

V&V Reference Report

L2 ASCDS Version : 10.4.2.1

Observation 18641 - L2 Version 2
Chandra X-Ray Center

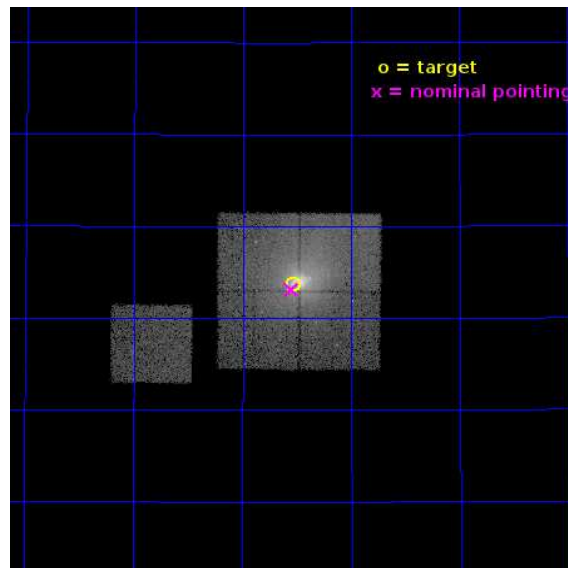
L2 Processing Date : Oct 20 2015

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1 Front

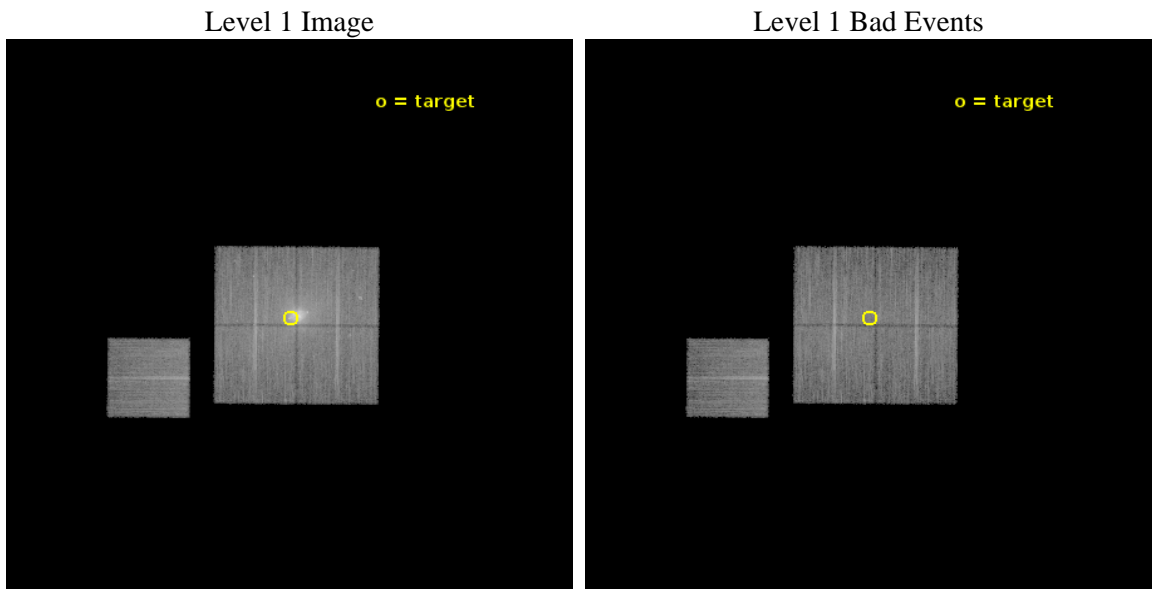
seq_num	703133	Sequence number
obs_id	18641	Observation id
title	The Rise to Power: Half a Billion Years of Intense AGN Activity in the Merging Cluster Cygnus A	Proposal title
observer	Dr. Michael Wise	Principal investigator
object	Cygnus A - E Hotspot	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	299.883333	Observer's specified target RA [deg]
dec_targ	40.727889	Observer's specified target Dec [deg]
ra_nom	299.88773597594	Nominal RA [deg]
dec_nom	40.718429363247	Nominal Dec [deg]
roll_nom	270.429847448	Nominal Roll [deg]
revision	2	Processing version of data
ontime	22673.359194279	Sum of GTIs [s]
livetime	22377.115064521	Livetime [s]
ontime0	22673.359184384	Sum of GTIs [s]
ontime1	22676.500174522	Sum of GTIs [s]
ontime2	22676.500174522	Sum of GTIs [s]
ontime3	22673.359194279	Sum of GTIs [s]
ontime6	22673.359204173	Sum of GTIs [s]
l2events	166085	Number of level 2 events



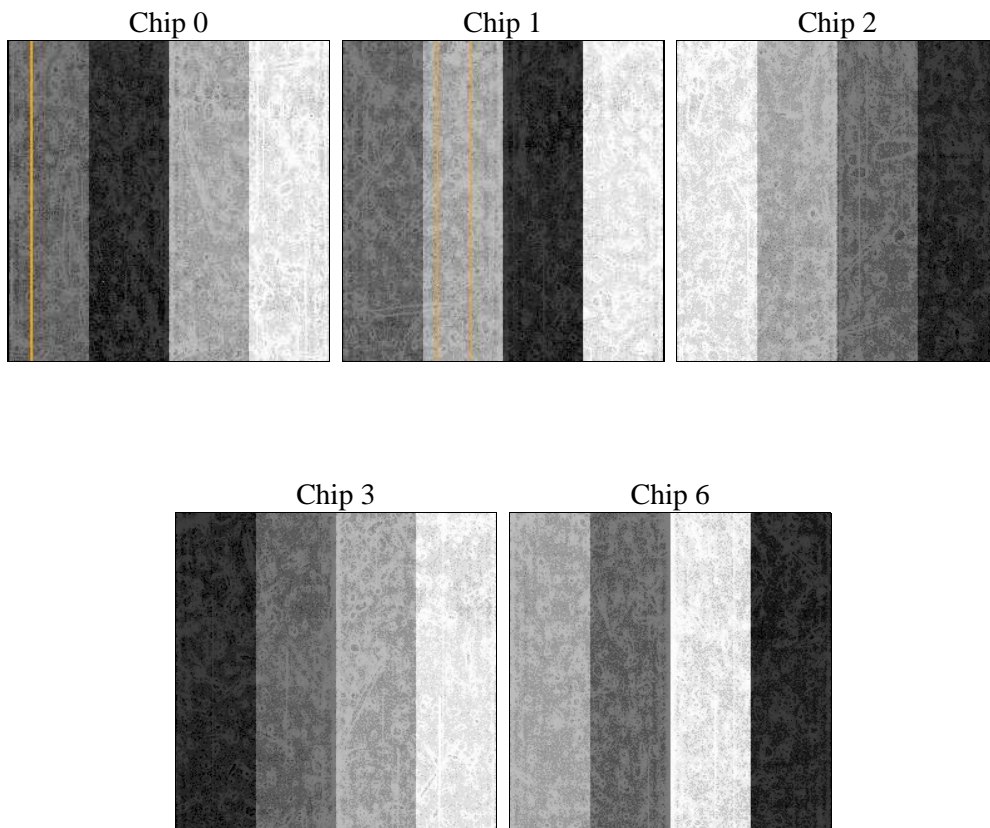
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	22600.000000	[s] Scheduled observation exposure time
ascdsver	10.4.2.1	Processing system revision	ontime	22673.359194279	Sum of GTIs [s]
caldsver	4.6.10a	 	ontime0	22673.359184384	Sum of GTIs [s]
date	2015-10-20T17:28:32	Date and time of file creation	ontime1	22676.500174522	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	22676.500174522	Sum of GTIs [s]
			ontime3	22673.359194279	Sum of GTIs [s]
			ontime6	22673.359204173	Sum of GTIs [s]
			l1events	688544	Number of level 1 events

