

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 6772 - L2 Version 3
Chandra X-Ray Center

L2 Processing Date : Oct 11 2020

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1 Front

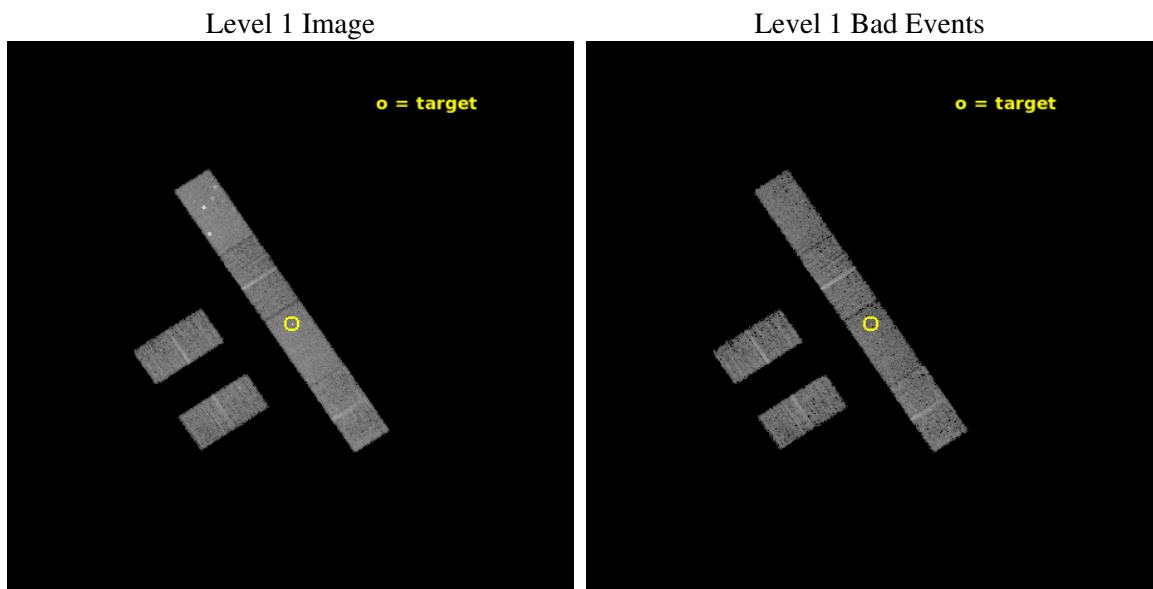
seq_num	701190	Sequence number
obs_id	6772	Observation id
title	Exploring the X-Ray Properties of Active Galactic Nuclei with Double-Peaked Balmer Lines	Proposal title
observer	Gordon Garmire	Principal investigator
object	SDSS J140720.70+023553.1	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	211.83625	Observer's specified target RA [deg]
dec_targ	2.598083	Observer's specified target Dec [deg]
ra_nom	211.84015224975	Nominal RA [deg]
dec_nom	2.5945347812456	Nominal Dec [deg]
roll_nom	56.492134334362	Nominal Roll [deg]
revision	3	Processing version of data
ontime	5596.2000370622	Sum of GTIs [s]
livetime	5471.4509552818	Livetime [s]
ontime2	5596.2000370622	Sum of GTIs [s]
ontime3	5596.2000370622	Sum of GTIs [s]
ontime5	5596.2000370622	Sum of GTIs [s]
ontime6	5596.2000370622	Sum of GTIs [s]
ontime7	5596.2000370622	Sum of GTIs [s]
ontime8	5596.2000370622	Sum of GTIs [s]
l2events	40410	Number of level 2 events



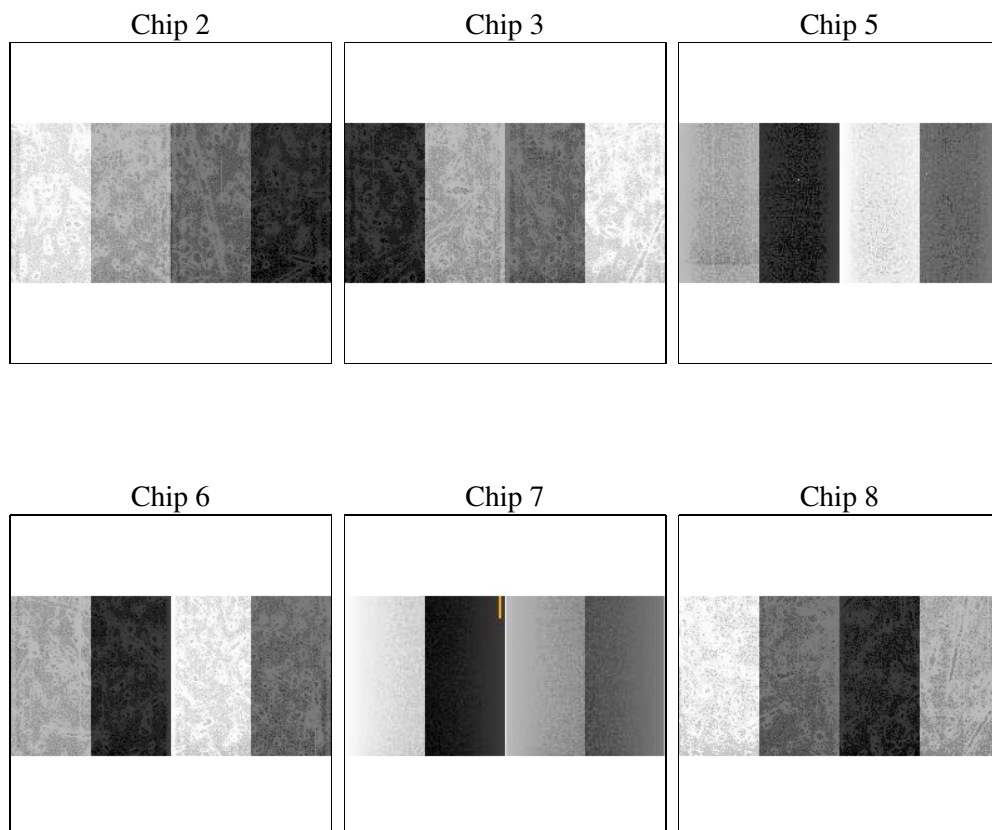
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5500.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	5596.2000370622	Sum of GTIs [s]
caldsver	4.9.2	 	ontime2	5596.2000370622	Sum of GTIs [s]
date	2020-10-12T02:41:28	Date and time of file creation	ontime3	5596.2000370622	Sum of GTIs [s]
revision	3	Processing version of data	ontime5	5596.2000370622	Sum of GTIs [s]
			ontime6	5596.2000370622	Sum of GTIs [s]
			ontime7	5596.2000370622	Sum of GTIs [s]
			ontime8	5596.2000370622	Sum of GTIs [s]
			l1events	178307	Number of level 1 events

