

# V&V Reference Report

## L2 ASCDS Version : 8.5.1.1

Observation 6143 - L2 Version 4  
Chandra X-Ray Center

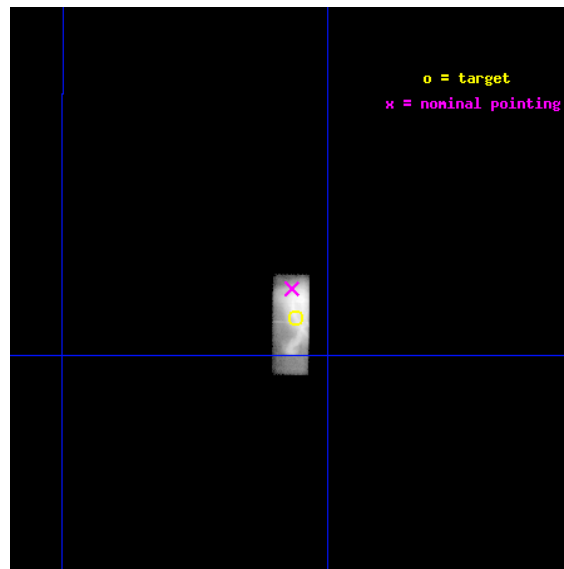
L2 Processing Date : Dec 31 2012

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# 1 Front

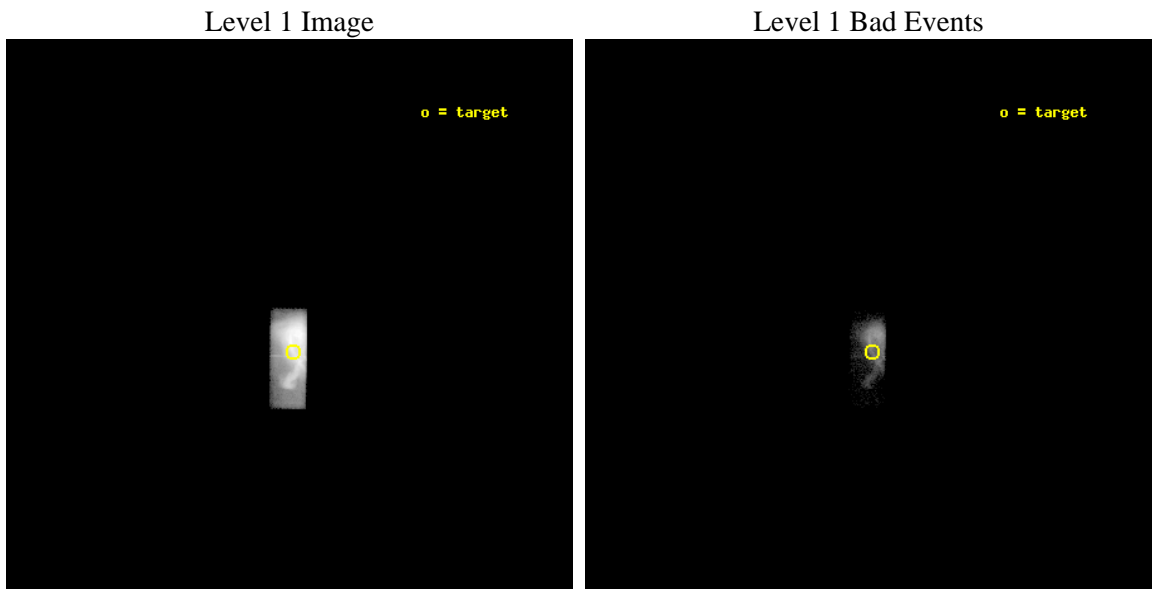
seq_num	500596	Sequence number
obs_id	6143	Observation id
title	Monitoring of the Relativistic Magnetohydrodynamic Shock in the Crab Nebula	Proposal title
observer	Dr Koji Mori	Principal investigator
object	The Crab Nebula	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.640417	Observer's specified target RA [deg]
dec_targ	22.016472	Observer's specified target Dec [deg]
ra_nom	83.642050680388	Nominal RA [deg]
dec_nom	22.028864009119	Nominal Dec [deg]
roll_nom	90.804027002938	Nominal Roll [deg]
revision	4	Processing version of data
ontime	10181.700404584	Sum of GTIs [s]
livetime	8956.4570765169	Livetime [s]
ontime7	10181.700404584	Sum of GTIs [s]
l2events	1167199	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	10000.000000	[s] Scheduled observation exposure time
ascdsver	8.5.1.1	Processing system revision	ontime	10181.700404584	Sum of GTIs [s]
caldsver	4.5.5	&#160	ontime7	10181.700404584	Sum of GTIs [s]
date	2012-12-31T12:08:45	Date and time of file creation	l1events	1239025	Number of level 1 events
revision	4	Processing version of data			

### 2.1.3 Events

	<b>ccd 7</b>
level 1 events	1239025
rejected events	51113
rejected %	4%

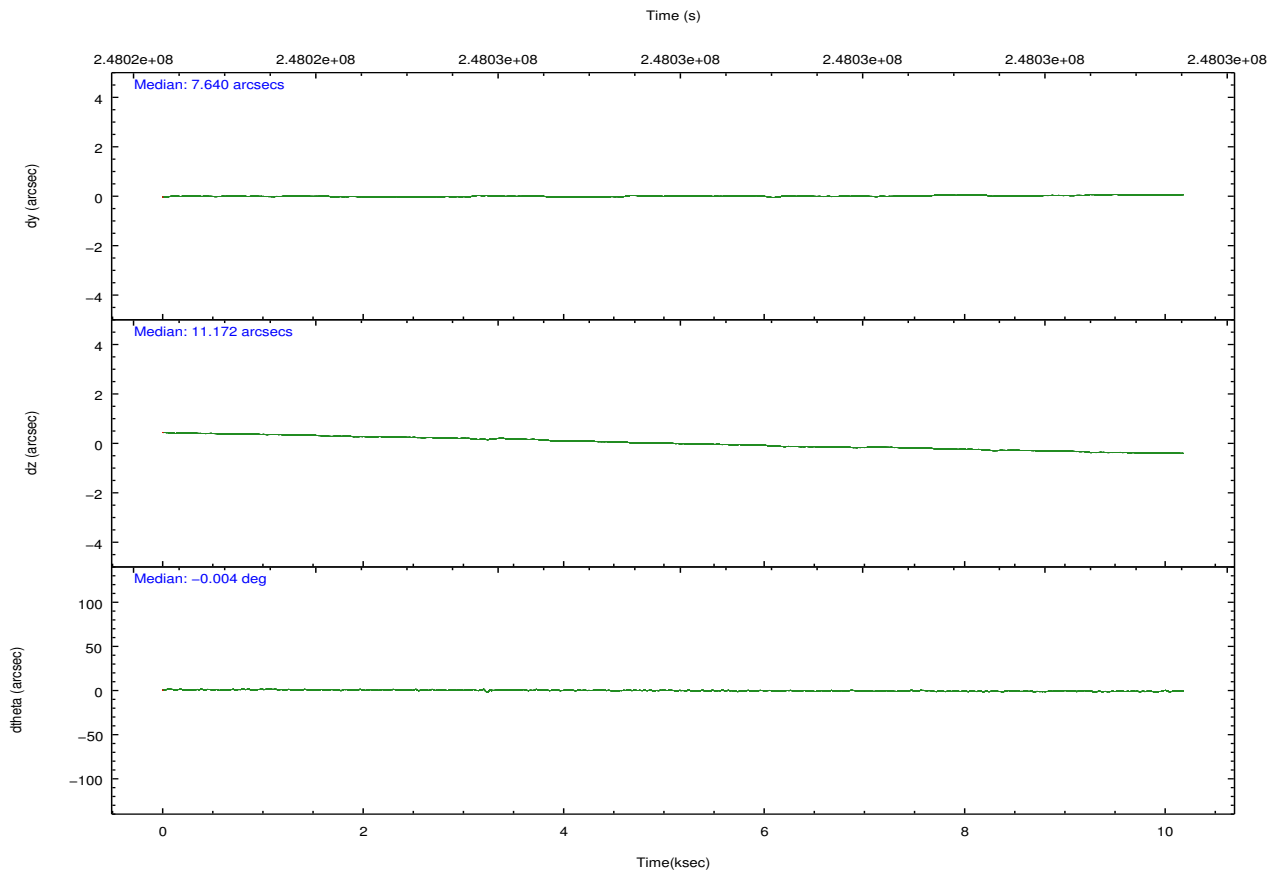
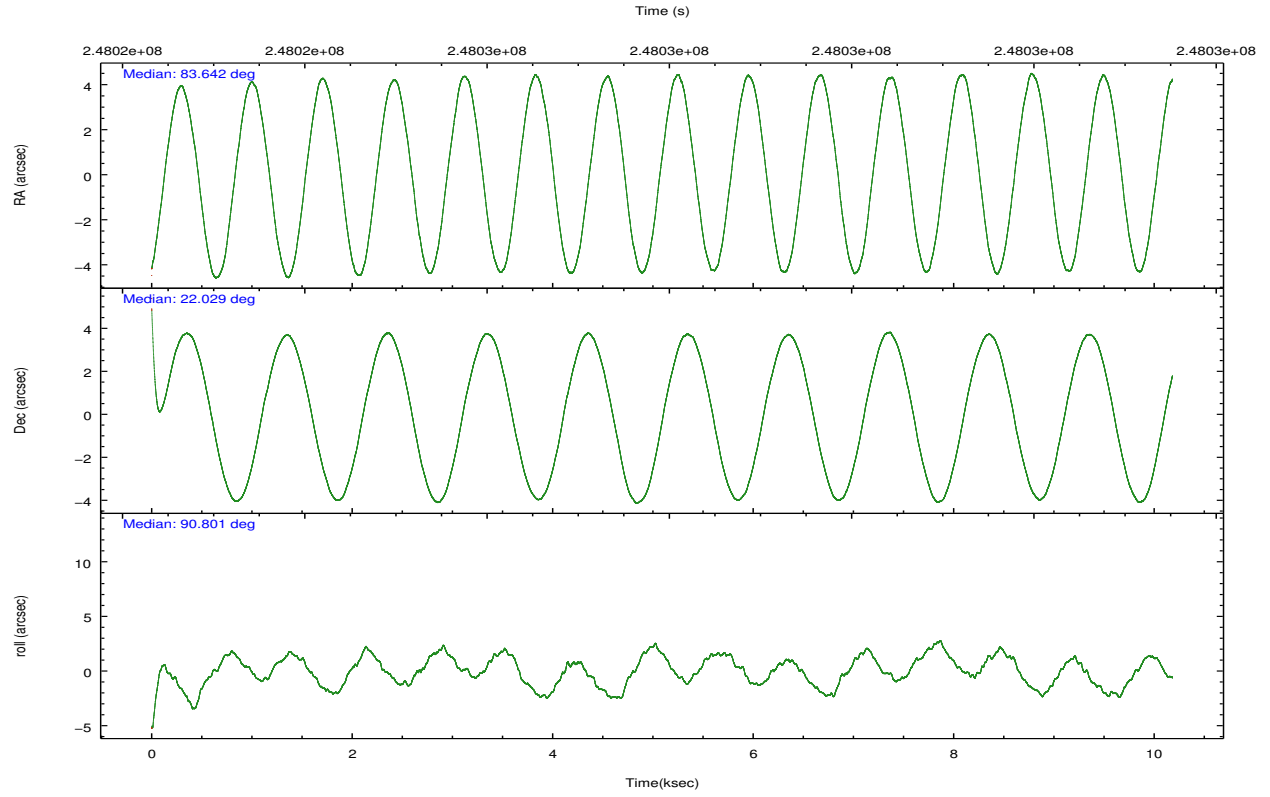
	<b>ccd 7</b>
grade 0 events	238732
	19%
grade 1 events	2828
	0%
grade 2 events	305381
	24%
grade 3 events	135595
	10%
grade 4 events	131998
	10%
grade 5 events	14154
	1%
grade 6 events	394621
	31%
grade 7 events	15716
	1%



