

V&V Reference Report

L2 ASCDS Version : 10.3.3

Observation 17650 - L2 Version 2
Chandra X-Ray Center

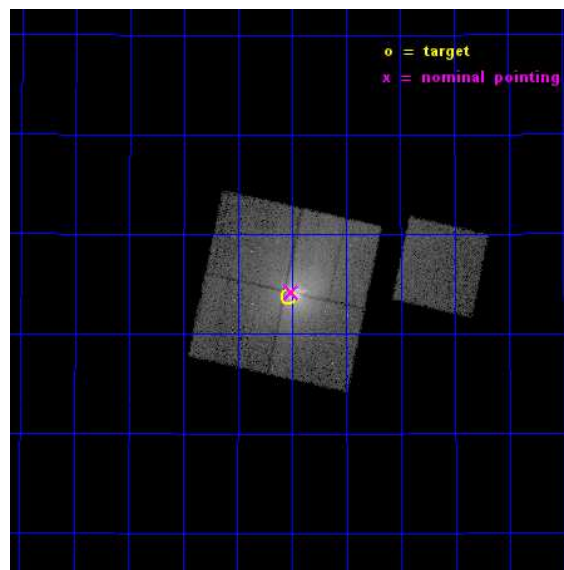
L2 Processing Date : Apr 27 2015

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1 Front

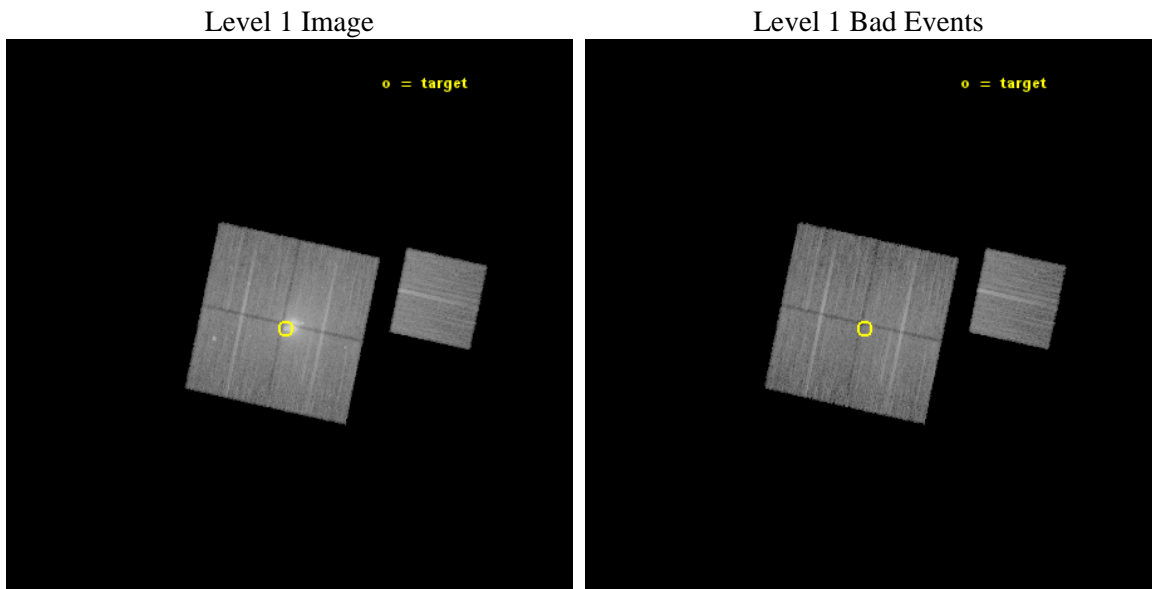
seq_num	703133	Sequence number
obs_id	17650	Observation id
title	The Rise to Power: Half a Billion Years of Intense AGN Activity in the Merging Cluster Cygnus A	Proposal title
observer	Dr. Michael Wise	Principal investigator
object	Cygnus A - E Hotspot	Source name
dtcycle	0	
cycle	P	events from which 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	299.87646297557	Nominal RA [deg]
dec_nom	40.736446685338	Nominal Dec [deg]
roll_nom	102.21317514748	Nominal Roll [deg]
revision	2	Processing version of data
ontime	28575.759339213	Sum of GTIs [s]
livetime	28202.396006279	Livetime [s]
ontime0	28575.759239674	Sum of GTIs [s]
ontime1	28575.759239554	Sum of GTIs [s]
ontime2	28578.900219917	Sum of GTIs [s]
ontime3	28575.759339213	Sum of GTIs [s]
ontime6	28578.900219917	Sum of GTIs [s]
l2events	209462	Number of level 2 events



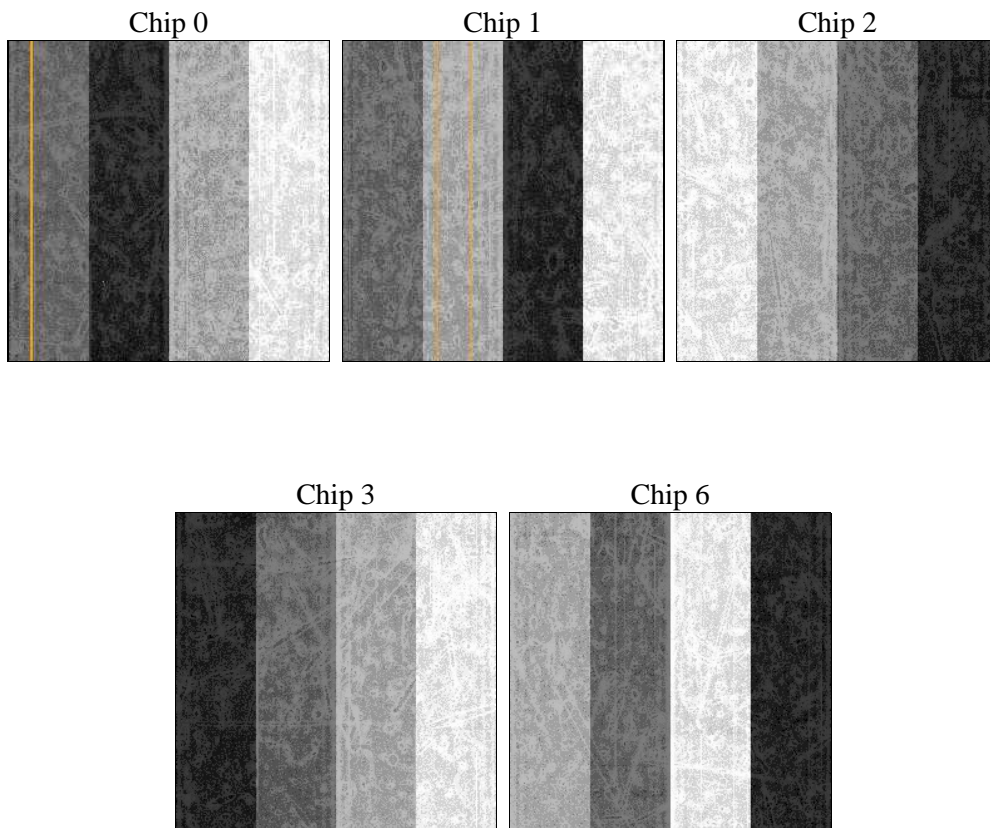
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	28500.000000	[s] Scheduled observation exposure time
ascdsver	10.3.3	Processing system revision	ontime	28575.759339213	Sum of GTIs [s]
caldbver	4.6.7	 	ontime0	28575.759239674	Sum of GTIs [s]
date	2015-04-27T16:50:58	Date and time of file creation	ontime1	28575.759239554	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	28578.900219917	Sum of GTIs [s]
			ontime3	28575.759339213	Sum of GTIs [s]
			ontime6	28578.900219917	Sum of GTIs [s]
			l1events	785538	Number of level 1 events