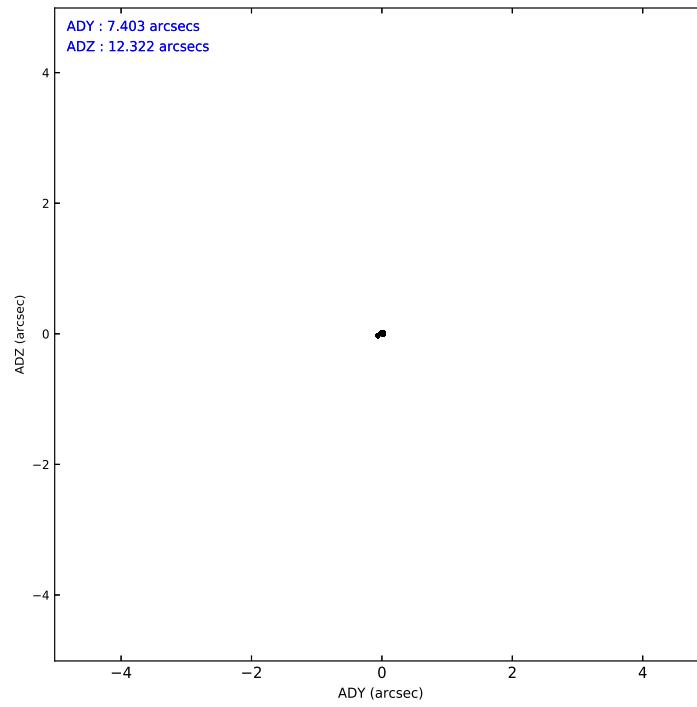
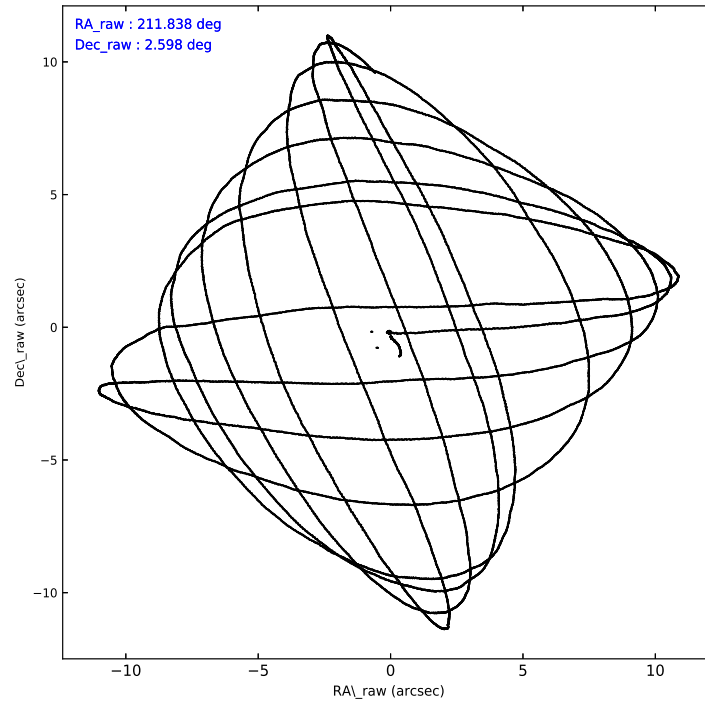
2.1.4 Events

