

V&V Reference Report

L2 ASCDS Version : 10.7.1

Observation 22238 - L2 Version 1
Chandra X-Ray Center

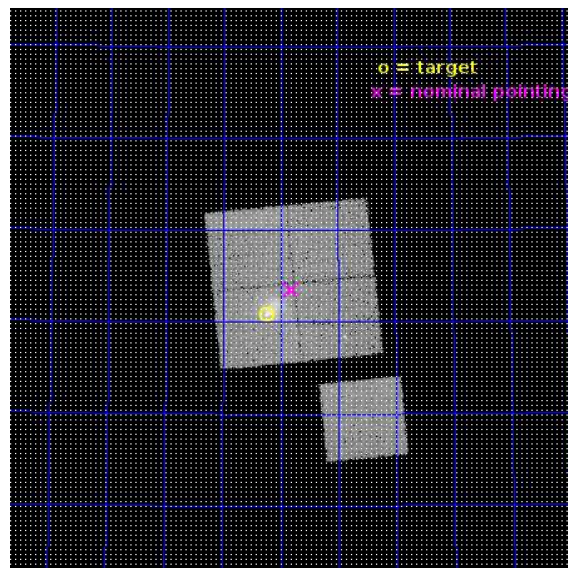
L2 Processing Date : Jun 1 2019

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1 Front

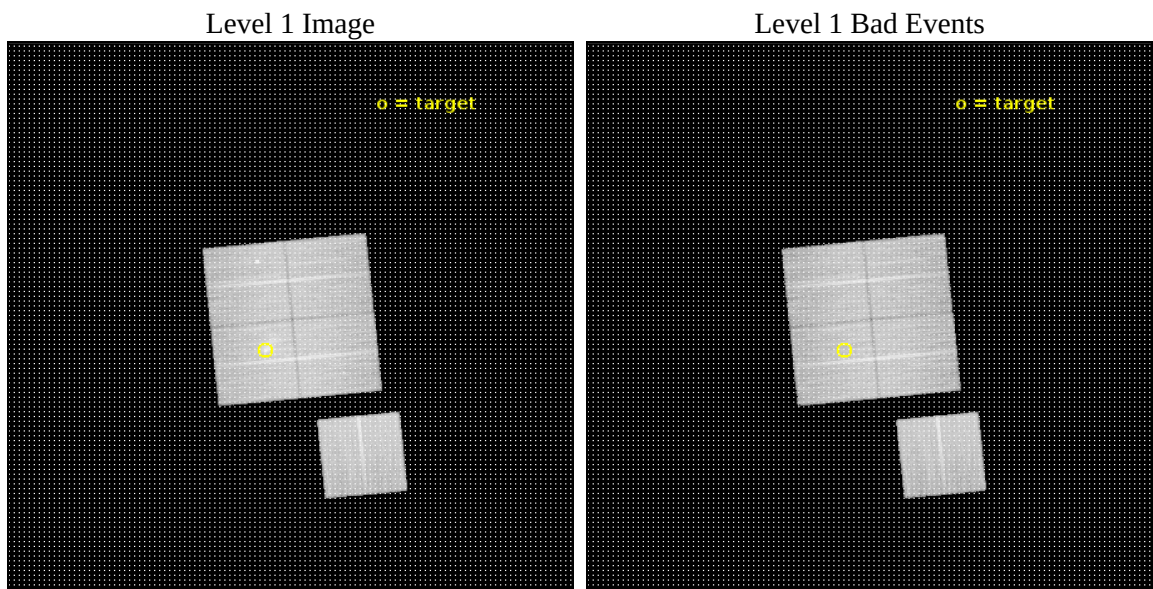
seq_num	801762	Sequence number
obs_id	22238	Observation id
title	Shock structure, the electron-ion equilibration timescale and the disintegrating cool core in A2146	Proposal title
observer	Helen Russell	Principal investigator
object	Abell 2146	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	239.06125	Observer's specified target RA [deg]
dec_targ	66.346917	Observer's specified target Dec [deg]
ra_nom	238.95272993403	Nominal RA [deg]
dec_nom	66.392350066769	Nominal Dec [deg]
roll_nom	174.30811196948	Nominal Roll [deg]
revision	1	Processing version of data
ontime	30066.11210084	Sum of GTIs [s]
livetime	29673.276211892	Livetime [s]
ontime0	30062.848020673	Sum of GTIs [s]
ontime1	30066.030020833	Sum of GTIs [s]
ontime2	30066.071060896	Sum of GTIs [s]
ontime3	30066.11210084	Sum of GTIs [s]
ontime6	30065.947940826	Sum of GTIs [s]
l2events	120068	Number of level 2 events



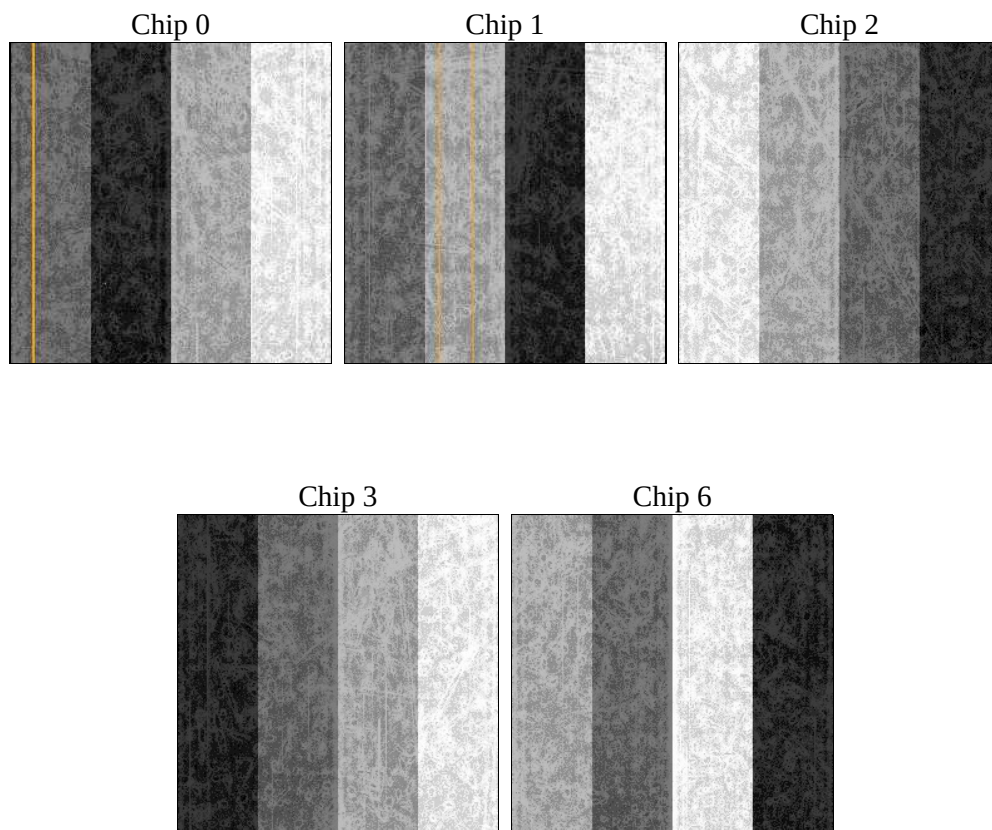
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	10.7.1	Processing system revision	ontime	30066.11210084	Sum of GTIs [s]
caldsver	4.8.3	 	ontime0	30062.848020673	Sum of GTIs [s]
date	2019-06-01T06:01:31	Date and time of file creation	ontime1	30066.030020833	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	30066.071060896	Sum of GTIs [s]
			ontime3	30066.11210084	Sum of GTIs [s]
			ontime6	30065.947940826	Sum of GTIs [s]
			l1events	1133943	Number of level 1 events

