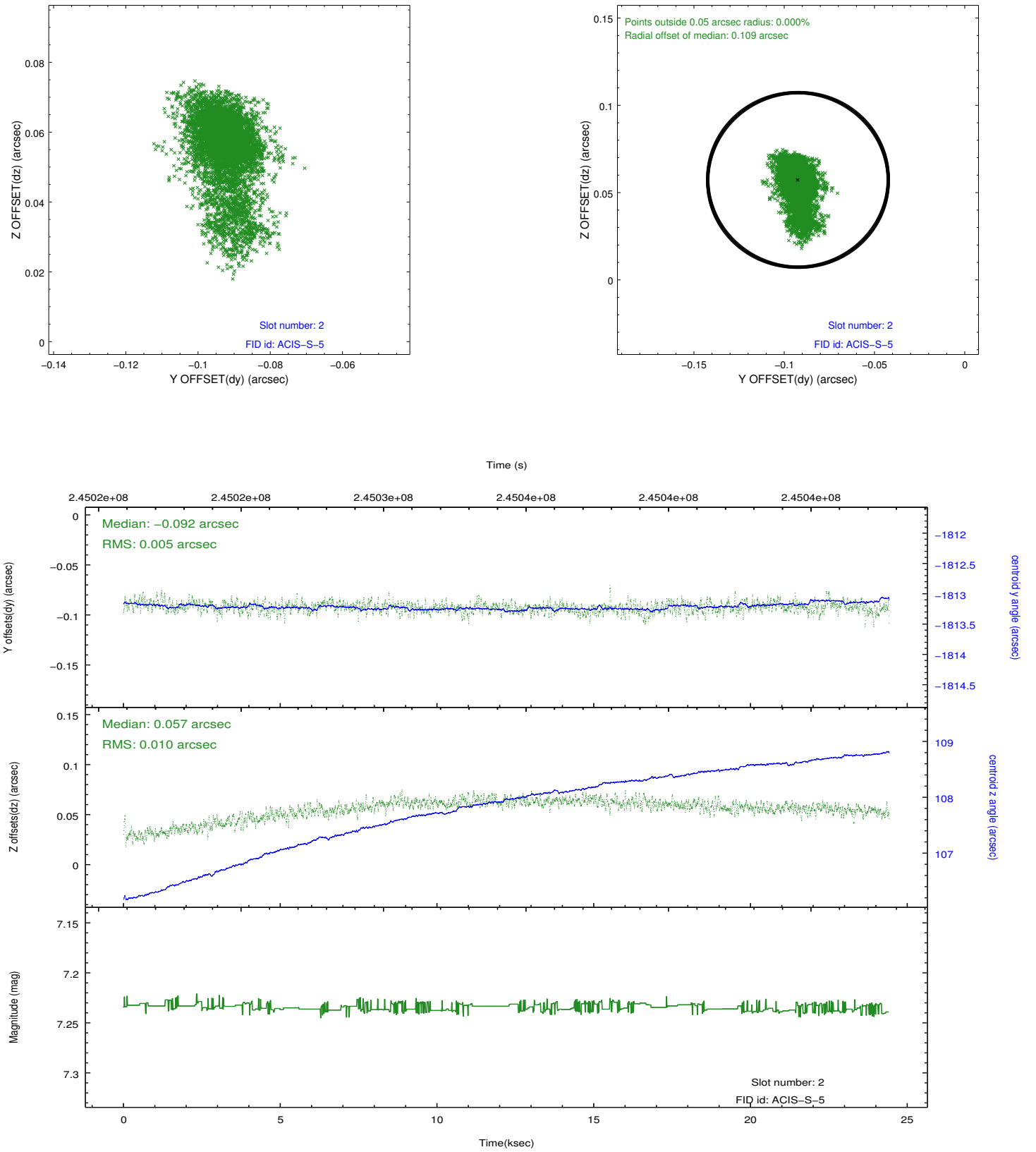
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

