

V&V Reference Report

L2 ASCDS Version : 8.5.1.1

Observation 5010 - L2 Version 6
Chandra X-Ray Center

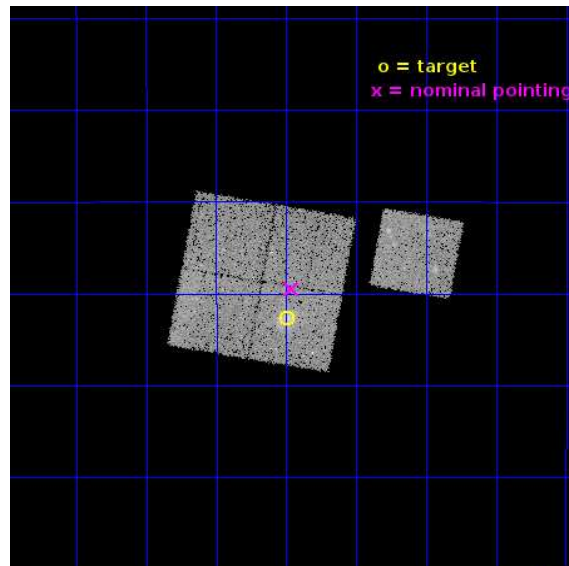
L2 Processing Date : Jul 27 2015

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

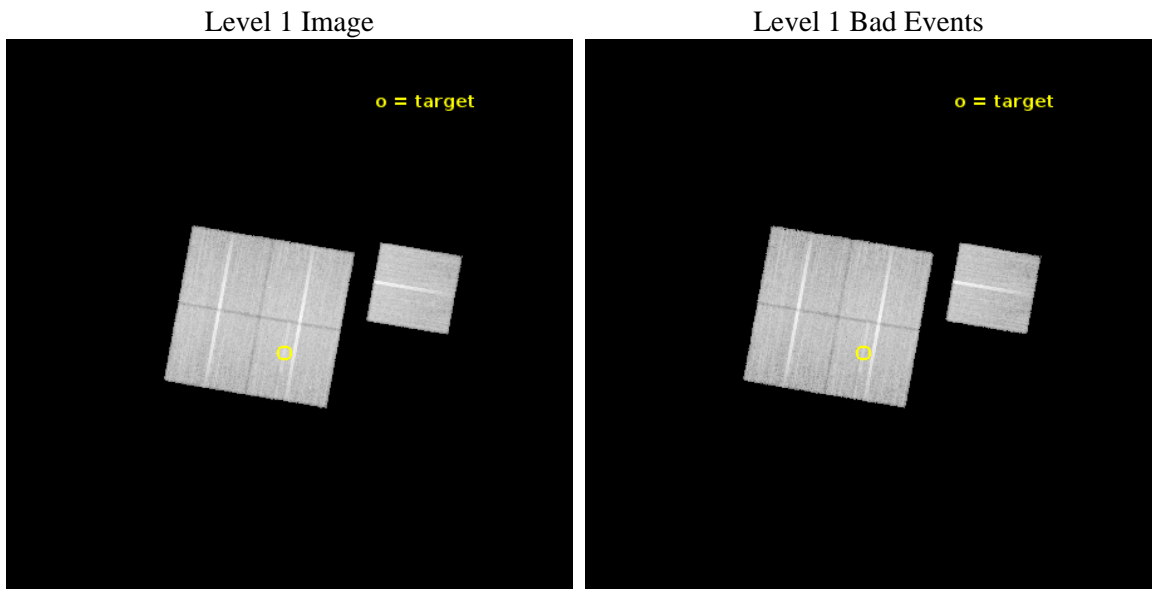
seq_num	800453	Sequence number
obs_id	5010	Observation id
title	Cluster studies: Determination of H0/q0	Proposal title
observer	DR. LEON VANSPEYBROECK	Principal investigator
object	MACS0025.4-1222	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	6.373333	Observer's specified target RA [deg]
dec_targ	-12.378056	Observer's specified target Dec [deg]
ra_nom	6.3657084805902	Nominal RA [deg]
dec_nom	-12.324264876378	Nominal Dec [deg]
roll_nom	99.959288171092	Nominal Roll [deg]
revision	6	Processing version of data
ontime	25155.930422068	Sum of GTIs [s]
livetime	24827.249671577	Livetime [s]
ontime0	25152.789471745	Sum of GTIs [s]
ontime1	25159.071422338	Sum of GTIs [s]
ontime2	25152.789471745	Sum of GTIs [s]
ontime3	25155.930422068	Sum of GTIs [s]
ontime6	25159.071432263	Sum of GTIs [s]
l2events	66406	Number of level 2 events



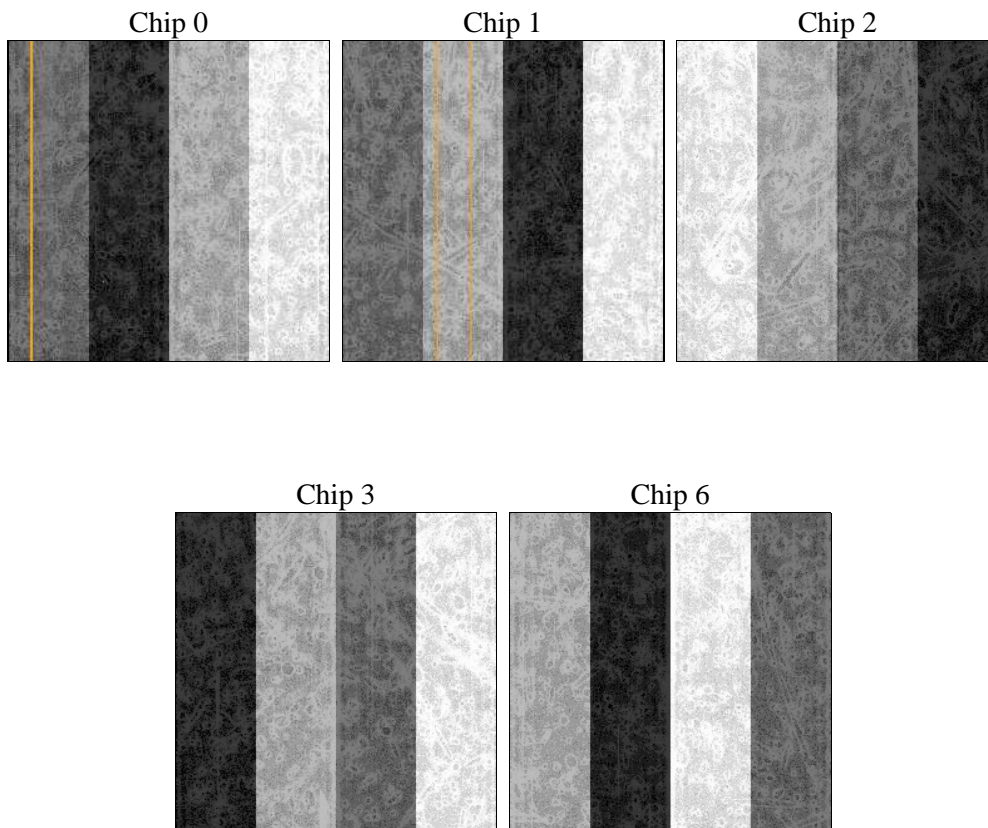
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	25000.000000	[s] Scheduled observation exposure time
ascdsver	10.4.1	Processing system revision	ontime	25155.930422068	Sum of GTIs [s]
caldbver	4.6.8	 	ontime0	25152.789471745	Sum of GTIs [s]
date	2015-07-27T16:35:41	Date and time of file creation	ontime1	25159.071422338	Sum of GTIs [s]
revision	6	Processing version of data	ontime2	25152.789471745	Sum of GTIs [s]
			ontime3	25155.930422068	Sum of GTIs [s]
			ontime6	25159.071432263	Sum of GTIs [s]
			l1events	757476	Number of level 1 events