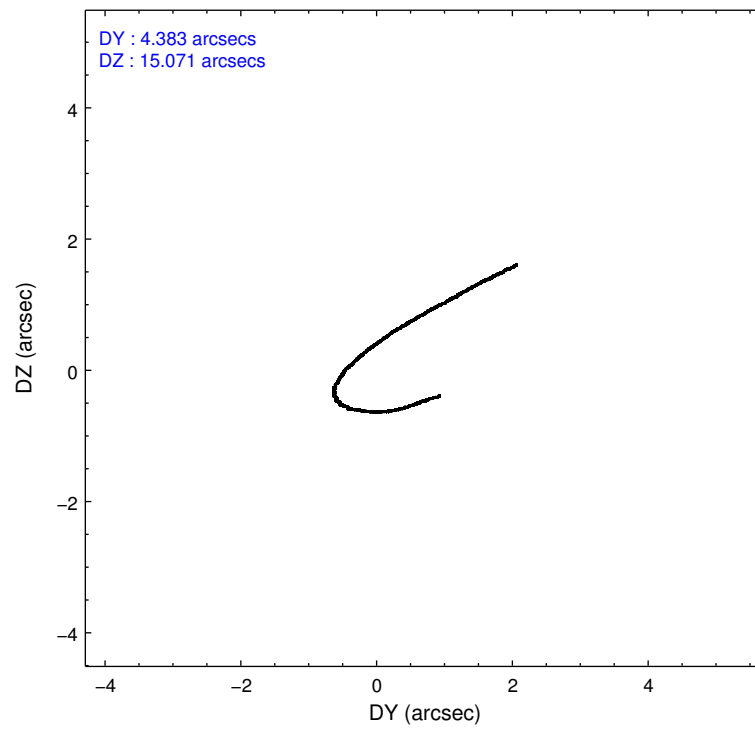
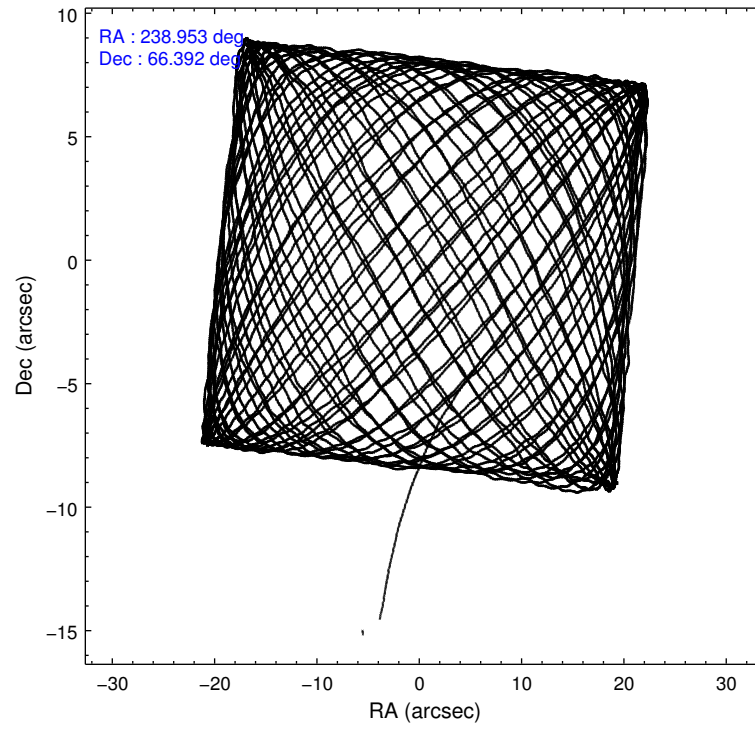
2.1.4 Events