## 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	83.657442	83.64205068038841	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	22.005650	22.02886400911888	Subarray start row	127	127
[deg] Pointing Roll	90.641636	90.80402700293764	Subarray row count	101	101
[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	0.3
[mm] SIM translation stage pos	-182.132523	-182.1370004450064			
[mm] SIM translation stage offset	-8	-7.995522138001405			
[s] Observation start time (MET)	248023016.184000	248022038.56072			
Observation start date	2005-11-10T15:15:52	2005-11-10T15:00:38			
[s] Observation end time (MET)	248033016.184000	248034031.06128			
Observation end date	2005-11-10T18:02:32	2005-11-10T18:20:31			
Read mode	TIMED	TIMED			

## 2.3 Aspect

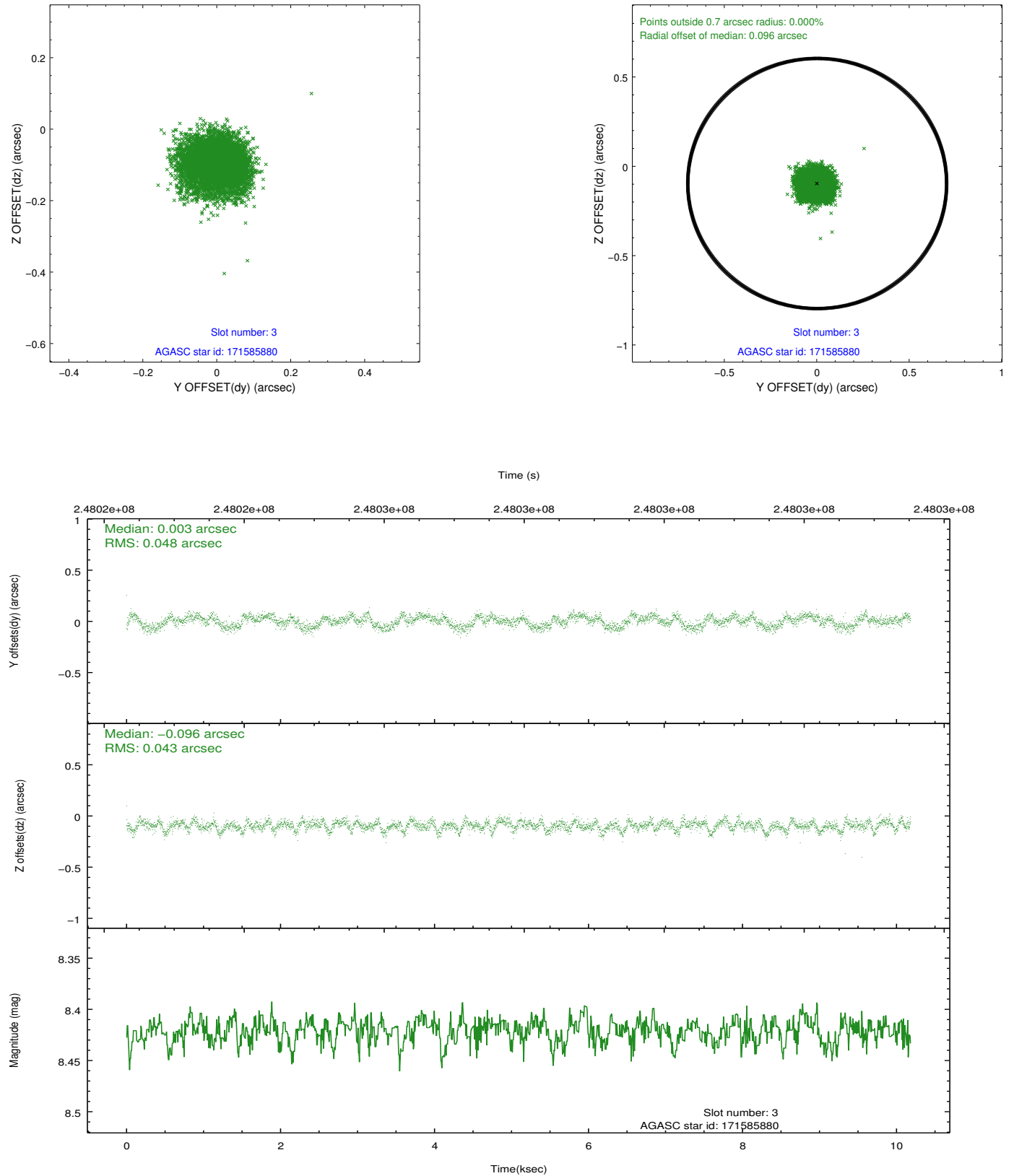


### Slot Statistics

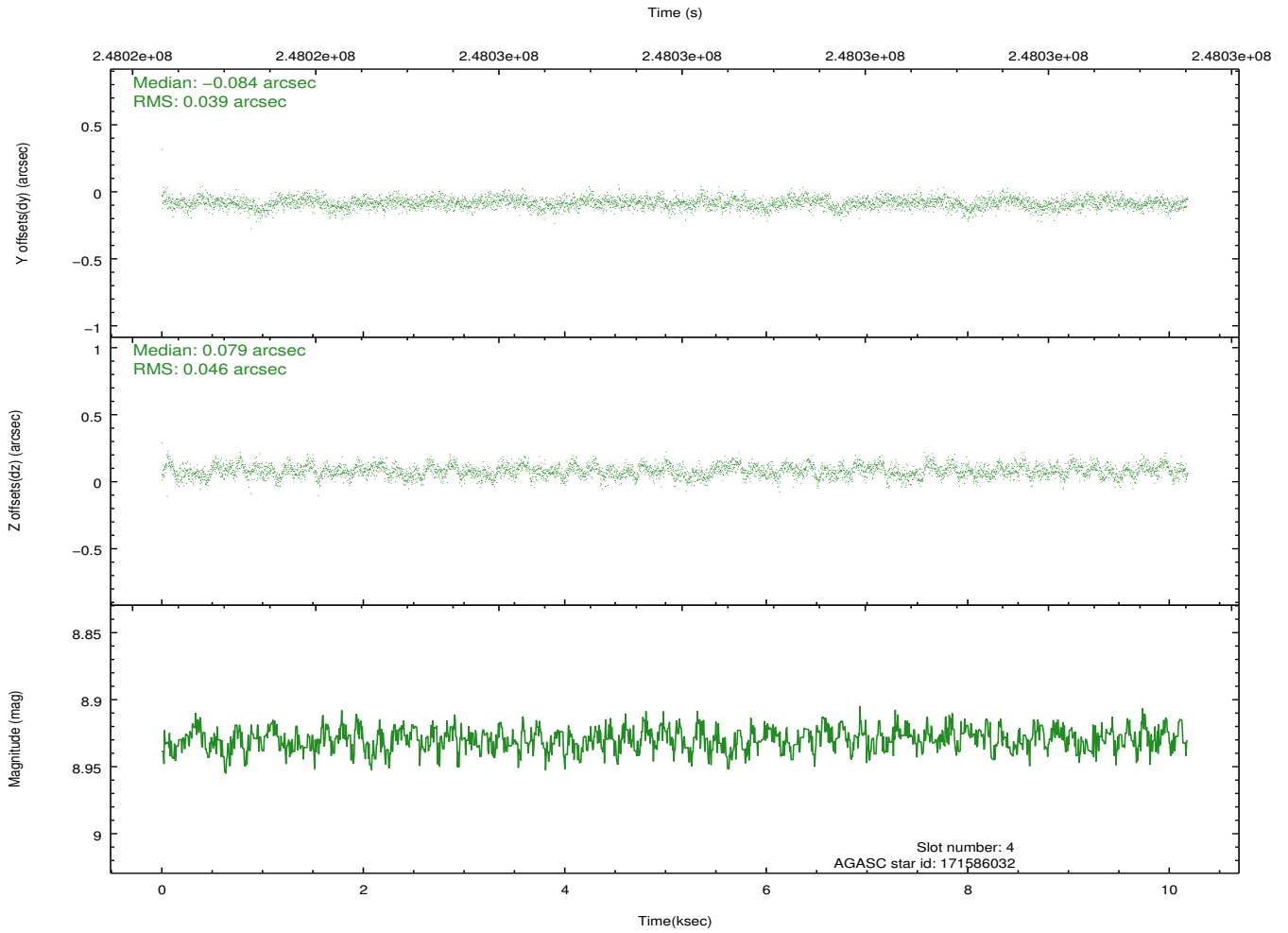
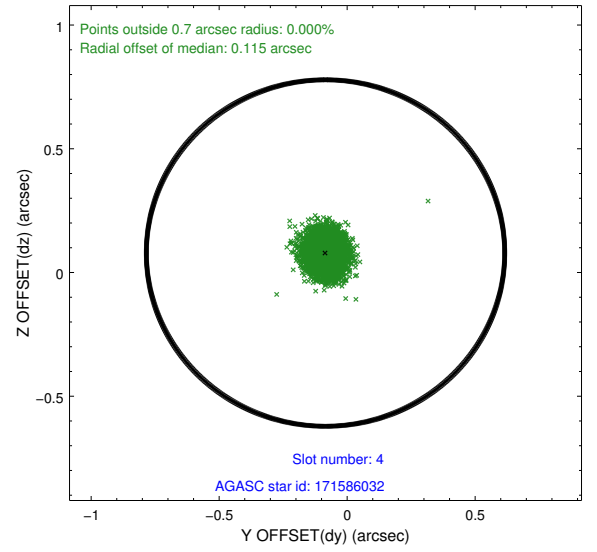
