

V&V Reference Report

L2 ASCDS Version : 8.4.3

Observation 13135 - L2 Version 3
Chandra X-Ray Center

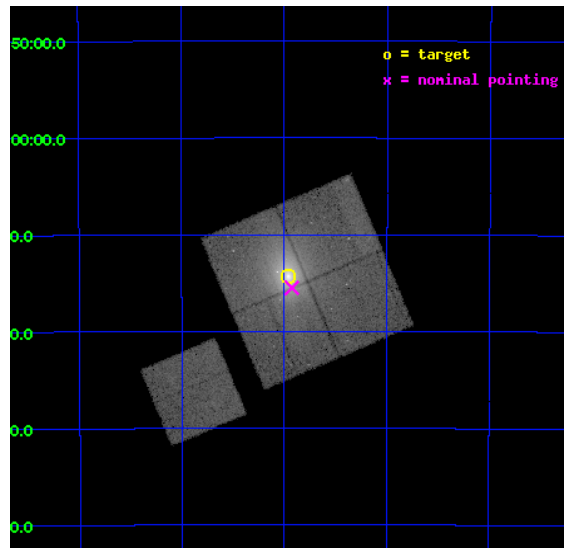
L2 Processing Date : Feb 6 2012

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	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

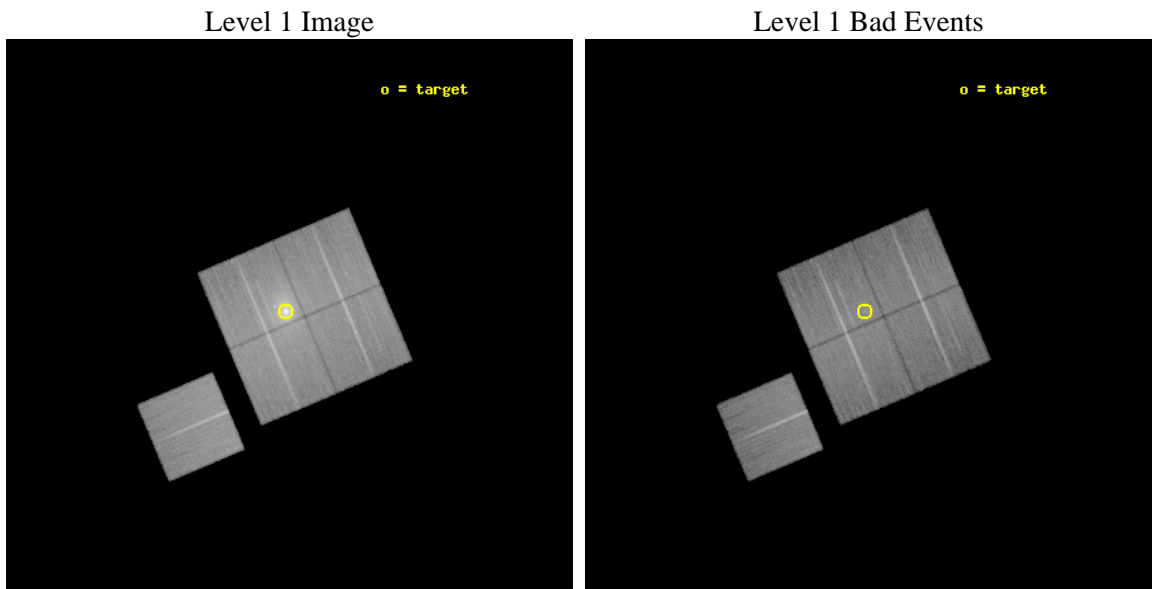
seq_num	801056	Sequence number
obs_id	13135	Observation id
title	Survey of AGN outbursts in galaxy clusters, Abell 3112	Proposal ti
observer	Dr Stephen Murray	Principal investigator
object	Abell 3112	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	49.49	Observer's specified target RA [deg]
dec_targ	-44.238056	Observer's specified target Dec [deg]
ra_nom	49.48156433439	Nominal RA [deg]
dec_nom	-44.258350866799	Nominal Dec [deg]
roll_nom	247.01499115938	Nominal Roll [deg]
revision	3	Processing version of data
ontime	42804.53790617	Sum of GTIs [s]
livetime	42245.265106183	Livetime [s]
ontime0	42807.555776417	Sum of GTIs [s]
ontime1	42798.173895478	Sum of GTIs [s]
ontime2	42804.496866167	Sum of GTIs [s]
ontime3	42804.53790617	Sum of GTIs [s]
ontime6	42807.514736414	Sum of GTIs [s]
l2events	295763	Number of level 2 events



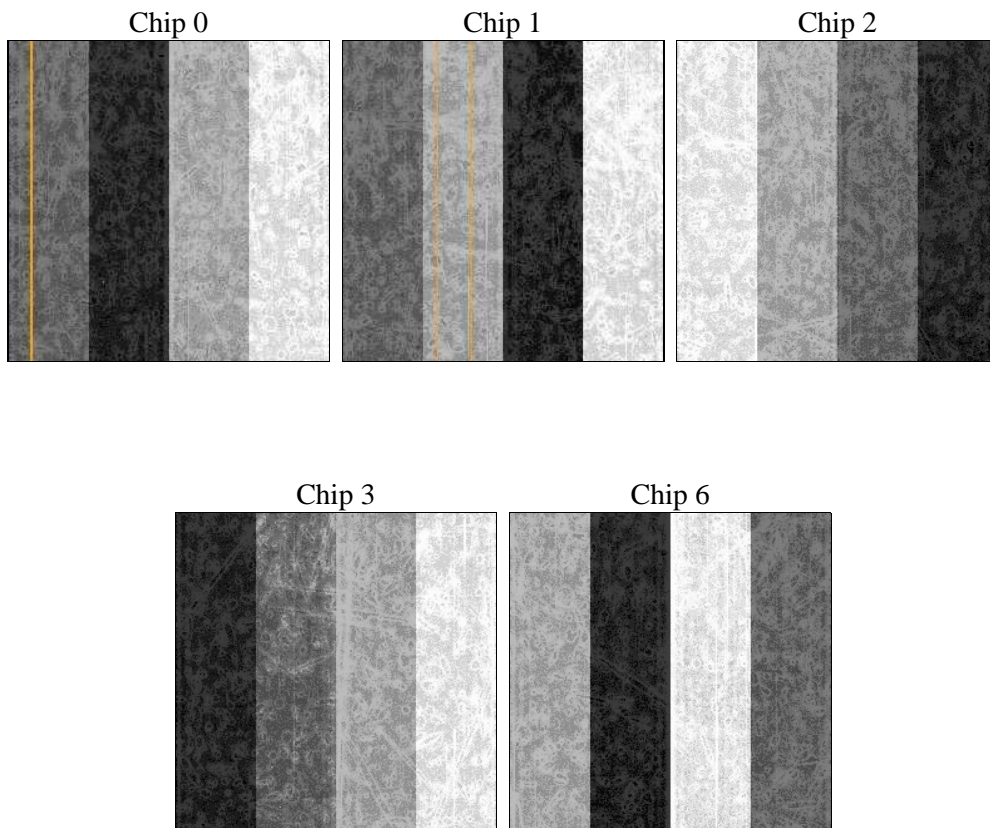
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	42751.725000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	42804.53790617	Sum of GTIs [s]
caldbver	4.4.7	 	ontime0	42807.555776417	Sum of GTIs [s]
date	2012-02-06T16:50:31	Date and time of file creation	ontime1	42798.173895478	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	42804.496866167	Sum of GTIs [s]
			ontime3	42804.53790617	Sum of GTIs [s]
			ontime6	42807.514736414	Sum of GTIs [s]
			l1events	1552621	Number of level 1 events