2.1.4 Events

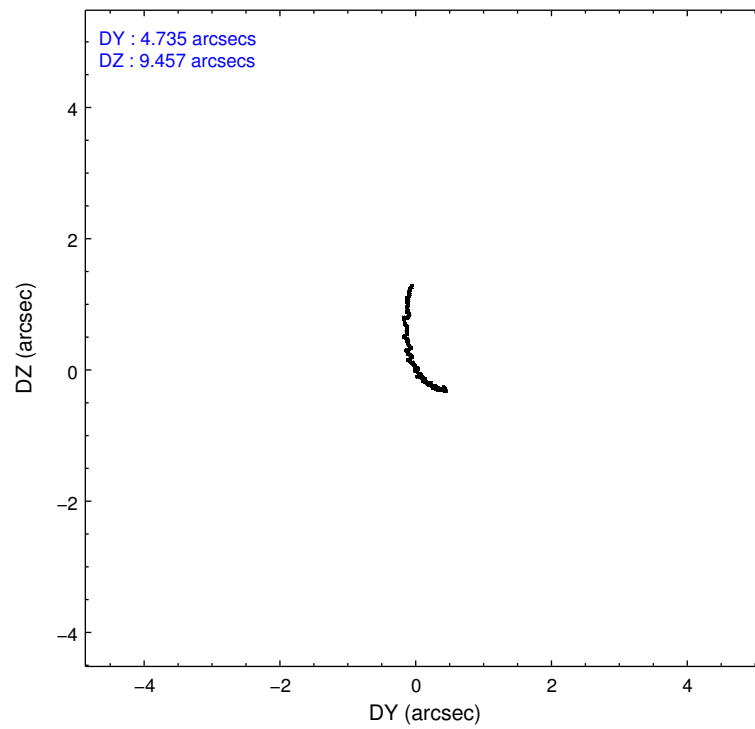
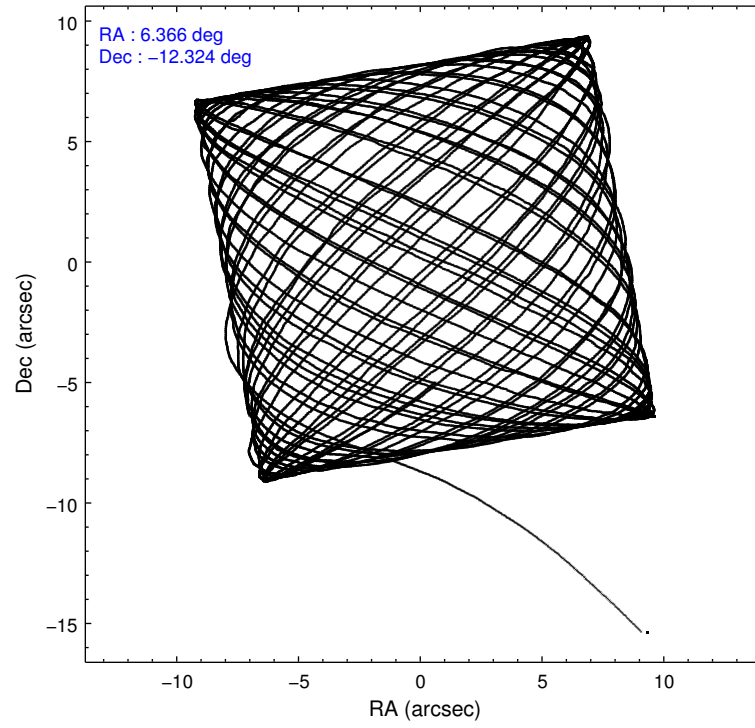
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	141597	144426	161653	156179	153621
rejected events	126559	127492	146772	138939	137924
rejected %	89%	88%	90%	88%	89%

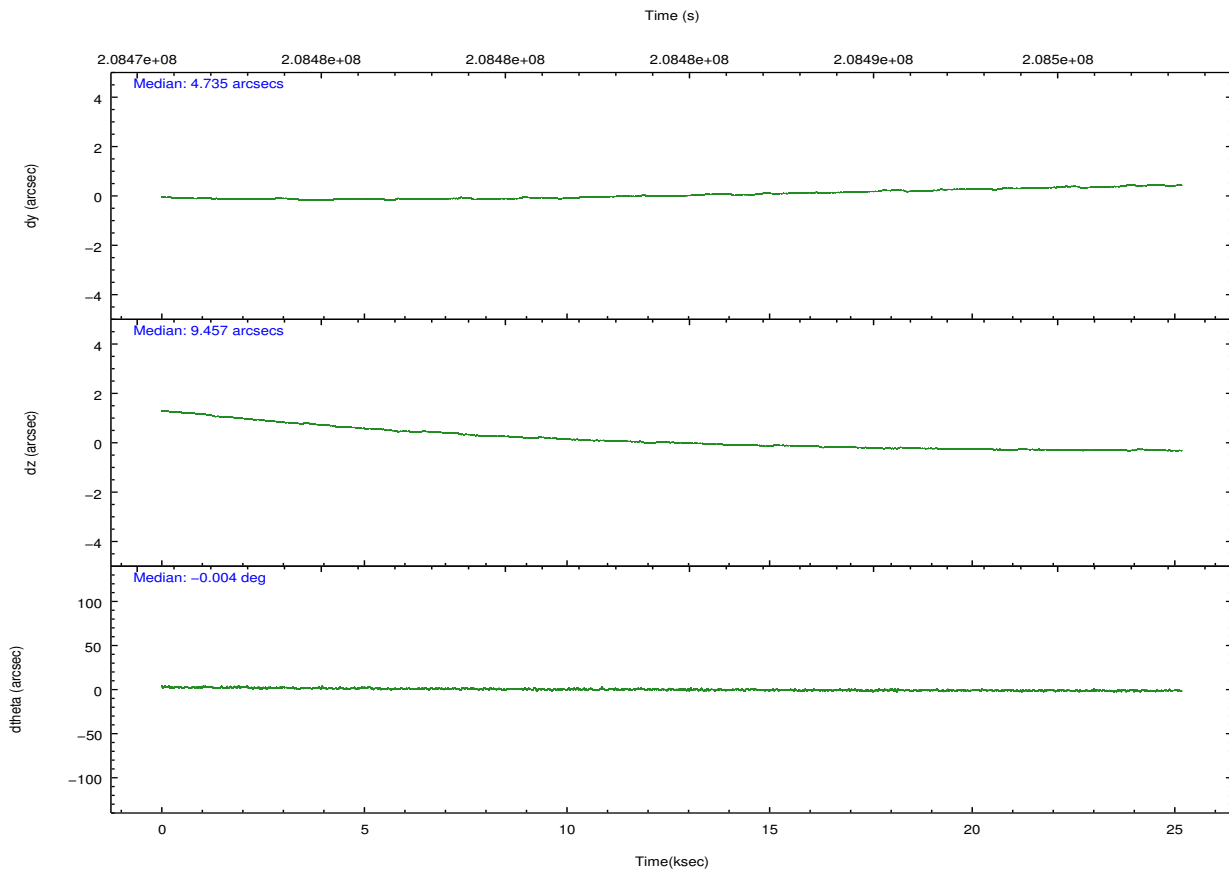
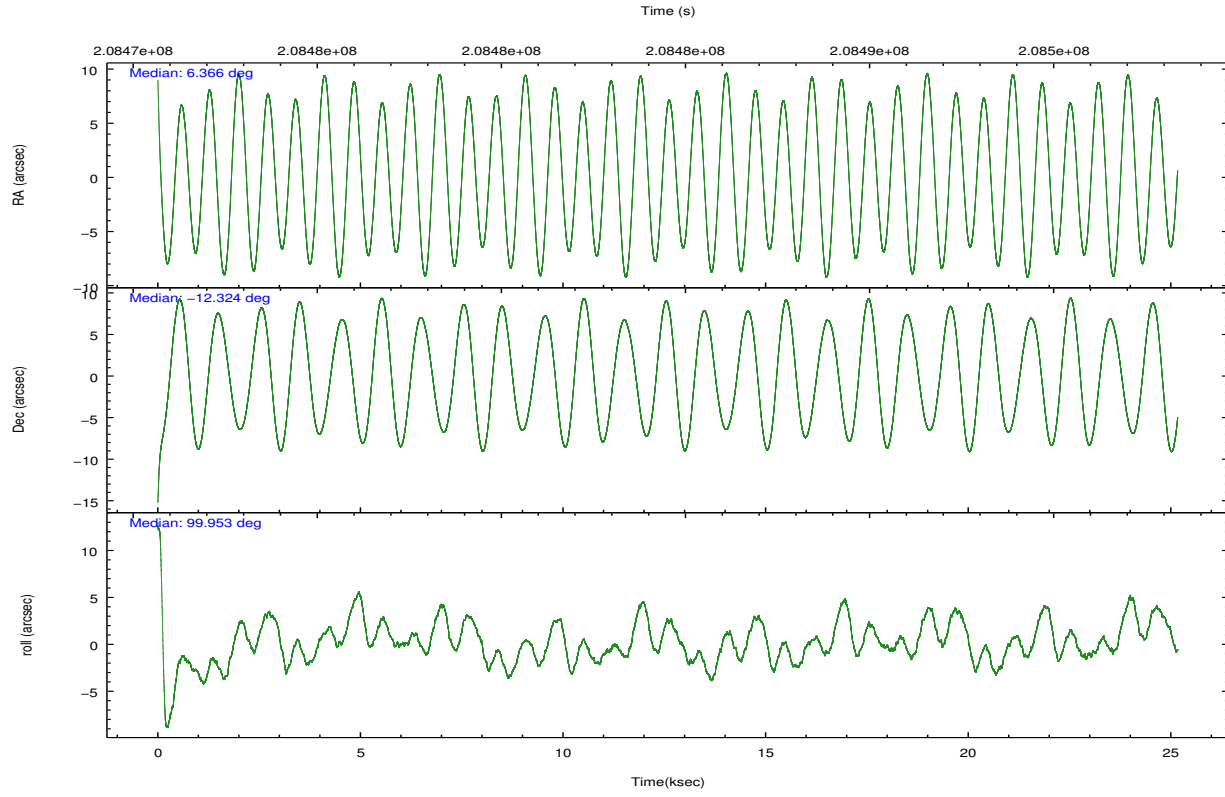
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	5085	6131	5331	7533	5628
	3%	4%	3%	4%	3%
grade 1 events	88	88	83	101	74
	0%	0%	0%	0%	0%
grade 2 events	3476	3626	3415	3260	3316
	2%	2%	2%	2%	2%
grade 3 events	1740	1899	1608	1760	1766
	1%	1%	0%	1%	1%
grade 4 events	1706	1895	1700	1766	1714
	1%	1%	1%	1%	1%
grade 5 events	5389	5834	5234	6080	5921
	3%	4%	3%	3%	3%
grade 6 events	3049	3405	2848	2943	3303
	2%	2%	1%	1%	2%
grade 7 events	121064	121548	141434	132736	131899
	85%	84%	87%	84%	85%

