

V&V Reference Report

L2 ASCDS Version : 8.3.2.1

Observation 1 - L2 Version 6
Chandra X-Ray Center

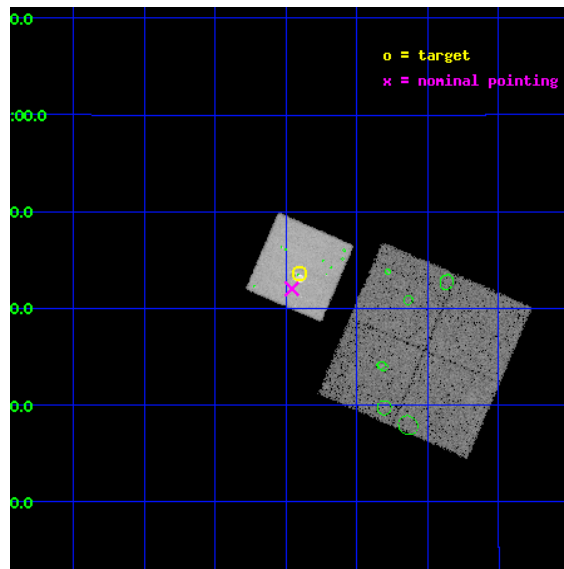
L2 Processing Date : Sep 20 2010

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1 Front

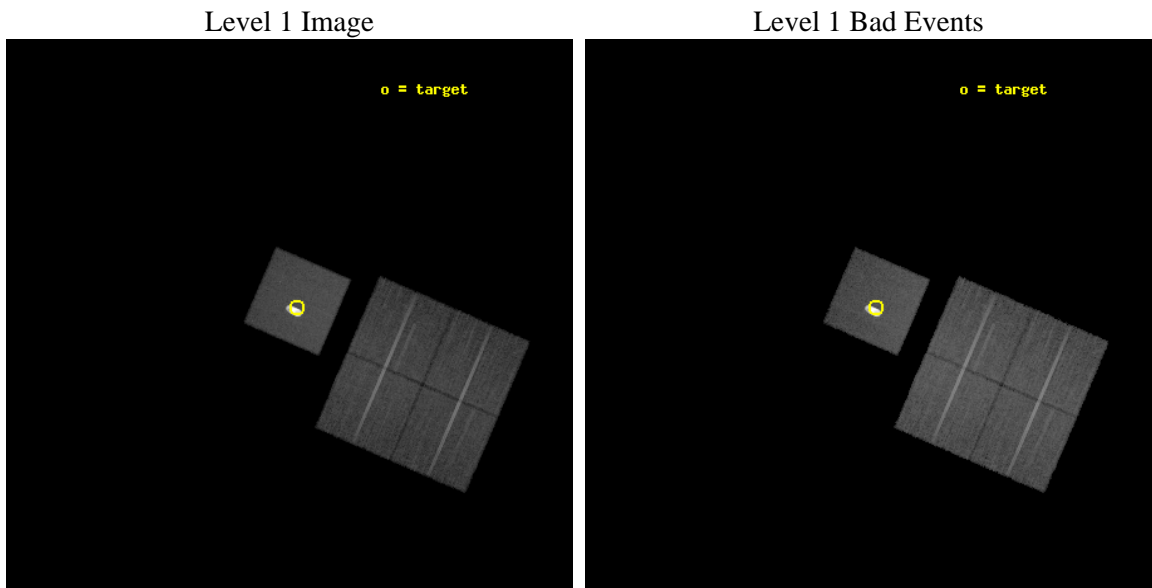
seq_num	100000	Sequence number
obs_id	1	Observation id
title	ACIS OBSERVATION OF JUPITER AND THE GALILEAN SATELLITES	Proposal t
observer	Prof. Gordon Garmire	Principal investigator
object	JUPITER	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	24.7263	Observer's specified target RA
dec_targ	8.72658	Observer's specified target Dec
ra_nom	24.739600730332	Nominal RA
dec_nom	8.7005476424575	Nominal Dec
roll_nom	293.3434549387	Nominal Roll
revision	6	Processing version of data
ontime	19315.200017989	Sum of GTIs [s]
livetime	19070.619325144	Livetime [s]
ontime0	19315.195760675	Sum of GTIs [s]
ontime1	19315.154720679	Sum of GTIs [s]
ontime2	19315.113680676	Sum of GTIs [s]
ontime3	19315.07264068	Sum of GTIs [s]
ontime7	19315.200017989	Sum of GTIs [s]
l2events	147026	Number of level 2 events



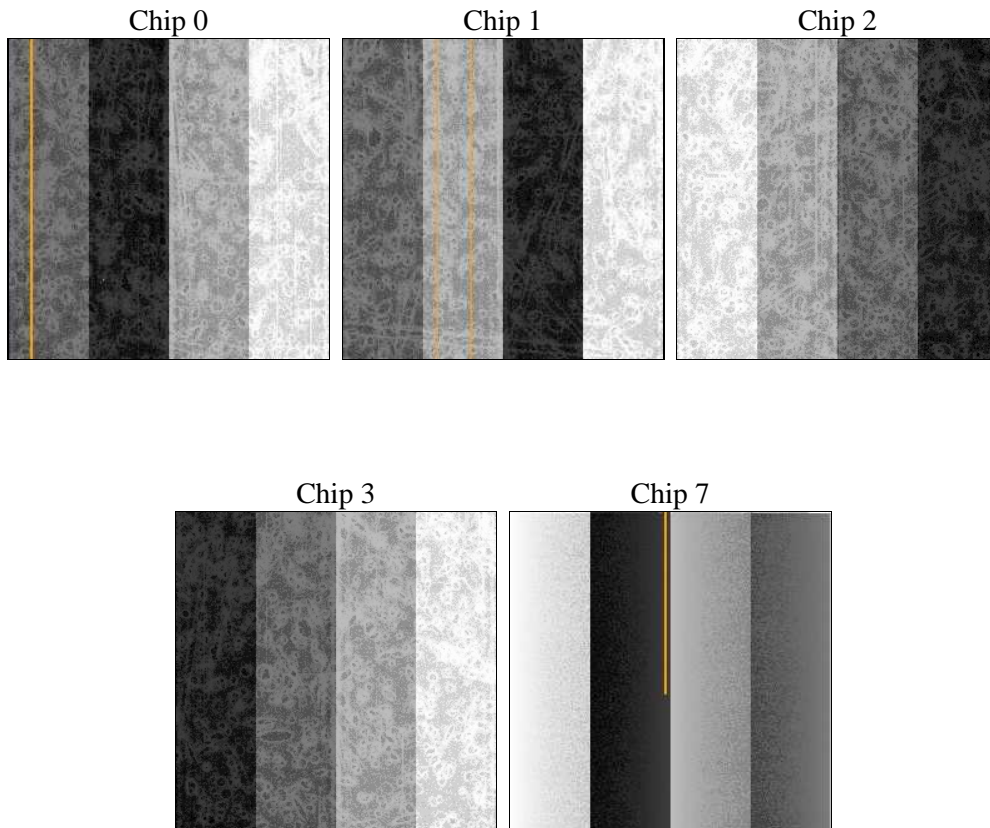
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20150.000000	Scheduled observation exposure time
ascdsver	8.3.2.1	ASCDS version number	ontime	19315.200017989	Sum of GTIs [s]
caldbver	4.3.0	 	ontime0	19315.195760675	Sum of GTIs [s]
date	2010-09-20T20:59:13	Date and time of file creation	ontime1	19315.154720679	Sum of GTIs [s]
revision	4	Processing version of data	ontime2	19315.113680676	Sum of GTIs [s]
			ontime3	19315.07264068	Sum of GTIs [s]
			ontime7	19315.200017989	Sum of GTIs [s]
			l1events	1719414	Number of level 1 events

