

V&V Reference Report

L2 ASCDS Version : 8.5.1.1

Observation 14681 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Dec 2 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

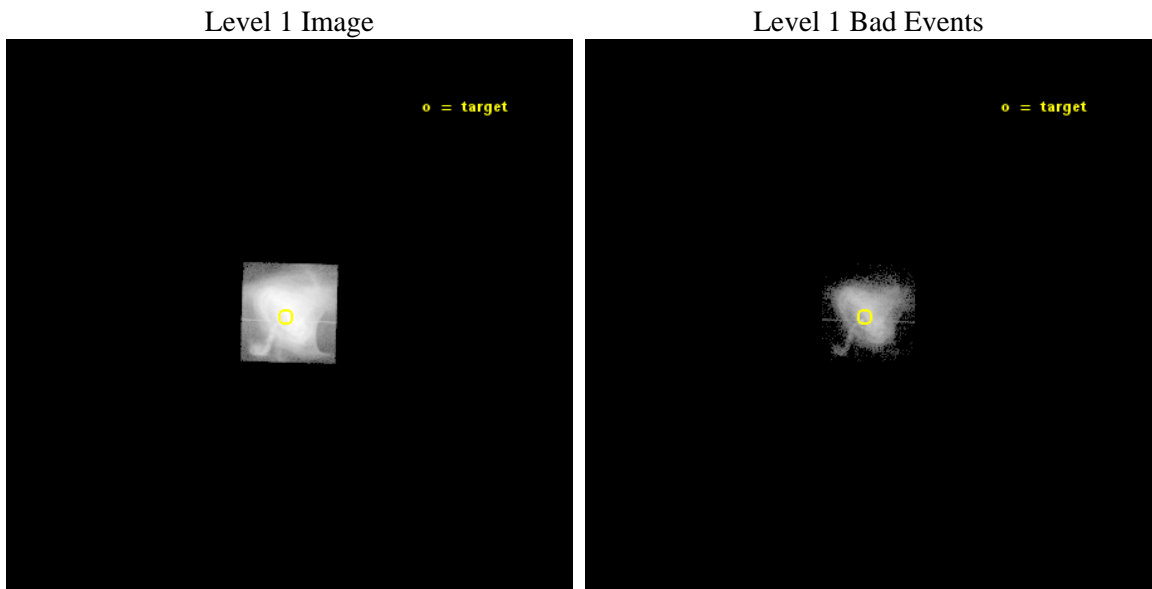
seq_num	501815	Sequence number
obs_id	14681	Observation id
title	Joint Chandra and HST Monitoring and Studies of the Crab Nebula	Pr
observer	Dr. Martin Weisskopf	Principal investigator
object	Crab	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.631667	Observer's specified target RA [deg]
dec_targ	22.015667	Observer's specified target Dec [deg]
ra_nom	83.630012030092	Nominal RA [deg]
dec_nom	22.012834784115	Nominal Dec [deg]
roll_nom	271.69273464125	Nominal Roll [deg]
revision	2	Processing version of data
ontime	3496.9574851394	Sum of GTIs [s]
livetime	606.41582303948	Livetime [s]
ontime7	3496.9574851394	Sum of GTIs [s]
l2events	1702907	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	3496.9574851394	Sum of GTIs [s]
caldbver	4.6.4	 	ontime7	3496.9574851394	Sum of GTIs [s]
date	2014-12-02T21:54:14	Date and time of file creation	l1events	1890334	Number of level 1 events
revision	2	Processing version of data			

2.1.3 Events

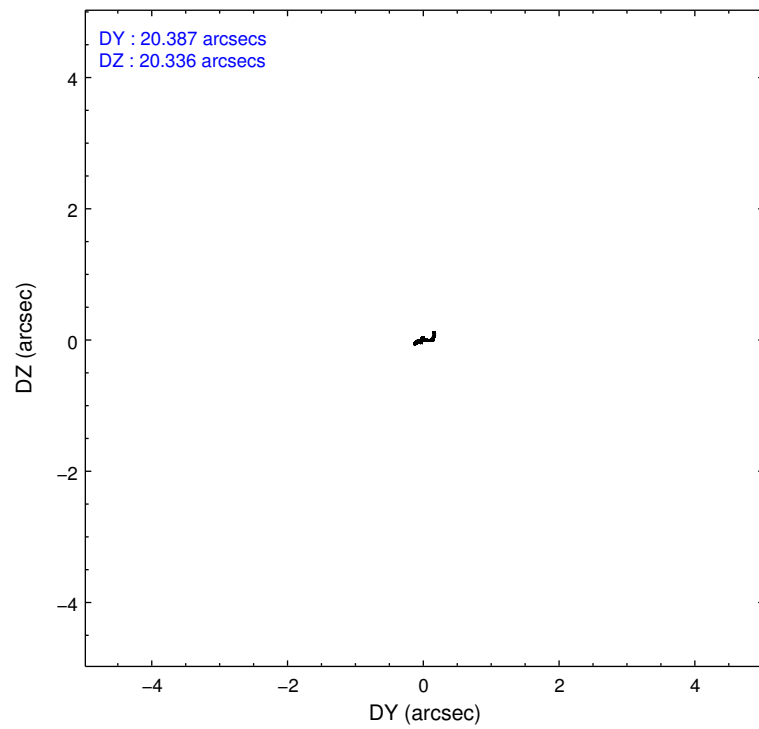
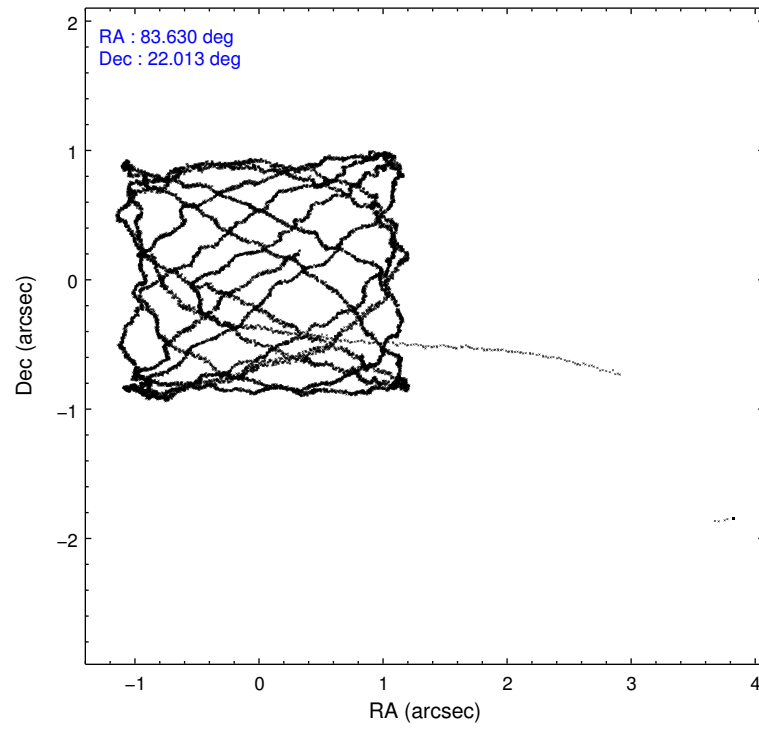
	ccd 7
level 1 events	1890334
rejected events	163167
rejected %	8%

