

# V&V Reference Report

## L2 ASCDS Version : 8.5.1

Observation 5552 - L2 Version 3  
Chandra X-Ray Center

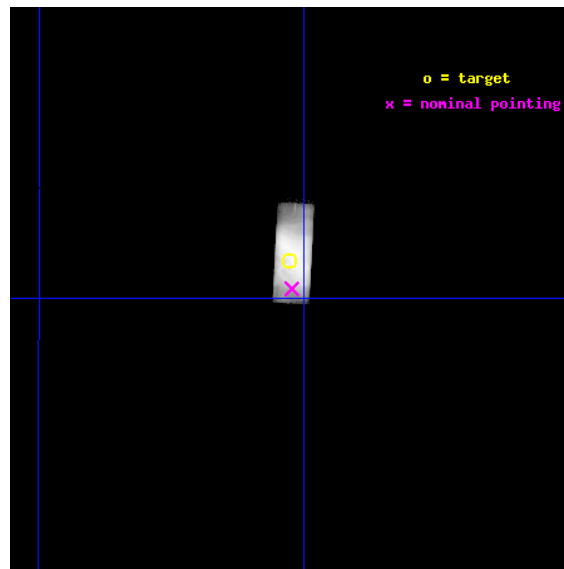
L2 Processing Date : Dec 18 2012

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# 1 Front

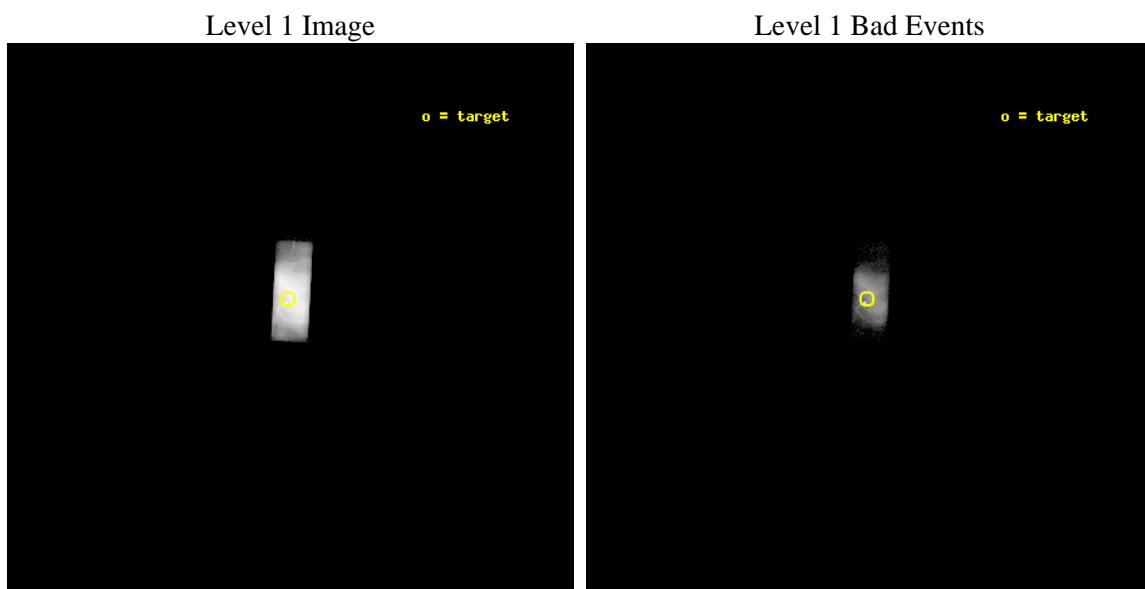
seq_num	500541	Sequence number
obs_id	5552	Observation id
title	Monitoring of the Relativistic Magnetohydrodynamic Shock in the Crab Nebula	Proposal title
observer	Dr Koji Mori	Principal investigator
object	The Crab Nebula	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.632083	Observer's specified target RA [deg]
dec_targ	22.016472	Observer's specified target Dec [deg]
ra_nom	83.630958200939	Nominal RA [deg]
dec_nom	22.004064235515	Nominal Dec [deg]
roll_nom	272.98079866957	Nominal Roll [deg]
revision	3	Processing version of data
ontime	9175.2003645897	Sum of GTIs [s]
livetime	8071.0770272605	Livetime [s]
ontime7	9175.2003645897	Sum of GTIs [s]
l2events	2407282	Number of level 2 events



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	9004.952000	[s] Scheduled observation exposure time
ascdsver	8.5.1	Processing system revision	ontime	9175.2003645897	Sum of GTIs [s]
caldsver	4.5.5	&#160	ontime7	9175.2003645897	Sum of GTIs [s]
date	2012-12-18T06:30:16	Date and time of file creation	l1events	2561418	Number of level 1 events
revision	3	Processing version of data			

### 2.1.3 Events

	<b>ccd 7</b>
level 1 events	2561418
rejected events	127288
rejected %	4%

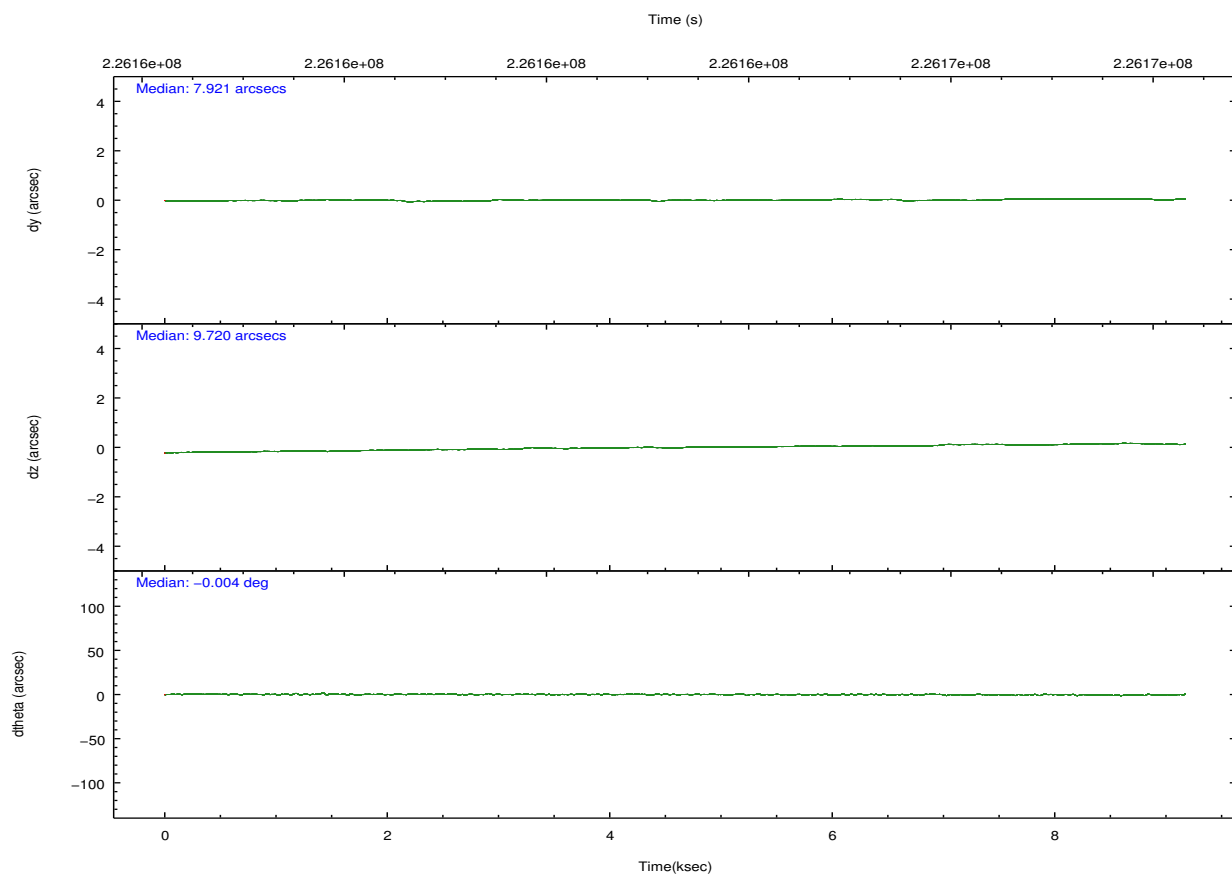
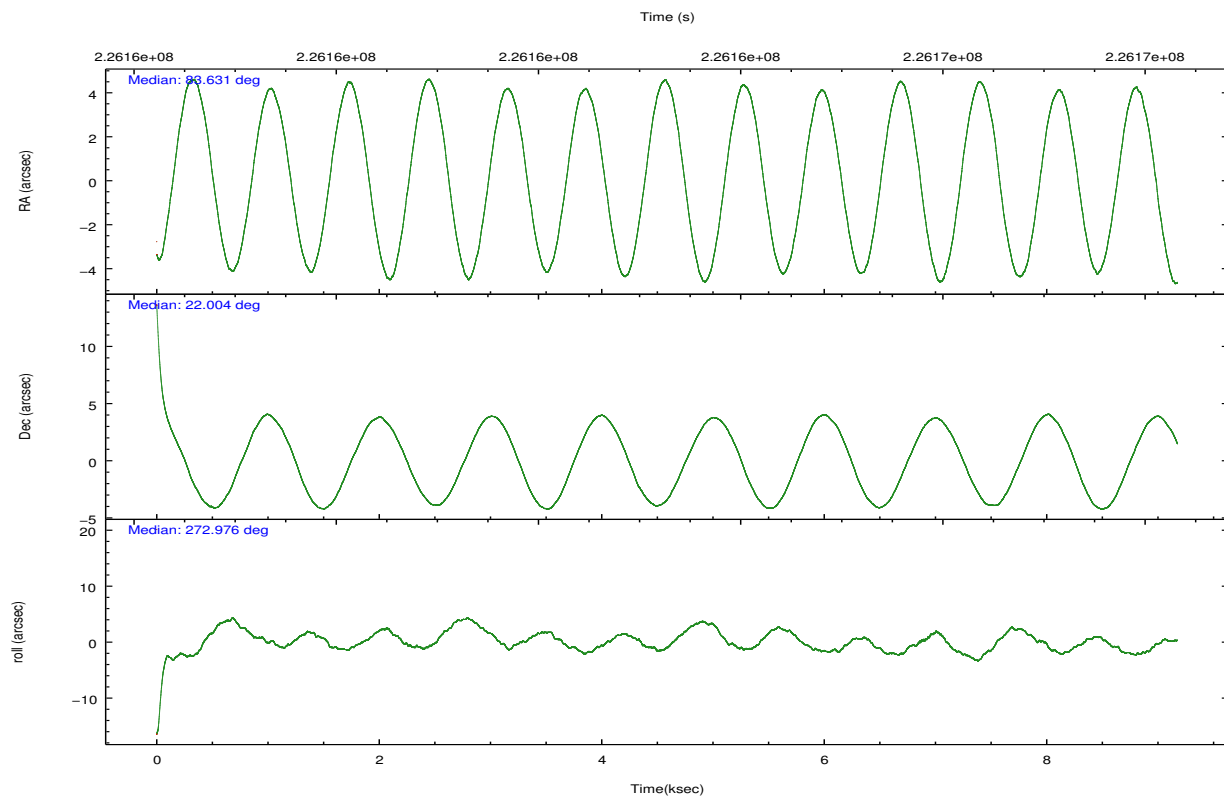
	<b>ccd 7</b>
grade 0 events	499960
	19%
grade 1 events	9602
	0%
grade 2 events	629681
	24%
grade 3 events	281178
	10%
grade 4 events	269425
	10%
grade 5 events	39306
	1%
grade 6 events	786367
	30%
grade 7 events	45899
	1%



## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-7	ACIS-7	Obspar file type	PREDICTED	ACTUAL
Grating	HETG	HETG	Obspar update status	NONE	UPDATED
Data mode	GRADED	GRADED	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	83.614624	83.63095820093884	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	22.026682	22.0040642355154	Subarray start row	127	127
[deg] Pointing Roll	272.830320	272.9807986695684	Subarray row count	101	101
[s] Window start time (MET)	225936064.184000	225936064.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	226540864.184000	226540864.184000	[s] Primary exposure time	0.000000	0.3
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-182.132523	-182.1370004450064			
[mm] SIM translation stage offset	-8	-7.995522138001405			
[s] Observation start time (MET)	226158859.184000	226157923.99845			
Observation start date	2005-03-02T13:53:15	2005-03-02T13:38:43			
[s] Observation end time (MET)	226167864.184000	226168076.11141			
Observation end date	2005-03-02T16:23:20	2005-03-02T16:27:56			
Read mode	TIMED	TIMED			

## 2.3 Aspect

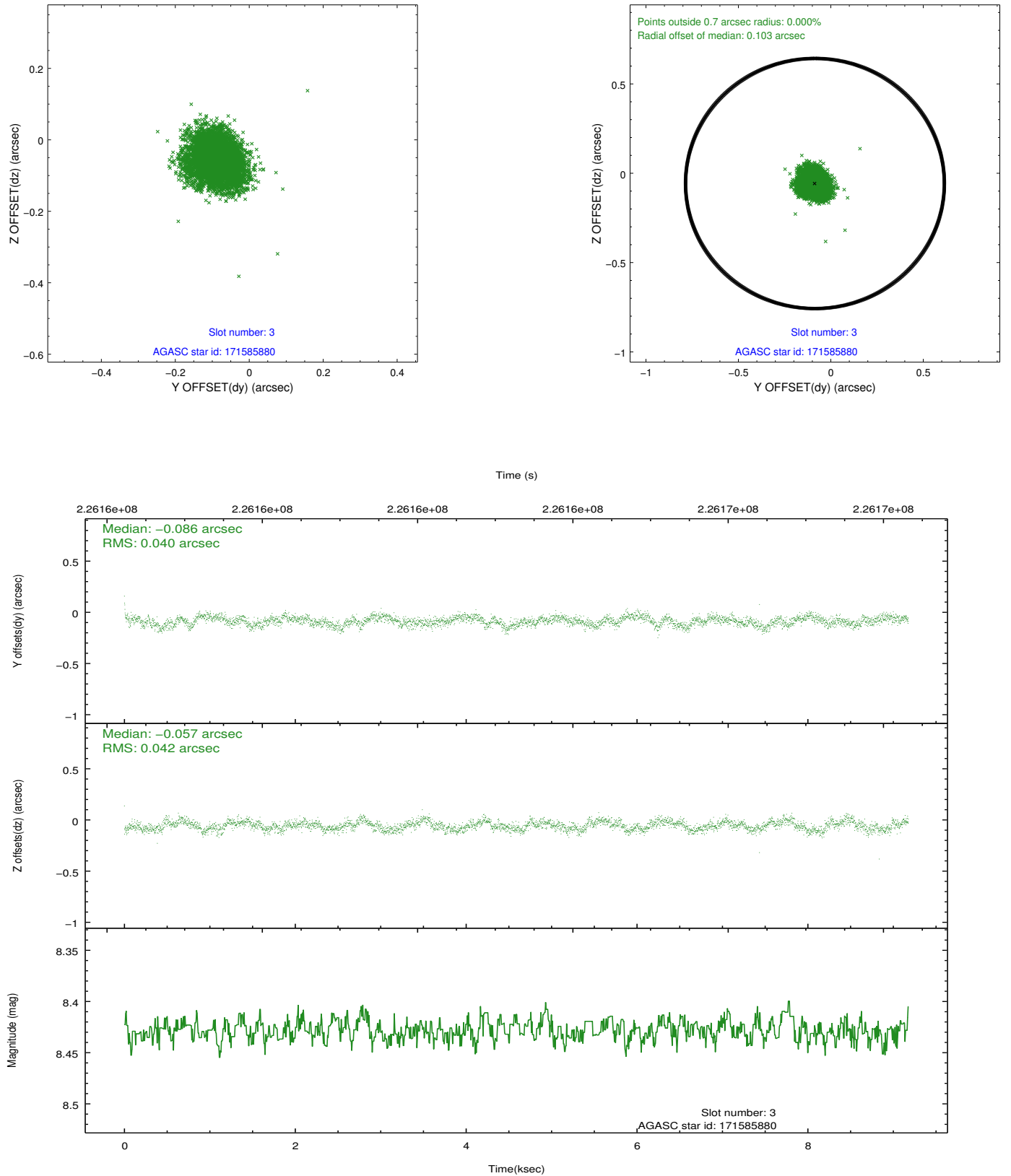


### Slot Statistics

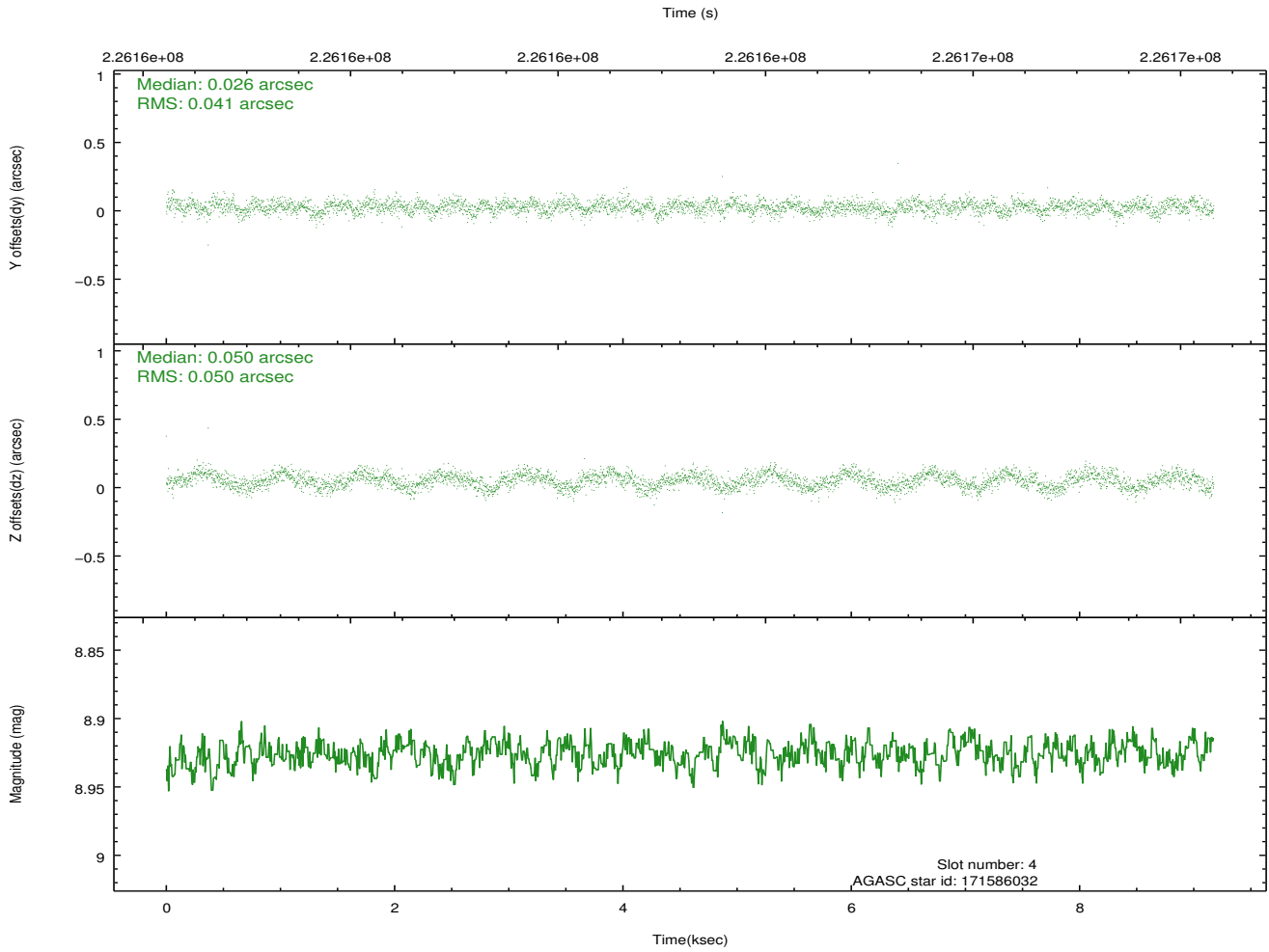
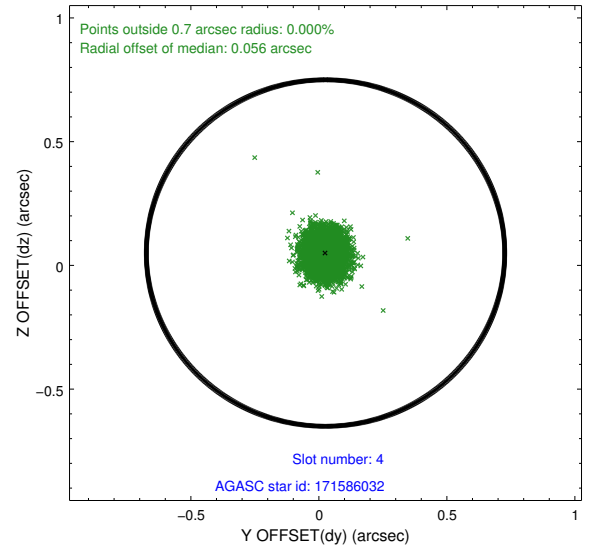
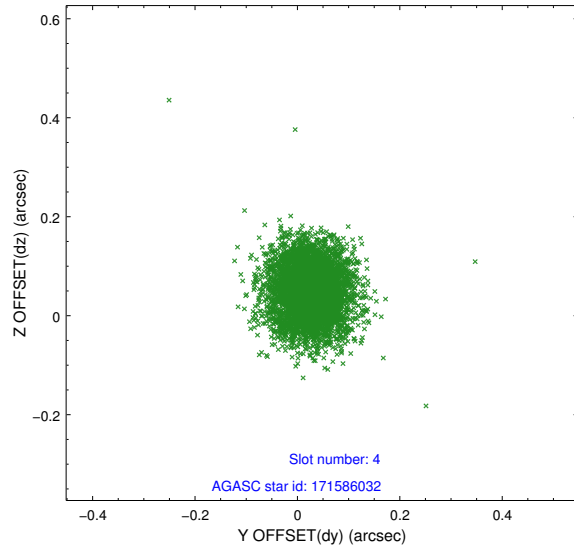
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	2239	-0.062	-0.088	0.006	0.011	0.000000	0.000000	-760.18	-1895.75
1	FID	ACIS-S-4	7.18	2239	0.108	0.053	0.005	0.010	0.000000	0.000000	2152.99	12.18
2	FID	ACIS-S-5	7.22	2239	-0.078	0.042	0.006	0.011	0.000000	0.000000	-1812.28	6.51
3	GUIDE	171585880	8.43	4476	-0.086	-0.057	0.062	0.098	83.676260	22.176319	-527.64	231.82
4	GUIDE	171586032	8.93	4474	0.026	0.050	0.068	0.110	83.950197	22.083225	-149.06	1128.37
5	GUIDE	171597832	9.16	4474	0.187	-0.077	0.084	0.140	83.183230	21.366702	2300.34	-1561.34
6	GUIDE	171721904	9.22	4473	0.086	0.071	0.098	0.149	84.272676	22.116922	-220.04	2208.06
7	GUIDE	243941560	8.29	4476	-0.216	0.016	0.068	0.107	83.733264	22.568598	-1929.02	490.63

## 2.4 Star Slots

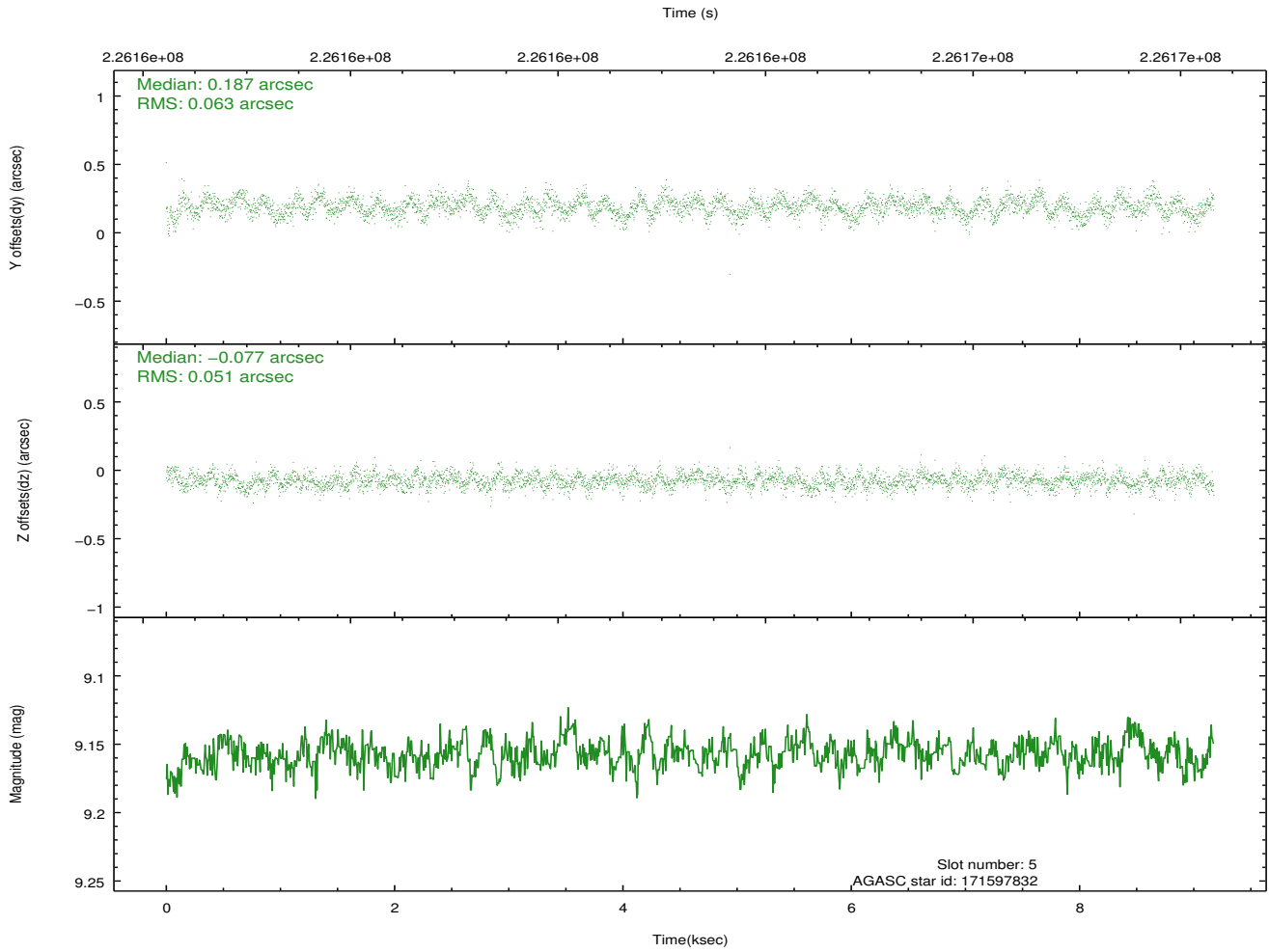
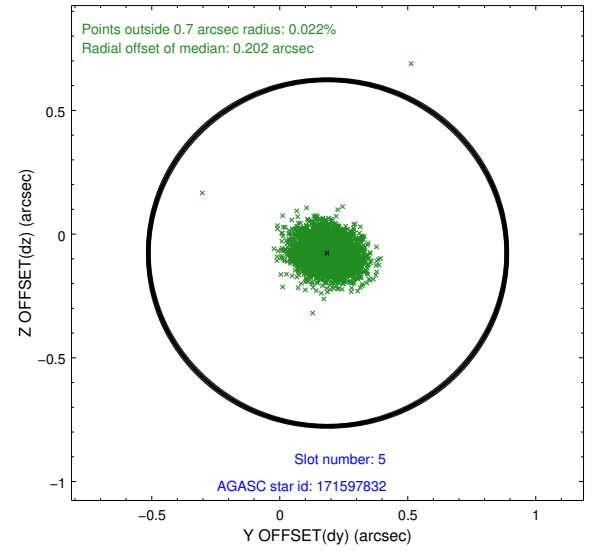
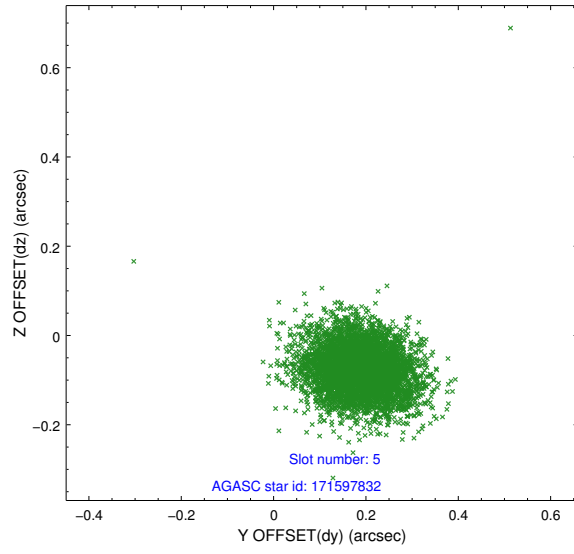
### 2.4.1 Slot 3



