

V&V Reference Report

L2 ASCDS Version : 10.8

Observation 22093 - L2 Version 2
Chandra X-Ray Center

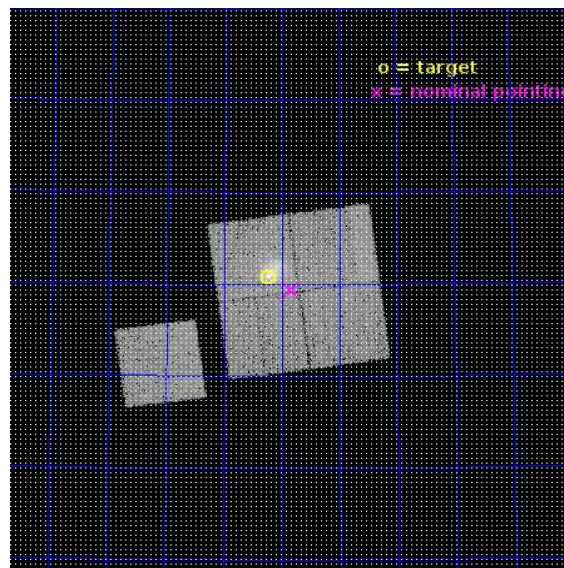
L2 Processing Date : Aug 21 2019

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1 Front

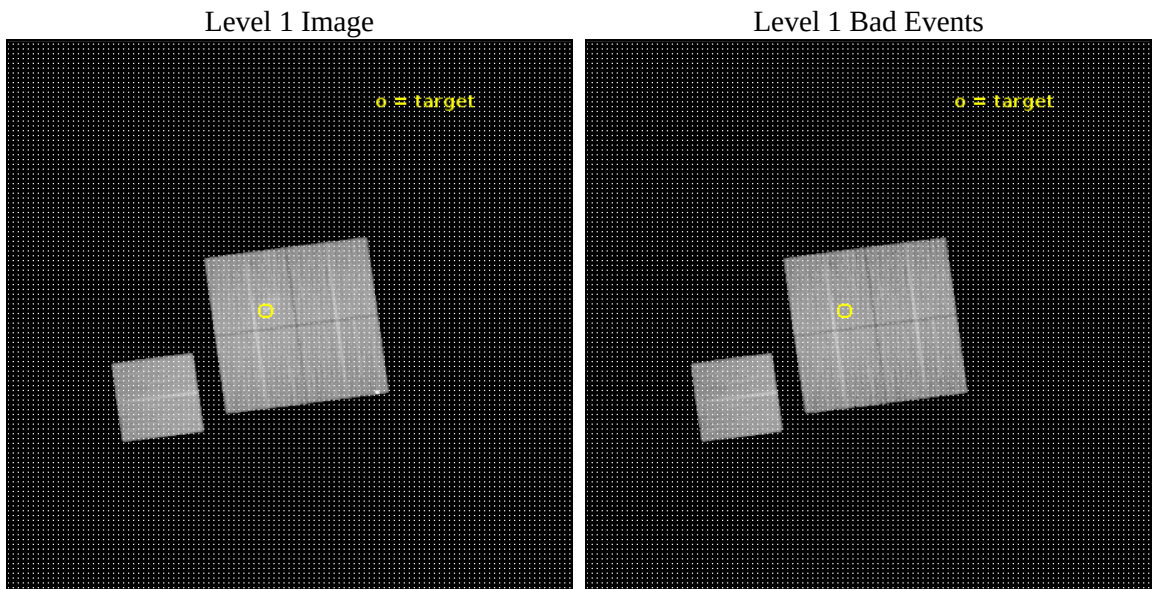
seq_num	801762	Sequence number
obs_id	22093	Observation id
title	Shock structure, the electron-ion equilibration timescale and the disintegrating cool core in A2146	Proposal title
observer	Helen Russell	Principal investigator
object	Abell 2146	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	239.06125	Observer's specified target RA [deg]
dec_targ	66.346917	Observer's specified target Dec [deg]
ra_nom	238.95857046052	Nominal RA [deg]
dec_nom	66.323276500851	Nominal Dec [deg]
roll_nom	262.30274804717	Nominal Roll [deg]
revision	2	Processing version of data
ontime	25065.858222246	Sum of GTIs [s]
livetime	24738.354331356	Livetime [s]
ontime0	25062.594122052	Sum of GTIs [s]
ontime1	25065.77614224	Sum of GTIs [s]
ontime2	25059.535251617	Sum of GTIs [s]
ontime3	25065.858222246	Sum of GTIs [s]
ontime6	25062.553071856	Sum of GTIs [s]
l2events	101173	Number of level 2 events



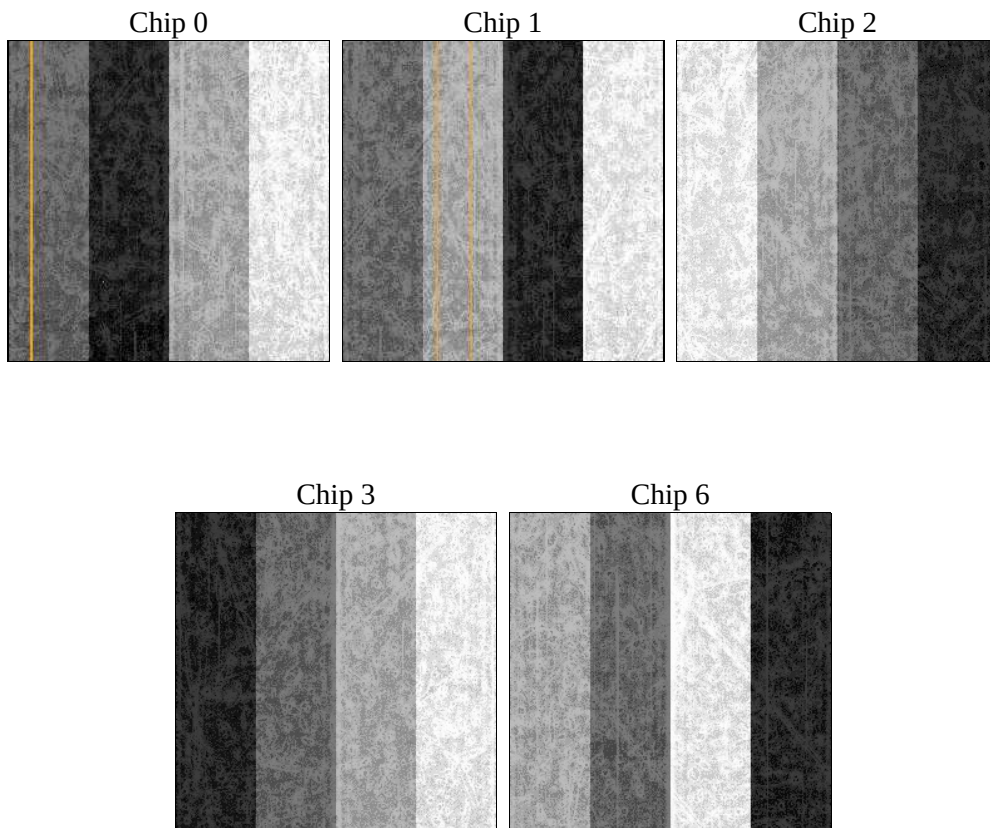
2 OBI

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	10.8	Processing system revision	ontime	25065.858222246	Sum of GTIs [s]
caldsver	4.8.3.1	 	ontime0	25062.594122052	Sum of GTIs [s]
date	2019-08-21T15:35:28	Date and time of file creation	ontime1	25065.77614224	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	25059.535251617	Sum of GTIs [s]
			ontime3	25065.858222246	Sum of GTIs [s]
			ontime6	25062.553071856	Sum of GTIs [s]
			l1events	957005	Number of level 1 events

