

V&V Reference Report

L2 ASCDS Version : 8.4.3

Observation 12869 - L2 Version 3
Chandra X-Ray Center

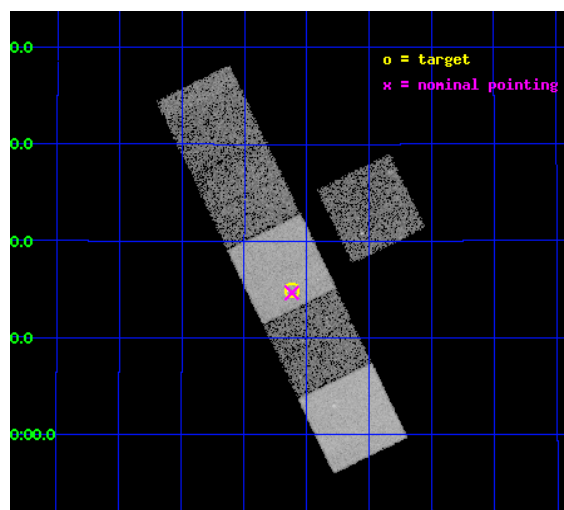
L2 Processing Date : Feb 3 2012

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1 Front

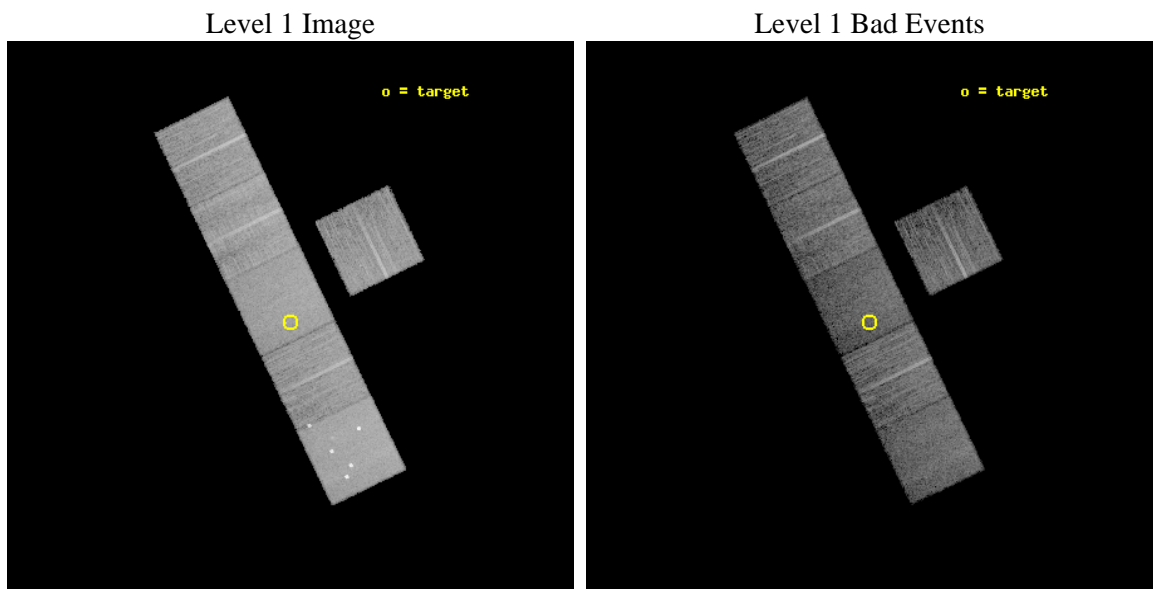
seq_num	702502	Sequence number
obs_id	12869	Observation id
title	Chandra Survey of Hard X-ray Selected Merging AGN Hosts	Proposal t
observer	Dr. Richard Mushotzky	Principal investigator
object	UGC 03995 NOTES01	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	116.029167	Observer's specified target RA [deg]
dec_targ	29.249	Observer's specified target Dec [deg]
ra_nom	116.02976418052	Nominal RA [deg]
dec_nom	29.24419542222	Nominal Dec [deg]
roll_nom	244.17005603721	Nominal Roll [deg]
revision	3	Processing version of data
ontime	10955.855700254	Sum of GTIs [s]
livetime	10817.126058554	Livetime [s]
ontime3	10955.732580245	Sum of GTIs [s]
ontime5	10955.814660251	Sum of GTIs [s]
ontime6	10955.773620248	Sum of GTIs [s]
ontime7	10955.855700254	Sum of GTIs [s]
ontime8	10955.691540241	Sum of GTIs [s]
ontime9	10955.896740258	Sum of GTIs [s]
l2events	130418	Number of level 2 events



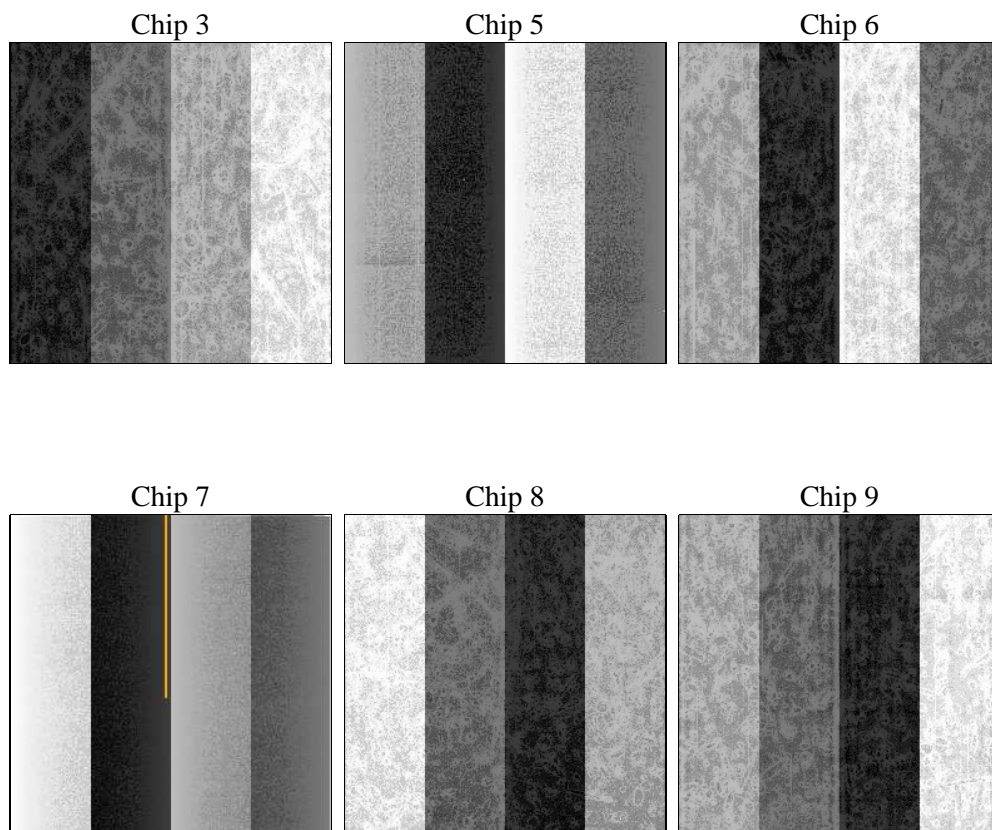
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	11000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	10955.855700254	Sum of GTIs [s]
caldsver	4.4.7	 	ontime3	10955.732580245	Sum of GTIs [s]
date	2012-02-03T19:26:02	Date and time of file creation	ontime5	10955.814660251	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	10955.773620248	Sum of GTIs [s]
			ontime7	10955.855700254	Sum of GTIs [s]
			ontime8	10955.691540241	Sum of GTIs [s]
			ontime9	10955.896740258	Sum of GTIs [s]
			l1events	565387	Number of level 1 events

