

V&V Reference Report

L2 ASCDS Version : 10.7.1

Observation 21535 - L2 Version 1
Chandra X-Ray Center

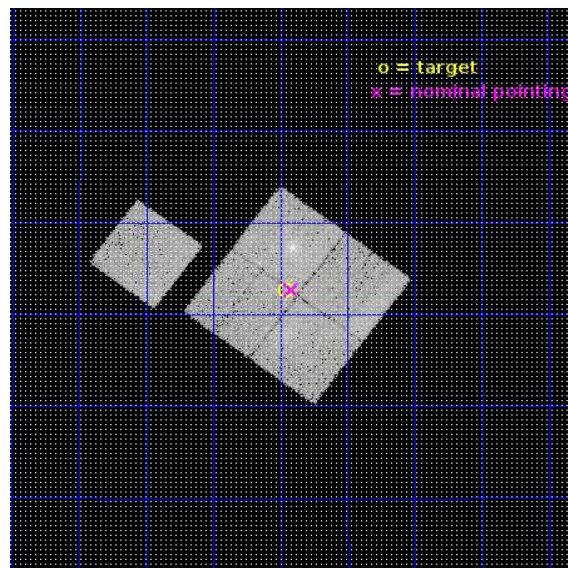
L2 Processing Date : Feb 20 2019

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1 Front

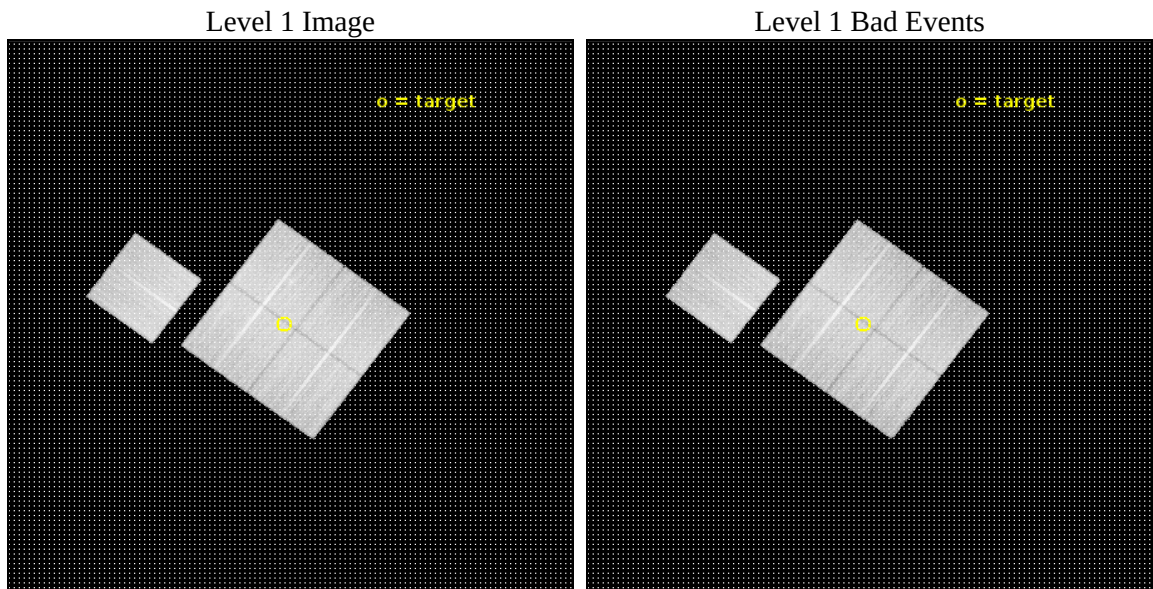
seq_num	801818	Sequence number
obs_id	21535	Observation id
title	Deep Chandra Observations of the Shock Front and Faint Filament in the Pre-Merger Cluster Abell 98	Proposal title
observer	Scott Randall	Principal investigator
object	Abell 98	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	11.615833	Observer's specified target RA [deg]
dec_targ	20.544667	Observer's specified target Dec [deg]
ra_nom	11.604800487953	Nominal RA [deg]
dec_nom	20.545278807759	Nominal Dec [deg]
roll_nom	306.5260935751	Nominal Roll [deg]
revision	1	Processing version of data
ontime	25066.600192904	Sum of GTIs [s]
livetime	24739.086607622	Livetime [s]
ontime0	25066.600192904	Sum of GTIs [s]
ontime1	25066.600192904	Sum of GTIs [s]
ontime2	25066.600192904	Sum of GTIs [s]
ontime3	25066.600192904	Sum of GTIs [s]
ontime6	25063.459222555	Sum of GTIs [s]
l2events	100758	Number of level 2 events



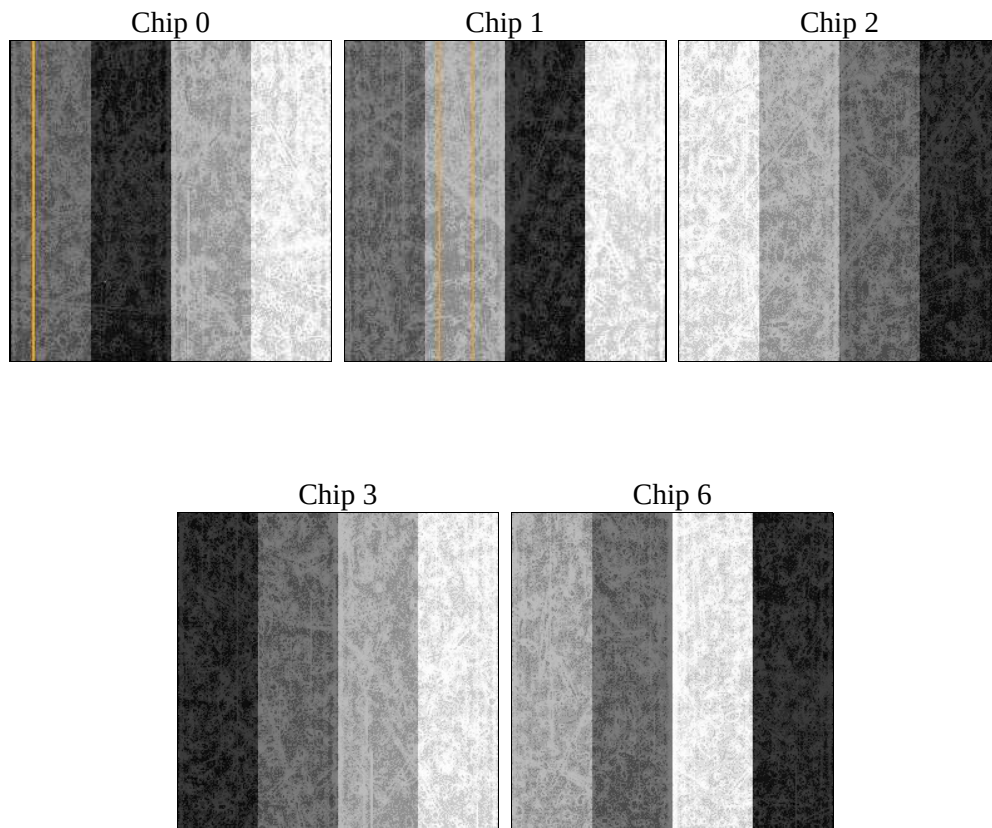
2 OBI

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	10.7.1	Processing system revision	ontime	25066.600192904	Sum of GTIs [s]
caldsver	4.8.2	 	ontime0	25066.600192904	Sum of GTIs [s]
date	2019-02-20T14:15:37	Date and time of file creation	ontime1	25066.600192904	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	25066.600192904	Sum of GTIs [s]
			ontime3	25066.600192904	Sum of GTIs [s]
			ontime6	25063.459222555	Sum of GTIs [s]
			l1events	945122	Number of level 1 events

