

V&V Reference Report

L2 ASCDS Version : 10.7

Observation 21996 - L2 Version 1
Chandra X-Ray Center

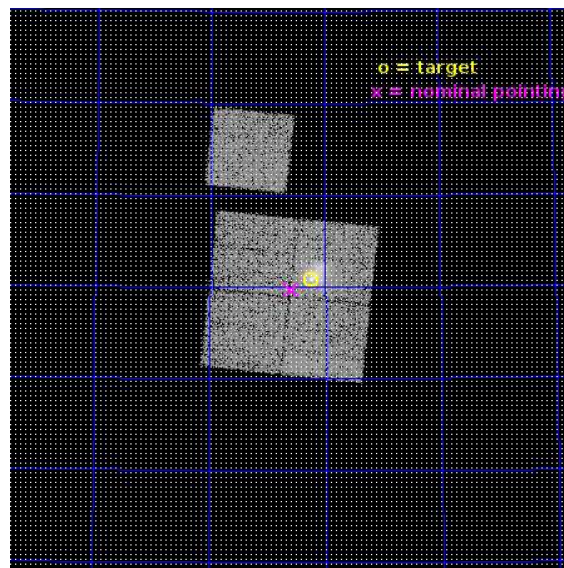
L2 Processing Date : Dec 7 2018

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1 Front

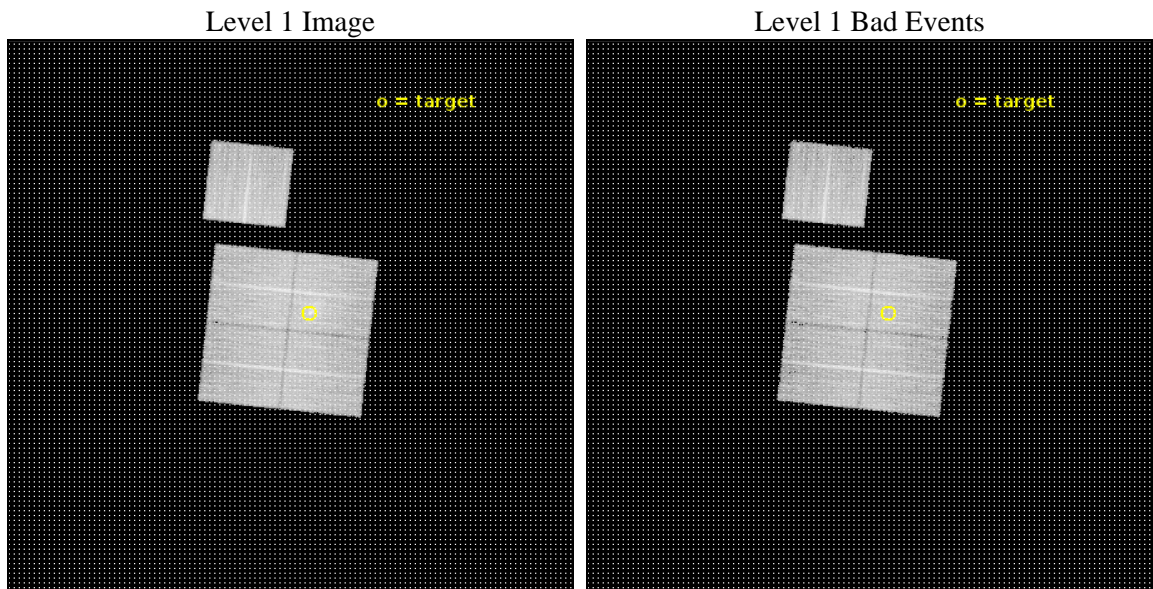
seq_num	801762	Sequence number
obs_id	21996	Observation id
title	Shock structure, the electron-ion equilibration timescale and the disintegrating cool core in A2146	Proposal title
observer	Helen Russell	Principal investigator
object	Abell 2146	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	239.06125	Observer's specified target RA [deg]
dec_targ	66.346917	Observer's specified target Dec [deg]
ra_nom	239.1469489866	Nominal RA [deg]
dec_nom	66.328439107863	Nominal Dec [deg]
roll_nom	6.1302000442542	Nominal Roll [deg]
revision	1	Processing version of data
ontime	14173.200109124	Sum of GTIs [s]
livetime	13988.01681554	Livetime [s]
ontime0	14173.200109124	Sum of GTIs [s]
ontime1	14173.200109124	Sum of GTIs [s]
ontime2	14170.059048891	Sum of GTIs [s]
ontime3	14173.200109124	Sum of GTIs [s]
ontime6	14173.200109124	Sum of GTIs [s]
l2events	56132	Number of level 2 events



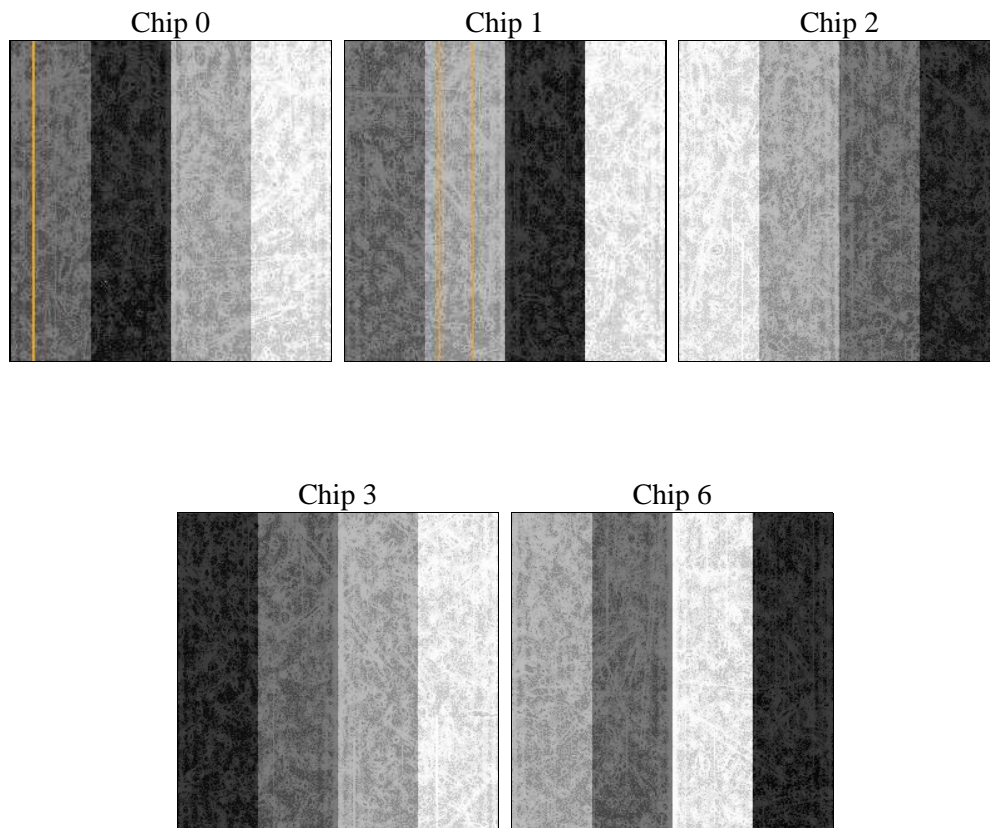
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	14112.158000	[s] Scheduled observation exposure time
ascdsver	10.7	Processing system revision	ontime	14173.200109124	Sum of GTIs [s]
caldbver	4.8.0.1	 	ontime0	14173.200109124	Sum of GTIs [s]
date	2018-12-07T11:15:59	Date and time of file creation	ontime1	14173.200109124	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	14170.059048891	Sum of GTIs [s]
			ontime3	14173.200109124	Sum of GTIs [s]
			ontime6	14173.200109124	Sum of GTIs [s]
			l1events	539290	Number of level 1 events

