

V&V Reference Report

L2 ASCDS Version : 10.7.1

Observation 20554 - L2 Version 2
Chandra X-Ray Center

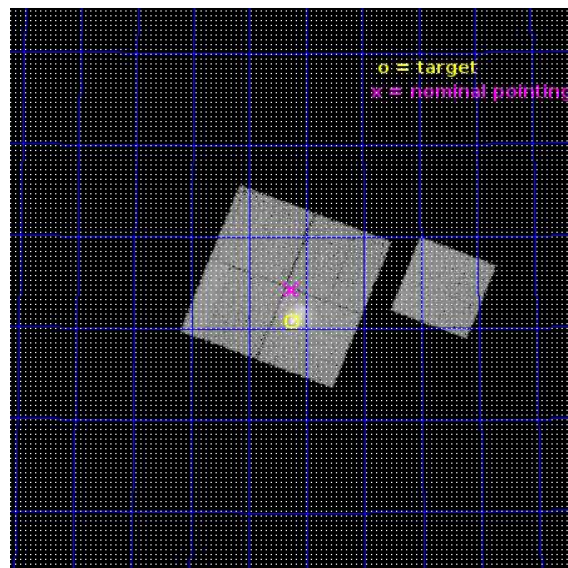
L2 Processing Date : Mar 19 2019

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1 Front

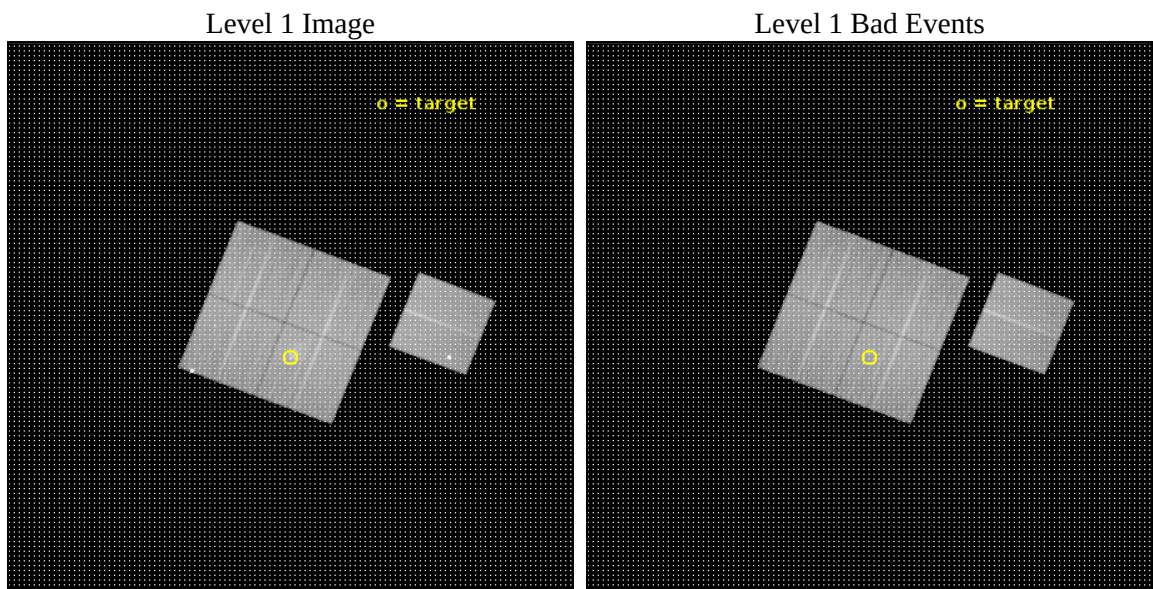
seq_num	801762	Sequence number
obs_id	20554	Observation id
title	Shock structure, the electron-ion equilibration timescale and the disintegrating cool core in A2146	Proposal title
observer	Helen Russell	Principal investigator
object	Abell 2146	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	239.06125	Observer's specified target RA [deg]
dec_targ	66.346917	Observer's specified target Dec [deg]
ra_nom	239.06497455968	Nominal RA [deg]
dec_nom	66.404771710018	Nominal Dec [deg]
roll_nom	111.20529144944	Nominal Roll [deg]
revision	2	Processing version of data
ontime	35265.559241176	Sum of GTIs [s]
livetime	34804.788747563	Livetime [s]
ontime0	35265.559191227	Sum of GTIs [s]
ontime1	35259.277210832	Sum of GTIs [s]
ontime2	35268.700271368	Sum of GTIs [s]
ontime3	35265.559241176	Sum of GTIs [s]
ontime6	35265.559251189	Sum of GTIs [s]
l2events	141117	Number of level 2 events



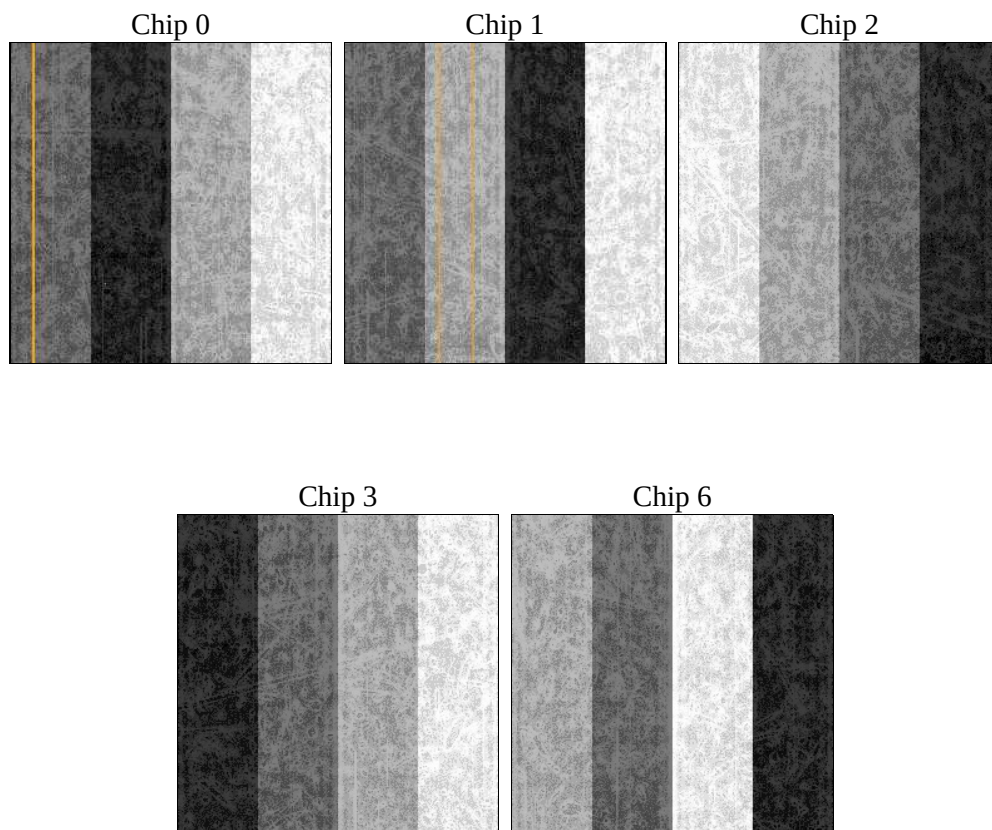
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	35203.323000	[s] Scheduled observation exposure time
ascdsver	10.7.1	Processing system revision	ontime	35265.559241176	Sum of GTIs [s]
caldsver	4.8.2	 	ontime0	35265.559191227	Sum of GTIs [s]
date	2019-03-19T20:53:32	Date and time of file creation	ontime1	35259.277210832	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	35268.700271368	Sum of GTIs [s]
			ontime3	35265.559241176	Sum of GTIs [s]
			ontime6	35265.559251189	Sum of GTIs [s]
			l1events	1371129	Number of level 1 events

