

V&V Reference Report

L2 ASCDS Version : 10.4.2.1

Observation 18702 - L2 Version 2
Chandra X-Ray Center

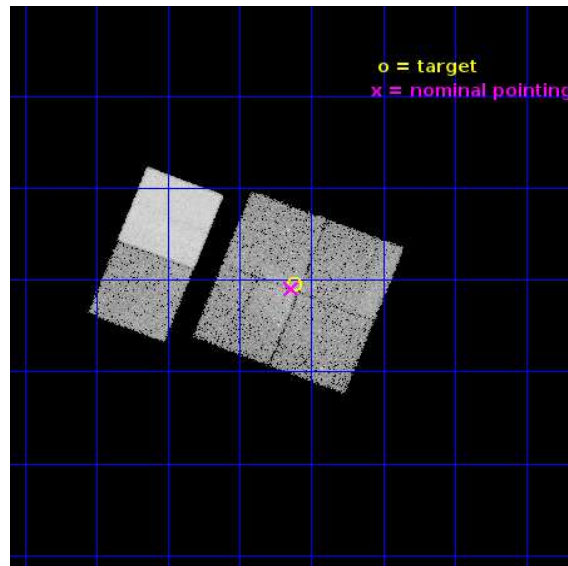
L2 Processing Date : Nov 18 2015

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1 Front

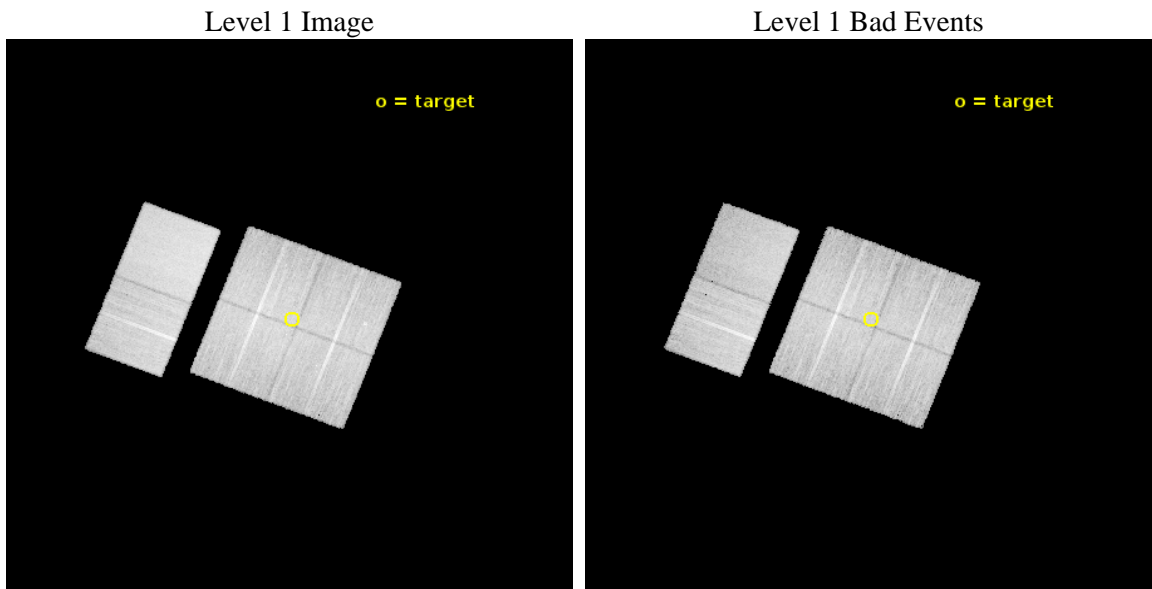
seq_num	801456	Sequence number
obs_id	18702	Observation id
title	A Cosmic Ray Mystery: No Shock Across a Radio Relic in ZwCl 2341.1+0000	Proposal title
observer	Georgiana Ogorean	Principal investigator
object	ZwCl 2341.1+0000	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	355.903333	Observer's specified target RA [deg]
dec_targ	0.324889	Observer's specified target Dec [deg]
ra_nom	355.9098135075	Nominal RA [deg]
dec_nom	0.31723596515161	Nominal Dec [deg]
roll_nom	291.20863241111	Nominal Roll [deg]
revision	2	Processing version of data
ontime	24950.40037179	Sum of GTIs [s]
livetime	24634.463378955	Livetime [s]
ontime0	24950.40037179	Sum of GTIs [s]
ontime1	24950.40037179	Sum of GTIs [s]
ontime2	24947.159321547	Sum of GTIs [s]
ontime3	24950.40037179	Sum of GTIs [s]
ontime6	24950.40037179	Sum of GTIs [s]
ontime7	24950.40037179	Sum of GTIs [s]
l2events	142951	Number of level 2 events



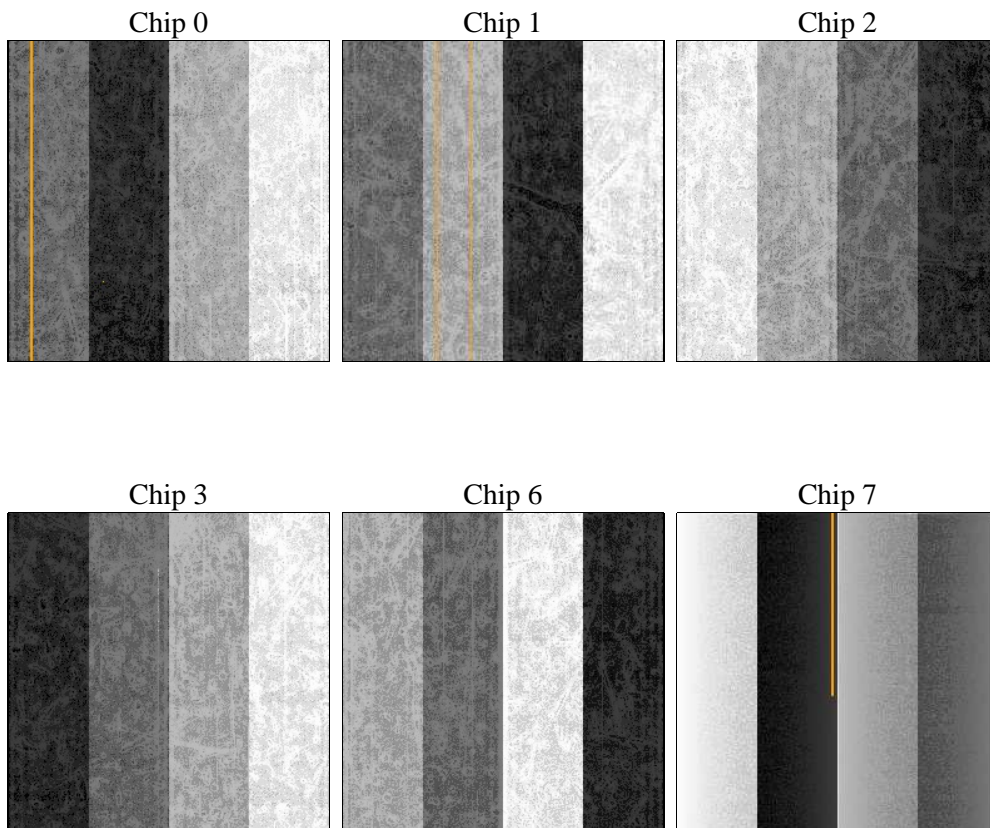
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	25000.000000	[s] Scheduled observation exposure time
ascdsver	10.4.2.1	Processing system revision	ontime	24950.40037179	Sum of GTIs [s]
caldsver	4.6.10a	 	ontime0	24950.40037179	Sum of GTIs [s]
date	2015-11-18T22:23:15	Date and time of file creation	ontime1	24950.40037179	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	24947.159321547	Sum of GTIs [s]
			ontime3	24950.40037179	Sum of GTIs [s]
			ontime6	24950.40037179	Sum of GTIs [s]
			ontime7	24950.40037179	Sum of GTIs [s]
			l1events	810329	Number of level 1 events

