

V&V Reference Report

L2 ASCDS Version : 10.7.1

Observation 20552 - L2 Version 1
Chandra X-Ray Center

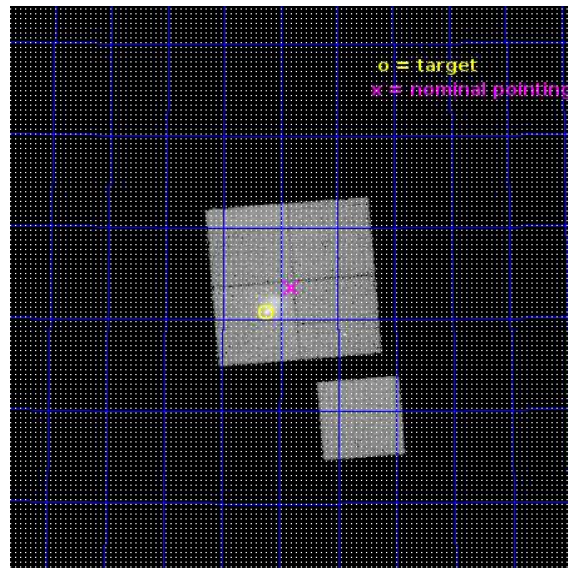
L2 Processing Date : May 16 2019

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1 Front

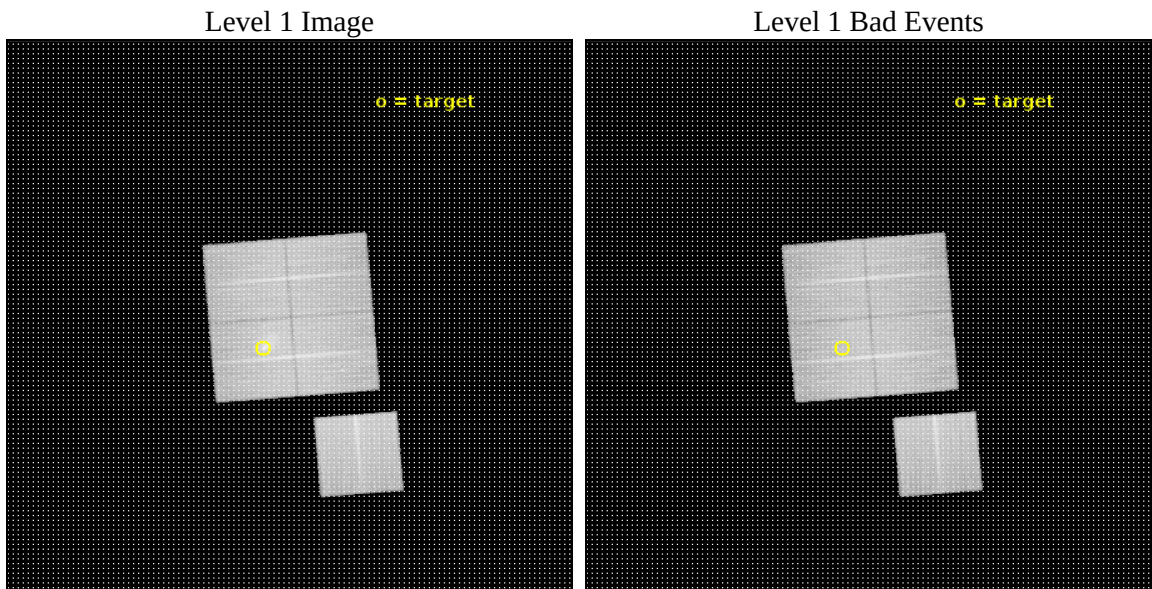
seq_num	801762	Sequence number
obs_id	20552	Observation id
title	Shock structure, the electron-ion equilibration timescale and the disintegrating cool core in A2146	Proposal title
observer	Helen Russell	Principal investigator
object	Abell 2146	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	239.06125	Observer's specified target RA [deg]
dec_targ	66.346917	Observer's specified target Dec [deg]
ra_nom	238.95114058155	Nominal RA [deg]
dec_nom	66.391633720121	Nominal Dec [deg]
roll_nom	175.30957262194	Nominal Roll [deg]
revision	1	Processing version of data
ontime	40067.459328055	Sum of GTIs [s]
livetime	39543.9484747	Livetime [s]
ontime0	40067.459308147	Sum of GTIs [s]
ontime1	40067.459328055	Sum of GTIs [s]
ontime2	40061.177347541	Sum of GTIs [s]
ontime3	40067.459328055	Sum of GTIs [s]
ontime6	40067.459327936	Sum of GTIs [s]
l2events	159359	Number of level 2 events



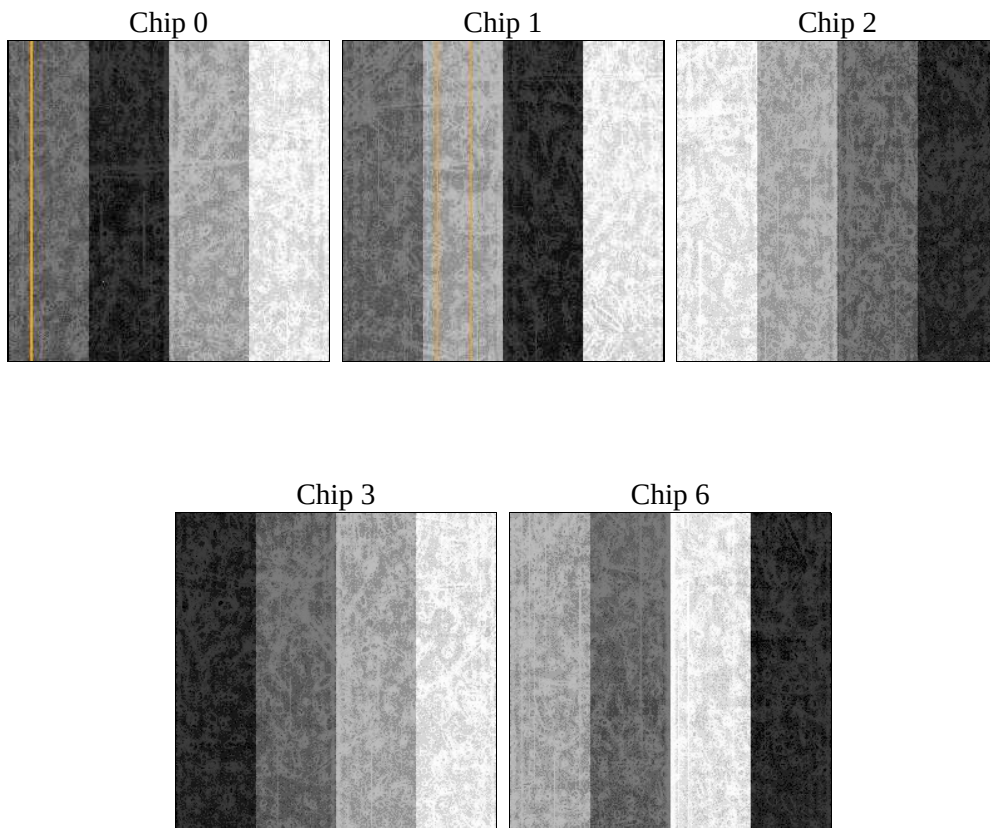
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	40000.000000	[s] Scheduled observation exposure time
ascdsver	10.7.1	Processing system revision	ontime	40067.459328055	Sum of GTIs [s]
caldsver	4.8.2	 	ontime0	40067.459308147	Sum of GTIs [s]
date	2019-05-16T06:25:32	Date and time of file creation	ontime1	40067.459328055	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	40061.177347541	Sum of GTIs [s]
			ontime3	40067.459328055	Sum of GTIs [s]
			ontime6	40067.459327936	Sum of GTIs [s]
			l1events	1422989	Number of level 1 events

