

V&V Reference Report

L2 ASCDS Version : 8.4.5

Observation 15369 - L2 Version 3
Chandra X-Ray Center

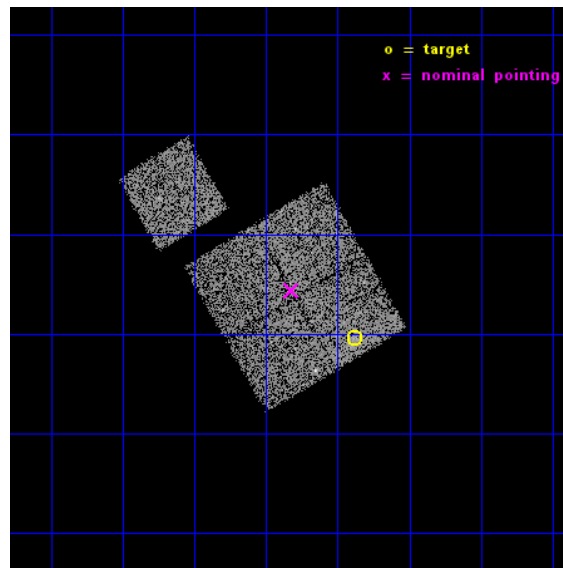
L2 Processing Date : Nov 29 2014

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1 Front

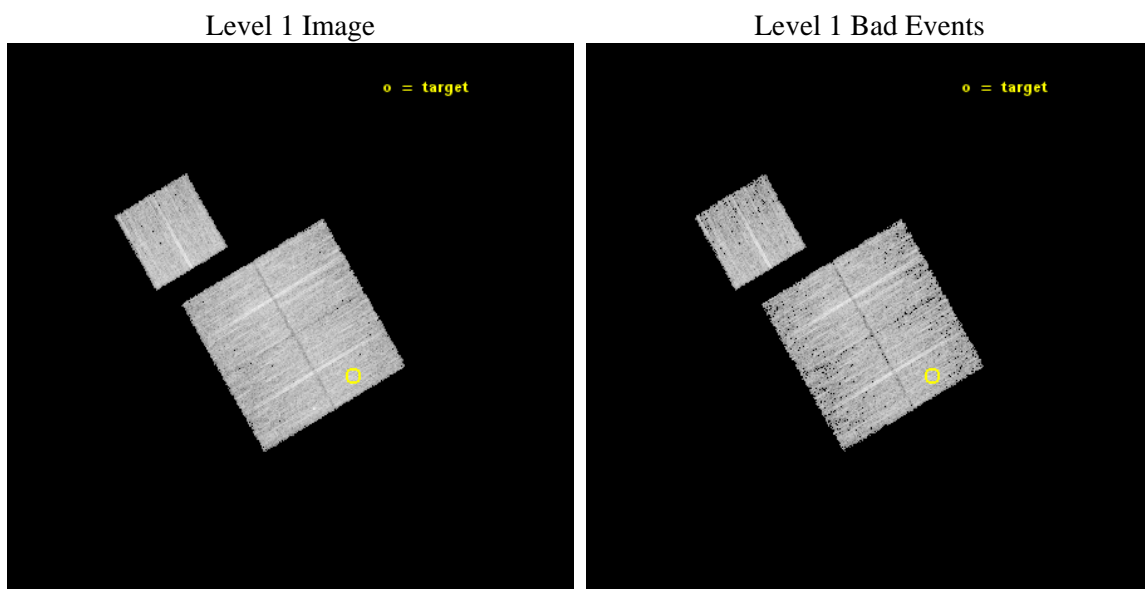
seq_num	801359	Sequence number
obs_id	15369	Observation id
title	A Search for Cool Cores in a Sample of $z = 0.4$ Galaxy Clusters	Pro
observer	Professor Gordon Garmire	Principal investigator
object	GMBCG J047.34623-00.00606	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	47.34625	Observer's specified target RA [deg]
dec_targ	-0.005833	Observer's specified target Dec [deg]
ra_nom	47.455664518538	Nominal RA [deg]
dec_nom	0.072823537688466	Nominal Dec [deg]
roll_nom	329.72509220311	Nominal Roll [deg]
revision	3	Processing version of data
ontime	9776.2266004086	Sum of GTIs [s]
livetime	9648.4930027209	Livetime [s]
ontime0	9776.1855604053	Sum of GTIs [s]
ontime1	9776.2266004086	Sum of GTIs [s]
ontime2	9776.2676404119	Sum of GTIs [s]
ontime3	9776.3086804152	Sum of GTIs [s]
ontime6	9776.144520402	Sum of GTIs [s]
l2events	25223	Number of level 2 events



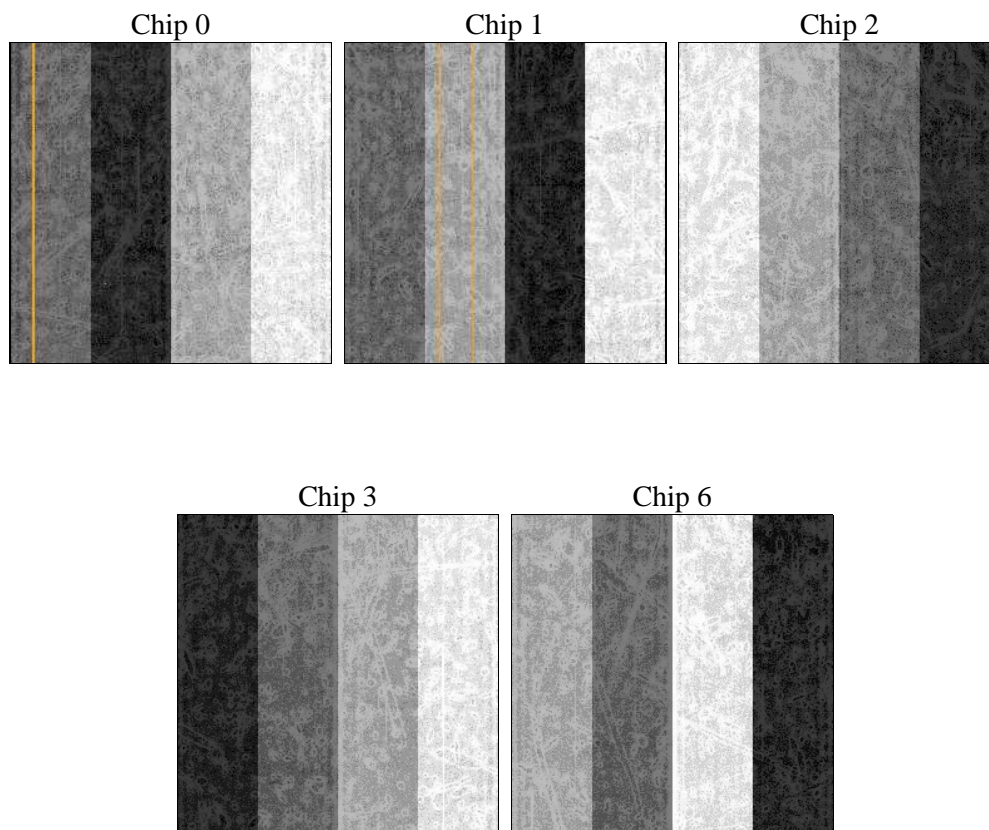
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	9776.2266004086	Sum of GTIs [s]
caldsver	4.6.4	 	ontime0	9776.1855604053	Sum of GTIs [s]
date	2014-11-30T01:31:53	Date and time of file creation	ontime1	9776.2266004086	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	9776.2676404119	Sum of GTIs [s]
			ontime3	9776.3086804152	Sum of GTIs [s]
			ontime6	9776.144520402	Sum of GTIs [s]
			l1events	237272	Number of level 1 events