2.1.4 Events

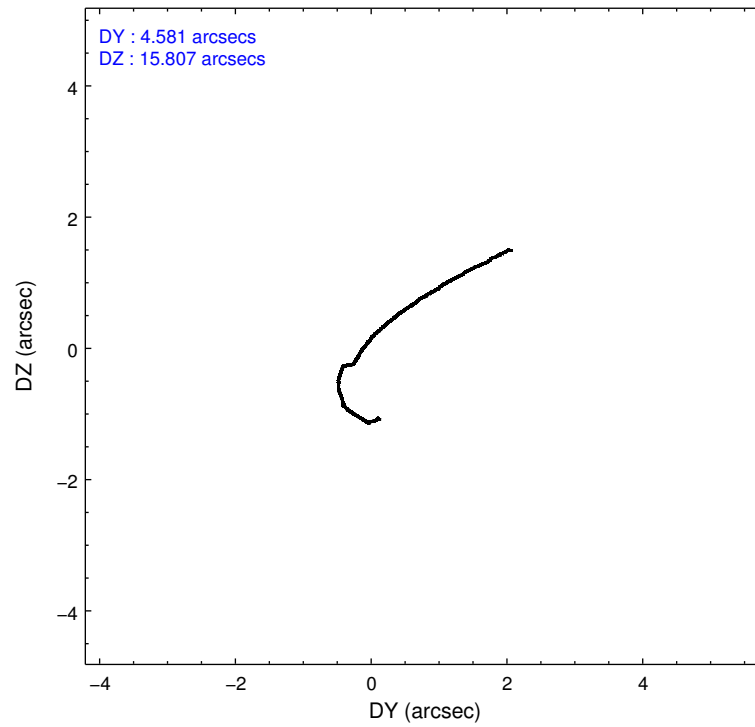
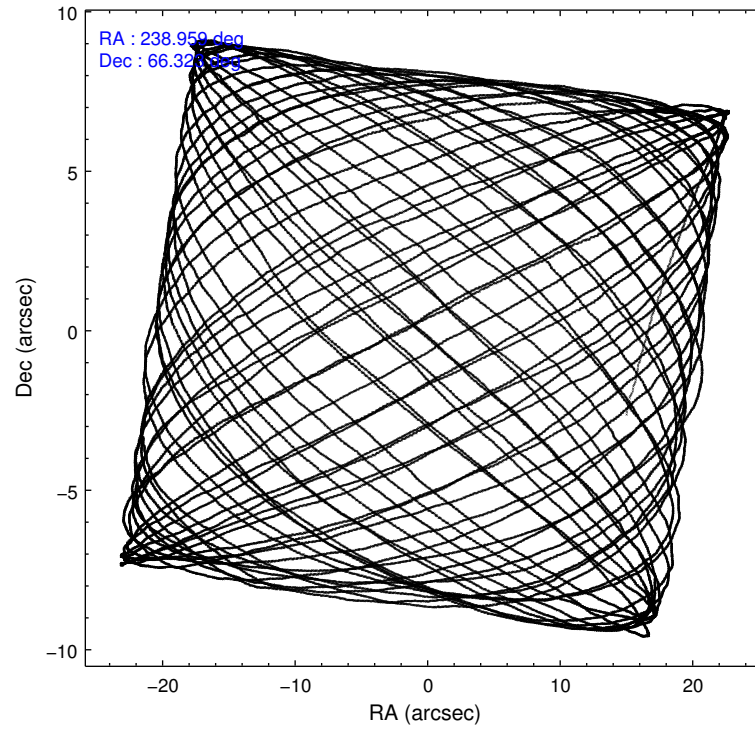
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	187007	182215	192272	201844	193667
rejected events	158047	158366	171746	170357	172369
rejected %	84%	86%	89%	84%	89%