2.1.4 Events

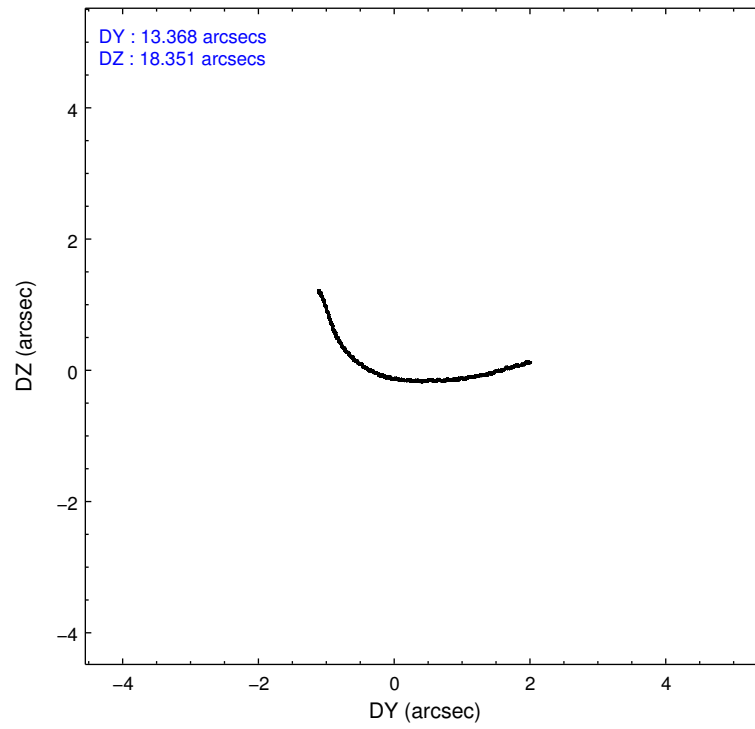
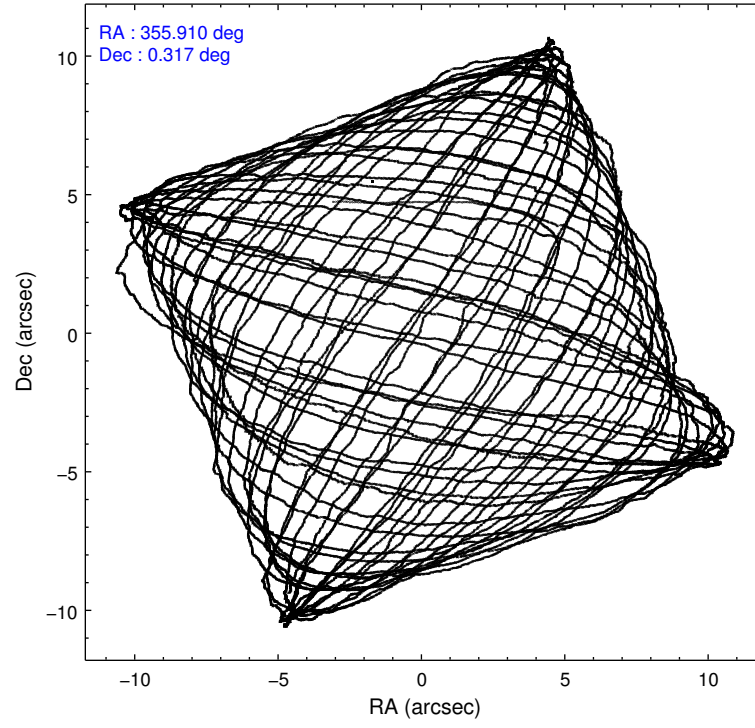
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	117308	123474	129815	126570	136808	176354	grade 0 events	5305	6252	6842	5784	5001	6408
rejected events	102003	106126	113017	111228	121185	99625		4%	5%	5%	4%	3%	3%
rejected %	86%	85%	87%	87%	88%	56%	grade 1 events	71	69	91	85	78	250
								0%	0%	0%	0%	0%	0%
							grade 2 events	3935	4263	3924	3322	3745	16007
								3%	3%	3%	2%	2%	9%
							grade 3 events	1533	1596	1556	1601	1593	6384
								1%	1%	1%	1%	1%	3%
							grade 4 events	1422	1605	1546	1522	1593	6416
								1%	1%	1%	1%	1%	3%
							grade 5 events	5896	6294	5564	6731	7099	17878
								5%	5%	4%	5%	5%	10%
							grade 6 events	3112	3636	2931	3117	3693	41524
								2%	2%	2%	2%	2%	23%
							grade 7 events	96034	99759	107361	104408	114006	81487
								81%	80%	82%	82%	83%	46%

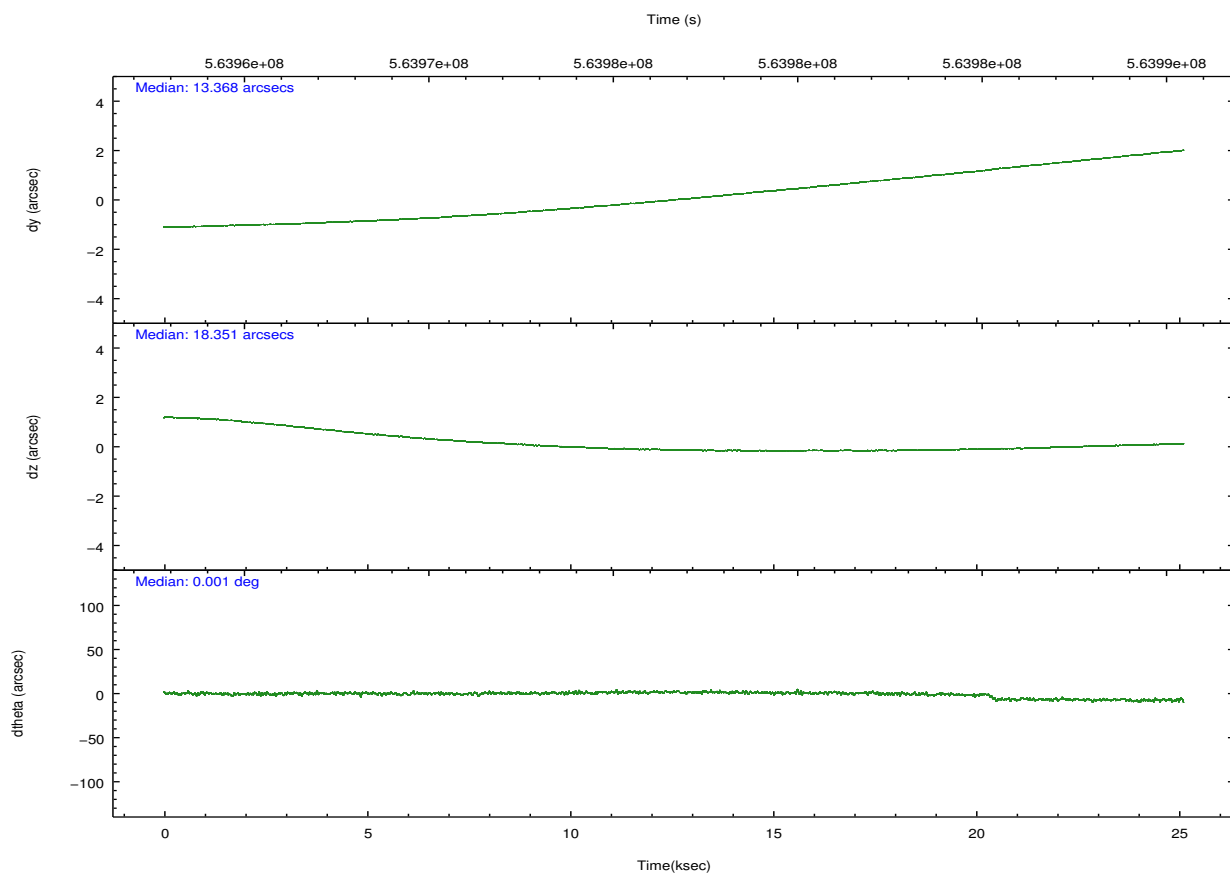
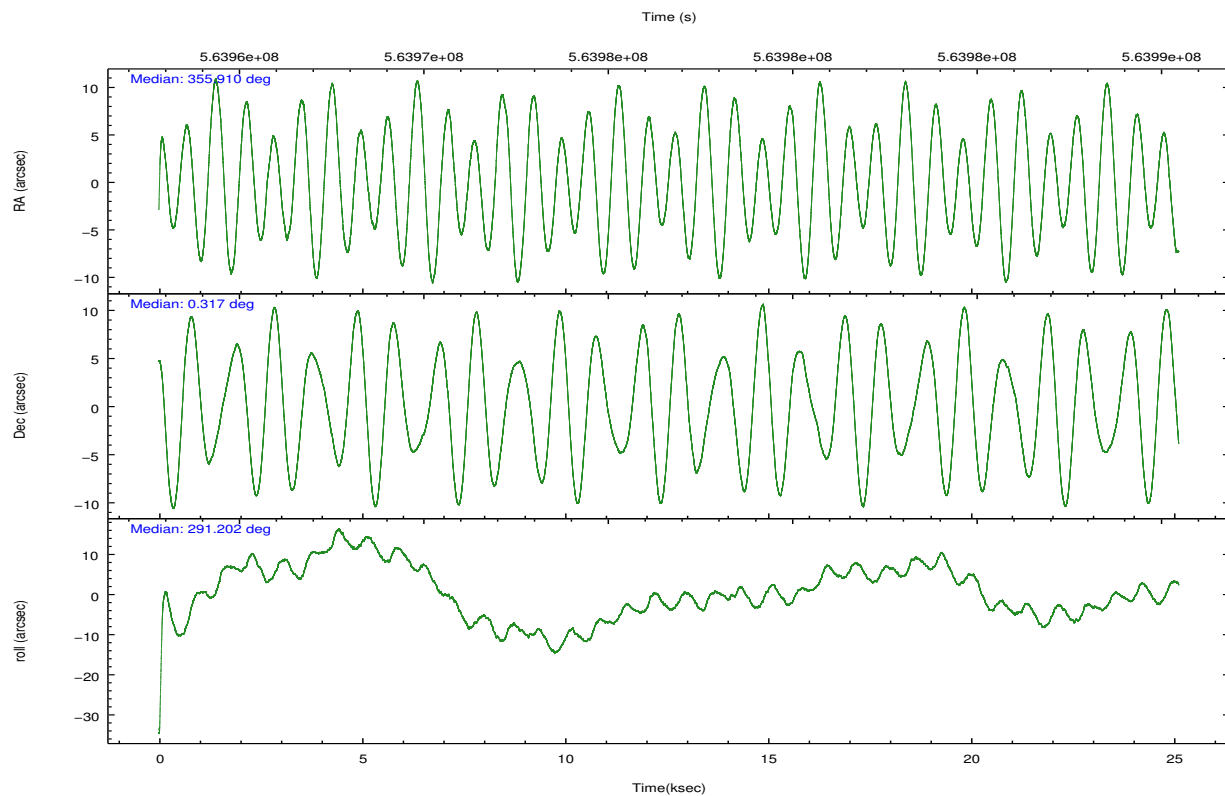
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-012367	ACIS-012367
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	355.888238	355.909813507496
[deg] Pointing Dec	0.334448	0.3172359651516146
[deg] Pointing Roll	291.000085	291.2086324111083
[mm] SIM focus pos	-0.782348	-0.7809083437167272
[mm] SIM defocus	0	0.001439871863259334
[mm] SIM translation stage pos	-233.592463	-233.5874344608287
[mm] SIM translation stage offset	0	-0.005018542100998502
[s] Observation start time (MET)	563964193.184000	563962980.5363899
Observation start date	2015-11-15T08:42:05	2015-11-15T08:23:00
[s] Observation end time (MET)	563989193.184000	563990054.37543
Observation end date	2015-11-15T15:38:45	2015-11-15T15:54:14
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	Y	Y
CCD I1 on	Y	Y
CCD I2 on	Y	Y
CCD I3 on	Y	Y
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	O2	Y
CCD S3 on	O1	Y
CCD S4 on	N	N
CCD S5 on	N	N
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.2