2.1.4 Events

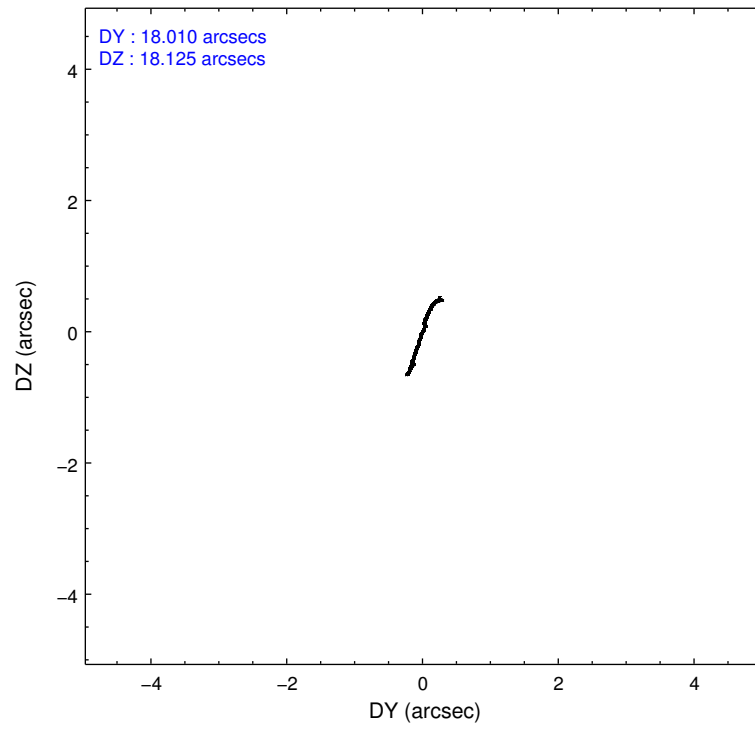
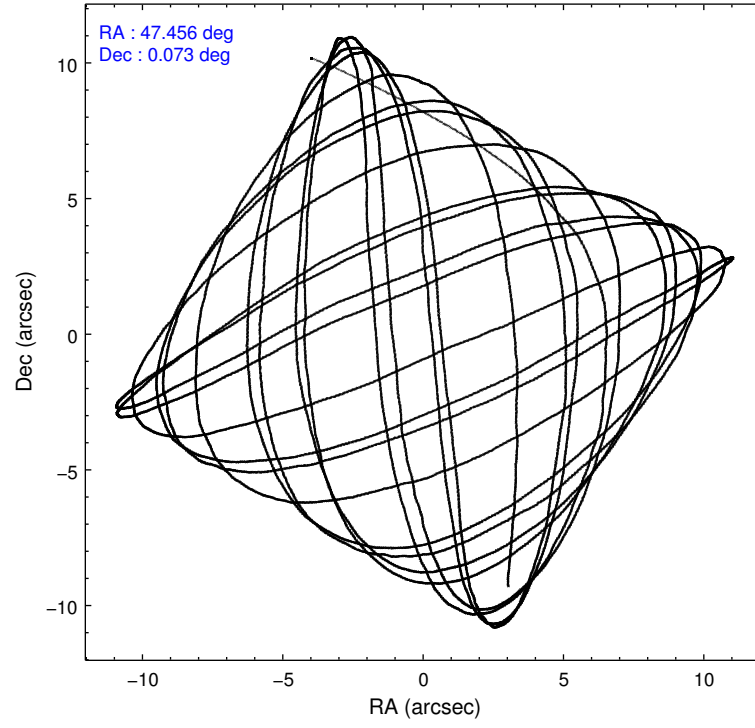
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	44478	48165	48456	48201	47972
rejected events	38480	41435	42931	42692	42058
rejected %	86%	86%	88%	88%	87%

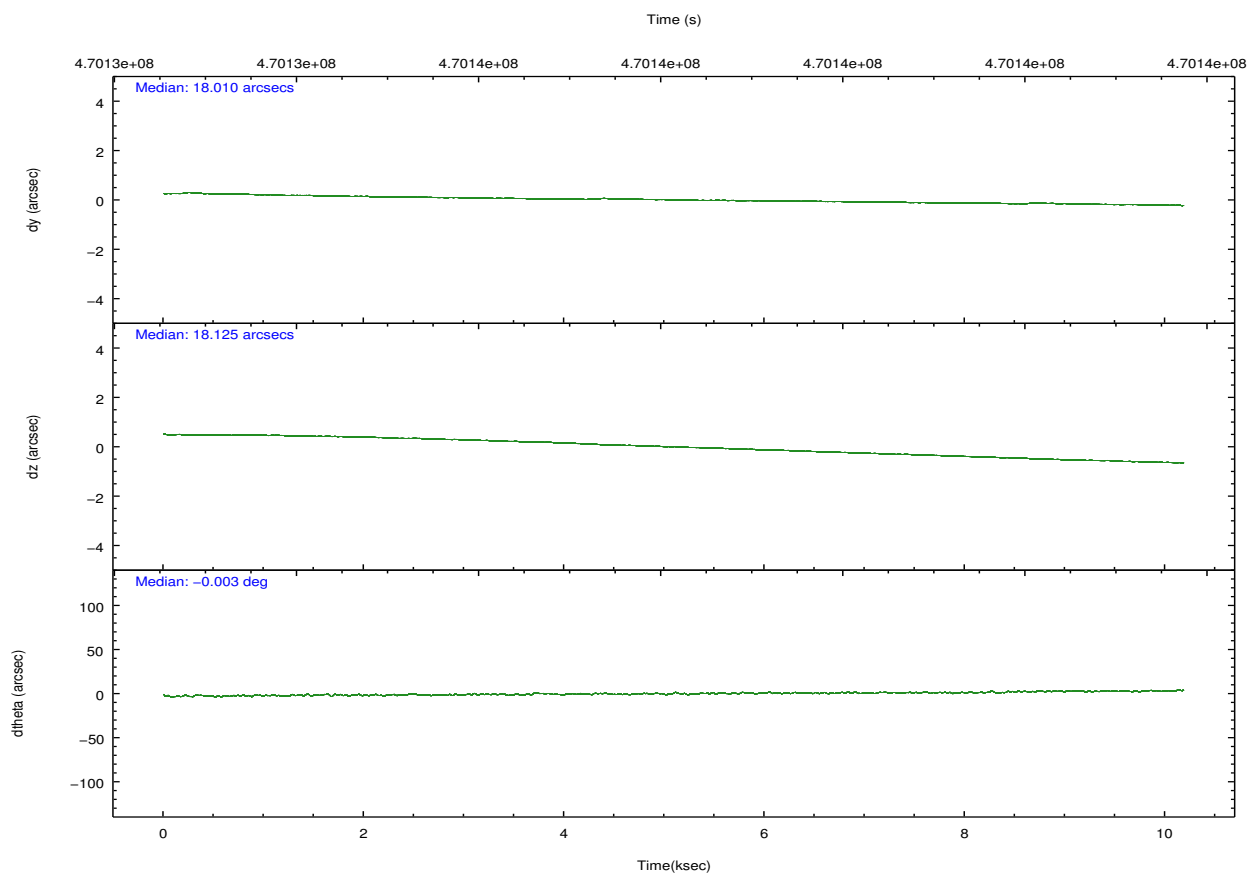
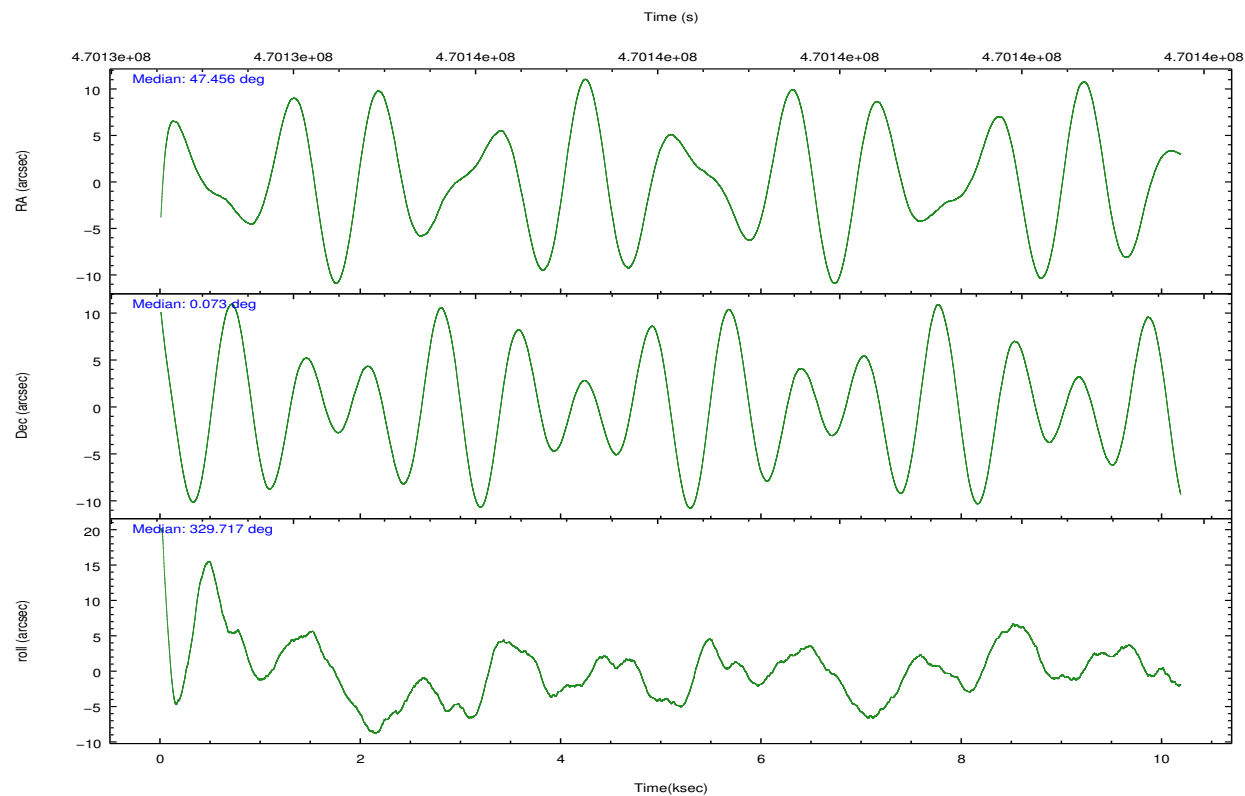
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	2180	2432	1983	1922	1960
	4%	5%	4%	3%	4%
grade 1 events	29	34	21	33	27
	0%	0%	0%	0%	0%
grade 2 events	1521	1683	1329	1232	1360
	3%	3%	2%	2%	2%
grade 3 events	597	612	589	566	612
	1%	1%	1%	1%	1%
grade 4 events	549	598	571	578	628
	1%	1%	1%	1%	1%
grade 5 events	2272	2442	2235	2492	2467
	5%	5%	4%	5%	5%
grade 6 events	1152	1413	1057	1214	1356
	2%	2%	2%	2%	2%
grade 7 events	36178	38951	40671	40164	39562
	81%	80%	83%	83%	82%