2.1.4 Events

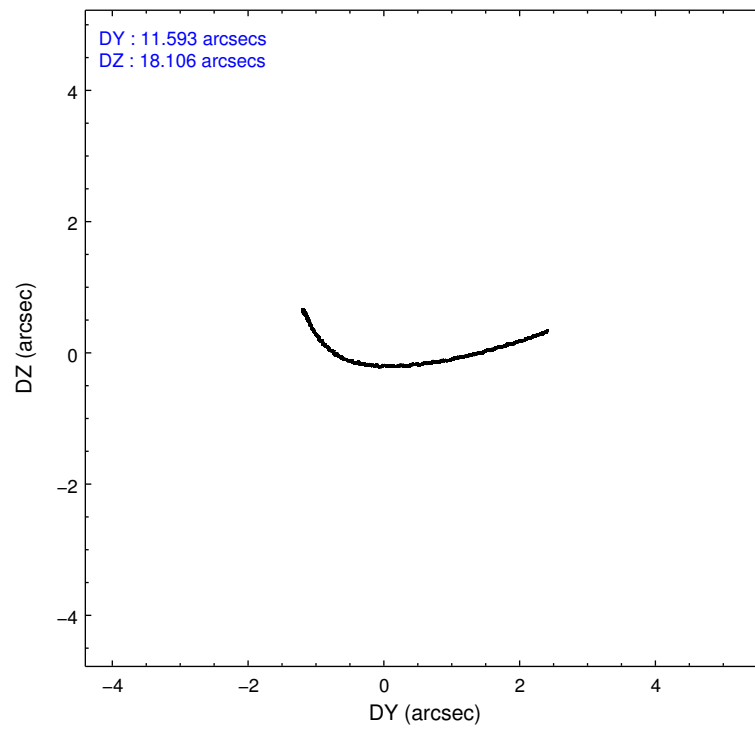
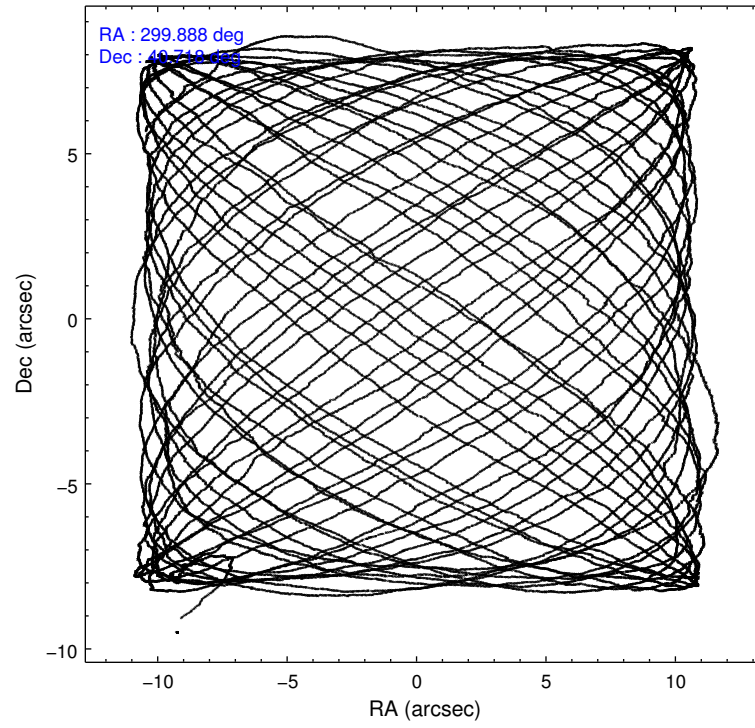
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	118106	170567	127908	154705	117258
rejected events	94868	98187	105102	103759	102524
rejected %	80%	57%	82%	67%	87%