2.1.4 Events

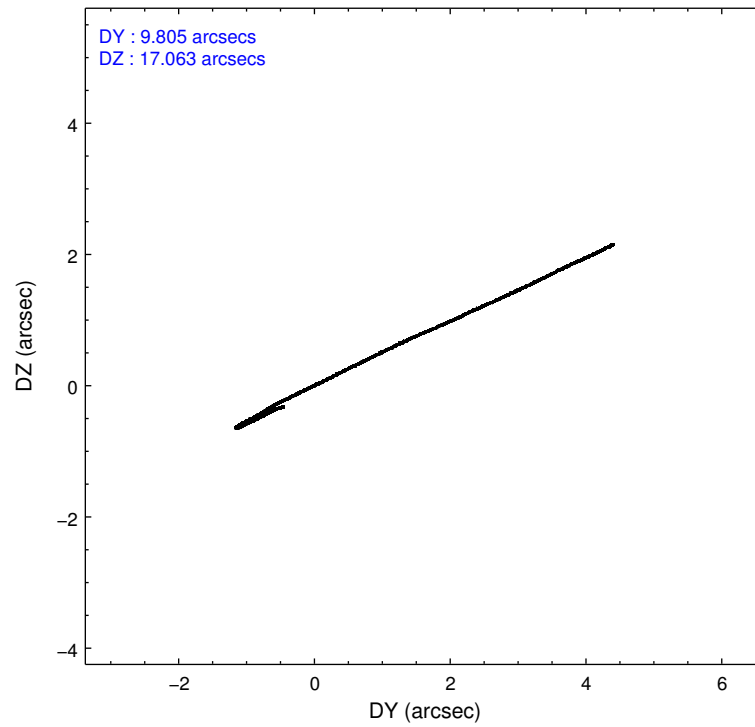
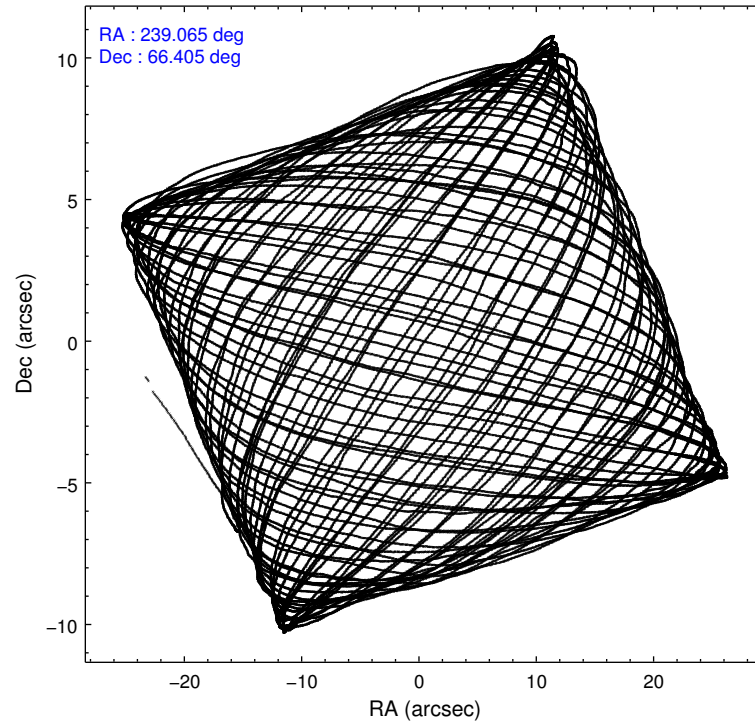
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	253670	269126	275867	284785	287681
rejected events	224424	225254	247422	240629	247178
rejected %	88%	83%	89%	84%	85%

