

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 4412 - L2 Version 3
Chandra X-Ray Center

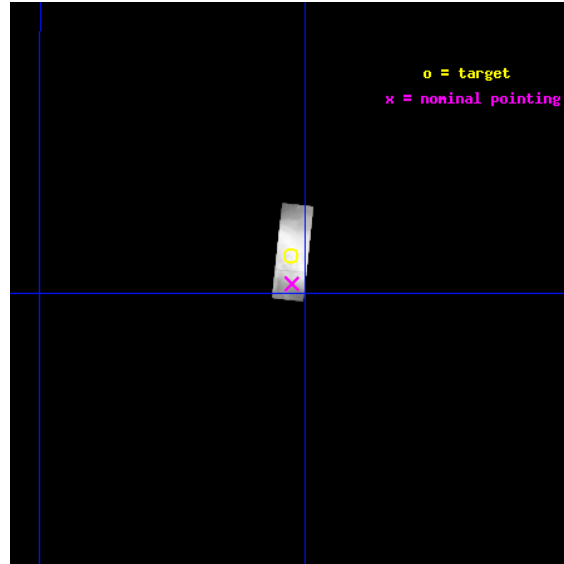
L2 Processing Date : Oct 20 2012

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1 Front

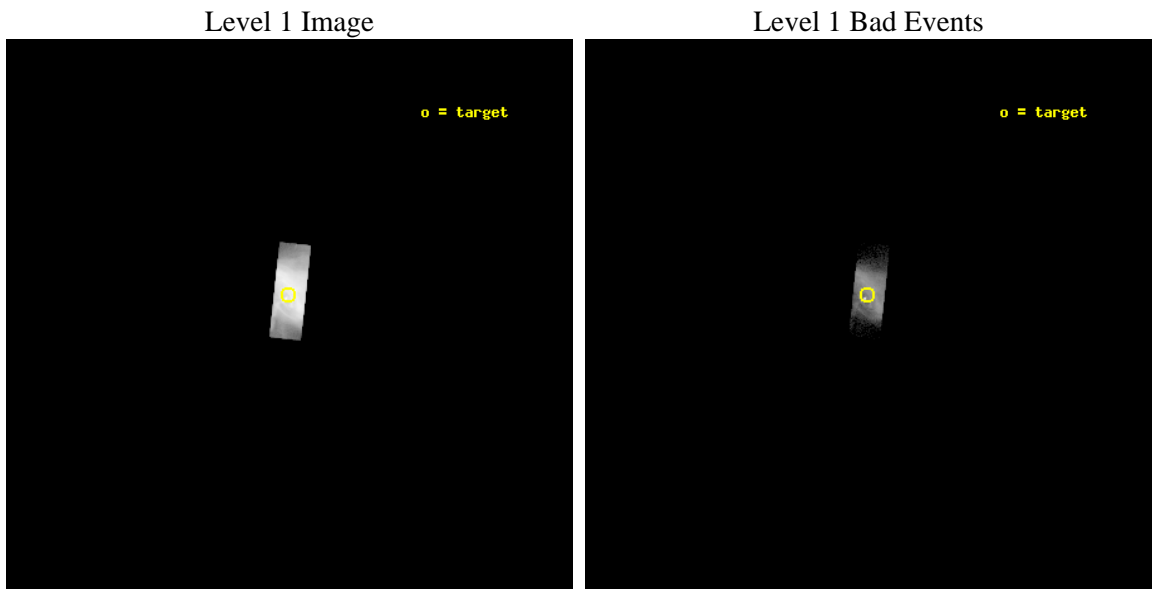
seq_num	100037	Sequence number
obs_id	4412	Observation id
title	OBSERVATION OF SATURN AND TITAN PASSING IN FRONT OF THE CRAB NEBULA	
observer	PROFESSOR HIROSHI TSUNEMI	Principal investigator
object	TITAN	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.6319	Observer's specified target RA [deg]
dec_targ	22.01646	Observer's specified target Dec [deg]
ra_nom	83.631515594443	Nominal RA [deg]
dec_nom	22.004013869285	Nominal Dec [deg]
roll_nom	276.15762332742	Nominal Roll [deg]
revision	3	Processing version of data
ontime	10853.100431263	Sum of GTIs [s]
livetime	9547.0623075857	Livetime [s]
ontime7	10853.100431263	Sum of GTIs [s]
l2events	2819386	Number of level 2 events



2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Parameters

obi_num	1	Obi number	sched_exp_time	11000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	10853.100431263	Sum of GTIs [s]
caldsver	4.5.2	 	ontime7	10853.100431263	Sum of GTIs [s]
date	2012-10-20T18:21:20	Date and time of file creation	l1events	2949199	Number of level 1 events
revision	3	Processing version of data			

2.1.3 Events

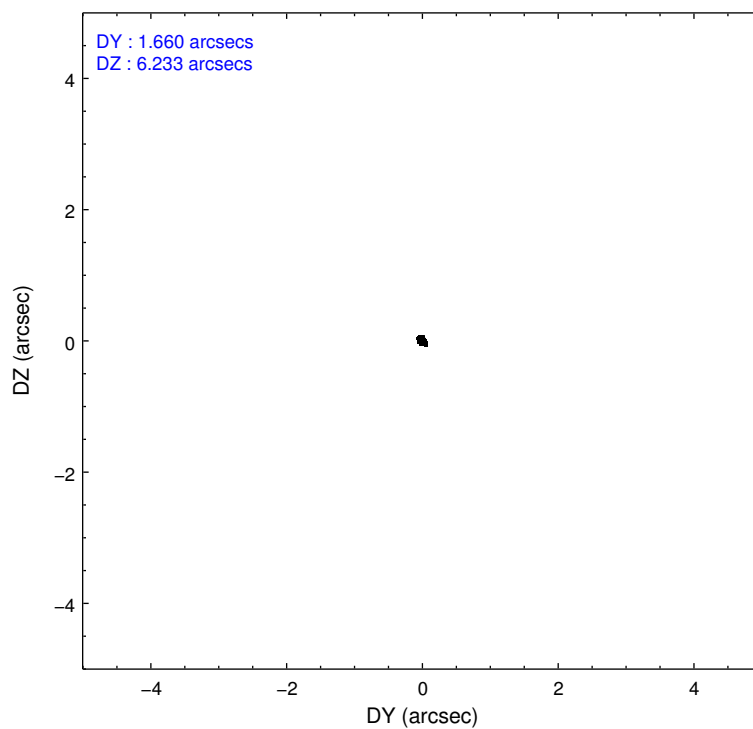
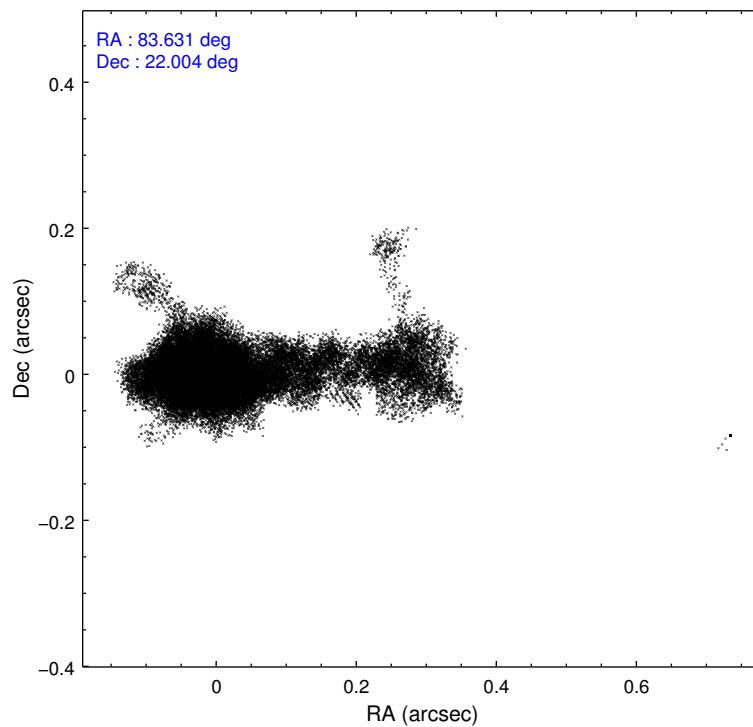
	ccd 7
level 1 events	2949199
rejected events	106682
rejected %	3%

