

V&V Reference Report

L2 ASCDS Version : 8.5.1.1

Observation 14680 - L2 Version 2
Chandra X-Ray Center

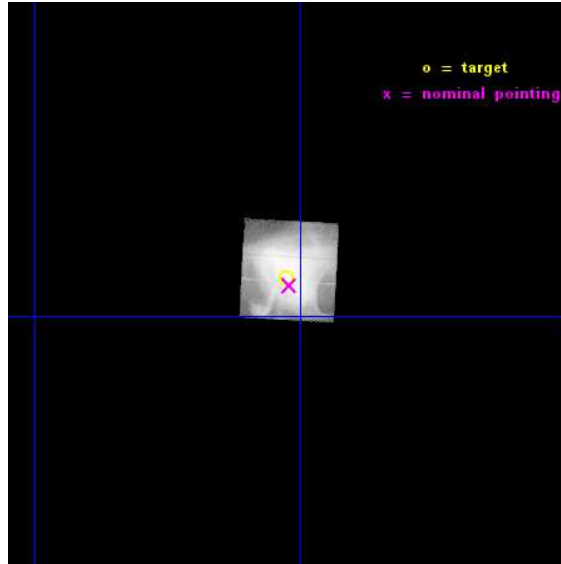
L2 Processing Date : Dec 1 2014

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Parameters	4
2.1.3	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
A	Summary	17
A.1	Status	17
A.2	Comments	17

1 Front

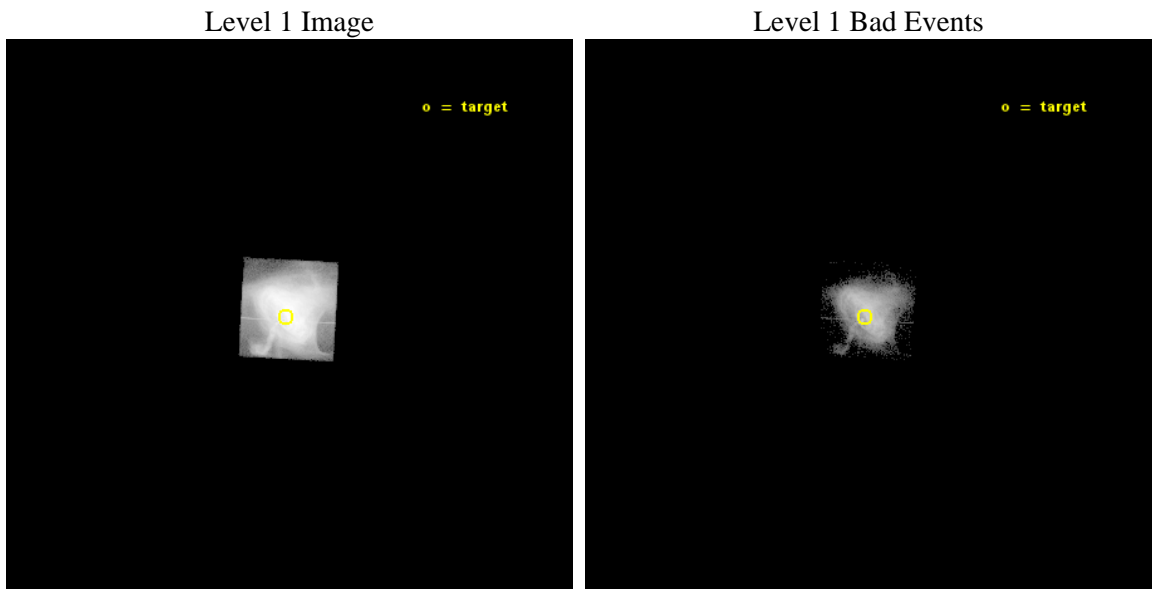
seq_num	501814	Sequence number
obs_id	14680	Observation id
title	Joint Chandra and HST Monitoring and Studies of the Crab Nebula	Pr
observer	Dr. Martin Weisskopf	Principal investigator
object	Crab	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.631667	Observer's specified target RA [deg]
dec_targ	22.015667	Observer's specified target Dec [deg]
ra_nom	83.630098999095	Nominal RA [deg]
dec_nom	22.012809128525	Nominal Dec [deg]
roll_nom	273.13122894298	Nominal Roll [deg]
revision	2	Processing version of data
ontime	3472.6990990639	Sum of GTIs [s]
livetime	602.41805139365	Livetime [s]
ontime7	3472.6990990639	Sum of GTIs [s]
l2events	1702980	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	5000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	3472.6990990639	Sum of GTIs [s]
caldbver	4.6.4	 	ontime7	3472.6990990639	Sum of GTIs [s]
date	2014-12-01T22:05:41	Date and time of file creation	l1events	1891295	Number of level 1 events
revision	2	Processing version of data			

2.1.3 Events

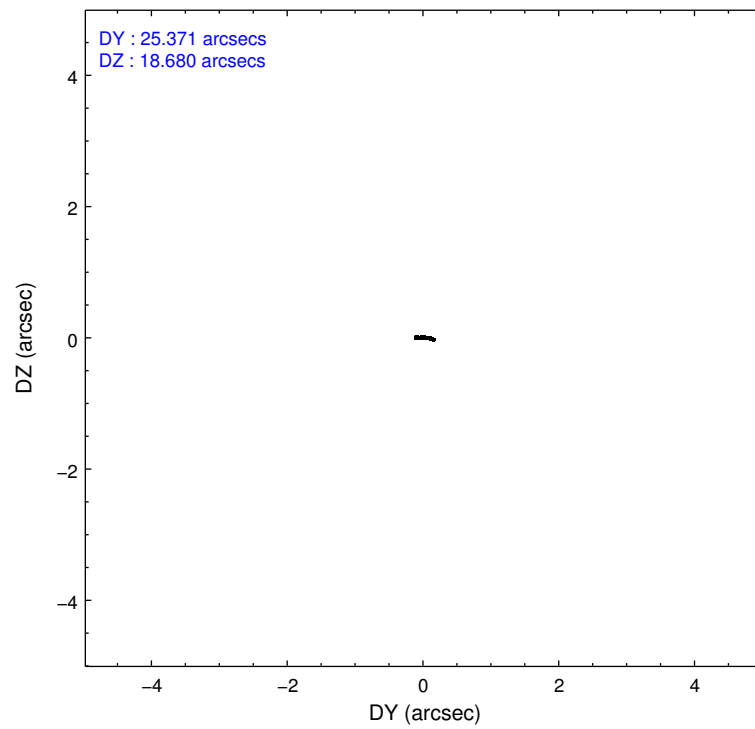
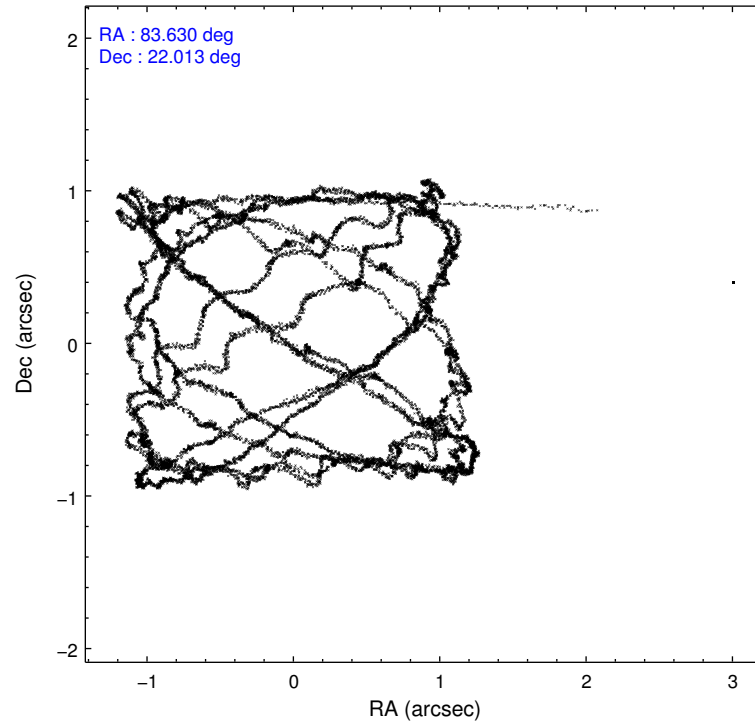
	ccd 7
level 1 events	1891295
rejected events	166016
rejected %	8%