2.1.4 Events

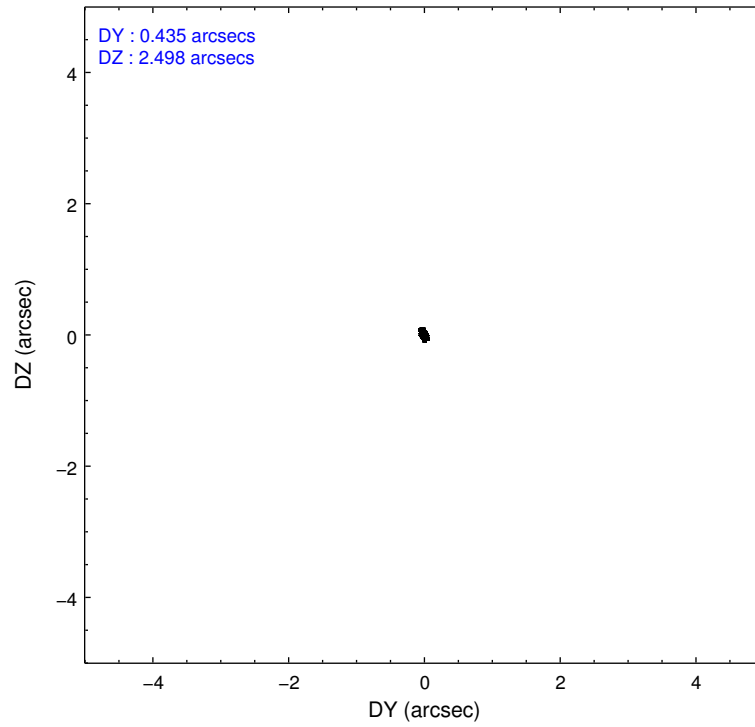
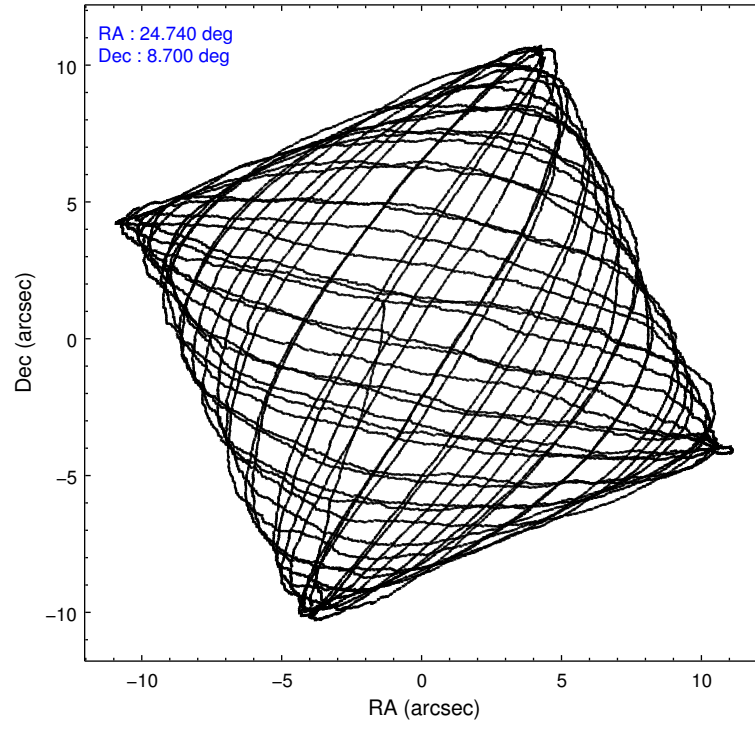
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 7
level 1 events	153857	153999	168157	161535	1081866
rejected events	137547	137172	153393	145959	988327
rejected %	89%	89%	91%	90%	91%

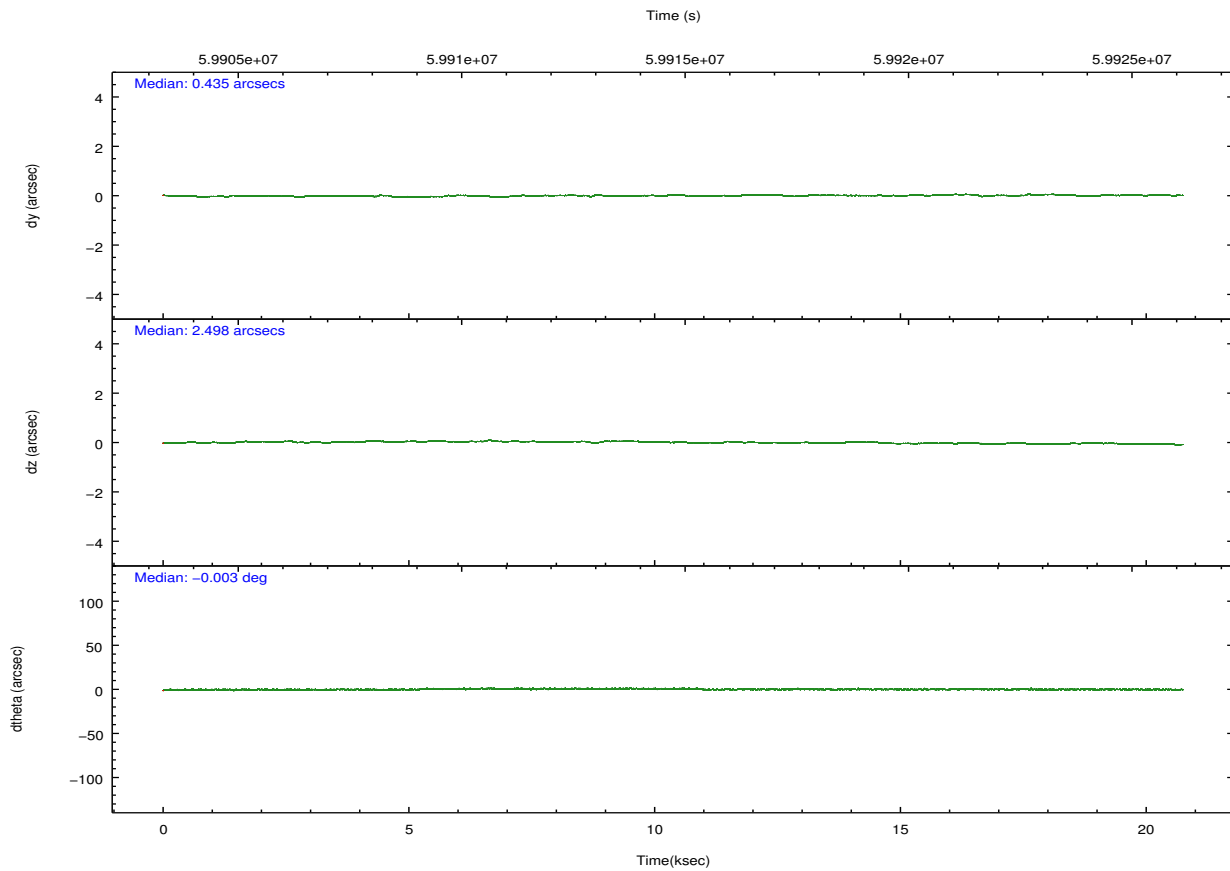
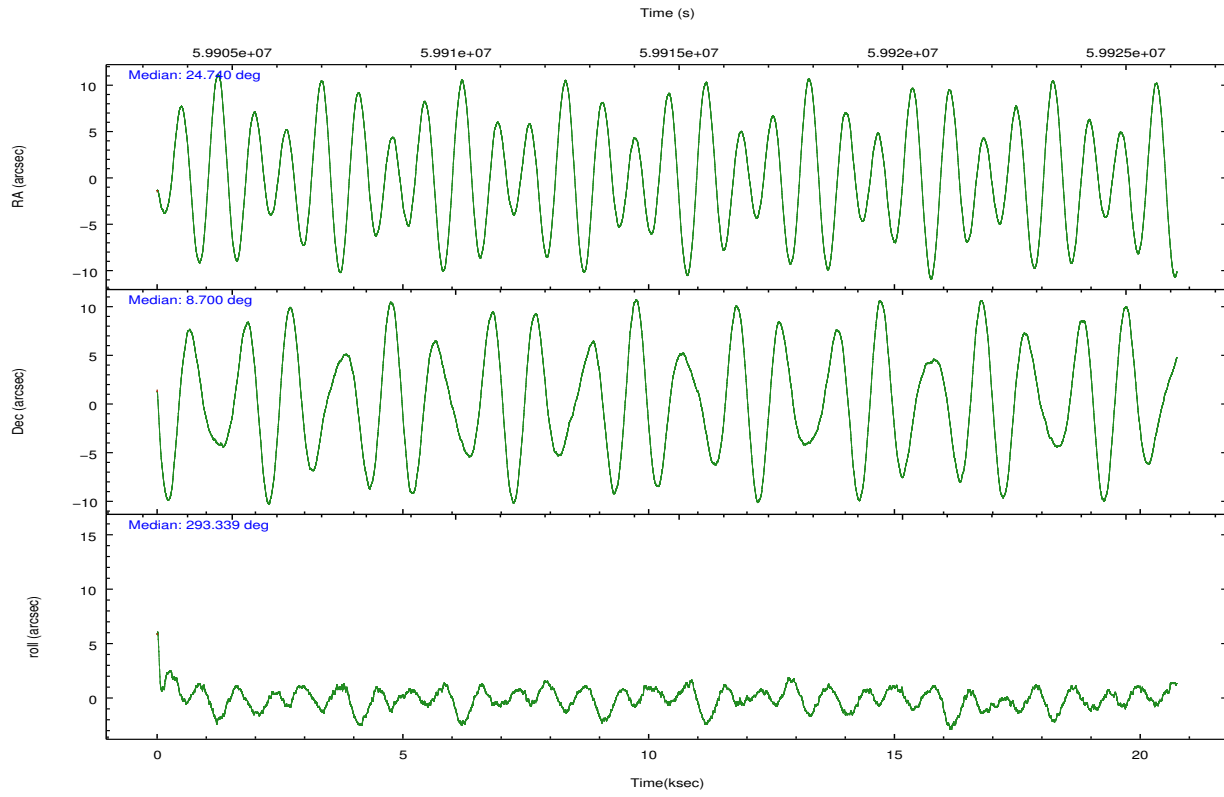
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 7
grade 0 events	3980	3906	3293	3465	8541
	2%	2%	1%	2%	0%
grade 1 events	29	37	23	33	3940
	0%	0%	0%	0%	0%
grade 2 events	6372	6157	5902	6176	19863
	4%	3%	3%	3%	1%
grade 3 events	1173	1369	1005	999	6343
	0%	0%	0%	0%	0%
grade 4 events	1049	1296	995	1002	5809
	0%	0%	0%	0%	0%
grade 5 events	3238	3444	2762	3045	19415
	2%	2%	1%	1%	1%
grade 6 events	3738	4103	3570	3936	52995
	2%	2%	2%	2%	4%
grade 7 events	134278	133687	150607	142879	964960
	87%	86%	89%	88%	89%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
Detector	ACIS-01237	ACIS-01237	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
Pointing RA	24.717288	24.73960073033181	Subarray requested	NONE	NONE
Pointing Dec	8.717110	8.700547642457451	Alternating exposures requested	N	N
Pointing Roll	293.190211	293.3434549387032	Primary exposure time	0.000000	3.2
Window start time	59904844.184000	59904844.184000			
Window stop time	59925004.184000	59925004.184000			
SIM focus pos (mm)	-0.684267	-0.6828225247311905			
SIM defocus (mm)	0	0.001444936568705701			
SIM translation stage pos (mm)	-190.132523	-190.1400660498719			
SIM translation stage offset (mm)	0	0.00754346686406393			
Observation start time	59904844.184000	59904045.158217			
Observation start date	1999-11-25T08:13:00	1999-11-25T08:00:45			
Observation end time	59924994.184000	59925238.058983			
Observation end date	1999-11-25T13:48:50	1999-11-25T13:53:58			
Read mode	TIMED	TIMED			