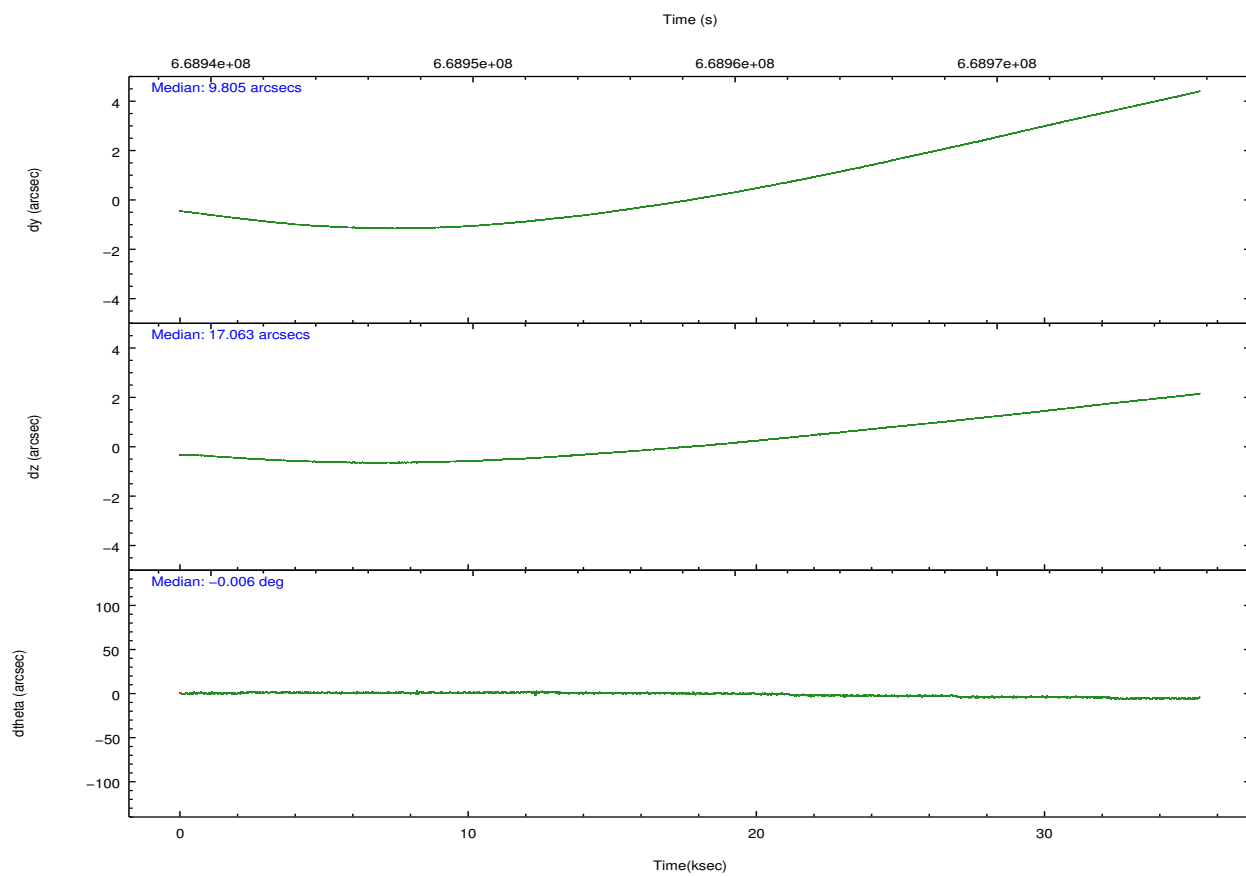
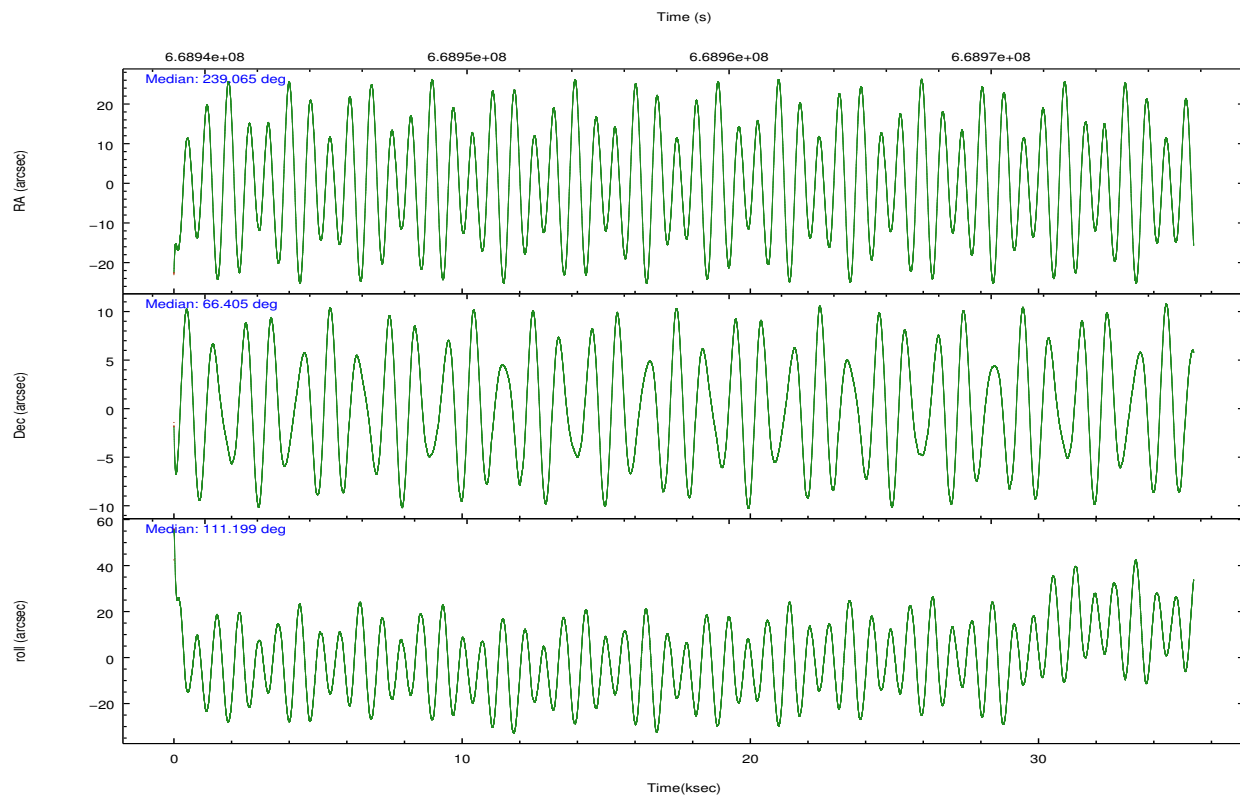
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	9573	21322	10249	22595	19690
	3%	7%	3%	7%	6%
grade 1 events	118	171	150	202	155
	0%	0%	0%	0%	0%
grade 2 events	7513	9011	6853	8006	7580
	2%	3%	2%	2%	2%
grade 3 events	2901	3001	2734	3559	2773
	1%	1%	0%	1%	0%
grade 4 events	2733	2826	2825	3445	2723
	1%	1%	1%	1%	0%
grade 5 events	11156	11472	10522	12418	11650
	4%	4%	3%	4%	4%
grade 6 events	6527	7724	5789	6565	7747
	2%	2%	2%	2%	2%
grade 7 events	213149	213599	236745	227995	235363
	84%	79%	85%	80%	81%

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	239.118836	239.0649745596825	CCD I2 on	Y	Y
[deg] Pointing Dec	66.387550	66.40477171001764	CCD I3 on	Y	Y
[deg] Pointing Roll	110.947245	111.2052914494373	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)	668940784.184000	668939765.92316	CCD S5 on	N	N
Observation start date	2019-03-14T08:51:55	2019-03-14T08:36:05	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	668975987.184000	668976782.77538	On-chip summing requested	N	N
Observation end date	2019-03-14T18:38:38	2019-03-14T18:53:02	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