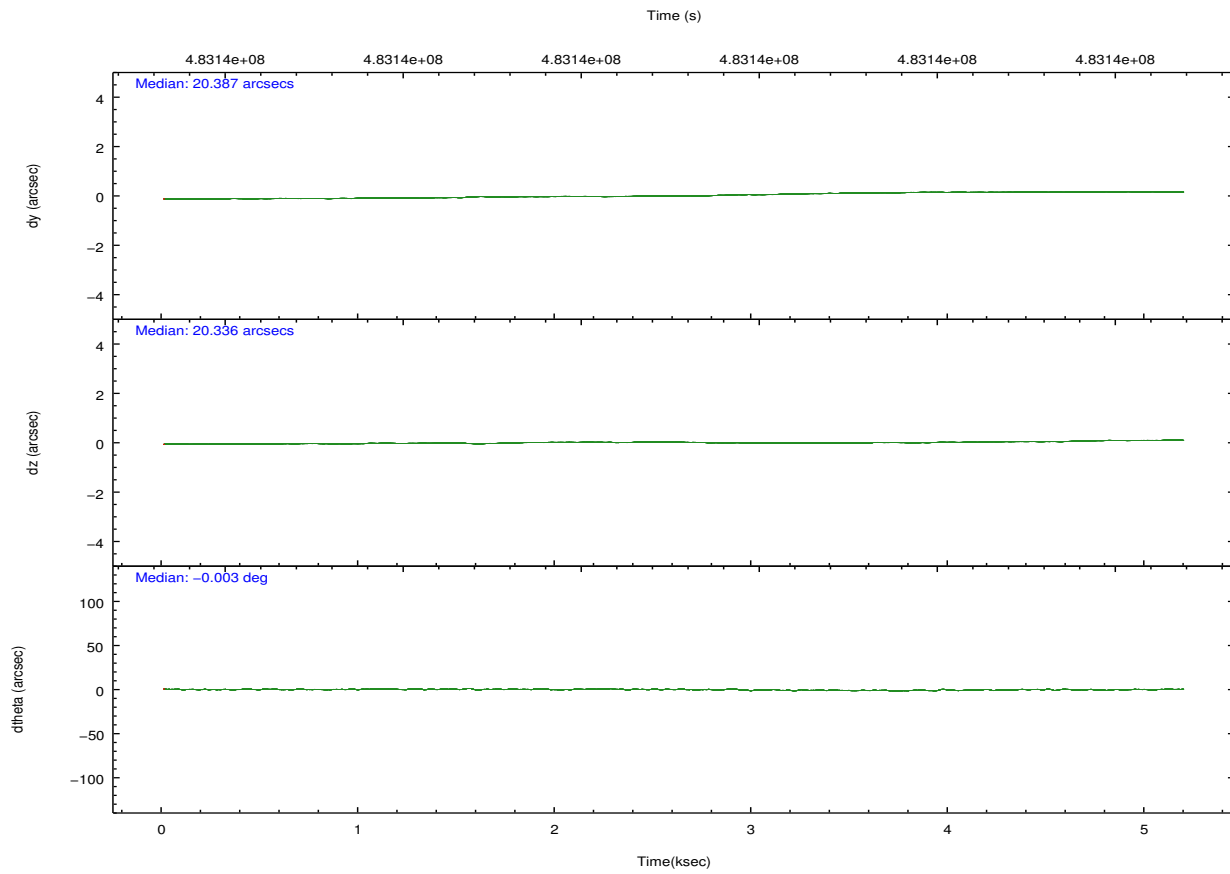
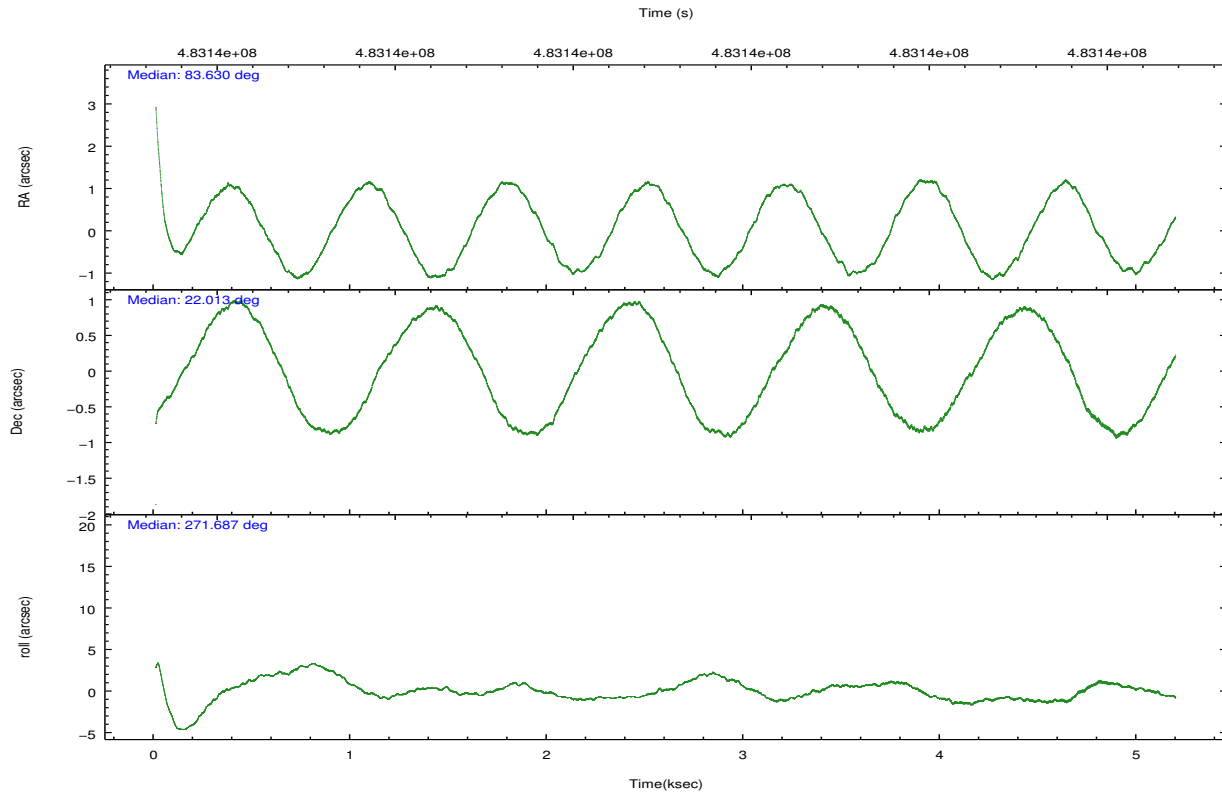
	ccd 7
grade 0 events	398629
	21%
grade 1 events	21338
	1%
grade 2 events	475185
	25%
grade 3 events	193185
	10%
grade 4 events	189310
	10%
grade 5 events	60307
	3%
grade 6 events	471400
	24%
grade 7 events	80980
	4%

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	83.614172	83.63001203009239	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	22.035913	22.01283478411489	Subarray start row	275	275
[deg] Pointing Roll	271.542042	271.6927346412525	Subarray row count	300	300
[s] Window start time (MET)	482630467.184000	482630467.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	483494467.184000	483494467.184000	[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	-188.636523	-188.6339911842375			
[mm] SIM translation stage offset	-1.496	-1.498531398770353			
[s] Observation start time (MET)	483139115.184000	483138484.21835			
Observation start date	2013-04-23T21:17:28	2013-04-23T21:08:04			
[s] Observation end time (MET)	483144115.184000	483145046.2687			
Observation end date	2013-04-23T22:40:48	2013-04-23T22:57:26			
Read mode	TIMED	TIMED			

