

V&V Reference Report

L2 ASCDS Version : 10.6

Observation 20880 - L2 Version 2
Chandra X-Ray Center

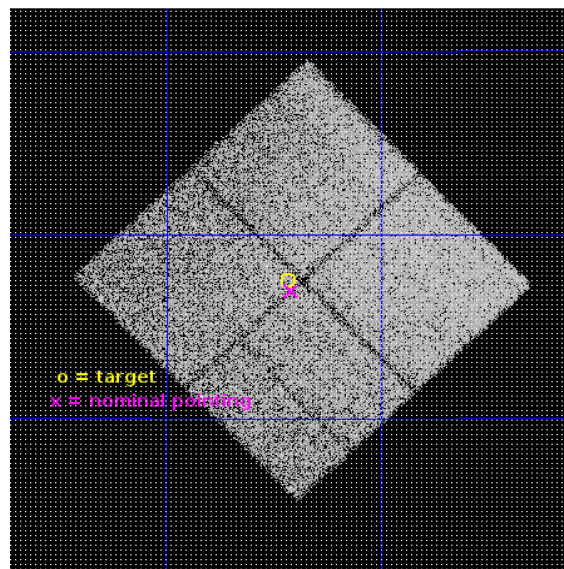
L2 Processing Date : Dec 7 2017

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1 Front

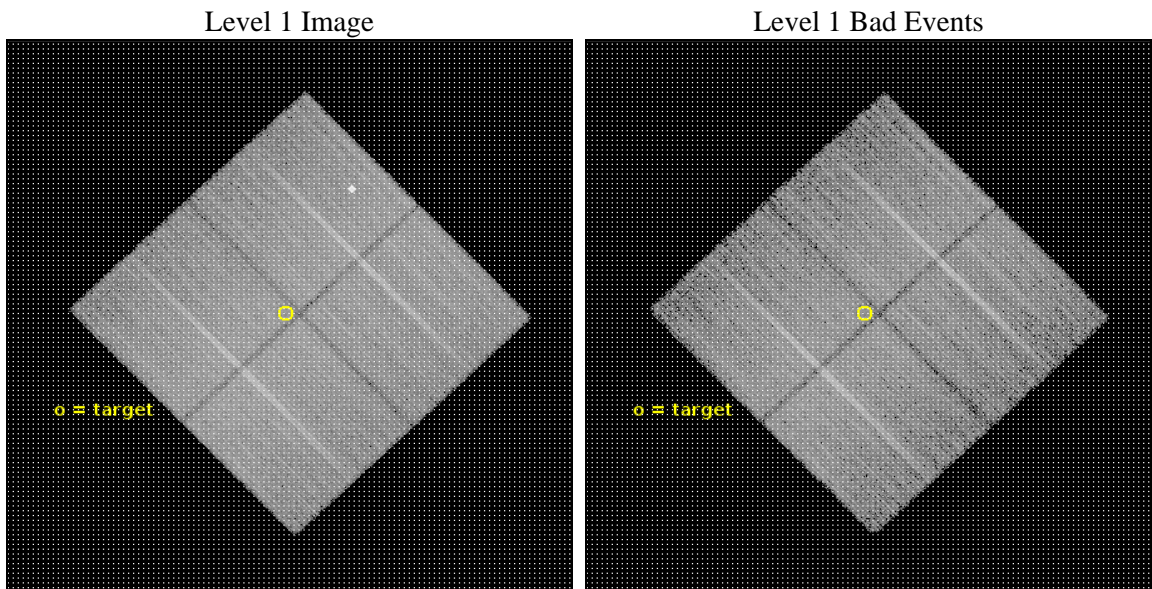
seq_num	801657	Sequence number
obs_id	20880	Observation id
title	A detailed study of the colossal 700 kpc radius cold front in the Perseus cluster	Proposal title
observer	Stephen Walker	Principal investigator
object	Perseus cold front 1	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	50.607917	Observer's specified target RA [deg]
dec_targ	41.458417	Observer's specified target Dec [deg]
ra_nom	50.60426893282	Nominal RA [deg]
dec_nom	41.449395933497	Nominal Dec [deg]
roll_nom	226.21109117384	Nominal Roll [deg]
revision	2	Processing version of data
ontime	27574.418061614	Sum of GTIs [s]
livetime	27214.137989648	Livetime [s]
ontime0	27580.70021224	Sum of GTIs [s]
ontime1	27574.418091655	Sum of GTIs [s]
ontime2	27571.277061343	Sum of GTIs [s]
ontime3	27574.418061614	Sum of GTIs [s]
l2events	119398	Number of level 2 events



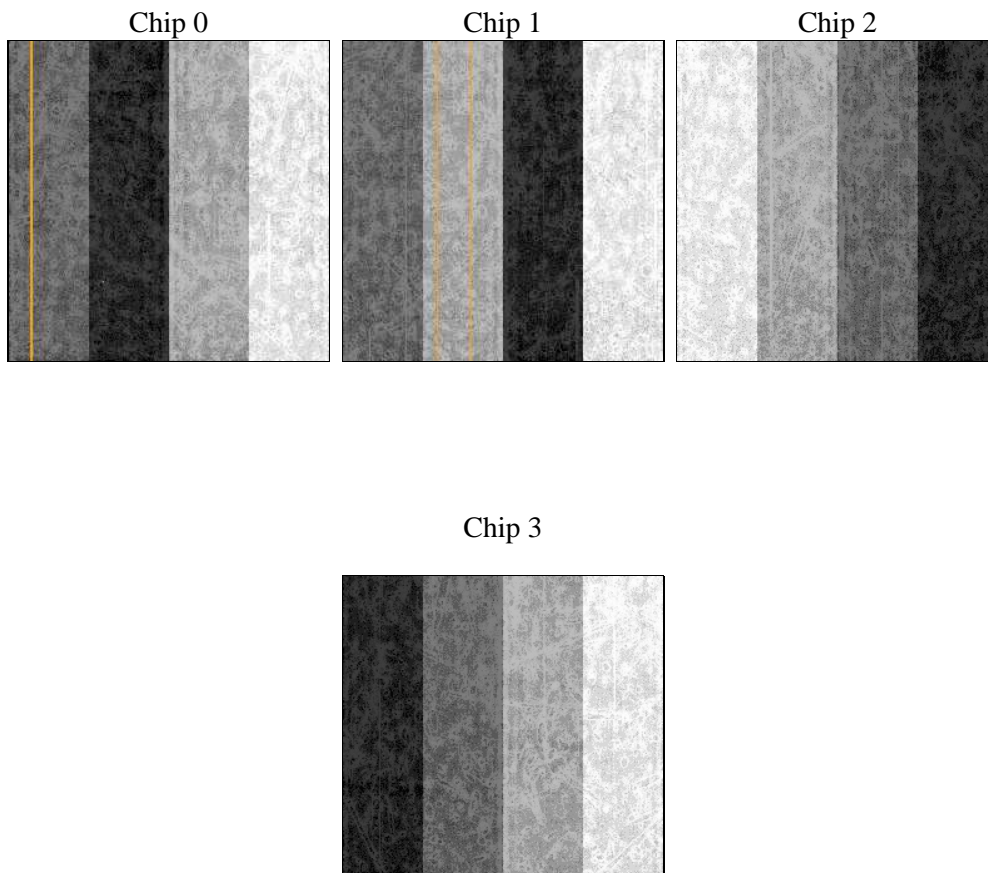
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	27500.000000	[s] Scheduled observation exposure time
ascdsver	10.6	Processing system revision	ontime	27574.418061614	Sum of GTIs [s]
caldsver	4.7.6	 	ontime0	27580.70021224	Sum of GTIs [s]
date	2017-12-07T16:55:32	Date and time of file creation	ontime1	27574.418091655	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	27571.277061343	Sum of GTIs [s]
			ontime3	27574.418061614	Sum of GTIs [s]
			l1events	800001	Number of level 1 events