2.3 Aspect



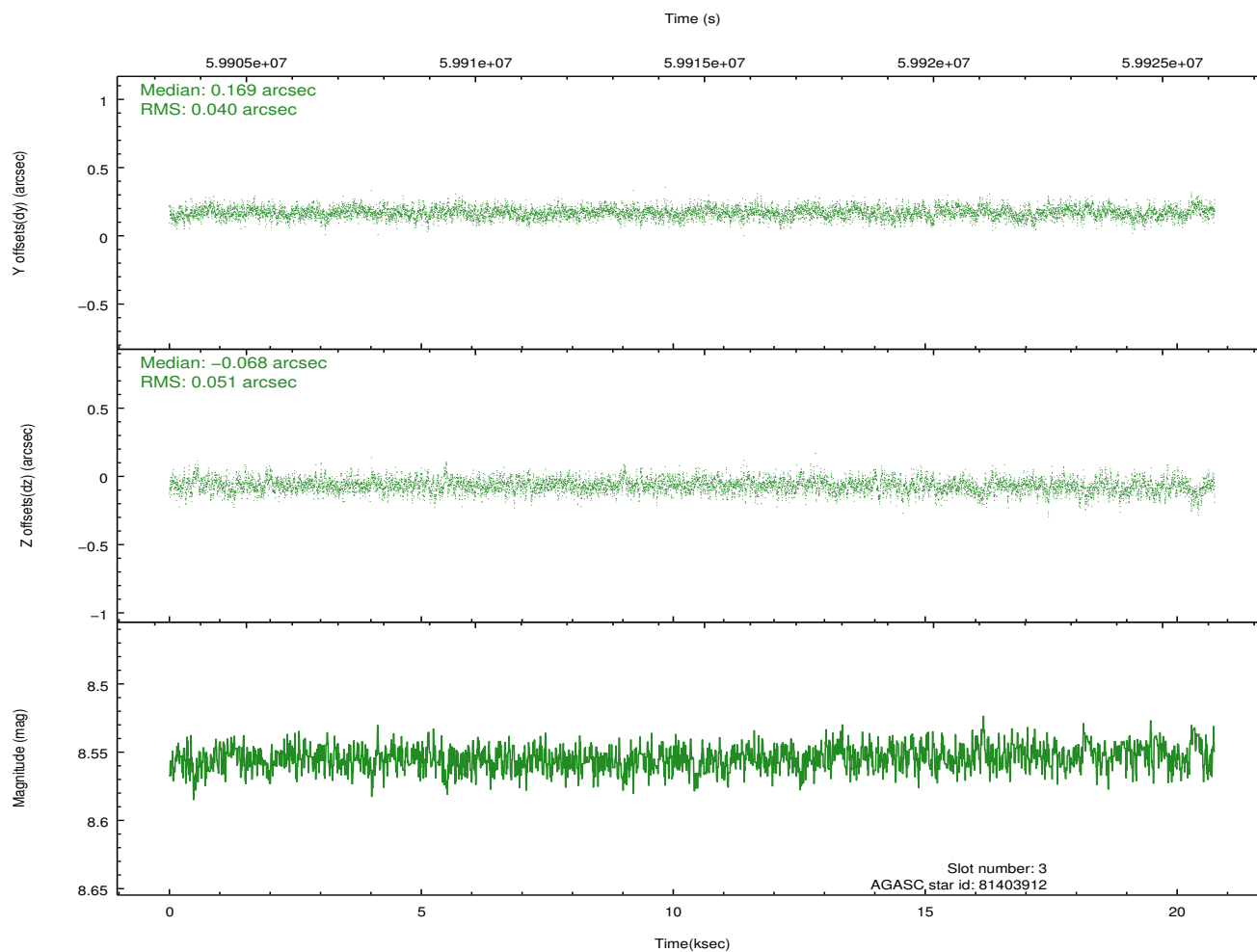
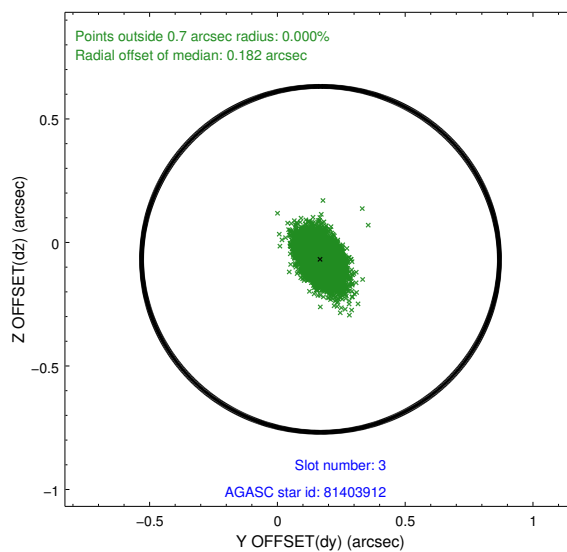
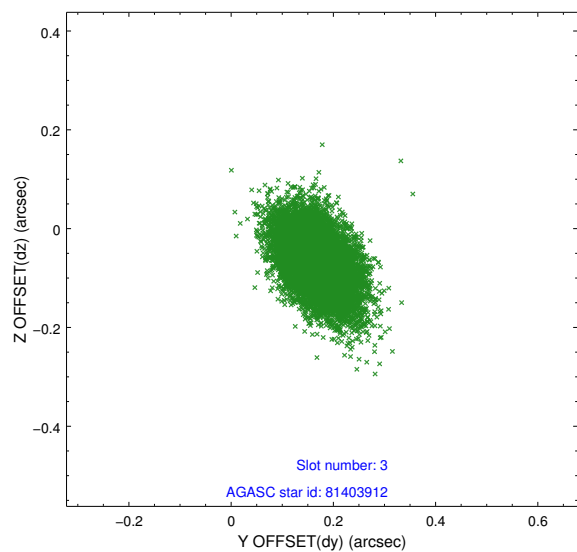