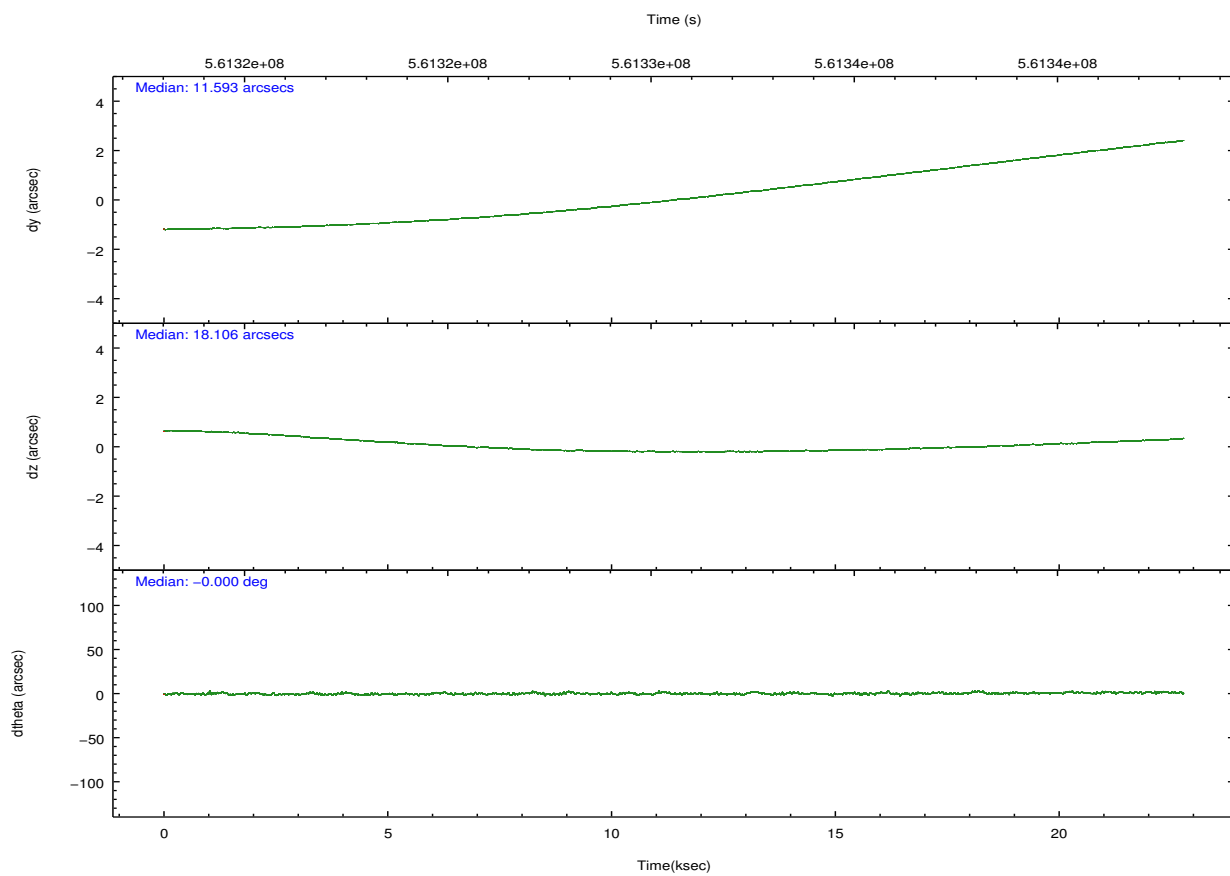
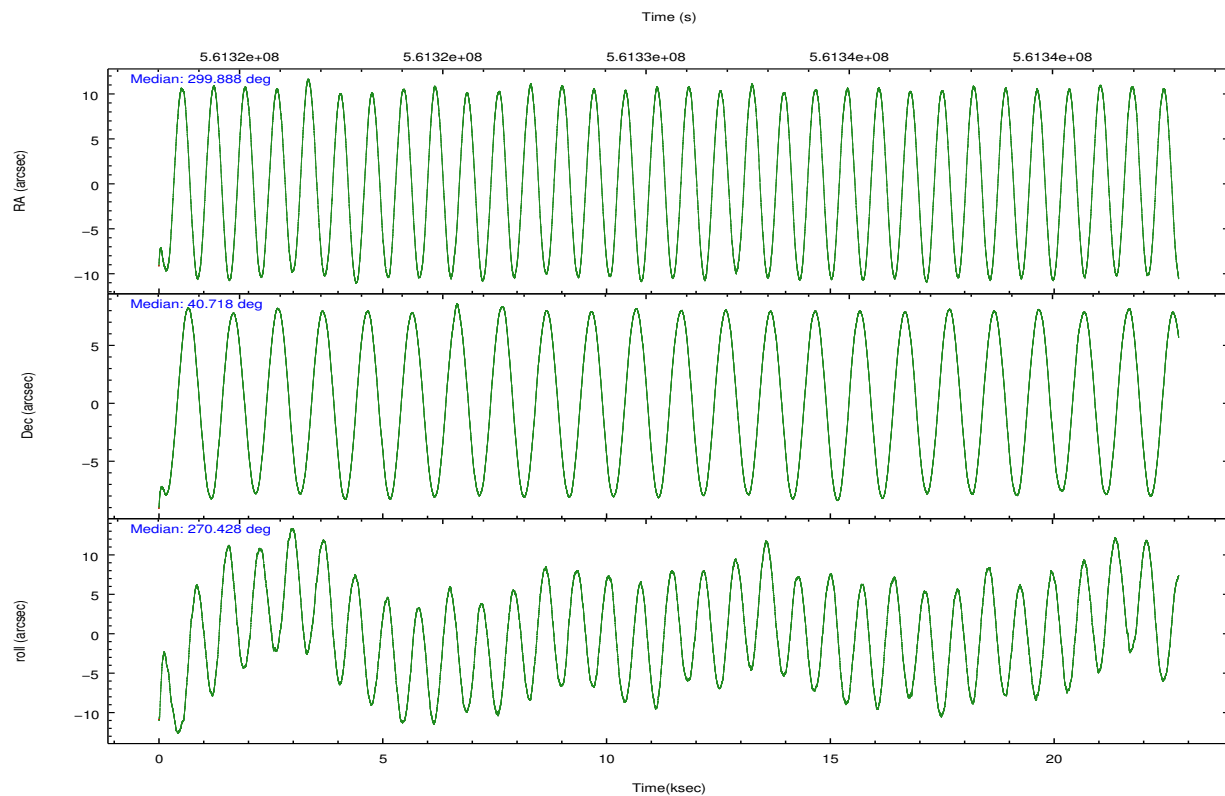
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	12131	47796	12214	34200	5305
	10%	28%	9%	22%	4%
grade 1 events	106	354	107	193	65
	0%	0%	0%	0%	0%
grade 2 events	4493	11522	4392	7115	3245
	3%	6%	3%	4%	2%
grade 3 events	1772	3562	1566	2765	1444
	1%	2%	1%	1%	1%
grade 4 events	1650	3446	1592	2720	1423
	1%	2%	1%	1%	1%
grade 5 events	5414	6190	5031	6238	6124
	4%	3%	3%	4%	5%
grade 6 events	3197	6065	3044	4151	3319
	2%	3%	2%	2%	2%
grade 7 events	89343	91632	99962	97323	96333
	75%	53%	78%	62%	82%

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	299.869175	299.8877359759373	CCD I2 on	Y	Y
[deg] Pointing Dec	40.742170	40.71842936324705	CCD I3 on	Y	Y
[deg] Pointing Roll	270.233273	270.4298474479979	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)	561319350.184000	561317936.62422	CCD S5 on	N	N
Observation start date	2015-10-15T18:01:22	2015-10-15T17:38:56	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	561341950.184000	561342739.06313	On-chip summing requested	N	N
Observation end date	2015-10-16T00:18:02	2015-10-16T00:32:19	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