2.3 Aspect



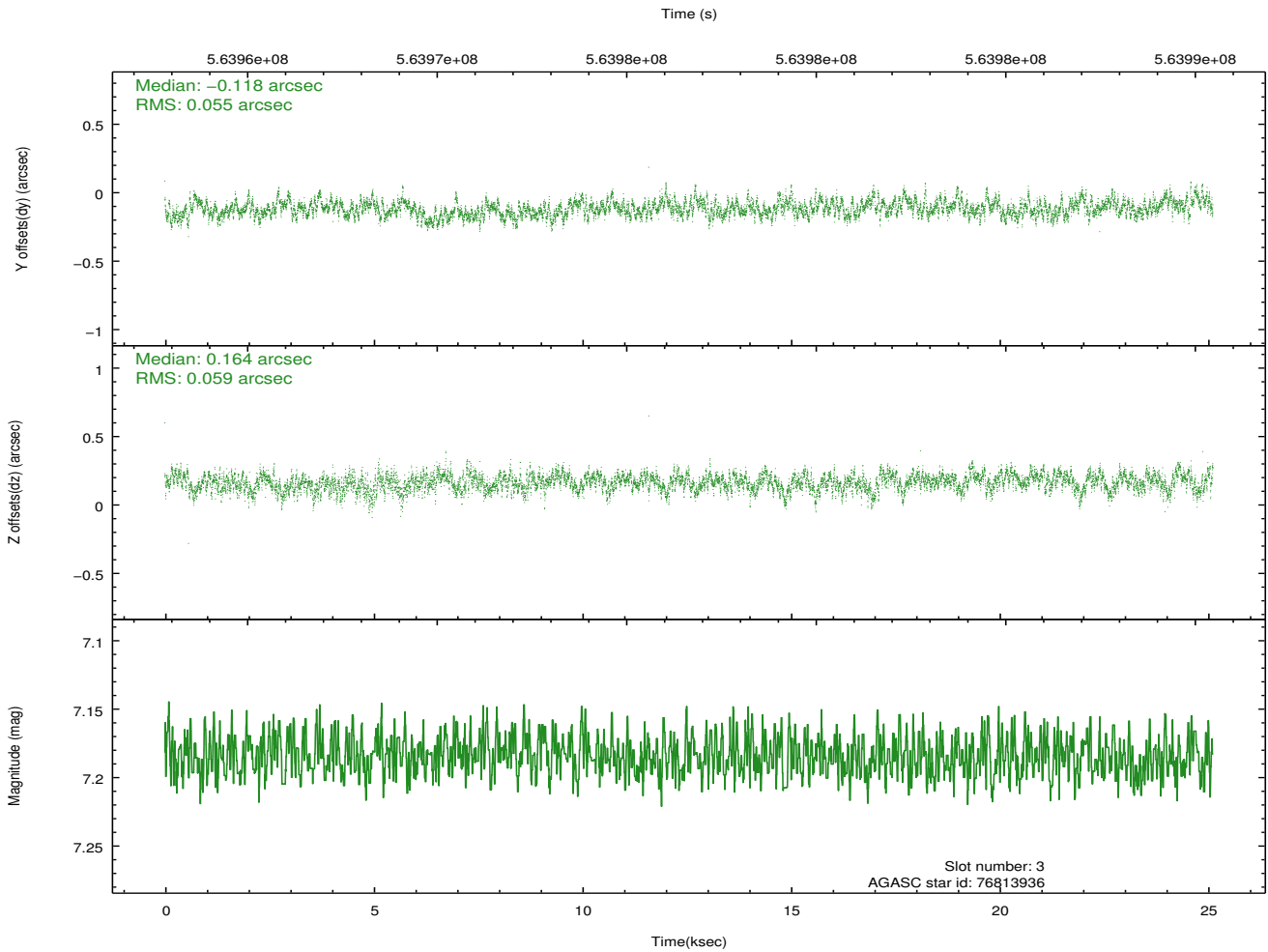
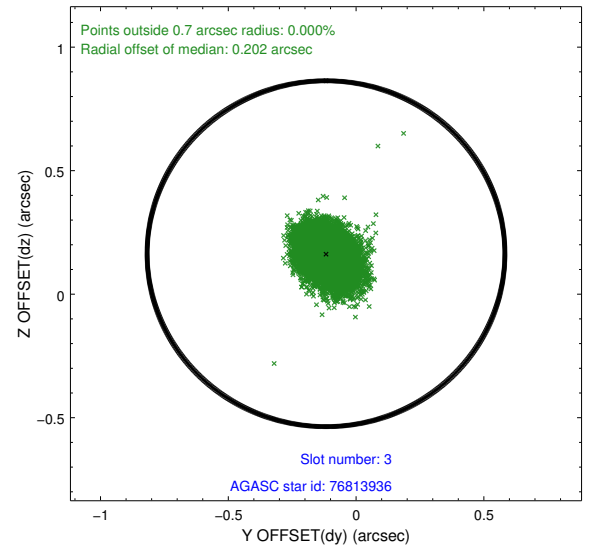
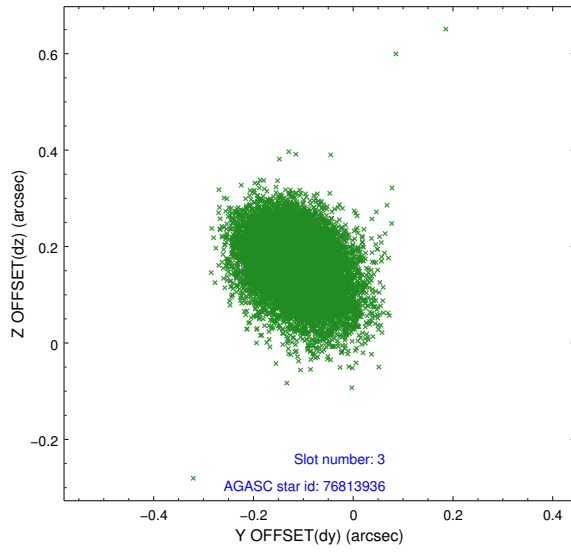