2.1.4 Events

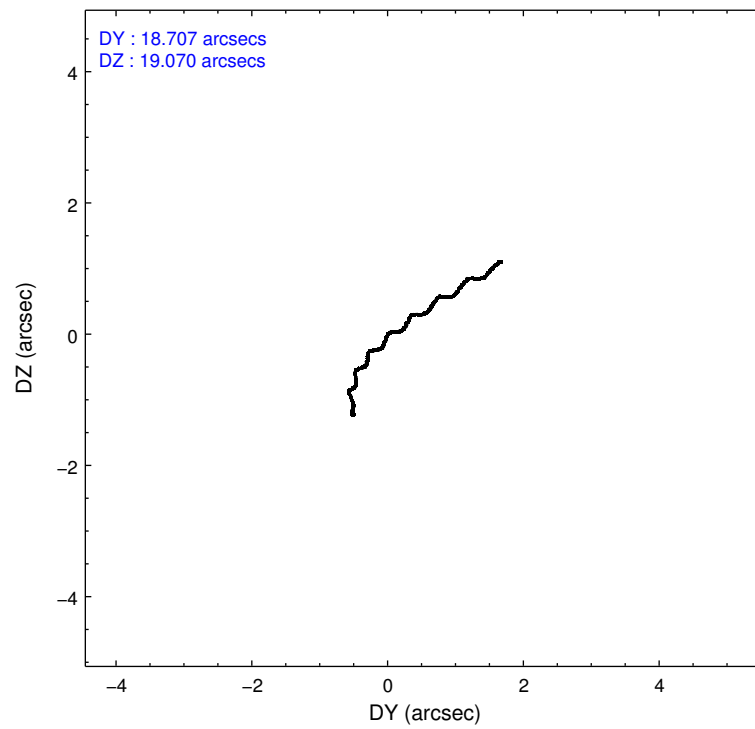
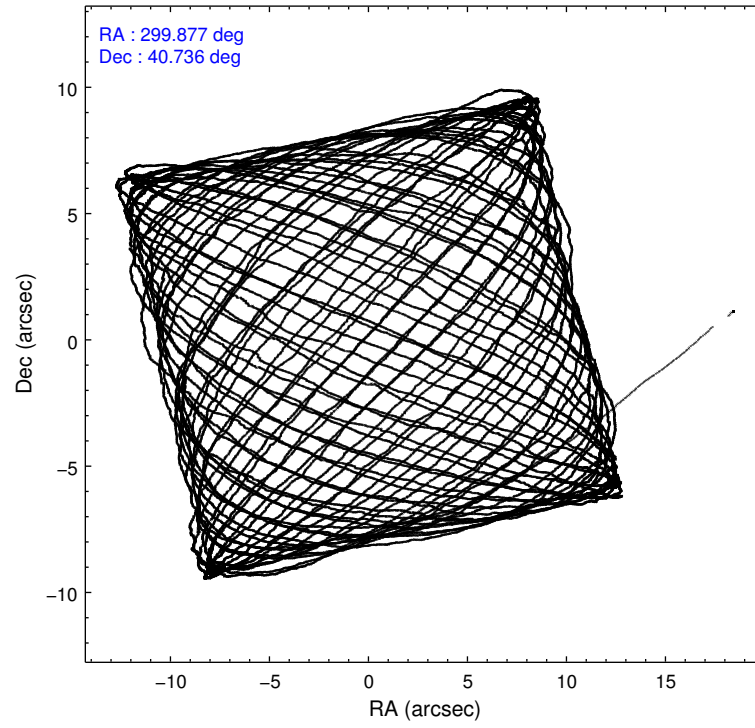
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	135909	133190	194035	188031	134373
rejected events	104069	102977	116952	116078	115452
rejected %	76%	77%	60%	61%	85%

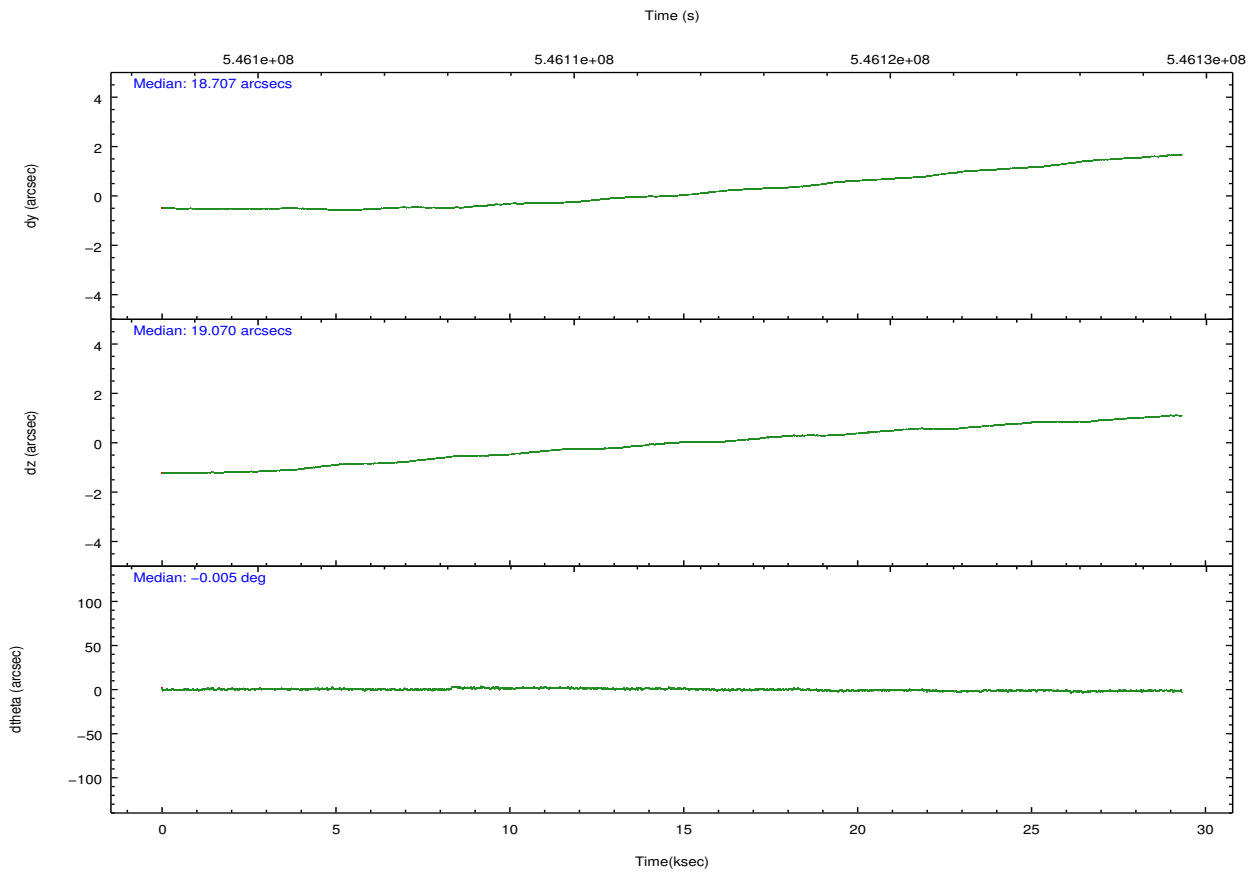
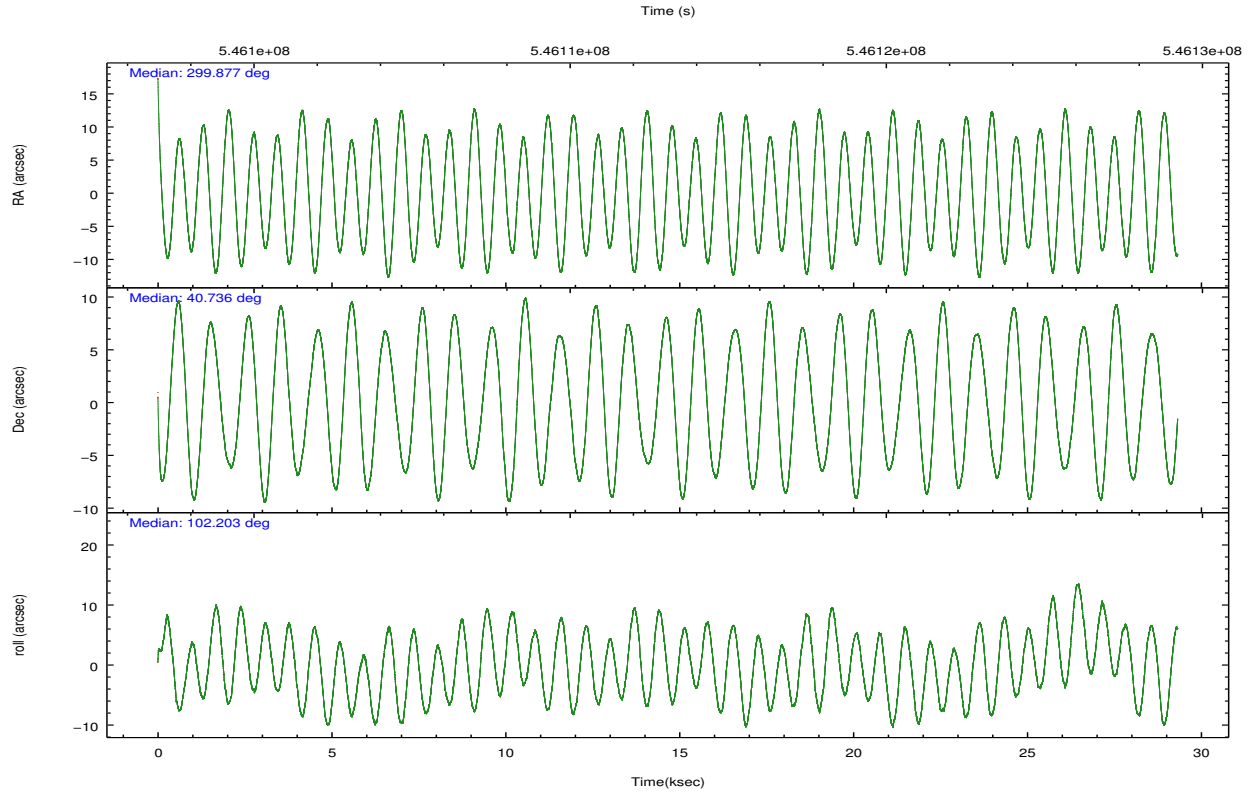
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	18009	16175	54059	49942	7723
	13%	12%	27%	26%	5%
grade 1 events	107	105	265	425	82
	0%	0%	0%	0%	0%
grade 2 events	5572	5668	10551	9539	3875
	4%	4%	5%	5%	2%
grade 3 events	2204	2062	3620	3599	1722
	1%	1%	1%	1%	1%
grade 4 events	2224	2109	3691	3605	1716
	1%	1%	1%	1%	1%
grade 5 events	6299	6730	6144	7471	6746
	4%	5%	3%	3%	5%
grade 6 events	3837	4208	5176	5281	3891
	2%	3%	2%	2%	2%
grade 7 events	97657	96133	110529	108169	108618
	71%	72%	56%	57%	80%