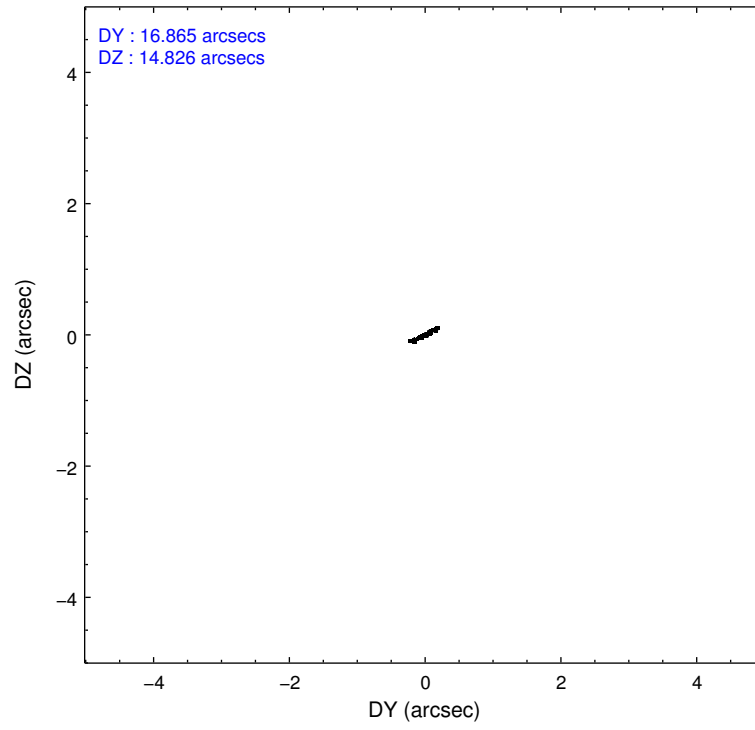
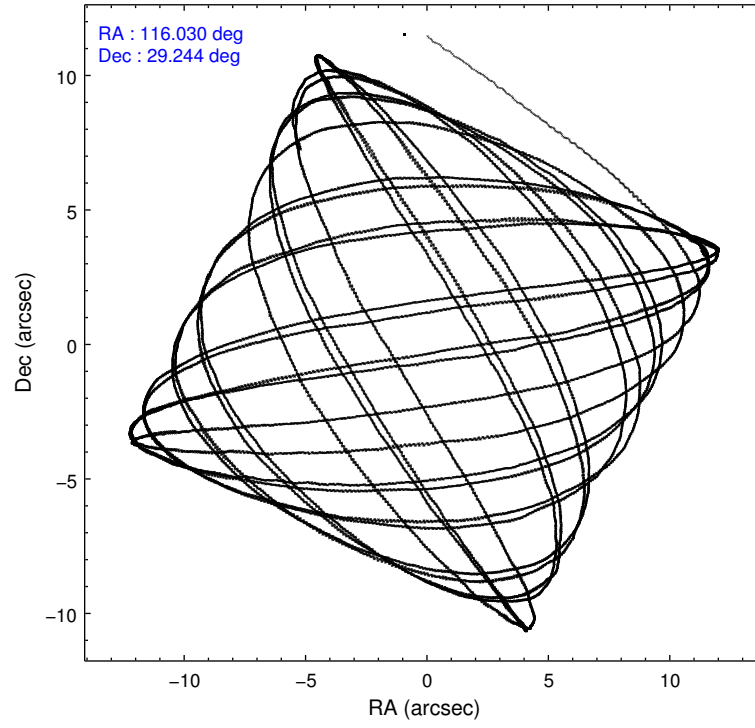
2.1.4 Events

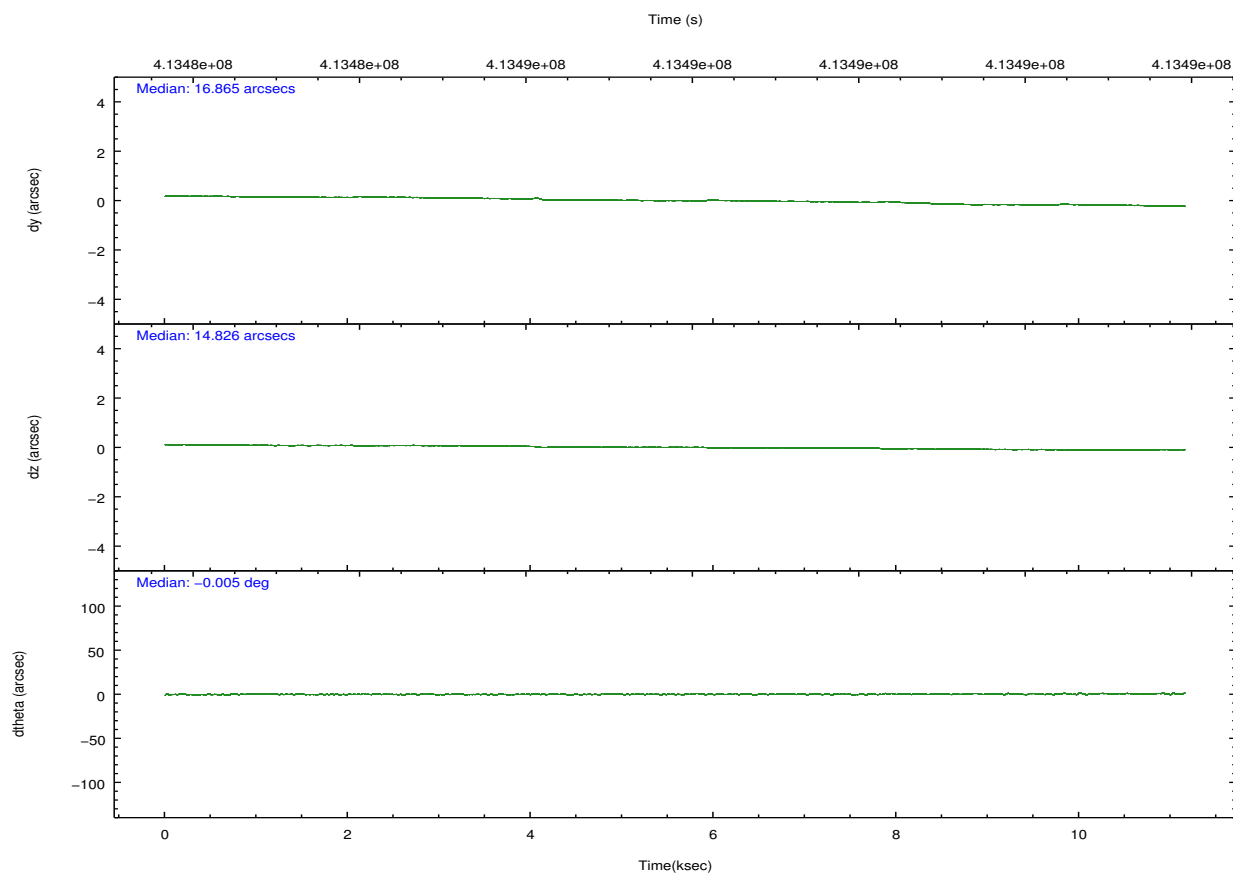
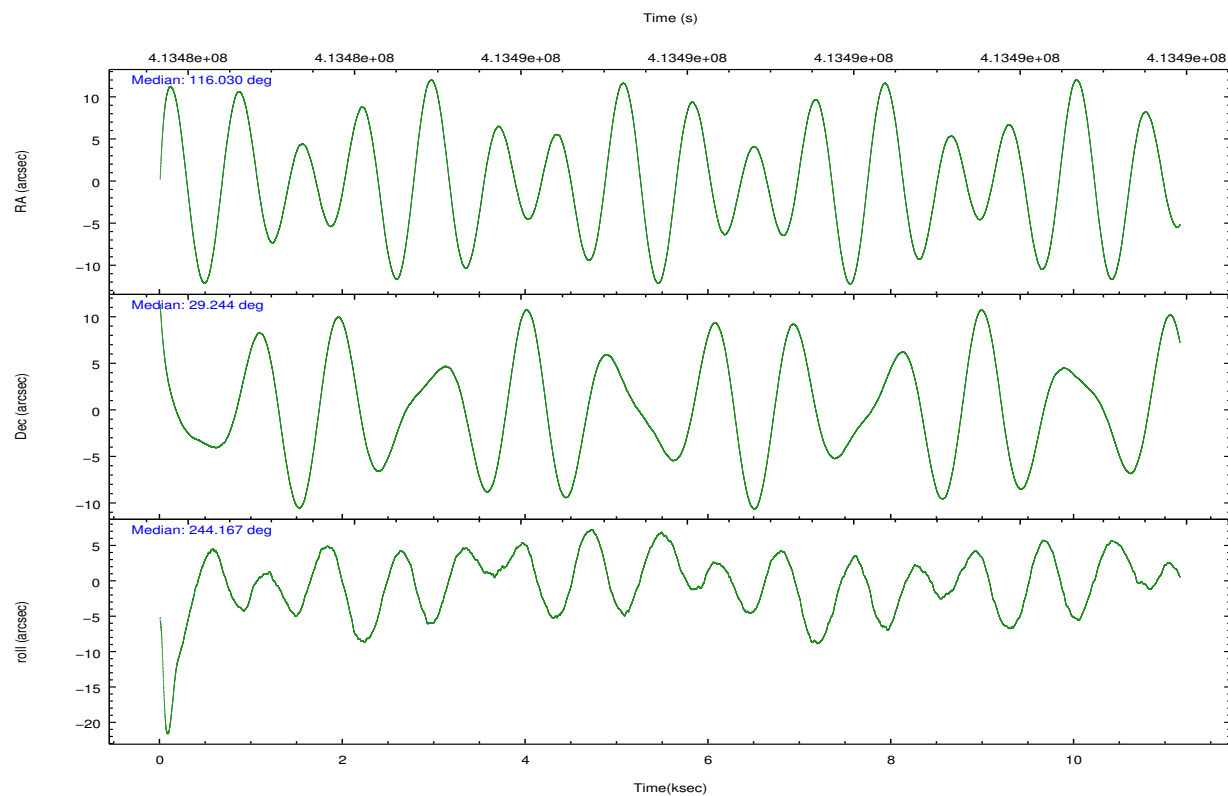
	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9		ccd 3	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	74844	129891	81245	97979	100179	81249	grade 0 events	2897	13568	3105	3917	7166	3459
rejected events	66824	61225	72245	54391	74882	71668		3%	10%	3%	3%	7%	4%
rejected %	89%	47%	88%	55%	74%	88%	grade 1 events	55	285	25	108	95	52
								0%	0%	0%	0%	0%	0%
							grade 2 events	1733	19048	1979	8949	6012	2059
								2%	14%	2%	9%	6%	2%
							grade 3 events	850	2053	948	3735	2783	1020
								1%	1%	1%	3%	2%	1%
							grade 4 events	887	2122	924	3800	2606	964
								1%	1%	1%	3%	2%	1%
							grade 5 events	3580	8537	3643	10161	5223	4220
								4%	6%	4%	10%	5%	5%
							grade 6 events	1661	31923	2047	23219	6745	2086
								2%	24%	2%	23%	6%	2%
							grade 7 events	63181	52355	68574	44090	69549	67389
								84%	40%	84%	44%	69%	82%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-356789	ACIS-356789	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	116.027027	116.0297641805152	CCD I2 on	N	N
[deg] Pointing Dec	29.271416	29.24419542221957	CCD I3 on	O1	Y
[deg] Pointing Roll	244.014744	244.1700560372114	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O3	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	413482371.184000	413481176.97832	CCD S5 on	O2	Y
Observation start date	2011-02-07T16:11:45	2011-02-07T15:52:56	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	413493371.184000	413494151.94149	On-chip summing requested	N	N
Observation end date	2011-02-07T19:15:05	2011-02-07T19:29:11	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