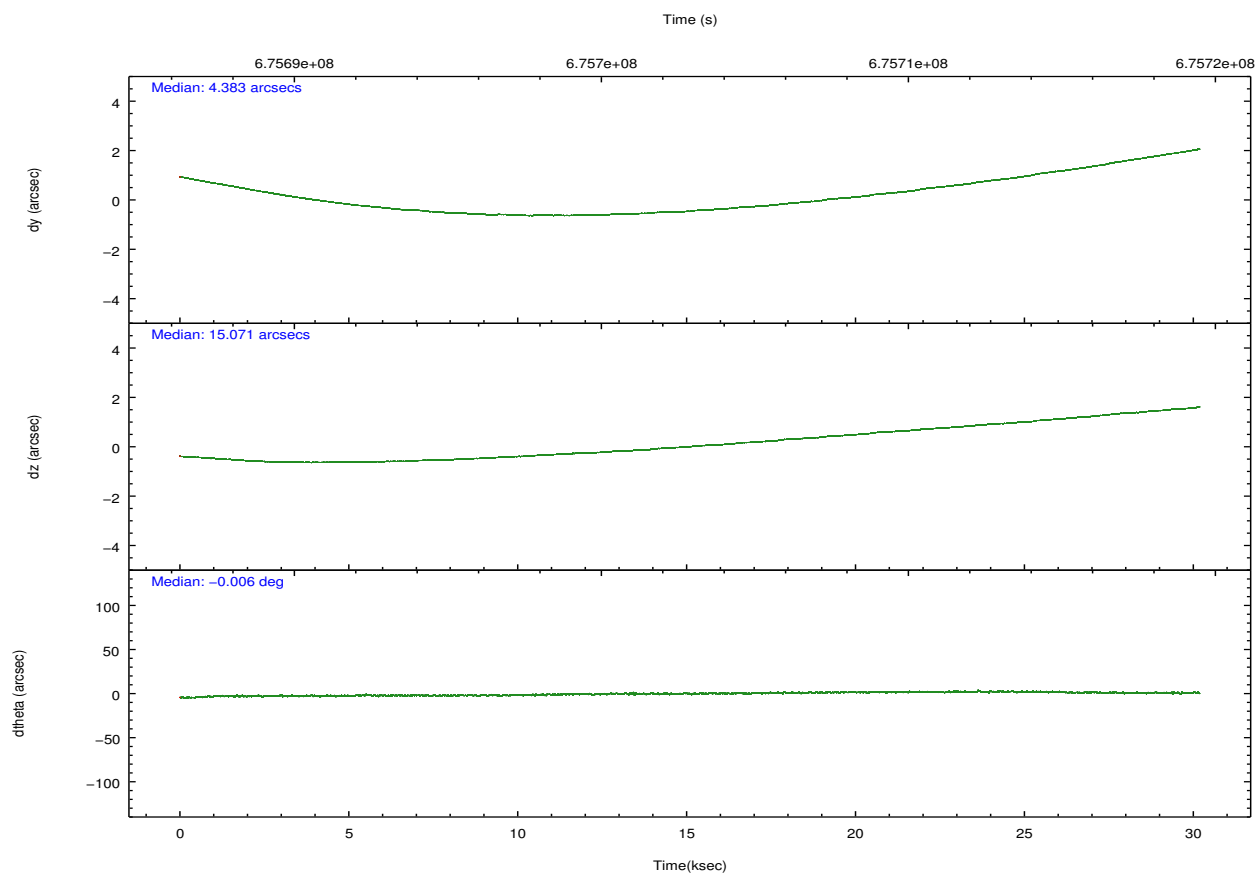
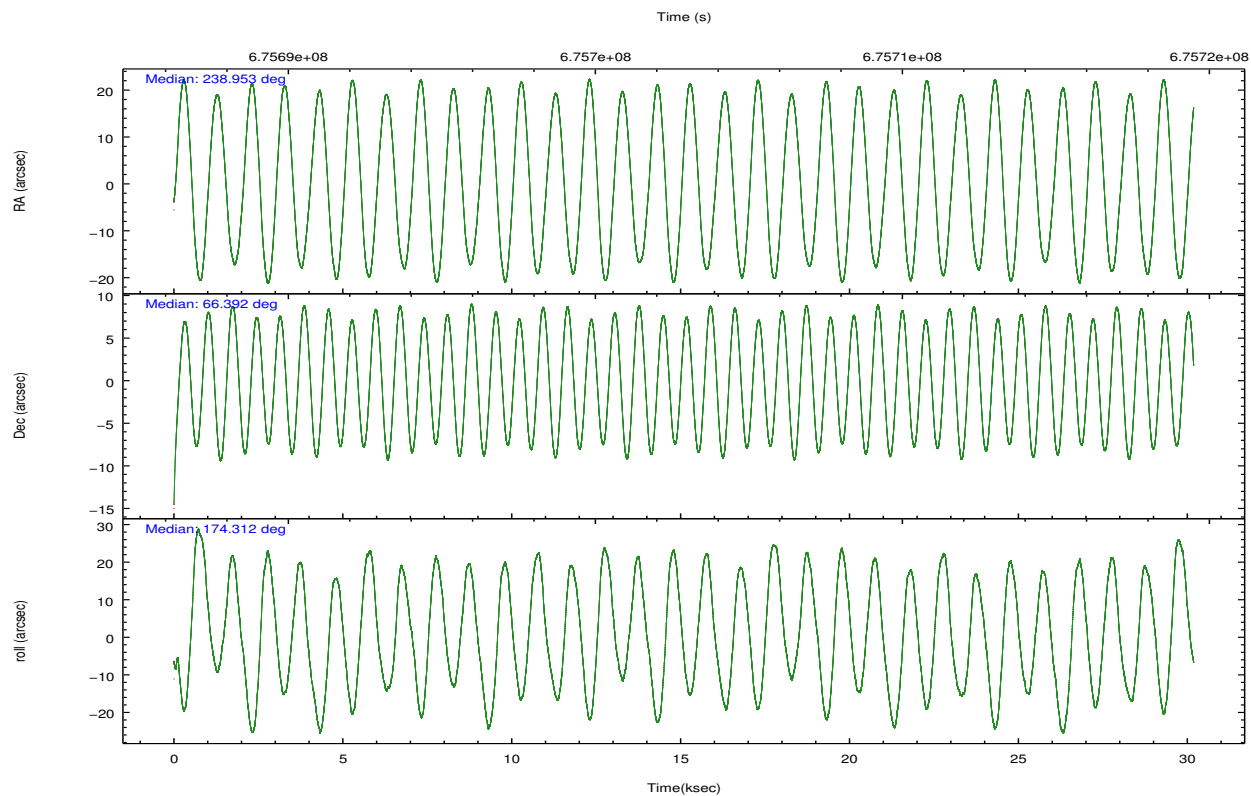
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	208469	219375	232072	241650	232377	grade 0 events	8392	10114	8688	19008	7812
rejected events	183304	190034	207652	204048	207238		4%	4%	3%	7%	3%
rejected %	87%	86%	89%	84%	89%	grade 1 events	114	110	144	209	97
							0%	0%	0%	0%	0%
						grade 2 events	6358	7549	5977	6905	6353
							3%	3%	2%	2%	2%
						grade 3 events	2532	2625	2405	3006	2354
							1%	1%	1%	1%	1%
						grade 4 events	2389	2523	2485	3009	2264
							1%	1%	1%	1%	0%
						grade 5 events	9676	9967	9029	10877	10200
							4%	4%	3%	4%	4%
						grade 6 events	5497	6533	4870	5683	6363
							2%	2%	2%	2%	2%
						grade 7 events	173511	179954	198474	192953	196934
							83%	82%	85%	79%	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	239.015466	238.9527299340286	CCD I2 on	Y	Y
[deg] Pointing Dec	66.403774	66.3923500667695	CCD I3 on	Y	Y
[deg] Pointing Roll	174.041957	174.3081119694779	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)	675687978.184000	675686676.61465	CCD S5 on	N	N
Observation start date	2019-05-31T11:05:09	2019-05-31T10:44:36	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	675717978.184000	675719038.42909	On-chip summing requested	N	N
Observation end date	2019-05-31T19:25:09	2019-05-31T19:43:58	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