Slot Statistics

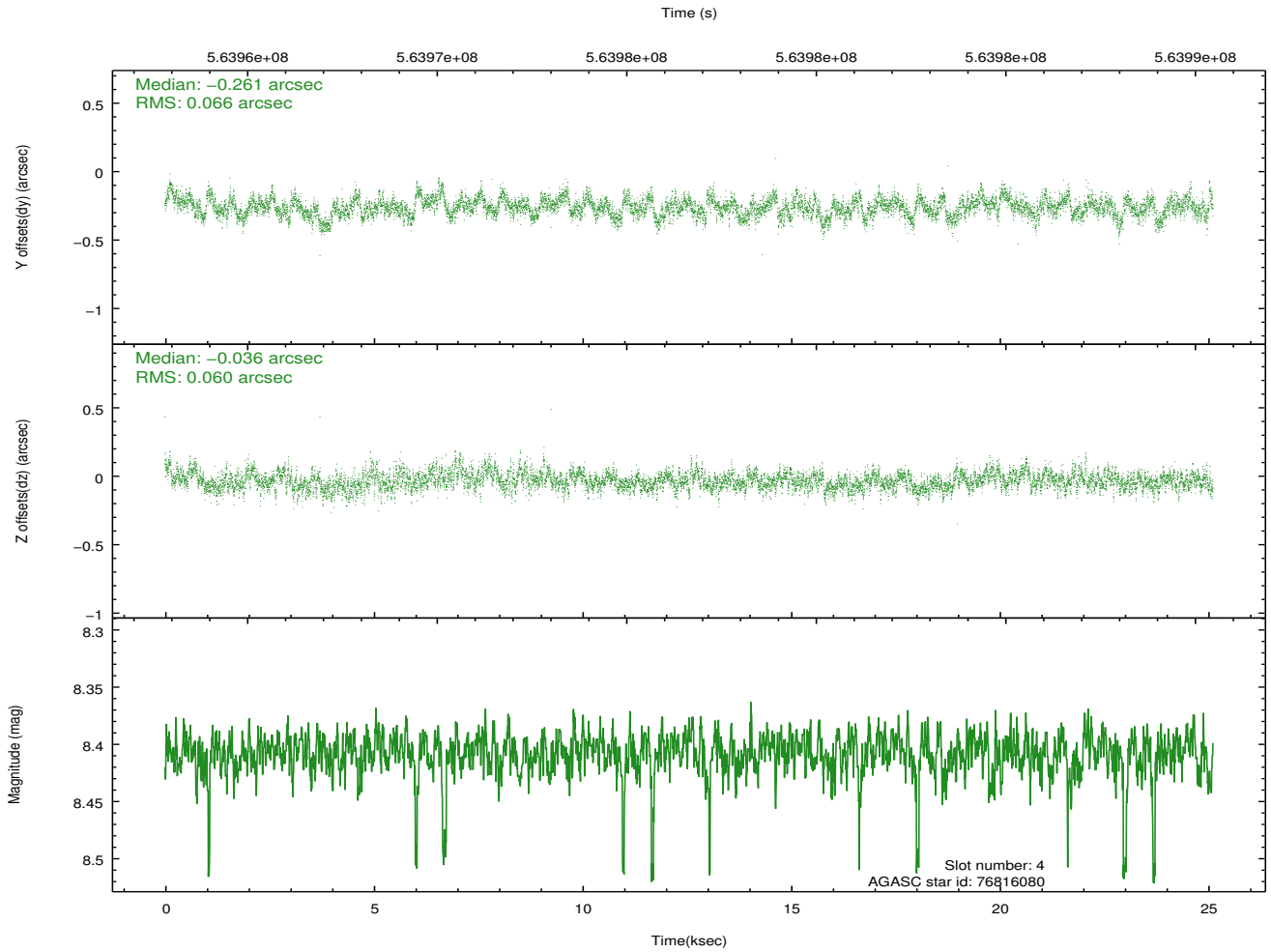
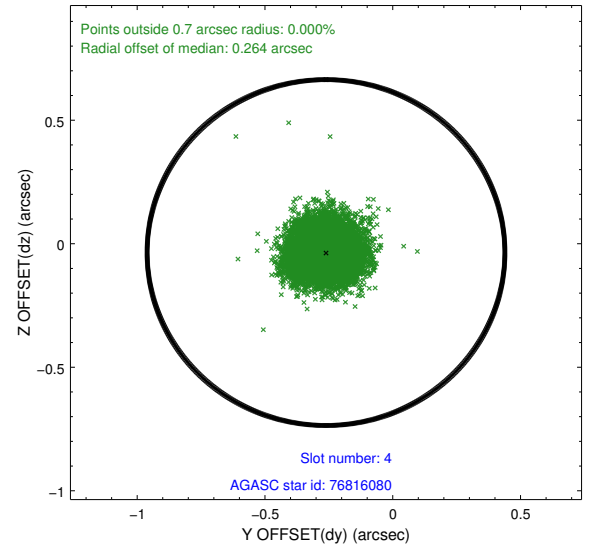
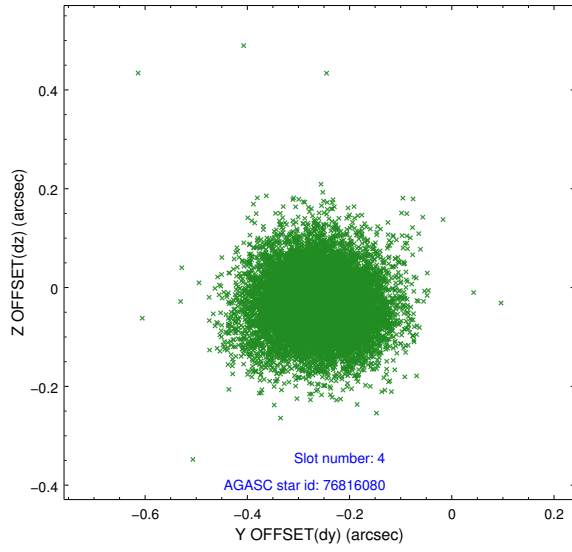
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.25	6127	-0.011	0.013	0.017	0.034	0.000000	0.000000	925.92	-842.26
1	FID		ACIS-I-2	7.15	6127	-0.281	-0.124	0.016	0.038	0.000000	0.000000	-768.37	-848.80
2	FID		ACIS-I-4	7.19	6124	0.196	0.177	0.025	0.040	0.000000	0.000000	2146.05	1057.59
3	GUIDE	used	76813936	7.18	12252	-0.118	0.164	0.085	0.142	355.167647	0.415974	-1203.44	-2317.44
4	GUIDE	used	76816080	8.41	12255	-0.261	-0.036	0.094	0.156	355.811078	0.904637	-2015.94	476.29
5	GUIDE	used	76816336	8.64	12252	-0.099	-0.039	0.104	0.181	355.735644	0.239731	121.51	-633.91
6	GUIDE	used	76816448	9.17	12248	0.137	0.040	0.125	0.208	355.330481	0.283128	-546.30	-1940.63
7	GUIDE	used	688397848	8.58	12244	0.342	-0.127	0.111	0.178	355.824310	-0.155582	1565.21	-846.78