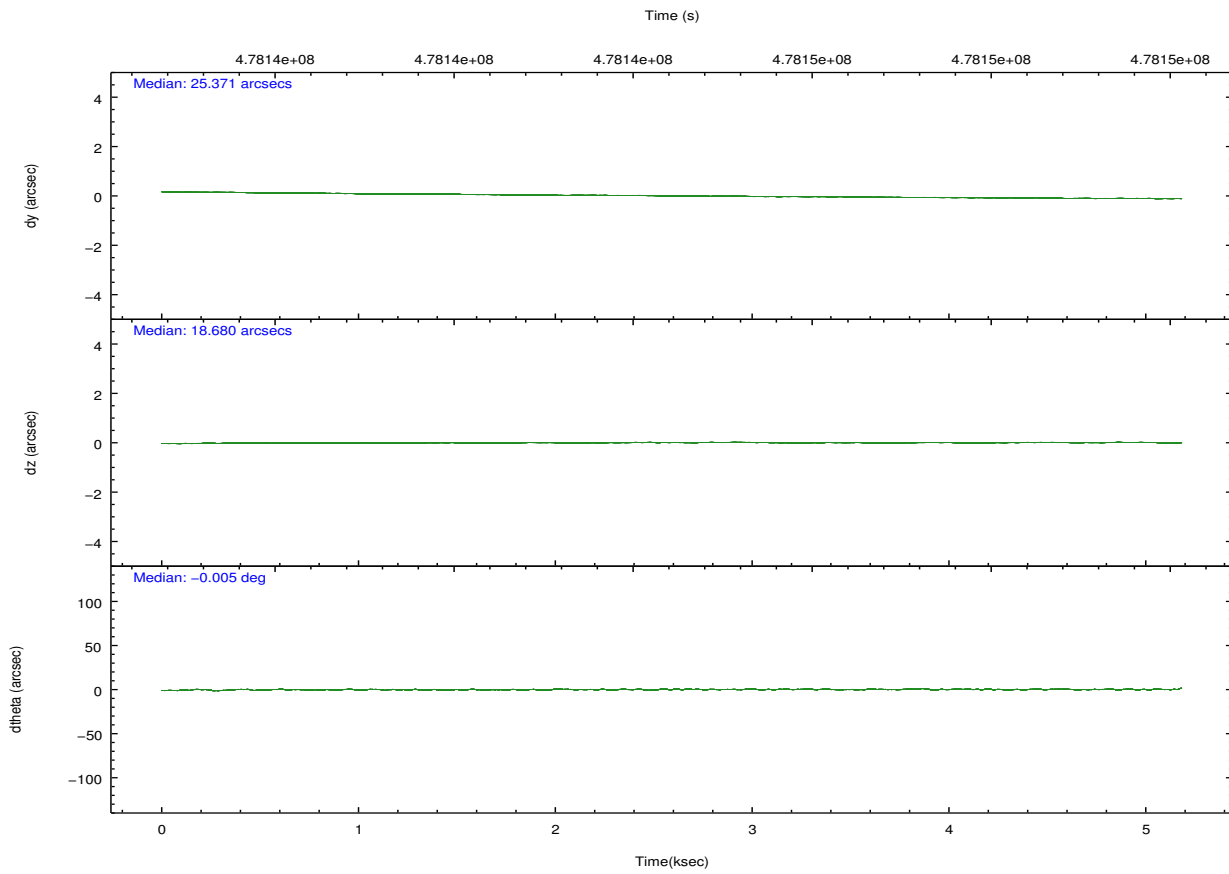
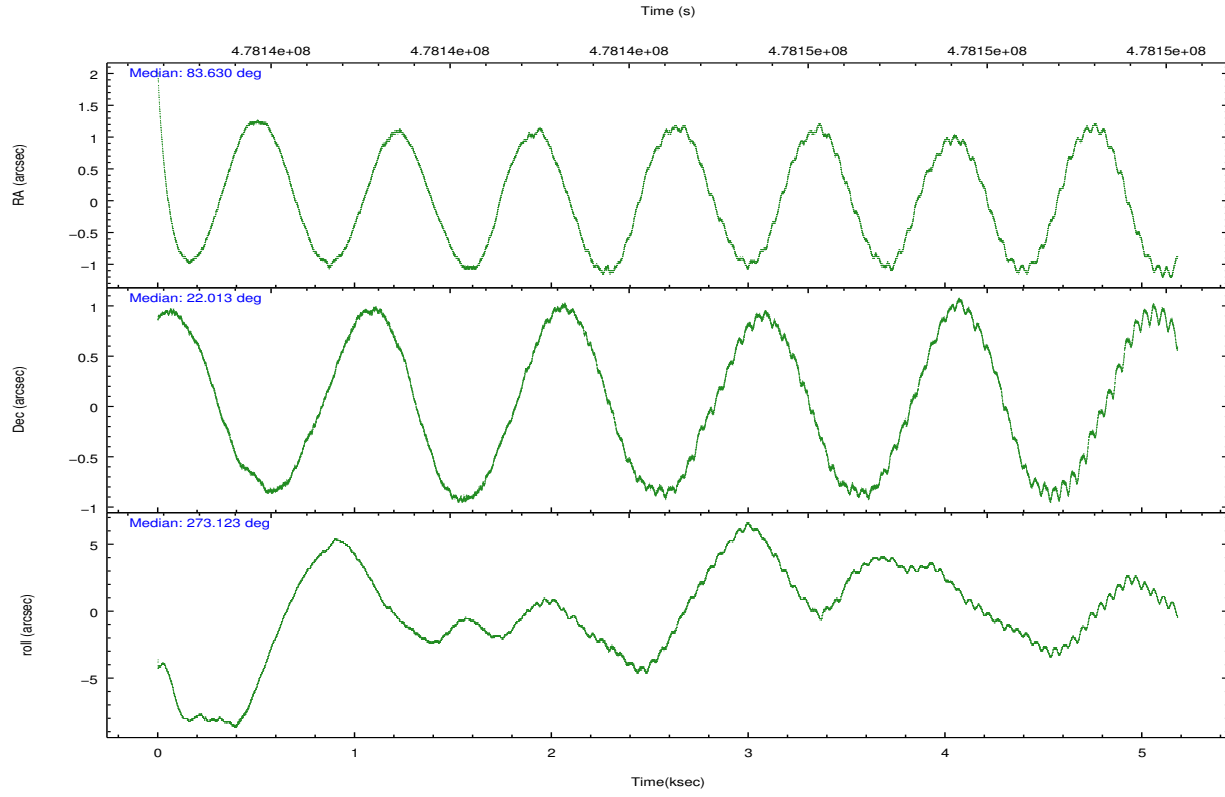
	ccd 7
grade 0 events	393522
	20%
grade 1 events	21365
	1%
grade 2 events	475325
	25%
grade 3 events	191952
	10%
grade 4 events	189608
	10%
grade 5 events	60696
	3%
grade 6 events	476016
	25%
grade 7 events	82811
	4%

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	83.613626	83.63009899909508	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	22.035489	22.0128091285254	Subarray start row	265	265
[deg] Pointing Roll	272.980766	273.1312289429806	Subarray row count	300	300
[s] Window start time (MET)	477964867.184000	477964867.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	478828867.184000	478828867.184000	[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	-188.396523	-188.3926169152877			
[mm] SIM translation stage offset	-1.736	-1.739905667720137			
[s] Observation start time (MET)	478142807.184000	478141874.42294			
Observation start date	2013-02-25T01:25:40	2013-02-25T01:11:14			
[s] Observation end time (MET)	478147807.184000	478148522.5733			
Observation end date	2013-02-25T02:49:00	2013-02-25T03:02:02			
Read mode	TIMED	TIMED			