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	299.901033	299.8764629755744	CCD I2 on	Y	Y
[deg] Pointing Dec	40.716085	40.73644668533764	CCD I3 on	Y	Y
[deg] Pointing Roll	101.988452	102.2131751474845	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)	546099249.184000	546097463.97843	CCD S5 on	N	N
Observation start date	2015-04-22T14:13:02	2015-04-22T13:44:23	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	546127749.184000	546128412.31767	On-chip summing requested	N	N
Observation end date	2015-04-22T22:08:02	2015-04-22T22:20:12	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect





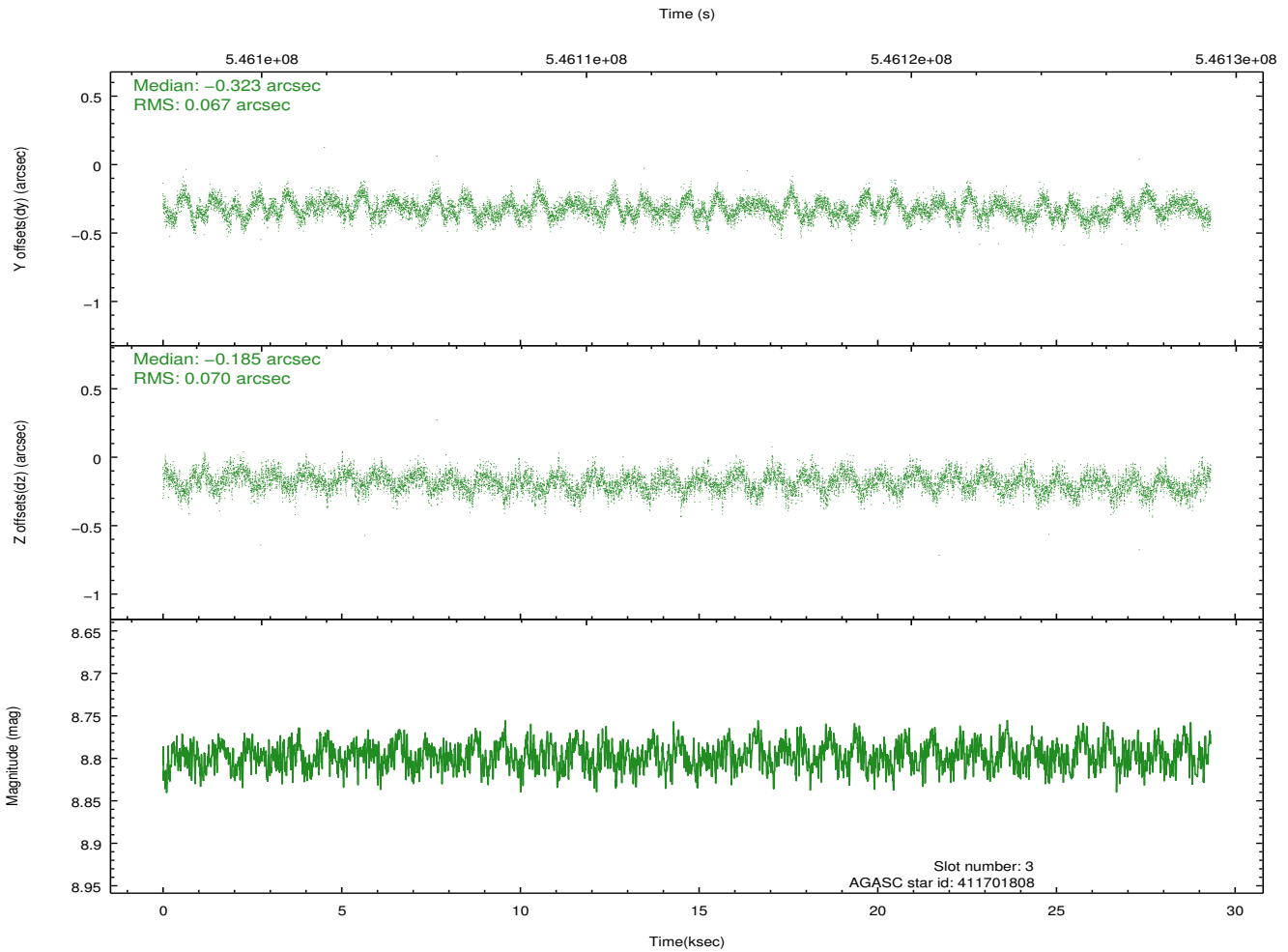
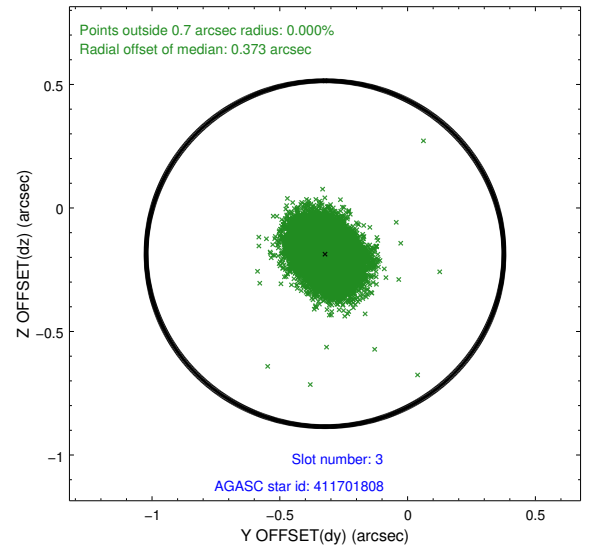
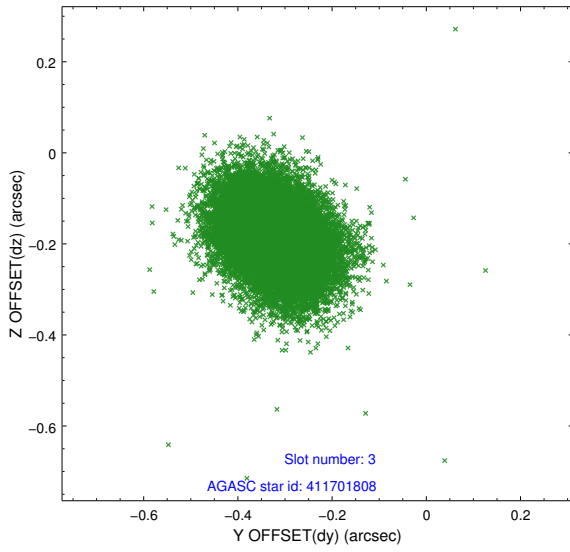
Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.05	7152	-0.040	-0.023	0.035	0.049	0.000000	0.000000	920.43	-842.67
1	FID		ACIS-I-4	6.97	7150	0.309	0.055	0.039	0.064	0.000000	0.000000	2140.75	1057.24
2	FID		ACIS-I-5	7.03	7152	-0.363	0.038	0.026	0.046	0.000000	0.000000	-1827.89	1054.95
3	GUIDE	used	411701808	8.80	14299	-0.323	-0.185	0.104	0.164	299.419536	40.880184	853.39	1158.62
4	GUIDE	used	411707968	7.23	14304	-0.071	-0.405	0.084	0.140	299.509933	40.926839	965.78	882.27
5	GUIDE	used	413421016	8.69	14295	0.195	0.467	0.086	0.138	300.612426	40.446254	-1346.65	-1705.77
6	GUIDE	used	413421624	8.69	14293	-0.029	0.222	0.086	0.139	300.399768	40.893051	345.56	-1460.68
7	GUIDE	used	413929808	8.45	14297	0.232	-0.098	0.137	0.226	300.621353	41.348826	1832.71	-2378.88