2.4 Star Slots

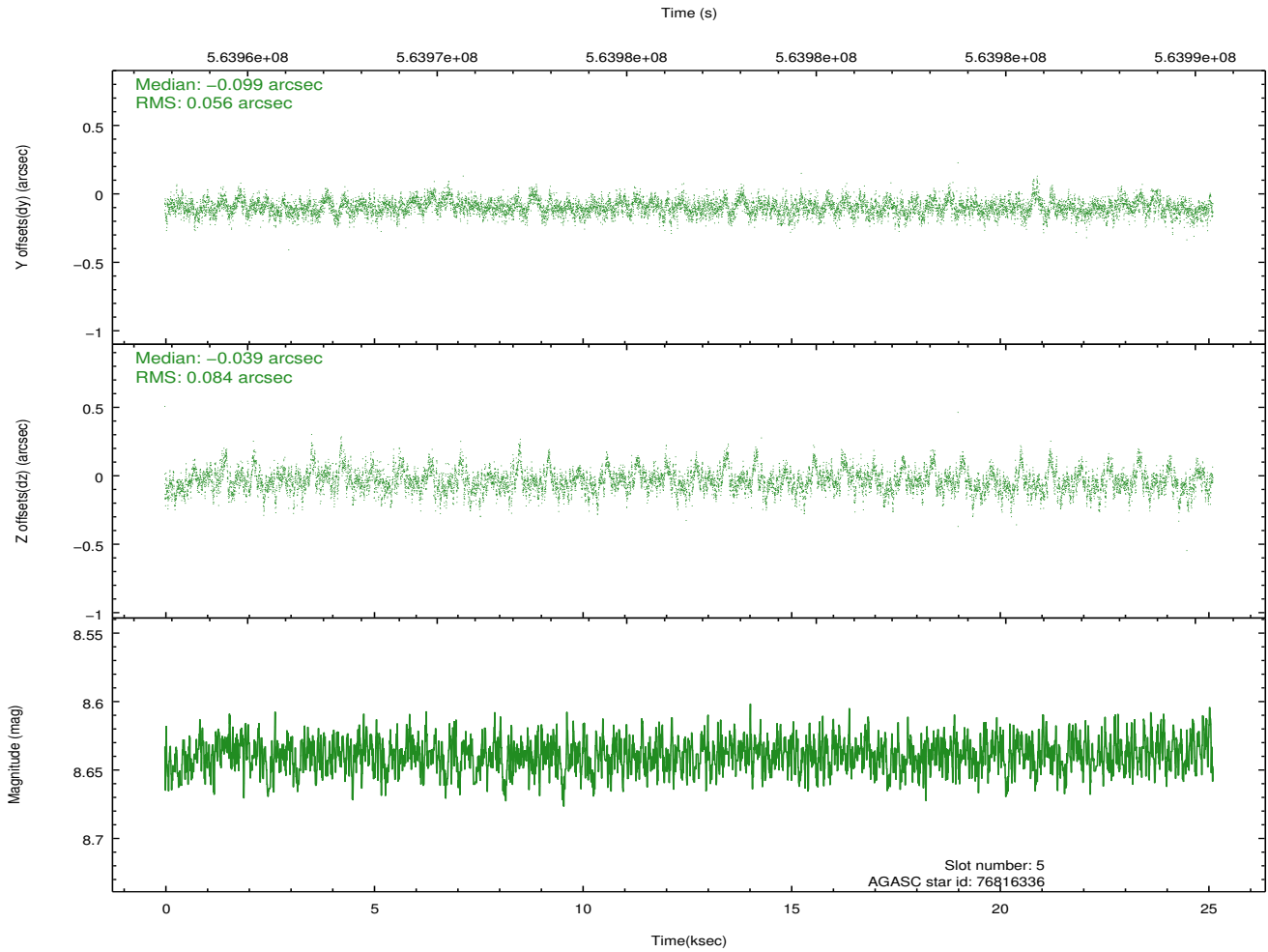
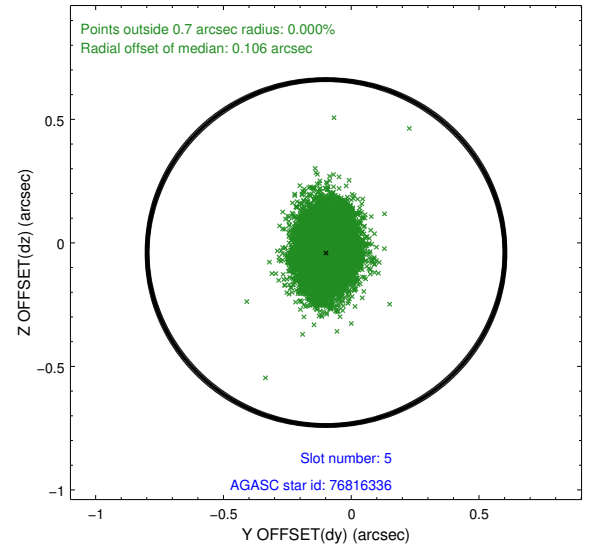
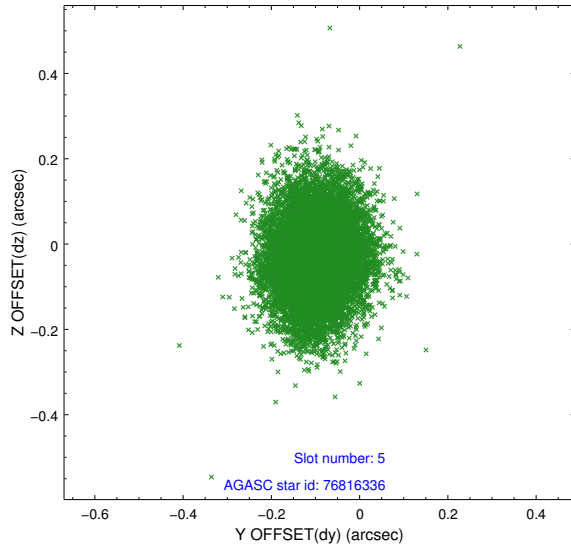
2.4.1 Slot 3



