

V&V Reference Report

L2 ASCDS Version : 10.7.1

Observation 22224 - L2 Version 1
Chandra X-Ray Center

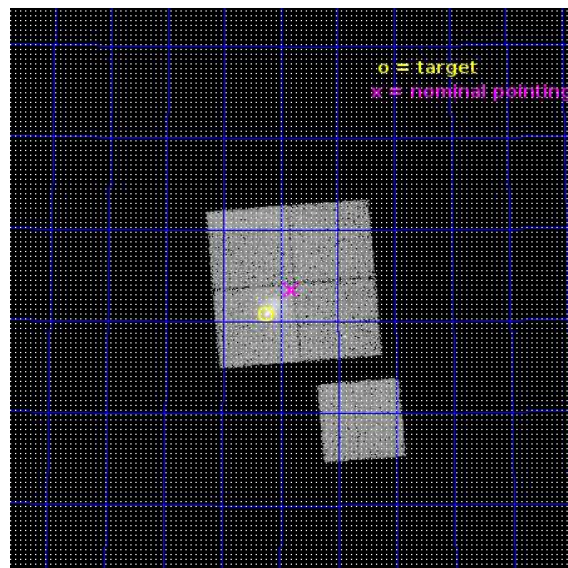
L2 Processing Date : May 18 2019

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1 Front

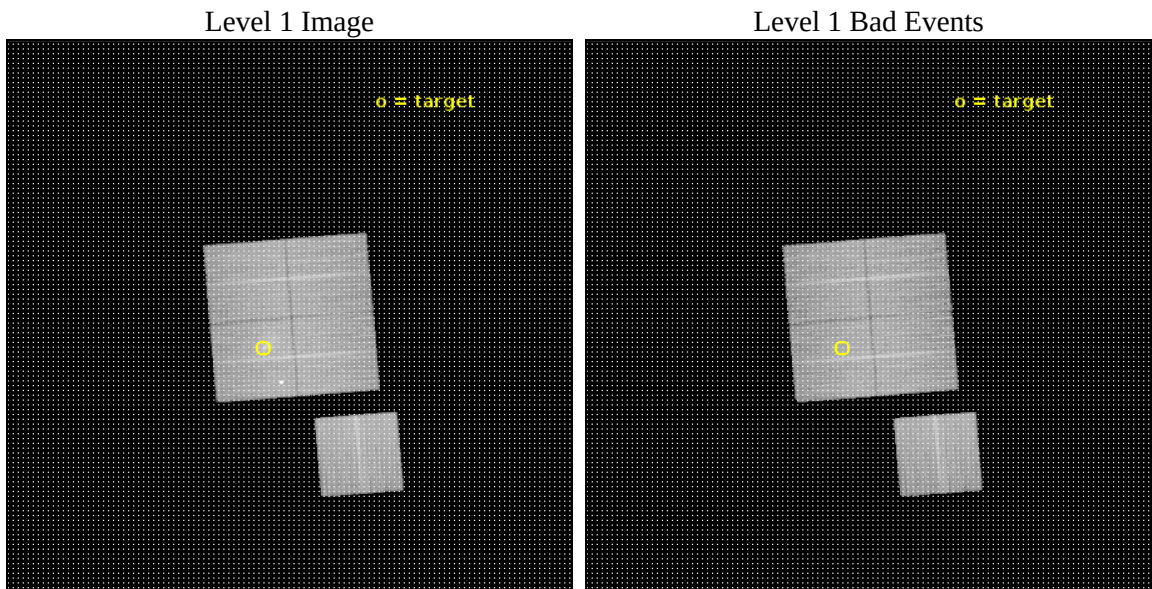
seq_num	801762	Sequence number
obs_id	22224	Observation id
title	Shock structure, the electron-ion equilibration timescale and the disintegrating cool core in A2146	Proposal title
observer	Helen Russell	Principal investigator
object	Abell 2146	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	239.06125	Observer's specified target RA [deg]
dec_targ	66.346917	Observer's specified target Dec [deg]
ra_nom	238.95175226864	Nominal RA [deg]
dec_nom	66.391720959457	Nominal Dec [deg]
roll_nom	175.3090452326	Nominal Roll [deg]
revision	1	Processing version of data
ontime	23067.100177526	Sum of GTIs [s]
livetime	22765.711531955	Livetime [s]
ontime0	23067.100177526	Sum of GTIs [s]
ontime1	23067.100177526	Sum of GTIs [s]
ontime2	23063.959187269	Sum of GTIs [s]
ontime3	23067.100177526	Sum of GTIs [s]
ontime6	23063.959177375	Sum of GTIs [s]
l2events	92361	Number of level 2 events



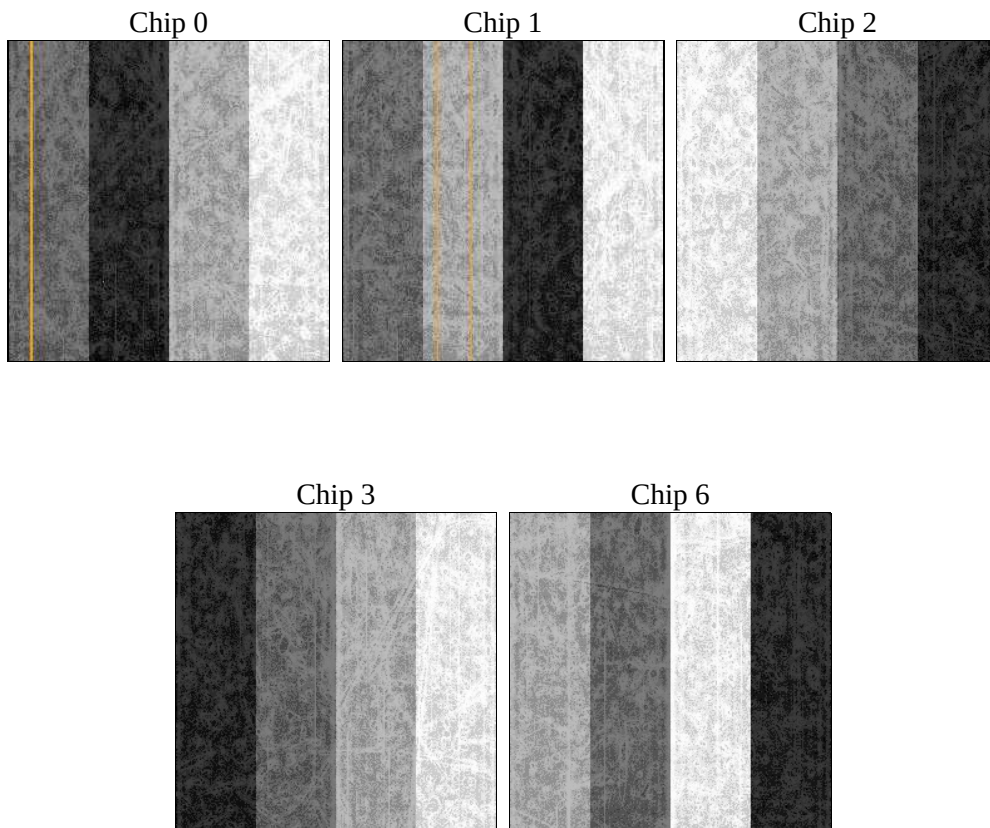
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	23000.000000	[s] Scheduled observation exposure time
ascdsver	10.7.1	Processing system revision	ontime	23067.100177526	Sum of GTIs [s]
caldsver	4.8.2	 	ontime0	23067.100177526	Sum of GTIs [s]
date	2019-05-18T13:28:17	Date and time of file creation	ontime1	23067.100177526	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	23063.959187269	Sum of GTIs [s]
			ontime3	23067.100177526	Sum of GTIs [s]
			ontime6	23063.959177375	Sum of GTIs [s]
			l1events	837965	Number of level 1 events