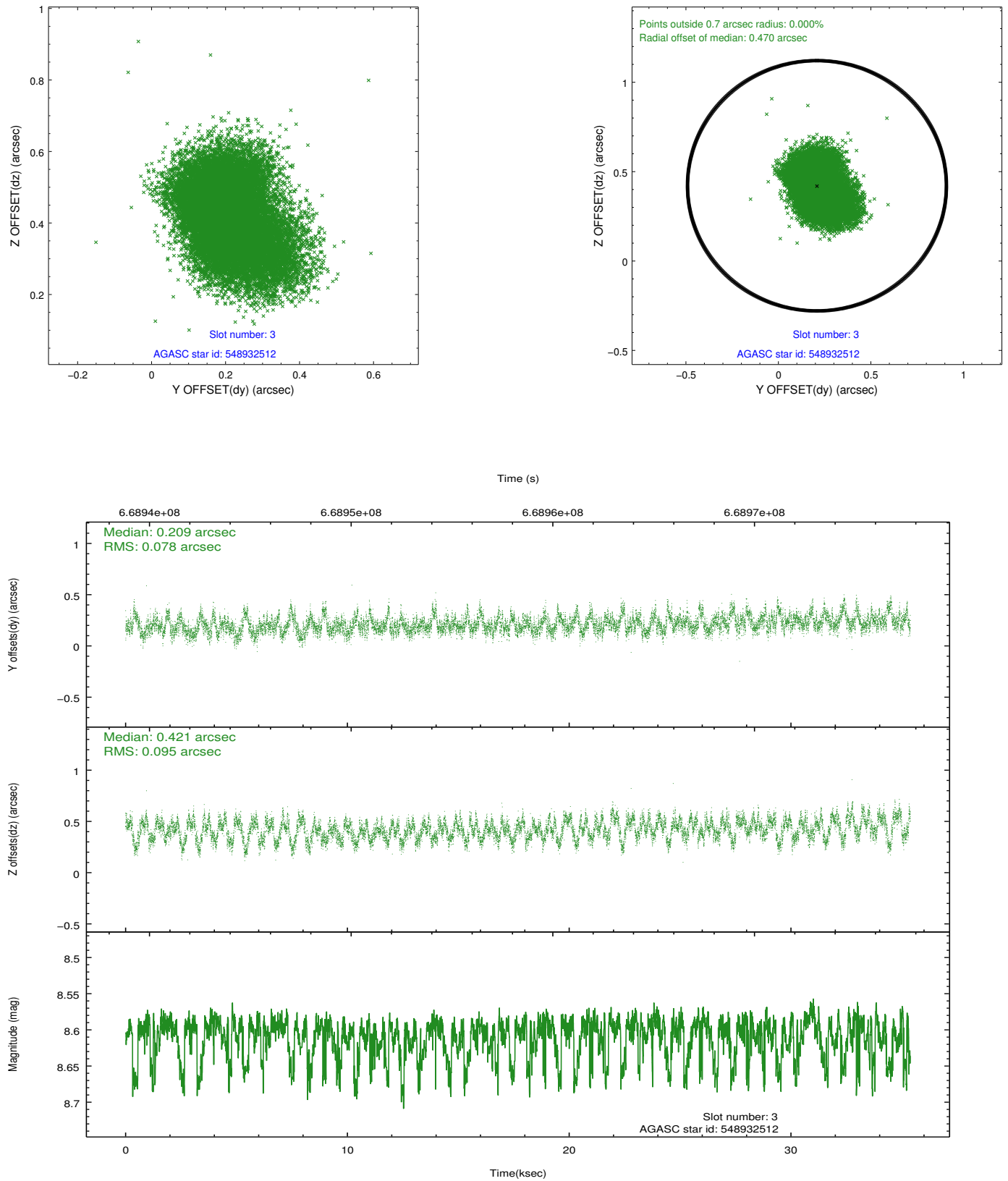


Slot Statistics

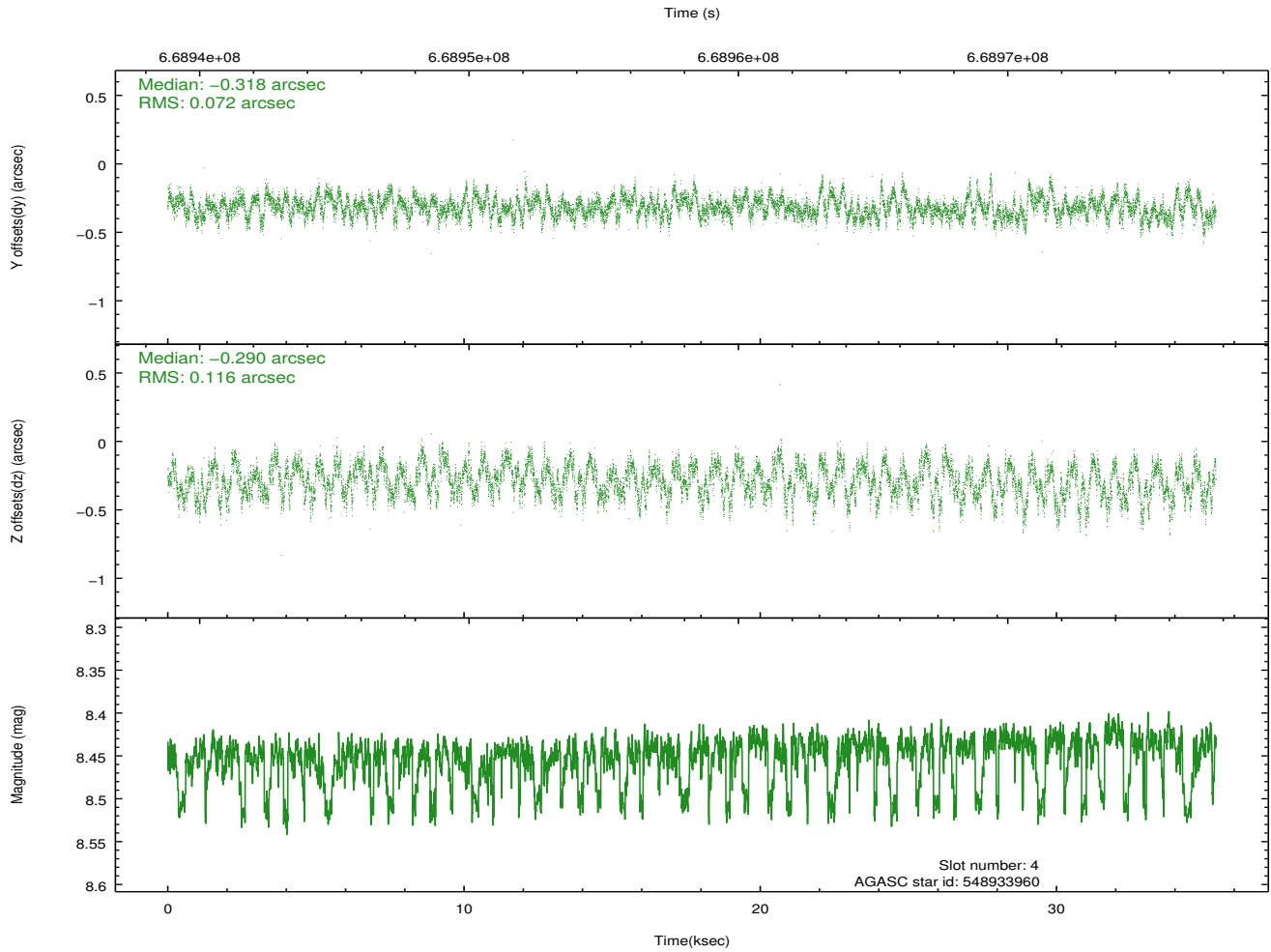
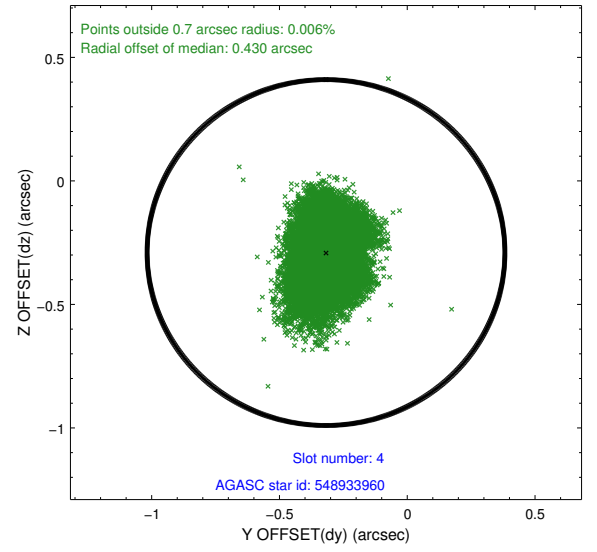
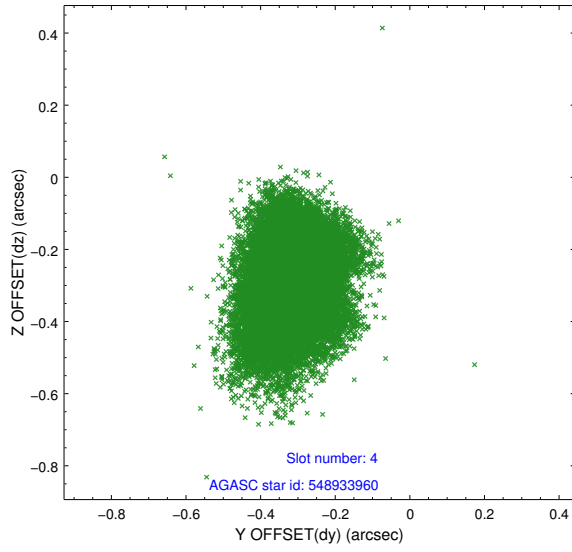
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.27	8631	1.000	0.108	-0.121	0.057	0.083	0.000000	0.000000	929.30	-841
1	FID		ACIS-I-5	7.25	8628	1.000	-0.473	0.020	0.011	0.030	0.000000	0.000000	-1819.52	1056
2	FID		ACIS-I-6	7.23	8629	1.000	0.271	0.168	0.054	0.071	0.000000	0.000000	394.77	1701
3	GUIDE	used	548932512	8.61	17249	1.000	0.209	0.421	0.130	0.213	239.727627	66.054972	-1431.31	-404
4	GUIDE	used	548933960	8.45	17254	1.000	-0.318	-0.290	0.147	0.231	237.671184	66.428675	904.28	1885
5	GUIDE	used	548937184	9.81	16992	1.000	0.000	-0.377	0.345	0.550	238.771821	66.565432	777.04	234
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	9.15	17231	1.000	0.130	0.240	0.215	0.342	240.420863	66.802816	754.68	-2264

