

V&V Reference Report

L2 ASCDS Version : 10.5.2

Observation 17520 - L2 Version 2
Chandra X-Ray Center

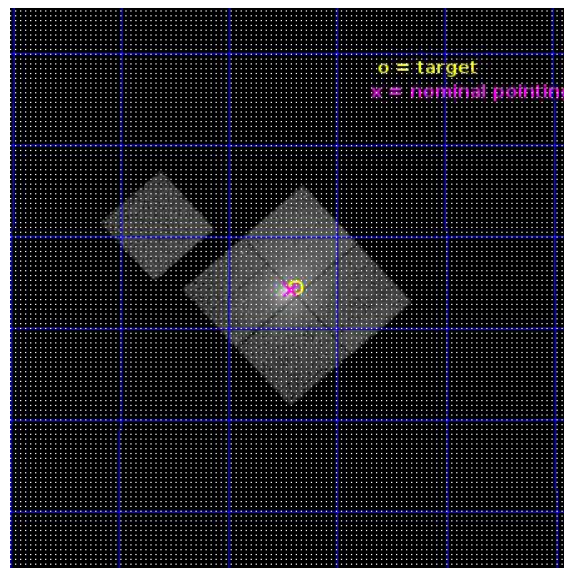
L2 Processing Date : Dec 20 2016

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1 Front

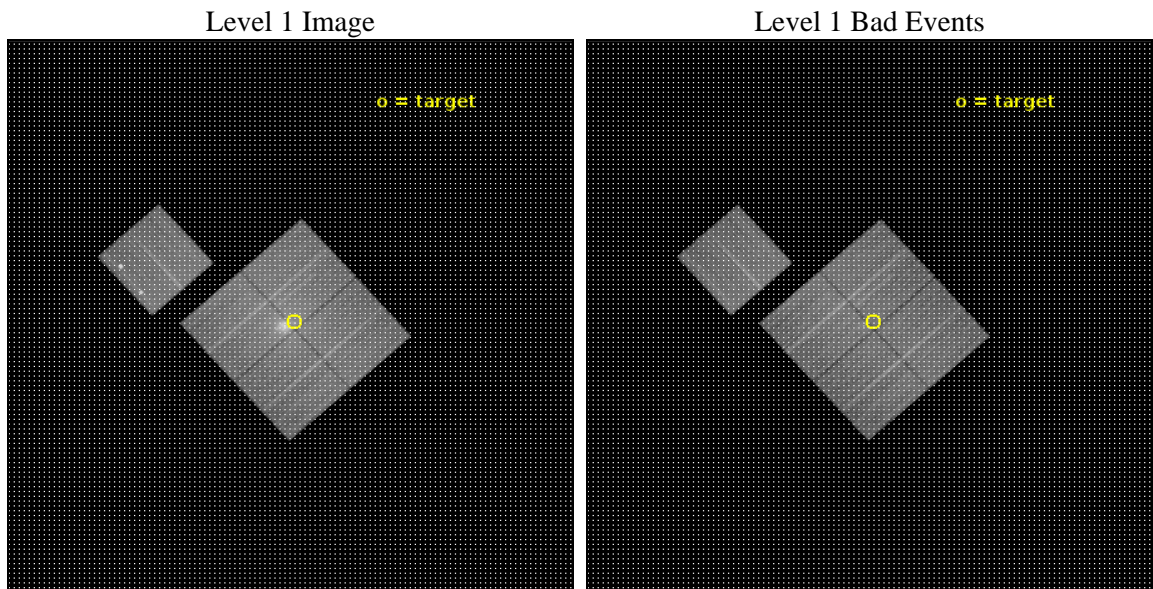
seq_num	703132	Sequence number
obs_id	17520	Observation id
title	The Rise to Power: Half a Billion Years of Intense AGN Activity in the Merging Cluster Cygnus A	Proposal title
observer	Dr. Michael Wise	Principal investigator
object	Cygnus A - W Hotspot	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	299.845	Observer's specified target RA [deg]
dec_targ	40.740361	Observer's specified target Dec [deg]
ra_nom	299.85580947857	Nominal RA [deg]
dec_nom	40.737787808061	Nominal Dec [deg]
roll_nom	318.20162575669	Nominal Roll [deg]
revision	2	Processing version of data
ontime	27196.049286604	Sum of GTIs [s]
livetime	26840.712881234	Livetime [s]
ontime0	27192.785176396	Sum of GTIs [s]
ontime1	27195.967206597	Sum of GTIs [s]
ontime2	27199.14921689	Sum of GTIs [s]
ontime3	27196.049286604	Sum of GTIs [s]
ontime6	27199.026096821	Sum of GTIs [s]
l2events	221724	Number of level 2 events



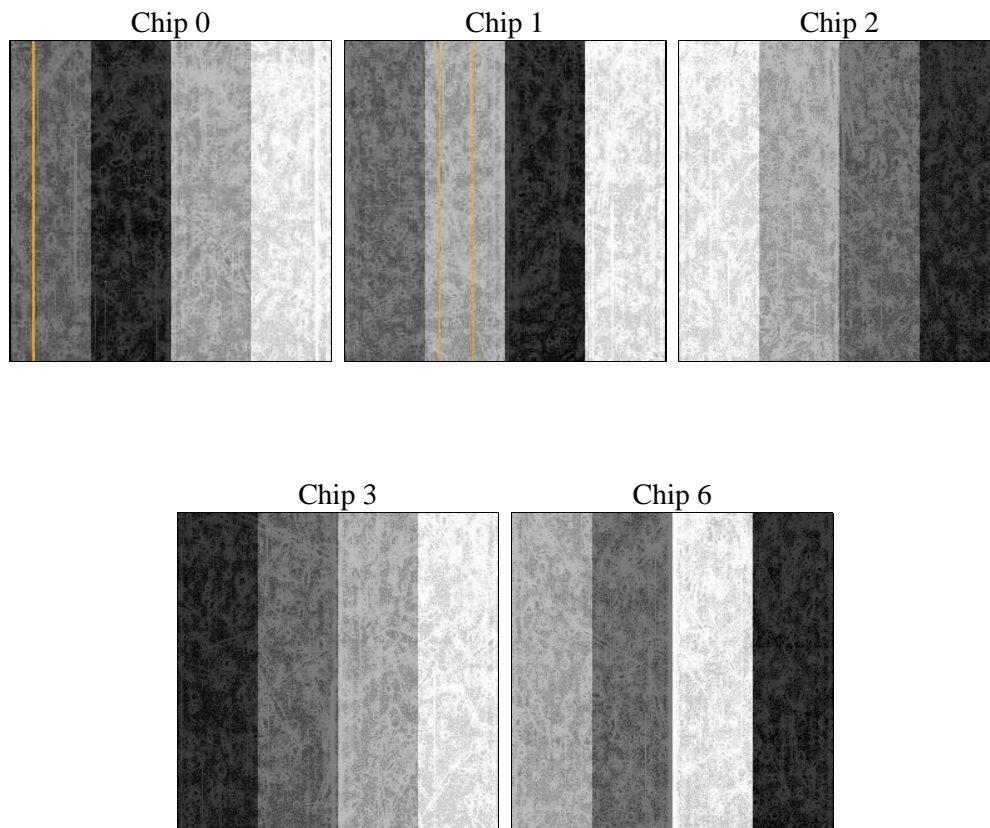
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	27134.196000	[s] Scheduled observation exposure time
ascdsver	10.5.2	Processing system revision	ontime	27196.049286604	Sum of GTIs [s]
caldbver	4.7.3	 	ontime0	27192.785176396	Sum of GTIs [s]
date	2016-12-20T20:25:00	Date and time of file creation	ontime1	27195.967206597	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	27199.14921689	Sum of GTIs [s]
			ontime3	27196.049286604	Sum of GTIs [s]
			ontime6	27199.026096821	Sum of GTIs [s]
			l1events	1101619	Number of level 1 events