2.1.4 Events

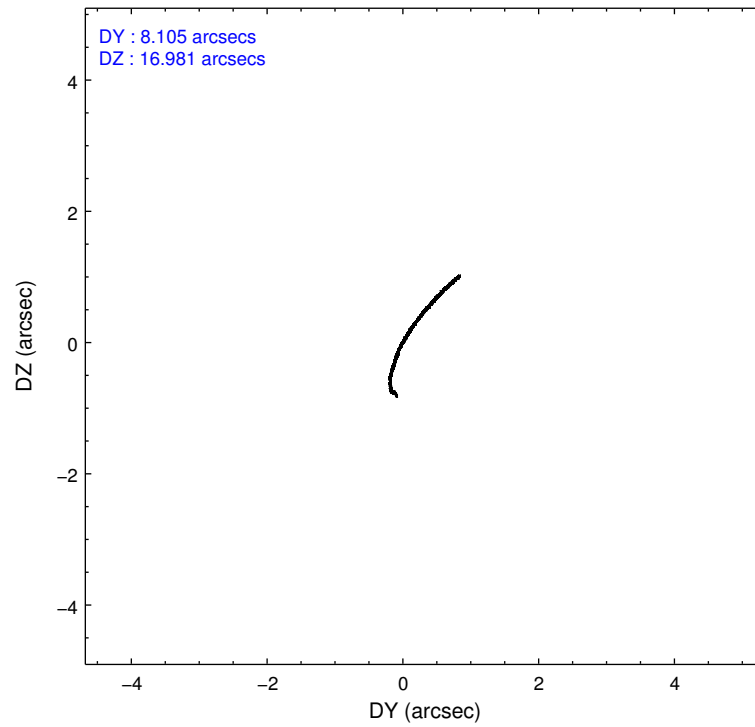
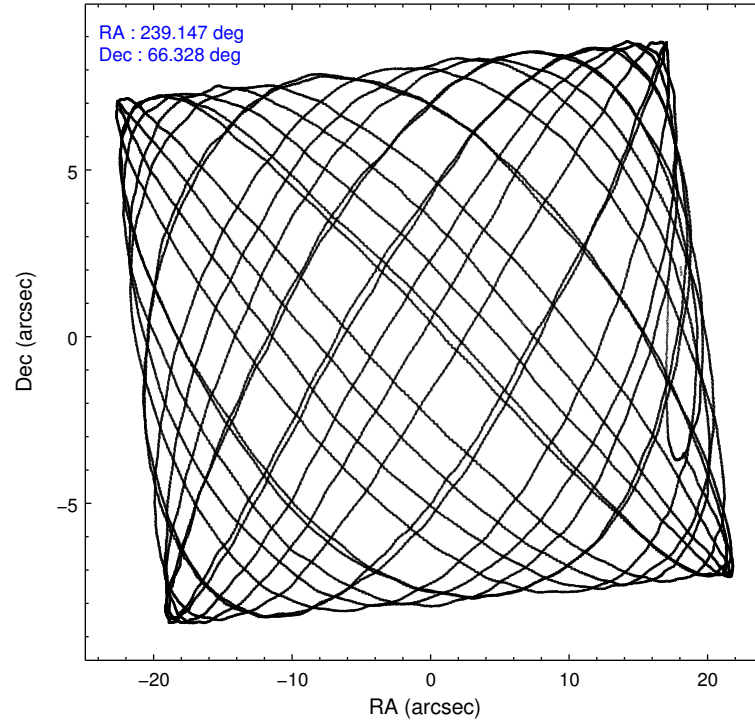
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	97960	104572	111682	114524	110552
rejected events	86529	91484	100573	96800	98718
rejected %	88%	87%	90%	84%	89%

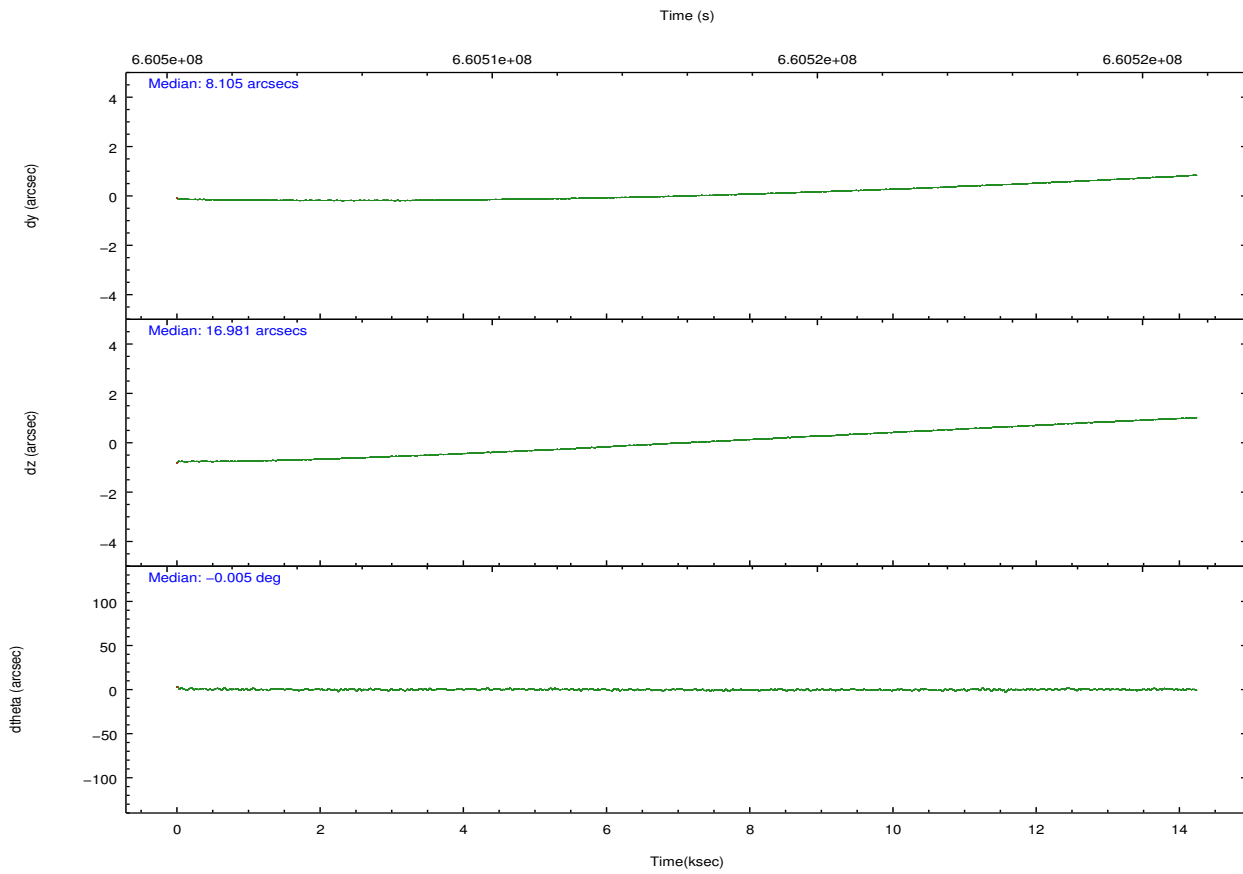
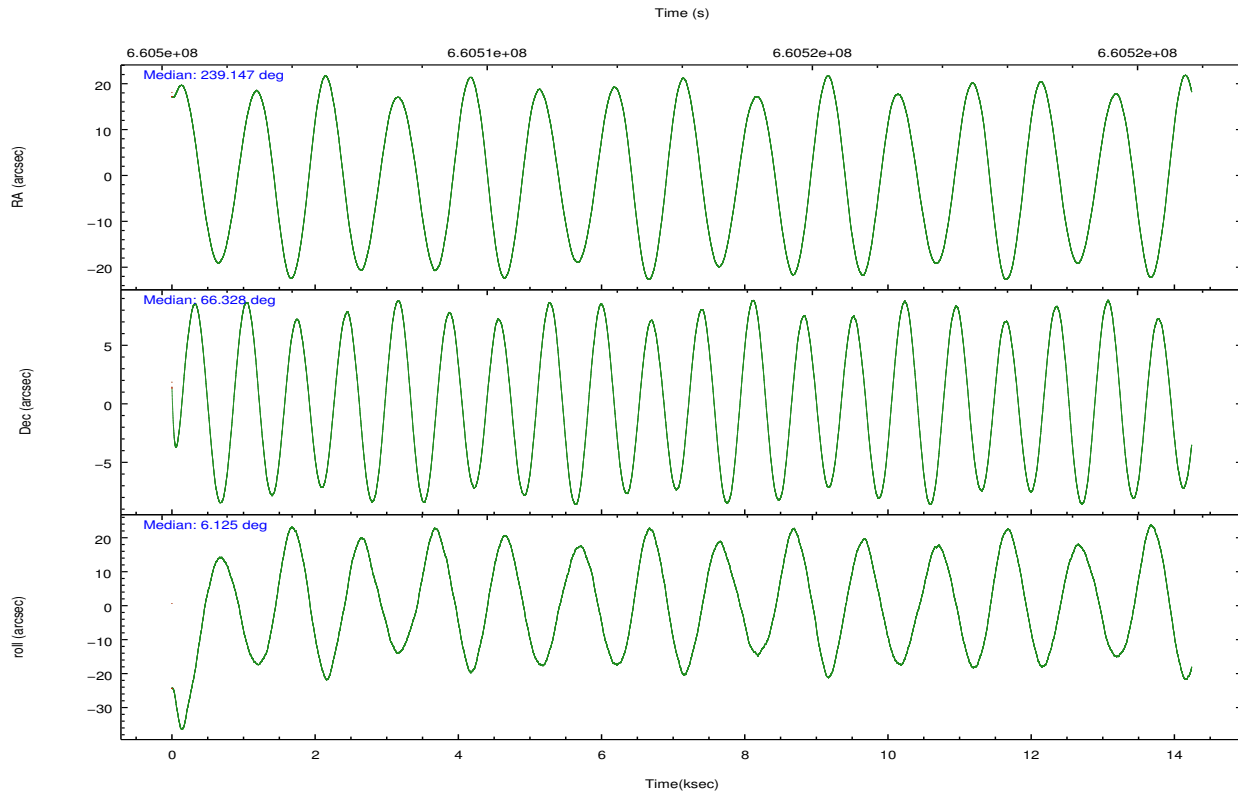
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	3750	4032	3912	9076	3611
	3%	3%	3%	7%	3%
grade 1 events	53	52	67	83	37
	0%	0%	0%	0%	0%
grade 2 events	2896	3620	2658	3150	3001
	2%	3%	2%	2%	2%
grade 3 events	1196	1159	1109	1381	1079
	1%	1%	0%	1%	0%
grade 4 events	1028	1134	1192	1404	1071
	1%	1%	1%	1%	0%
grade 5 events	4433	4455	4220	4984	4509
	4%	4%	3%	4%	4%
grade 6 events	2562	3149	2242	2719	3072
	2%	3%	2%	2%	2%
grade 7 events	82042	86971	96282	91727	94172
	83%	83%	86%	80%	85%