2.1.4 Events

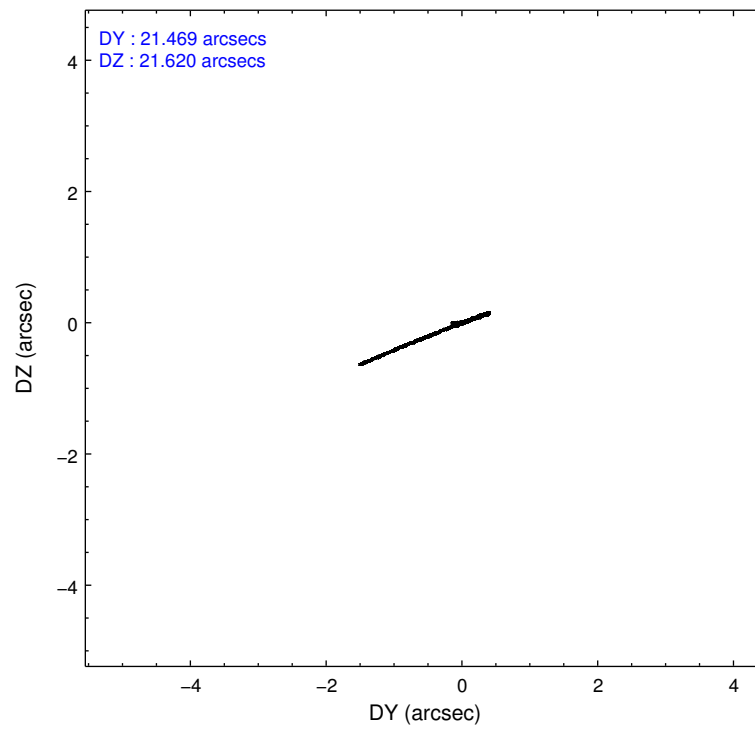
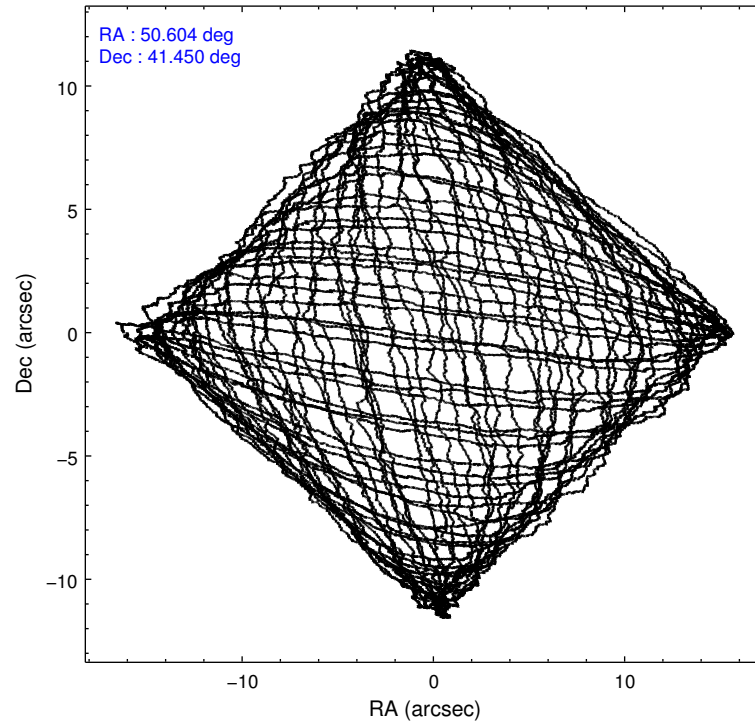
	ccd 0	ccd 1	ccd 2	ccd 3
level 1 events	202088	200756	204733	192424
rejected events	155420	160007	174524	167804
rejected %	76%	79%	85%	87%

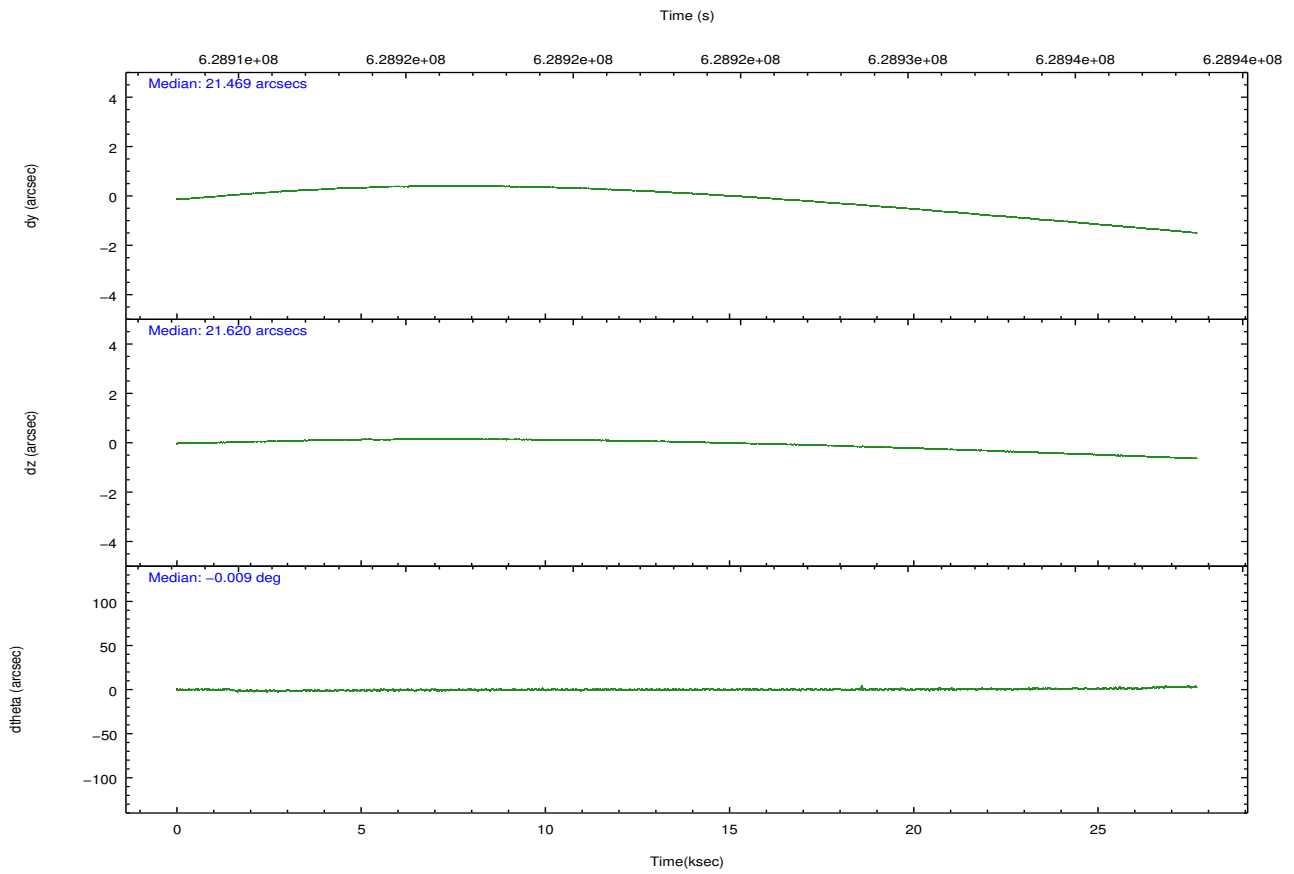
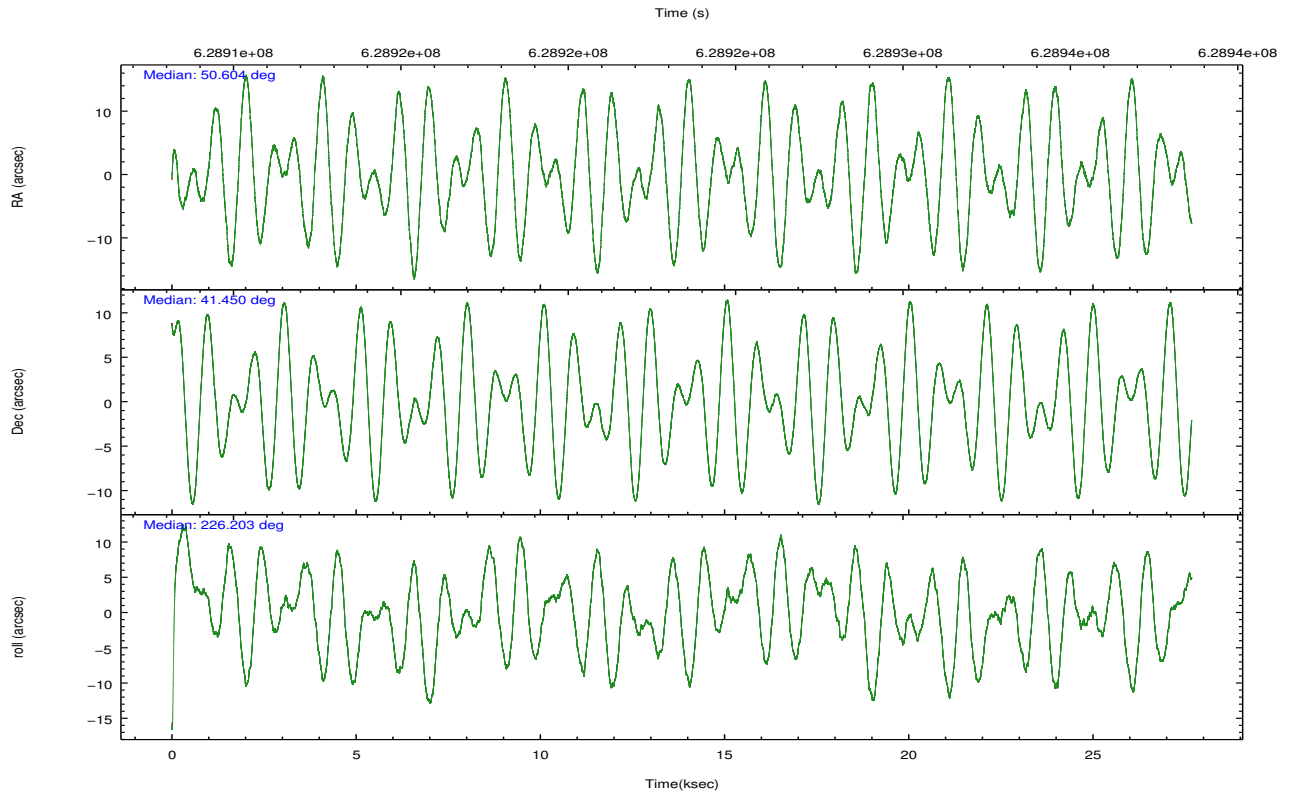
	ccd 0	ccd 1	ccd 2	ccd 3
grade 0 events	26716	22223	14912	10554
	13%	11%	7%	5%
grade 1 events	209	141	125	126
	0%	0%	0%	0%
grade 2 events	8371	7491	6102	5007
	4%	3%	2%	2%
grade 3 events	3142	2623	2413	2364
	1%	1%	1%	1%
grade 4 events	2944	2533	2453	2219
	1%	1%	1%	1%
grade 5 events	8370	8676	7580	9158
	4%	4%	3%	4%
grade 6 events	5504	5888	4330	4479
	2%	2%	2%	2%
grade 7 events	146832	151181	166818	158517
	72%	75%	81%	82%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-0123	ACIS-0123	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	50.612930	50.60426893282025	CCD I2 on	Y	Y
[deg] Pointing Dec	41.476229	41.44939593349684	CCD I3 on	Y	Y
[deg] Pointing Roll	225.996678	226.2110911738406	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	N
[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)	628909729.184000	628908581.1702	CCD S5 on	N	N
Observation start date	2017-12-06T01:07:40	2017-12-06T00:49:41	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	628937229.184000	628938192.39694	On-chip summing requested	N	N
Observation end date	2017-12-06T08:46:00	2017-12-06T09:03:12	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect





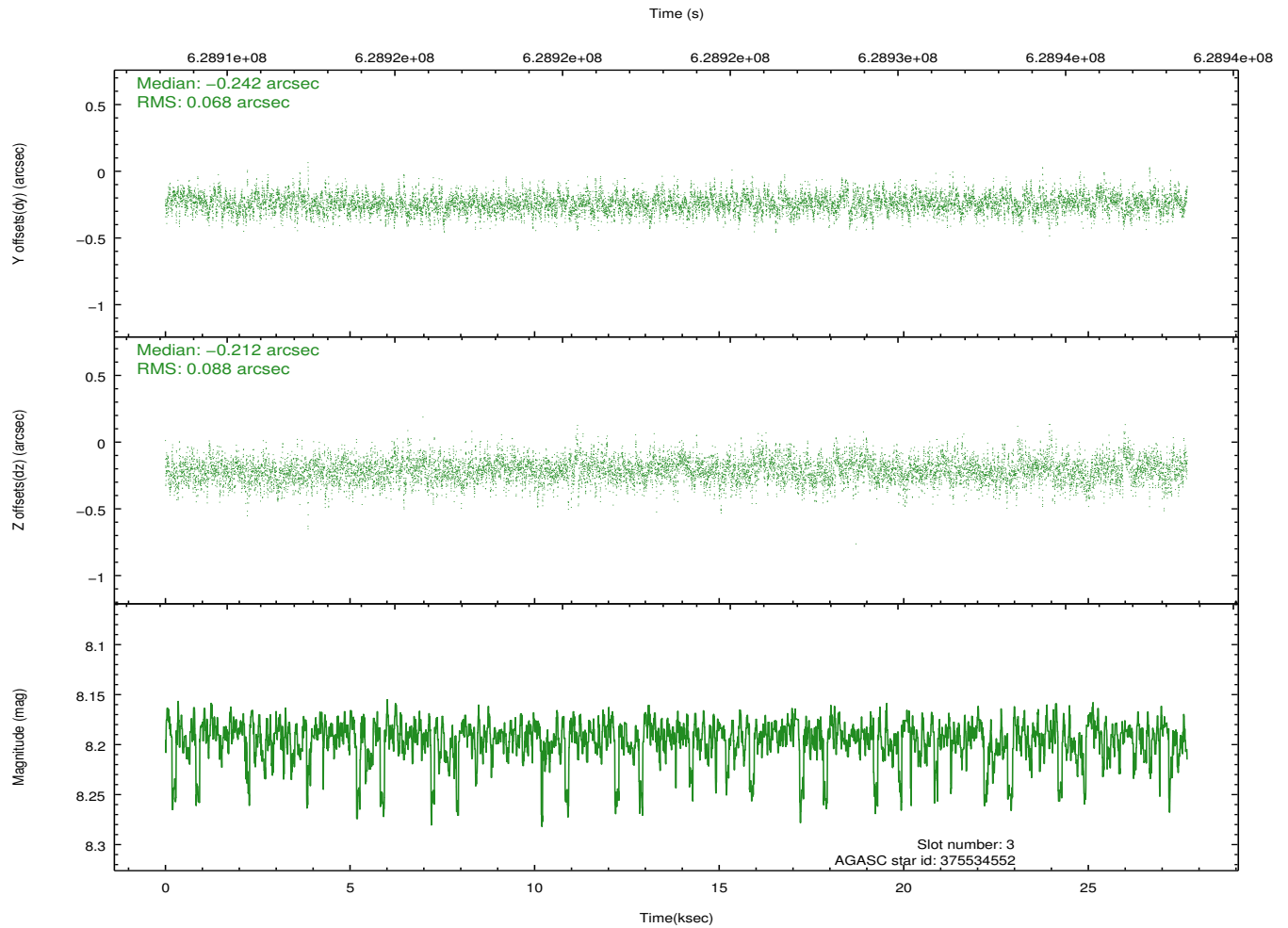
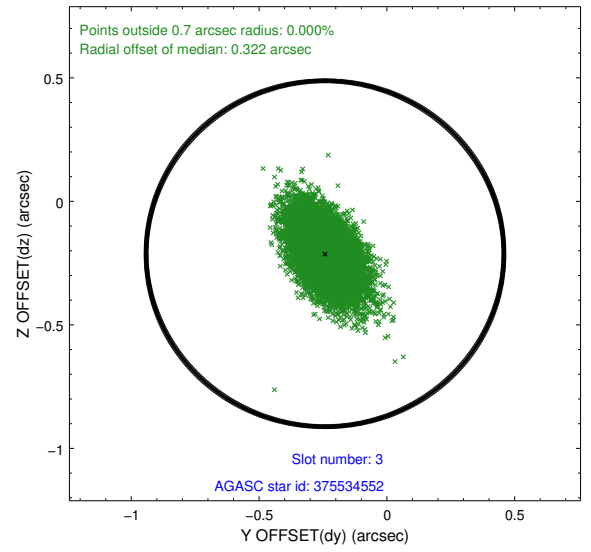
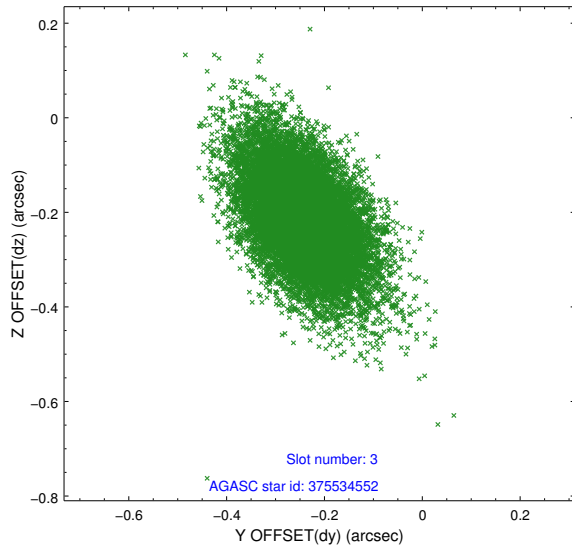
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.19	6752	0.221	-0.087	0.010	0.017	0.000000	0.000000	918.33	-845.28
1	FID		ACIS-I-2	7.08	6751	-0.105	-0.006	0.013	0.023	0.000000	0.000000	-776.03	-851.88
2	FID		ACIS-I-5	7.16	6751	-0.209	0.165	0.010	0.019	0.000000	0.000000	-1830.62	1052.09
3	GUIDE	used	375534552	8.19	13500	-0.242	-0.212	0.114	0.203	50.877490	41.206927	198.91	1188.82
4	GUIDE	used	376057824	8.31	13496	0.111	0.316	0.131	0.216	50.665569	41.926280	-1262.59	-1022.80
5	GUIDE	used	376070040	8.40	13499	0.154	0.310	0.129	0.225	50.072031	41.897206	-85.72	-2097.65
6	GUIDE	used	376070440	6.97	13501	-0.075	-0.174	0.127	0.217	51.289107	41.257301	-709.49	1858.54
7	GUIDE	used	373826120	8.88	13490	0.051	-0.242	0.146	0.242	49.738165	41.186341	2388.94	-987.49