2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	179554	179135	194591	195333	196509
rejected events	155360	154426	172160	169828	174620
rejected %	86%	86%	88%	86%	88%

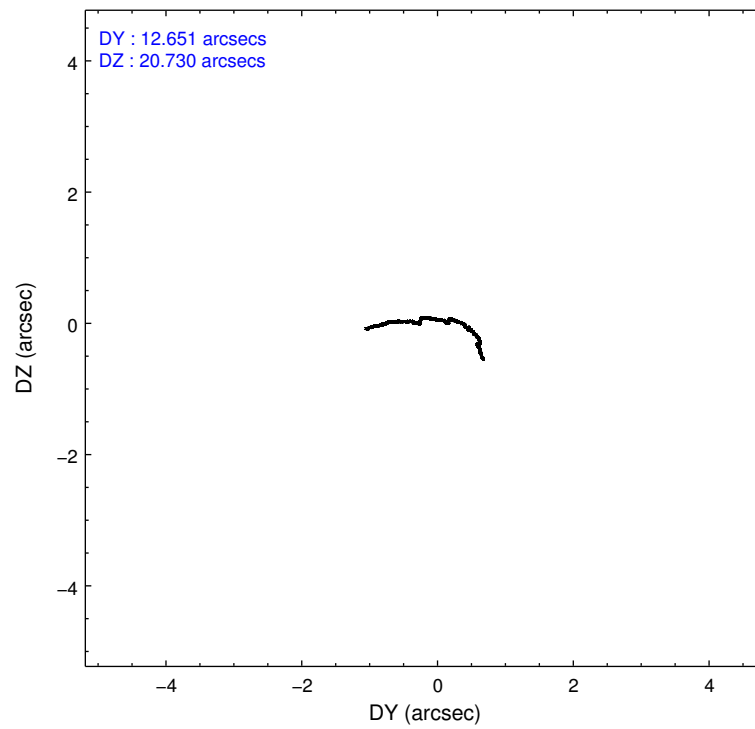
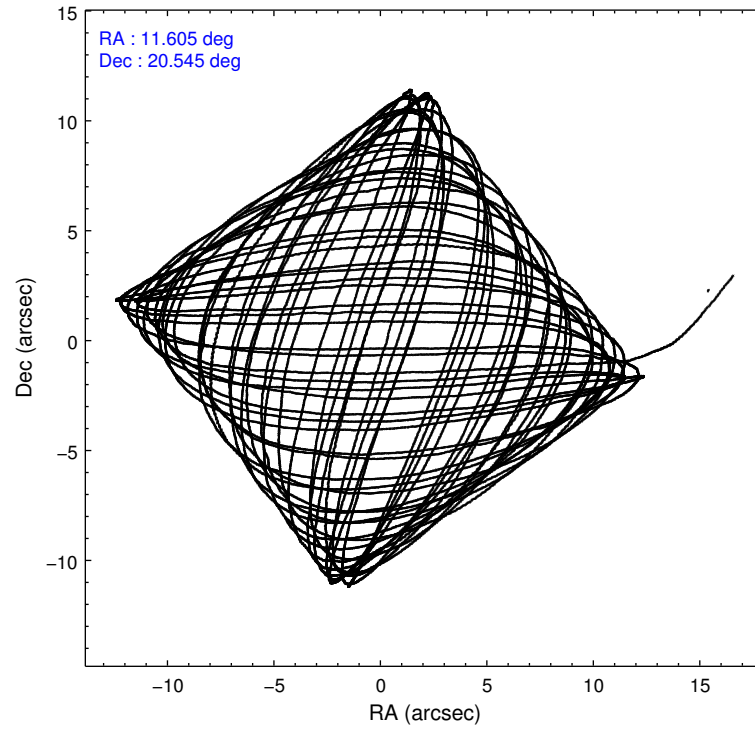
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	9236	8443	8436	11575	7181
	5%	4%	4%	5%	3%
grade 1 events	118	92	130	128	80
	0%	0%	0%	0%	0%
grade 2 events	5977	6384	5508	4966	5225
	3%	3%	2%	2%	2%
grade 3 events	2306	2280	2100	2334	2135
	1%	1%	1%	1%	1%
grade 4 events	2135	2253	2161	2249	2117
	1%	1%	1%	1%	1%
grade 5 events	8483	8820	8102	9222	8945
	4%	4%	4%	4%	4%
grade 6 events	4542	5355	4231	4385	5234
	2%	2%	2%	2%	2%
grade 7 events	146757	145508	163923	160474	165592
	81%	81%	84%	82%	84%