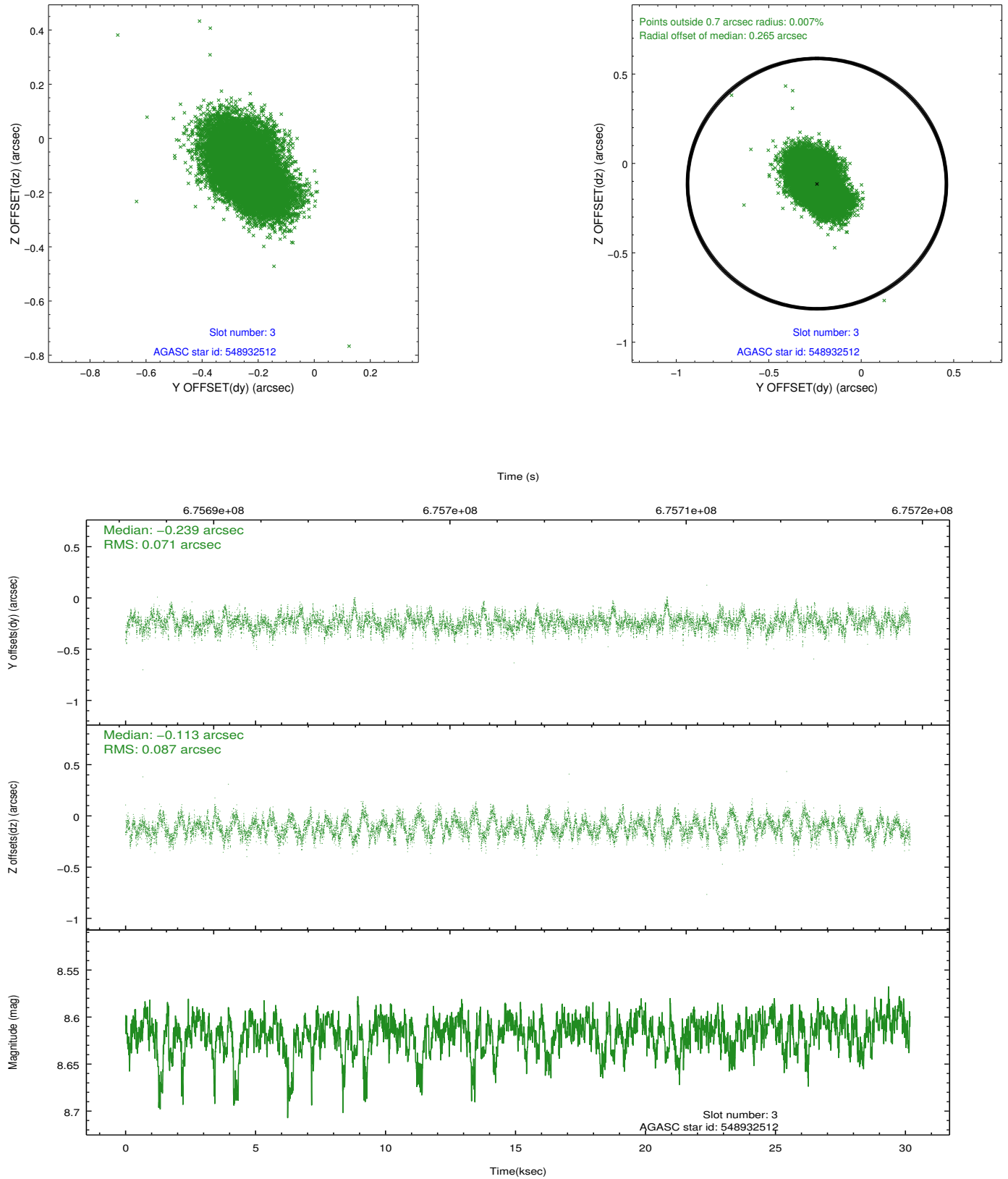


Slot Statistics

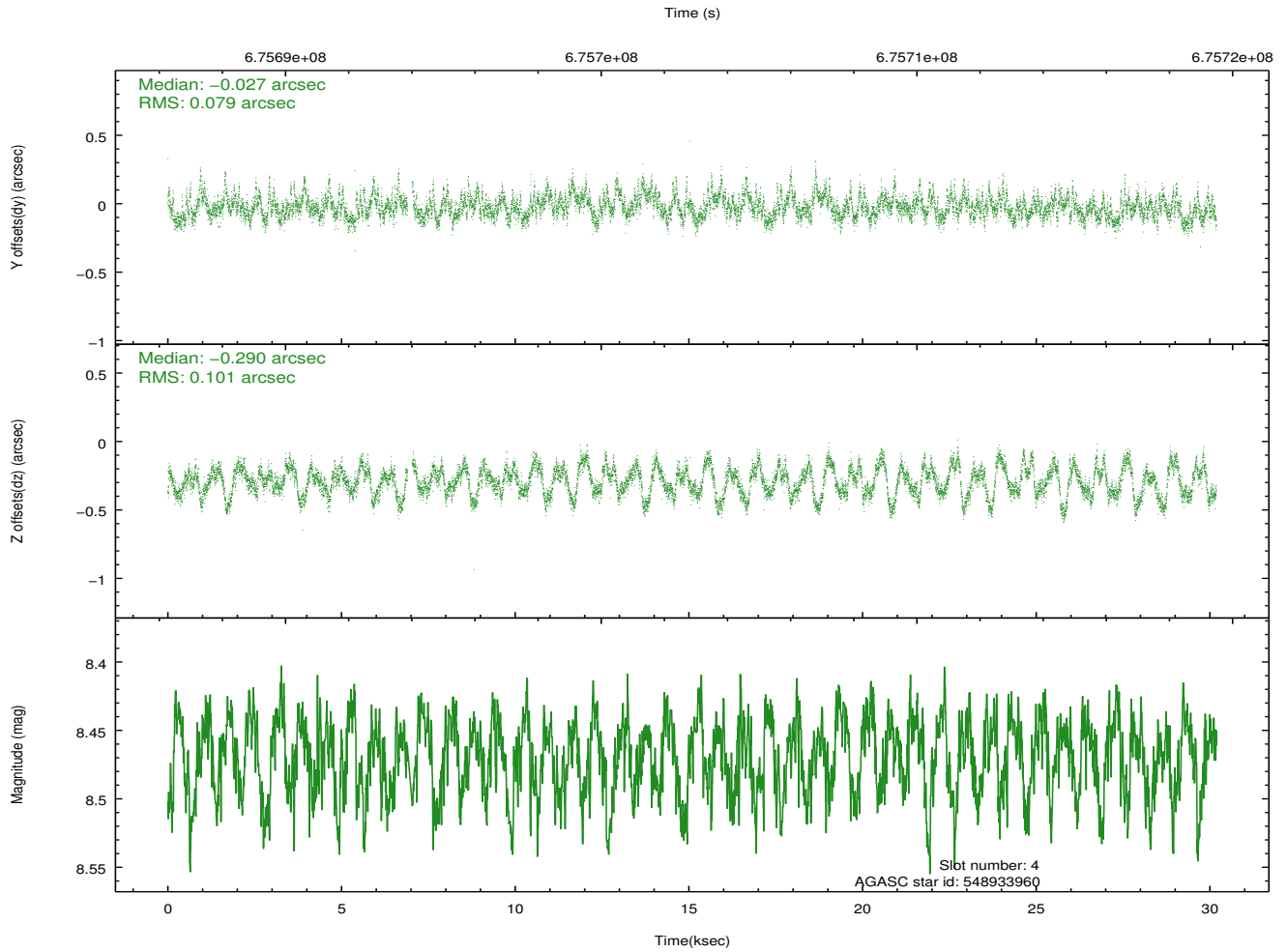
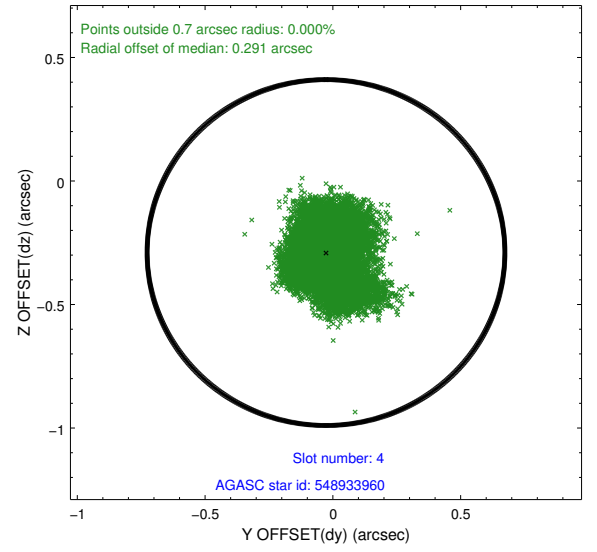
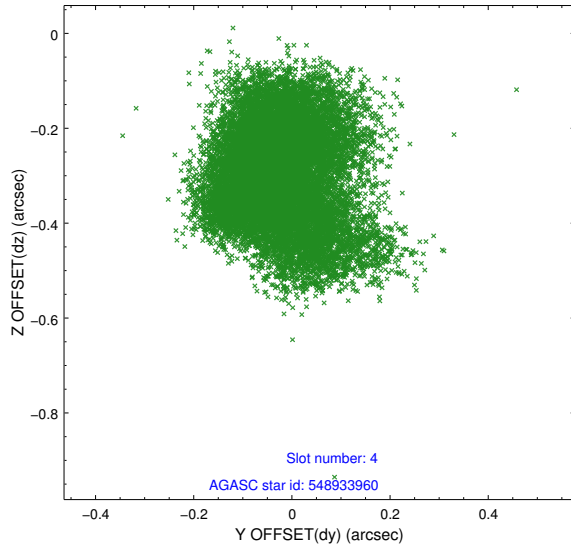
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.20	7364	1.000	0.101	-0.102	0.024	0.037	0.000000	0.000000	935.33	-838
1	FID		ACIS-I-5	7.16	7363	1.000	-0.409	0.035	0.011	0.019	0.000000	0.000000	-1813.39	1058
2	FID		ACIS-I-6	7.18	7363	1.000	0.217	0.142	0.020	0.028	0.000000	0.000000	400.72	1703
3	GUIDE	used	548932512	8.62	14715	1.000	-0.239	-0.113	0.119	0.193	239.727627	66.054972	-1164.62	1134
4	GUIDE	used	548933960	8.47	14648	1.000	-0.027	-0.290	0.136	0.221	237.671184	66.428675	1936.30	92
5	GUIDE	used	548937184	9.87	14646	1.000	-0.024	0.209	0.215	0.339	238.771821	66.565432	407.60	-542
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	9.12	14713	1.000	0.278	0.221	0.183	0.287	240.420863	66.802816	-1830.01	-1657