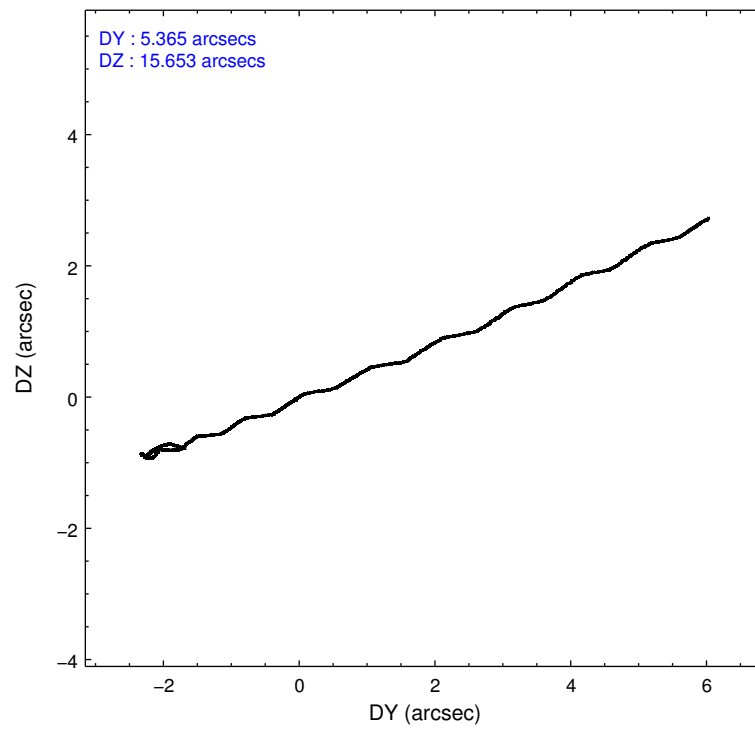
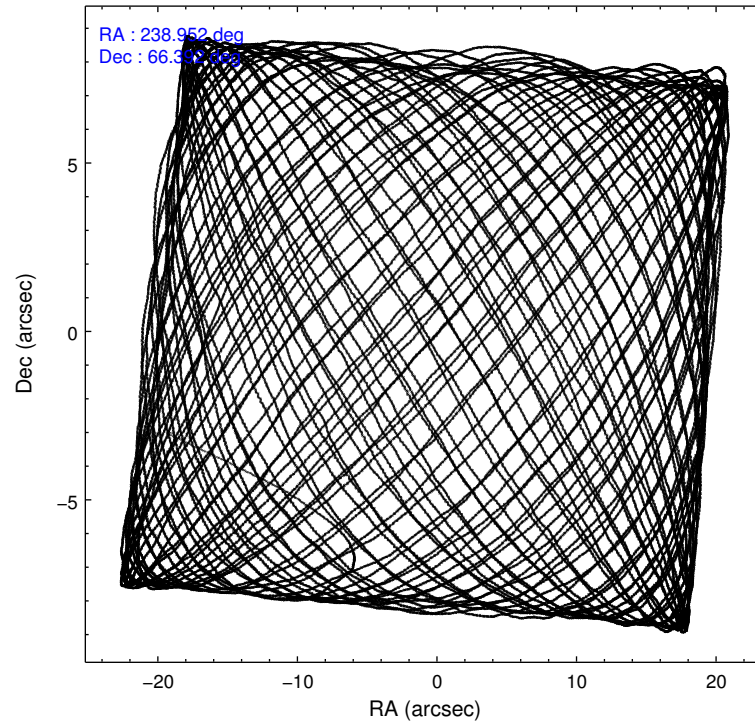
2.1.4 Events