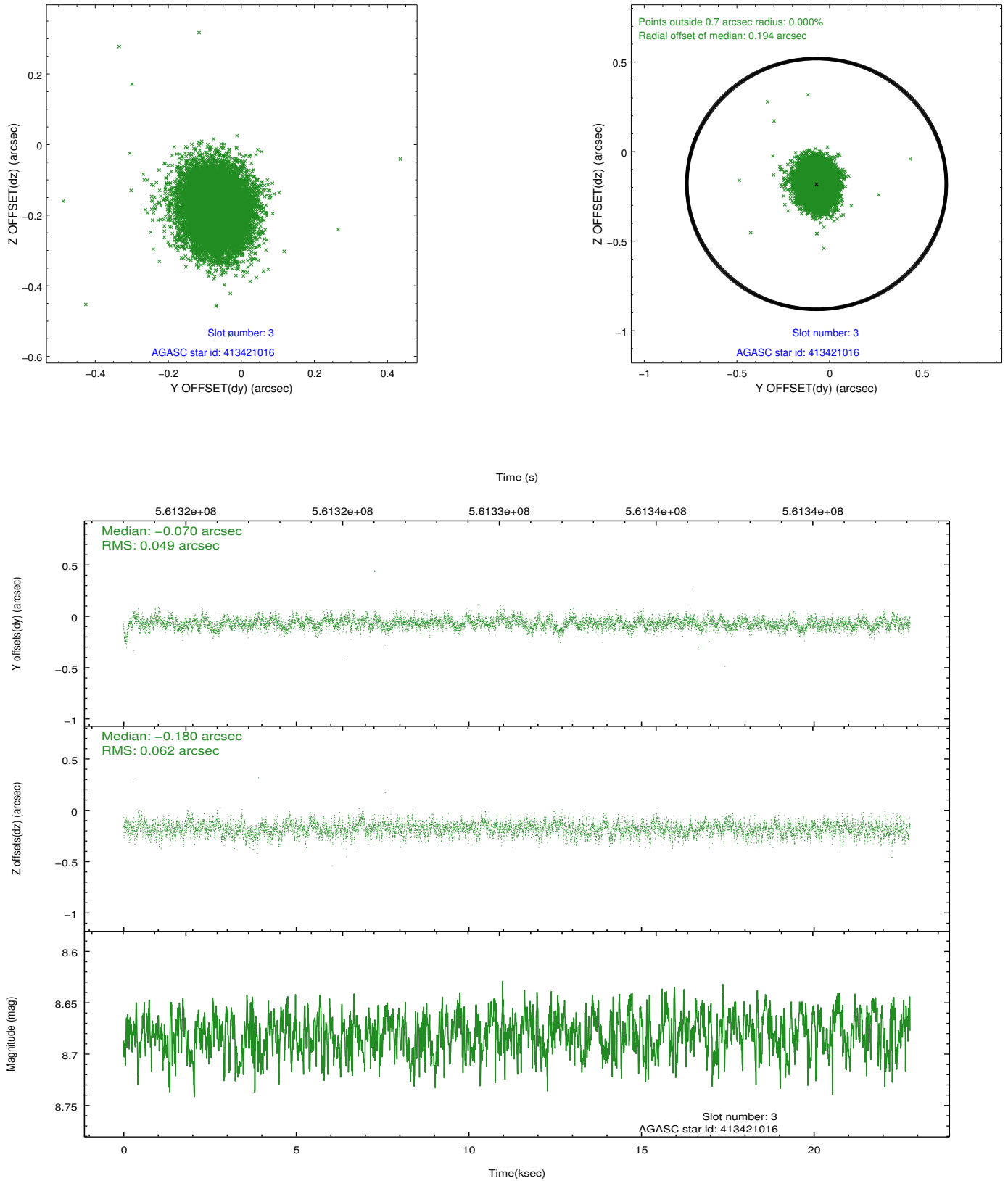


Slot Statistics

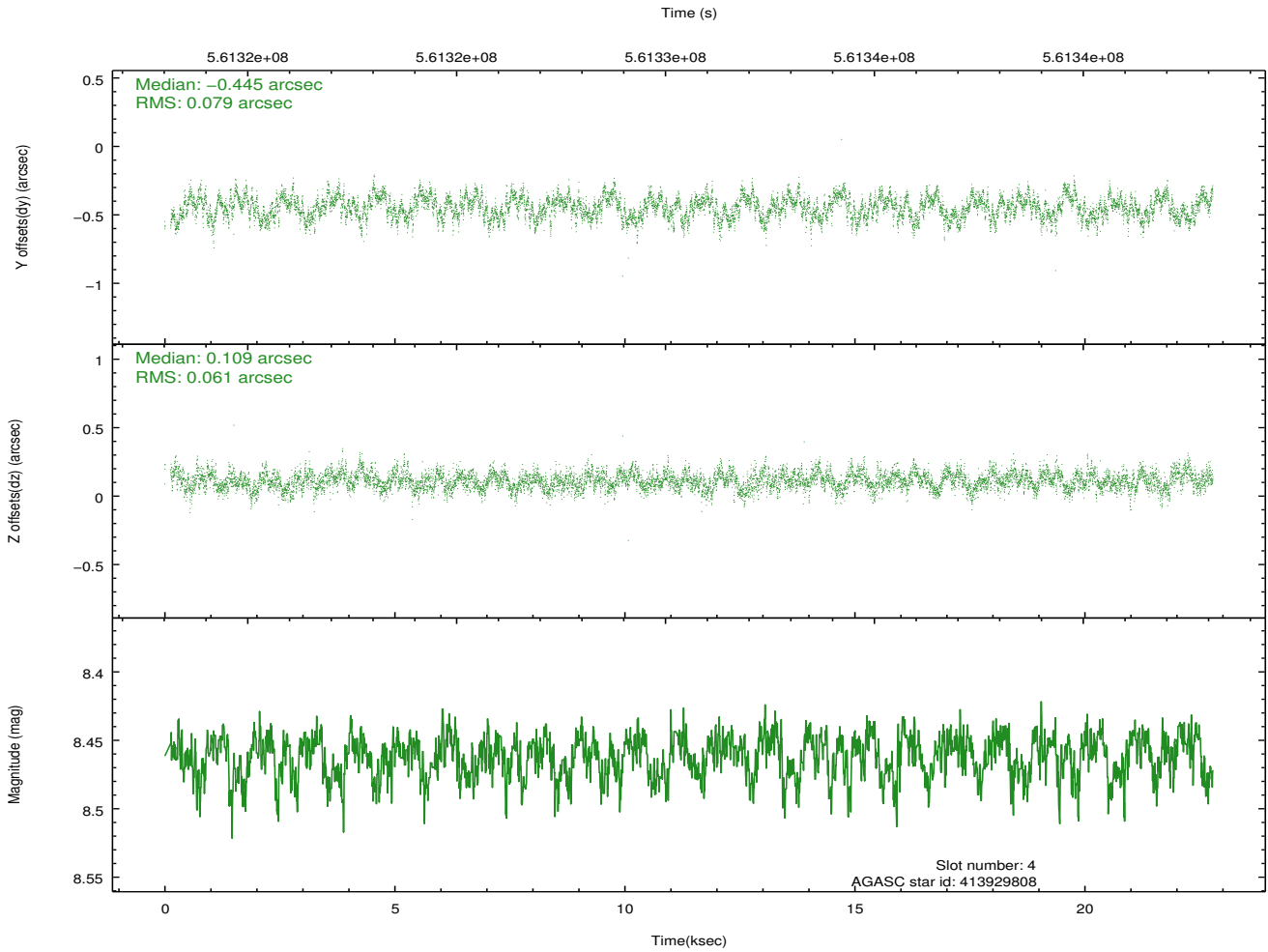
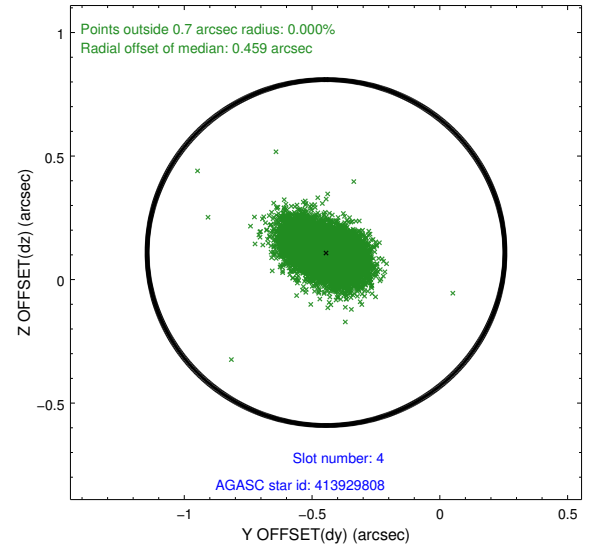
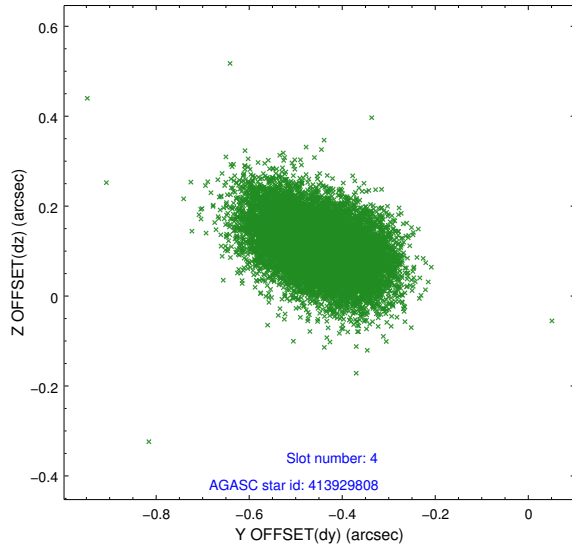
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.25	5558	0.099	0.049	0.013	0.020	0.000000	0.000000	927.82	-841.84
1	FID		ACIS-I-2	7.14	5557	-0.203	-0.061	0.011	0.018	0.000000	0.000000	-766.49	-848.42
2	FID		ACIS-I-6	7.25	5558	0.012	0.079	0.013	0.025	0.000000	0.000000	393.37	1699.94
3	GUIDE	used	413421016	8.68	11111	-0.070	-0.180	0.083	0.136	300.612426	40.446254	1065.08	2032.02
4	GUIDE	used	413929808	8.46	11055	-0.445	0.109	0.106	0.172	300.621353	41.348826	-2184.83	2042.31
5	GUIDE	used	413936784	8.72	11110	-0.040	0.073	0.107	0.175	300.698470	41.281929	-1944.98	2252.03
6	GUIDE	used	411707968	7.25	11115	0.216	-0.007	0.090	0.147	299.509933	40.926839	-670.92	-973.75
7	GUIDE	used	413418136	8.83	11106	0.336	0.005	0.095	0.155	300.734950	40.100582	2308.03	2375.17