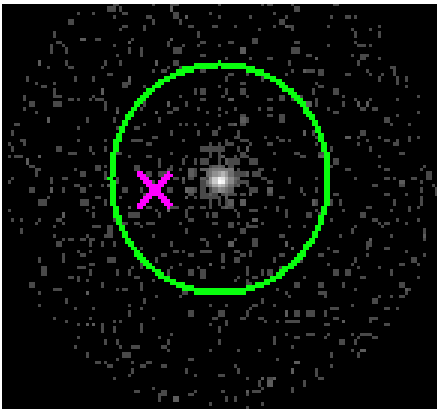


# 3 Gratings

## 3.1 HEG Arm



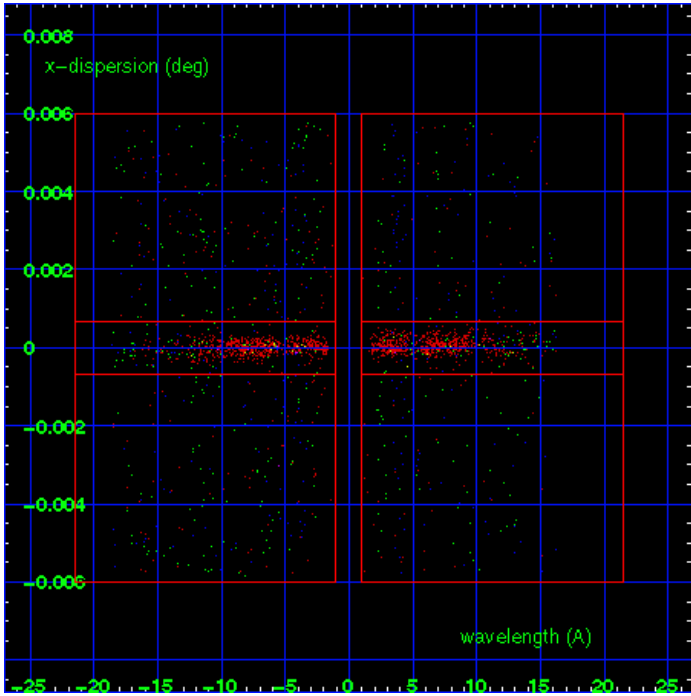
HEG Order Sort 123