Slot Statistics

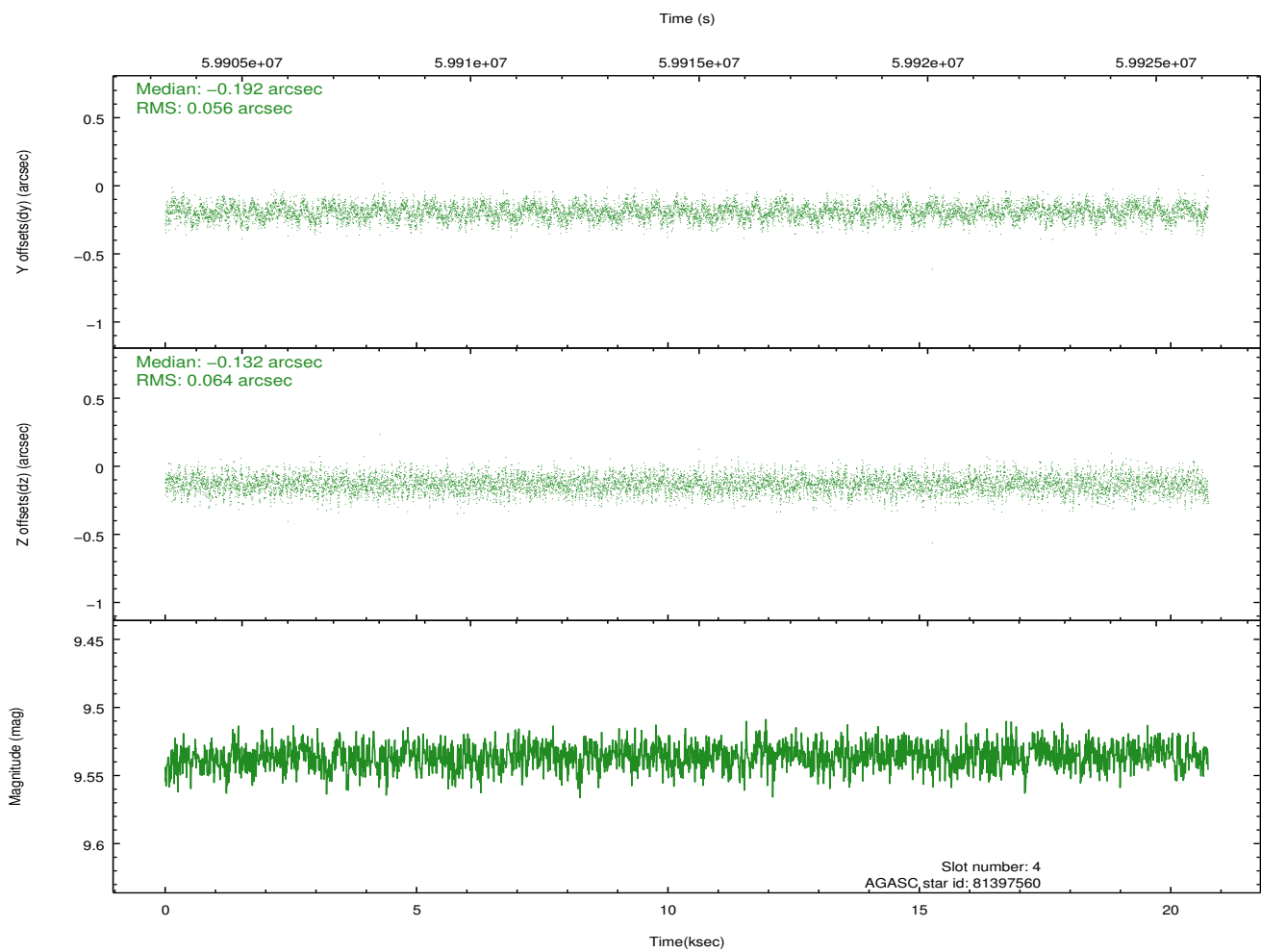
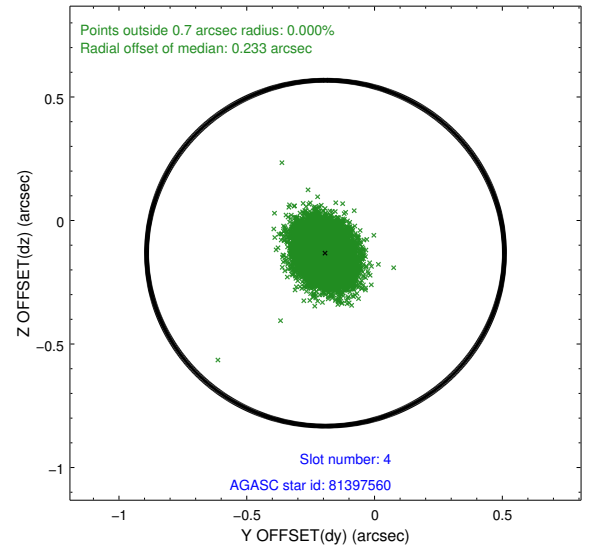
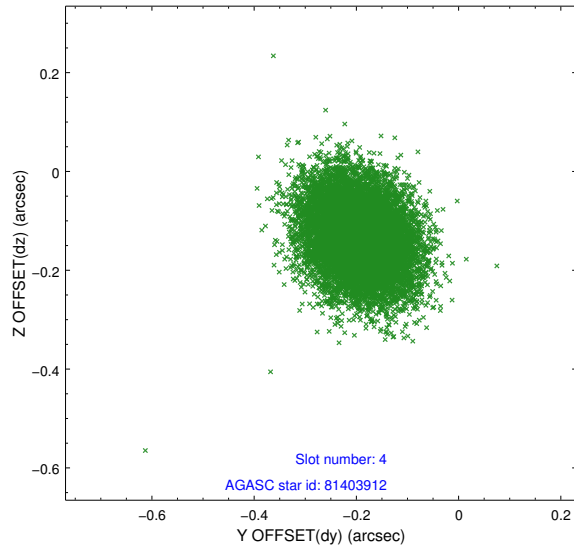
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.12	10121	-0.008	-0.015	0.007	0.012	0.000000	0.000000	-753.06	-1723.54
1	FID	ACIS-S-4	7.22	10119	0.053	0.008	0.006	0.011	0.000000	0.000000	2160.32	184.89
2	FID	ACIS-S-5	7.24	10120	-0.076	0.016	0.007	0.011	0.000000	0.000000	-1805.91	178.68
3	GUIDE	81403912	8.55	10114	0.169	-0.068	0.067	0.117	24.947056	8.405146	1353.73	309.45
4	GUIDE	81397560	9.54	10113	-0.192	-0.132	0.090	0.145	24.004098	8.965422	-1823.31	-1979.16
5	GUIDE	81398056	9.18	10117	-0.030	0.170	0.089	0.146	25.259975	8.764958	599.64	1842.64
6	GUIDE	81401848	9.56	10052	-0.016	-0.102	0.085	0.142	24.221068	8.860999	-1172.90	-1418.64
7	GUIDE	81398288	9.72	10111	0.069	0.133	0.105	0.174	25.243996	8.617595	1065.46	1582.18