2.4 Star Slots

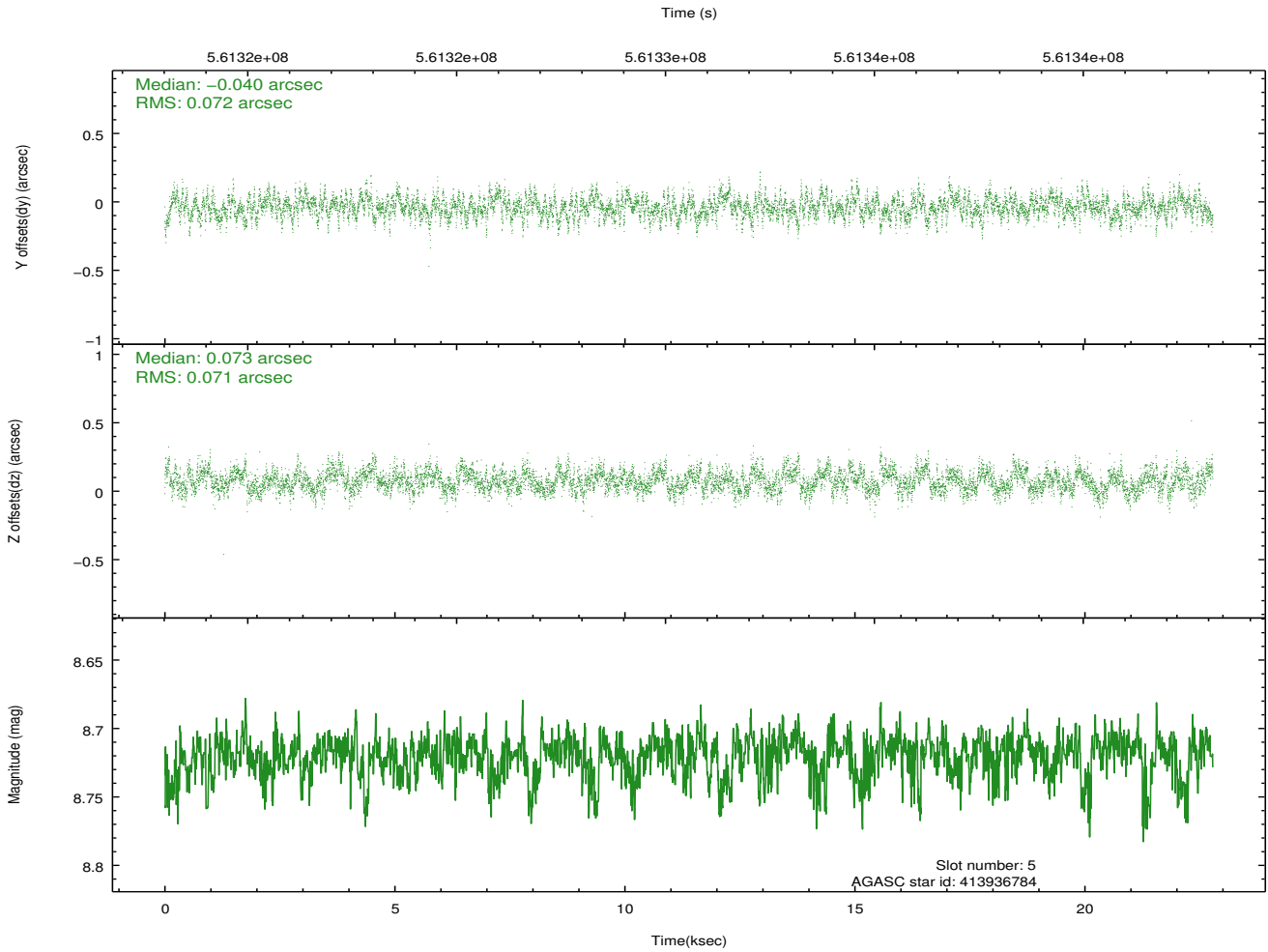
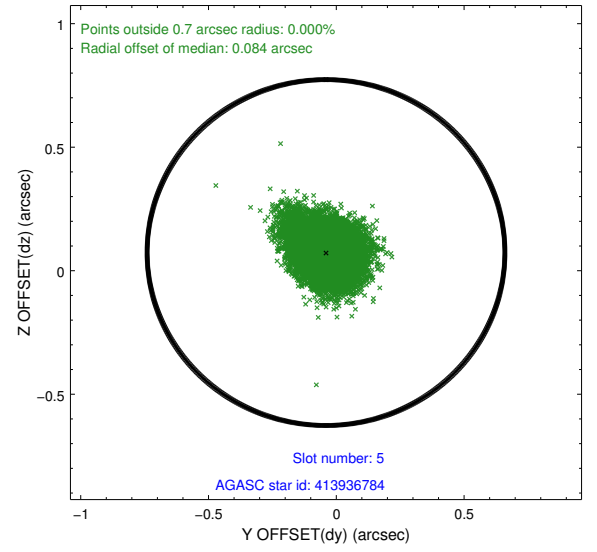
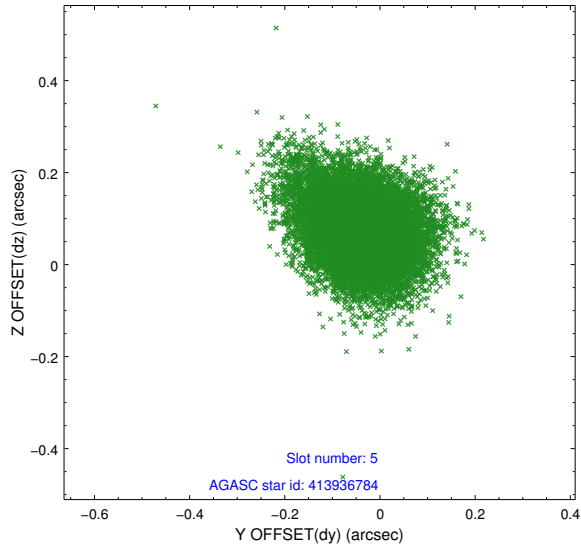
2.4.1 Slot 3