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	239.091510	239.1469489865985	CCD I2 on	Y	Y
[deg] Pointing Dec	66.312094	66.32843910786323	CCD I3 on	Y	Y
[deg] Pointing Roll	5.972284	6.130200044254227	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)	660506001.184000	660504314.2069401	CCD S5 on	N	N
Observation start date	2018-12-06T17:52:12	2018-12-06T17:25:14	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	660520113.184000	660521045.79544	On-chip summing requested	N	N
Observation end date	2018-12-06T21:47:24	2018-12-06T22:04:05	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect





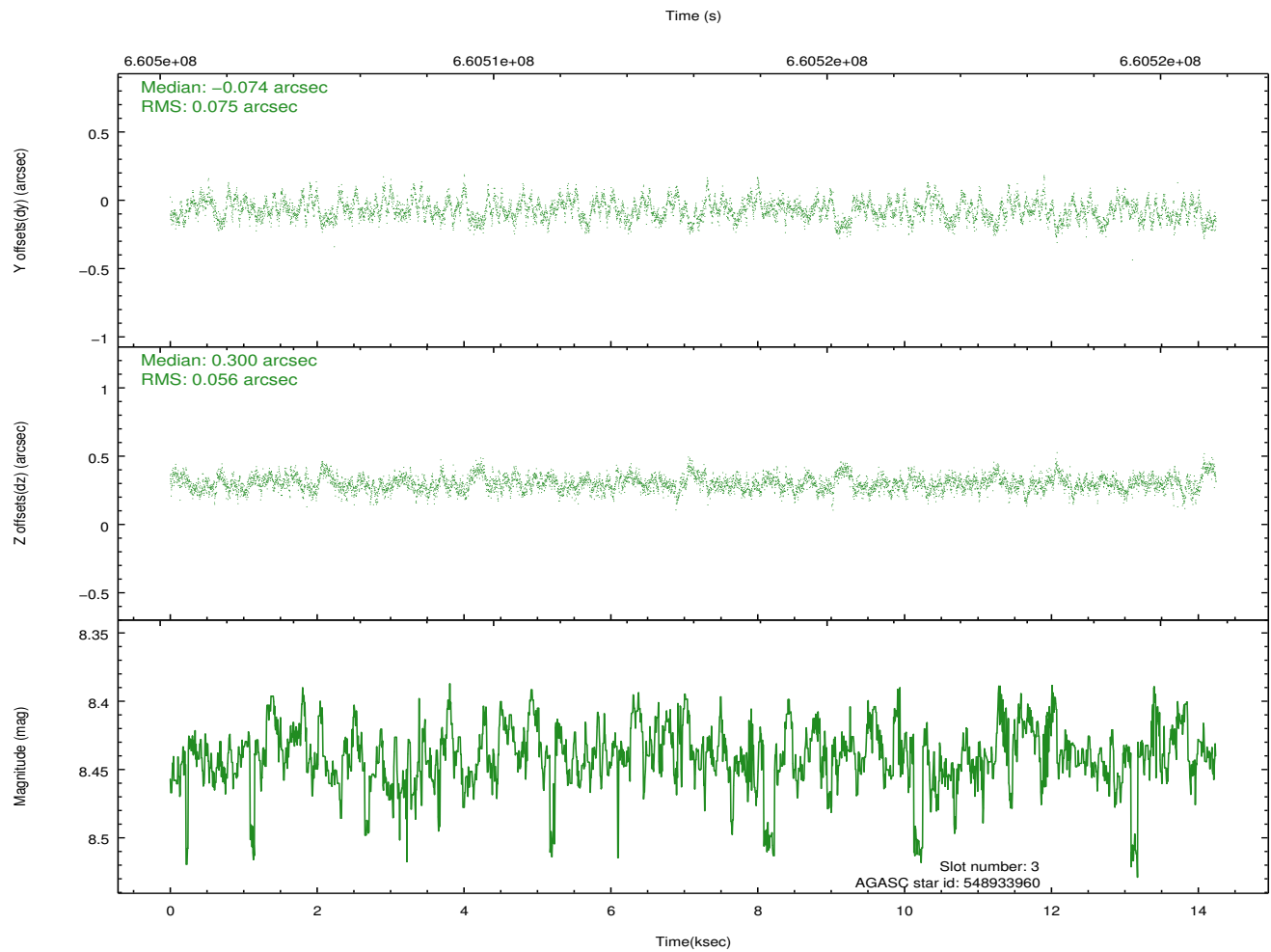
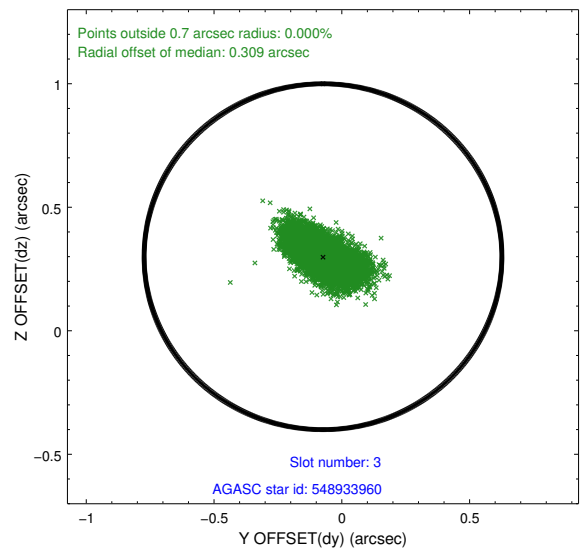
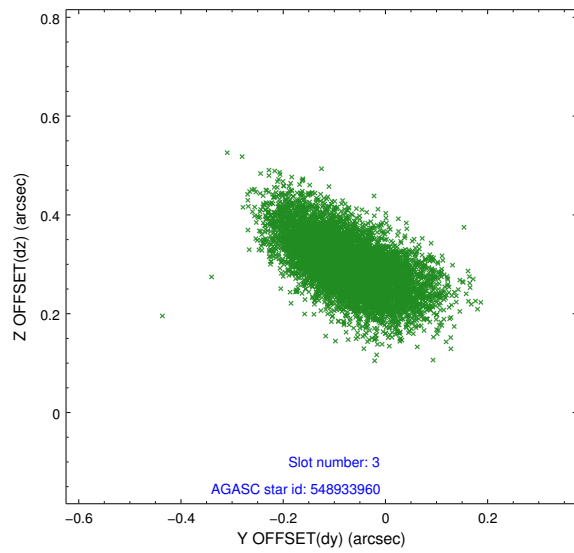
Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-I-2	7.16	3472	1.000	-0.359	-0.170	0.021	0.043	0.000000	0.000000	-763.07	-847
1	FID		ACIS-I-4	7.20	3474	1.000	0.680	0.229	0.010	0.017	0.000000	0.000000	2151.79	1059
2	FID		ACIS-I-5	7.27	3474	1.000	-0.421	0.008	0.017	0.034	0.000000	0.000000	-1816.63	1057
3	GUIDE	used	548933960	8.44	6946	1.000	-0.074	0.300	0.097	0.169	237.671184	66.428675	-1987.36	652
4	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0
5	GUIDE	used	549849072	9.22	6937	1.000	-0.291	-0.347	0.158	0.244	240.420863	66.802816	2060.18	1580
6	GUIDE	used	549849656	9.16	6934	1.000	0.380	-0.114	0.199	0.354	240.650889	65.694358	2070.52	-2422
7	GUIDE	used	548932512	8.61	6941	1.000	0.007	0.165	0.108	0.173	239.727627	66.054972	829.55	-1012