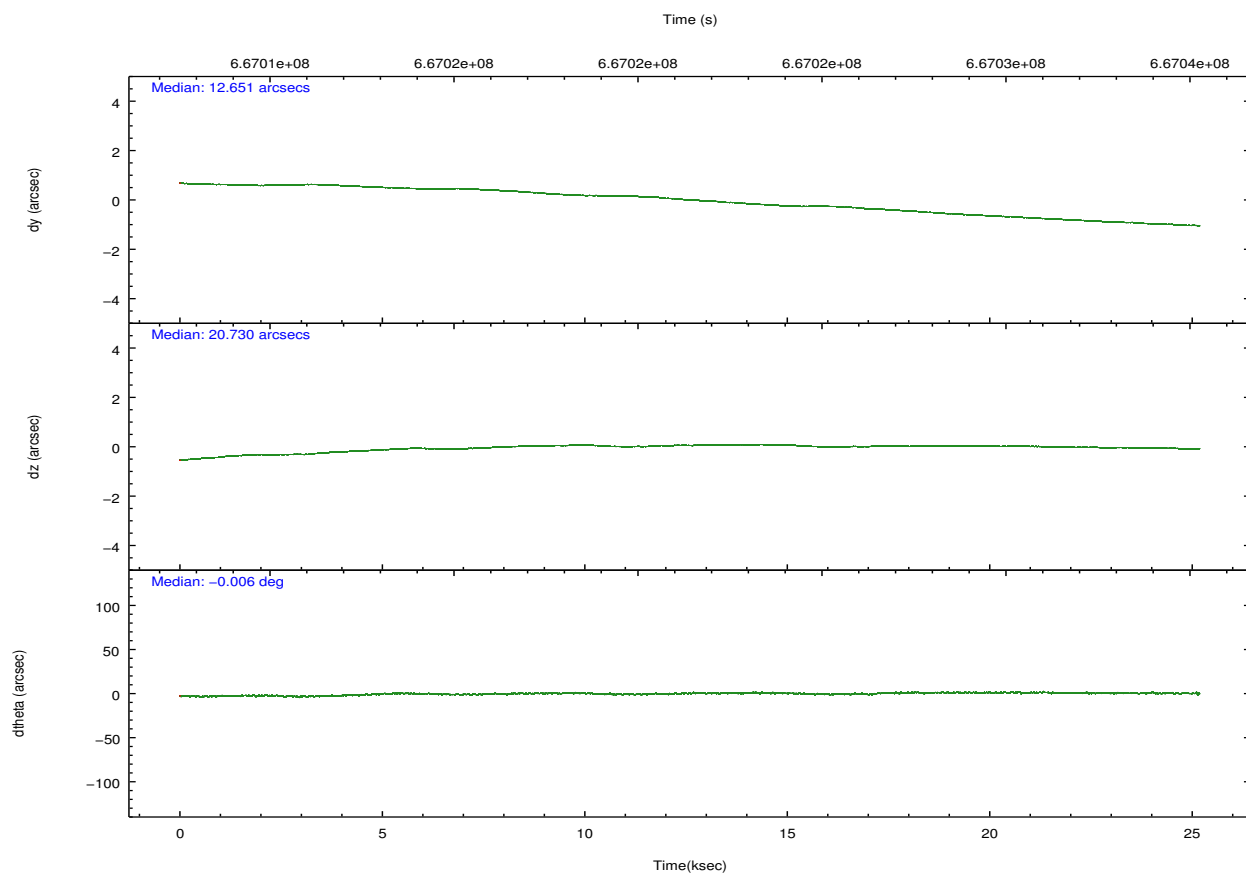
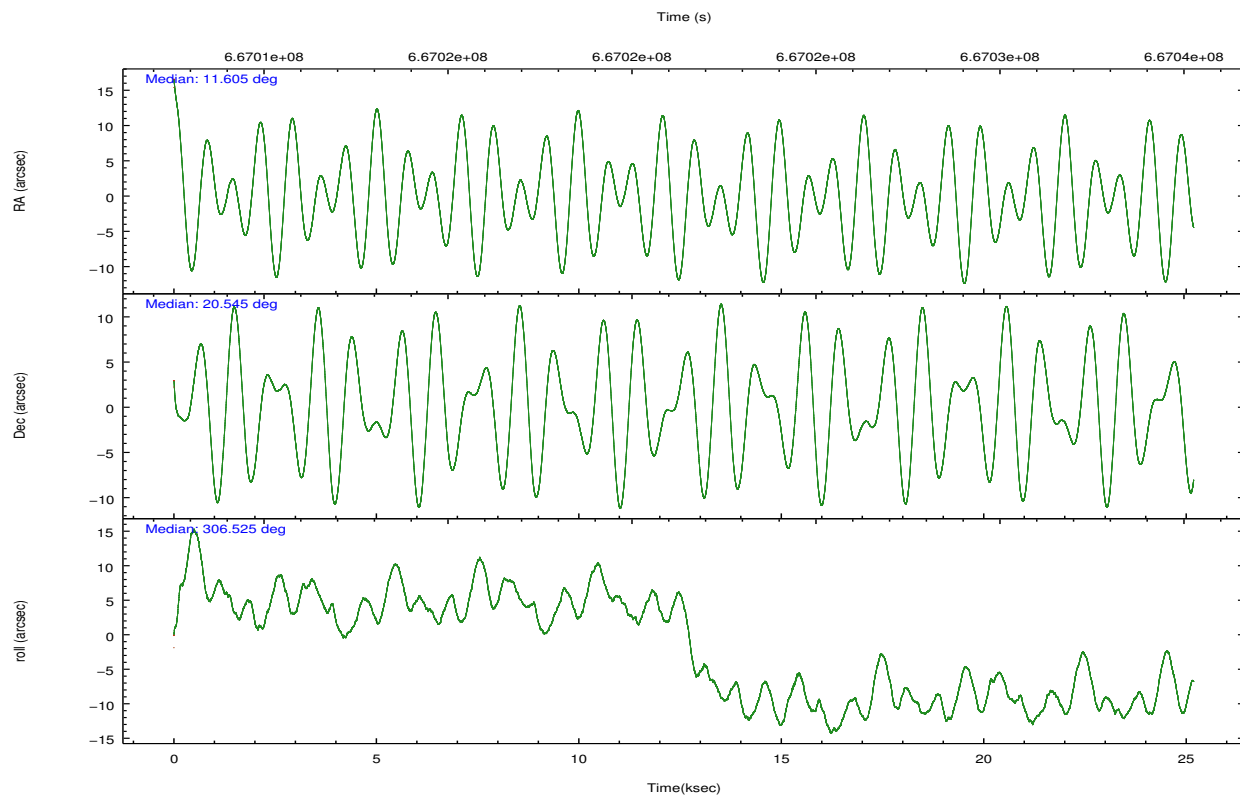
2.2 Compared Parameters

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	11.577710	11.6048004879525
[deg] Pointing Dec	20.556190	20.5452788077587
[deg] Pointing Roll	306.326923	306.5260935750993
[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)	667008988.184000	667007590.07015
Observation start date	2019-02-20T00:15:19	2019-02-19T23:53:10
[s] Observation end time (MET)	667033988.184000	667035031.3717901
Observation end date	2019-02-20T07:11:59	2019-02-20T07:30:31
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



