

V&V Reference Report

L2 ASCDS Version : 10.5.4

Observation 17134 - L2 Version 2
Chandra X-Ray Center

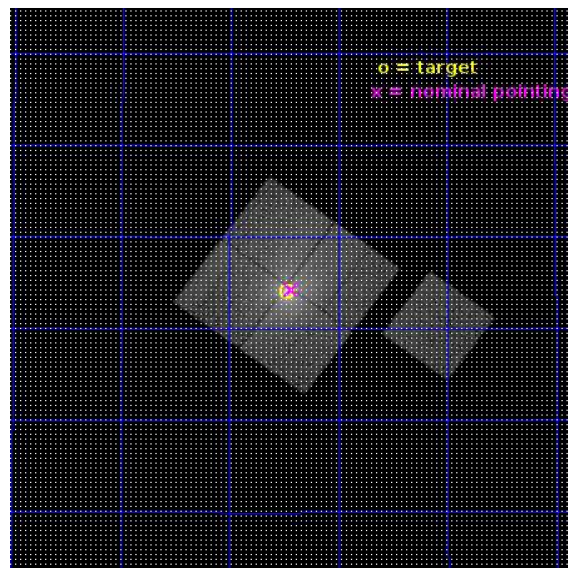
L2 Processing Date : May 23 2017

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
A	Summary	17
A.1	Status	17
A.2	Comments	17

1 Front

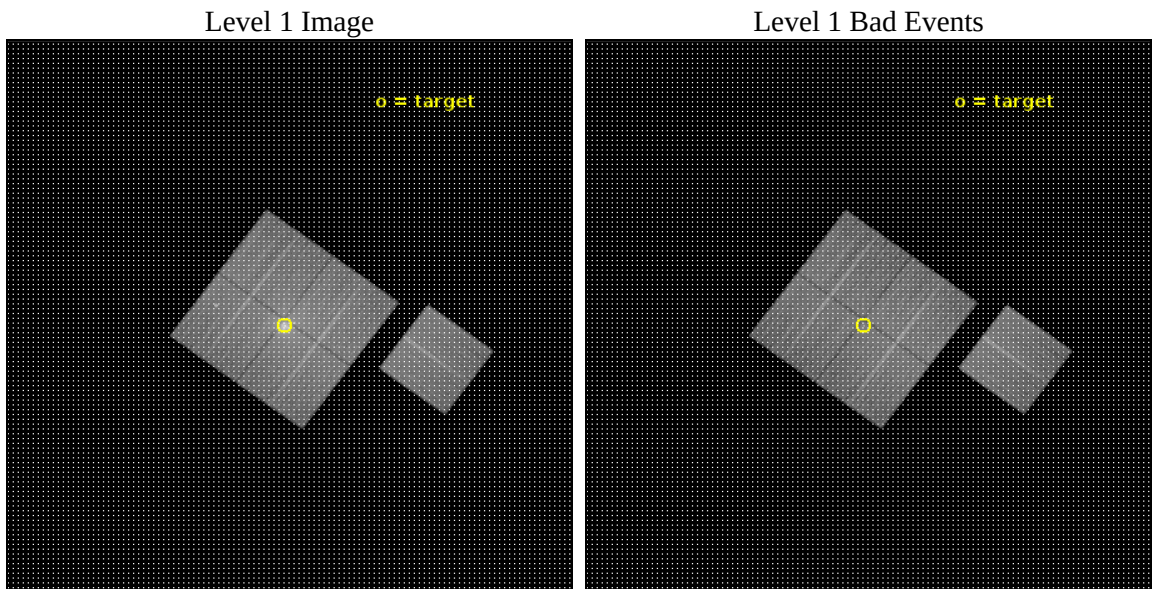
seq_num	703131	Sequence number
obs_id	17134	Observation id
title	The Rise to Power: Half a Billion Years of Intense AGN Activity in the Merging Cluster Cygnus A	Proposal title
observer	Dr. Michael Wise	Principal investigator
object	Cygnus A - Nucleus	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	299.867917	Observer's specified target RA [deg]
dec_targ	40.733889	Observer's specified target Dec [deg]
ra_nom	299.85839865549	Nominal RA [deg]
dec_nom	40.737898986287	Nominal Dec [deg]
roll_nom	126.21486620279	Nominal Roll [deg]
revision	2	Processing version of data
ontime	29772.400229096	Sum of GTIs [s]
livetime	29383.401901981	Livetime [s]
ontime0	29766.118258476	Sum of GTIs [s]
ontime1	29769.259238839	Sum of GTIs [s]
ontime2	29766.118148565	Sum of GTIs [s]
ontime3	29772.400229096	Sum of GTIs [s]
ontime6	29772.400229096	Sum of GTIs [s]
l2events	239539	Number of level 2 events



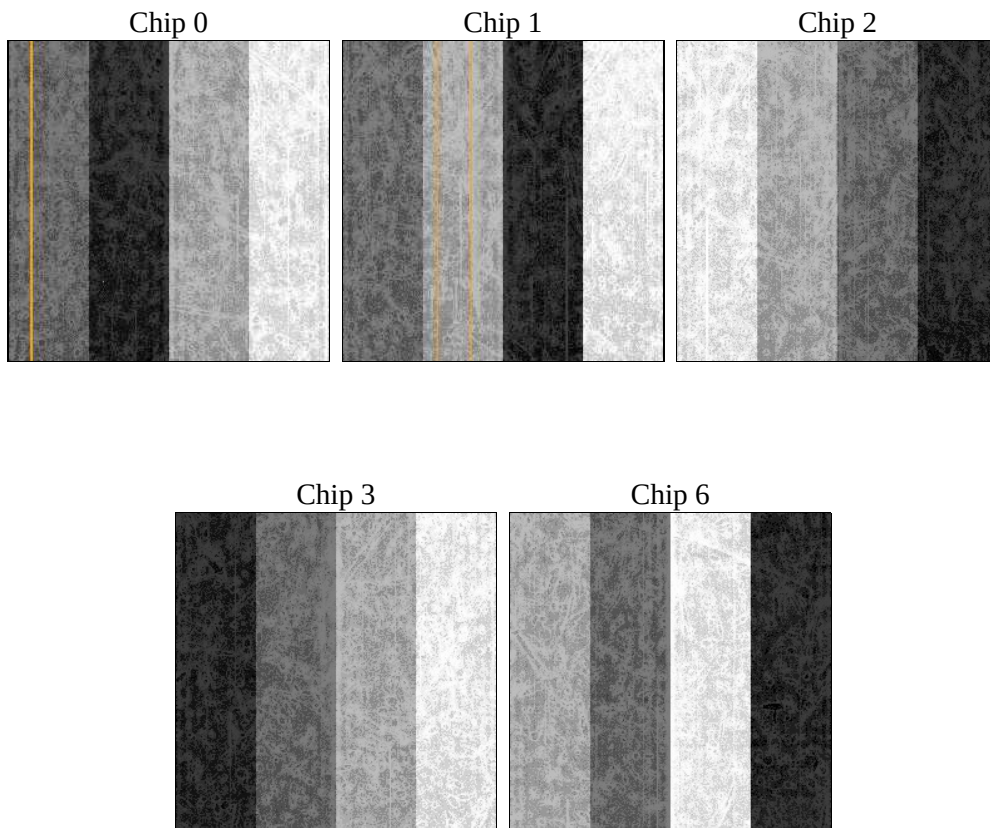
2 OBI

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	10.5.4	Processing system revision	ontime	29772.400229096	Sum of GTIs [s]
caldsver	4.7.4	 	ontime0	29766.118258476	Sum of GTIs [s]
date	2017-05-23T18:28:31	Date and time of file creation	ontime1	29769.259238839	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	29766.118148565	Sum of GTIs [s]
			ontime3	29772.400229096	Sum of GTIs [s]
			ontime6	29772.400229096	Sum of GTIs [s]
			l1events	1193369	Number of level 1 events