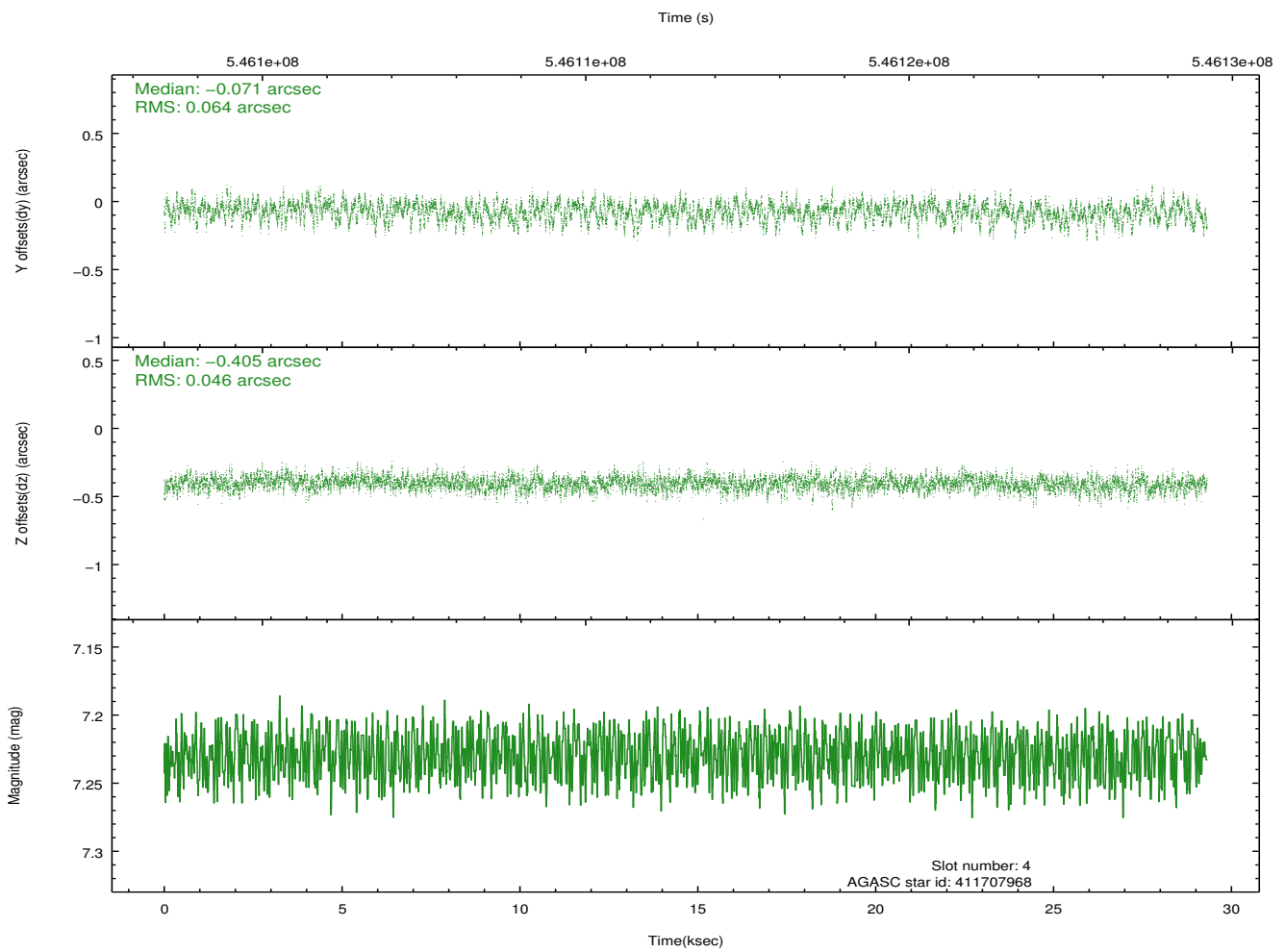
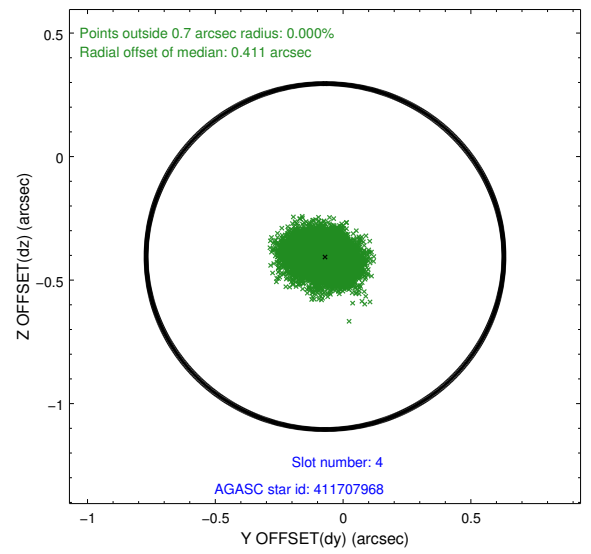
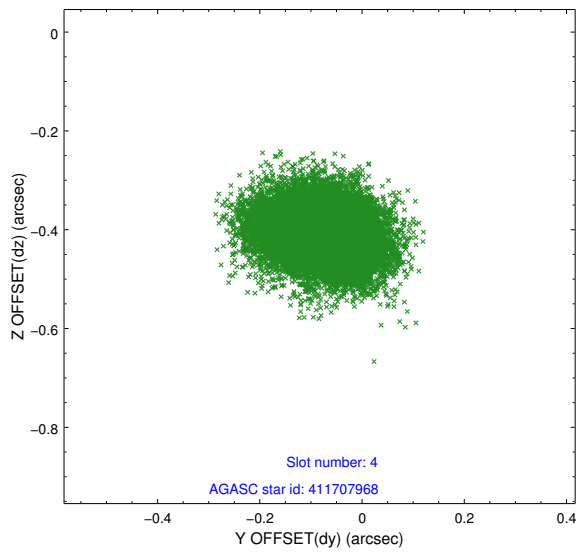
∞

2.4 Star Slots

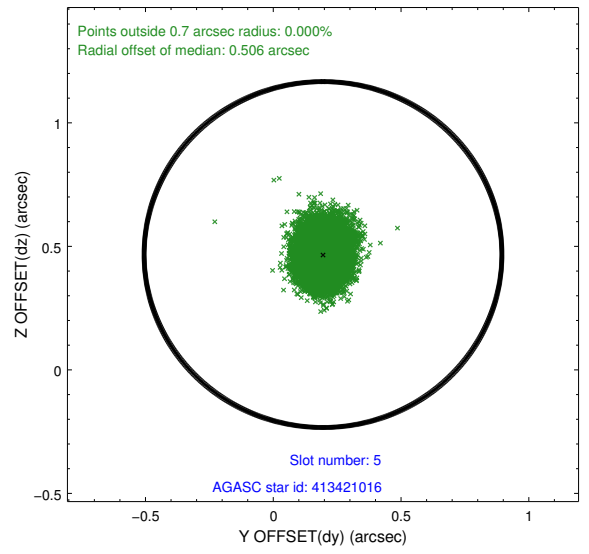
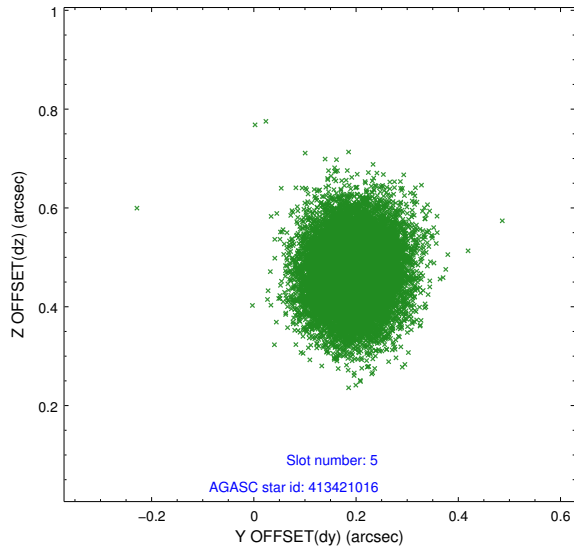
2.4.1 Slot 3