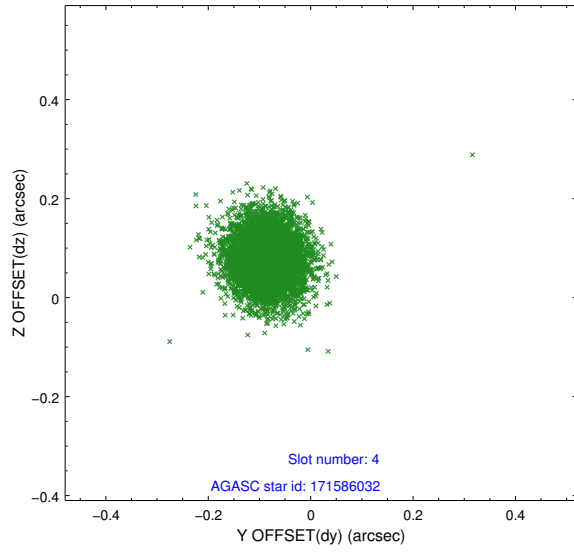
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.09	2484	-0.059	-0.128	0.017	0.023	0.000000	0.000000	-759.90	-1897.30
1	FID	ACIS-S-4	7.18	2484	0.100	0.063	0.006	0.011	0.000000	0.000000	2153.30	10.76
2	FID	ACIS-S-5	7.23	2484	-0.072	0.073	0.014	0.020	0.000000	0.000000	-1812.09	5.03
3	GUIDE	171585880	8.42	4967	0.003	-0.096	0.069	0.107	83.676260	22.176319	613.85	-69.54
4	GUIDE	171586032	8.93	4966	-0.084	0.079	0.065	0.104	83.950197	22.083225	269.52	-979.46
5	GUIDE	171721904	9.20	4964	-0.045	0.061	0.073	0.121	84.272676	22.116922	382.03	-2056.25
6	GUIDE	243941560	8.31	4968	-0.091	0.109	0.067	0.105	83.733264	22.568598	2023.80	-274.72
7	GUIDE	171597832	9.15	4959	0.221	-0.153	0.072	0.120	83.183230	21.366702	-2279.17	1615.34

## 2.4 Star Slots

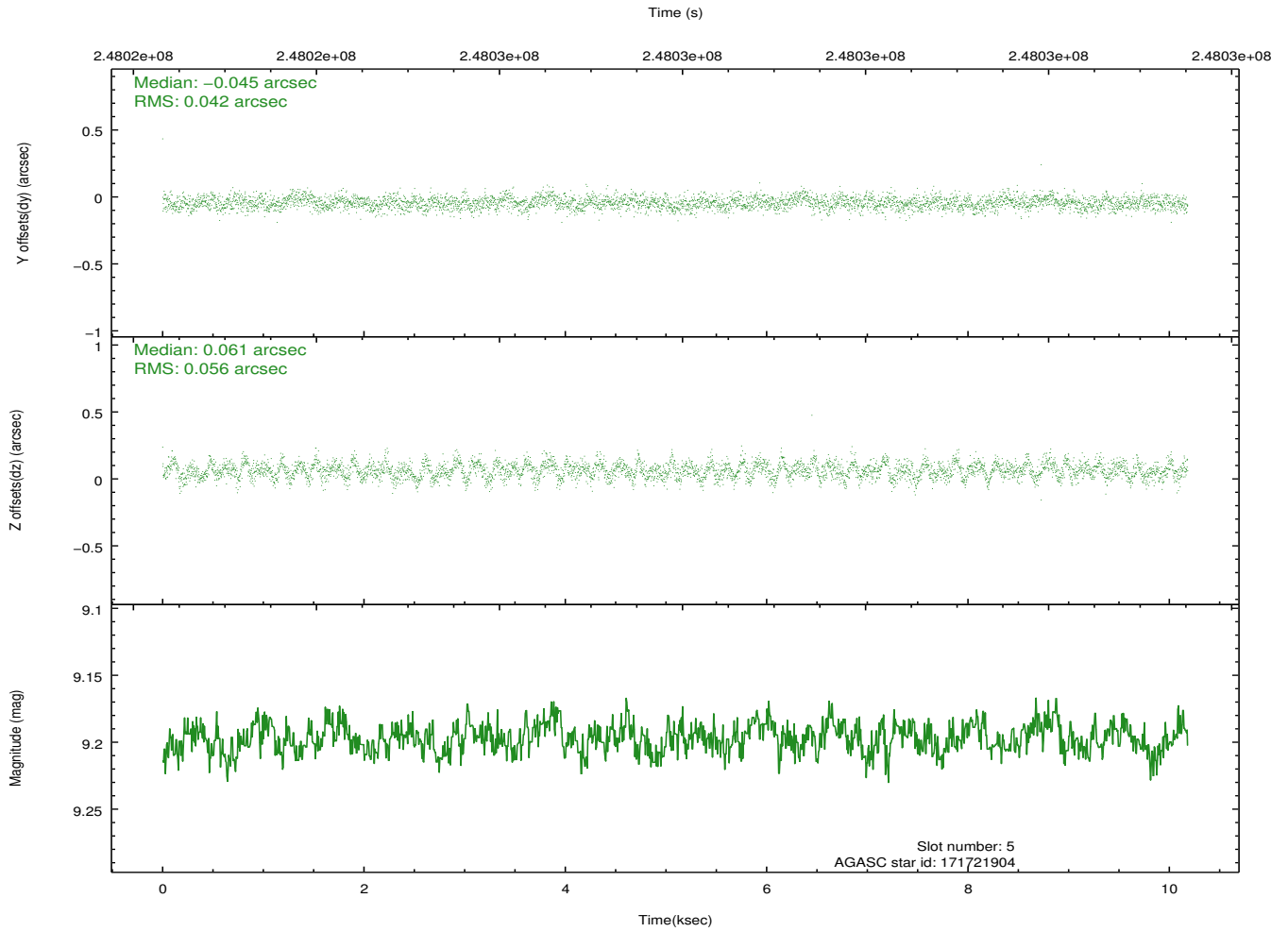
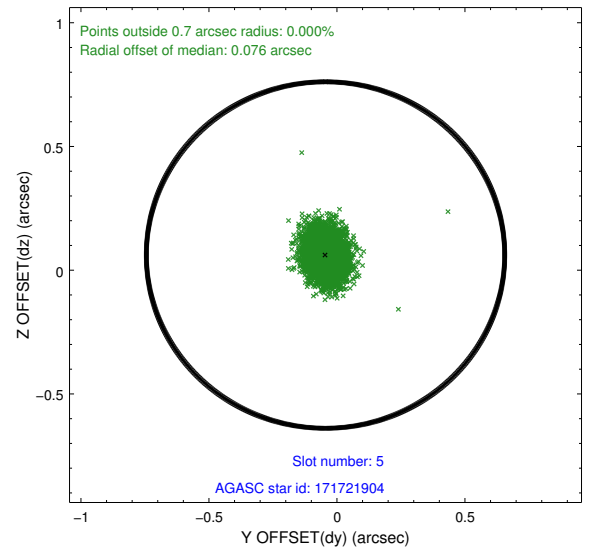
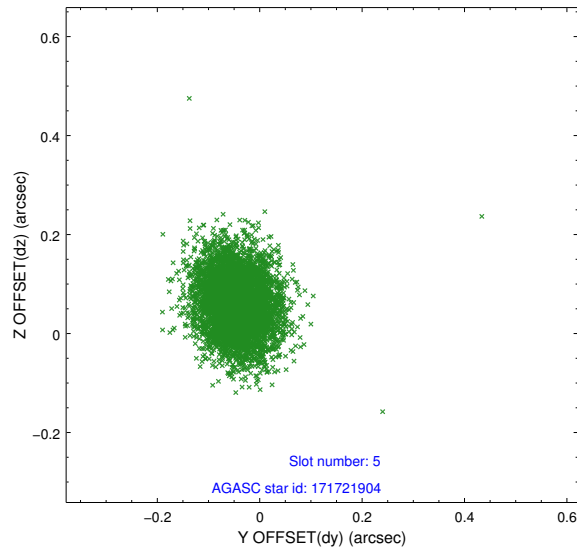
### 2.4.1 Slot 3