2.4 Star Slots

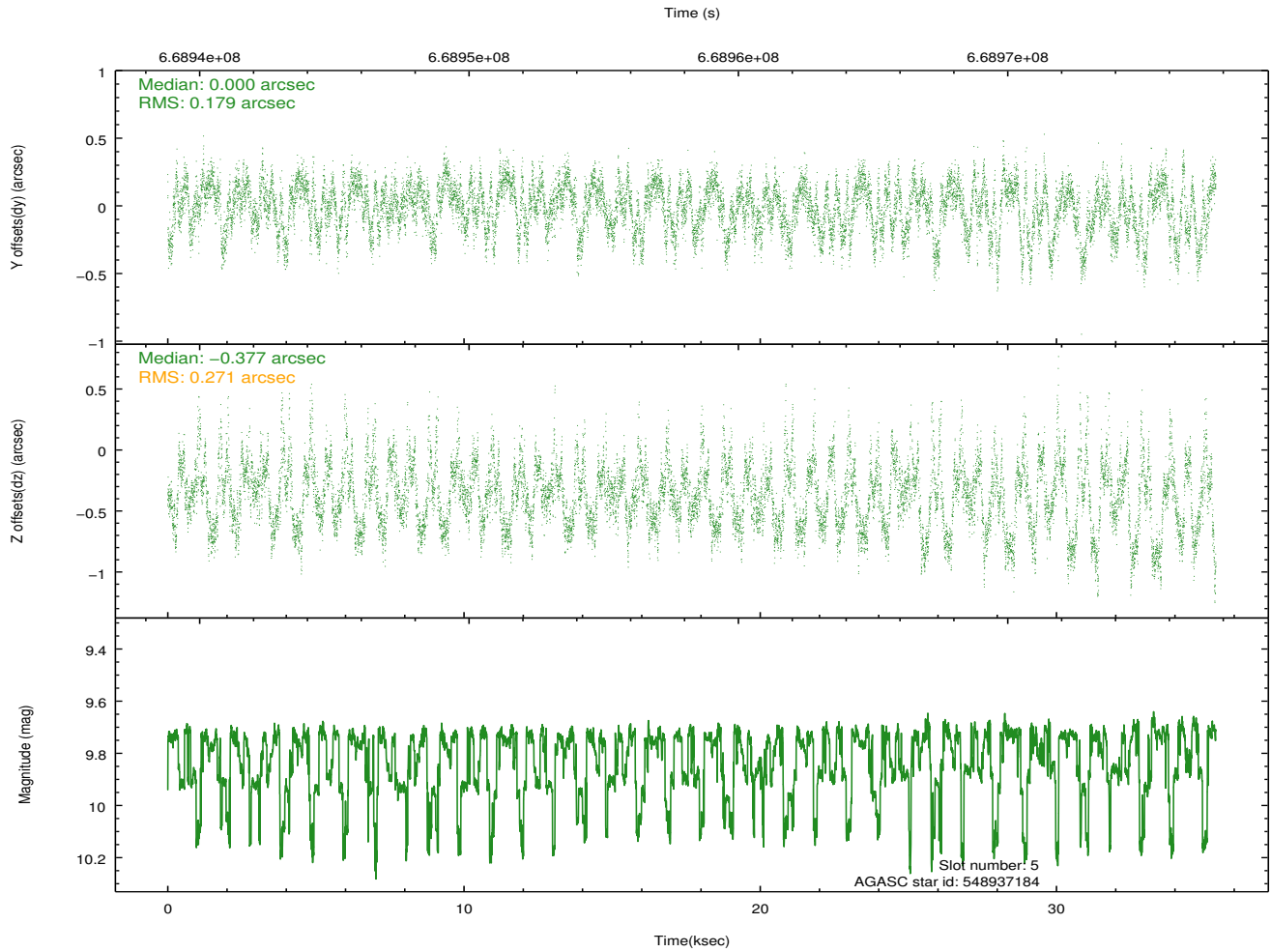
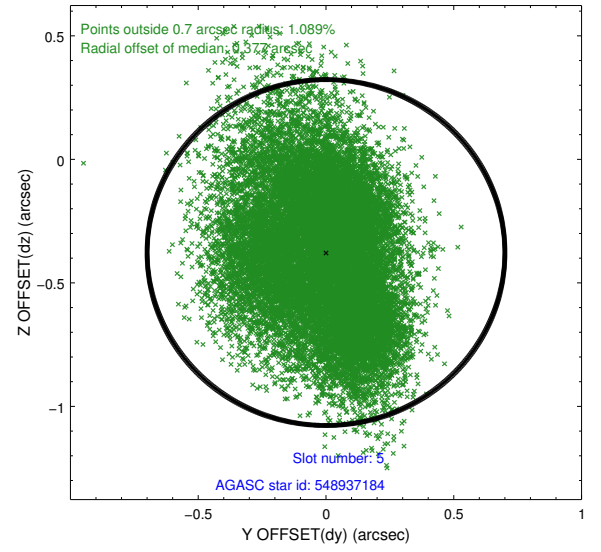
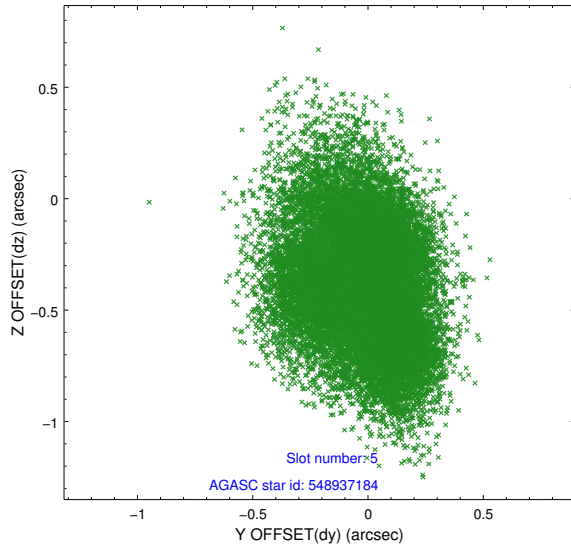
2.4.1 Slot 3



