

V&V Reference Report

L2 ASCDS Version : 10.7.1

Observation 20304 - L2 Version 2
Chandra X-Ray Center

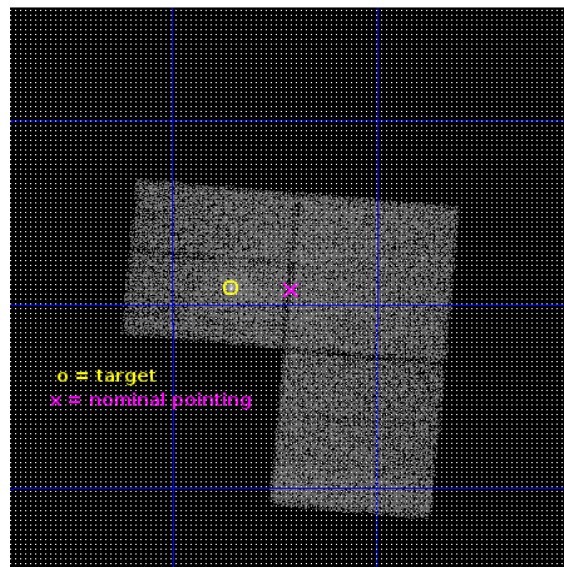
L2 Processing Date : Jun 10 2019

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1 Front

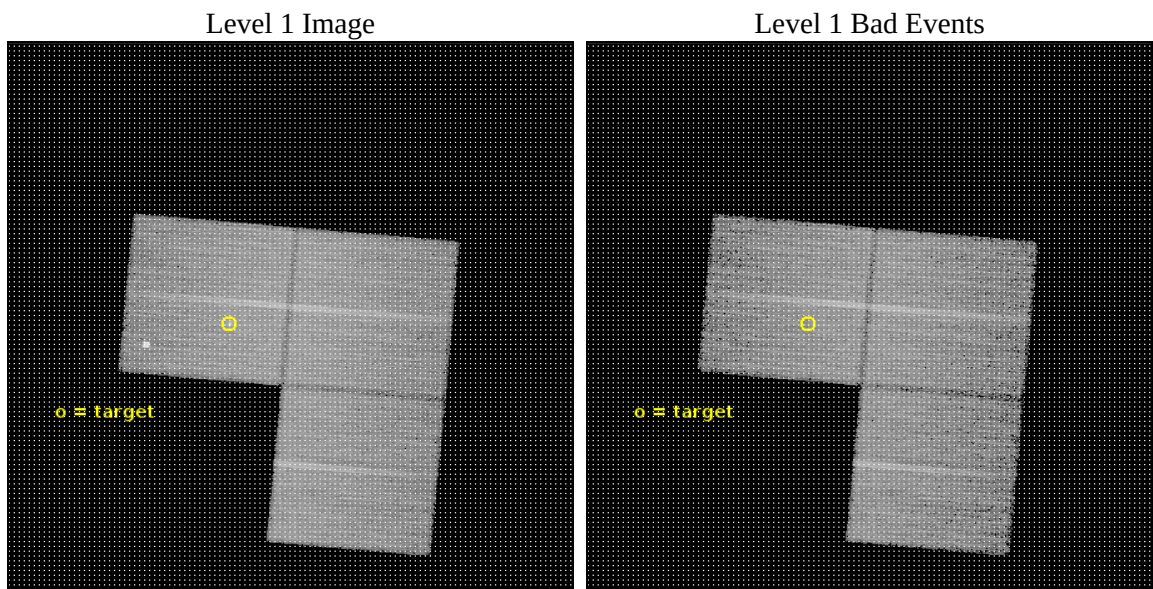
seq_num	502999	Sequence number
obs_id	20304	Observation id
title	The Answer is Blowing in the Wind: Jet Sweepback in Three PWNe	Pro
observer	Roger Romani	Principal investigator
object	PSR J1709-4429	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	257.427724	Observer's specified target RA [deg]
dec_targ	-44.485585	Observer's specified target Dec [deg]
ra_nom	257.35419617563	Nominal RA [deg]
dec_nom	-44.48685671929	Nominal Dec [deg]
roll_nom	5.1571769723765	Nominal Roll [deg]
revision	2	Processing version of data
ontime	28123.200216413	Sum of GTIs [s]
livetime	27755.749901586	Livetime [s]
ontime1	28120.059235692	Sum of GTIs [s]
ontime2	28123.200216413	Sum of GTIs [s]
ontime3	28120.059176207	Sum of GTIs [s]
l2events	74900	Number of level 2 events



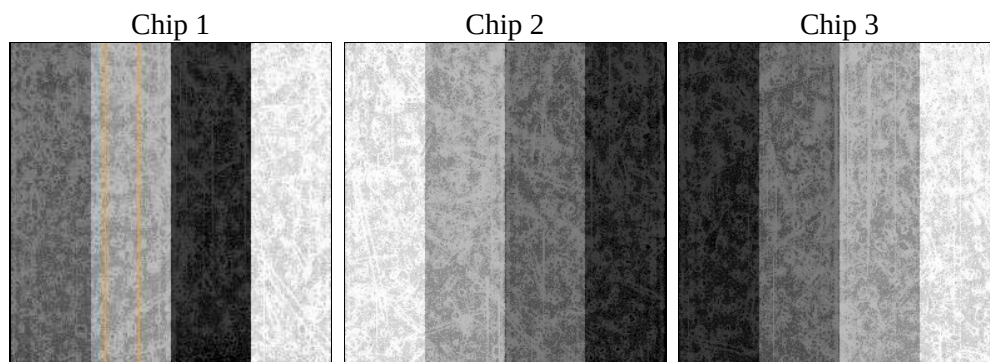
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	28000.000000	[s] Scheduled observation exposure time
ascdsver	10.7.1	Processing system revision	ontime	28123.200216413	Sum of GTIs [s]
caldsver	4.8.3	 	ontime1	28120.059235692	Sum of GTIs [s]
date	2019-06-10T17:11:09	Date and time of file creation	ontime2	28123.200216413	Sum of GTIs [s]
revision	2	Processing version of data	ontime3	28120.059176207	Sum of GTIs [s]
			l1events	645136	Number of level 1 events