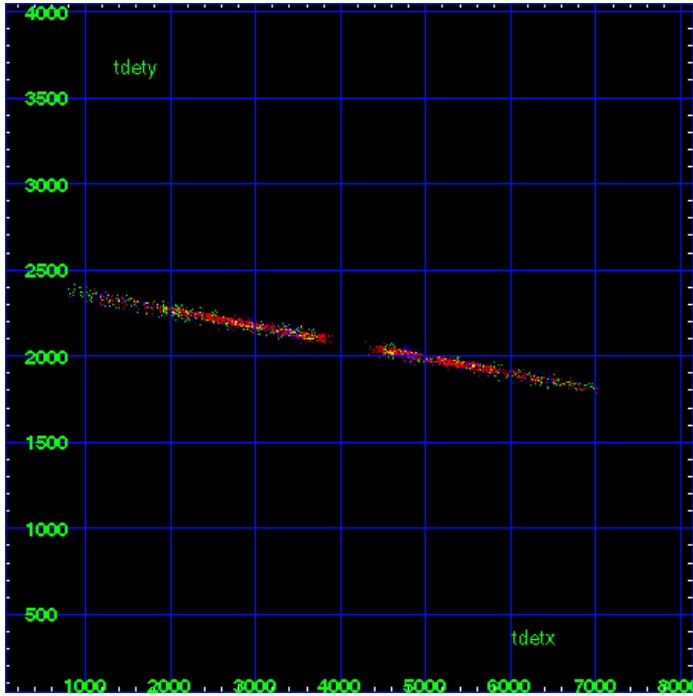
HEG Zero Order



HEG Order Sort ALL

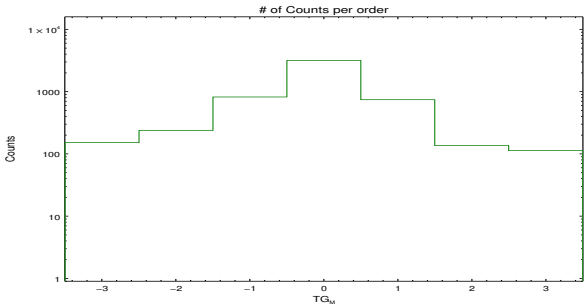


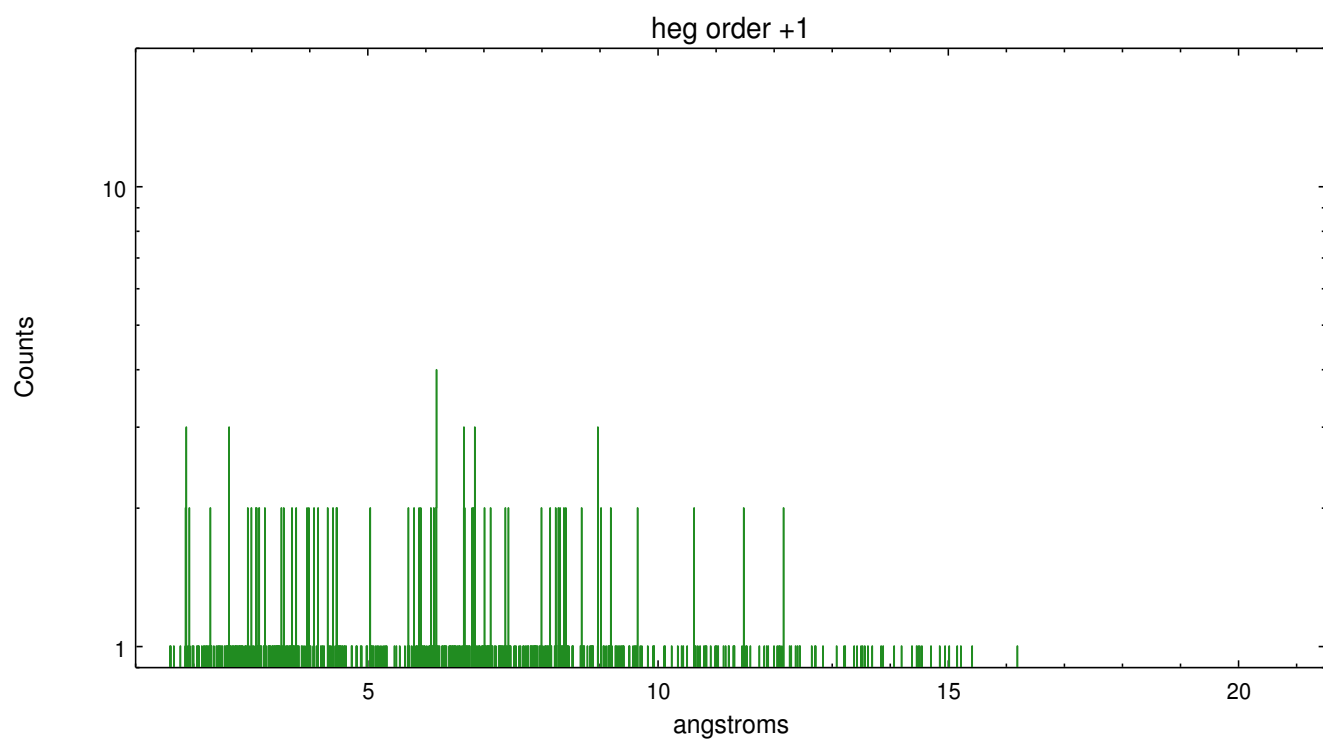
