

V&V Reference Report

L2 ASCDS Version : 10.5

Observation 18871 - L2 Version 2
Chandra X-Ray Center

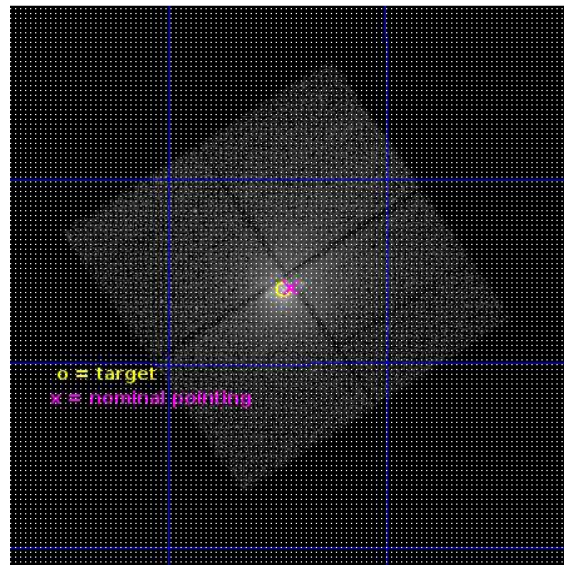
L2 Processing Date : Jun 17 2016

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1 Front

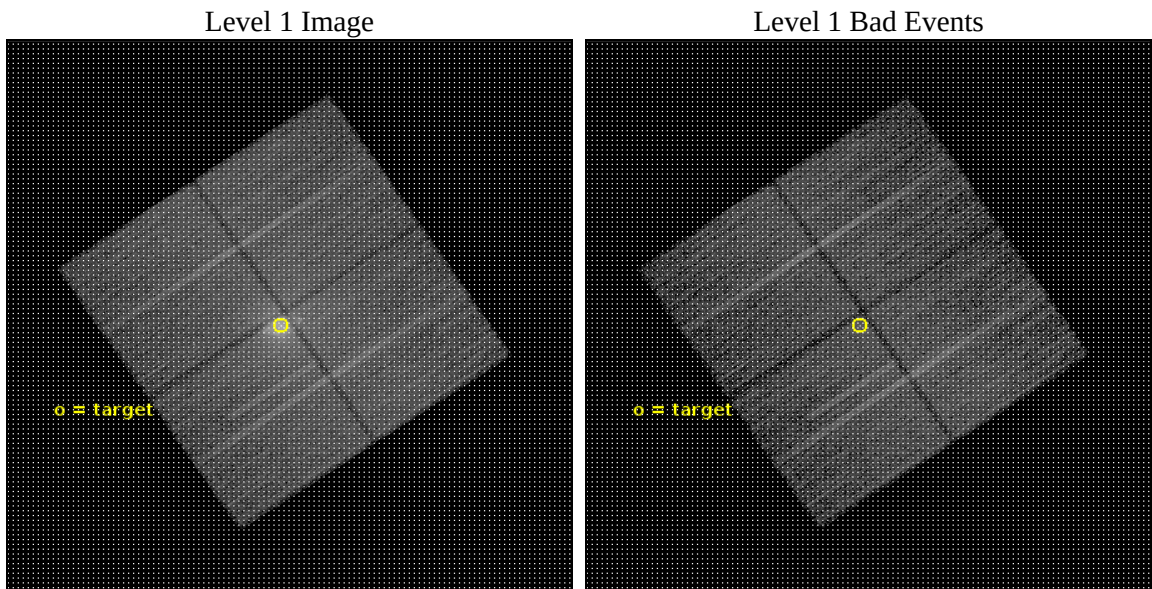
seq_num	703131	Sequence number
obs_id	18871	Observation id
title	The Rise to Power: Half a Billion Years of Intense AGN Activity in the Merging Cluster Cygnus A	Proposal title
observer	Dr. Michael Wise	Principal investigator
object	Cygnus A - Nucleus	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	299.867917	Observer's specified target RA [deg]
dec_targ	40.733889	Observer's specified target Dec [deg]
ra_nom	299.85851948993	Nominal RA [deg]
dec_nom	40.735565277873	Nominal Dec [deg]
roll_nom	146.21482718986	Nominal Roll [deg]
revision	2	Processing version of data
ontime	22068.859129667	Sum of GTIs [s]
livetime	21780.51323828	Livetime [s]
ontime0	22072.000169873	Sum of GTIs [s]
ontime1	22072.000169873	Sum of GTIs [s]
ontime2	22072.000169873	Sum of GTIs [s]
ontime3	22068.859129667	Sum of GTIs [s]
l2events	160369	Number of level 2 events



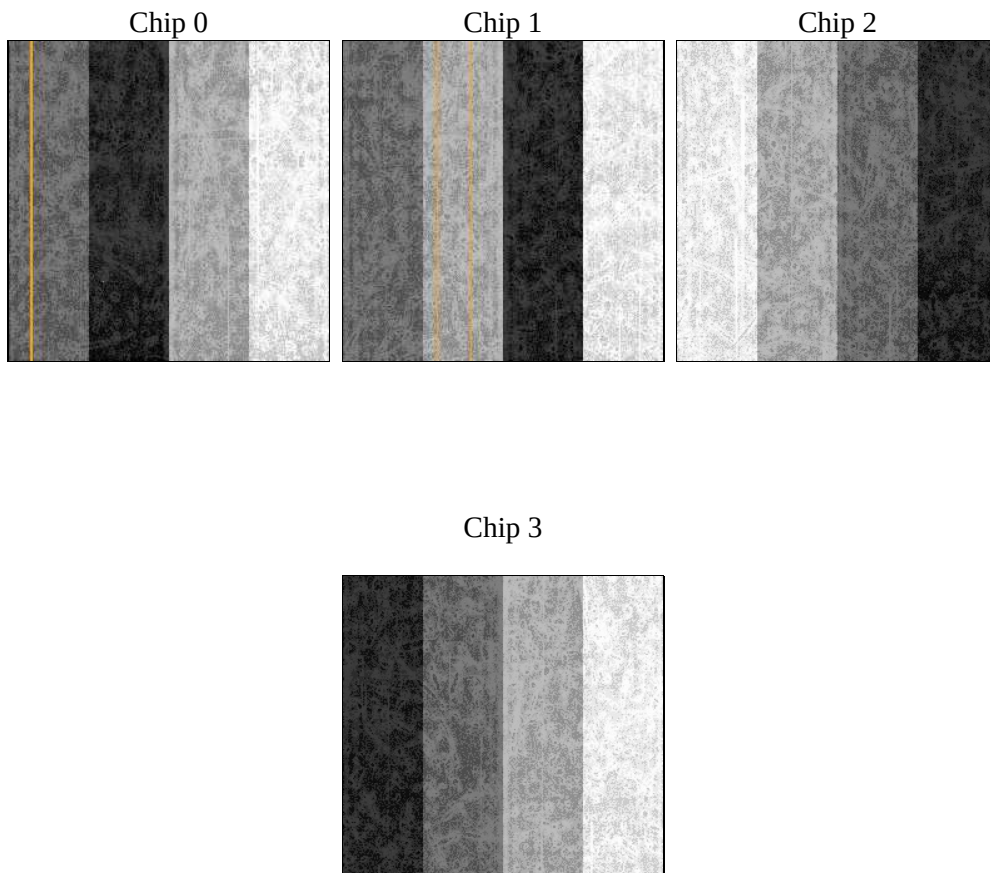
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	22000.000000	[s] Scheduled observation exposure time
ascdsver	10.5	Processing system revision	ontime	22068.859129667	Sum of GTIs [s]
caldsver	4.7.2	 	ontime0	22072.000169873	Sum of GTIs [s]
date	2016-06-17T19:08:52	Date and time of file creation	ontime1	22072.000169873	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	22072.000169873	Sum of GTIs [s]
			ontime3	22068.859129667	Sum of GTIs [s]
			l1events	670345	Number of level 1 events