2.1.4 Events

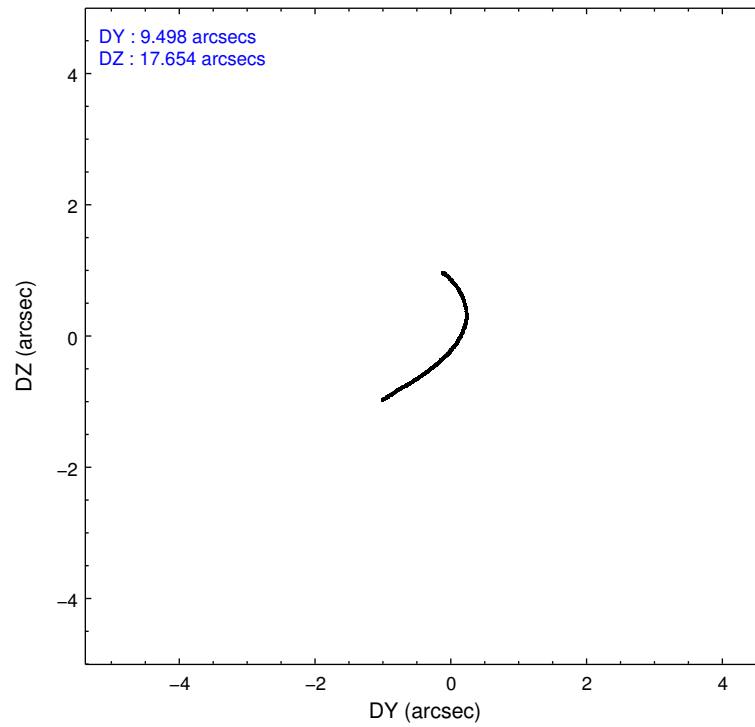
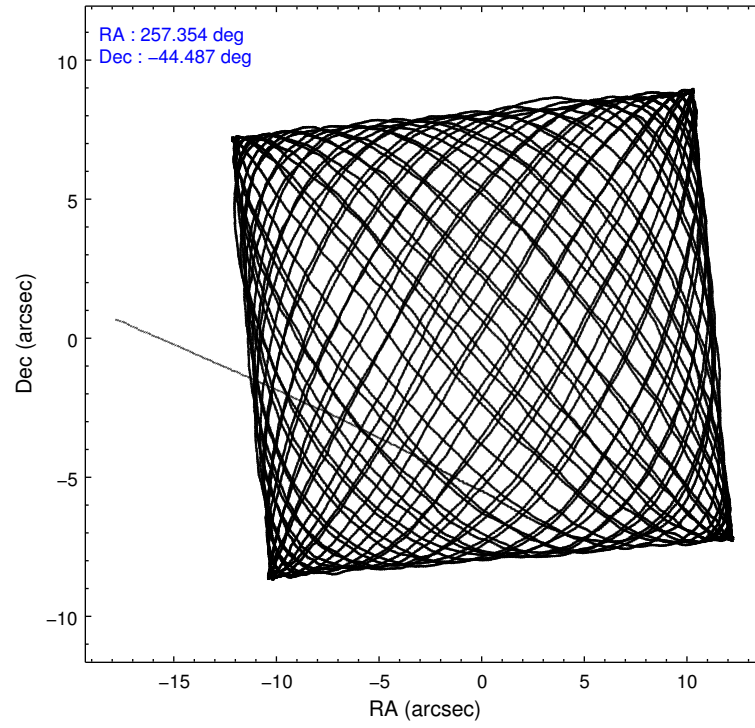
	ccd 1	ccd 2	ccd 3
level 1 events	203224	225063	216849
rejected events	175001	190893	188719
rejected %	86%	84%	87%

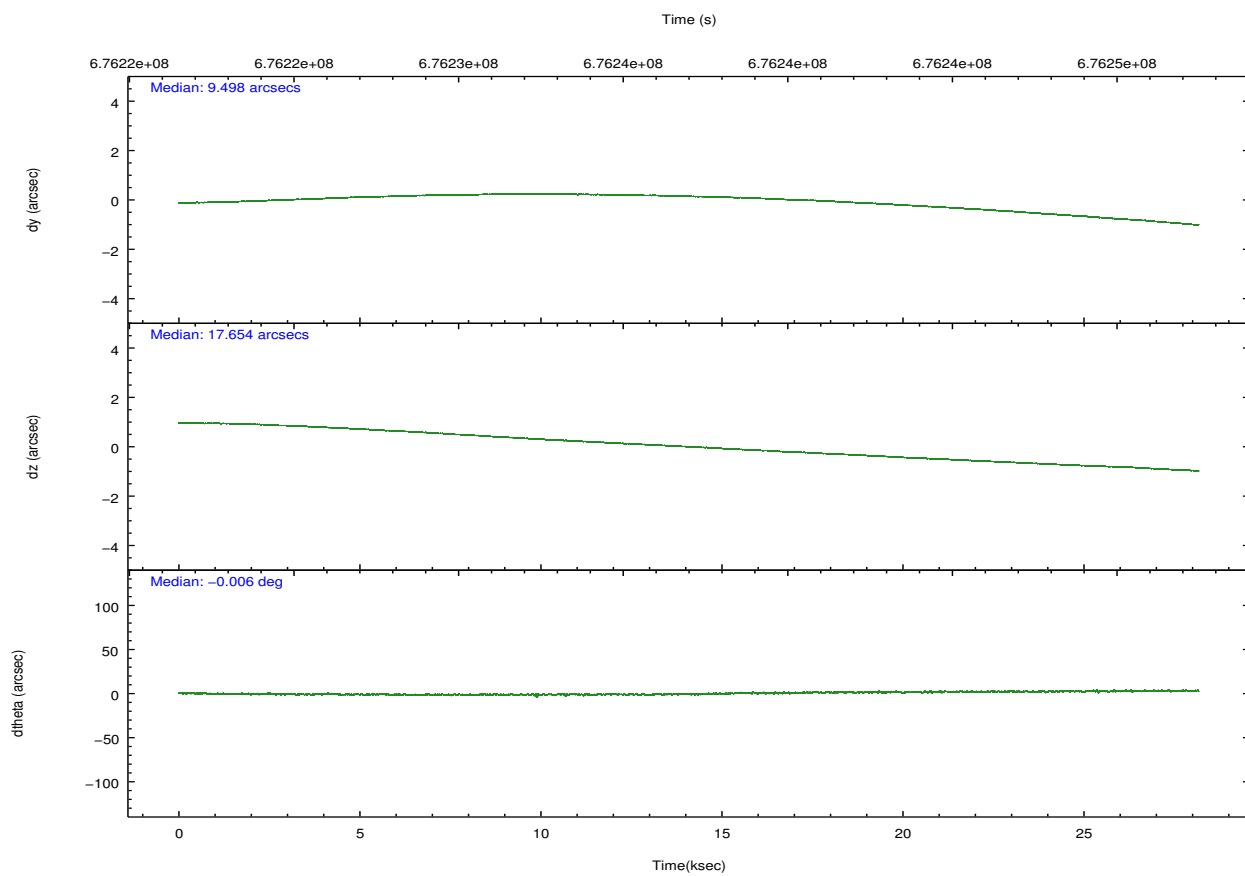
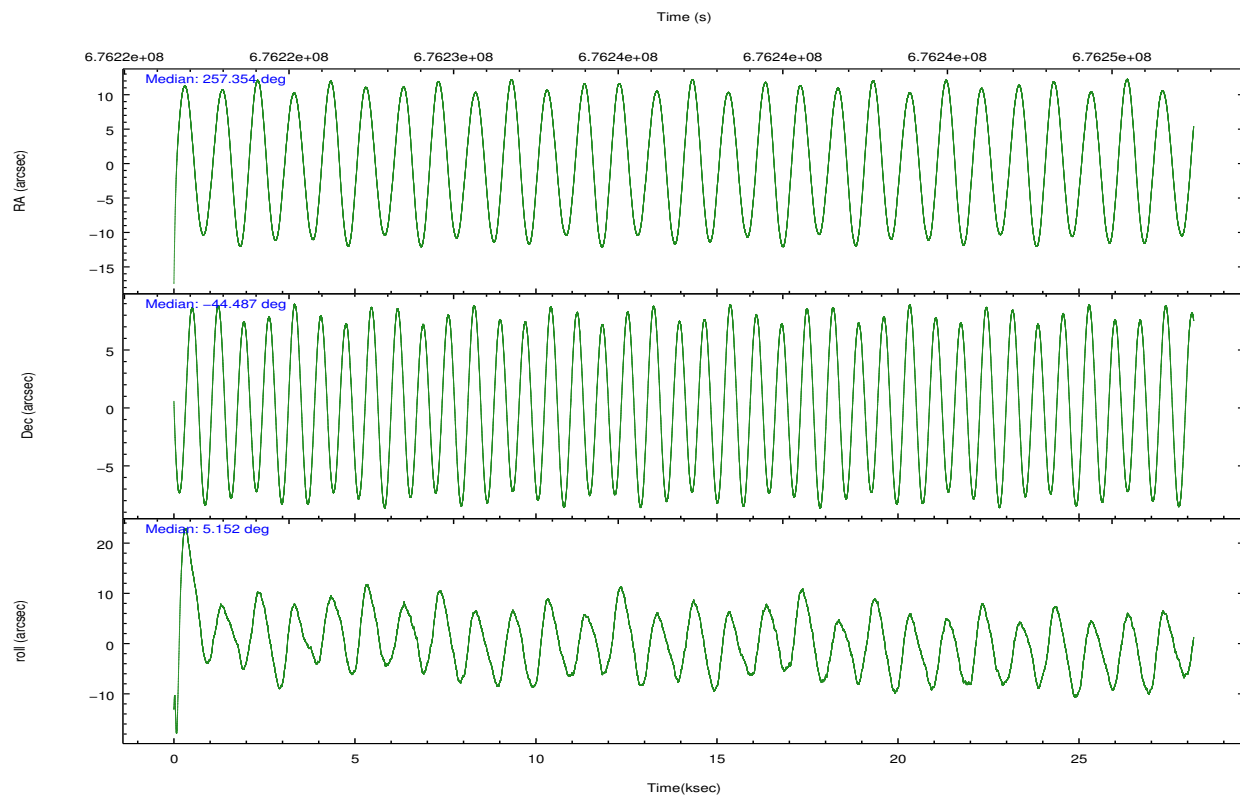
	ccd 1	ccd 2	ccd 3
grade 0 events	9805	18200	12620
	4%	8%	5%
grade 1 events	111	188	164
	0%	0%	0%
grade 2 events	7420	6123	5550
	3%	2%	2%
grade 3 events	2439	2444	2489
	1%	1%	1%
grade 4 events	2341	2593	2495
	1%	1%	1%
grade 5 events	8954	8445	10003
	4%	3%	4%
grade 6 events	6221	4812	4980
	3%	2%	2%
grade 7 events	165933	182258	178548
	81%	80%	82%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-123	ACIS-123	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	O1	N
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	257.322637	257.3541961756328	CCD I2 on	Y	Y
[deg] Pointing Dec	-44.502818	-44.4868567192902	CCD I3 on	Y	Y
[deg] Pointing Roll	4.926360	5.157176972376504	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	N	N
[mm] SIM translation stage pos	-226.279963	-226.2858628250985	CCD S3 on	N	N
[mm] SIM translation stage offset	-7.3125	-7.306590177831225	CCD S4 on	N	N
[s] Observation start time (MET)	676223087.184000	676221815.30925	CCD S5 on	N	N
Observation start date	2019-06-06T15:43:38	2019-06-06T15:23:35	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	676251087.184000	676252100.47356	On-chip summing requested	N	N
Observation end date	2019-06-06T23:30:18	2019-06-06T23:48:20	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