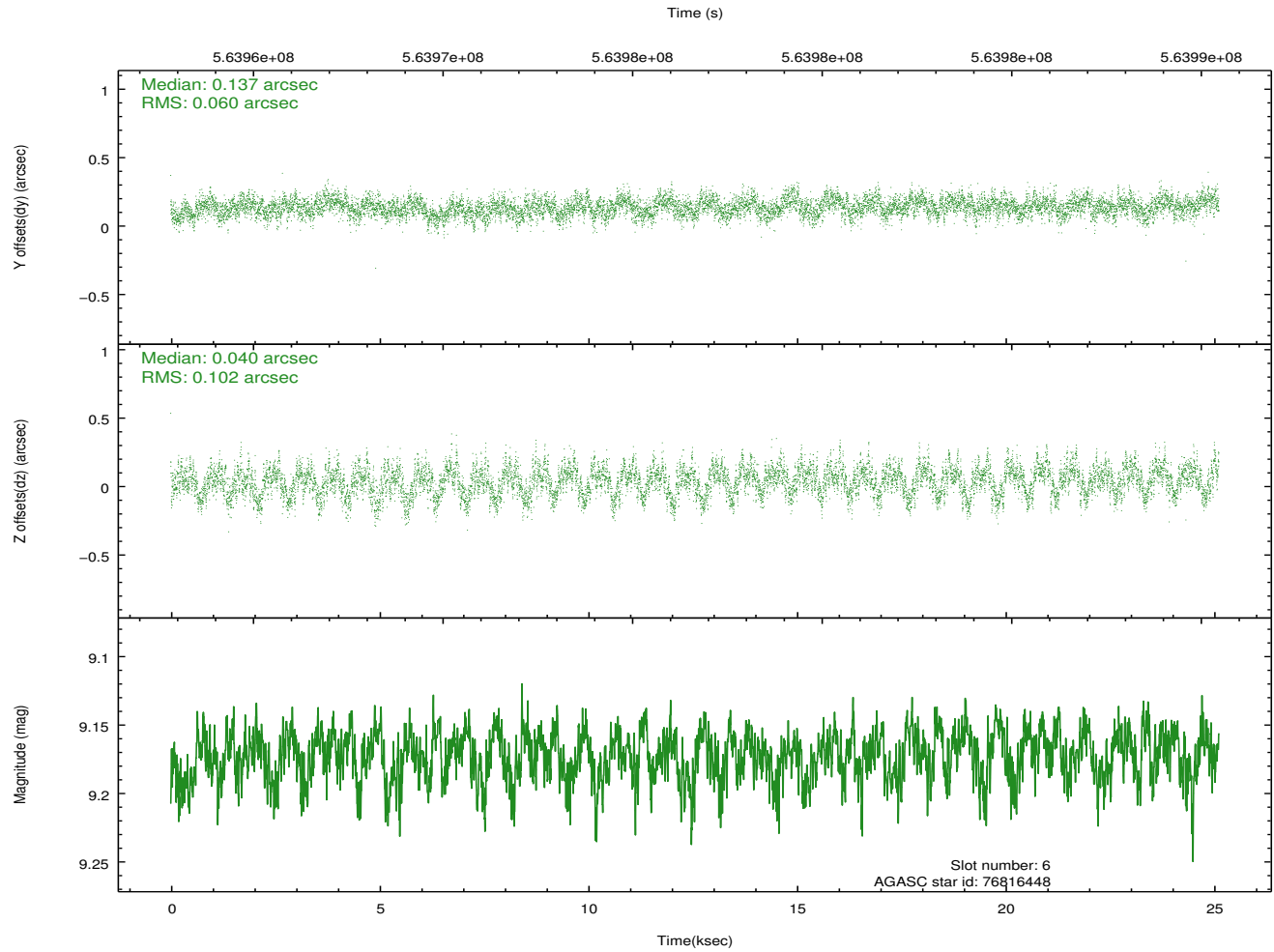
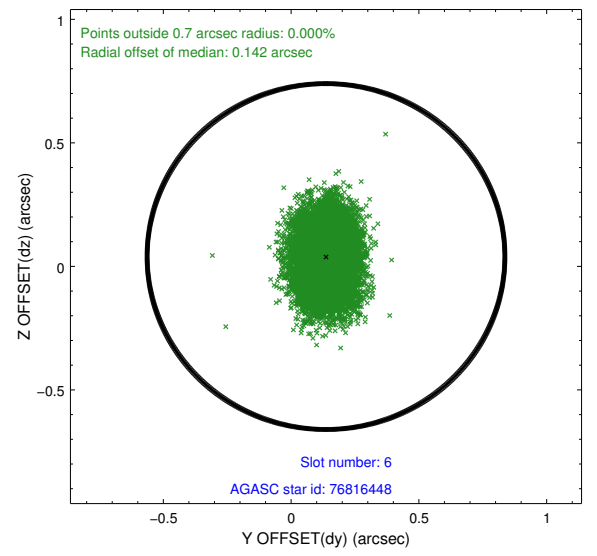
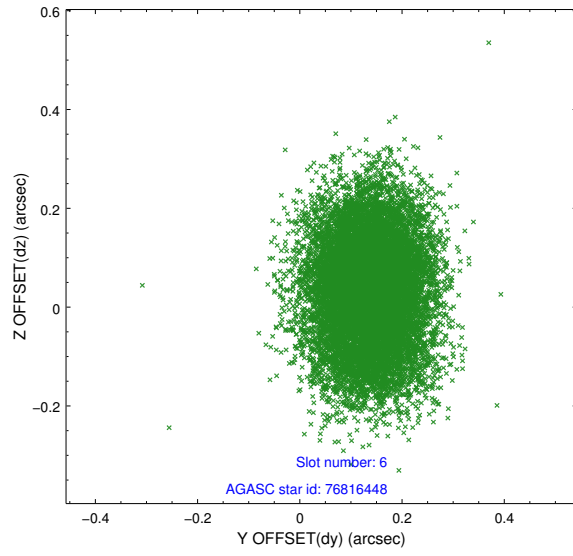
2.4.2 Slot 4



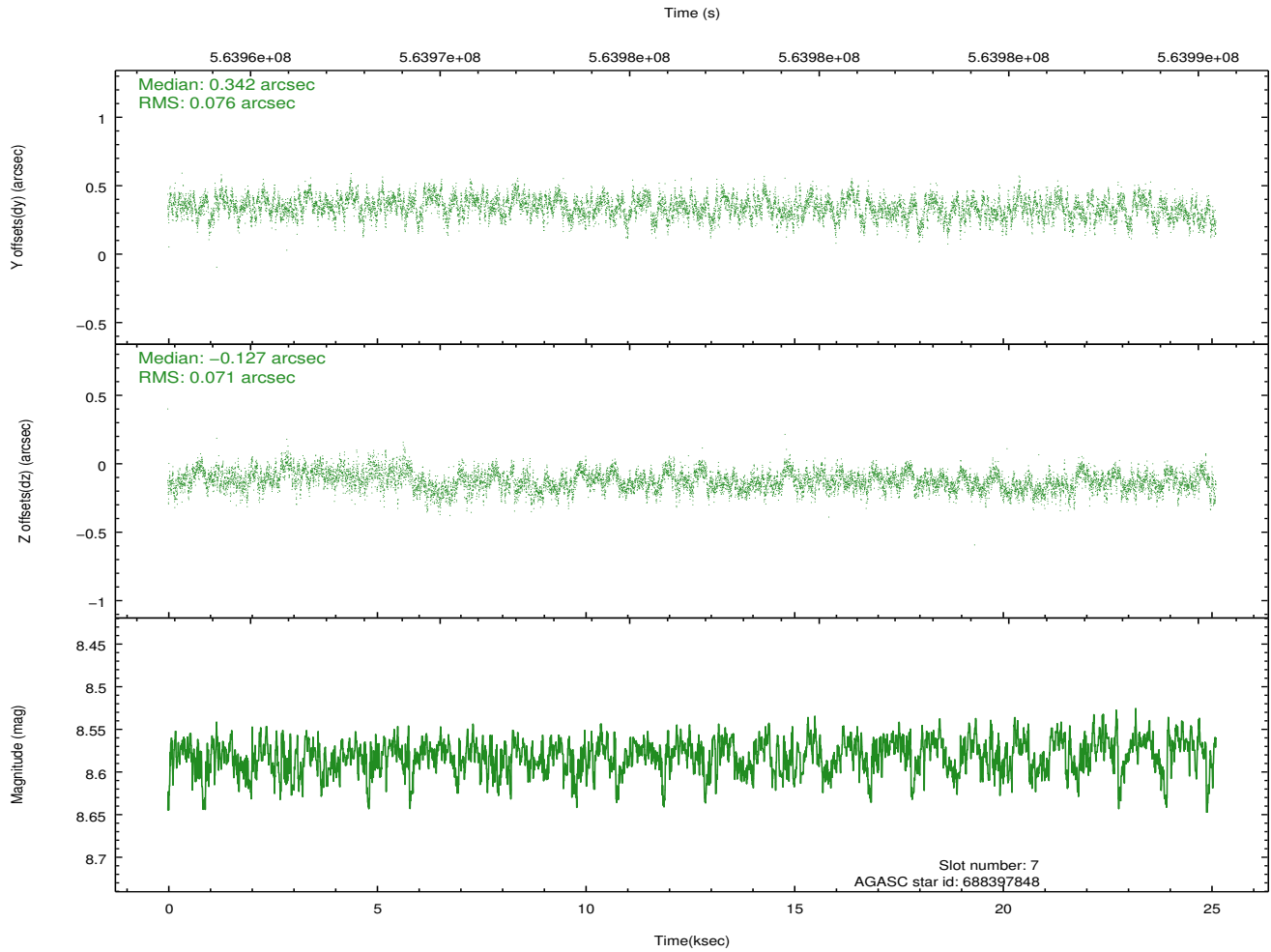
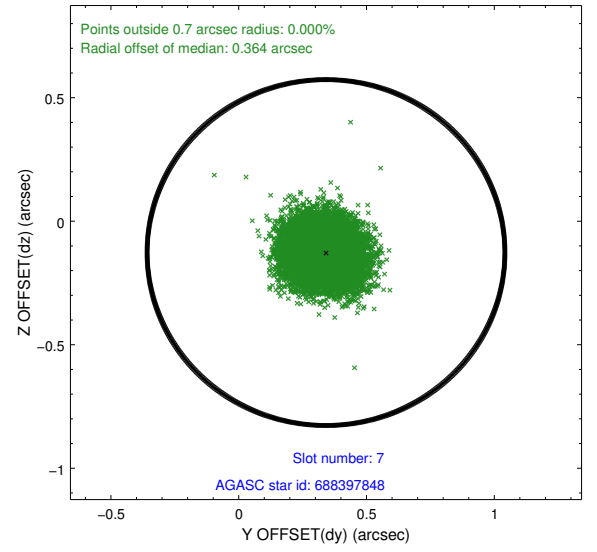
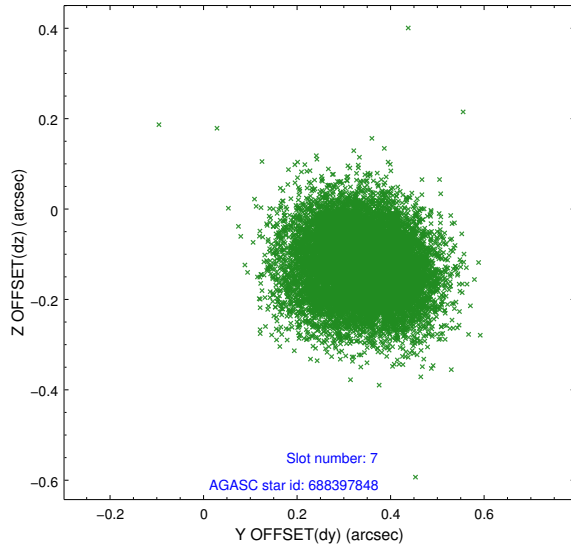
2.4.3 Slot 5



