

V&V Reference Report

L2 ASCDS Version : 10.1.1

Observation 2594 - L2 Version 4
Chandra X-Ray Center

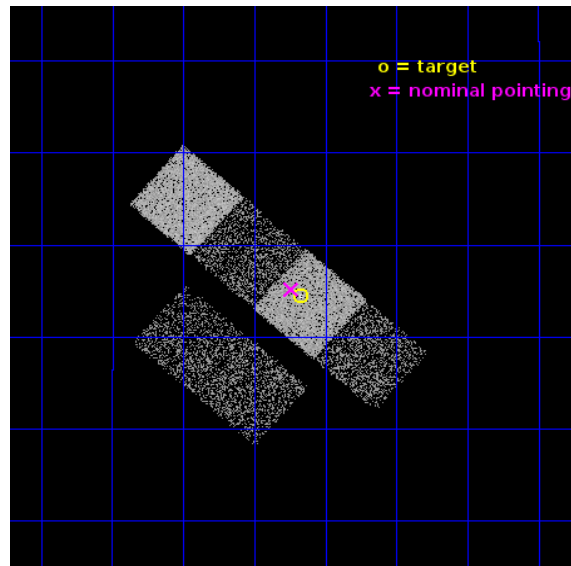
L2 Processing Date : Nov 19 2013

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1 Front

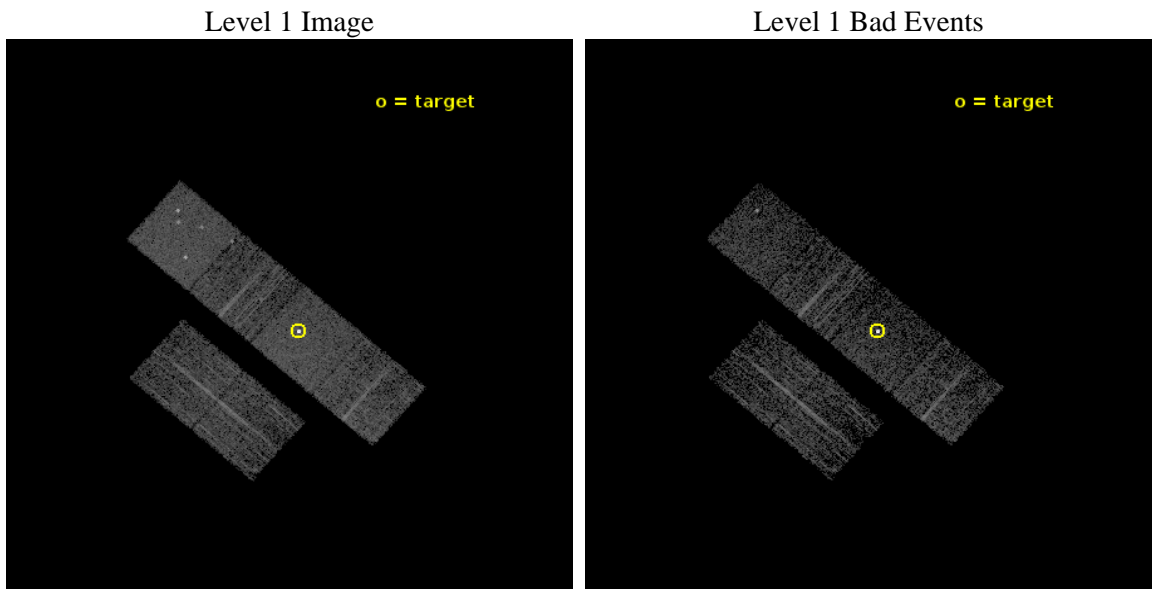
seq_num	290150	Sequence number
obs_id	2594	Observation id
title	AO3 CALIBRATION OBSERVATIONS OF BETELGEUSE	Proposal title
observer	Dr. CXC Calibration	Principal investigator
object	BETELGEUSE	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	88.792917	Observer's specified target RA [deg]
dec_targ	7.407056	Observer's specified target Dec [deg]
ra_nom	88.809793105885	Nominal RA [deg]
dec_nom	7.4193698335524	Nominal Dec [deg]
roll_nom	41.145339260411	Nominal Roll [deg]
revision	4	Processing version of data
ontime	2963.2000027448	Sum of GTIs [s]
liveltime	2925.6781800852	Livetime [s]
ontime2	2963.2000027448	Sum of GTIs [s]
ontime3	2963.2000027448	Sum of GTIs [s]
ontime5	2963.2000027448	Sum of GTIs [s]
ontime6	2963.2000027448	Sum of GTIs [s]
ontime7	2963.2000027448	Sum of GTIs [s]
ontime8	2963.2000027448	Sum of GTIs [s]
l2events	28437	Number of level 2 events



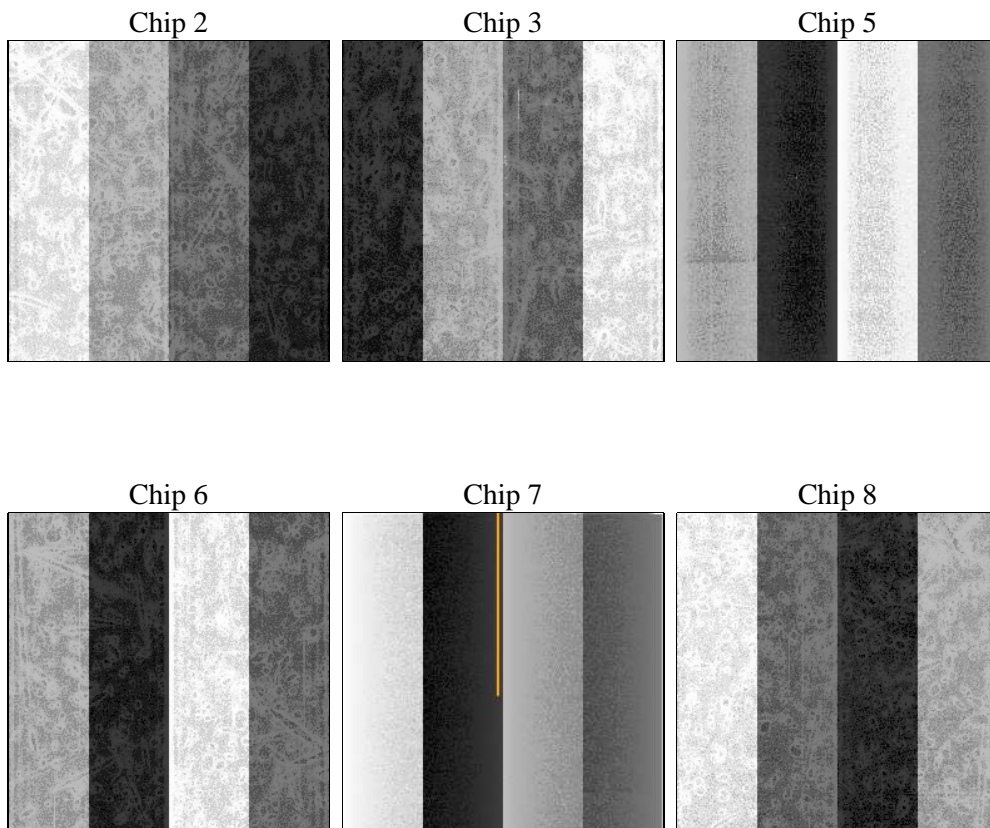
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	3000.000000	[s] Scheduled observation exposure time
ascdsver	10.1.1	Processing system revision	ontime	2963.2000027448	Sum of GTIs [s]
caldsver	4.5.8	 	ontime2	2963.2000027448	Sum of GTIs [s]
date	2013-11-19T10:59:31	Date and time of file creation	ontime3	2963.2000027448	Sum of GTIs [s]
revision	4	Processing version of data	ontime5	2963.2000027448	Sum of GTIs [s]
			ontime6	2963.2000027448	Sum of GTIs [s]
			ontime7	2963.2000027448	Sum of GTIs [s]
			ontime8	2963.2000027448	Sum of GTIs [s]
			l1events	148579	Number of level 1 events