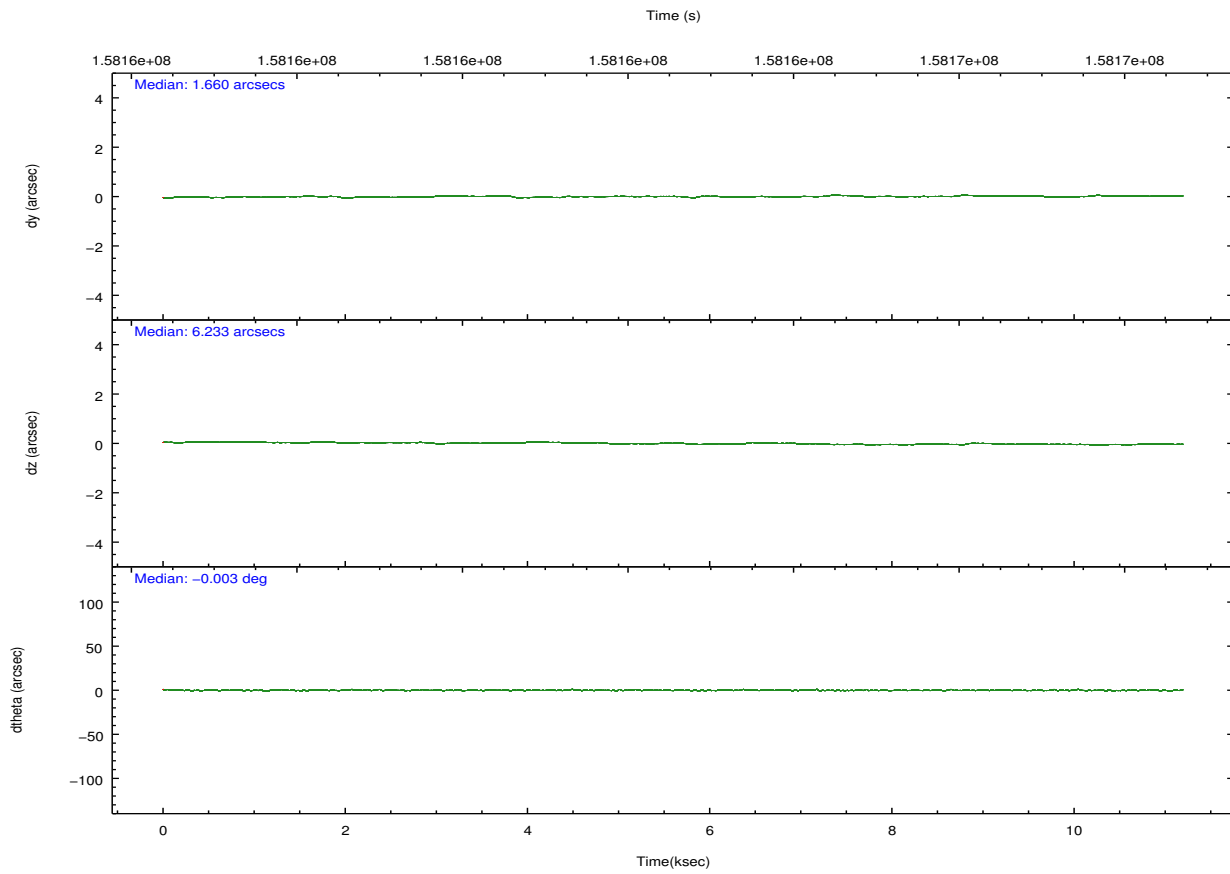
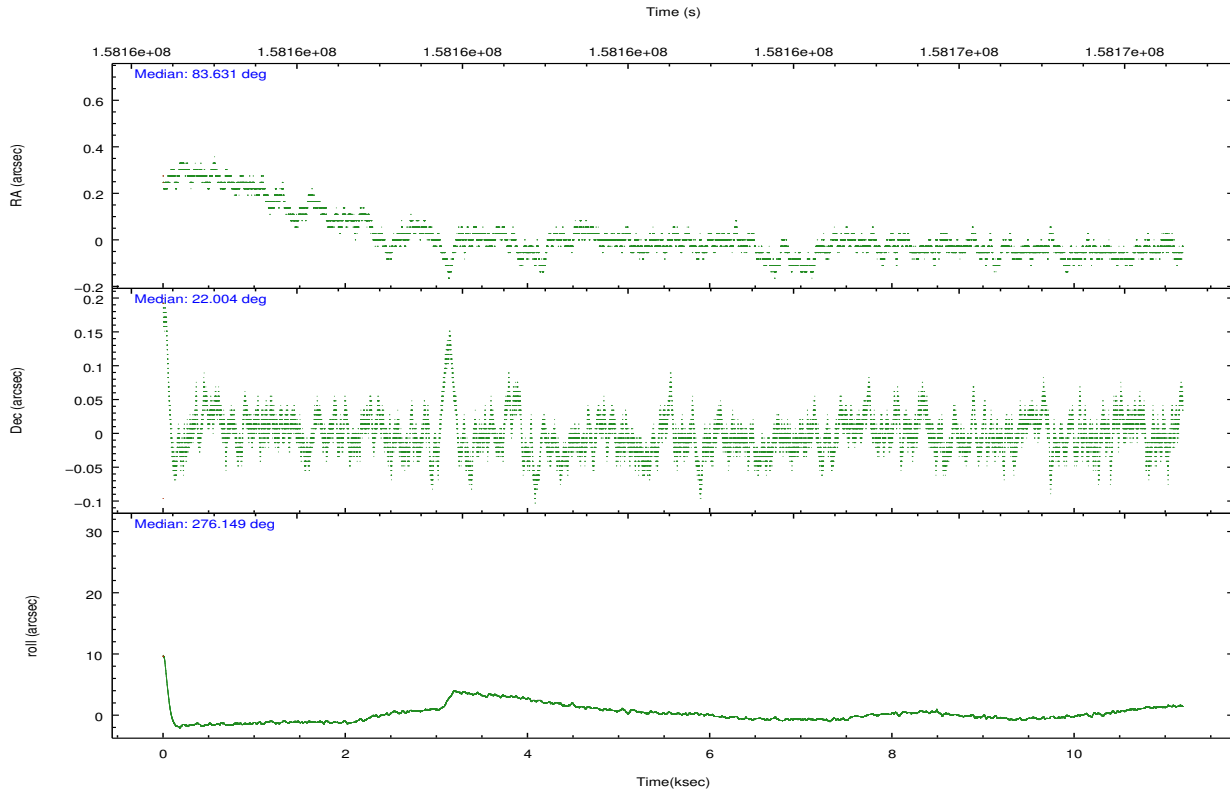
	ccd 7
grade 0 events	588627
	19%
grade 1 events	11131
	0%
grade 2 events	727124
	24%
grade 3 events	326560
	11%
grade 4 events	311758
	10%
grade 5 events	44695
	1%
grade 6 events	888872
	30%
grade 7 events	50432
	1%

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	83.613854	83.63151559444321	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	22.025764	22.00401386928506	Subarray start row	127	127
[deg] Pointing Roll	276.007615	276.1576233274224	Subarray row count	101	101
[s] Window start time (MET)	158144464.184000	158144464.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	158185864.184000	158185864.184000	[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	-182.1344861297048			
[mm] SIM translation stage offset	-8	-7.998036453302973			
[s] Observation start time (MET)	158157140.184000	158156763.7211			
Observation start date	2003-01-05T12:31:16	2003-01-05T12:26:03			
[s] Observation end time (MET)	158168140.184000	158168273.95908			
Observation end date	2003-01-05T15:34:36	2003-01-05T15:37:53			
Read mode	TIMED	TIMED			

2.3 Aspect



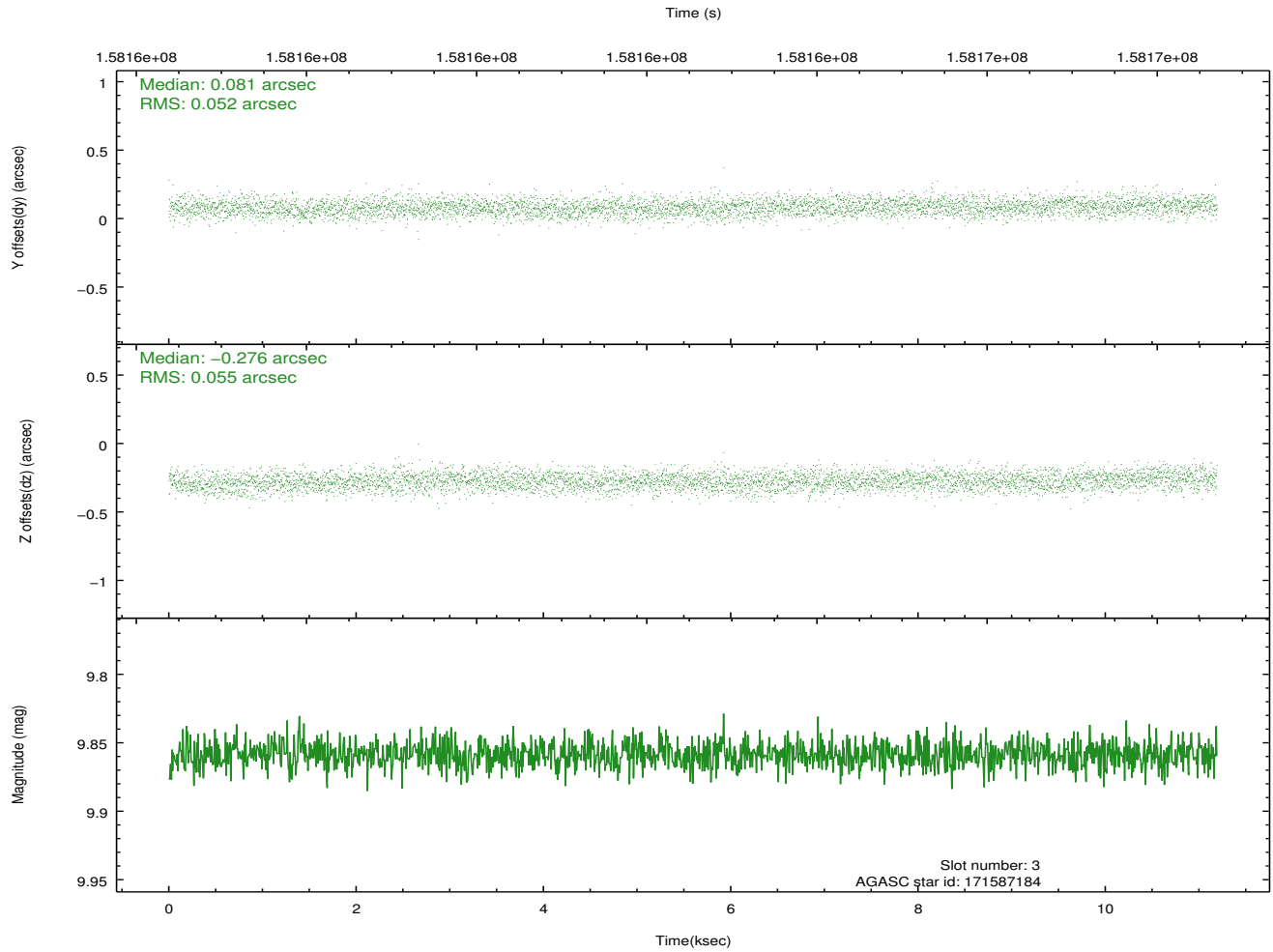
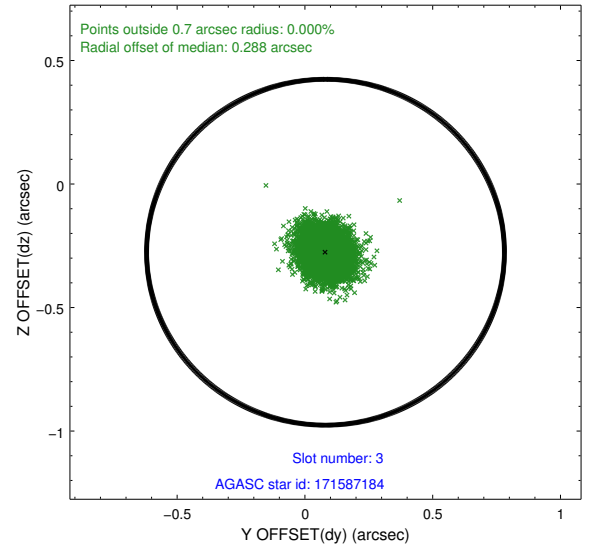
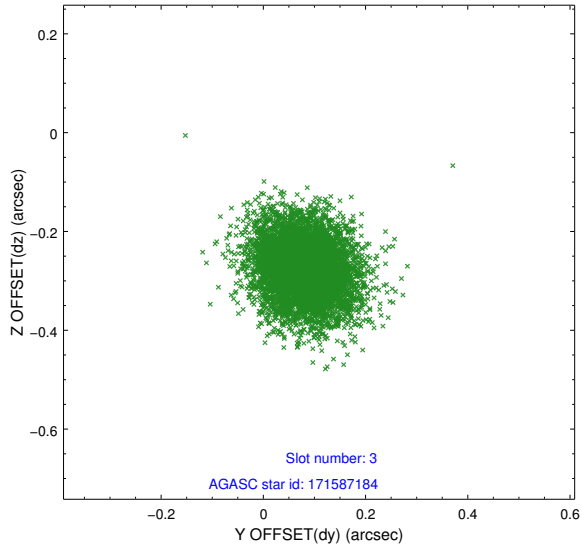


