

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 1994 - L2 Version 4  
Chandra X-Ray Center

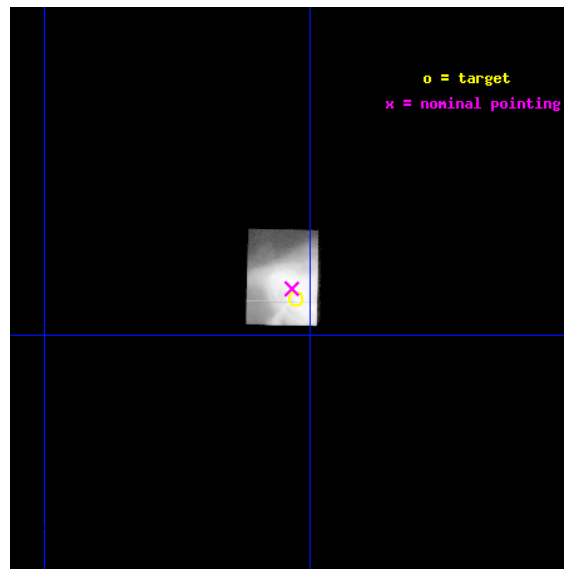
L2 Processing Date : Oct 5 2012

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# 1 Front

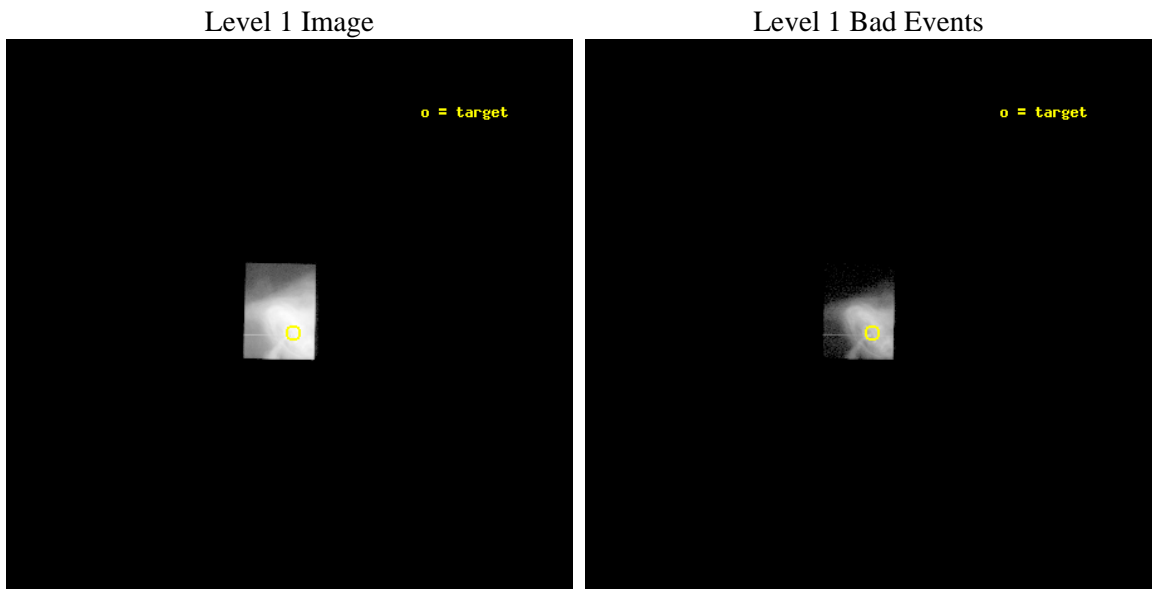
seq_num	500171	Sequence number
obs_id	1994	Observation id
title	COORDINATED CHANDRA/HST OBSERVATIONS OF THE CRAB NEBULA	Proposal t
observer	PROF. JEFF HESTER	Principal investigator
object	CRAB NEBULA	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.631667	Observer's specified target RA [deg]
dec_targ	22.015667	Observer's specified target Dec [deg]
ra_nom	83.633465427449	Nominal RA [deg]
dec_nom	22.019907606416	Nominal Dec [deg]
roll_nom	91.209601845056	Nominal Roll [deg]
revision	4	Processing version of data
ontime	18534.276178911	Sum of GTIs [s]
livetime	3241.7315875942	Livetime [s]
ontime7	18534.276178911	Sum of GTIs [s]
l2events	8897292	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	25000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	18534.276178911	Sum of GTIs [s]
caldbver	4.5.2	&#160	ontime7	18534.276178911	Sum of GTIs [s]
date	2012-10-04T22:37:55	Date and time of file creation	l1events	10194293	Number of level 1 events
revision	4	Processing version of data			

### 2.1.3 Events

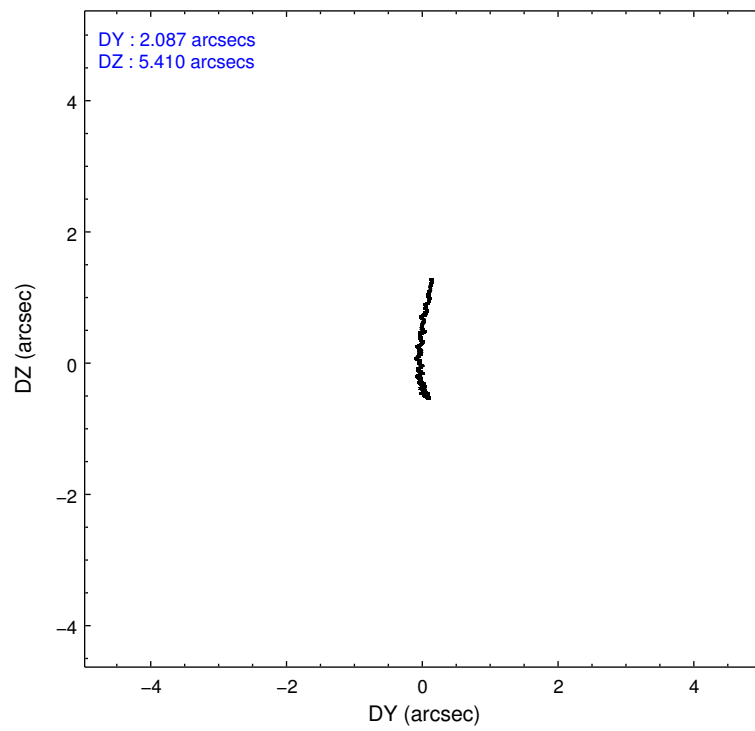
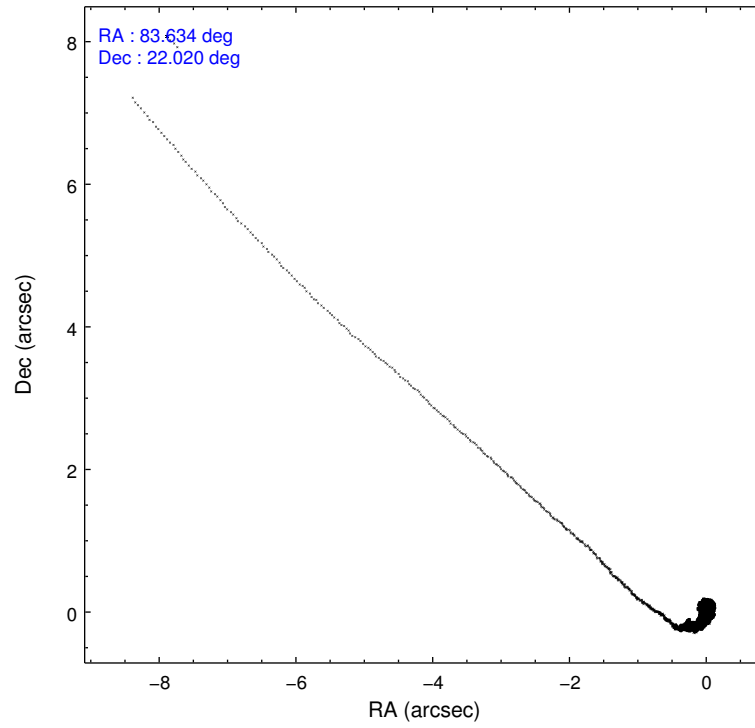
	<b>ccd 7</b>
level 1 events	10194293
rejected events	1208011
rejected %	11%