2.4 Star Slots

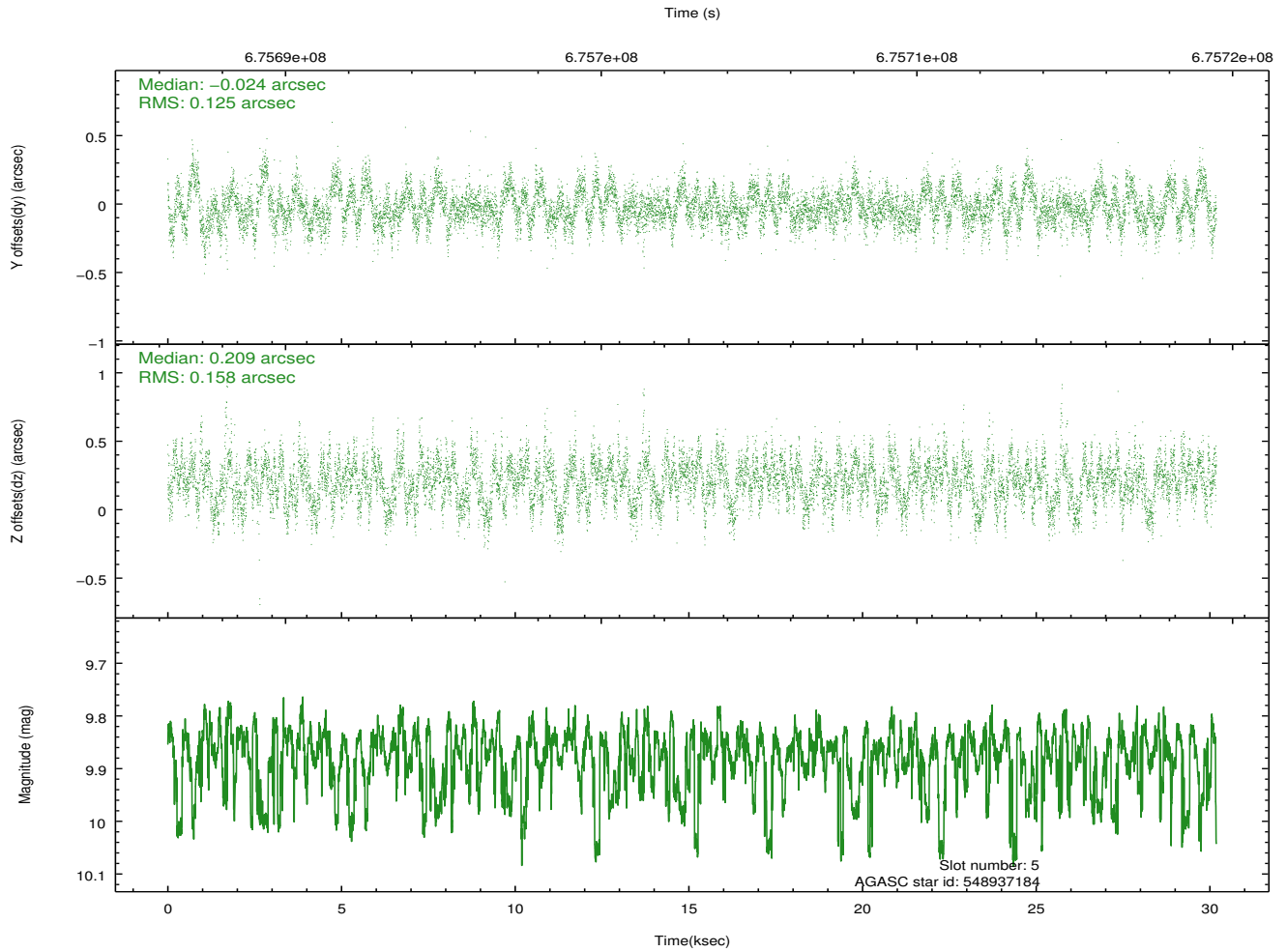
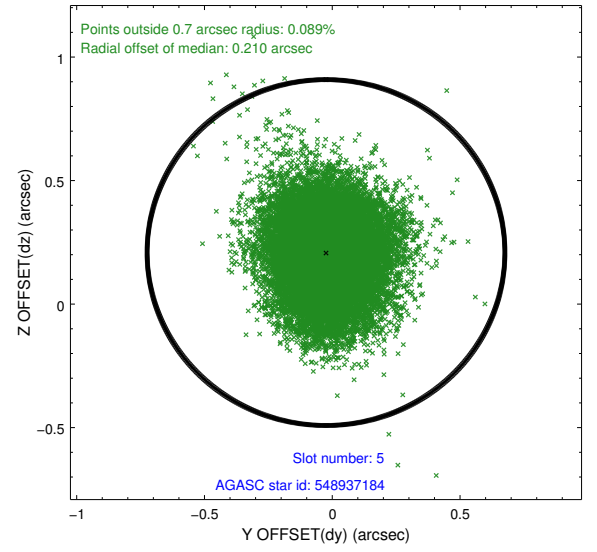
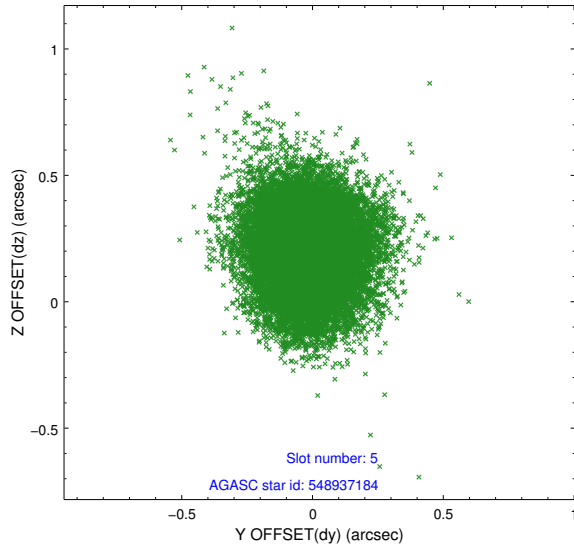
2.4.1 Slot 3