2.1.4 Events

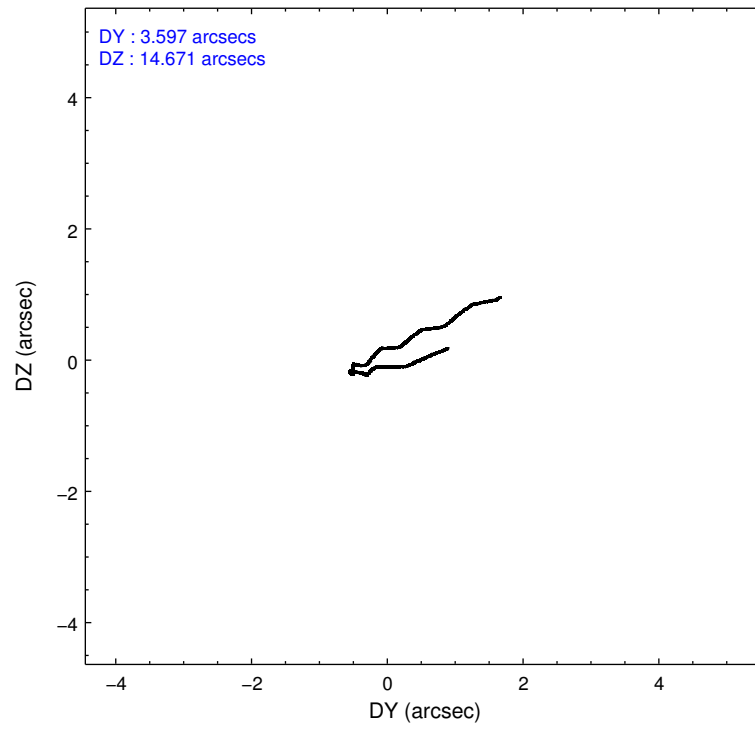
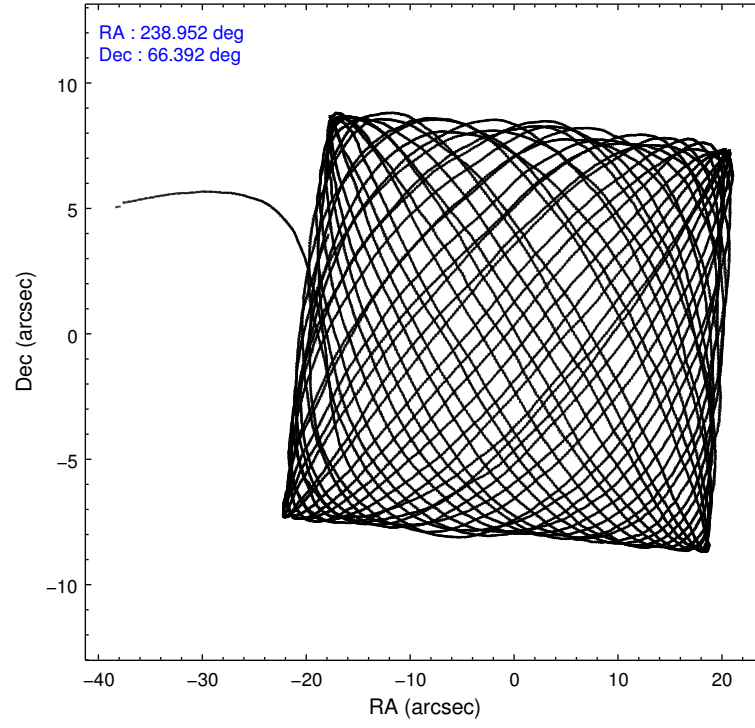
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	154740	160317	172353	180450	170105
rejected events	135625	139000	153822	146921	150973
rejected %	87%	86%	89%	81%	88%