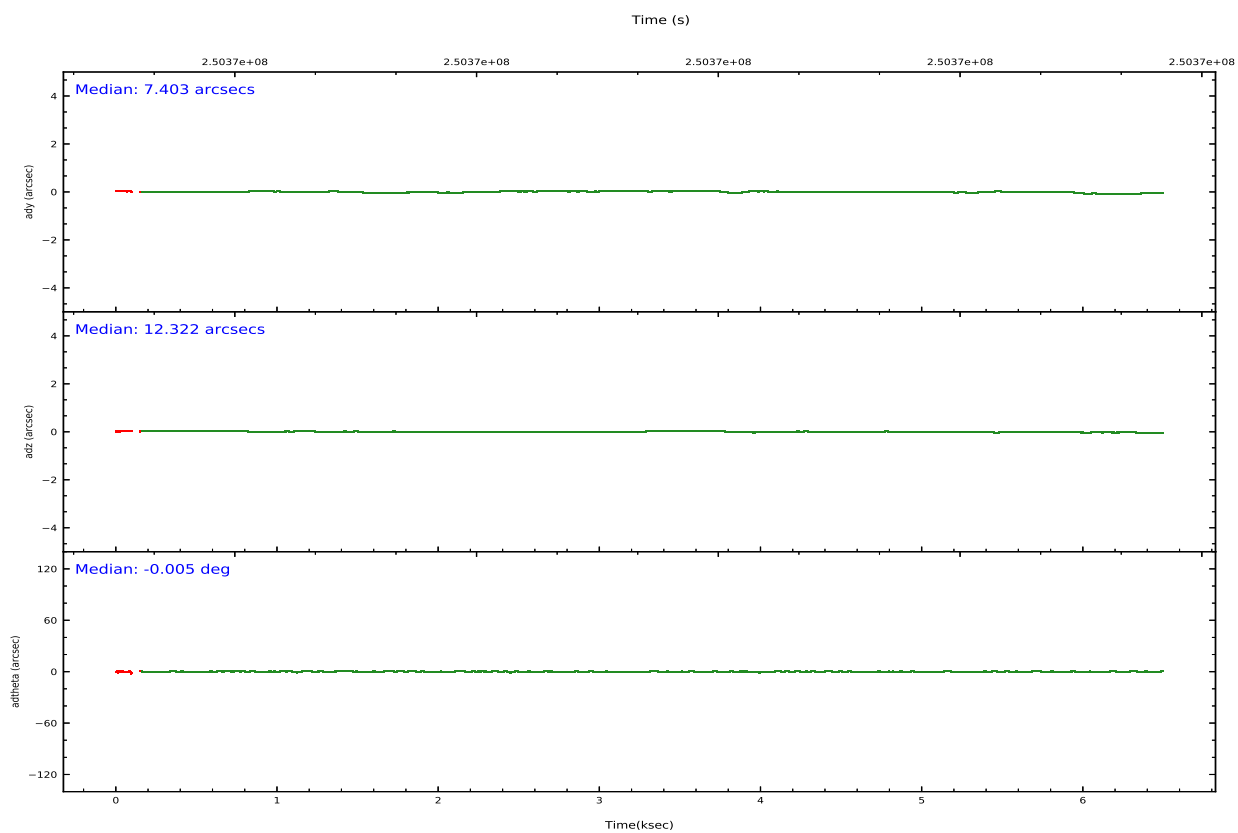
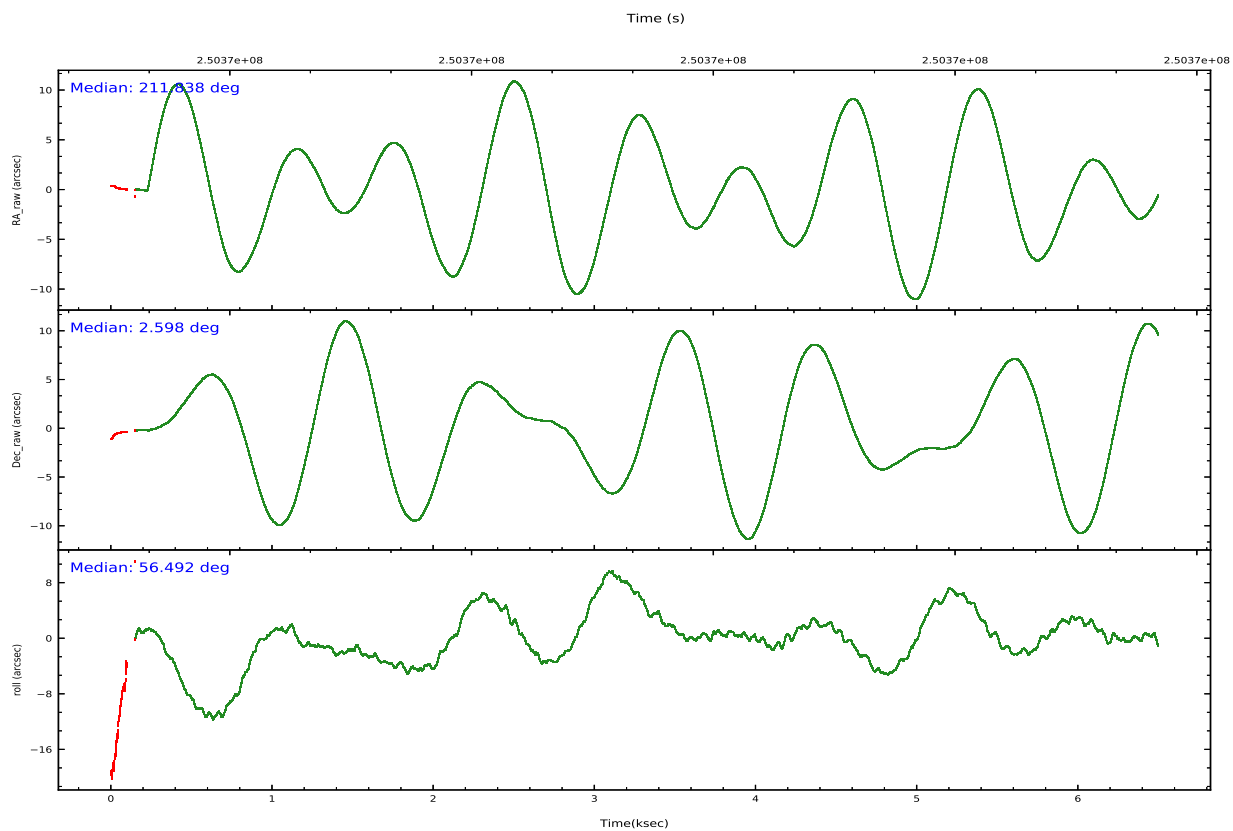
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	24396	24103	40546	25064	33860	30338	grade 0 events	1246	1230	6759	1172	1814	1993
rejected events	21469	21252	18858	22059	18770	23954		5%	5%	16%	4%	5%	6%
rejected %	88%	88%	46%	88%	55%	78%	grade 1 events	15	12	48	10	62	12
								0%	0%	0%	0%	0%	0%
							grade 2 events	601	540	5110	597	3220	1342
								2%	2%	12%	2%	9%	4%
							grade 3 events	323	338	782	312	1489	749
								1%	1%	1%	1%	4%	2%
							grade 4 events	326	323	769	319	1389	651
								1%	1%	1%	1%	4%	2%
							grade 5 events	948	1086	2773	1114	3122	1381
								3%	4%	6%	4%	9%	4%
							grade 6 events	432	420	8275	605	7183	1649
								1%	1%	20%	2%	21%	5%
							grade 7 events	20505	20154	16030	20935	15581	22561
								84%	83%	39%	83%	46%	74%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
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	211.837037	211.84015224975	Subarray requested	CUSTOM	1/2
[deg] Pointing Dec	2.570997	2.5945347812456	Subarray start row	257	257
[deg] Pointing Roll	56.334371	56.492134334362	Subarray row count	512	512
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	1.8
[mm] SIM translation stage pos	-190.132523	-190.1425803651734			
[mm] SIM translation stage offset	0	0.01005778216563158			
[s] Observation start time (MET)	250367759.184000	250366546.79403			
Observation start date	2005-12-07T18:34:55	2005-12-07T18:15:46			
[s] Observation end time (MET)	250373259.184000	250374283.49438			
Observation end date	2005-12-07T20:06:35	2005-12-07T20:24:43			
Read mode	TIMED	TIMED			