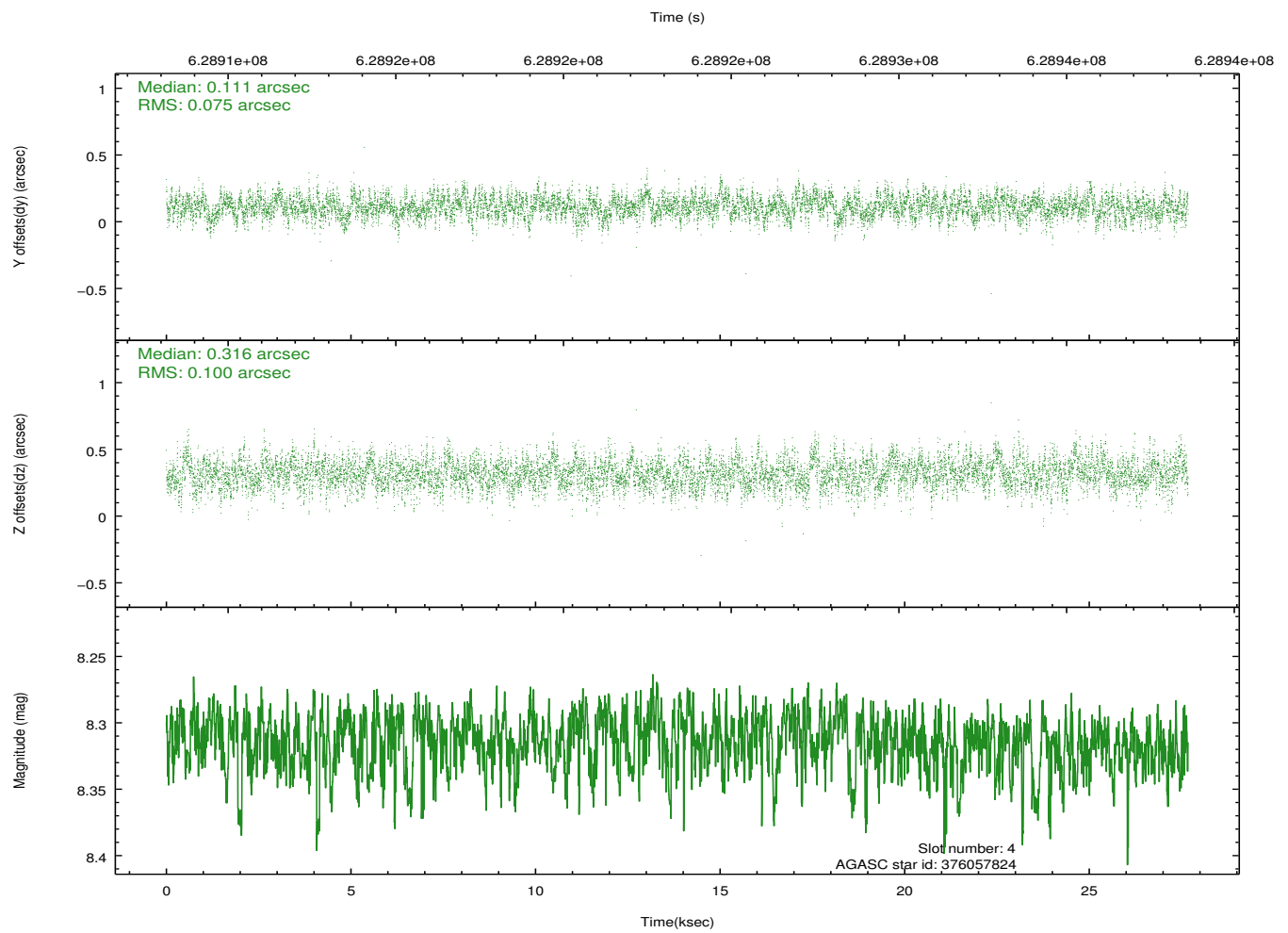
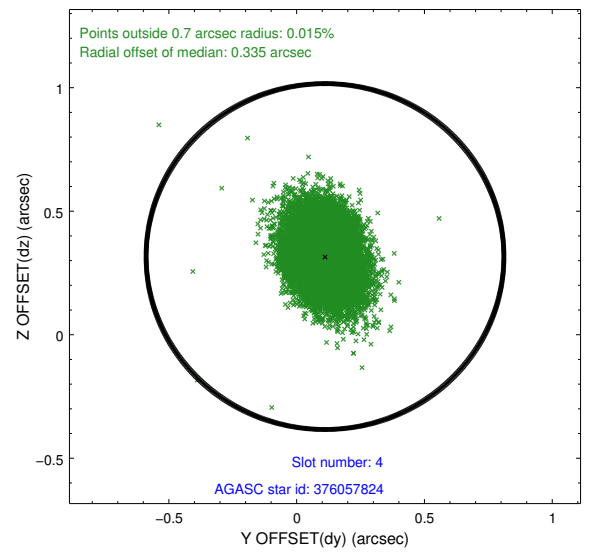
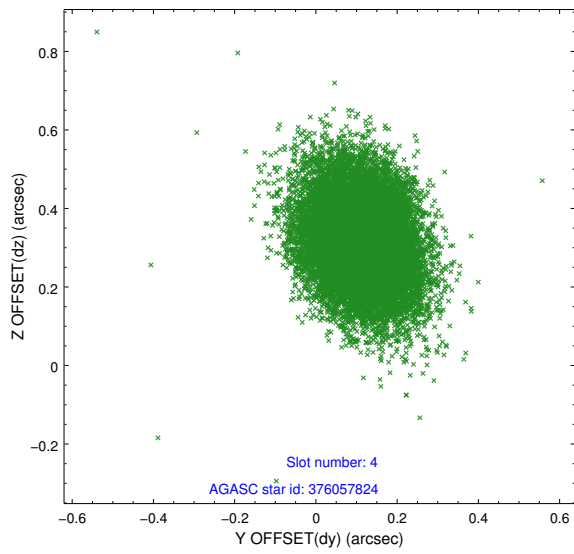
∞