2.3 Aspect



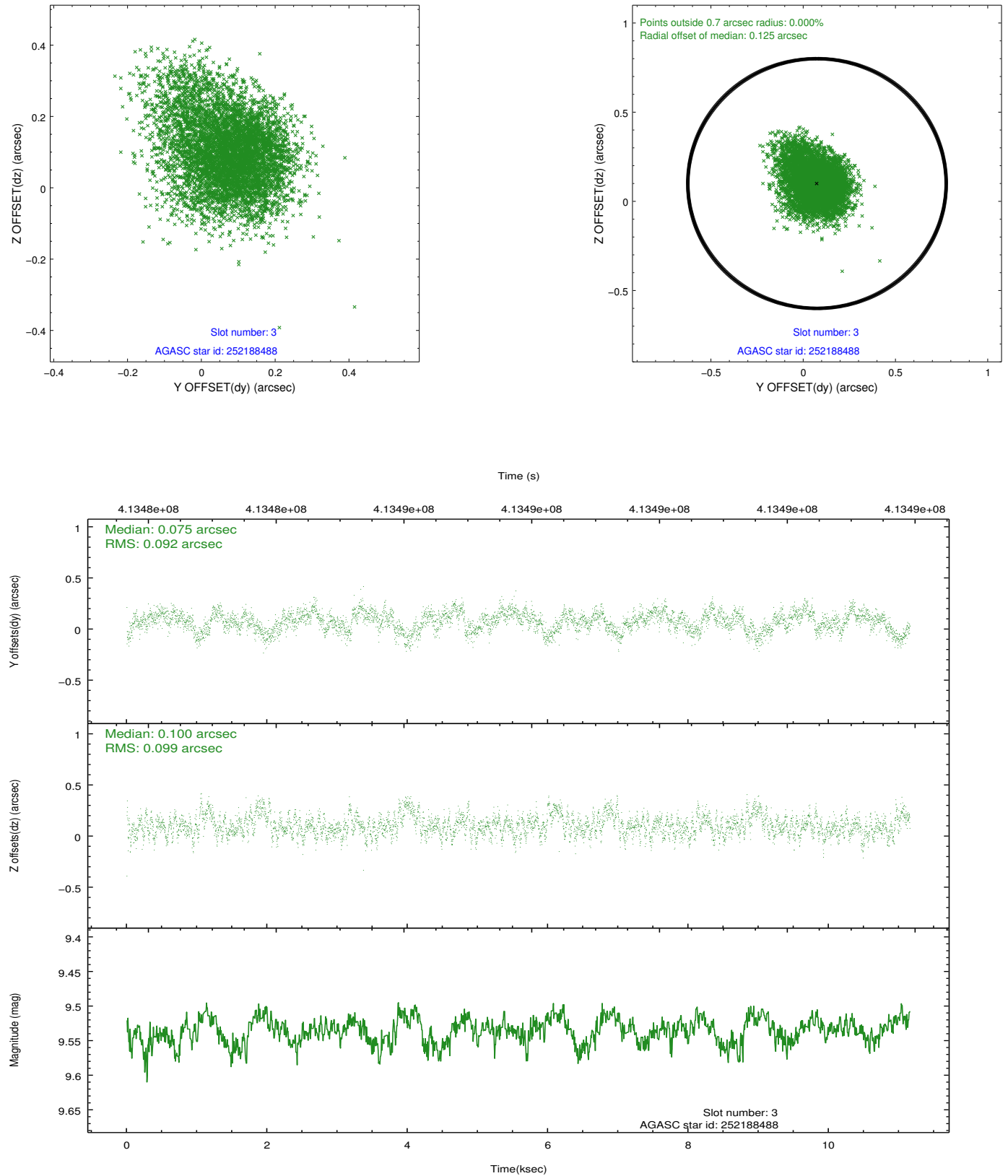


Slot Statistics

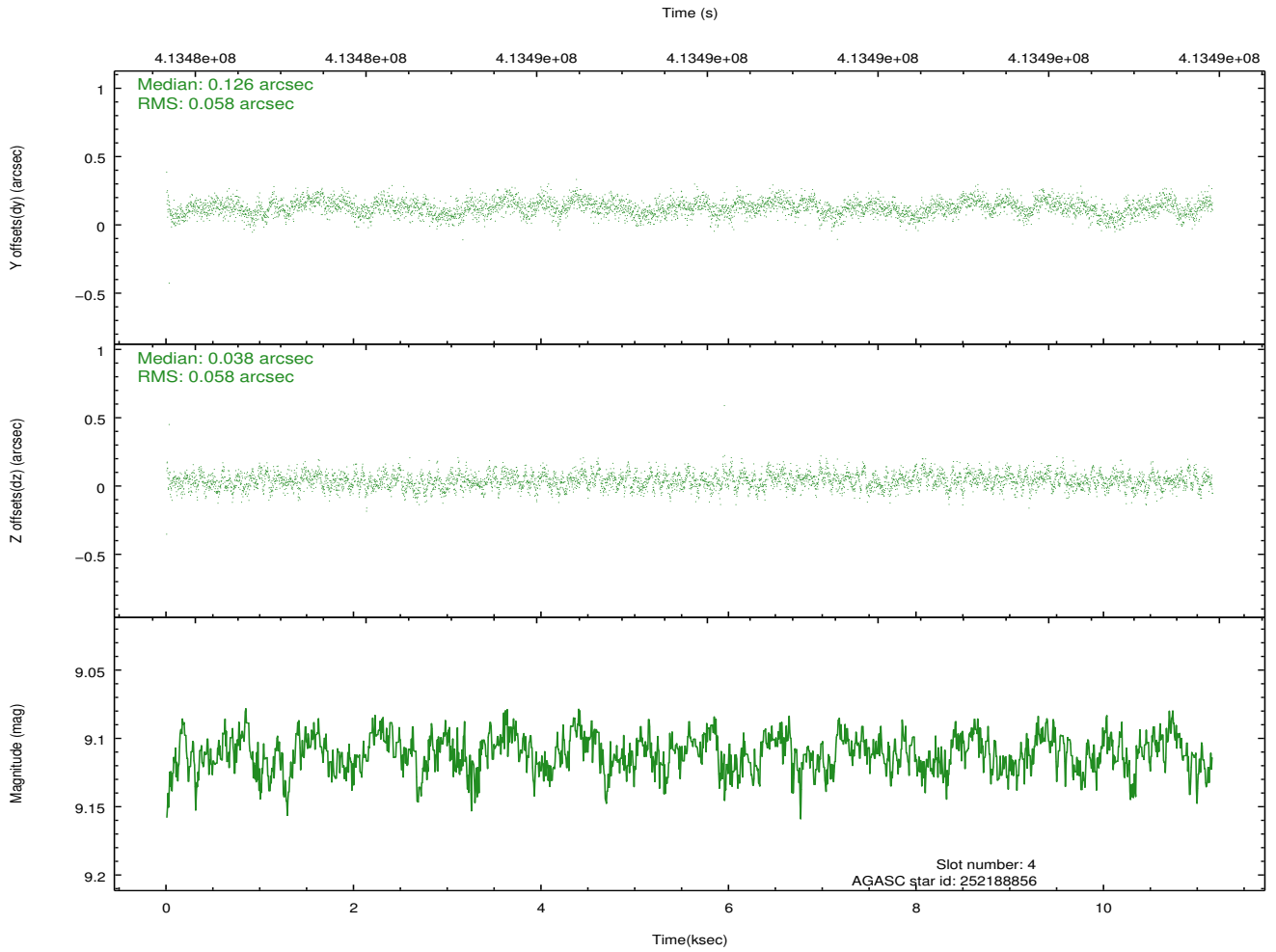
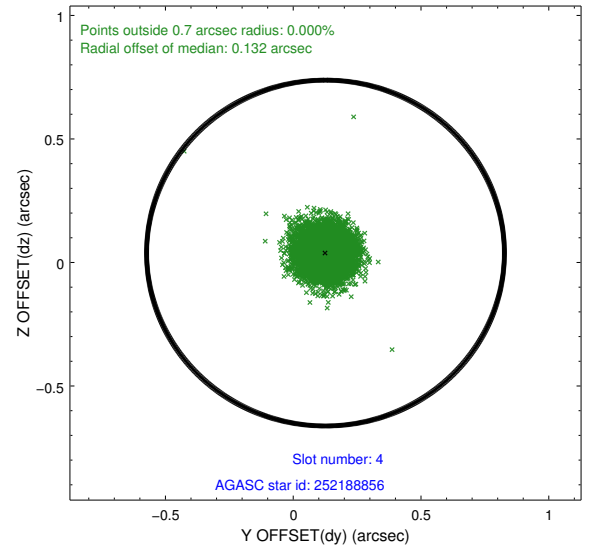
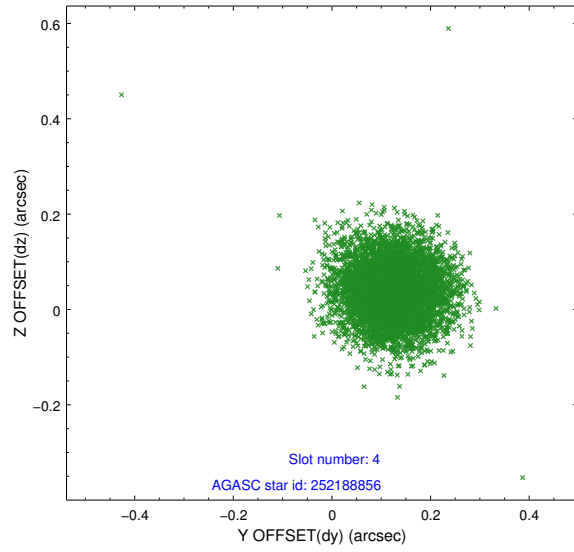
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.03	2721	-0.097	-0.043	0.007	0.012	0.000000	0.000000	-769.96	-1736.20
1	FID	ACIS-S-4	7.10	2720	0.207	0.059	0.007	0.012	0.000000	0.000000	2143.39	171.94
2	FID	ACIS-S-5	7.14	2721	-0.141	-0.007	0.008	0.014	0.000000	0.000000	-1822.28	166.02
3	GUIDE	252188488	9.54	5441	0.075	0.100	0.141	0.237	115.731497	29.834215	-1417.32	-1717.44
4	GUIDE	252188856	9.11	5441	0.126	0.038	0.086	0.138	115.995799	29.406043	-392.56	-300.57
5	GUIDE	252192288	9.05	5433	-0.059	-0.095	0.131	0.196	116.362333	28.752504	1214.44	1769.13
6	GUIDE	252196488	7.04	5443	-0.123	0.042	0.068	0.110	115.667880	28.833856	1911.25	-328.03
7	GUIDE	252193080	9.54	5431	-0.011	-0.091	0.148	0.236	116.605994	28.795973	734.80	2389.87