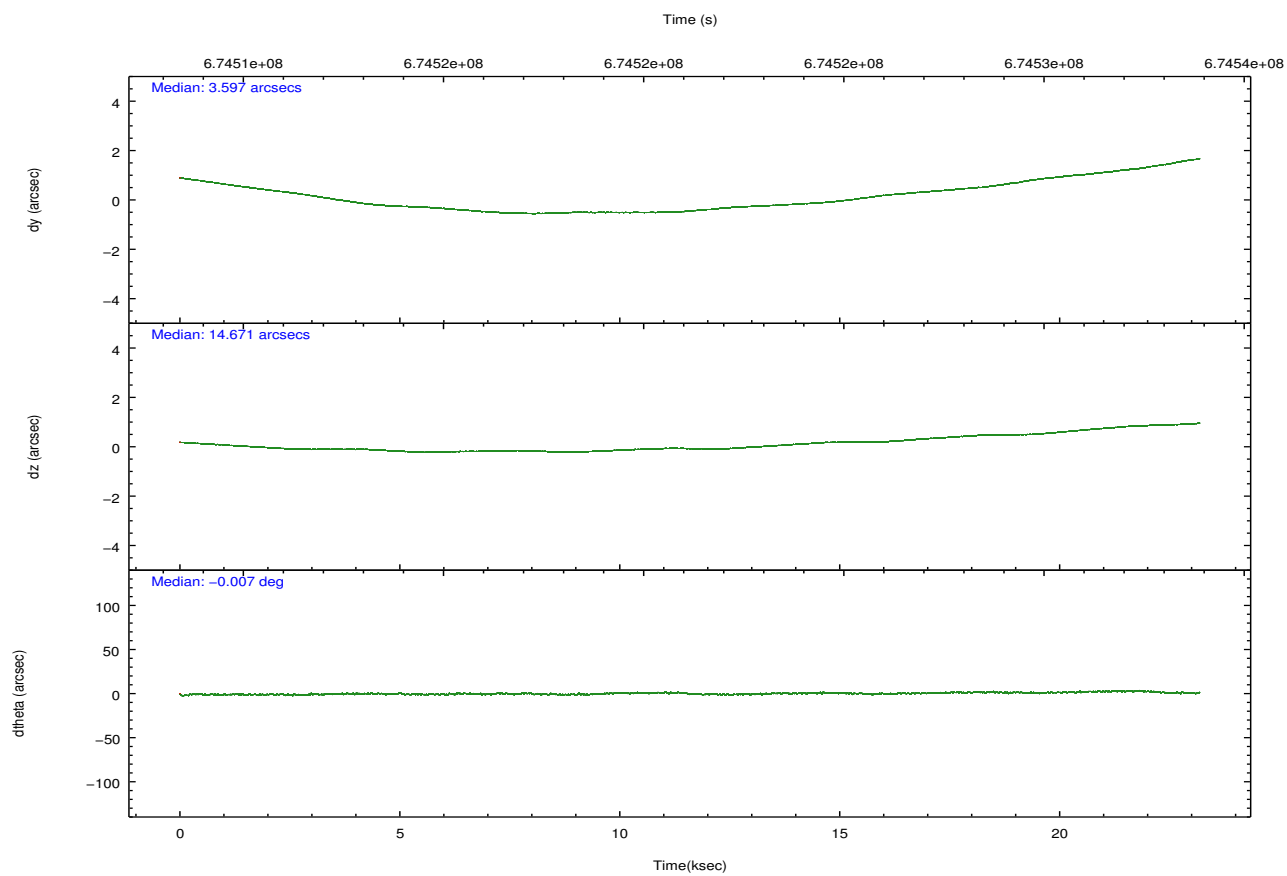
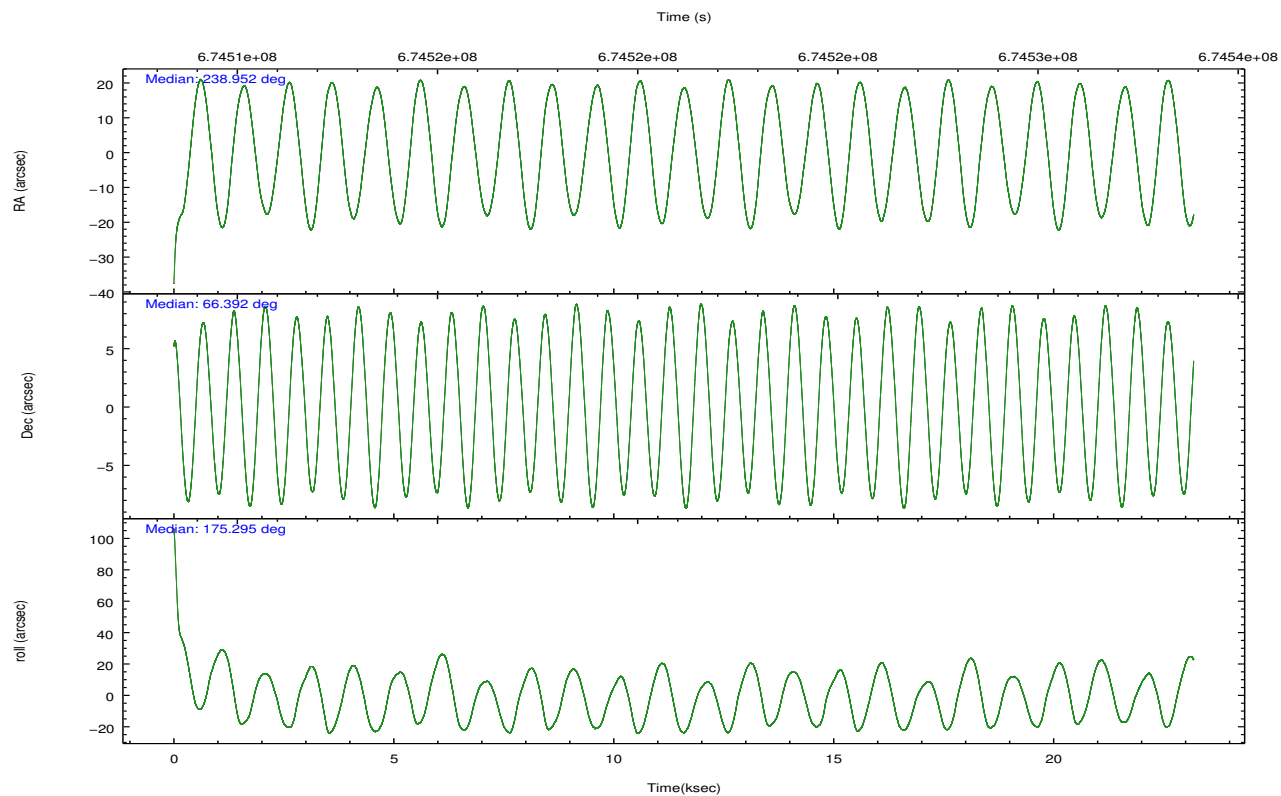
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	6461	6880	6705	19612	6206
	4%	4%	3%	10%	3%
grade 1 events	106	83	116	172	73
	0%	0%	0%	0%	0%
grade 2 events	4772	5833	4521	5248	4672
	3%	3%	2%	2%	2%
grade 3 events	1913	1887	1755	2158	1764
	1%	1%	1%	1%	1%
grade 4 events	1814	1873	1784	2262	1760
	1%	1%	1%	1%	1%
grade 5 events	7083	7387	6935	8247	7414
	4%	4%	4%	4%	4%
grade 6 events	4157	4850	3766	4250	4731
	2%	3%	2%	2%	2%
grade 7 events	128434	131524	146771	138501	143485
	82%	82%	85%	76%	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	239.014013	238.95175226864	CCD I2 on	Y	Y
[deg] Pointing Dec	66.403607	66.39172095945676	CCD I3 on	Y	Y
[deg] Pointing Roll	175.043280	175.309045232596	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)	674509734.184000	674508619.95655	CCD S5 on	N	N
Observation start date	2019-05-17T19:47:45	2019-05-17T19:30:19	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	674532734.184000	674533428.03303	On-chip summing requested	N	N
Observation end date	2019-05-18T02:11:05	2019-05-18T02:23:48	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