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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	6.383821	6.36570848059016	Subarray requested	NONE	NONE
[deg] Pointing Dec	-12.345180	-12.32426487637814	Alternating exposures requested	N	N
[deg] Pointing Roll	99.754472	99.95928817109203	[s] Primary exposure time	0.000000	3.1
[mm] SIM focus pos	-0.782348	-0.7809083437167272			
[mm] SIM defocus	0	0.001439871863259334			
[mm] SIM translation stage pos	-225.840463	-225.8433433320239			
[mm] SIM translation stage offset	-7.752	-7.749109670905796			
[s] Observation start time (MET)	208472106.184000	208471107.9669			
Observation start date	2004-08-09T20:54:02	2004-08-09T20:38:27			
[s] Observation end time (MET)	208497106.184000	208498498.01812			
Observation end date	2004-08-10T03:50:42	2004-08-10T04:14:58			
Read mode	TIMED	TIMED			

2.3 Aspect





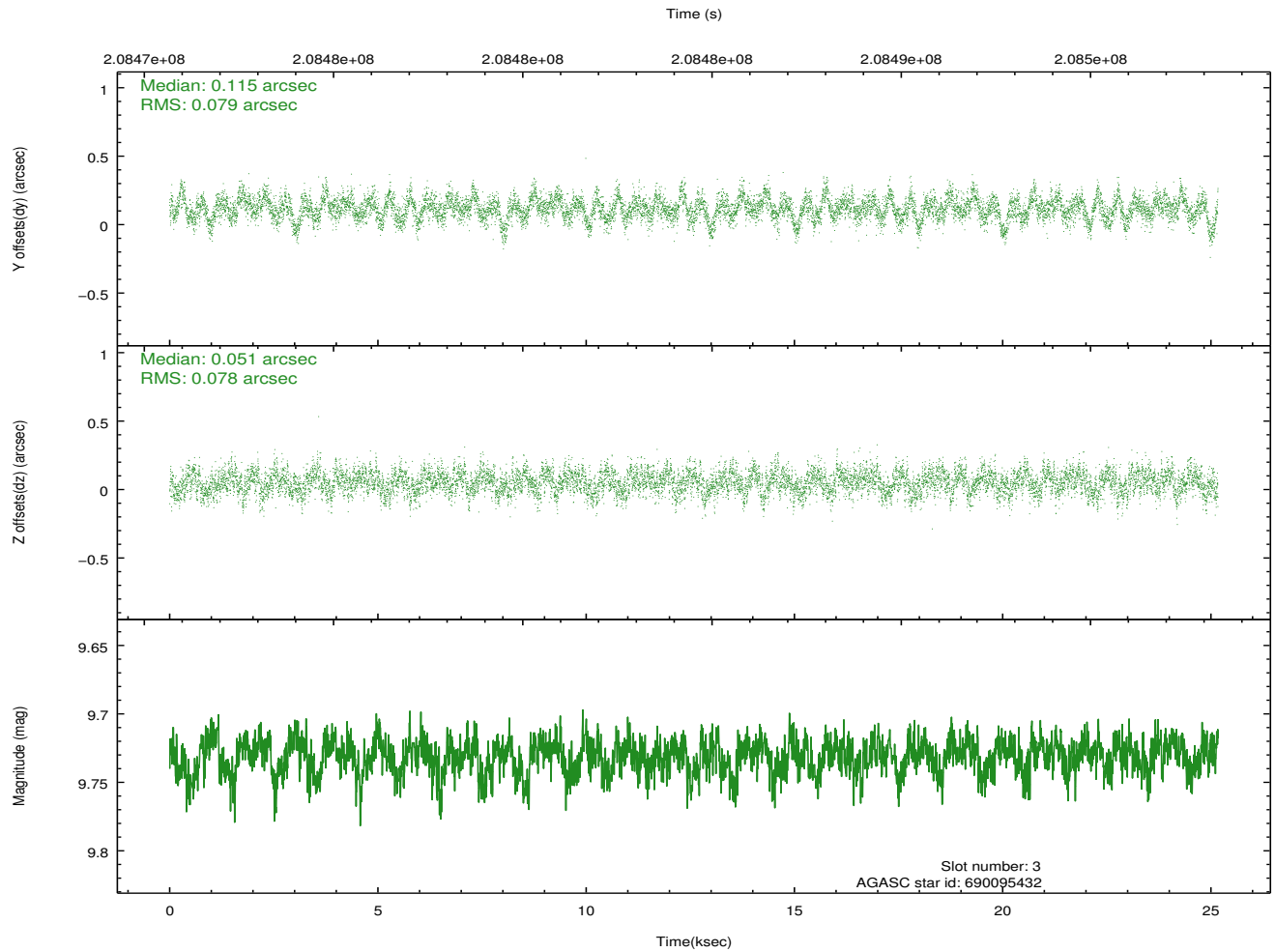
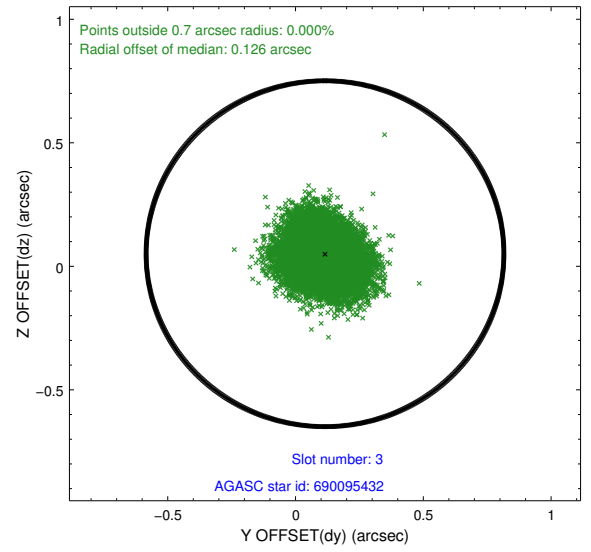
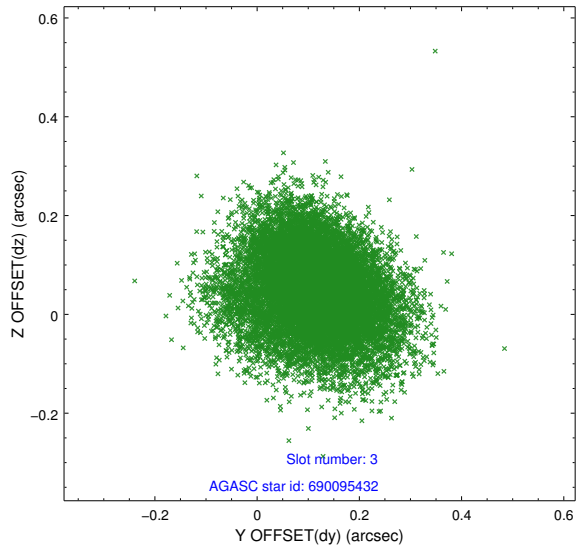
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-2	7.17	6139	-0.056	-0.042	0.012	0.029	0.000000	0.000000	-759.80	-997.55
1	FID		ACIS-I-4	7.14	6138	0.045	0.050	0.008	0.014	0.000000	0.000000	2154.21	908.66
2	FID		ACIS-I-5	7.21	6139	-0.090	0.062	0.010	0.020	0.000000	0.000000	-1813.17	905.56
3	GUIDE	used	690095432	9.73	12266	0.115	0.051	0.118	0.192	6.686559	-12.321914	-97.87	-1063.30
4	GUIDE	used	690095936	9.63	12267	-0.009	-0.162	0.117	0.195	6.226991	-11.967899	1432.28	314.28
5	GUIDE	used	690096648	9.88	12273	-0.049	0.152	0.169	0.297	6.890979	-12.026292	827.77	-1953.89
6	GUIDE	used	690097384	8.88	12274	-0.166	-0.111	0.072	0.114	6.159542	-12.236030	520.78	711.04
7	GUIDE	used	690488576	9.07	12271	0.110	0.072	0.086	0.146	6.760281	-12.699830	-1482.61	-1086.47

