

V&V Reference Report

L2 ASCDS Version : 10.7.1

Observation 21674 - L2 Version 1
Chandra X-Ray Center

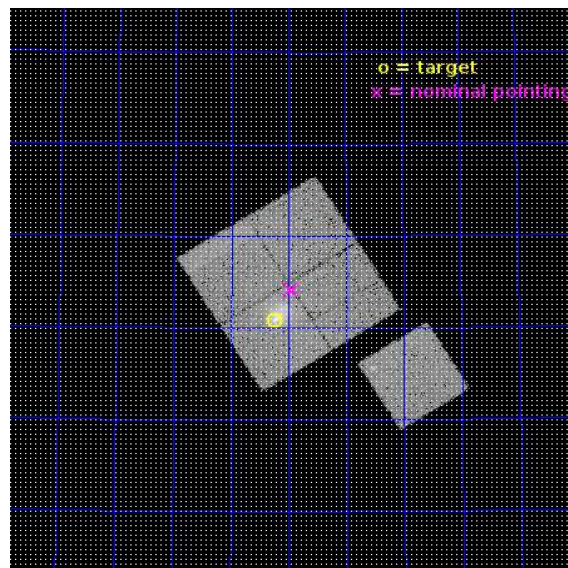
L2 Processing Date : Apr 24 2019

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1 Front

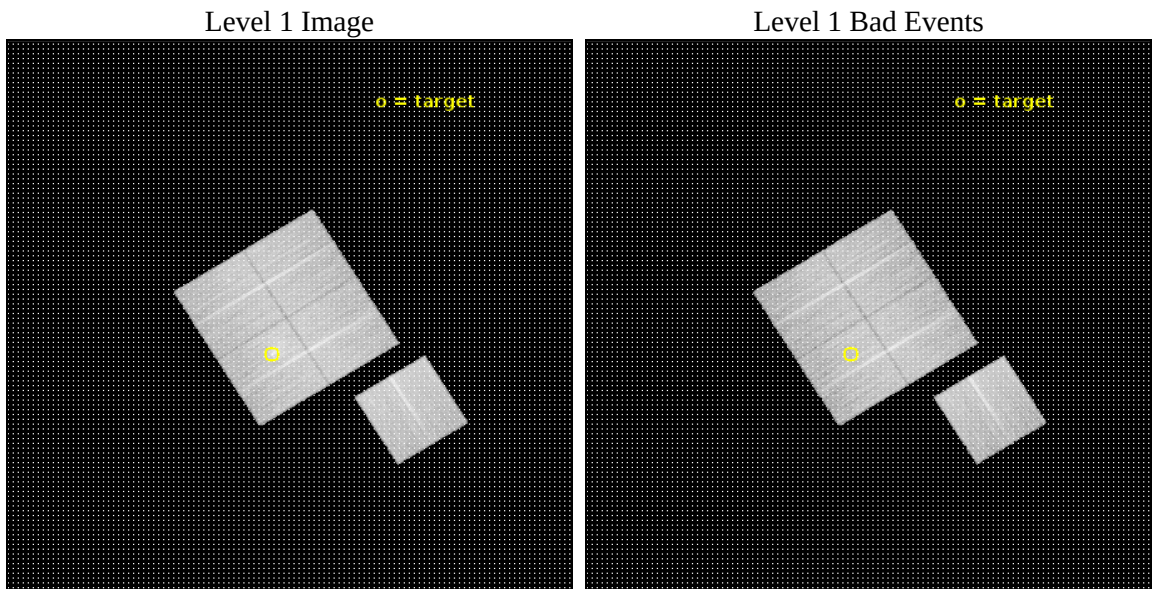
seq_num	801762	Sequence number
obs_id	21674	Observation id
title	Shock structure, the electron-ion equilibration timescale and the disintegrating cool core in A2146	Proposal title
observer	Helen Russell	Principal investigator
object	Abell 2146	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	239.06125	Observer's specified target RA [deg]
dec_targ	66.346917	Observer's specified target Dec [deg]
ra_nom	238.98754749528	Nominal RA [deg]
dec_nom	66.402623116327	Nominal Dec [deg]
roll_nom	148.27624928653	Nominal Roll [deg]
revision	1	Processing version of data
ontime	22064.382510424	Sum of GTIs [s]
livetime	21776.095109363	Livetime [s]
ontime0	22067.400440931	Sum of GTIs [s]
ontime1	22067.441480875	Sum of GTIs [s]
ontime2	22064.34150064	Sum of GTIs [s]
ontime3	22064.382510424	Sum of GTIs [s]
ontime6	22064.218430638	Sum of GTIs [s]
l2events	101908	Number of level 2 events



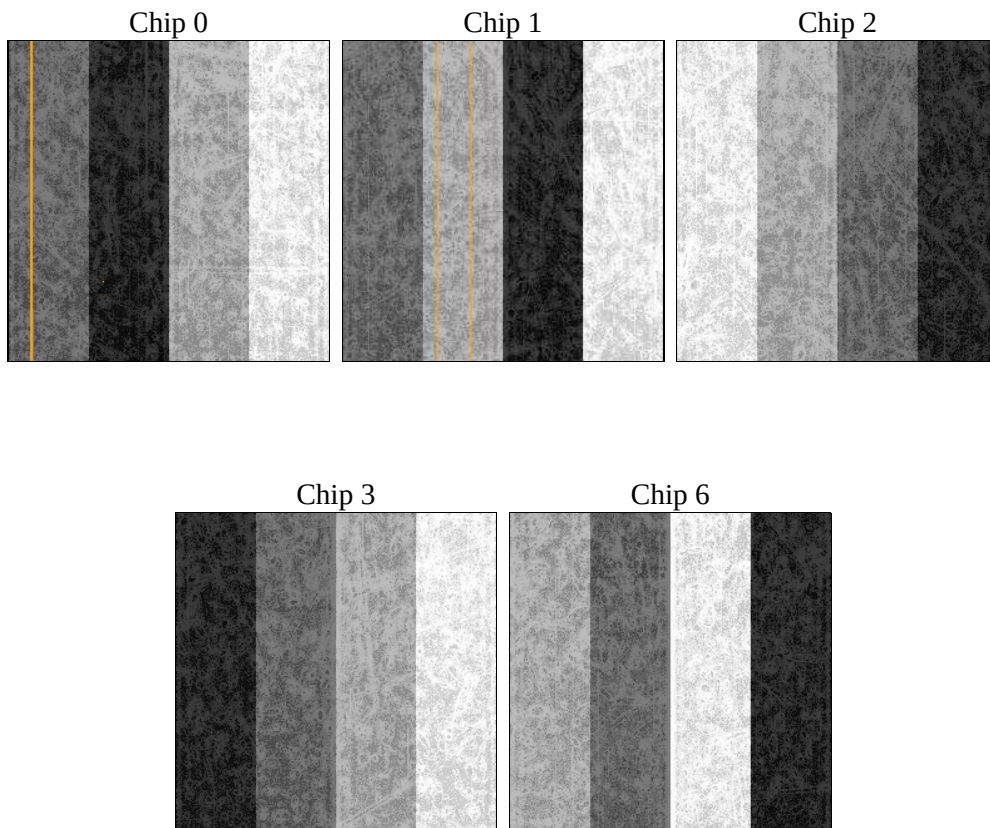
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	22000.000000	[s] Scheduled observation exposure time
ascdsver	10.7.1	Processing system revision	ontime	22064.382510424	Sum of GTIs [s]
caldsver	4.8.2	 	ontime0	22067.400440931	Sum of GTIs [s]
date	2019-04-24T12:51:43	Date and time of file creation	ontime1	22067.441480875	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	22064.34150064	Sum of GTIs [s]
			ontime3	22064.382510424	Sum of GTIs [s]
			ontime6	22064.218430638	Sum of GTIs [s]
			l1events	857280	Number of level 1 events