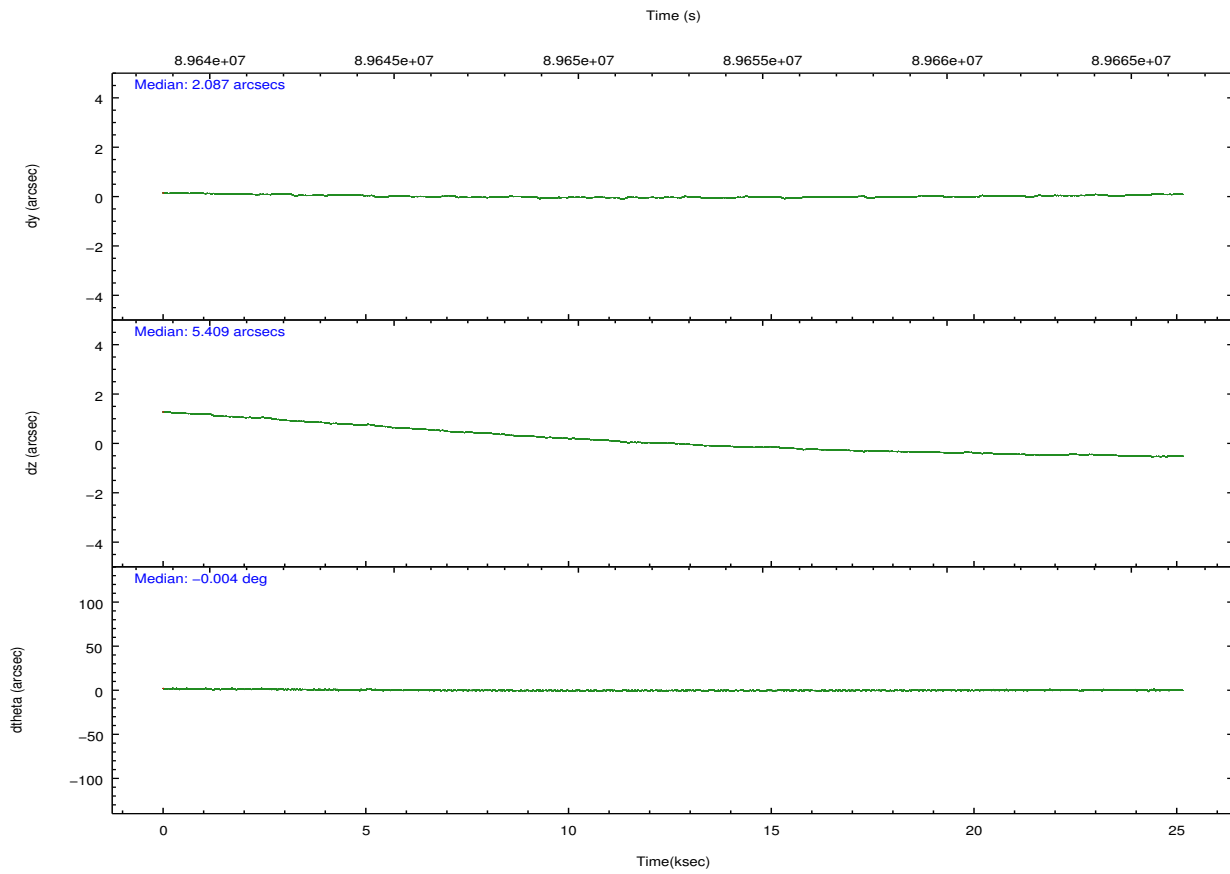
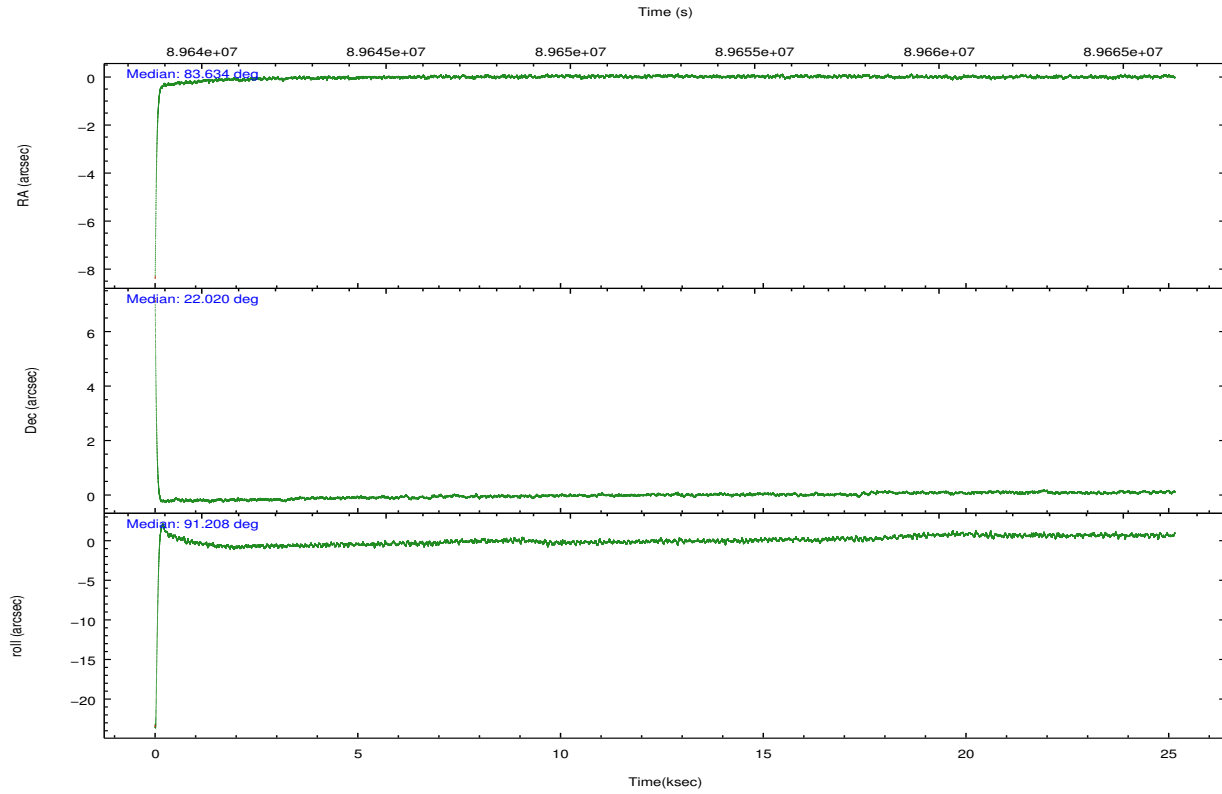
	<b>ccd 7</b>
grade 0 events	1972772
	19%
grade 1 events	148383
	1%
grade 2 events	2402411
	23%
grade 3 events	1043989
	10%
grade 4 events	1028731
	10%
grade 5 events	409631
	4%
grade 6 events	2604244
	25%
grade 7 events	584132
	5%

## 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	NONE	NONE	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	83.648943	83.63346542744921	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	21.996624	22.01990760641603	Subarray start row	29	29
[deg] Pointing Roll	91.047193	91.20960184505634	Subarray row count	300	300
[s] Window start time (MET)	89528464.184000	89528464.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	89773264.184000	89773264.184000	[s] Primary exposure time	0.000000	0.2
[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)	89640145.184000	89639003.15835901			
Observation start date	2000-11-03T12:01:21	2000-11-03T11:43:23			
[s] Observation end time (MET)	89665145.184000	89665836.634372			
Observation end date	2000-11-03T18:58:01	2000-11-03T19:10:36			
Read mode	TIMED	TIMED			