2.4 Star Slots

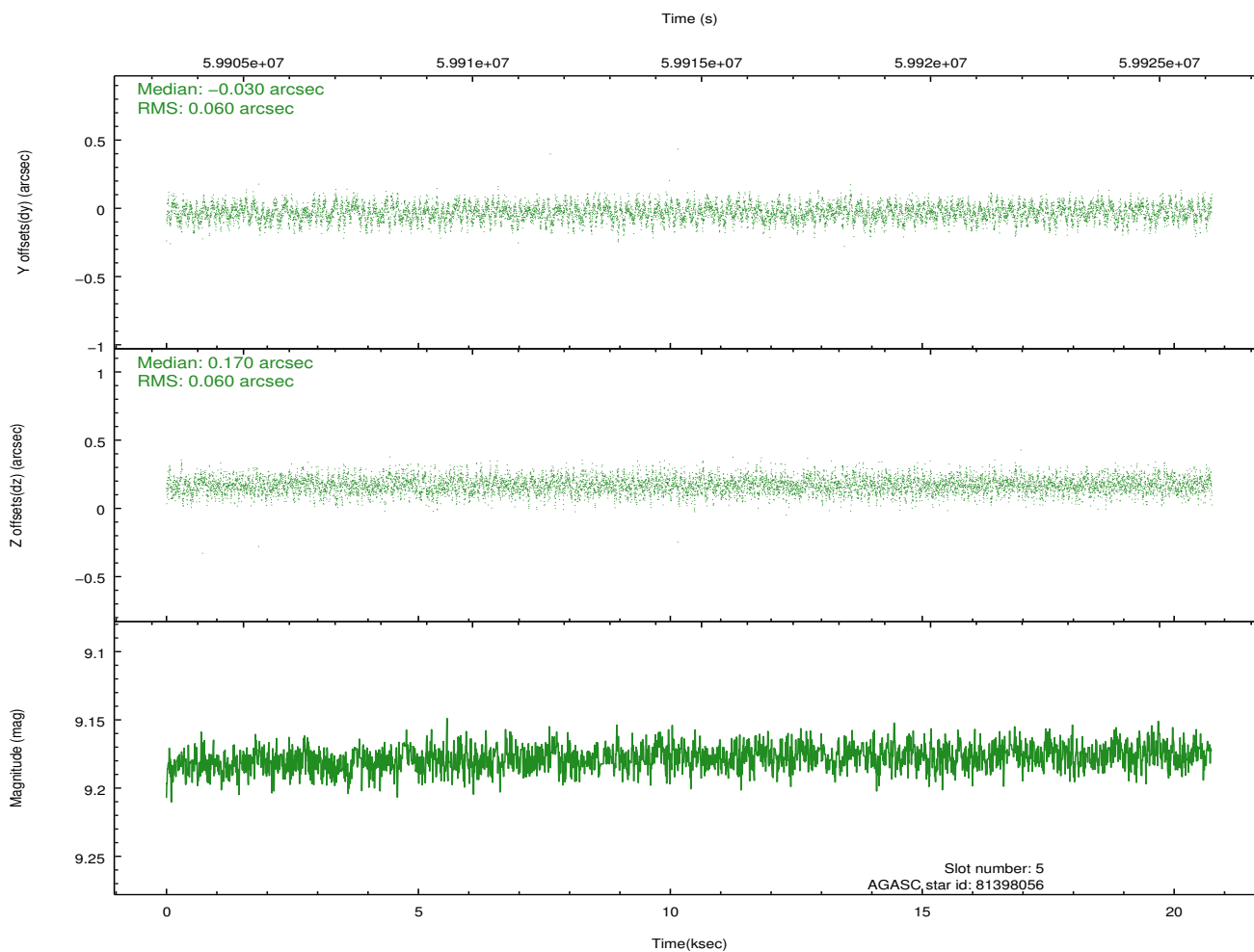
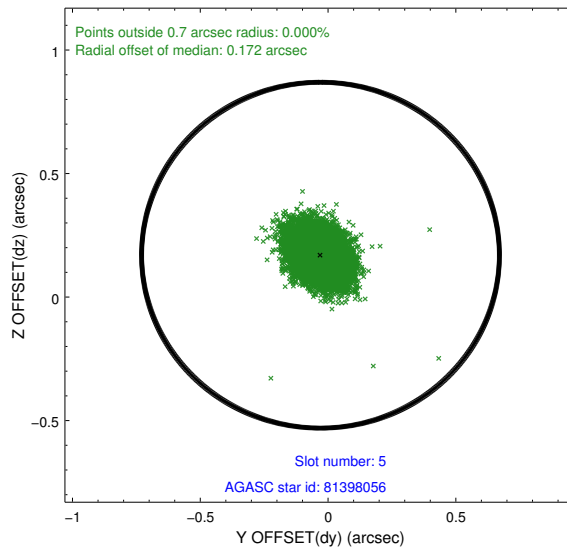
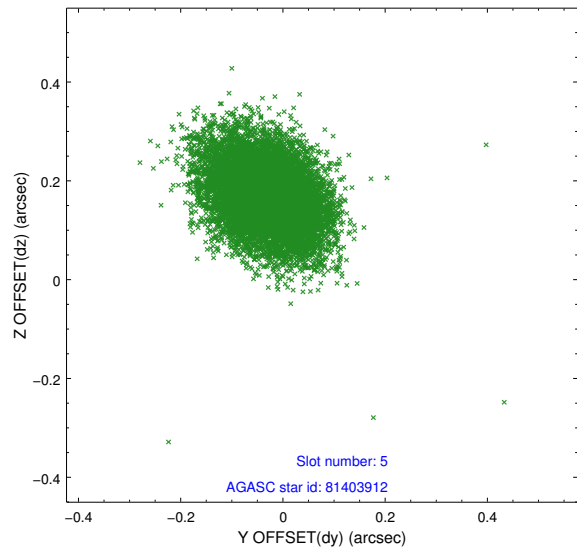
2.4.1 Slot 3



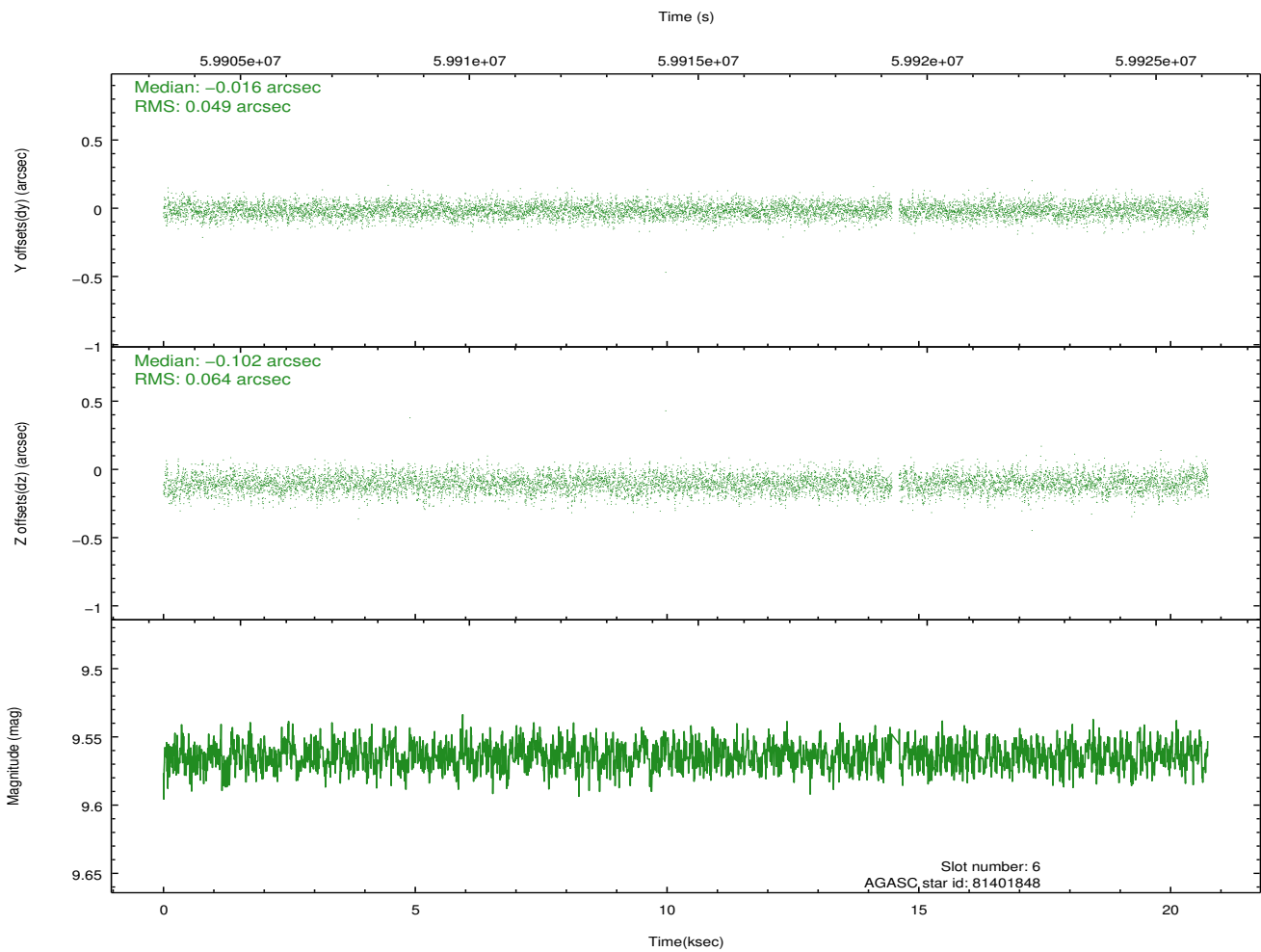
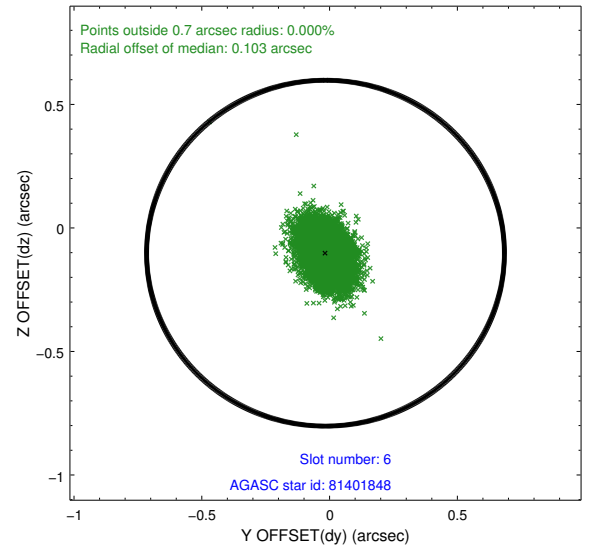
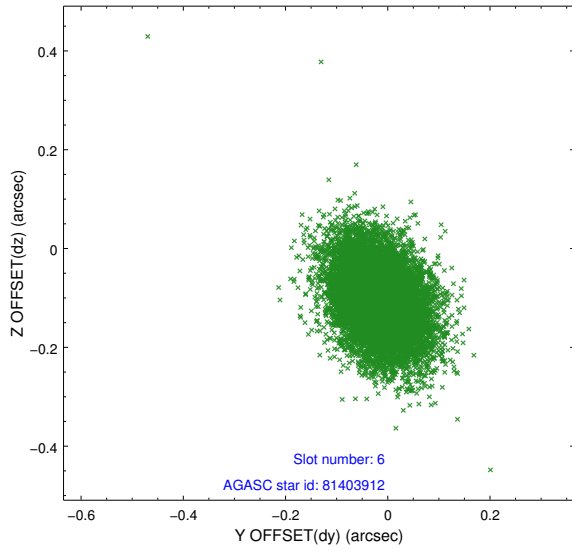
2.4.2 Slot 4