Slot Statistics

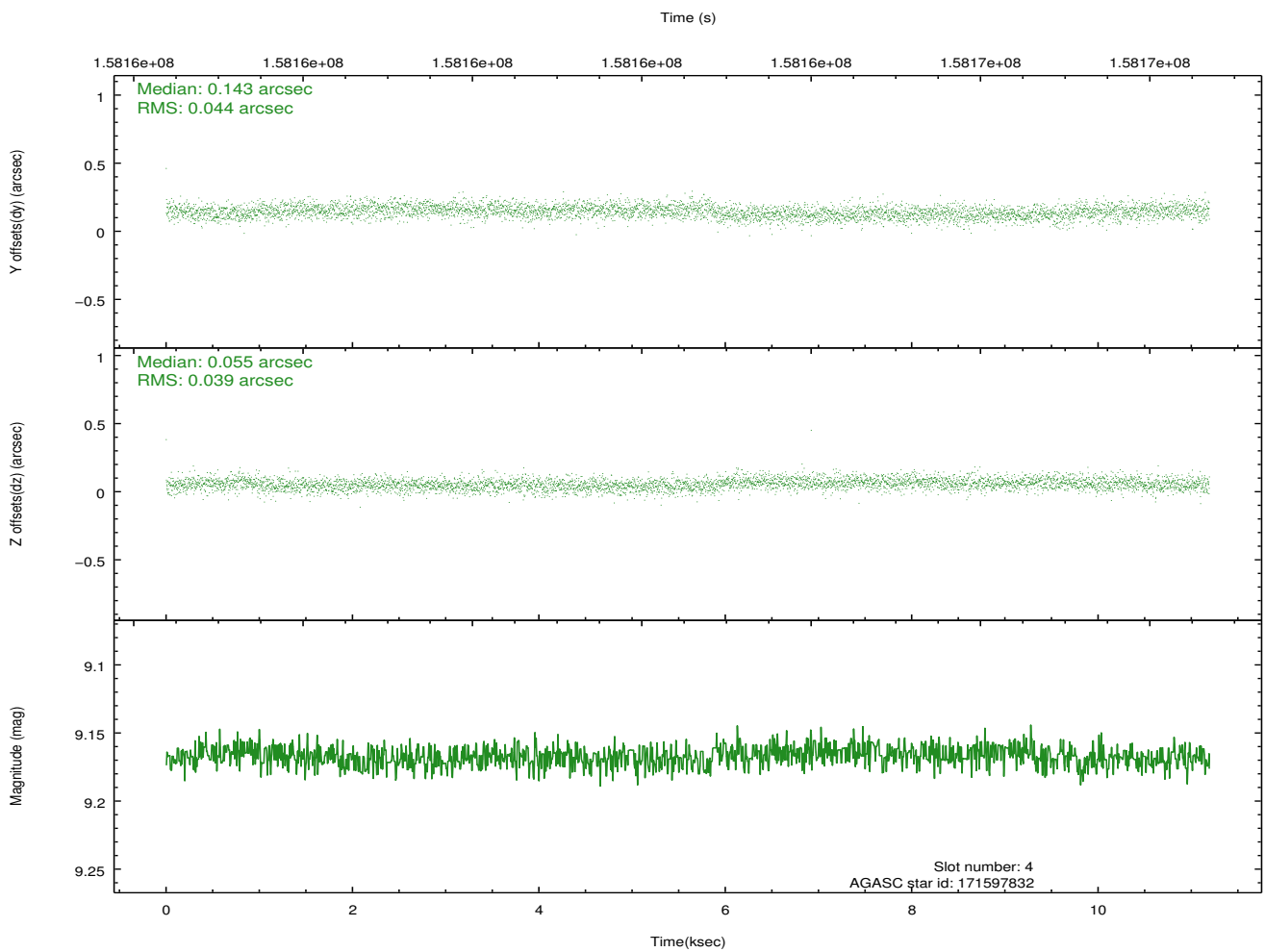
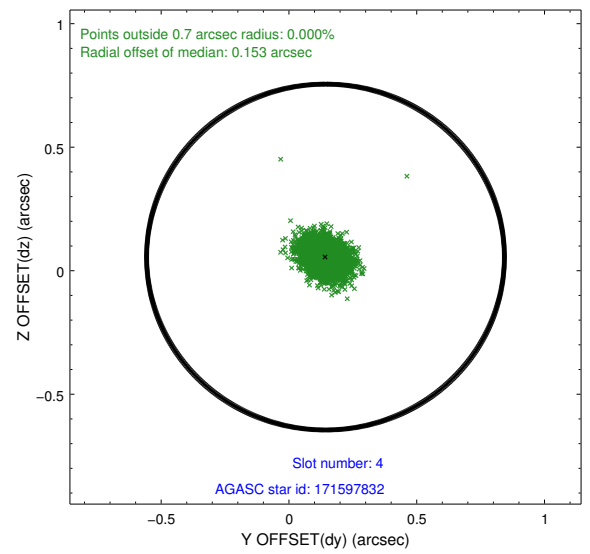
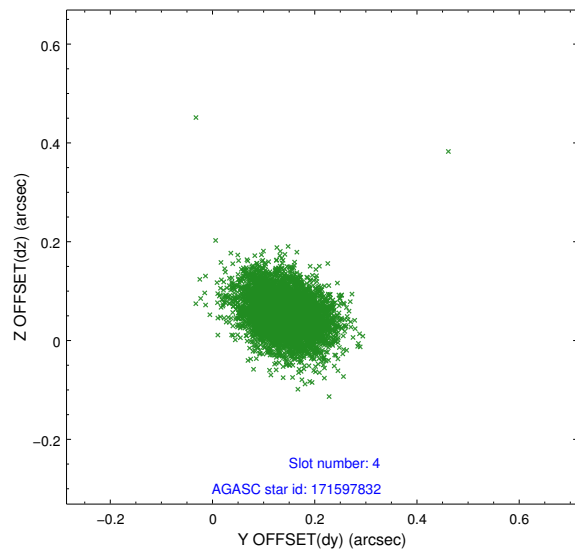
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	2731	-0.064	-0.117	0.007	0.011	0.000000	0.000000	-753.77	-1892.25
1	FID	ACIS-S-4	7.18	2731	0.097	0.062	0.005	0.009	0.000000	0.000000	2159.48	15.84
2	FID	ACIS-S-5	7.23	2731	-0.064	0.063	0.006	0.011	0.000000	0.000000	-1806.01	10.07
3	GUIDE	171587184	9.86	5455	0.081	-0.276	0.080	0.130	83.729362	22.466719	-1538.40	547.93
4	GUIDE	171597832	9.17	5461	0.143	0.055	0.061	0.104	83.183230	21.366702	2206.91	-1683.37
5	GUIDE	171600224	9.64	5456	-0.108	-0.103	0.074	0.123	82.941815	21.636094	1155.81	-2383.00
6	GUIDE	171721904	9.19	5455	0.204	0.286	0.062	0.099	84.272676	22.116922	-100.79	2219.95
7	GUIDE	243941560	8.32	5460	-0.318	0.039	0.036	0.059	83.733264	22.568598	-1902.21	599.57

2.4 Star Slots

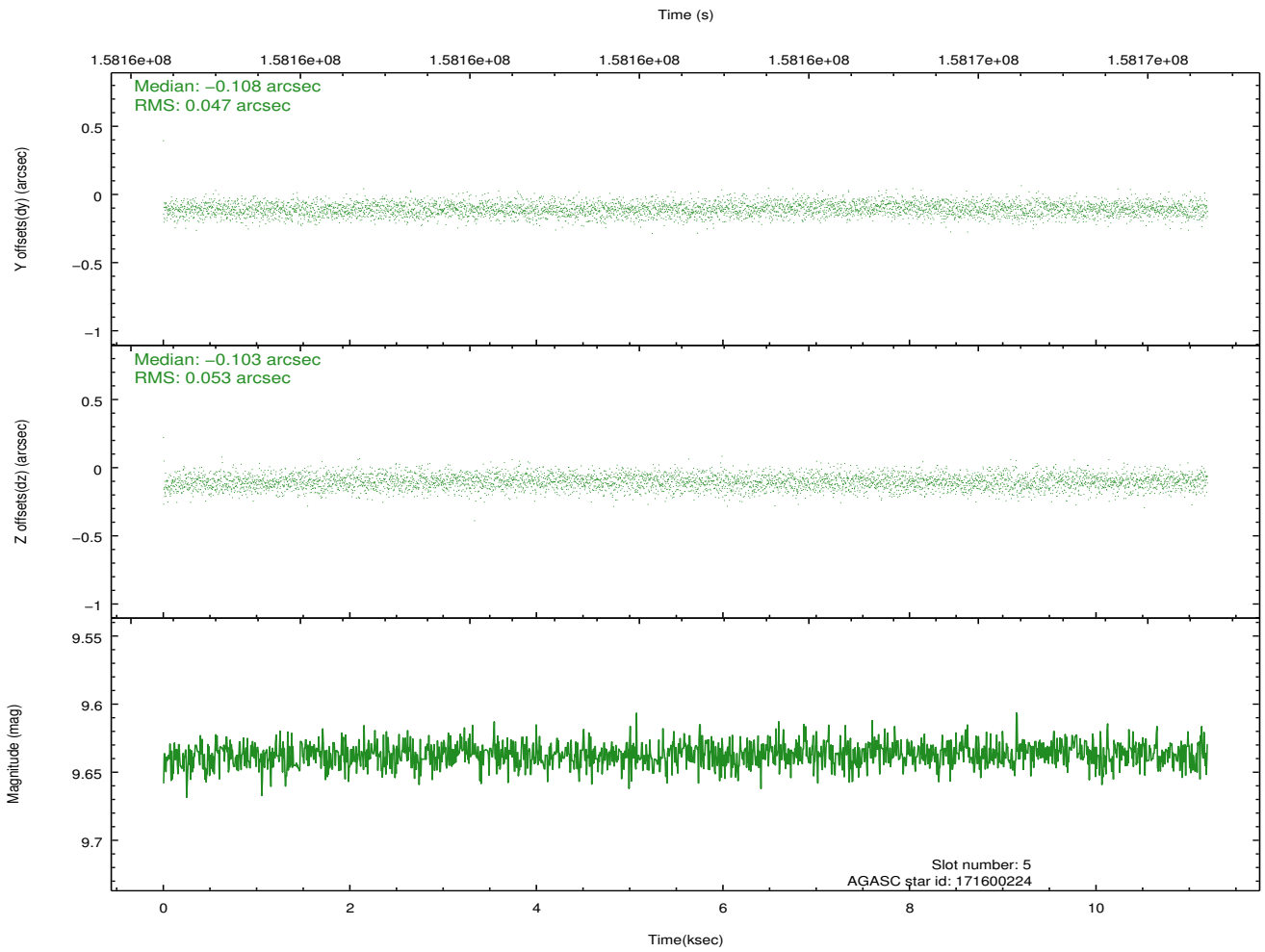
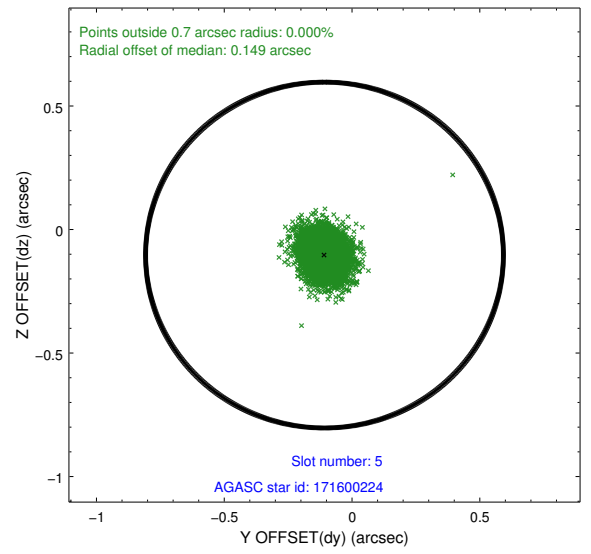
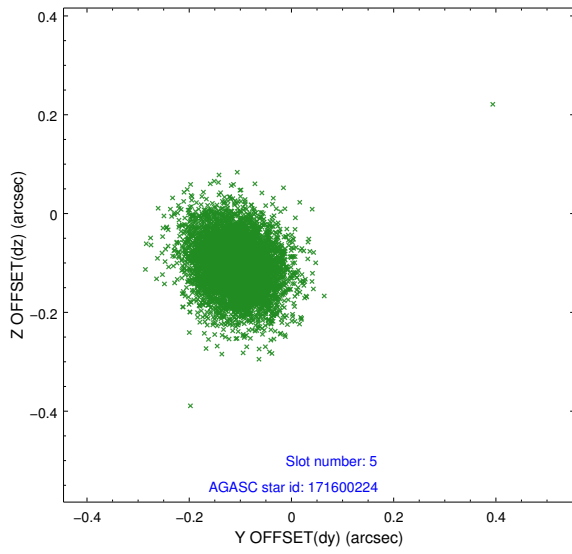
2.4.1 Slot 3