## 2.3 Aspect



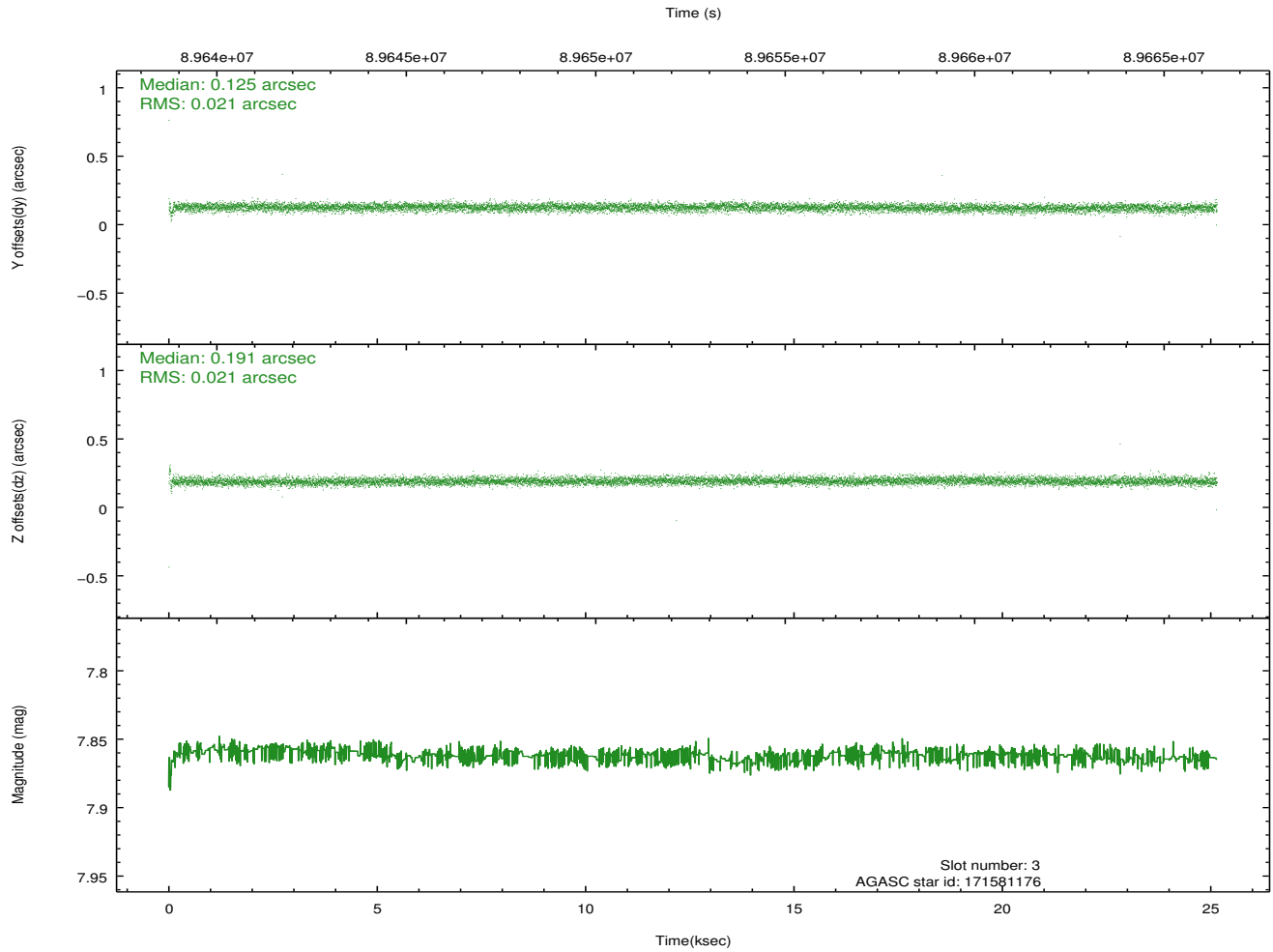
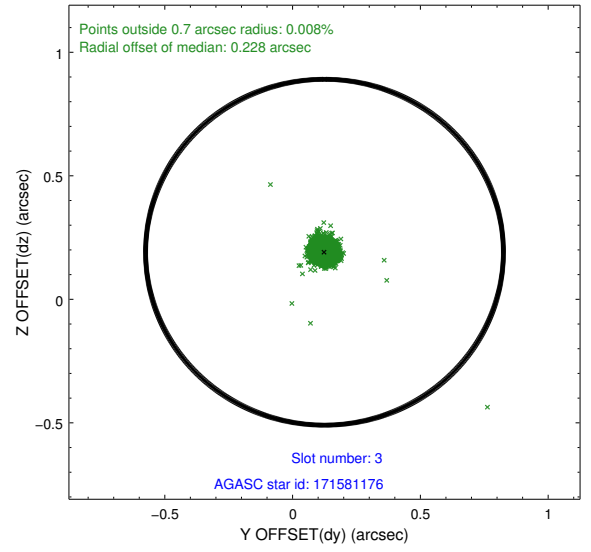
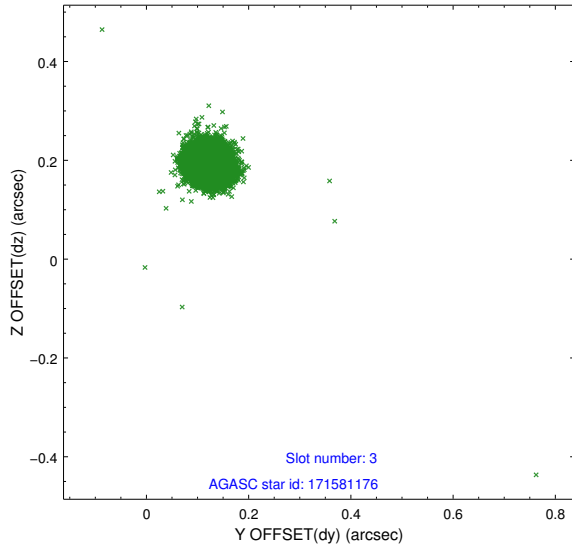