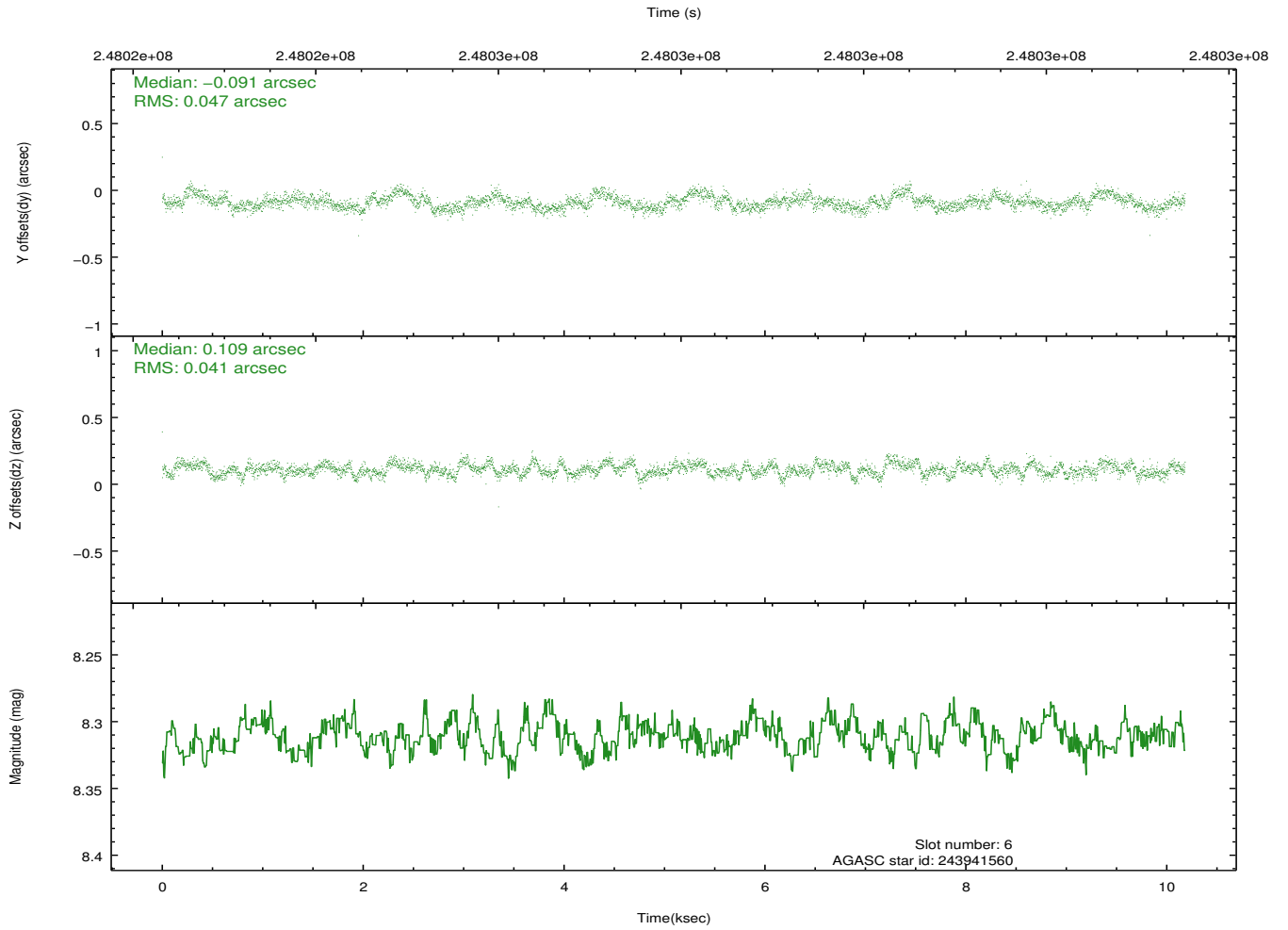
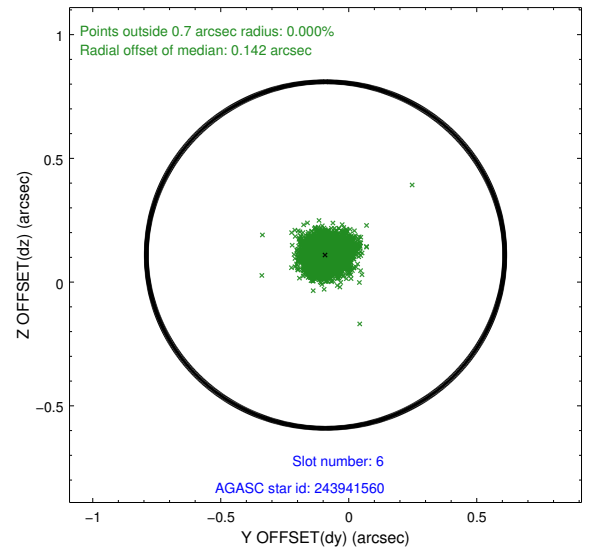
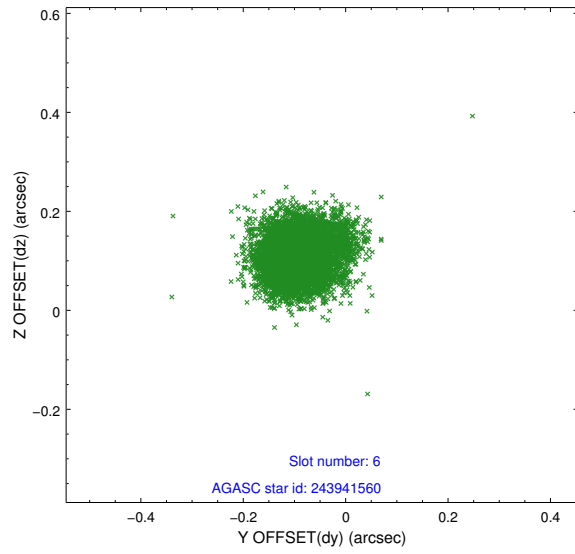
## 2.4.2 Slot 4



### 2.4.3 Slot 5

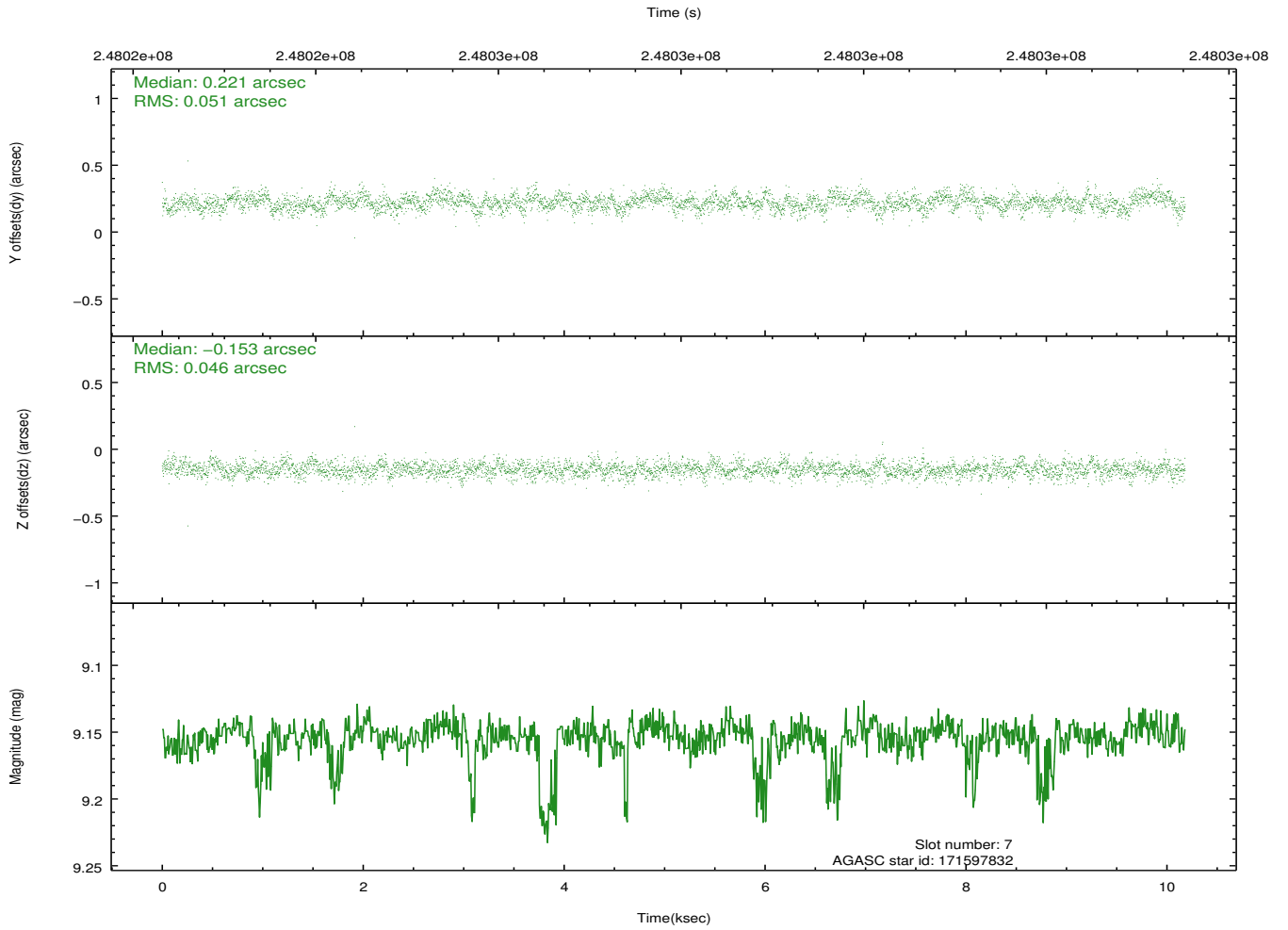
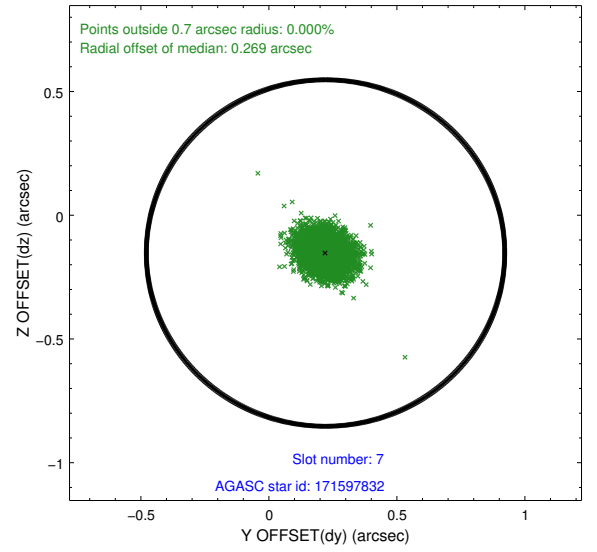
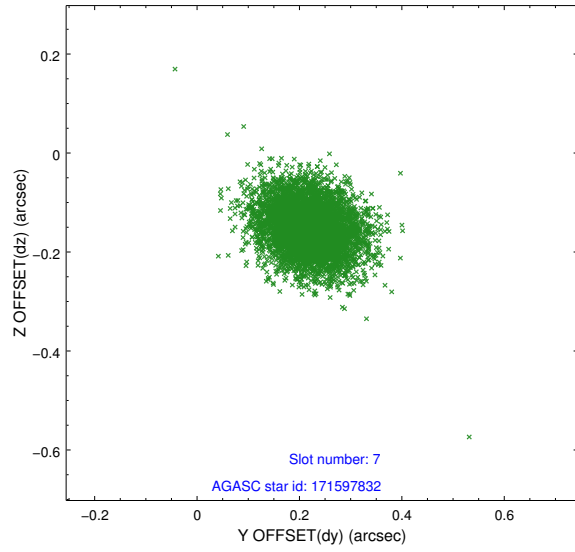