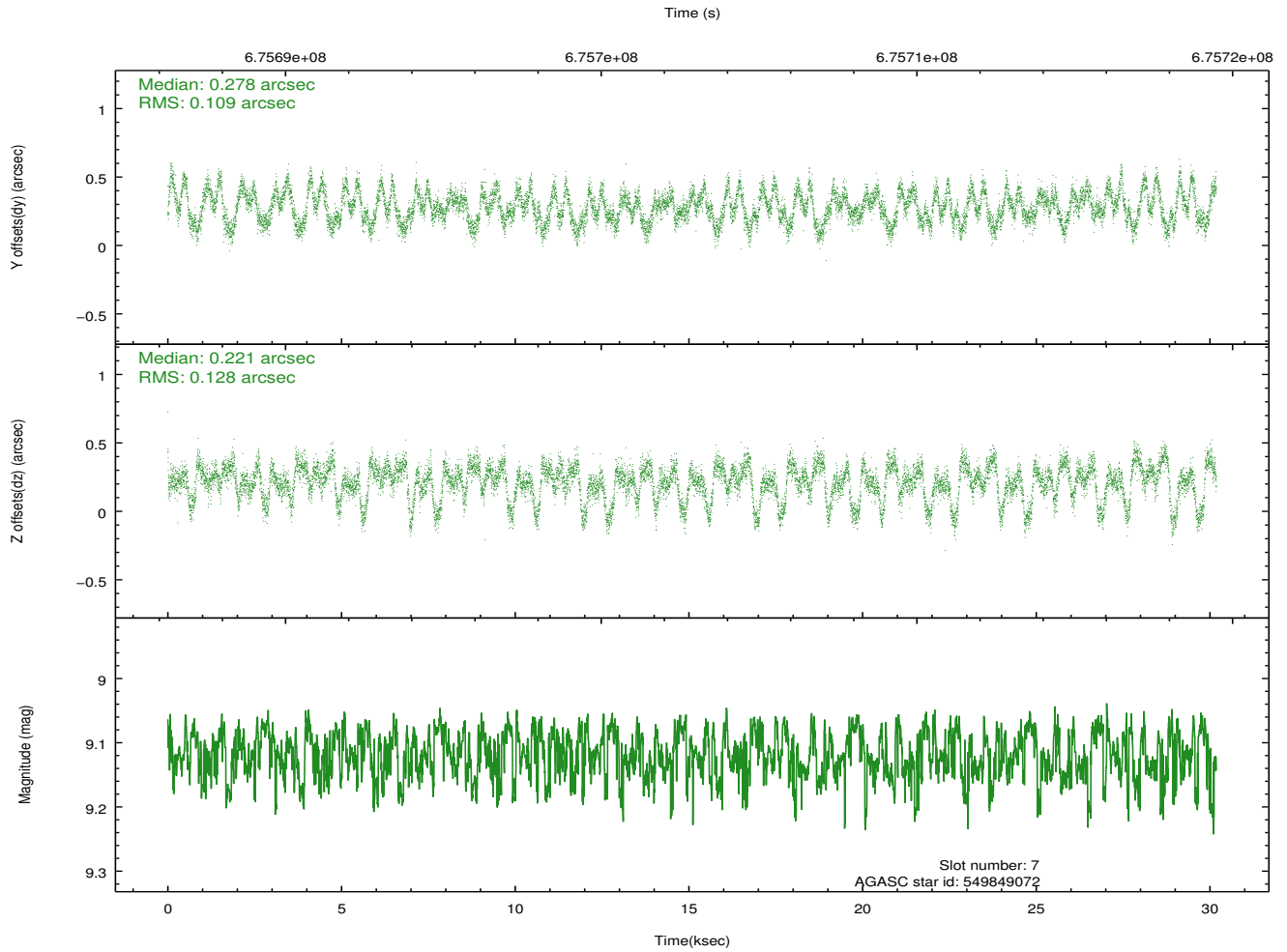
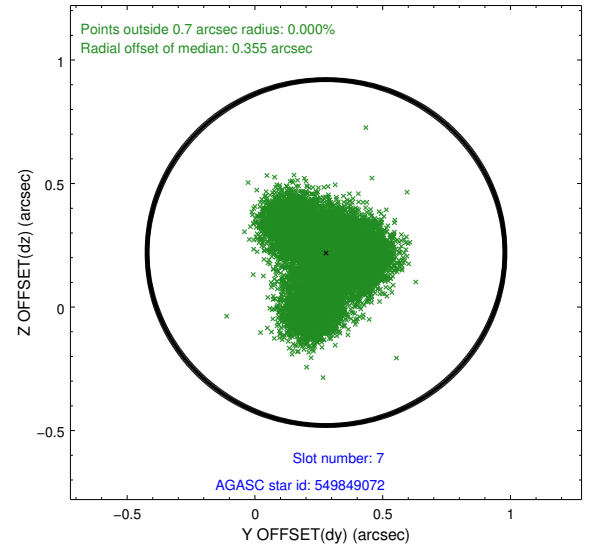
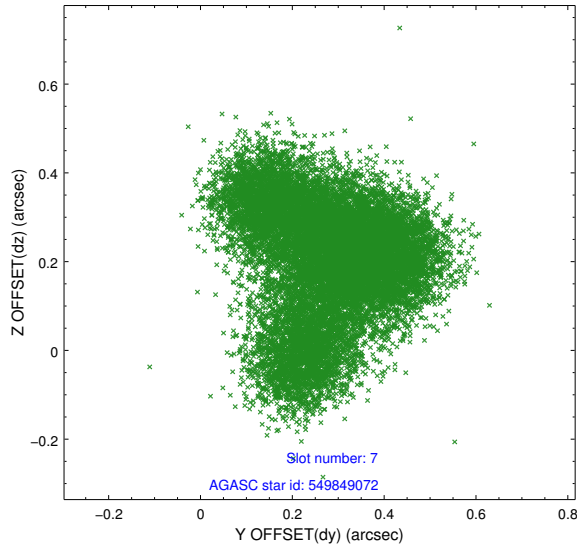
2.4.2 Slot 4