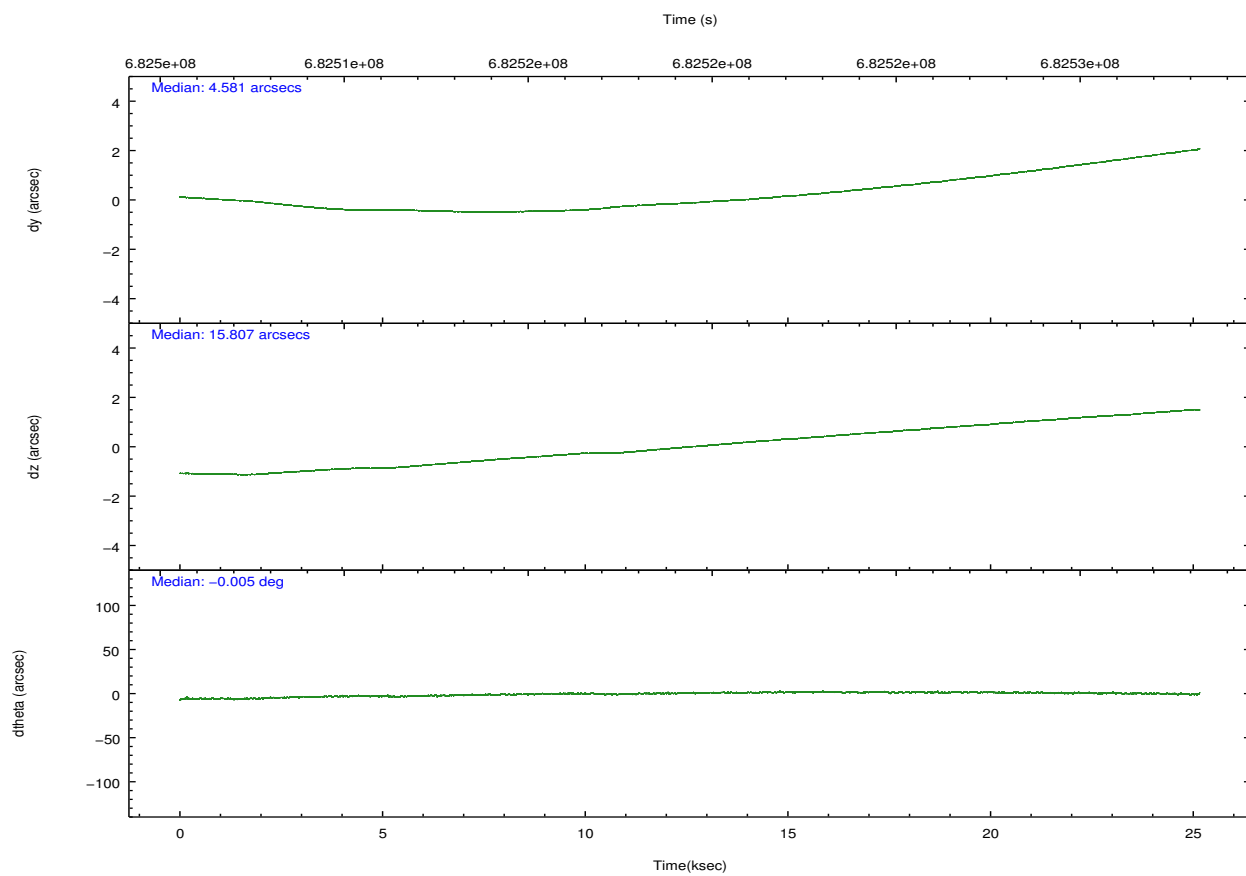
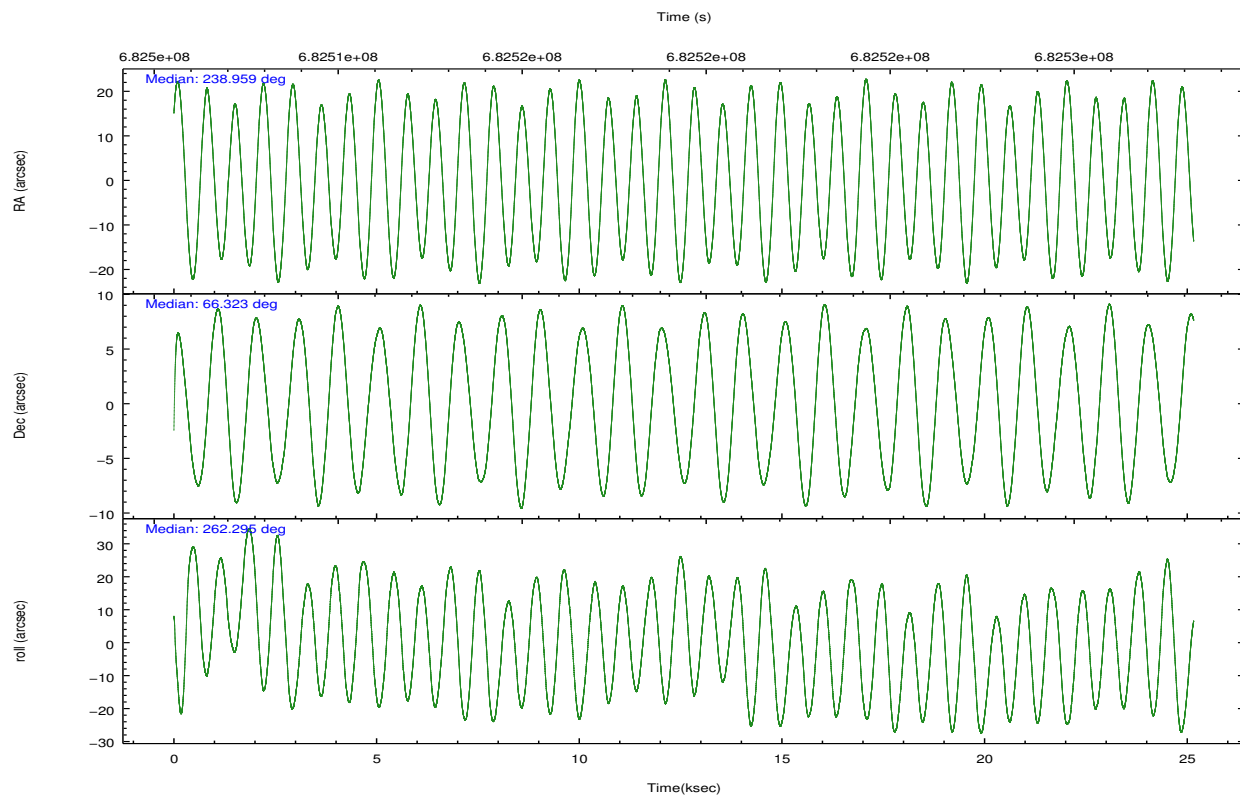
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	15000	7601	7122	16214	6622
	8%	4%	3%	8%	3%
grade 1 events	126	83	103	166	94
	0%	0%	0%	0%	0%
grade 2 events	5375	6516	5212	5679	5330
	2%	3%	2%	2%	2%
grade 3 events	2109	2109	1942	2460	1994
	1%	1%	1%	1%	1%
grade 4 events	1973	2118	2095	2440	1986
	1%	1%	1%	1%	1%
grade 5 events	8063	8272	7684	9104	8489
	4%	4%	3%	4%	4%
grade 6 events	4508	5511	4156	4698	5376
	2%	3%	2%	2%	2%
grade 7 events	149853	150005	163958	161083	163776
	80%	82%	85%	79%	84%

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	238.932207	238.9585704605178	CCD I2 on	Y	Y
[deg] Pointing Dec	66.348769	66.3232765008506	CCD I3 on	Y	Y
[deg] Pointing Roll	262.118201	262.3027480471729	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)	682506971.184000	682505813.42415	CCD S5 on	N	N
Observation start date	2019-08-18T09:15:02	2019-08-18T08:56:53	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	682531971.184000	682532520.82576	On-chip summing requested	N	N
Observation end date	2019-08-18T16:11:42	2019-08-18T16:22:00	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