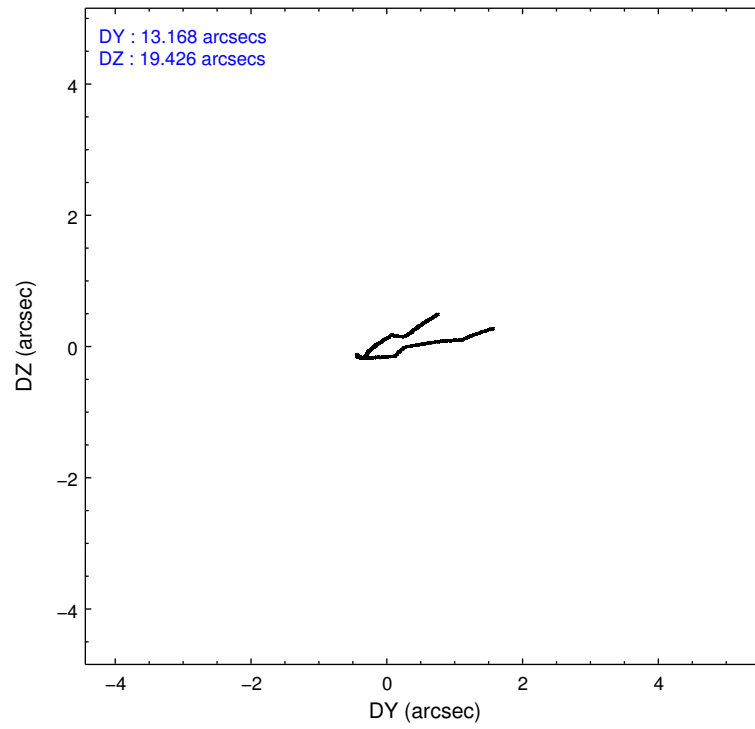
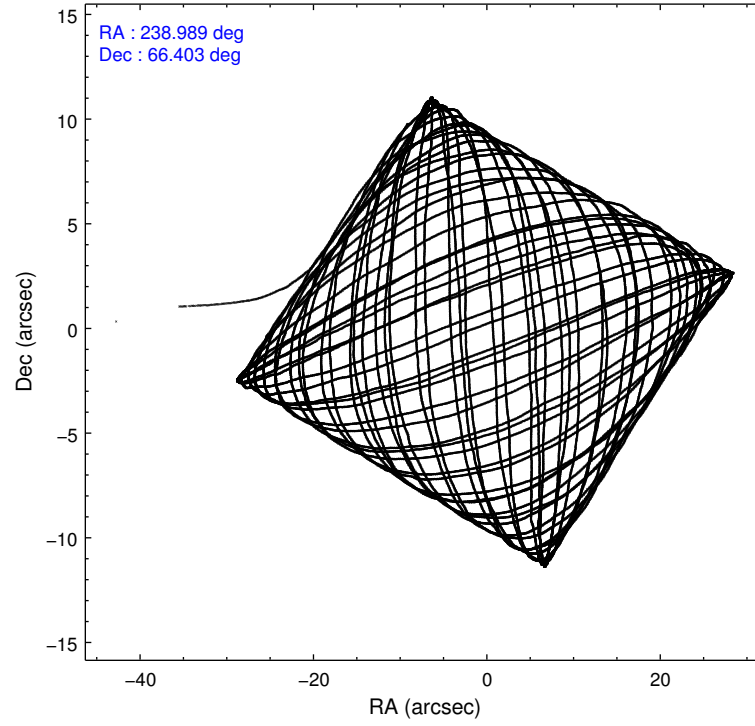
2.1.4 Events