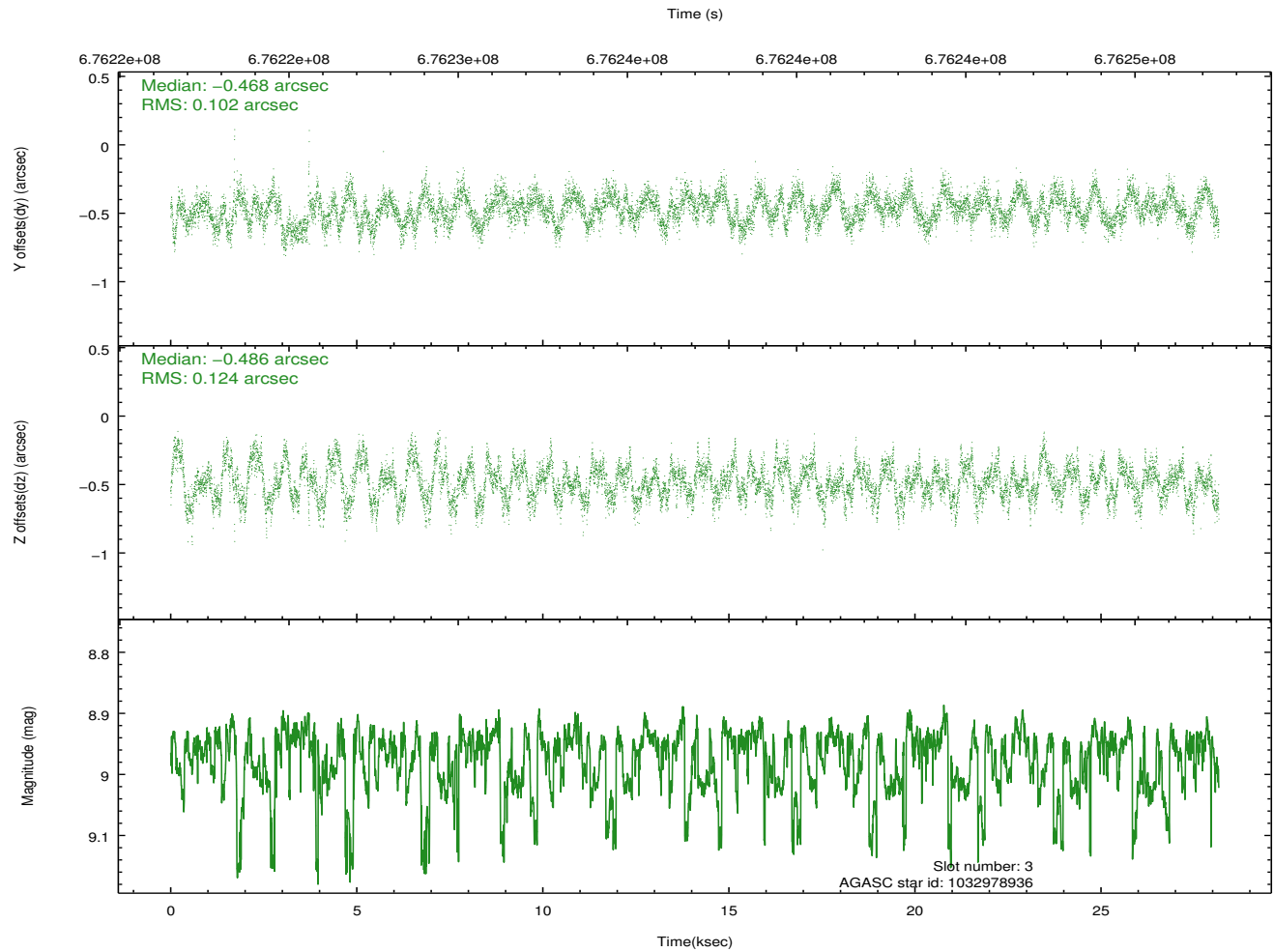
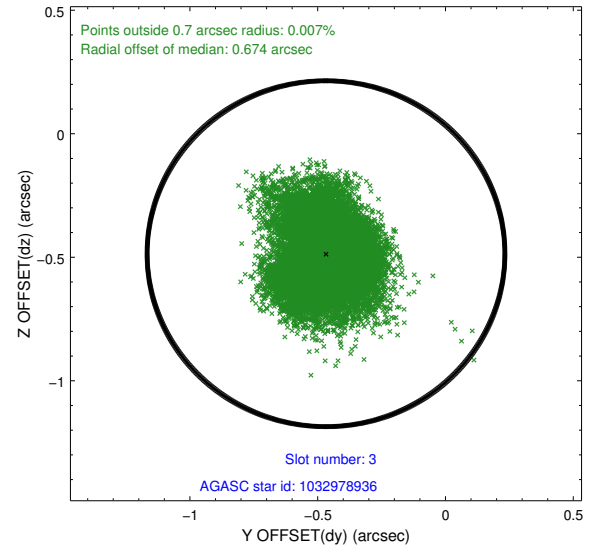
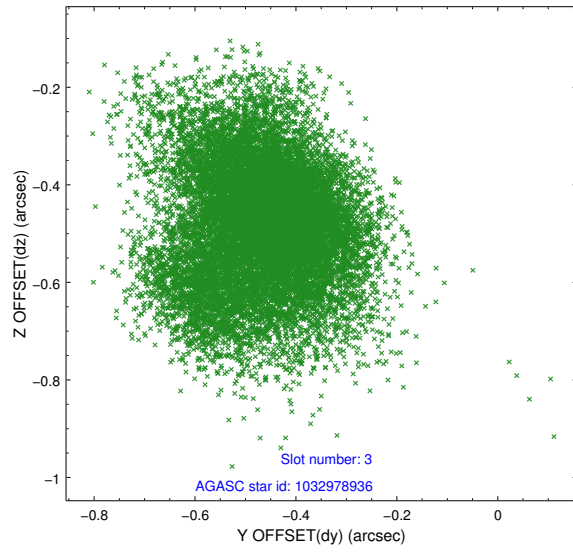