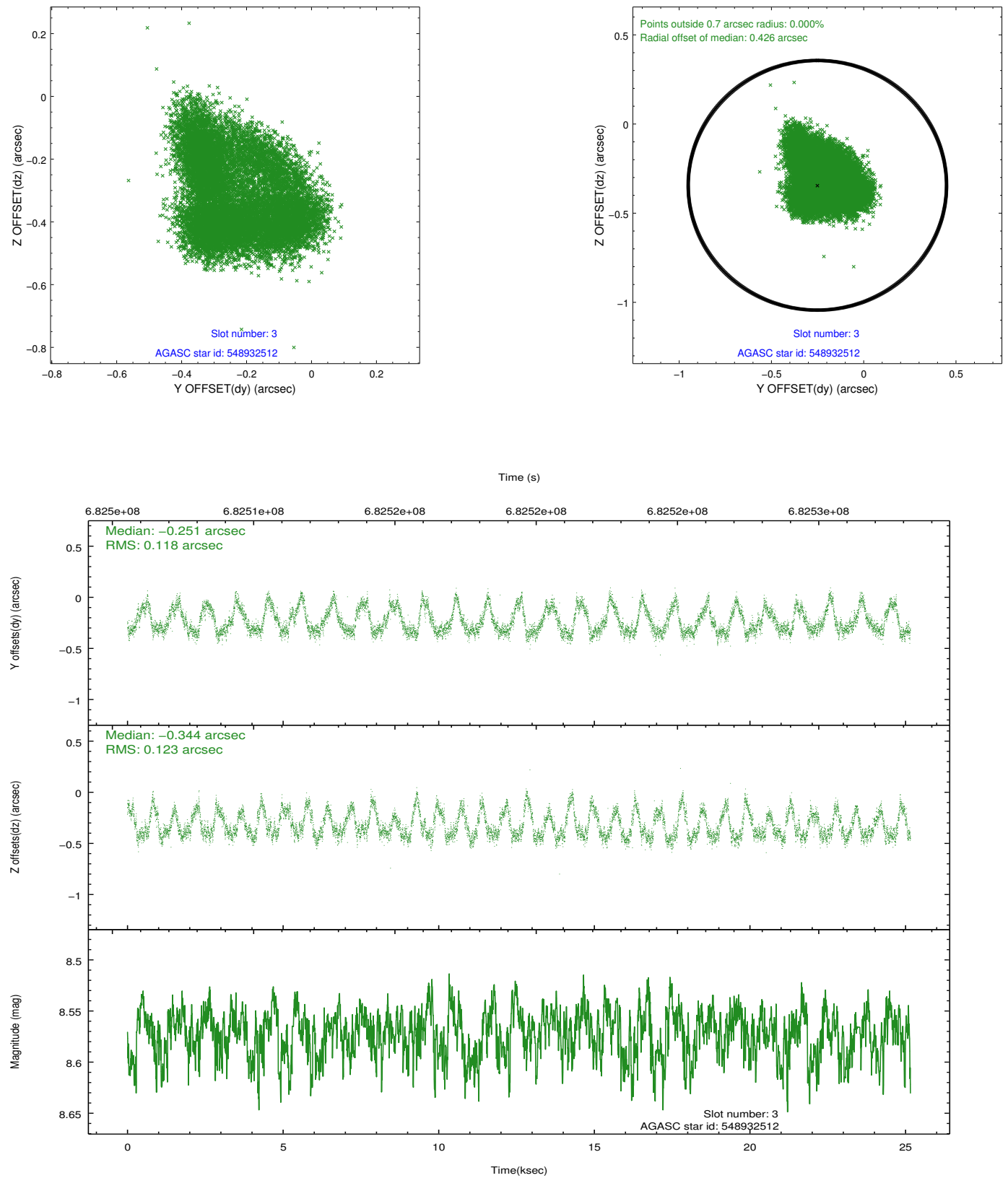


Slot Statistics

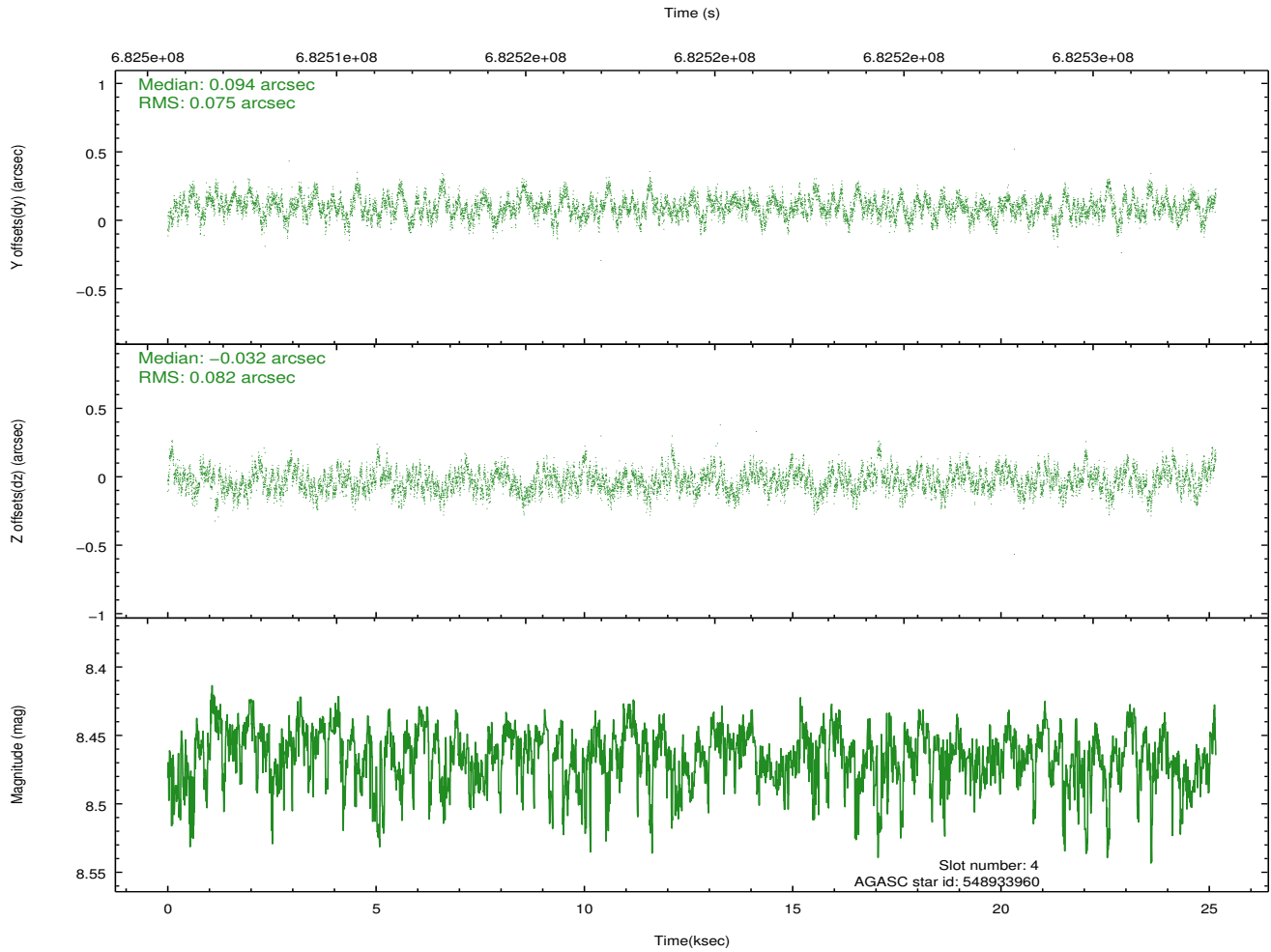
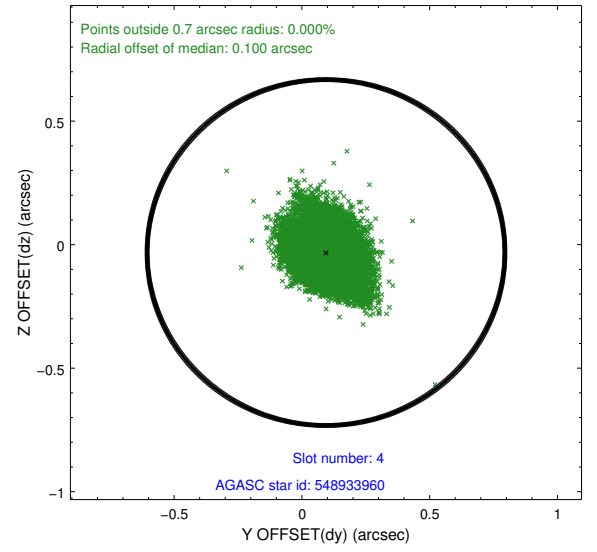
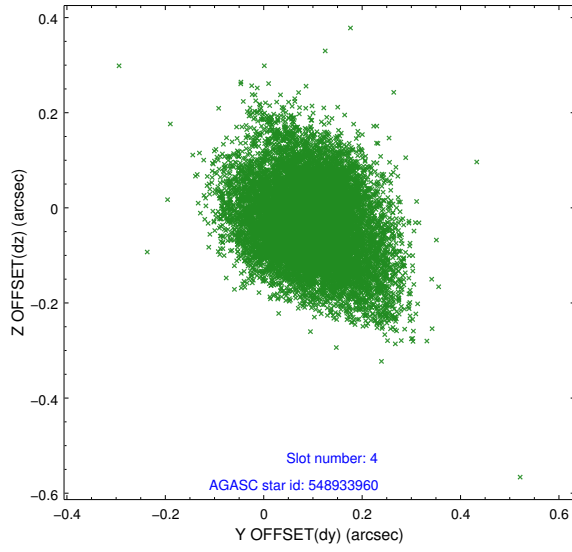
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.18	6137	1.000	0.129	-0.122	0.019	0.036	0.000000	0.000000	935.07	-839
1	FID		ACIS-I-5	7.13	6137	1.000	-0.412	0.060	0.013	0.024	0.000000	0.000000	-1813.63	1057
2	FID		ACIS-I-6	7.15	6135	1.000	0.194	0.136	0.016	0.034	0.000000	0.000000	400.39	1702
3	GUIDE	used	548932512	8.57	12265	1.000	-0.251	-0.344	0.188	0.276	239.727627	66.054972	880.41	1295
4	GUIDE	used	548933960	8.46	12270	1.000	0.094	-0.032	0.117	0.195	237.671184	66.428675	-52.14	-1839
5	GUIDE	used	548937184	9.85	12174	1.000	0.198	0.273	0.248	0.417	238.771821	66.565432	-740.95	-334
6	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0
7	GUIDE	used	549849072	9.19	12263	1.000	-0.060	0.097	0.143	0.235	240.420863	66.802816	-1933.52	1862