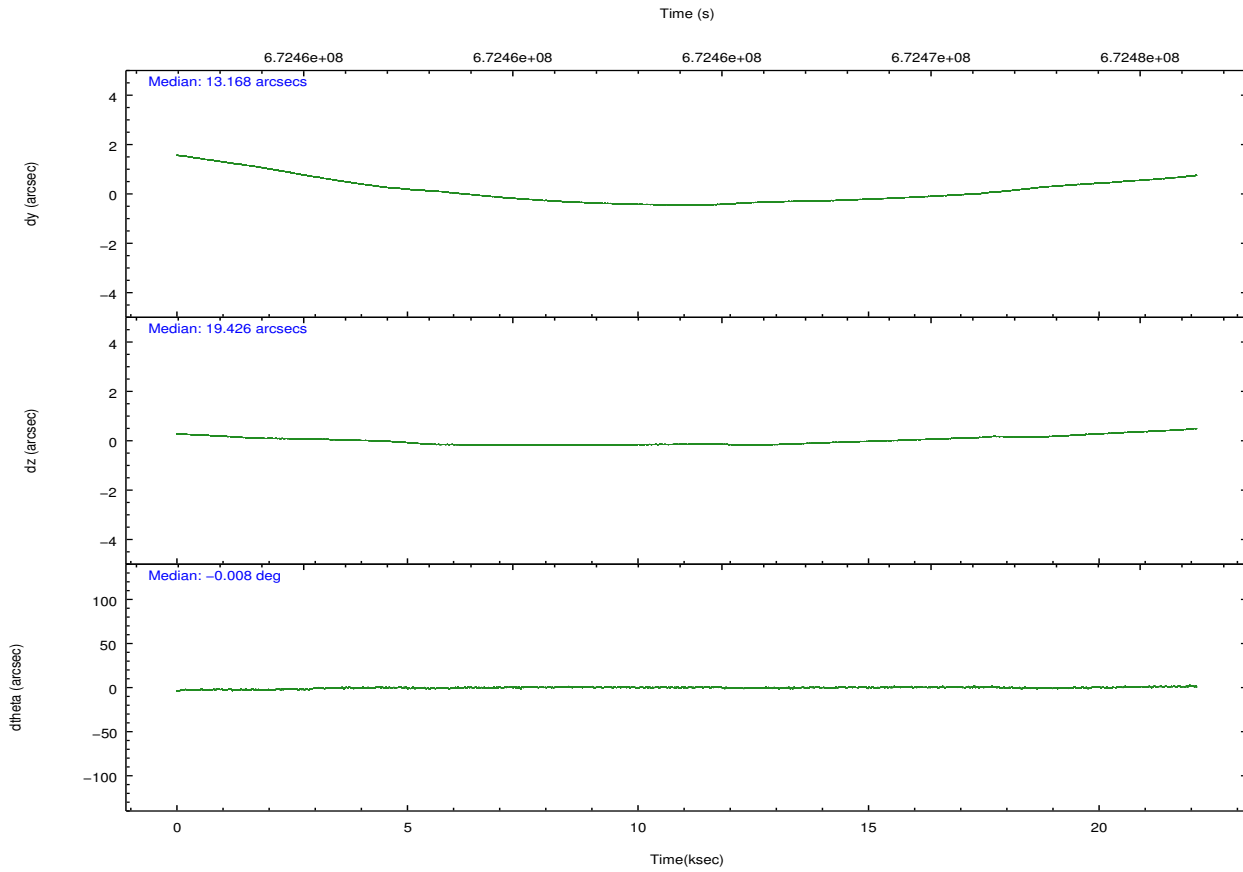
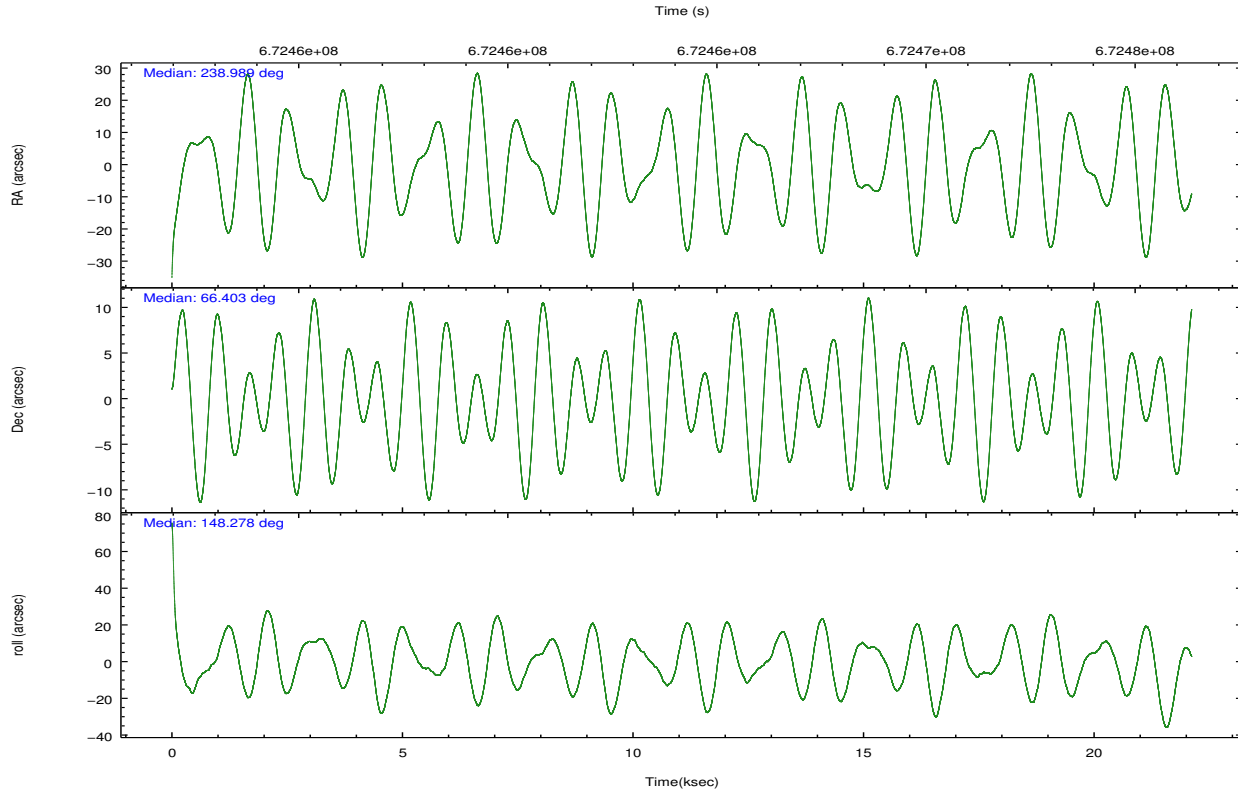
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	162601	162402	175044	180972	176261	grade 0 events	7675	8442	7761	15652	7429
rejected events	141230	138380	154403	150590	154747		4%	5%	4%	8%	4%
rejected %	86%	85%	88%	83%	87%	grade 1 events	101	96	115	153	91
							0%	0%	0%	0%	0%
						grade 2 events	5185	6296	4752	5357	5197
							3%	3%	2%	2%	2%
						grade 3 events	2040	2072	1999	2358	1916
							1%	1%	1%	1%	1%
						grade 4 events	1918	1977	2051	2355	1929
							1%	1%	1%	1%	1%
						grade 5 events	7318	7432	6911	8121	7641
							4%	4%	3%	4%	4%
						grade 6 events	4554	5241	4079	4663	5047
							2%	3%	2%	2%	2%
						grade 7 events	133810	130846	147376	142313	147011
							82%	80%	84%	78%	83%

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	239.056499	238.9875474952831	CCD I2 on	Y	Y
[deg] Pointing Dec	66.401861	66.40262311632706	CCD I3 on	Y	Y
[deg] Pointing Roll	148.004353	148.2762492865312	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)	672453220.184000	672452148.49584	CCD S5 on	N	N
Observation start date	2019-04-24T00:32:31	2019-04-24T00:15:48	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	672475220.184000	672475939.25976	On-chip summing requested	N	N
Observation end date	2019-04-24T06:39:11	2019-04-24T06:52:19	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