2.3 Aspect



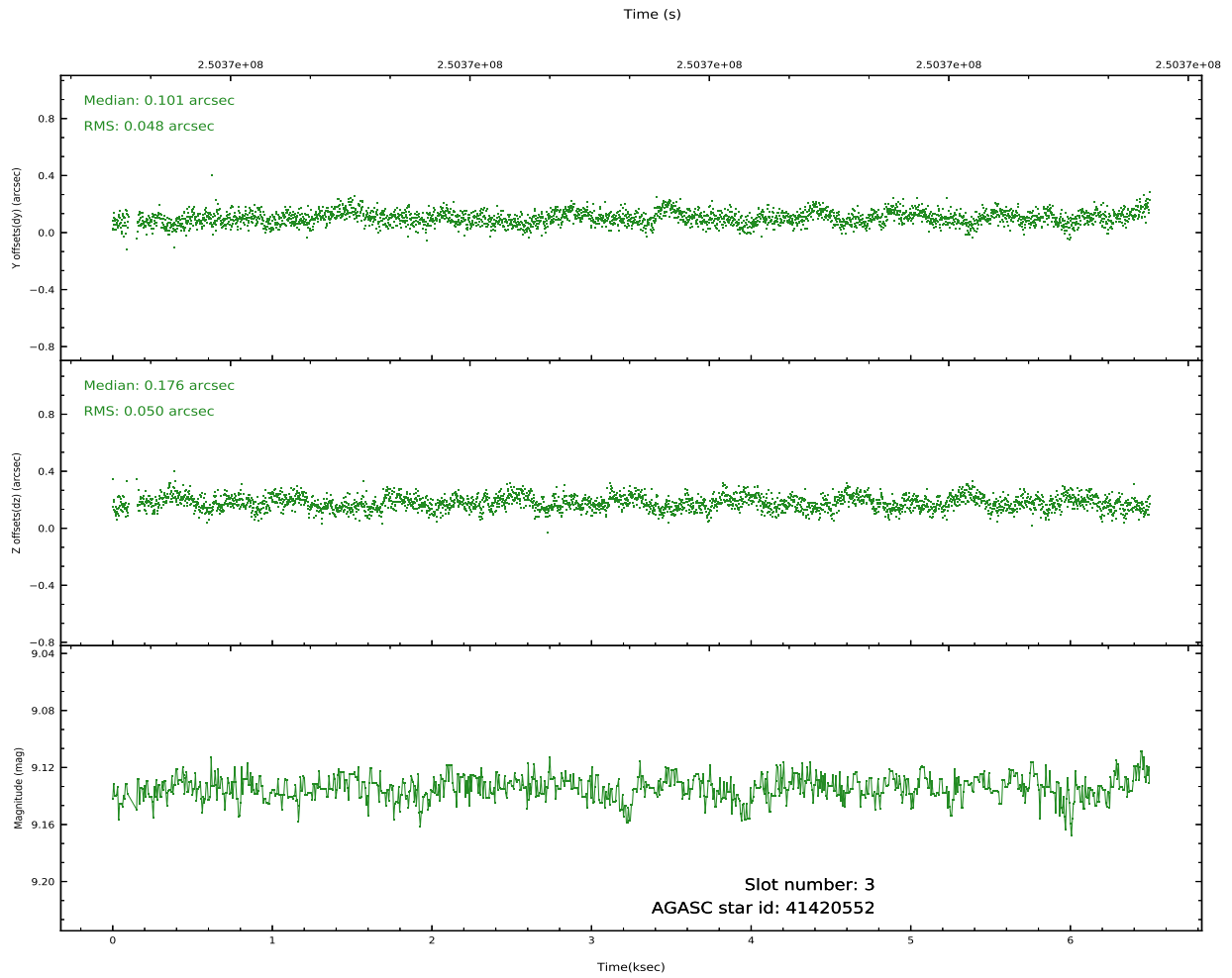
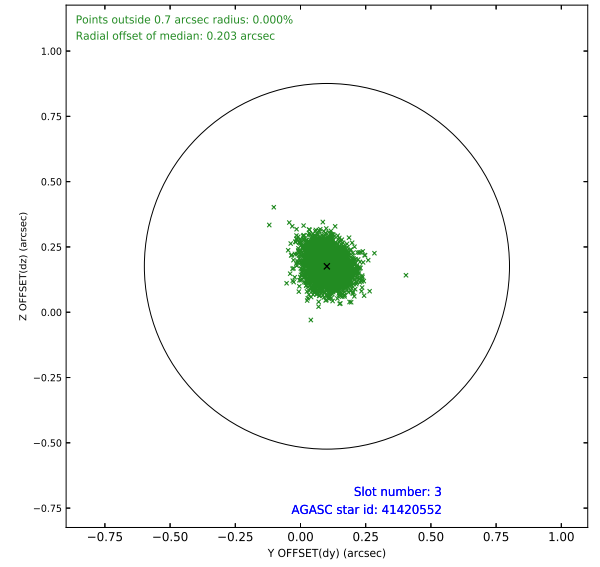
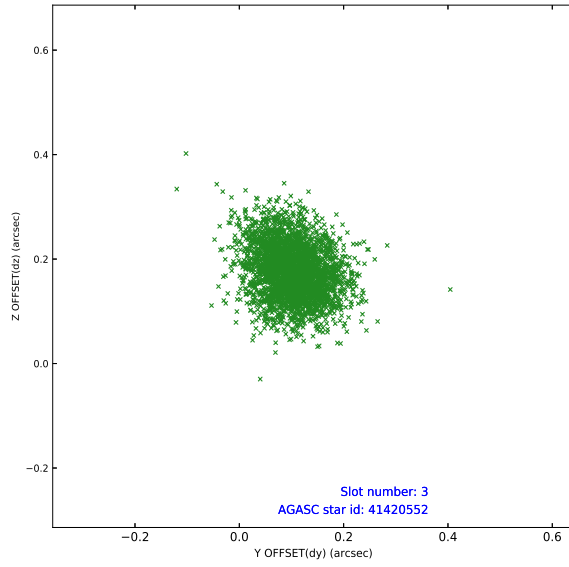