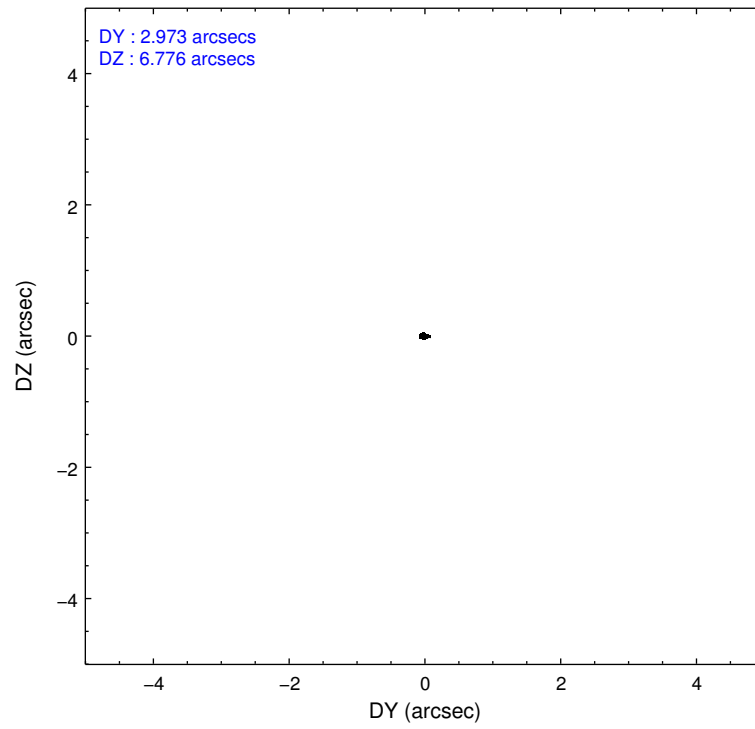
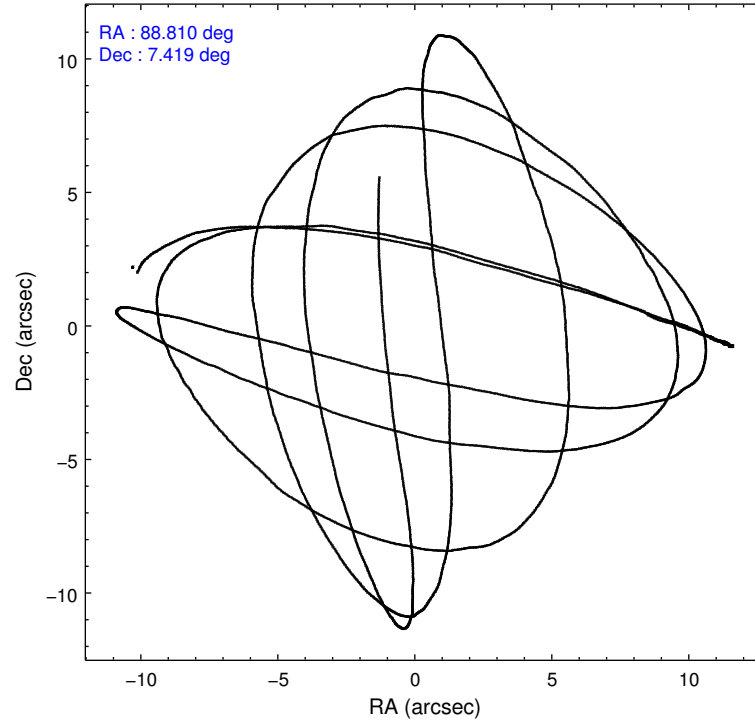
2.1.4 Events