## 2.4.4 Slot 6



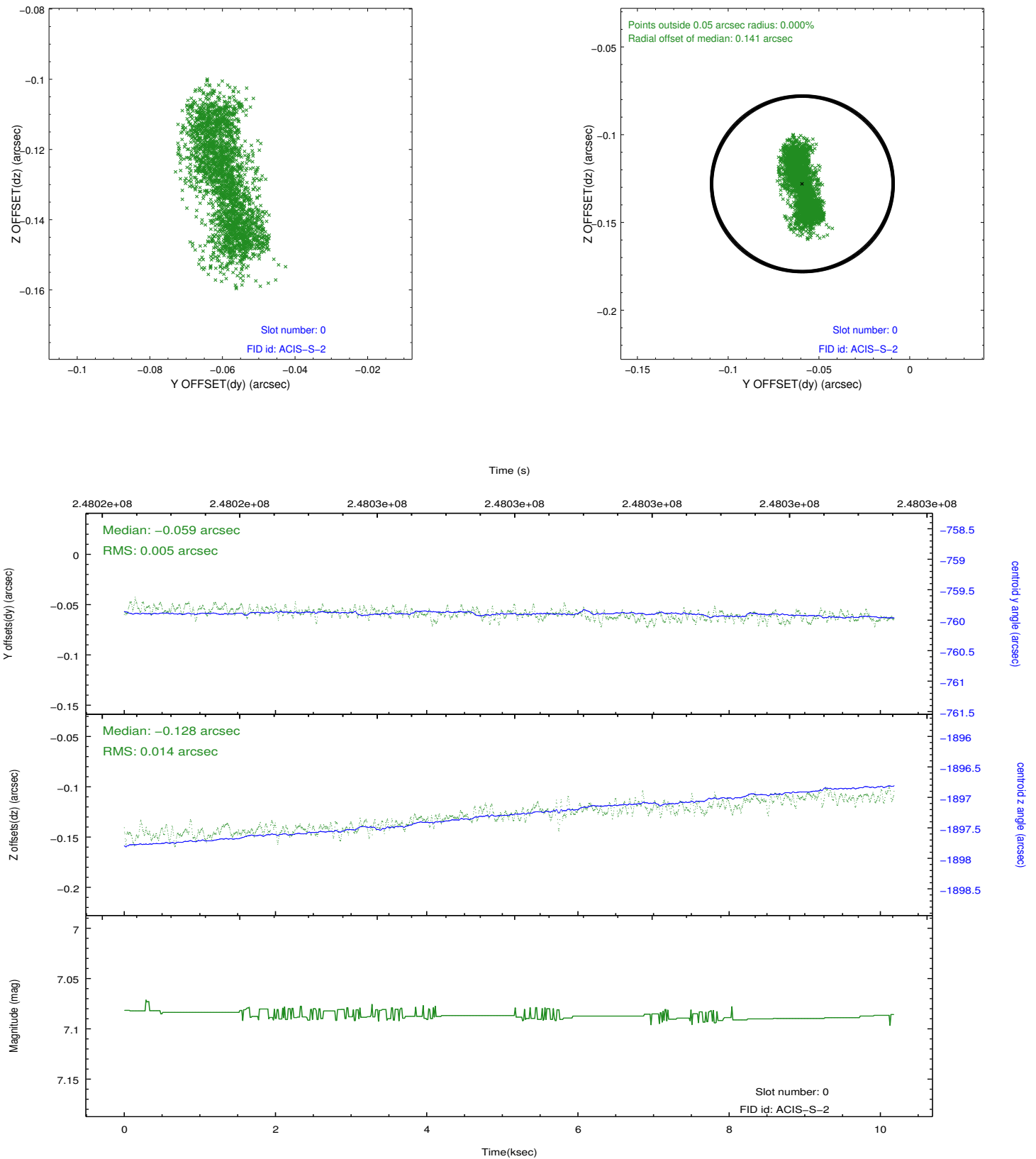


## 2.4.5 Slot 7

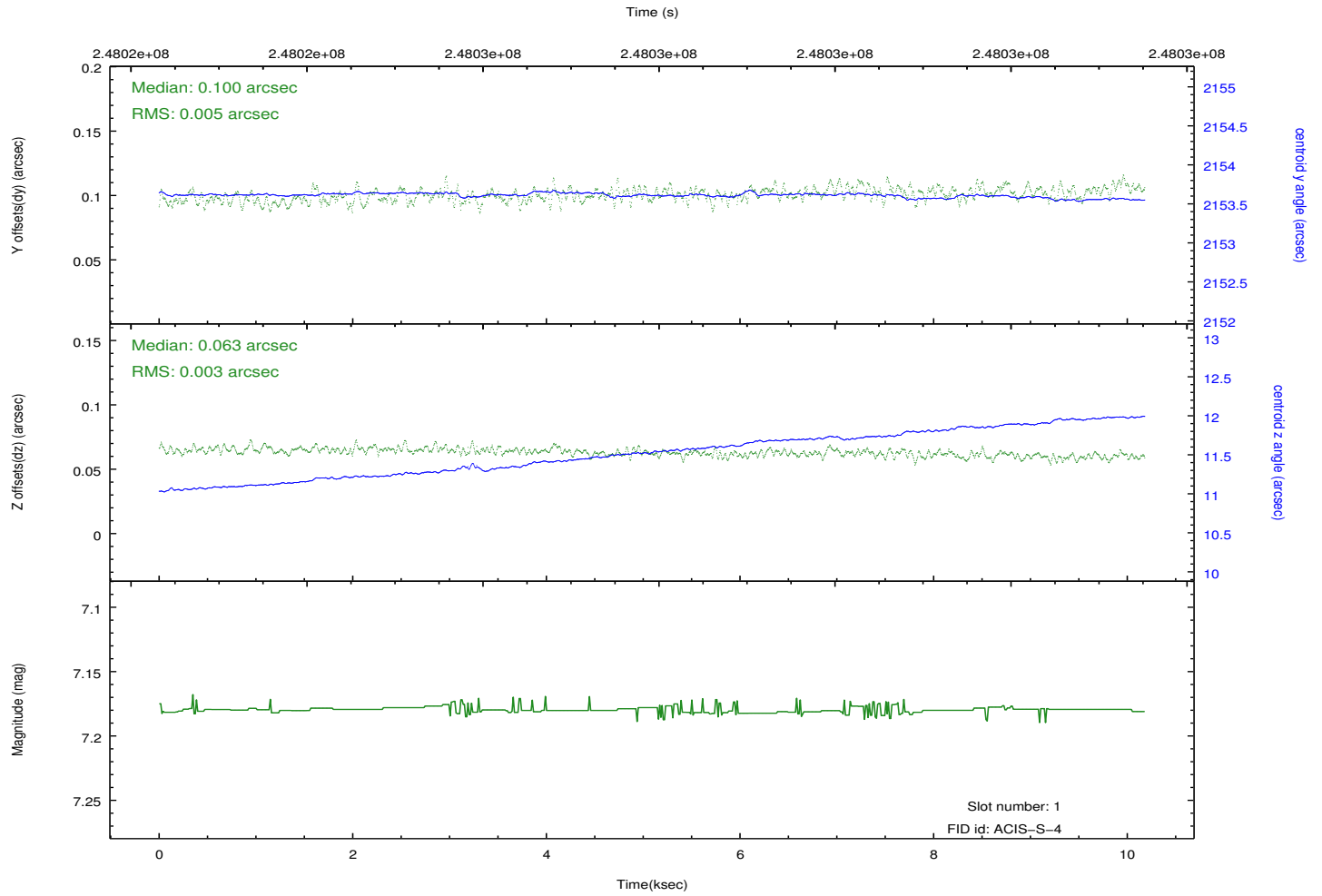
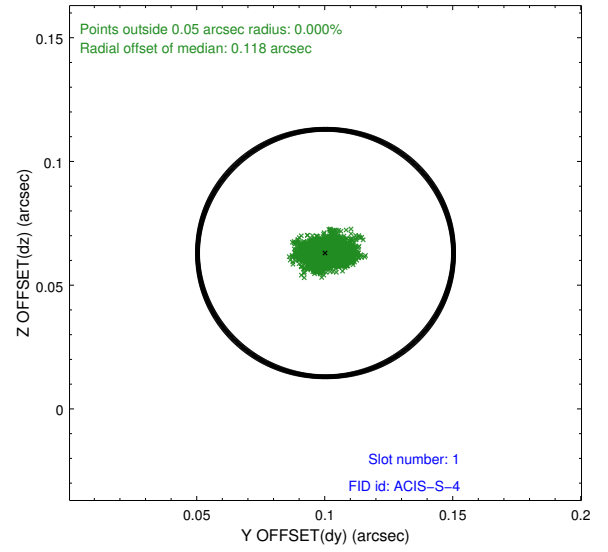
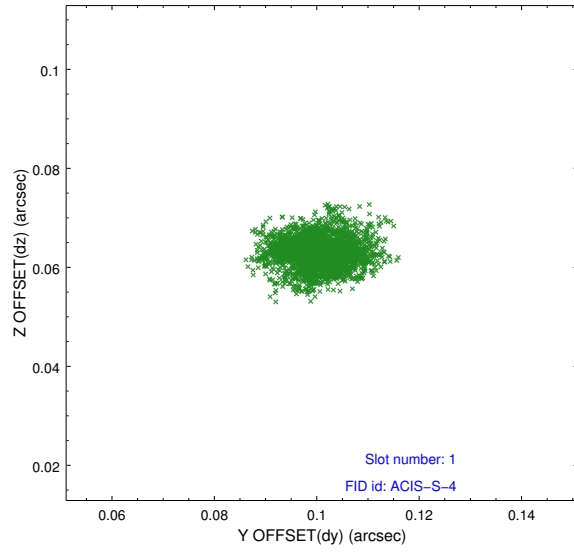