2.4.3 Slot 5

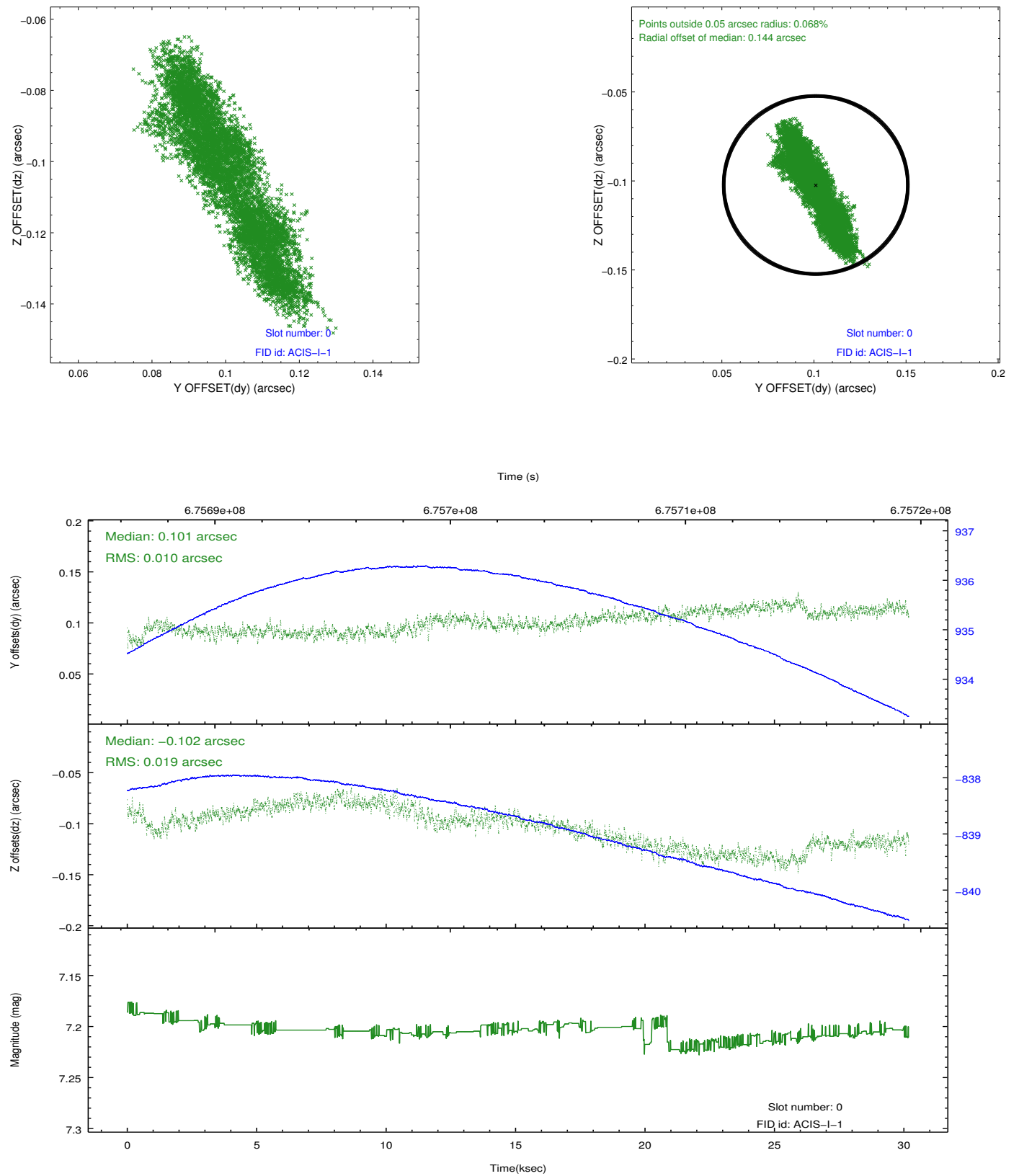


2.4.4 Slot 7

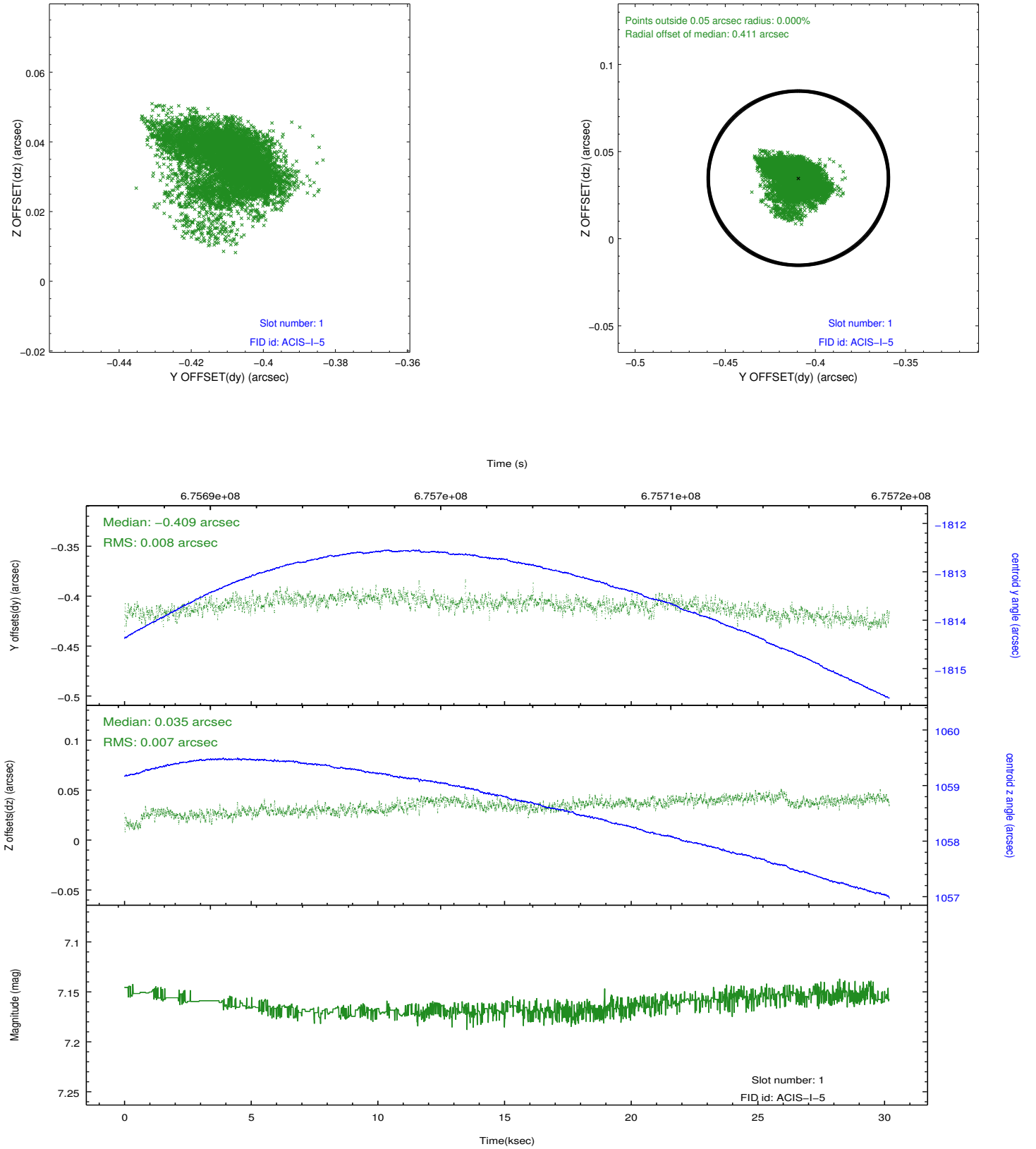


2.5 FID Slots

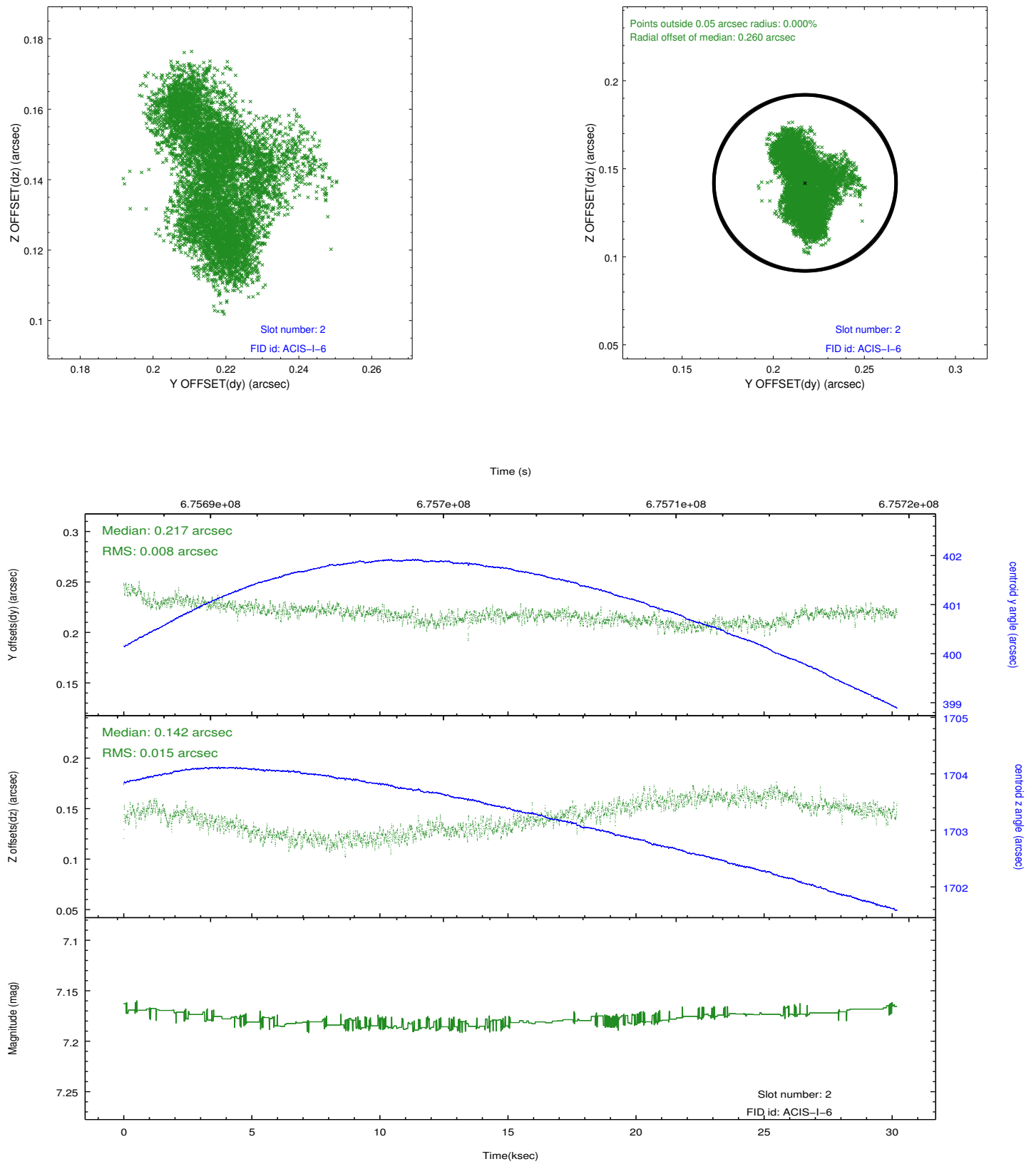
2.5.1 Slot 0



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)	2019.06.01
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.06611210084

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.