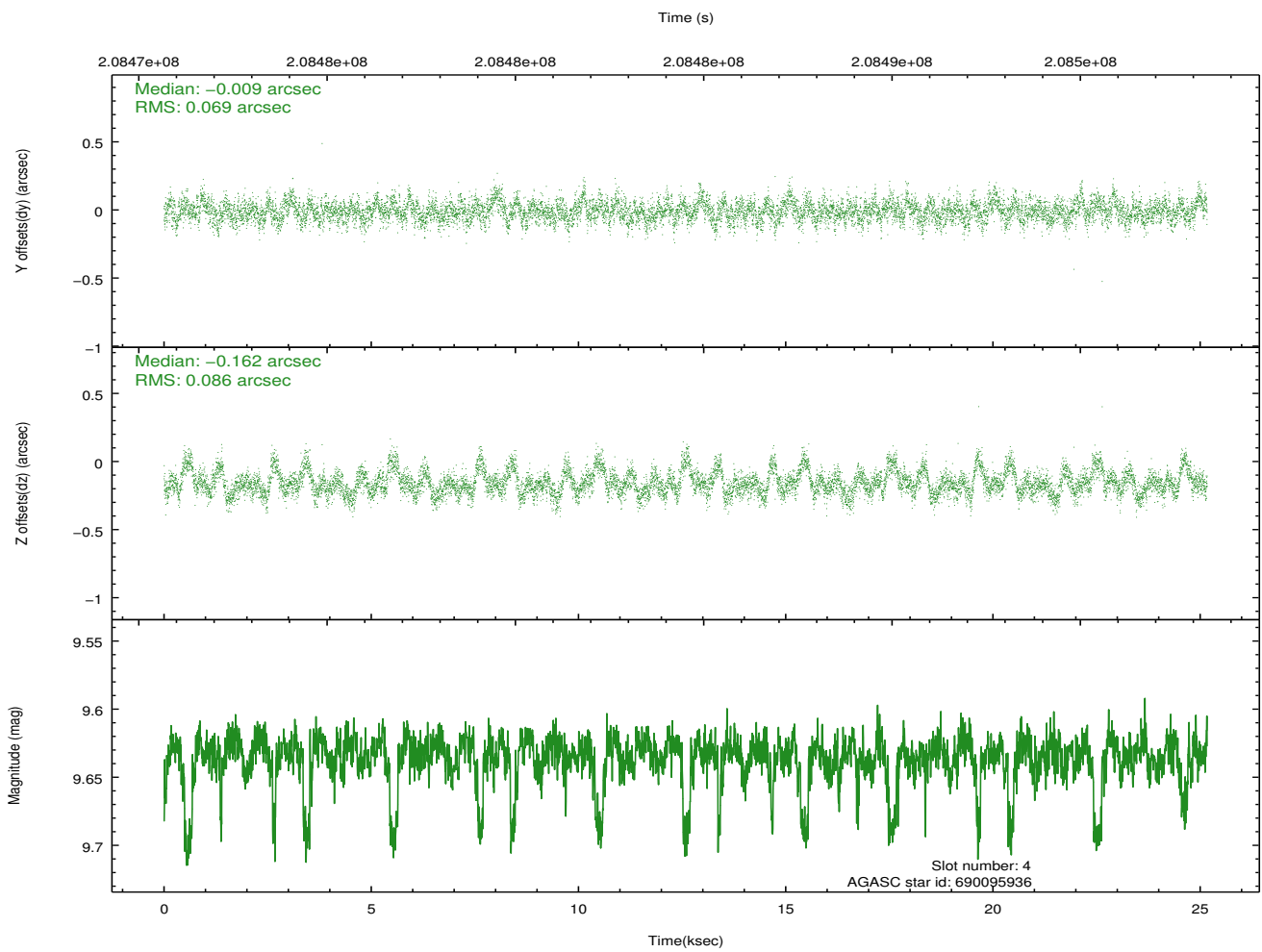
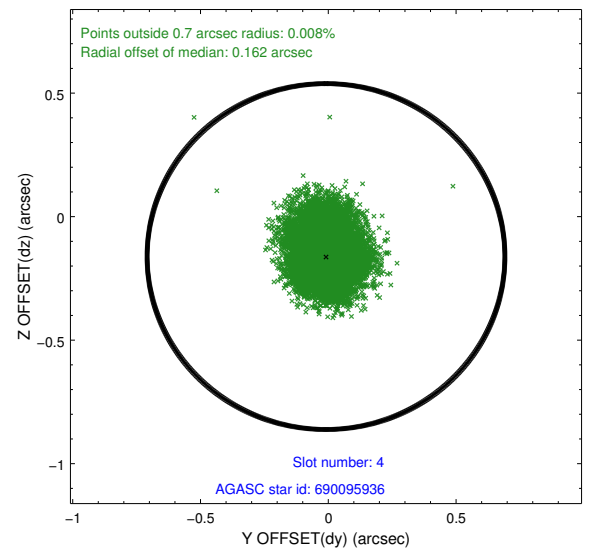
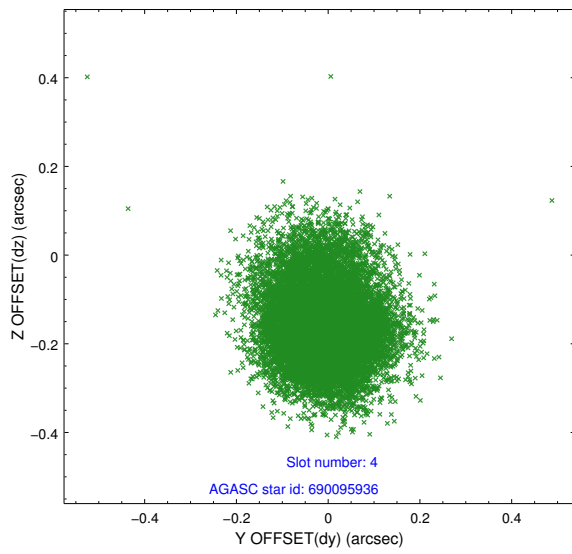
∞