2.4 Star Slots

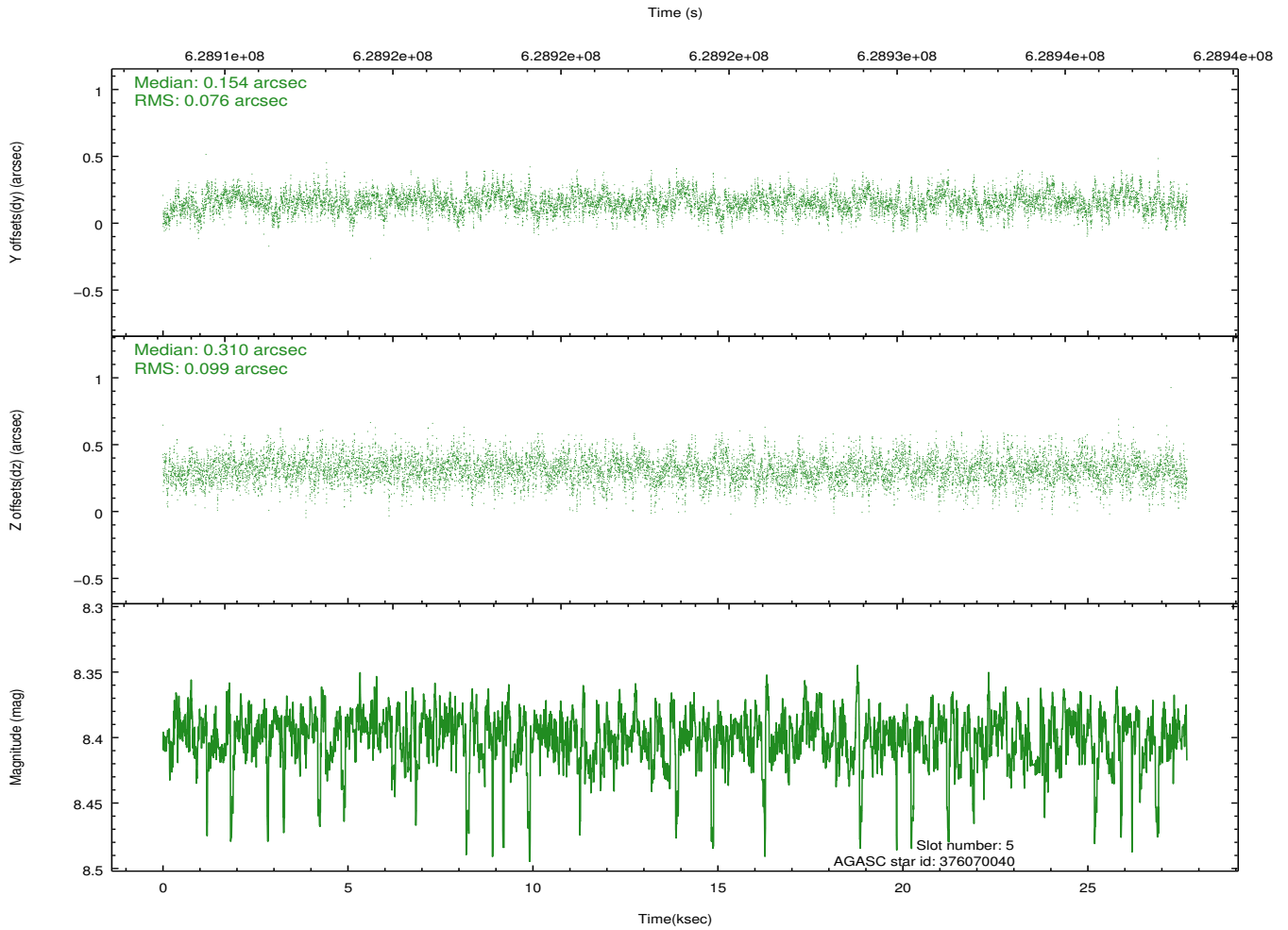
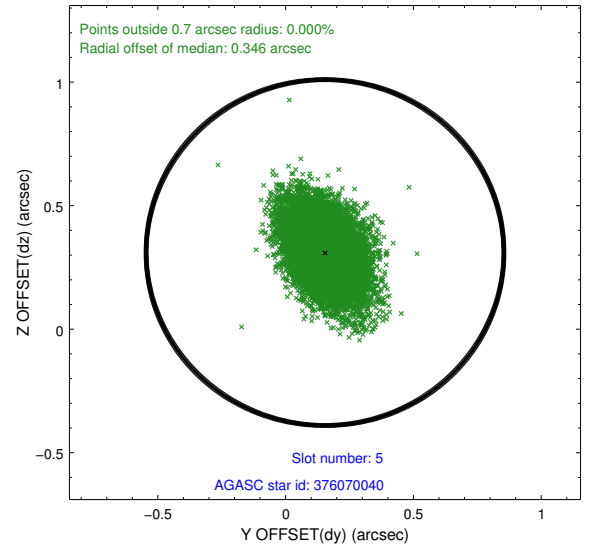
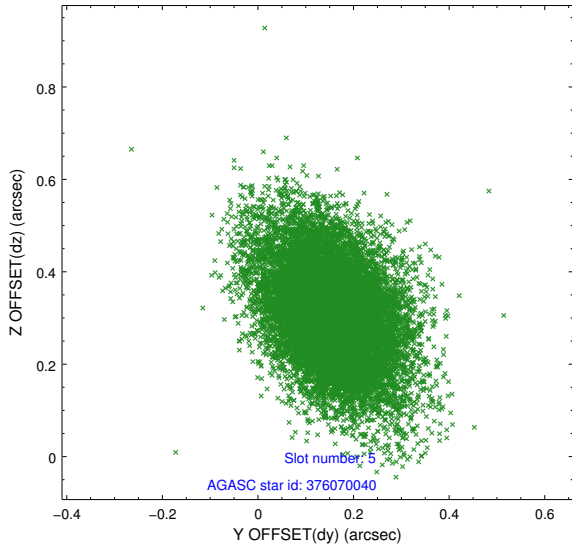
2.4.1 Slot 3