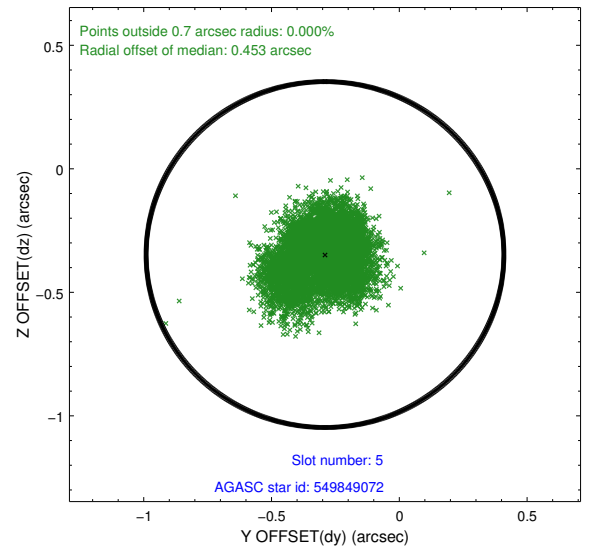
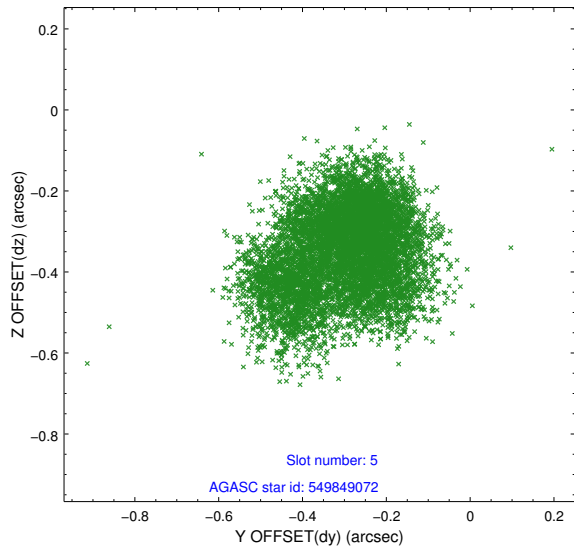
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2.4 Star Slots