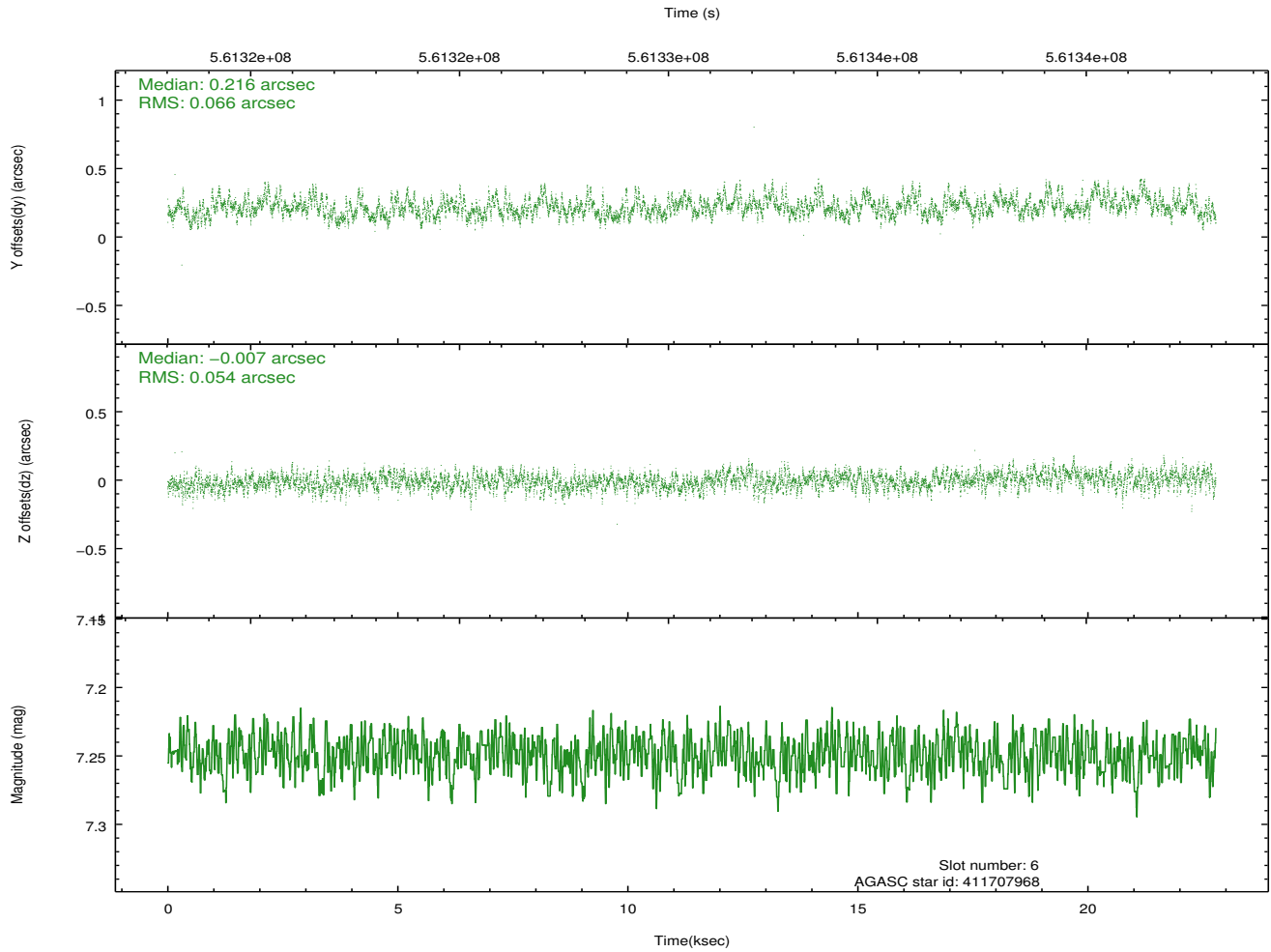
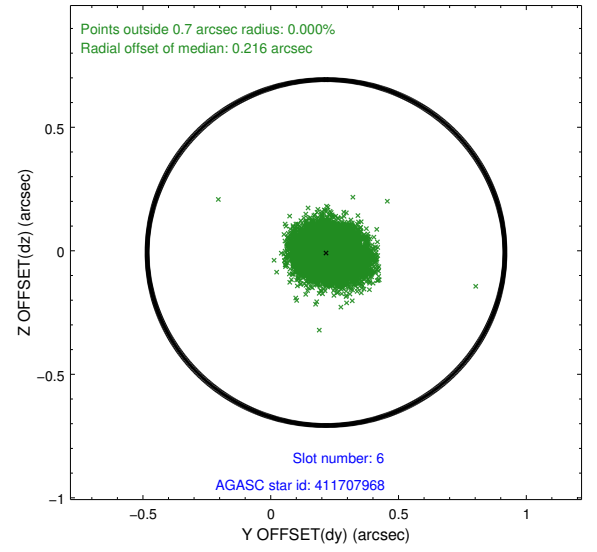
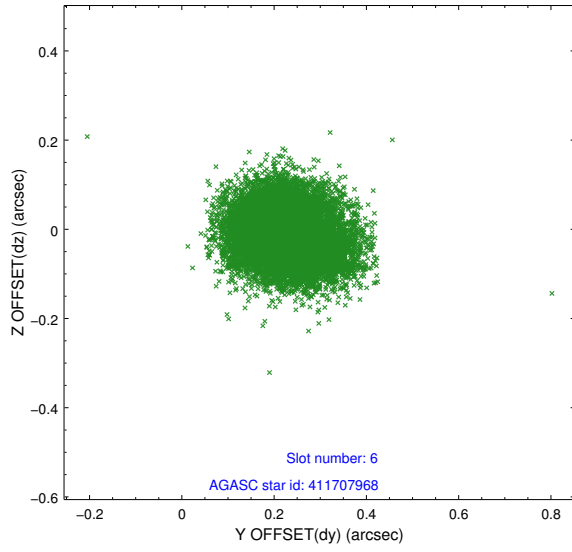
2.4.2 Slot 4