2.1.4 Events

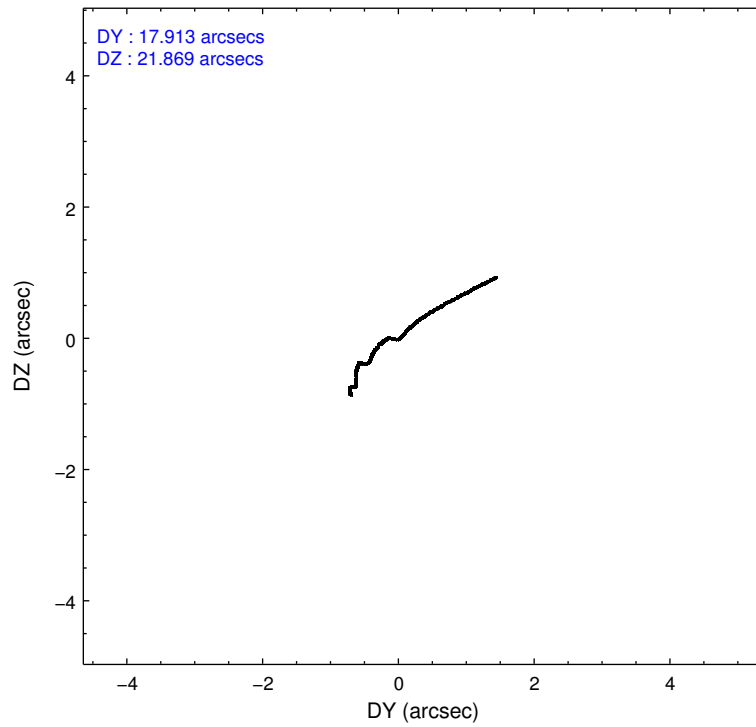
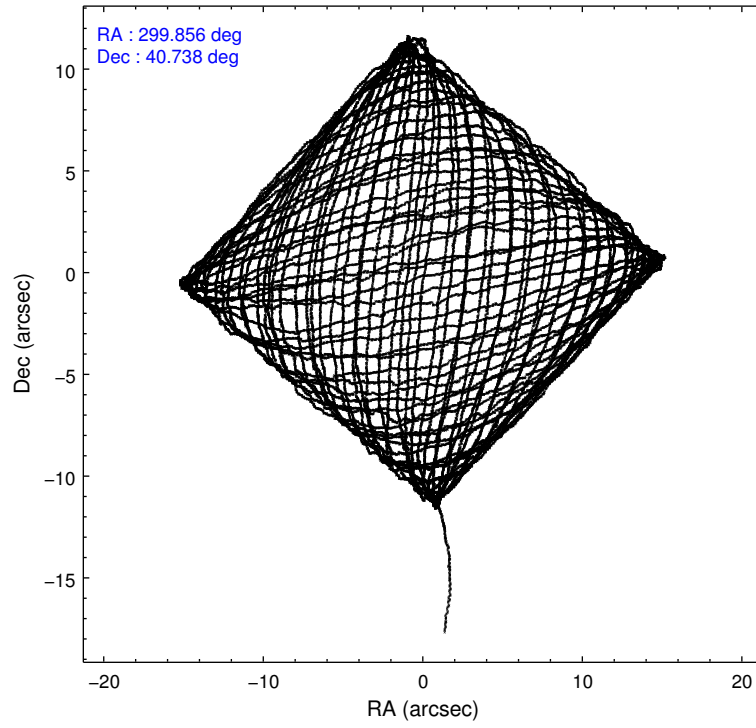
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	185971	196412	276261	230350	212625
rejected events	152497	159431	179773	171104	171159
rejected %	82%	81%	65%	74%	80%

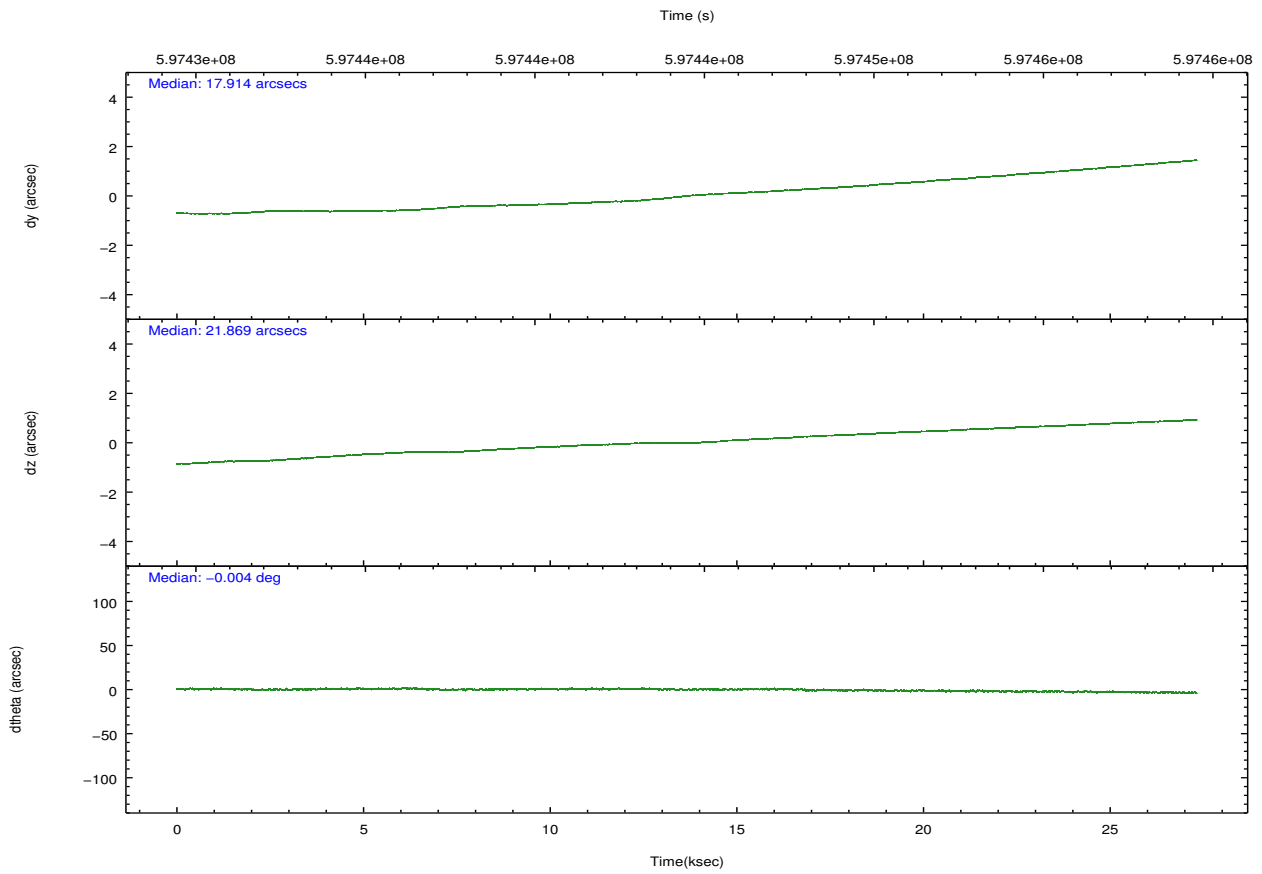
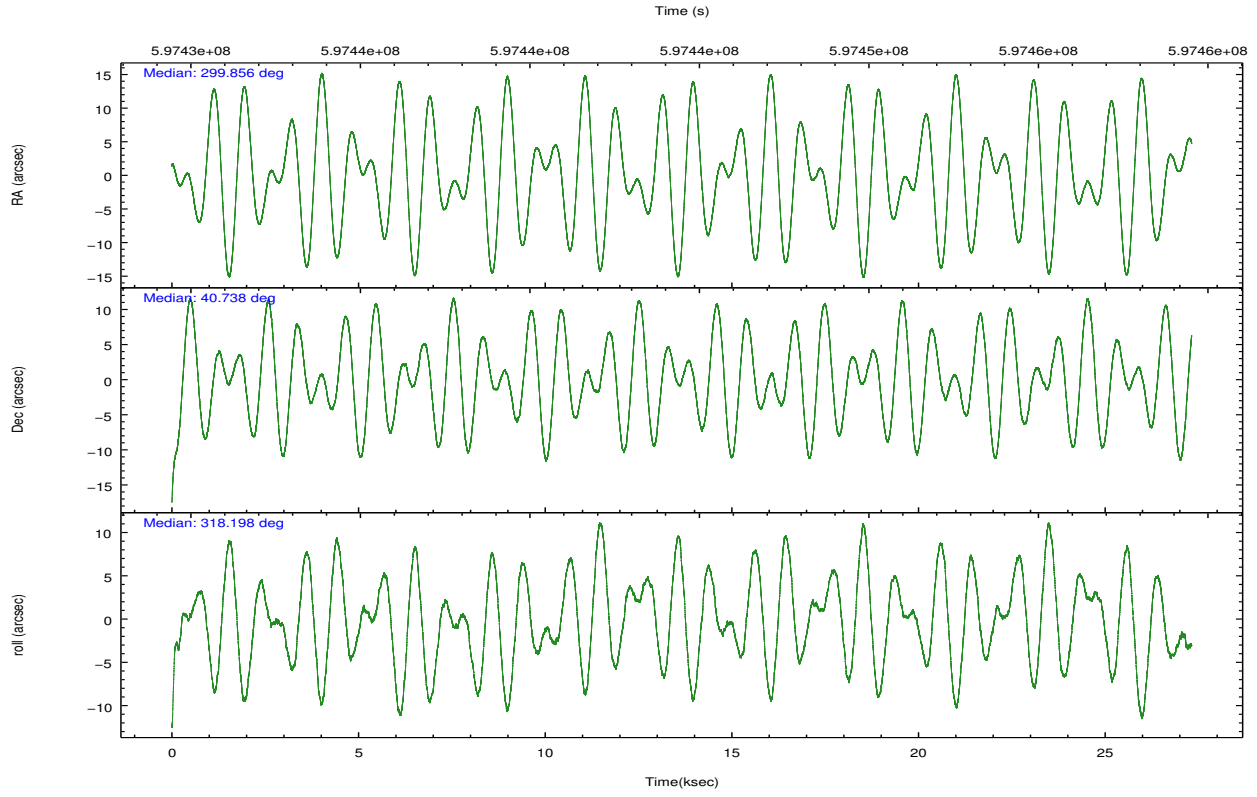
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	16811	18271	65888	37803	10521
	9%	9%	23%	16%	4%
grade 1 events	147	122	796	299	145
	0%	0%	0%	0%	0%
grade 2 events	6896	7740	13639	8690	21673
	3%	3%	4%	3%	10%
grade 3 events	2585	2719	4637	3614	2189
	1%	1%	1%	1%	1%
grade 4 events	2440	2608	4964	3503	2161
	1%	1%	1%	1%	1%
grade 5 events	8122	8613	8288	9368	8855
	4%	4%	3%	4%	4%
grade 6 events	4751	5648	7387	5656	4934
	2%	2%	2%	2%	2%
grade 7 events	144219	150691	170662	161417	162147
	77%	76%	61%	70%	76%