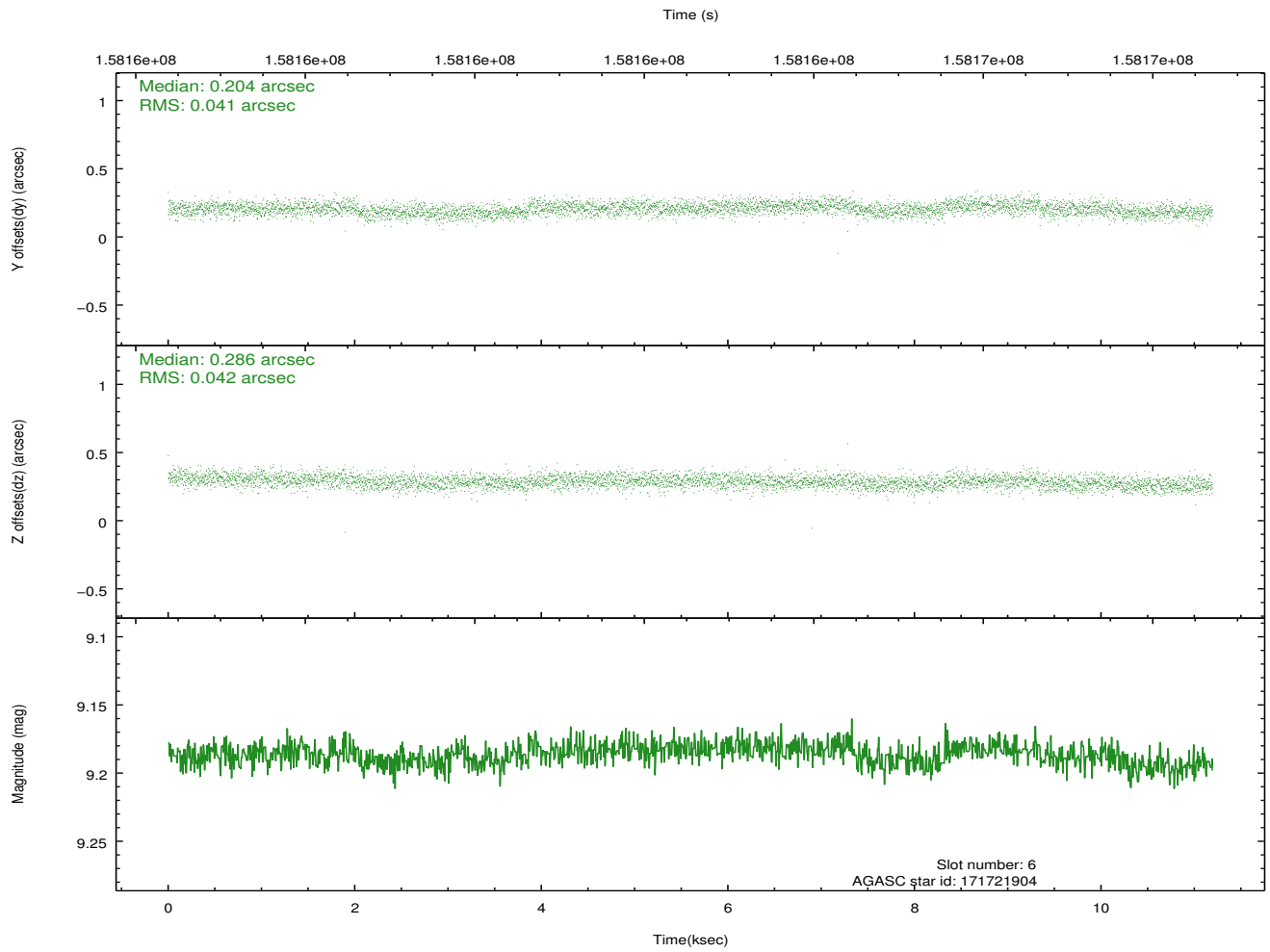
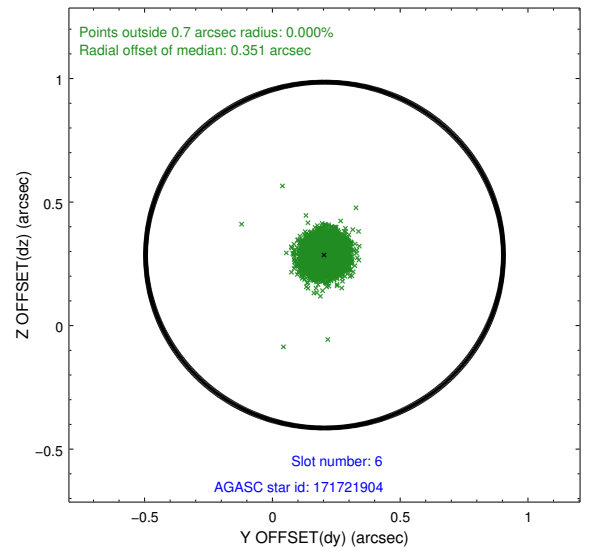
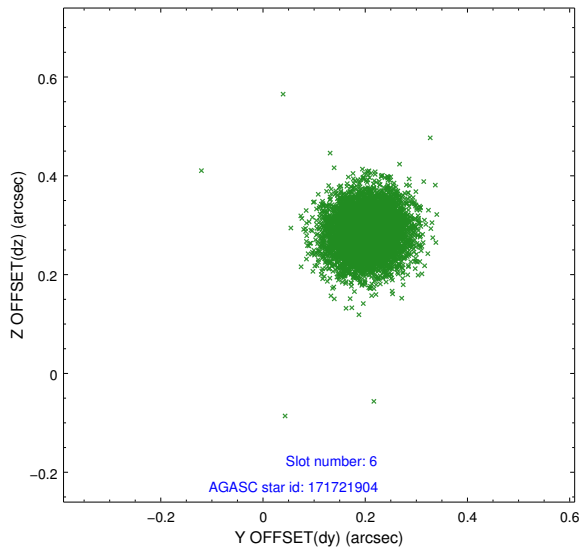
2.4.2 Slot 4