2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	219528	223414	256590	280867	212970
rejected events	172800	173803	201623	189652	188677
rejected %	78%	77%	78%	67%	88%

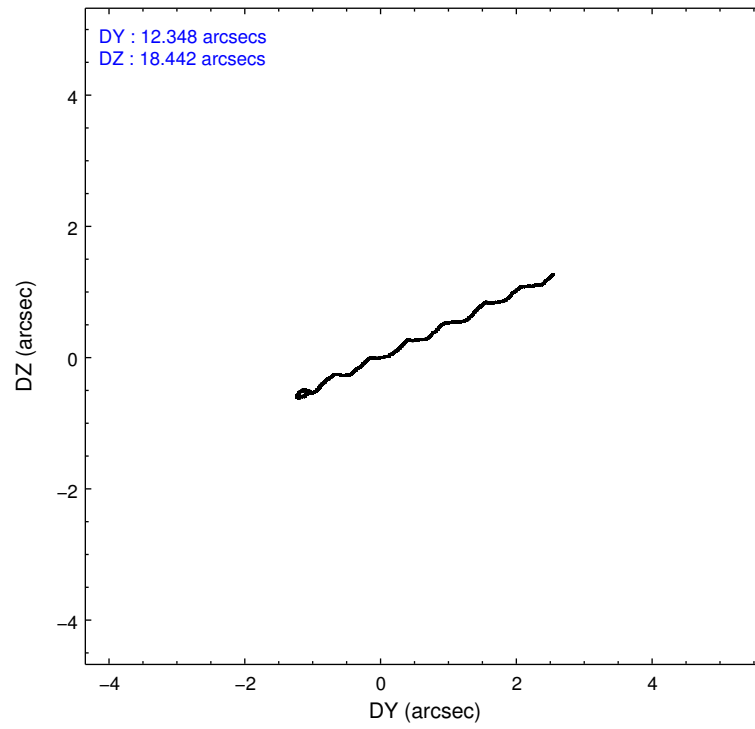
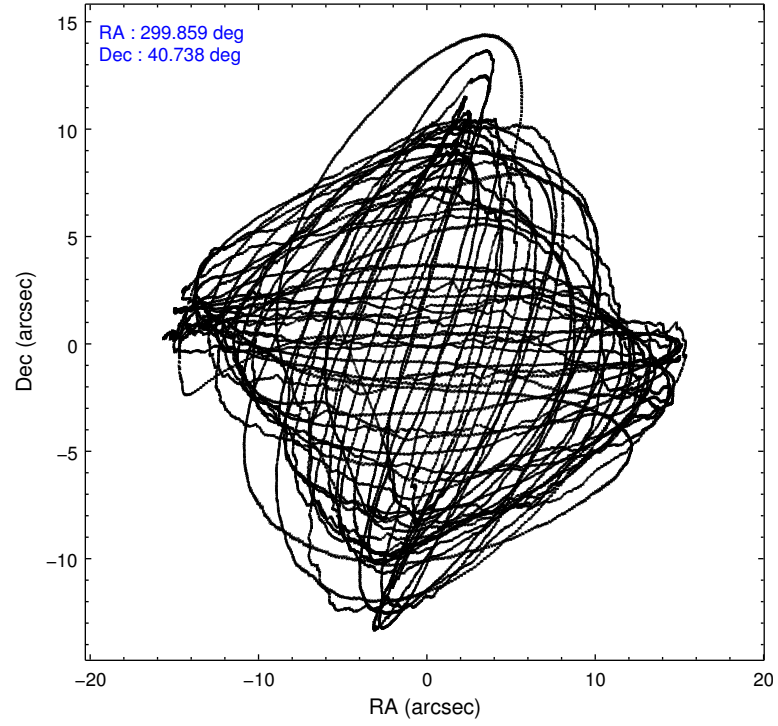
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	26045	26838	33254	61099	8627
	11%	12%	12%	21%	4%
grade 1 events	217	181	263	756	101
	0%	0%	0%	0%	0%
grade 2 events	8676	9802	9093	12384	5467
	3%	4%	3%	4%	2%
grade 3 events	3247	3165	3377	4877	2283
	1%	1%	1%	1%	1%
grade 4 events	2979	3112	3571	4897	2250
	1%	1%	1%	1%	1%
grade 5 events	8905	9414	8325	10663	9458
	4%	4%	3%	3%	4%
grade 6 events	5784	6700	5682	7965	5669
	2%	2%	2%	2%	2%
grade 7 events	163675	164202	193025	178226	179115
	74%	73%	75%	63%	84%