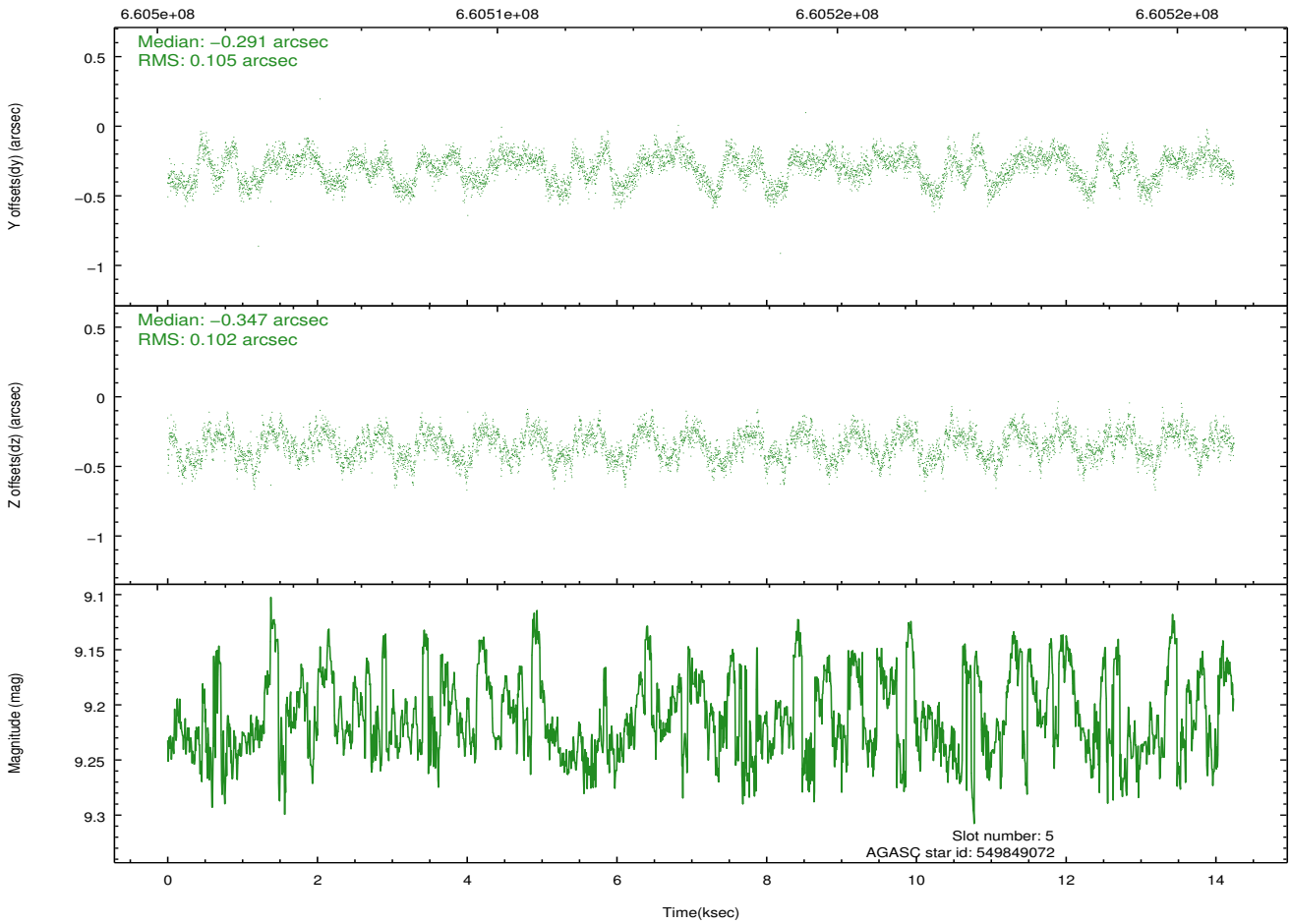
2.4.1 Slot 3



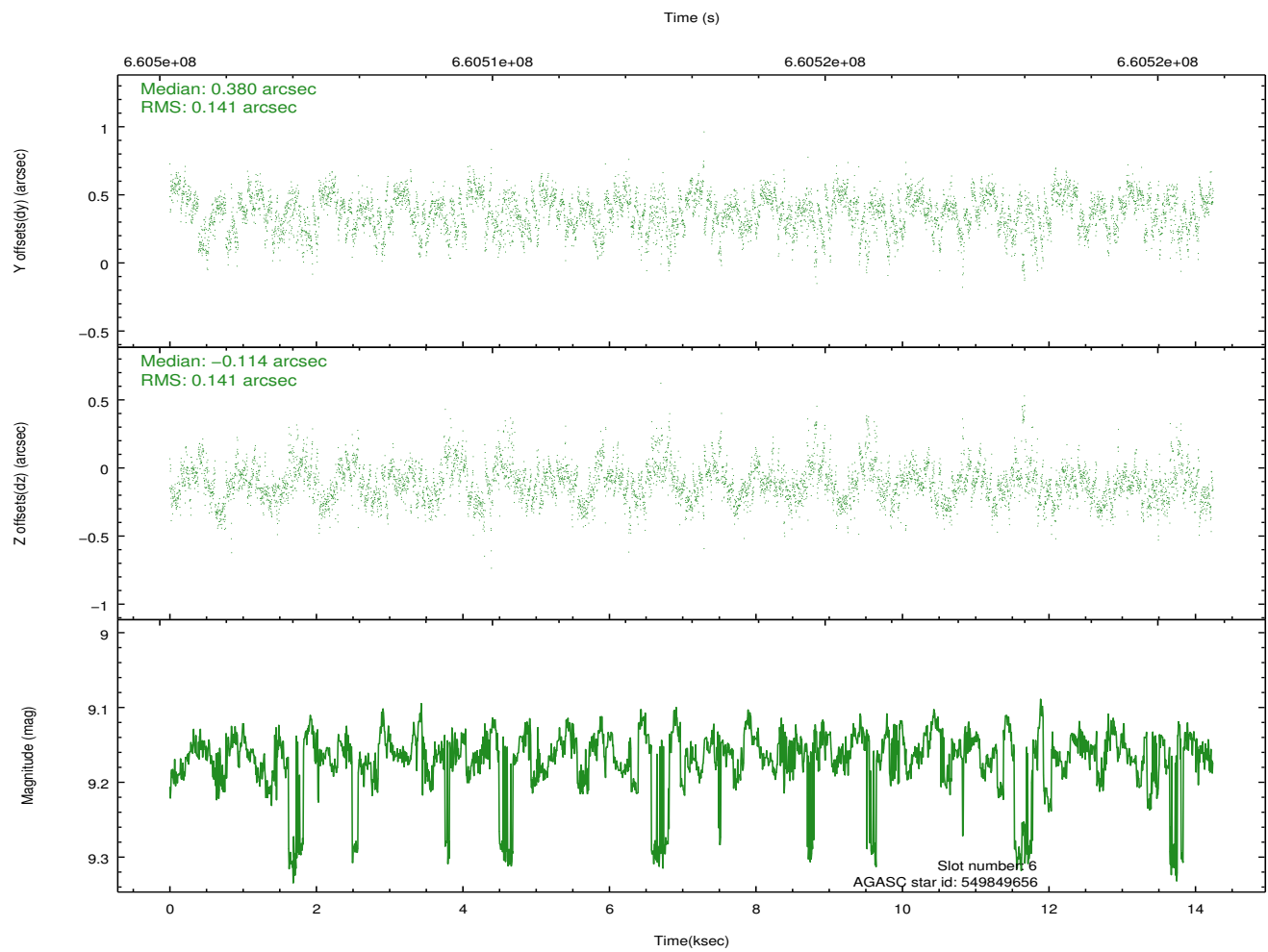
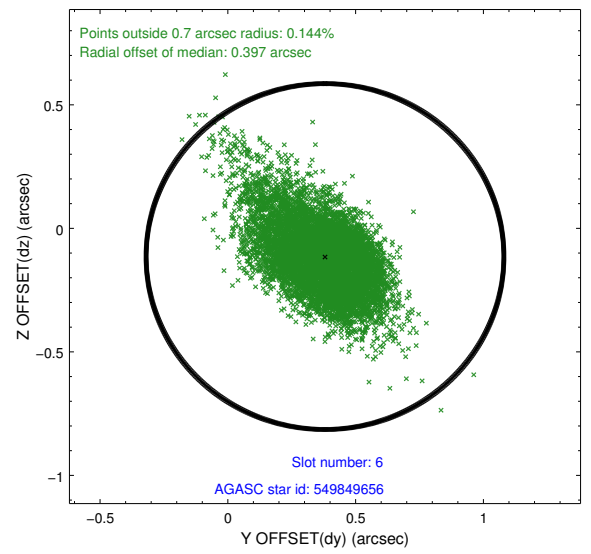
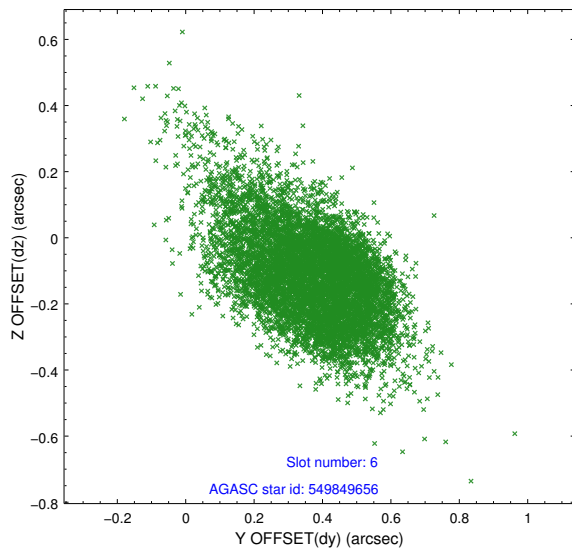
2.4.2 Slot 5