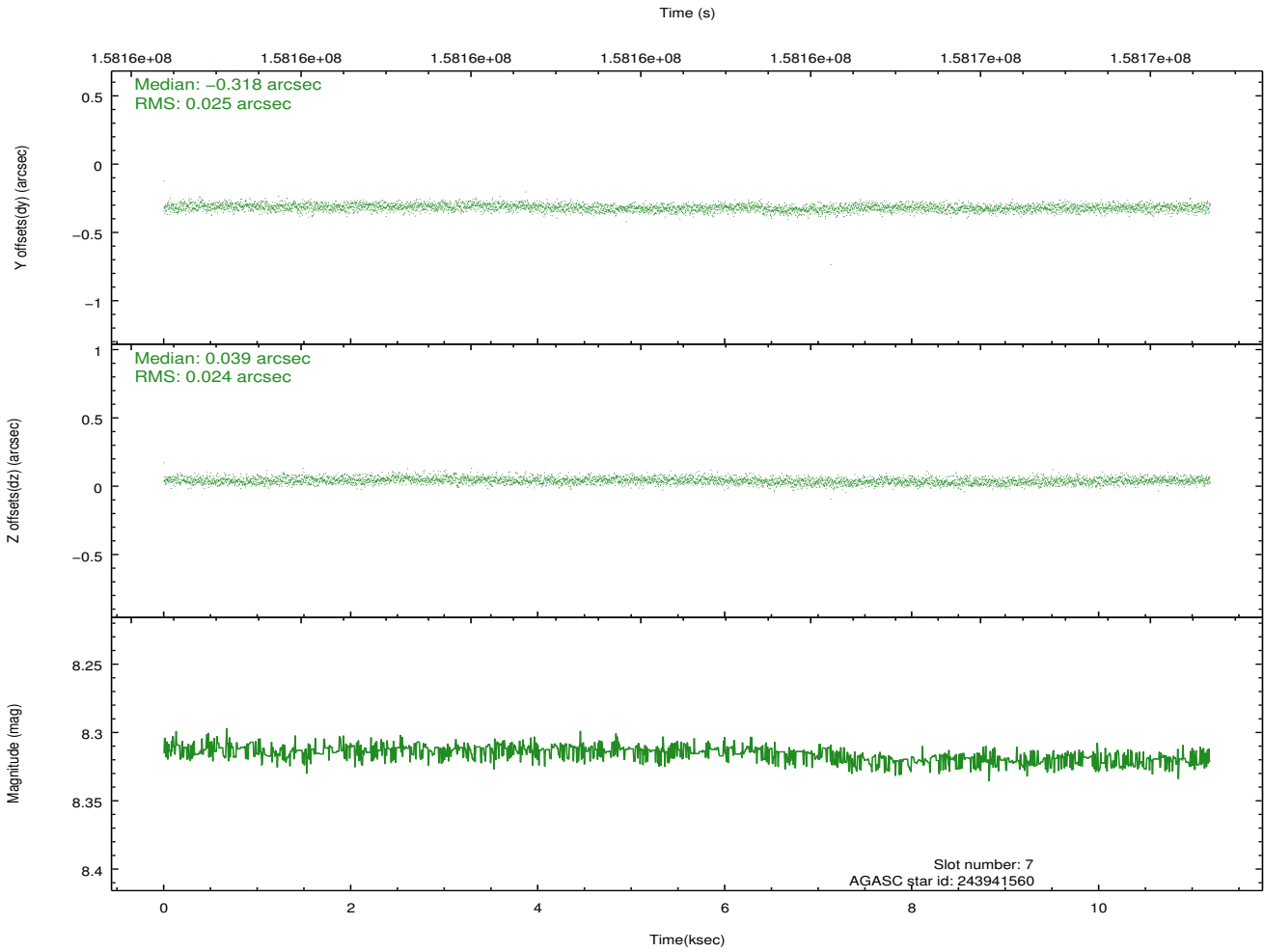
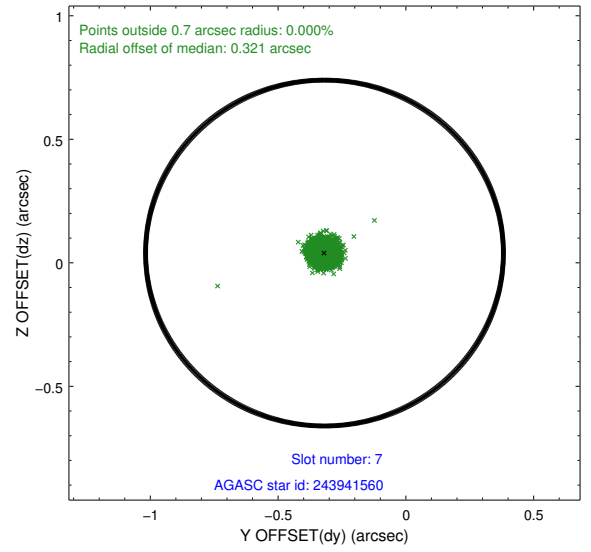
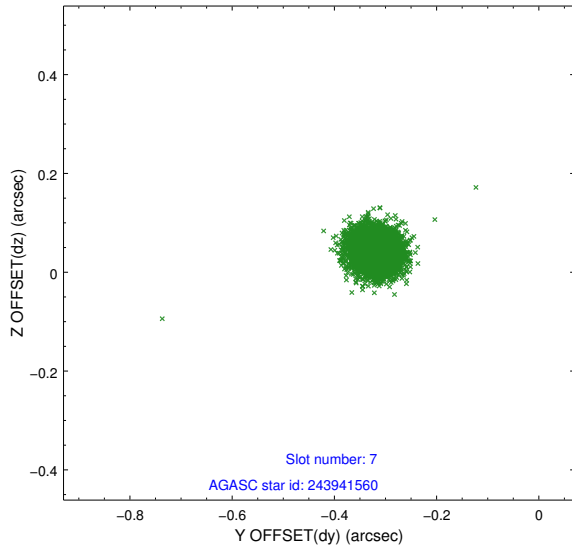
2.4.3 Slot 5



2.4.4 Slot 6

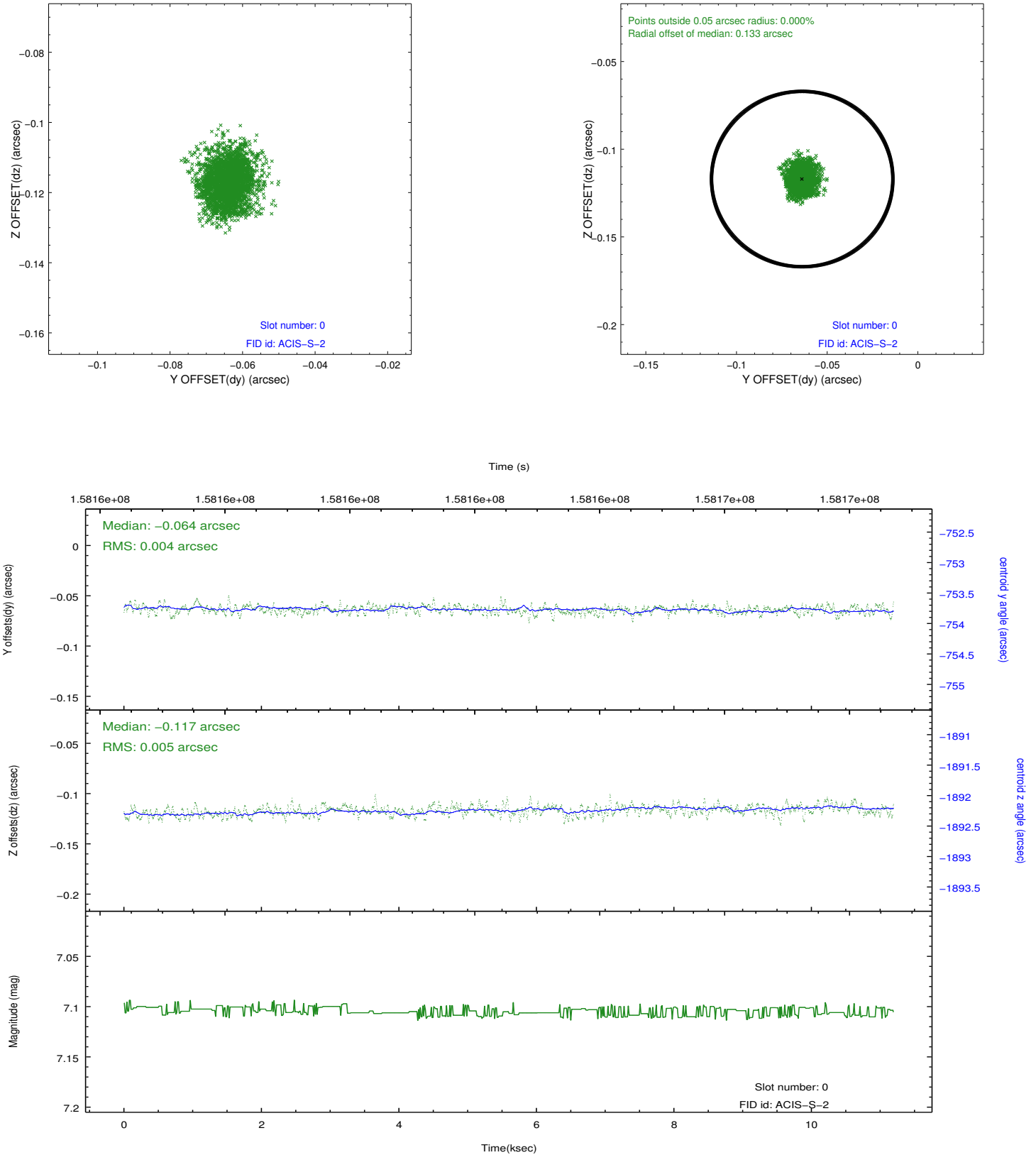


2.4.5 Slot 7

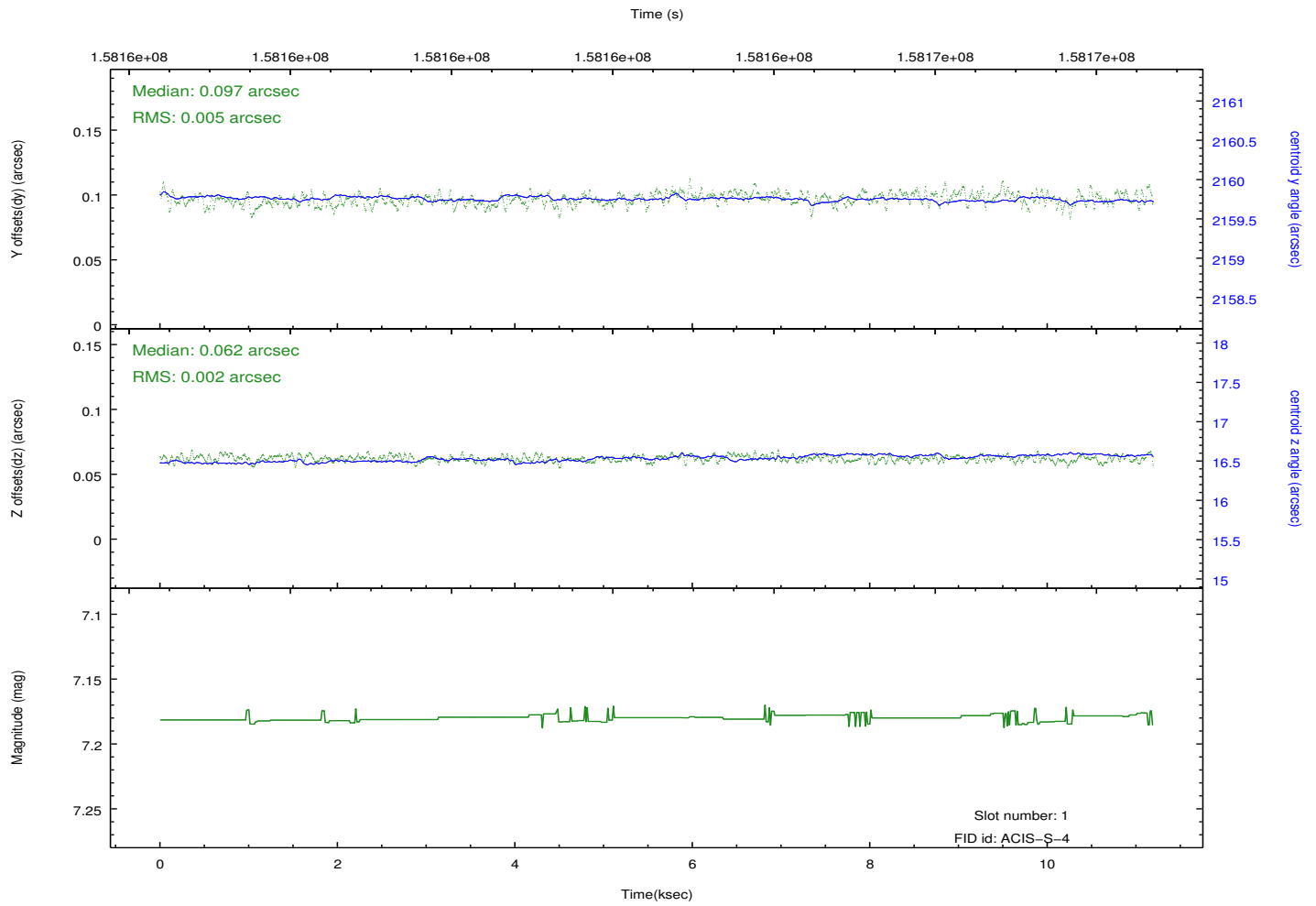
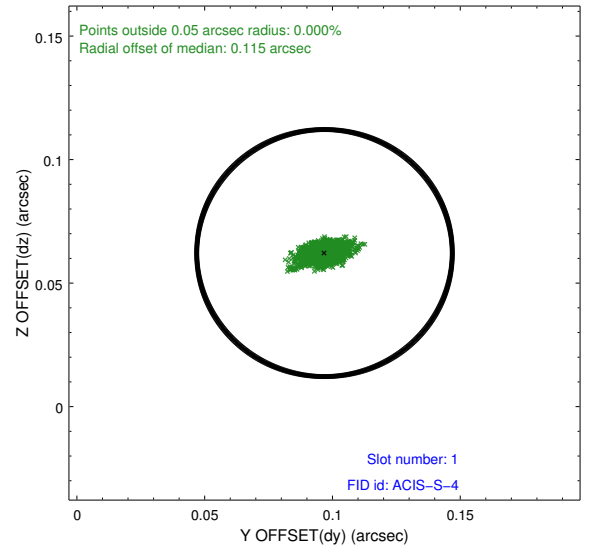
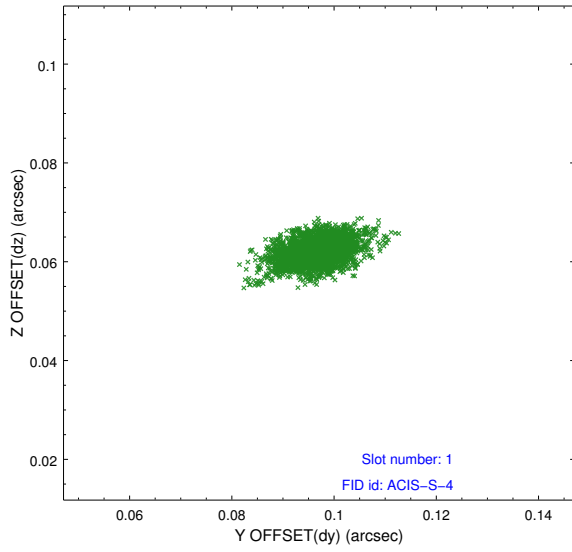