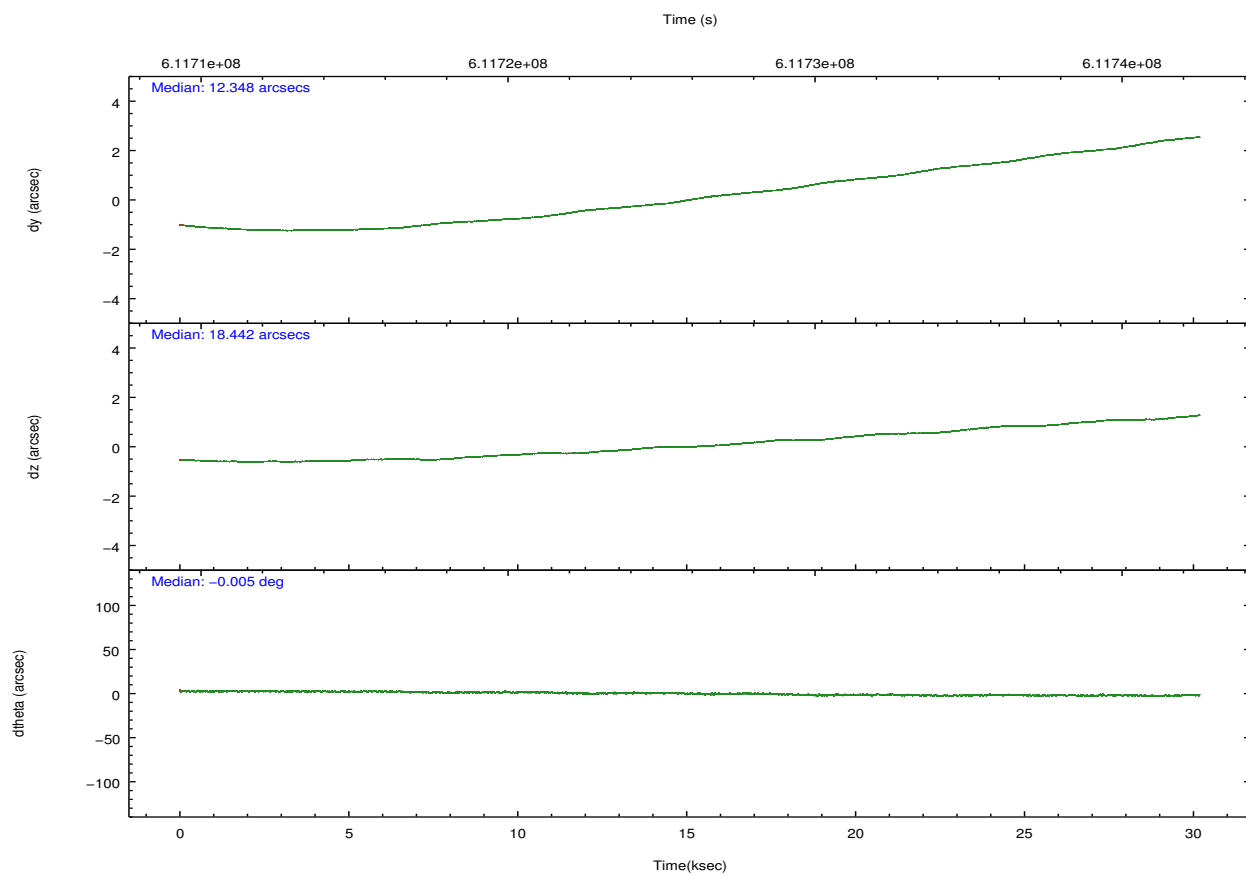
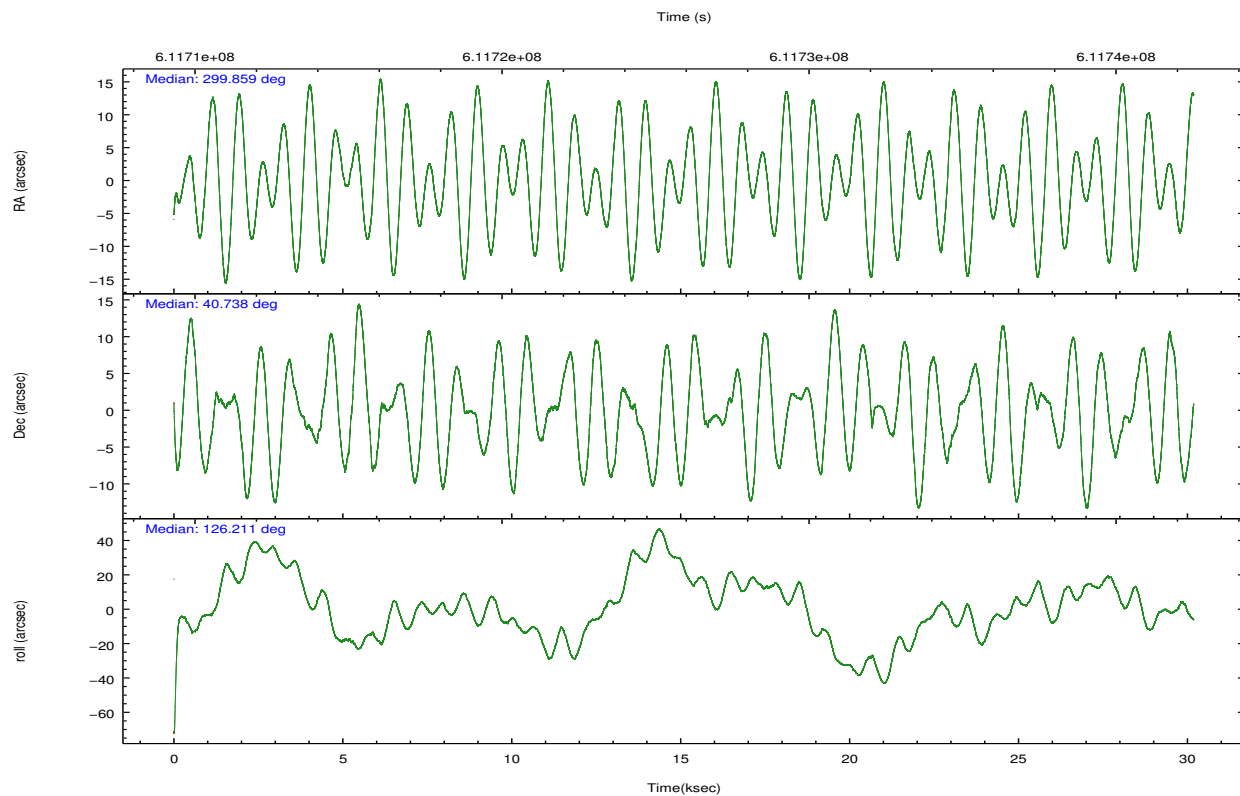
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-01236	ACIS-01236
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	299.891770	299.8583986554864
[deg] Pointing Dec	40.726862	40.73789898628659
[deg] Pointing Roll	125.984434	126.2148662027941
[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)	611711017.184000	611709891.96491
Observation start date	2017-05-20T23:42:28	2017-05-20T23:24:51
[s] Observation end time (MET)	611741017.184000	611741923.2167799
Observation end date	2017-05-21T08:02:28	2017-05-21T08:18:43
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	O1	Y
CCD S3 on	N	N
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	3.1