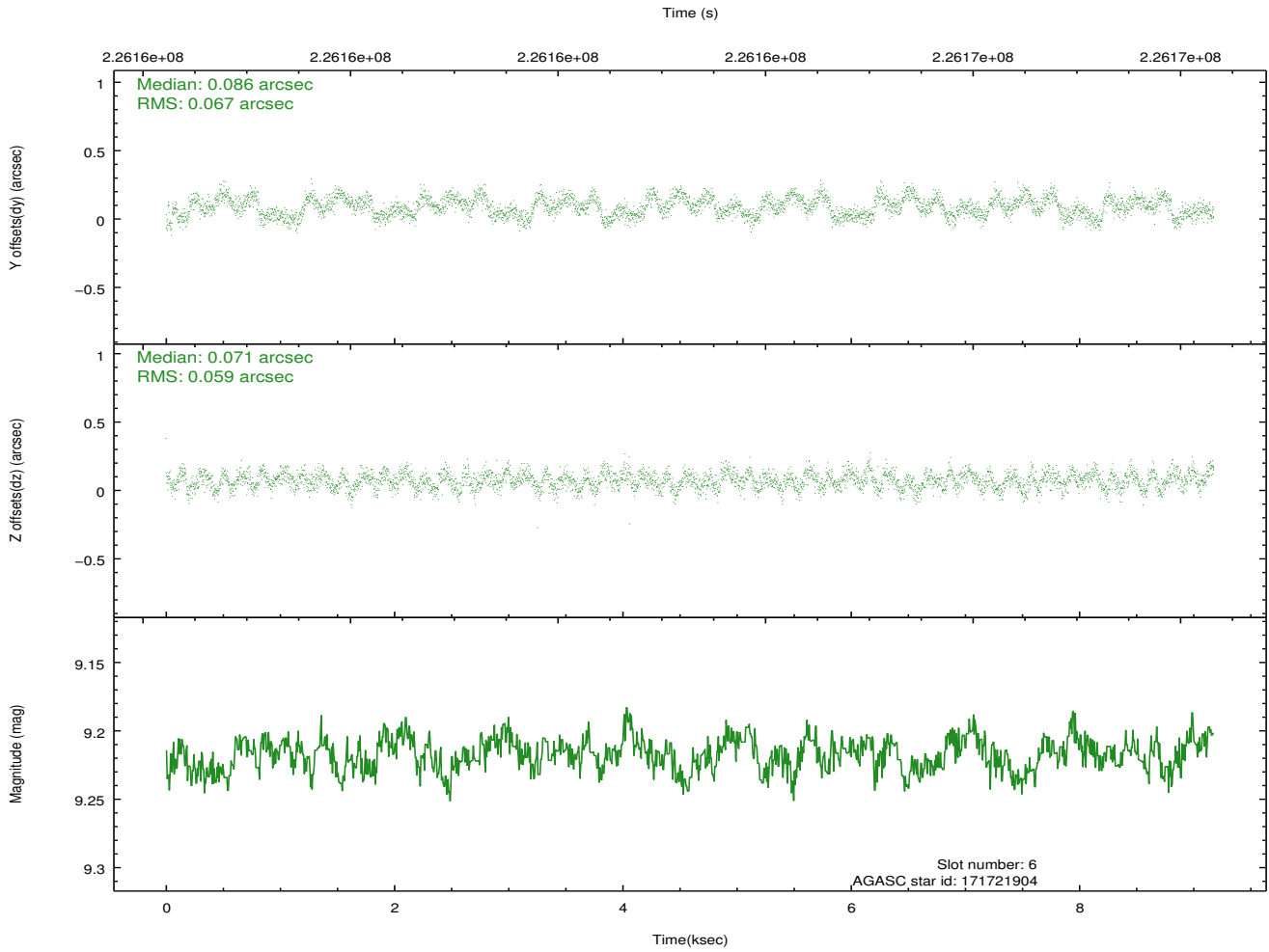
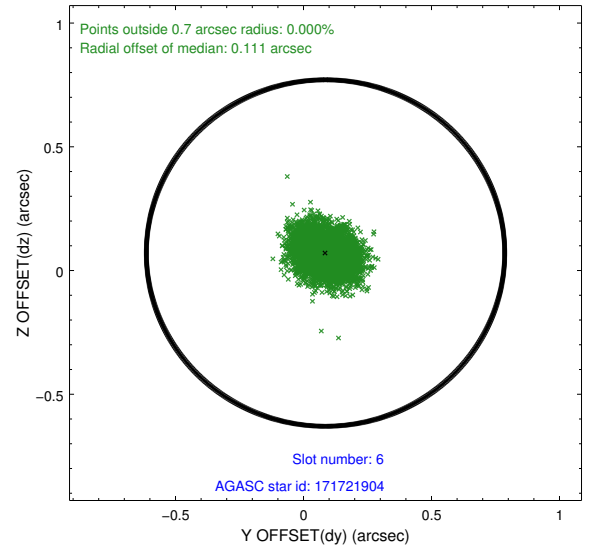
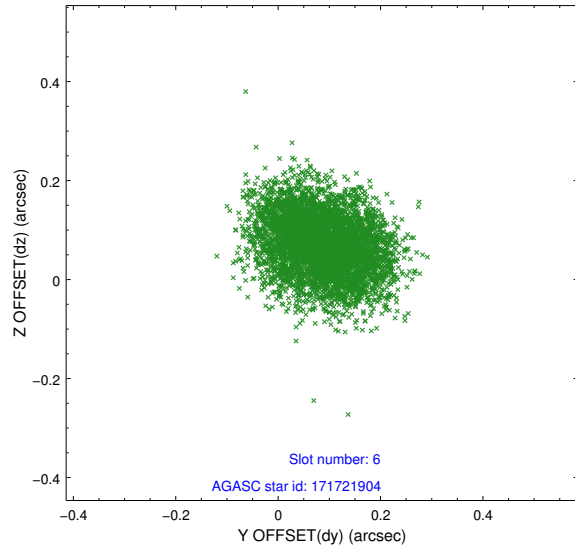
## 2.4.2 Slot 4



### 2.4.3 Slot 5

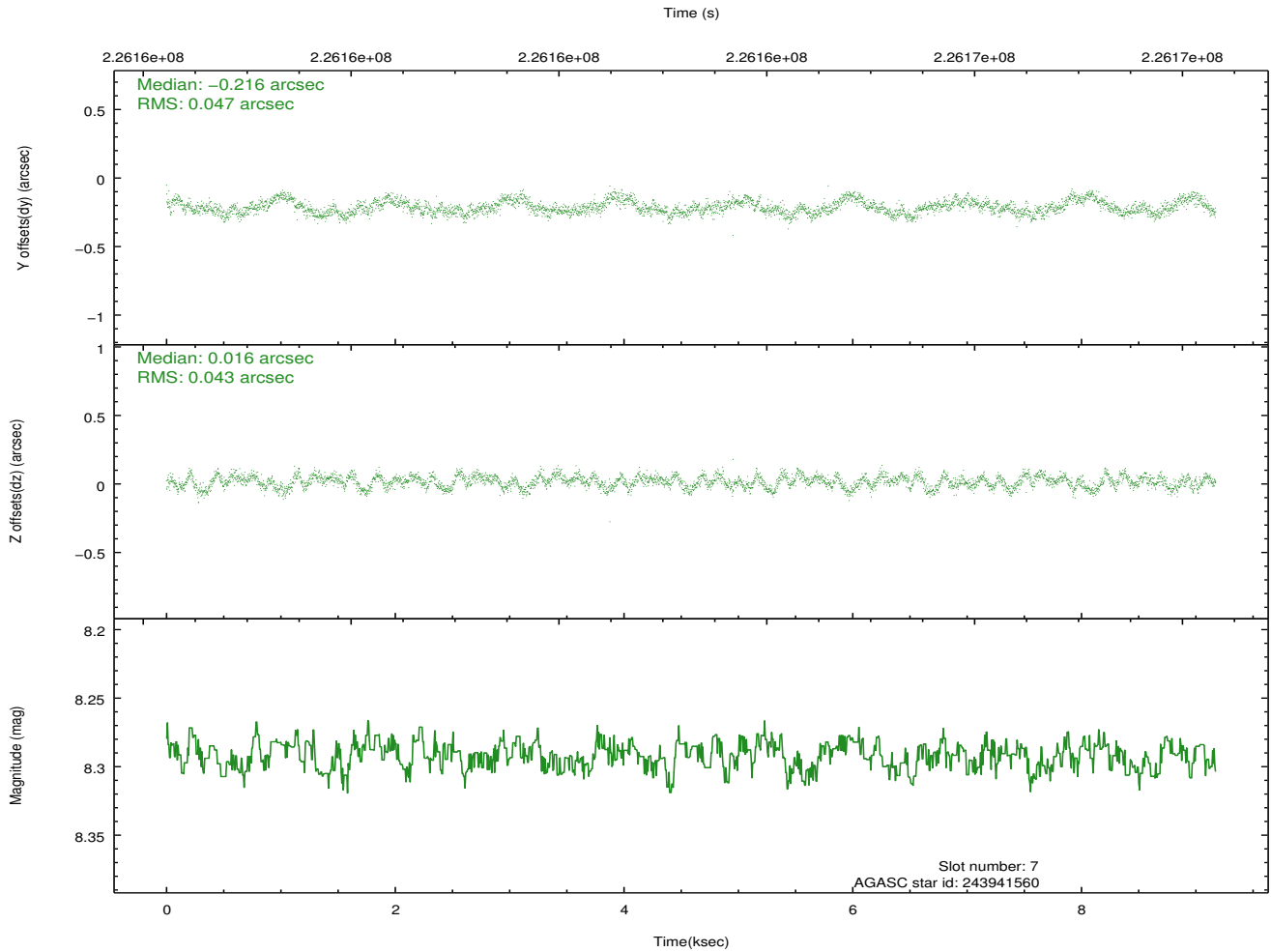
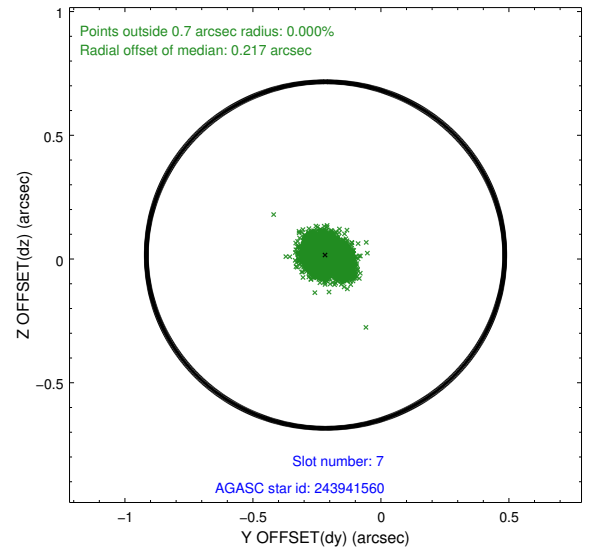
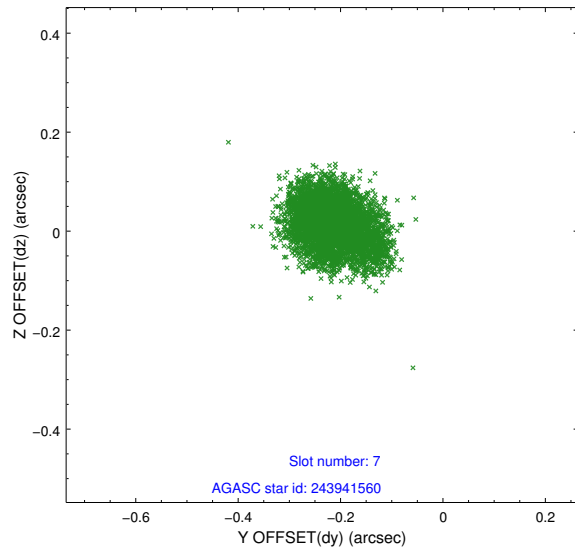