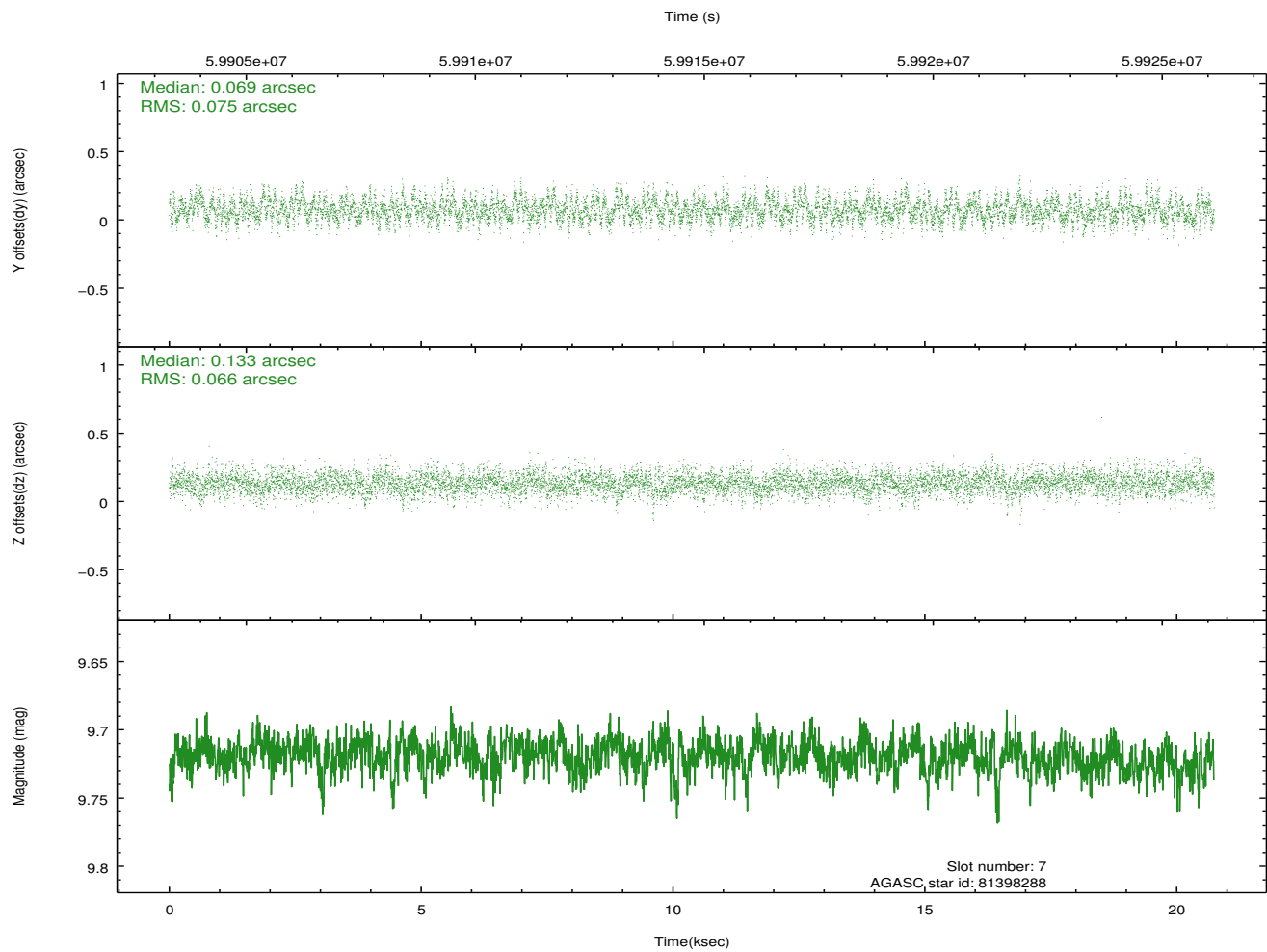
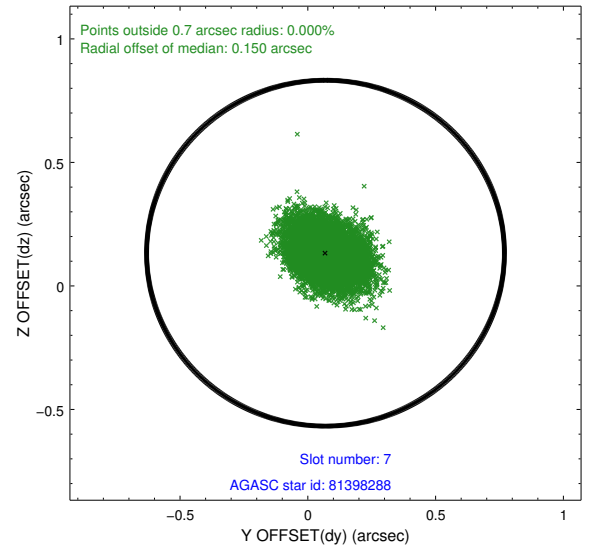
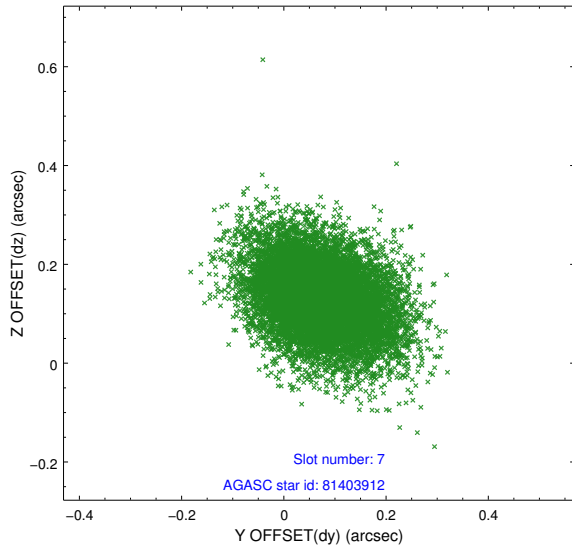
2.4.3 Slot 5