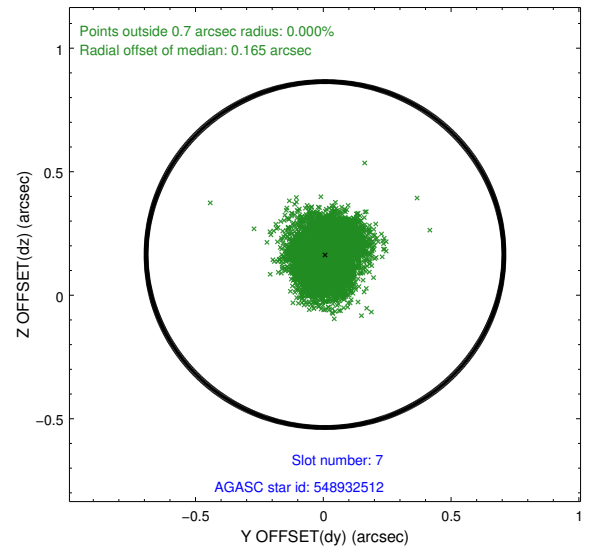
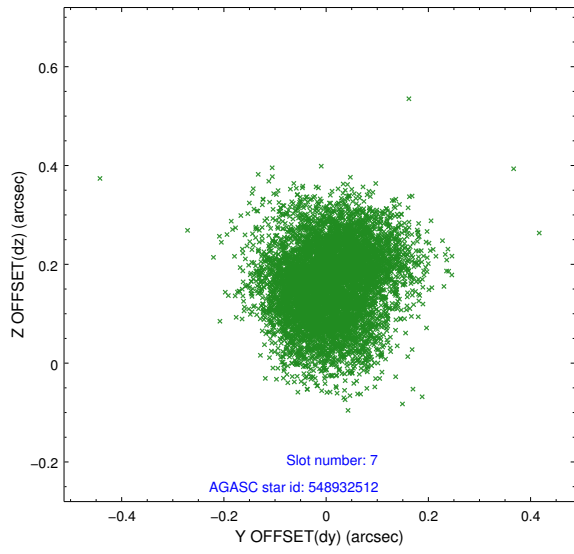
Time (s)