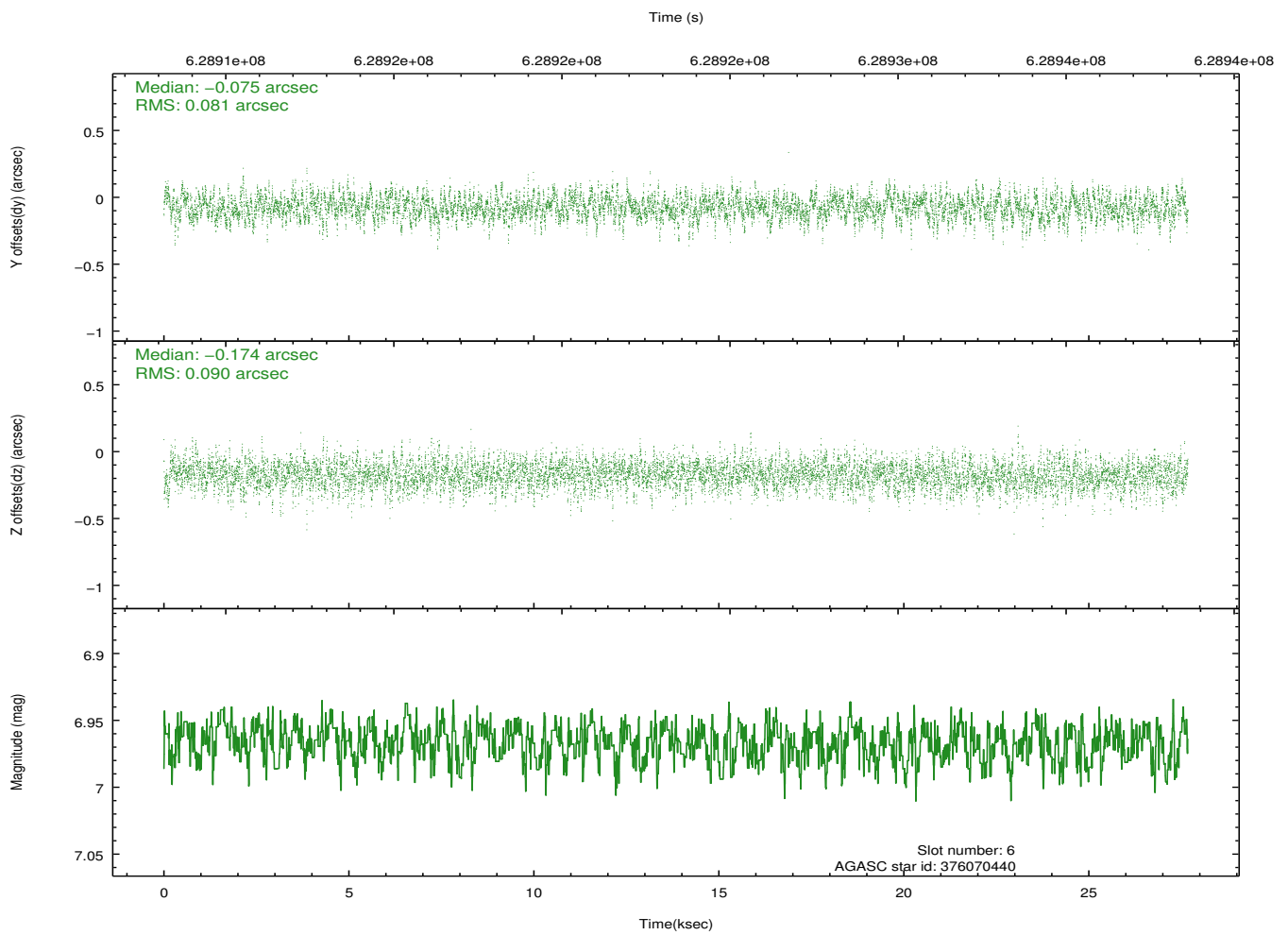
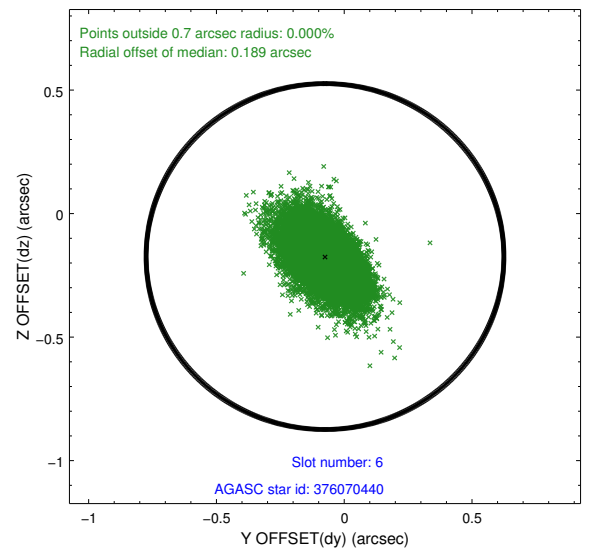
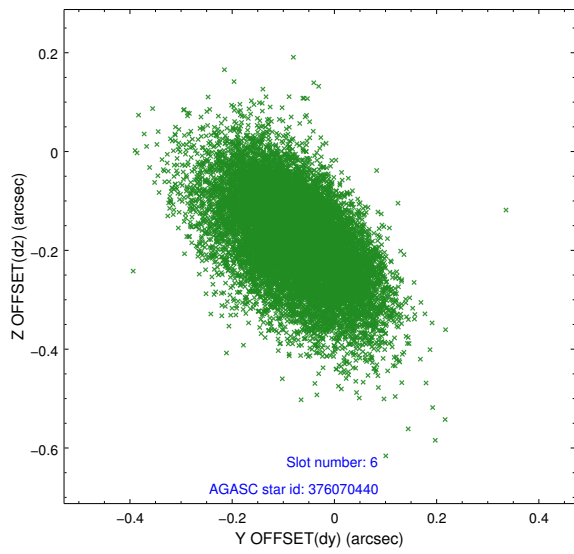
2.4.2 Slot 4



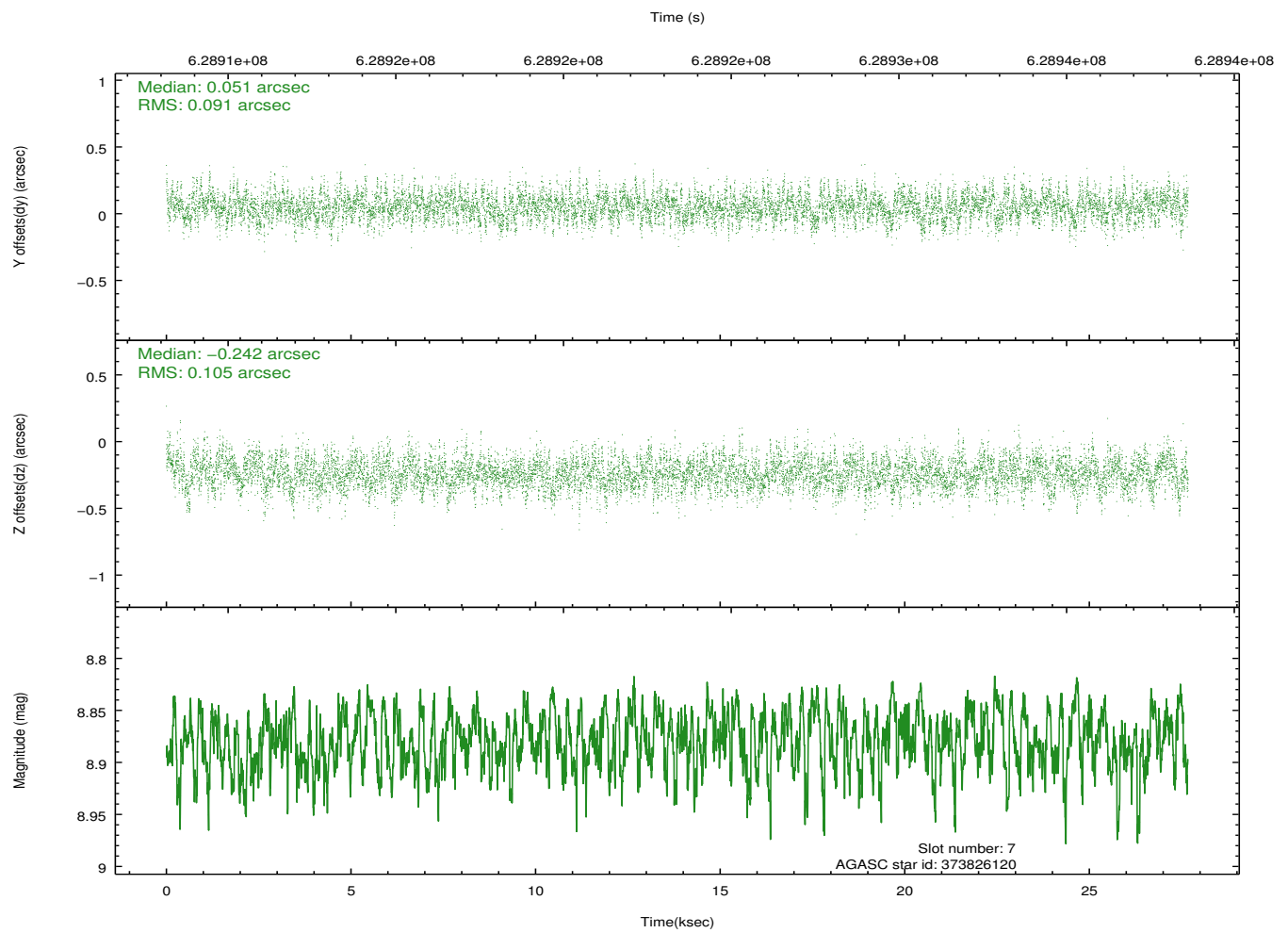
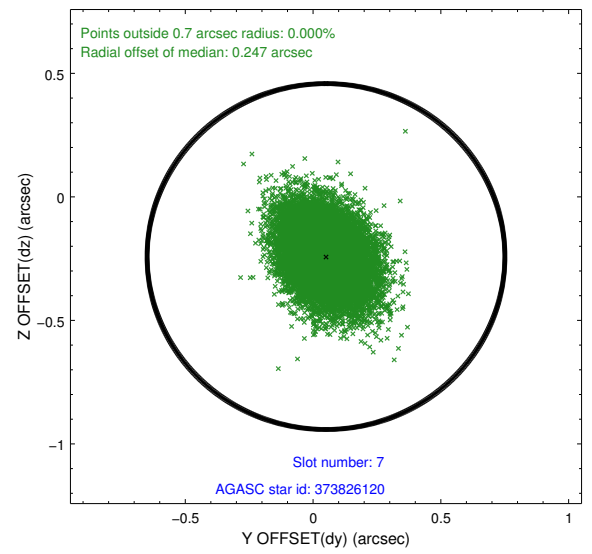
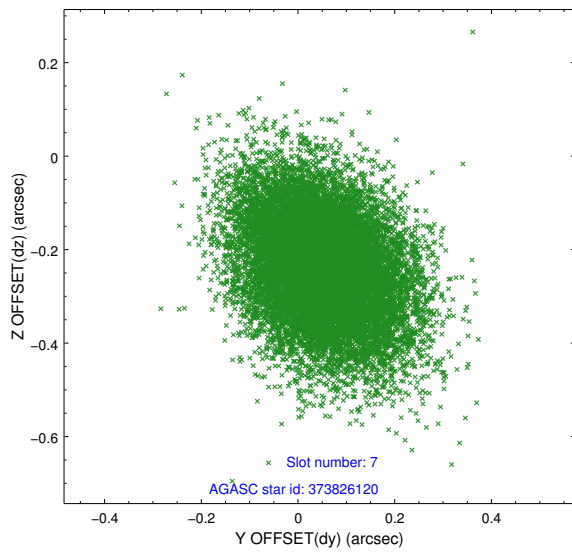
2.4.3 Slot 5