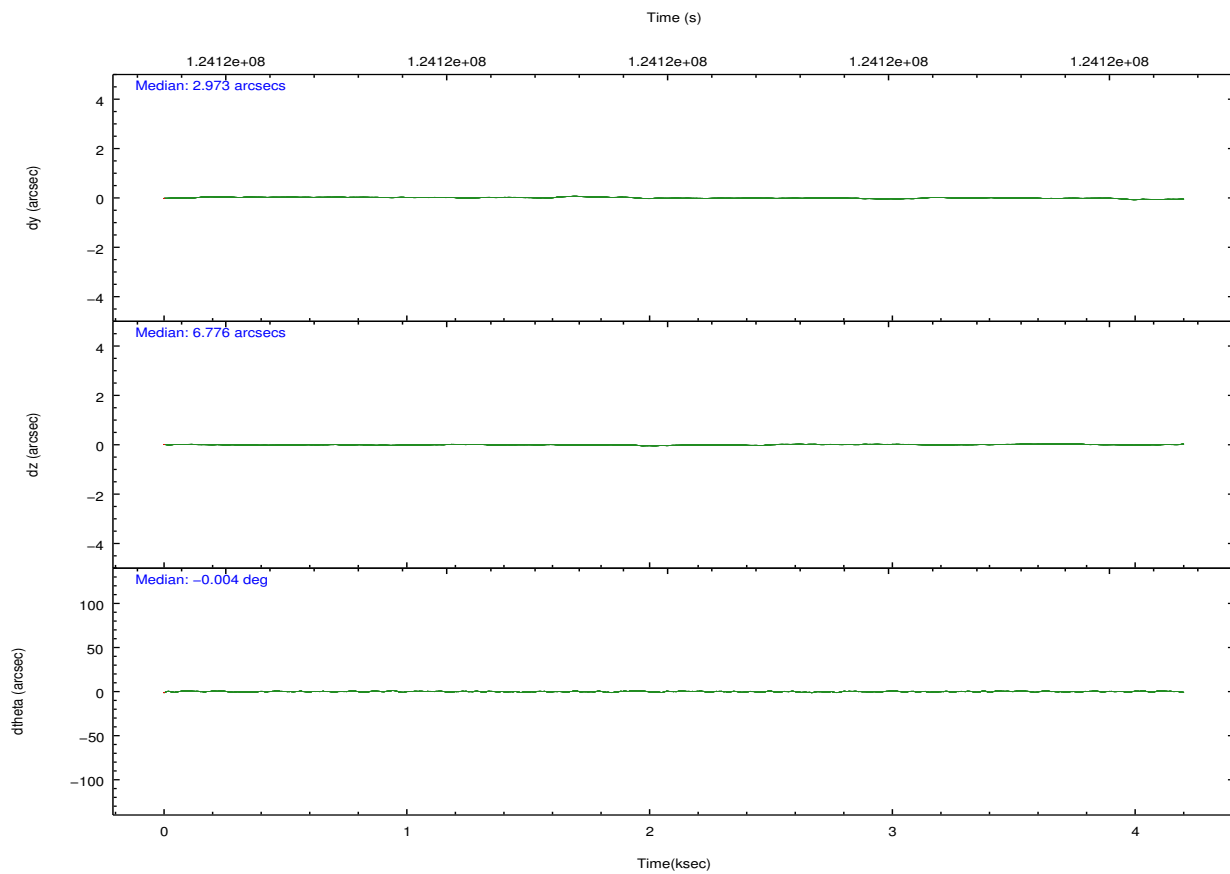
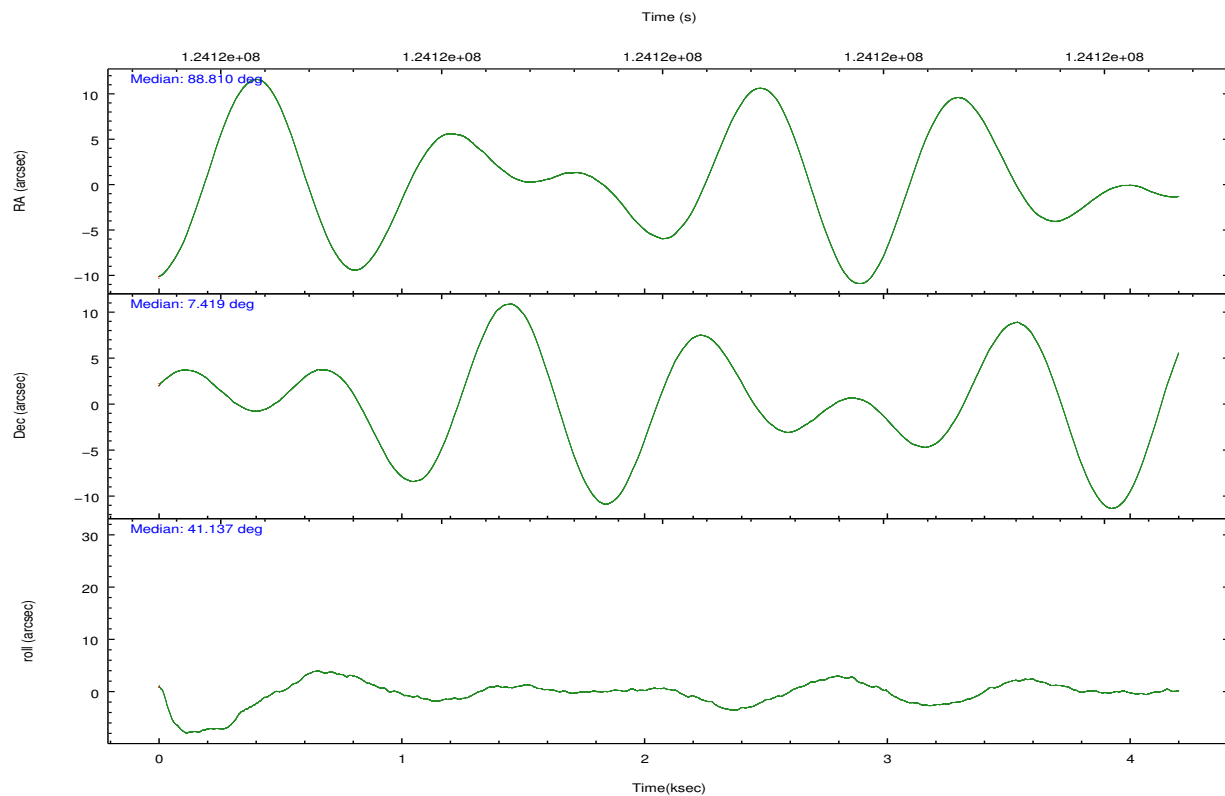
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	18628	18788	27942	19780	40809	22632	grade 0 events	784	869	2400	940	922	1480
rejected events	16682	16728	14479	17602	30730	18215		4%	4%	8%	4%	2%	6%
rejected %	89%	89%	51%	88%	75%	80%	grade 1 events	5	10	42	8	127	12
								0%	0%	0%	0%	0%	0%
							grade 2 events	468	416	3754	432	1972	971
								2%	2%	13%	2%	4%	4%
							grade 3 events	192	196	547	216	916	514
								1%	1%	1%	1%	2%	2%
							grade 4 events	183	200	531	177	905	444
								0%	1%	1%	0%	2%	1%
							grade 5 events	632	758	1988	826	2500	996
								3%	4%	7%	4%	6%	4%
							grade 6 events	325	380	6241	414	5374	1010
								1%	2%	22%	2%	13%	4%
							grade 7 events	16039	15959	12439	16767	28093	17205
								86%	84%	44%	84%	68%	76%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	88.801254	88.80979310588481	Subarray requested	NONE	NONE
[deg] Pointing Dec	7.393482	7.419369833552447	Alternating exposures requested	N	N
[deg] Pointing Roll	40.989797	41.14533926041129	[s] Primary exposure time	0.000000	3.2
[s] Window start time (MET)	123552064.184000	123552064.184000			
[s] Window stop time (MET)	126144064.184000	126144064.184000			
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
[s] Observation start time (MET)	124117128.184000	124115662.08959			
Observation start date	2001-12-07T12:57:44	2001-12-07T12:34:22			
[s] Observation end time (MET)	124120128.184000	124121670.12733			
Observation end date	2001-12-07T13:47:44	2001-12-07T14:14:30			
Read mode	TIMED	TIMED			