2.3 Aspect



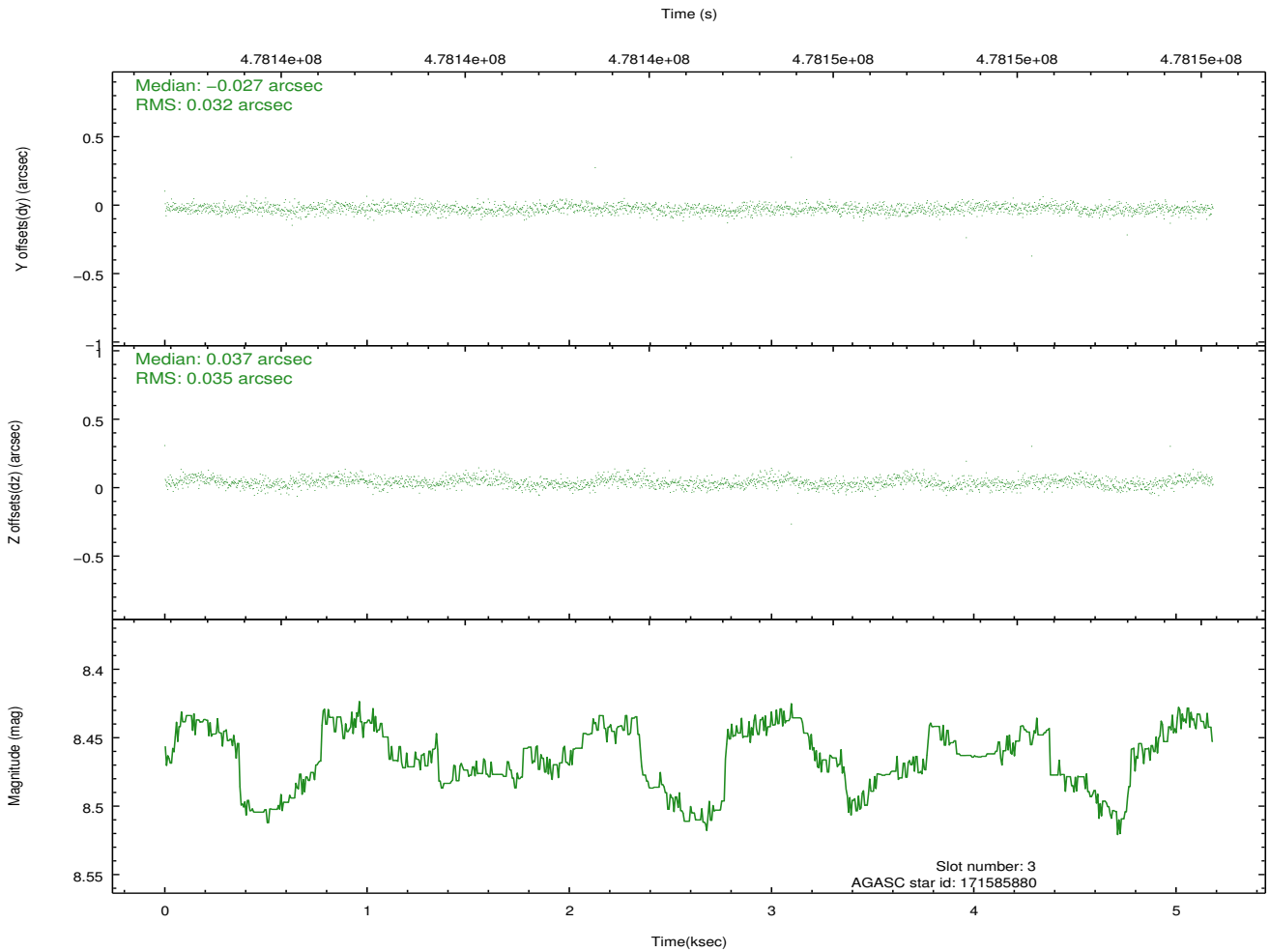
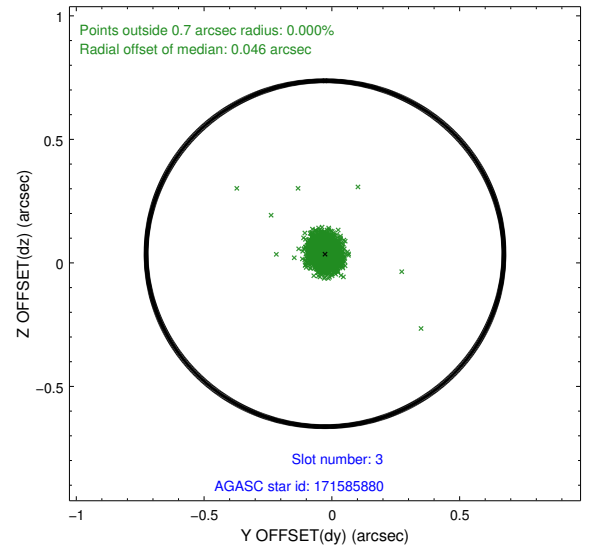
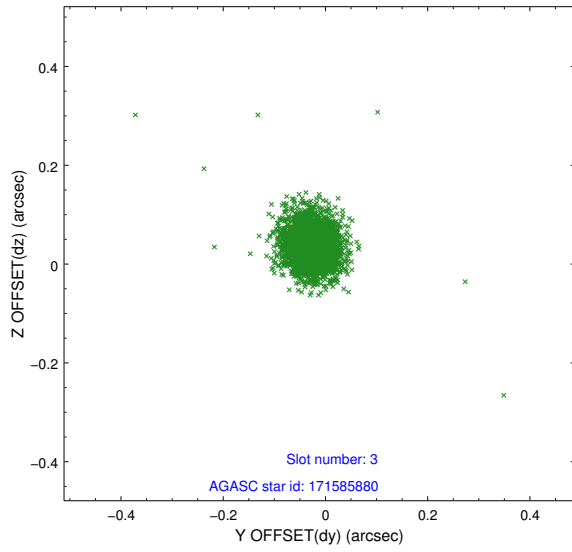