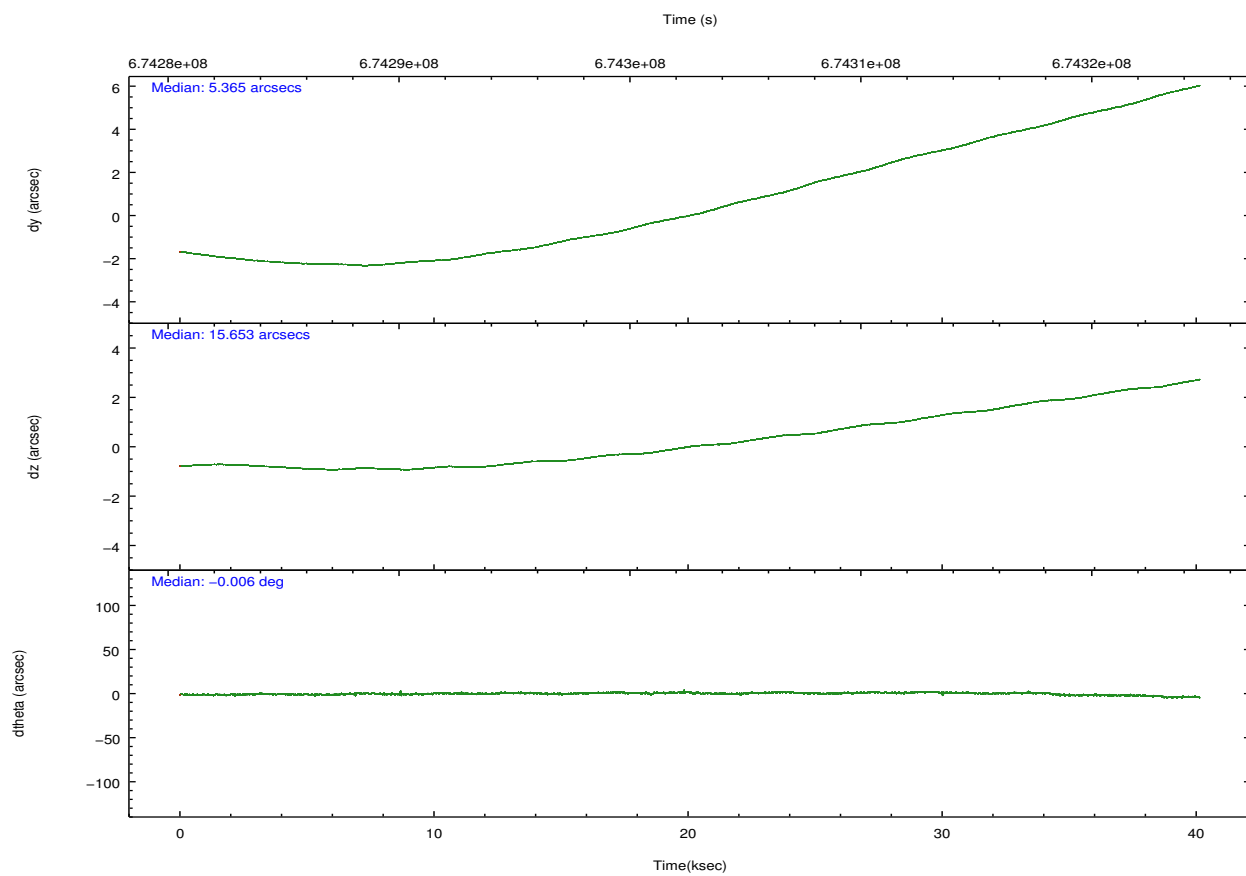
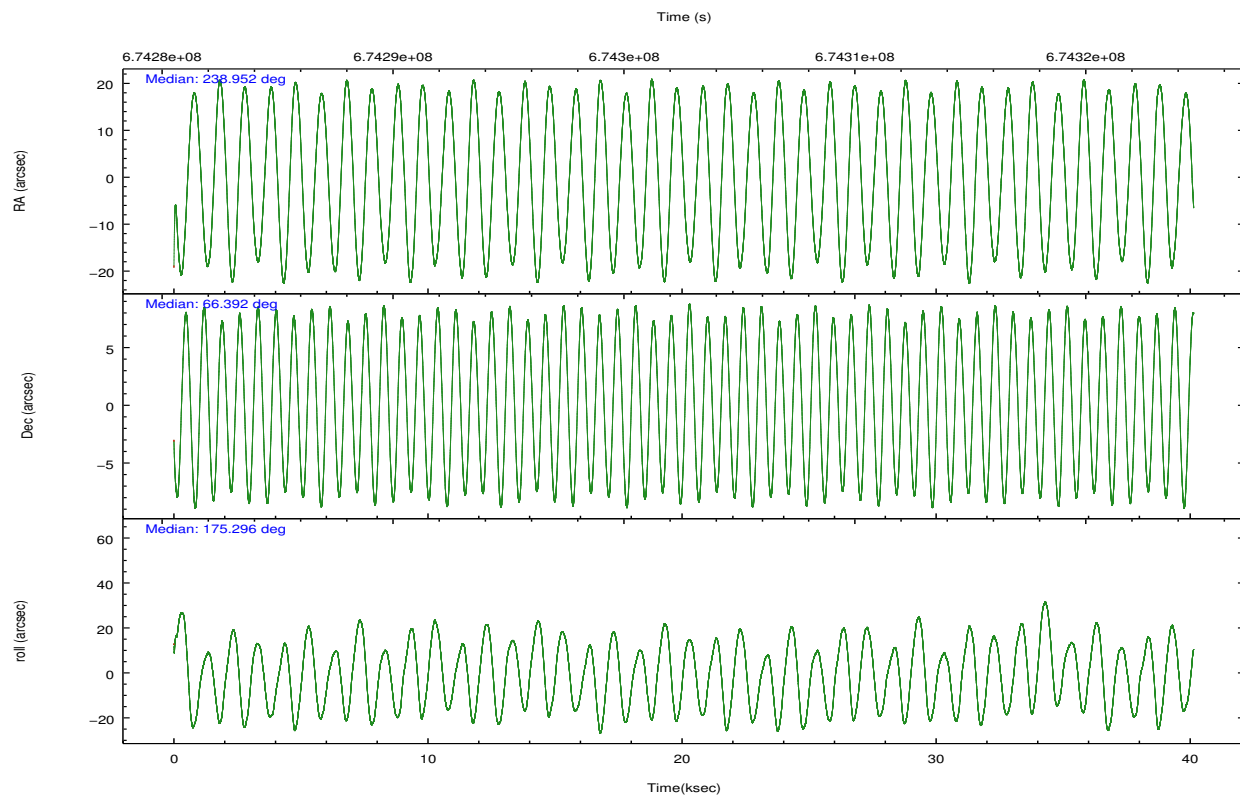
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	264027	274751	289711	301524	292976	grade 0 events	11322	11987	11711	26660	10825
rejected events	230780	238426	257000	250652	260232		4%	4%	4%	8%	3%
rejected %	87%	86%	88%	83%	88%	grade 1 events	165	149	190	248	138
							0%	0%	0%	0%	0%
						grade 2 events	8515	9518	8168	9172	7655
							3%	3%	2%	3%	2%
						grade 3 events	3317	3380	3187	3847	3268
							1%	1%	1%	1%	1%
						grade 4 events	3067	3346	3290	3894	3188
							1%	1%	1%	1%	1%
						grade 5 events	12789	13360	12120	14357	13620
							4%	4%	4%	4%	4%
						grade 6 events	7030	8098	6358	7311	7815
							2%	2%	2%	2%	2%
						grade 7 events	217822	224913	244687	236035	246467
							82%	81%	84%	78%	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	239.013362	238.9511405815506	CCD I2 on	Y	Y
[deg] Pointing Dec	66.403499	66.39163372012071	CCD I3 on	Y	Y
[deg] Pointing Roll	175.043880	175.309572621936	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)	674282641.184000	674281742.85545	CCD S5 on	N	N
Observation start date	2019-05-15T04:42:52	2019-05-15T04:29:02	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	674322641.184000	674323420.3829499	On-chip summing requested	N	N
Observation end date	2019-05-15T15:49:32	2019-05-15T16:03:40	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