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	299.820112	299.8558094785652	CCD I2 on	Y	Y
[deg] Pointing Dec	40.743346	40.73778780806118	CCD I3 on	Y	Y
[deg] Pointing Roll	318.016241	318.2016257566913	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)	597431009.184000	597429689.02448	CCD S5 on	N	N
Observation start date	2016-12-06T17:02:21	2016-12-06T16:41:29	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	597458143.184000	597458381.33864	On-chip summing requested	N	N
Observation end date	2016-12-07T00:34:35	2016-12-07T00:39:41	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect





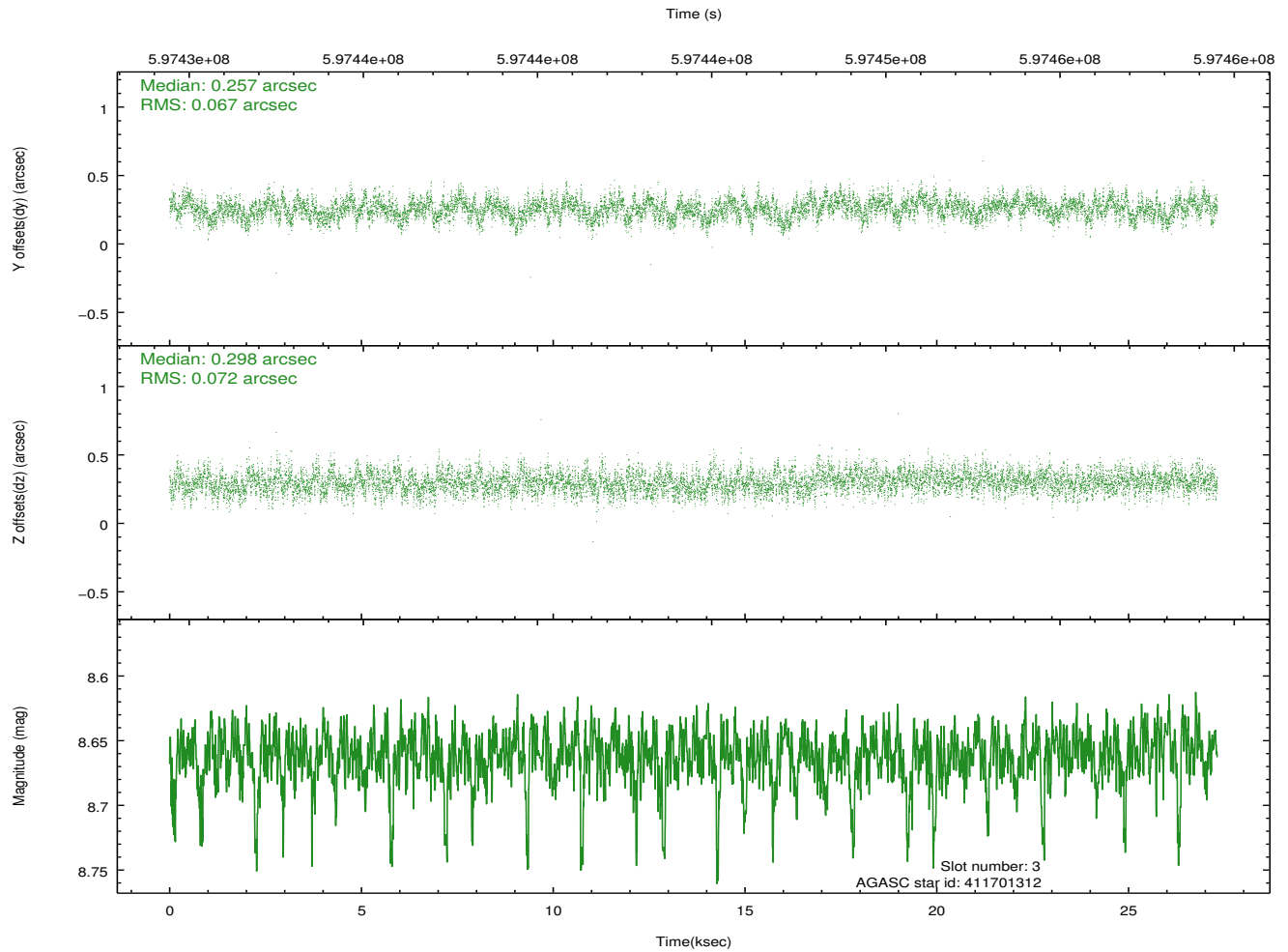
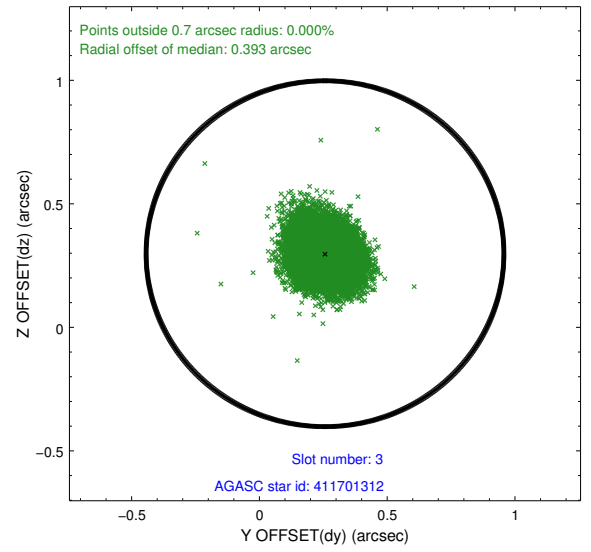
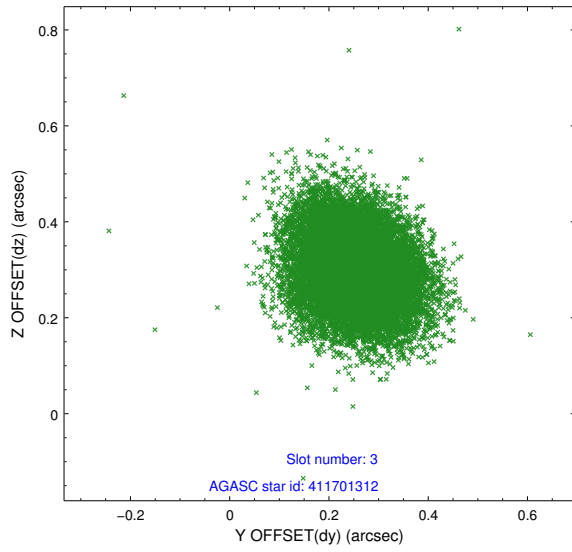
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.18	6663	0.084	-0.054	0.031	0.054	0.000000	0.000000	921.47	-845.71
1	FID		ACIS-I-5	7.17	6662	-0.351	0.042	0.009	0.016	0.000000	0.000000	-1827.08	1051.72
2	FID		ACIS-I-6	7.19	6660	0.179	0.078	0.028	0.045	0.000000	0.000000	386.92	1696.44
3	GUIDE	used	411701312	8.66	13313	0.257	0.298	0.104	0.168	298.889956	40.820220	-2077.20	-1478.77
4	GUIDE	used	411701808	8.82	13319	0.192	0.071	0.103	0.167	299.419536	40.880184	-1141.36	-361.23
5	GUIDE	used	412240768	8.25	13322	0.029	-0.061	0.098	0.180	299.999696	41.280279	-932.13	1762.25
6	GUIDE	used	413405352	8.34	13320	-0.345	-0.119	0.106	0.175	300.290830	41.091941	107.44	1789.88
7	GUIDE	used	413421016	8.68	13320	-0.129	-0.190	0.098	0.161	300.612426	40.446254	2322.52	664.31