### Slot Statistics

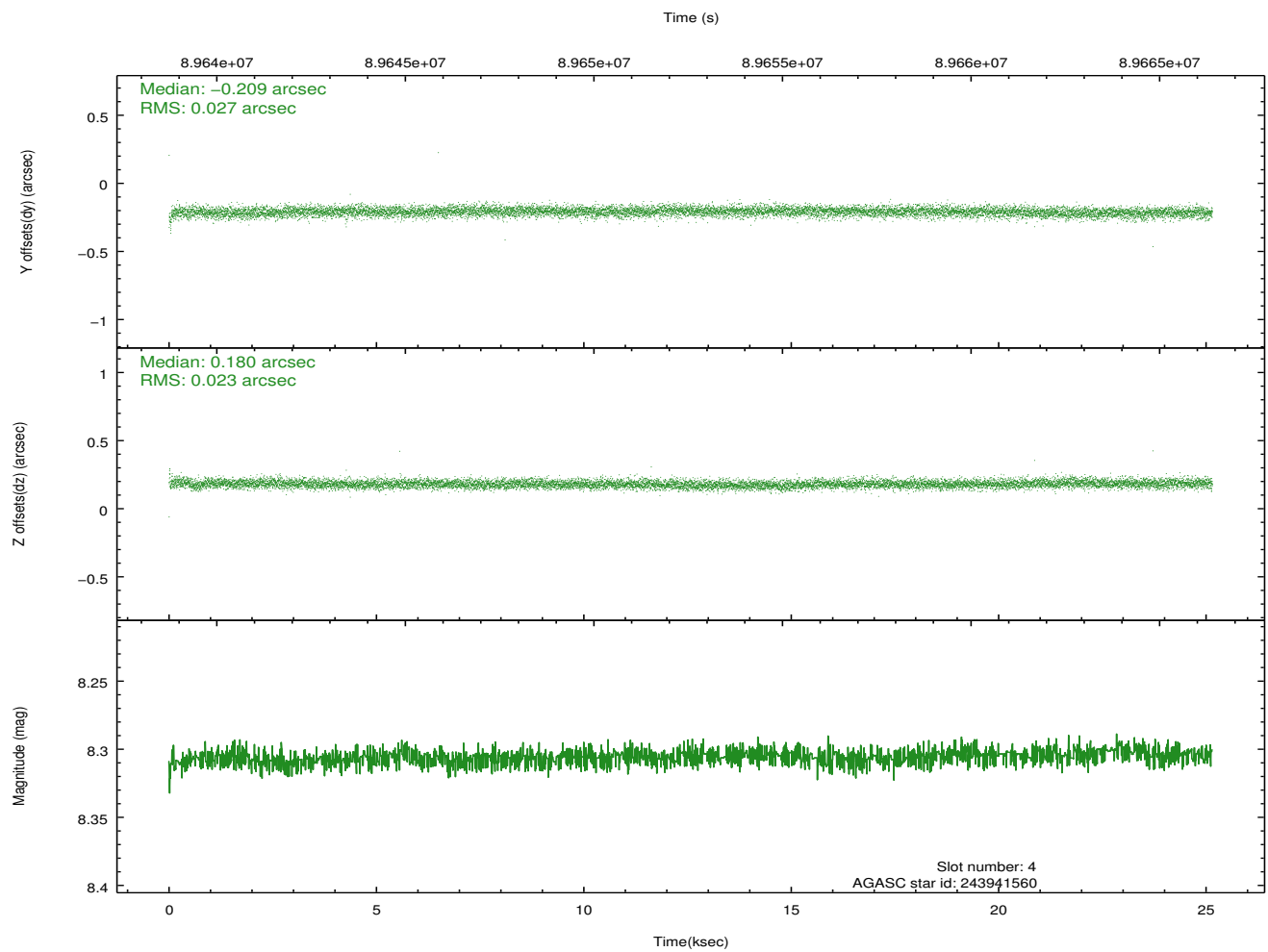
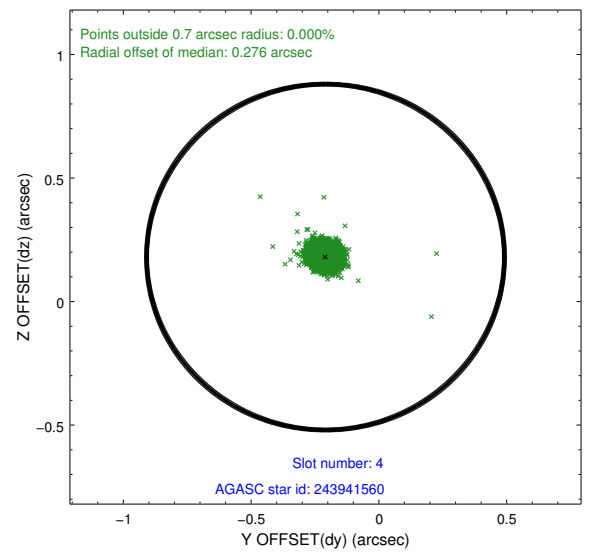
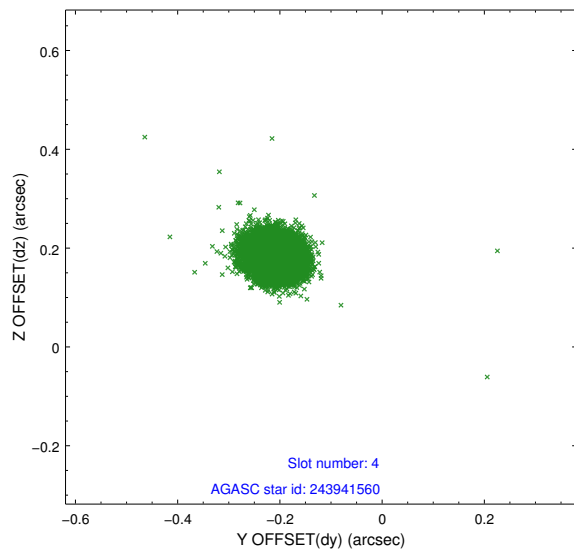
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	6135	-0.057	-0.073	0.014	0.033	0.000000	0.000000	-754.20	-1891.46
1	FID	ACIS-S-4	7.18	6135	0.039	0.047	0.009	0.016	0.000000	0.000000	2159.12	16.98
2	FID	ACIS-S-5	7.23	6135	-0.014	0.033	0.013	0.030	0.000000	0.000000	-1806.85	10.79
3	GUIDE	171581176	7.86	12270	0.125	0.191	0.029	0.048	83.918863	21.403256	-2150.77	-864.82
4	GUIDE	243941560	8.31	12267	-0.209	0.180	0.036	0.060	83.733264	22.568598	2053.94	-317.09
5	GUIDE	171586976	8.47	12268	-0.061	0.061	0.038	0.063	83.857953	22.438065	1577.42	-723.73
6	GUIDE	171586792	9.06	12262	-0.051	-0.193	0.052	0.084	83.501733	22.424168	1548.76	462.11
7	GUIDE	171597832	9.18	12265	0.198	-0.241	0.055	0.094	83.183230	21.366702	-2235.61	1602.91

## 2.4 Star Slots

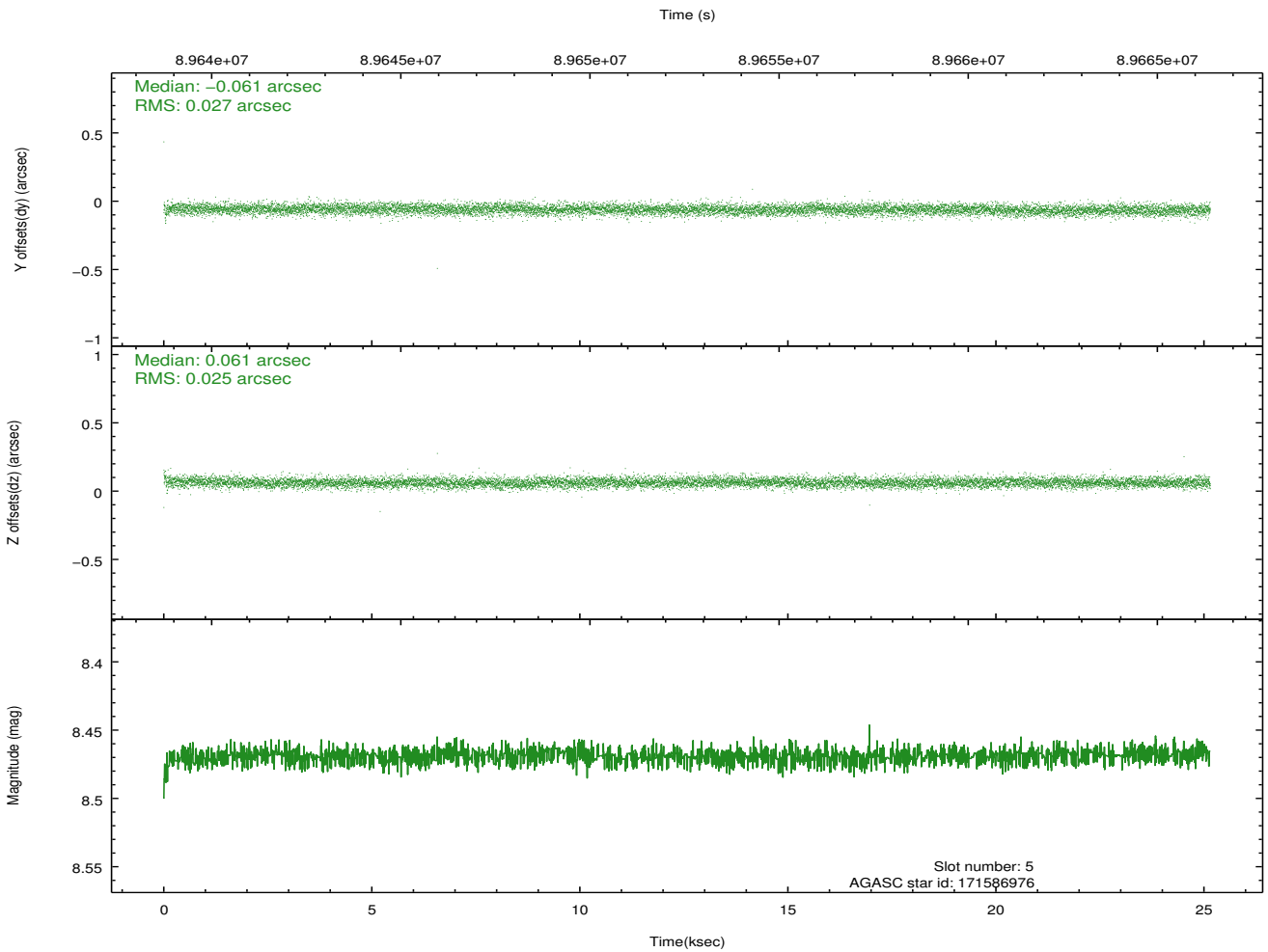
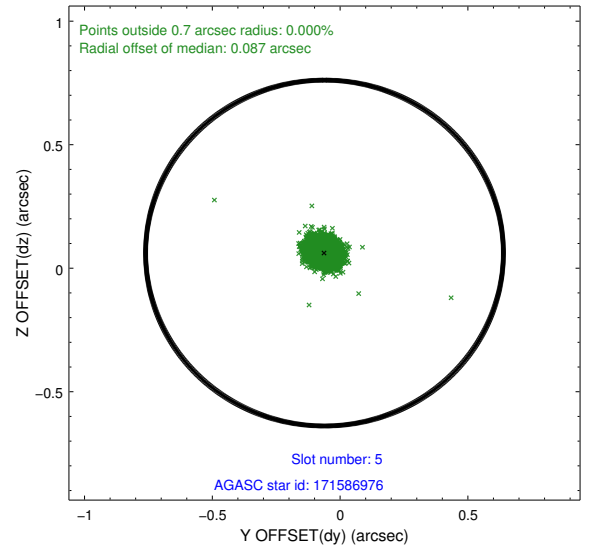
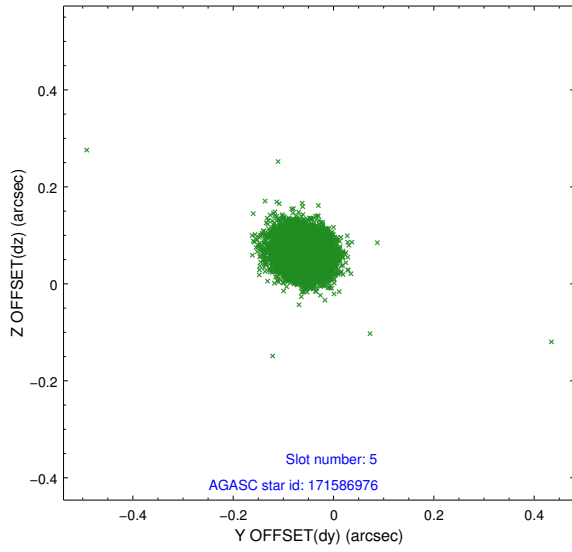
### 2.4.1 Slot 3