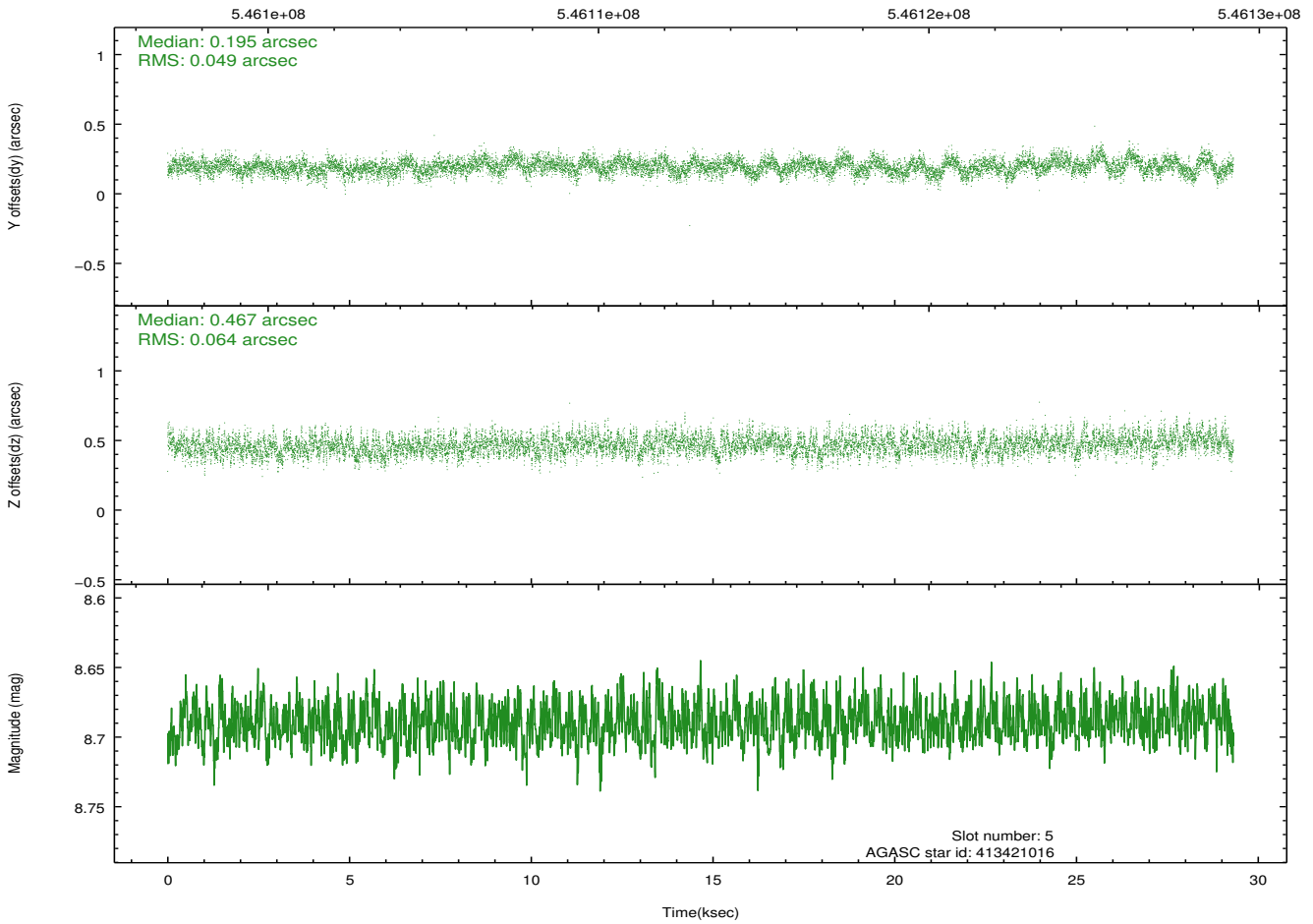
2.4.2 Slot 4



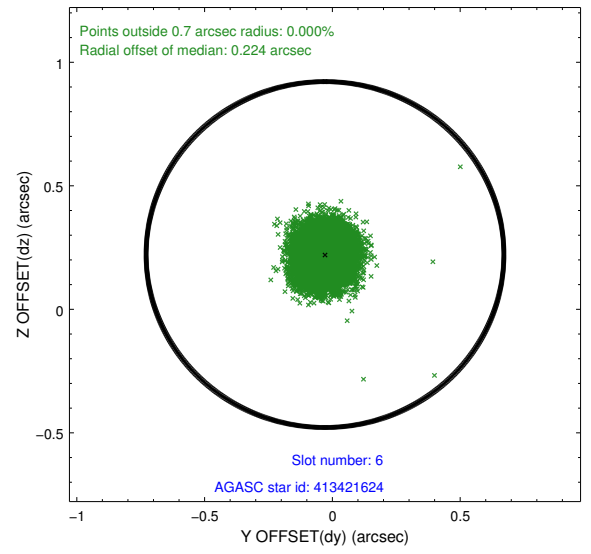
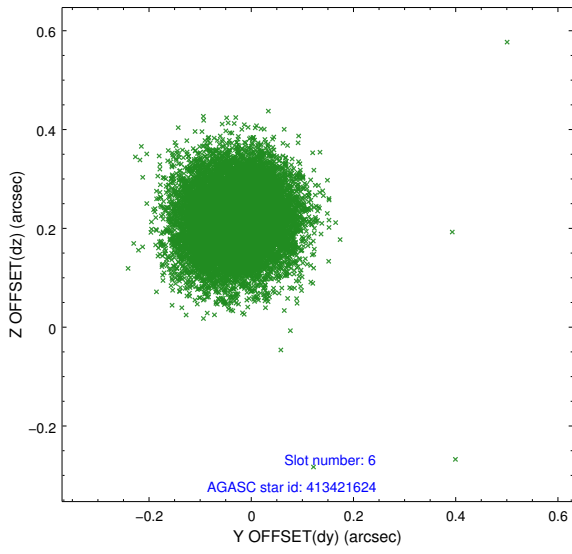
2.4.3 Slot 5



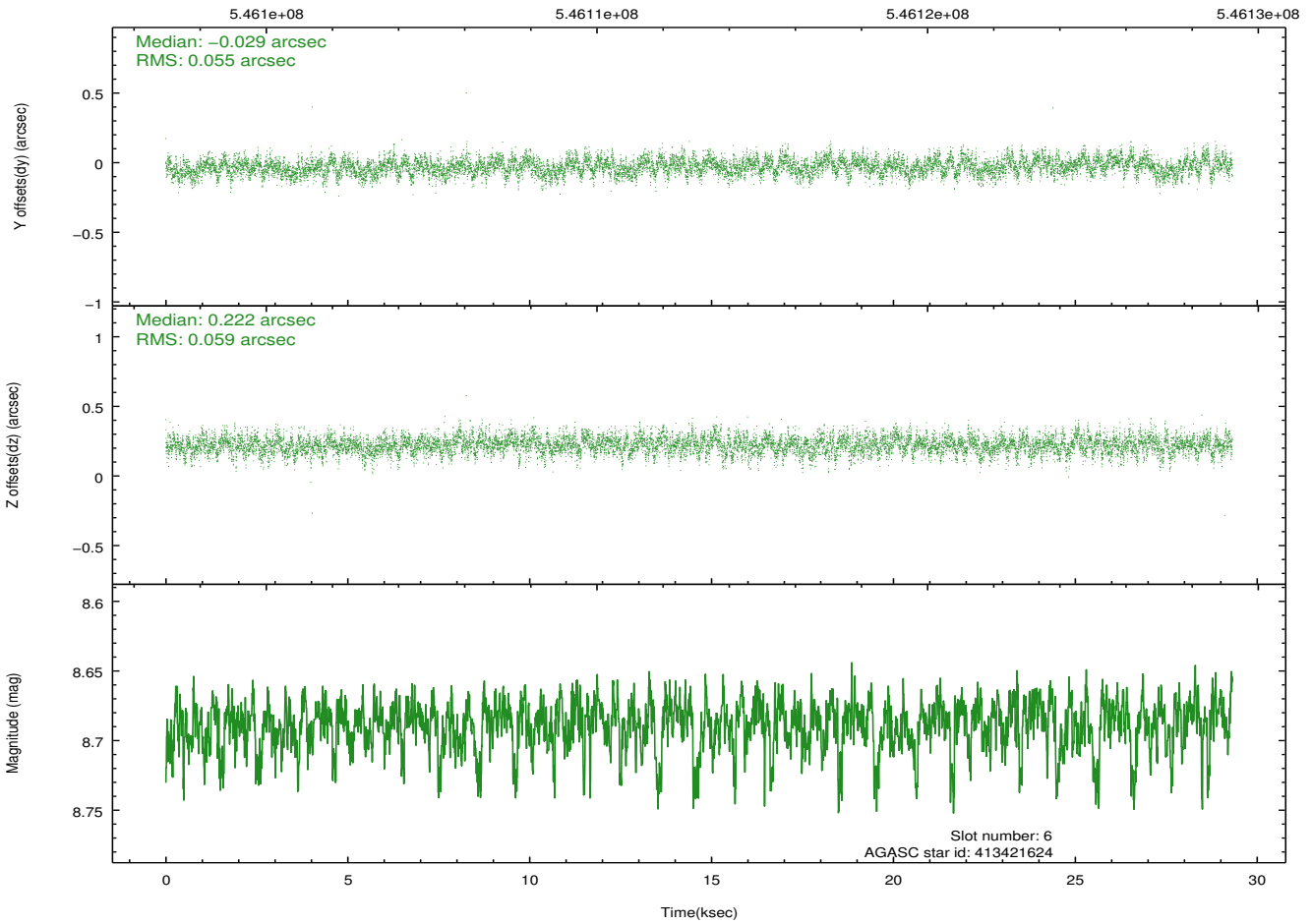
Time (s)