Slot Statistics

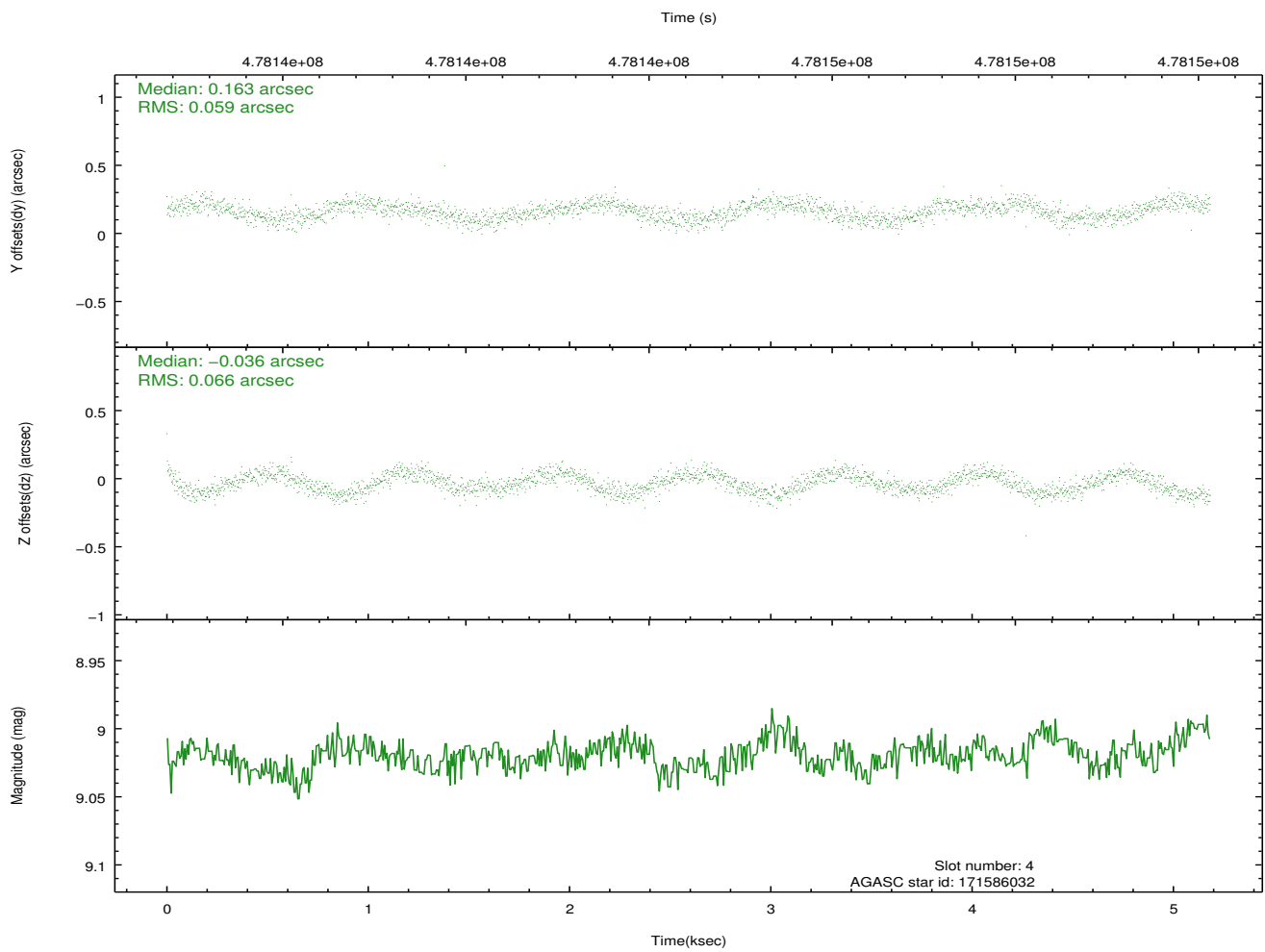
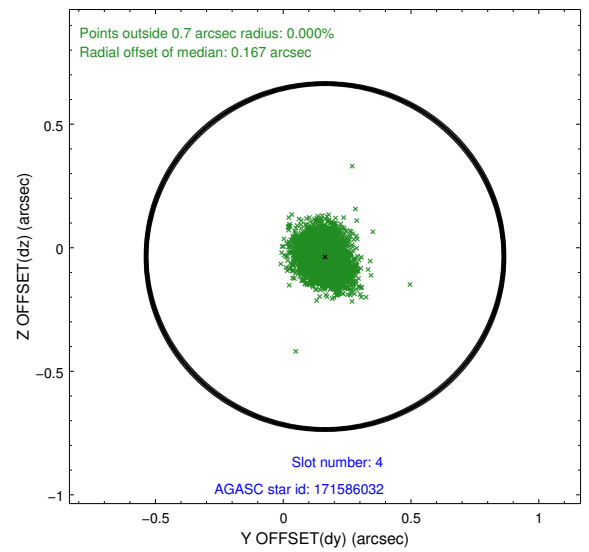
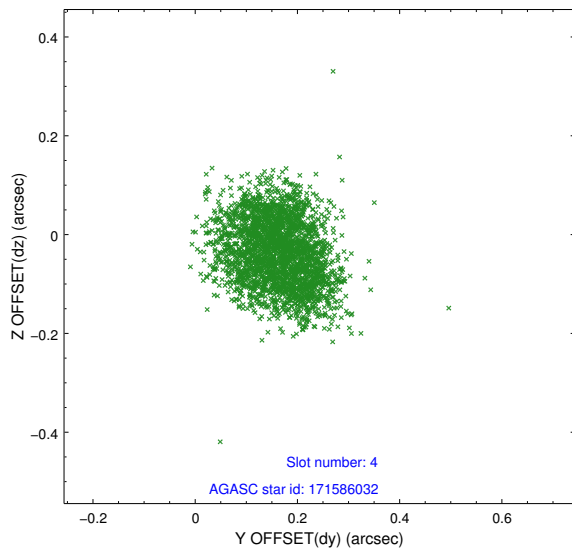
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.97	1264	-0.208	-0.064	0.006	0.010	0.000000	0.000000	-778.69	-1776.23
1	FID		ACIS-S-4	7.09	1264	0.388	0.118	0.006	0.012	0.000000	0.000000	2134.61	131.24
2	FID		ACIS-S-5	7.13	1265	-0.211	-0.045	0.006	0.011	0.000000	0.000000	-1830.08	126.01
3	GUIDE	used	171585880	8.46	2527	-0.027	0.037	0.048	0.079	83.676260	22.176319	-495.10	235.10
4	GUIDE	used	171586032	9.02	2527	0.163	-0.036	0.096	0.145	83.950197	22.083225	-114.22	1130.54
5	GUIDE	used	171721904	9.19	2528	-0.184	0.119	0.115	0.171	84.272676	22.116922	-183.31	2211.30
6	GUIDE	used	243941560	8.34	2529	-0.317	0.162	0.071	0.116	83.733264	22.568598	-1895.87	497.83
7	GUIDE	used	171597832	9.18	2512	0.354	-0.277	0.182	0.273	83.183230	21.366702	2327.66	-1565.67