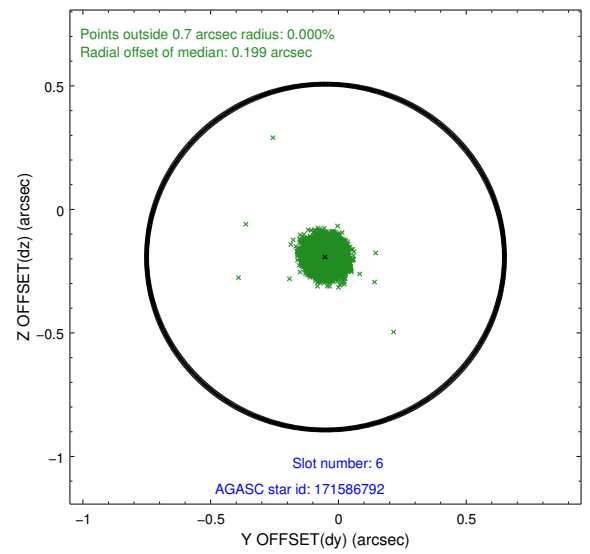
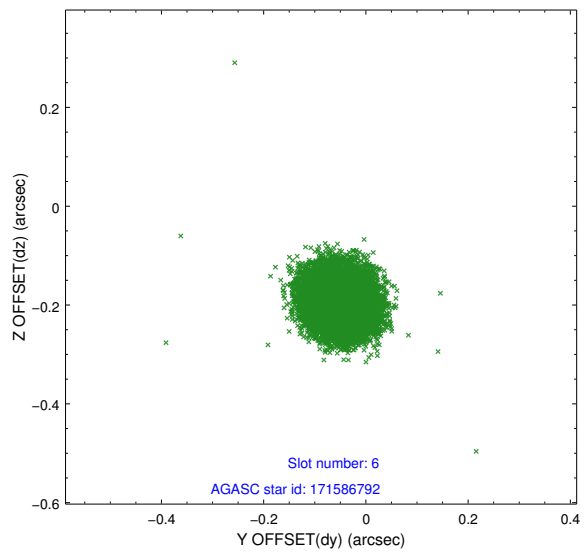
## 2.4.2 Slot 4