2.1.4 Events

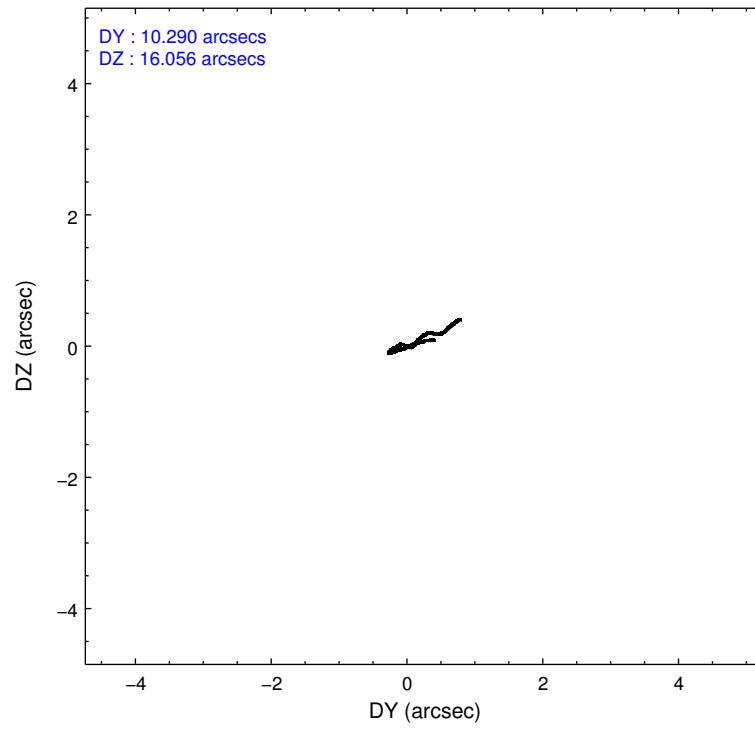
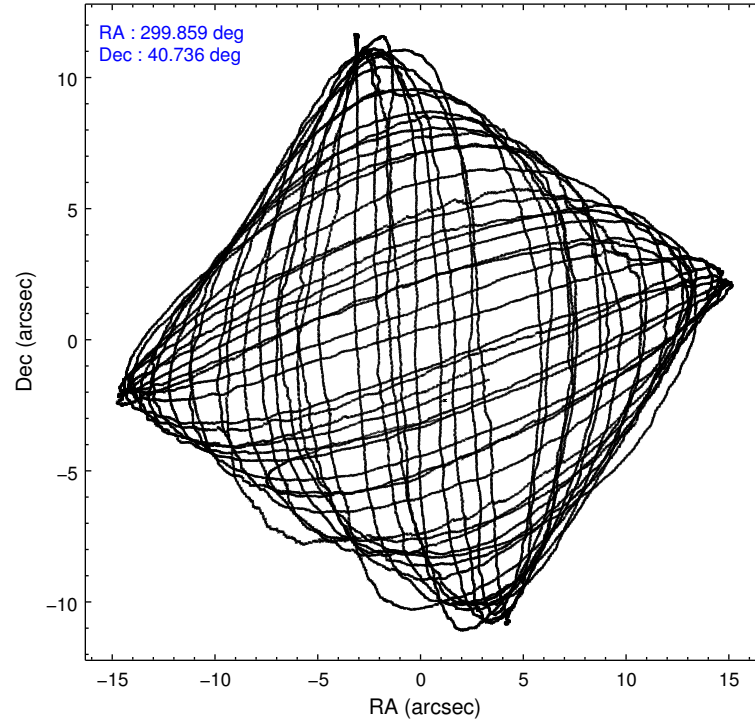
	ccd 0	ccd 1	ccd 2	ccd 3
level 1 events	153274	149912	168374	198785
rejected events	116332	115998	133169	129712
rejected %	75%	77%	79%	65%

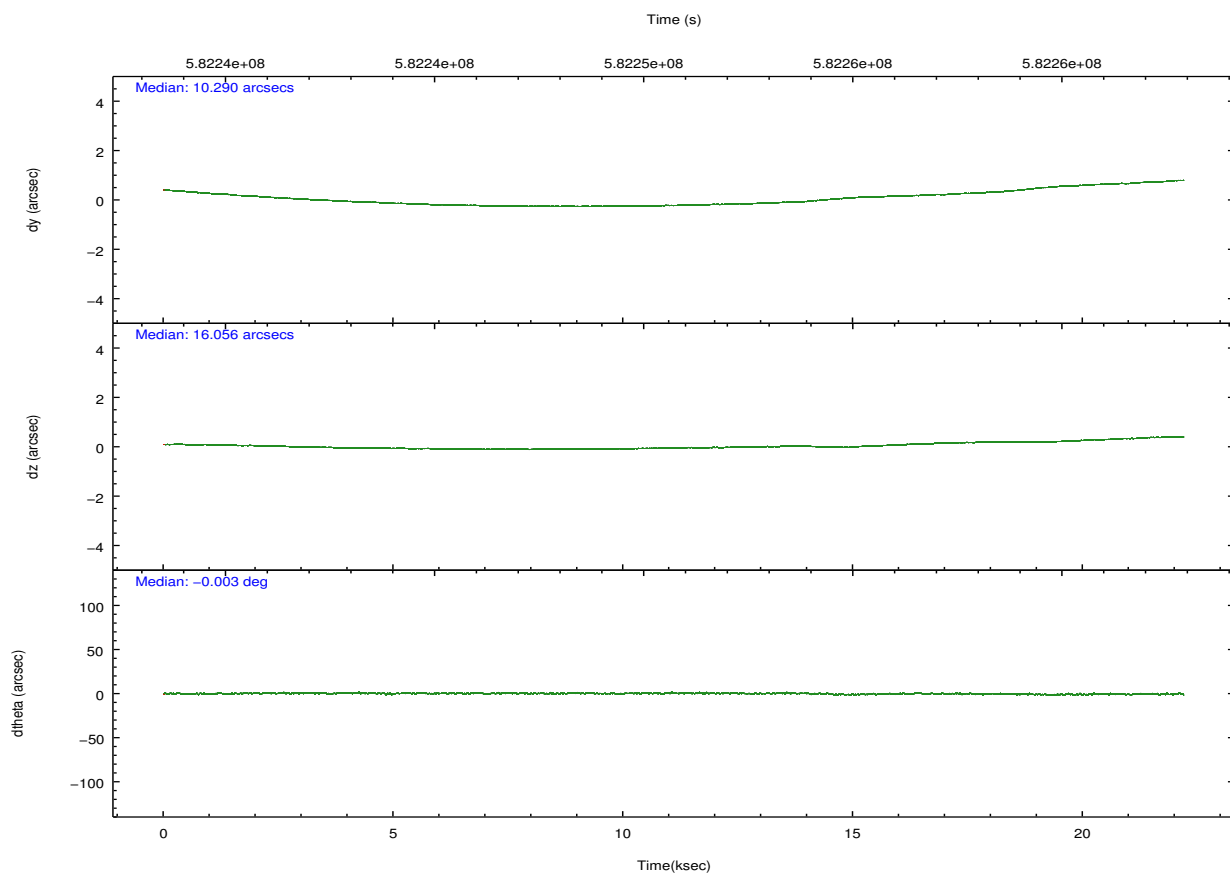
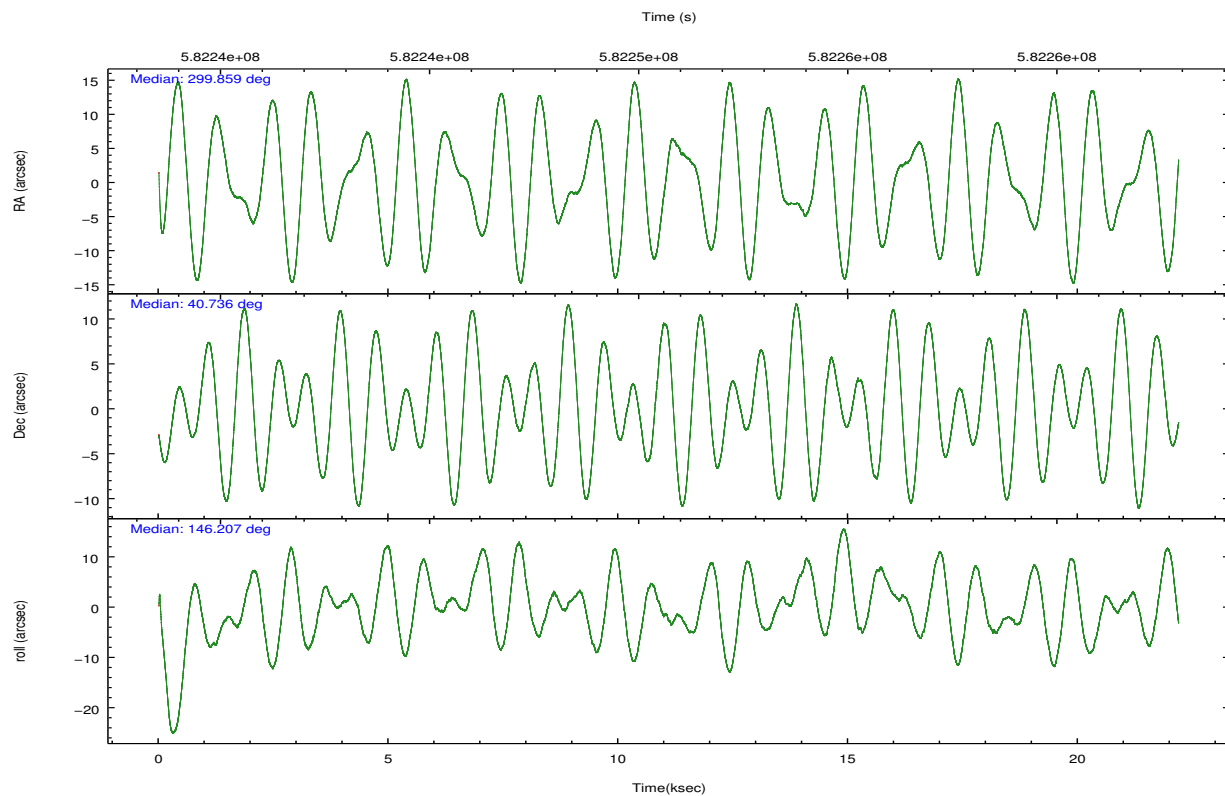
	ccd 0	ccd 1	ccd 2	ccd 3
grade 0 events	21679	18039	21267	47160
	14%	12%	12%	23%
grade 1 events	115	142	148	609
	0%	0%	0%	0%
grade 2 events	6566	7066	5765	9334
	4%	4%	3%	4%
grade 3 events	2384	2117	2271	3514
	1%	1%	1%	1%
grade 4 events	2220	2072	2181	3433
	1%	1%	1%	1%
grade 5 events	5822	6240	5532	7387
	3%	4%	3%	3%
grade 6 events	4107	4627	3738	5660
	2%	3%	2%	2%
grade 7 events	110381	109609	127472	121688
	72%	73%	75%	61%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-0123	ACIS-0123	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	299.894884	299.8585194899271	CCD I2 on	Y	Y
[deg] Pointing Dec	40.733845	40.73556527787287	CCD I3 on	Y	Y
[deg] Pointing Roll	145.982403	146.2148271898552	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	N
[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)	582239822.184000	582238925.75045	CCD S5 on	N	N
Observation start date	2016-06-13T21:15:54	2016-06-13T21:02:05	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	582261822.184000	582262476.6643	On-chip summing requested	N	N
Observation end date	2016-06-14T03:22:34	2016-06-14T03:34:36	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