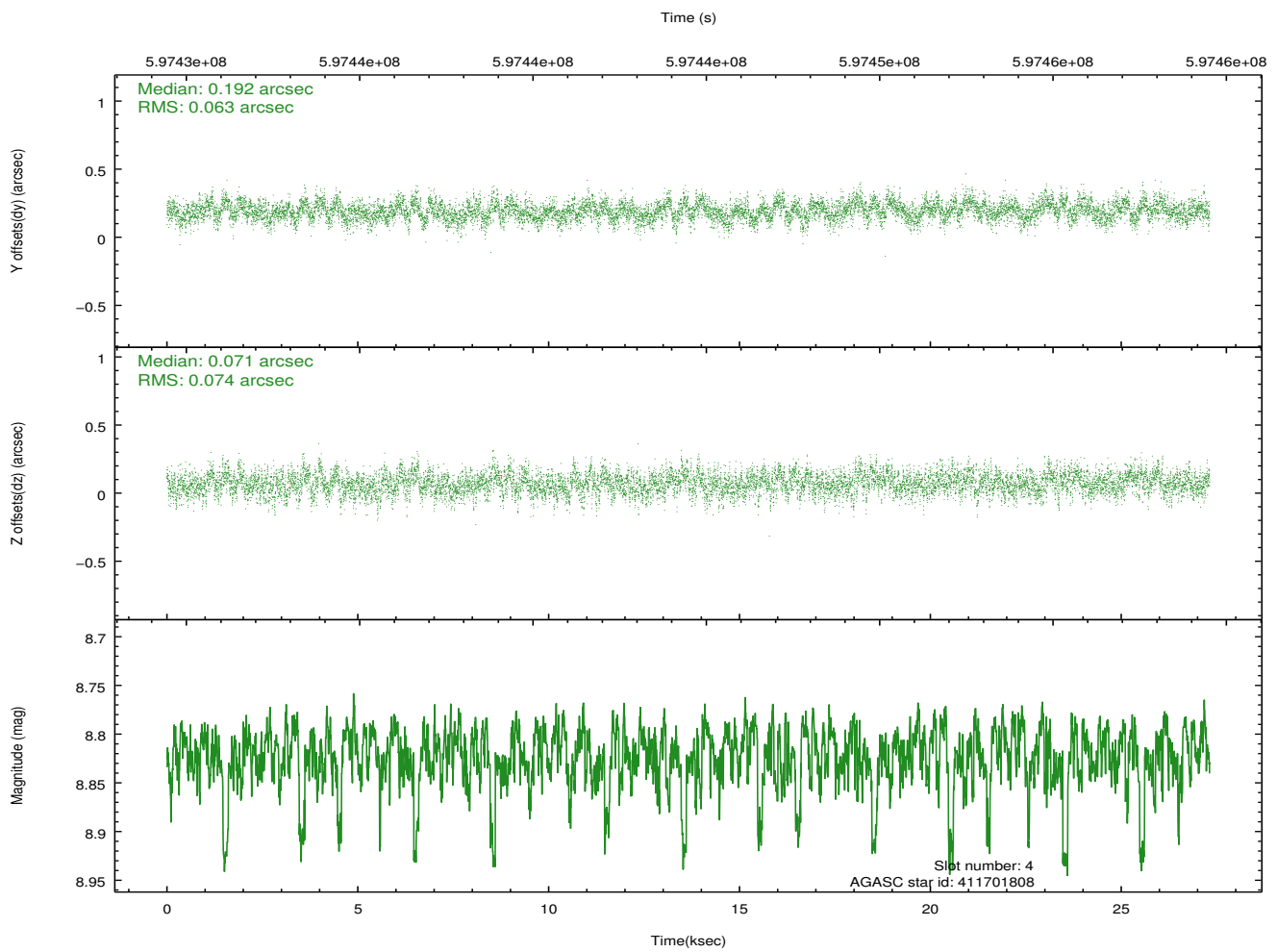
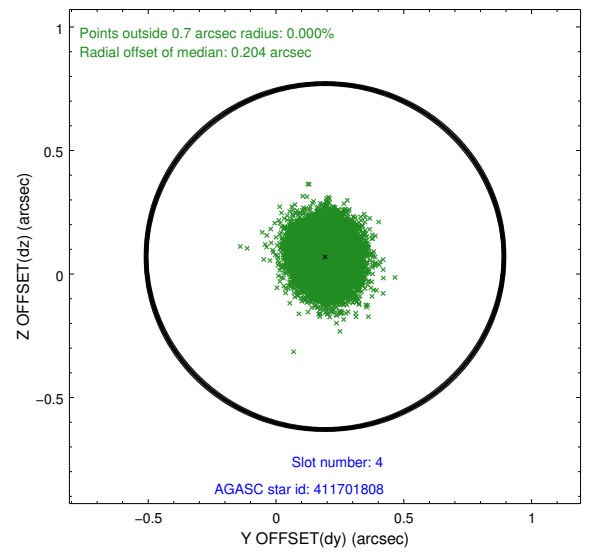
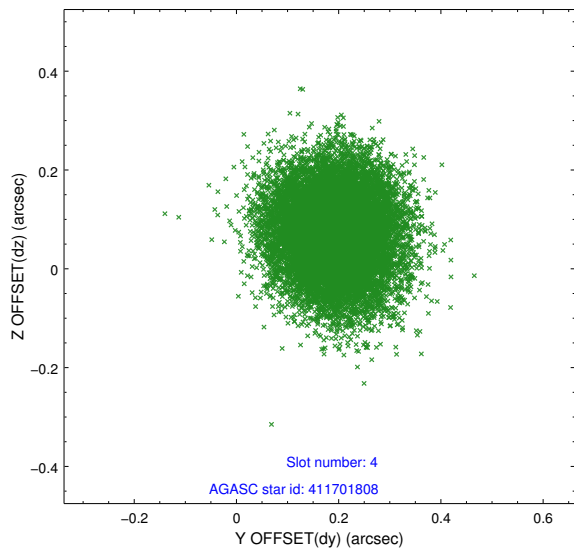
∞