2.1.4 Events

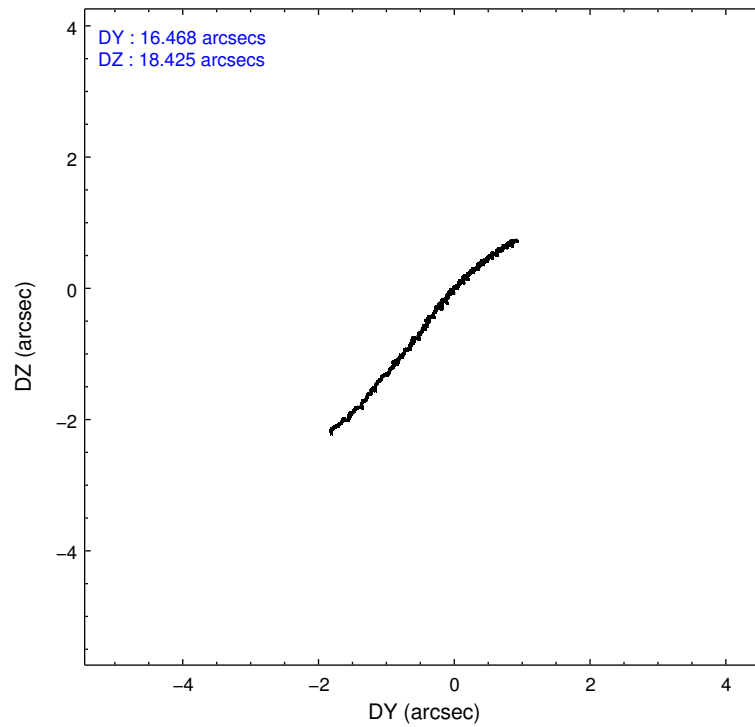
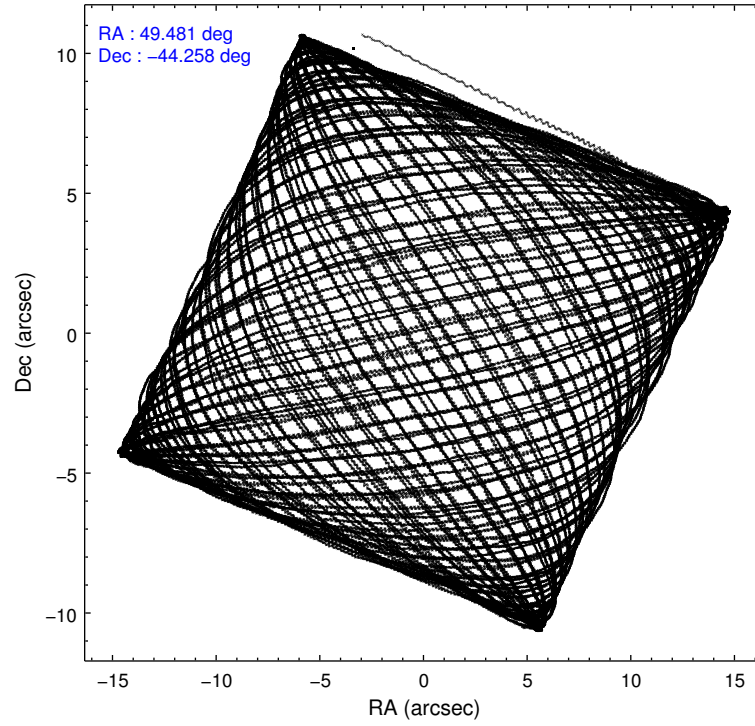
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	264762	283460	307454	408435	288510
rejected events	226568	234459	257061	252417	255901
rejected %	85%	82%	83%	61%	88%

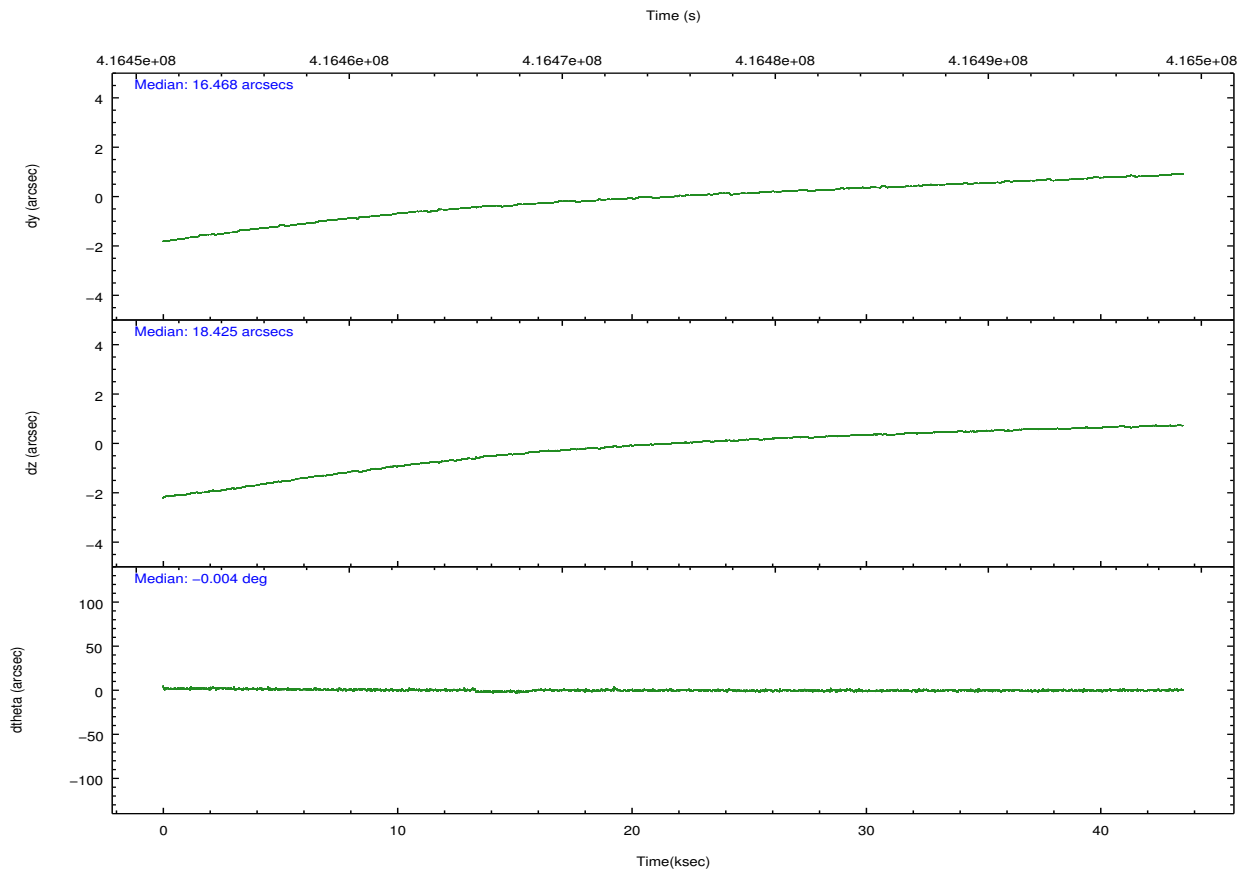
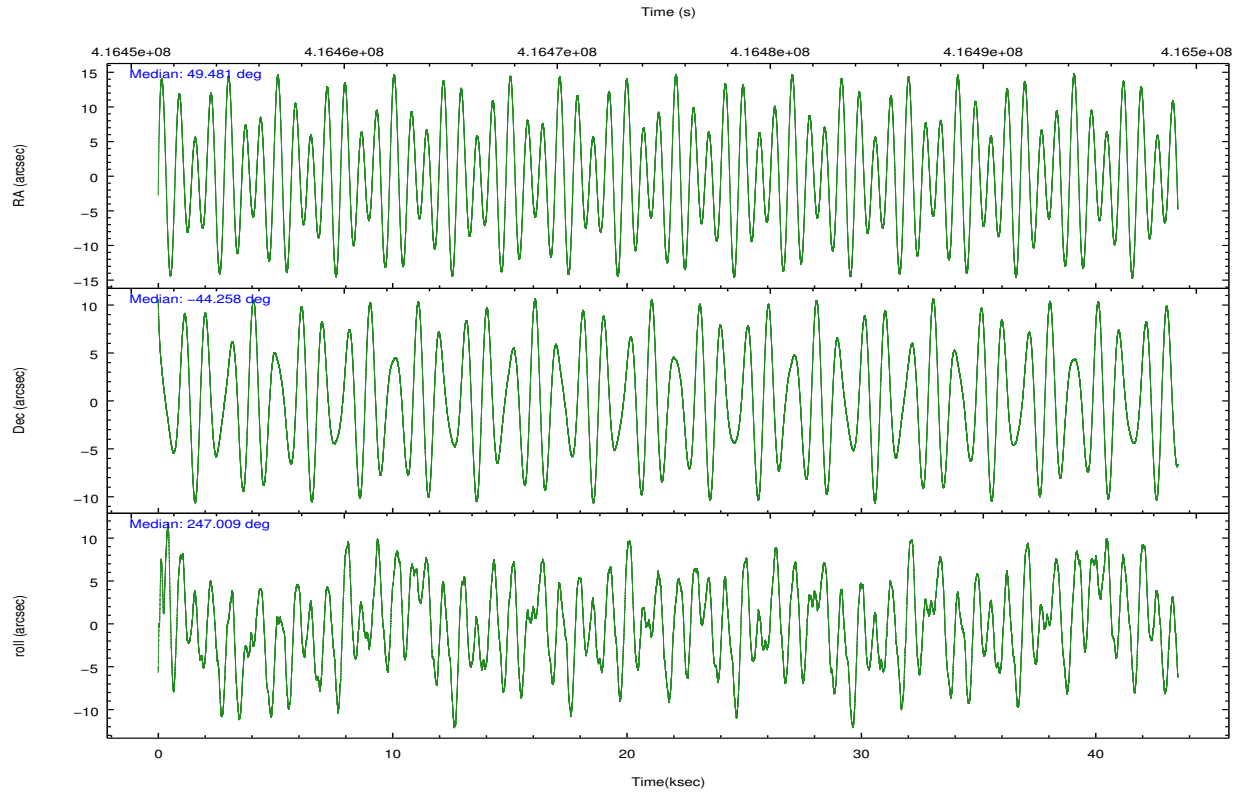
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	15992	23398	27090	114399	11391
	6%	8%	8%	28%	3%
grade 1 events	173	157	249	886	117
	0%	0%	0%	0%	0%
grade 2 events	8511	9903	9459	18912	7230
	3%	3%	3%	4%	2%
grade 3 events	3648	4073	3543	6732	3463
	1%	1%	1%	1%	1%
grade 4 events	3405	3977	3770	6871	3292
	1%	1%	1%	1%	1%
grade 5 events	12187	12821	11440	14018	13451
	4%	4%	3%	3%	4%
grade 6 events	6641	7657	6535	9114	7235
	2%	2%	2%	2%	2%
grade 7 events	214205	221474	245368	237503	242331
	80%	78%	79%	58%	83%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-01236	ACIS-01236	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	49.476707	49.48156433439036	CCD I2 on	Y	Y
[deg] Pointing Dec	-44.231069	-44.25835086679862	CCD I3 on	Y	Y
[deg] Pointing Roll	246.802922	247.0149911593766	CCD S0 on	N	N
[mm] SIM focus pos	-0.782348	-0.7809083437167272	CCD S1 on	N	N
[mm] SIM defocus	0	0.001439871863259334	CCD S2 on	O1	Y
[mm] SIM translation stage pos	-230.692463	-230.6909432334316	CCD S3 on	N	N
[mm] SIM translation stage offset	-2.9	-2.901509769498119	CCD S4 on	N	N
[s] Observation start time (MET)	416454194.184000	416452830.48218	CCD S5 on	N	N
Observation start date	2011-03-14T01:42:08	2011-03-14T01:20:30	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	416496946.184000	416497182.23447	On-chip summing requested	N	N
Observation end date	2011-03-14T13:34:40	2011-03-14T13:39:42	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