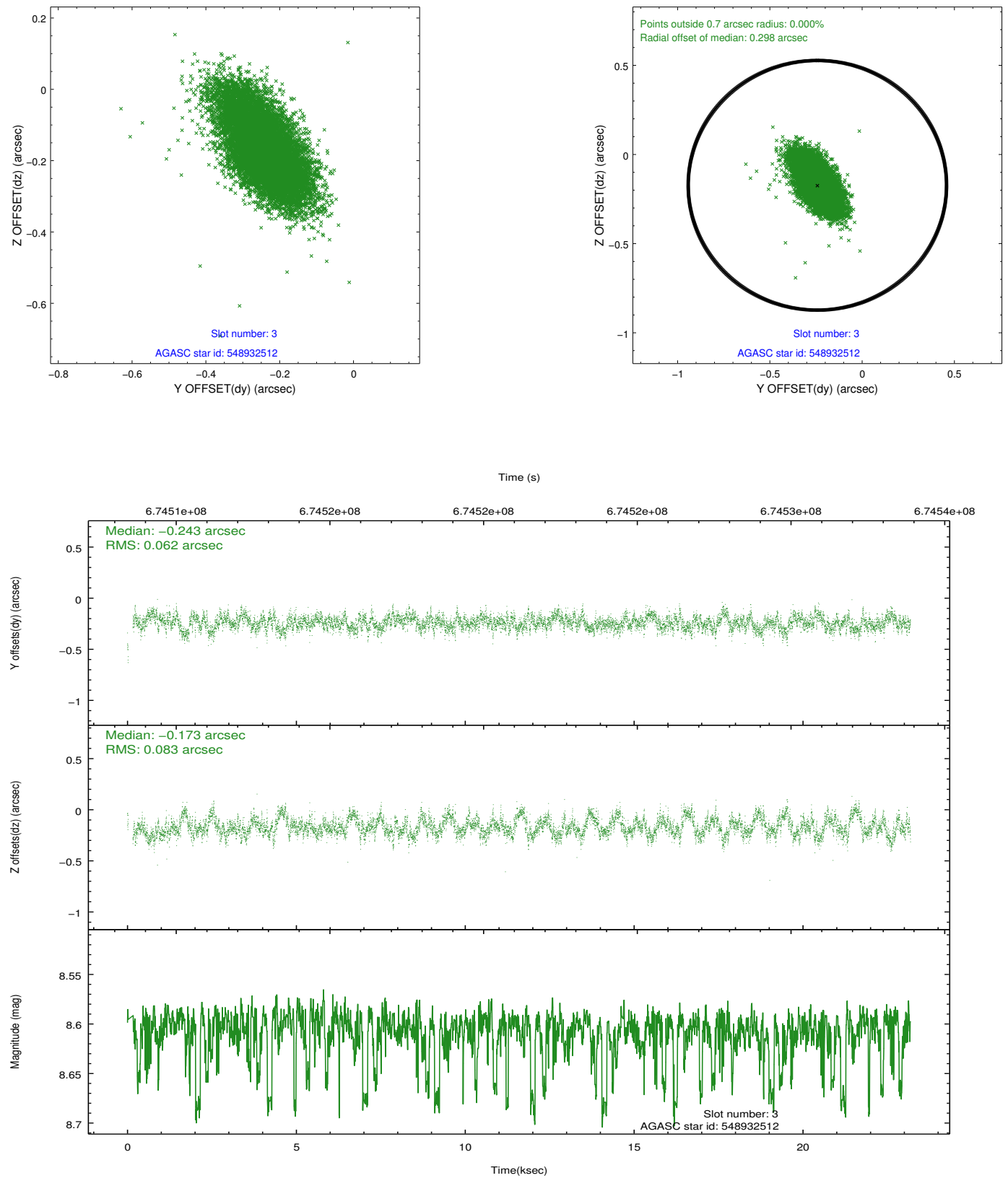


Slot Statistics

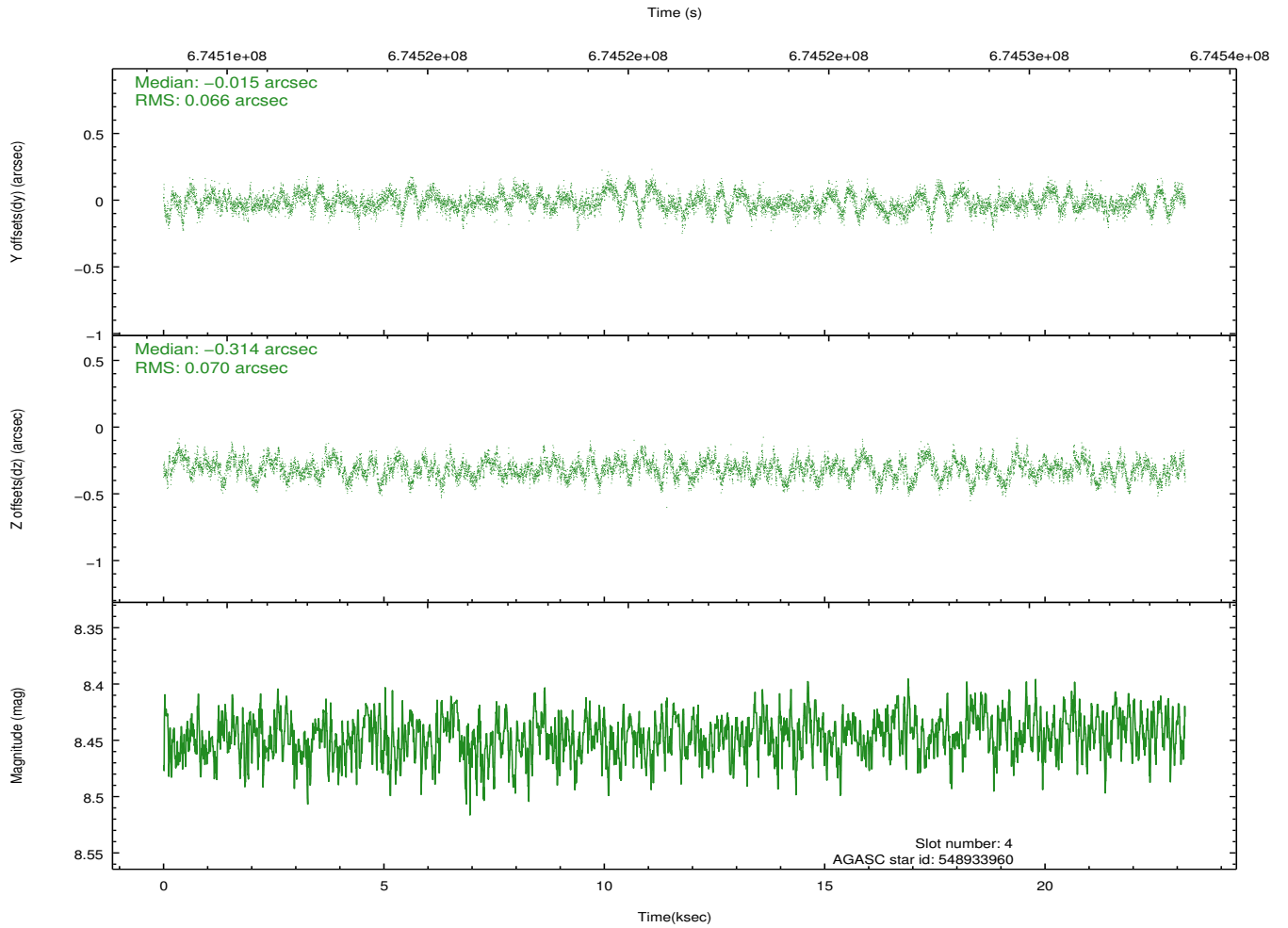
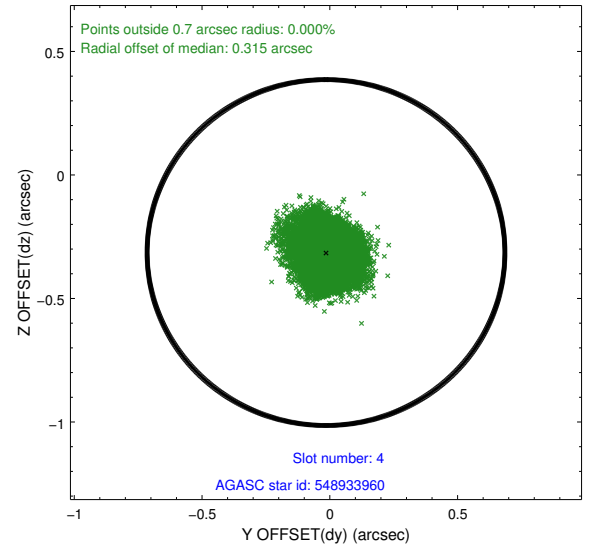
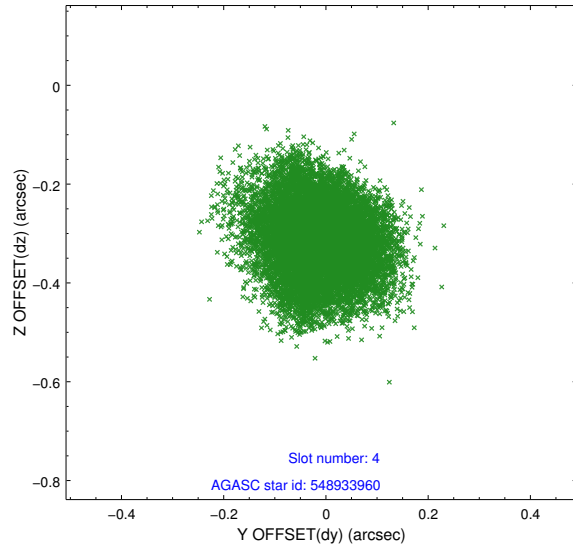
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.16	5655	1.000	0.091	-0.088	0.019	0.044	0.000000	0.000000	936.18	-838
1	FID		ACIS-I-5	7.12	5653	1.000	-0.382	0.035	0.013	0.023	0.000000	0.000000	-1812.49	1058
2	FID		ACIS-I-6	7.14	5654	1.000	0.200	0.124	0.022	0.041	0.000000	0.000000	401.46	1703
3	GUIDE	used	548932512	8.61	11223	1.000	-0.243	-0.173	0.107	0.188	239.727627	66.054972	-1146.77	1154
4	GUIDE	used	548933960	8.45	11302	1.000	-0.015	-0.314	0.104	0.163	237.671184	66.428675	1935.76	58
5	GUIDE	used	548937184	9.88	11270	1.000	-0.034	0.257	0.200	0.321	238.771821	66.565432	396.44	-550
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	9.13	11297	1.000	0.301	0.229	0.172	0.246	240.420863	66.802816	-1859.92	-1626