2.4 Star Slots

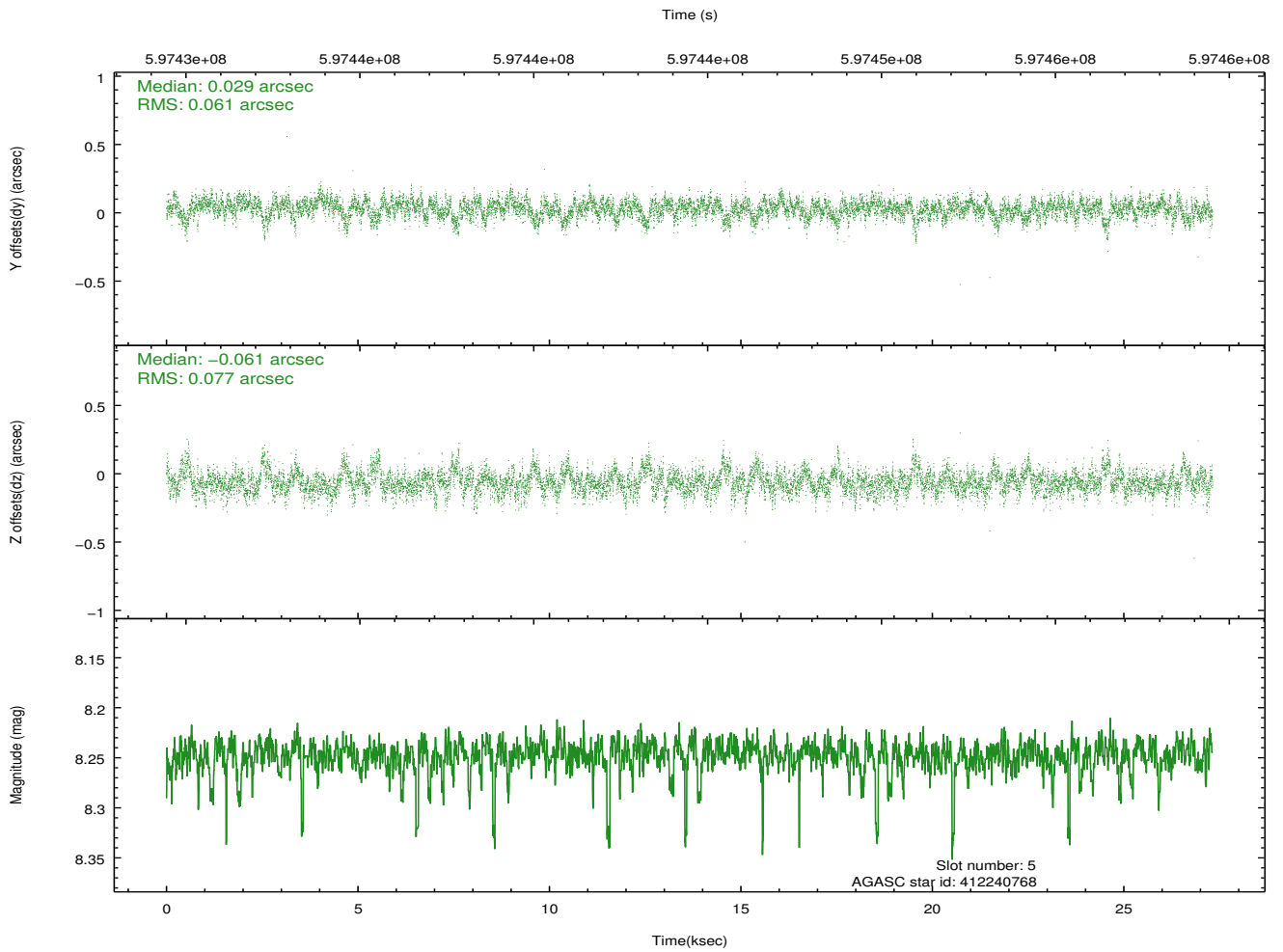
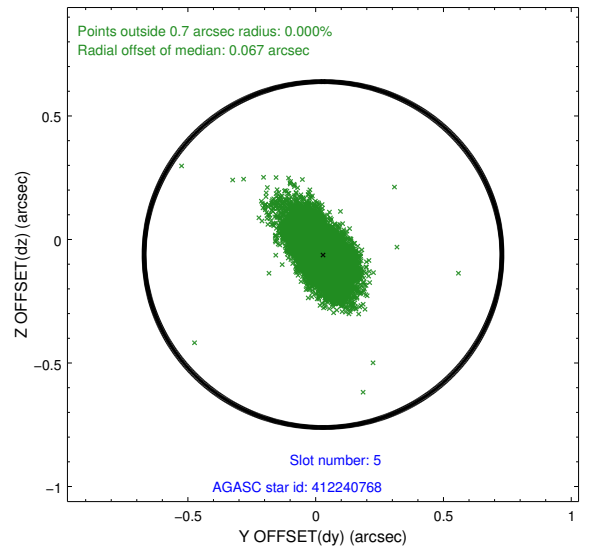
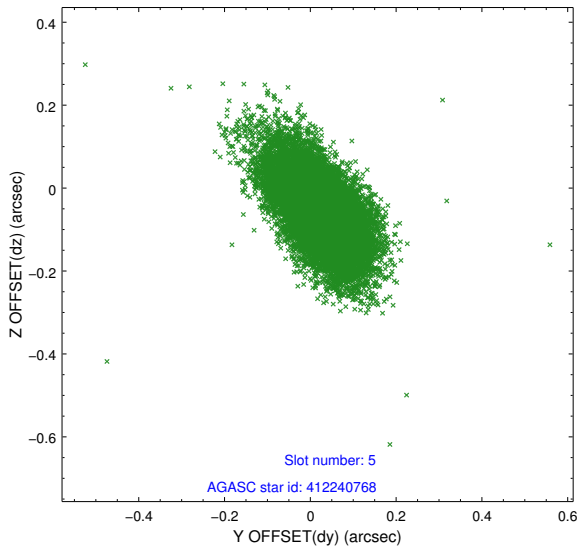
2.4.1 Slot 3



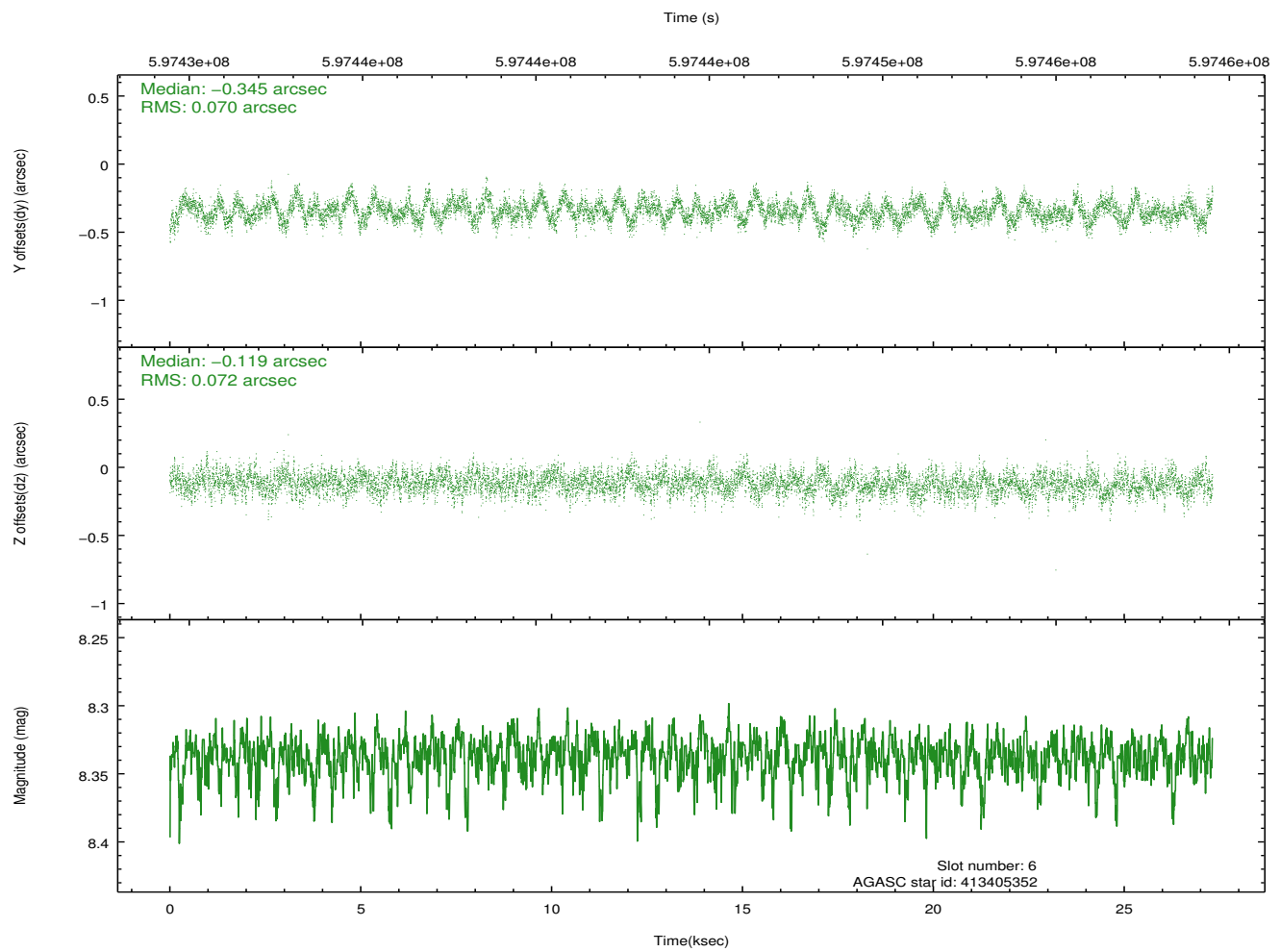
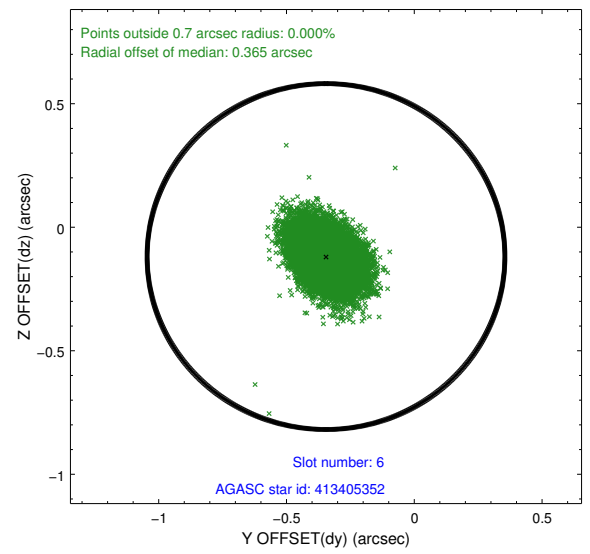
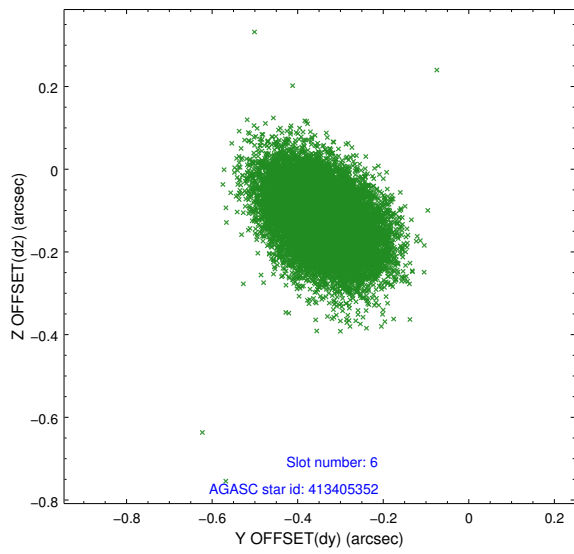
2.4.2 Slot 4