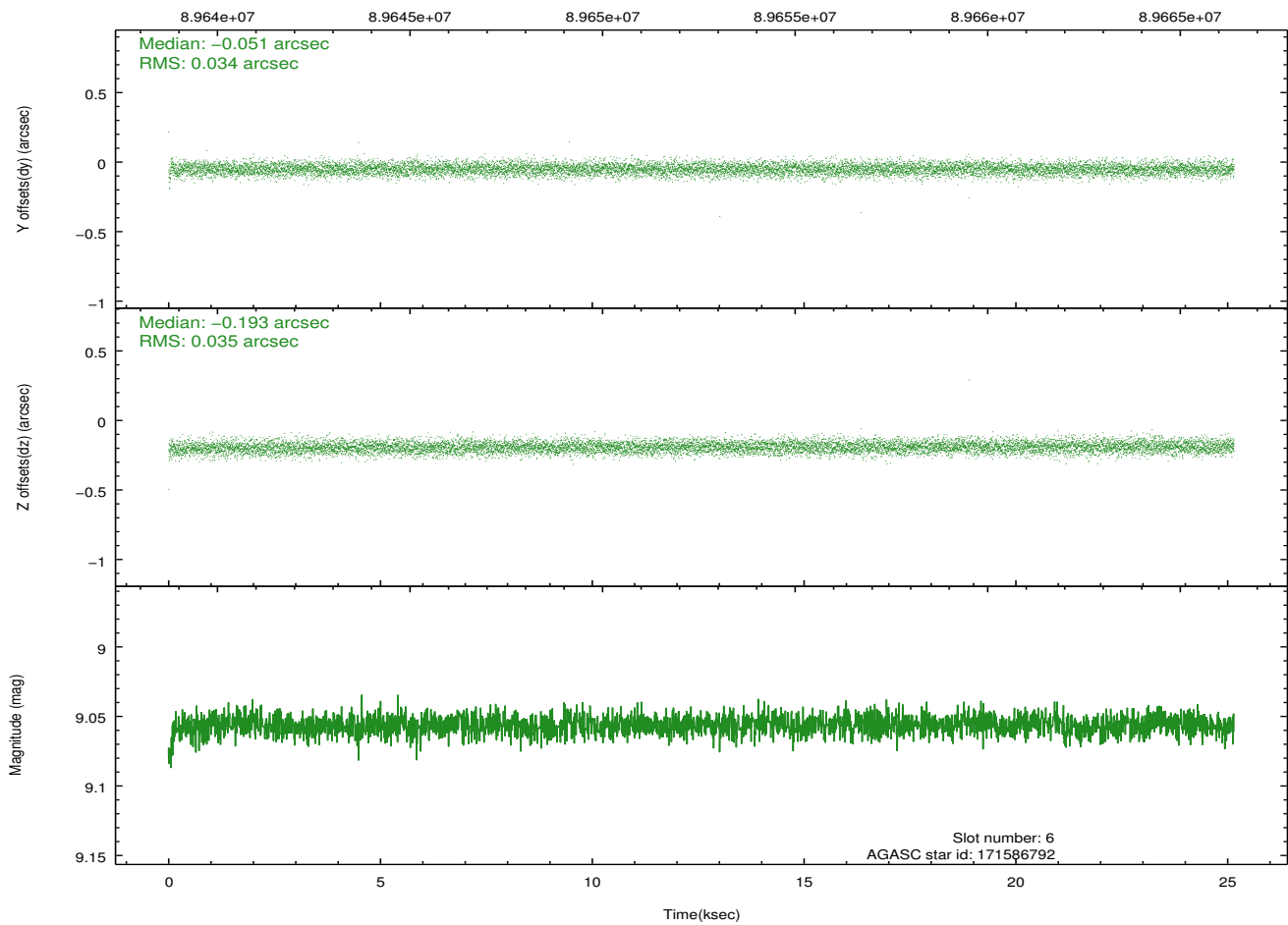
### 2.4.3 Slot 5



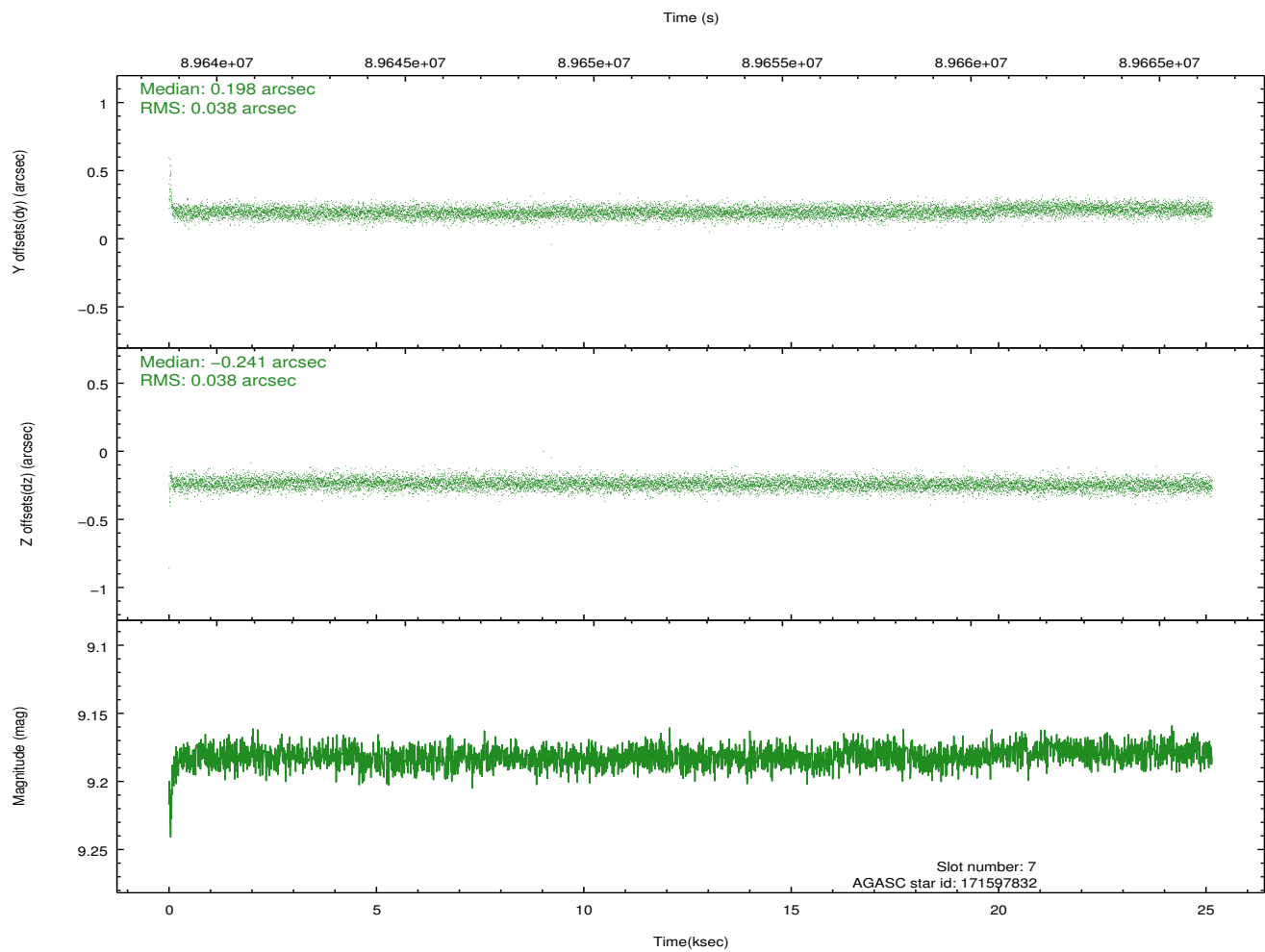
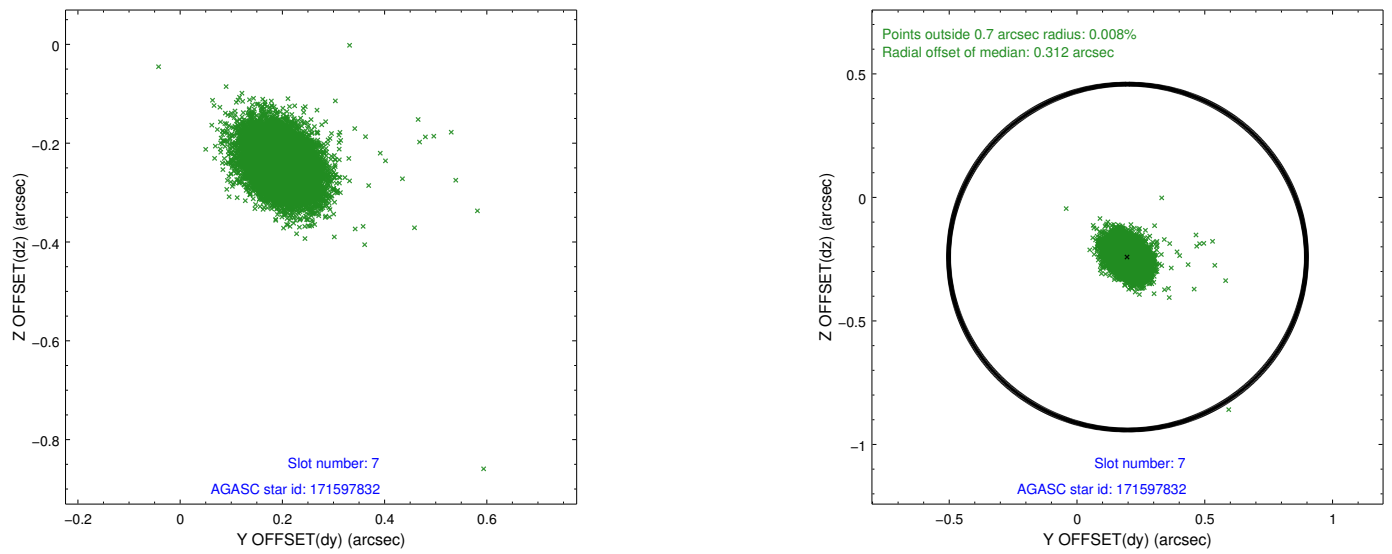
## 2.4.4 Slot 6



Time (s)