2.5 FID Slots

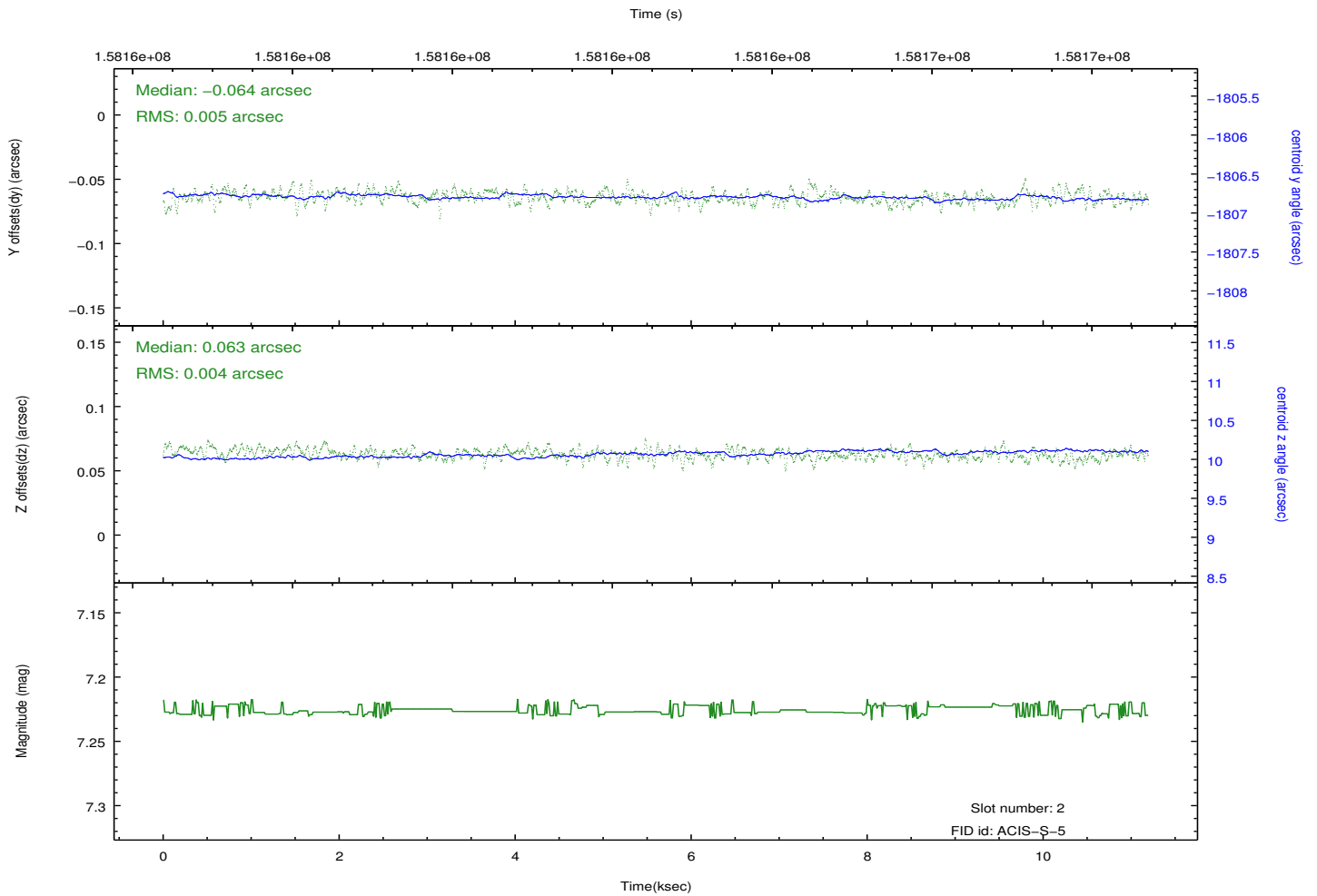
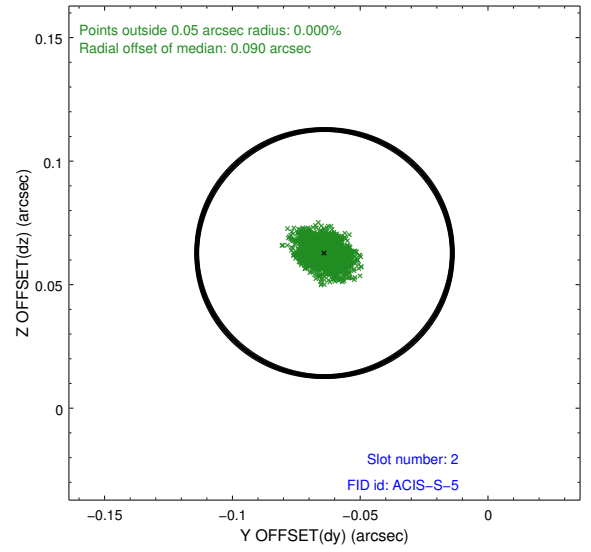
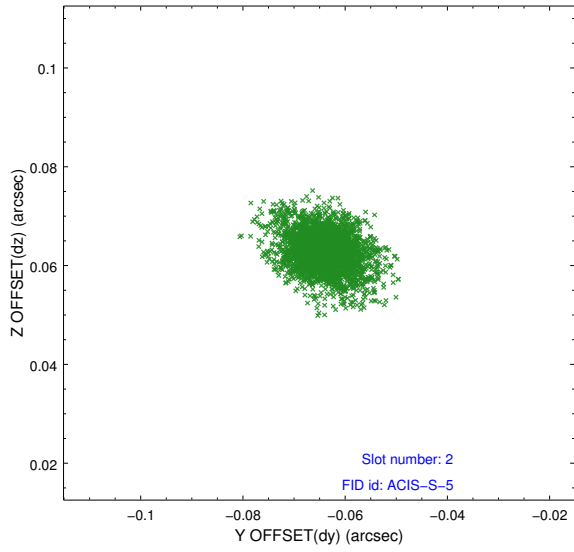
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2