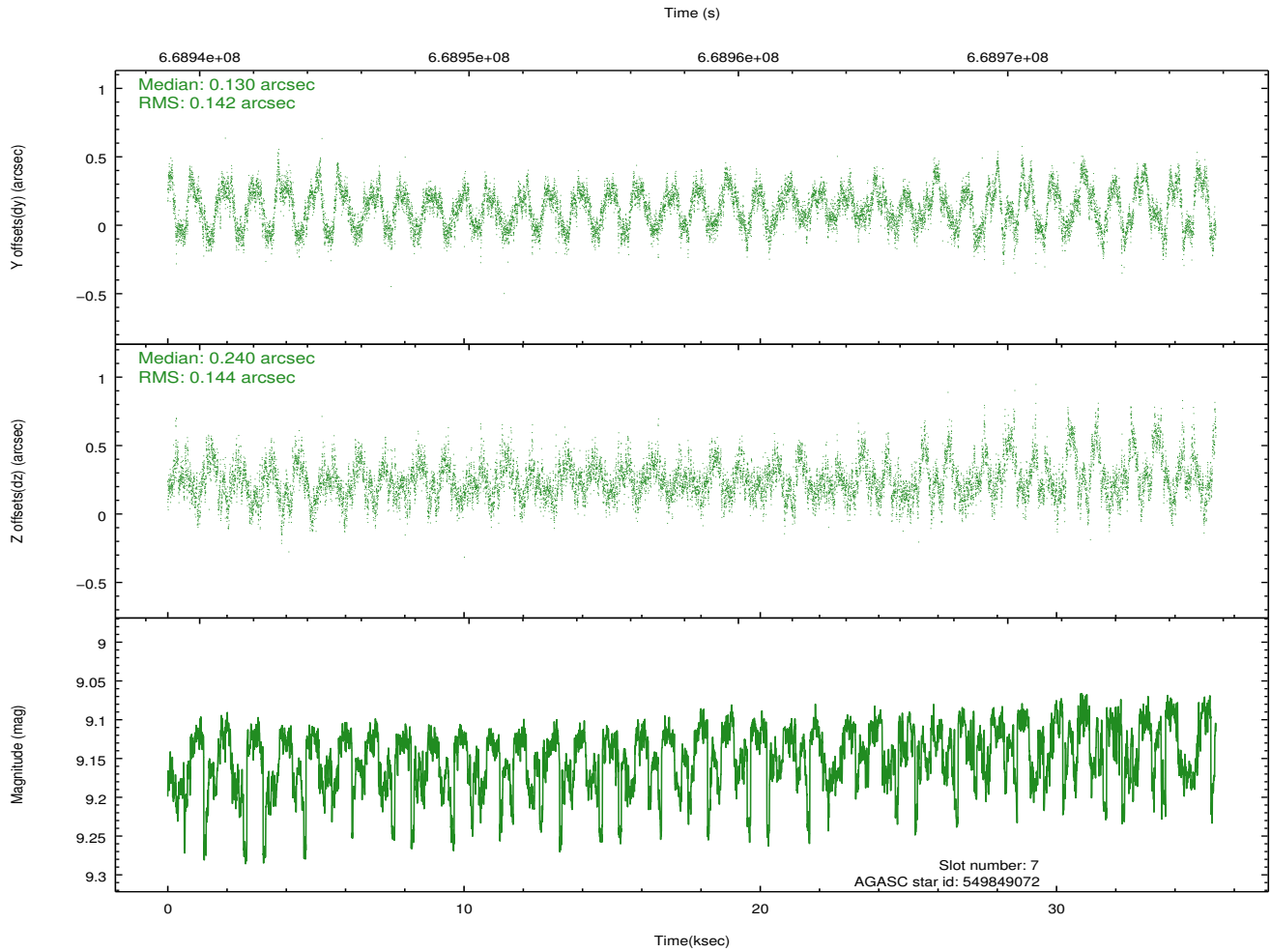
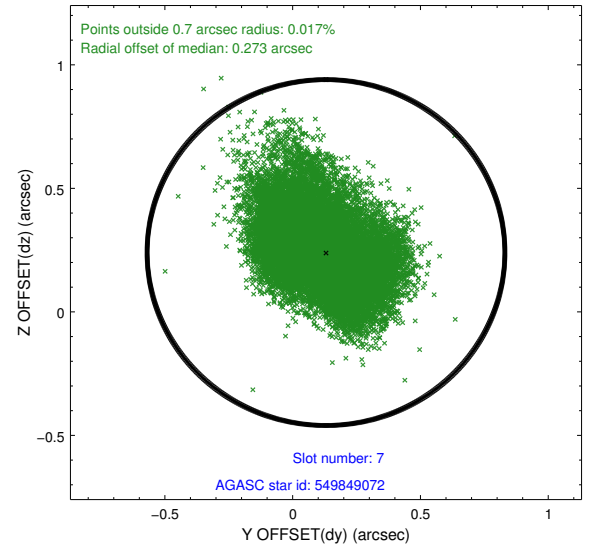
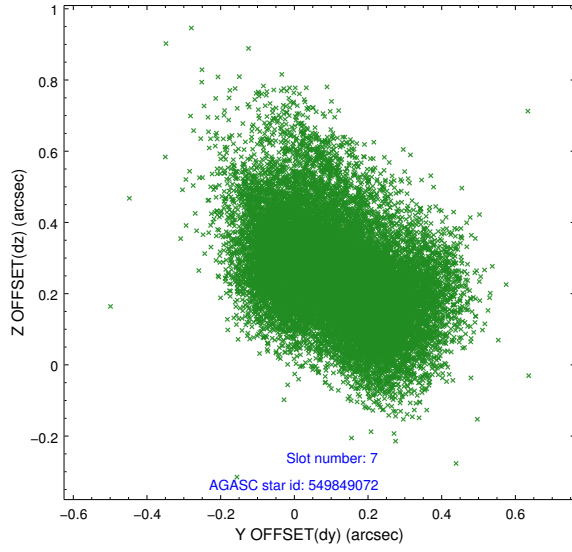
2.4.2 Slot 4