2.4 Star Slots

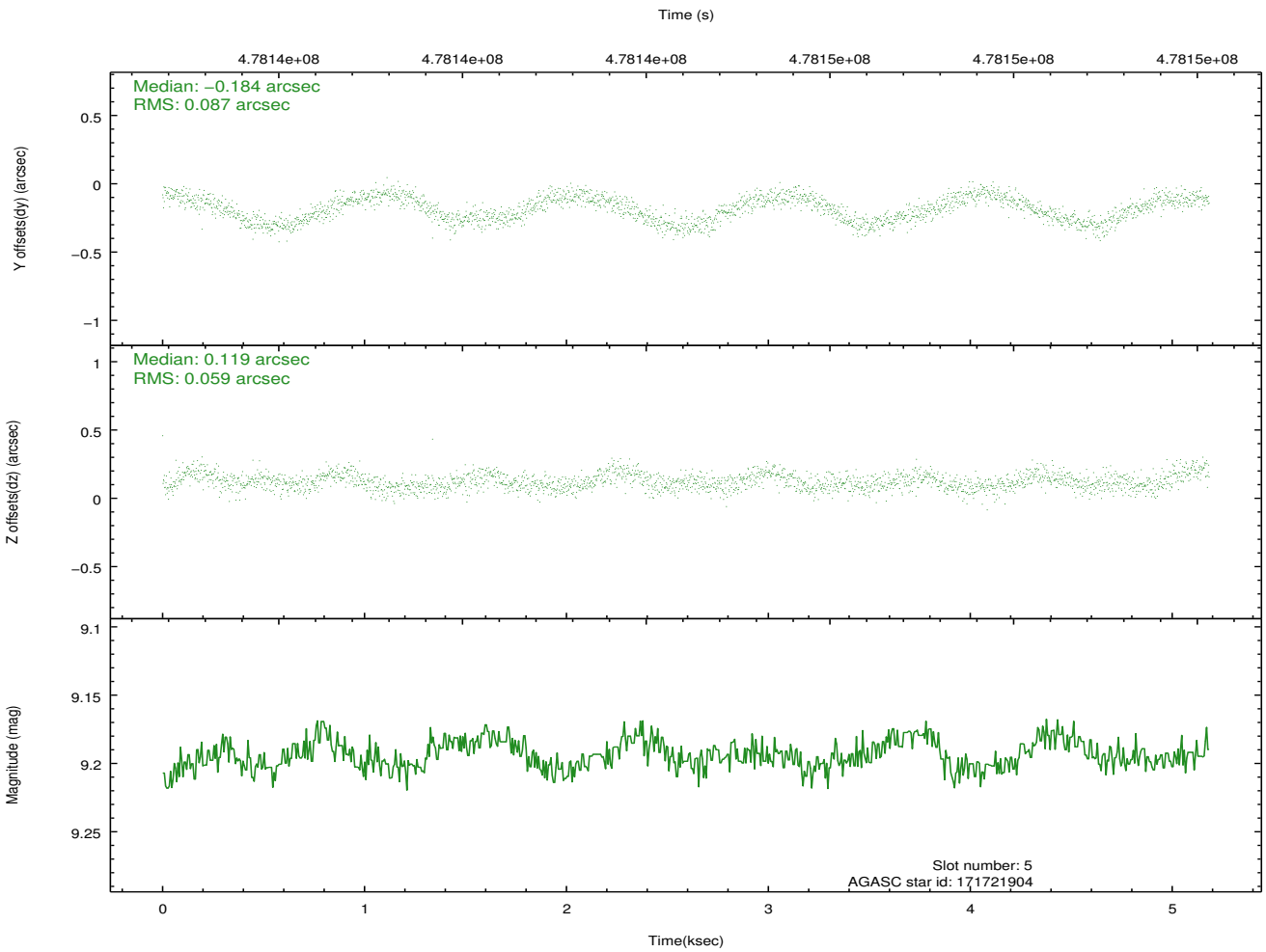
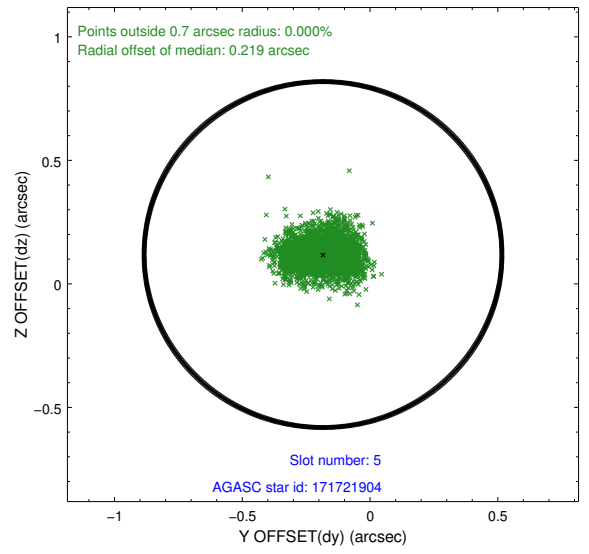
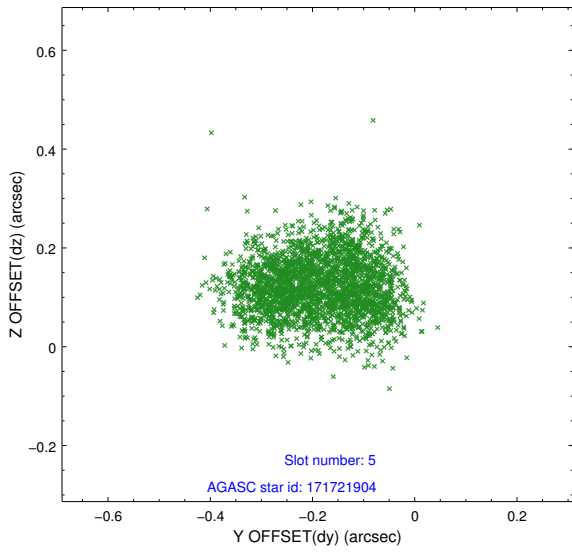
2.4.1 Slot 3



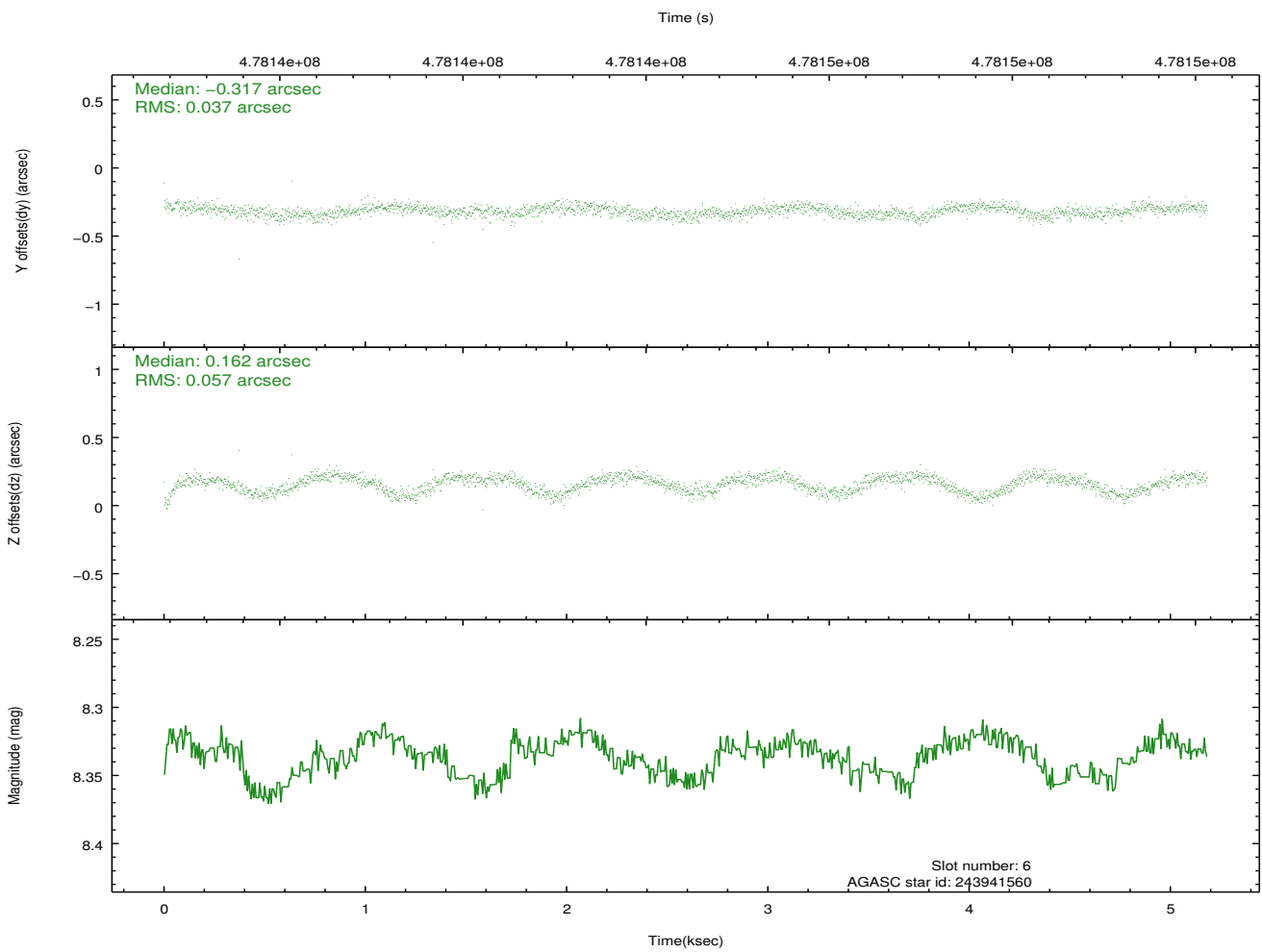
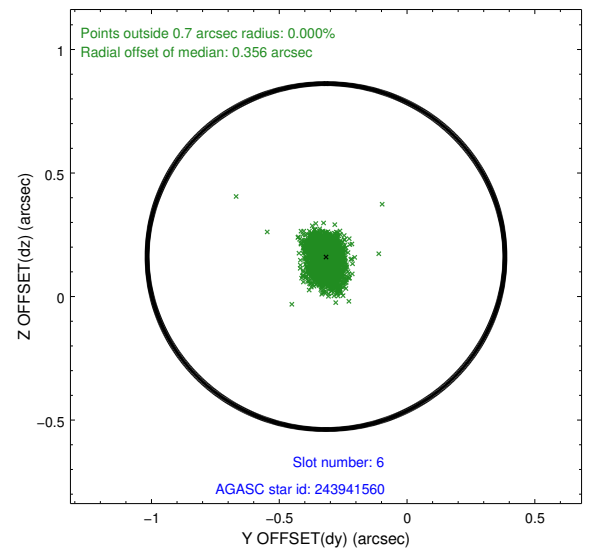
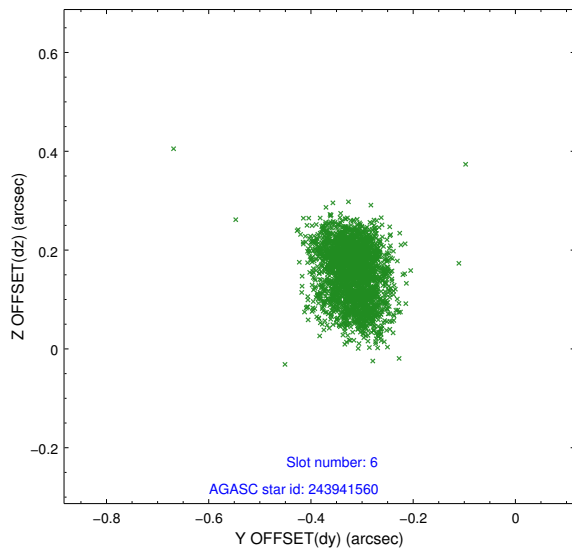
2.4.2 Slot 4