2.4 Star Slots

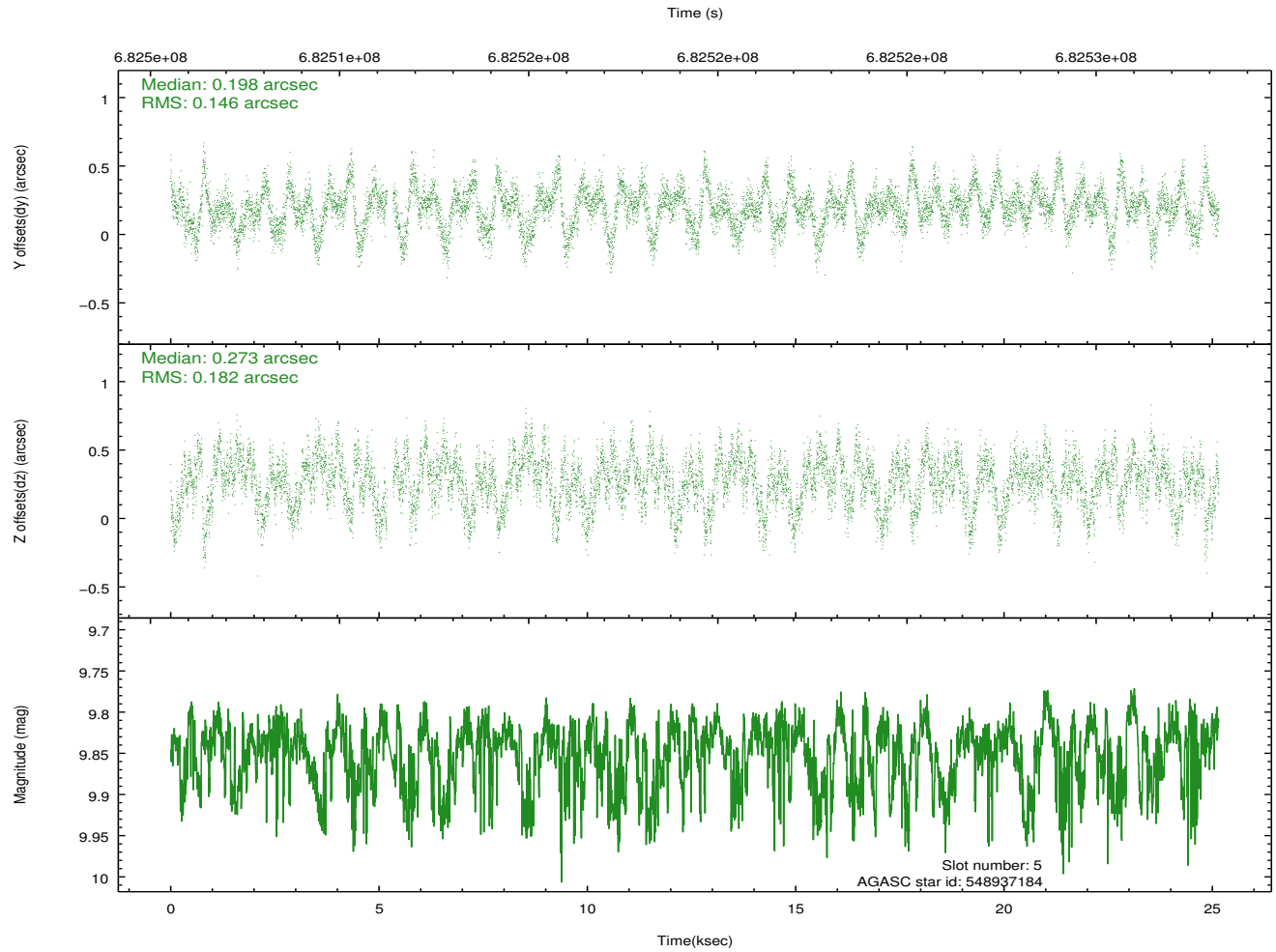
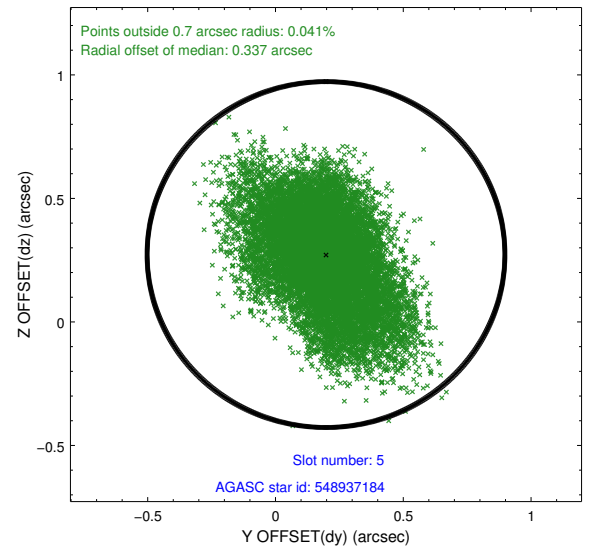
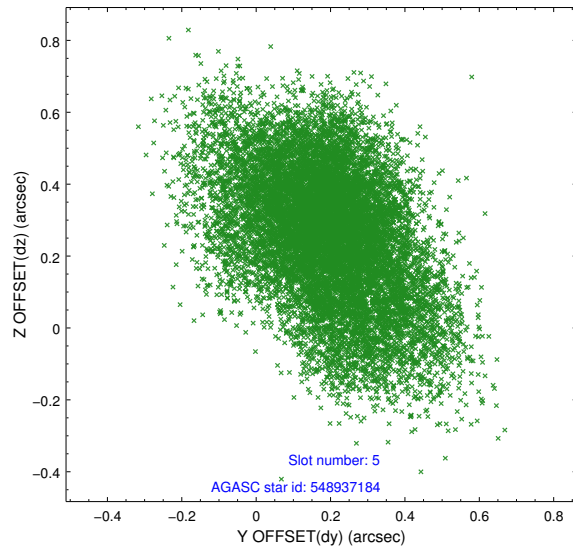
2.4.1 Slot 3