2.3 Aspect



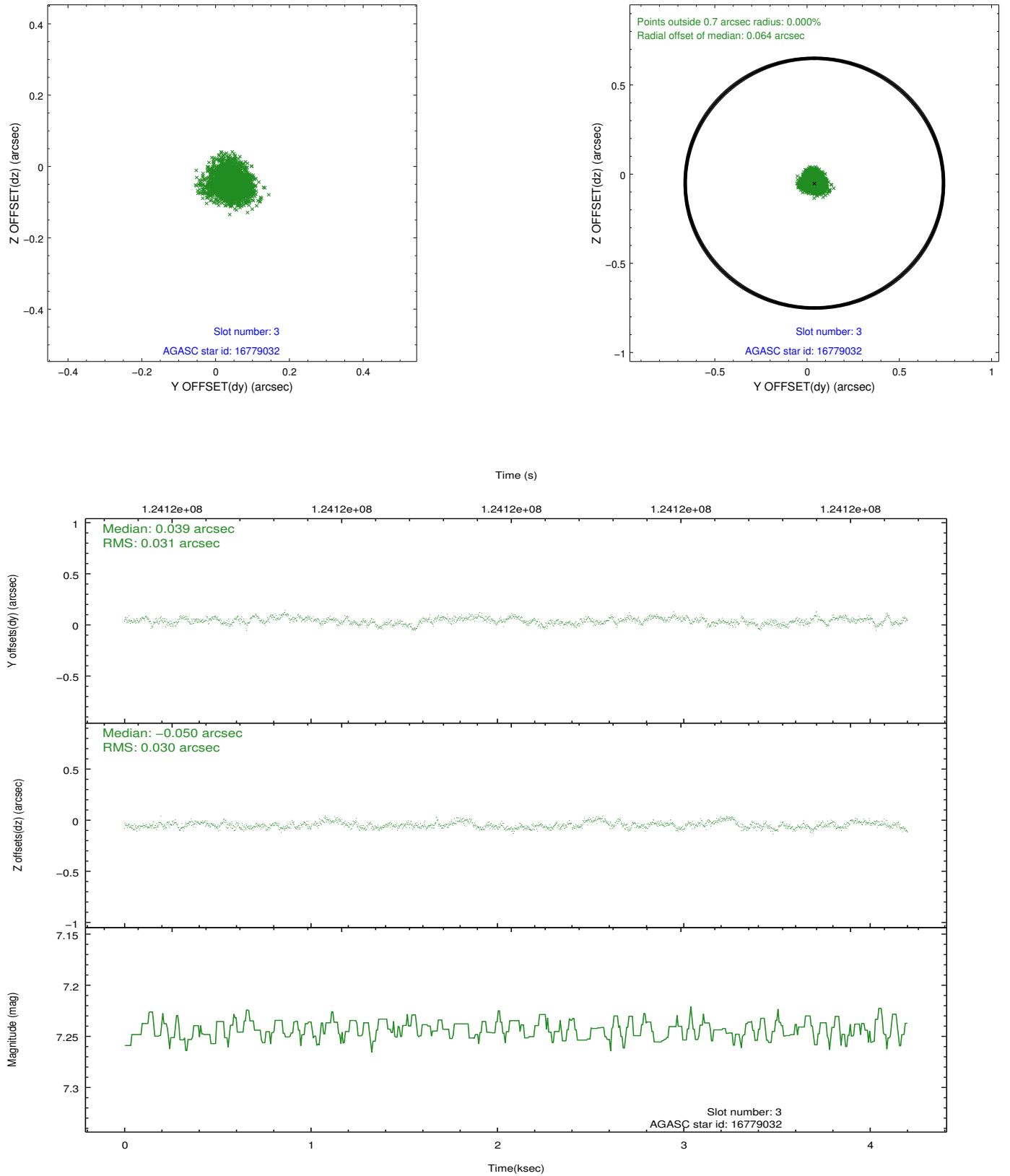


Slot Statistics

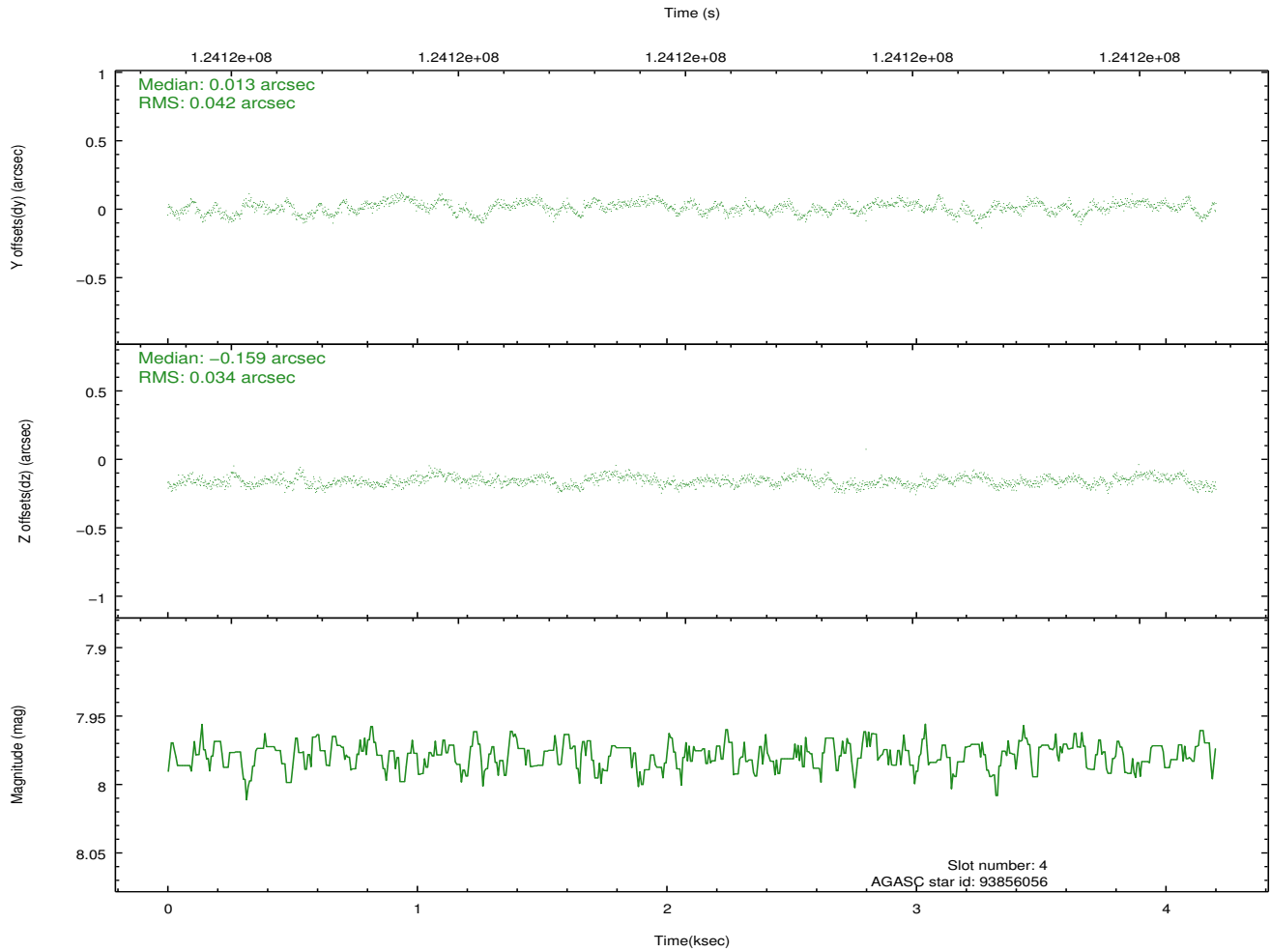
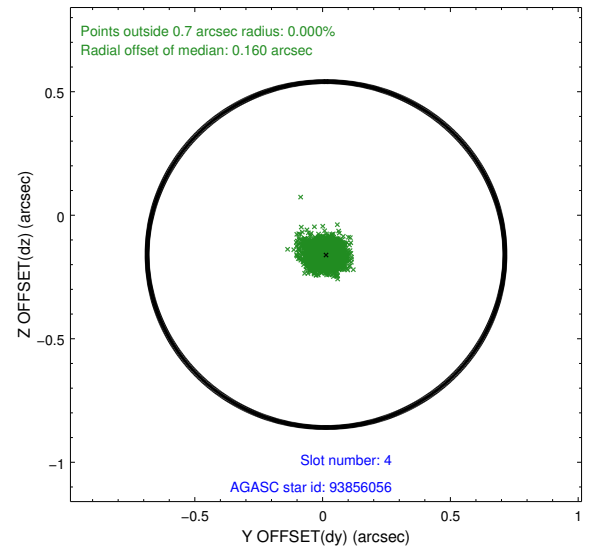
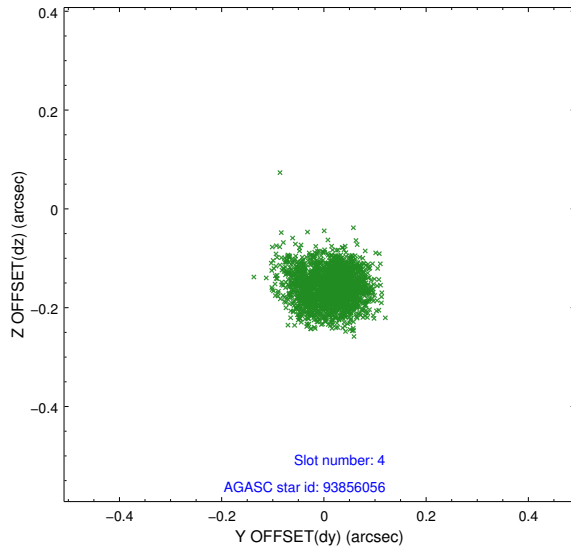
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	1025	-0.002	0.000	0.005	0.009	0.000000	0.000000	-755.60	-1727.94
1	FID	ACIS-S-4	7.20	1025	-0.014	-0.004	0.006	0.010	0.000000	0.000000	2156.98	179.04
2	FID	ACIS-S-6	7.35	1025	-0.012	0.010	0.007	0.013	0.000000	0.000000	408.25	818.12
3	GUIDE	16779032	7.24	2042	0.039	-0.050	0.046	0.073	88.070651	7.329382	-2118.66	1539.00
4	GUIDE	93856056	7.98	2049	0.013	-0.159	0.058	0.092	88.147460	7.547925	-1396.12	1952.71
5	GUIDE	16913360	8.34	2049	-0.055	0.065	0.052	0.086	89.178373	7.247125	671.44	-1278.69
6	GUIDE	16918912	8.64	2048	-0.072	0.157	0.123	0.188	89.257075	6.922287	118.73	-2347.90
7	GUIDE	93855168	9.05	2049	0.077	-0.008	0.080	0.132	89.021483	7.846508	1663.38	716.00