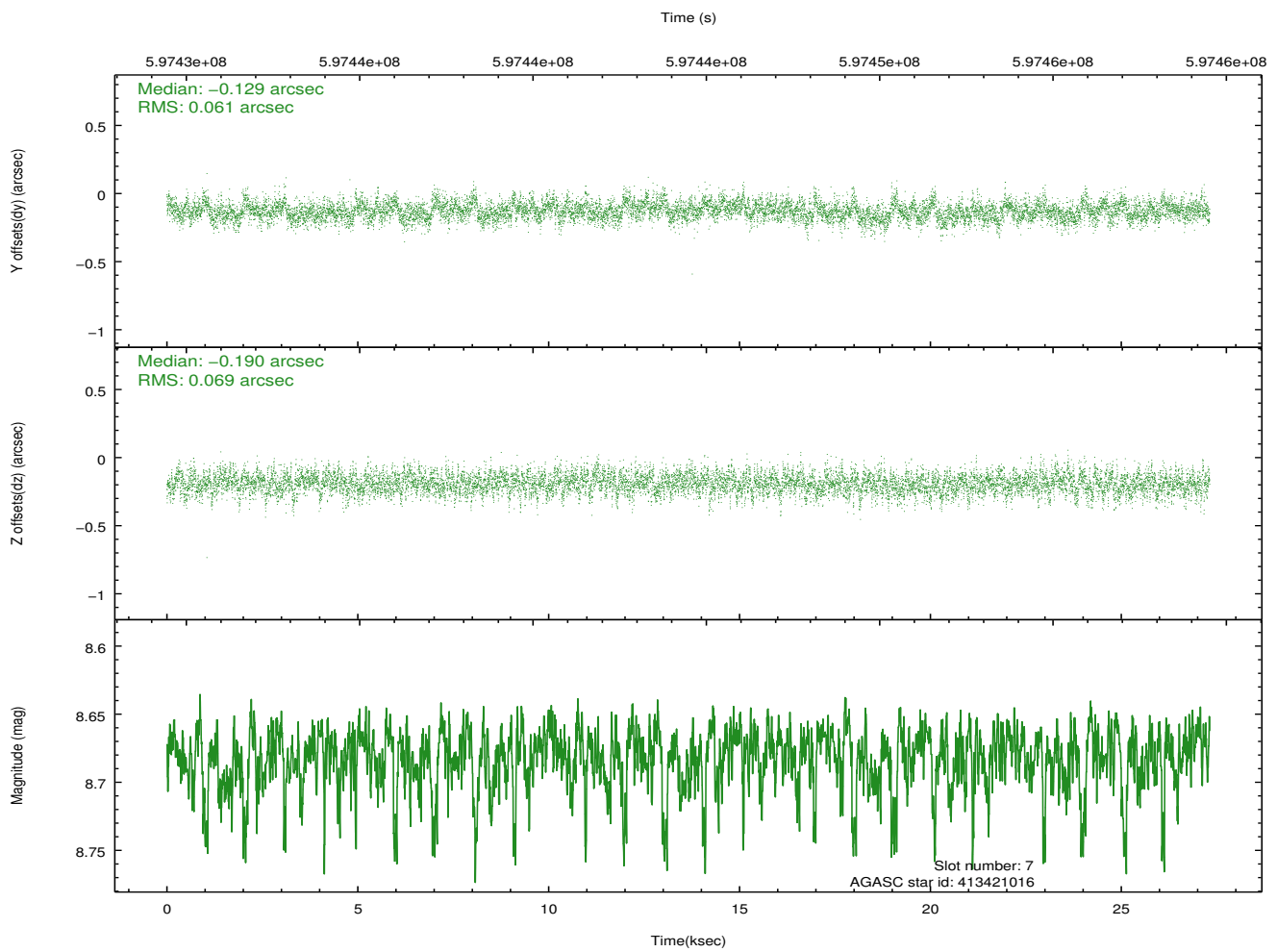
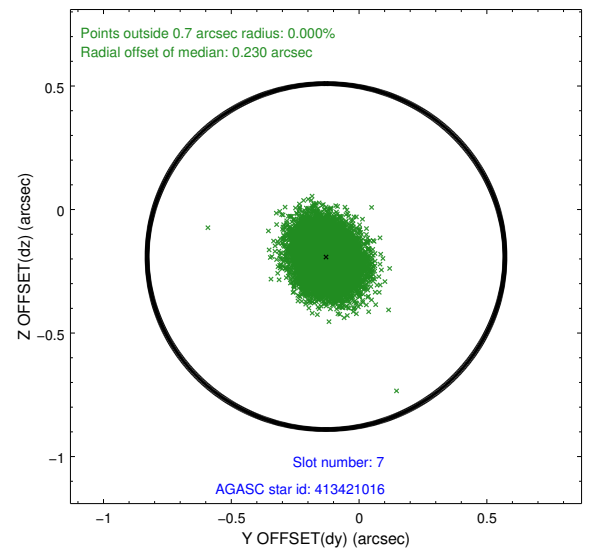
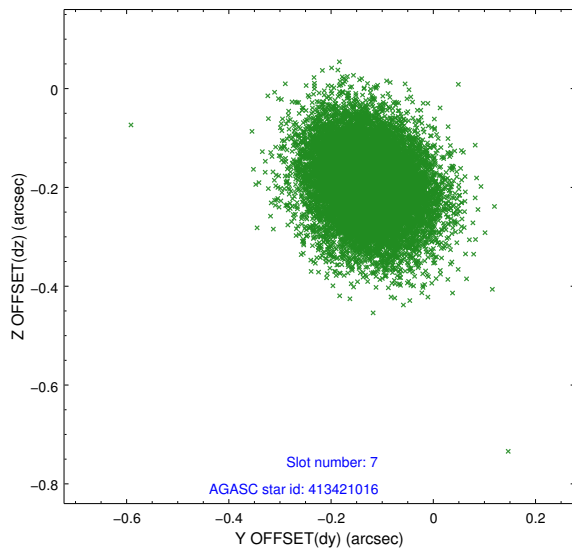
2.4.3 Slot 5