Slot Statistics

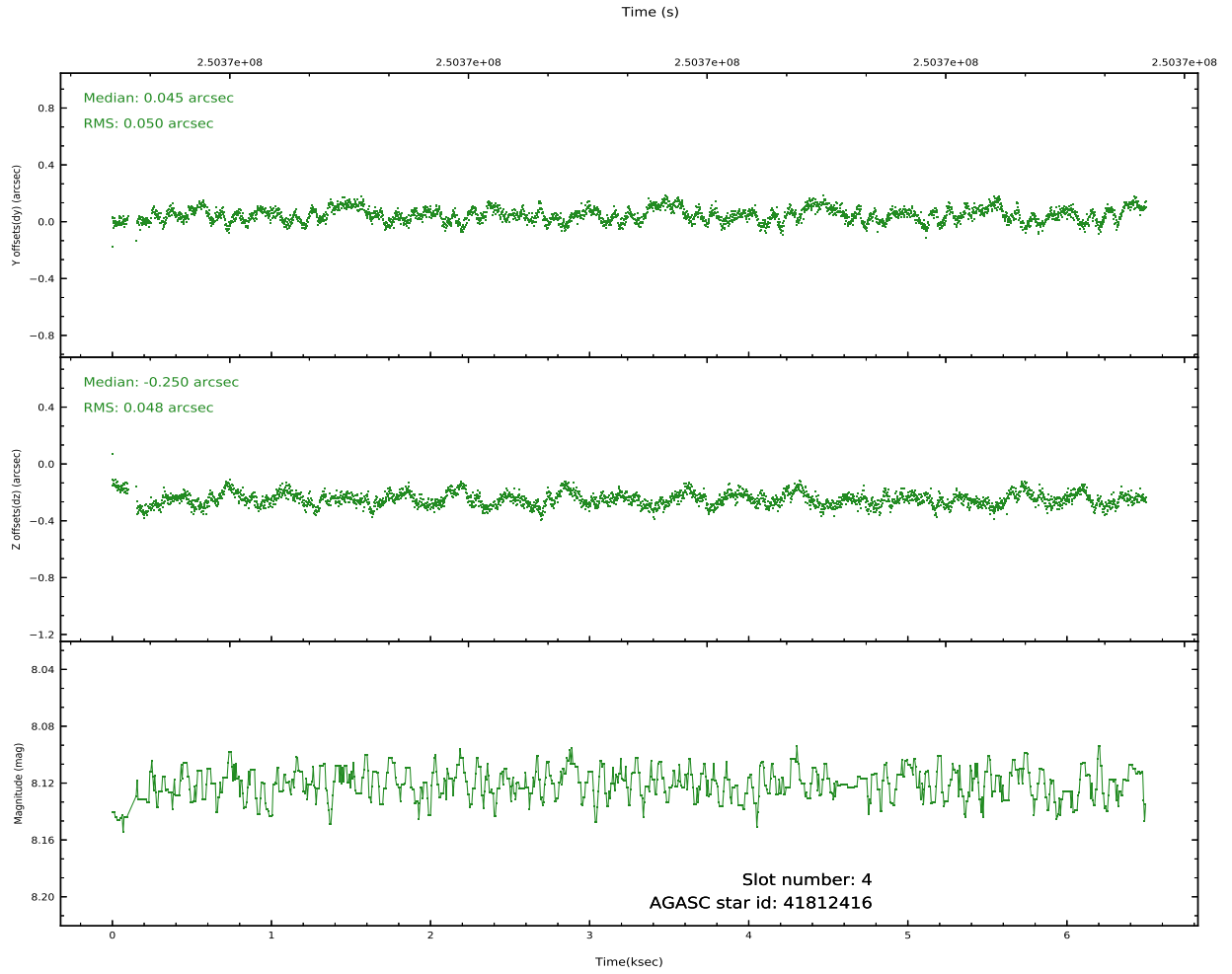
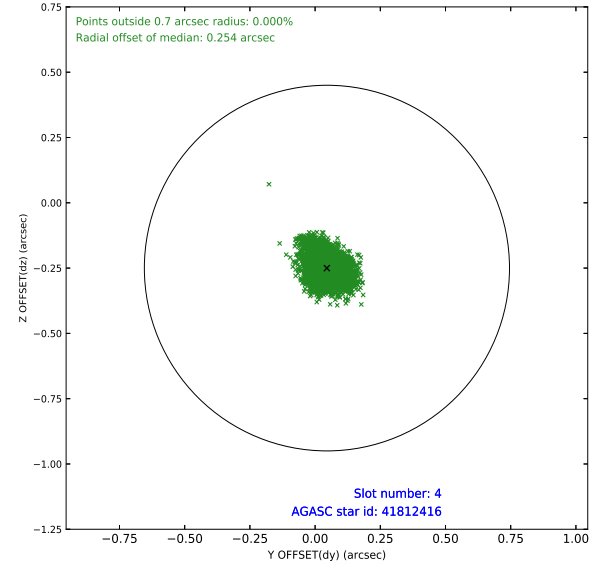
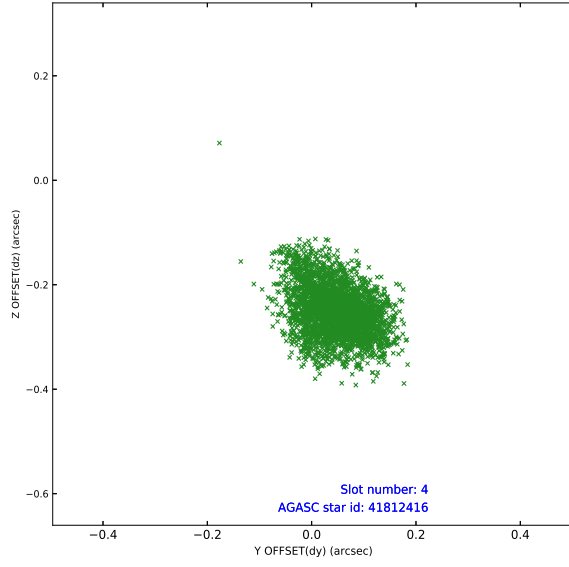
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.10	1574	1.000	-0.048	-0.073	0.007	0.012	0.000000	0.000000	-760.19	-1733
1	FID		ACIS-S-4	7.20	1574	1.000	0.136	0.043	0.007	0.012	0.000000	0.000000	2152.84	174
2	FID		ACIS-S-5	7.23	1573	1.000	-0.119	0.039	0.007	0.012	0.000000	0.000000	-1811.96	168
3	GUIDE	used	41420552	9.13	3145	1.000	0.101	0.176	0.073	0.119	211.681746	1.924562	-2246.64	-824
4	GUIDE	used	41812416	8.12	3144	1.000	0.045	-0.250	0.074	0.118	211.080733	2.607534	-1398.67	2336
5	GUIDE	used	41812816	9.91	3141	1.000	-0.080	0.256	0.137	0.223	212.090922	2.732829	989.73	-435
6	GUIDE	used	41815288	9.21	3143	1.000	-0.060	-0.183	0.094	0.151	211.553857	3.268555	1525.76	2239
7	MONITOR	unused		0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0