2.4 Star Slots

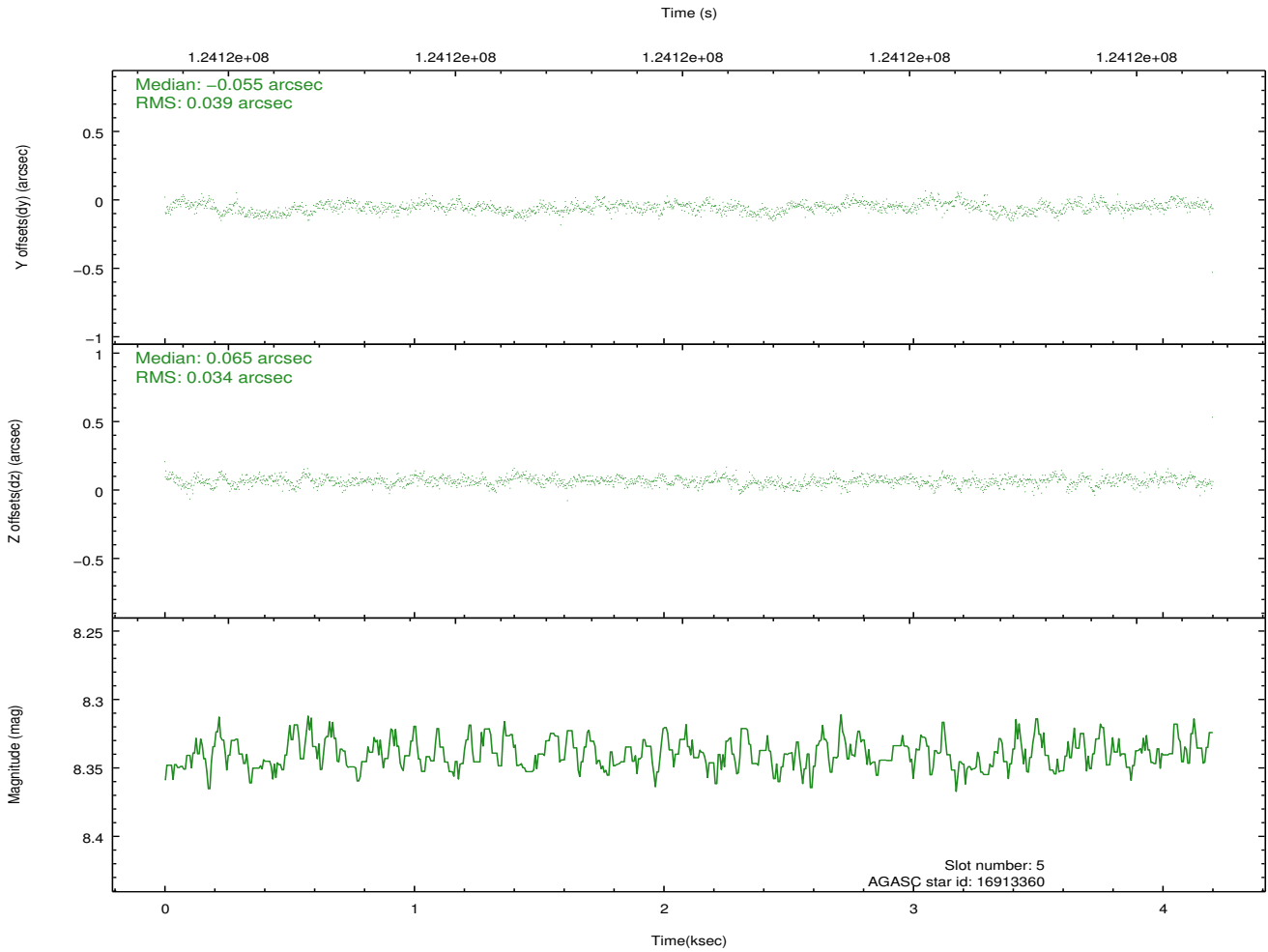
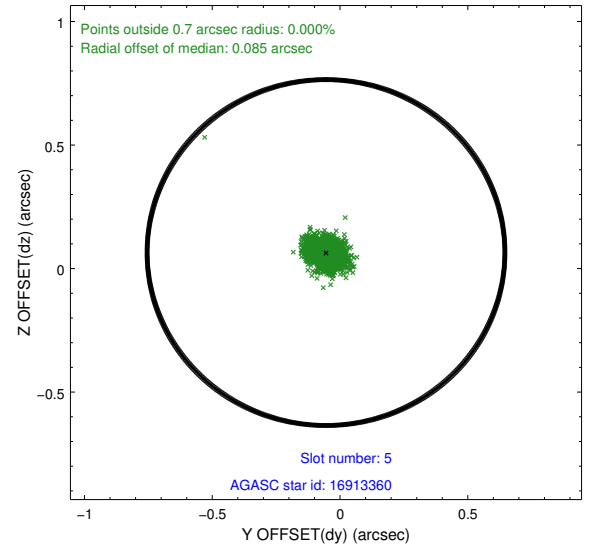
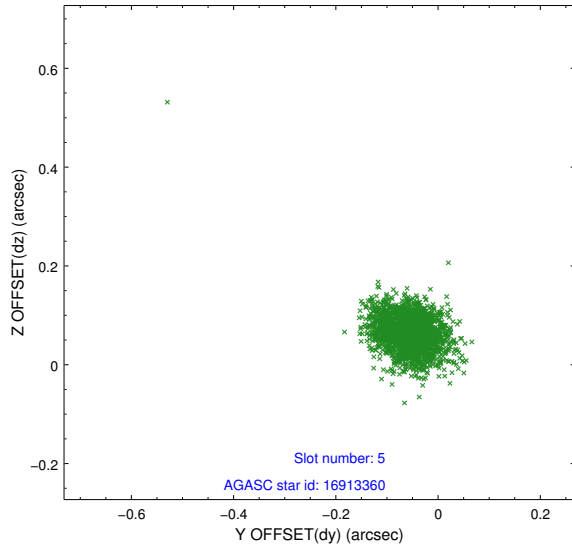
2.4.1 Slot 3