2.4.4 Slot 6

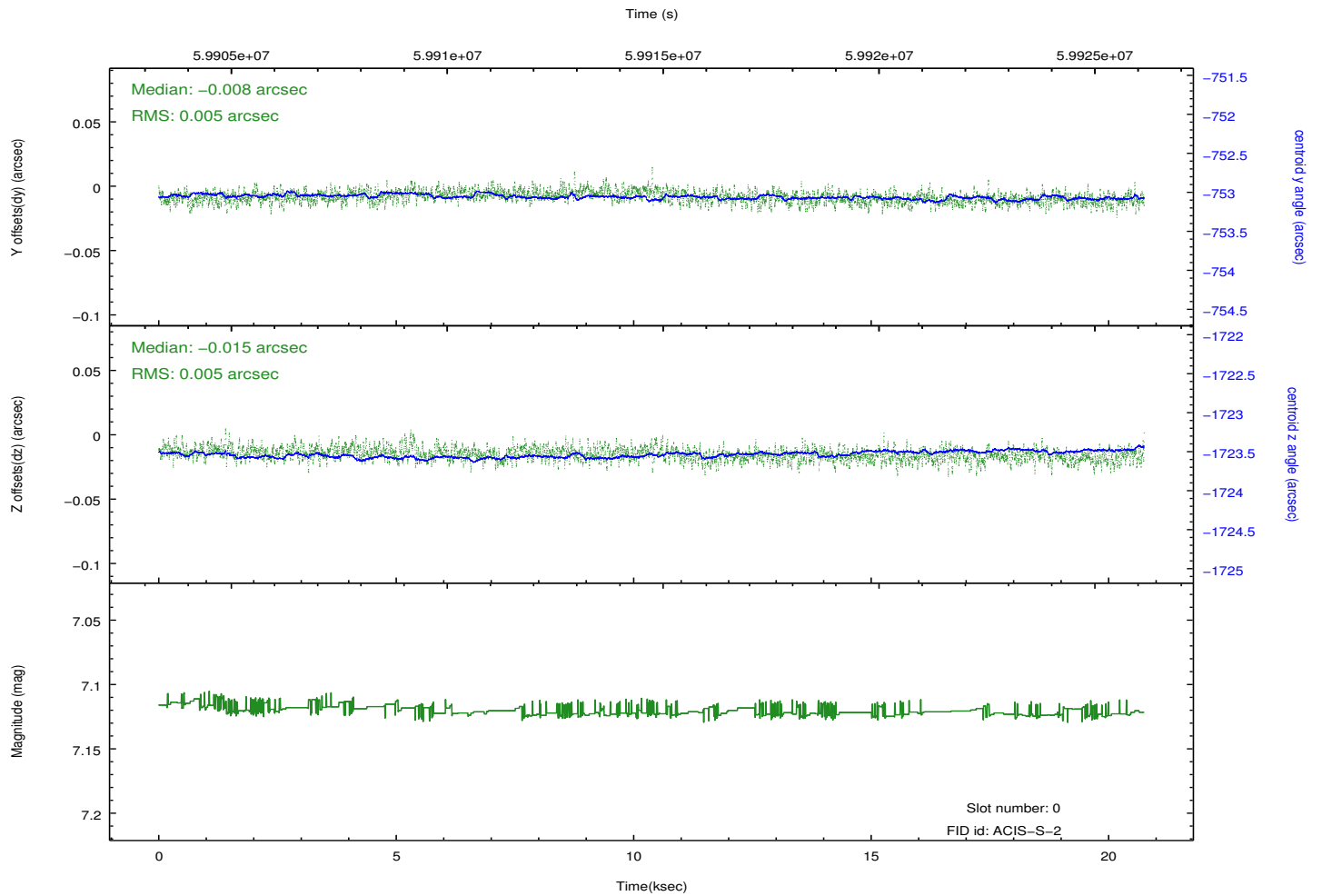
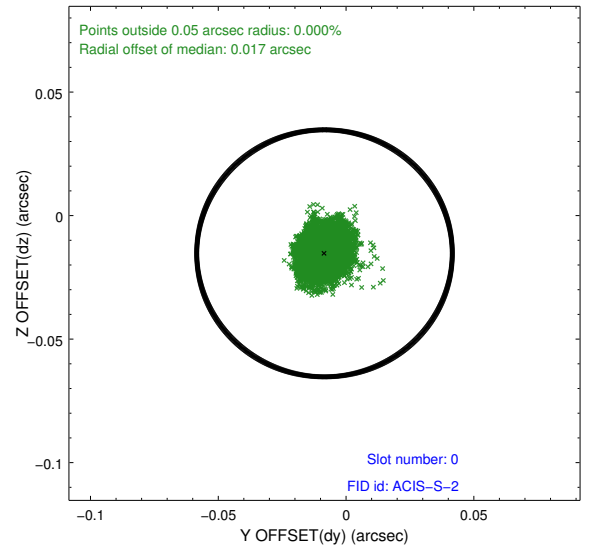
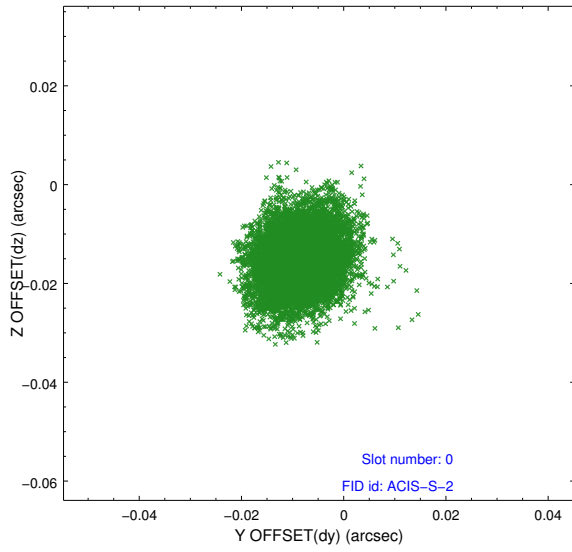


2.4.5 Slot 7

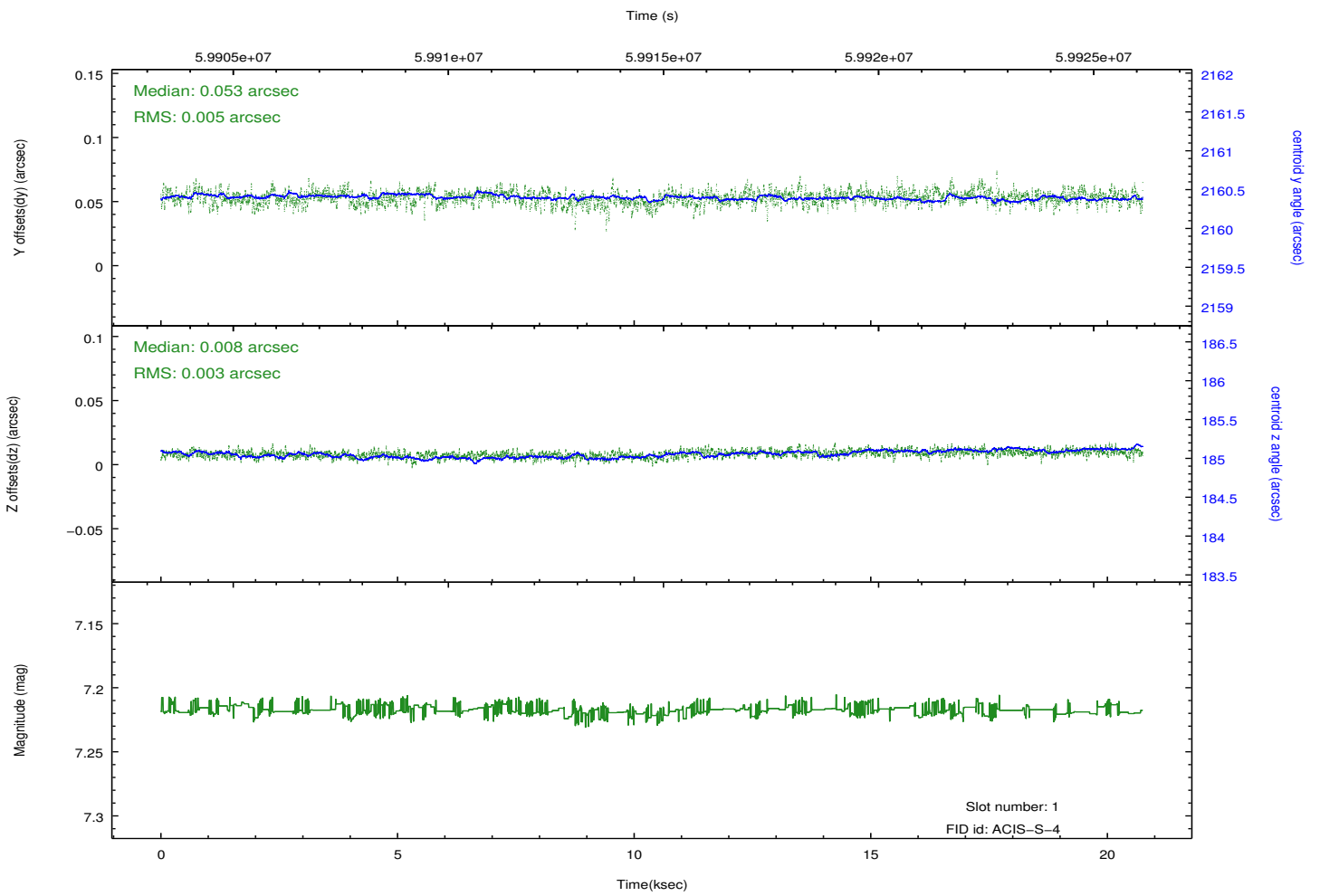
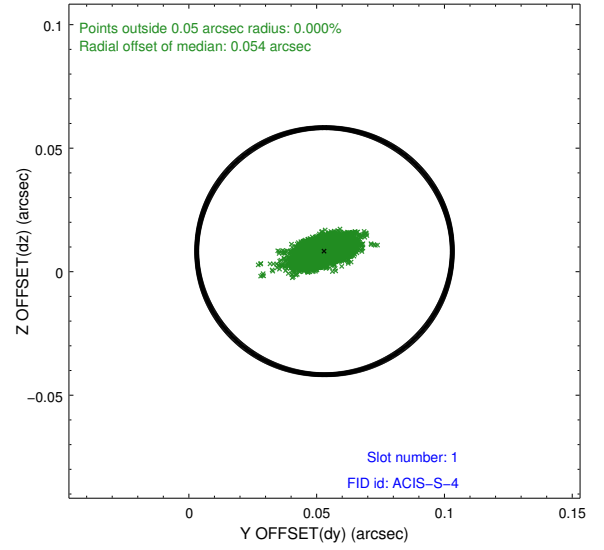
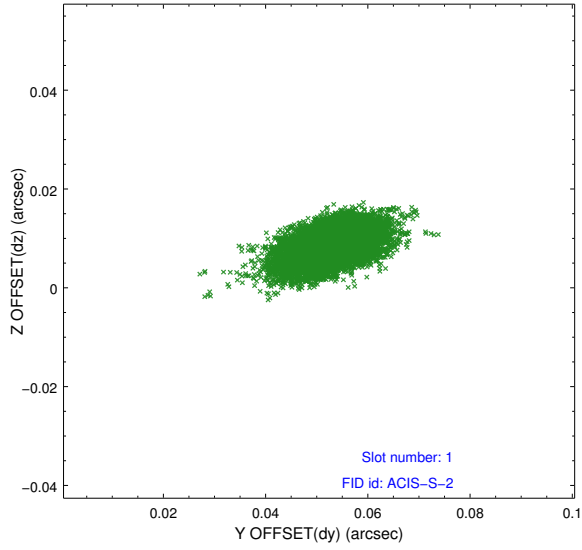