2.3 Aspect





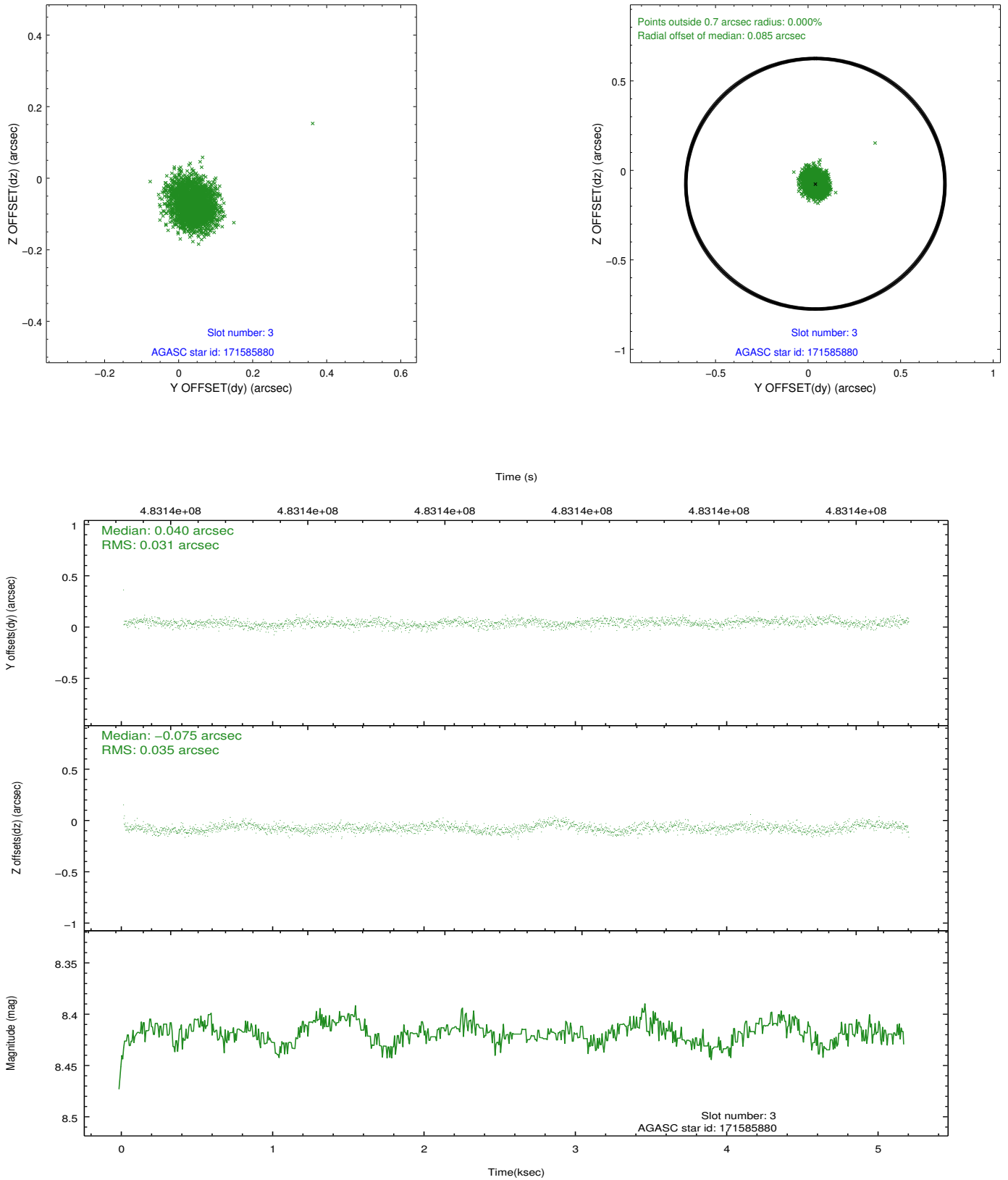
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.91	1266	-0.191	-0.071	0.008	0.013	0.000000	0.000000	-773.64	-1772.94
1	FID		ACIS-S-4	7.01	1266	0.252	0.111	0.008	0.014	0.000000	0.000000	2139.57	134.43
2	FID		ACIS-S-5	7.05	1266	-0.093	-0.031	0.009	0.016	0.000000	0.000000	-1824.87	129.35
3	GUIDE	used	171585880	8.42	2531	0.040	-0.075	0.049	0.080	83.676260	22.176319	-499.37	220.66
4	GUIDE	used	171586032	8.99	2532	0.024	-0.056	0.090	0.131	83.950197	22.083225	-141.26	1125.45
5	GUIDE	used	171721904	9.27	2530	0.034	0.477	0.106	0.176	84.272676	22.116922	-237.07	2204.52
6	GUIDE	used	243941560	8.31	2529	-0.287	-0.124	0.071	0.111	83.733264	22.568598	-1906.32	448.02
7	GUIDE	used	171597832	9.18	2514	0.184	-0.214	0.116	0.192	83.183230	21.366702	2367.38	-1508.62

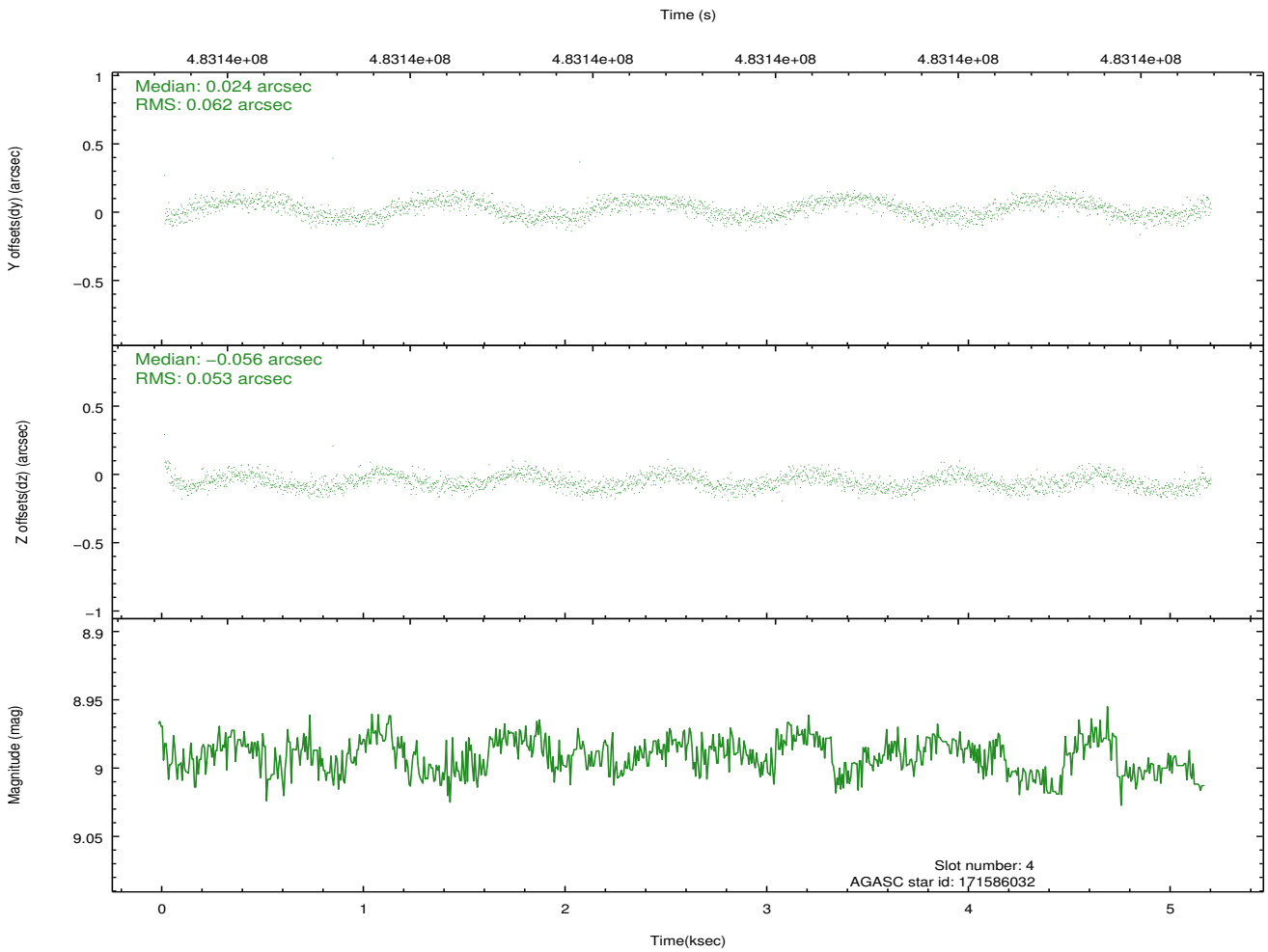
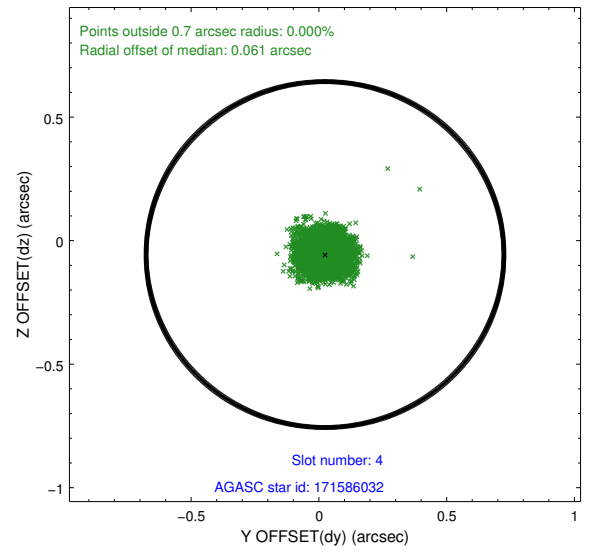
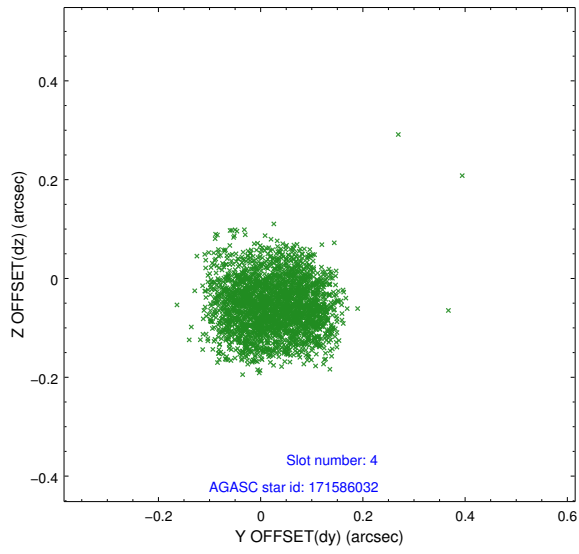
∞