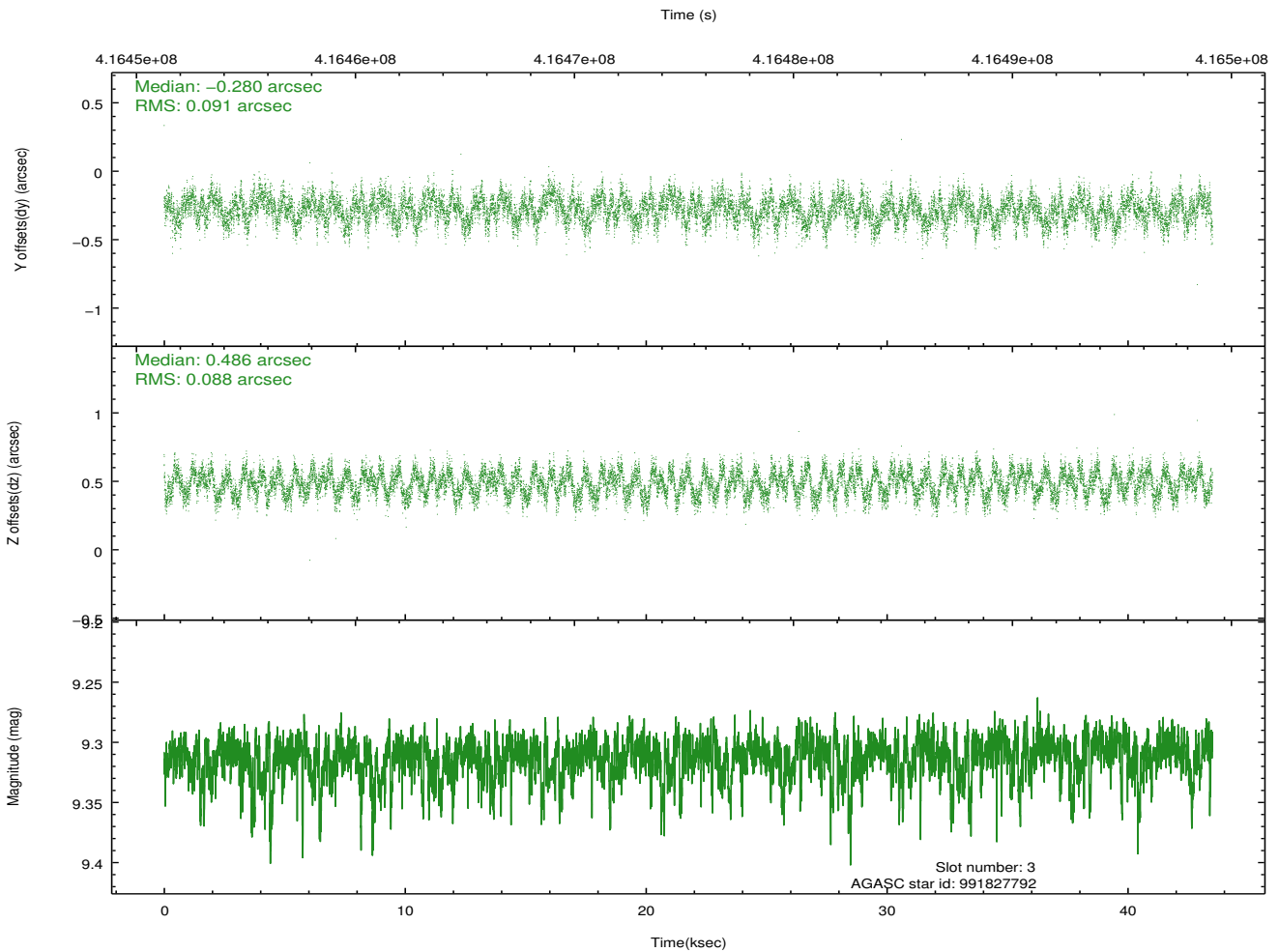
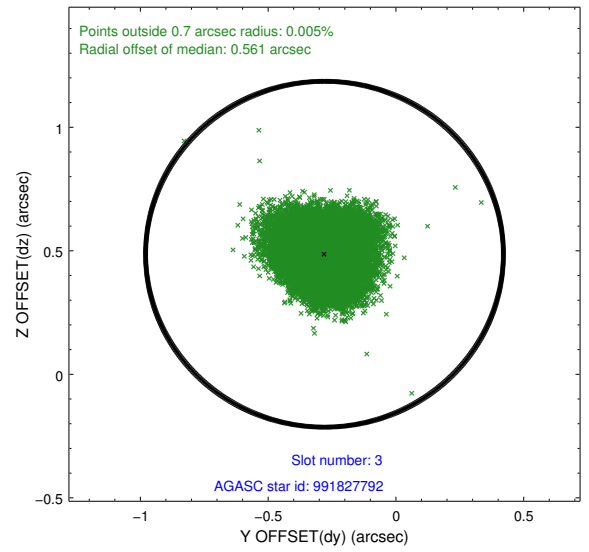
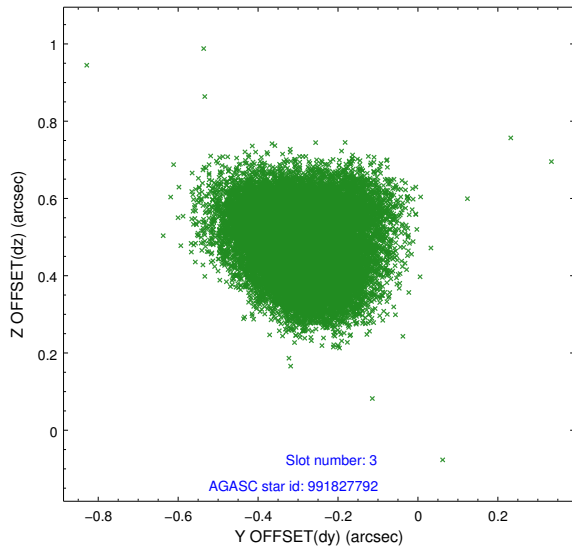