2.3 Aspect



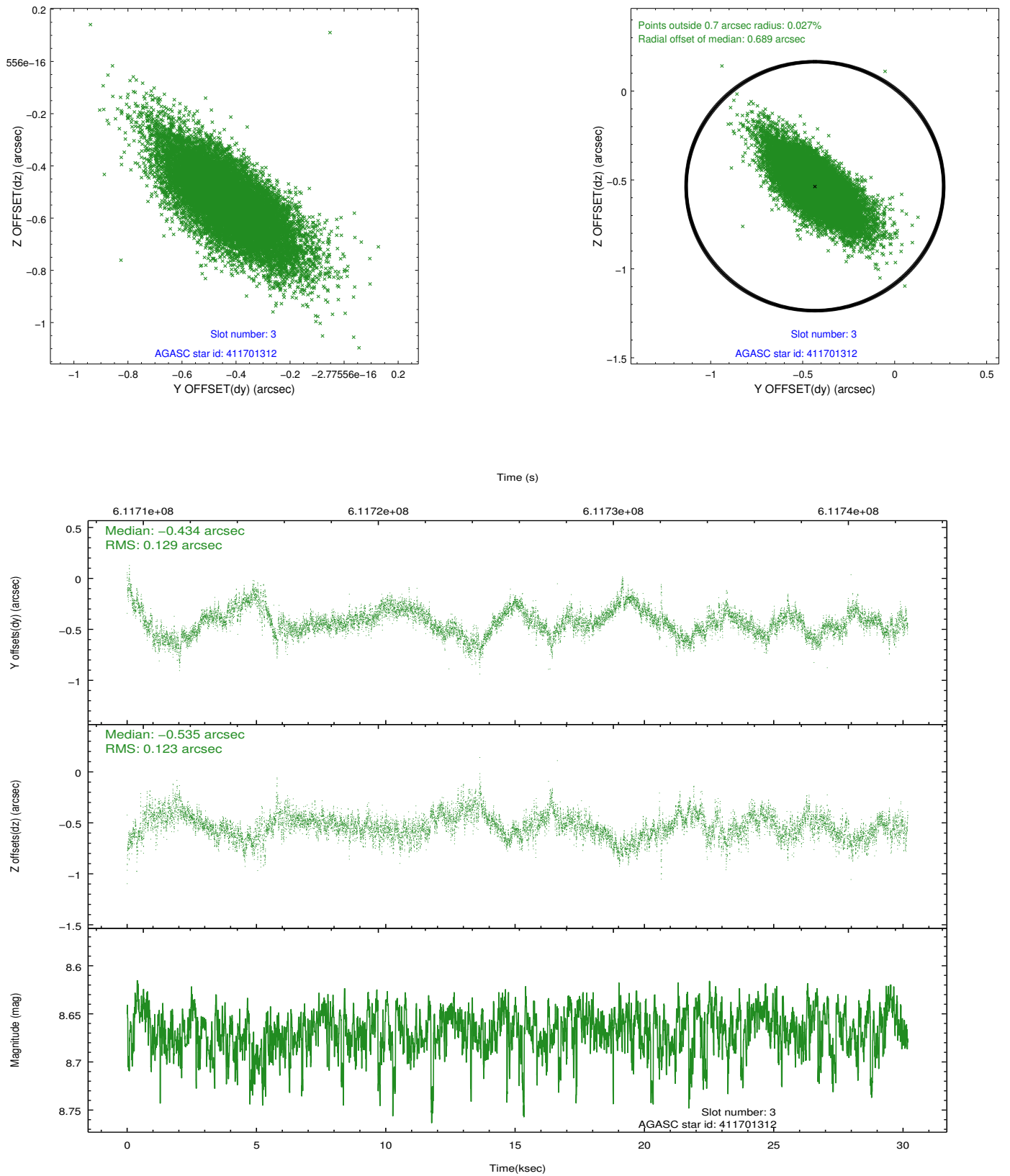


Slot Statistics

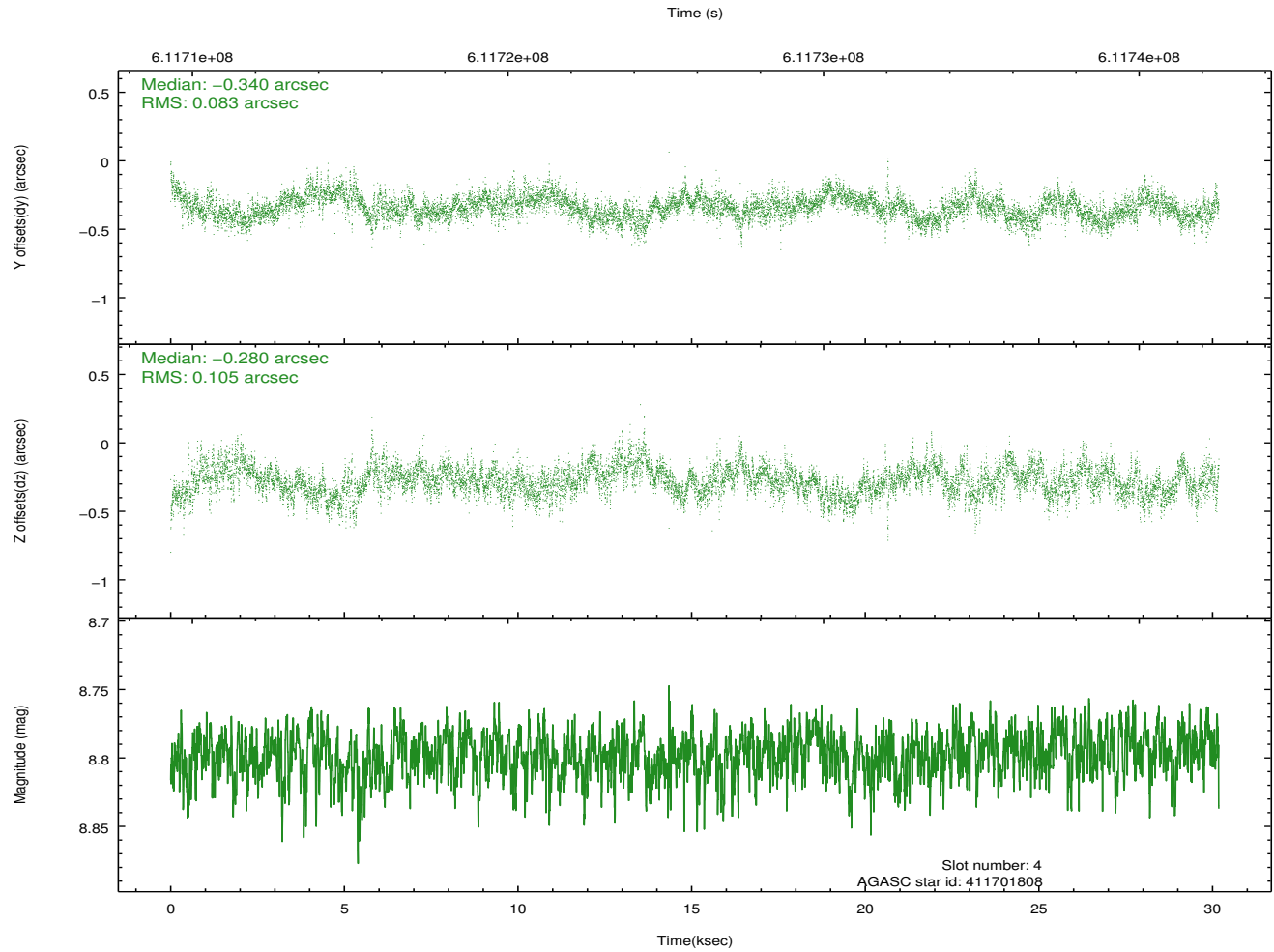
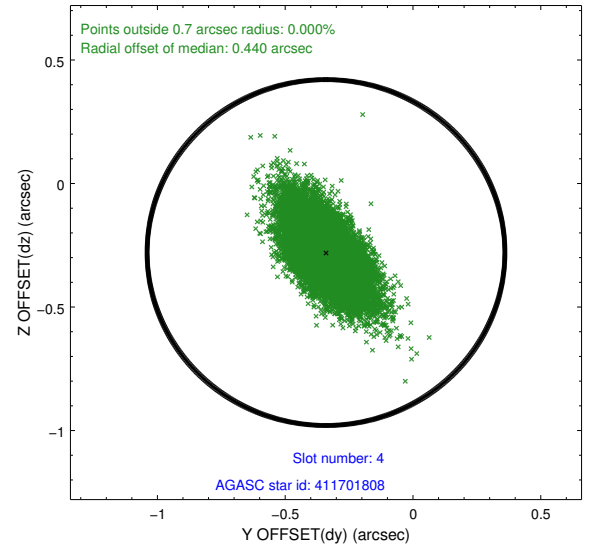
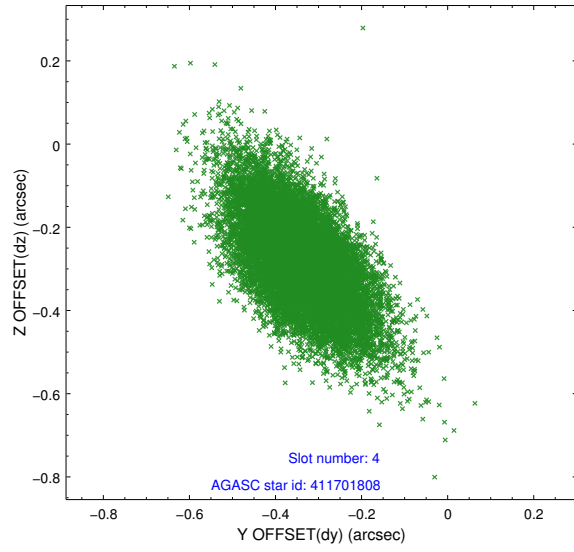
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.18	7363	0.062	-0.017	0.012	0.020	0.000000	0.000000	927.07	-842.22
1	FID		ACIS-I-5	7.19	7363	-0.328	0.036	0.013	0.027	0.000000	0.000000	-1821.48	1055.14
2	FID		ACIS-I-6	7.19	7363	0.172	0.052	0.017	0.038	0.000000	0.000000	392.53	1699.86
3	GUIDE	used	411701312	8.67	14718	-0.434	-0.535	0.178	0.335	298.889956	40.820220	1887.96	2001.39
4	GUIDE	used	411701808	8.80	14716	-0.340	-0.280	0.135	0.245	299.419536	40.880184	1204.63	713.91
5	GUIDE	used	413405352	8.31	14716	-0.051	0.137	0.141	0.231	300.290830	41.091941	429.54	-1649.36
6	GUIDE	used	413418680	9.23	14708	0.536	0.345	0.216	0.350	300.860298	40.740057	-1501.32	-2172.75
7	GUIDE	used	413421016	8.66	14718	0.288	0.333	0.151	0.261	300.612426	40.446254	-1970.55	-1008.30