2.4 Star Slots

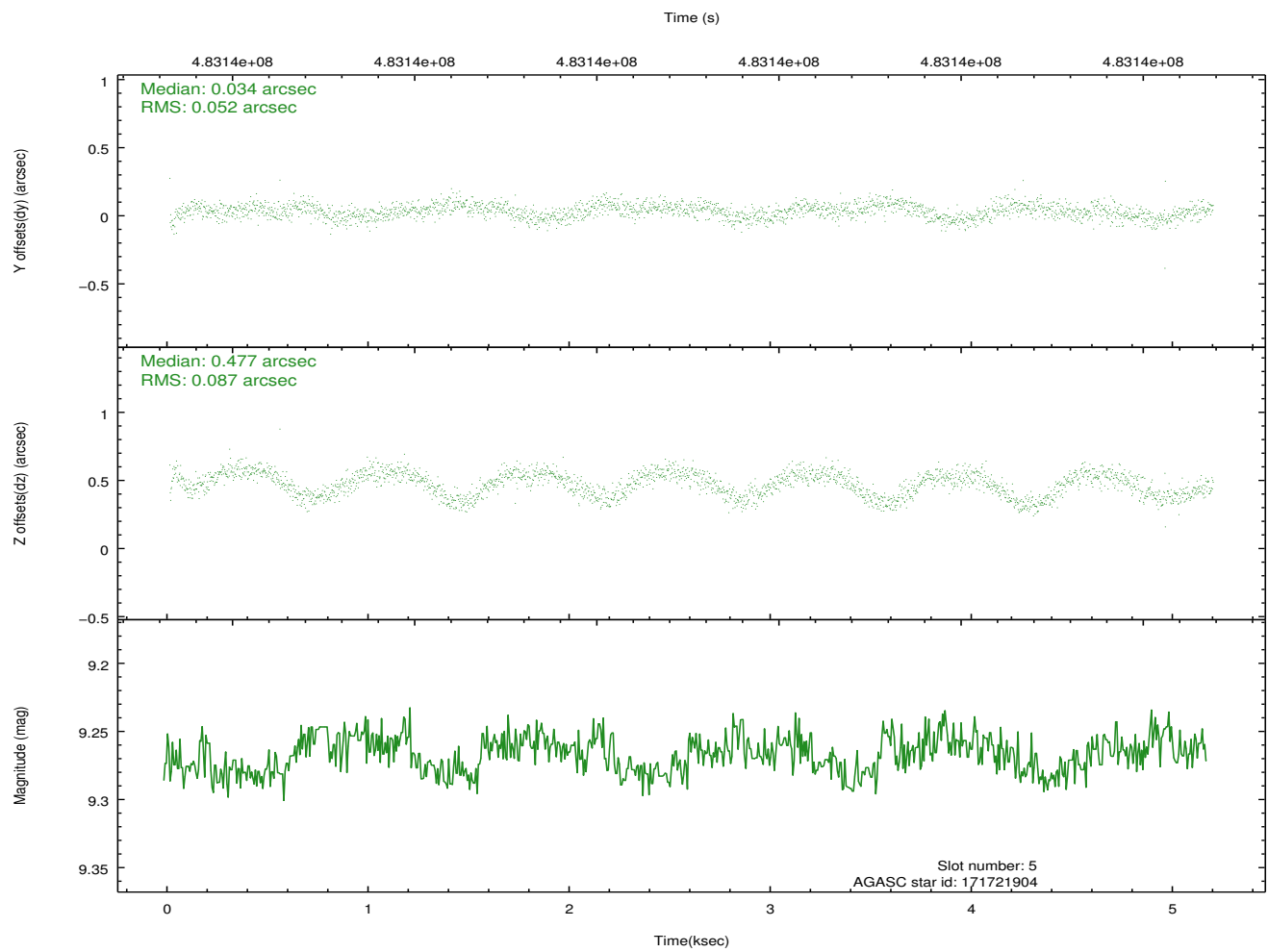
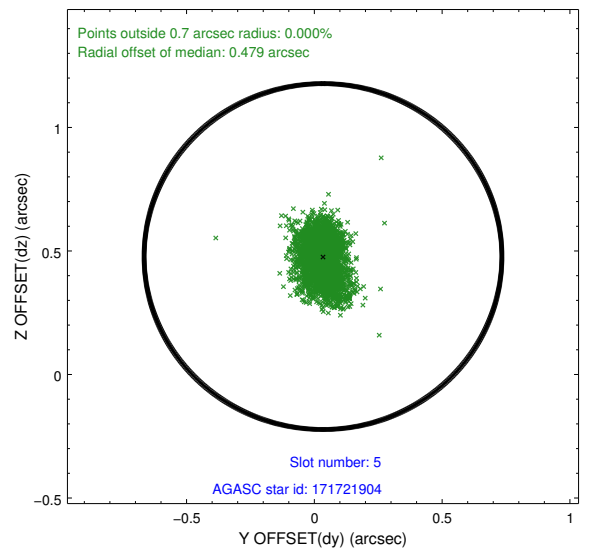
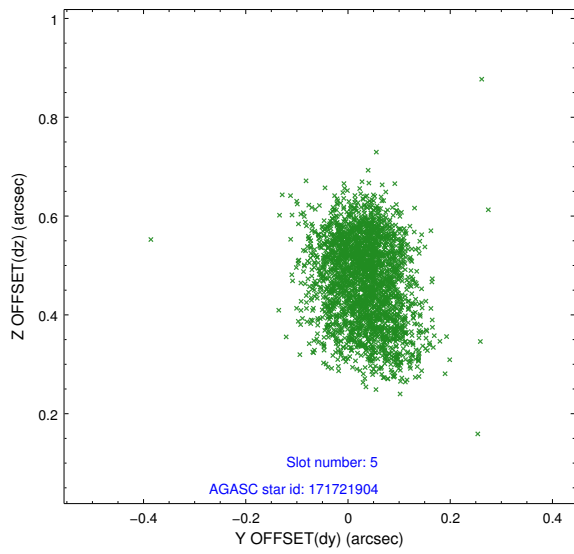
2.4.1 Slot 3