2.4.4 Slot 6

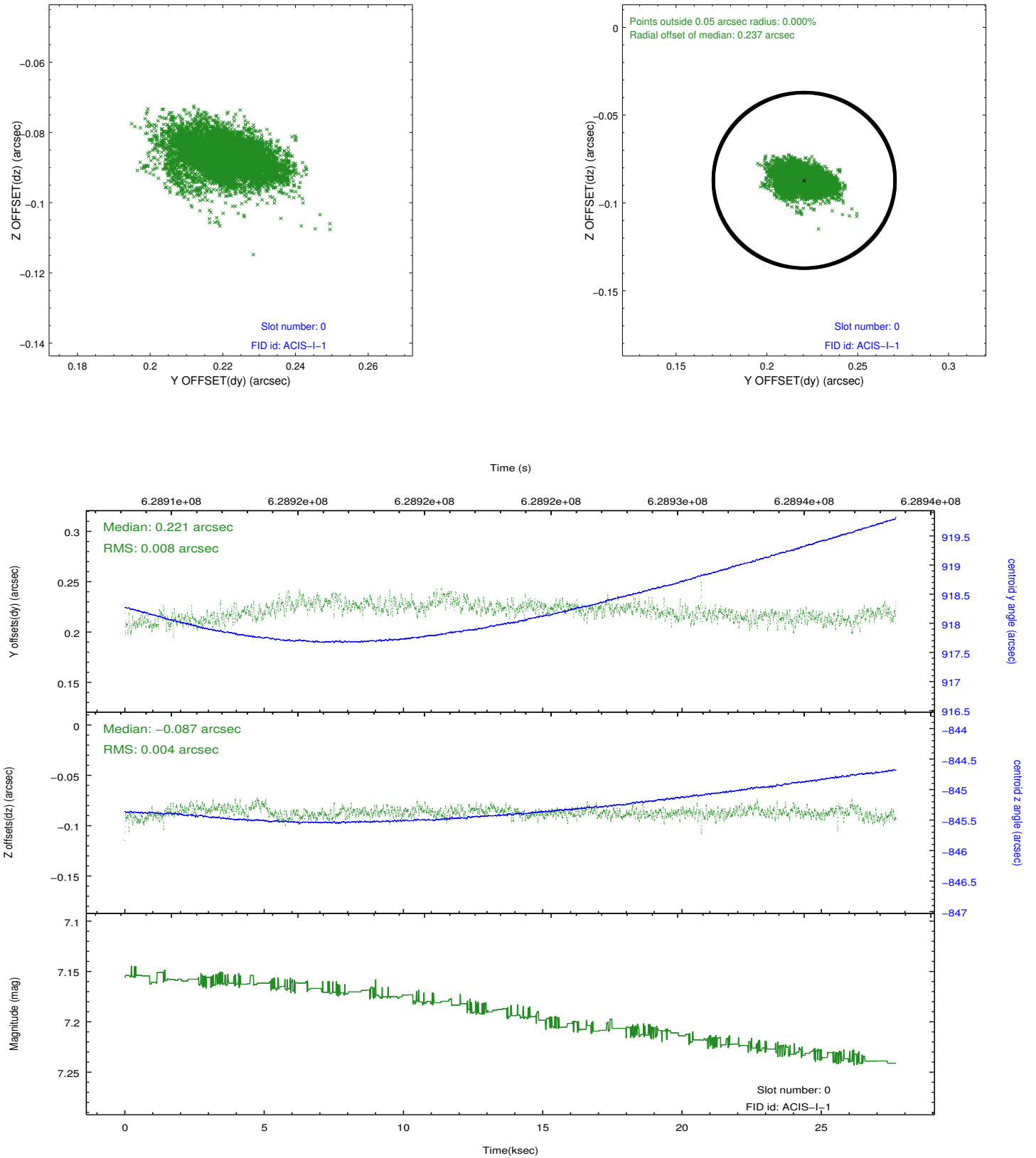


2.4.5 Slot 7

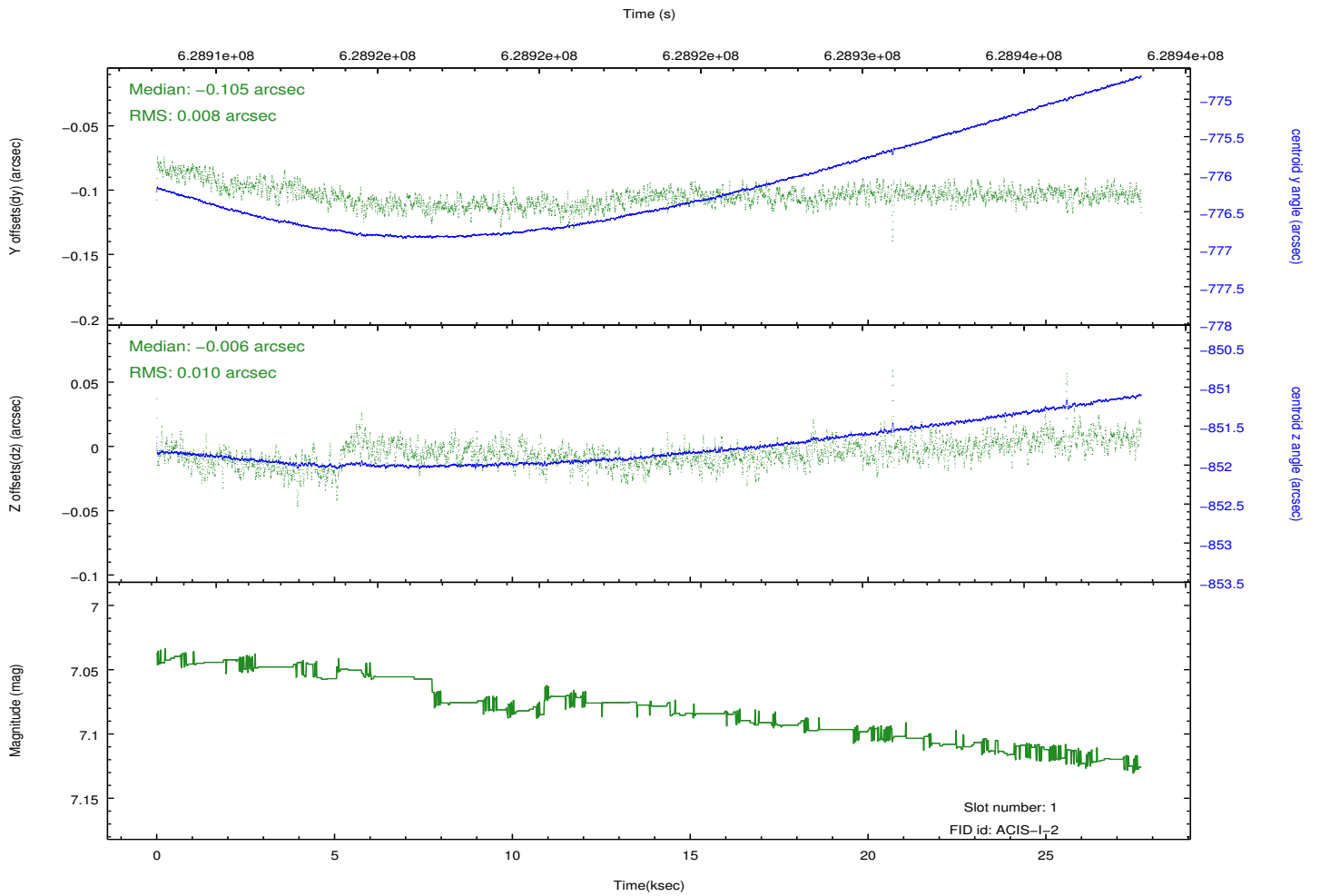
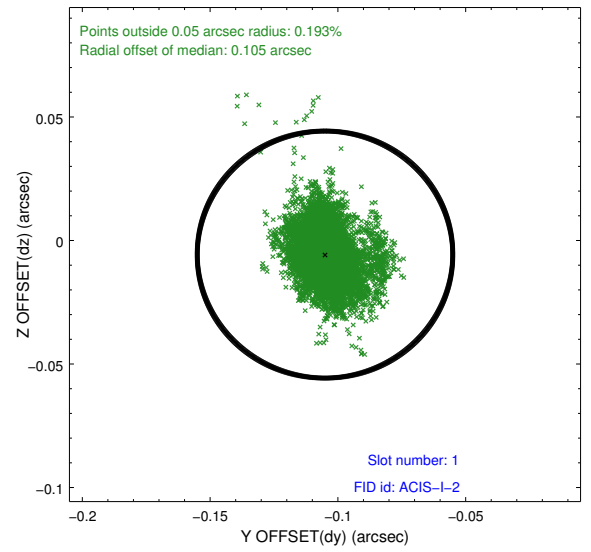
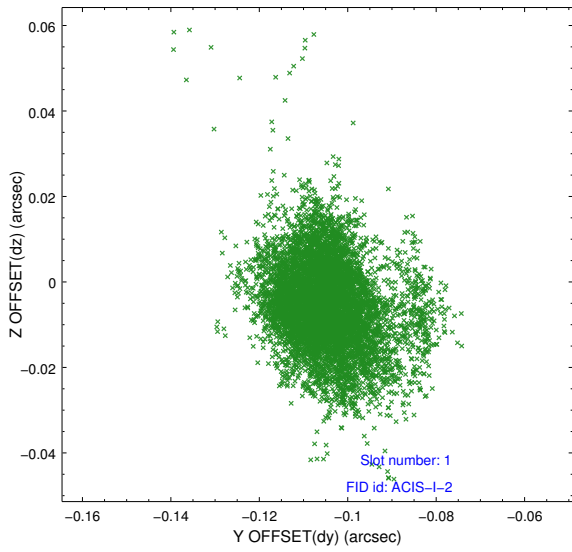