## 2.4.4 Slot 6



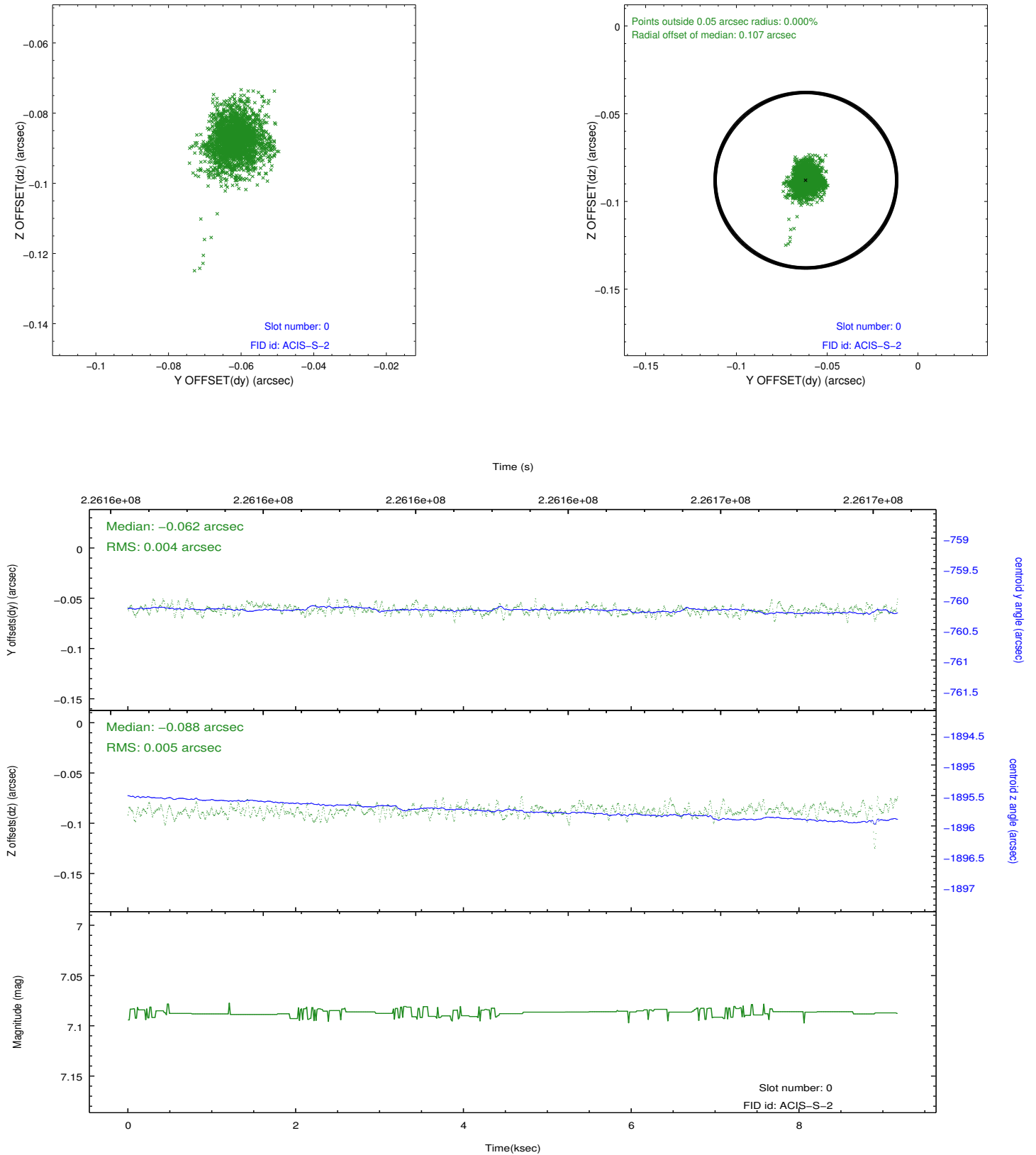


## 2.4.5 Slot 7

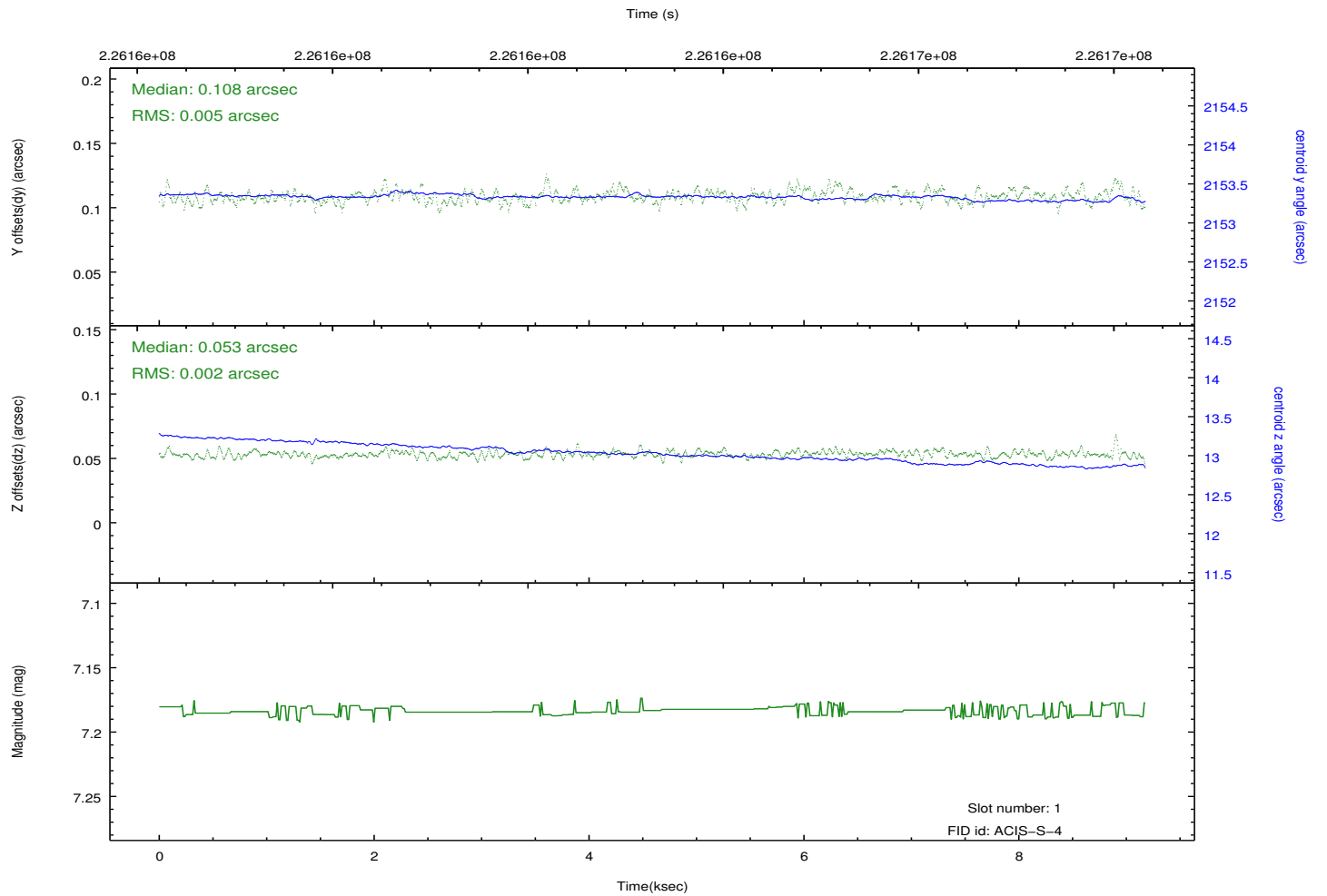
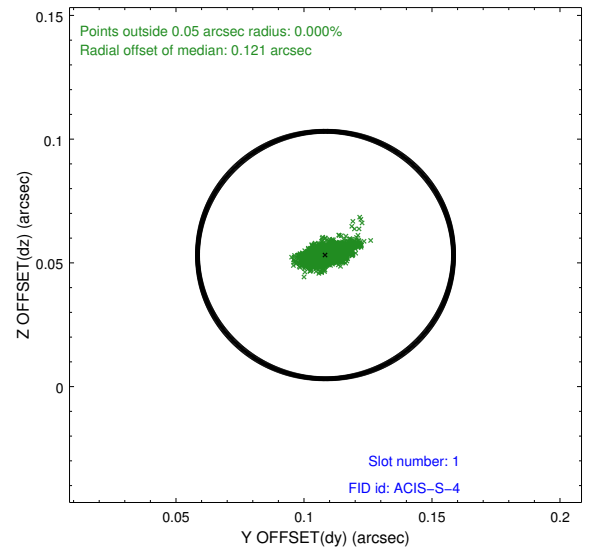
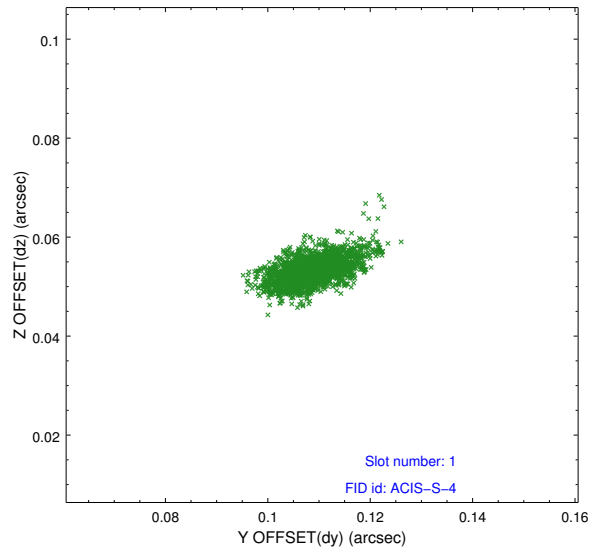