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	47.428147	47.45566451853836	CCD I2 on	Y	Y
[deg] Pointing Dec	0.072829	0.07282353768846576	CCD I3 on	Y	Y
[deg] Pointing Roll	329.516412	329.7250922031142	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	-233.592463	-233.5874344608287	CCD S3 on	N	N
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	470133247.184000	470132042.75362	CCD S5 on	N	N
Observation start date	2012-11-24T08:33:00	2012-11-24T08:14:02	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	470143247.184000	470143878.42926	On-chip summing requested	N	N
Observation end date	2012-11-24T11:19:40	2012-11-24T11:31:18	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



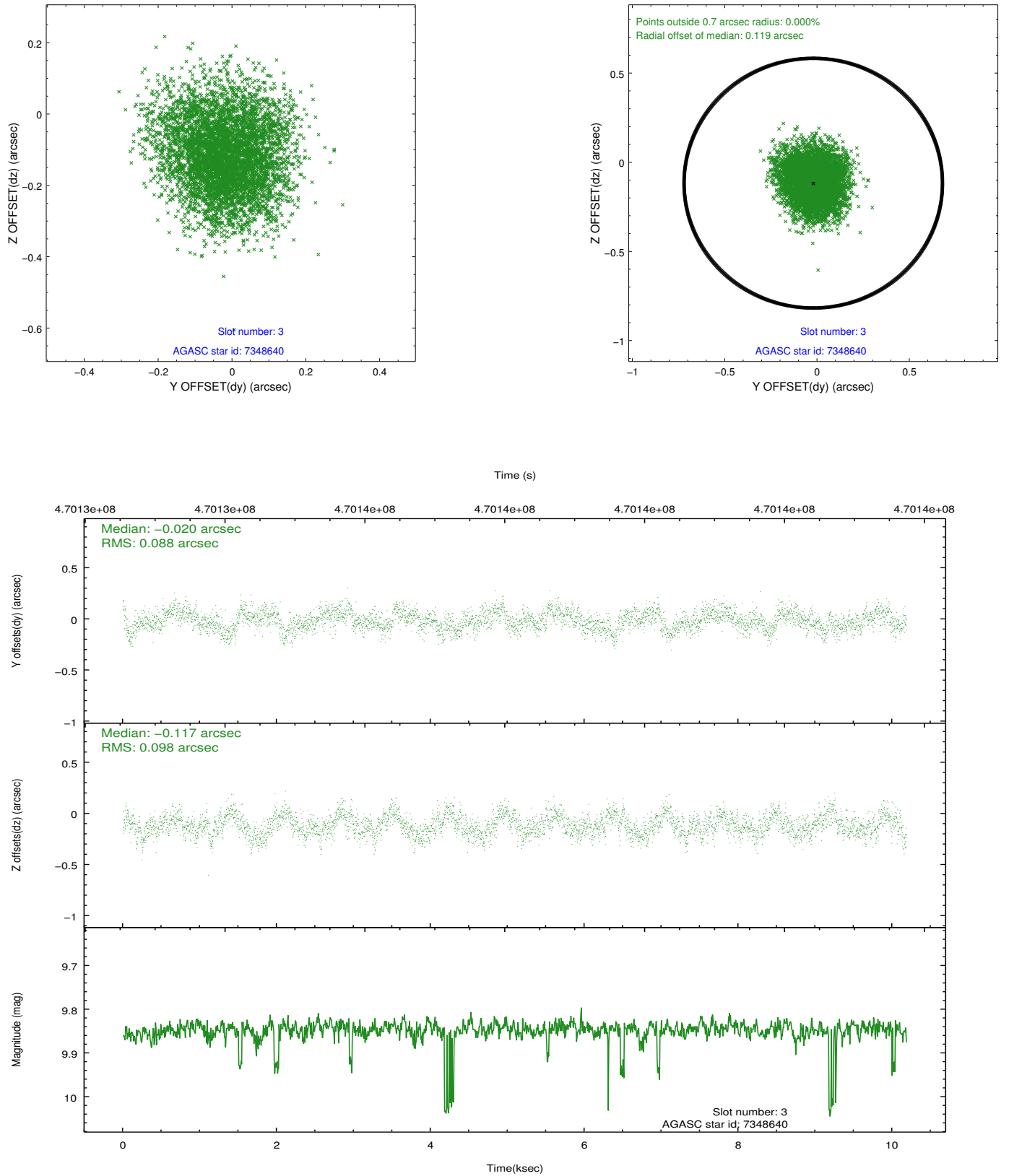


Slot Statistics

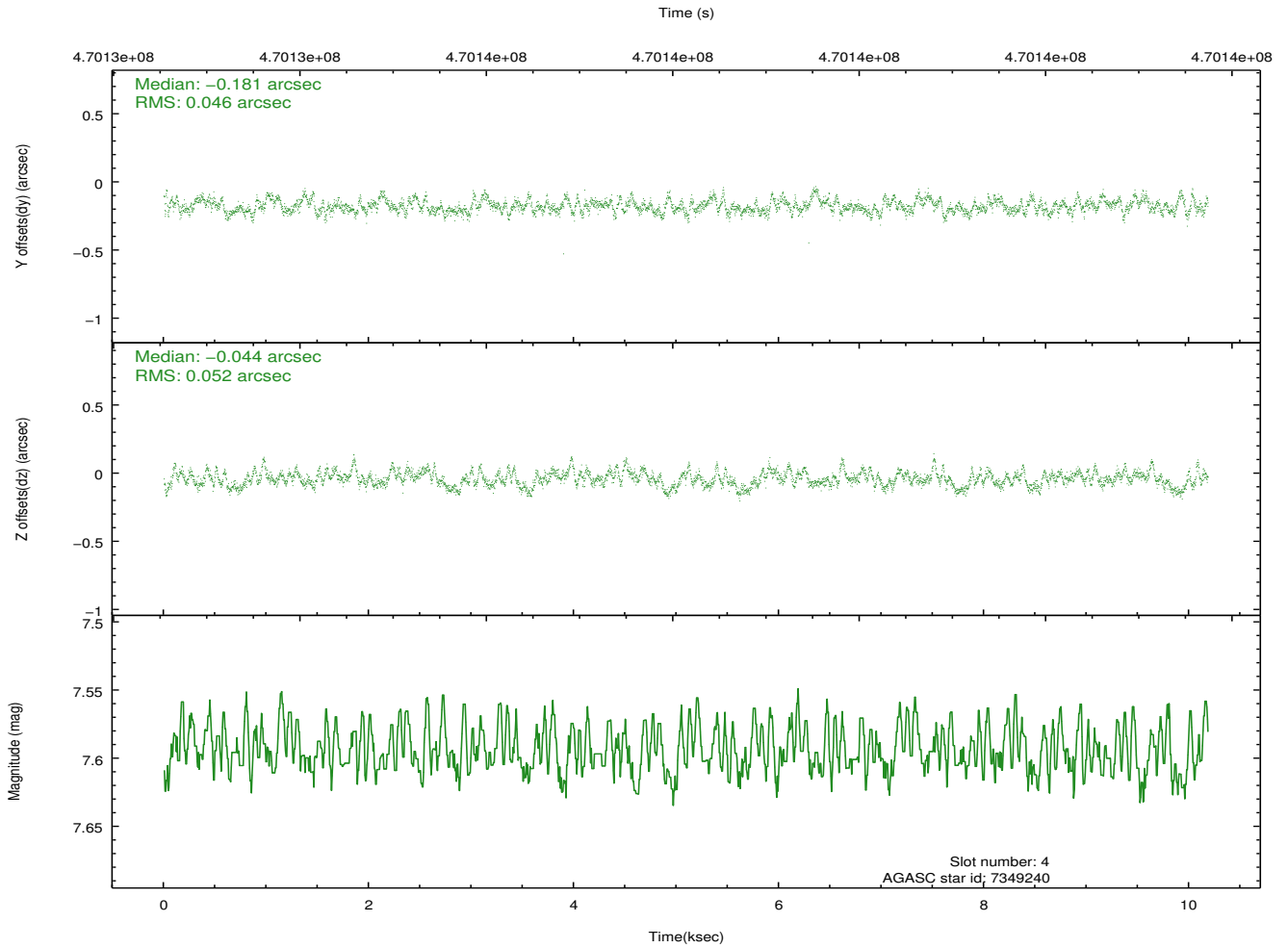
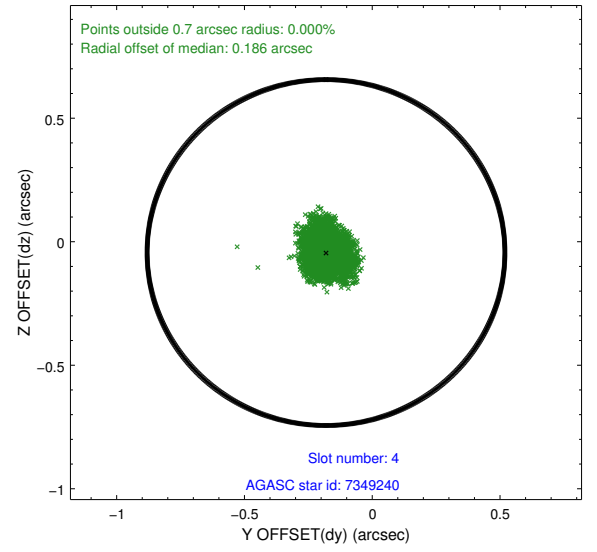
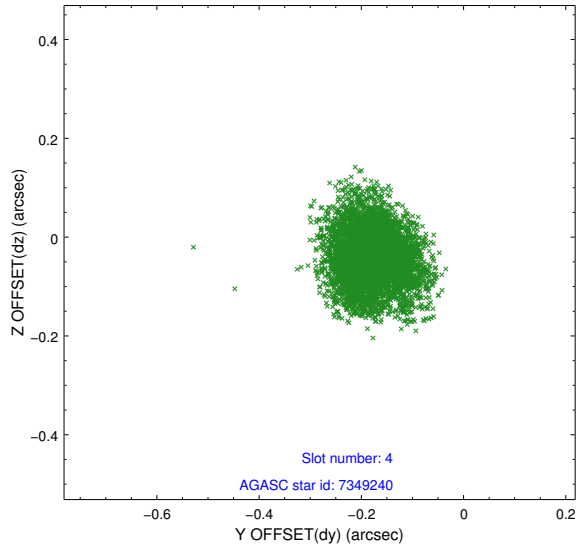
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.10	2484	-0.031	-0.030	0.014	0.022	0.000000	0.000000	921.34	-841.80
1	FID		ACIS-I-4	7.04	2484	0.277	0.059	0.009	0.014	0.000000	0.000000	2141.95	1057.85
2	FID		ACIS-I-5	7.09	2484	-0.344	0.041	0.010	0.018	0.000000	0.000000	-1826.33	1056.22
3	GUIDE	used	7348640	9.85	4932	-0.020	-0.117	0.142	0.224	48.044237	0.326658	1447.88	1912.65
4	GUIDE	used	7349240	7.60	4967	-0.181	-0.044	0.075	0.118	47.649747	0.212498	432.87	837.85
5	GUIDE	used	7349600	6.89	4968	-0.205	-0.091	0.077	0.117	48.008835	0.107673	1737.80	1168.80
6	GUIDE	used	616956912	9.65	4966	0.177	0.247	0.177	0.269	46.931206	-0.153423	-1126.96	-1610.25
7	GUIDE	used	617094376	9.57	4946	0.216	-0.006	0.154	0.258	48.028477	-0.090160	2160.38	590.63