2.5 FID Slots

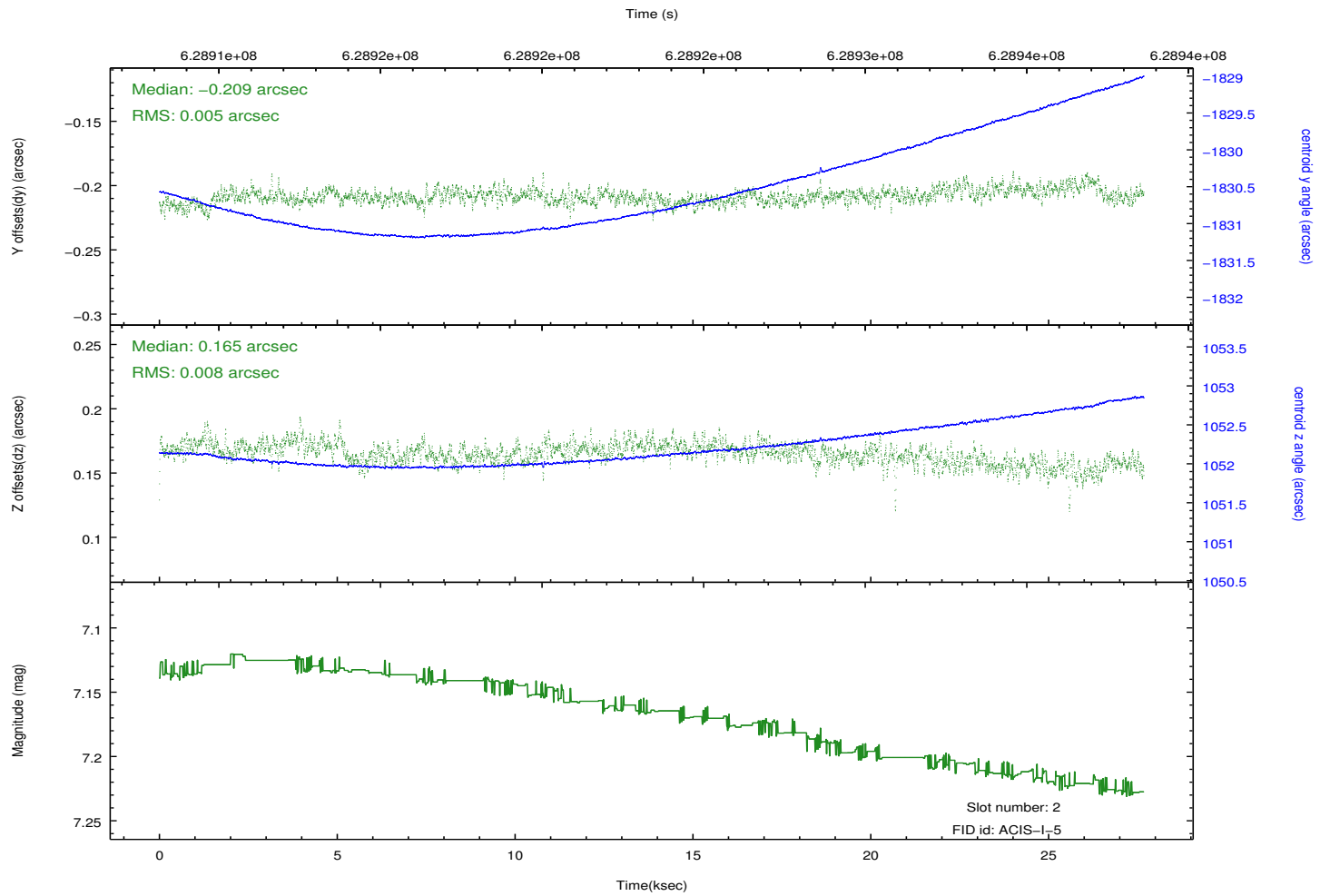
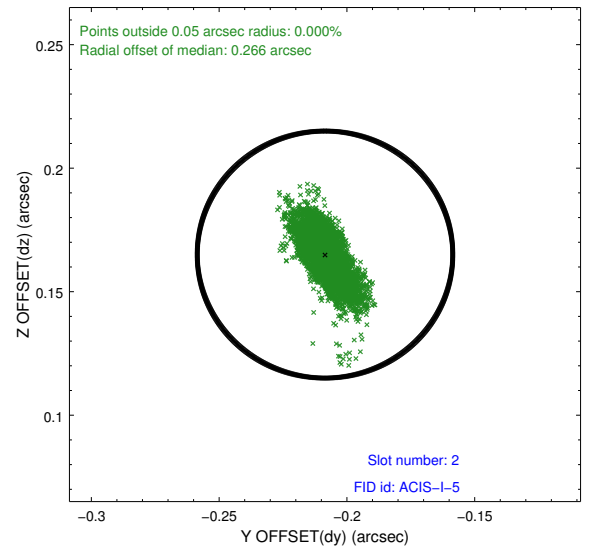
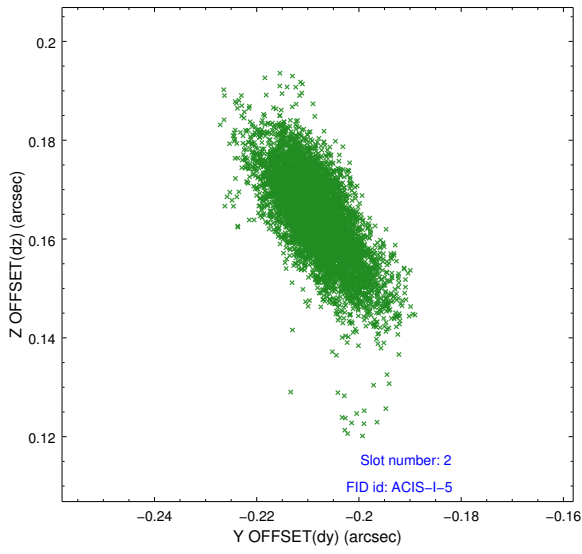
2.5.1 Slot 0



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)	2017.12.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	27.574418061614

A.2 Comments

One optional chip was dropped.

A spatial region of the original bias map for CCD = 2 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small (~ 20 eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 2 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords: (50.60532,41.29082), (50.60821,41.28875), (50.64551,41.31798), (50.64740,41.32379).