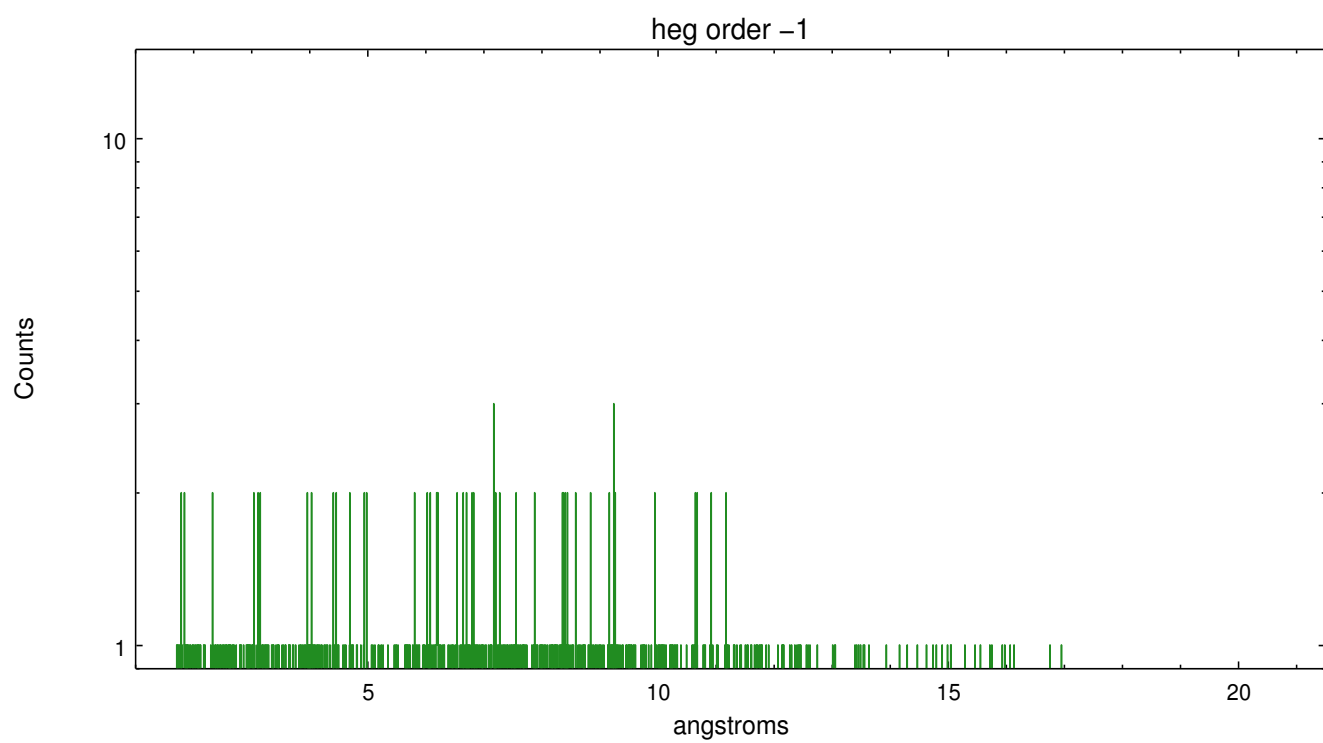
Spot Image HEG



Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	152	239	824	3184	746	136	113