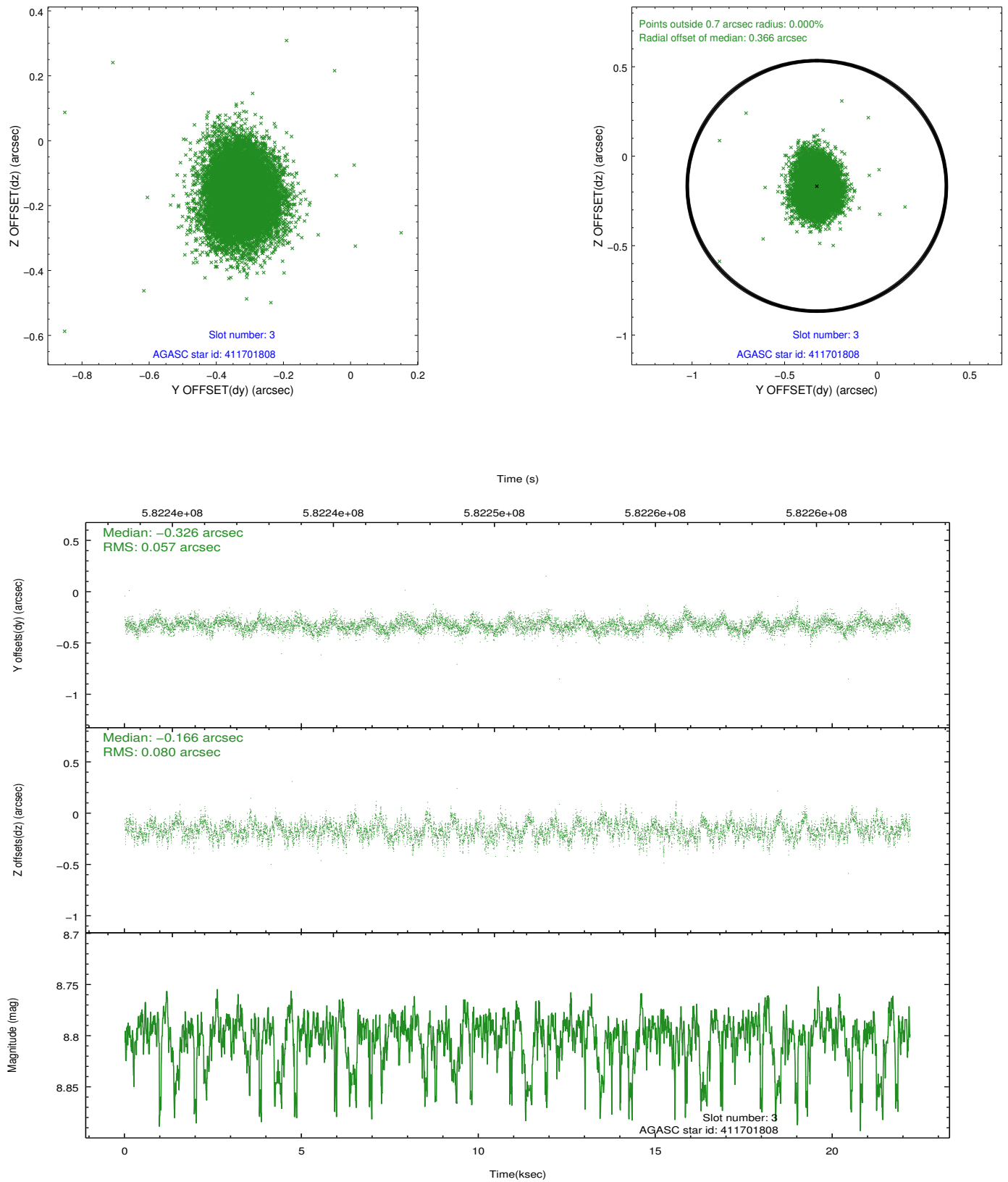


Slot Statistics

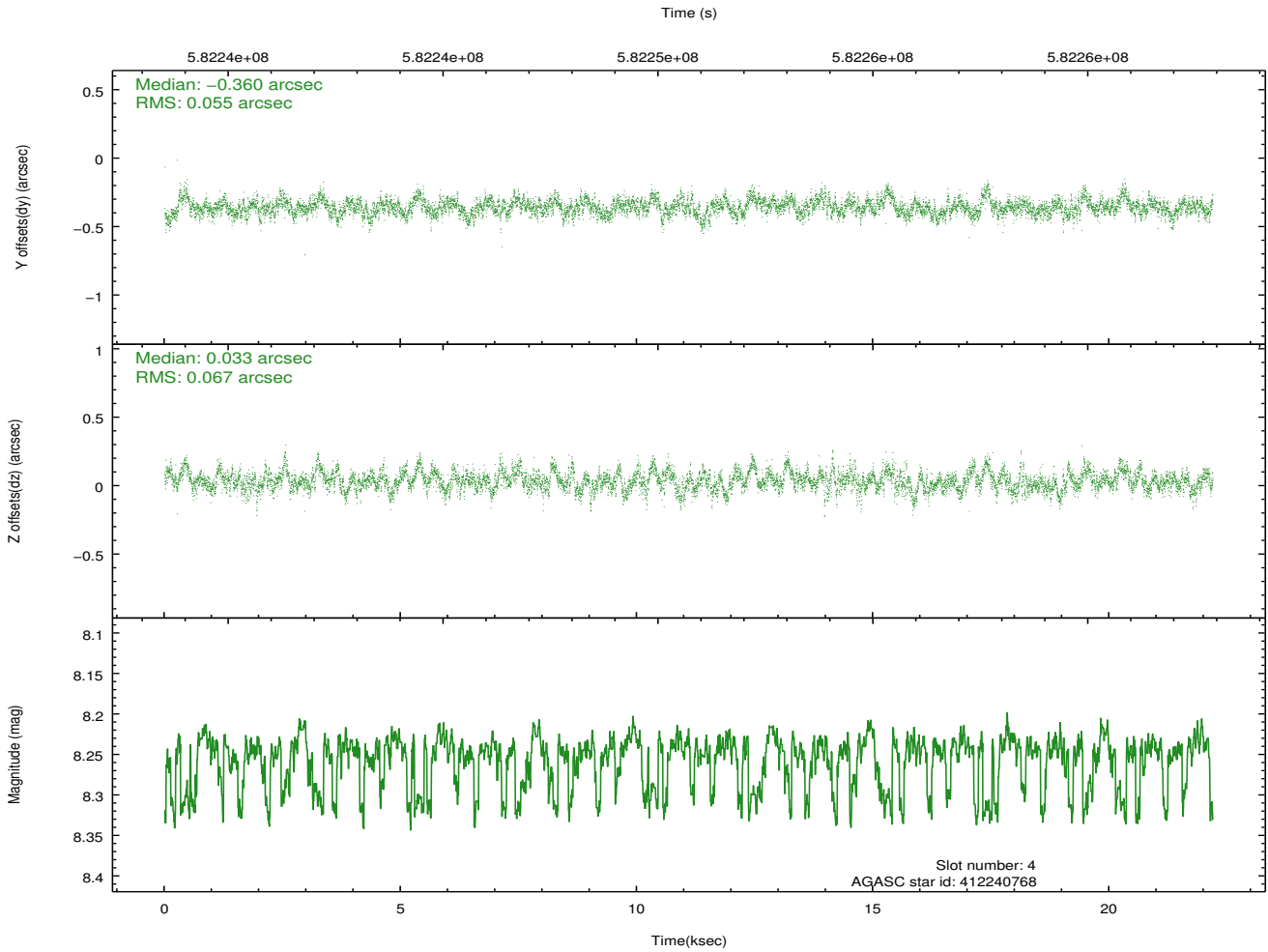
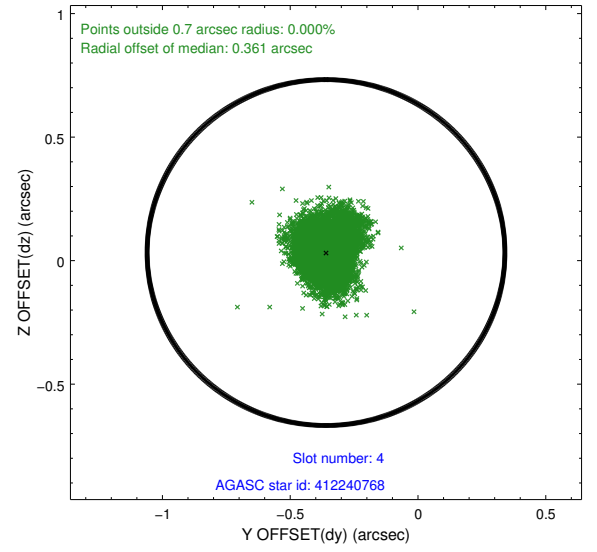
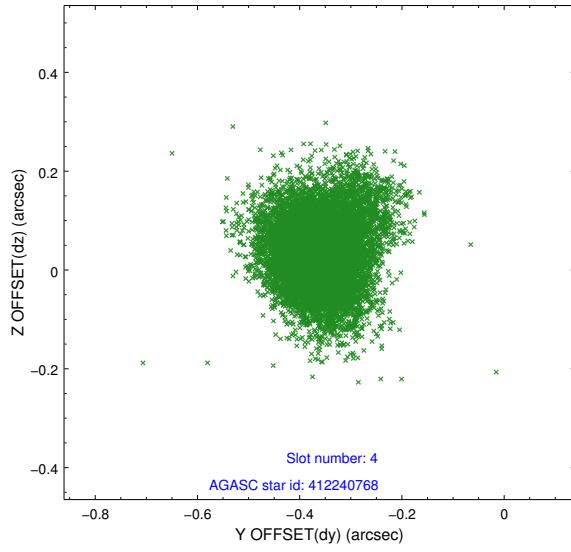
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.27	5413	0.093	-0.103	0.008	0.013	0.000000	0.000000	929.32	-839.82
1	FID		ACIS-I-5	7.25	5413	-0.300	0.057	0.007	0.011	0.000000	0.000000	-1819.12	1057.71
2	FID		ACIS-I-6	7.26	5412	0.116	0.117	0.009	0.016	0.000000	0.000000	394.69	1702.48
3	GUIDE	used	411701808	8.80	10821	-0.326	-0.166	0.103	0.170	299.419536	40.880184	1369.06	284.74
4	GUIDE	used	412240768	8.25	10816	-0.360	0.033	0.089	0.155	299.999696	41.280279	865.93	-1788.67
5	GUIDE	used	413405352	8.33	10823	0.168	0.027	0.092	0.160	300.290830	41.091941	-167.19	-1671.20
6	GUIDE	used	413418680	9.24	10815	0.441	0.009	0.156	0.237	300.860298	40.740057	-2160.94	-1502.75
7	GUIDE	used	413421016	8.69	10821	0.068	0.094	0.089	0.143	300.612426	40.446254	-2203.89	-247.93