2.4 Star Slots

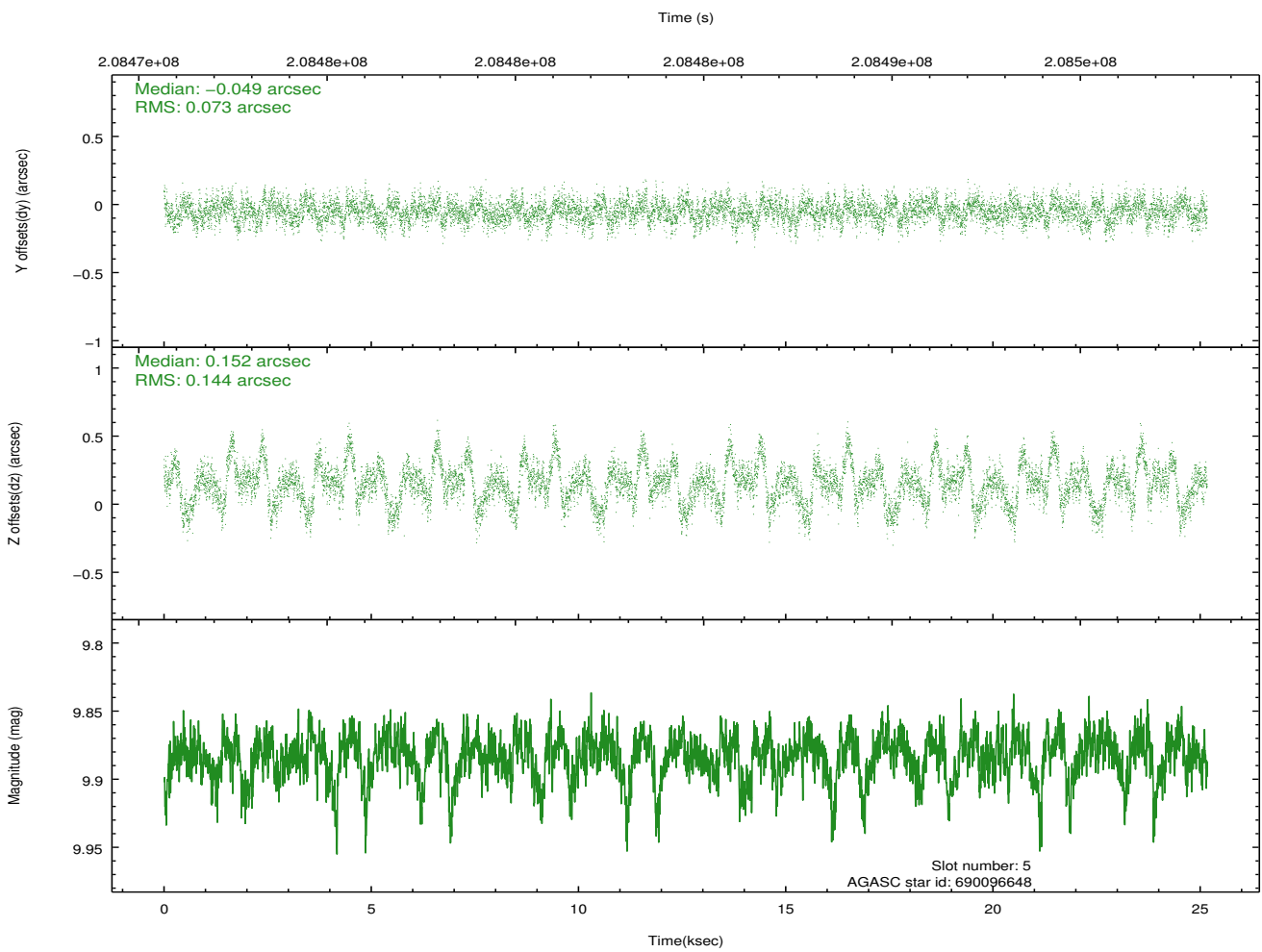
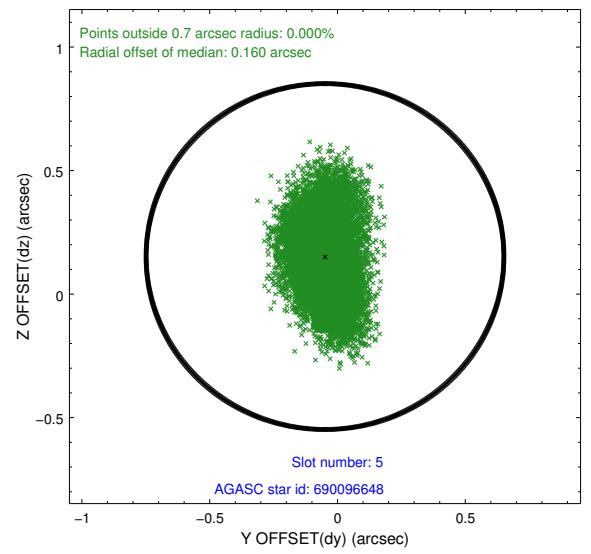
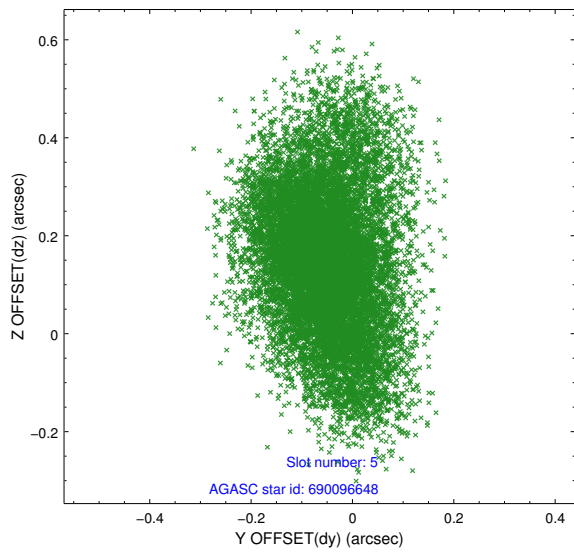
2.4.1 Slot 3



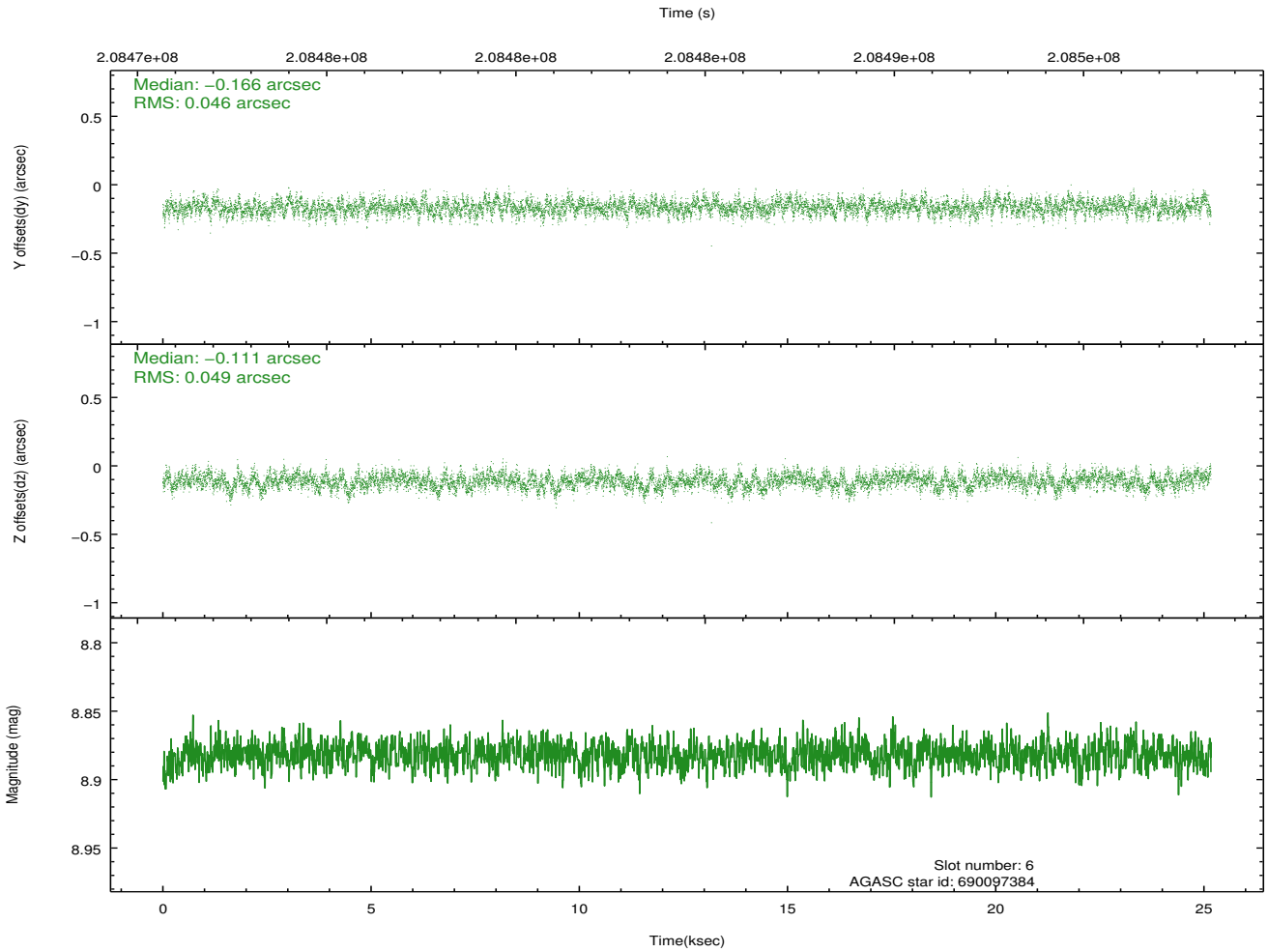
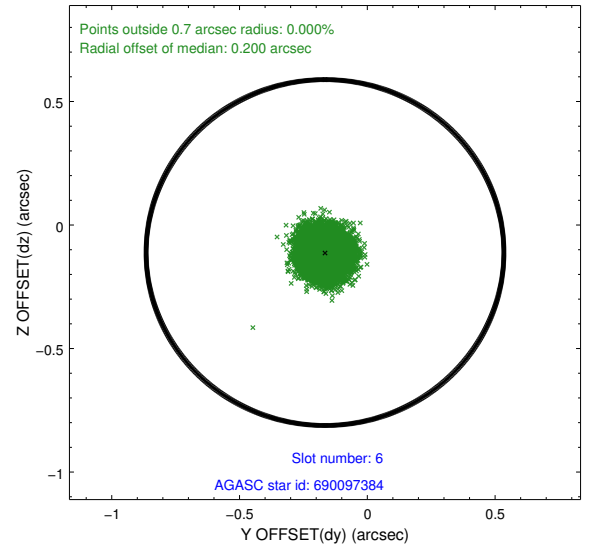
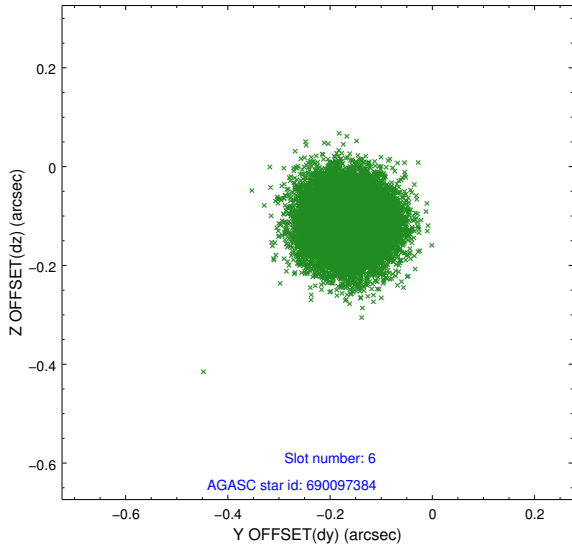
2.4.2 Slot 4