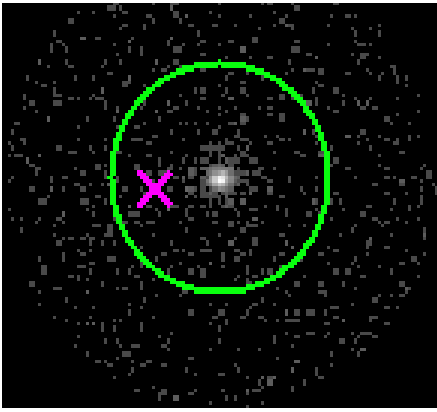




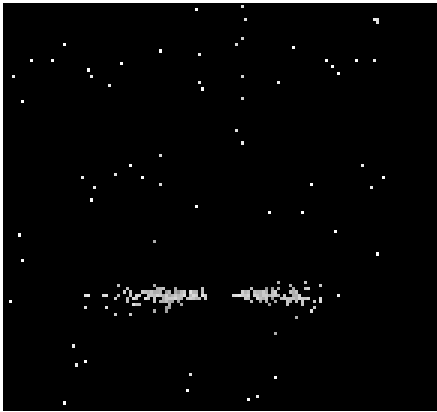
3.2 MEG Arm



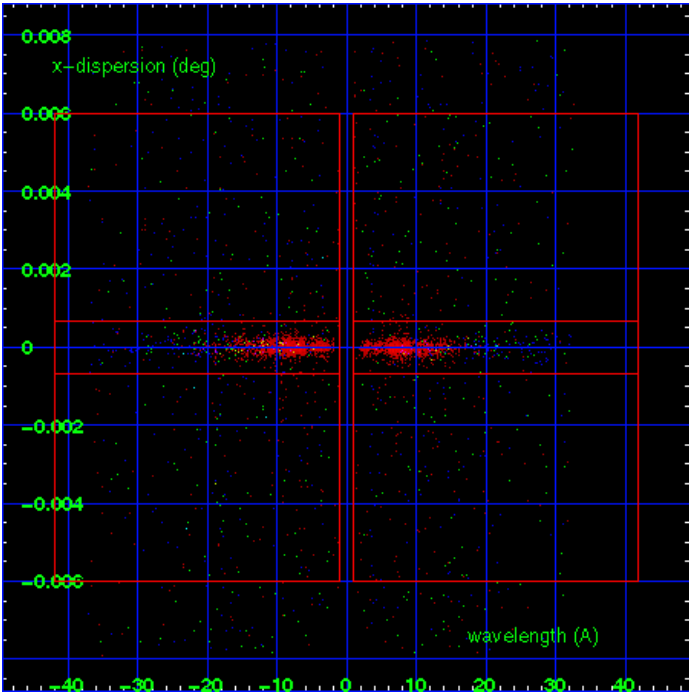
MEG Order Sort 123



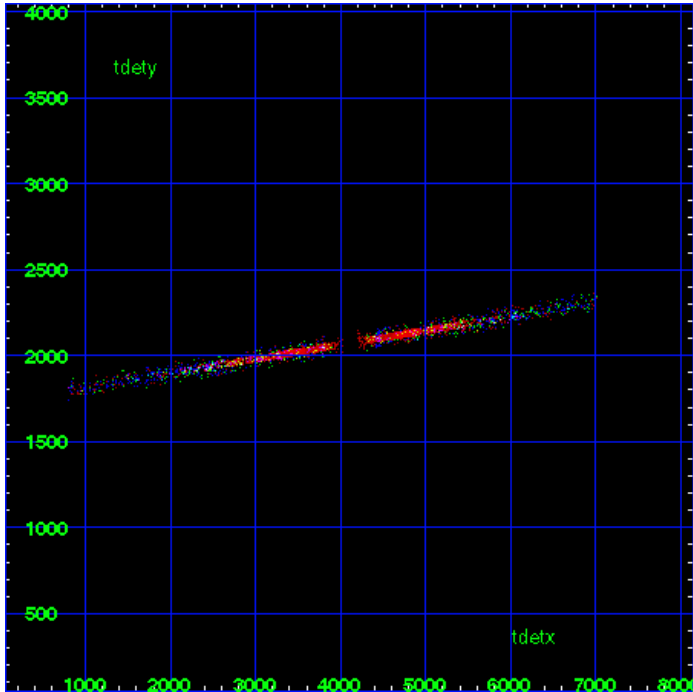
MEG Zero Order



MEG Order Sort ALL

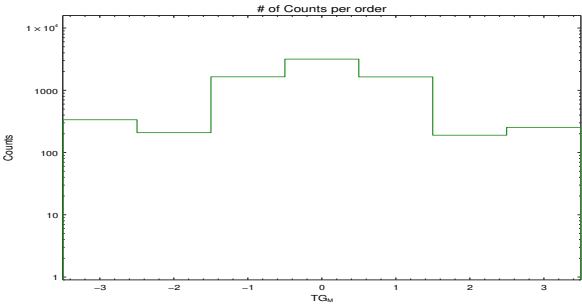


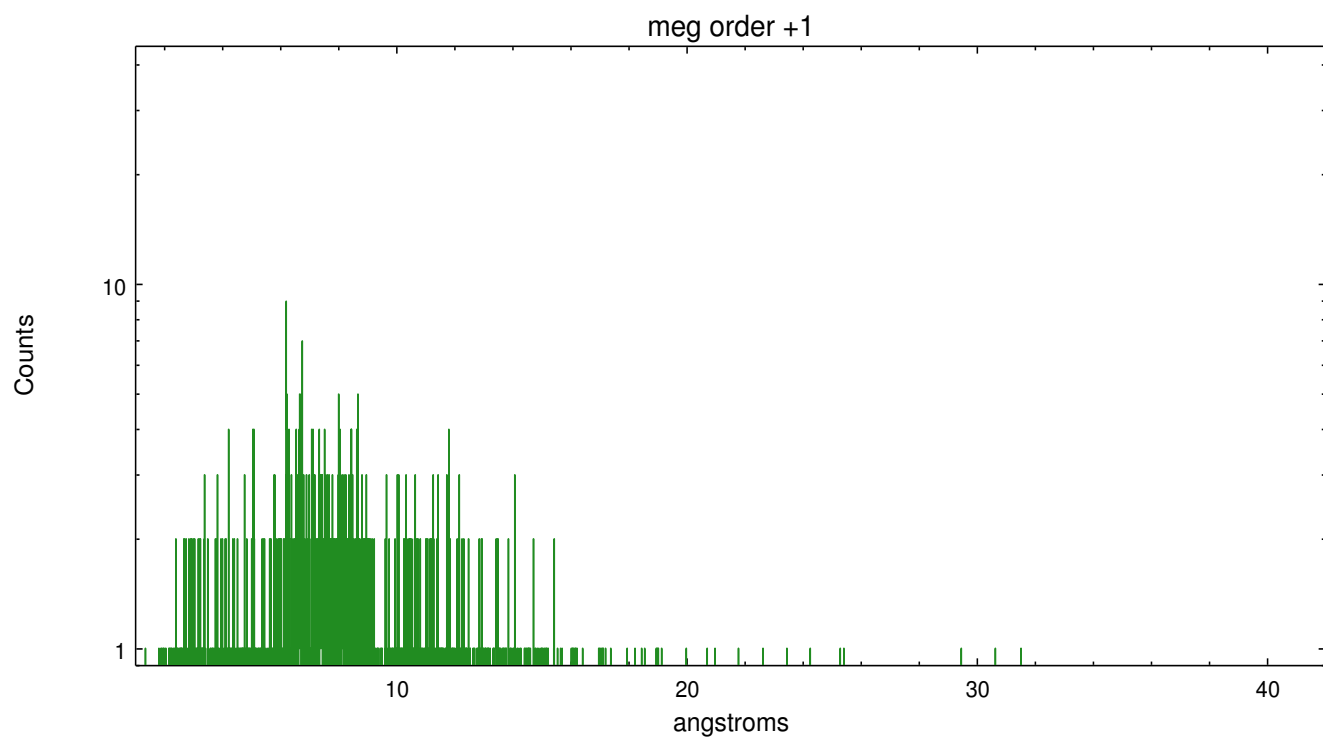
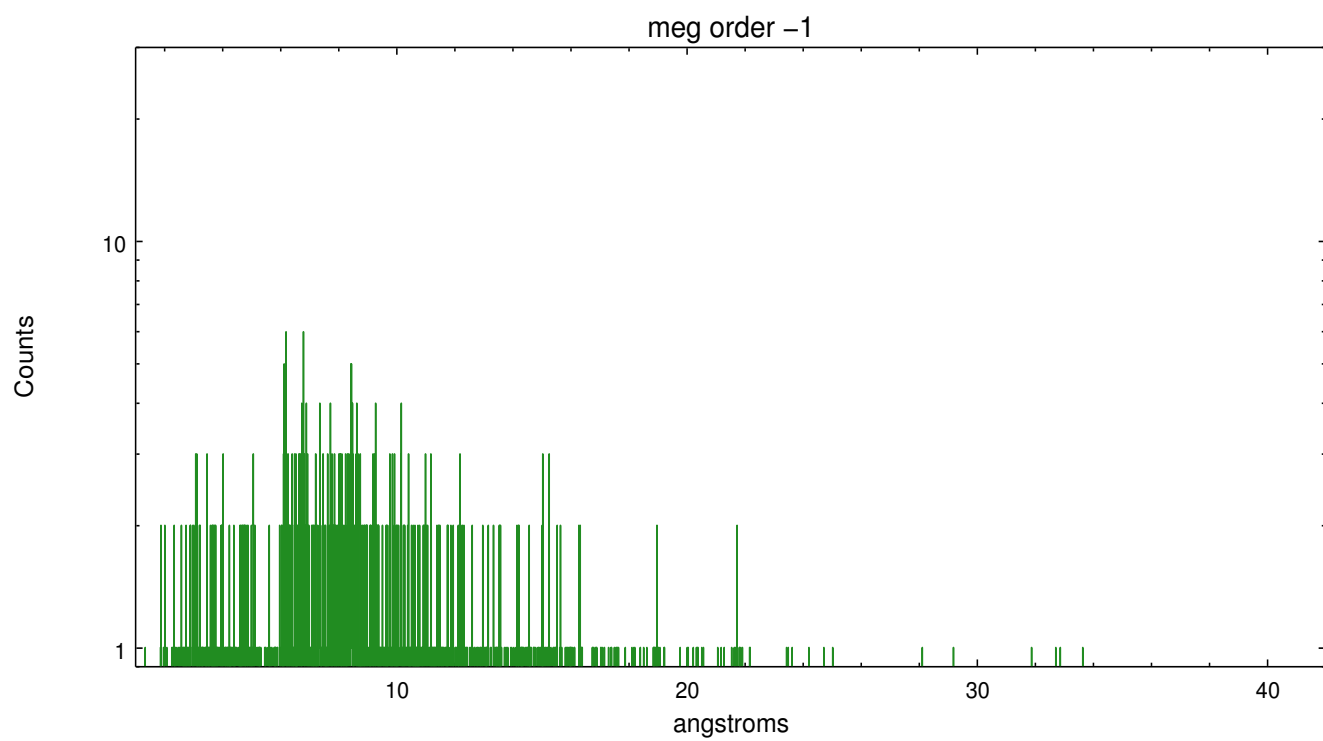
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	337	209	1654	3184	1648	190	254





# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.03.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	24.4175

## A.2 Comments

As a consequence of the DEA-A shutdown anomaly on Sep 15th (DOY258), the reported value of the ACIS FP temperature was ~1.3 degrees warmer than the actual temperature. The value for FP temperature reported in the headers of the Level 2 event file and the Mission Timeline files are incorrect by this amount for this processing. However, the temperature is corrected in the processing in order to obtain the correct temperature for the CTI correction. So the calibrated data are correct. If using the FP temp values in the headers of data files (some CIAO tools require this information), investigators should subtract 1.3 degrees from the reported temperature to determine the true temperature.