## 2.5 FID Slots

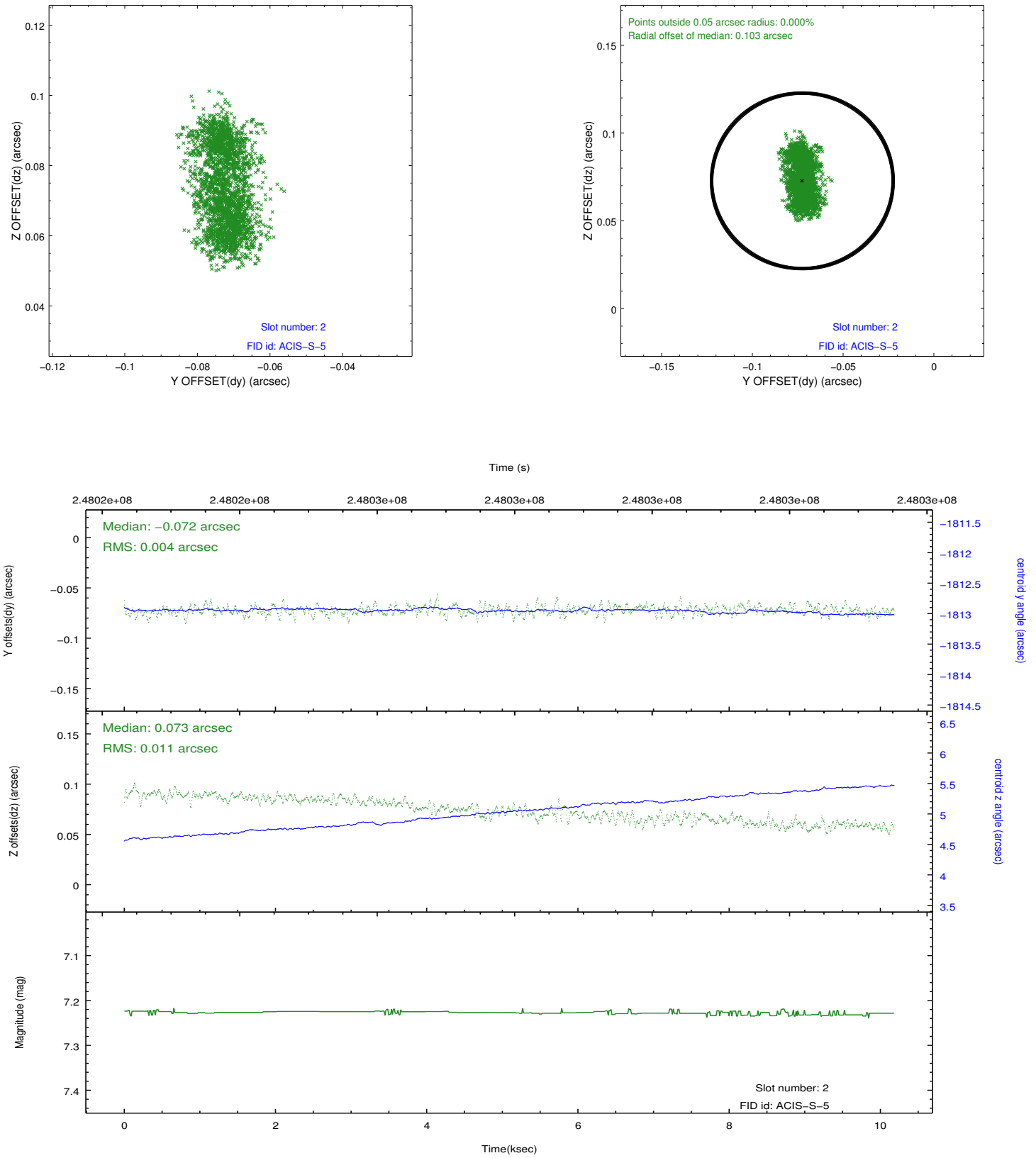
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2