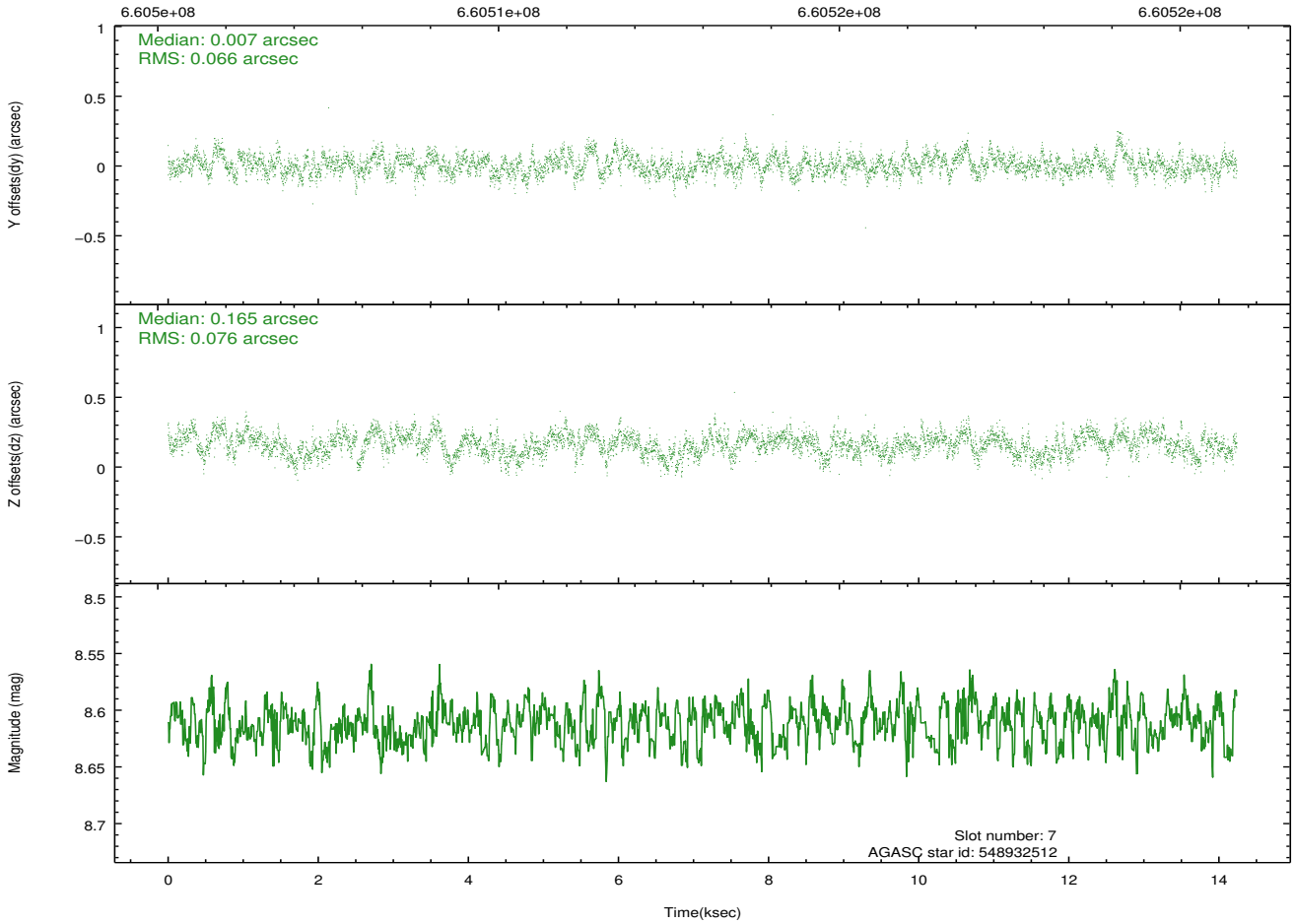
2.4.3 Slot 6



2.4.4 Slot 7

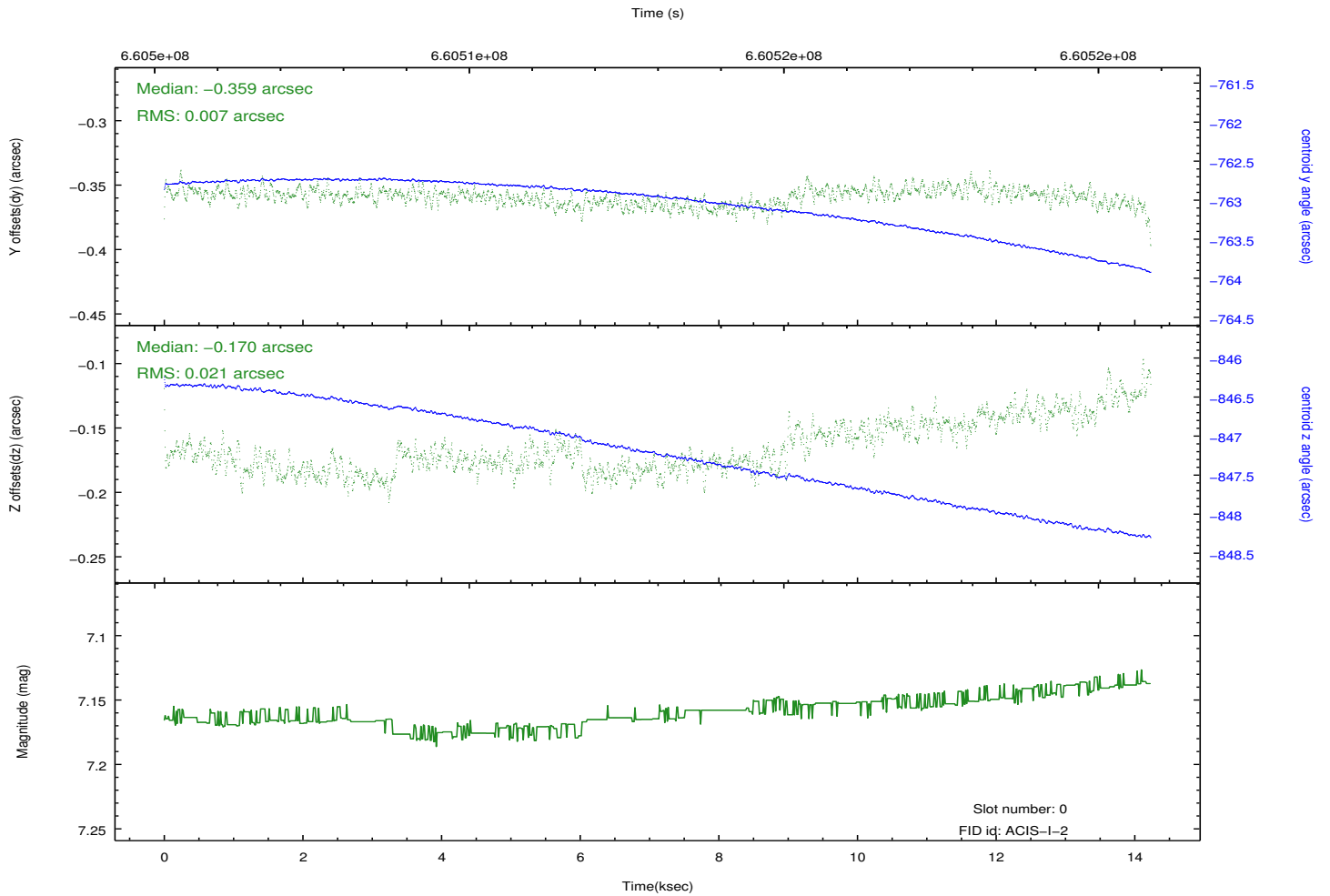
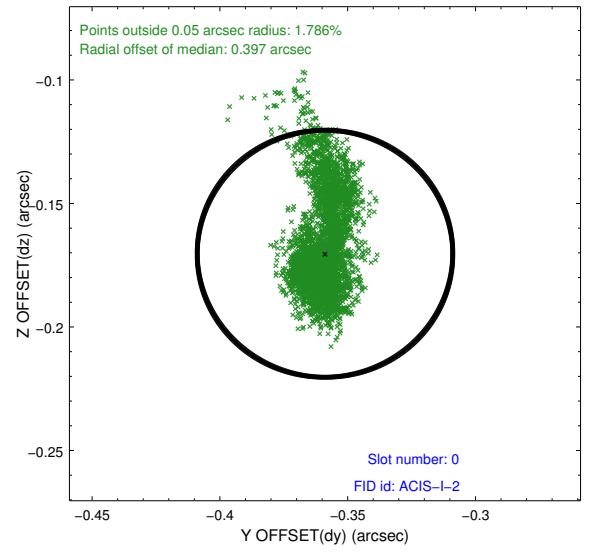
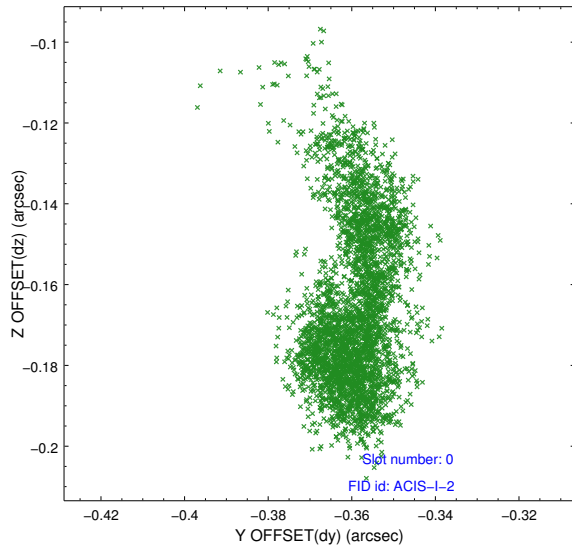


Time (s)

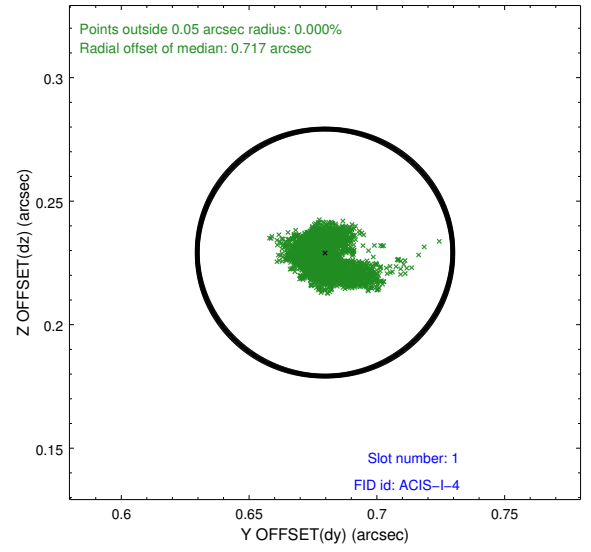
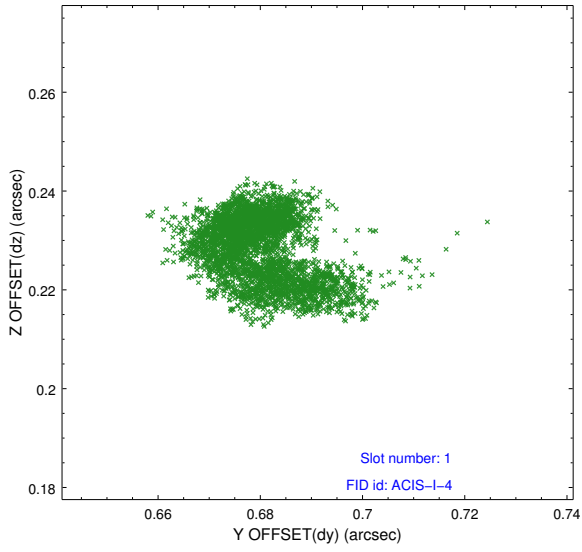