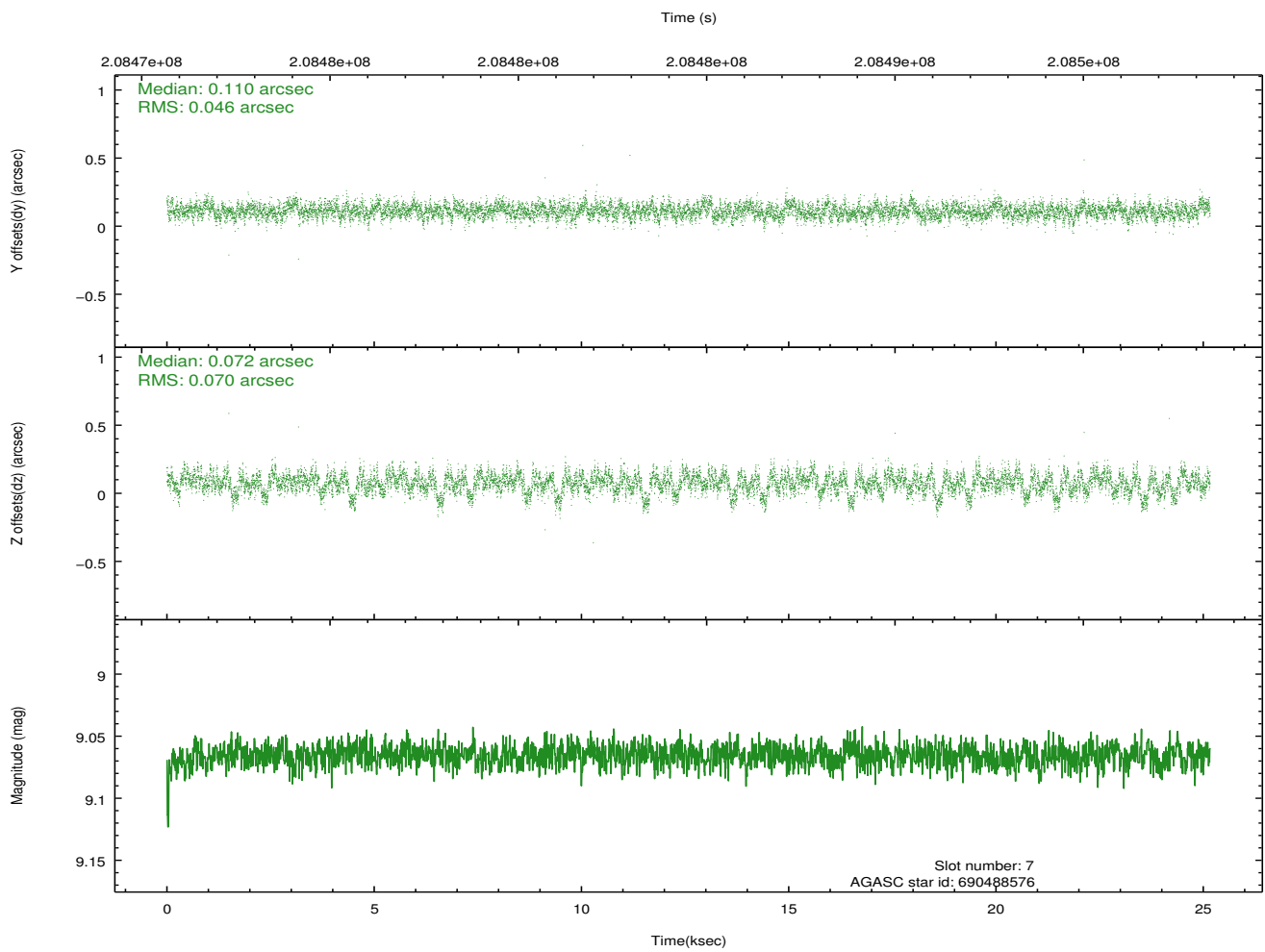
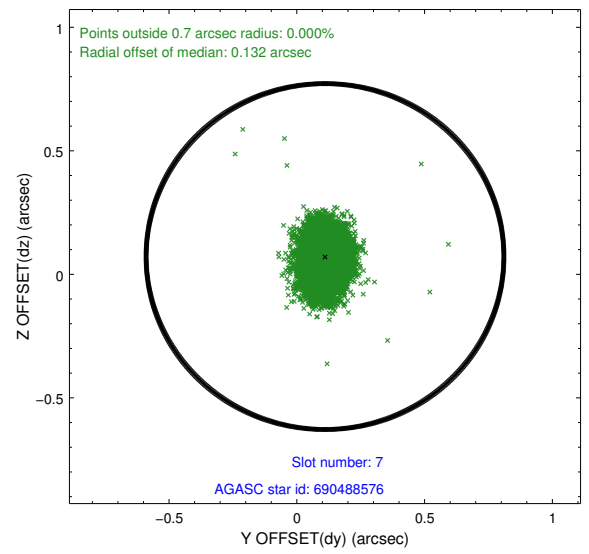
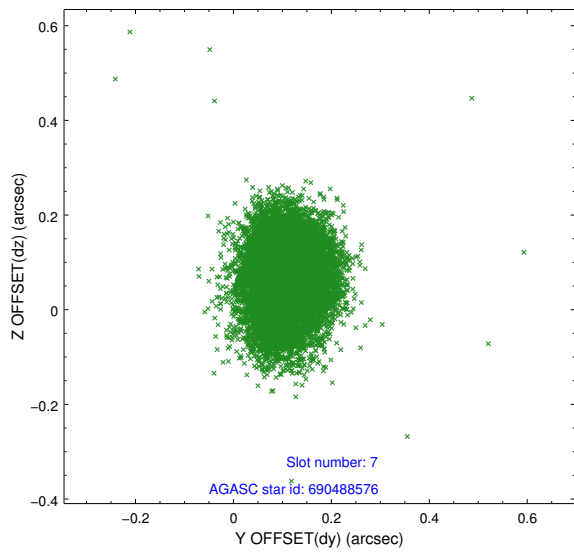
2.4.3 Slot 5