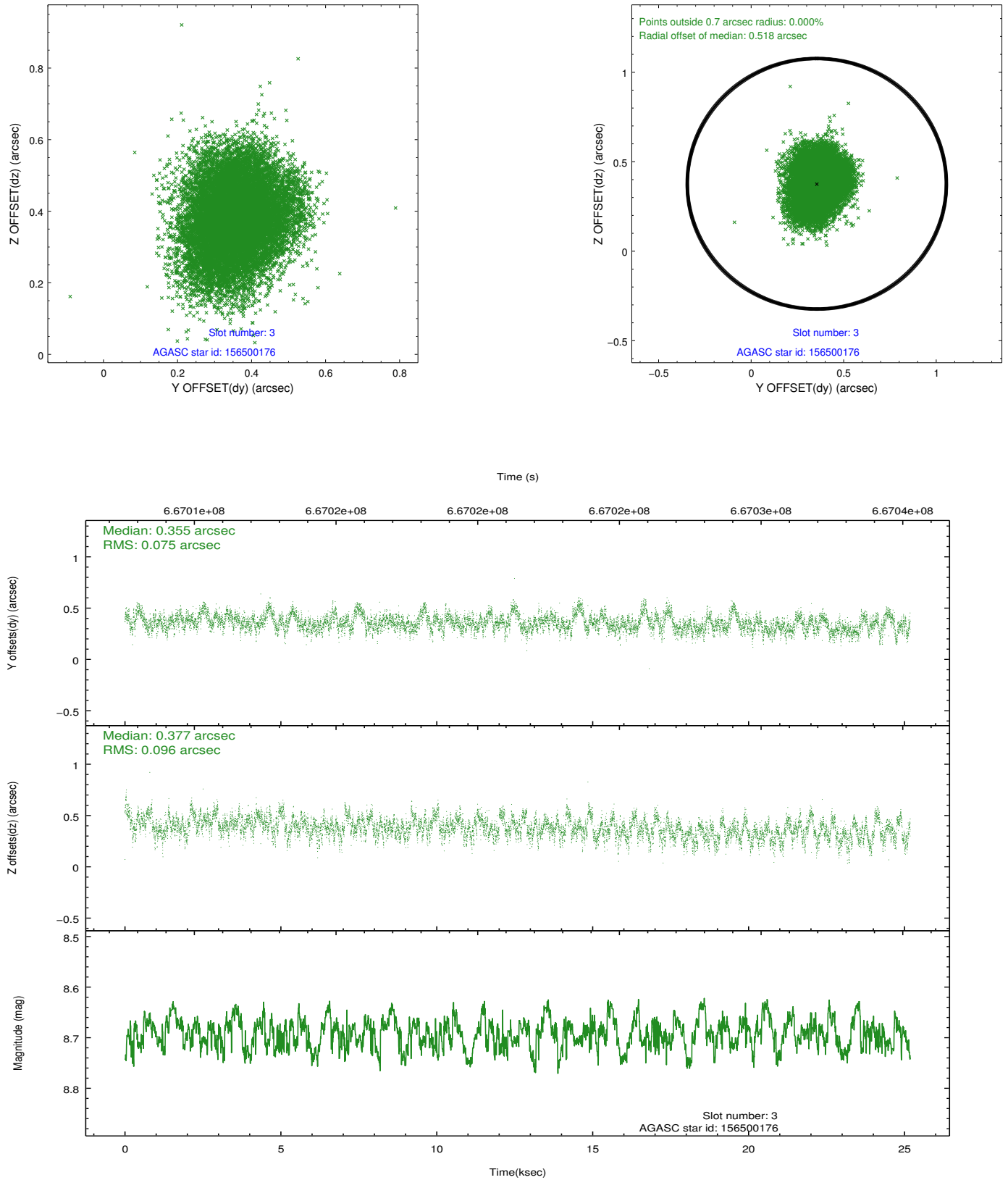


Slot Statistics

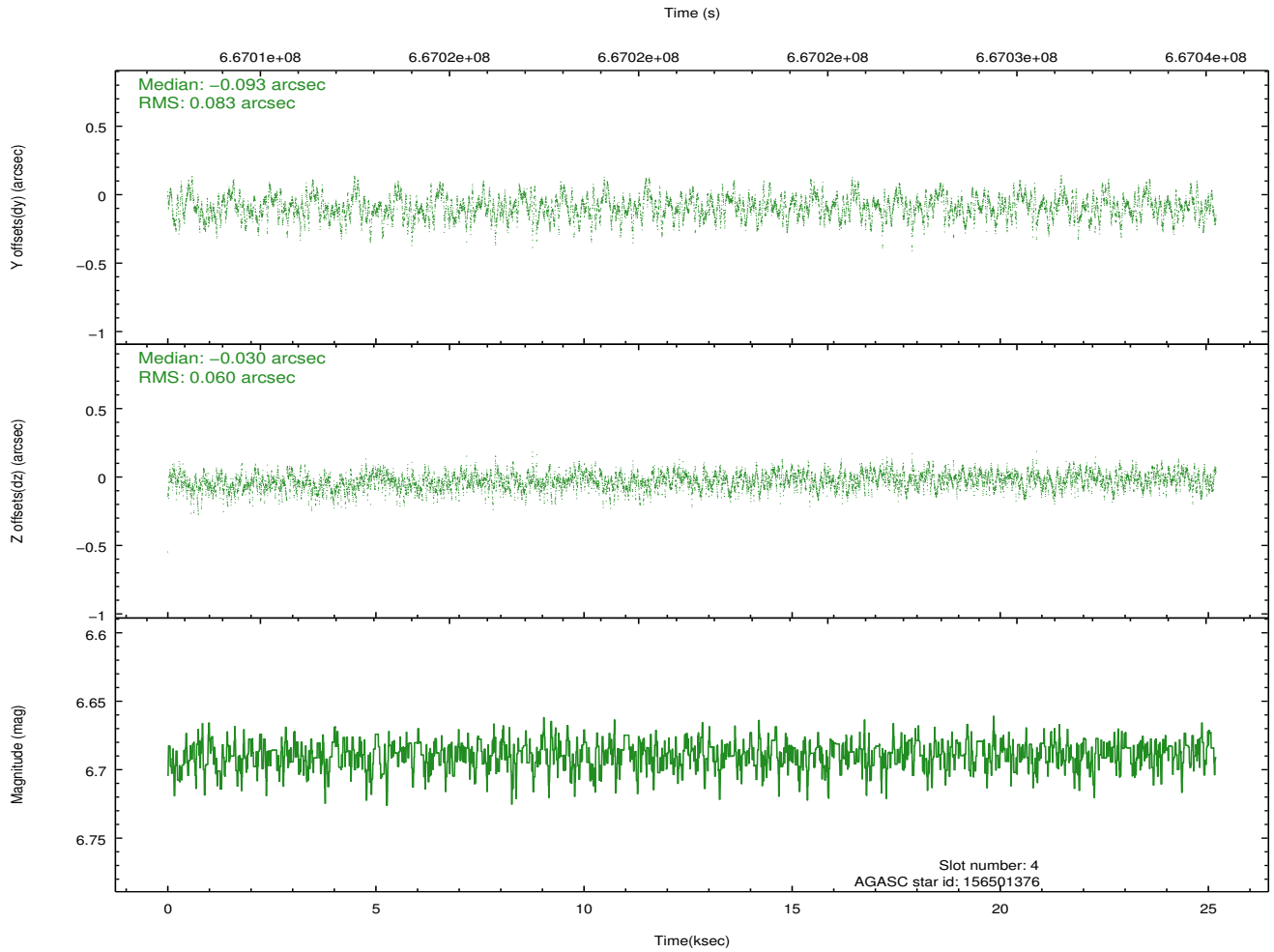
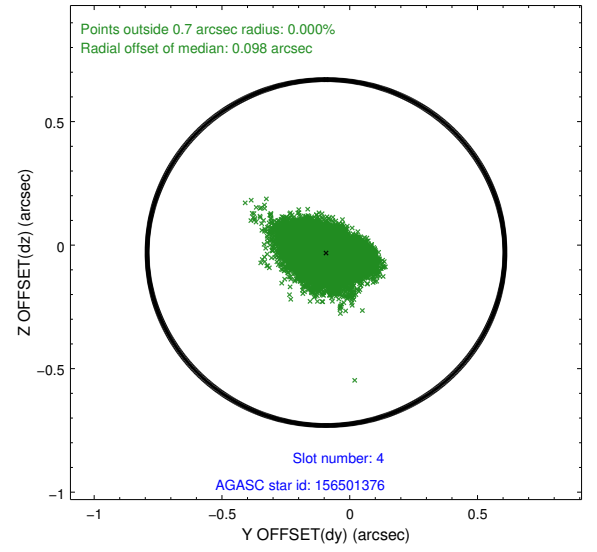
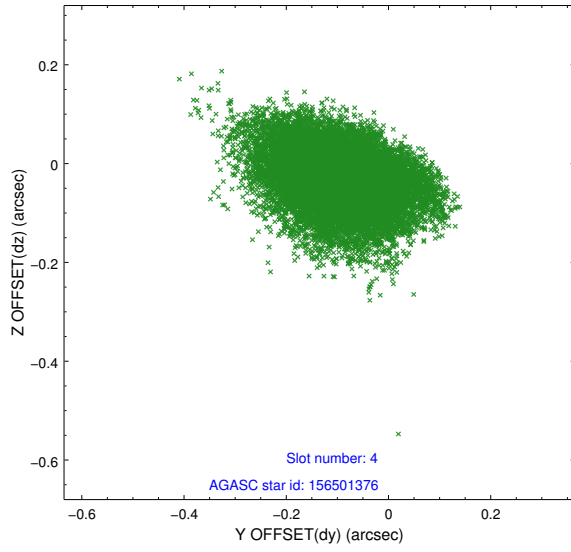
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.16	6142	1.000	0.101	-0.099	0.012	0.026	0.000000	0.000000	927.10	-844
1	FID		ACIS-I-5	7.16	6142	1.000	-0.464	0.019	0.015	0.022	0.000000	0.000000	-1821.66	1052
2	FID		ACIS-I-6	7.16	6142	1.000	0.273	0.151	0.019	0.028	0.000000	0.000000	392.49	1697
3	GUIDE	used	156500176	8.69	12272	1.000	0.355	0.377	0.132	0.208	11.171670	20.448926	-498.07	-1330
4	GUIDE	used	156501376	6.69	12286	1.000	-0.093	-0.030	0.108	0.176	11.978451	20.925347	-272.53	1876
5	GUIDE	used	156502176	8.01	12284	1.000	-0.150	0.109	0.127	0.199	11.982190	21.024044	-553.18	2093
6	GUIDE	used	156509104	8.89	12270	1.000	0.152	-0.118	0.153	0.261	11.910720	20.003129	2270.56	-271
7	GUIDE	used	156509336	7.45	12283	1.000	-0.264	-0.351	0.094	0.149	12.201488	20.214746	2235.39	971