2.4.4 Slot 6

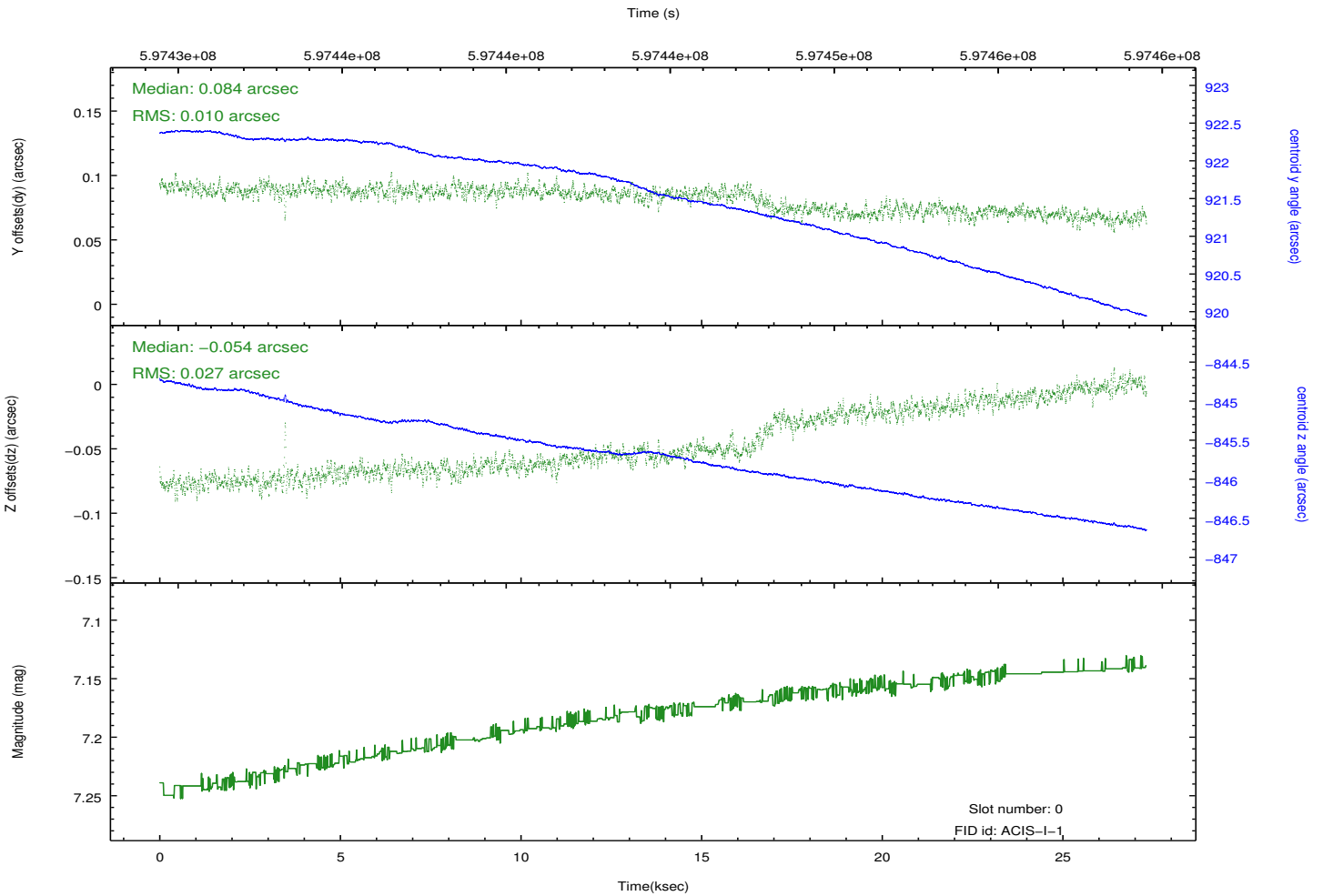
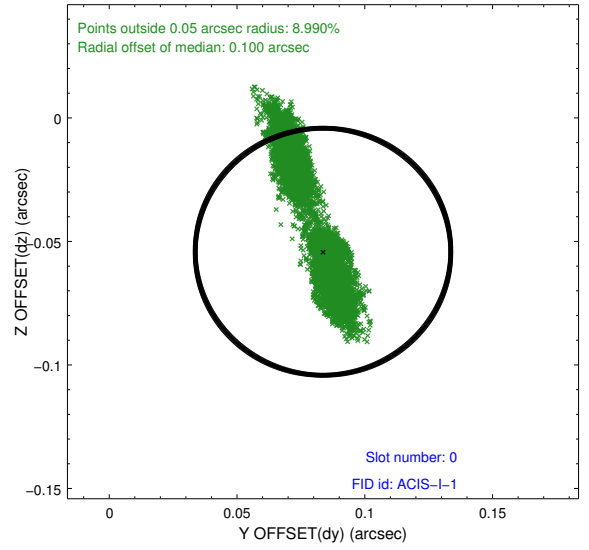
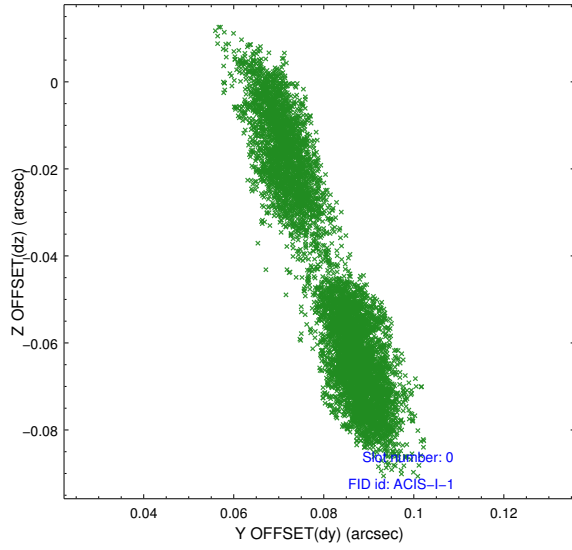


2.4.5 Slot 7

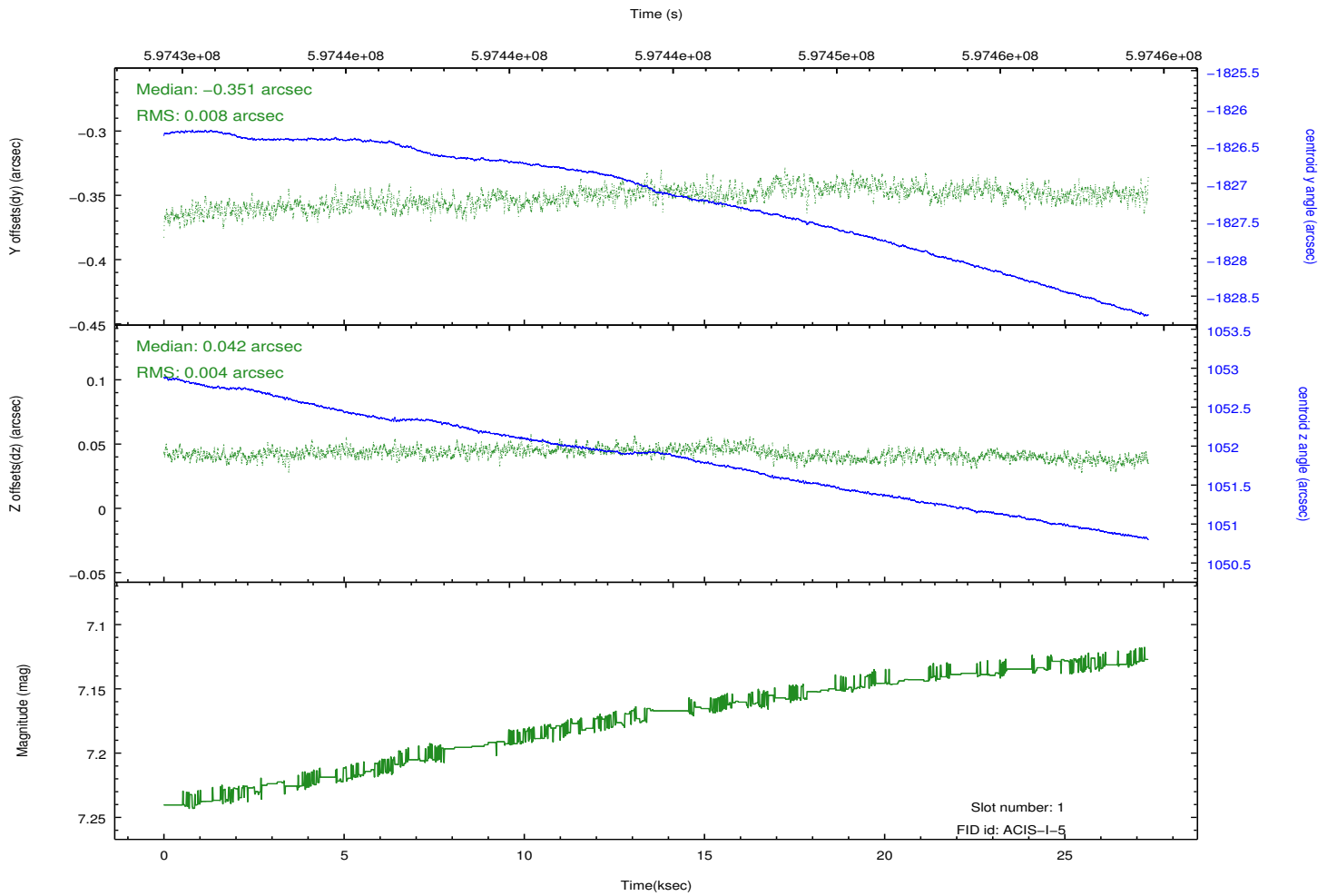
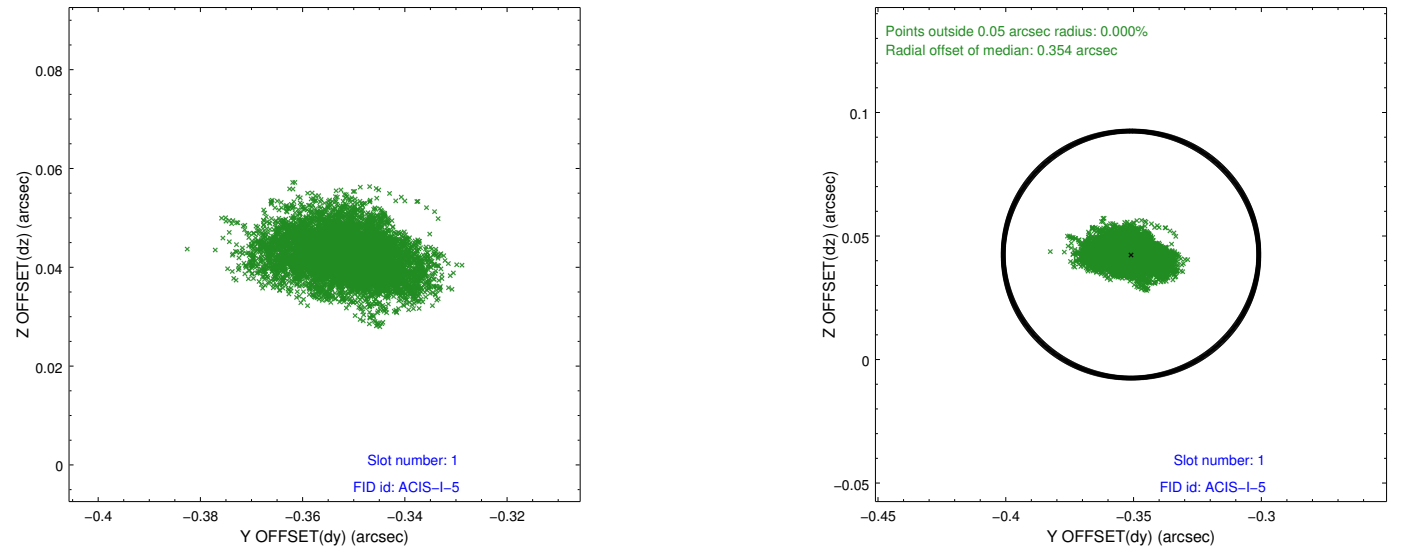