Slot Statistics

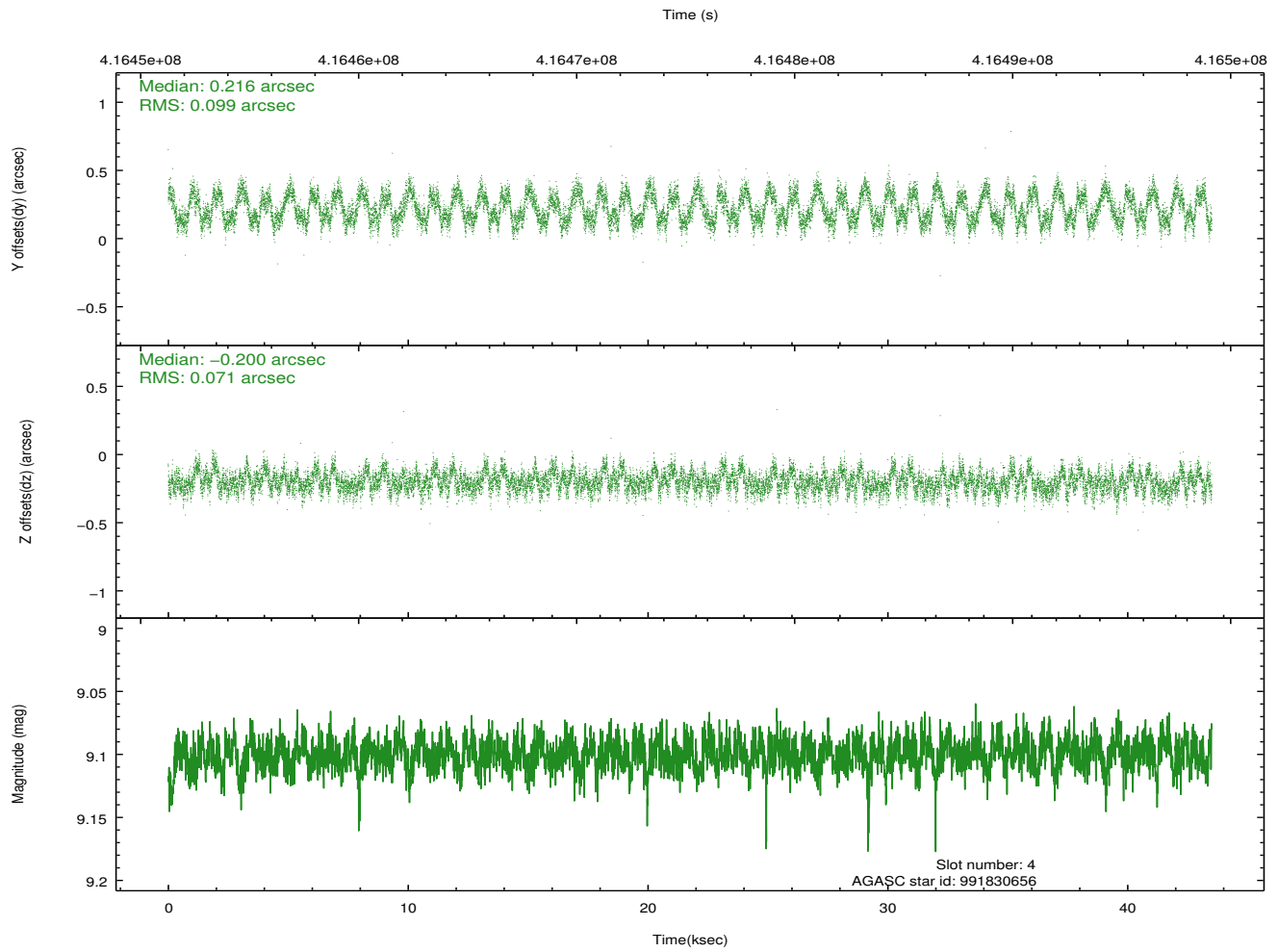
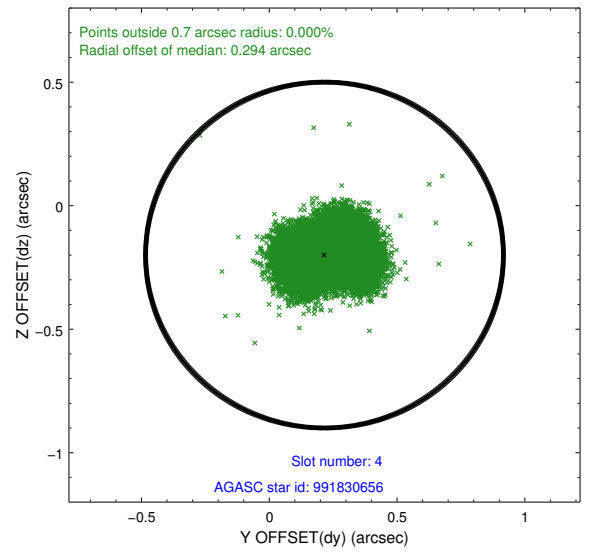
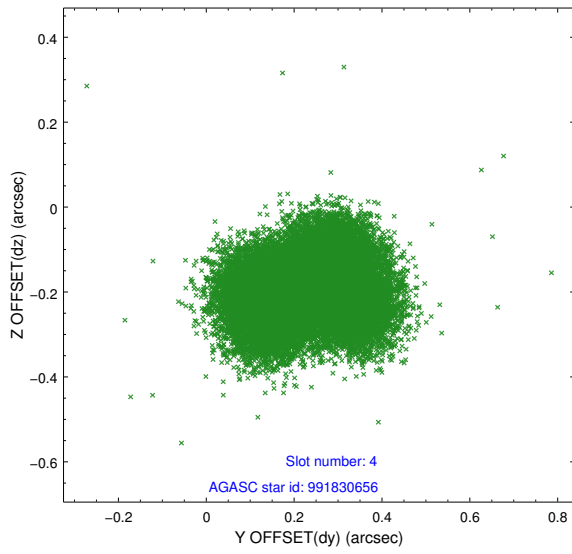
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-2	6.96	10613	-0.118	-0.076	0.016	0.029	0.000000	0.000000	-771.39	-907.42
1	FID	ACIS-I-4	6.96	10613	0.182	0.088	0.021	0.032	0.000000	0.000000	2142.91	998.96
2	FID	ACIS-I-5	7.01	10612	-0.168	0.057	0.021	0.032	0.000000	0.000000	-1825.16	996.32
3	GUIDE	991827792	9.31	21189	-0.280	0.486	0.137	0.210	48.737837	-44.562562	1851.54	-1267.48
4	GUIDE	991830656	9.10	21211	0.216	-0.200	0.133	0.197	49.908080	-44.245128	-388.11	1043.66
5	GUIDE	991830952	9.40	21206	0.023	-0.054	0.129	0.205	49.257291	-44.425398	866.39	-242.18
6	GUIDE	991831072	7.74	21225	-0.084	-0.184	0.075	0.121	48.737752	-44.120462	394.49	-1908.37
7	GUIDE	992747912	9.87	21013	0.116	-0.025	0.321	0.443	50.345360	-43.937930	-1845.64	1658.91