2.4 Star Slots

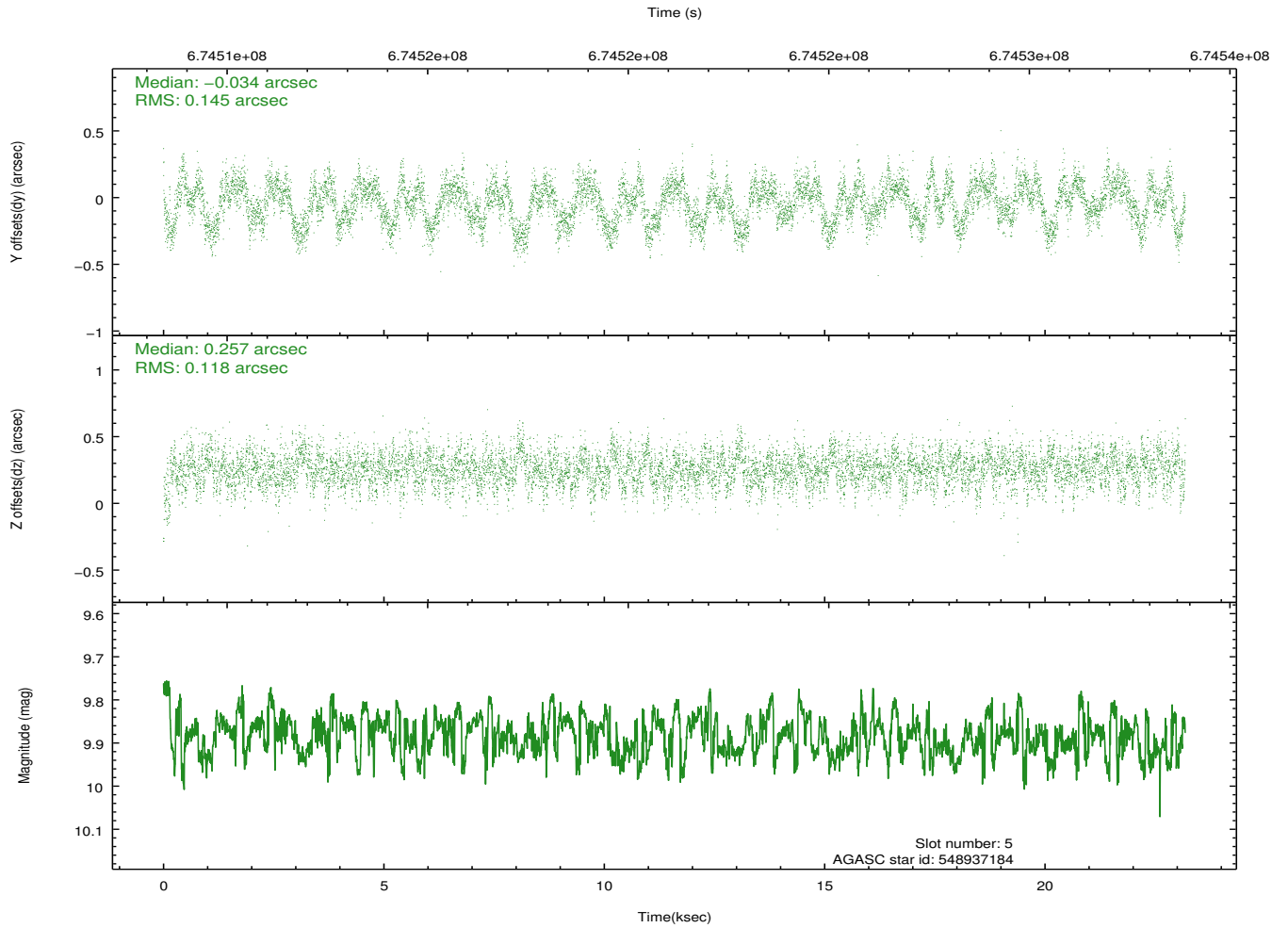
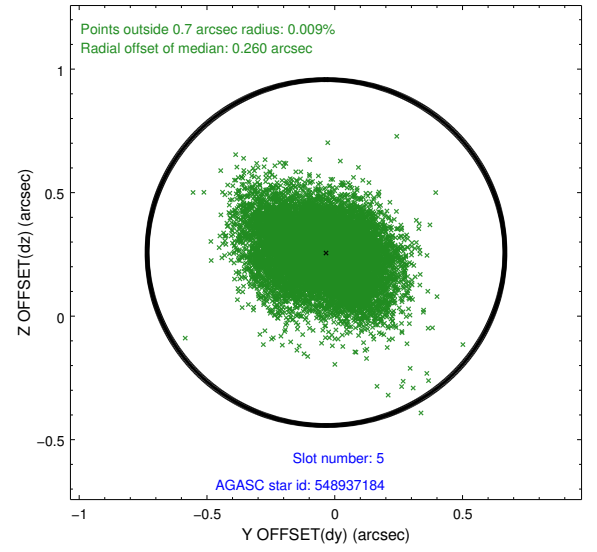
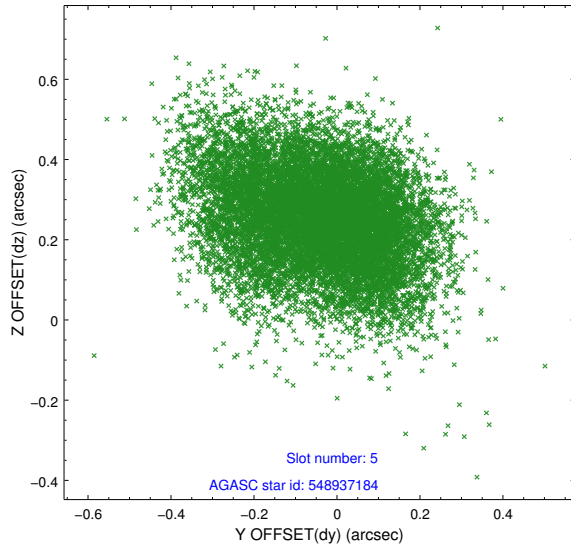
2.4.1 Slot 3