2.4 Star Slots

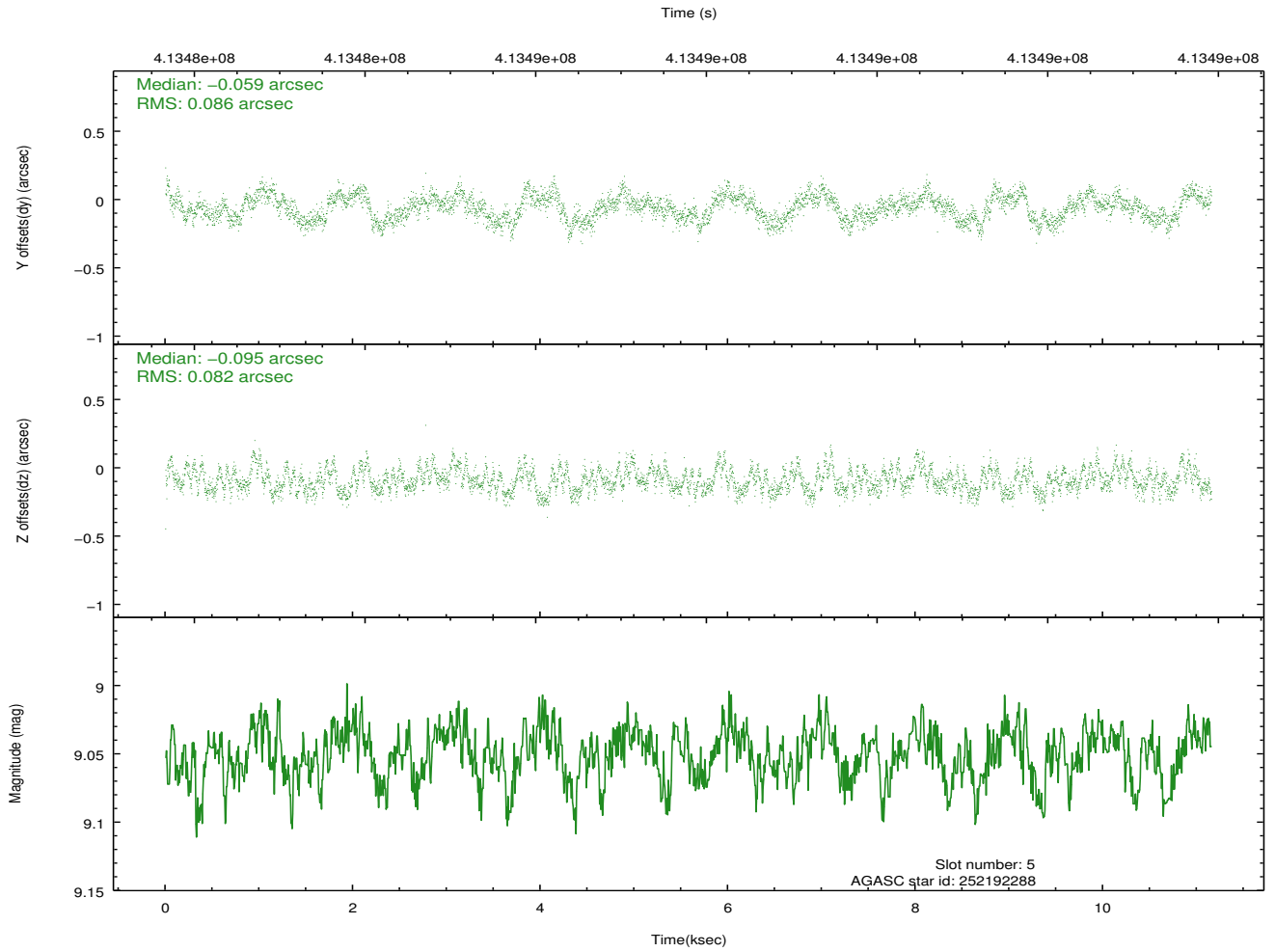
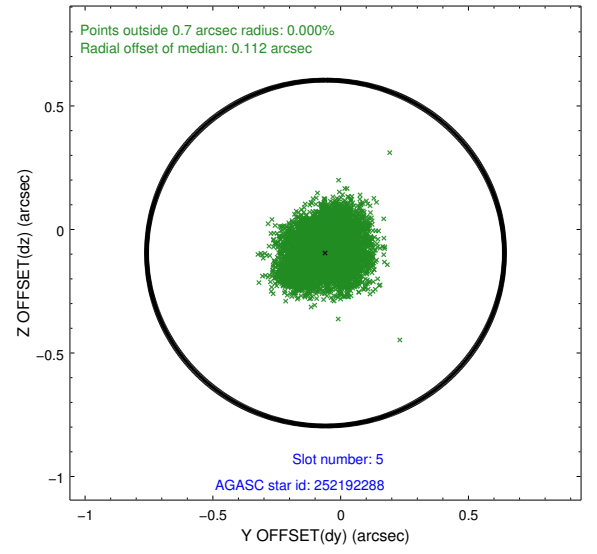
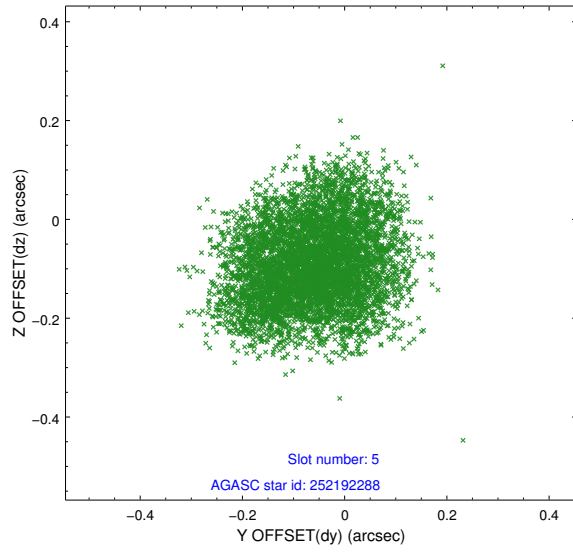
2.4.1 Slot 3