2.4 Star Slots

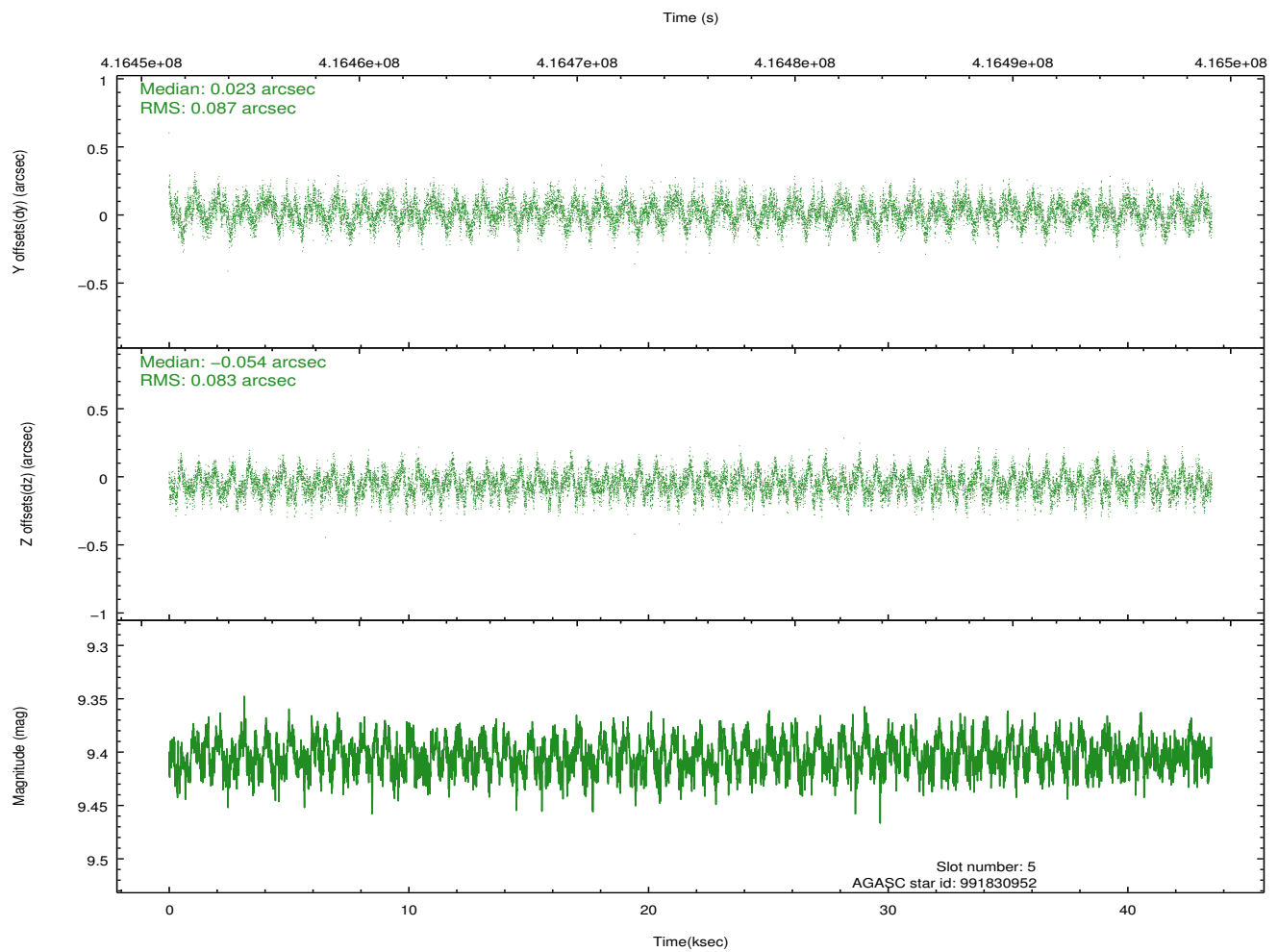
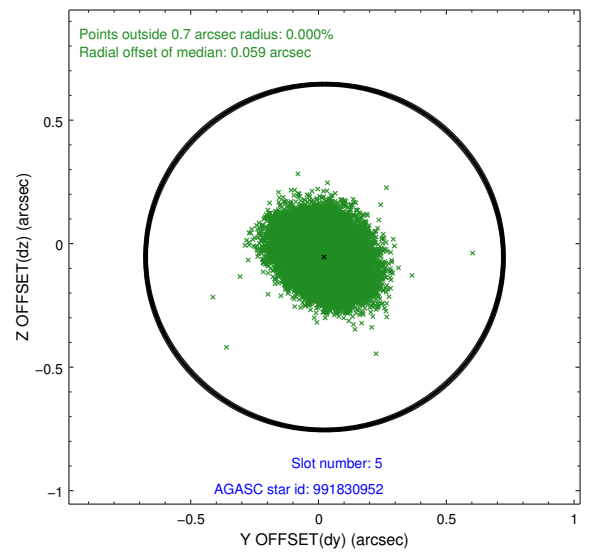
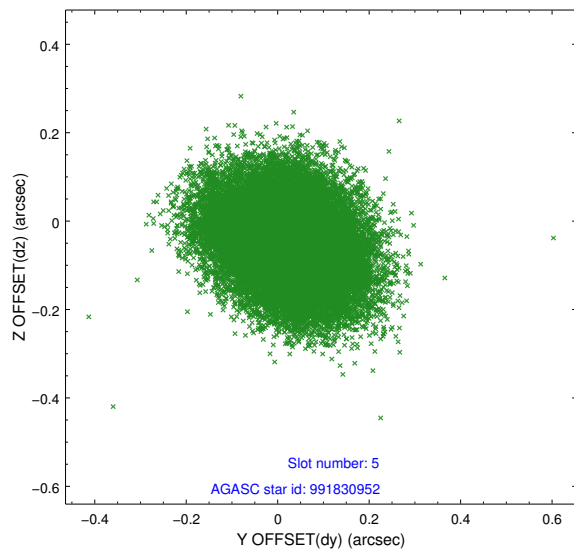
2.4.1 Slot 3