2.4 Star Slots

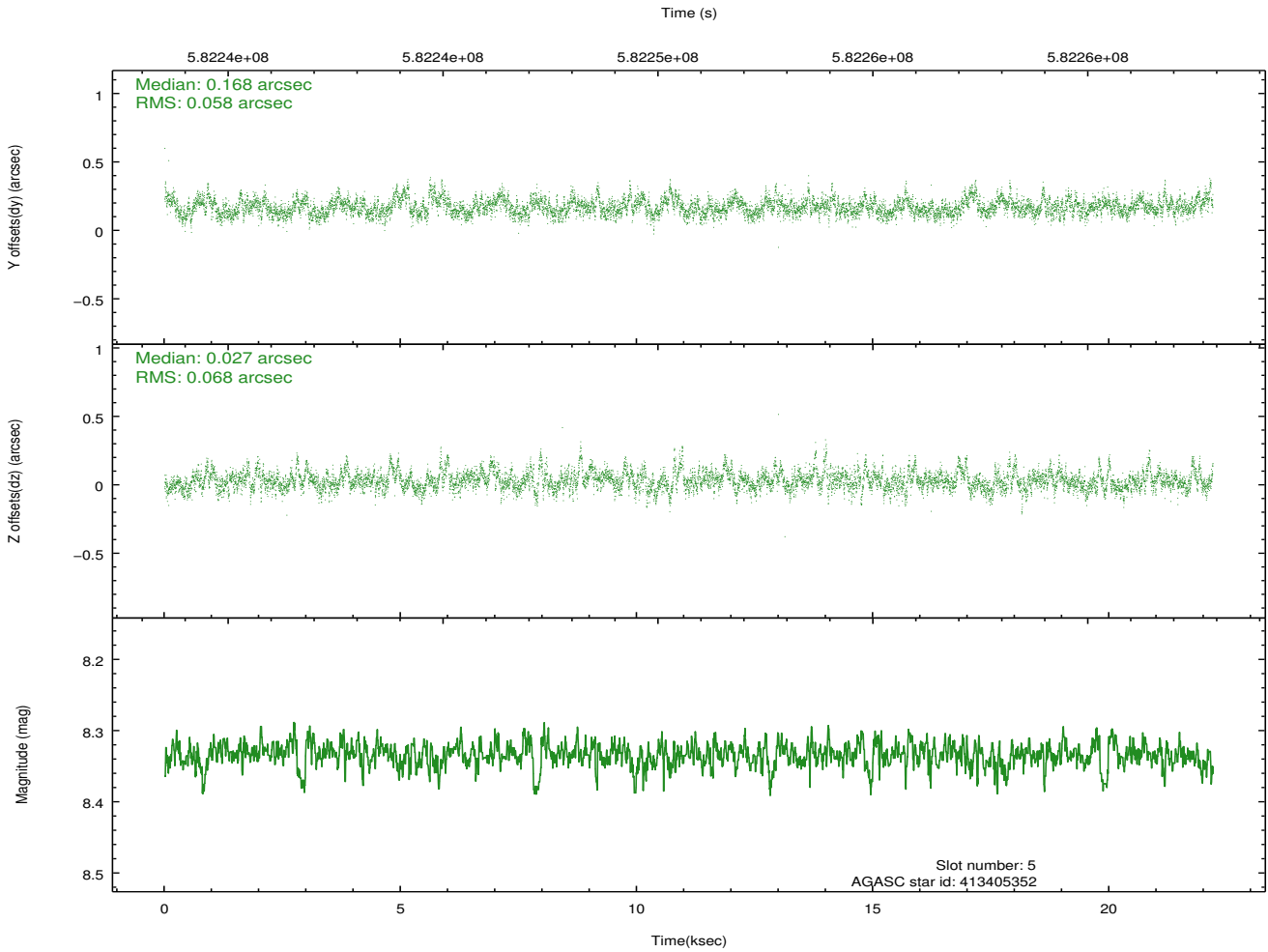
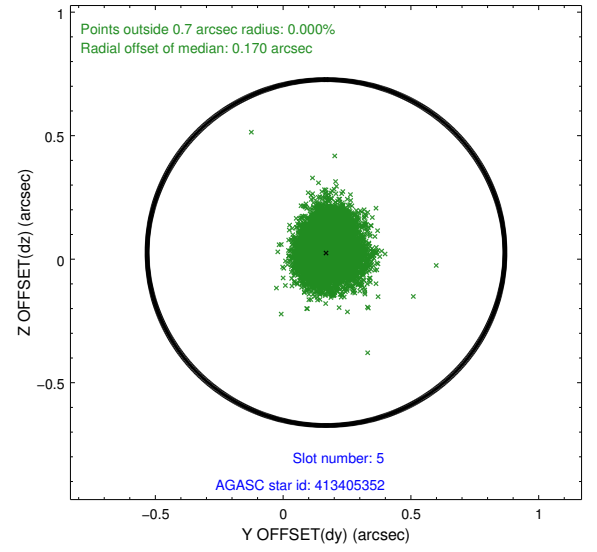
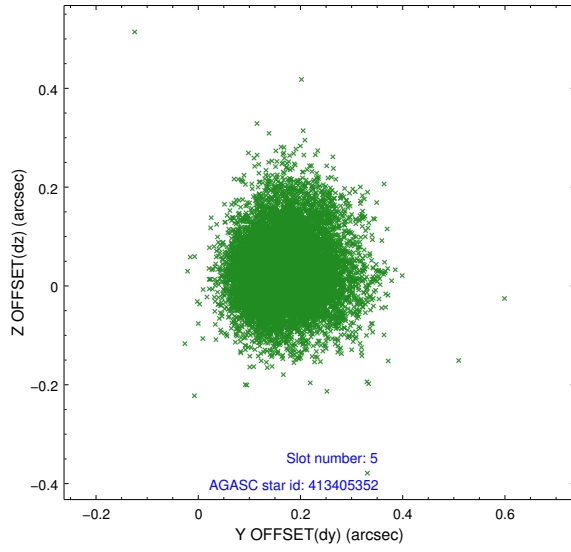