2.4.4 Slot 6

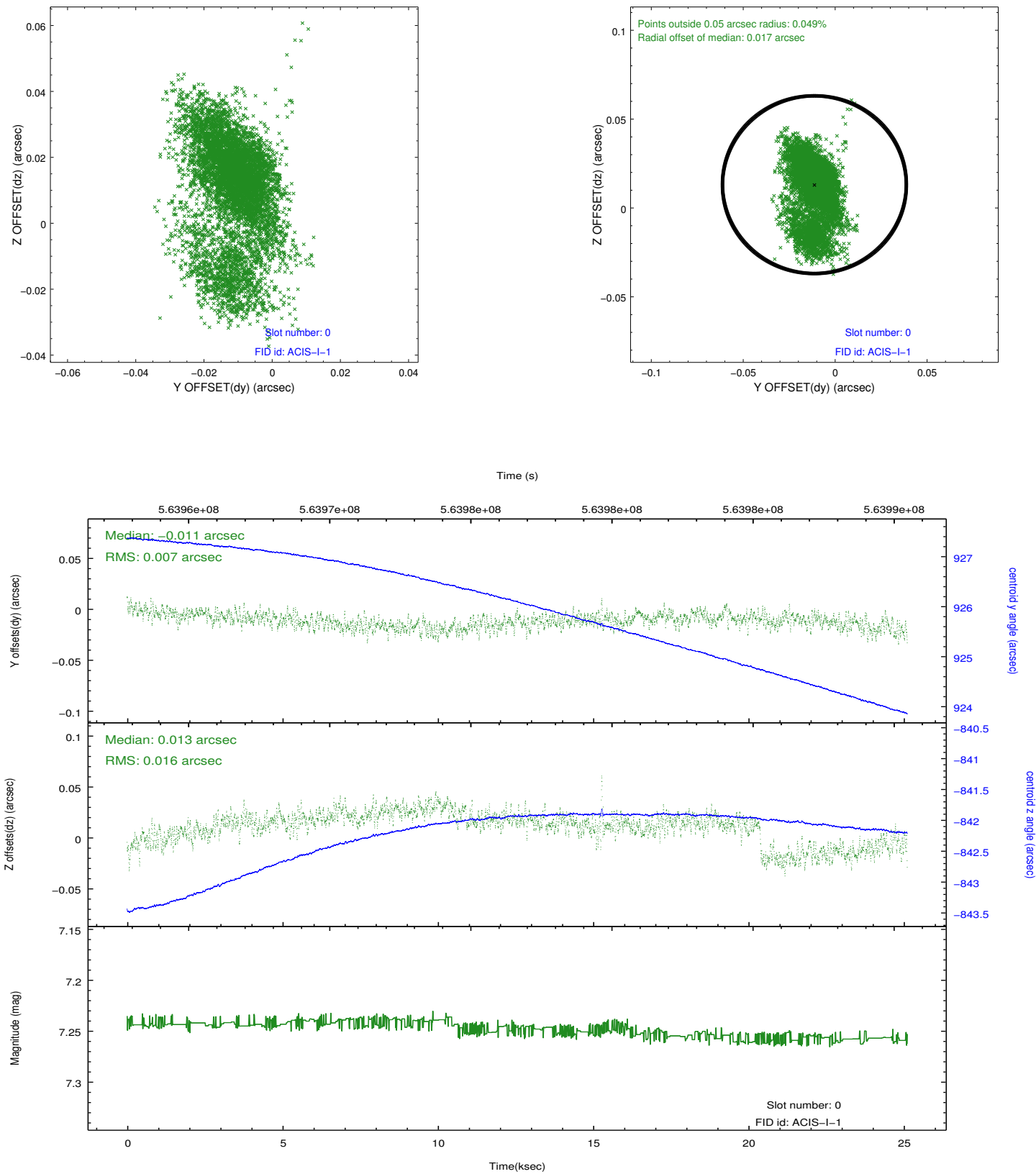


2.4.5 Slot 7

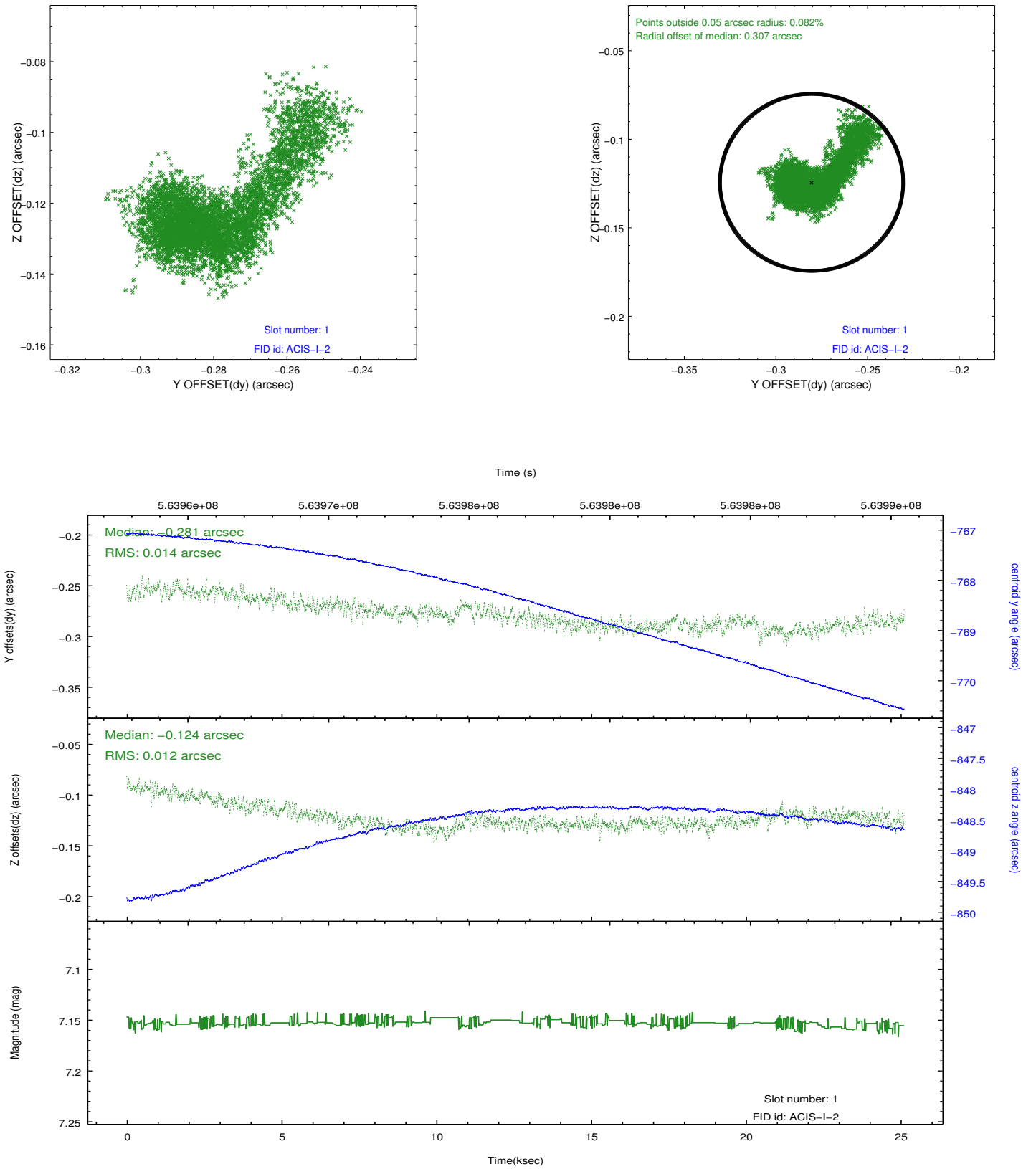


2.5 FID Slots

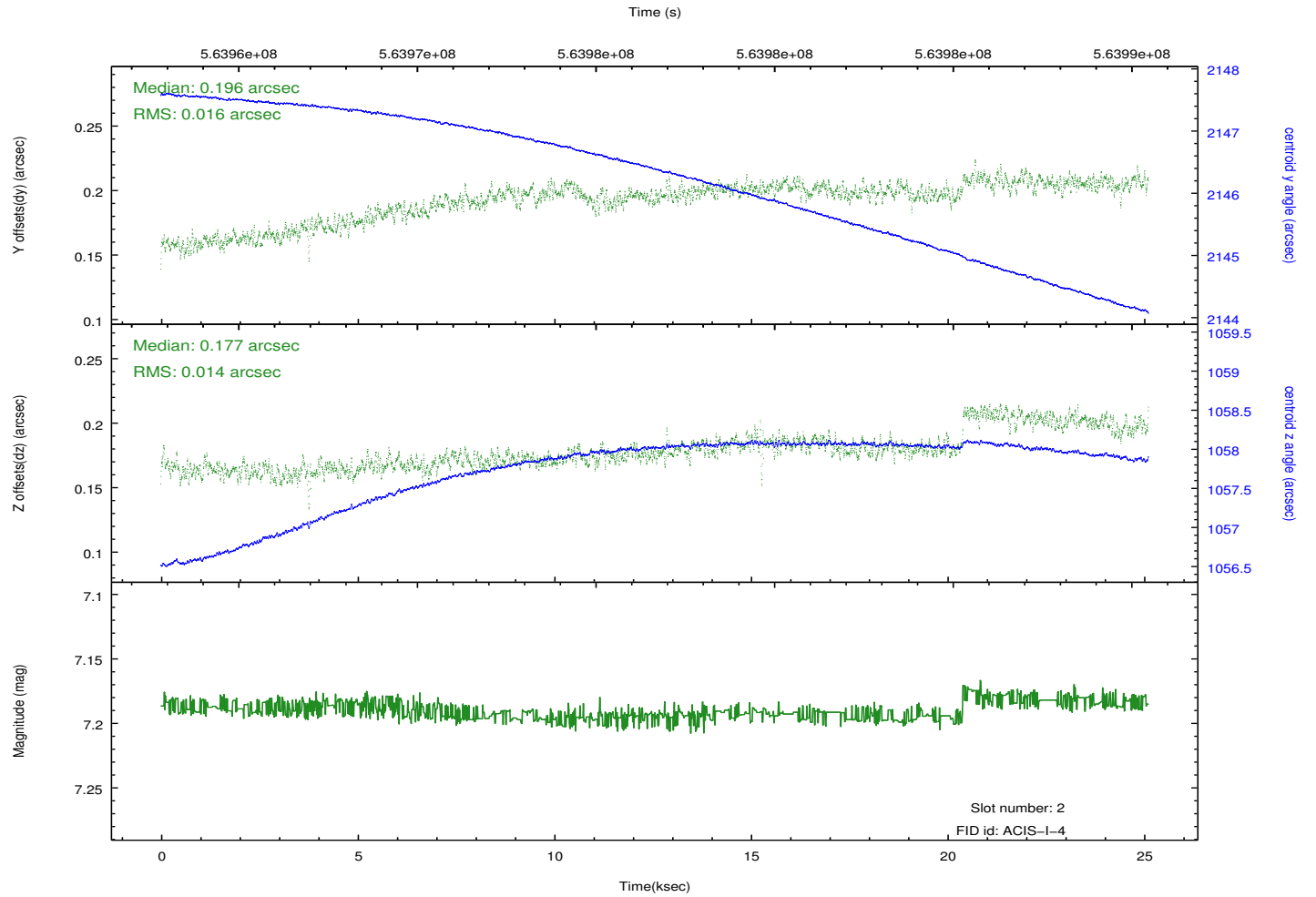
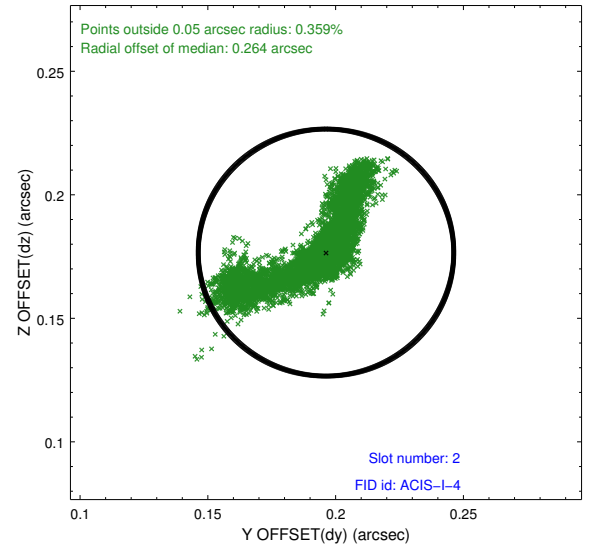
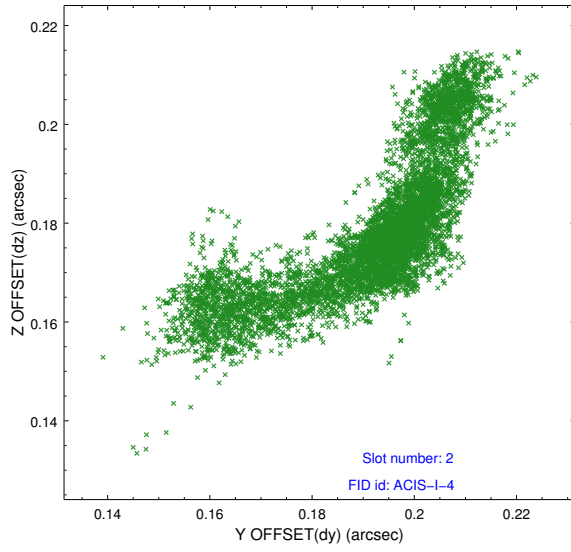
2.5.1 Slot 0



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)	2015.11.19
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	24.95040037179

A.2 Comments

Joint proposal with NRAO.

Certain spatial areas of the original bias maps for CCD = 2 and 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 maps for CCD = 2 and CCD = 3 have 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 on CCD = 2 are bounded by sky coords: (356.01735, 0.29795), (356.02726, 0.30182), (356.01335, 0.33766), (355.99861, 0.34624).

There were several discrete regions on CCD = 3 affected by the bias anomaly. One region is bounded by sky coords: (355.94243, 0.47910), (355.93390, 0.47581), (355.98435, 0.34579), (355.99287, 0.34907).

Another is bounded by sky coords: (355.91635, 0.46905), (355.91457, 0.46836), (355.96501, 0.33834), (355.96679, 0.33903). The third is bounded by sky coords: (355.88683, 0.45768), (355.88467, 0.45685), (355.93512, 0.32683), (355.93728, 0.32766).