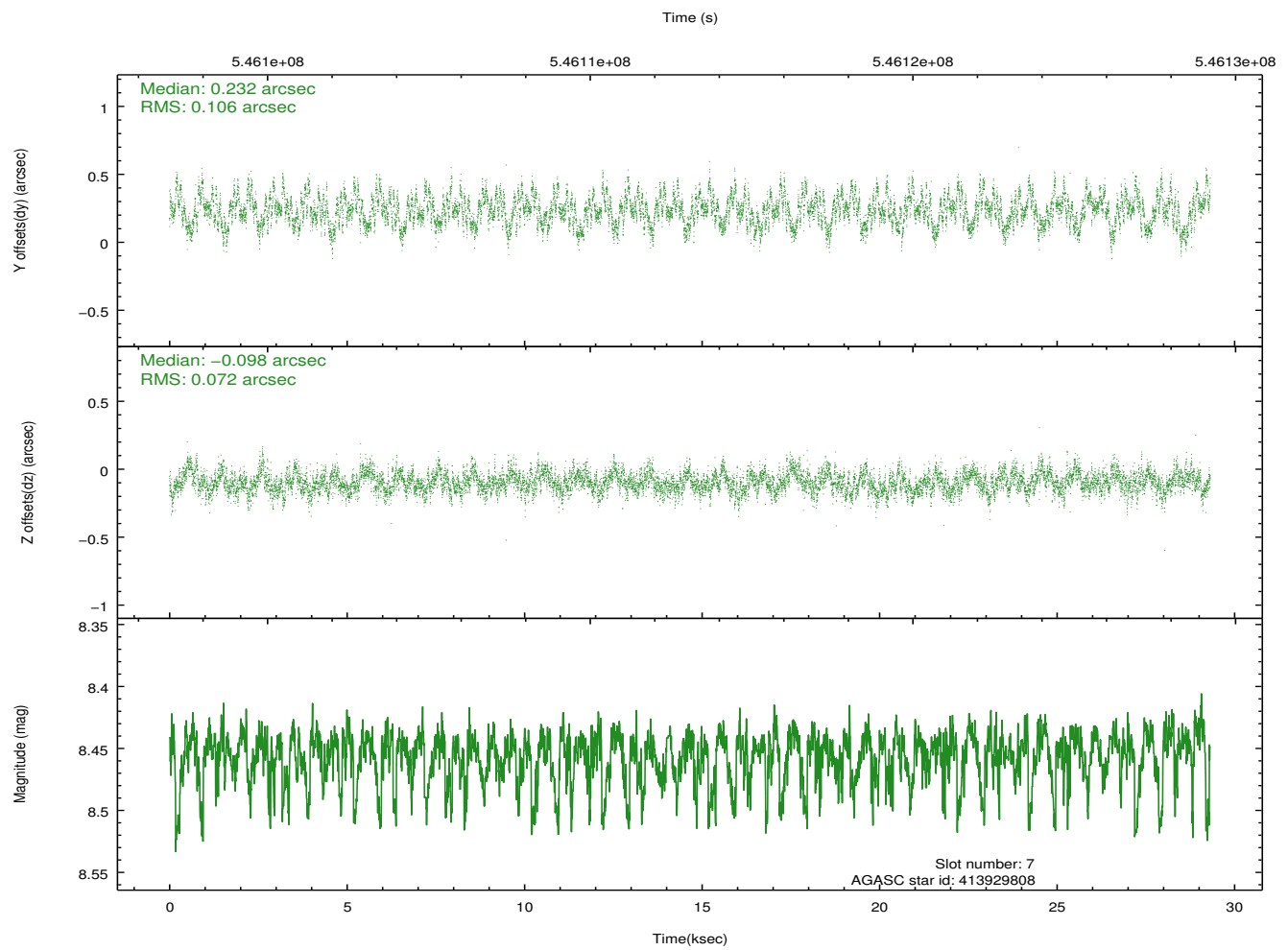
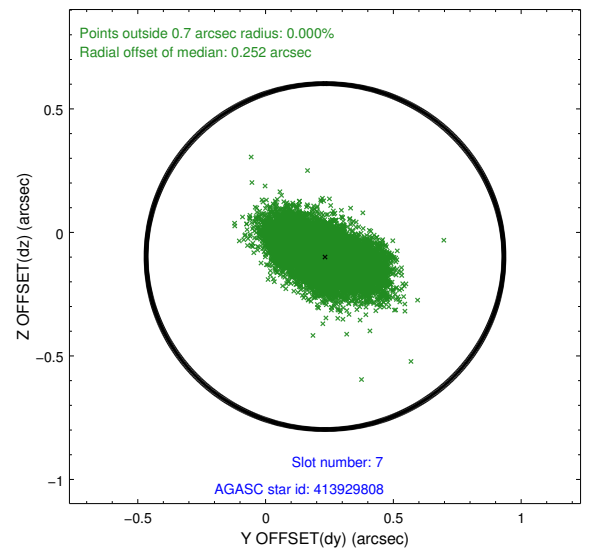
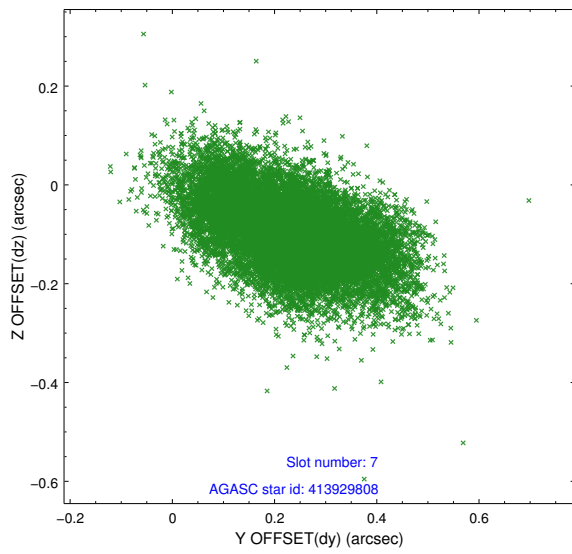
2.4.4 Slot 6



Time (s)