2.4 Star Slots

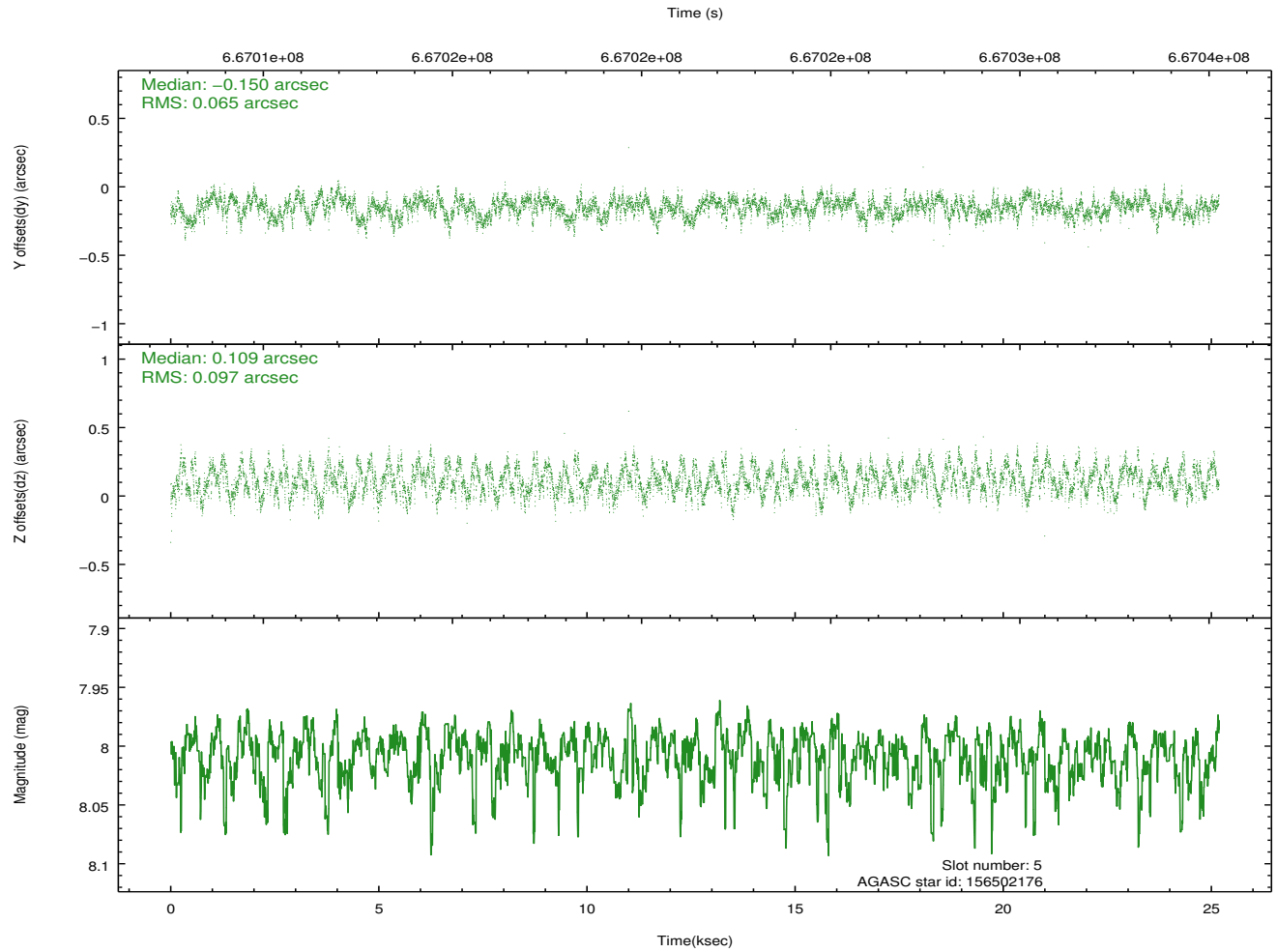
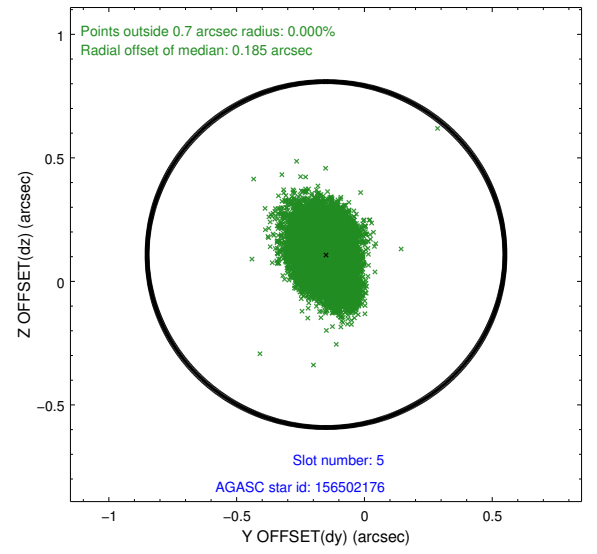
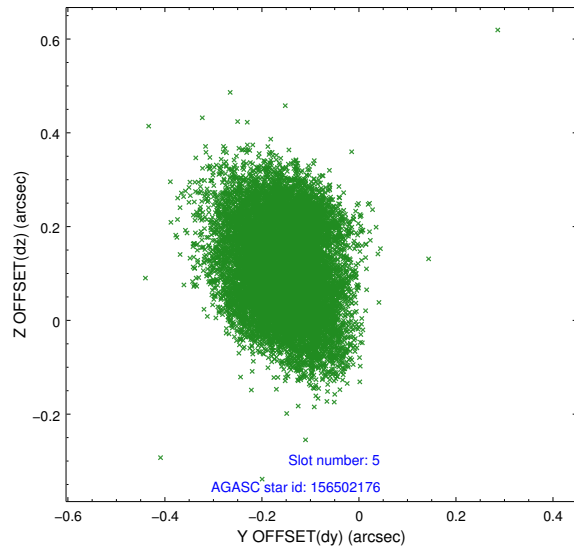
2.4.1 Slot 3