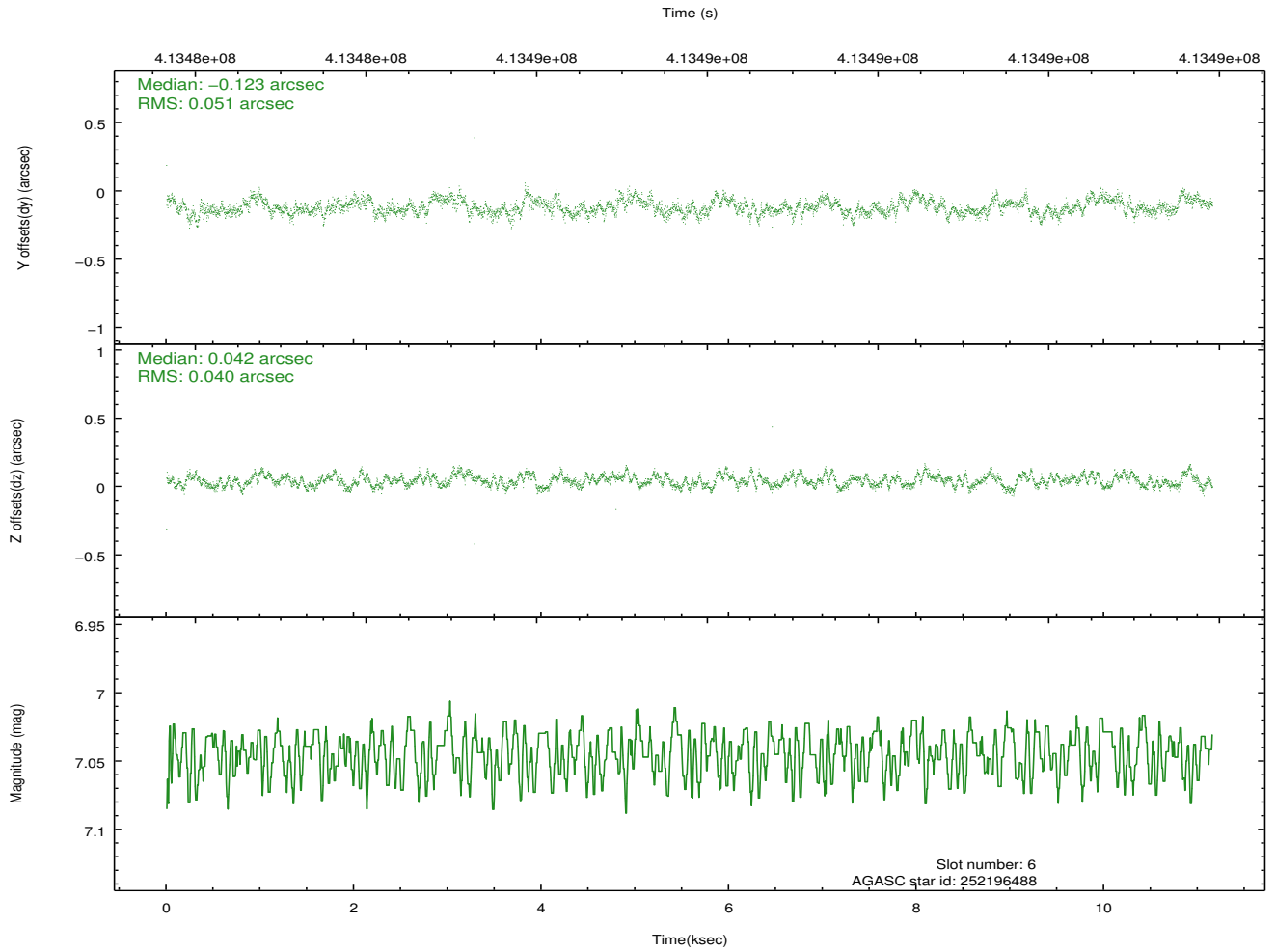
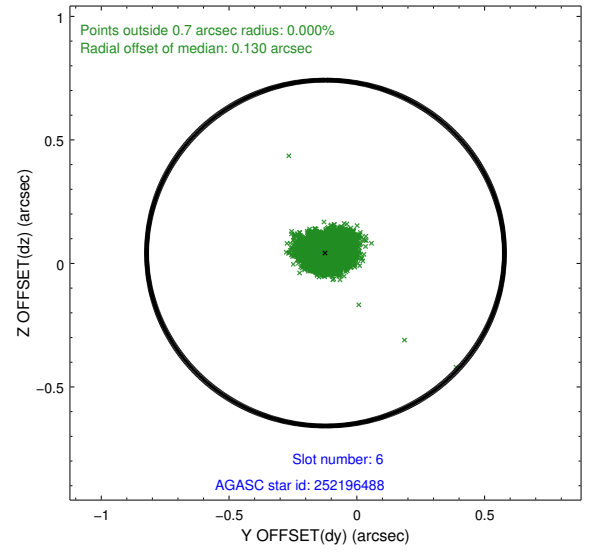
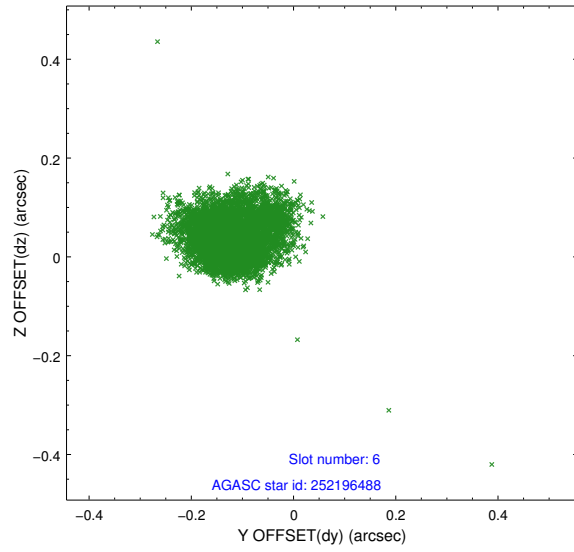
2.4.2 Slot 4