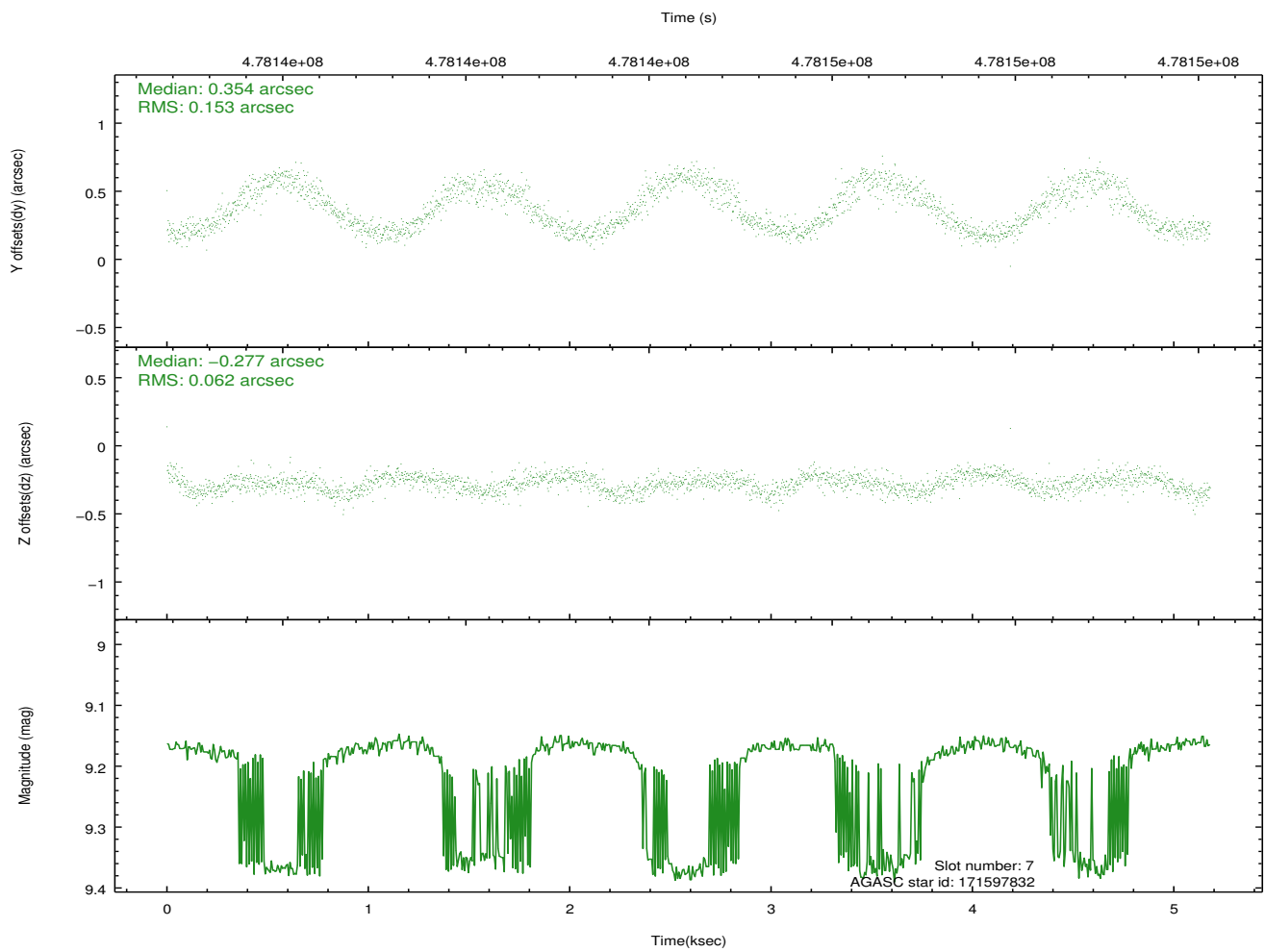
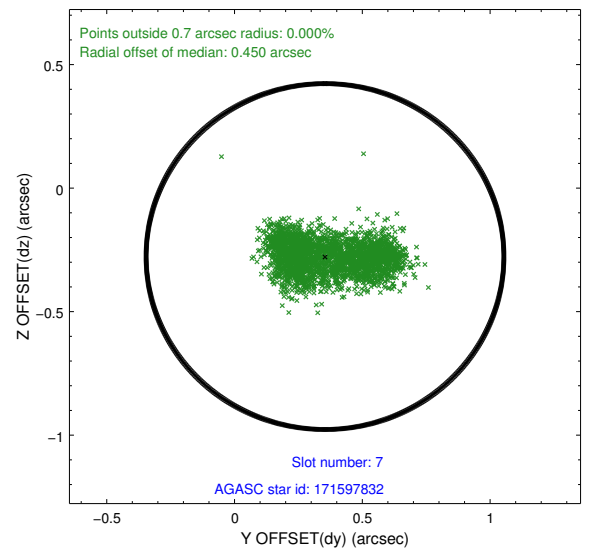
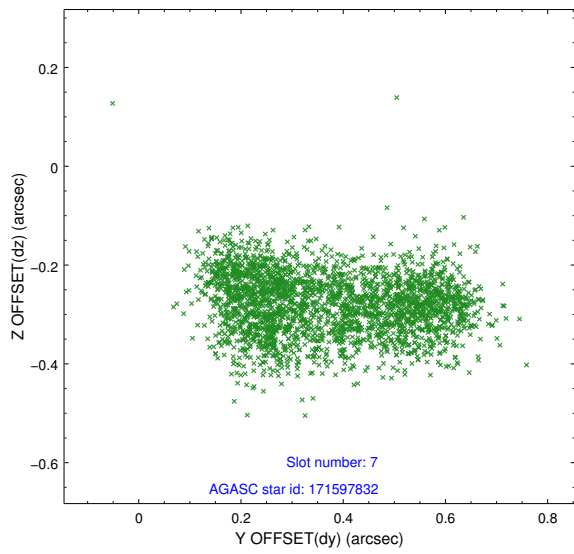
2.4.3 Slot 5