2.4 Star Slots

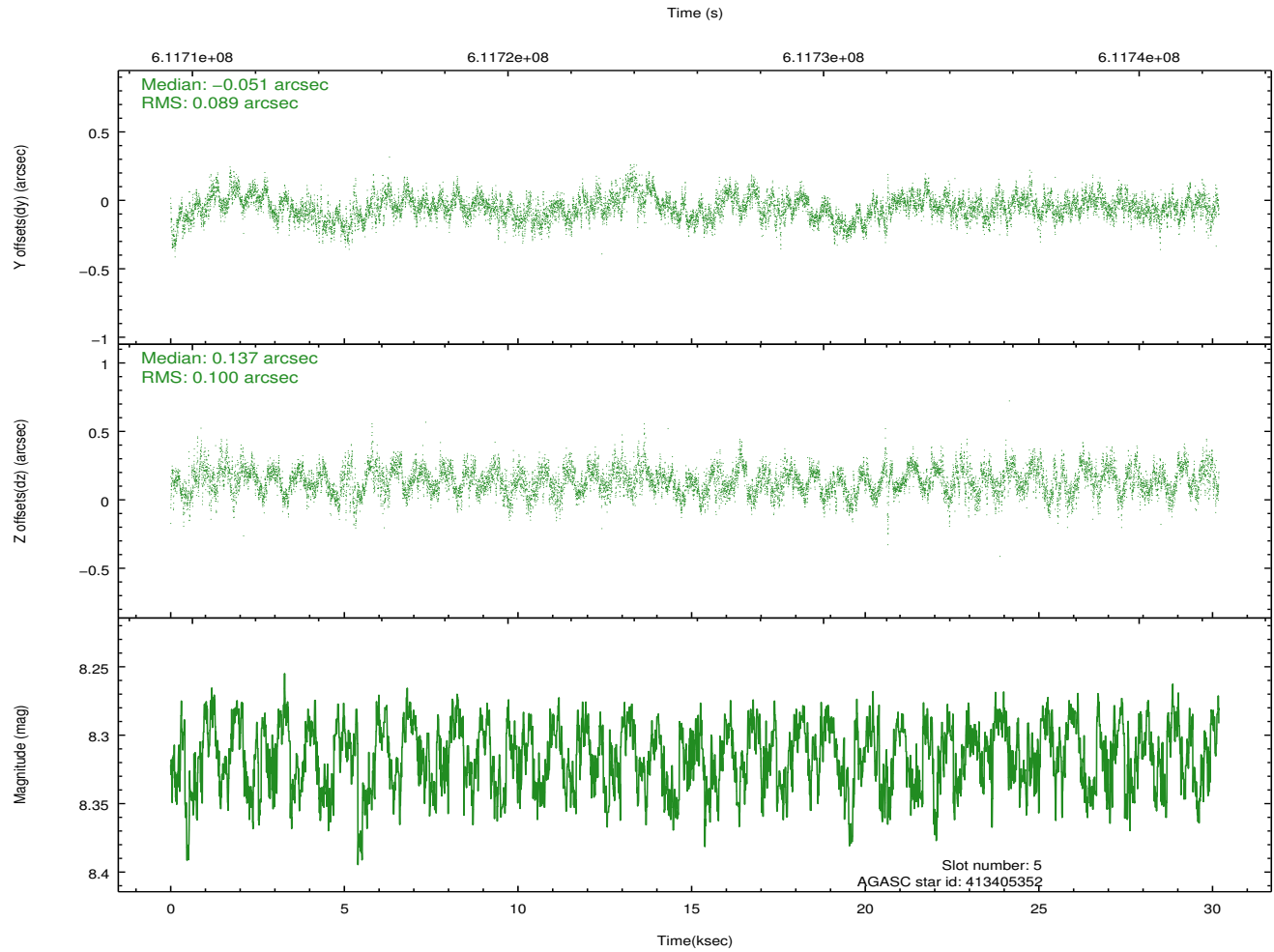
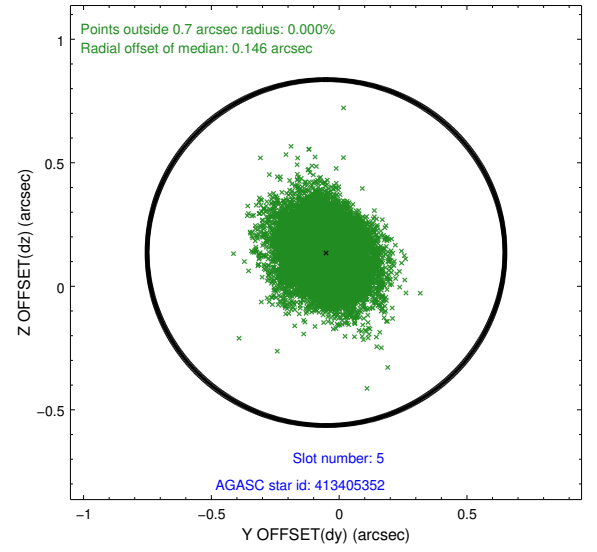
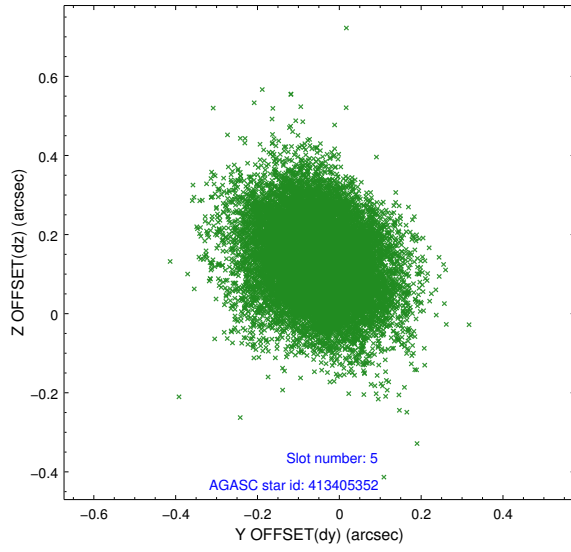
2.4.1 Slot 3