2.4.4 Slot 6

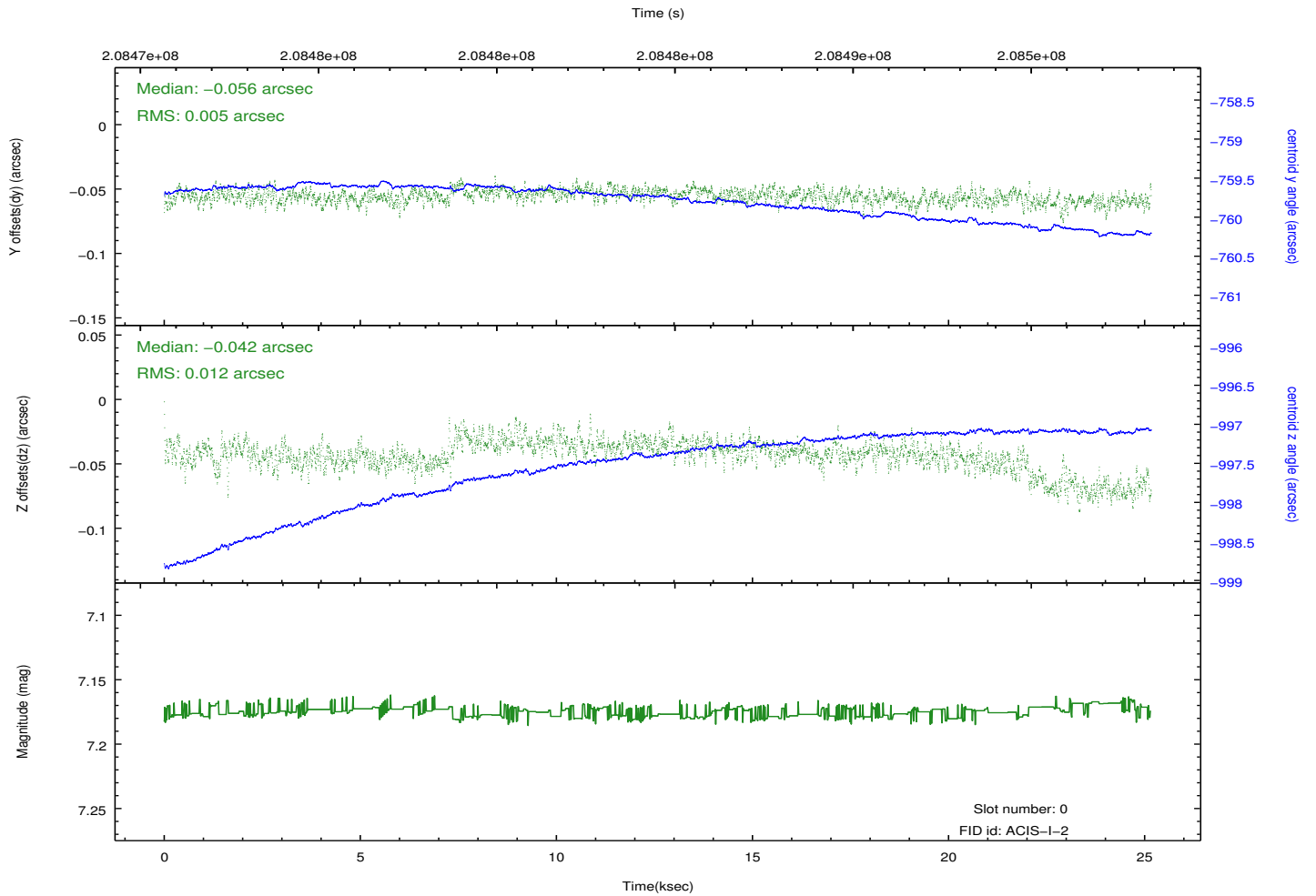
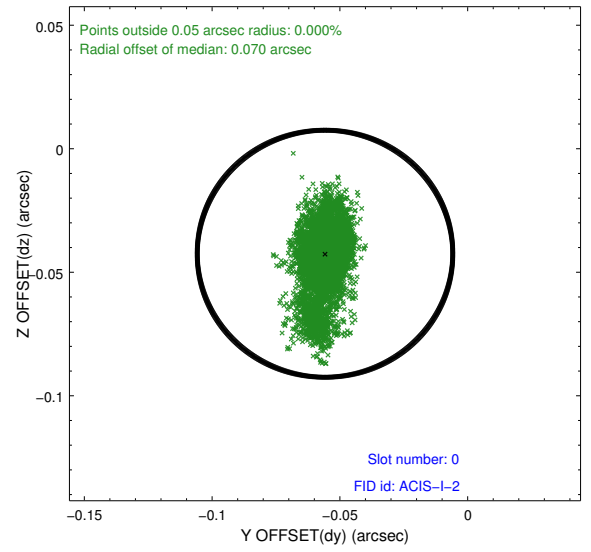
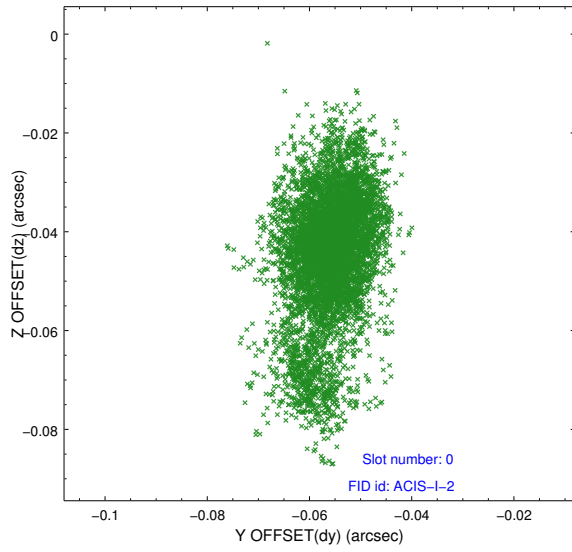


2.4.5 Slot 7

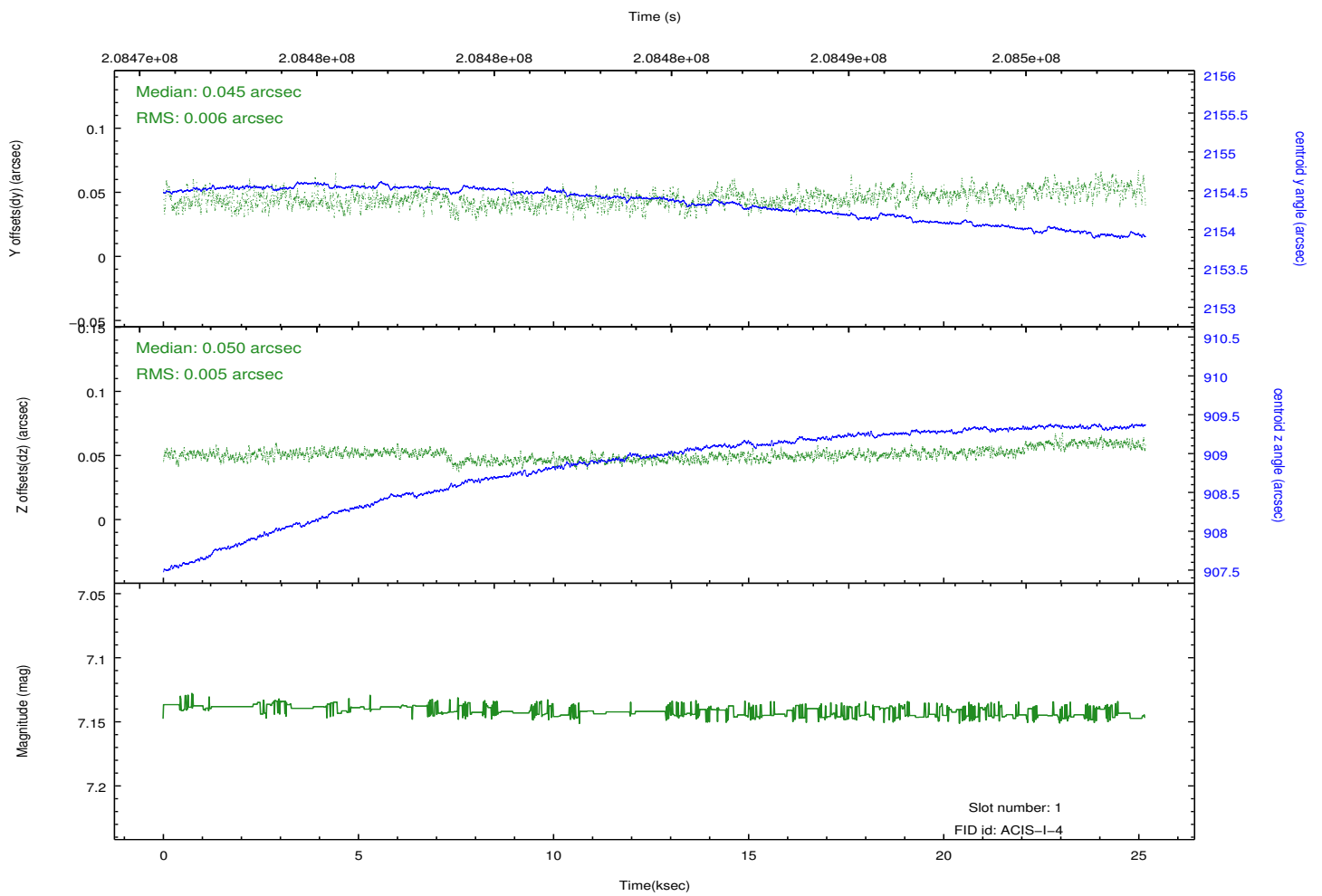
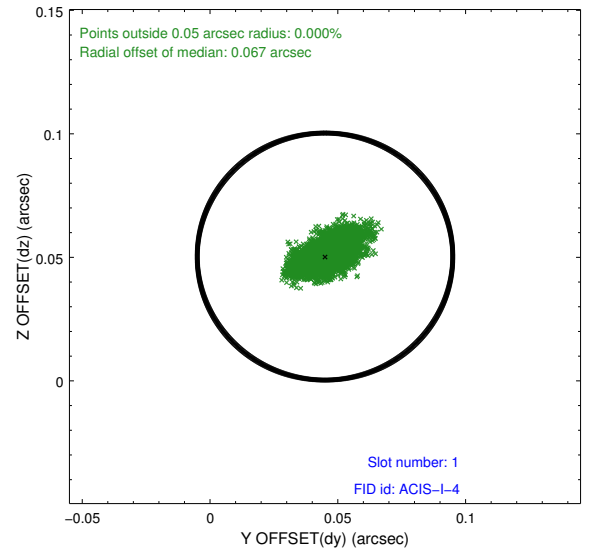
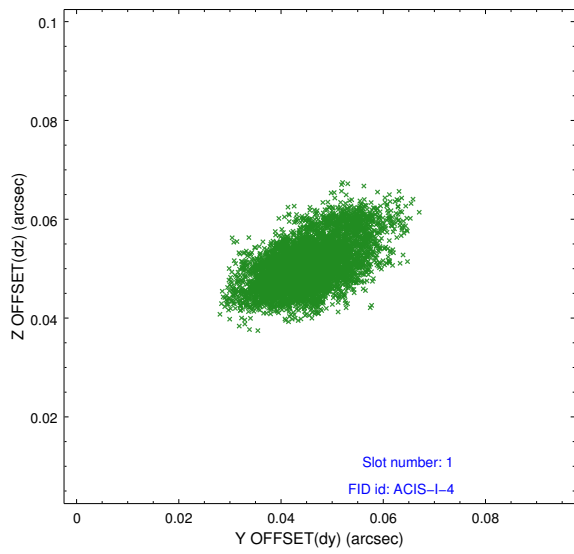