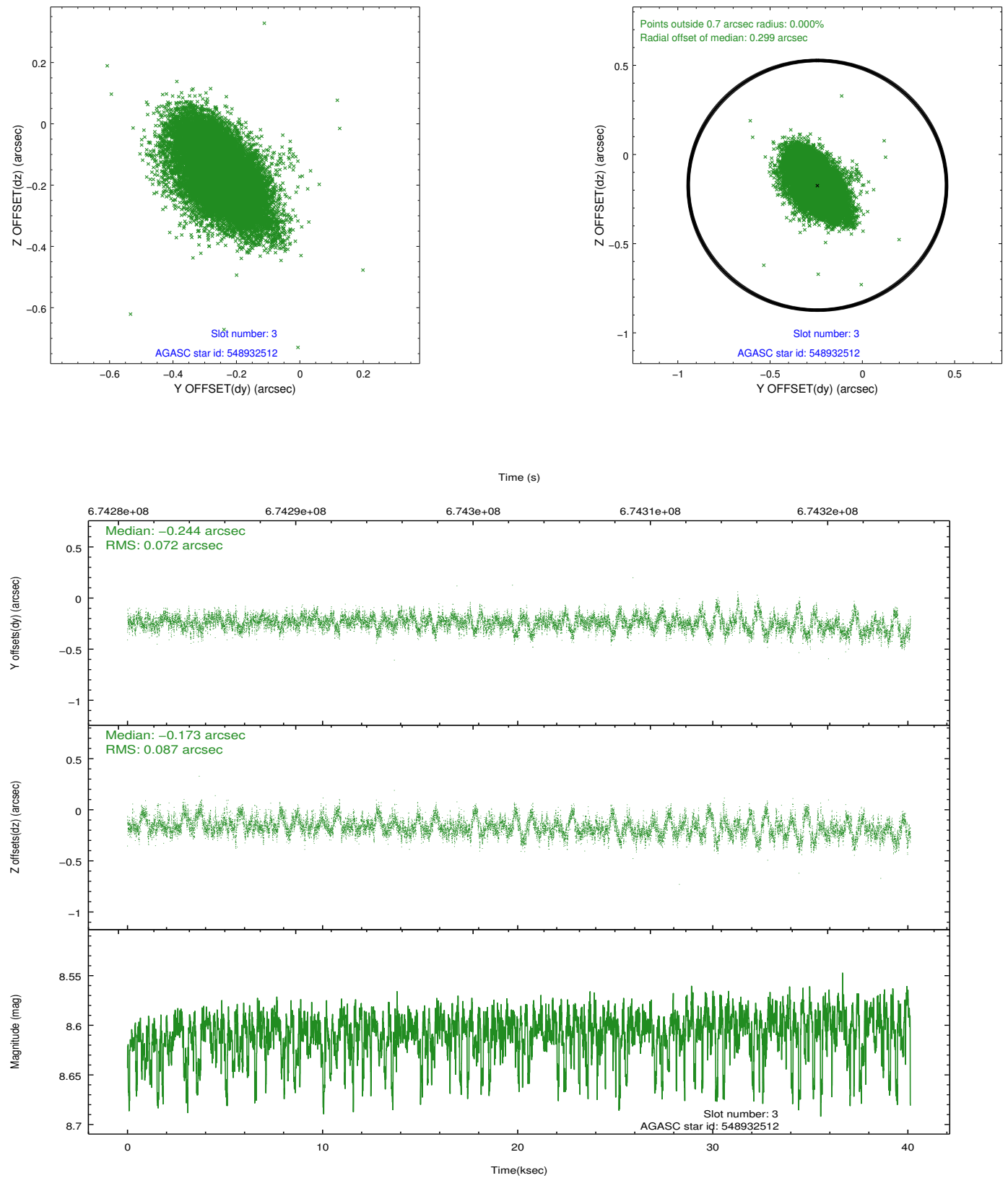


Slot Statistics

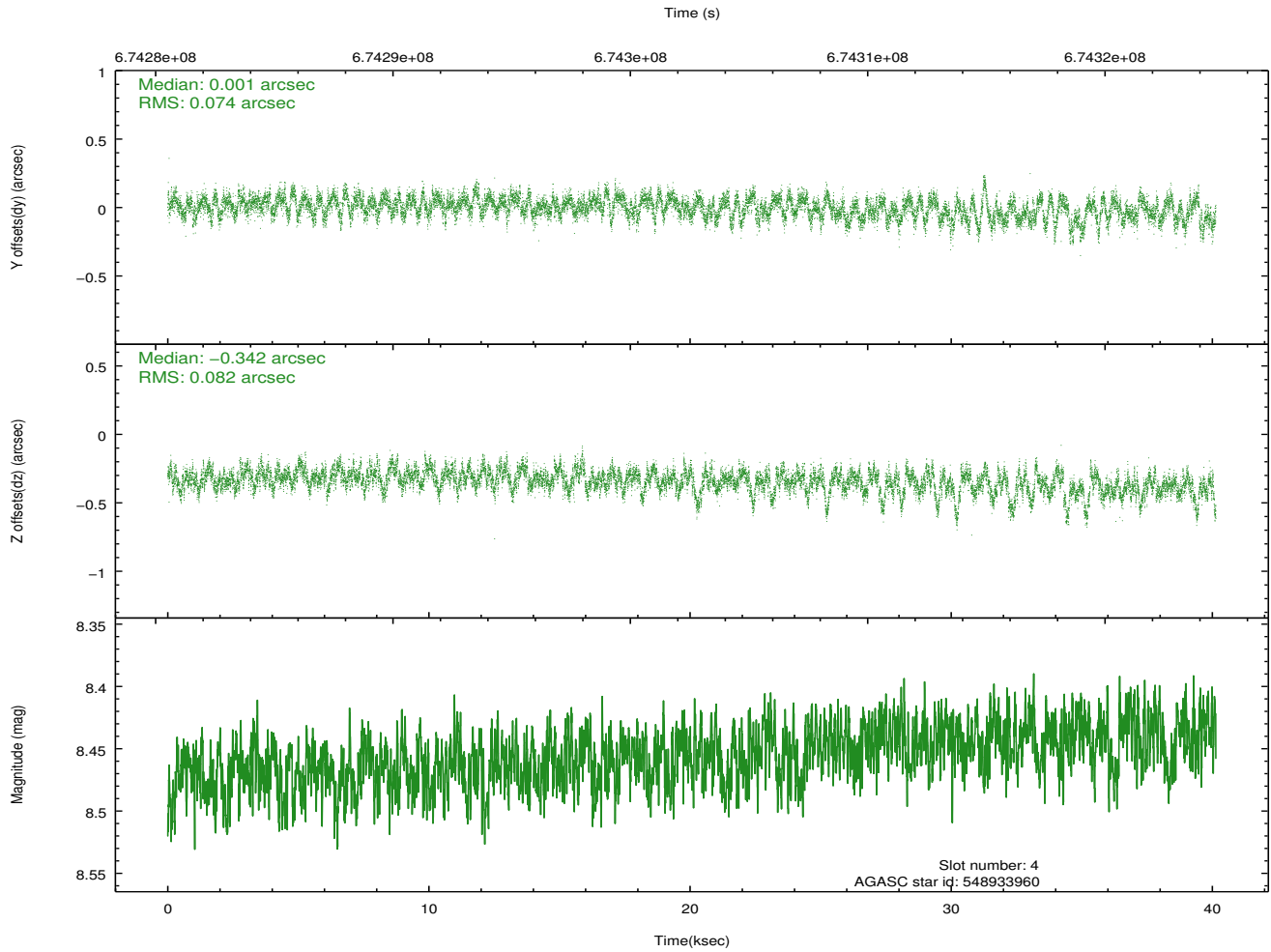
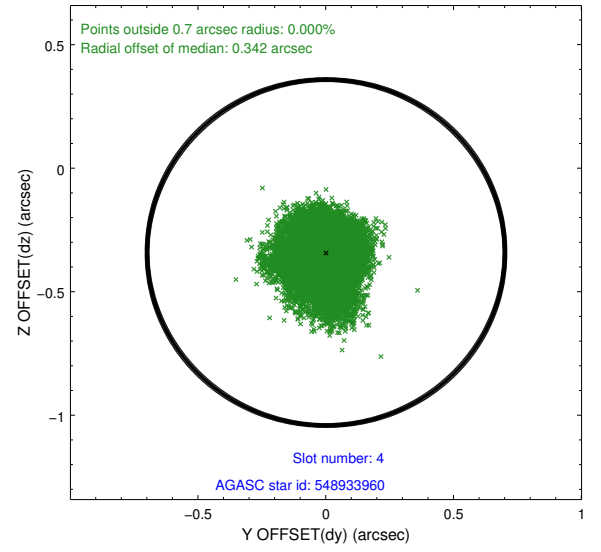
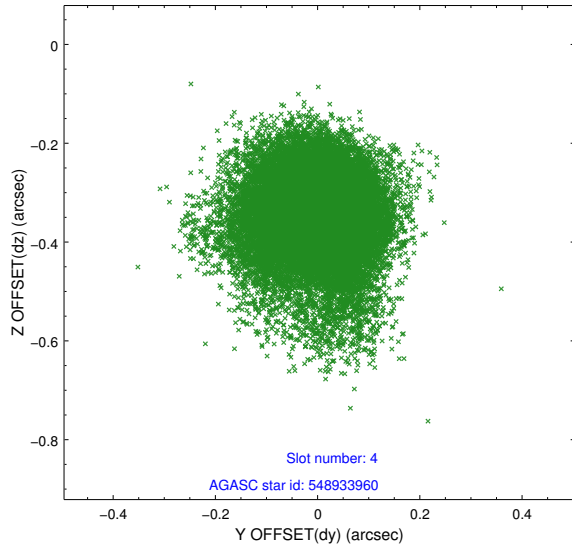
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.14	9788	1.000	0.108	-0.105	0.038	0.065	0.000000	0.000000	933.82	-839
1	FID		ACIS-I-5	7.10	9788	1.000	-0.417	0.039	0.027	0.035	0.000000	0.000000	-1814.96	1057
2	FID		ACIS-I-6	7.11	9789	1.000	0.213	0.135	0.043	0.063	0.000000	0.000000	399.25	1702
3	GUIDE	used	548932512	8.61	19562	1.000	-0.244	-0.173	0.117	0.207	239.727627	66.054972	-1147.68	1153
4	GUIDE	used	548933960	8.45	19562	1.000	0.001	-0.342	0.115	0.196	237.671184	66.428675	1934.95	58
5	GUIDE	used	548937184	9.86	19432	1.000	-0.058	0.291	0.236	0.428	238.771821	66.565432	395.43	-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	19504	1.000	0.314	0.223	0.181	0.281	240.420863	66.802816	-1860.76	-1626