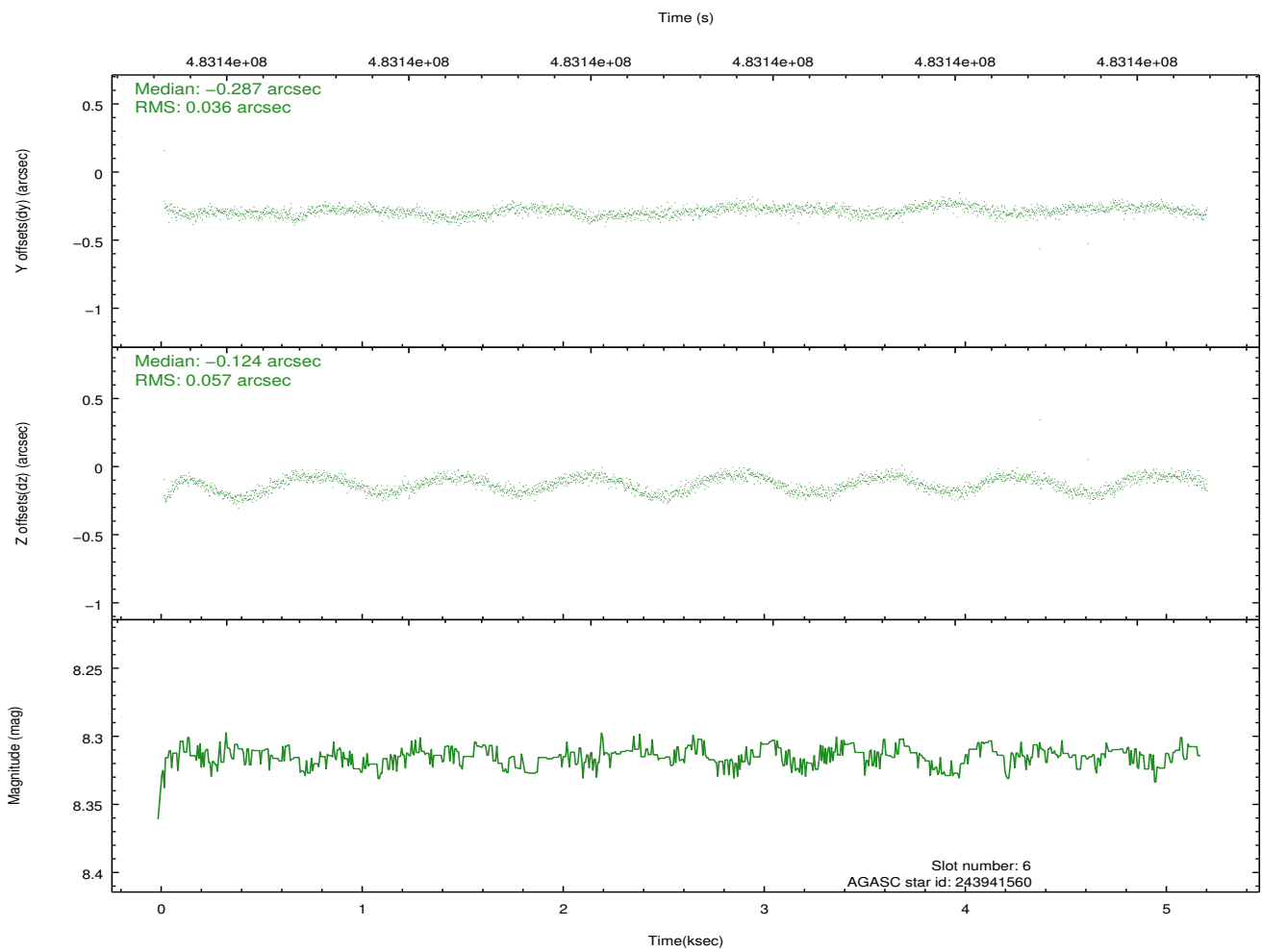
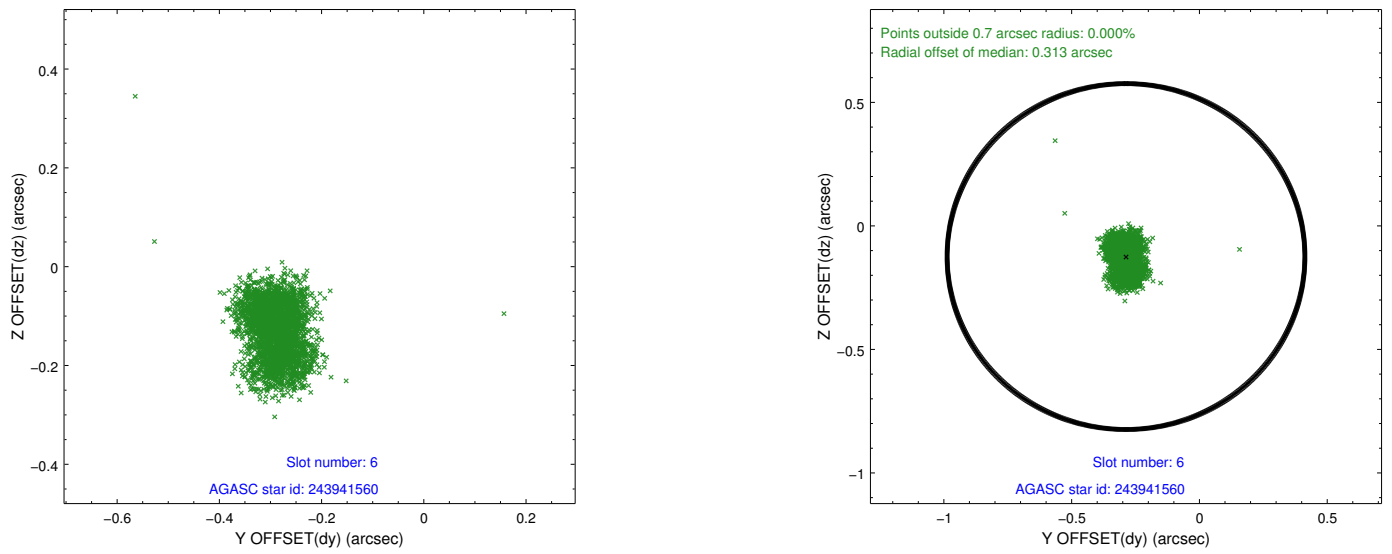
2.4.2 Slot 4