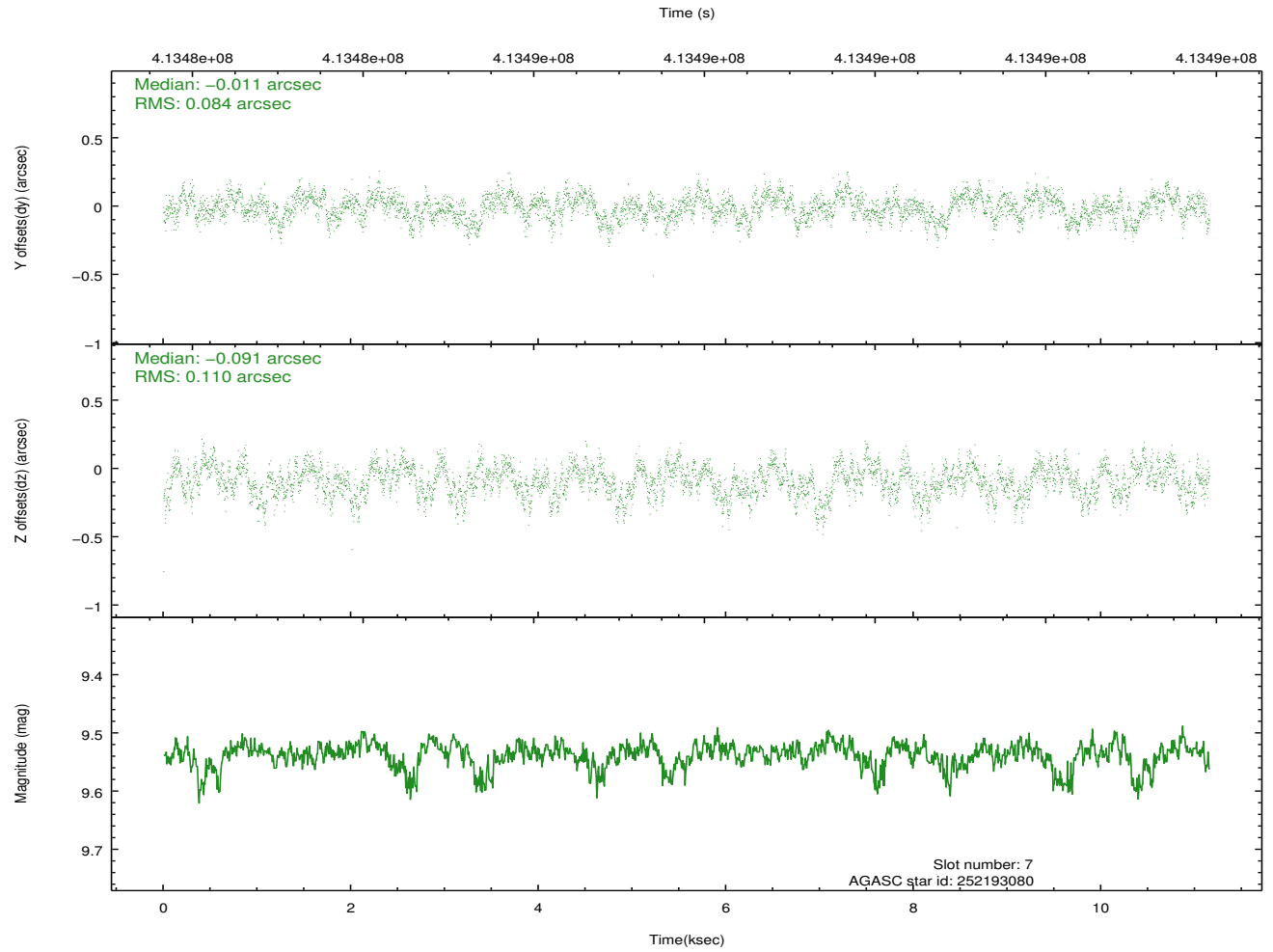
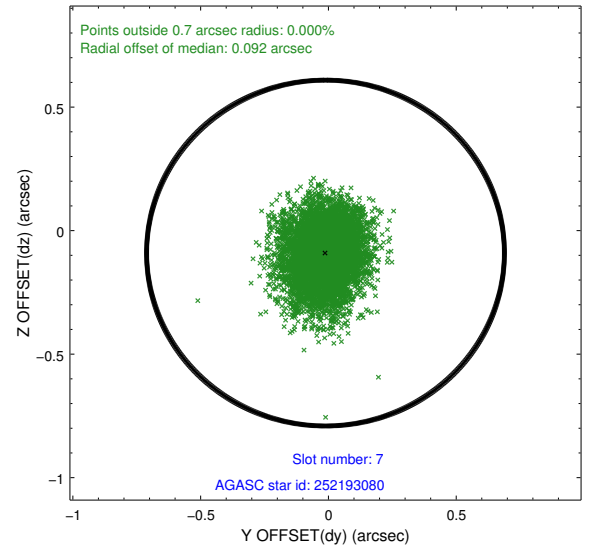
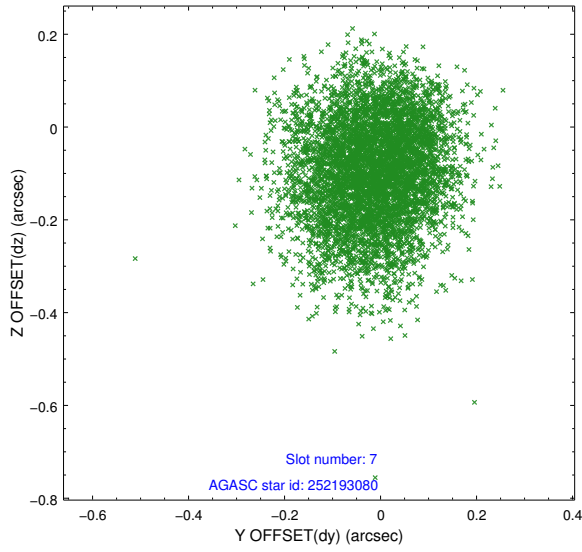
2.4.3 Slot 5