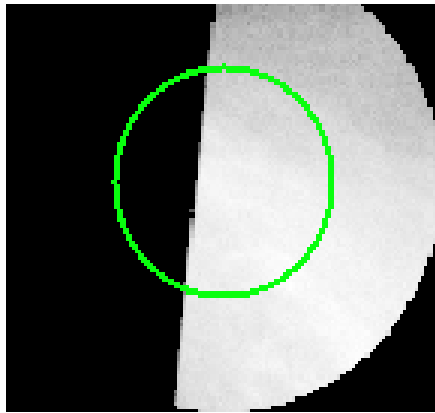


3 Gratings

3.1 HEG Arm



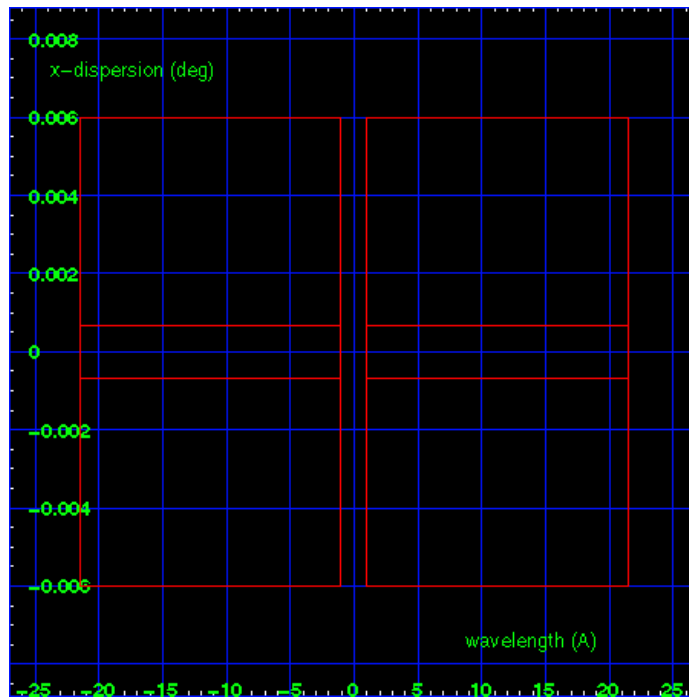
HEG Order Sort 123



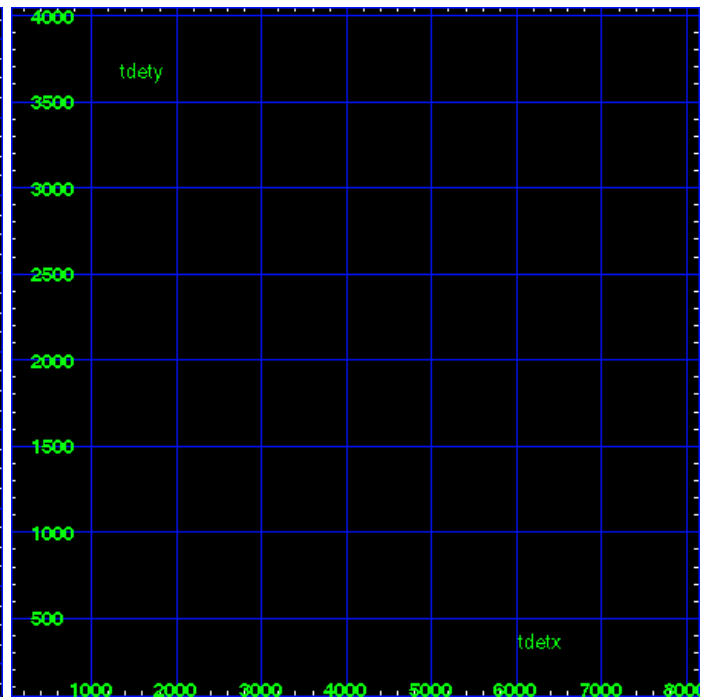
HEG Zero Order



HEG Order Sort ALL

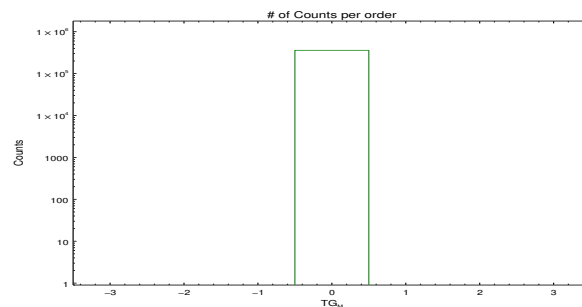


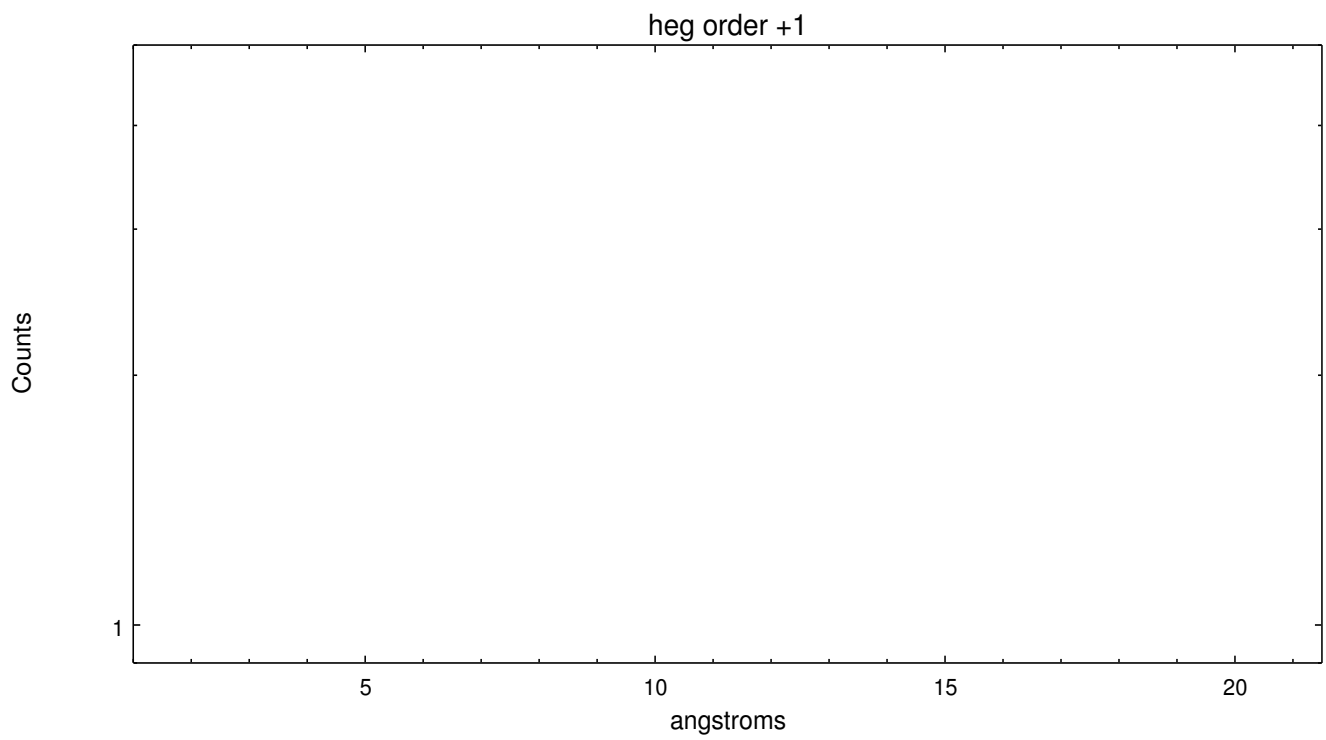
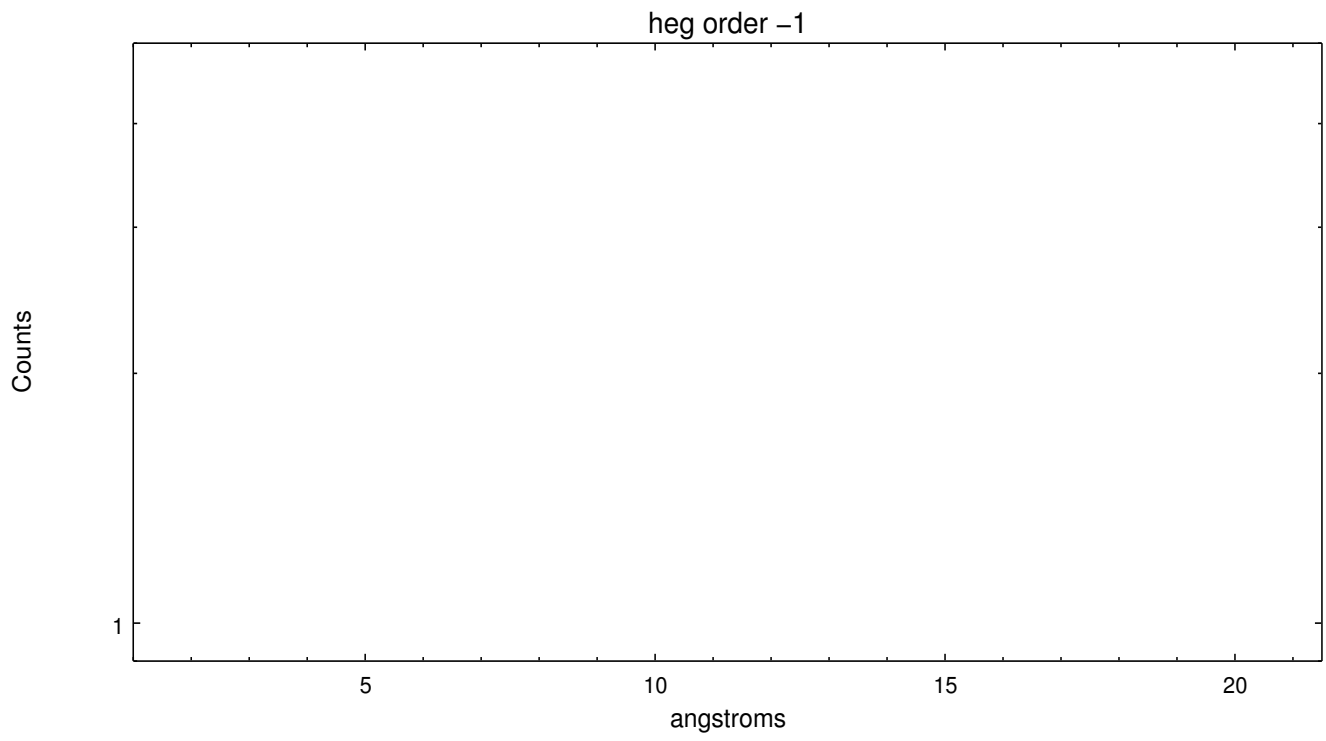
Spot Image HEG



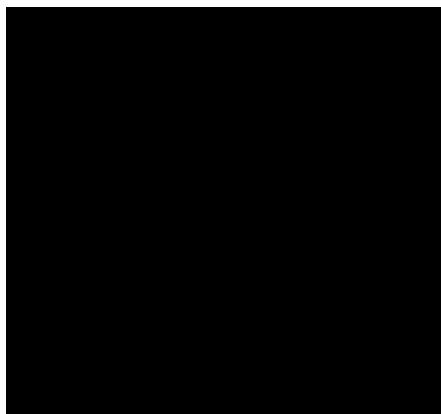
Full Detector HEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	0	359055	0	0	0