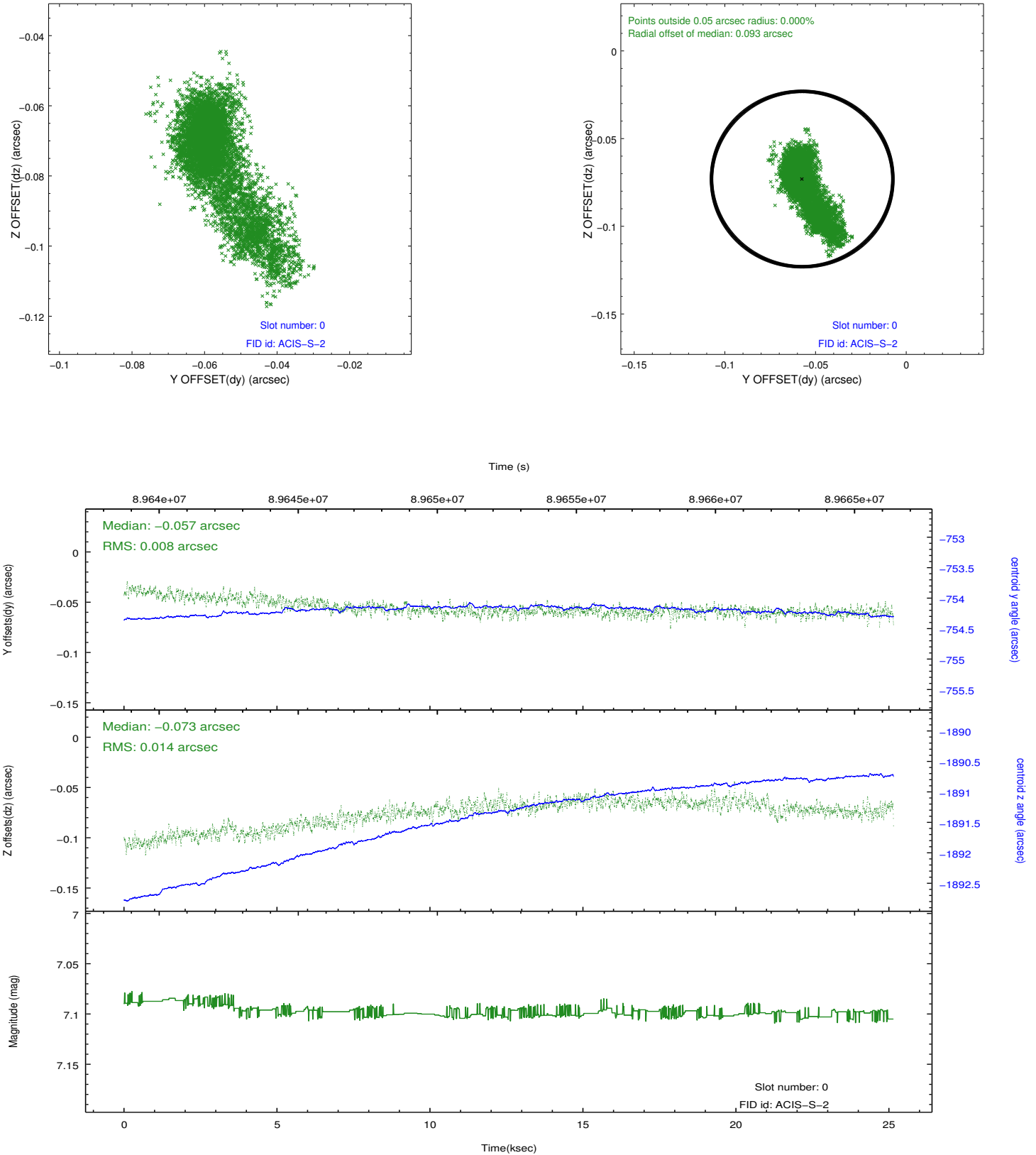


## 2.4.5 Slot 7

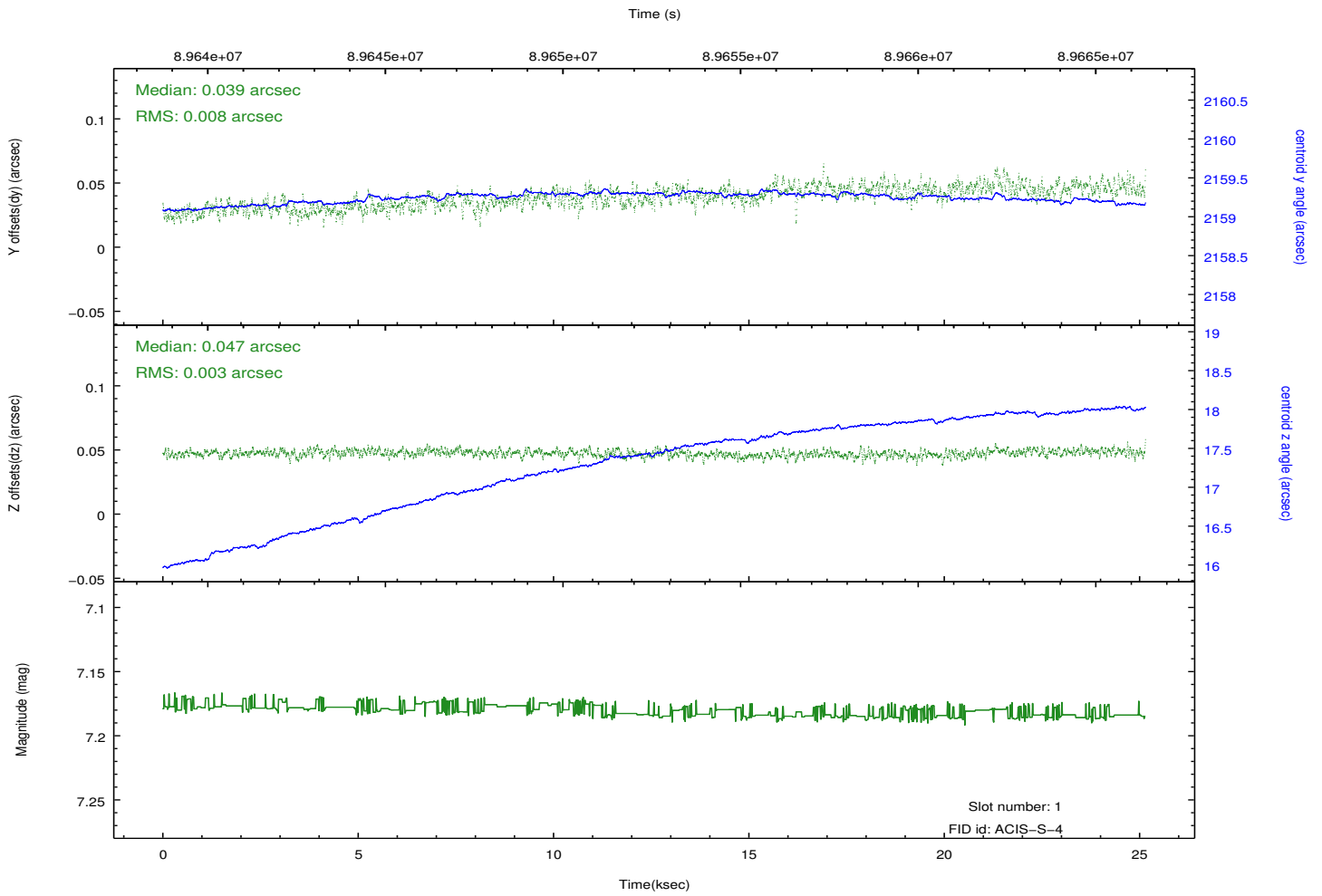
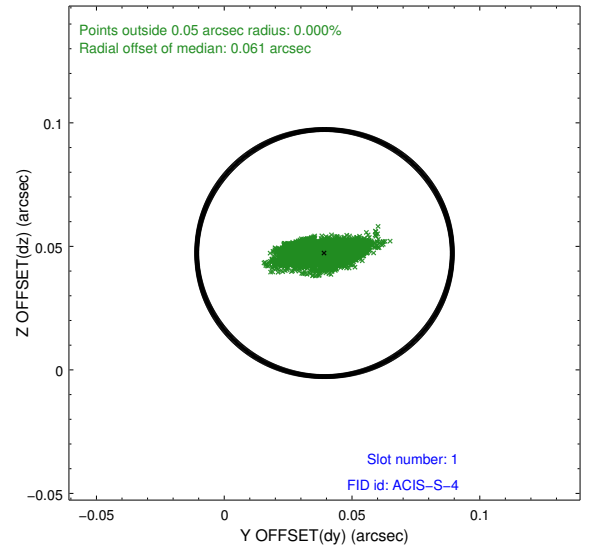
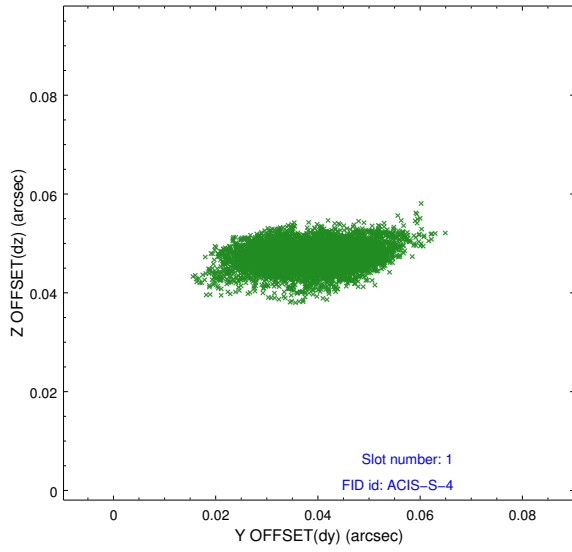