2.5 FID Slots

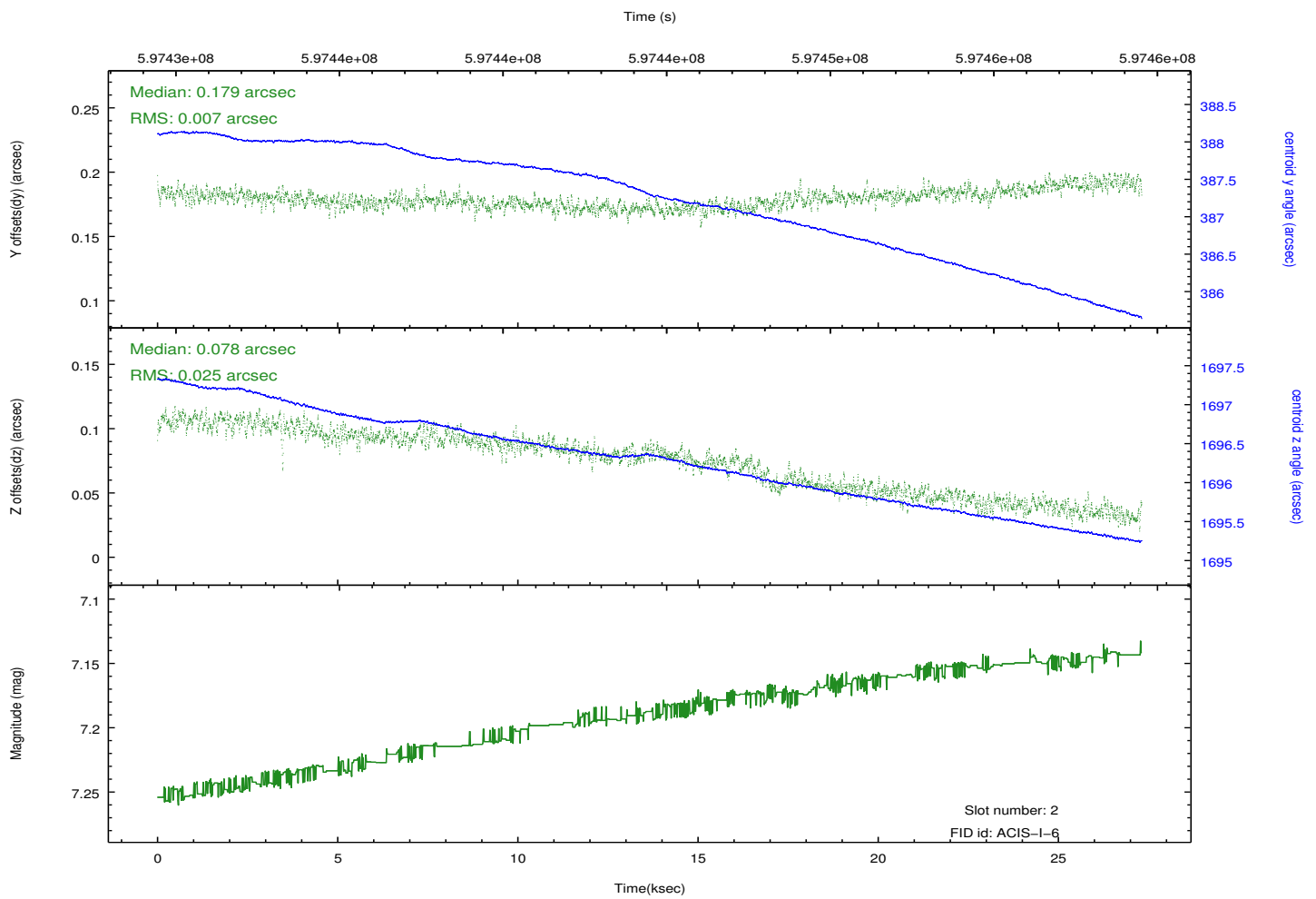
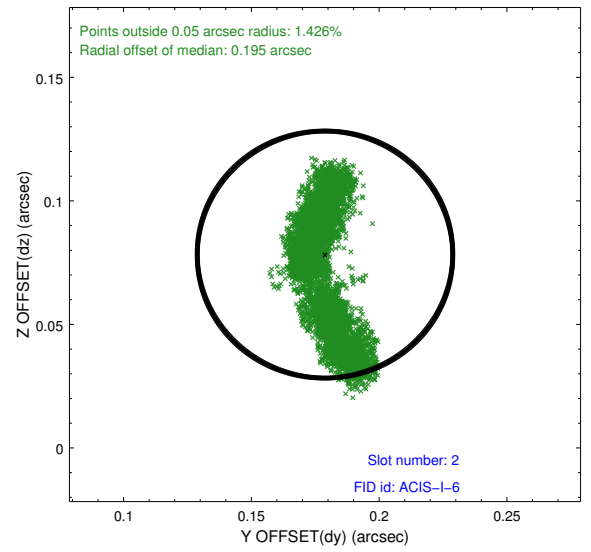
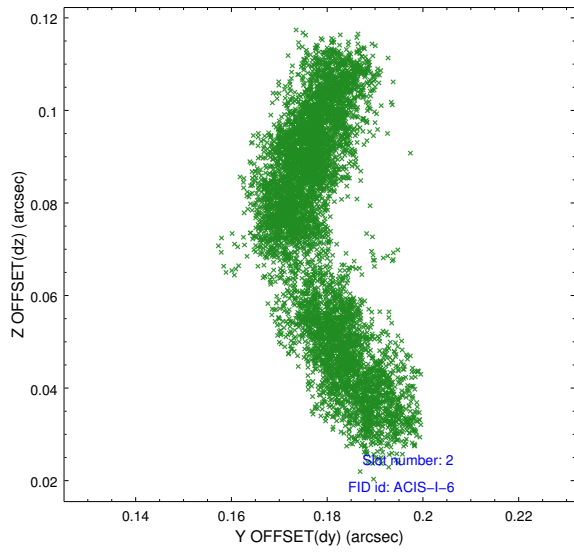
2.5.1 Slot 0



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)	2016.12.21
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	27.196049286604

A.2 Comments

A spatial region of the original bias map for CCD = 6 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 anomaly. The bias map for CCD = 6 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: (300.22520,40.90815), (300.21325,40.91627), (300.08986,40.81242), (300.11313,40.81386).