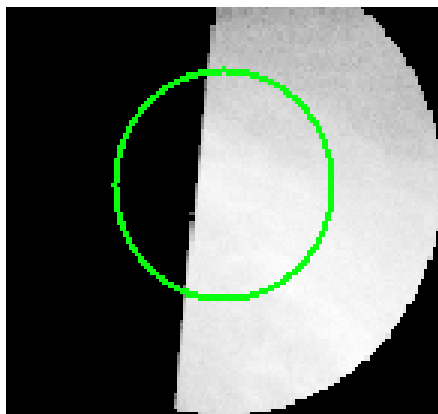




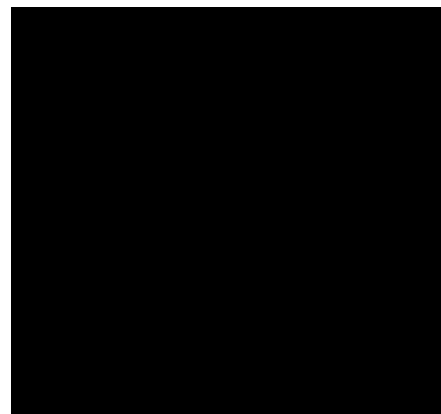
3.2 MEG Arm



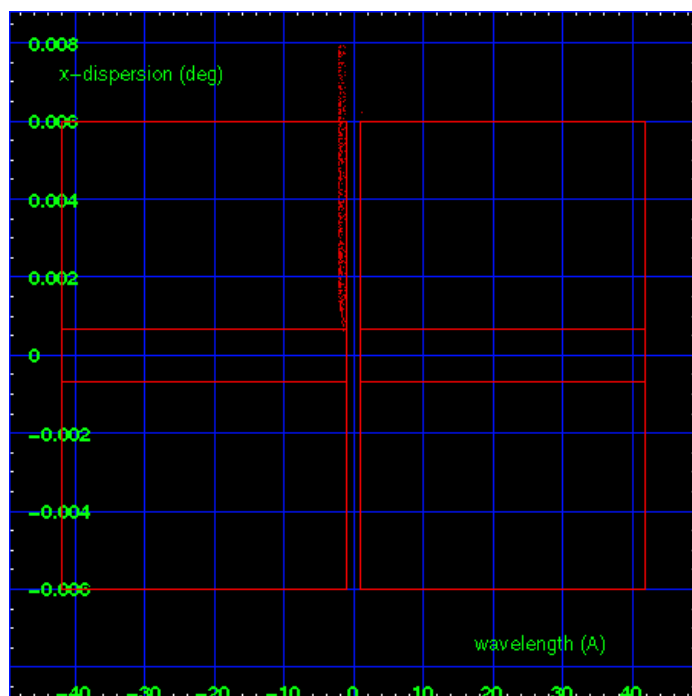
MEG Order Sort 123



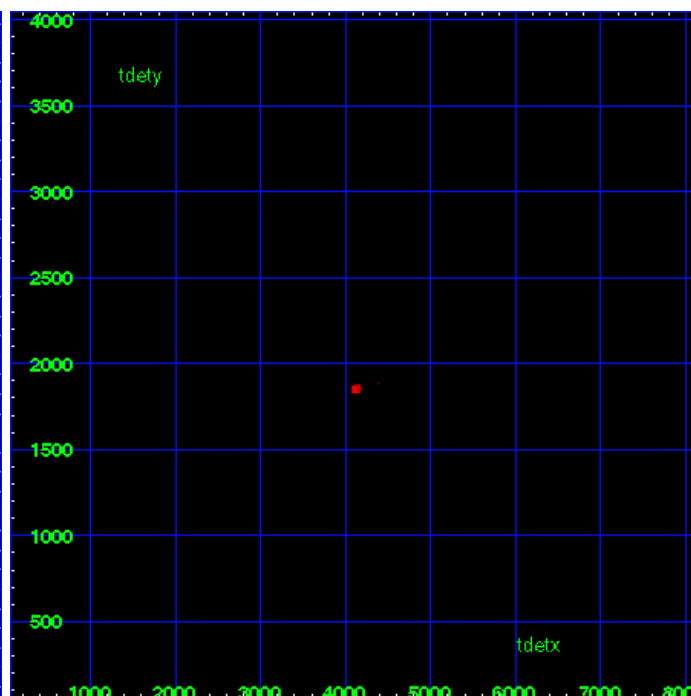
MEG Zero Order



MEG Order Sort ALL

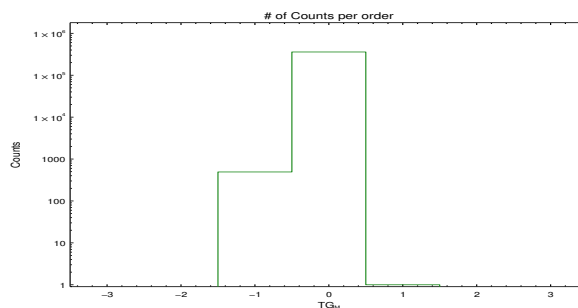


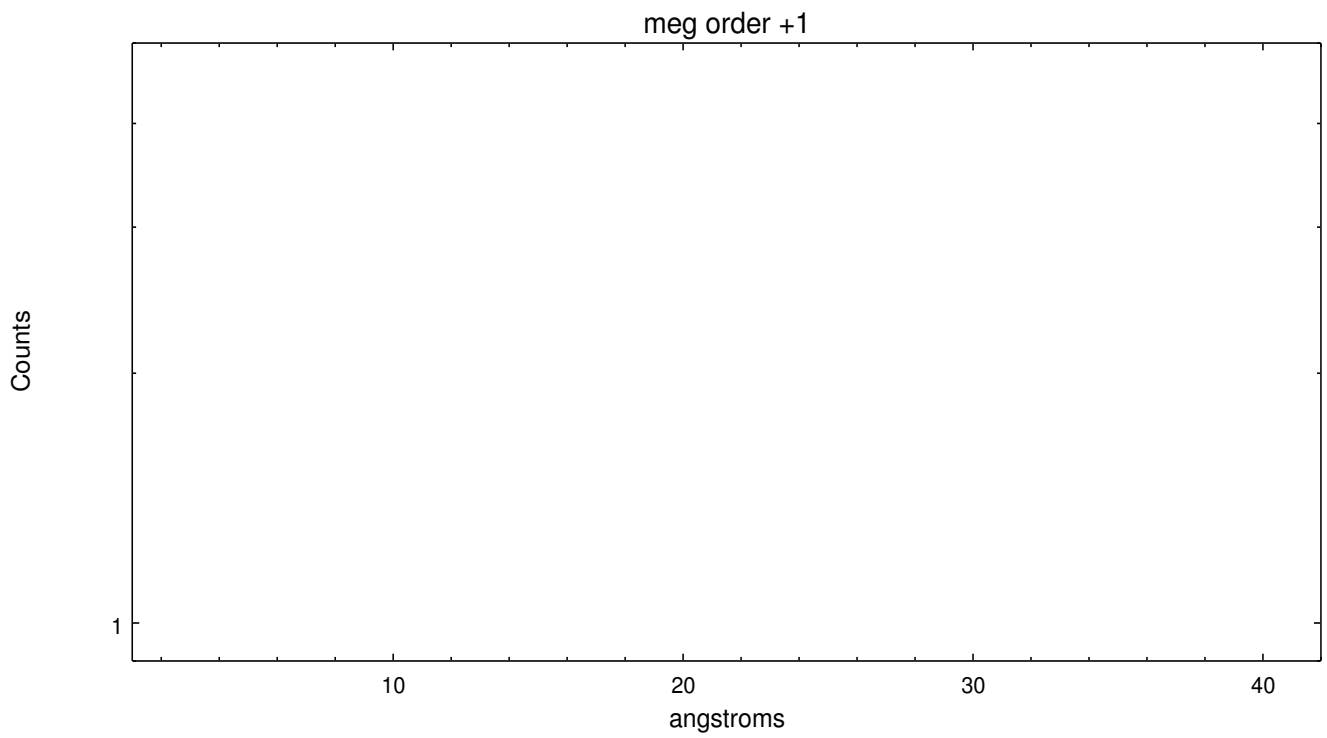
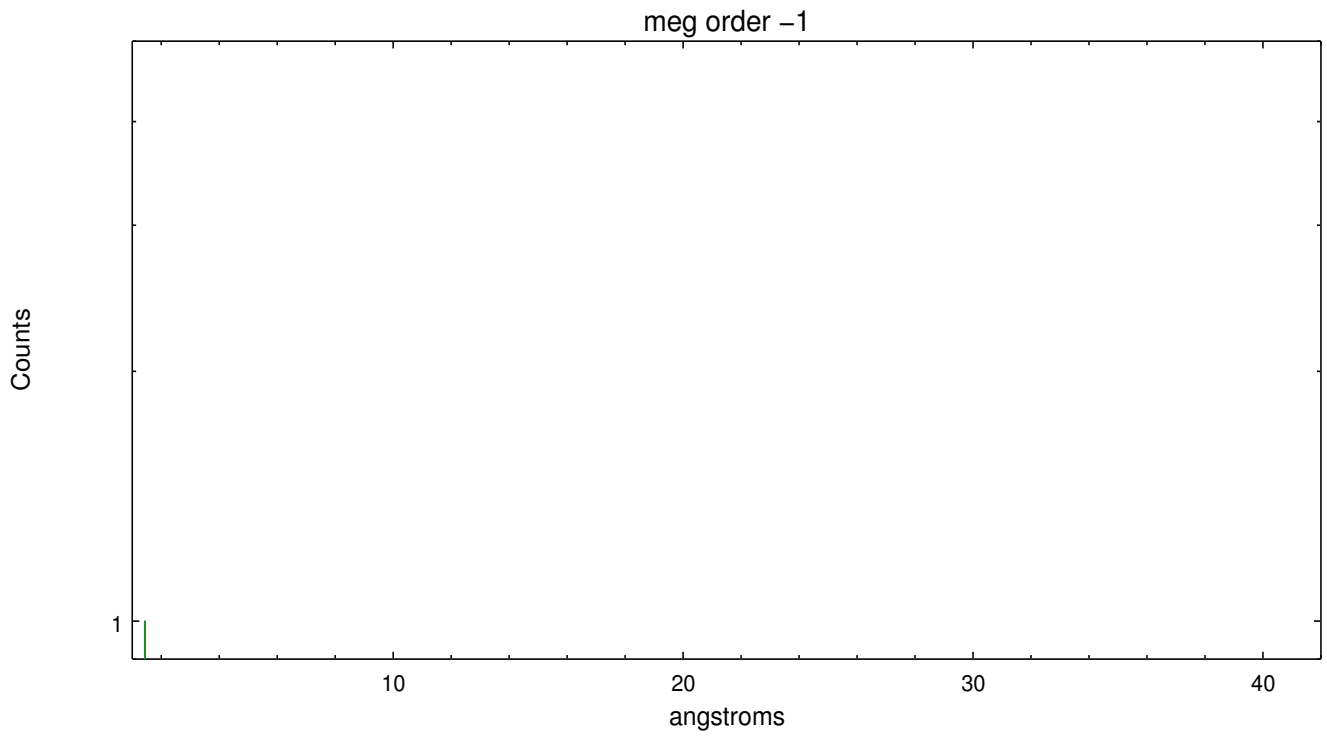
Spot Image MEG



Full Detector MEG

	order -3	order -2	order -1	order 0	order 1	order 2	order 3
Events	0	0	492	359055	1	0	0





A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.11.14
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.853

A.2 Comments

The target moves at a rate of about 8.9 arcsec/hr. The subarray chosen for the observation is large enough to keep the target within the active region for 3 hr. As with all observations of moving targets, event positions are in the reference frame of Chandra, not of Titan. Users should run a software tool such as `sso_freeze` to reposition the events in the reference frame of Titan, then run normal data analysis tools.

===

HETG used as count-rate suppression filter. No useful HETG spectral products. Only zero-order imaging or ccd-spectral data are of interest.

===

Observation was intended to record the passage of Titan in front of the Crab Nebula. Dither was turned off for this observation. The CCD node boundary at column 256 contains 2 columns of bad data due to disabling the dither.