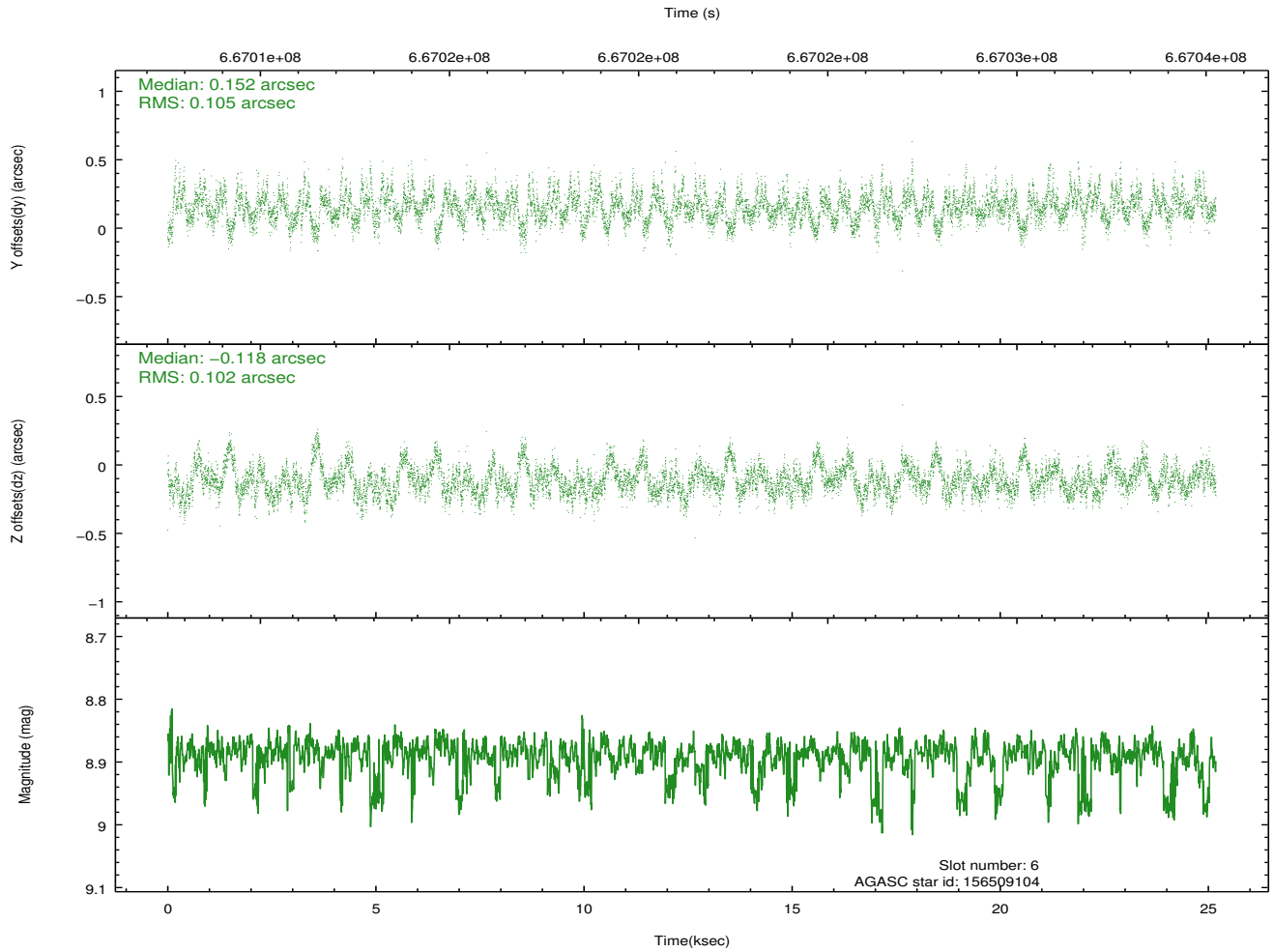
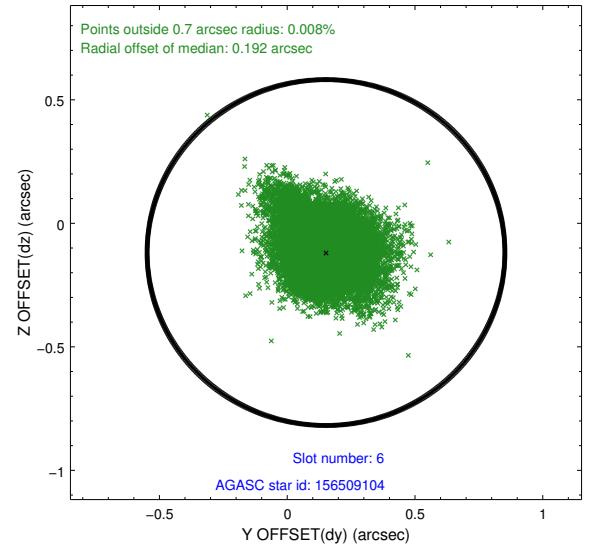
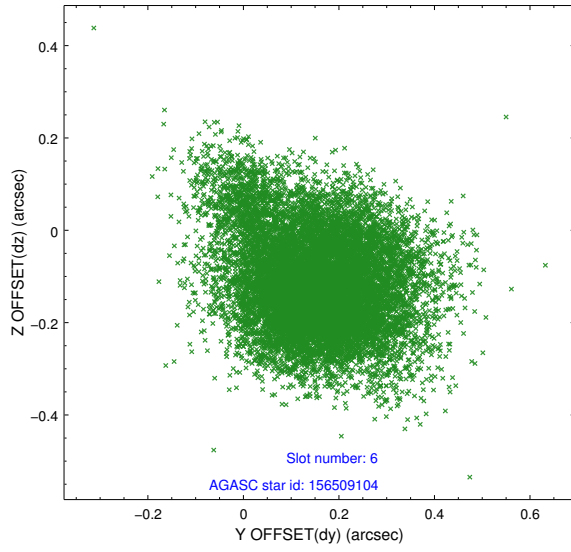
2.4.2 Slot 4



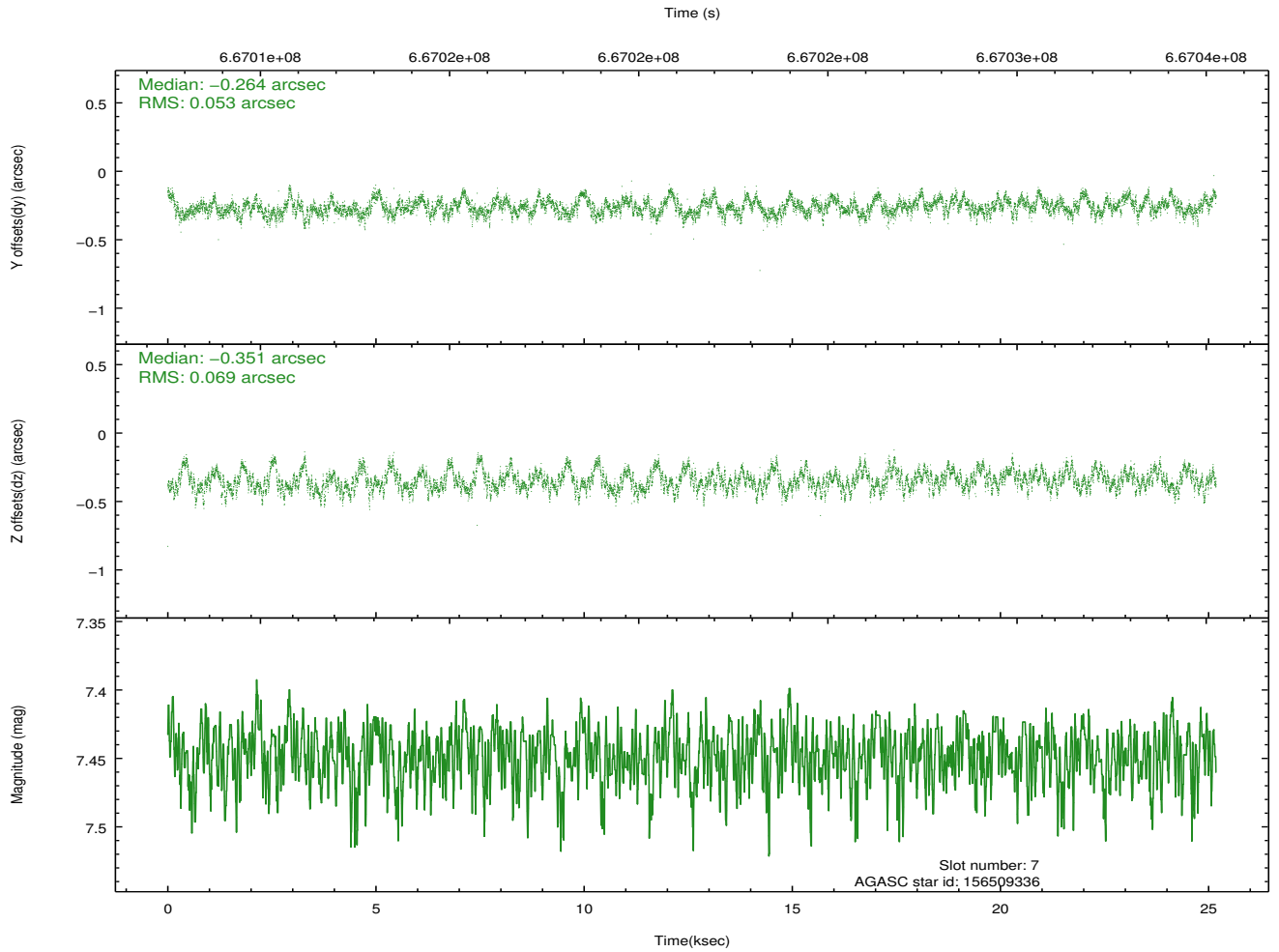
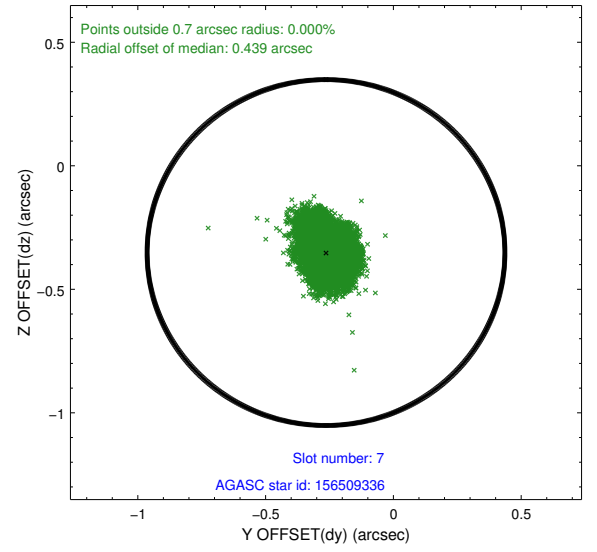
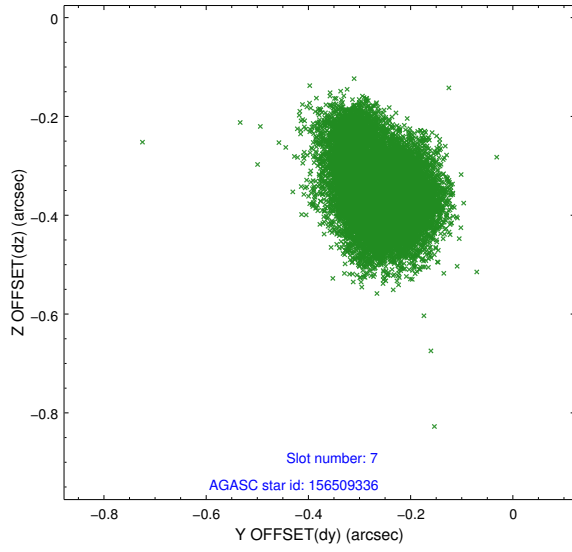
2.4.3 Slot 5