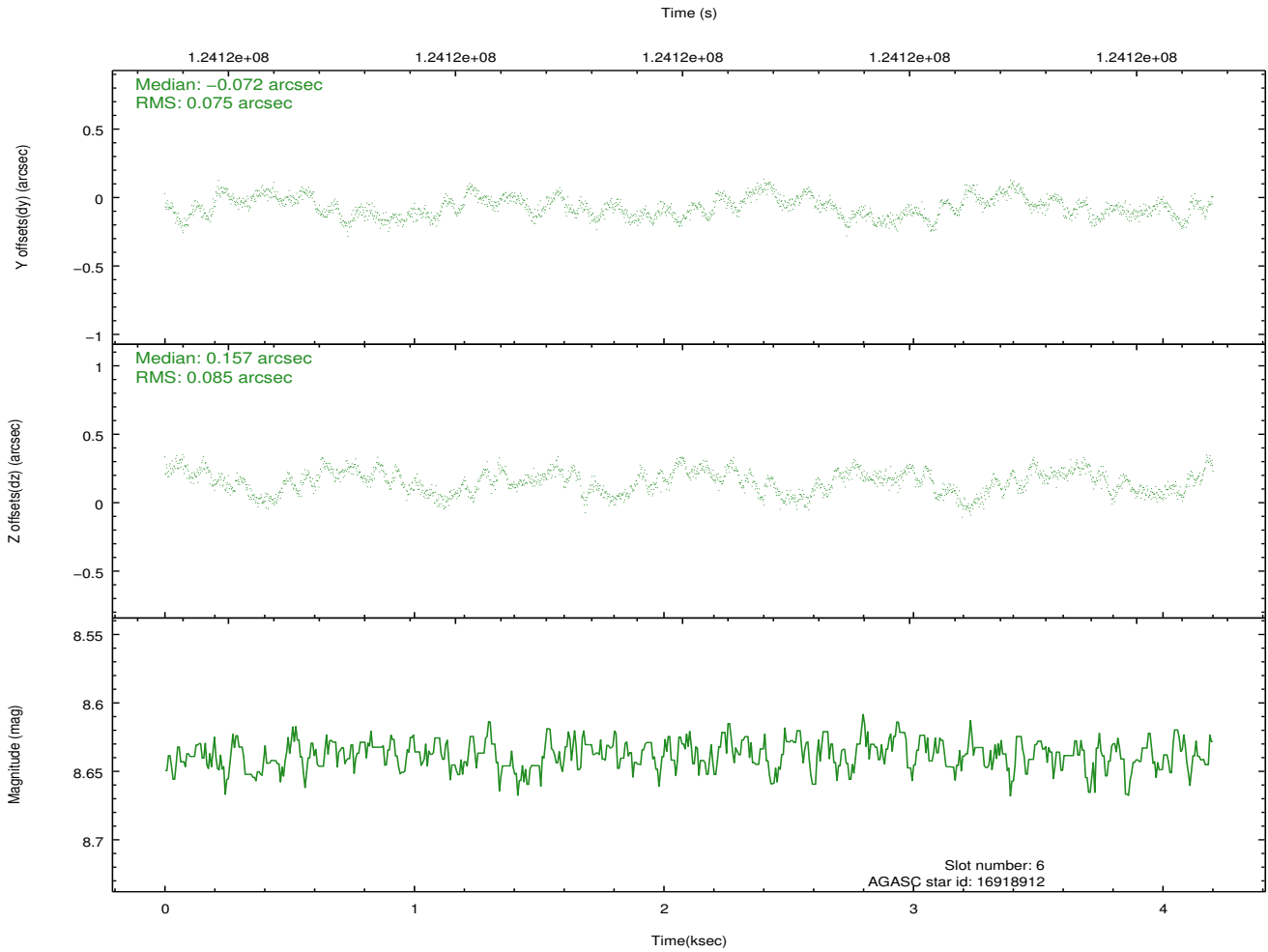
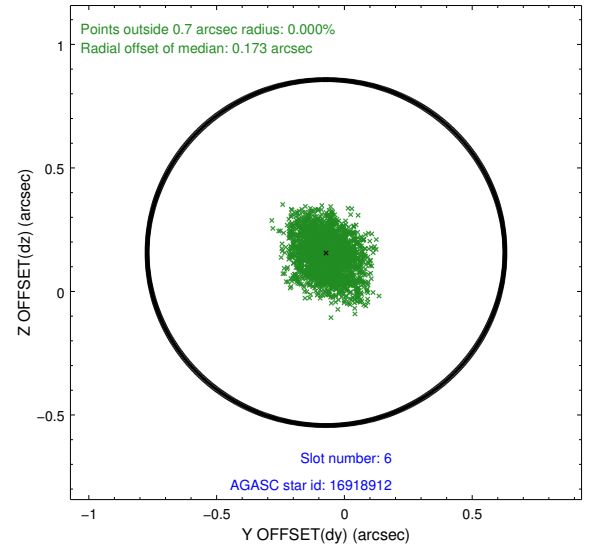
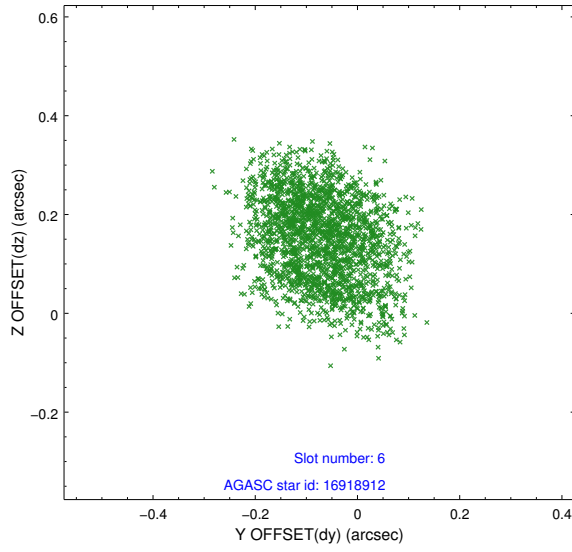
2.4.2 Slot 4



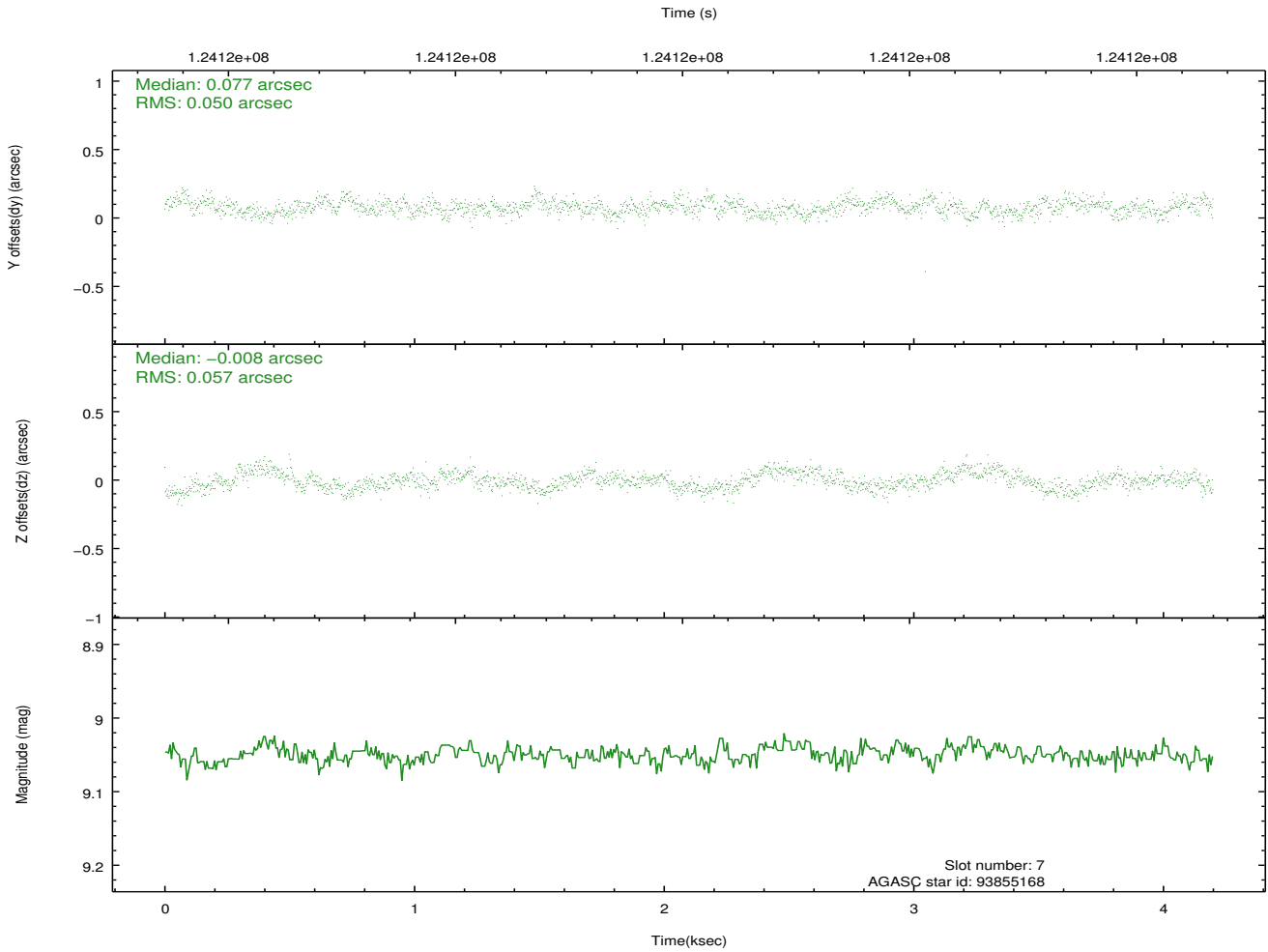
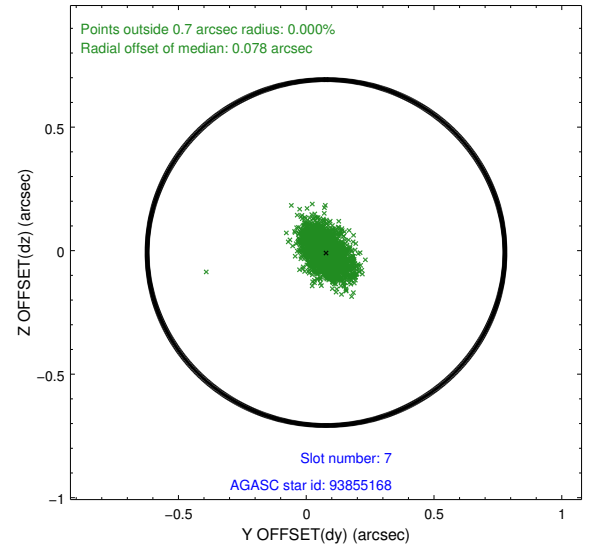
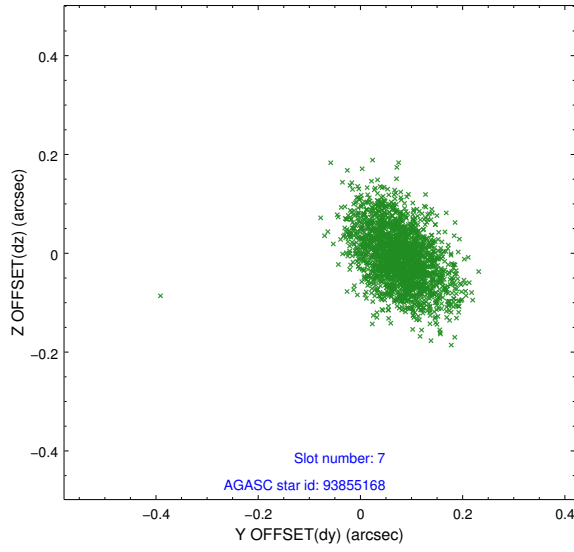
2.4.3 Slot 5