Slot Statistics

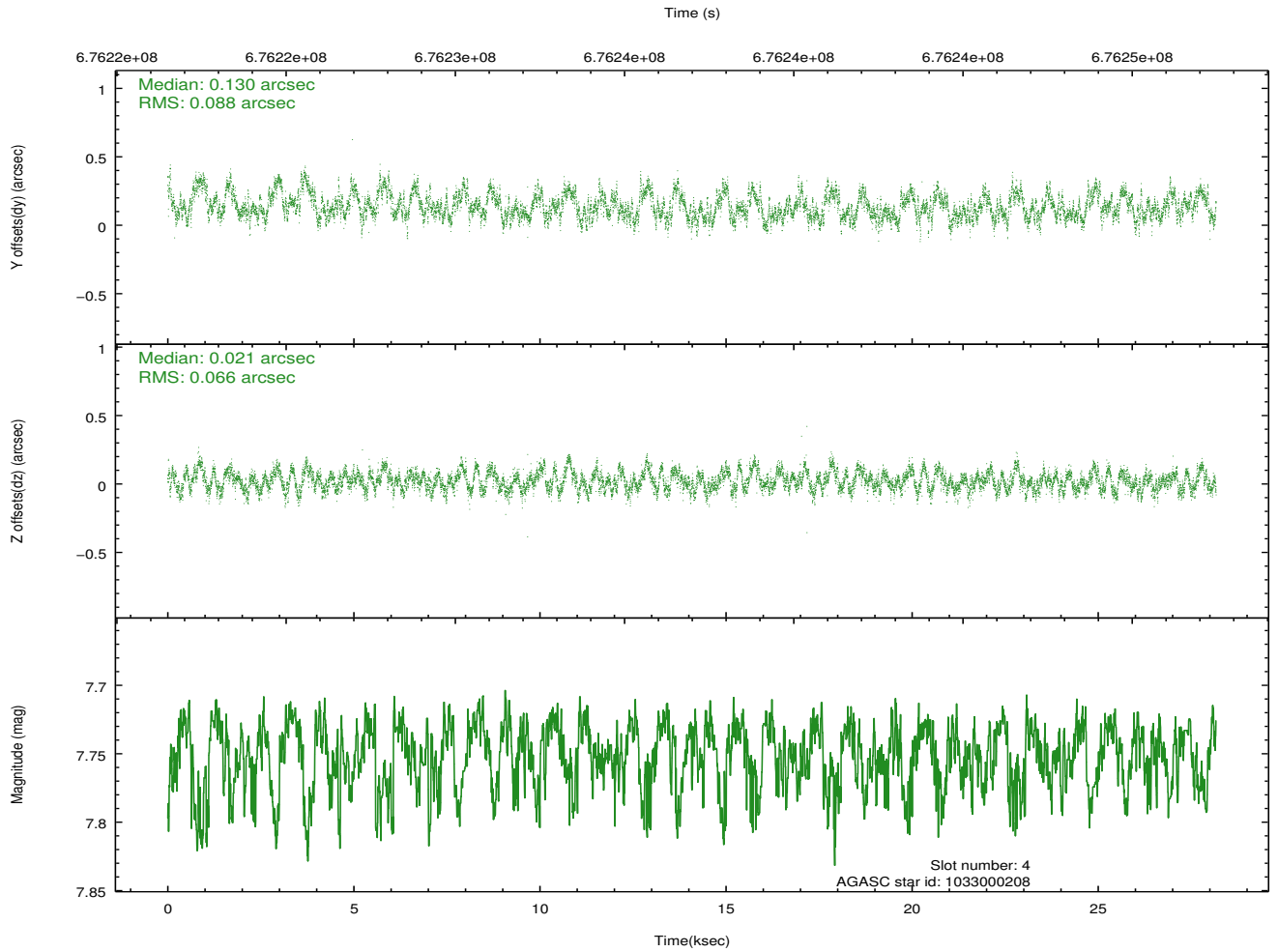
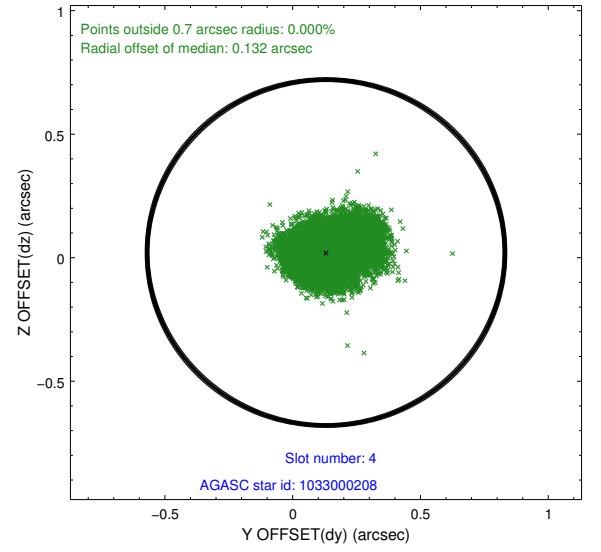
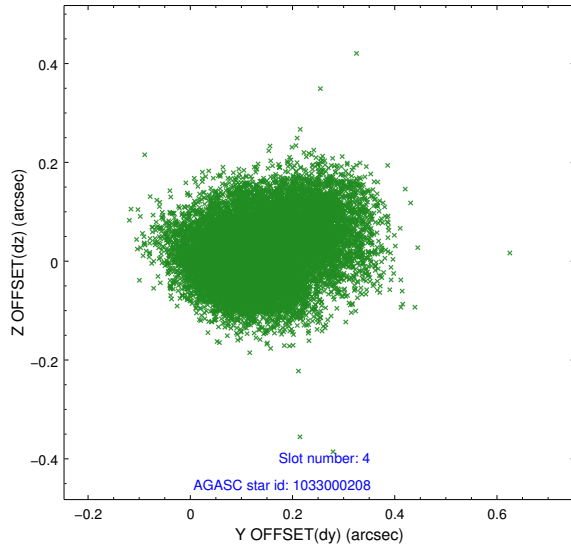
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.17	6871	1.000	0.115	-0.089	0.022	0.040	0.000000	0.000000	930.28	-991
1	FID		ACIS-I-5	7.20	6871	1.000	-0.503	0.027	0.014	0.028	0.000000	0.000000	-1818.54	905
2	FID		ACIS-I-6	7.21	6871	1.000	0.295	0.126	0.019	0.029	0.000000	0.000000	395.72	1550
3	GUIDE	used	1032978936	8.97	13716	1.000	-0.468	-0.486	0.173	0.275	257.447182	-44.360307	363.64	483
4	GUIDE	used	1033000208	7.75	13738	1.000	0.130	0.021	0.117	0.190	256.502750	-44.372681	-2061.70	637
5	GUIDE	used	1033111224	8.91	13726	1.000	-0.097	-0.250	0.152	0.253	257.844751	-44.847109	1221.51	-1353
6	GUIDE	used	1091569256	8.36	13731	1.000	0.151	0.326	0.113	0.181	257.146819	-45.037377	-609.81	-1879
7	GUIDE	used	1091578128	8.57	13735	1.000	0.290	0.391	0.245	0.336	257.198938	-45.154577	-512.81	-2310