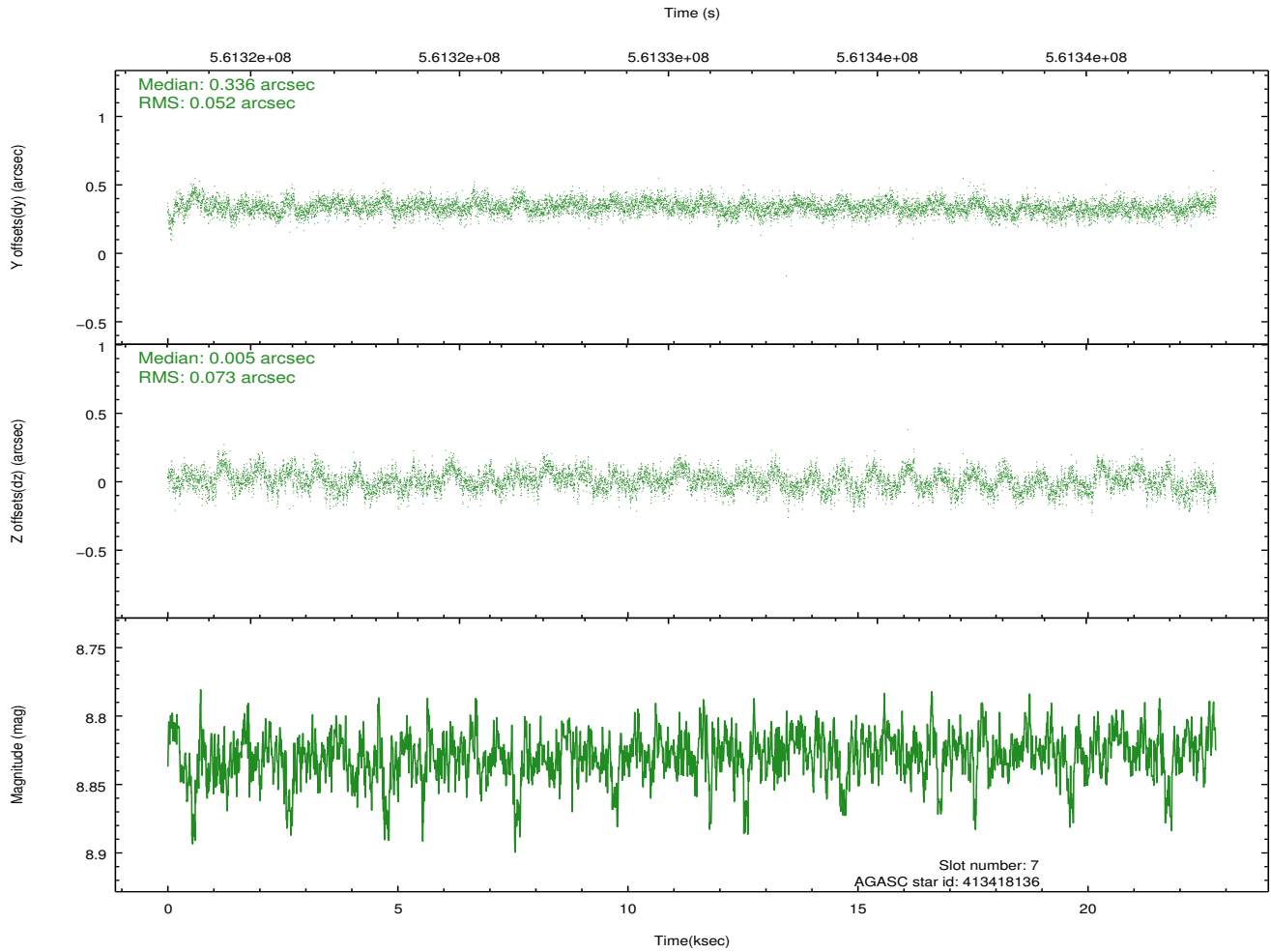
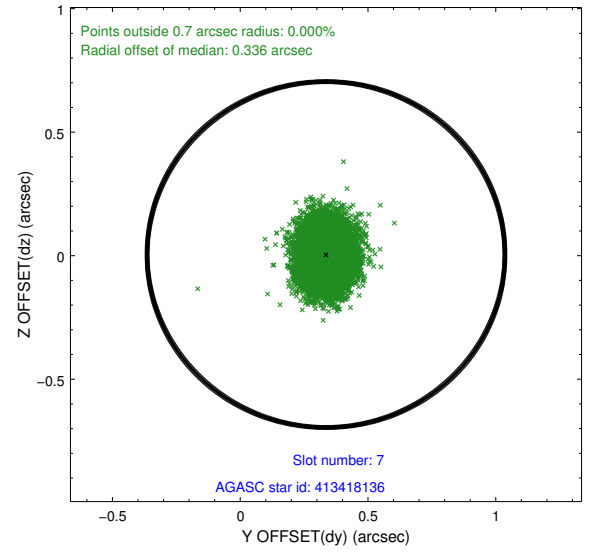
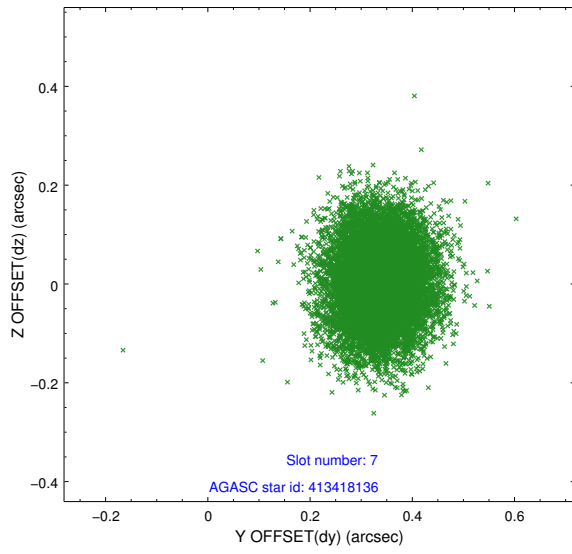
2.4.3 Slot 5