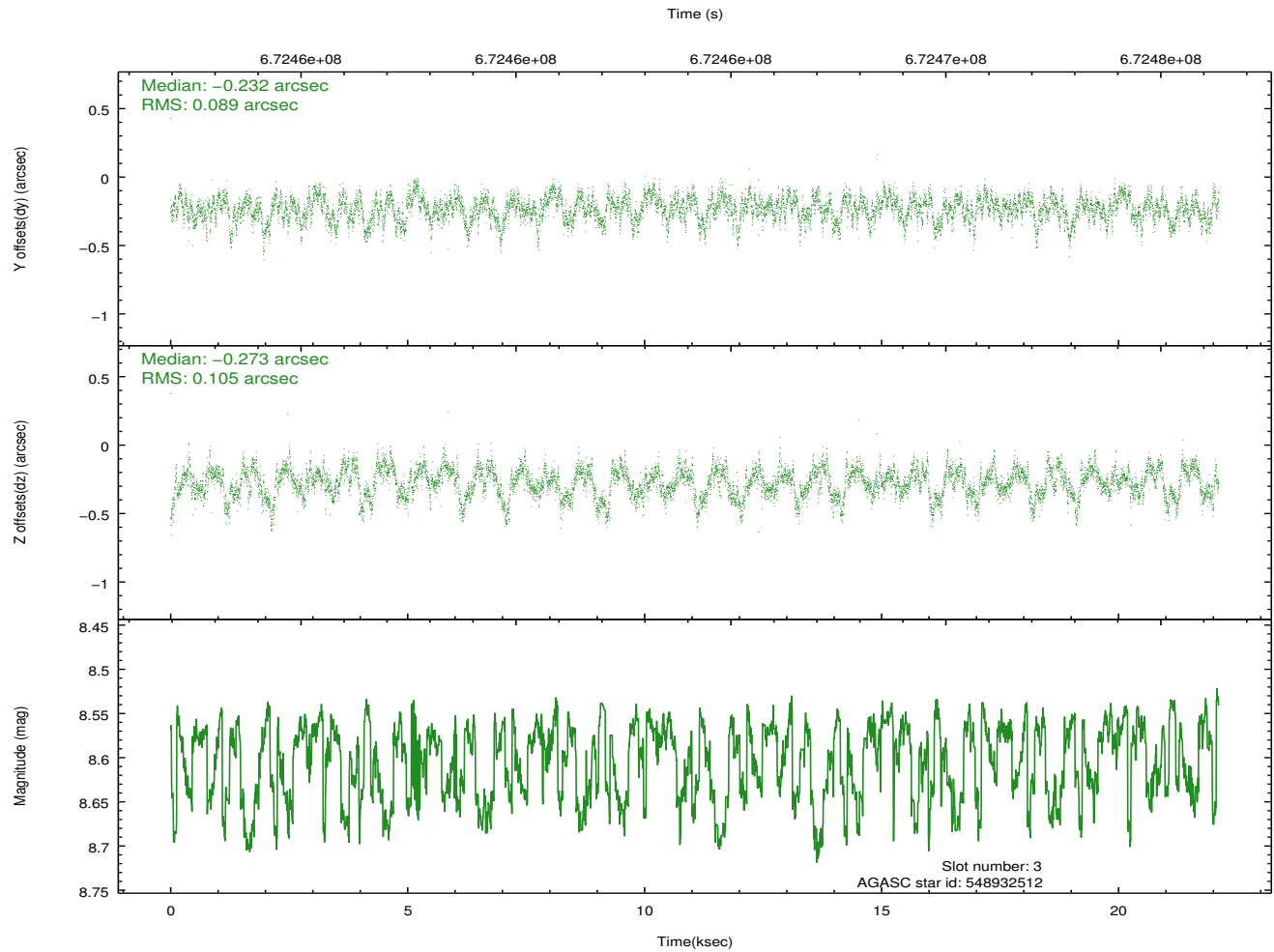
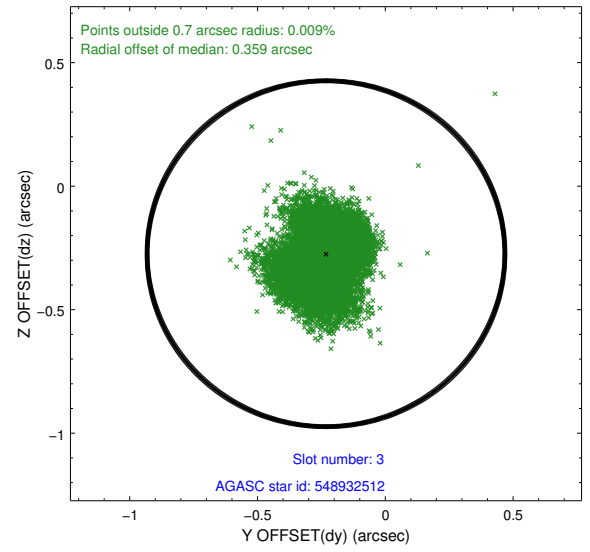
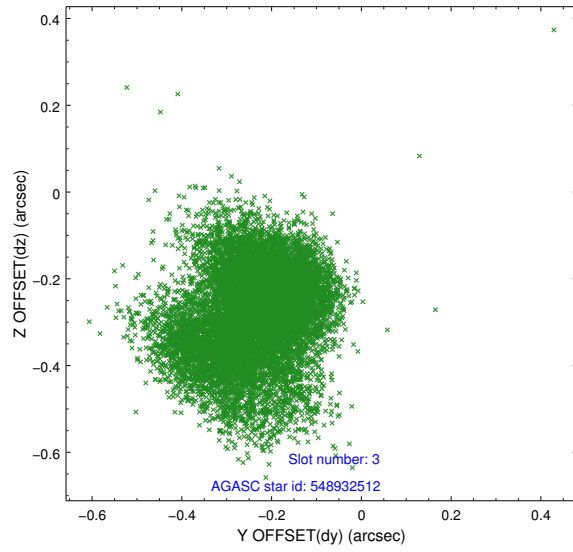


Slot Statistics

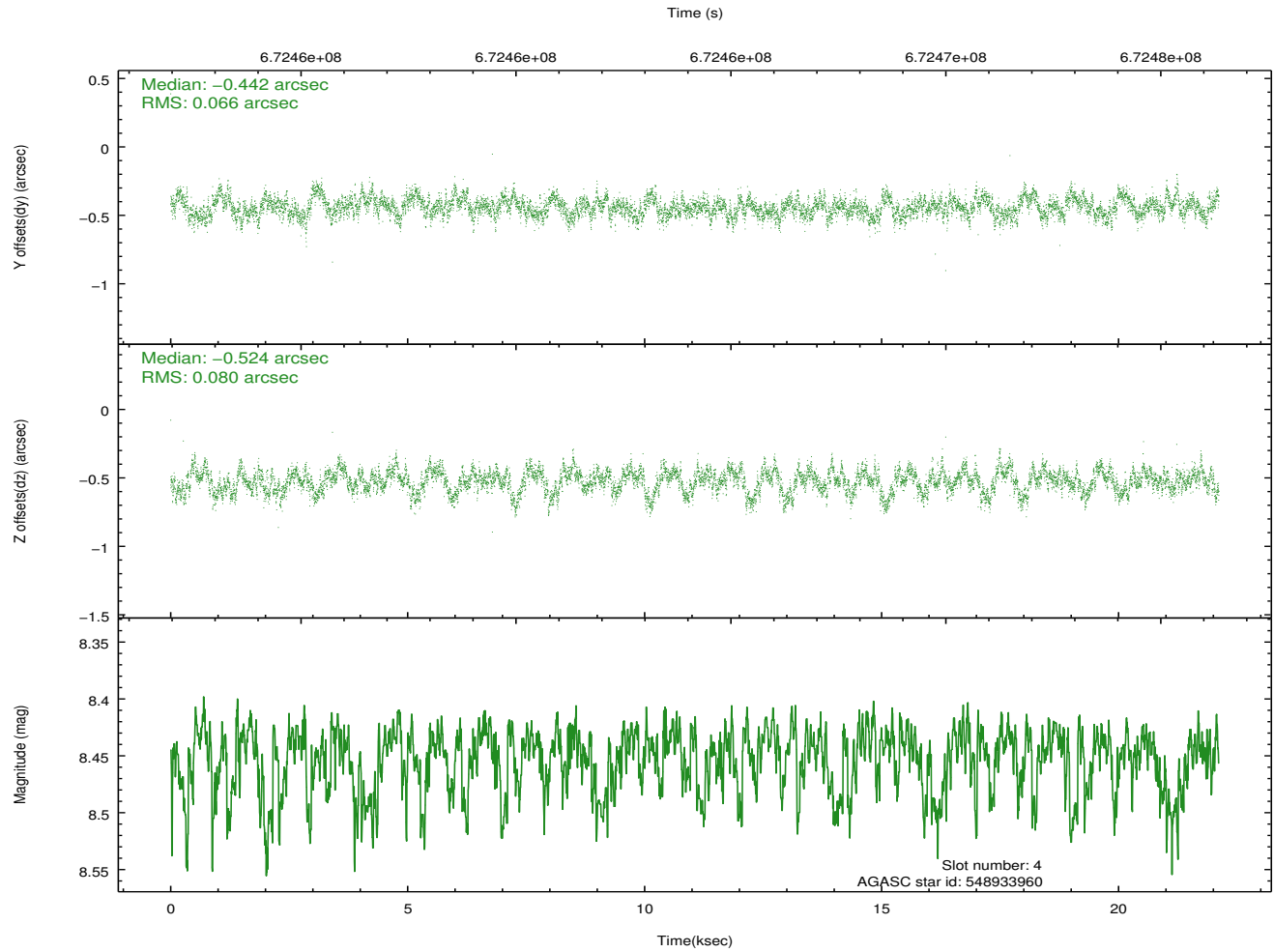
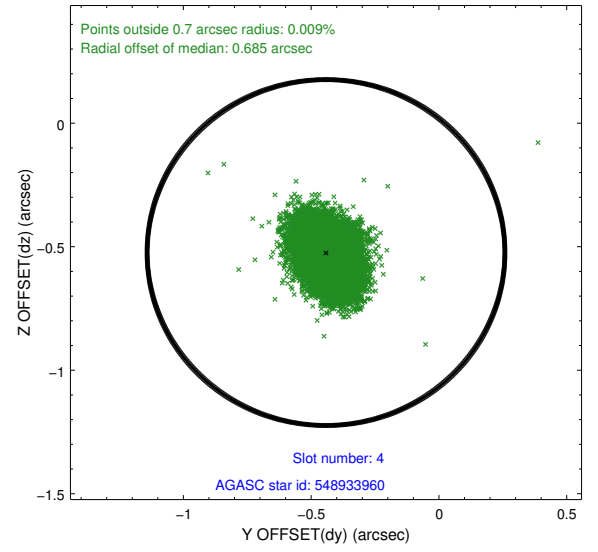
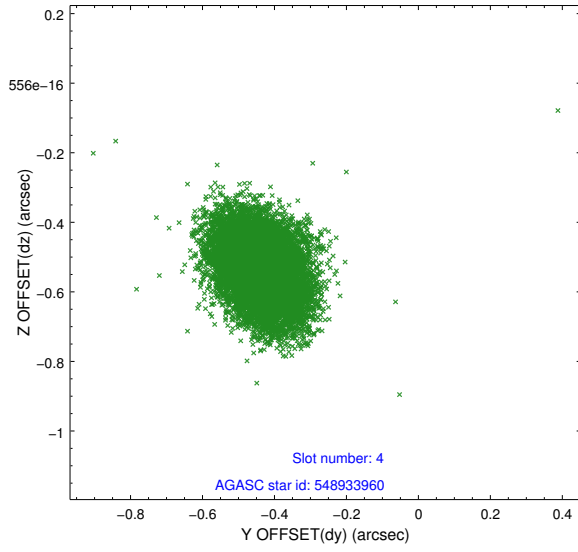
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.16	5395	1.000	0.076	-0.062	0.013	0.025	0.000000	0.000000	926.35	-843
1	FID		ACIS-I-5	7.15	5394	1.000	-0.492	-0.008	0.011	0.021	0.000000	0.000000	-1822.43	1054
2	FID		ACIS-I-6	7.17	5395	1.000	0.324	0.142	0.016	0.027	0.000000	0.000000	391.72	1699
3	GUIDE	used	548932512	8.60	10778	1.000	-0.232	-0.273	0.147	0.237	239.727627	66.054972	-1489.72	535
4	GUIDE	used	548933960	8.45	10786	1.000	-0.442	-0.524	0.110	0.181	237.671184	66.428675	1753.89	957
5	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0
6	GUIDE	used	549849072	9.13	10776	1.000	0.306	0.316	0.156	0.258	240.420863	66.802816	-863.37	-2265
7	GUIDE	used	549850840	9.28	10777	1.000	0.375	0.485	0.158	0.257	241.038865	66.468628	-2264.55	-1750