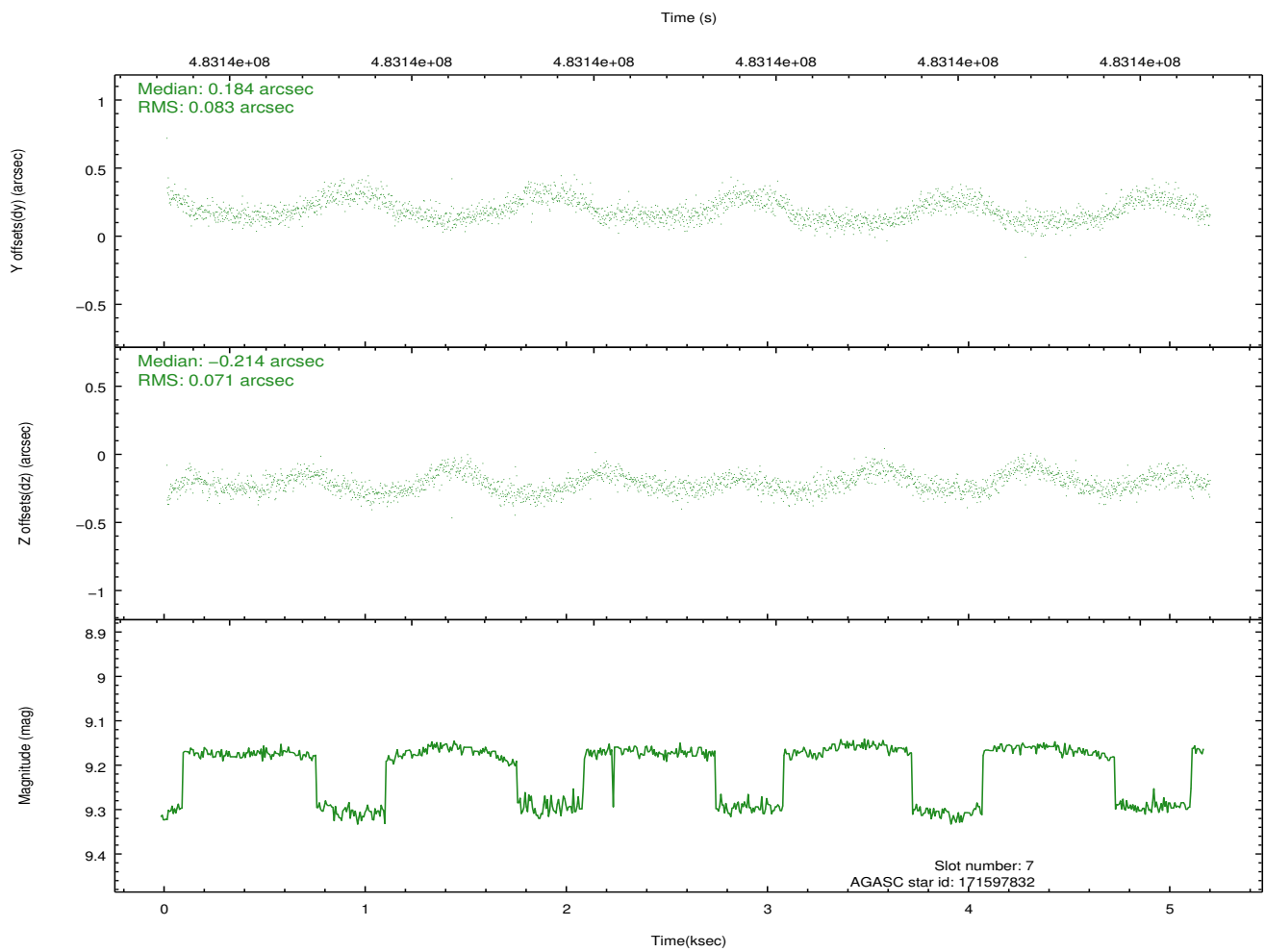
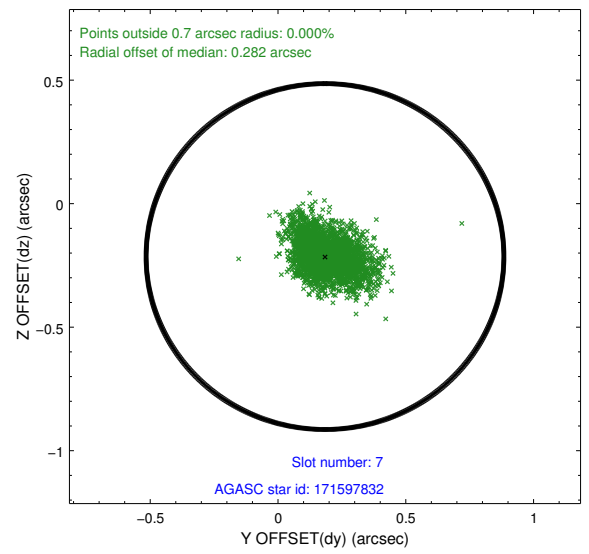
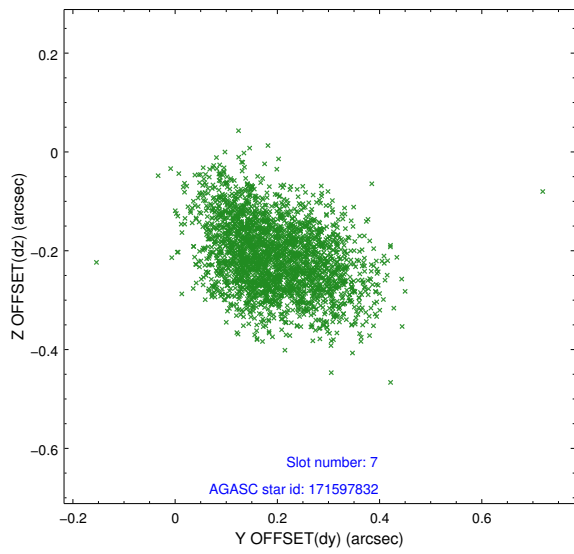
2.4.3 Slot 5