2.5 FID Slots

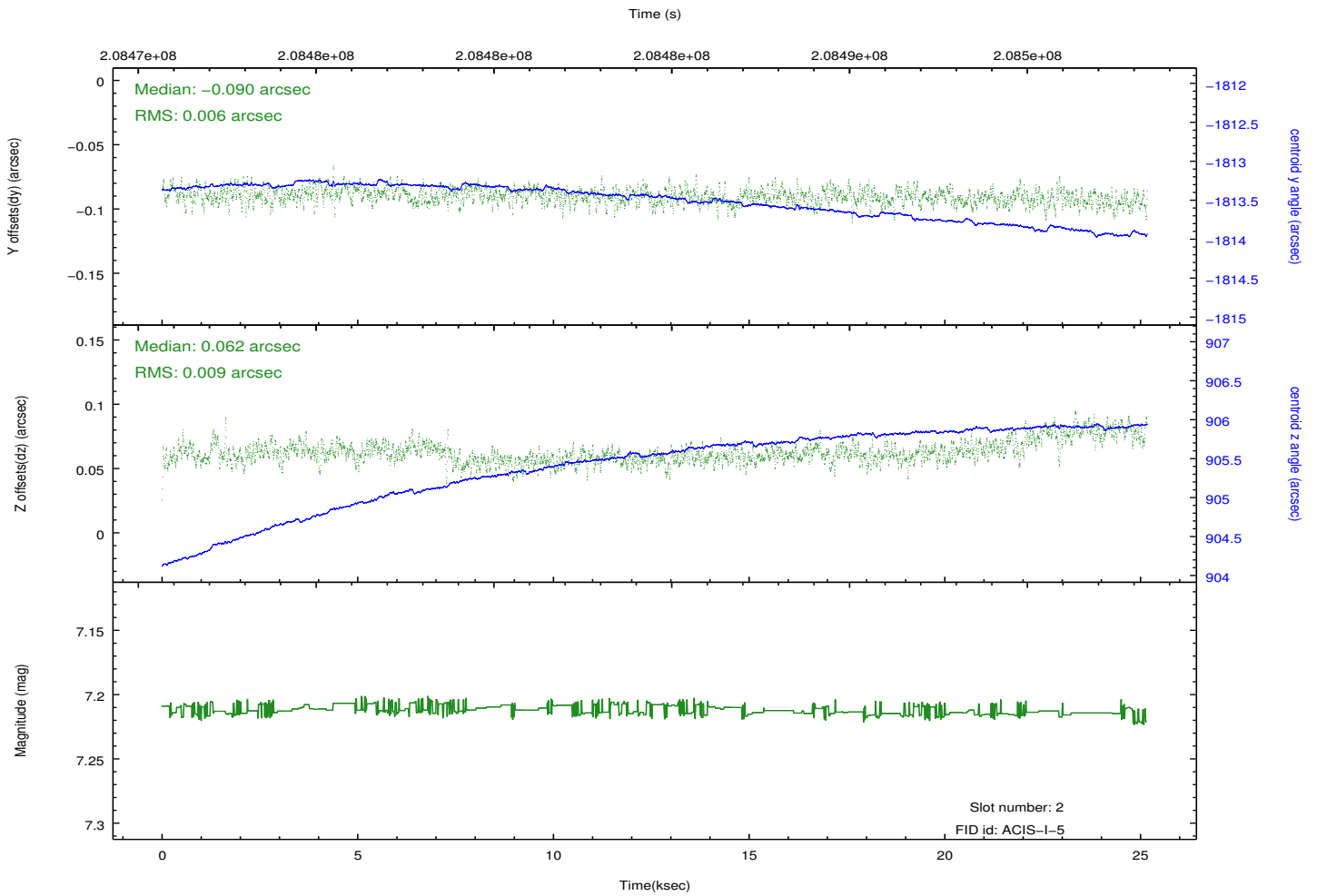
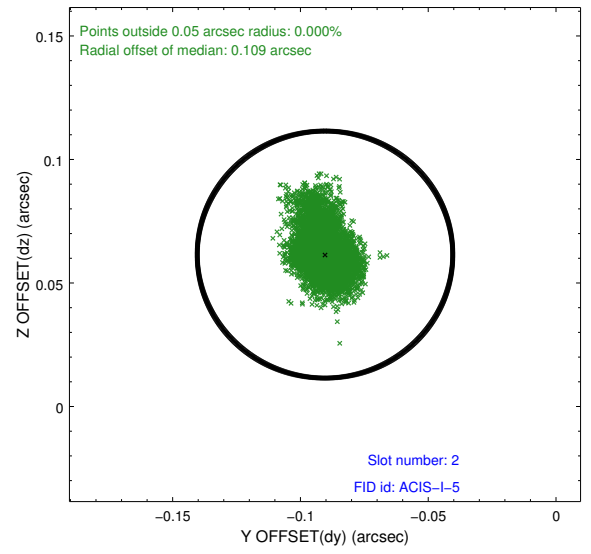
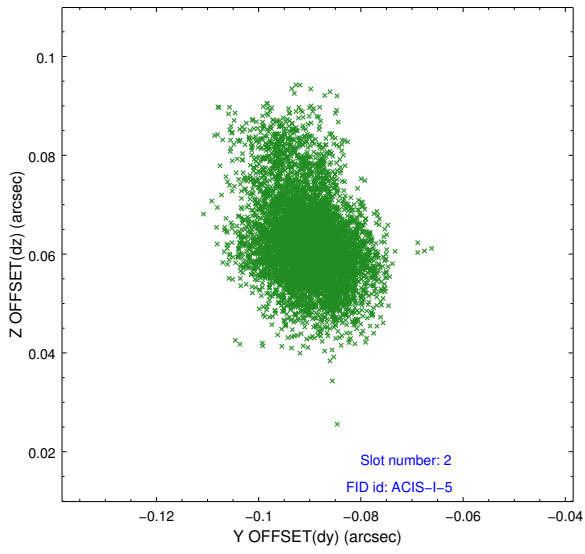
2.5.1 Slot 0



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)	2015.07.28
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.156

A.2 Comments

Because an aspect solution is determined in a finite time interval, a small number of events registered within the delta time before the first aspect solution do not have proper sky coordinates. We apply a manual workaround to exclude those events with incorrect sky positions until the complete s/w resolution is obtained.

A spatial region of the original bias map for CCD = 0 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 = 0 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: (6.52269, -12.14999), (6.51734, -12.15091), (6.52670, -12.20287), (6.53068, -12.19431)