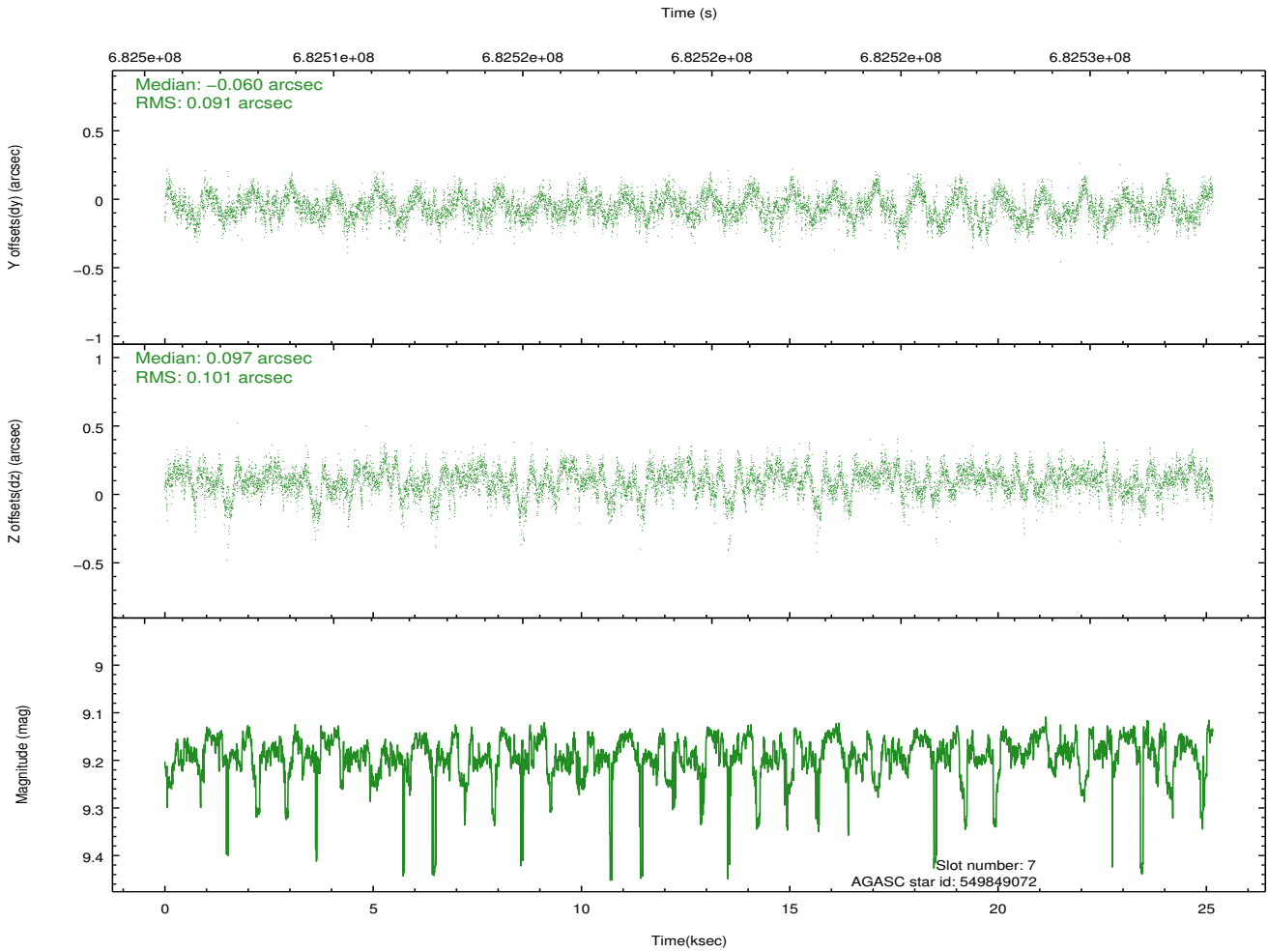
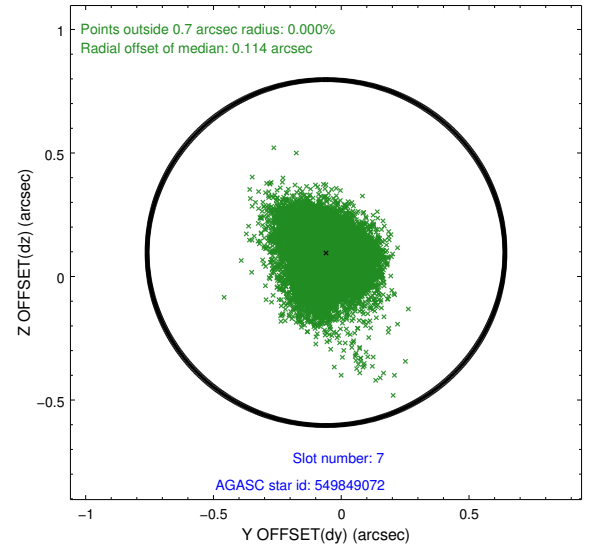
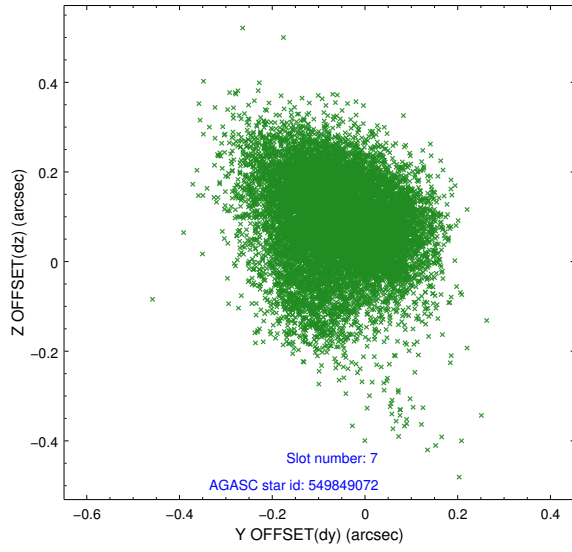
2.4.2 Slot 4