2.4.3 Slot 5

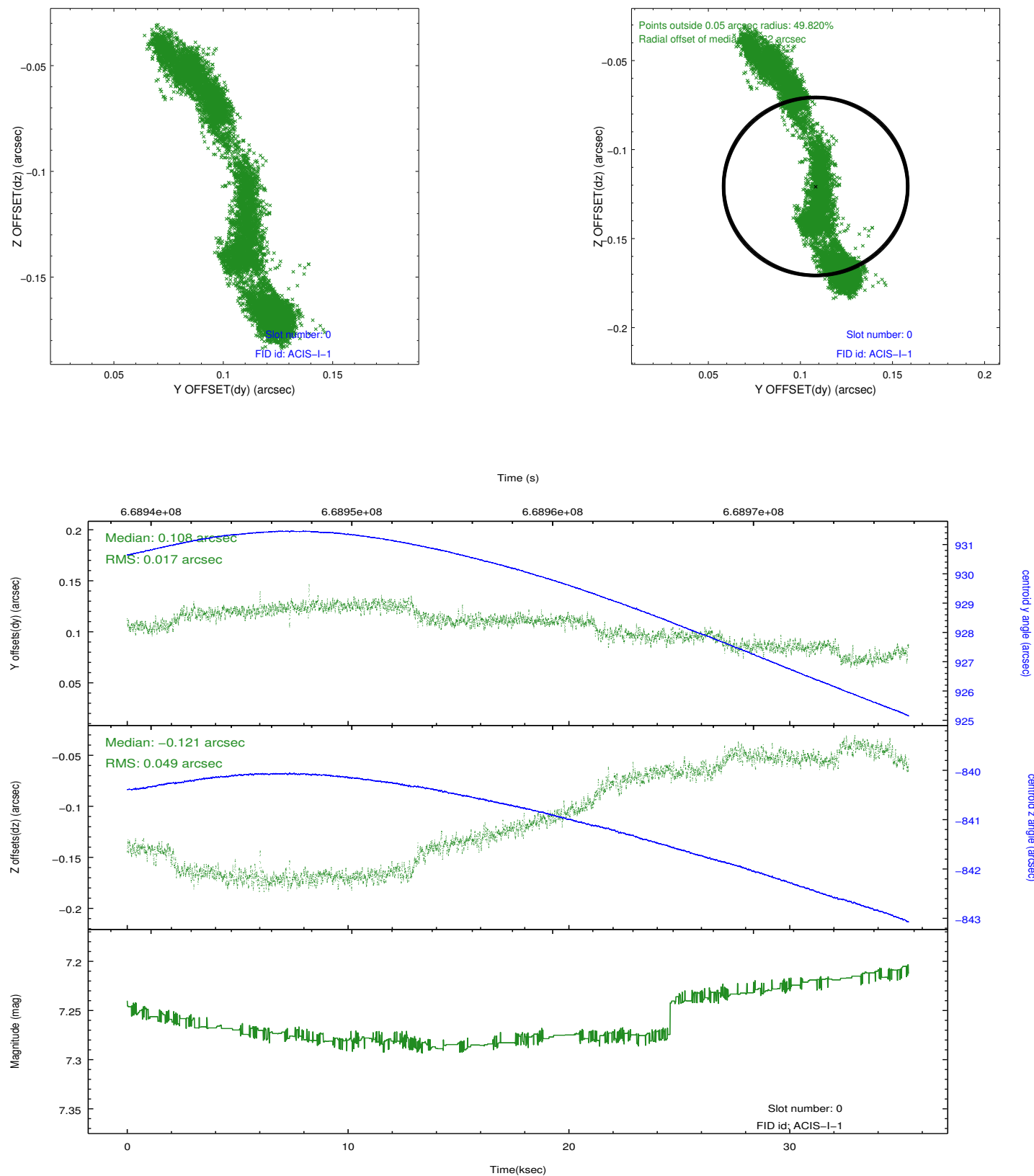


2.4.4 Slot 7

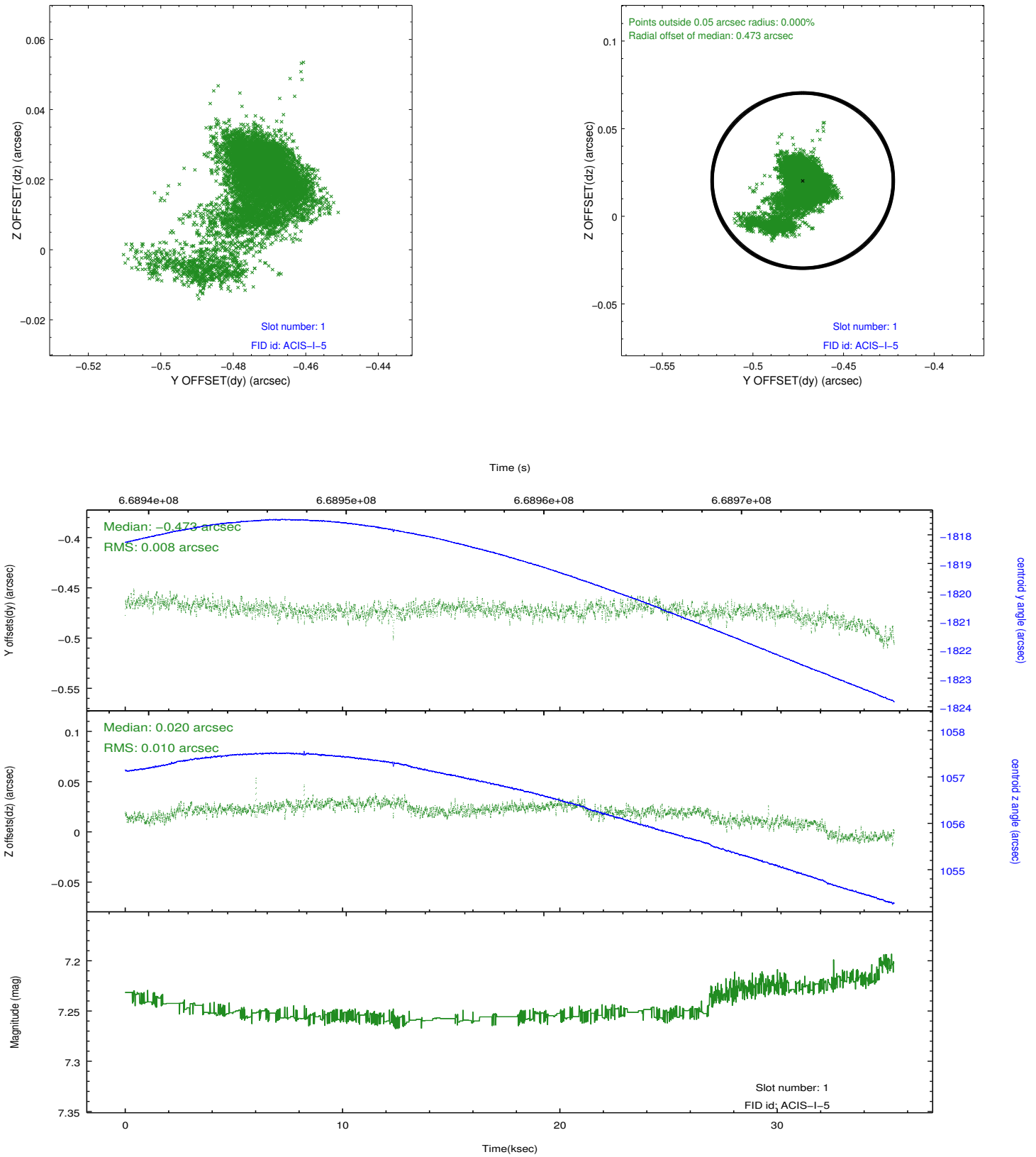


2.5 FID Slots

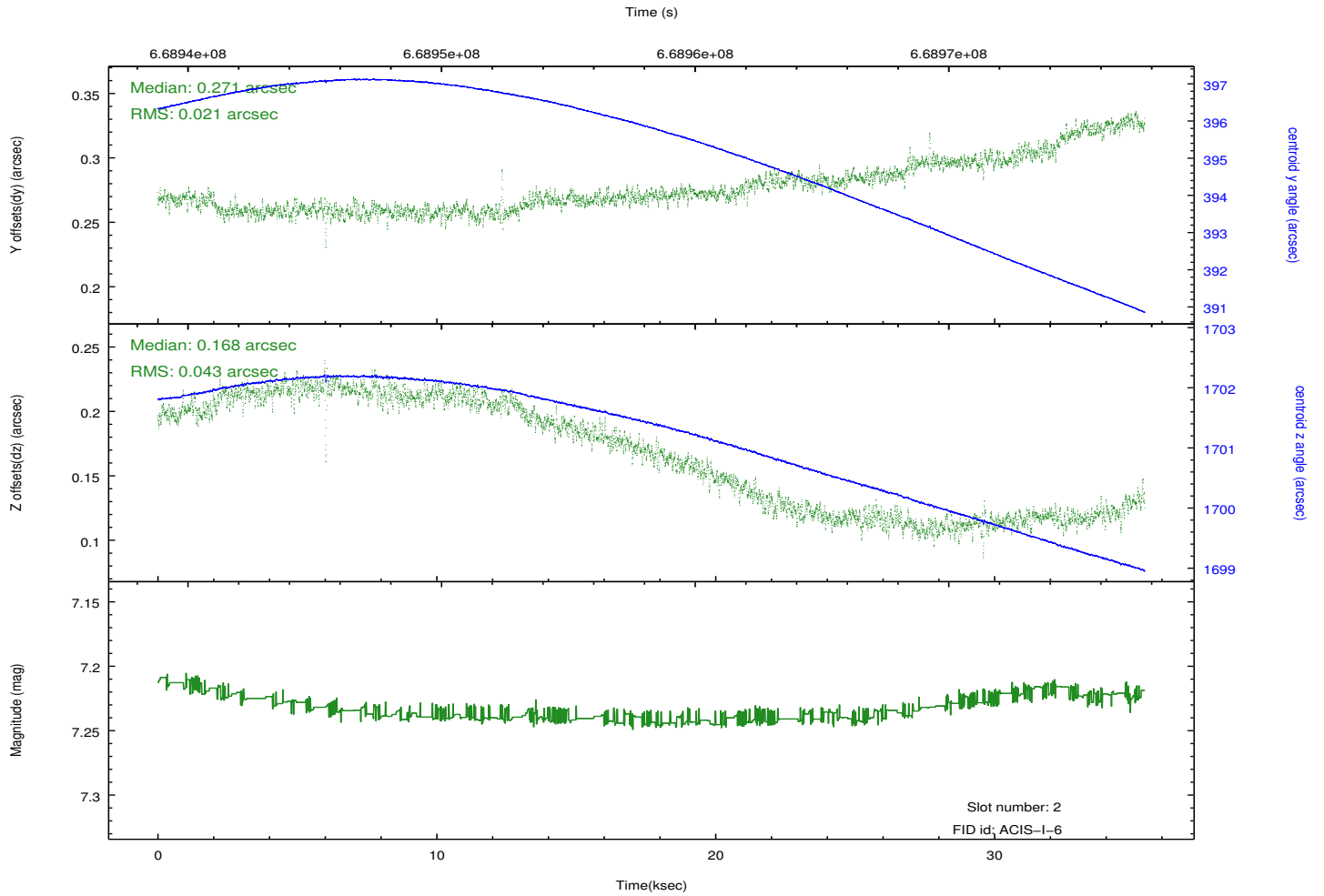
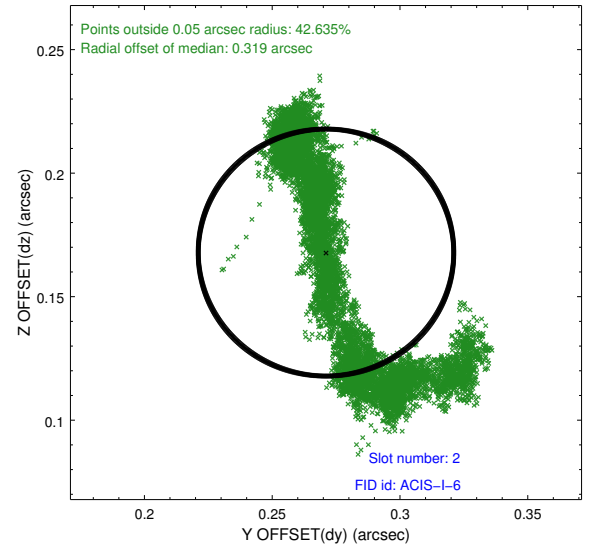
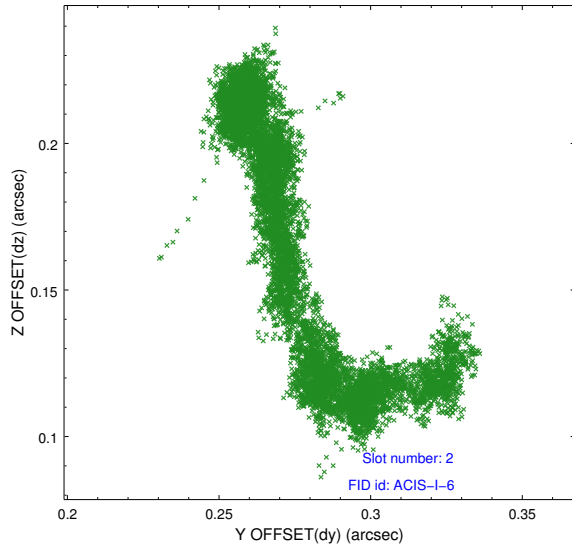
2.5.1 Slot 0



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)	2019.03.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	35.265559241176

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.