2.4 Star Slots

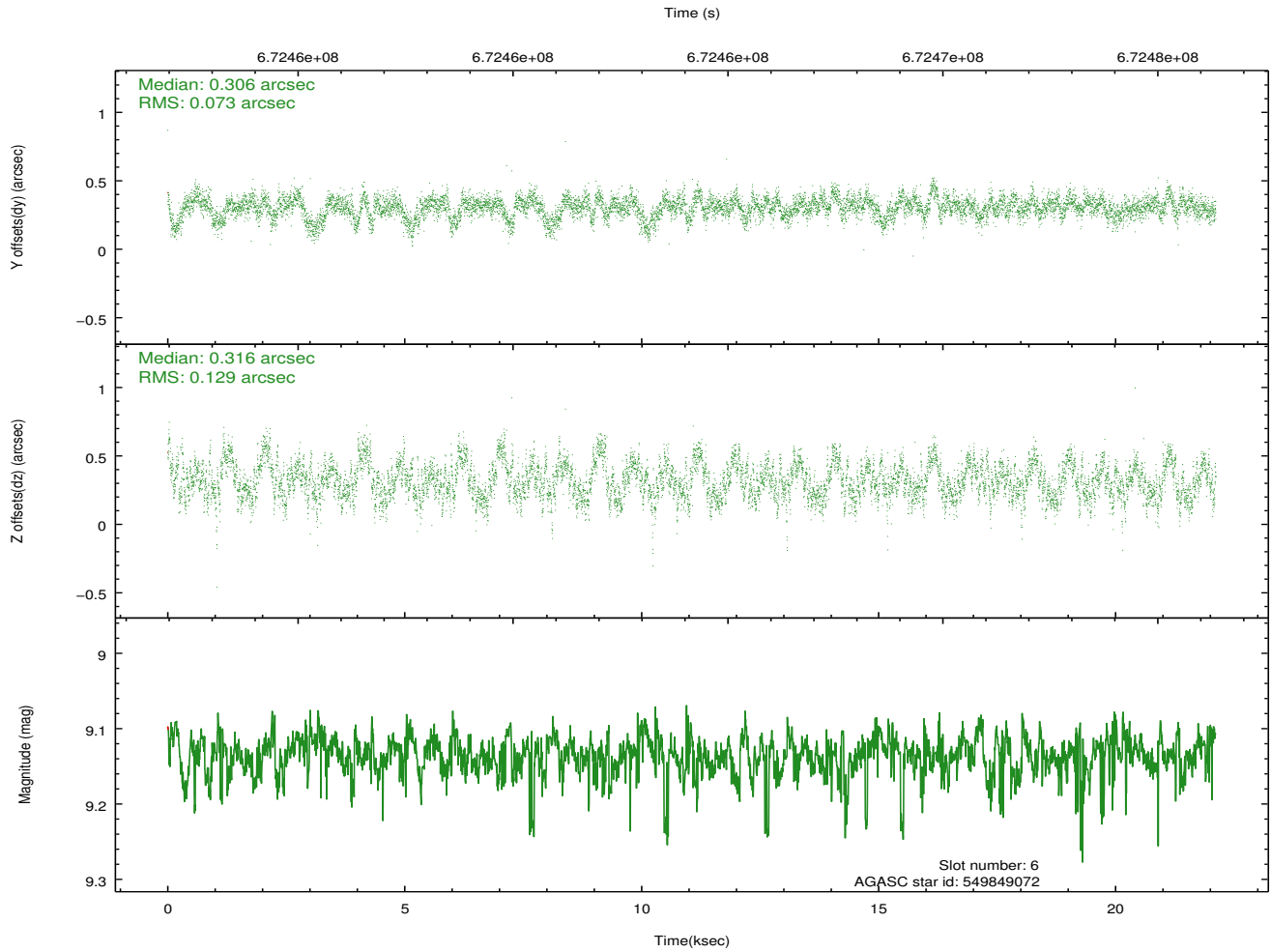
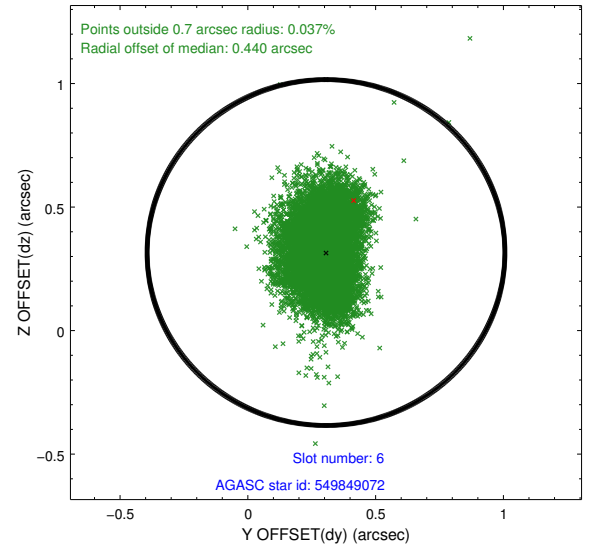
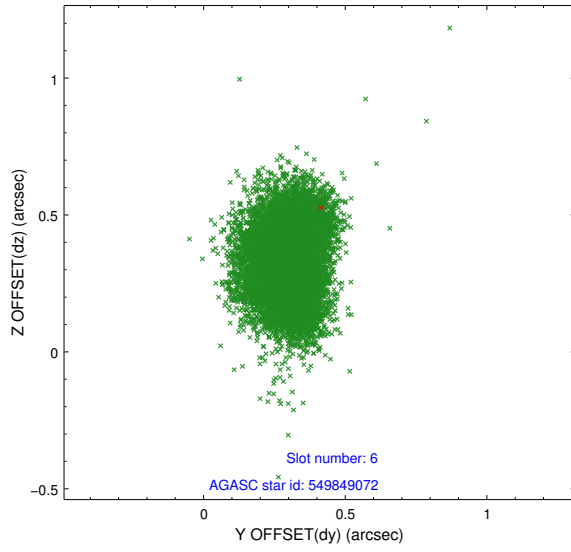
2.4.1 Slot 3