## 2.5 FID Slots

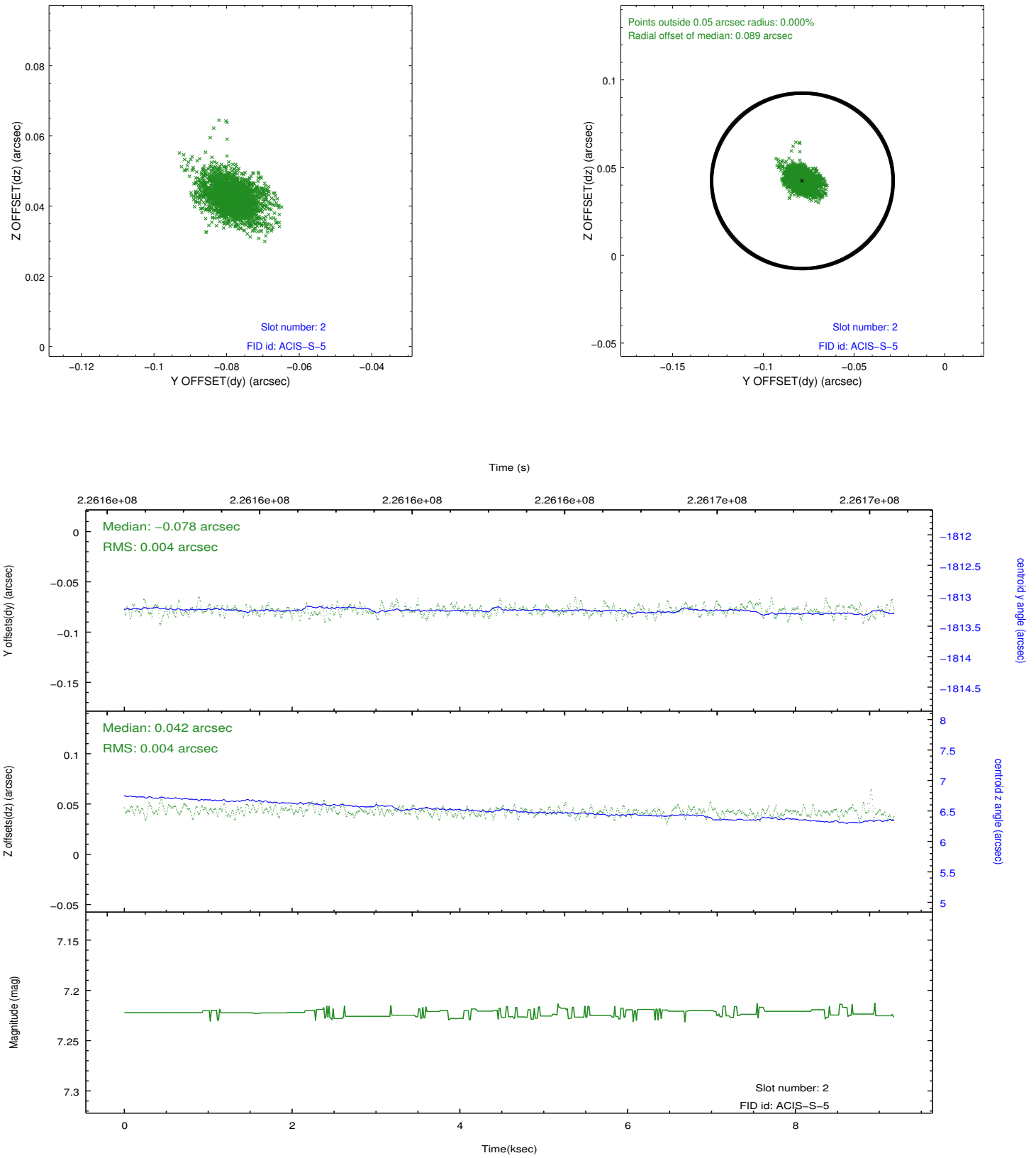
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