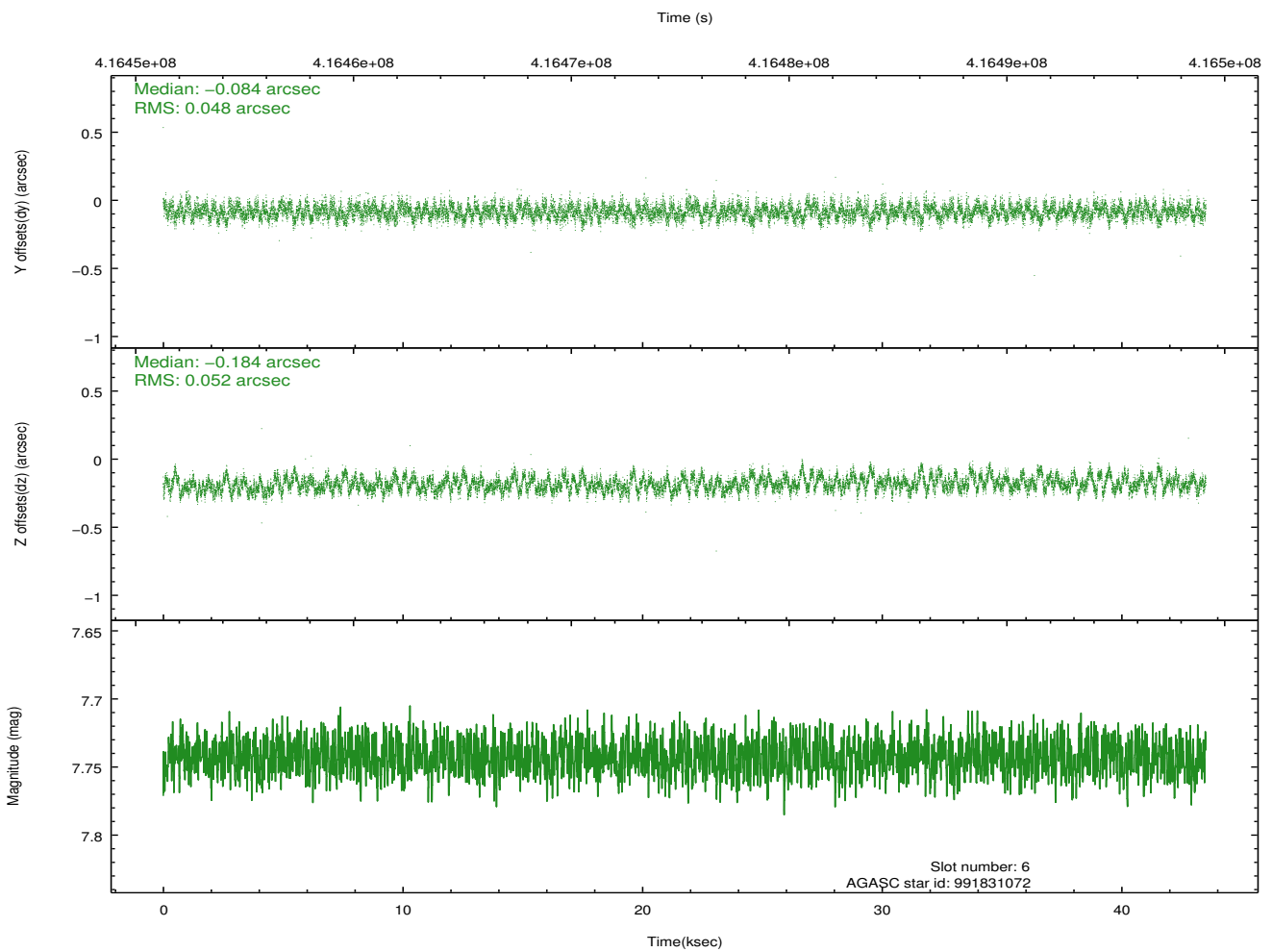
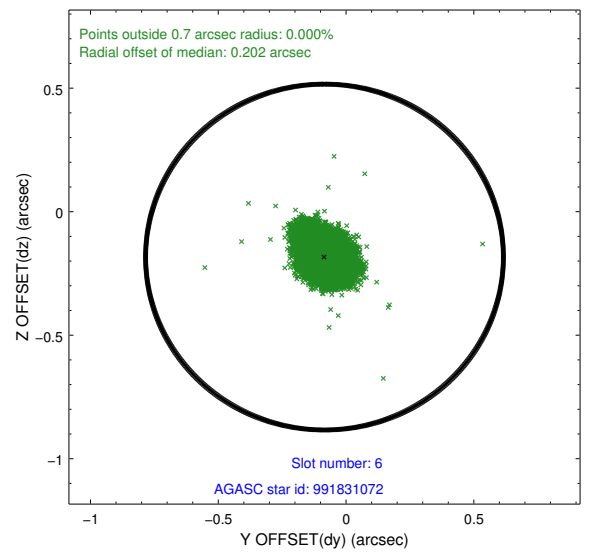
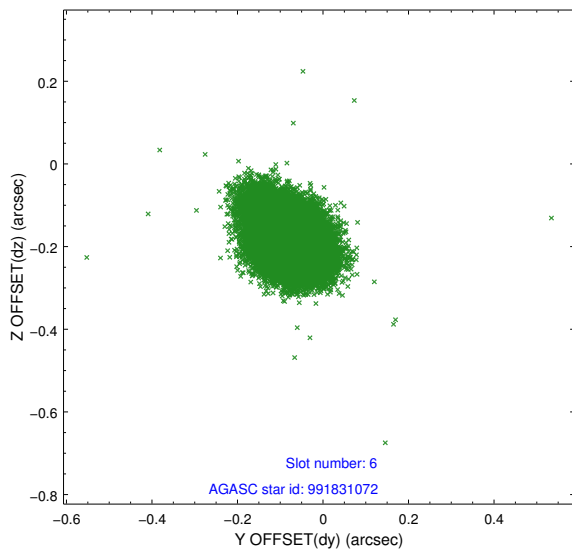
2.4.2 Slot 4