2.4 Star Slots

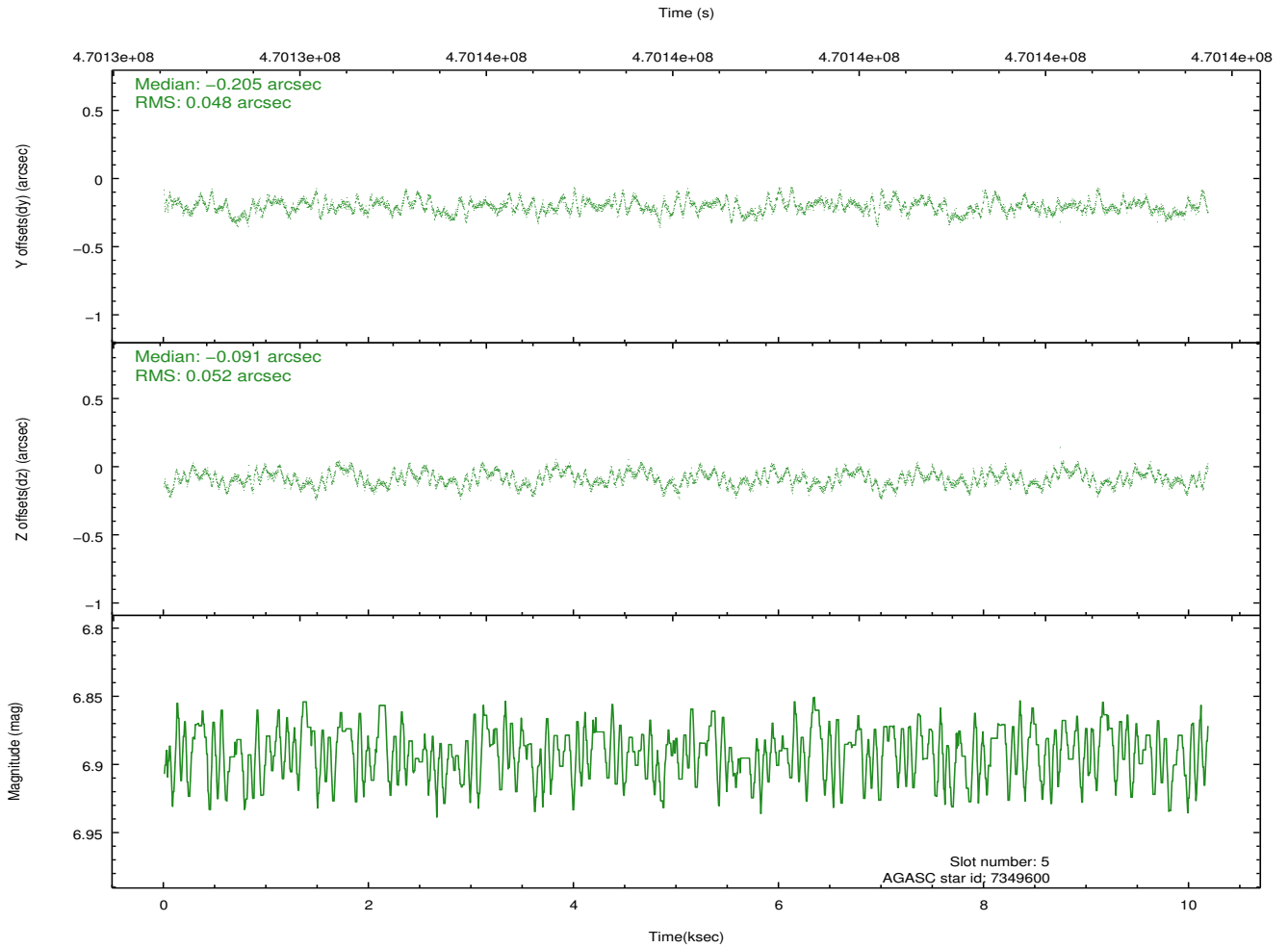
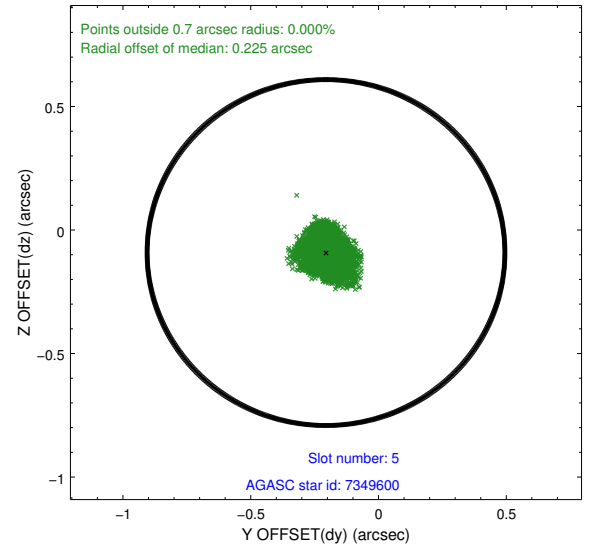
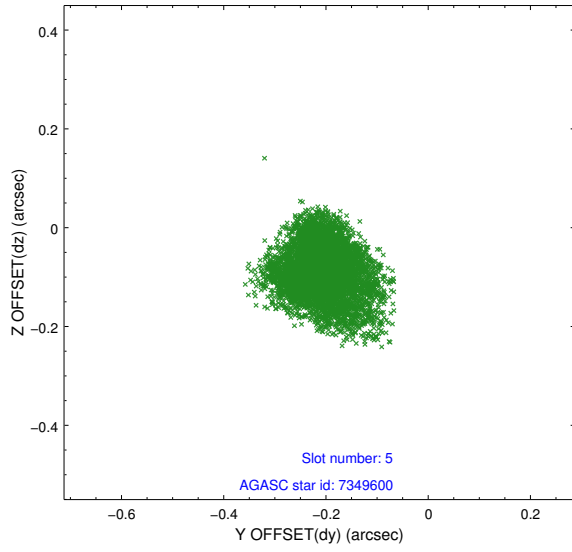
2.4.1 Slot 3