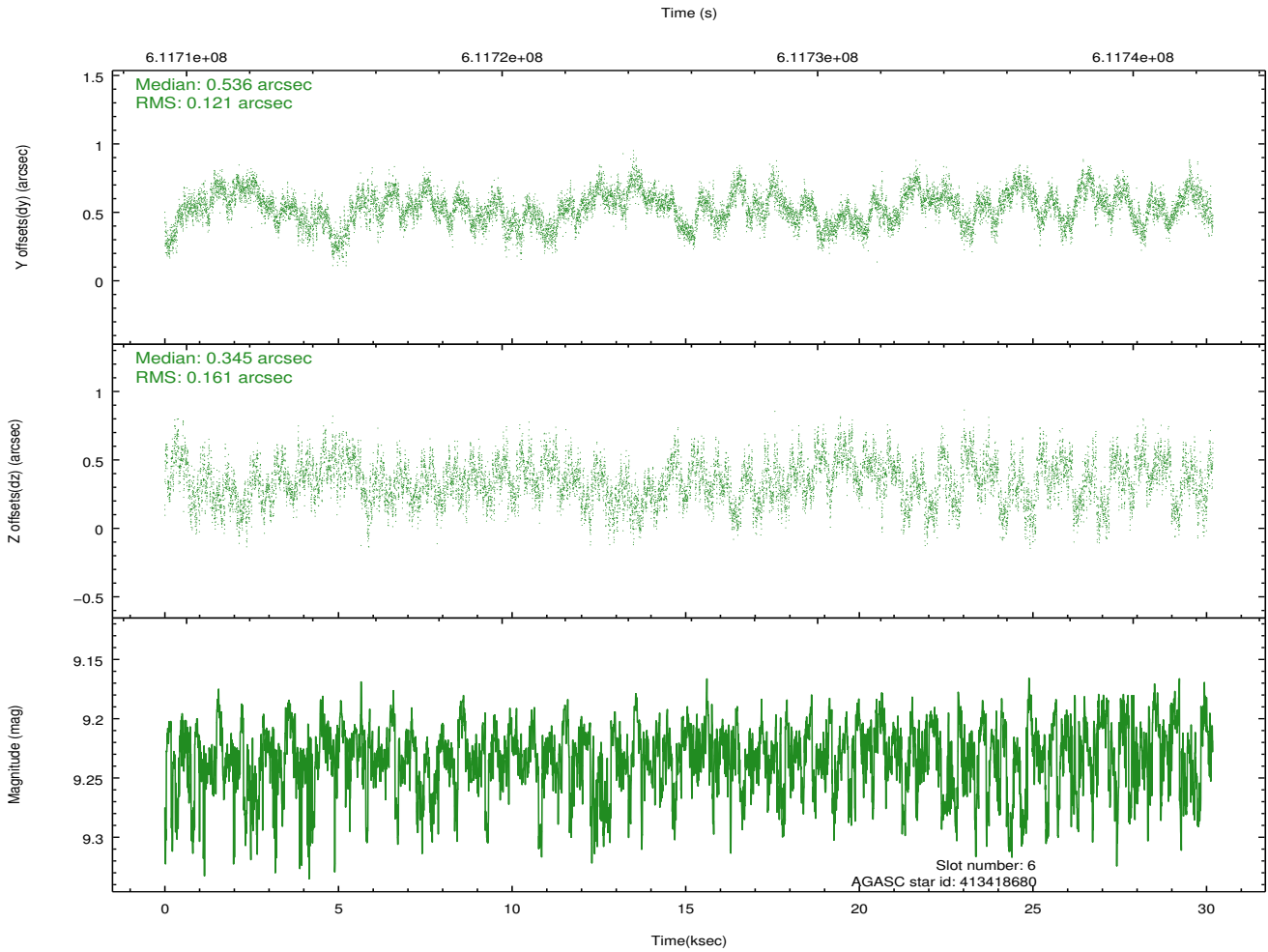
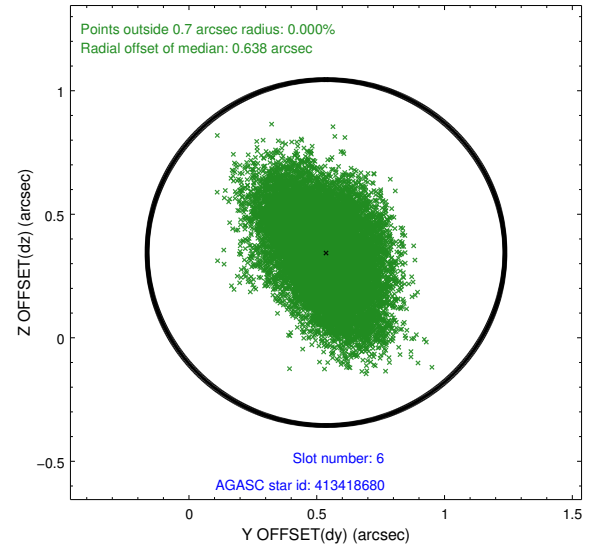
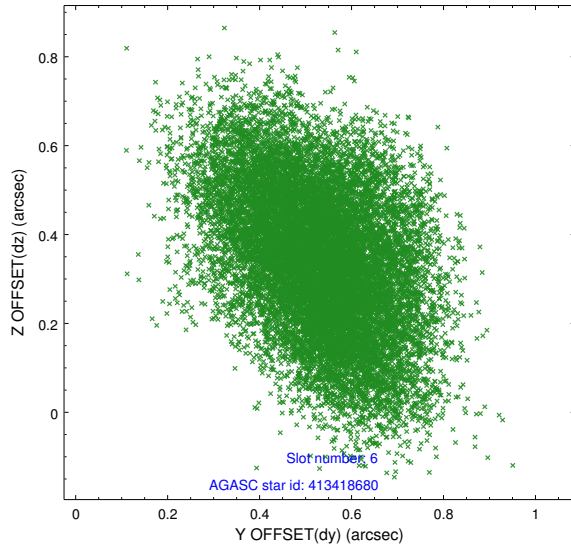
2.4.2 Slot 4



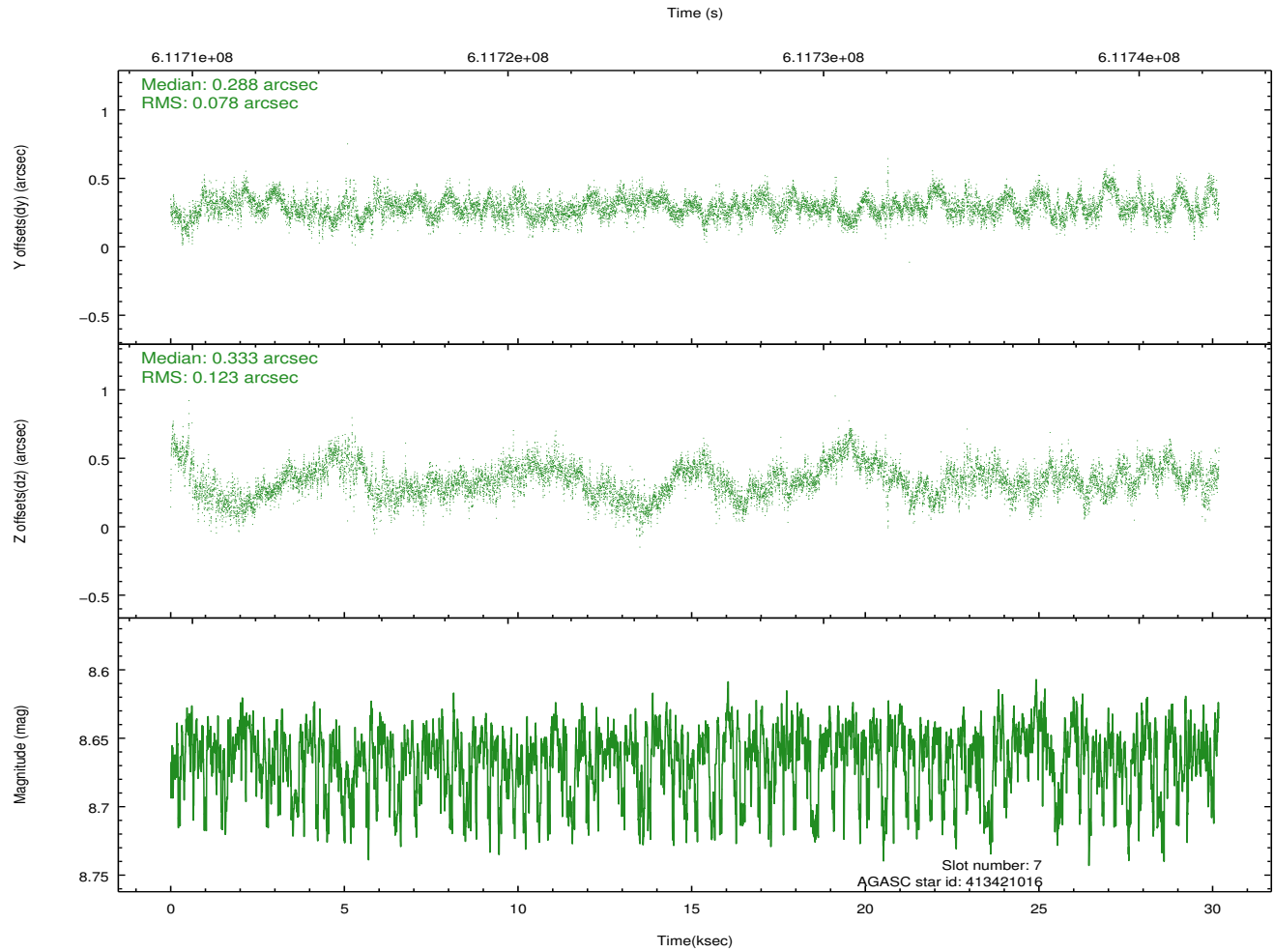
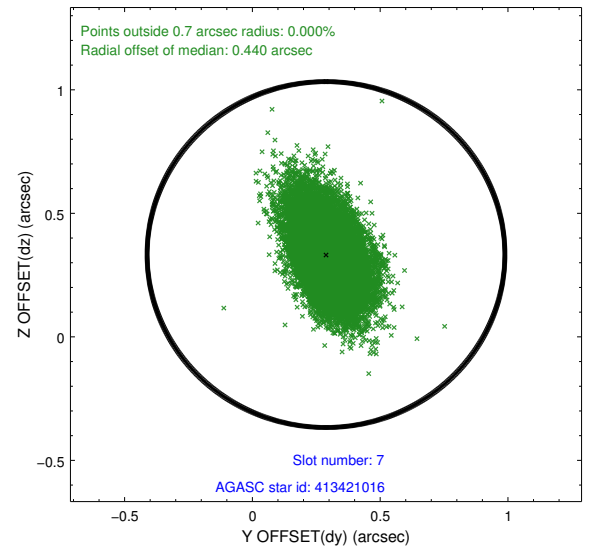
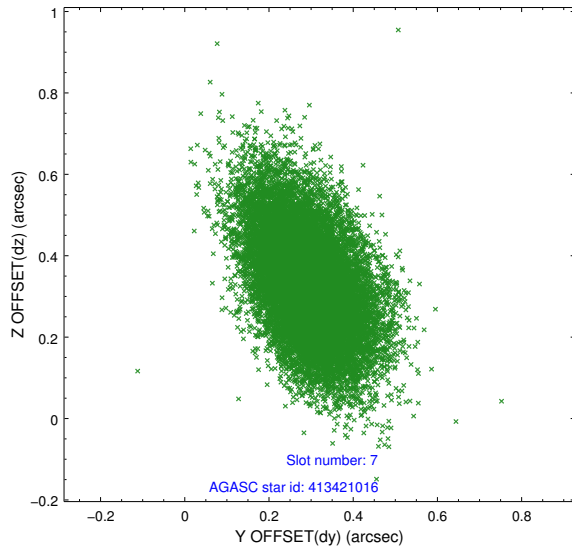
2.4.3 Slot 5