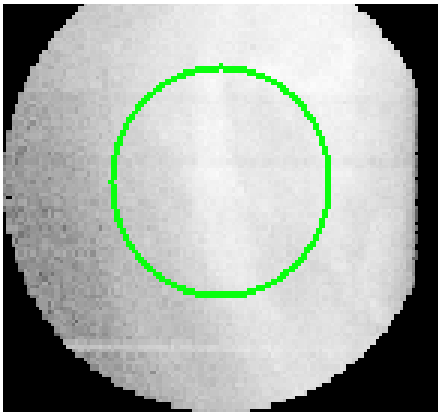


# 3 Gratings

## 3.1 HEG Arm



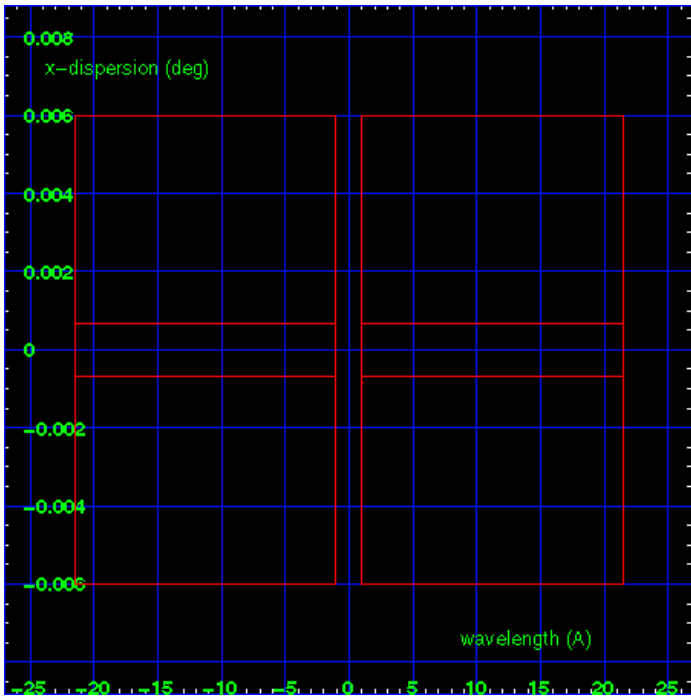
HEG Order Sort 123



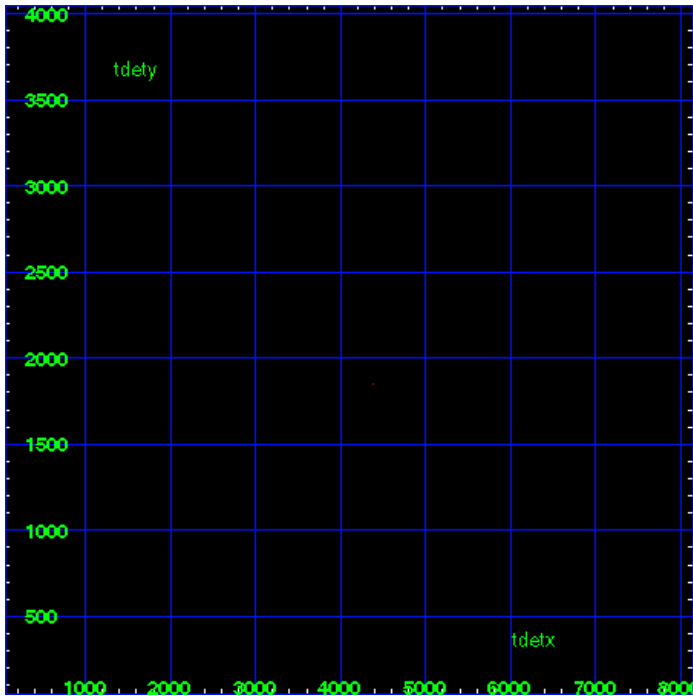
HEG Zero Order



HEG Order Sort ALL

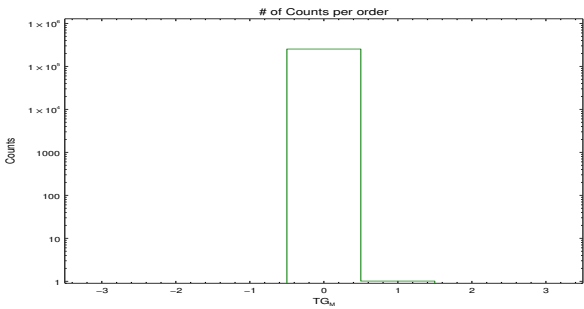


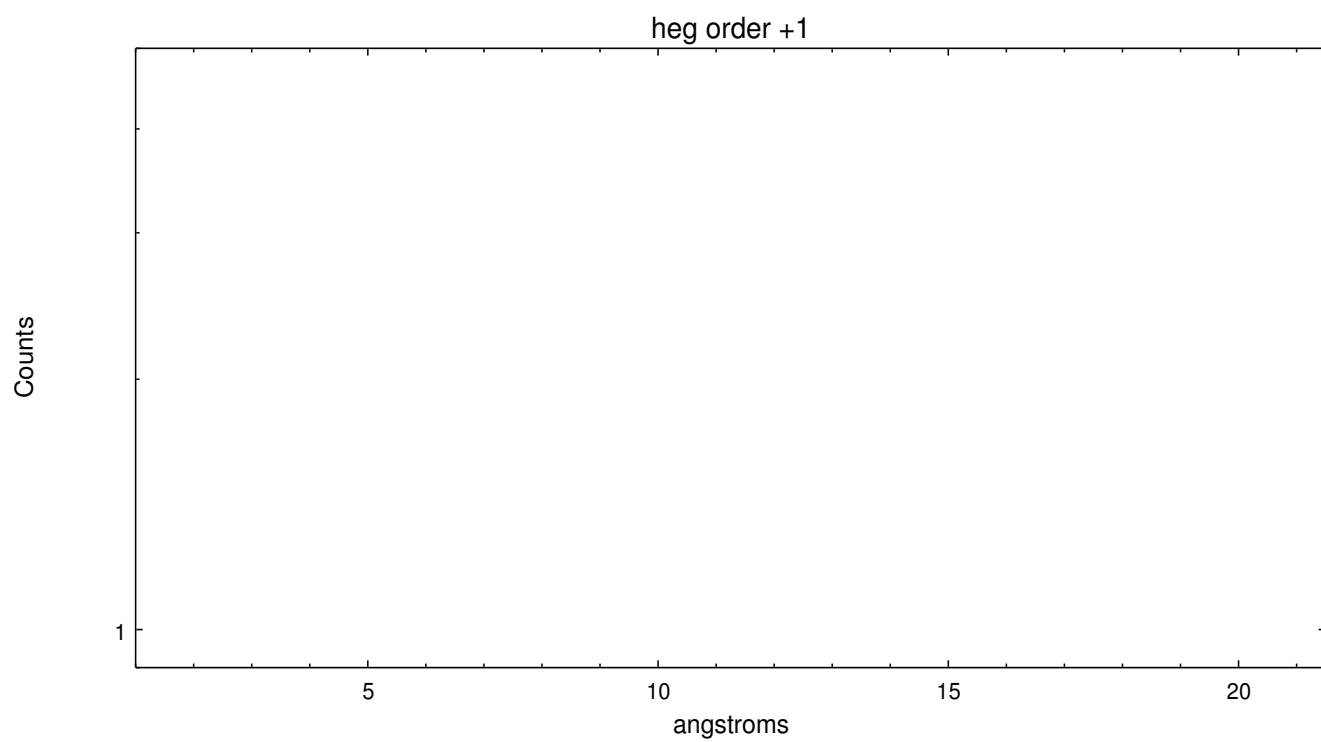
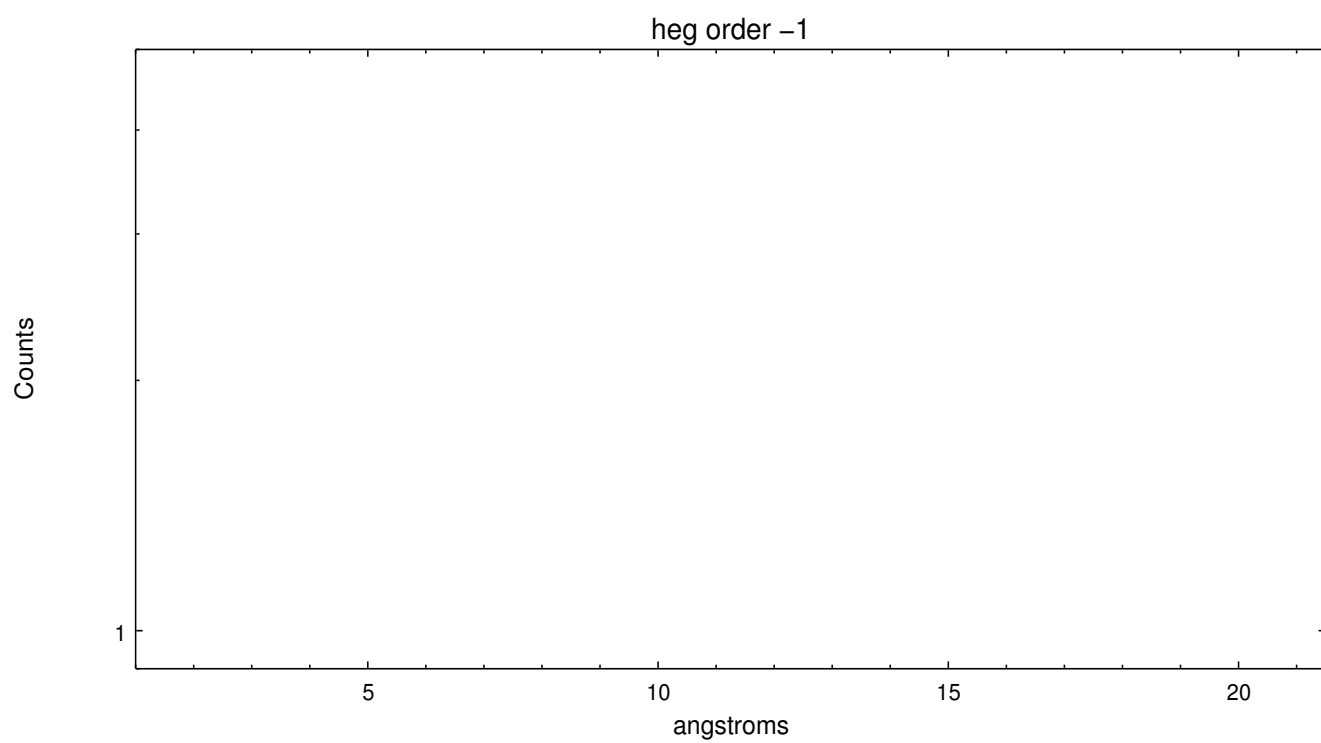
Spot Image HEG



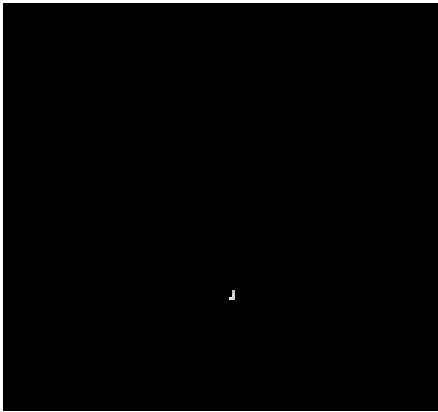
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	0	255468	1	0	0