2.5 FID Slots

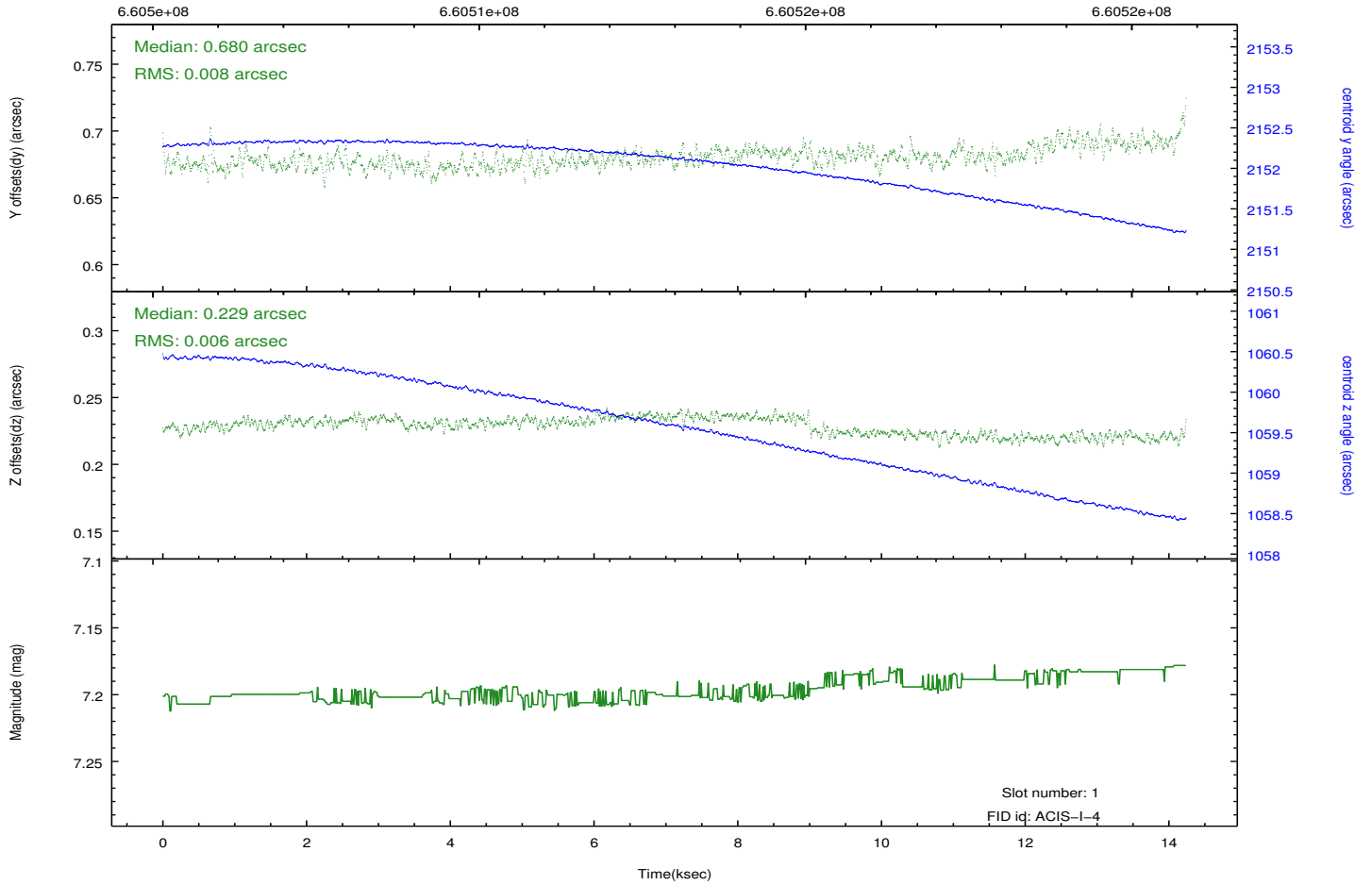
2.5.1 Slot 0



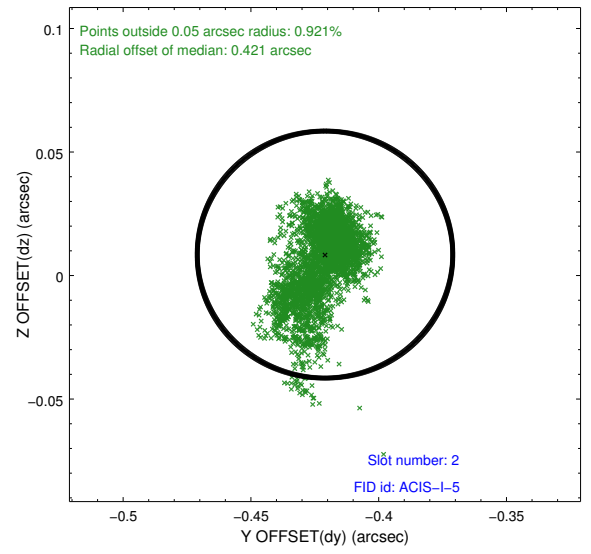
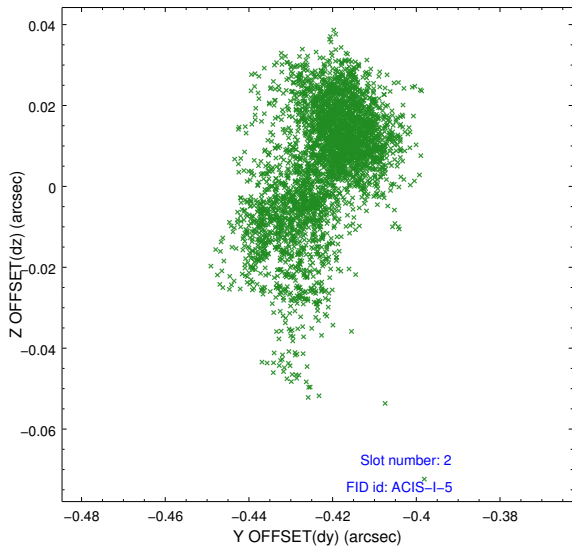
2.5.2 Slot 1



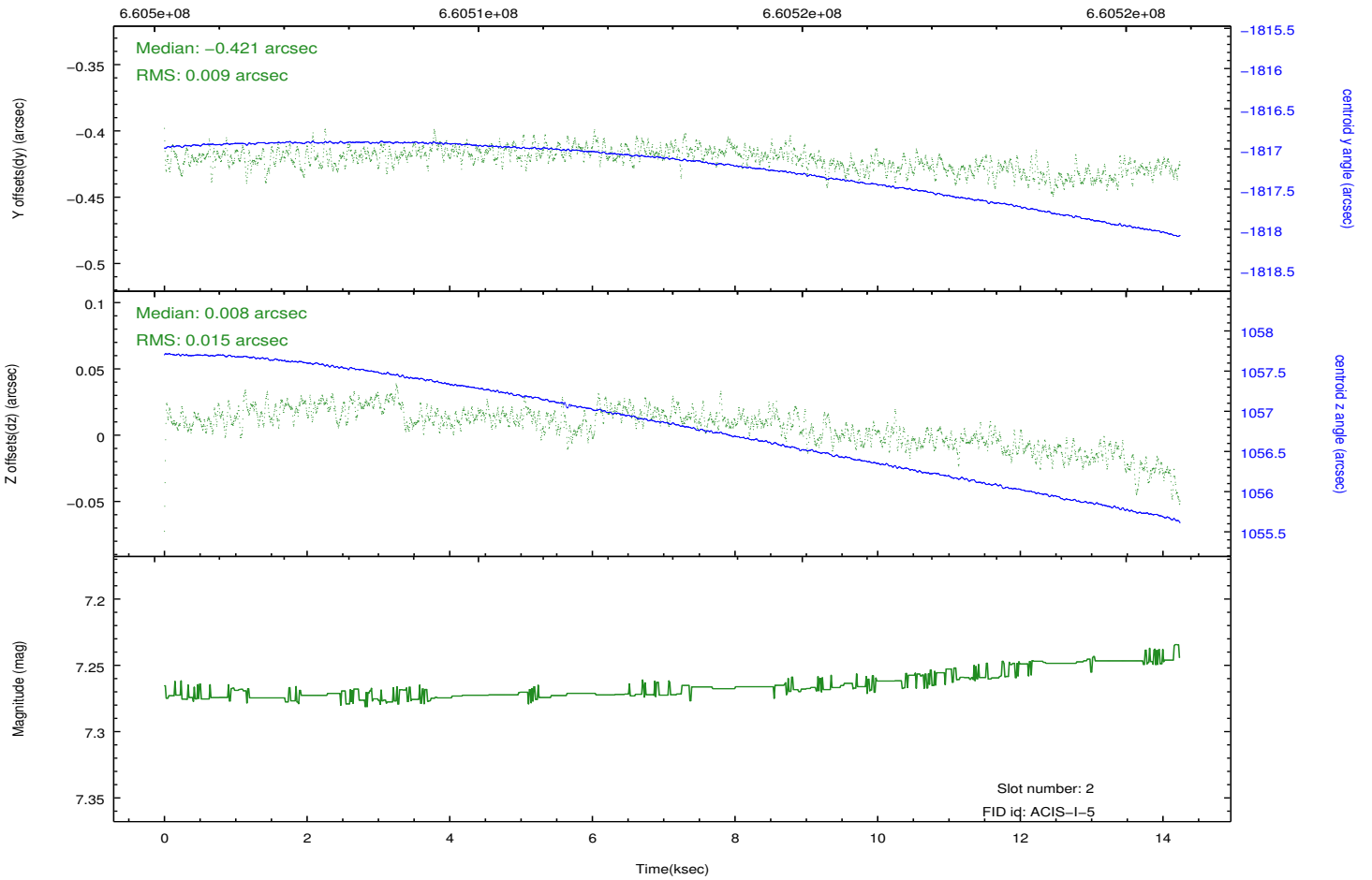
Time (s)



2.5.3 Slot 2



Time (s)



A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2018.12.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	14.173200109124

A.2 Comments

The guide star in slot 4 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.