2.4 Star Slots

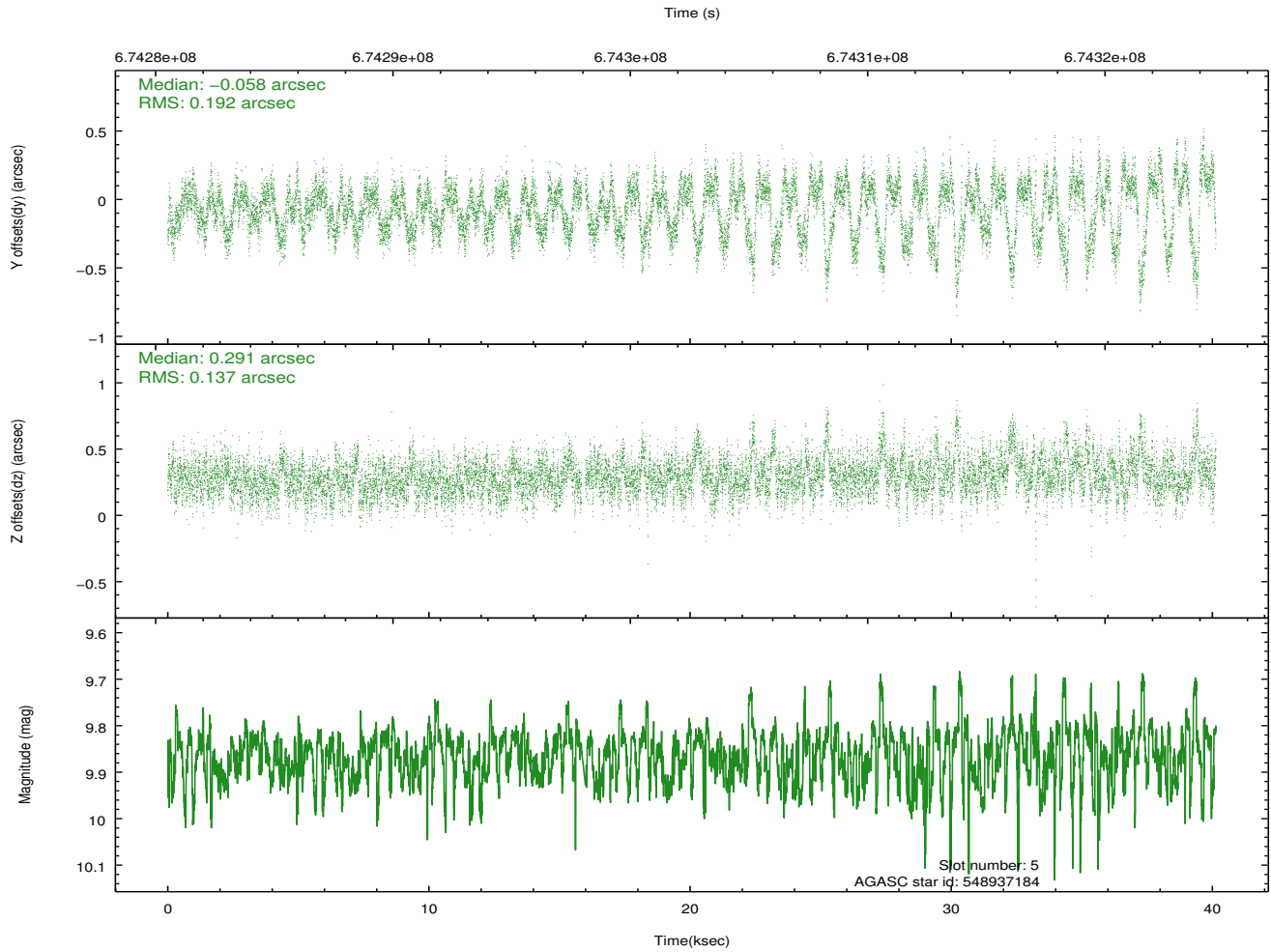
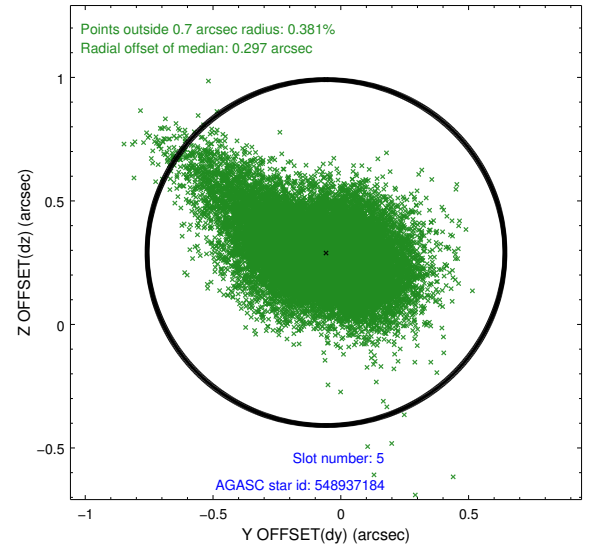
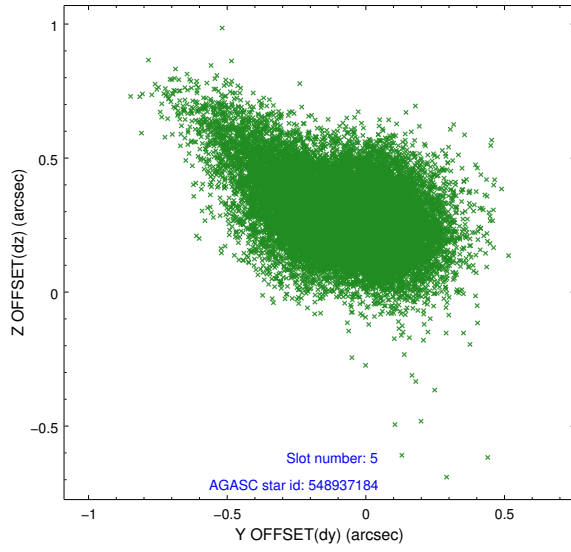
2.4.1 Slot 3