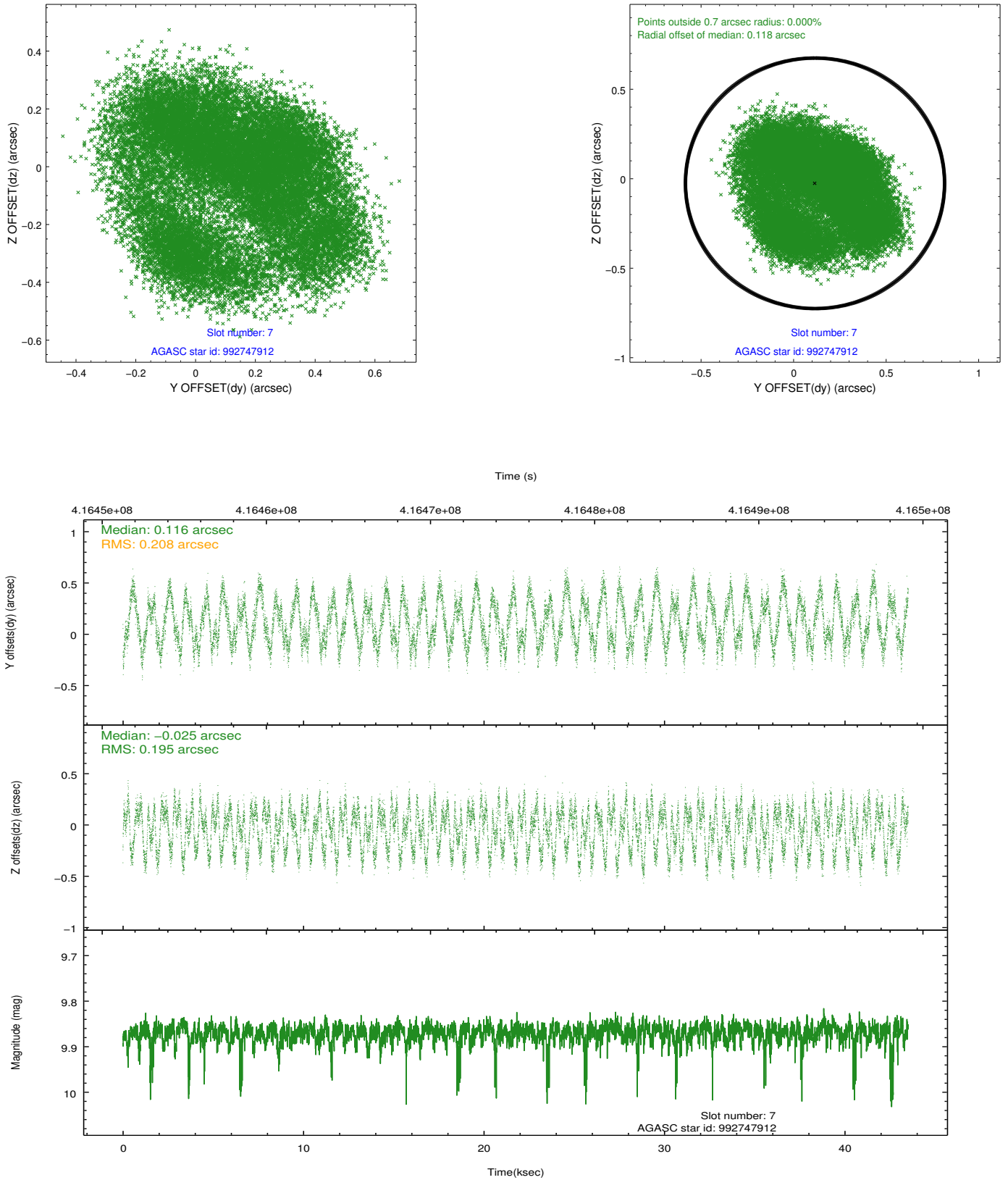
2.4.3 Slot 5



2.4.4 Slot 6

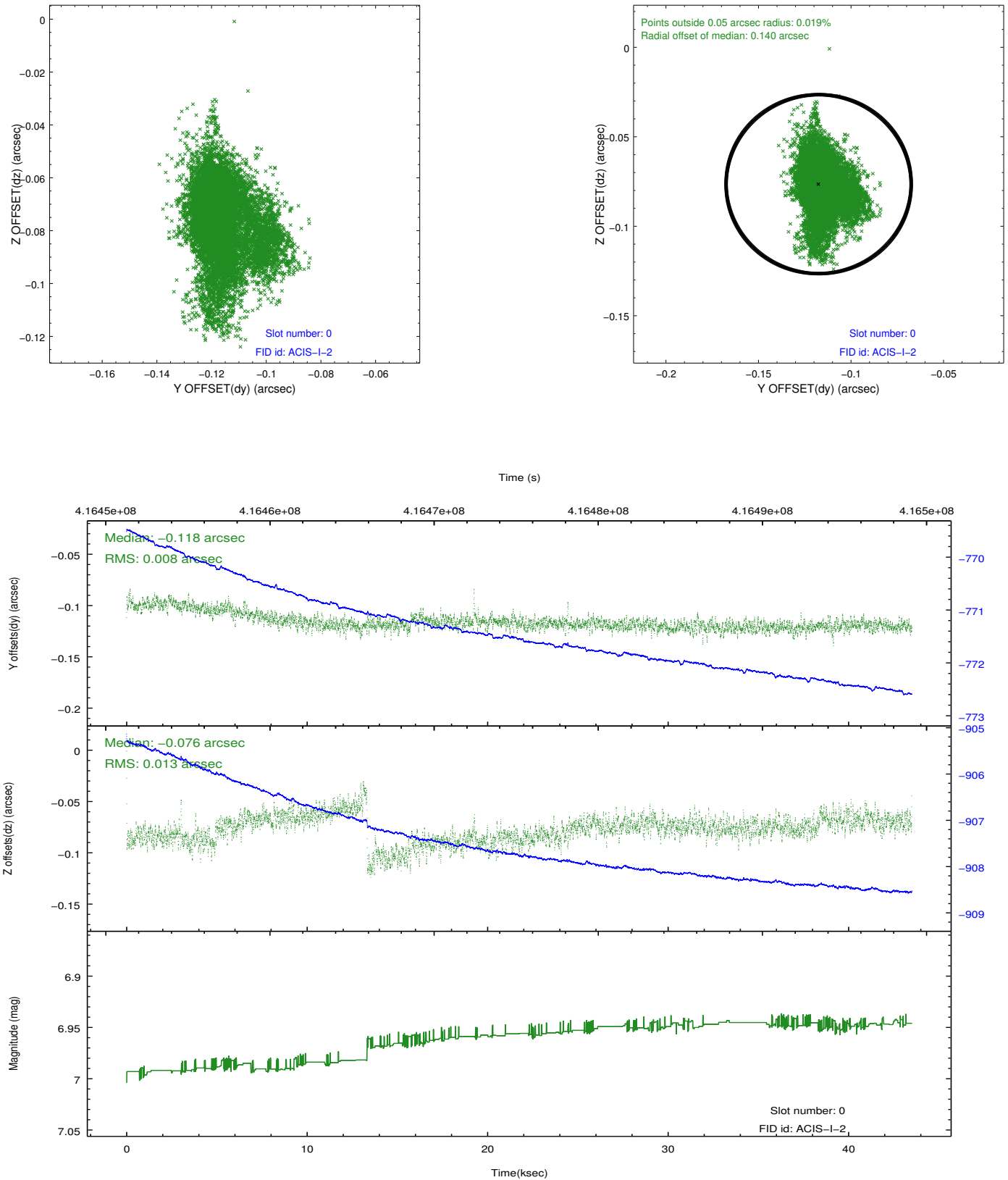


2.4.5 Slot 7

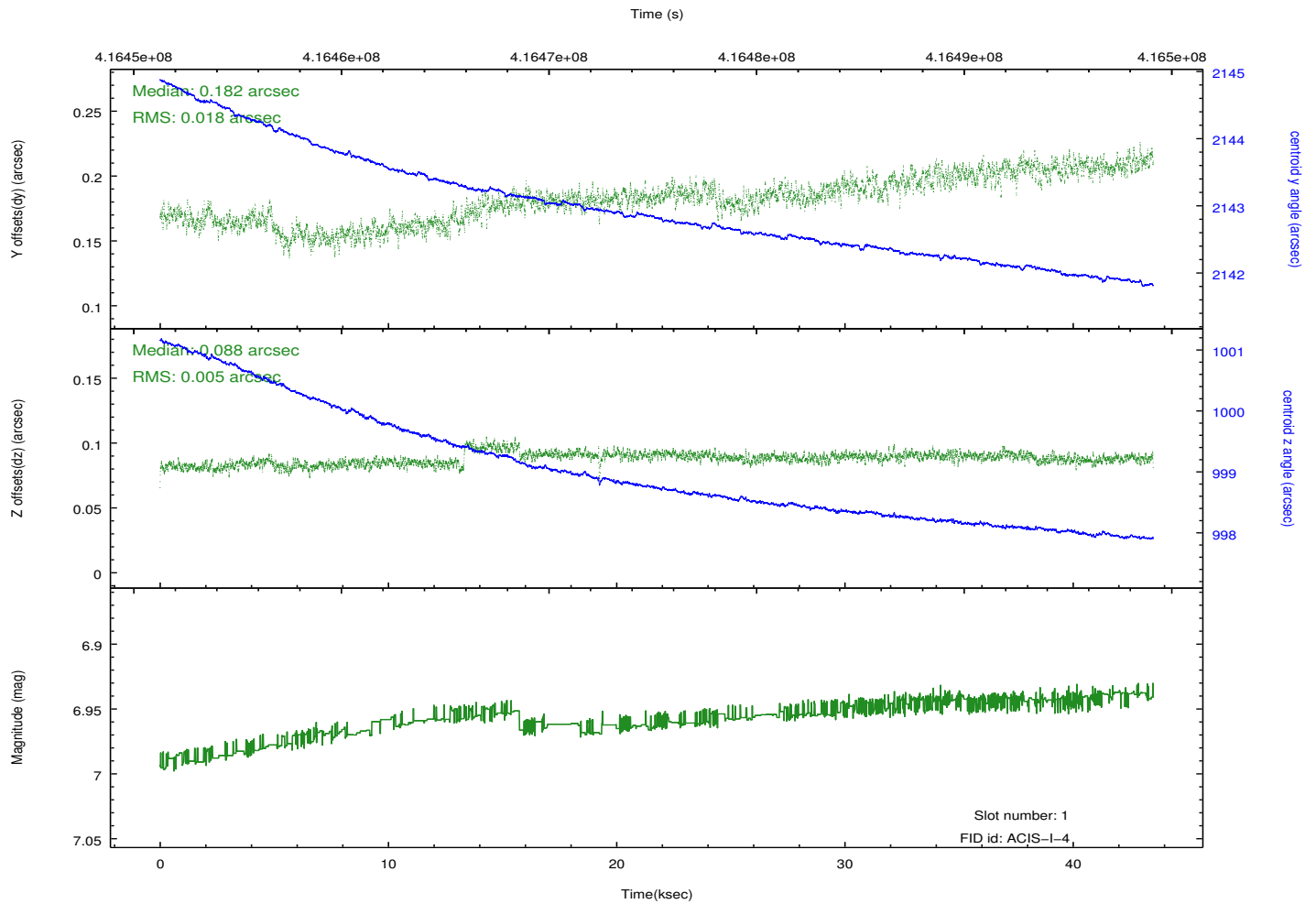
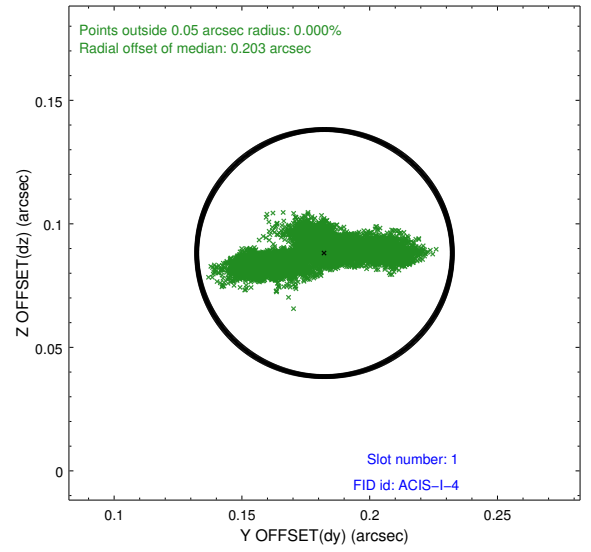
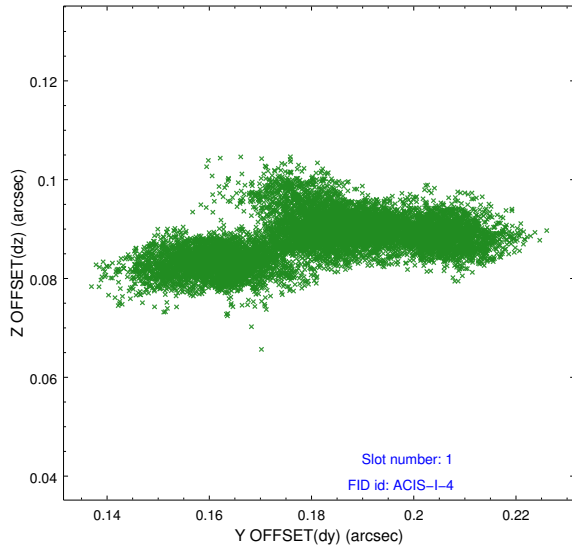