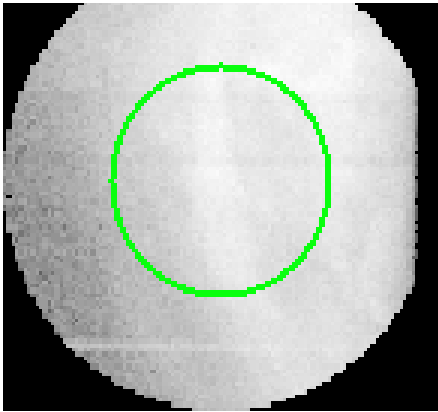




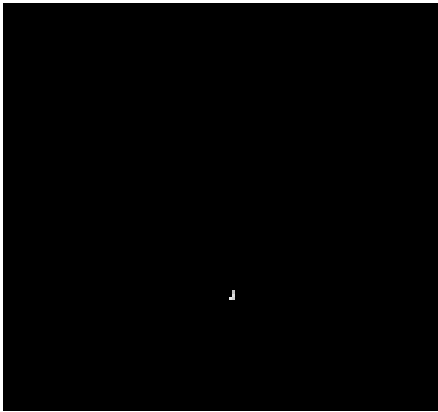
3.2 MEG Arm



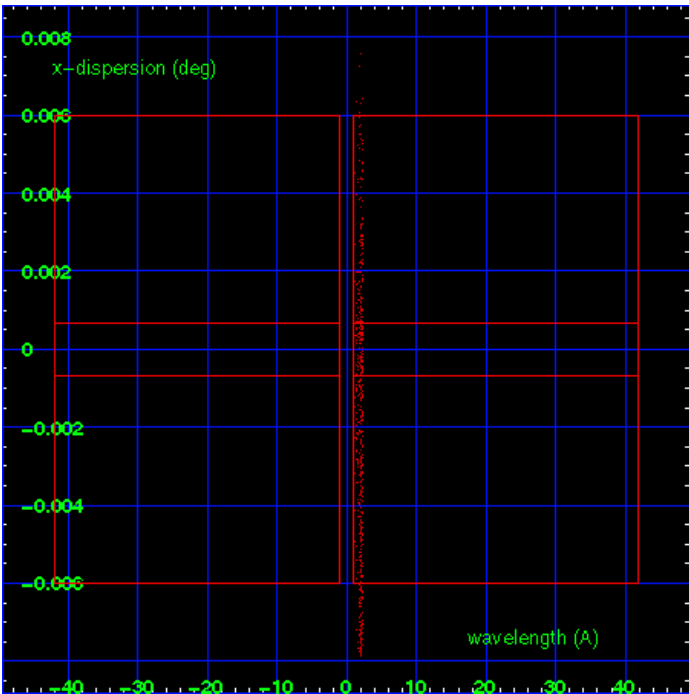
MEG Order Sort 123



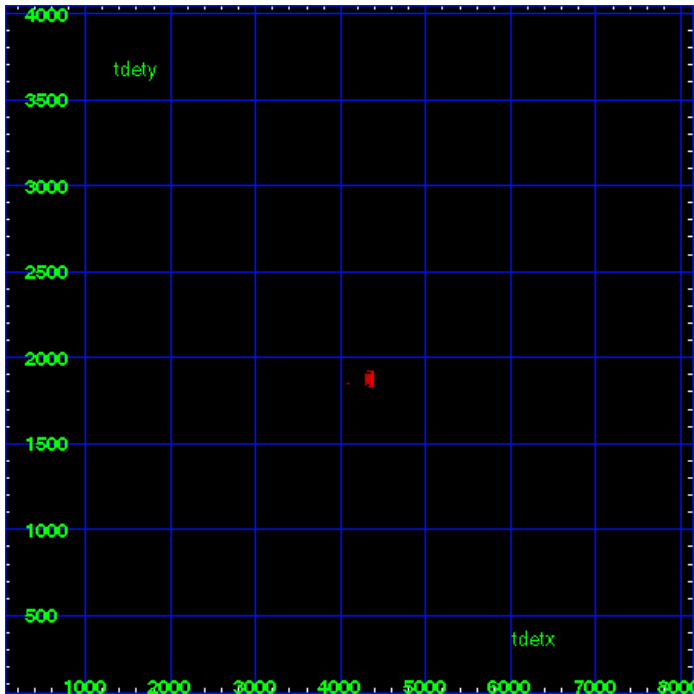
MEG Zero Order



MEG Order Sort ALL

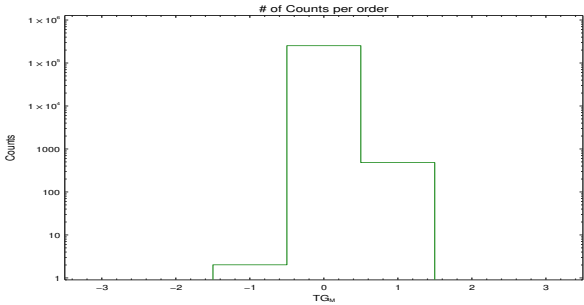


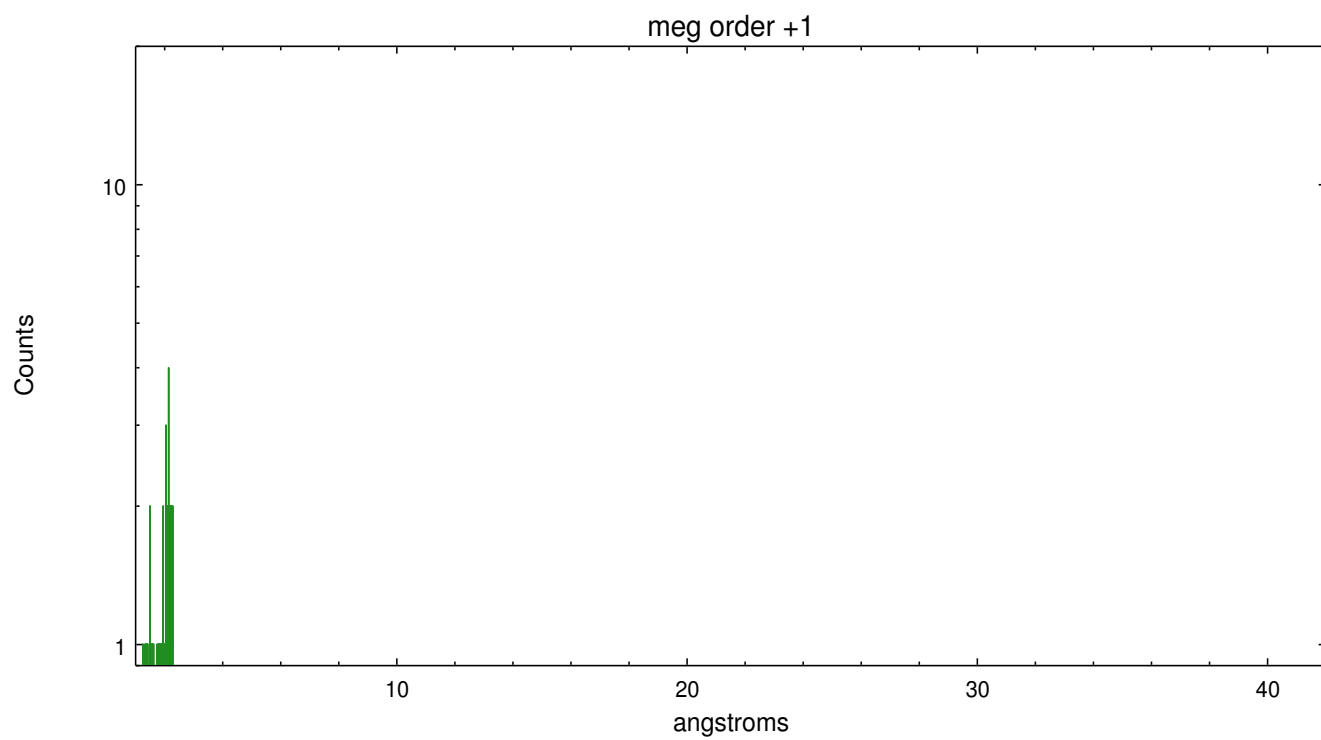
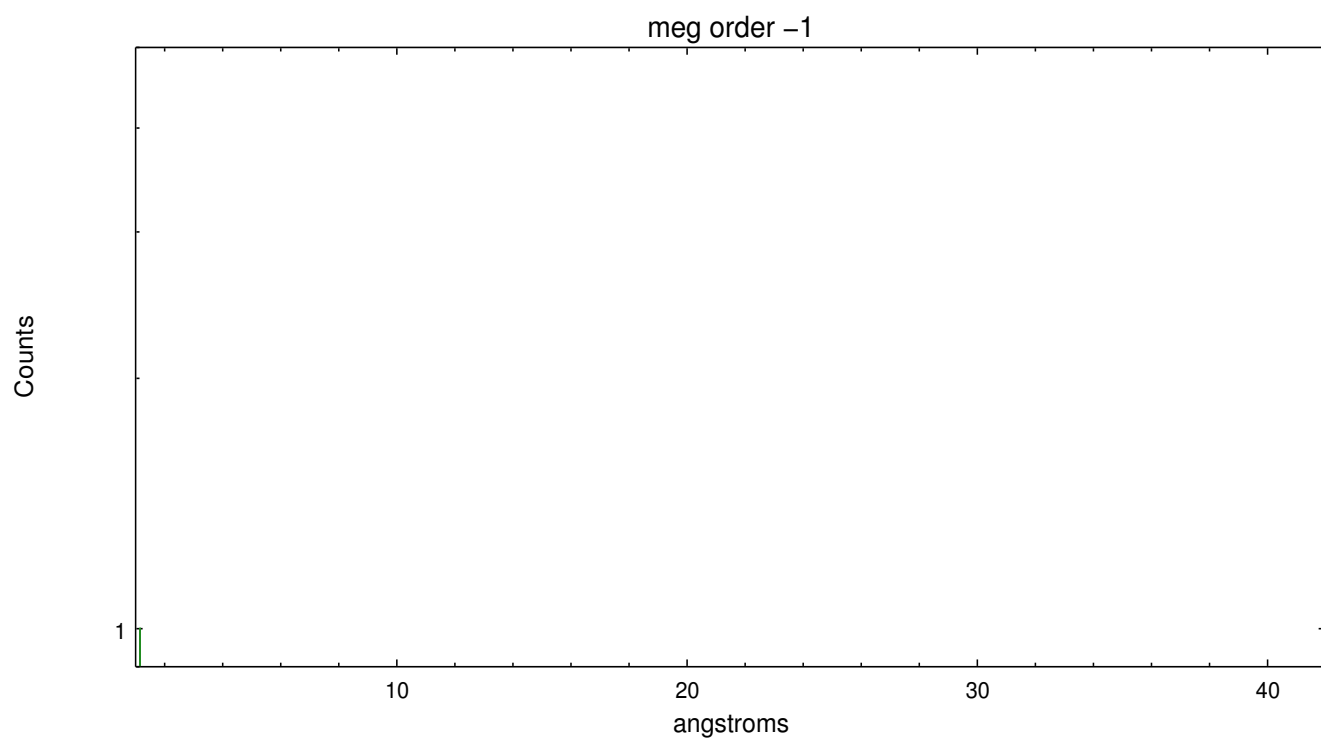
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	2	255468	482	0	0







# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.01.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.1817

## 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 region to the NE, along the outer ring that circumscribes the pulsar. Aim point is about 30 arcsec east of the aim points used for the other observations in this set, as requested by the proposer. 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 orders between 1-2 A. Broad east/west streak in Level 2 data is instrumental, due to the fact that the spacecraft dither during this observation was only 1 arcsec.