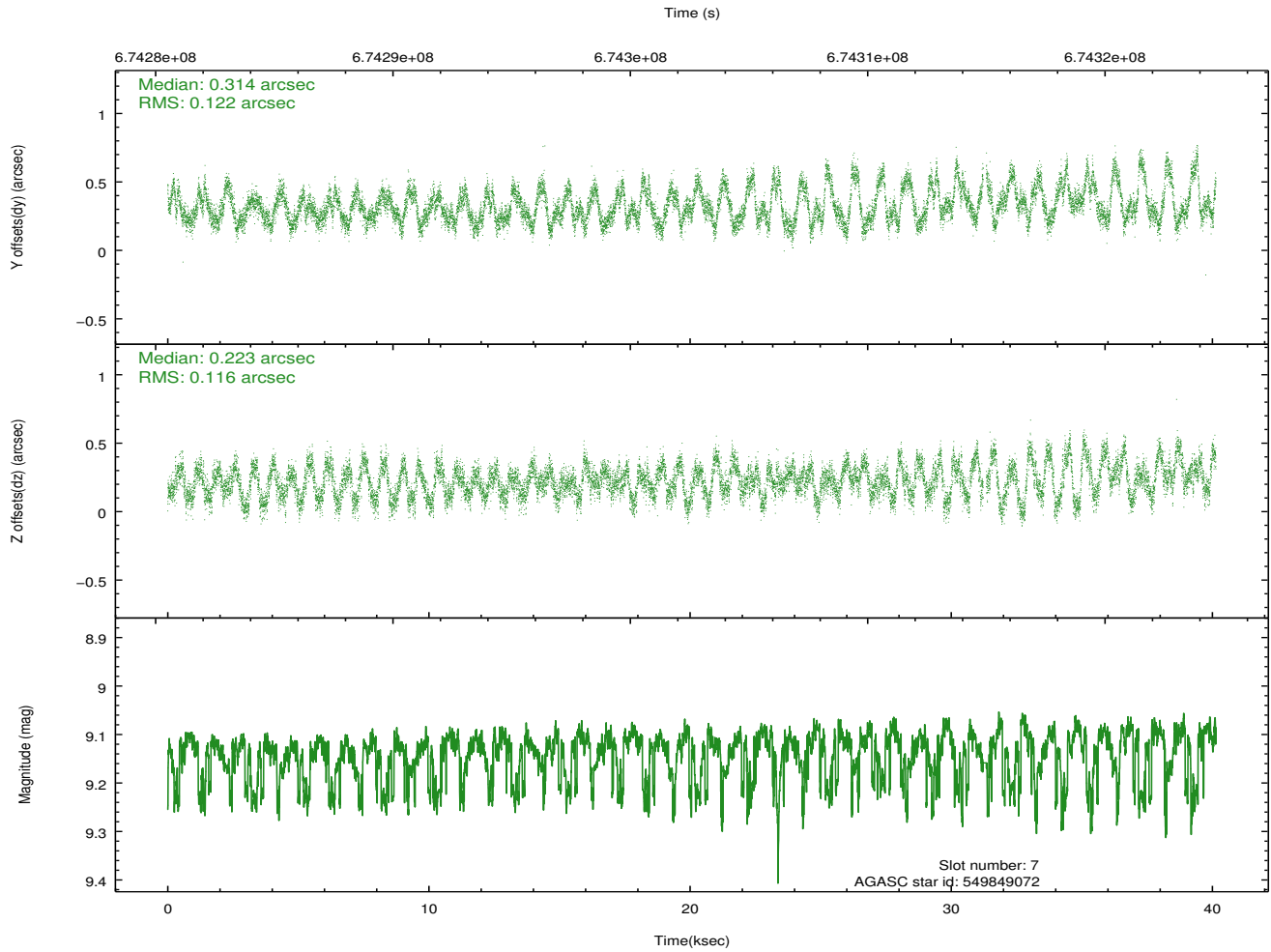
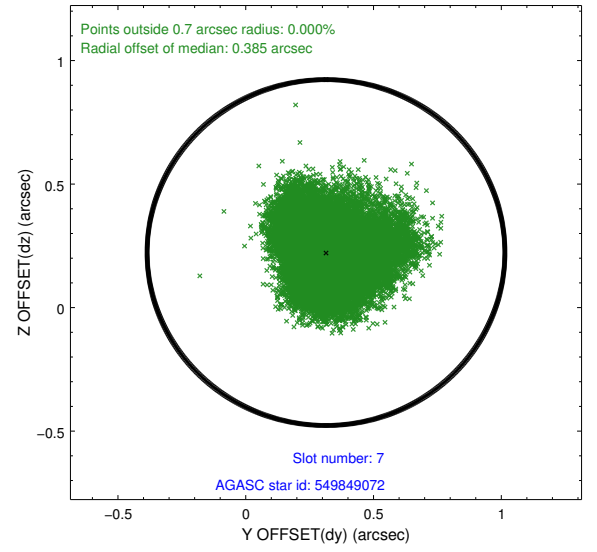
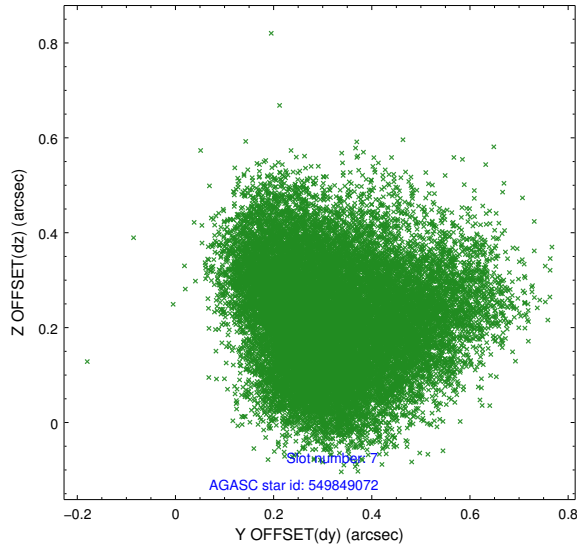
2.4.2 Slot 4