2.4 Star Slots

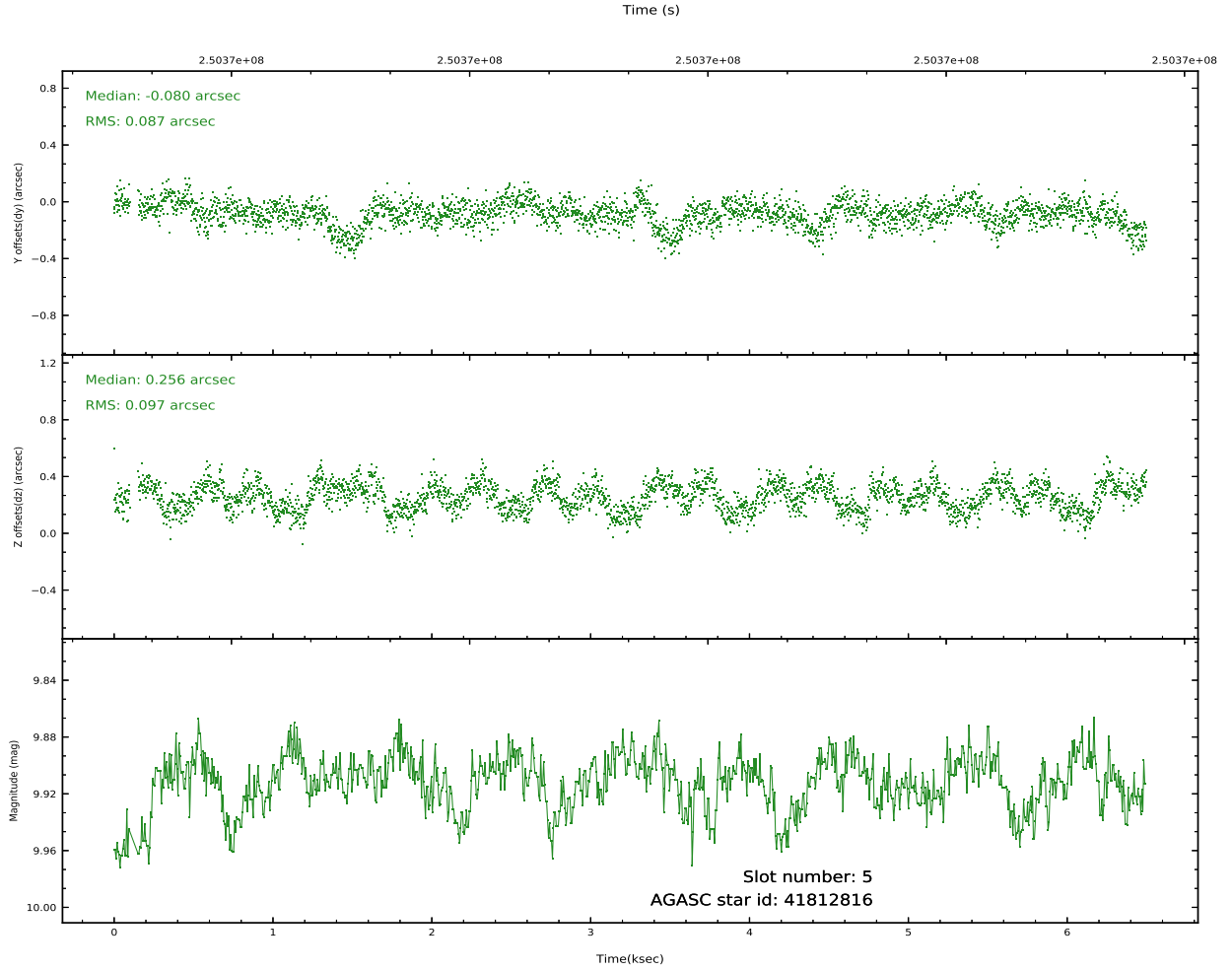
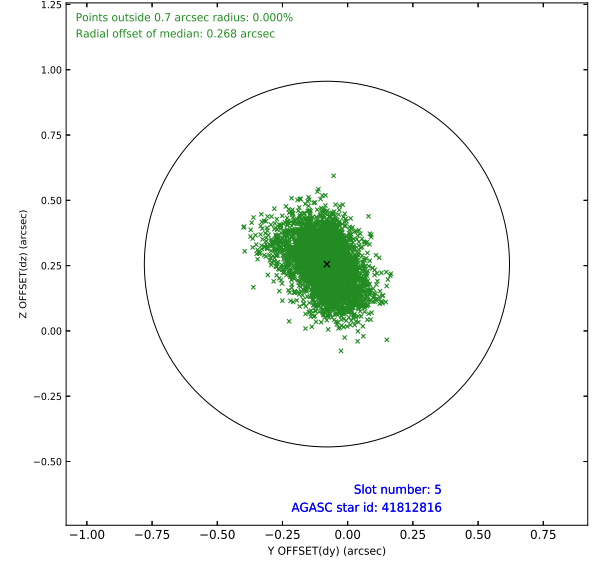
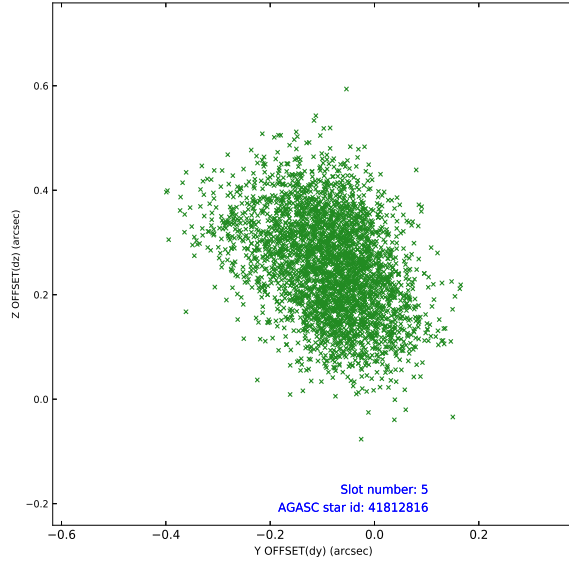
2.4.1 Slot 3