2.4 Star Slots

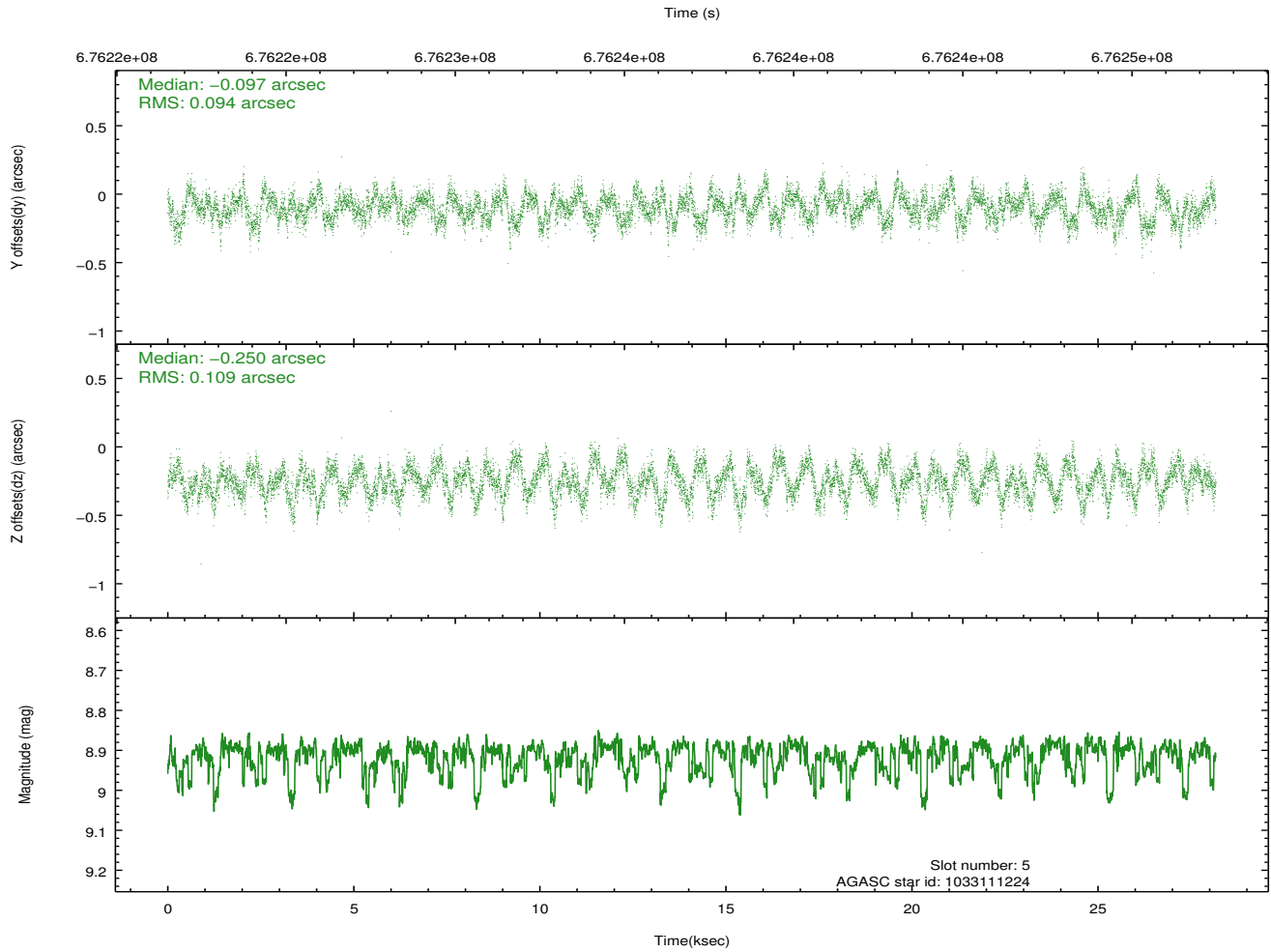
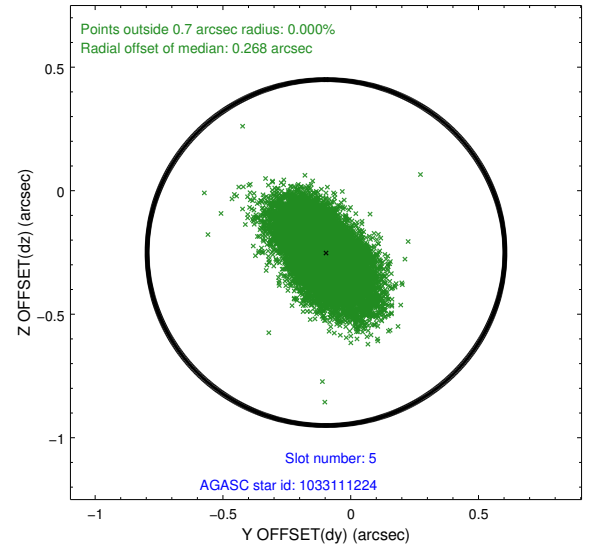
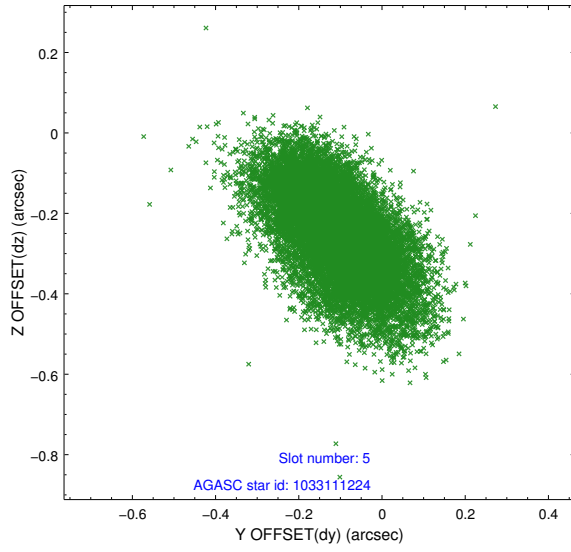
2.4.1 Slot 3