2.4.3 Slot 5

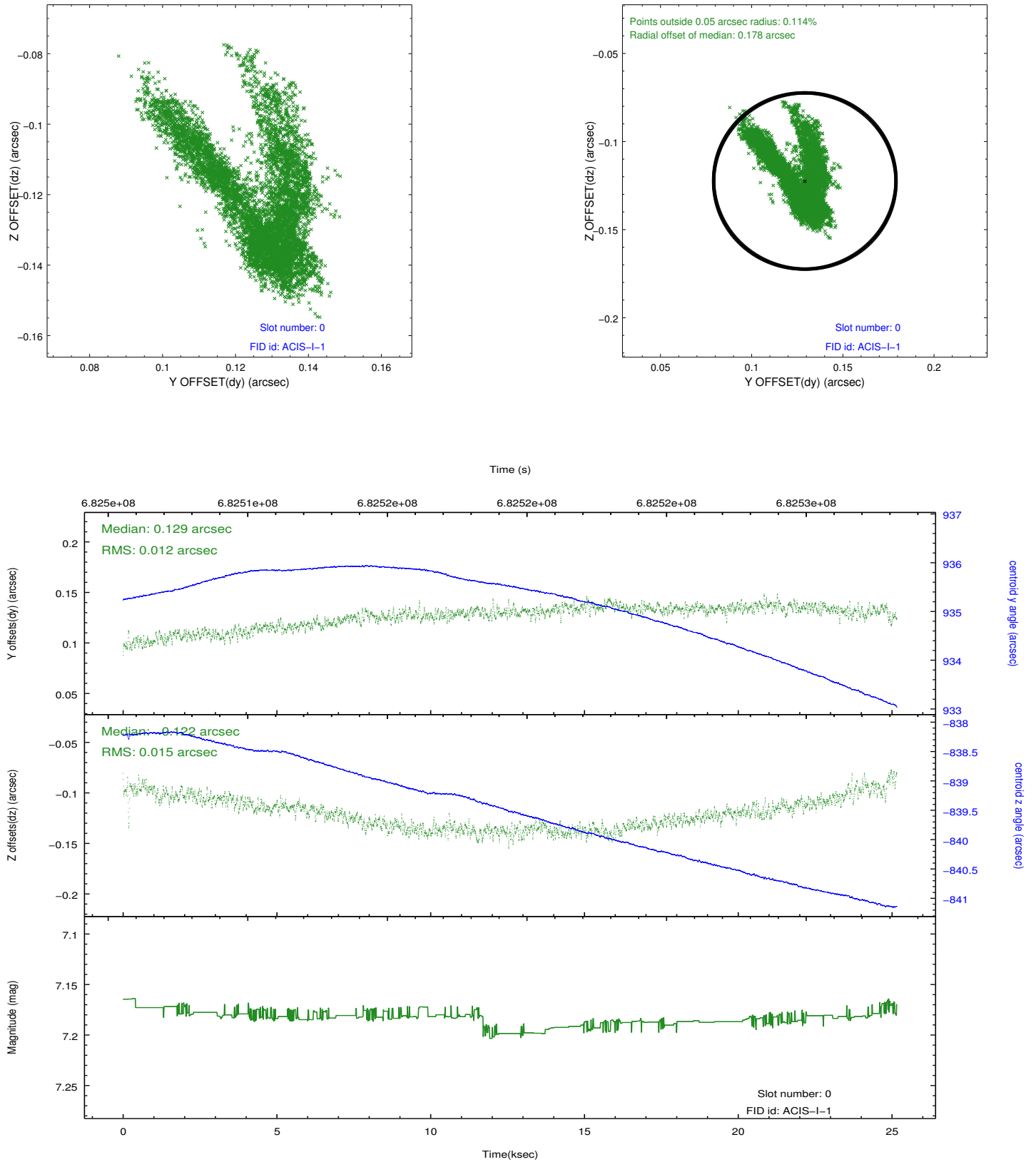


2.4.4 Slot 7

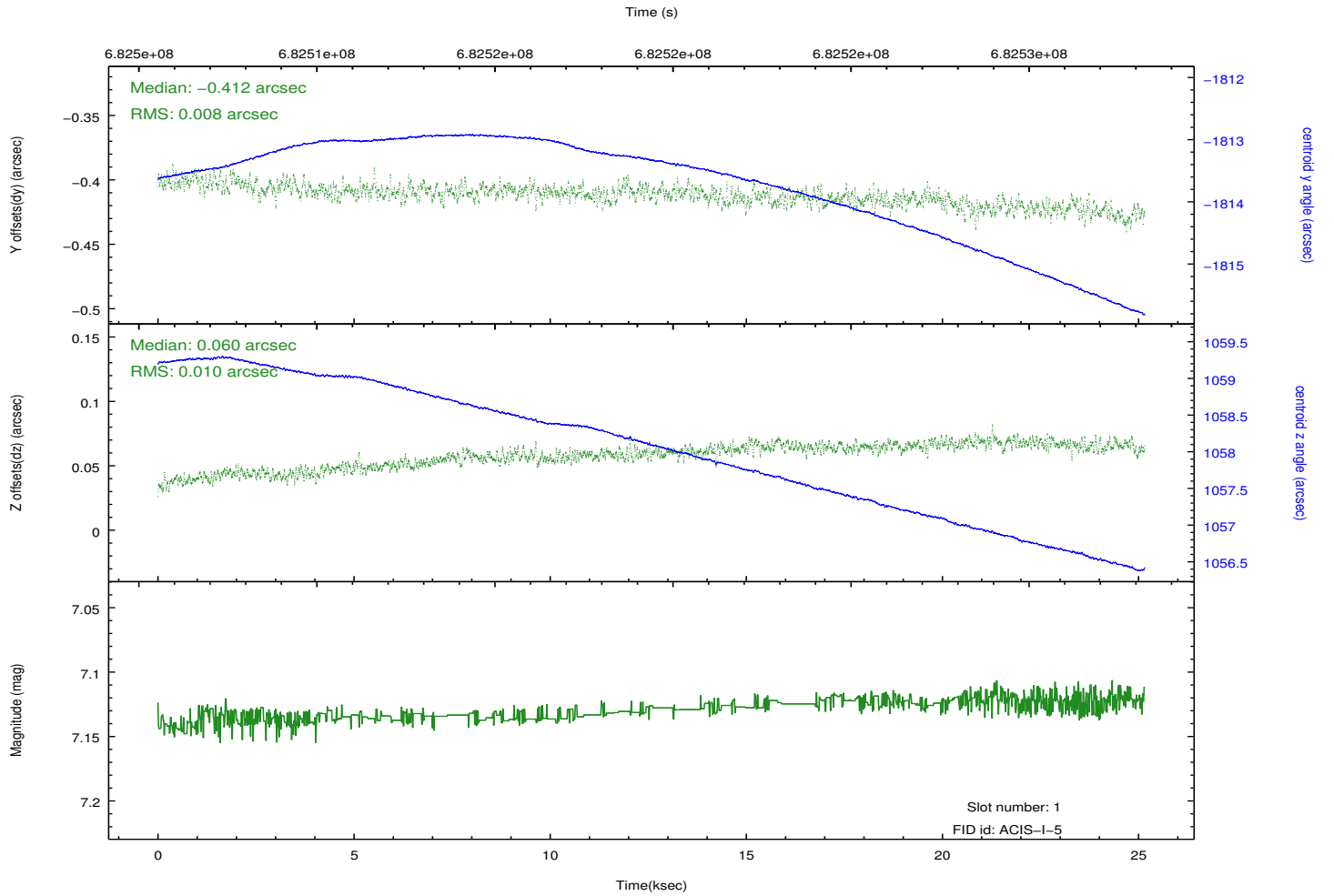
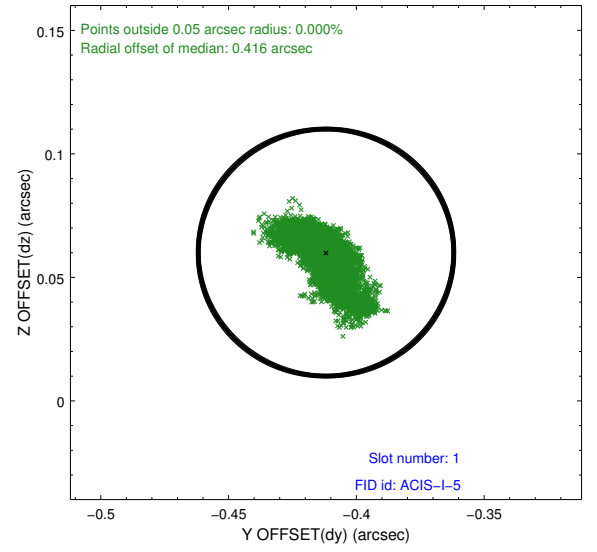
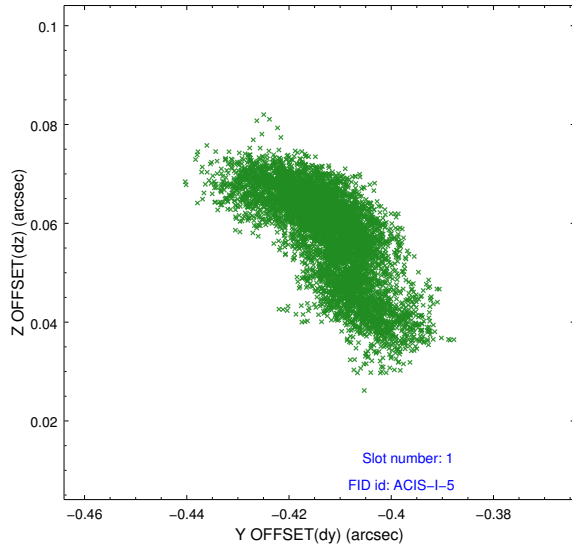