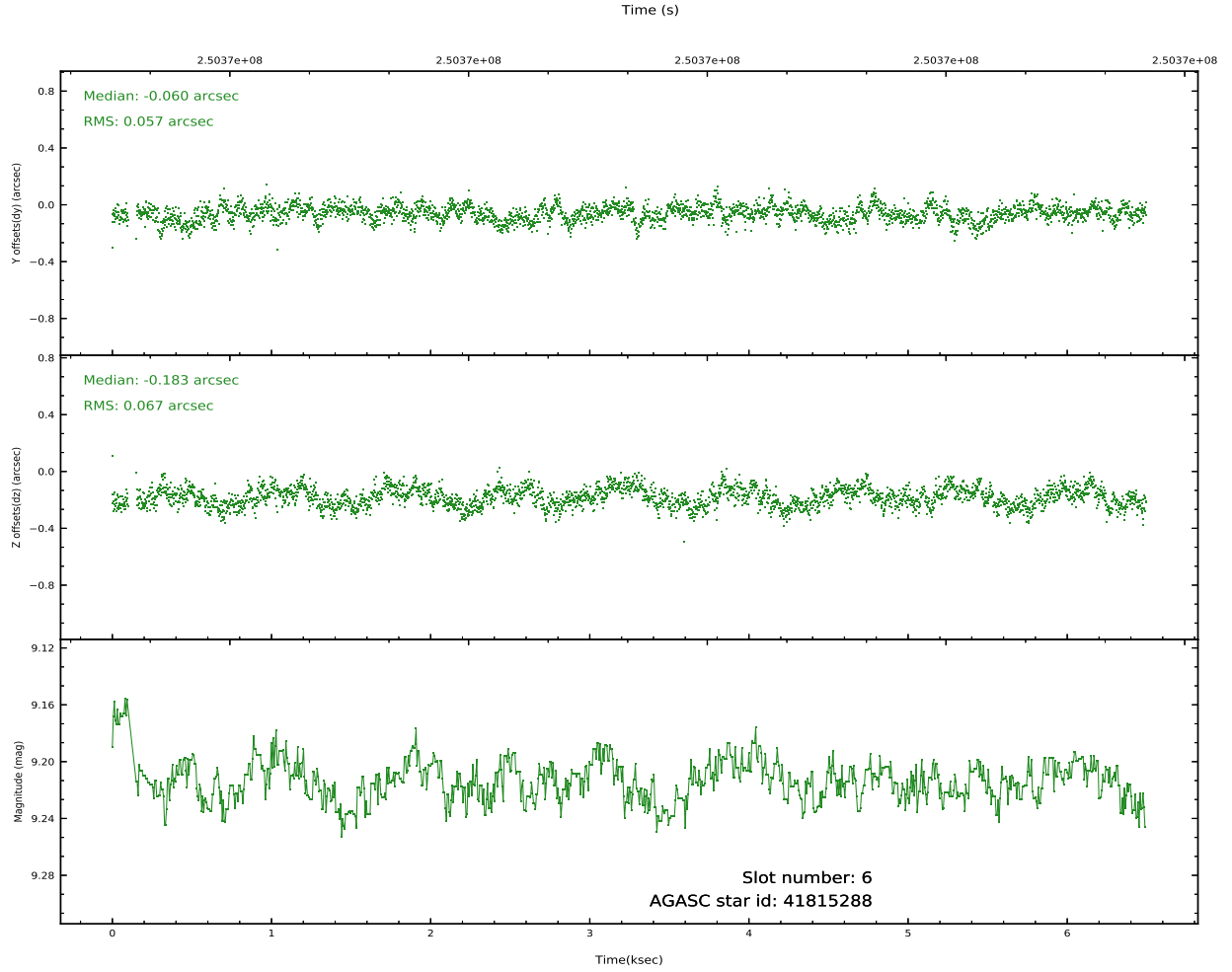
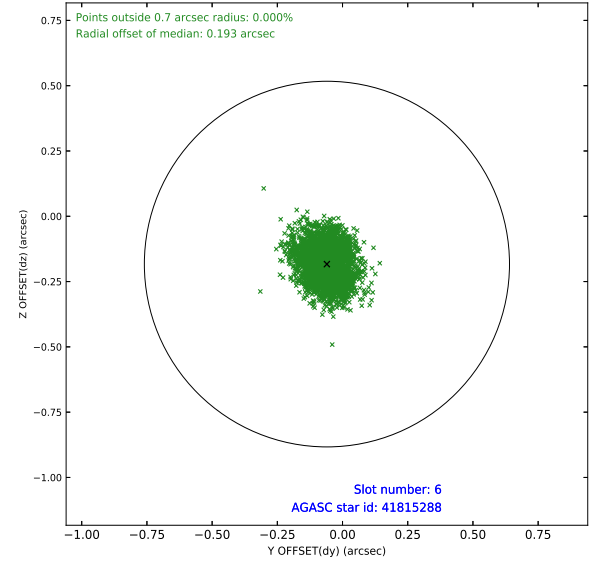
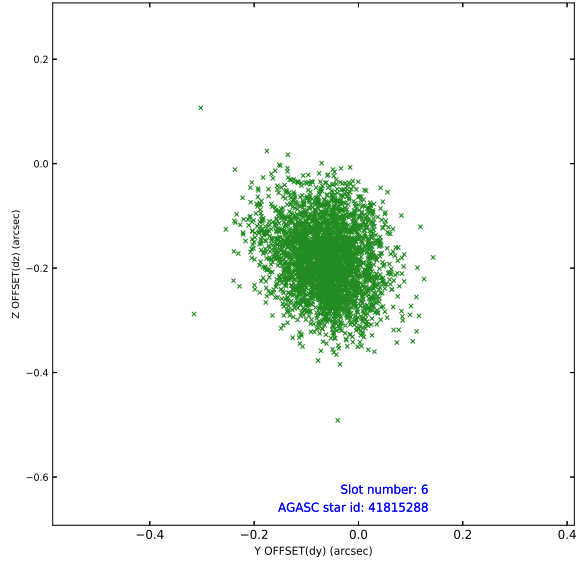
2.4.2 Slot 4