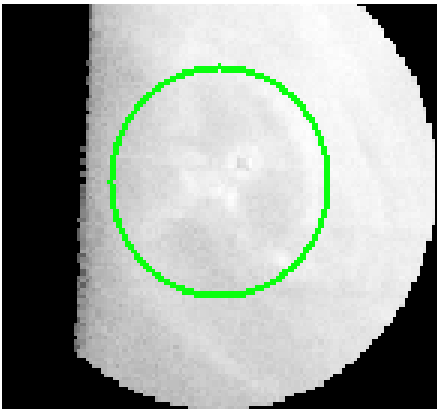


# 3 Gratings

## 3.1 HEG Arm



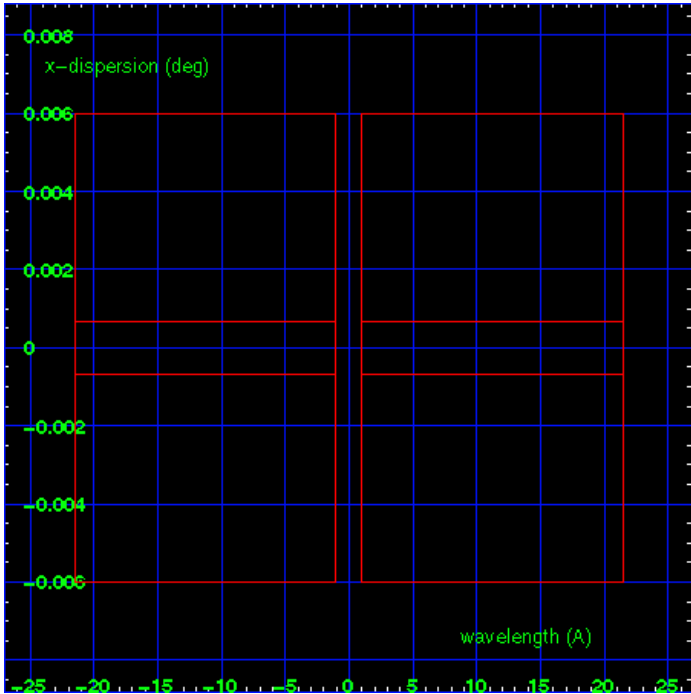
HEG Order Sort 123



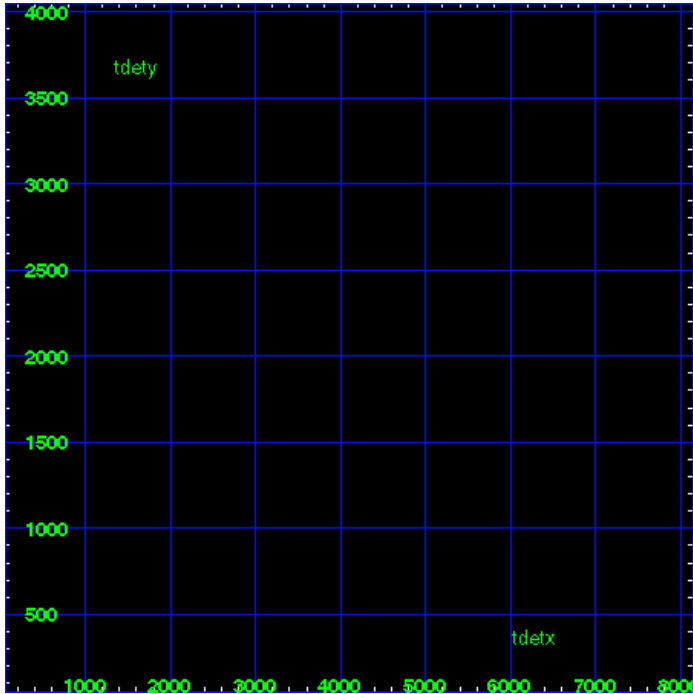
HEG Zero Order



HEG Order Sort ALL

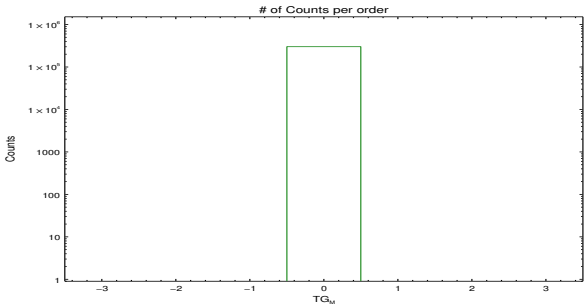


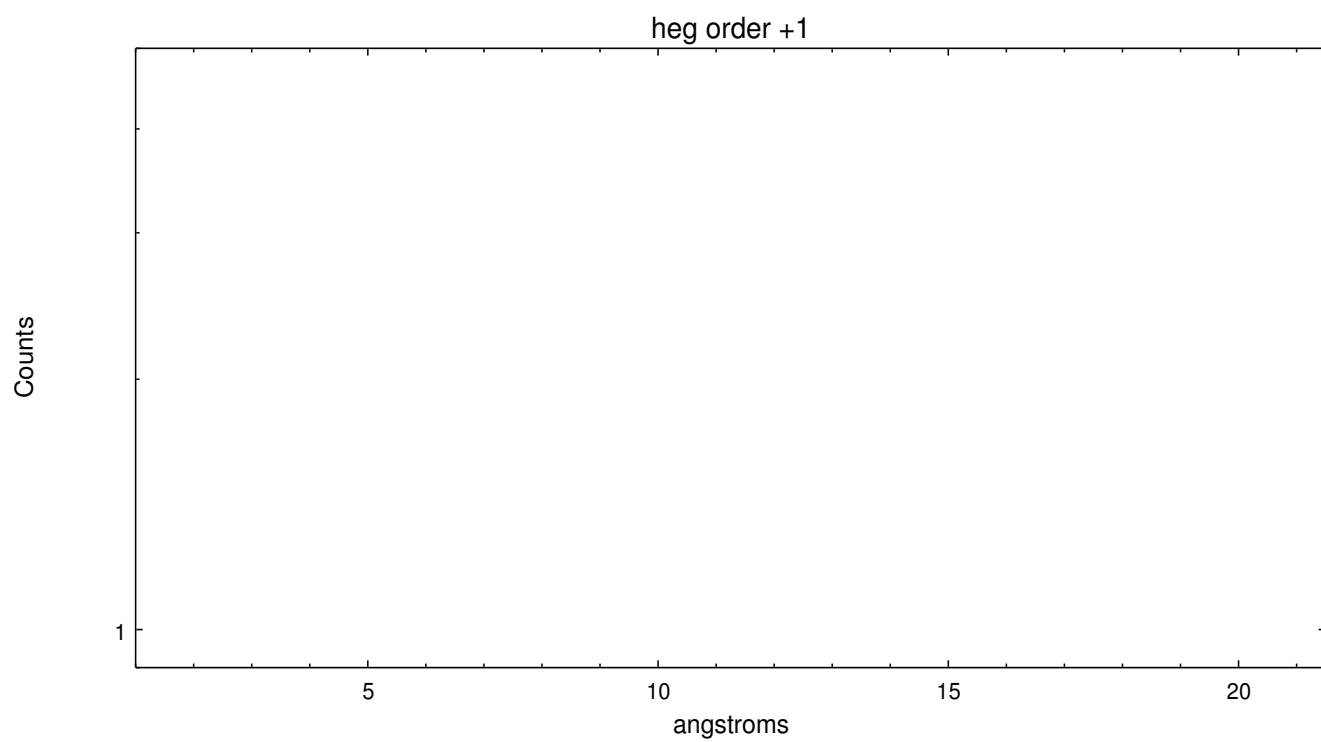
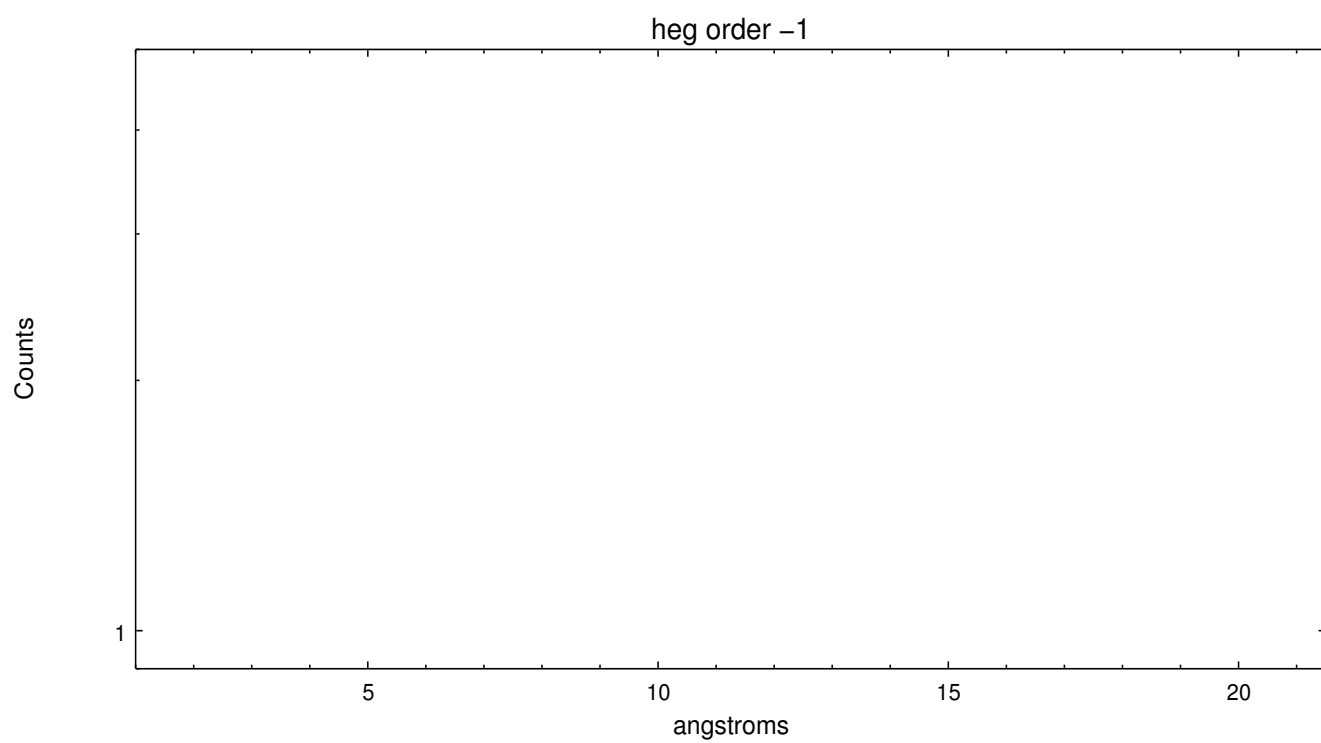
Spot Image HEG



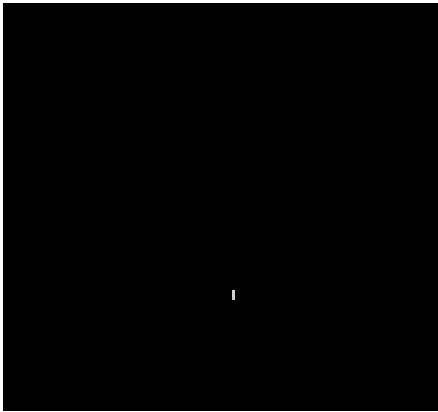
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	0	304166	0	0	0