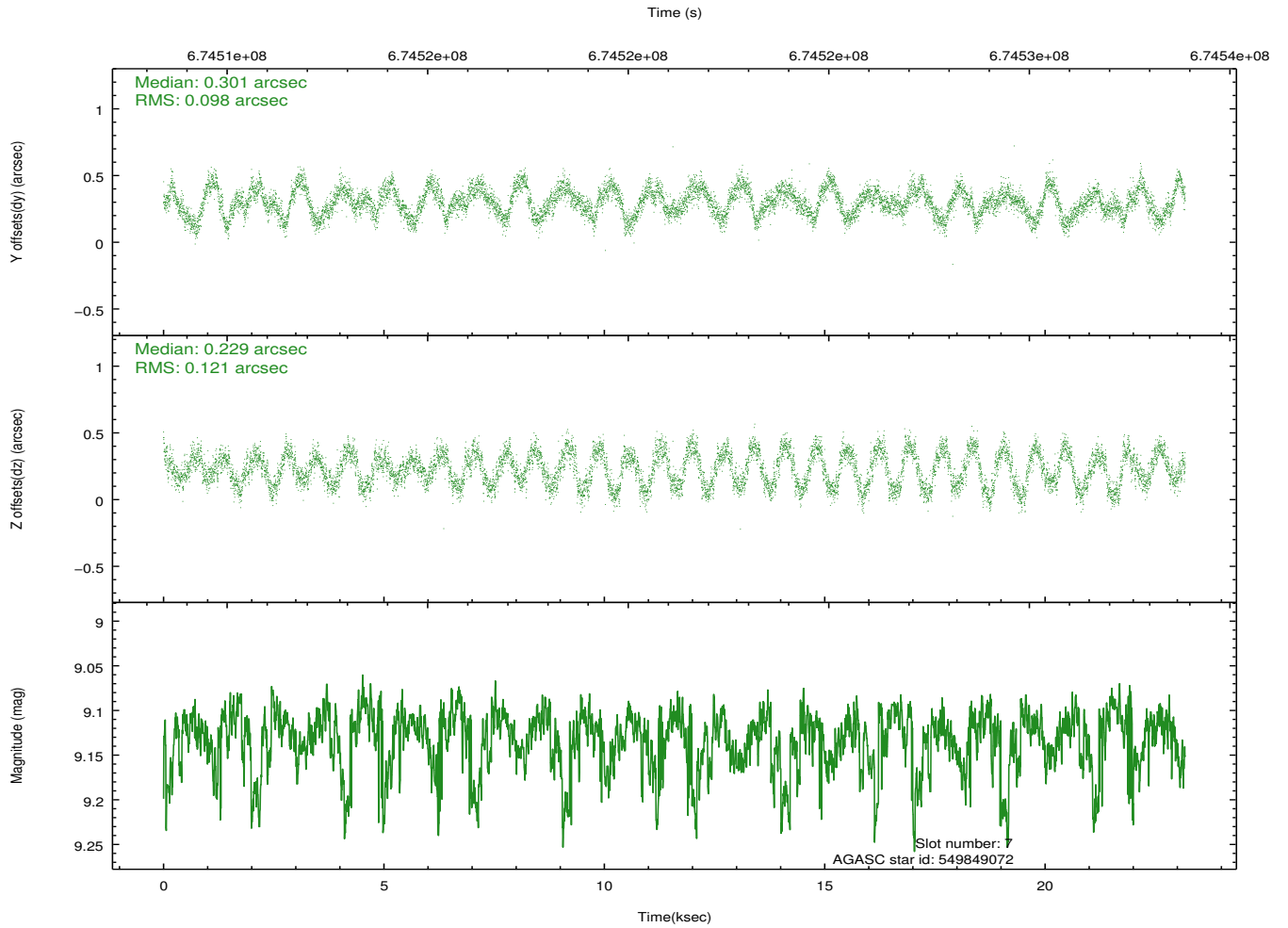
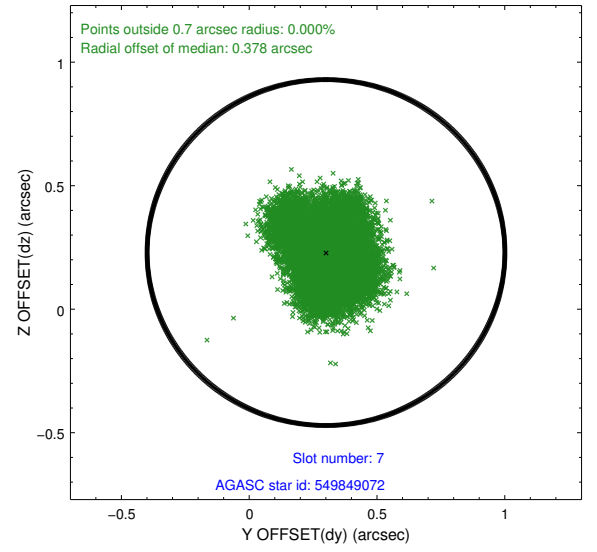
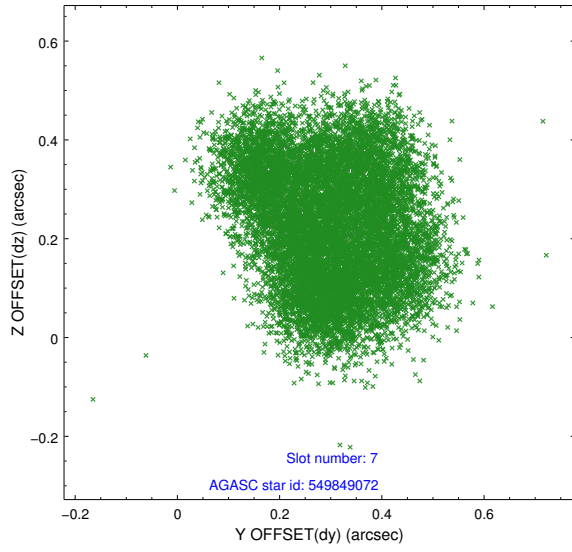
2.4.2 Slot 4