## 2.5 FID Slots

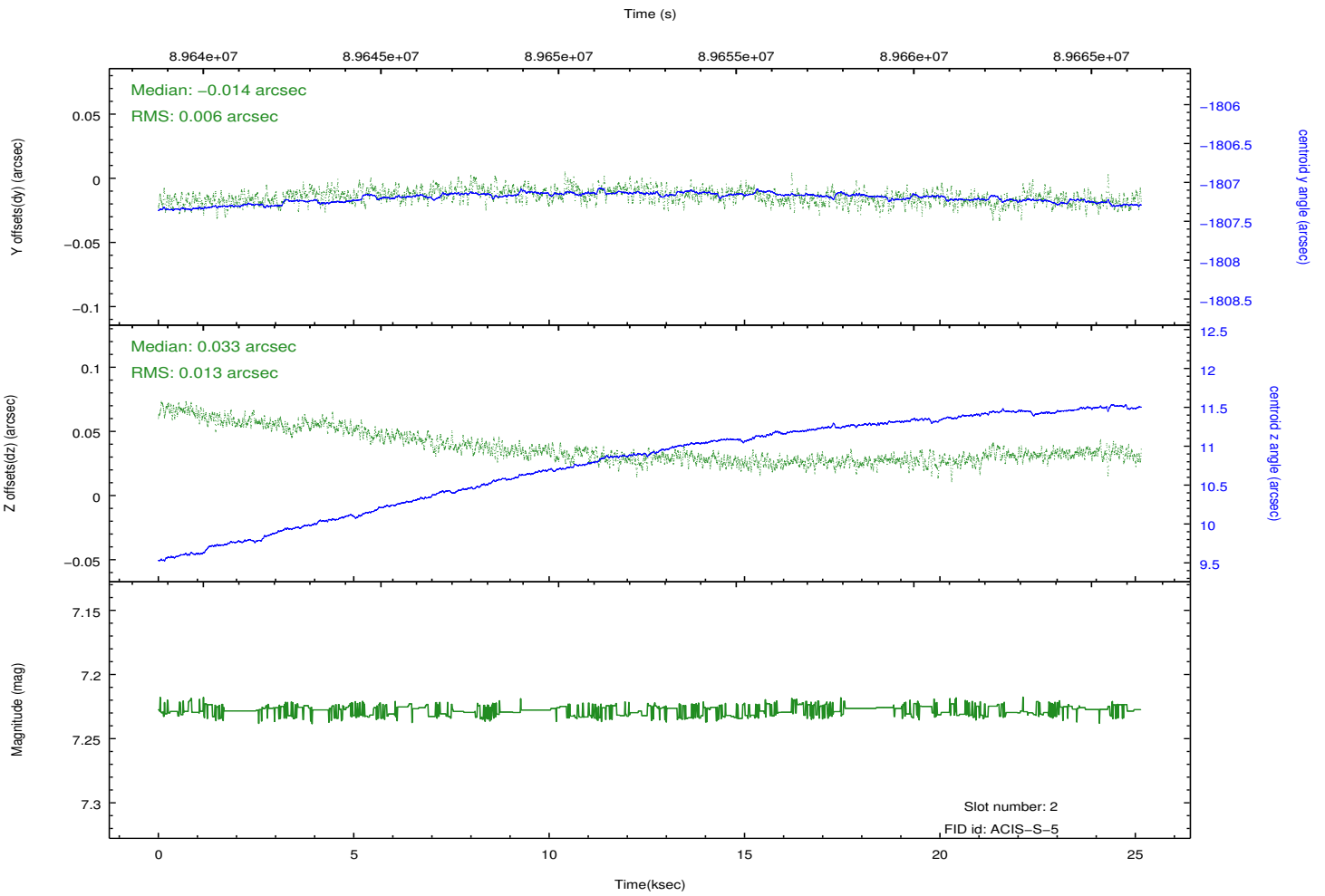
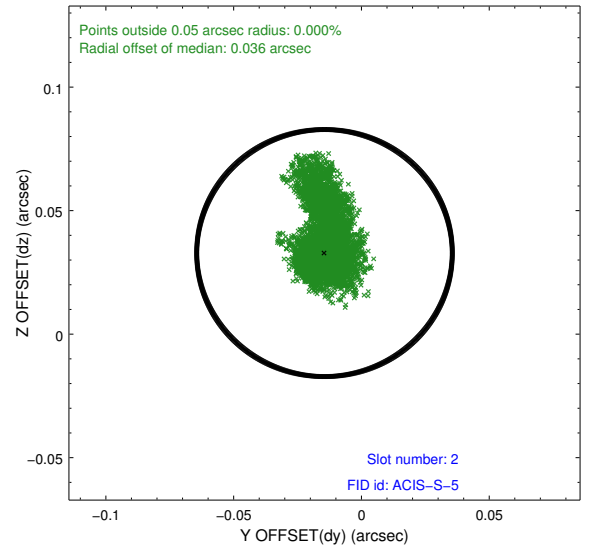
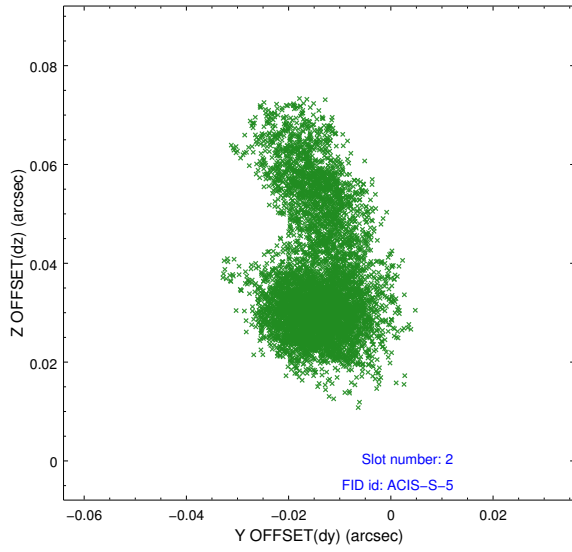
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.10.22
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	23.99

## A.2 Comments

Charge time for this observation remains at the previous 23.99 ks. The high count rate resulted in telemetry saturation and a large number of dropped exposures. The ONTIME value reflects the lost exposure time.

===

WARNING: incorrectly placed spatial inclusion window. Observation is a subarray on chip 7 starting at row 29 and ending at row 328. However, the inclusion window used started at start column = 28, start row = 106, which is opposite of what was specified by the observer. This is an operational error because the number of rows included in the spatial window is less than the number of rows in the subarray, so the extreme west part of the Crab nebula is not included in the observation. Manual modification of the window specification file was done to allow processing to complete. ===== The readout streak from the piled up pulsar very nearly overlays the node boundary of the CCD. The readout streak has a large number of counts per pixel, while the node boundary has 2 columns with pixels set to zero. Dither was disabled for this observation.