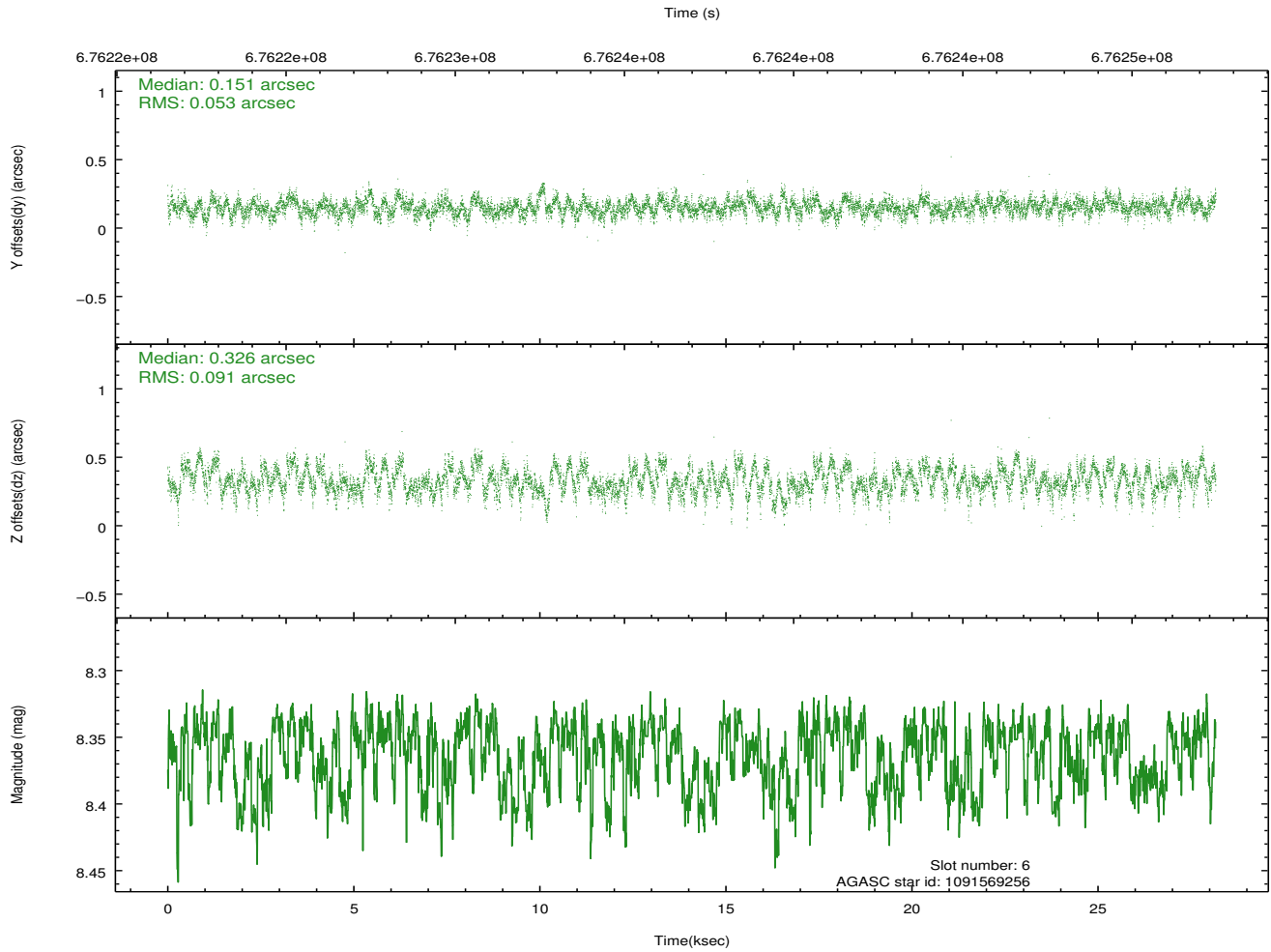
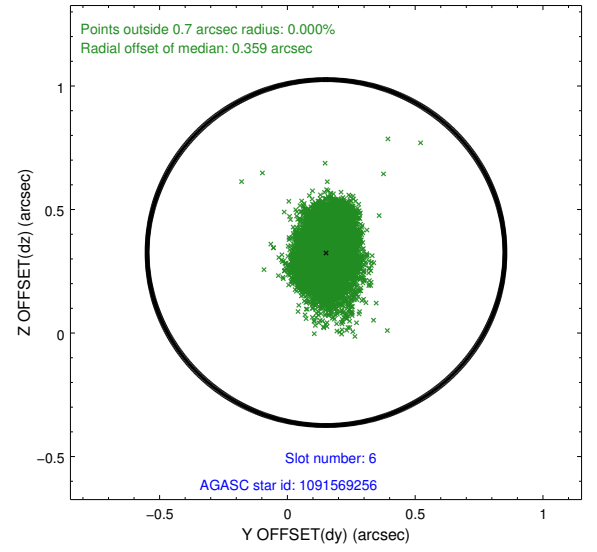
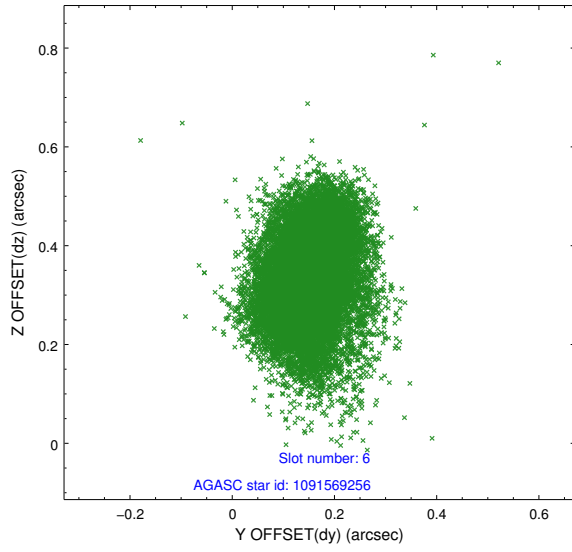
2.4.2 Slot 4



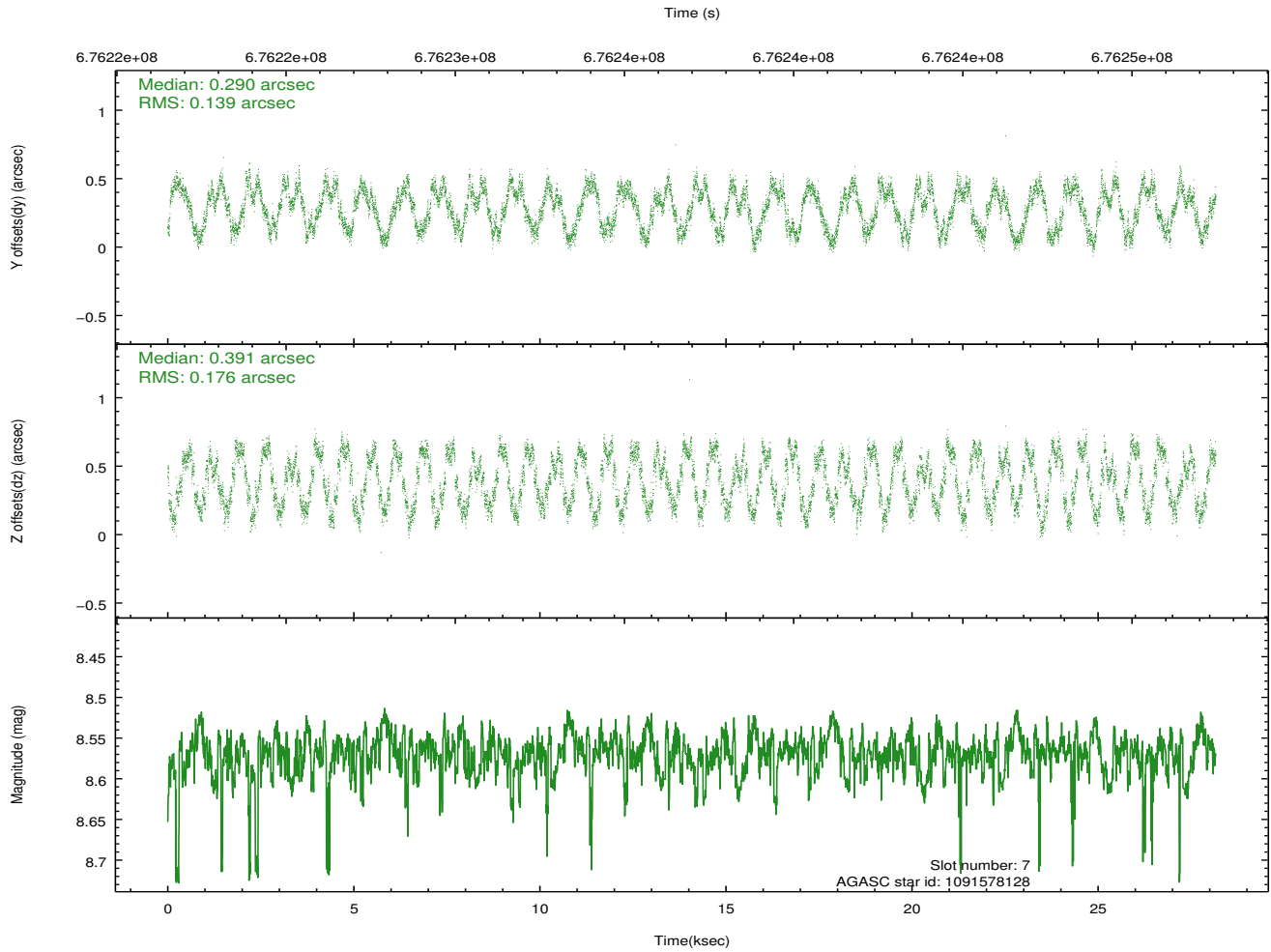
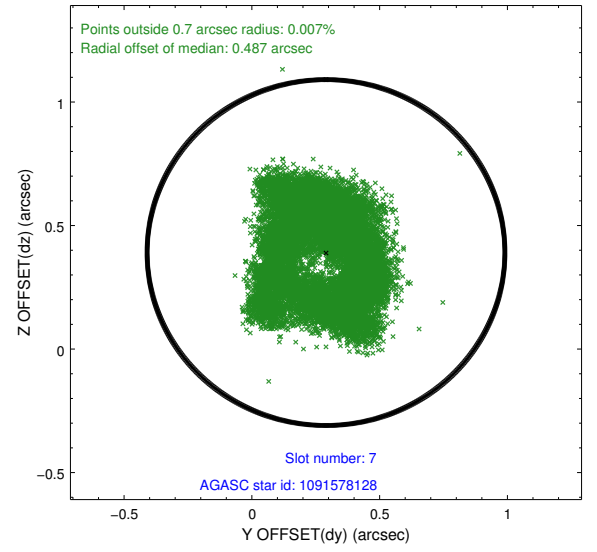
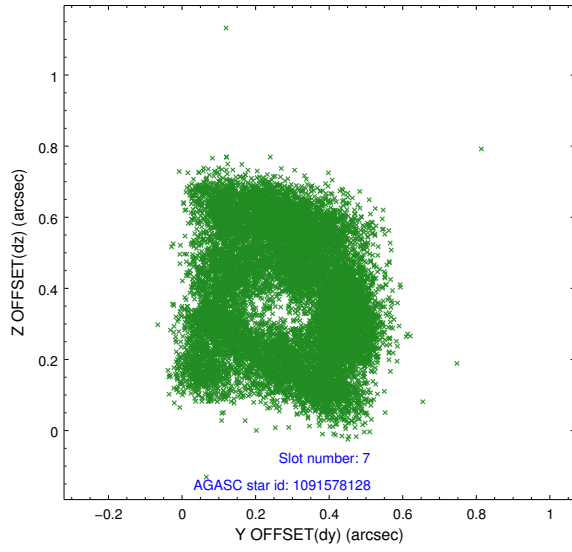
2.4.3 Slot 5