2.4.3 Slot 5

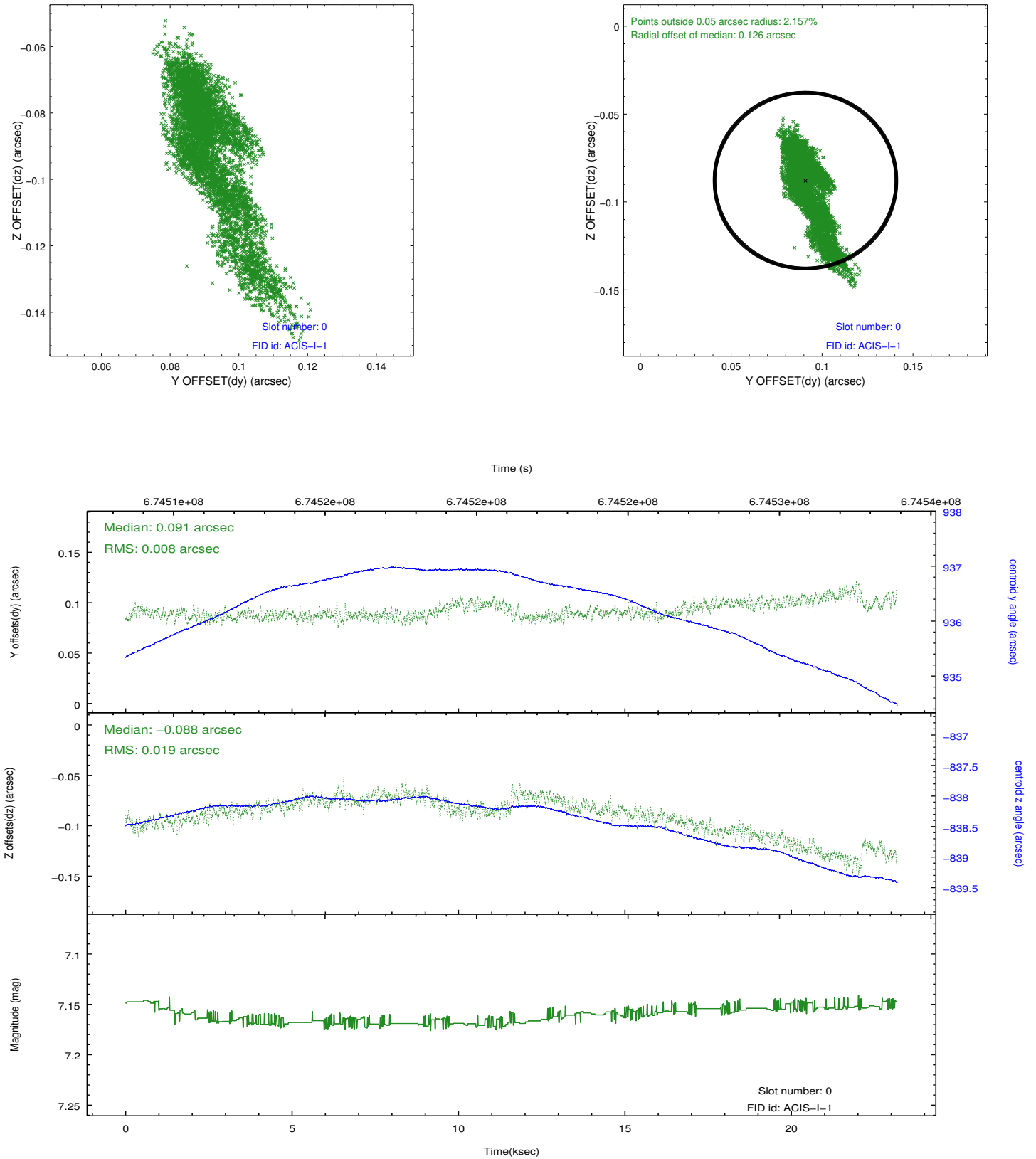


2.4.4 Slot 7

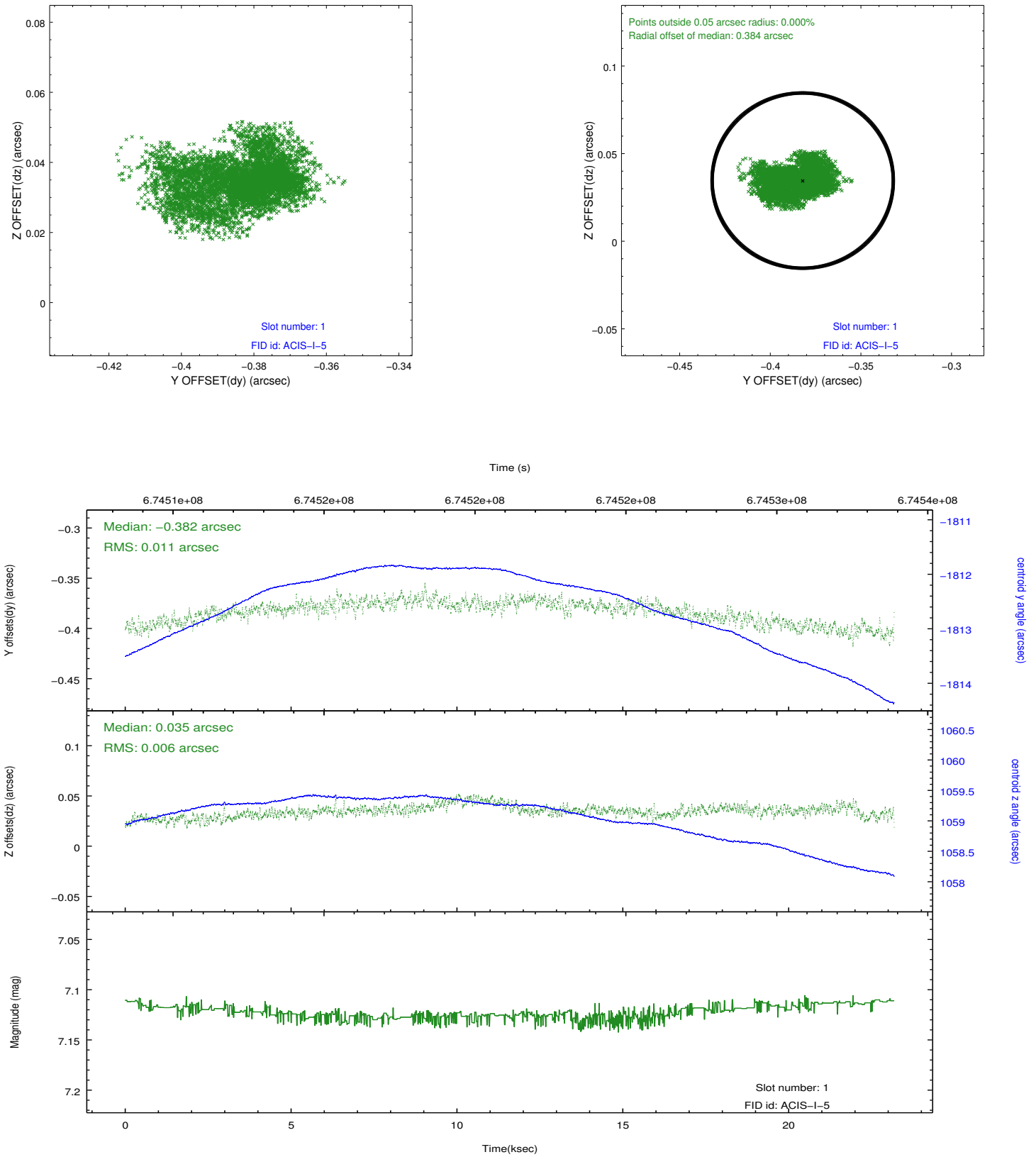


2.5 FID Slots

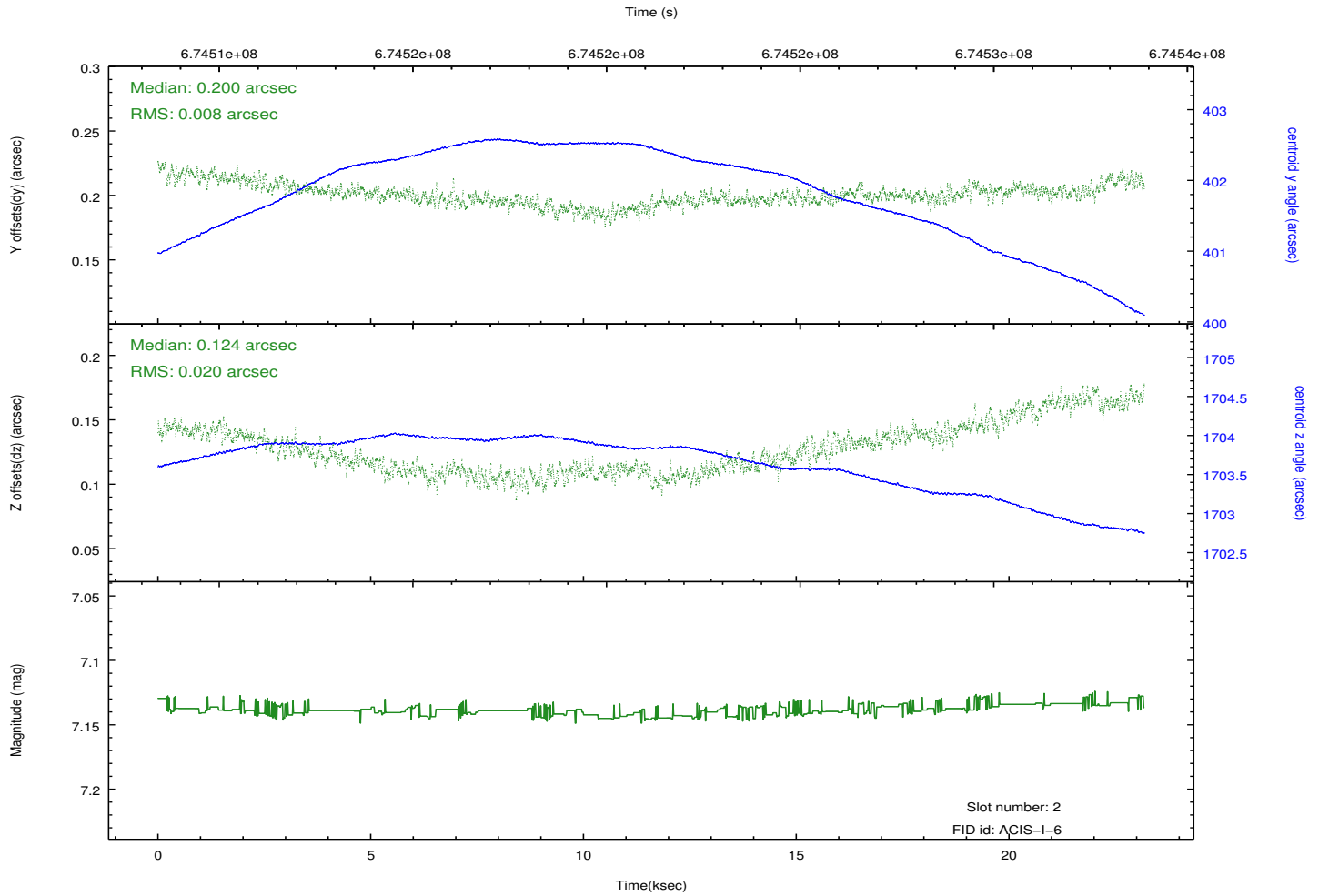
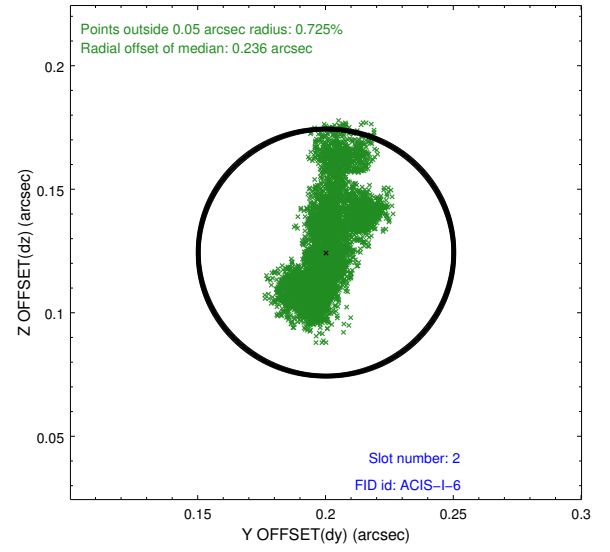
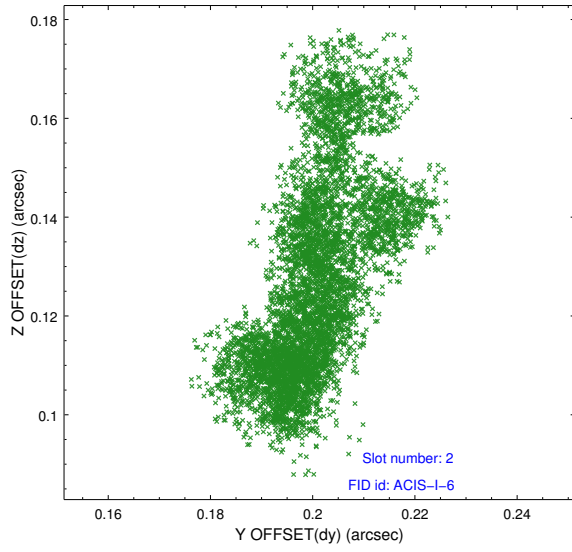
2.5.1 Slot 0



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)	2019.05.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	23.067100177526

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.