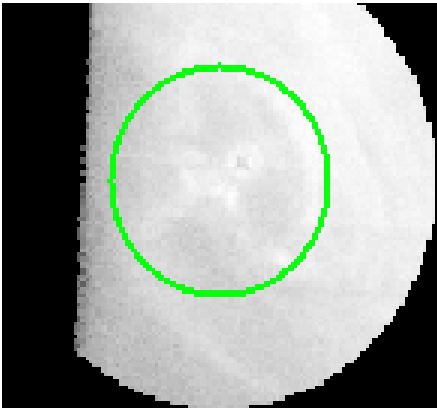




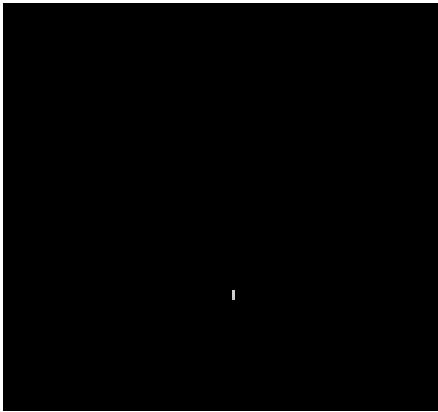
3.2 MEG Arm



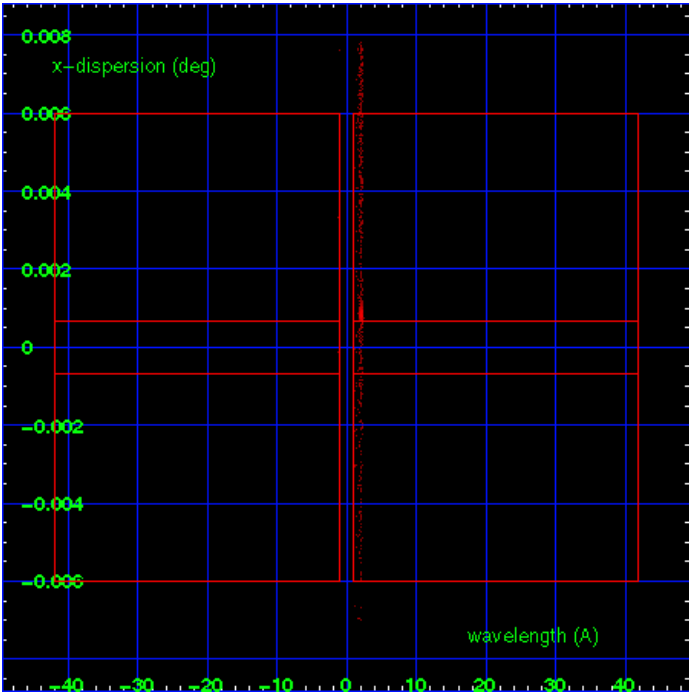
MEG Order Sort 123



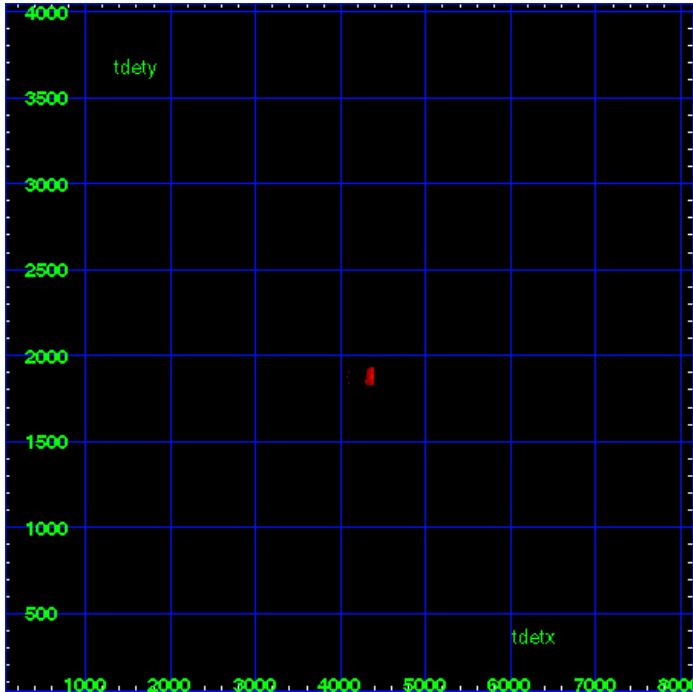
MEG Zero Order



MEG Order Sort ALL

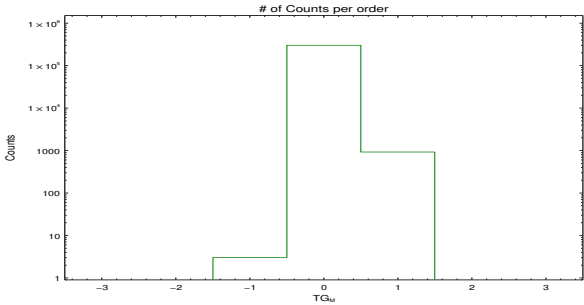


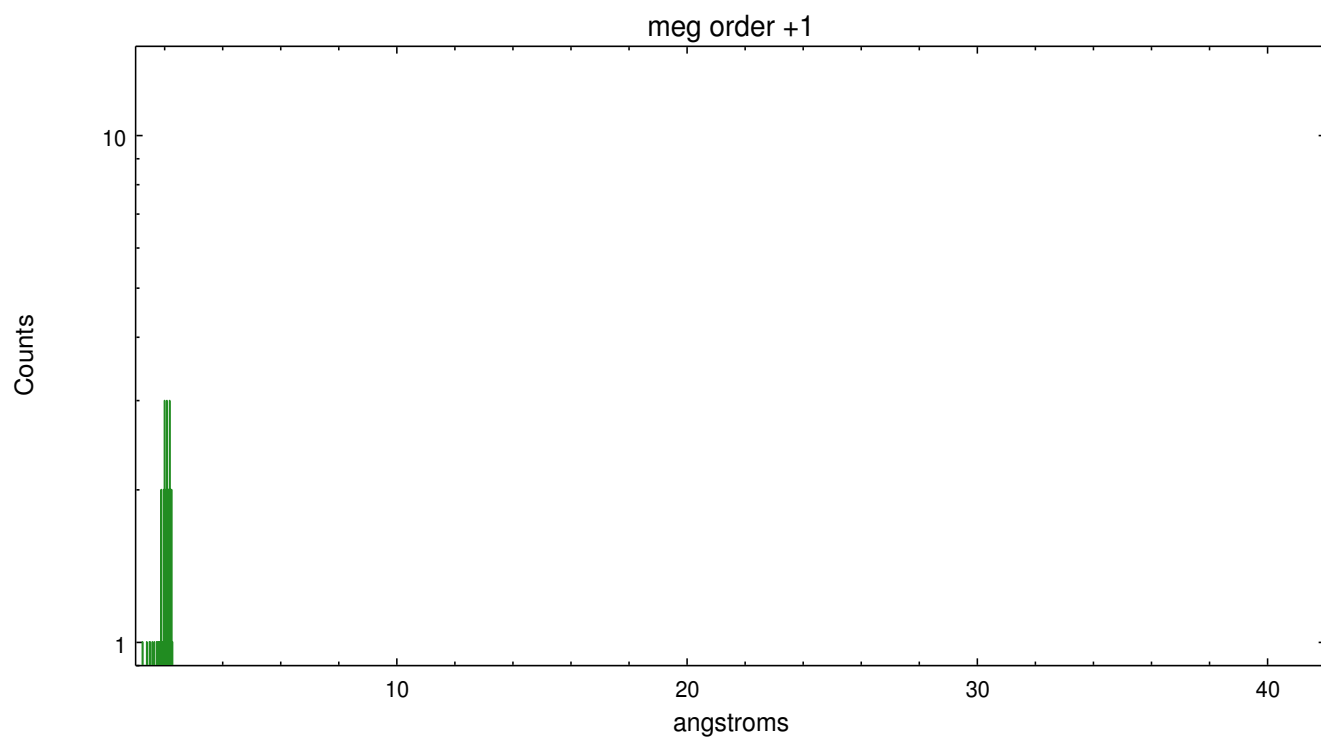
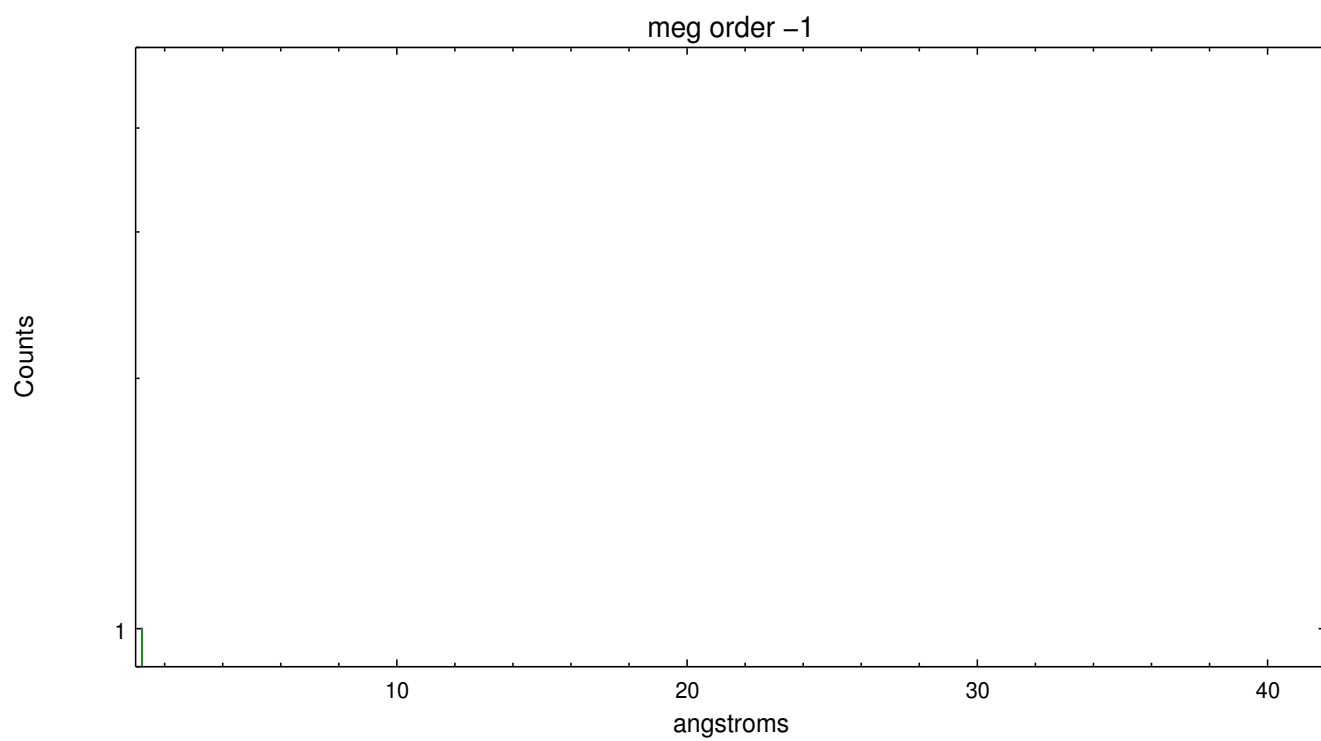
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	3	304166	924	0	0







# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.01.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.1752

## A.2 Comments

HETG is inserted as a filter; there is very little useful gratings information in the observation. The zeroth order position used in the grating extraction is NOT at the position of the pulsar, but is near a bright emission knot to the SE. If the dispersed grating spectrum is to be analyzed, it should be re-extracted using the exact position of the pulsar as the zeroth order position. The dispersed spectrum only contains data for the meg +1 order between 1-2 A.