2.4.1 Slot 3



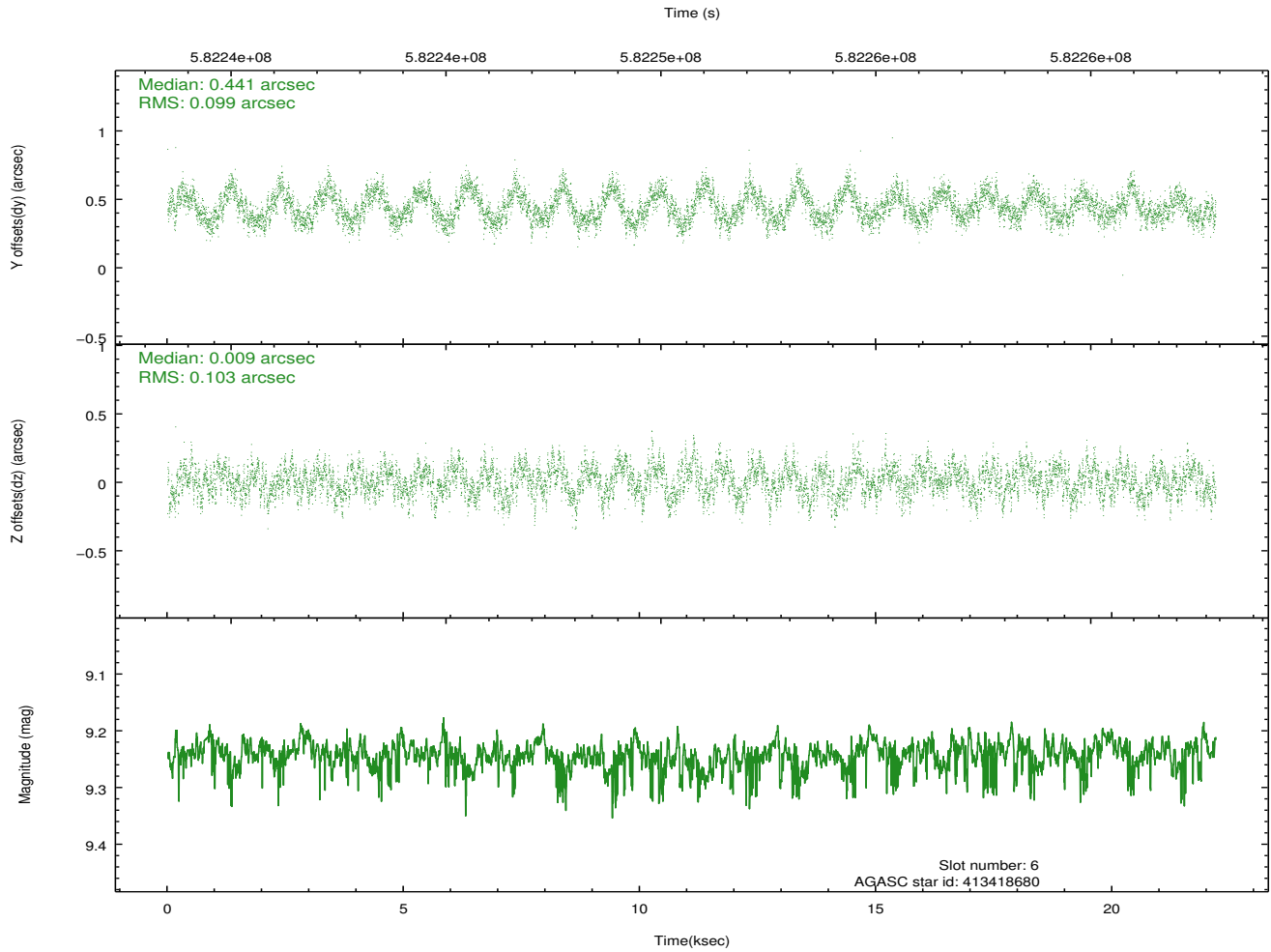
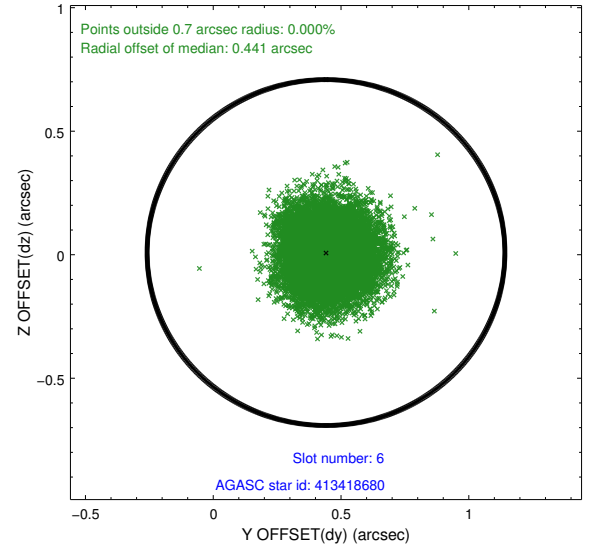
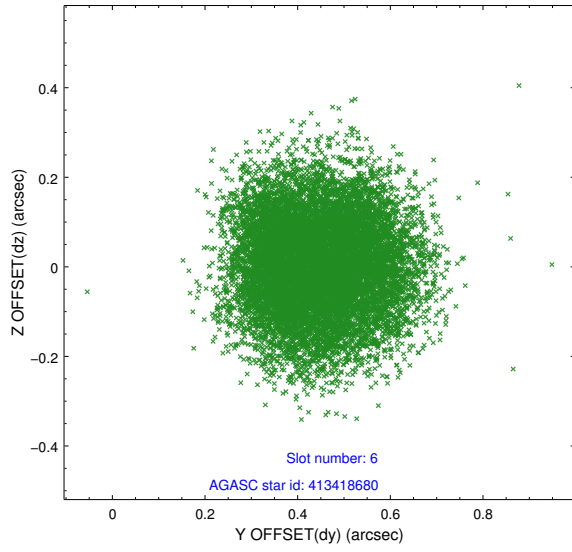
2.4.2 Slot 4