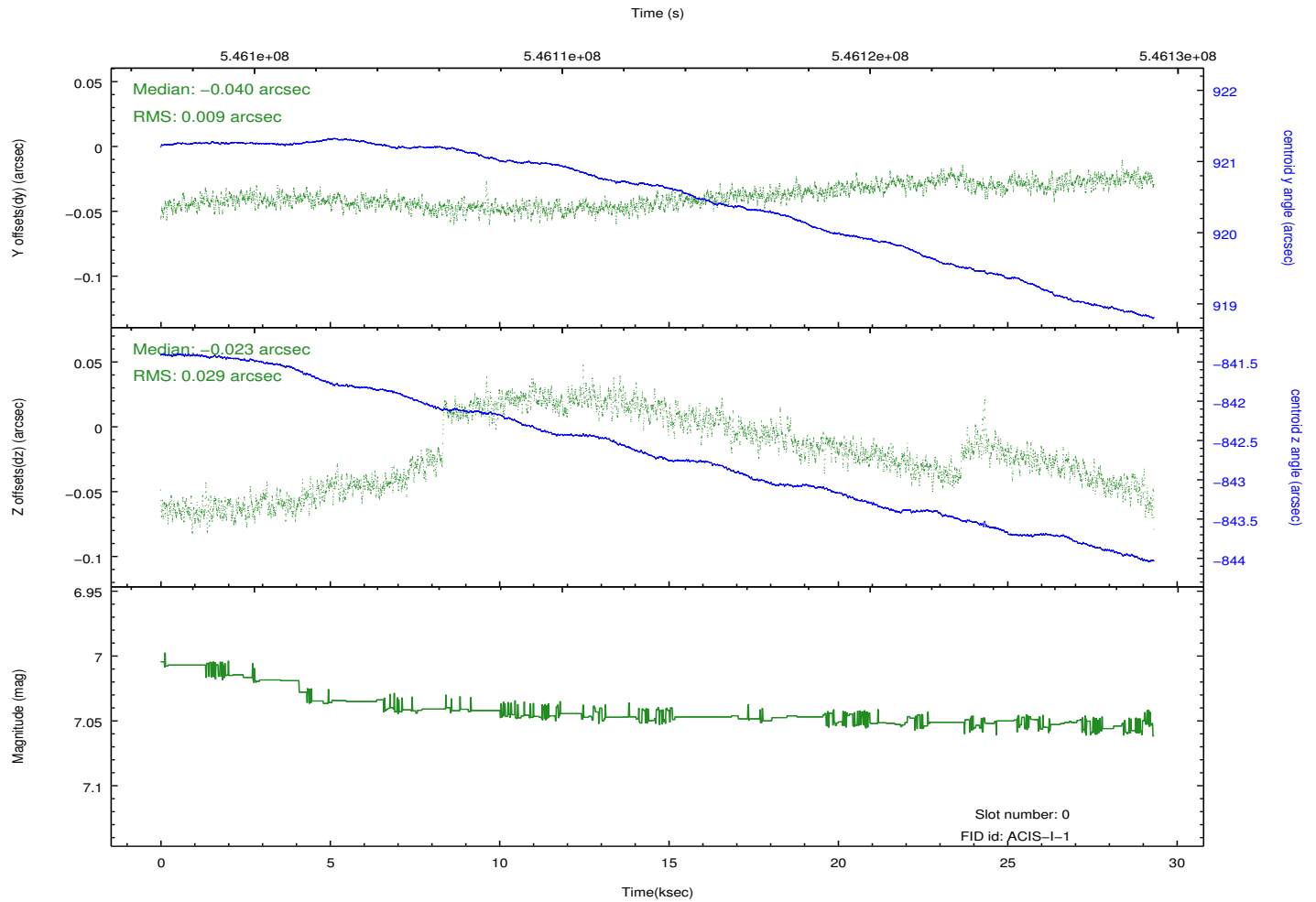
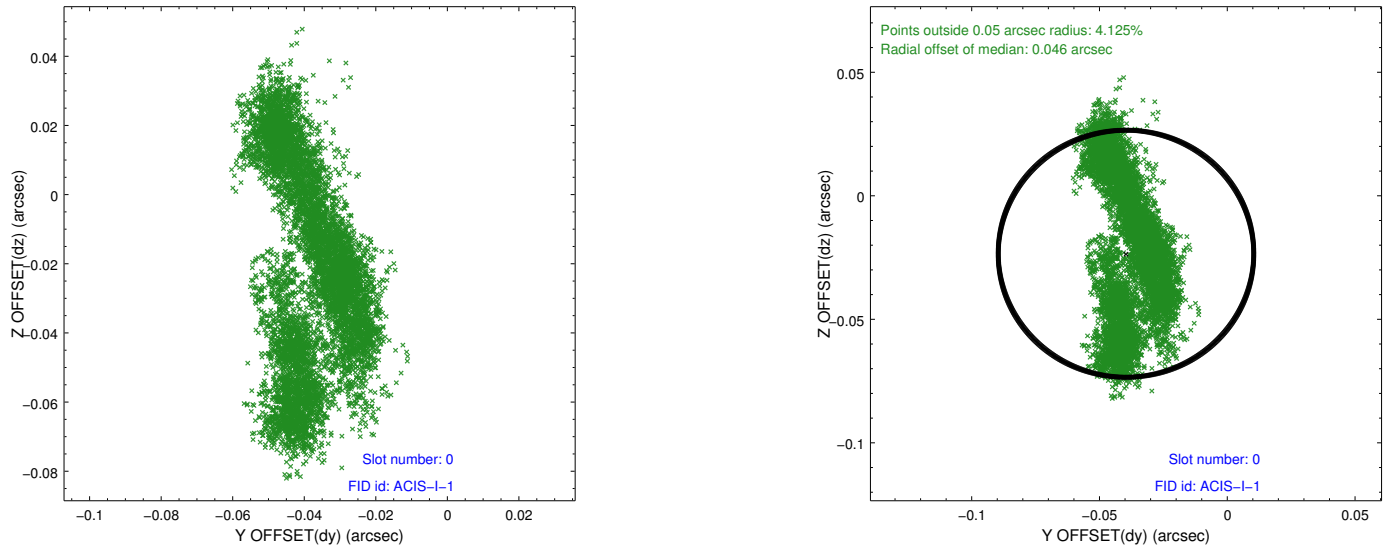


2.4.5 Slot 7

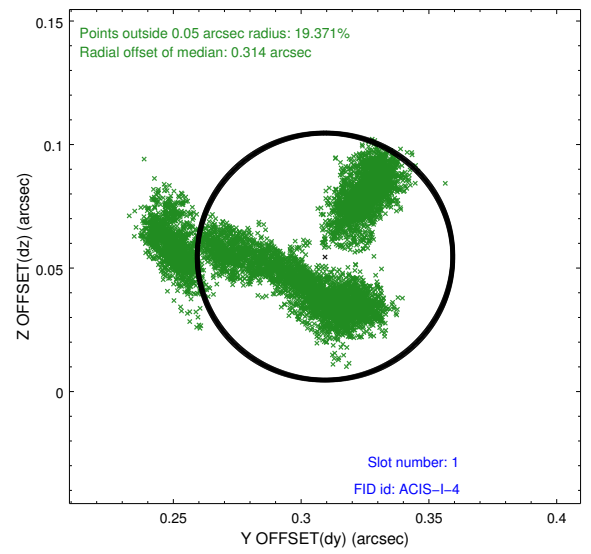
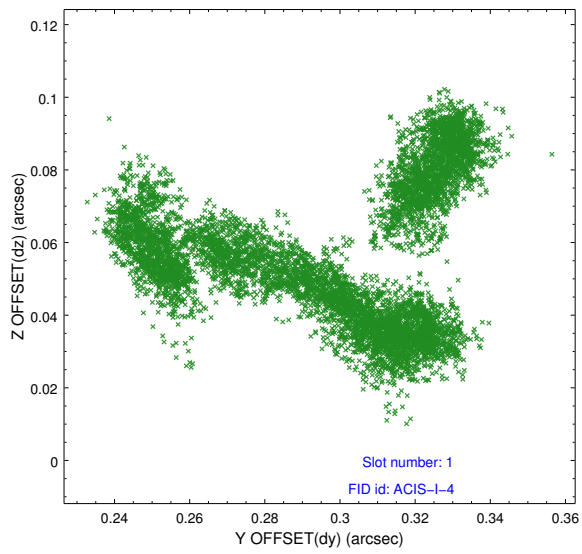