2.4.4 Slot 6

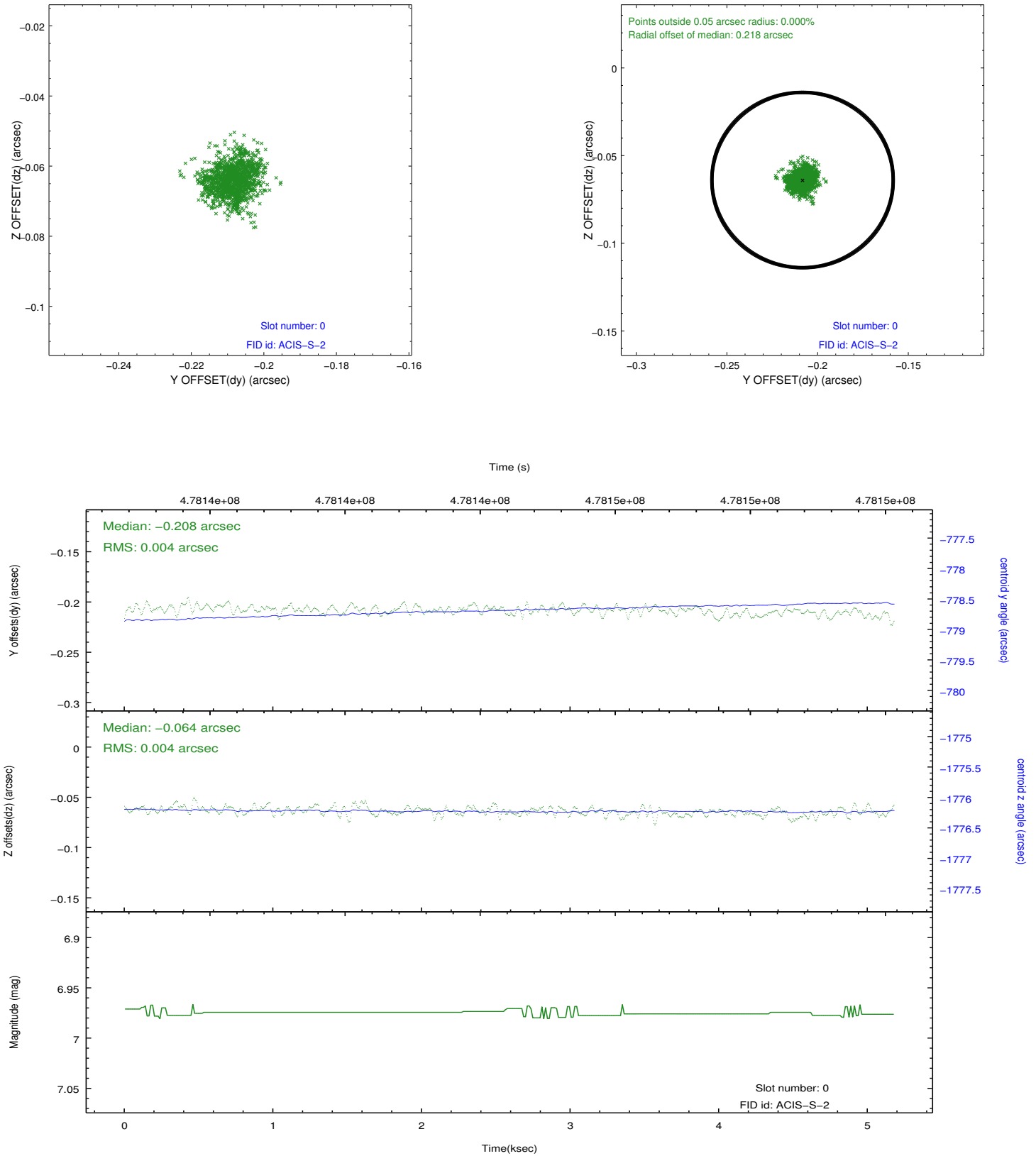


2.4.5 Slot 7

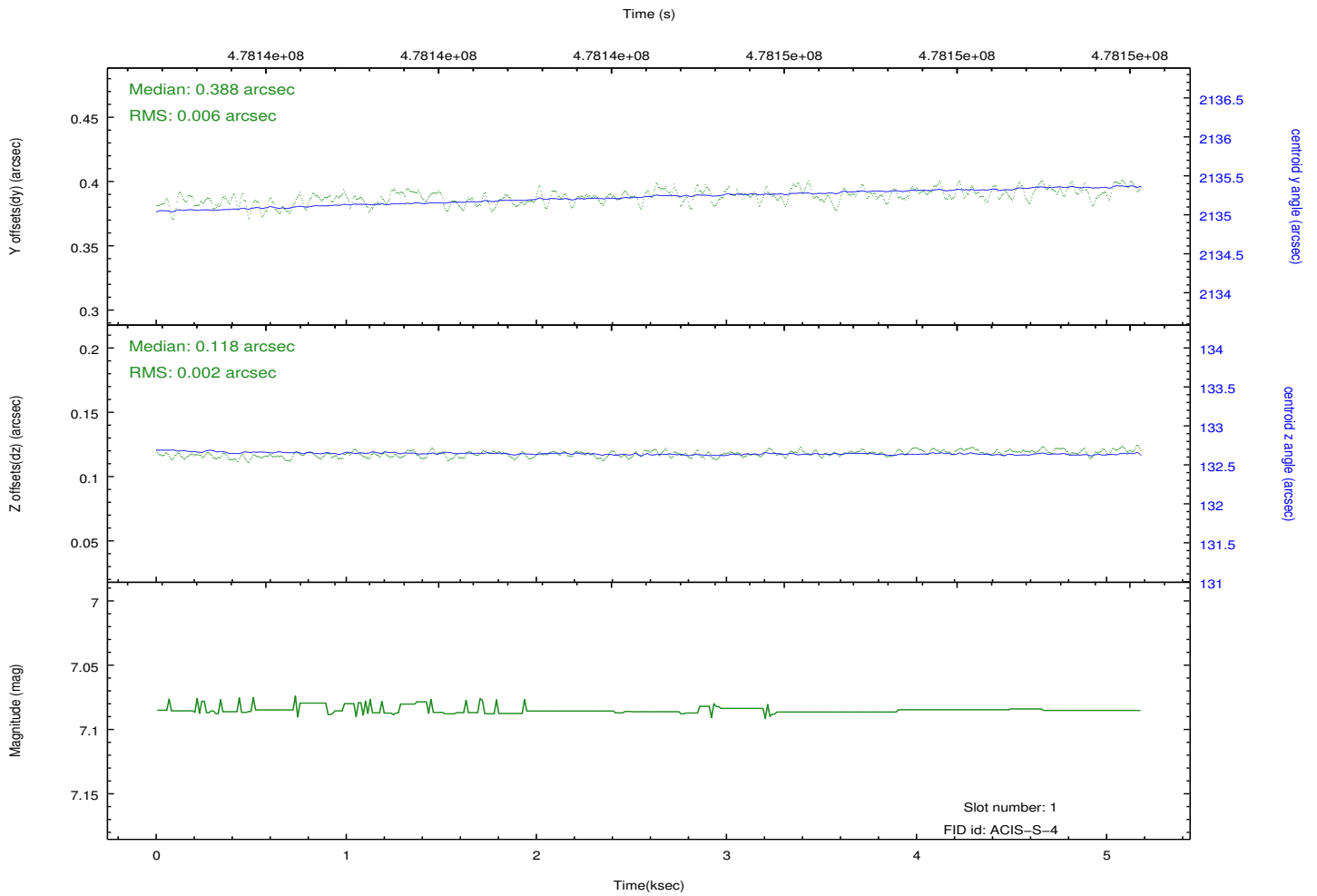
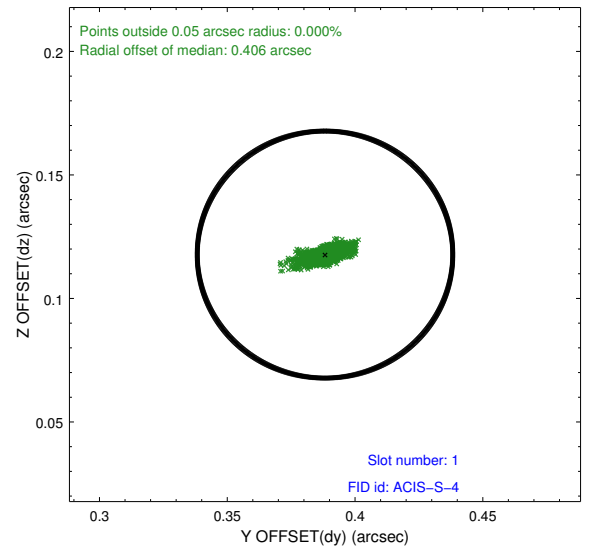
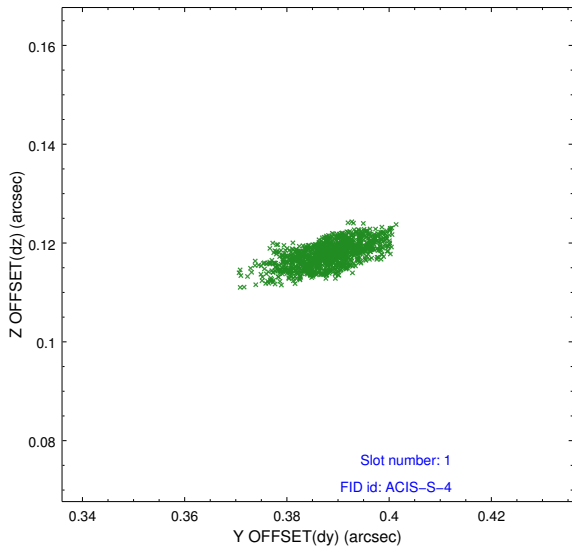