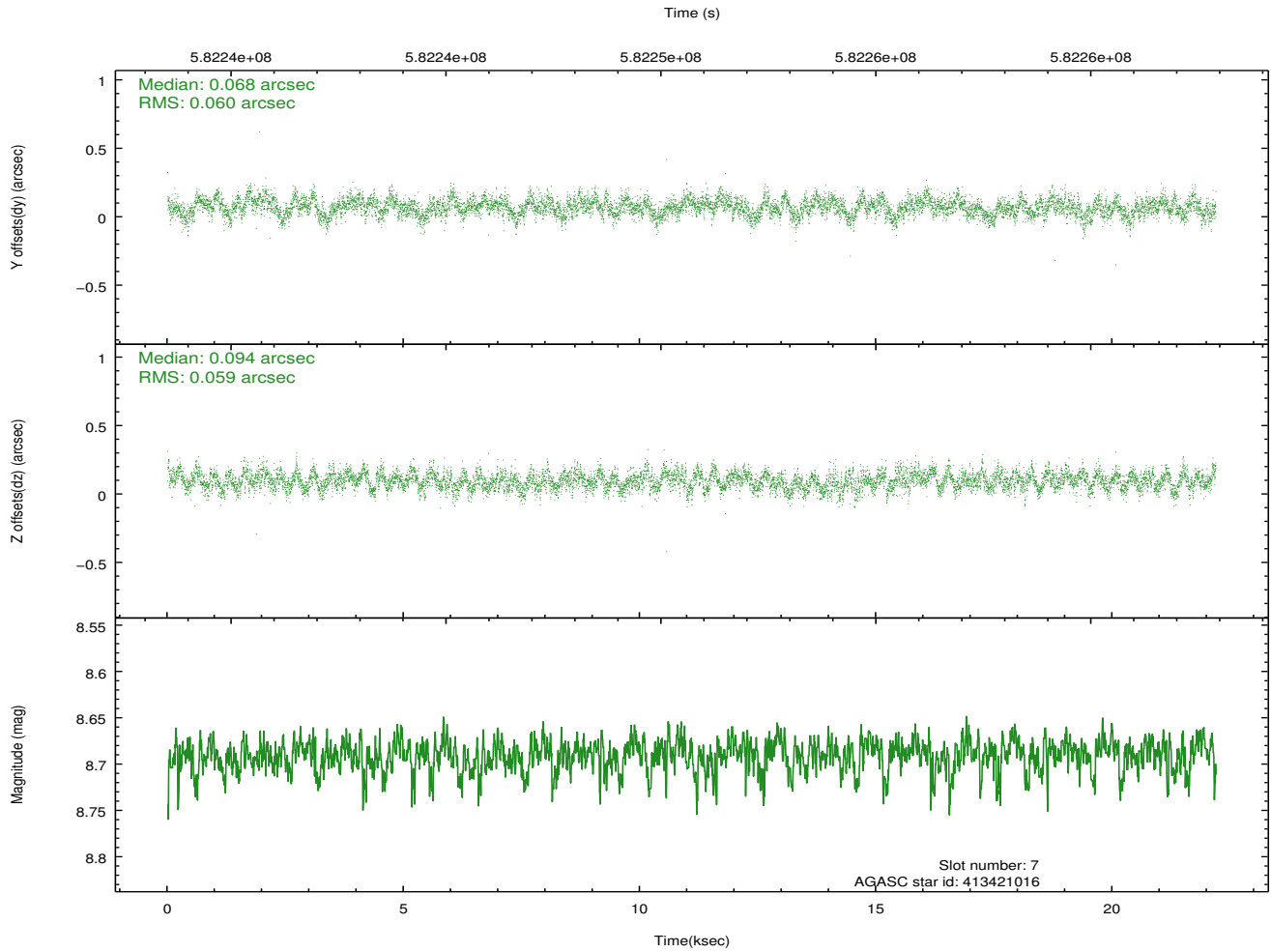
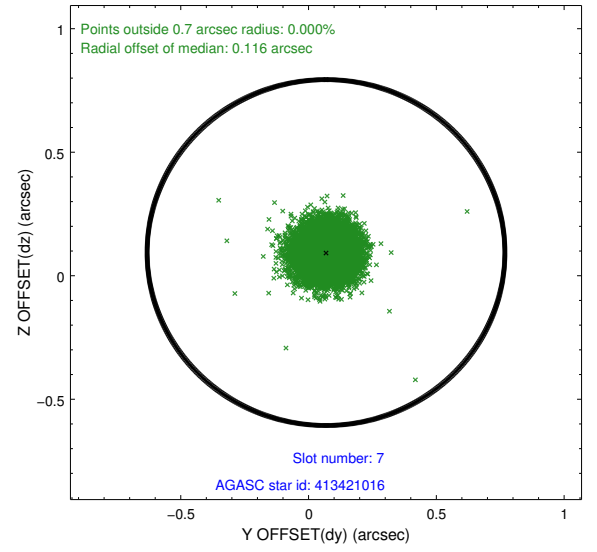
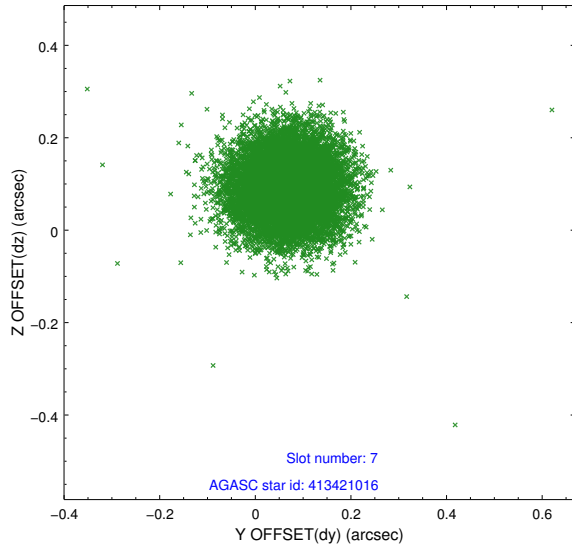
2.4.3 Slot 5