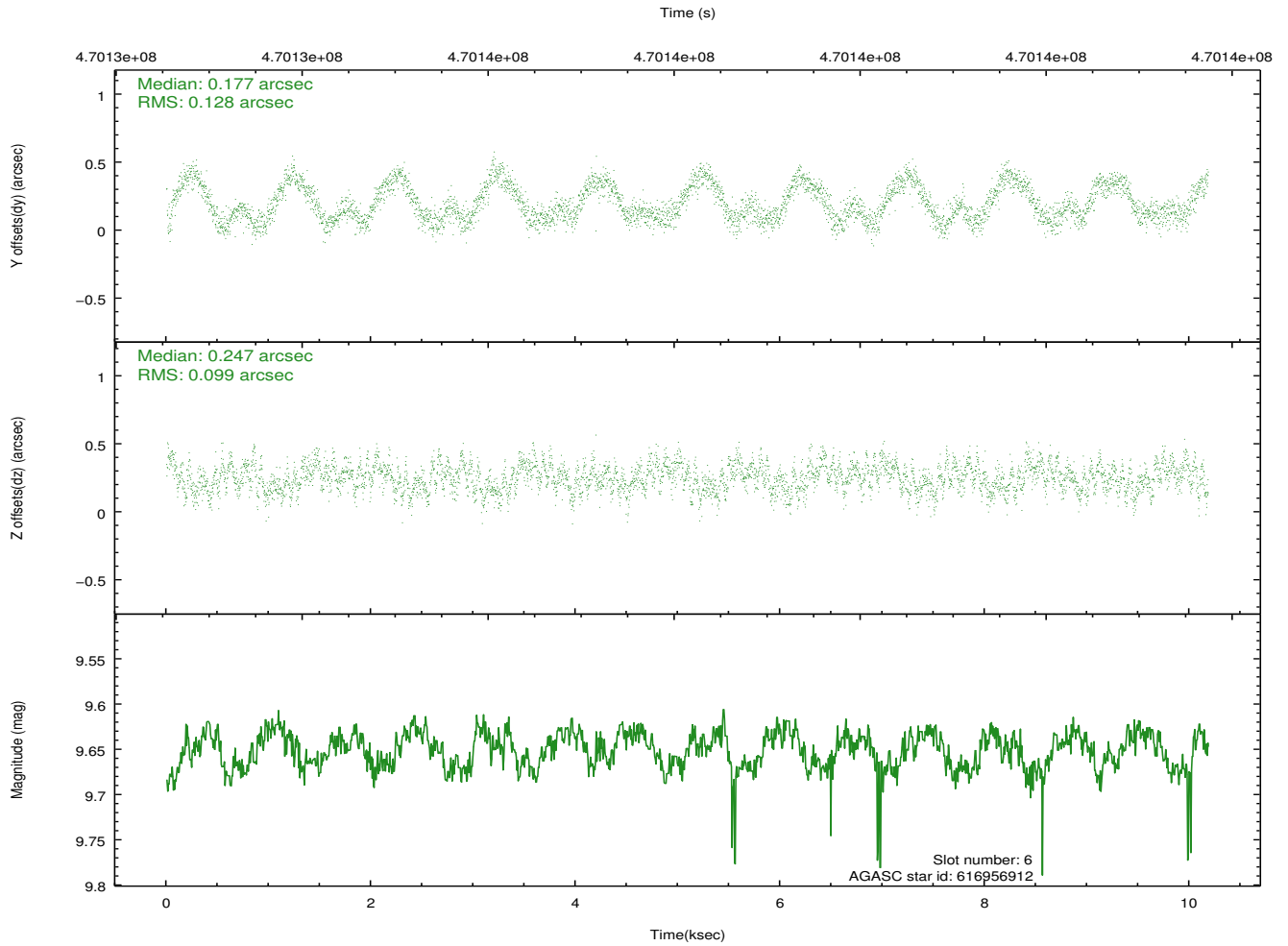
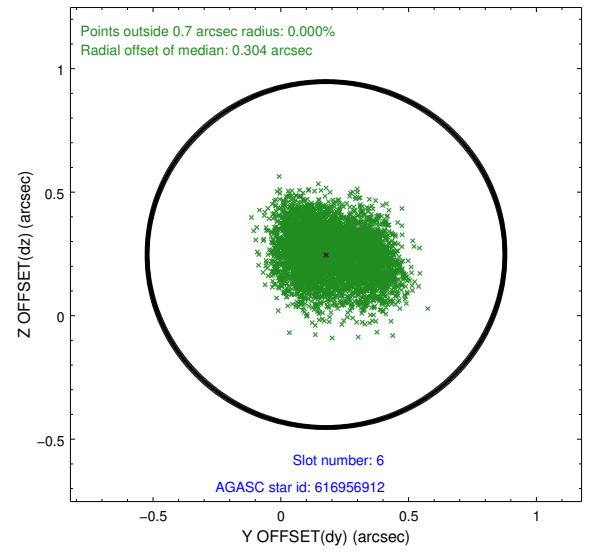
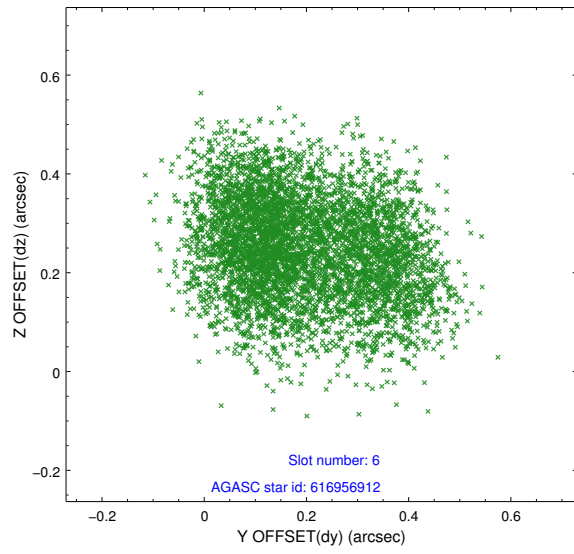
2.4.2 Slot 4