2.5 FID Slots

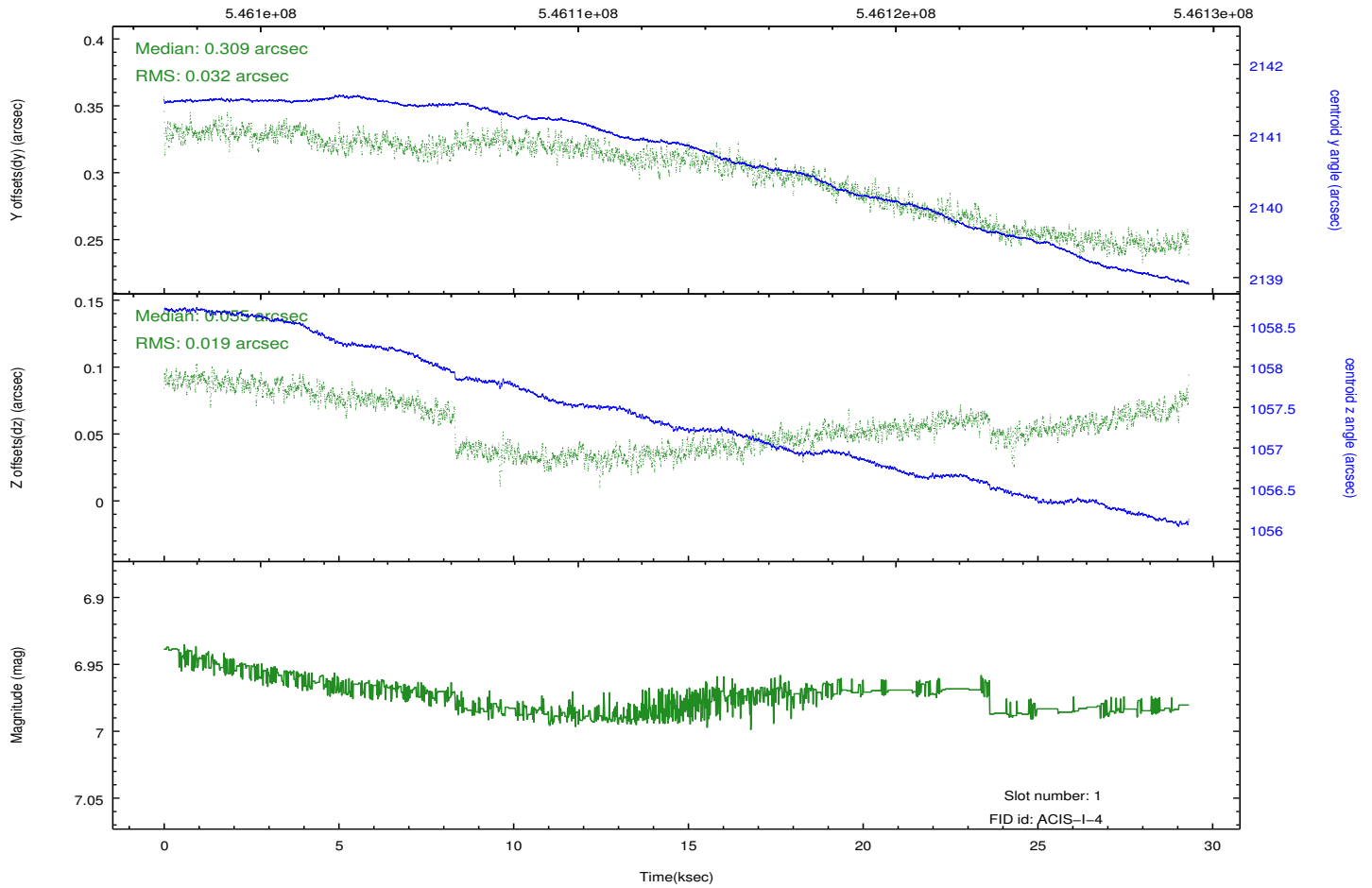
2.5.1 Slot 0



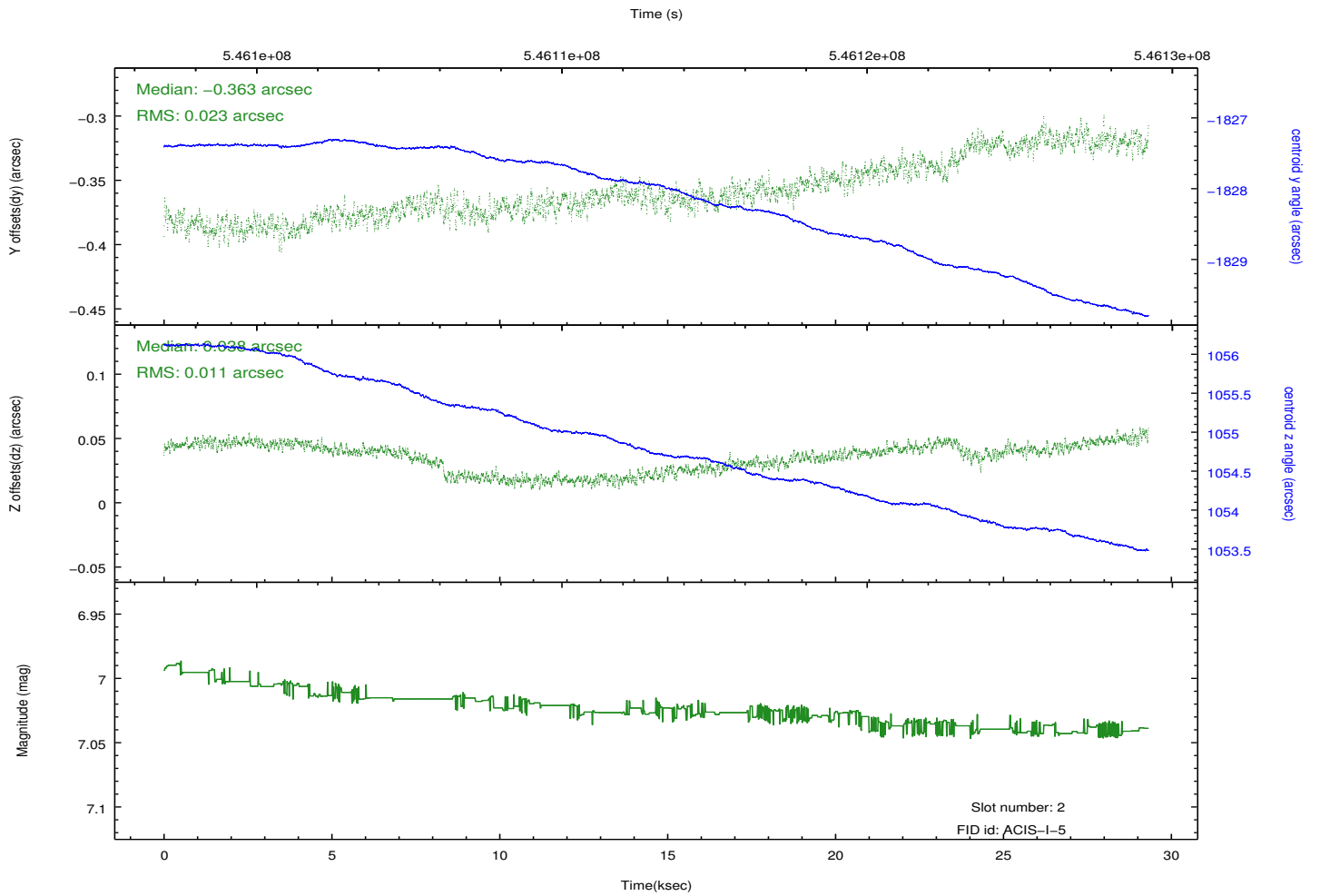
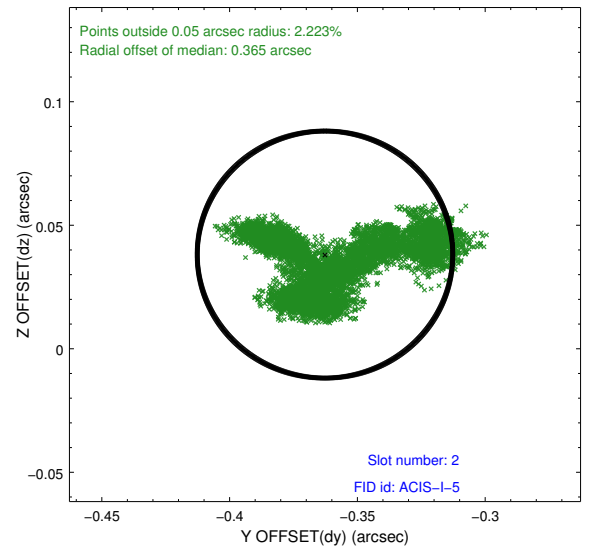
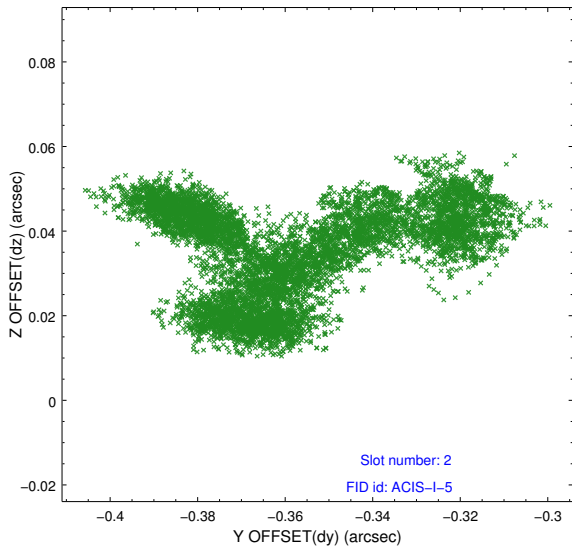
2.5.2 Slot 1



Time (s)



2.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2015.04.27
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	28.575759339213

A.2 Comments

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: (299.88491, 40.59378), (299.89421, 40.59529), (299.85530, 40.73159), (299.84598, 40.73008).