2.4.4 Slot 6

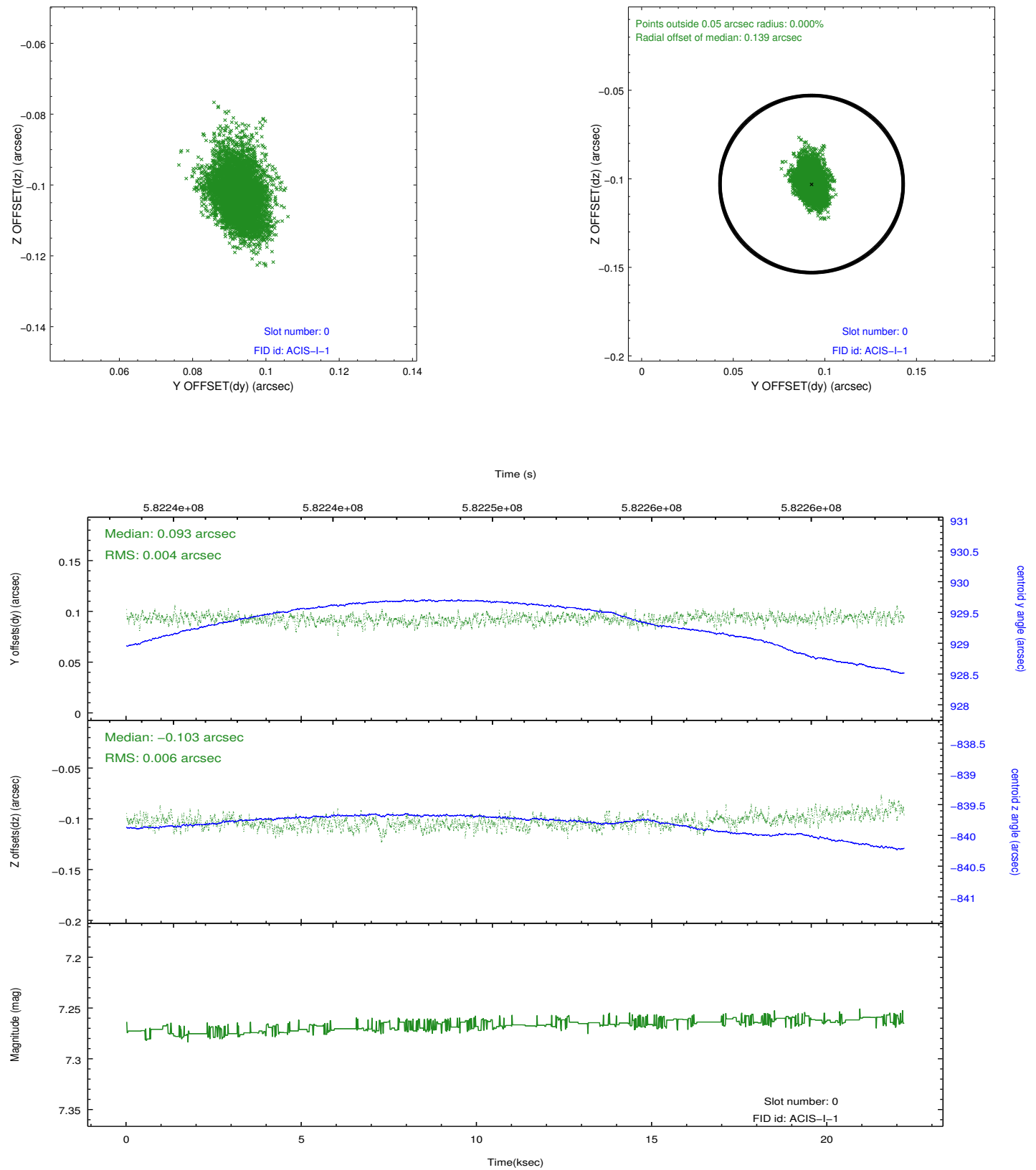


2.4.5 Slot 7

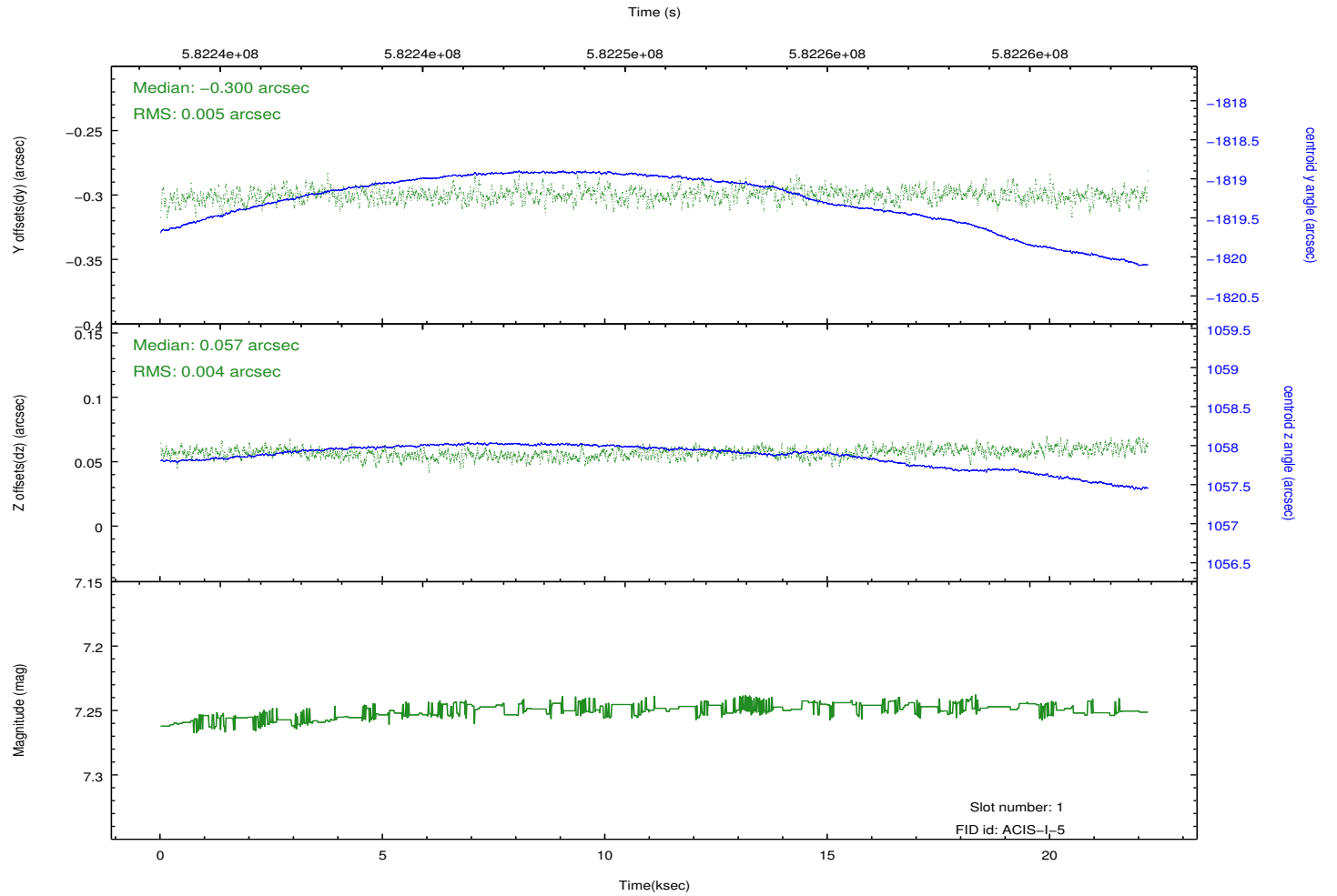
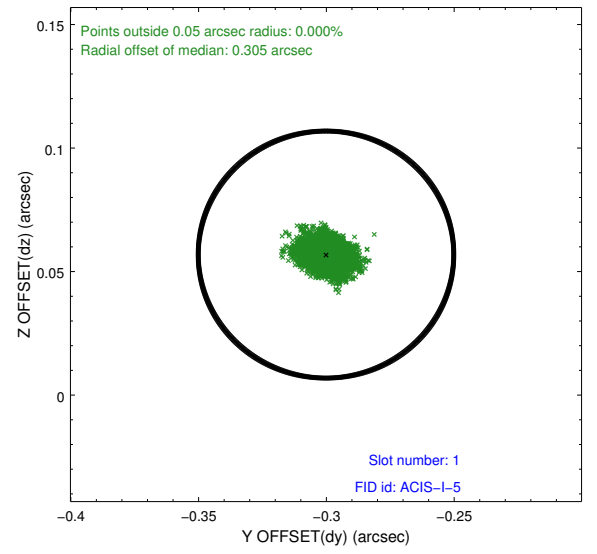
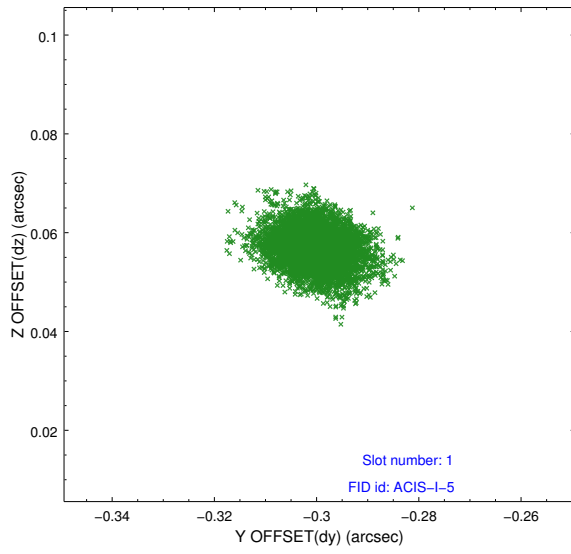