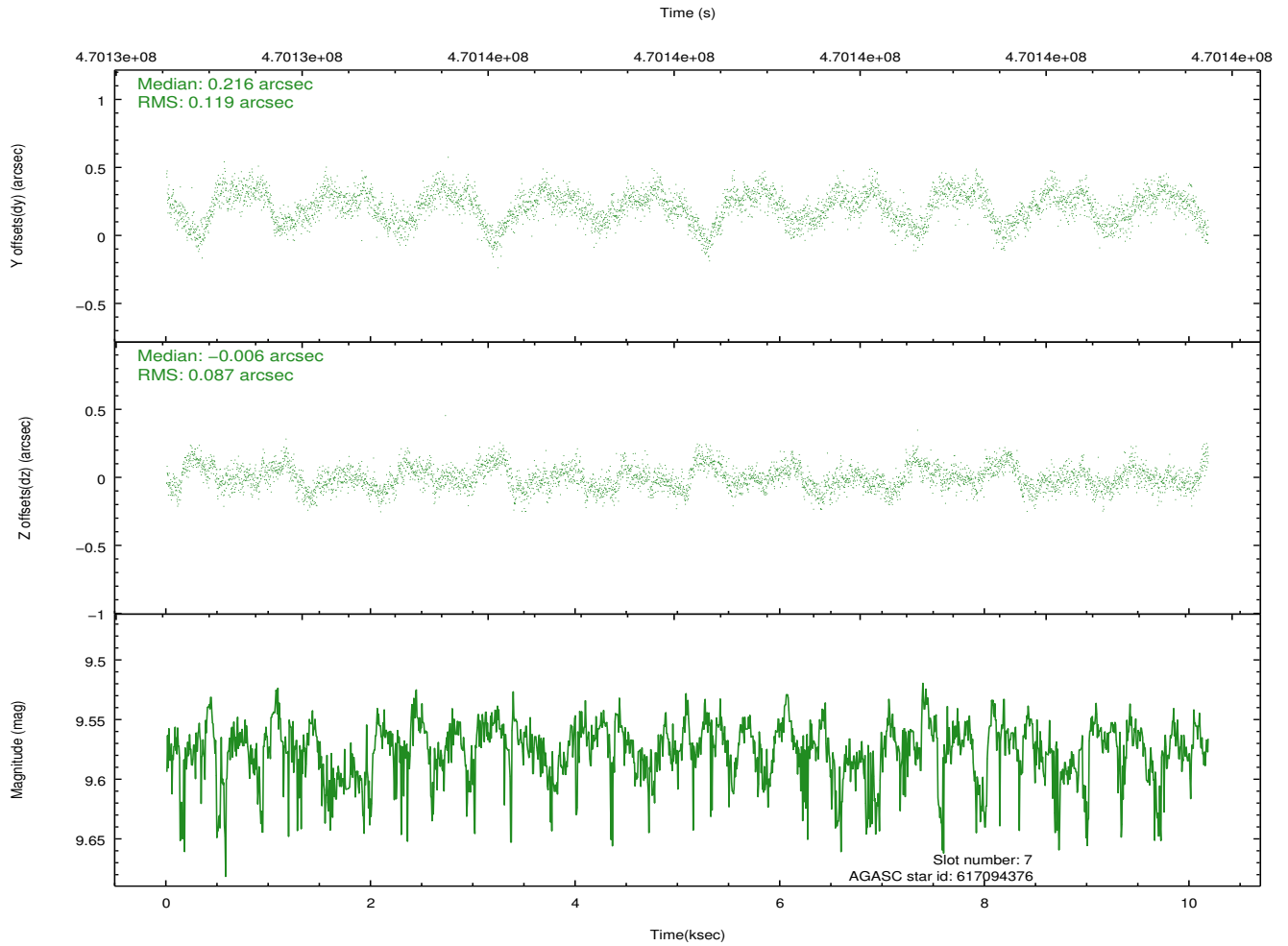
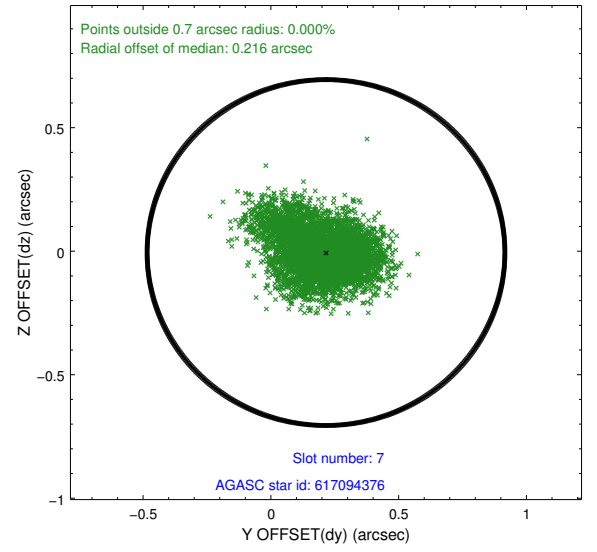
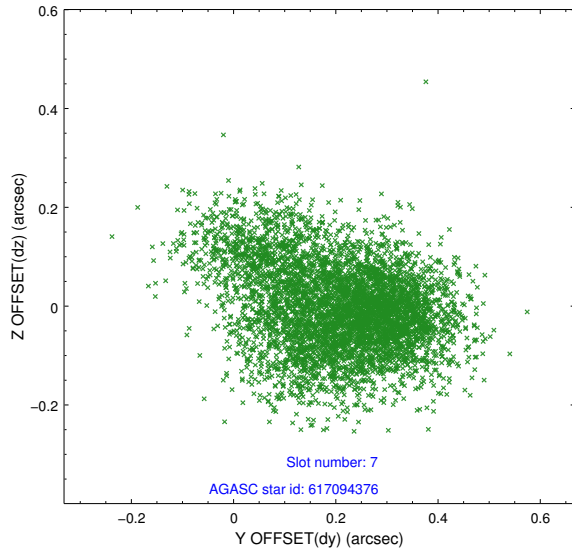
2.4.3 Slot 5