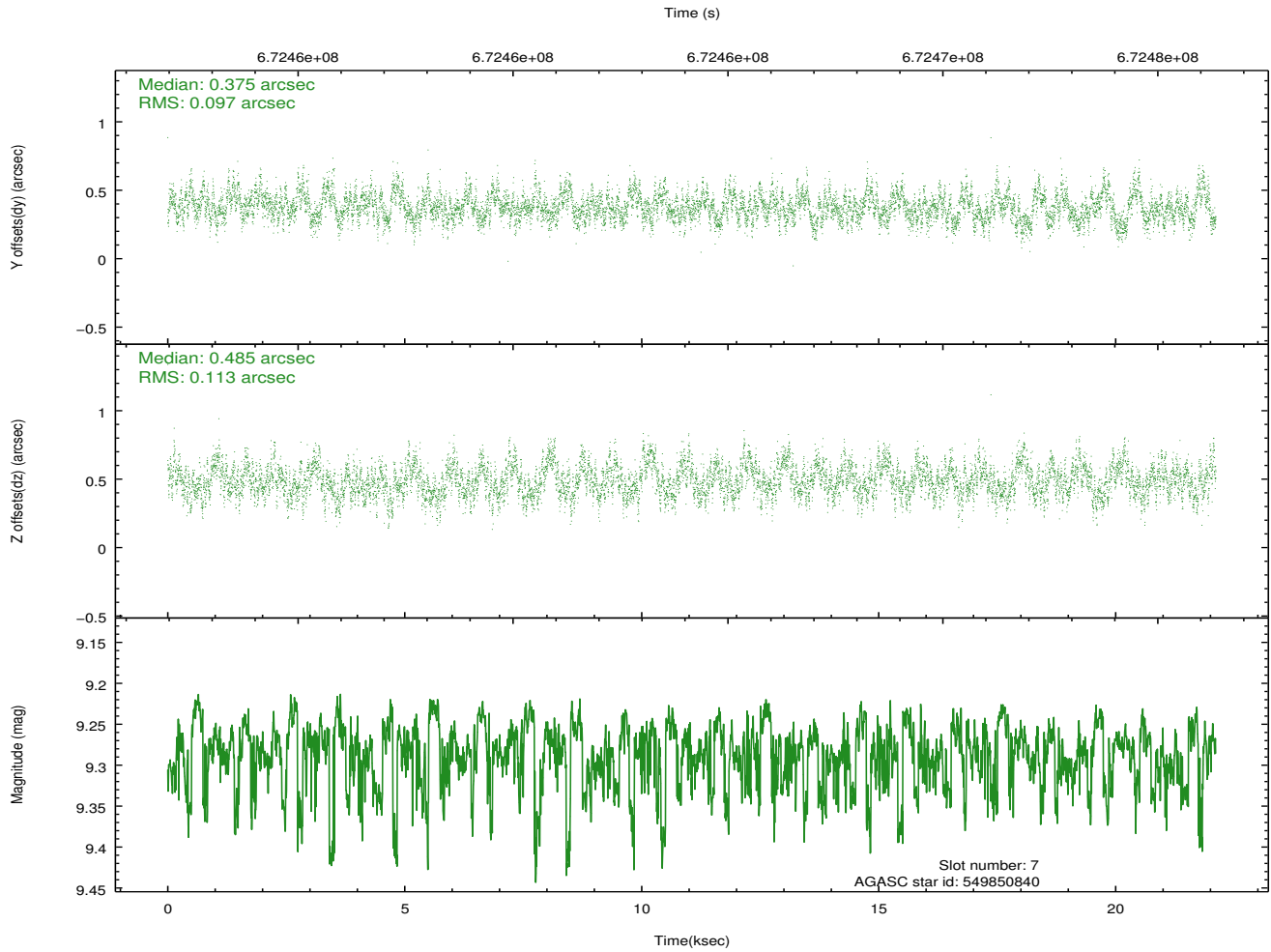
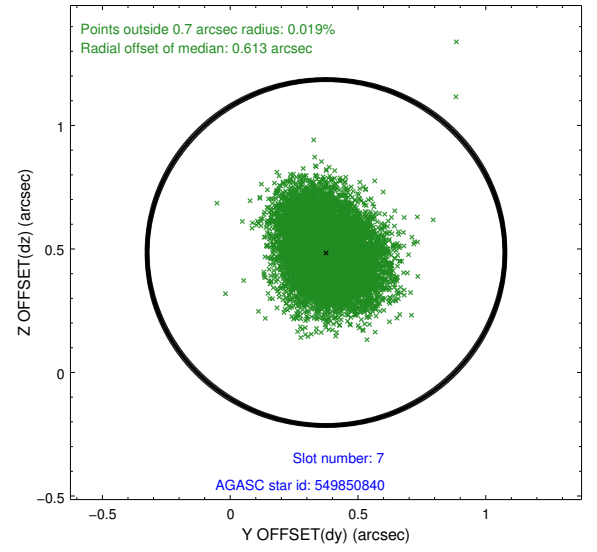
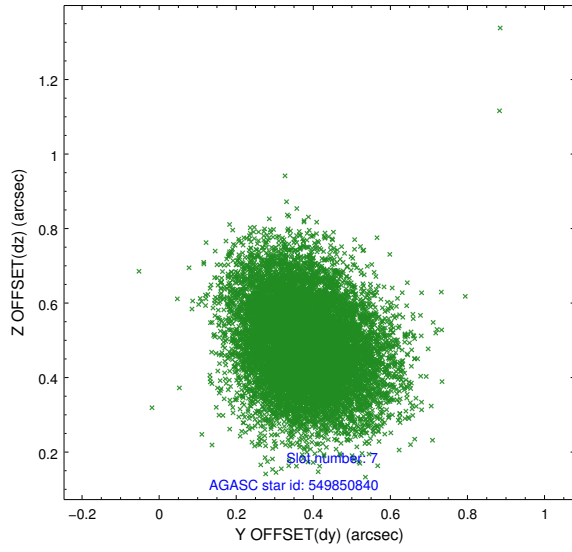
2.4.2 Slot 4