2.4.4 Slot 6

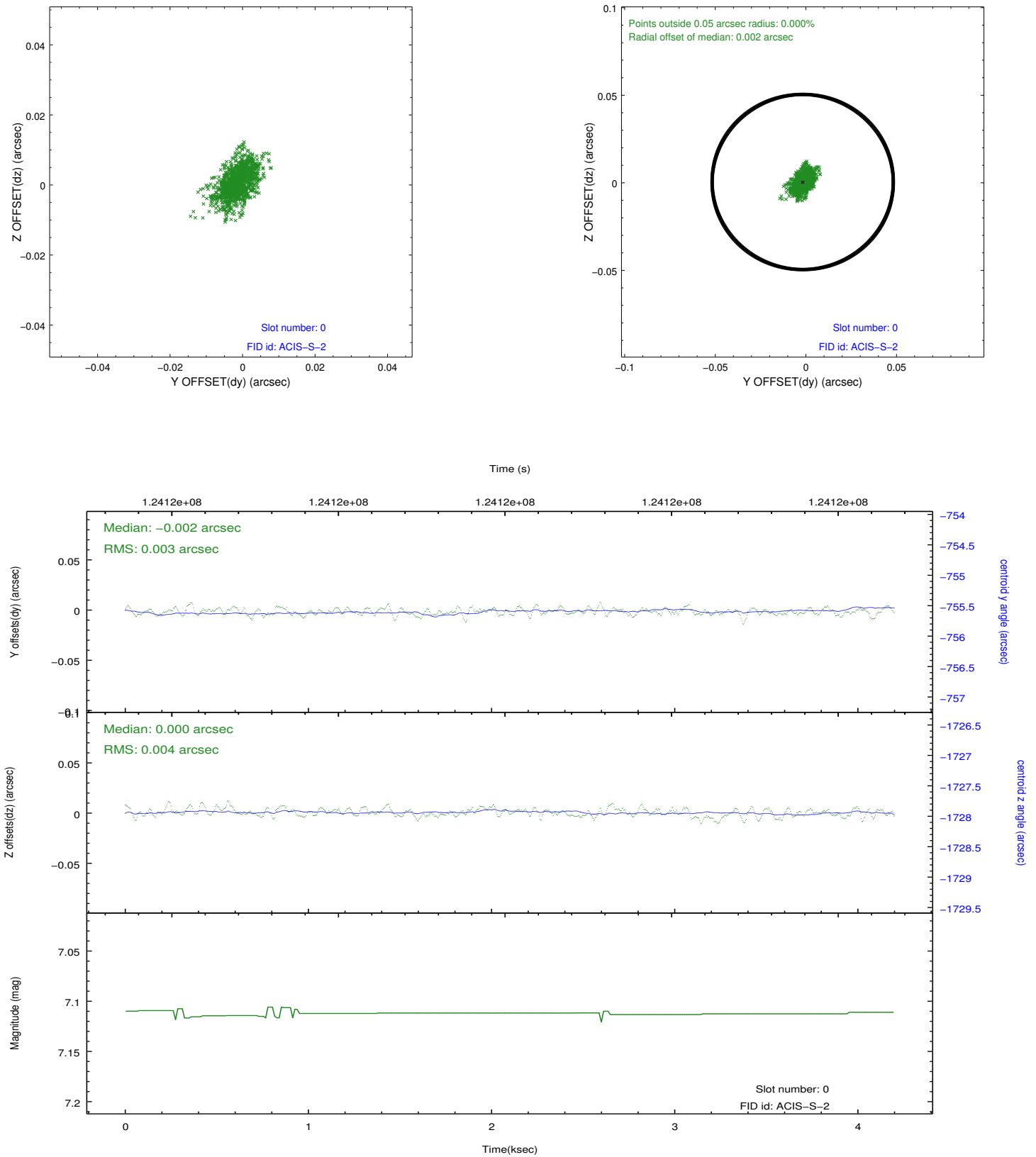


2.4.5 Slot 7

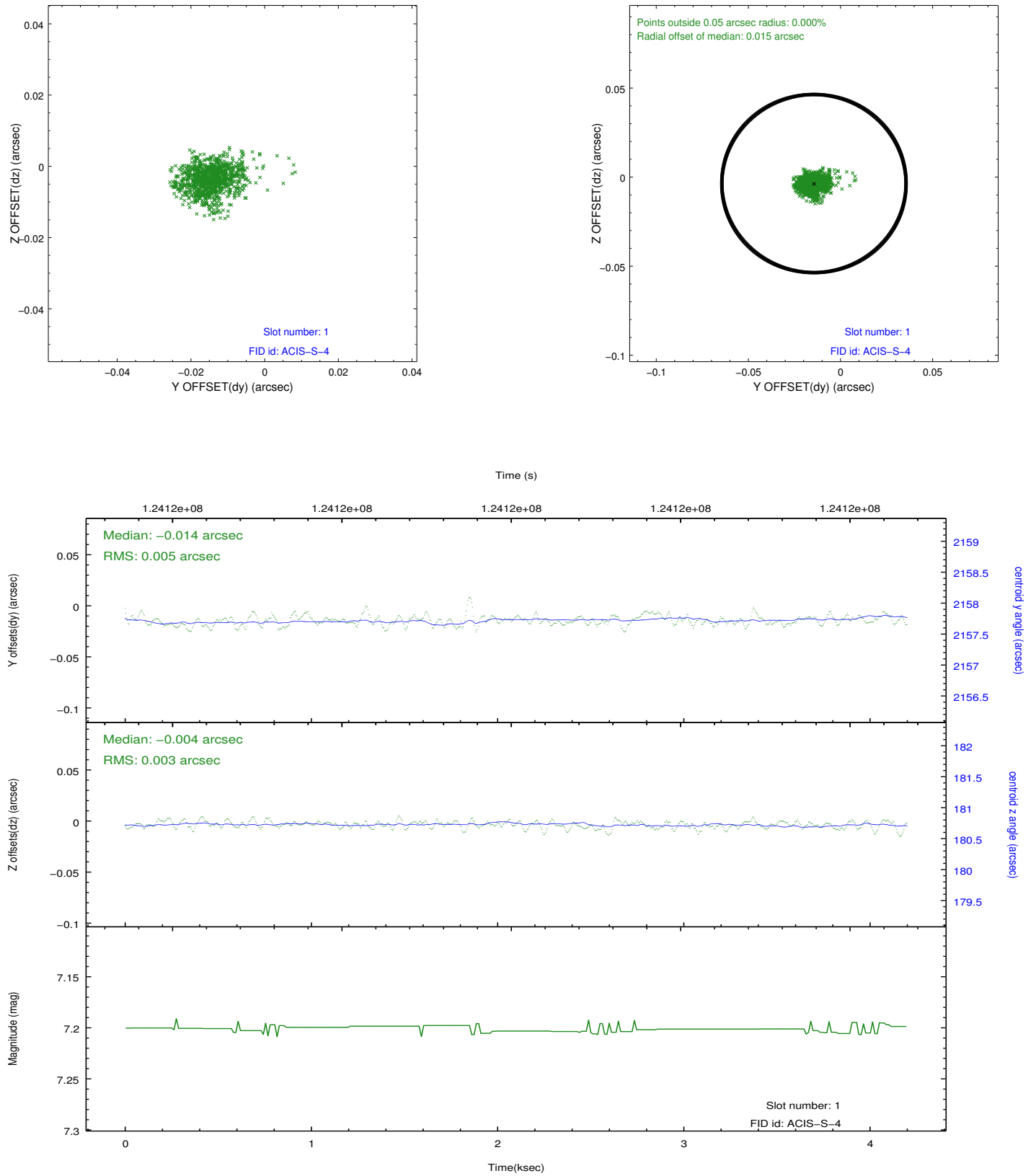


2.5 FID Slots

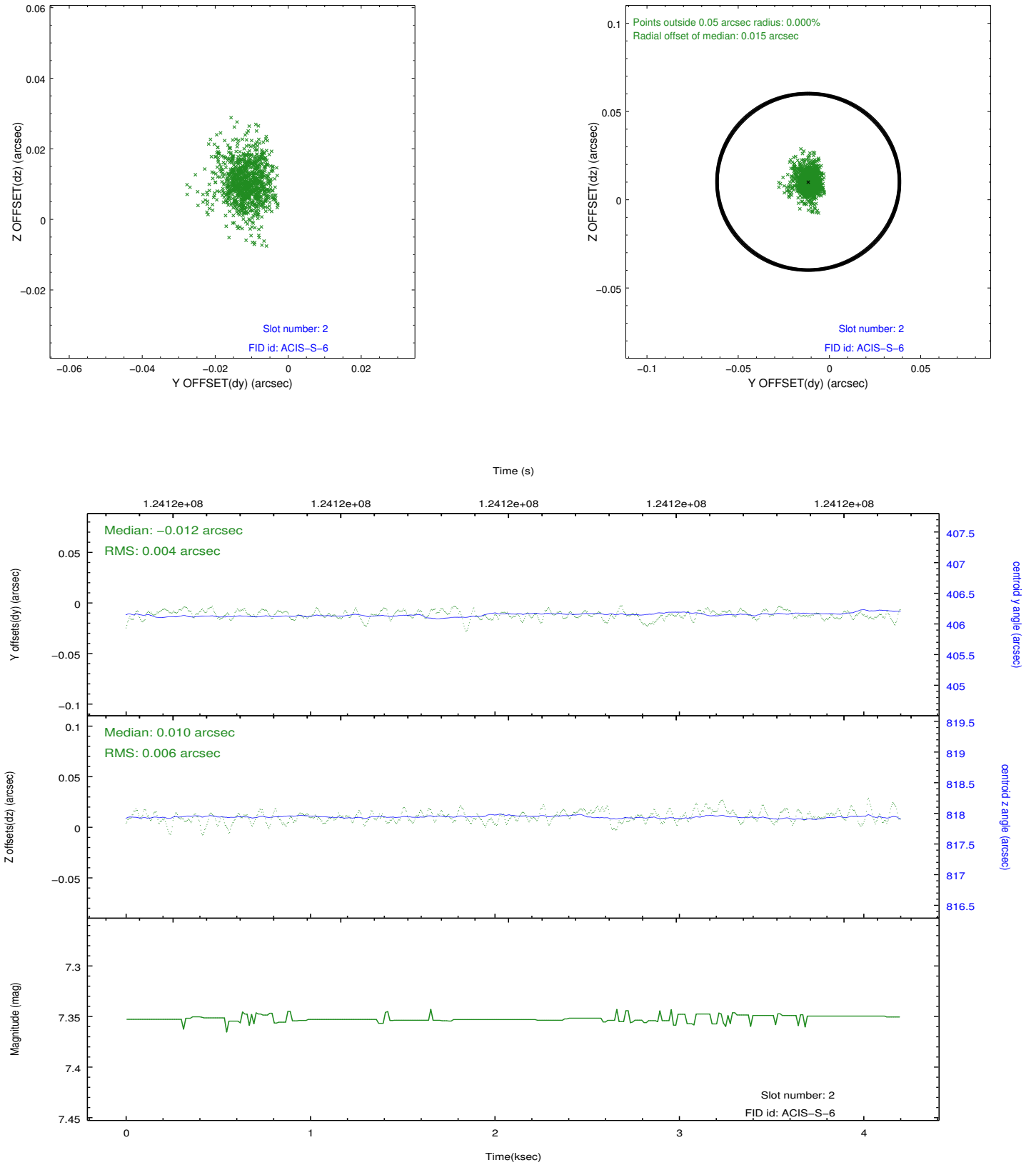
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2013.11.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	2.966

A.2 Comments

Window constraint met.

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Bias bleed from the source:

The extra charge in the bias pixels near (CCD_ID,CHIPX,CHIPY) = (3,380,490) seems to result in a systematic reduction of the pulse heights of the events on these pixels. In addition to the high-adu-value pixels caused by contamination by the source, node=1 of chip 3 has an abnormal distribution of adu values overall. Node 1 of CCD_ID = 3 was replaced due to source contamination. The pixels replaced are bounded by sky coords: (267.09868,-24.80525),(267.09821,-24.77045), (266.94445,-24.77208),(266.94488,-24.80688). The entire bias node was replaced for this observation. This position includes the target location. After modifying the bias, the pulse-height data for the events on node 1 of CCD_ID 3 seem to be fine. The source is significantly piled. As a result, the central part of the image of the source is missing.