2.4.4 Slot 6

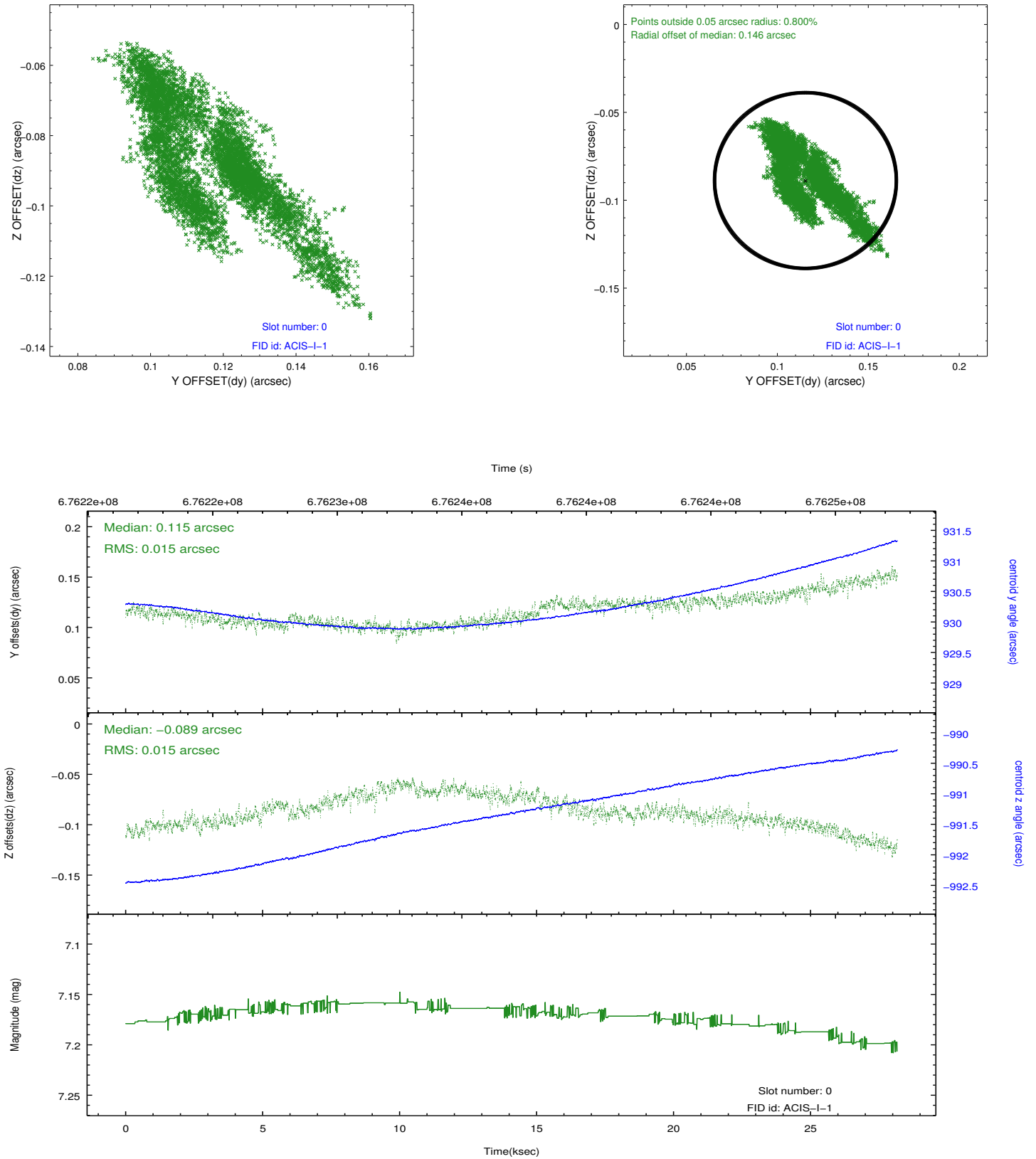


2.4.5 Slot 7

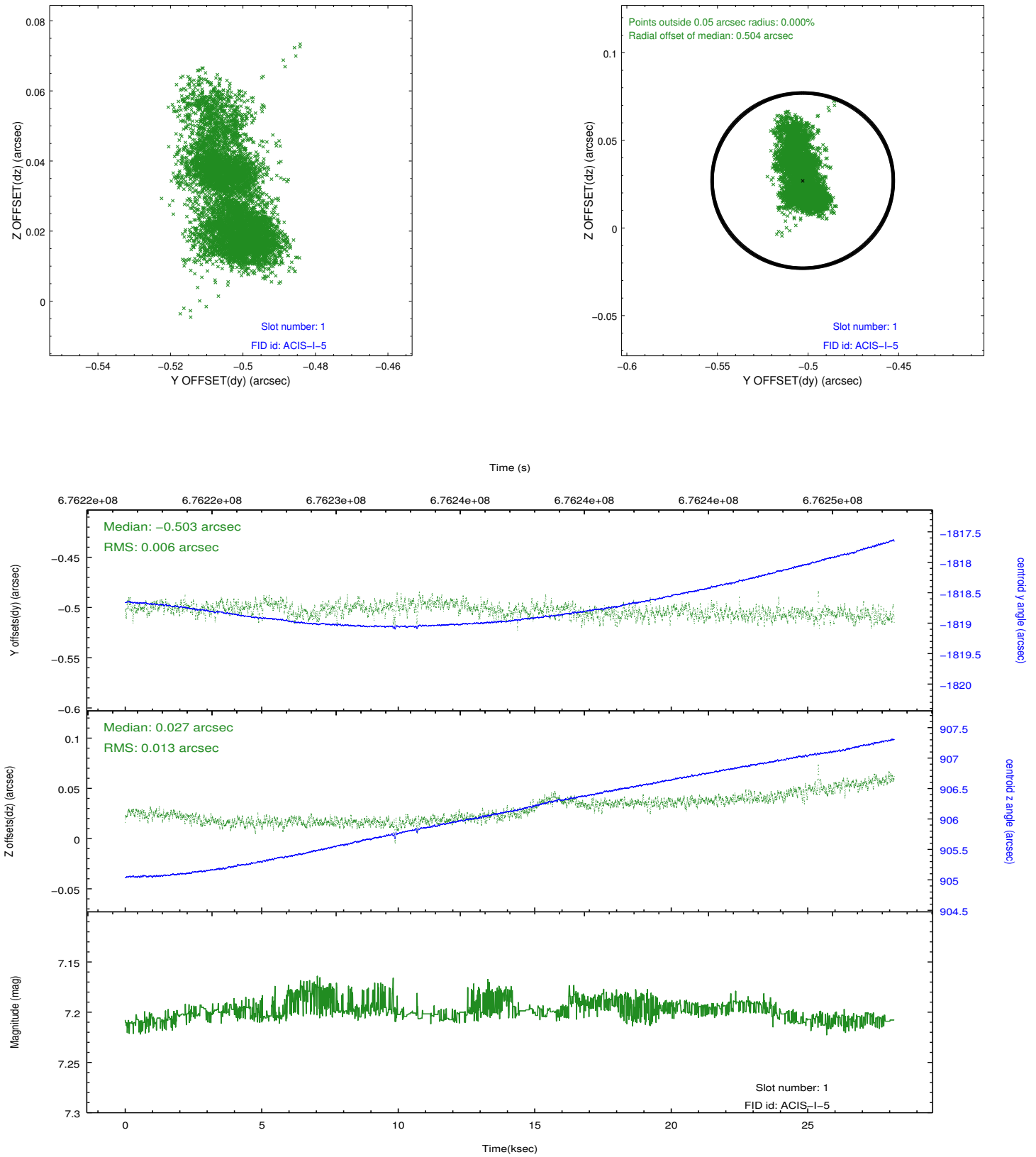


2.5 FID Slots

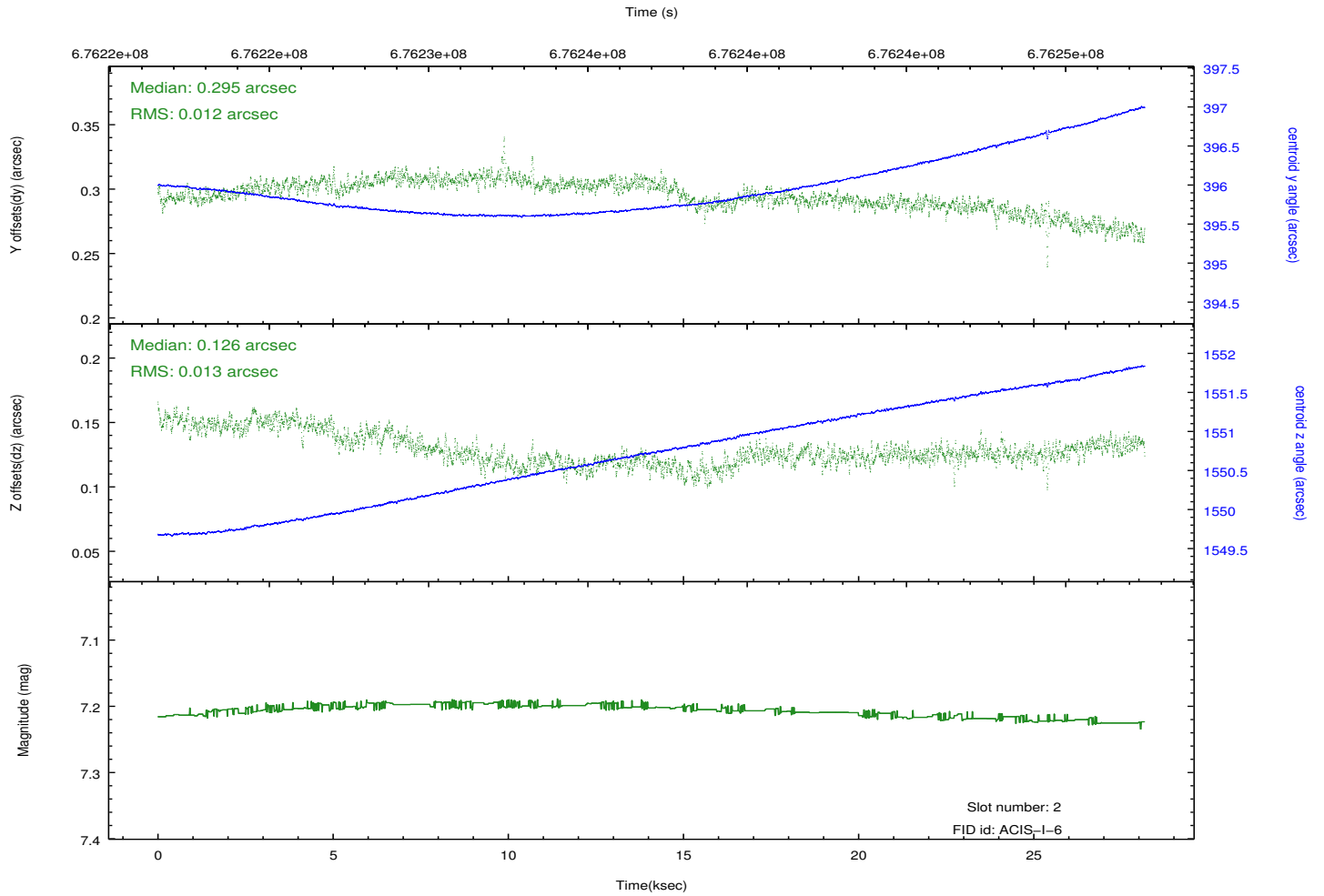
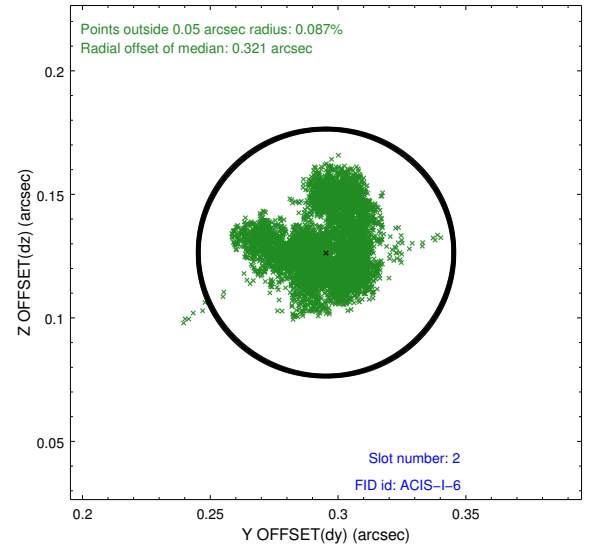
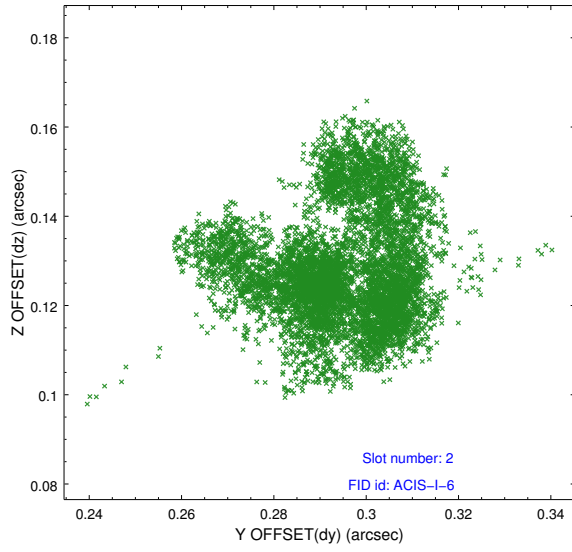
2.5.1 Slot 0



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)	2019.06.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	28.123200216413

A.2 Comments

One optional chip was dropped.

A spatial region of the original bias map for CCD = 3 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 = 3 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:
(257.16087, -44.49430), (257.16126, -44.49756), (257.20867, -44.49457),
(257.20637, -44.49143).