2.5 FID Slots

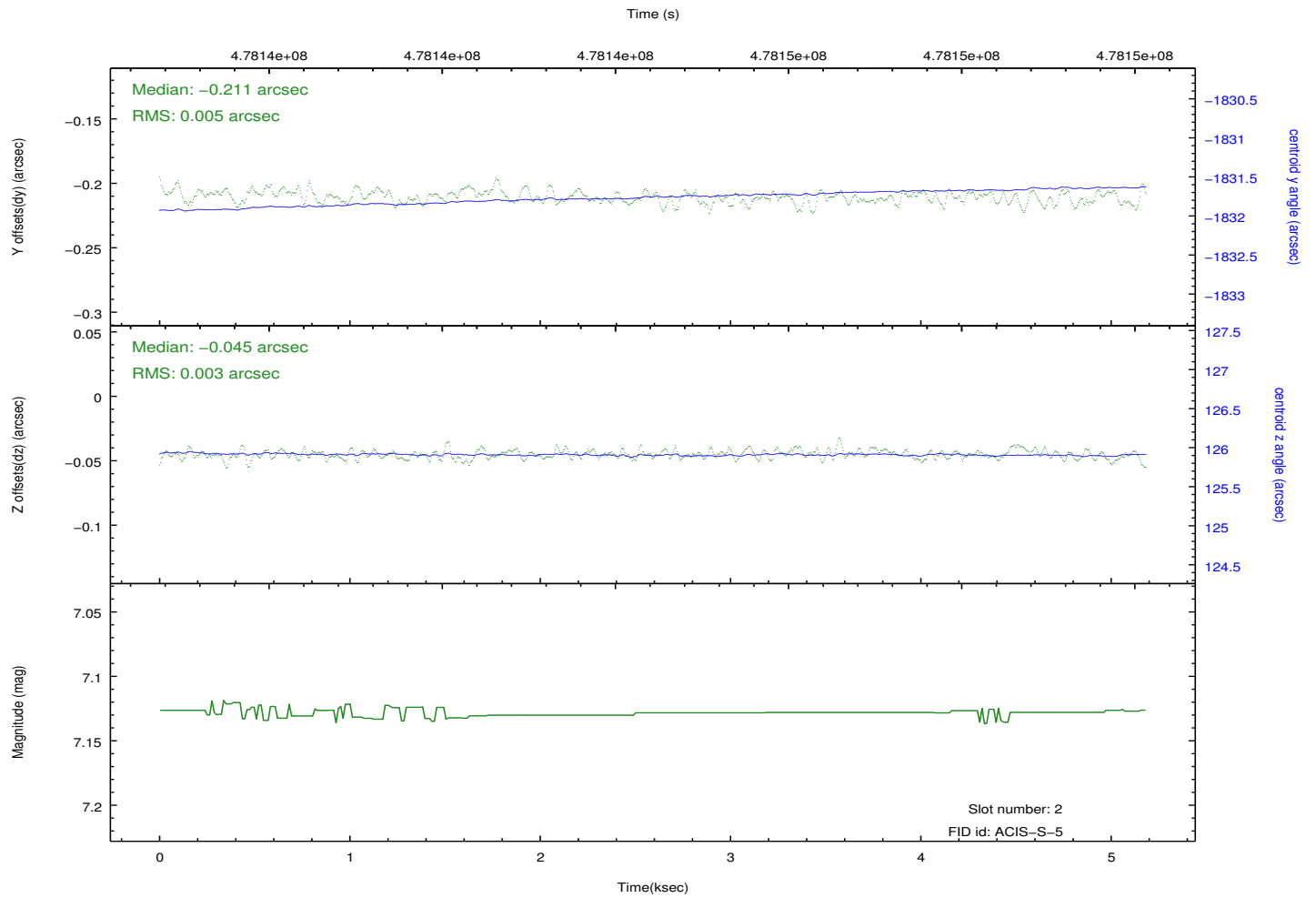
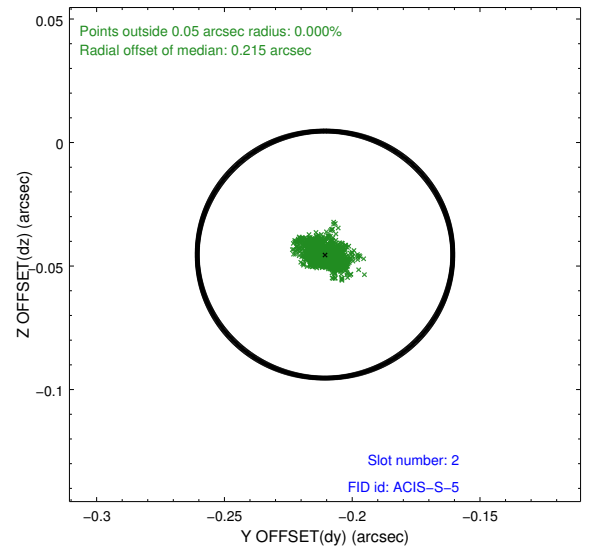
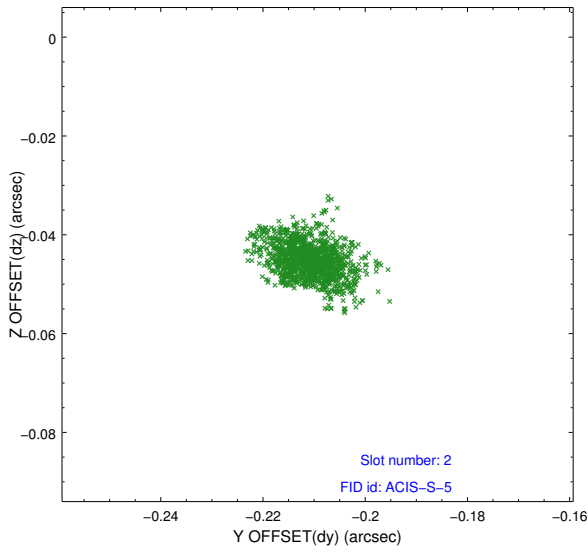
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2014.12.09
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5

A.2 Comments

Joint proposal with HST.

Observation coordinated with HST.

Window preference met.

A special dither pattern of +/- 1 arcsec was used for this observation. Charge time is set to the scheduled time for this observation, although the ontime is significantly less due to telemetry saturation. In addition, the livetime of the detector is about 602 s, significantly shorter than the ONTIME of 3472.7 s. This is because the frame time of 0.2 s is shorter than the minimum time that it takes to read out the detector (about 0.9 s) in the specified configuration. Therefore, there is a flush of 0.91188 s preceding each frame. This flush time is dead time.

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.