2.4.4 Slot 6

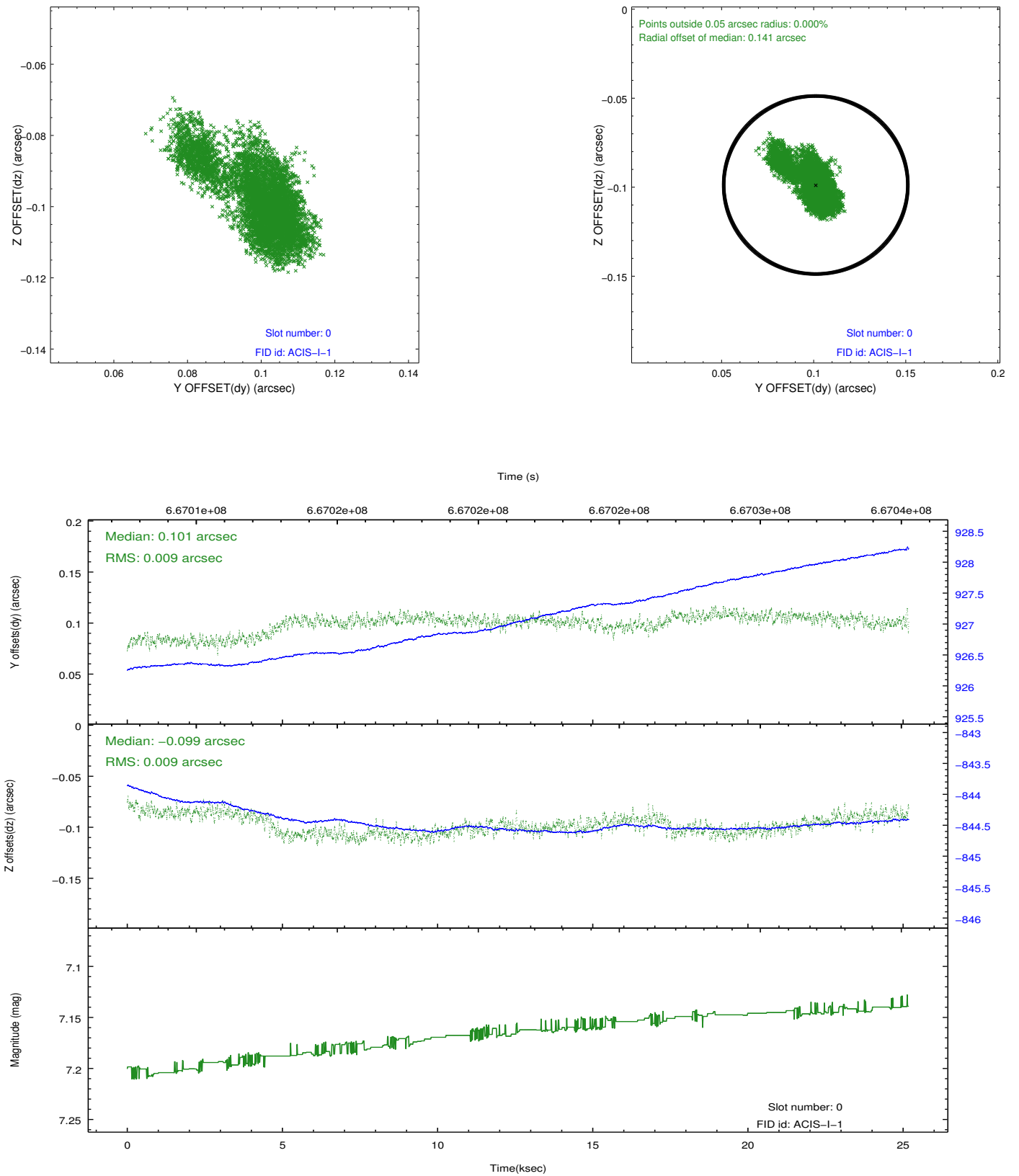


2.4.5 Slot 7

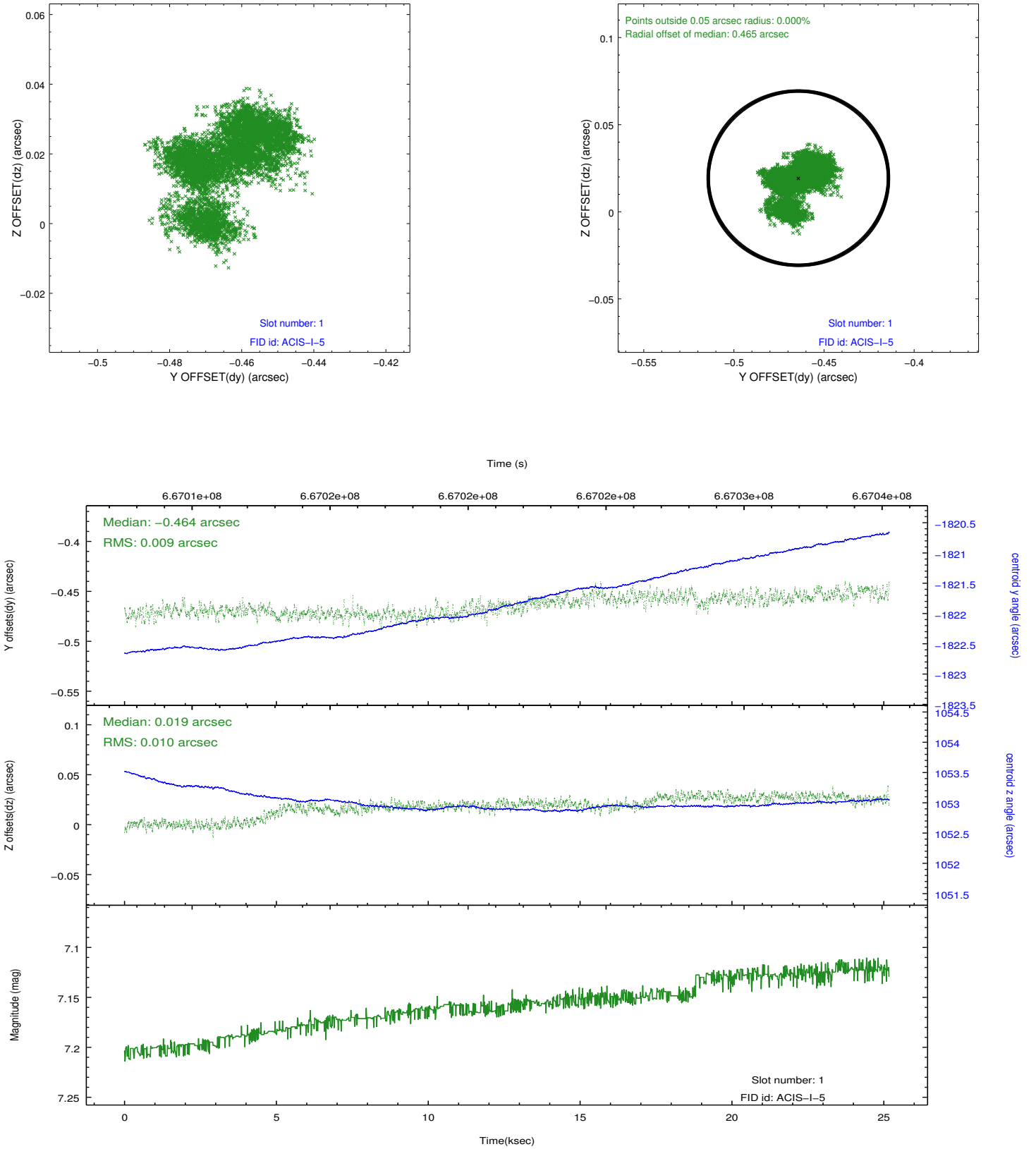


2.5 FID Slots

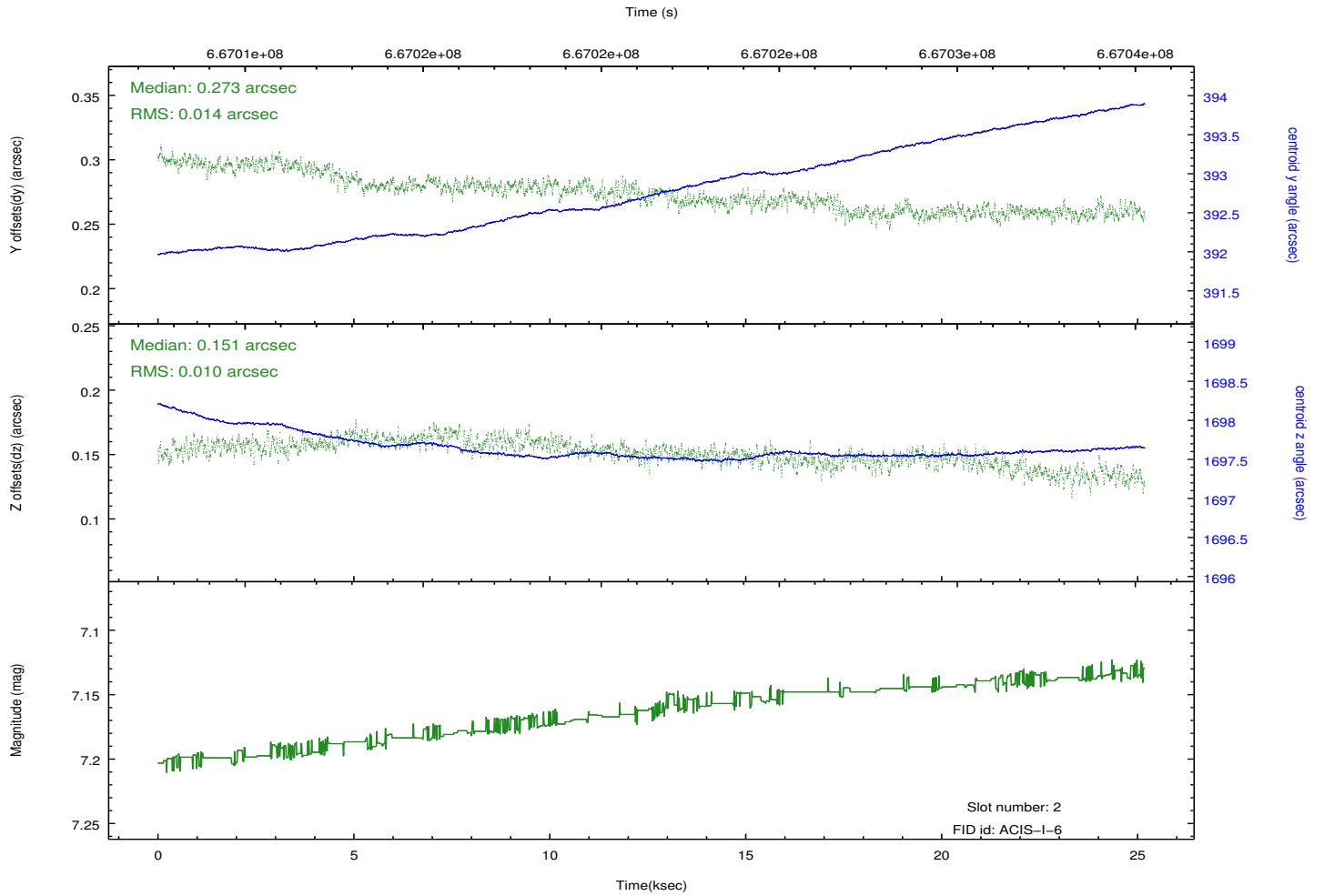
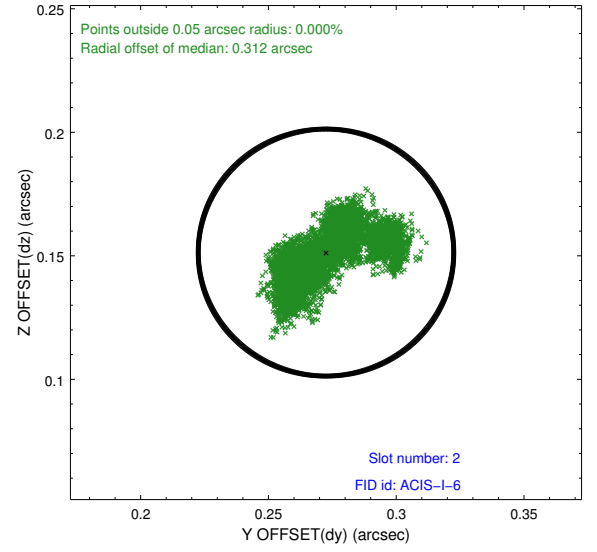
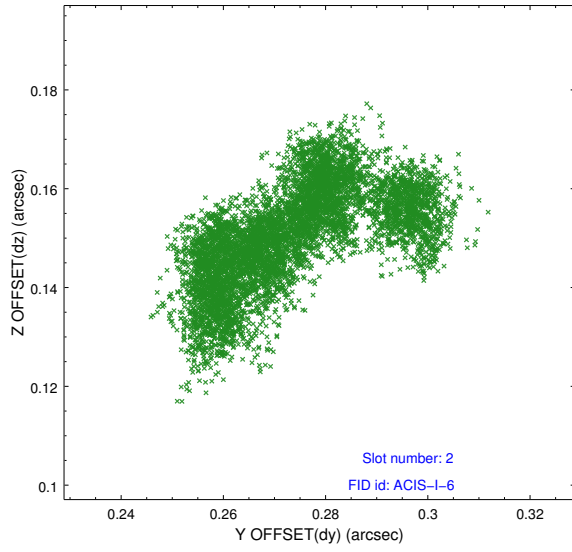
2.5.1 Slot 0



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)	2019.02.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.066600192904

A.2 Comments

Some of the X-ray point sources fall on the gap between the nodes of the CCD chips and have been dithered over this gap. Dithering over the node boundary, which has lower sensitivity, can give a false indication of variability.