2.4.4 Slot 6

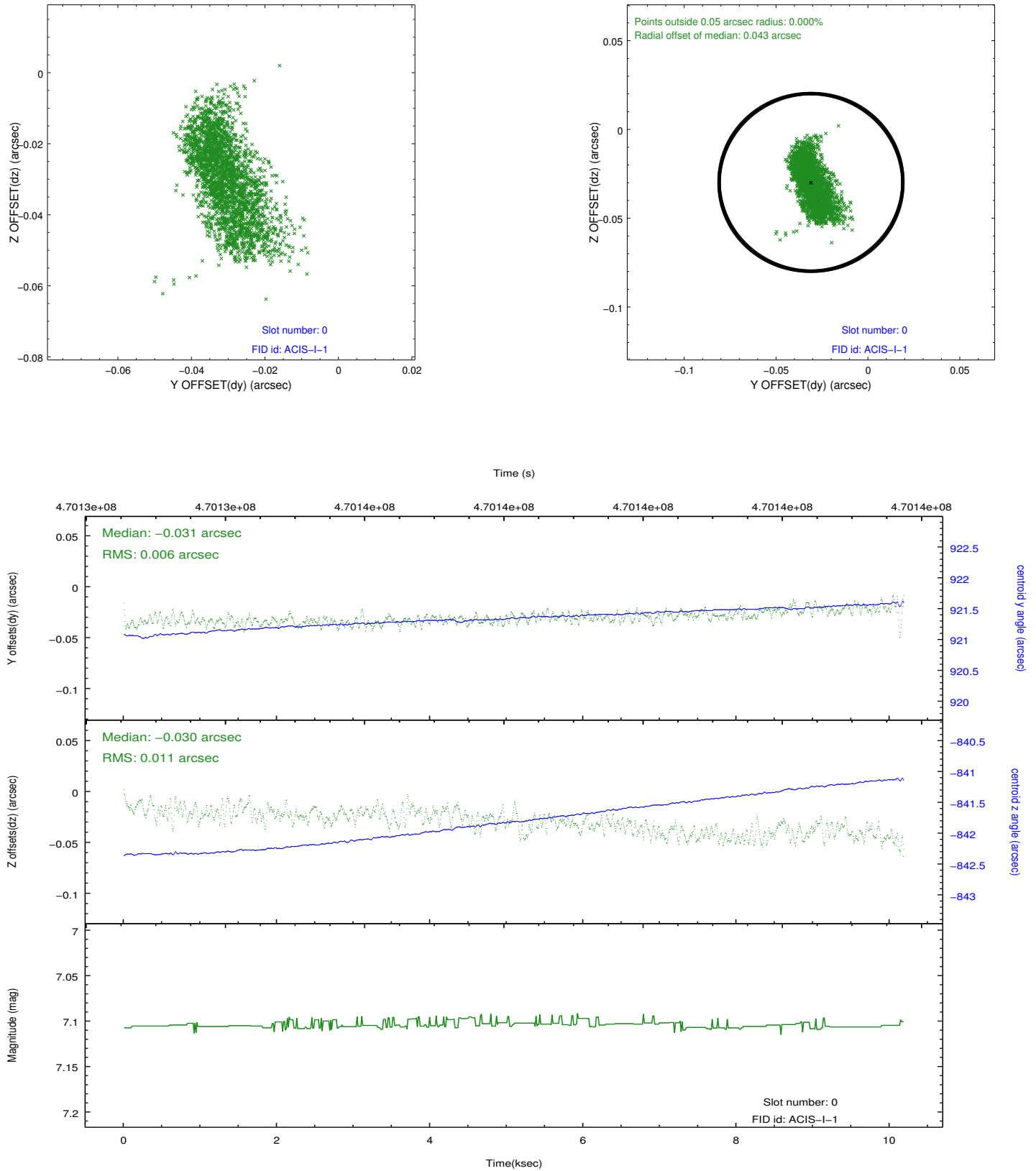


2.4.5 Slot 7

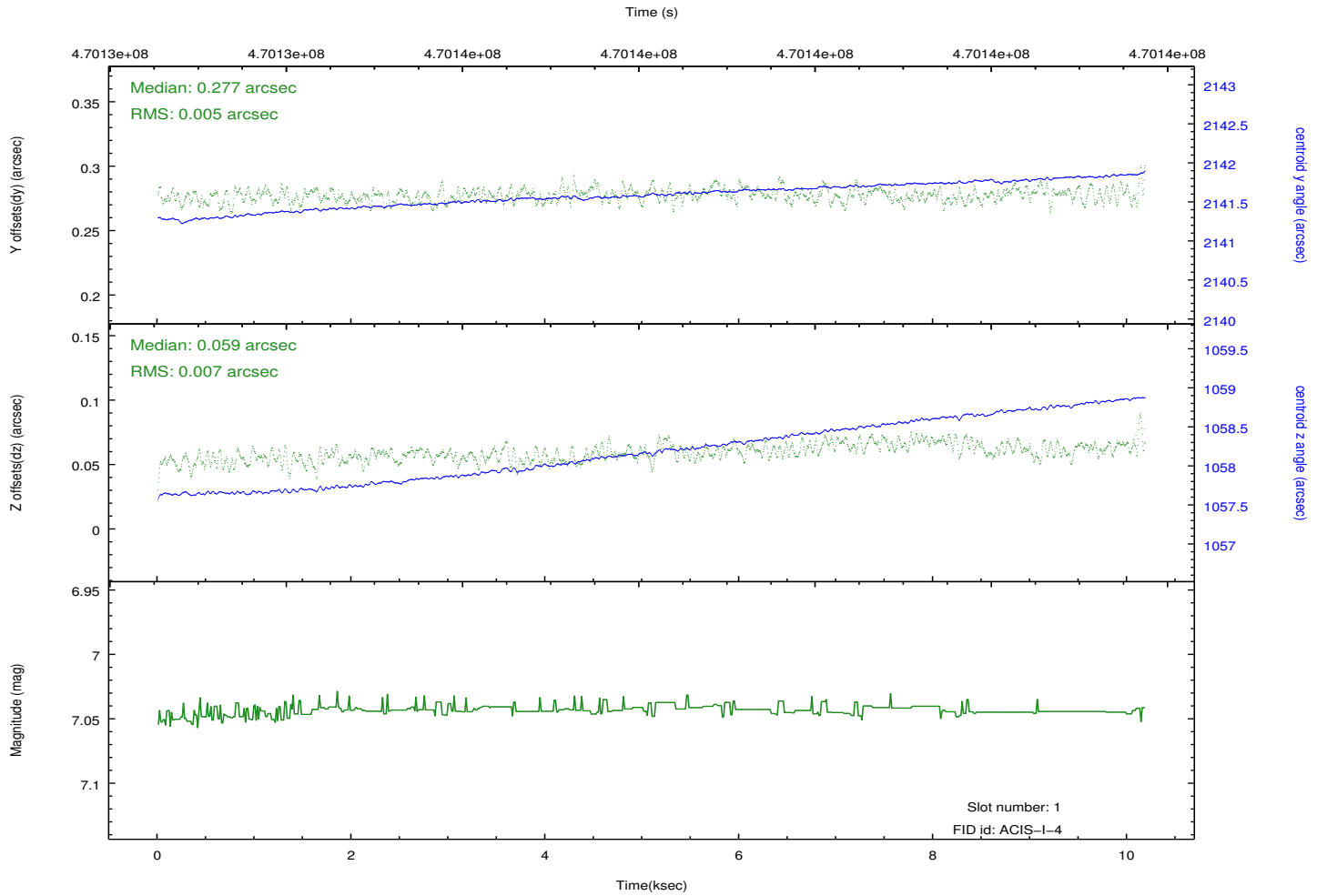
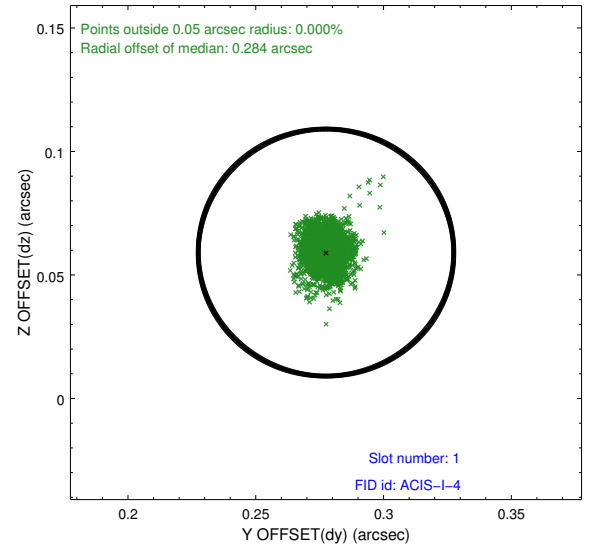
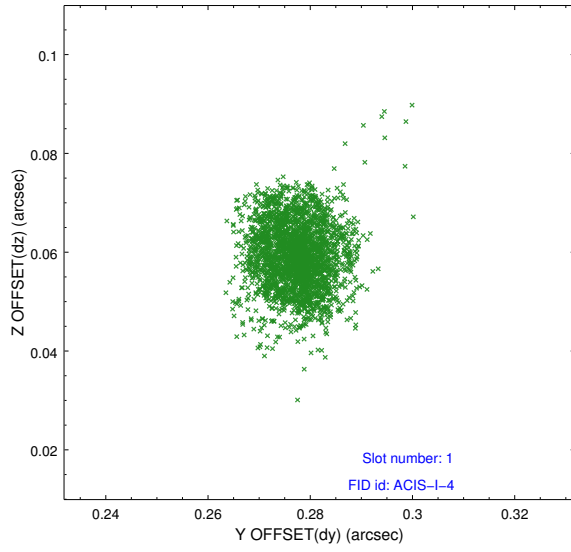


2.5 FID Slots

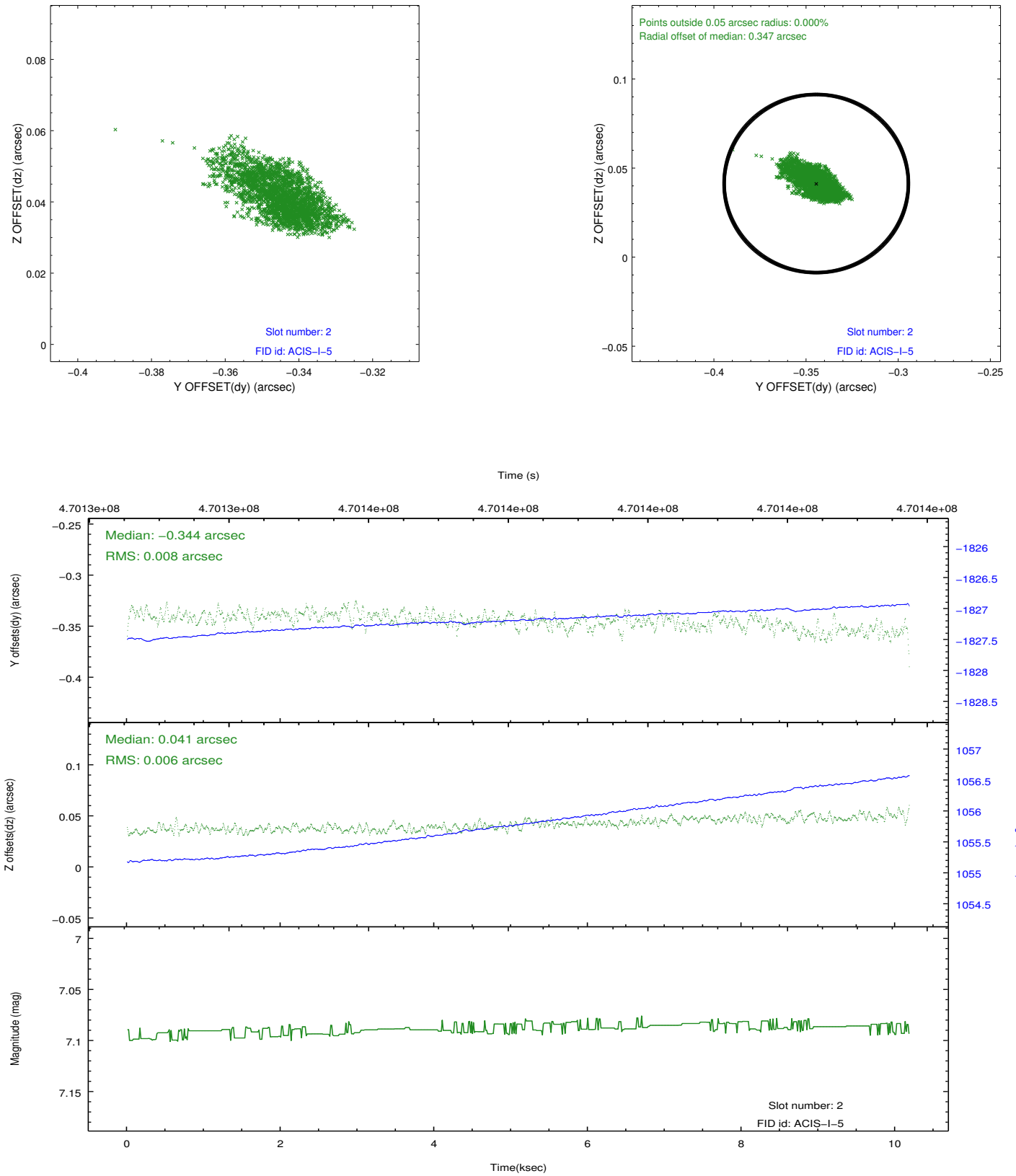
2.5.1 Slot 0



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)	2014.12.16
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.7762266004086

A.2 Comments

A spatial region of the original bias map for CCD = 3 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 = 3 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:
(47.43045,0.14790),(47.42783,0.14343),(47.47315,0.11697),(47.47130,0.12405)

=====

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.