2.4.3 Slot 5

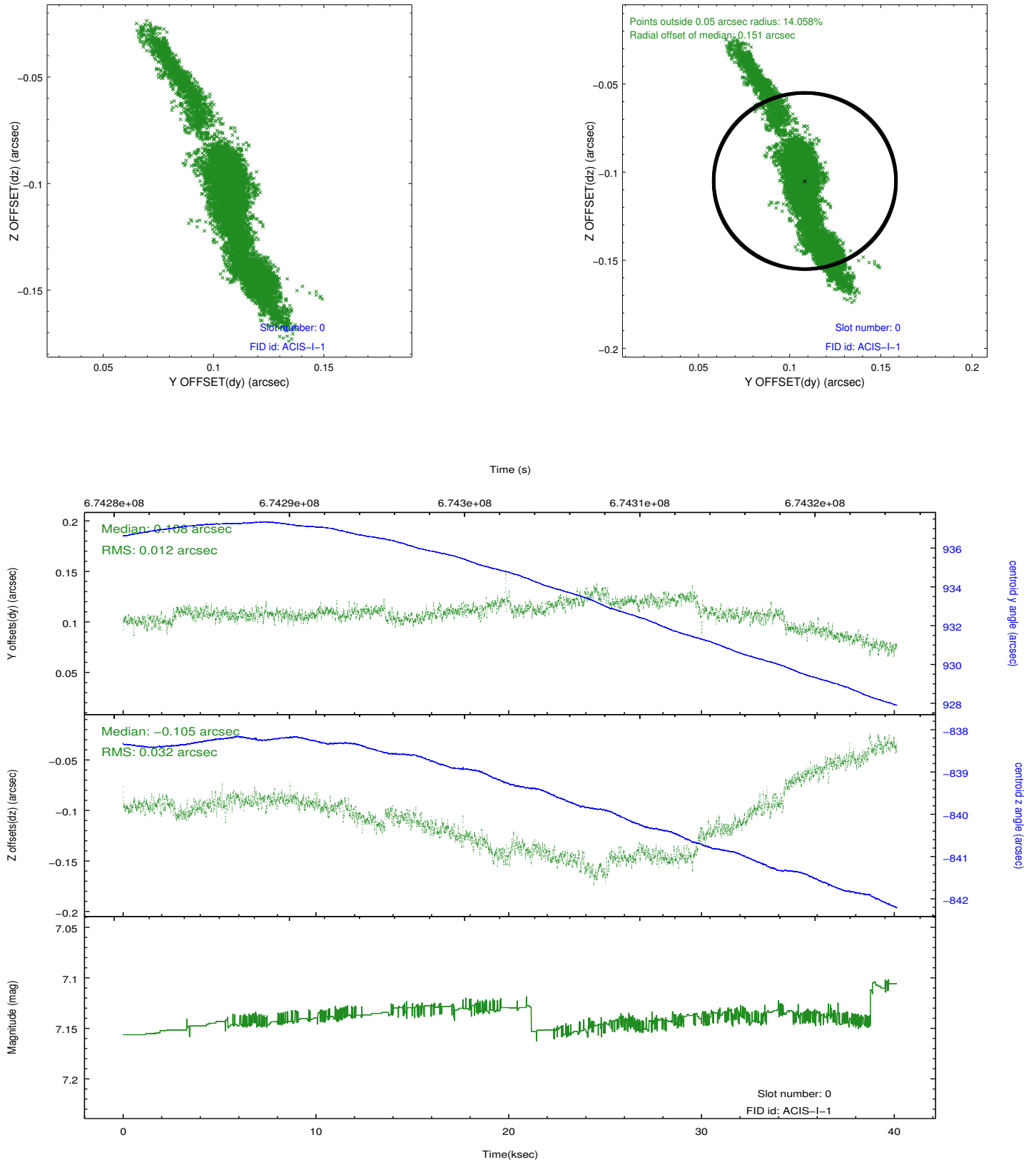


2.4.4 Slot 7

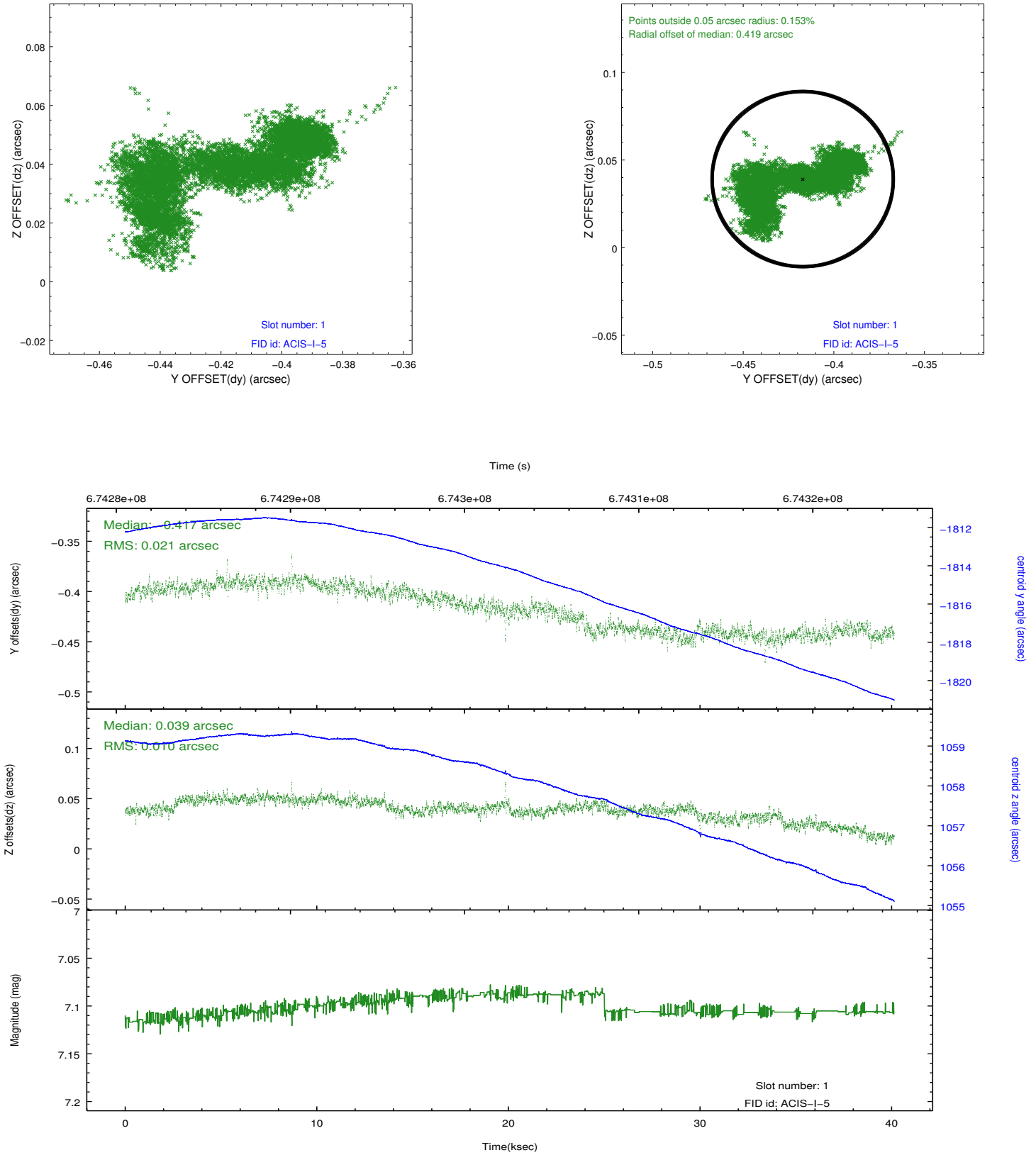


2.5 FID Slots

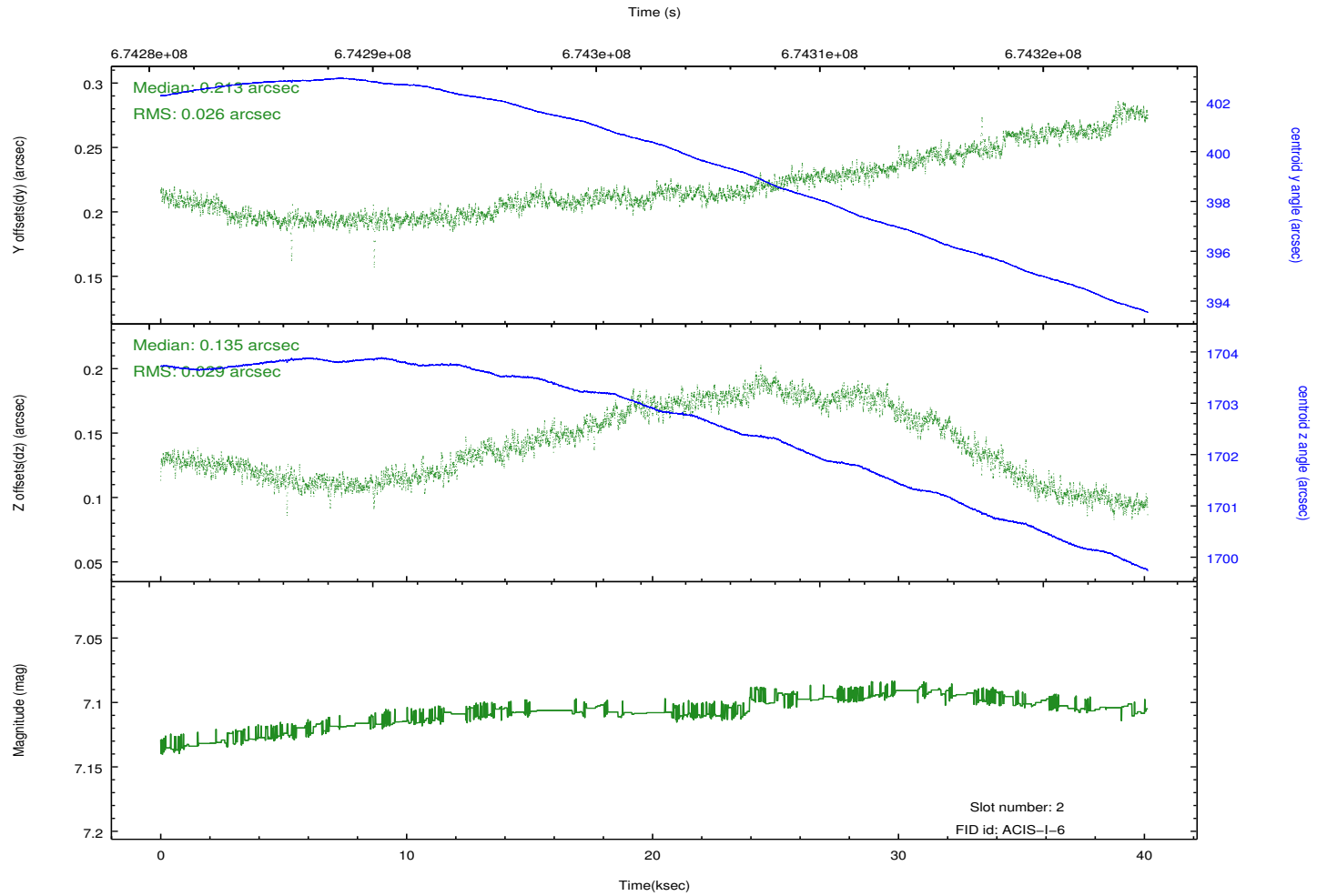
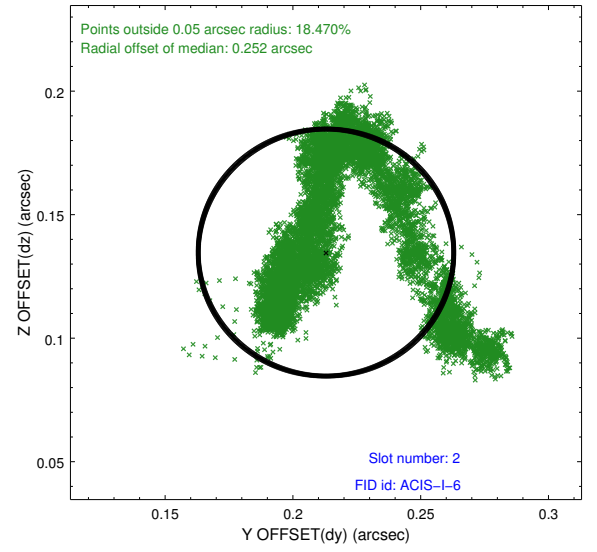
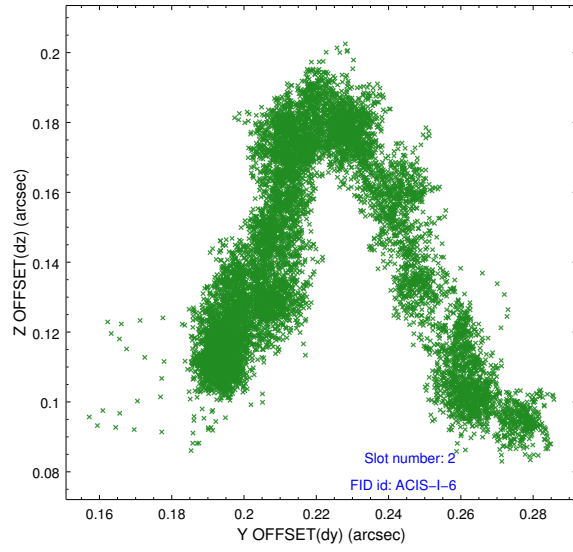
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2019.05.17
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	40.067459328055

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 guide star from the solution.