2.4.4 Slot 6

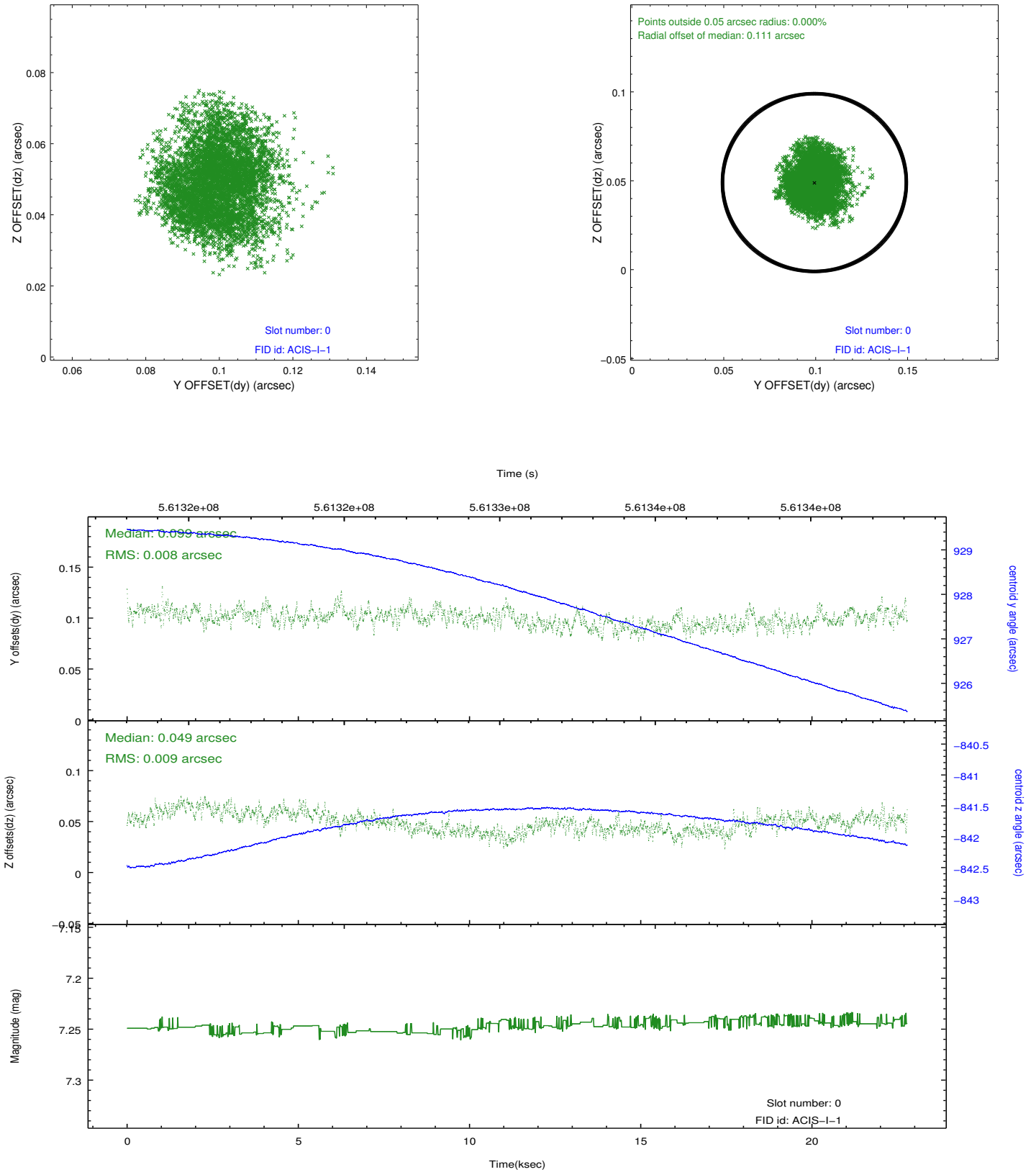


2.4.5 Slot 7

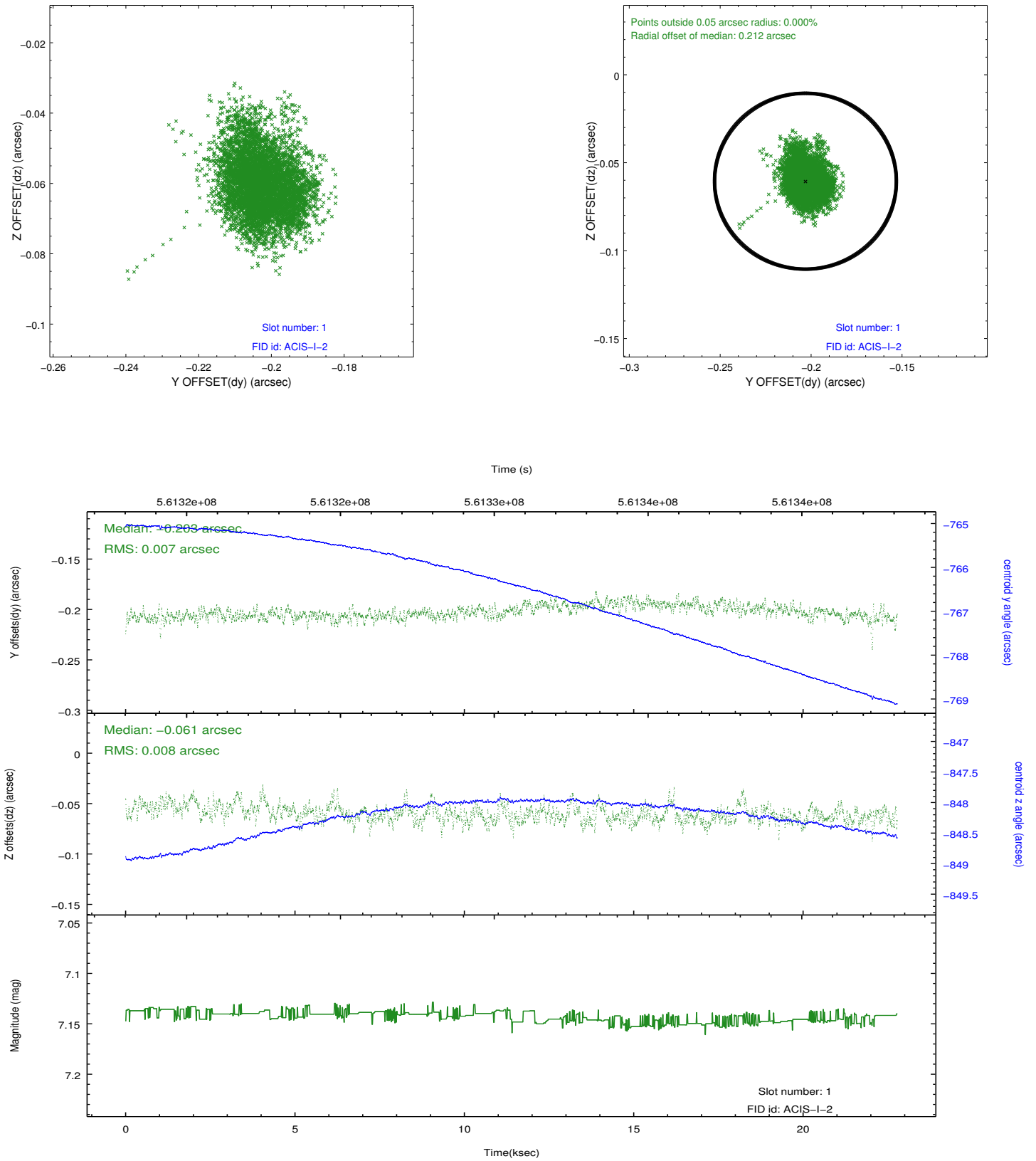


2.5 FID Slots

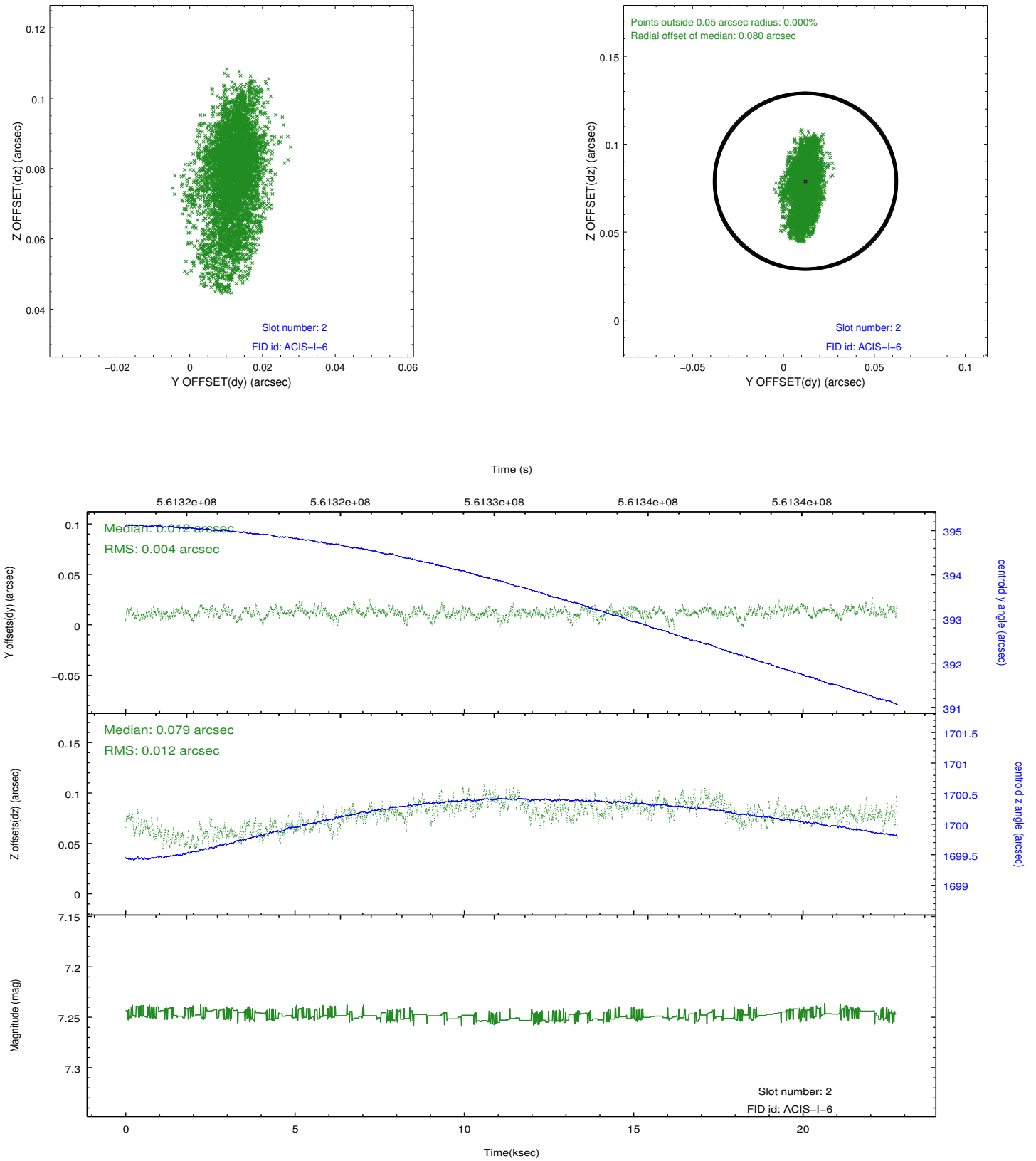
2.5.1 Slot 0



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)	2015.10.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	22.673359194279

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: (299.71858, 40.85596), (299.71317, 40.85591), (299.71355, 40.82605), (299.71895, 40.82678).