2.4.4 Slot 6

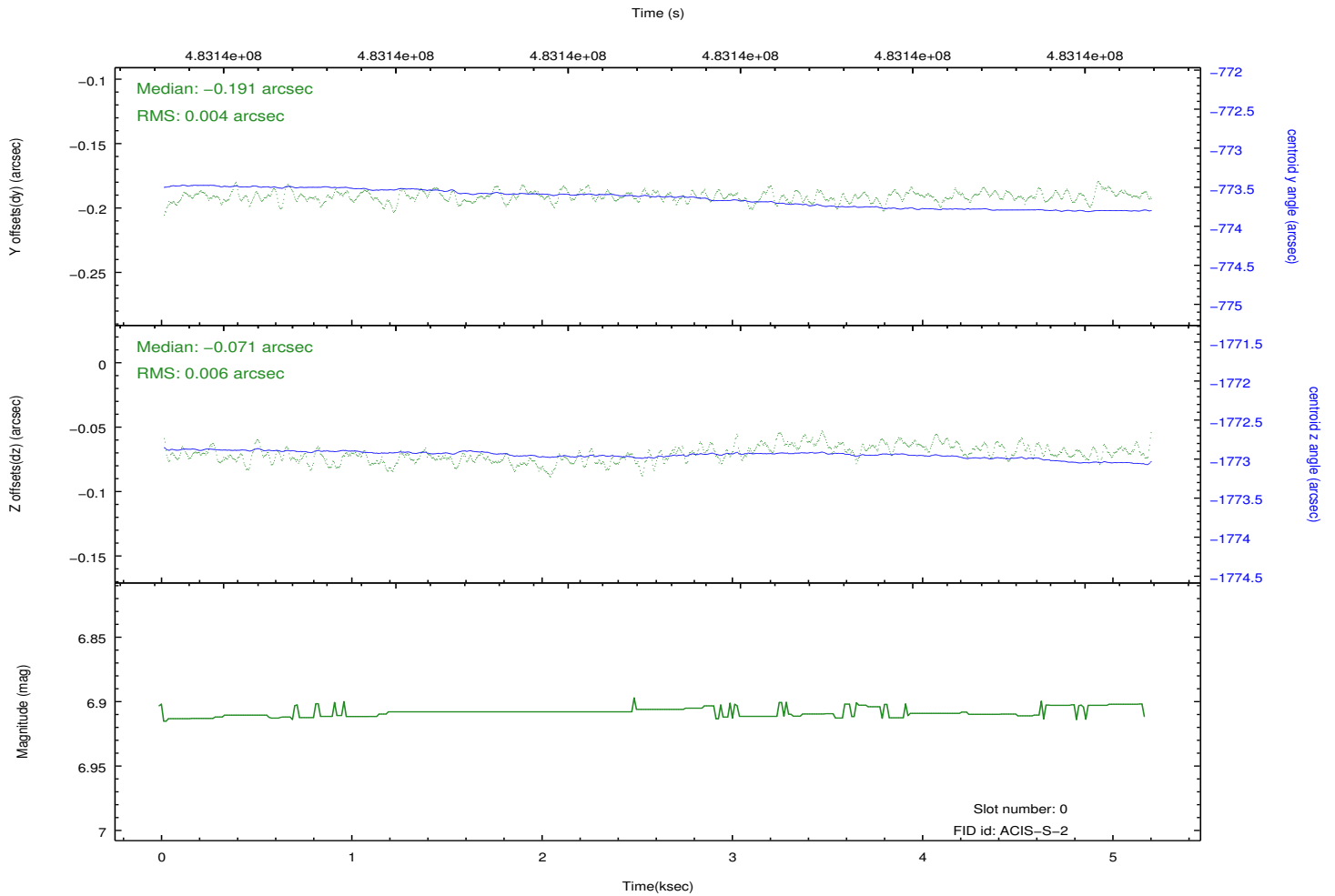
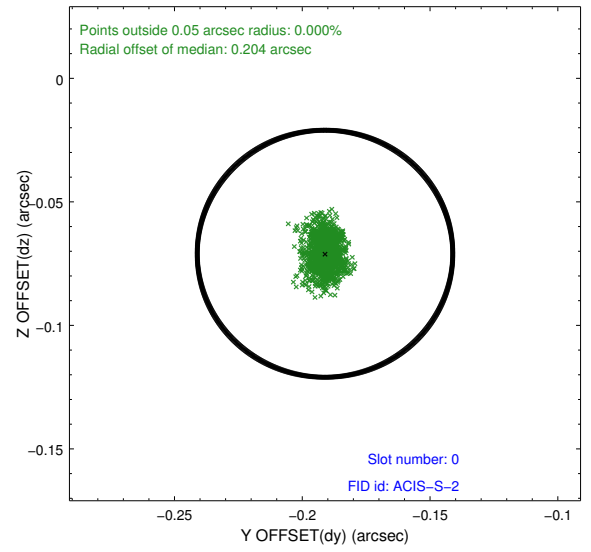
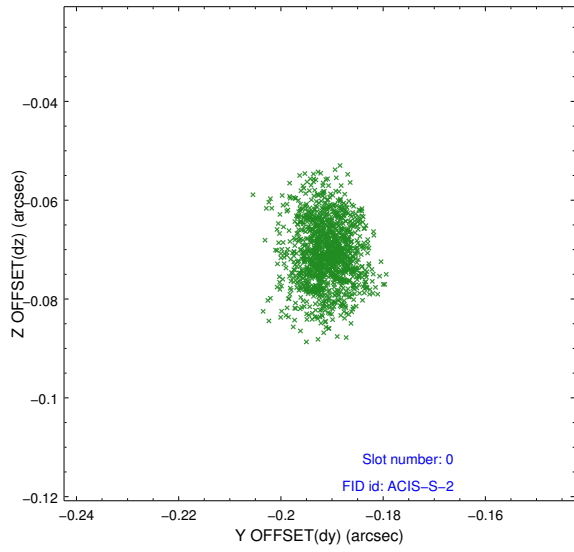


2.4.5 Slot 7

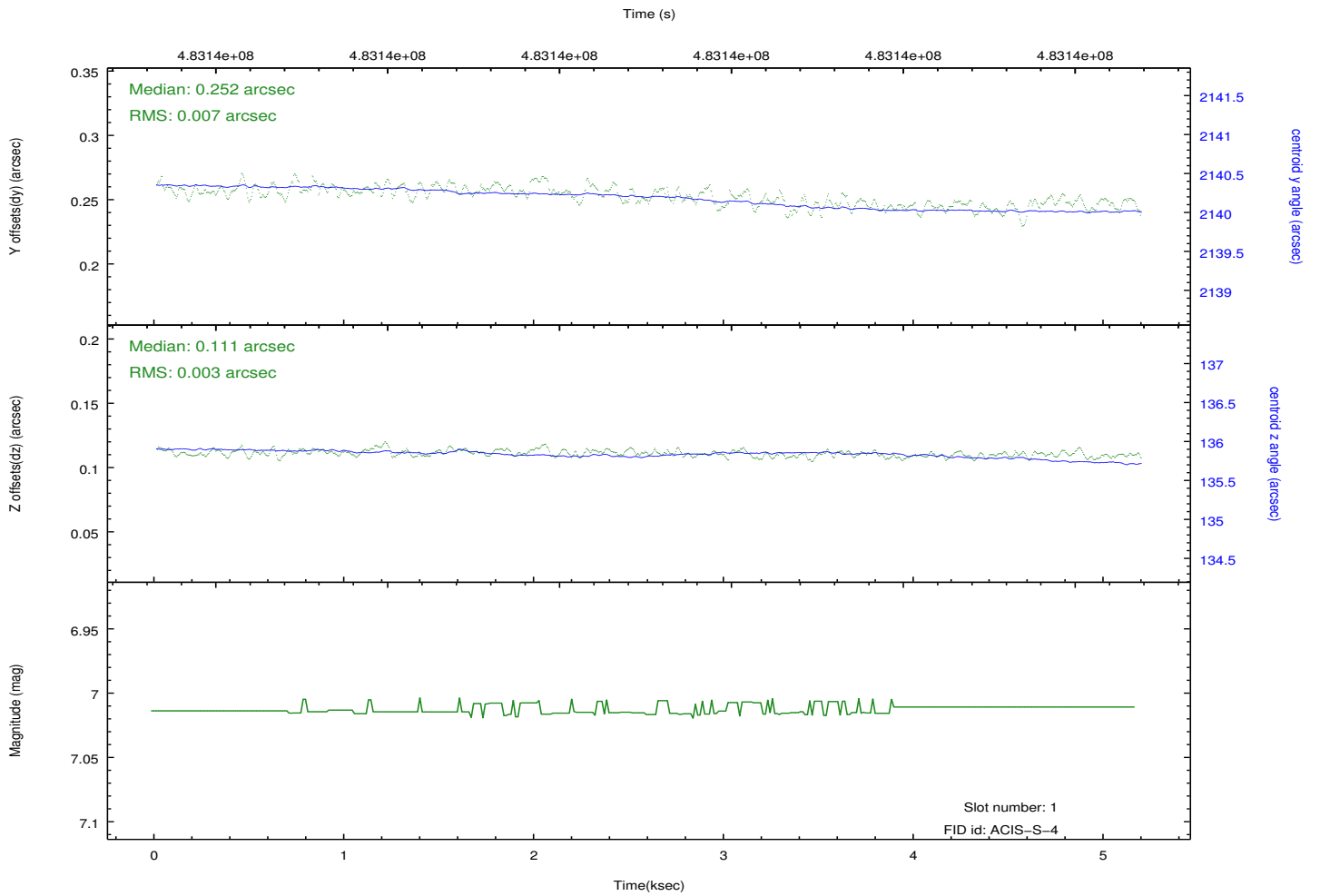
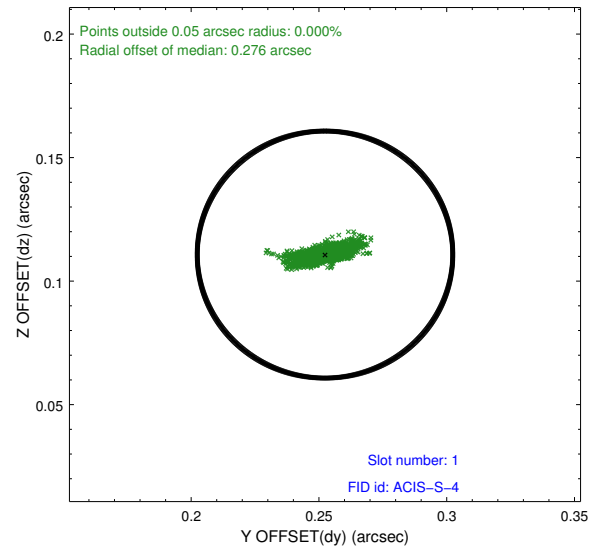
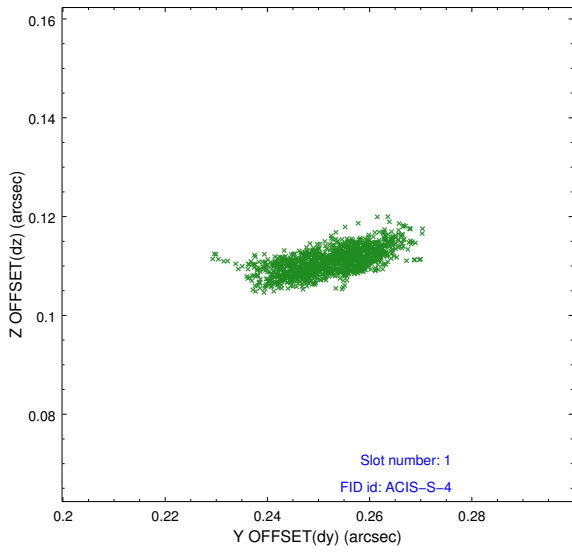