2.4.4 Slot 6

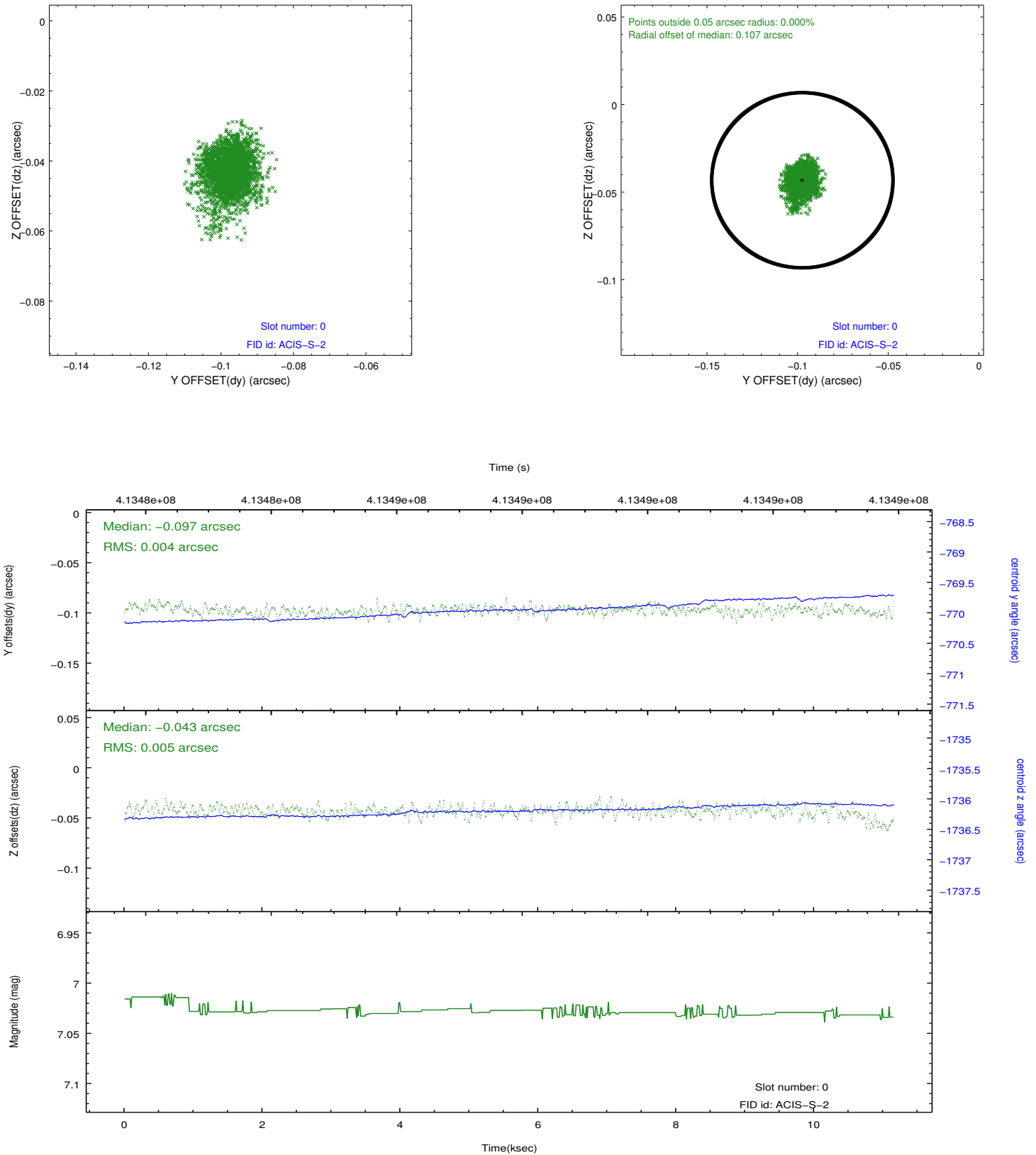


2.4.5 Slot 7

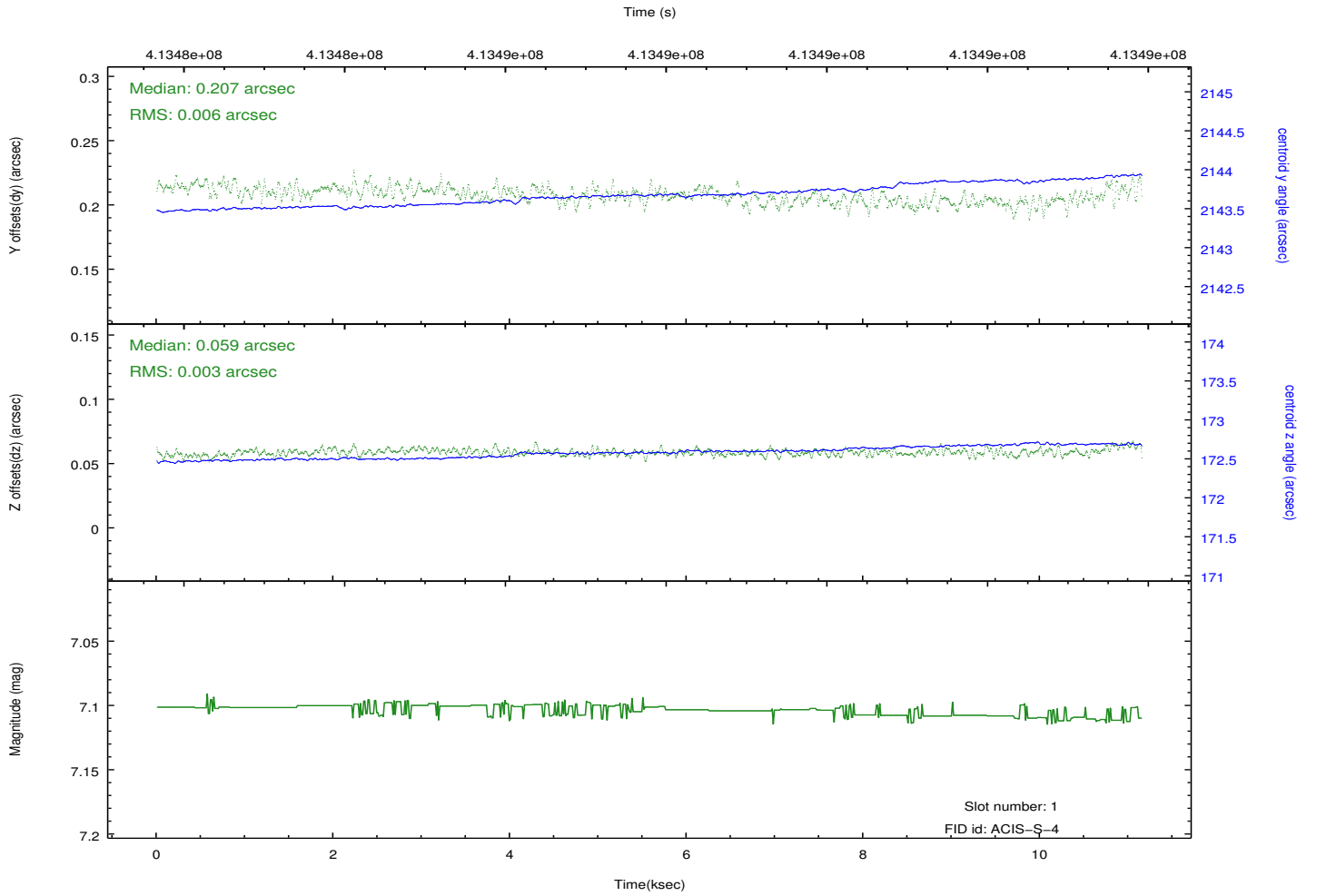
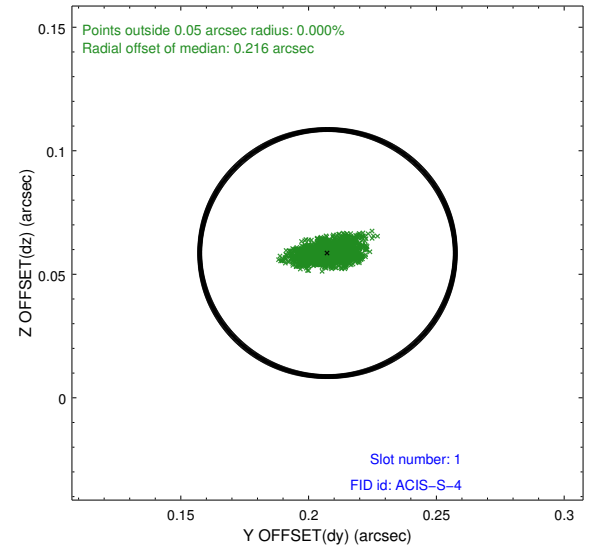
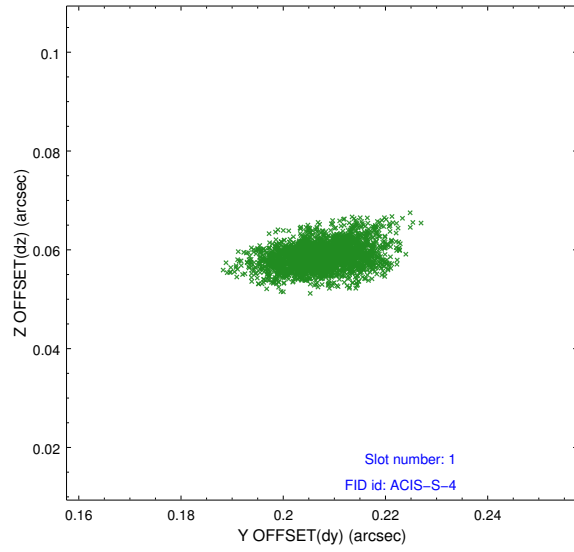


2.5 FID Slots

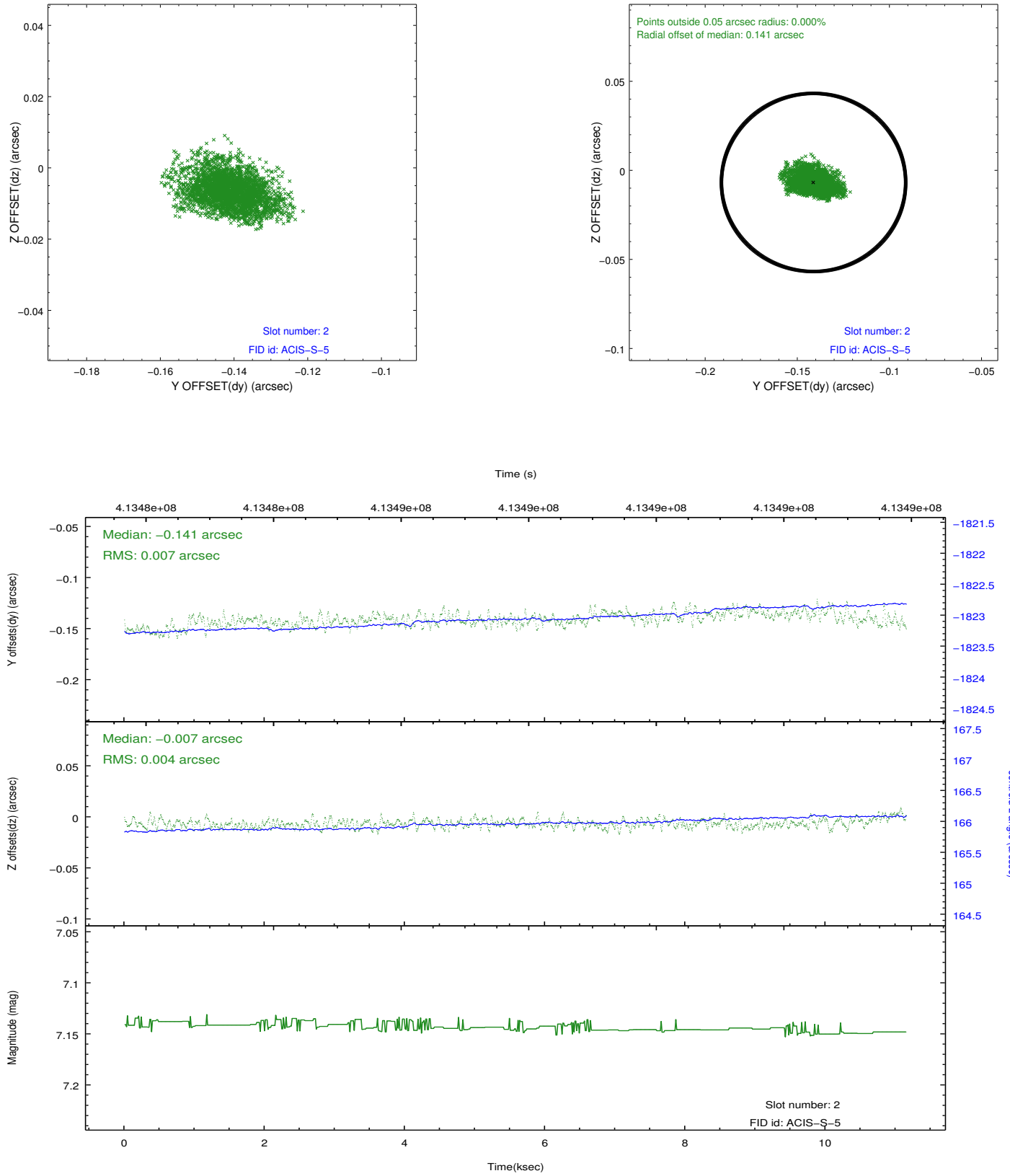
2.5.1 Slot 0



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)	2012.02.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.955855703652

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 = 9 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 = 9 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:
(116.29020,29.55574),(116.29150,29.55807),(116.26921,29.56750),(116.26663,29.56571)