2.5 FID Slots

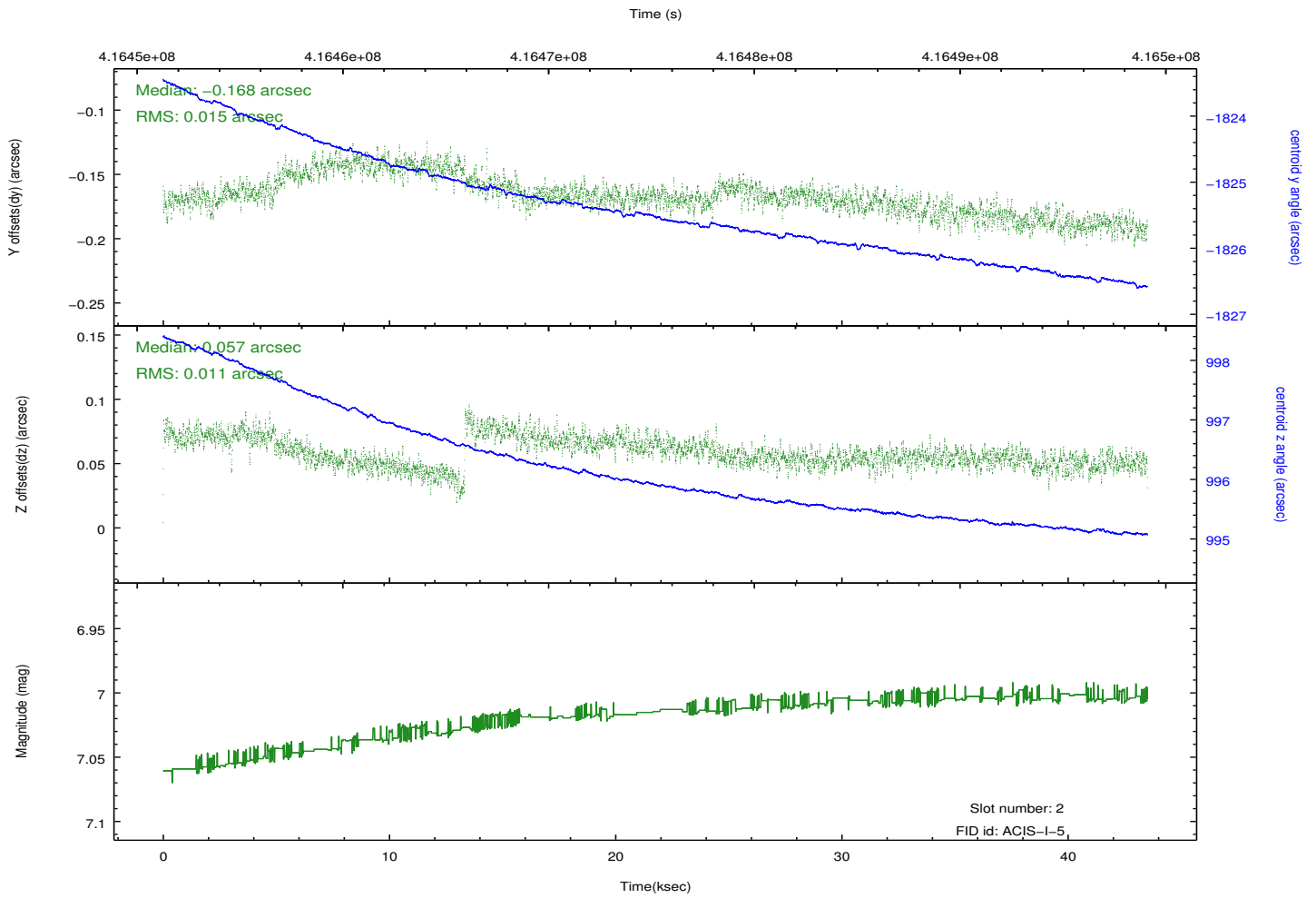
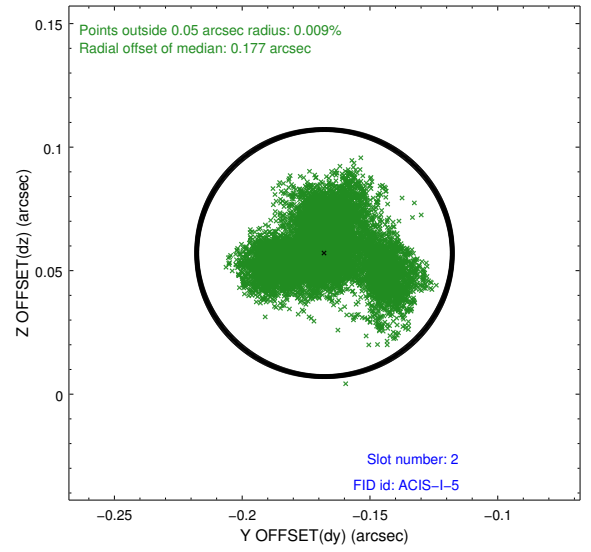
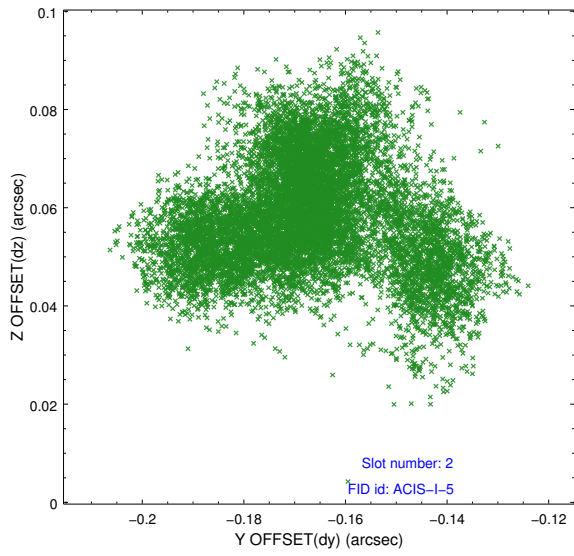
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.02.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	42.804537896752

A.2 Comments

The data for this observation have been processed using the 'EDSER' sub-pixel event-repositioning algorithm of Li et al. (2004, ApJ, 610, 1204). Small-scale features should become sharper for sources near the aim point. The improvement will be less noticeable for off-axis sources where the size of the point-spread function is comparable to or larger than the size of an ACIS pixel. To take full advantage of the improvement, images should be binned on spatial scales smaller than the size of an ACIS pixel. Note that, at present, the point-spread function has not been calibrated for data to which the EDSER algorithm has been applied. If dither was disabled for the observation, then the algorithm can introduce artificial aliasing effects on spatial scales smaller than a pixel. If you would prefer to use no sub-pixel adjustment or to apply a coordinate randomization, then use `acis_process_events` to reprocess the data with the parameter `pix_adj=NONE` or `RANDOMIZE`, respectively.

=====

A spatial region of the original bias map for CCD = 1 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 = 1 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: (x1, y1 etc)