2.5 FID Slots

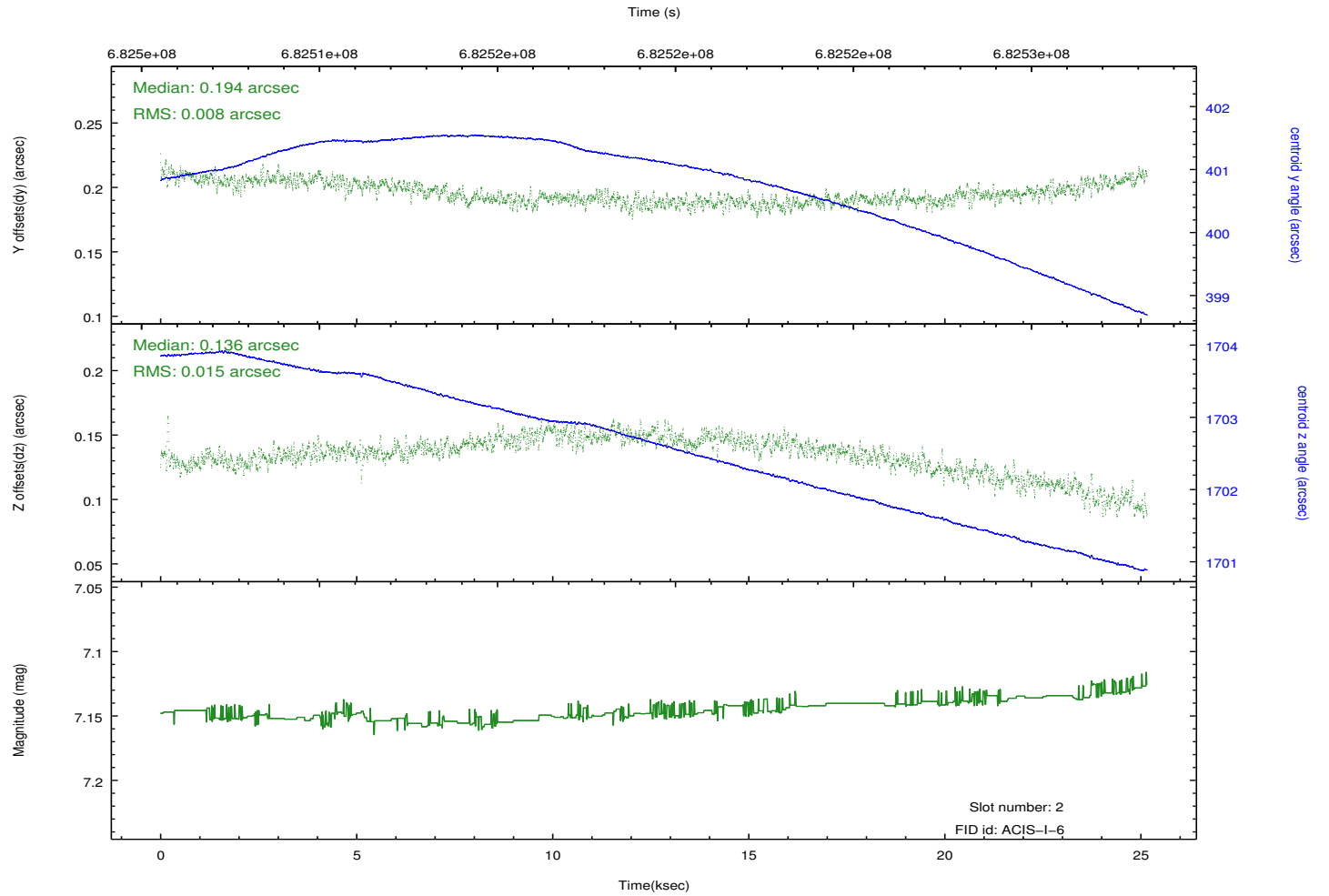
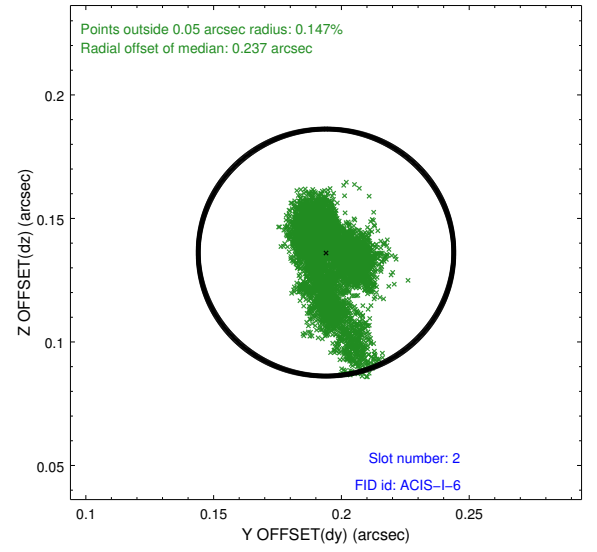
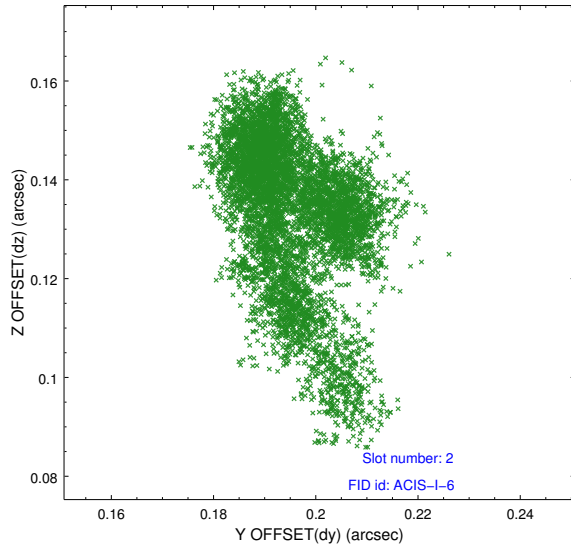
2.5.1 Slot 0



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)	2019.08.21
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.065858222246

A.2 Comments

The guide star in slot 6 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this slot from the solution.