2.5 FID Slots

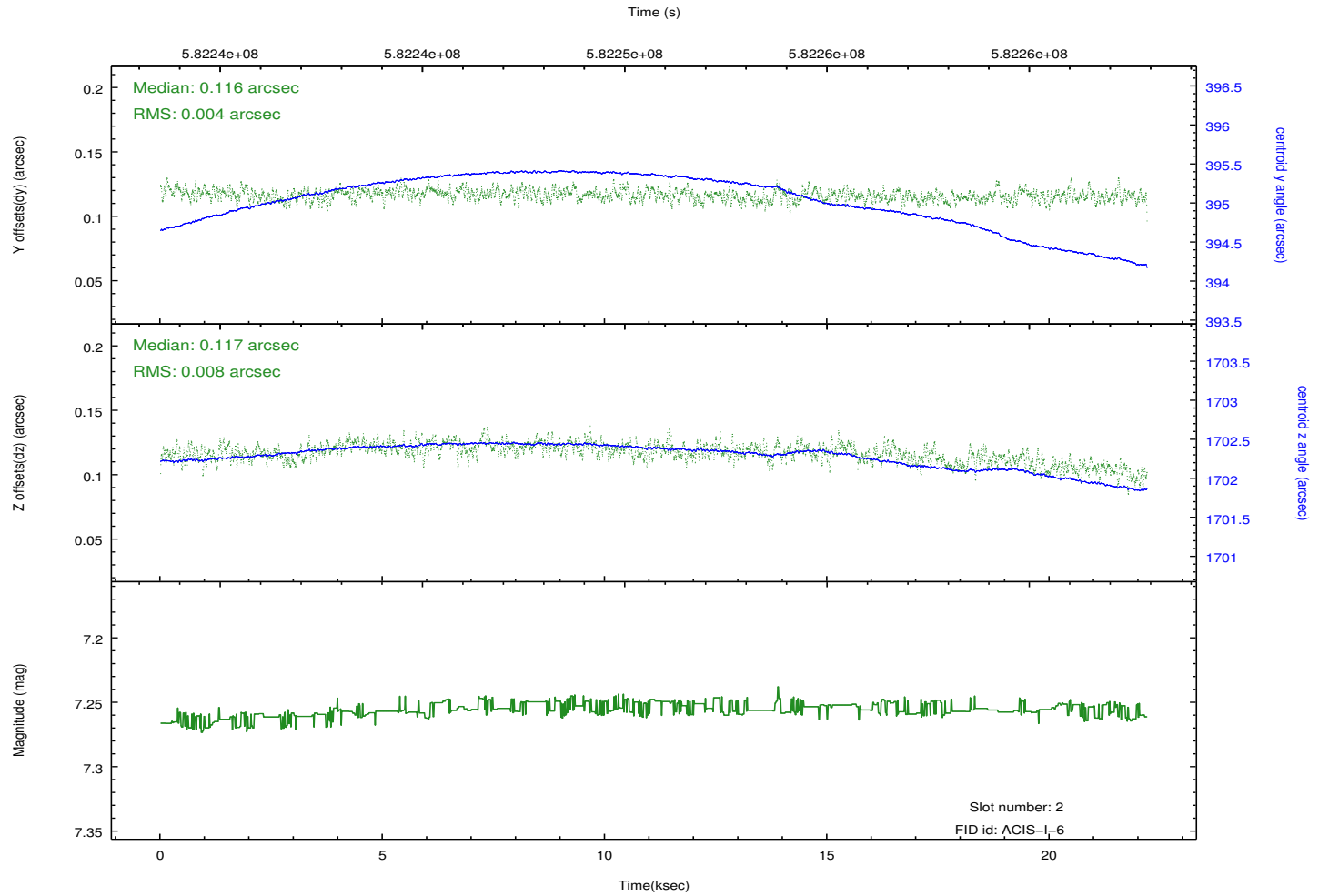
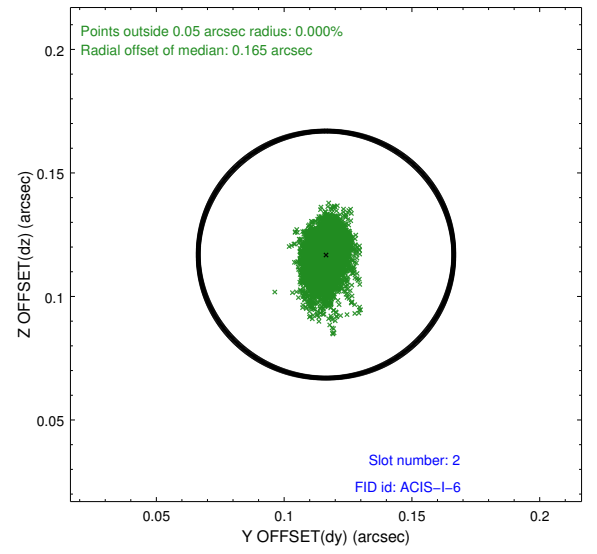
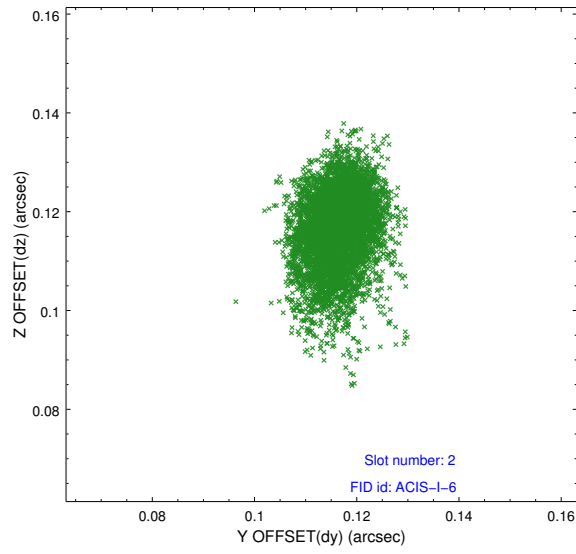
2.5.1 Slot 0



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)	2016.06.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	22.068859129667

A.2 Comments

One optional chip was dropped.

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: (299.72668,40.84487), (299.72428,40.84215), (299.77059,40.81877), (299.77704,40.81944).