2.4.3 Slot 6

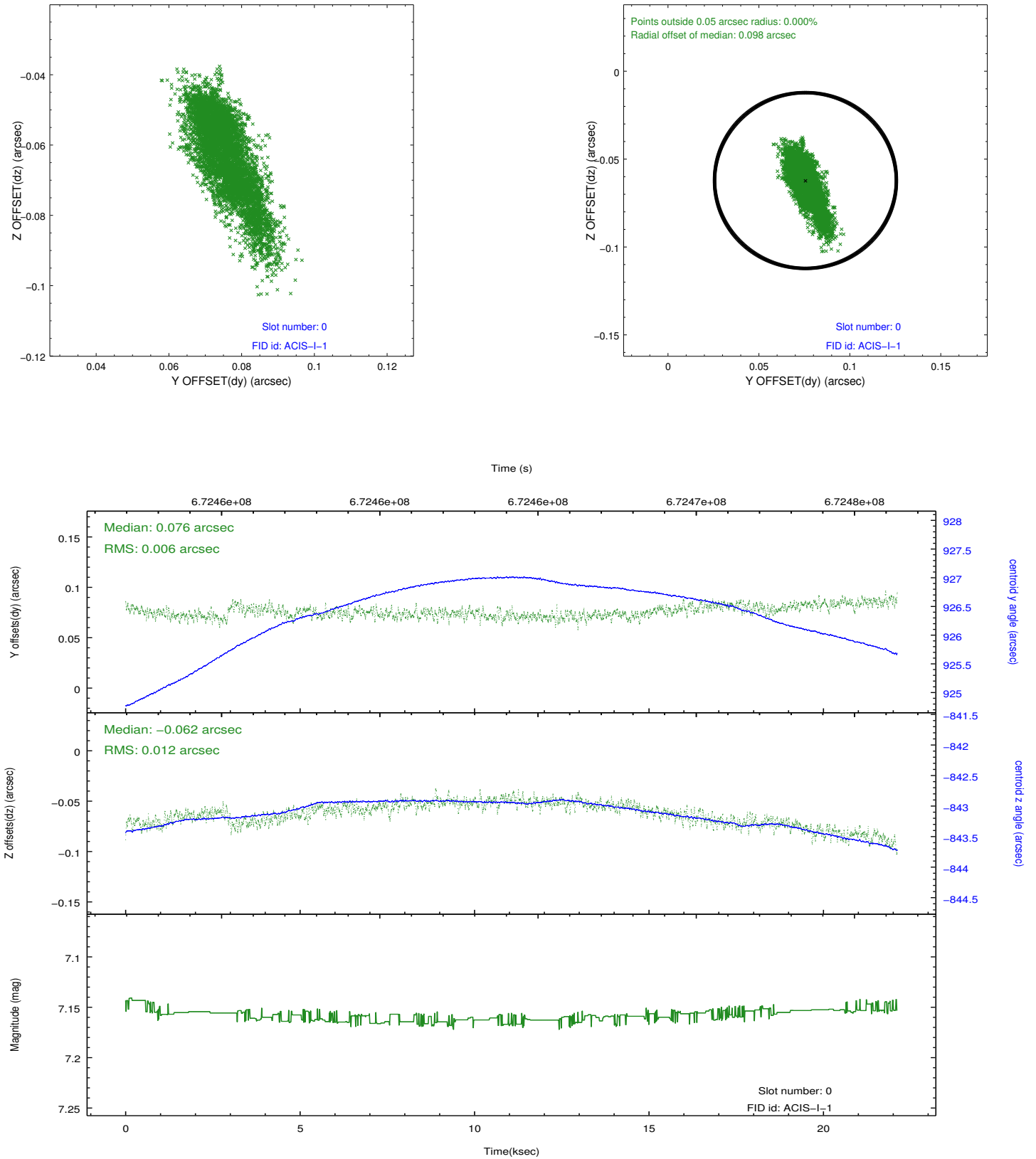


2.4.4 Slot 7

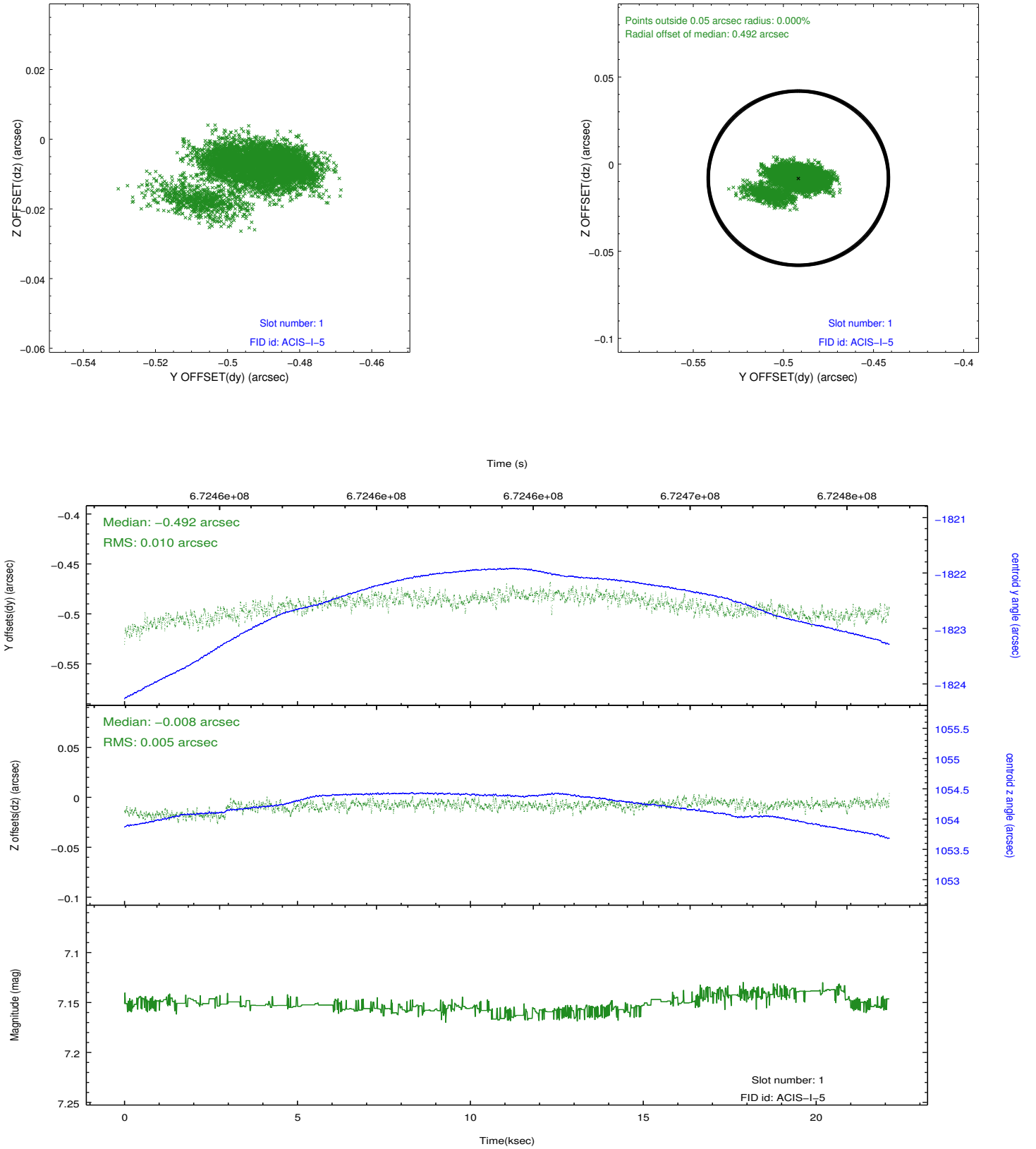


2.5 FID Slots

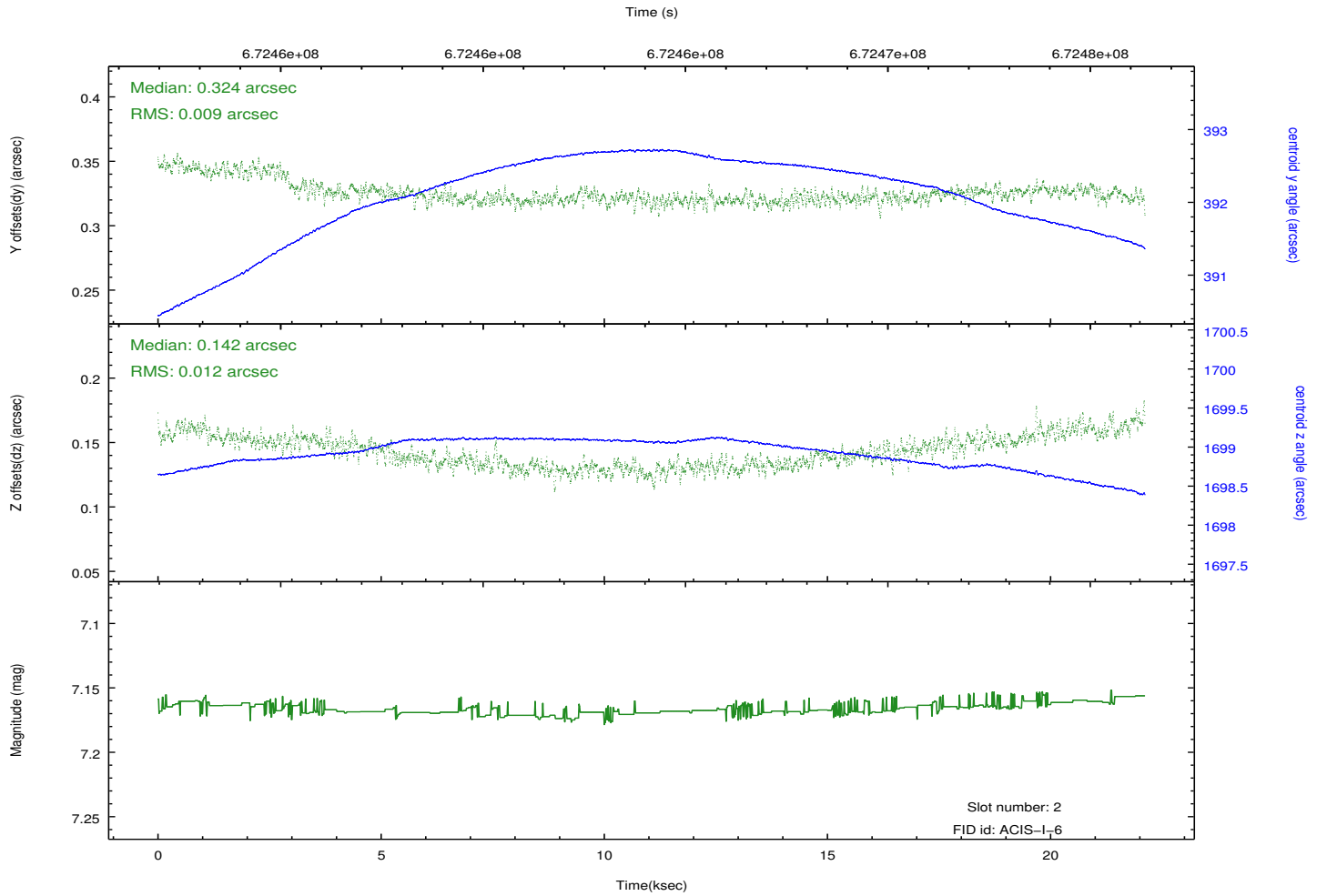
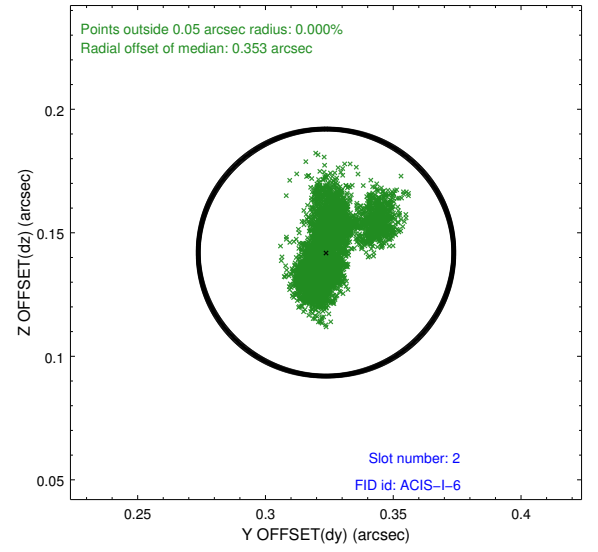
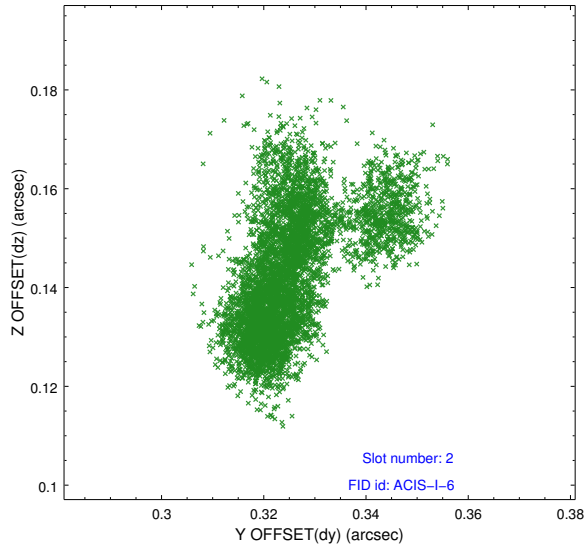
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2019.04.24
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	22.064382510424

A.2 Comments

The guide star in slot 5 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.