2.5 FID Slots

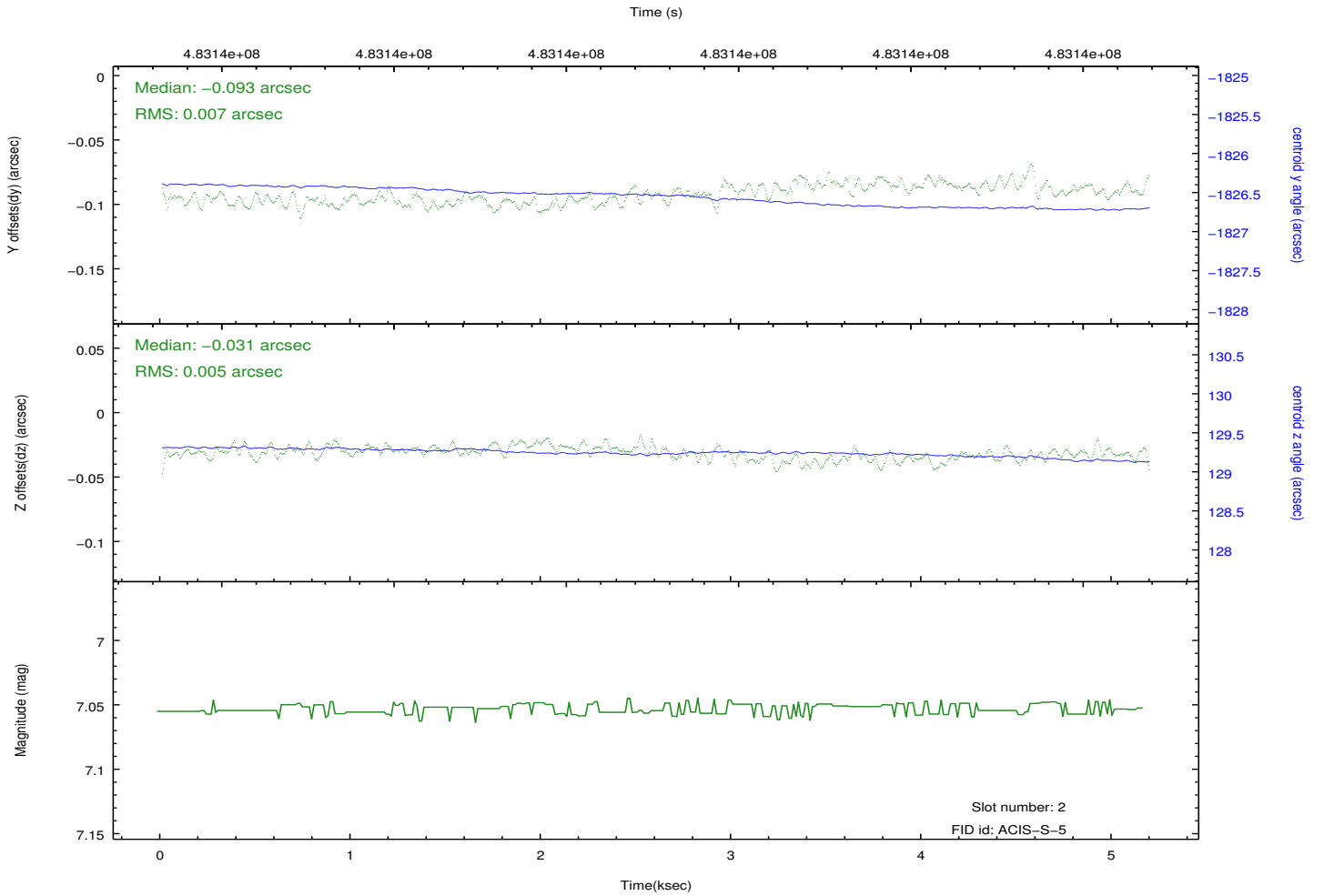
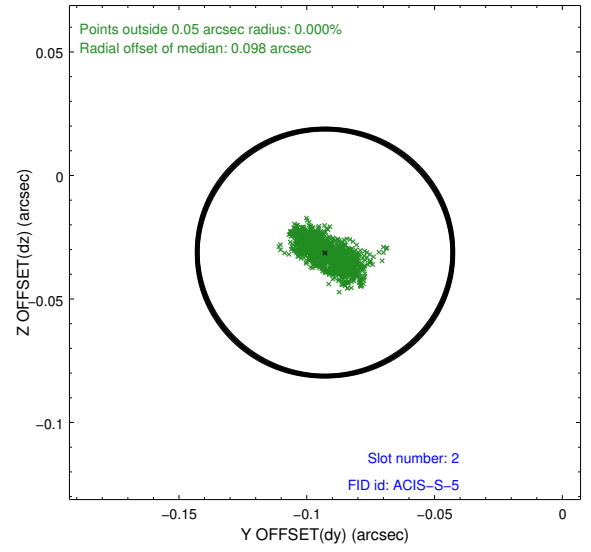
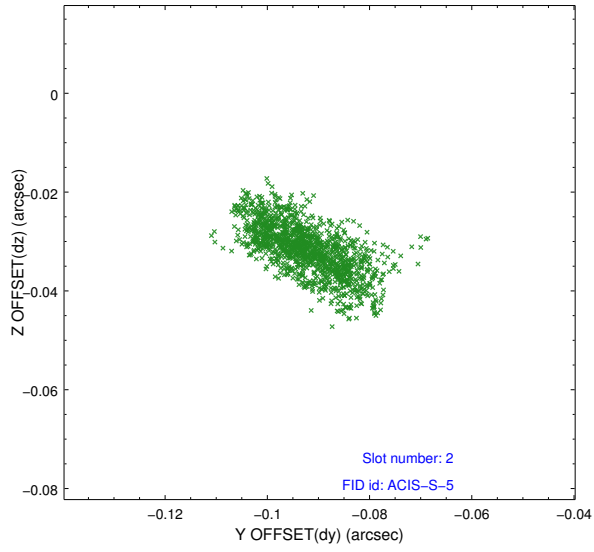
2.5.1 Slot 0



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)	2014.12.10
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.

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 606 sec, significantly shorter than the ontime of 3497 sec. 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 sec) in the specified configuration. Therefore, there is a flush of 0.90588 sec preceding each frame. This flush time is dead time.

This observation used a non-standard dither.

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.