2.5 FID Slots

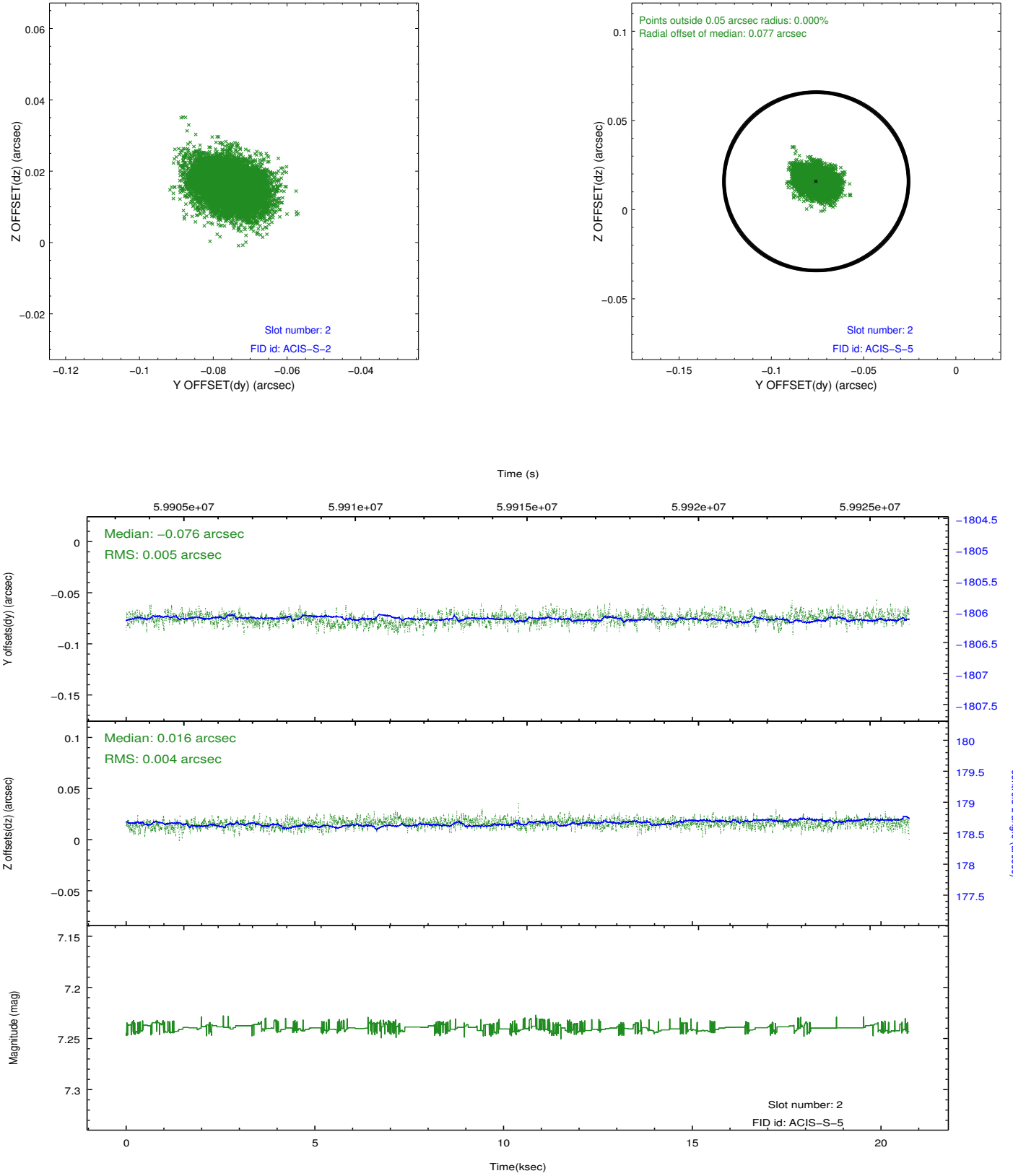
2.5.1 Slot 0



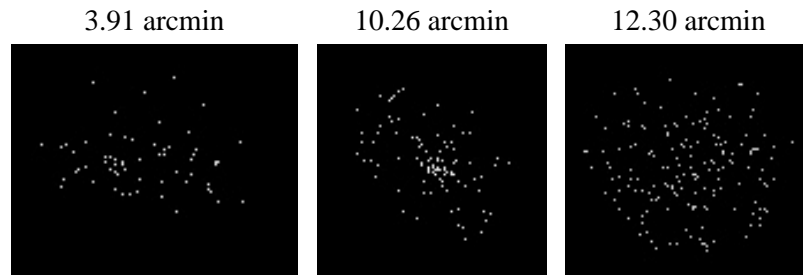
2.5.2 Slot 1



2.5.3 Slot 2



3 Point Sources



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2010.09.22
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.318

A.2 Comments

This observation was taken with the spacecraft pointed at a single position and the image of Jupiter allowed to trail across the detector. In order to analyze the data, the events need to be put back in the appropriate position based on the ephemeris of Jupiter at that time and the time stamp of each event. The Chandra data processing system has a tool for restoring the events to the their correct position. The tool is called `sso_freeze`.

=====

The focal plane temperature is approximately -110 C during this observation. This reprocessing of the data applies no CTI correction because none is available for this temperature at present.

The ACIS CTI correction has not been calibrated at this temperature, because it was early in the mission, and ACIS had not yet been lowered to the standard -119.7 C. Both front and back illuminated chips are affected. However a T_GAIN correction has been applied to the BI chips (ACIS-5 and ACIS-7) data included here.

The ACIS spectral response calibration is less accurate at these warmer temperatures than it is at -119.7 C. Users whose science objectives depend on the most accurate spectral response (ie: fitting line-rich spectra) may notice an effect. Users whose science objectives do not depend on the most accurate spectral response should not notice an effect.

=====

A spatial region of the original bias map for CCD = 7 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small (~20 eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 7 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels

affected by the anomaly are bounded by sky
coords: (24.77899,8.72290), (24.76503,8.75485), (24.68898,8.72236), (24.7029
5,8.69041)