2.4.4 Slot 6

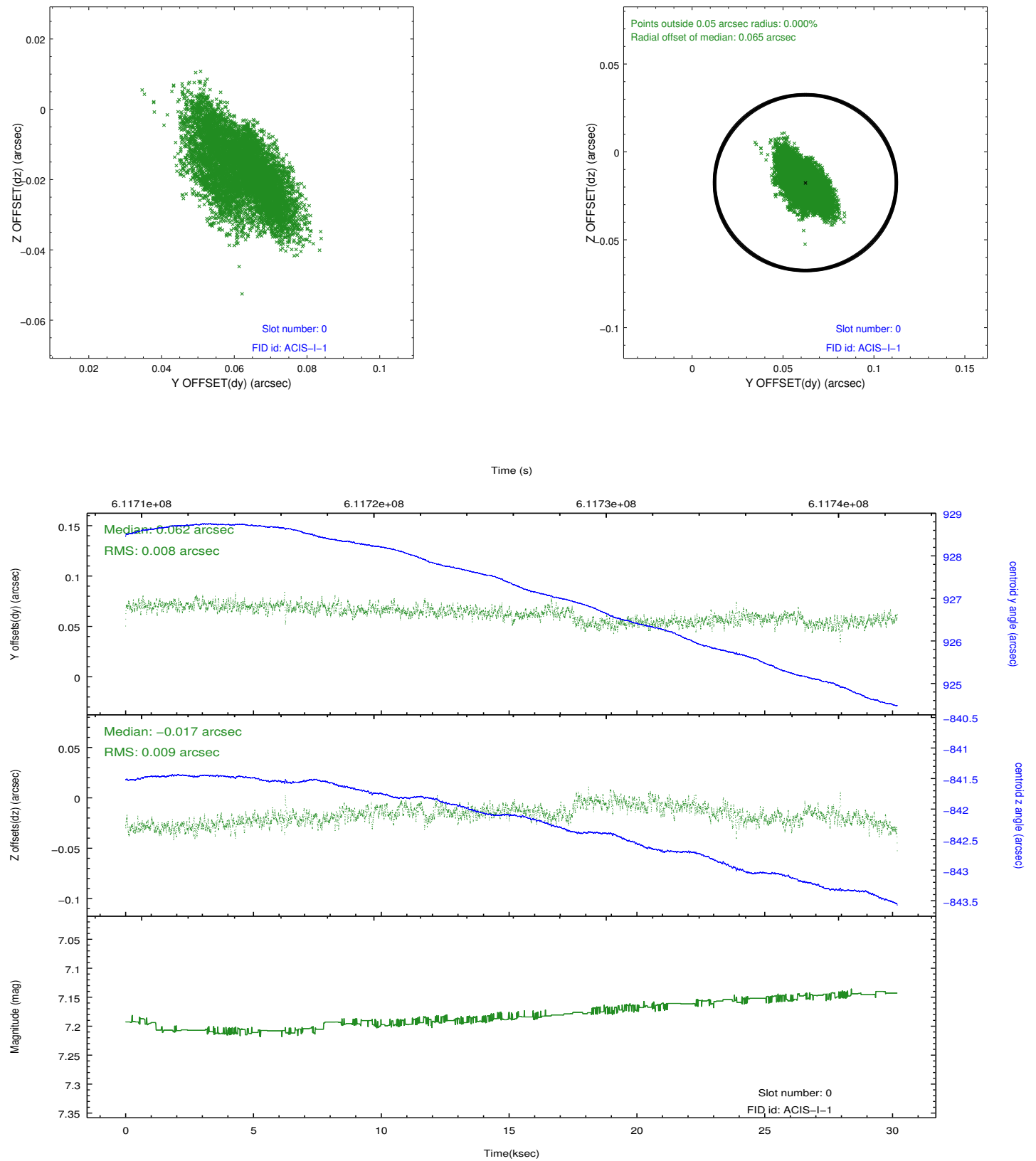


2.4.5 Slot 7

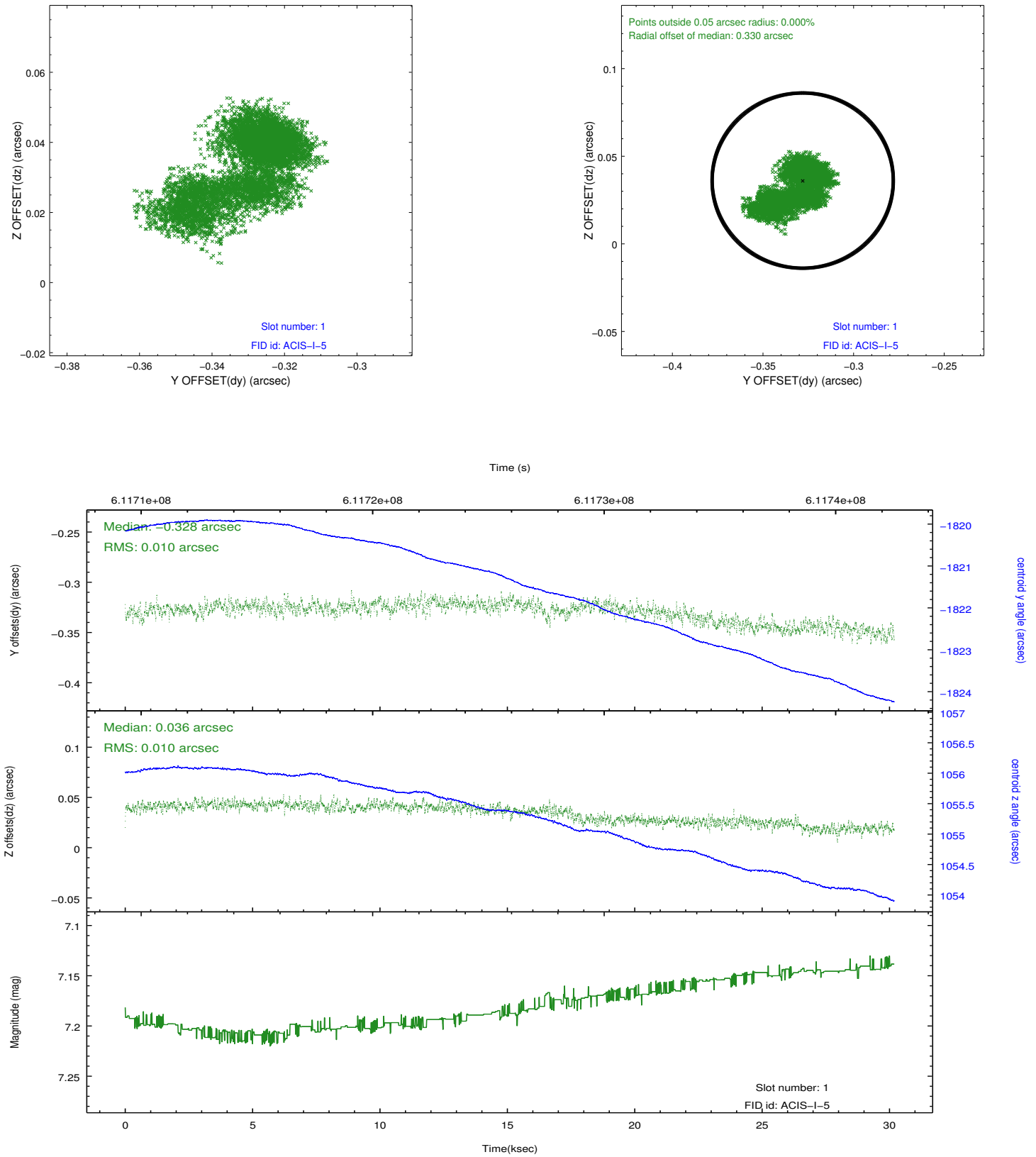


2.5 FID Slots

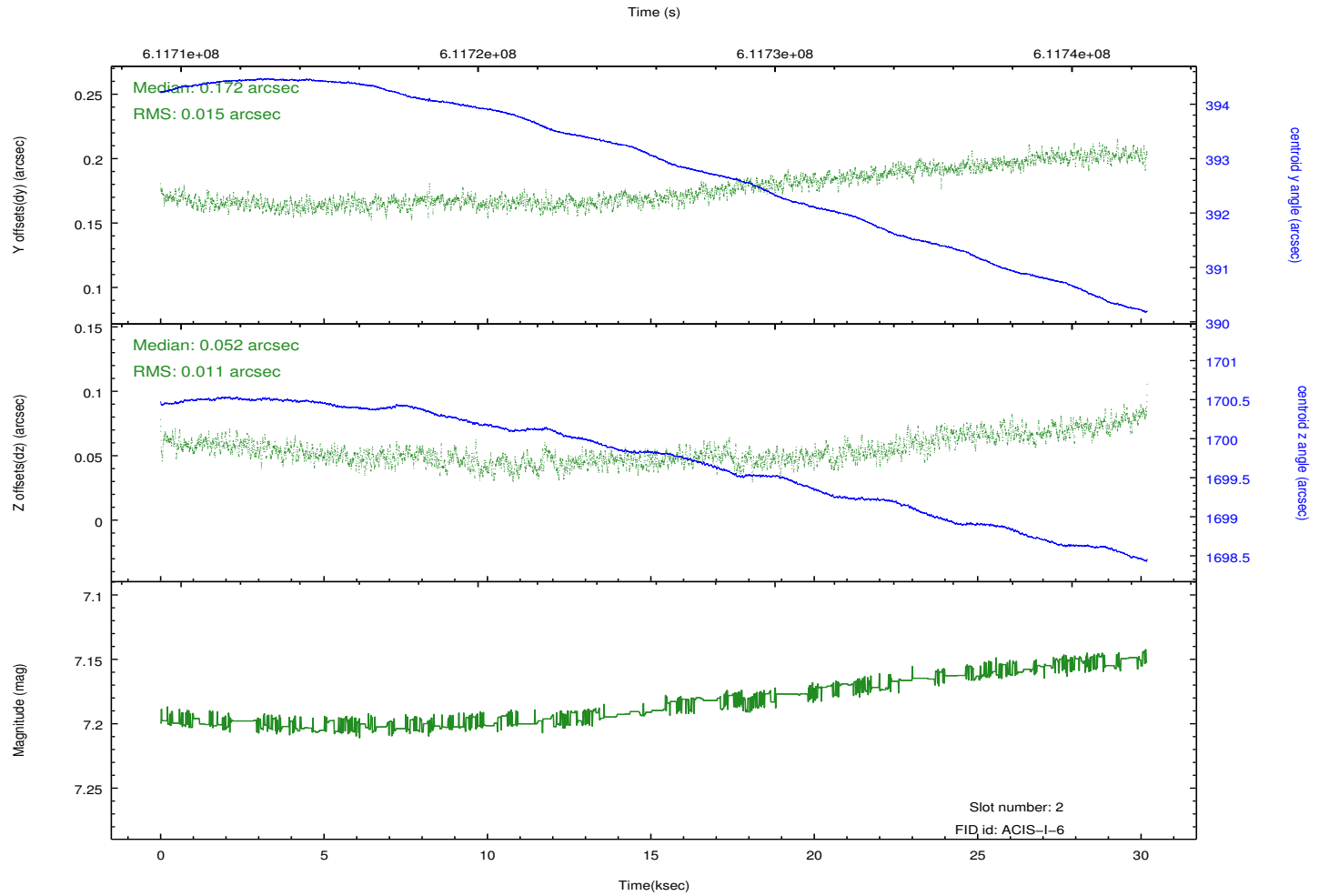
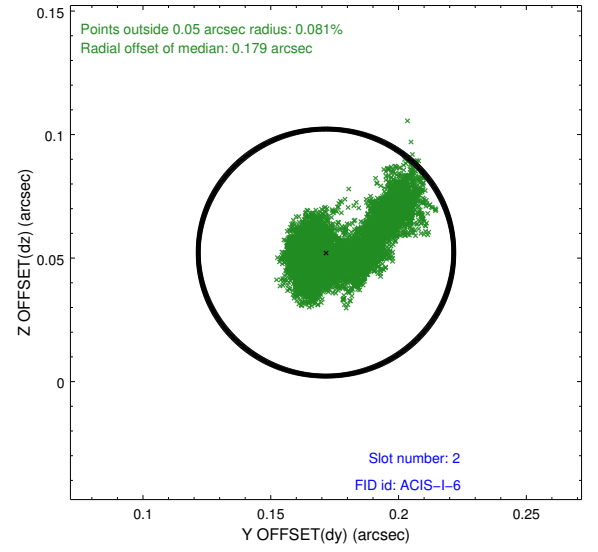
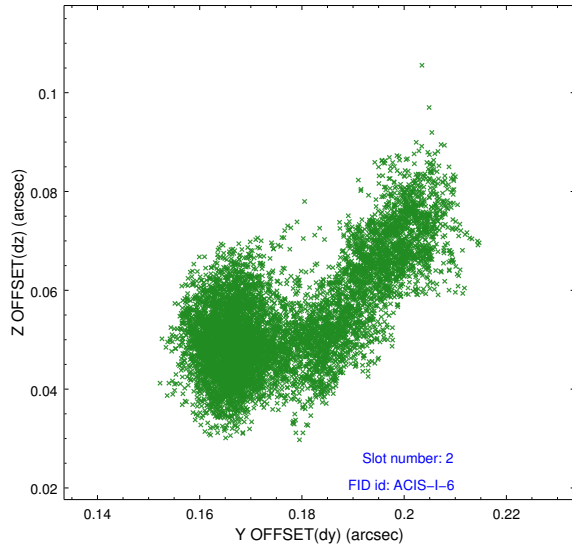
2.5.1 Slot 0



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)	2017.05.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	29.772400229096

A.2 Comments

A spatial region of the original bias map for CCD = 1 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 = 1 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:
(300.03272,40.66235), (300.04040,40.66662), (300.02928,40.67818),
(300.01863,40.67699).