2.4.3 Slot 5

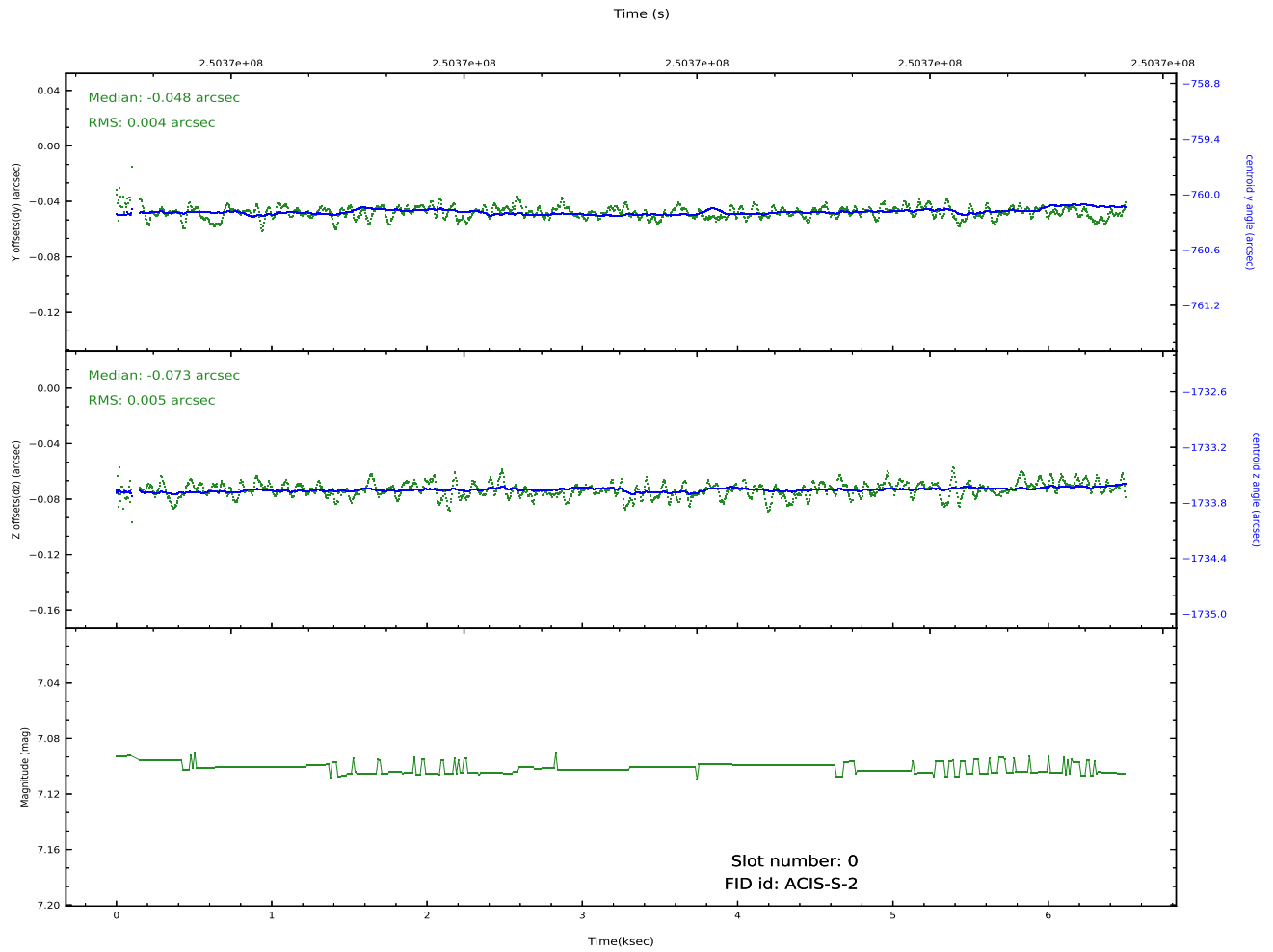
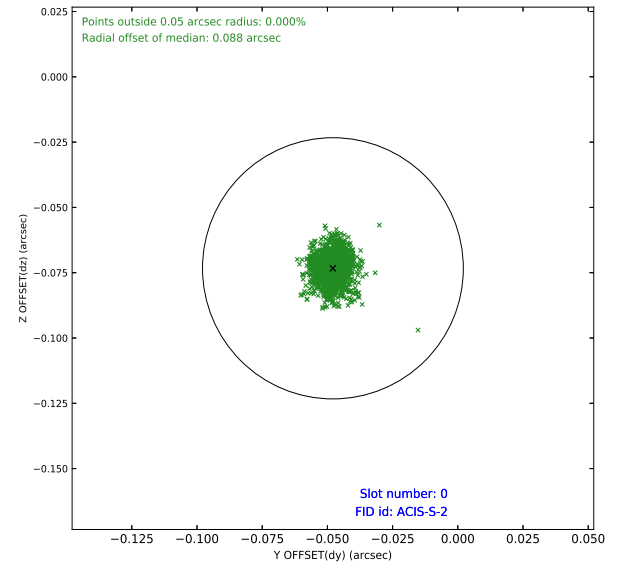
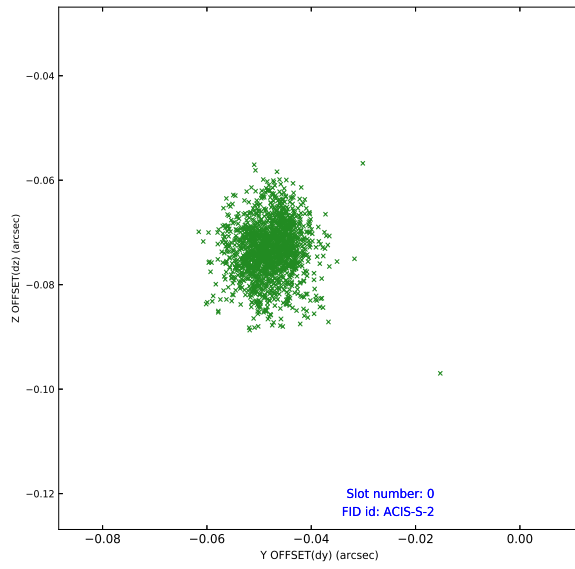


2.4.4 Slot 6

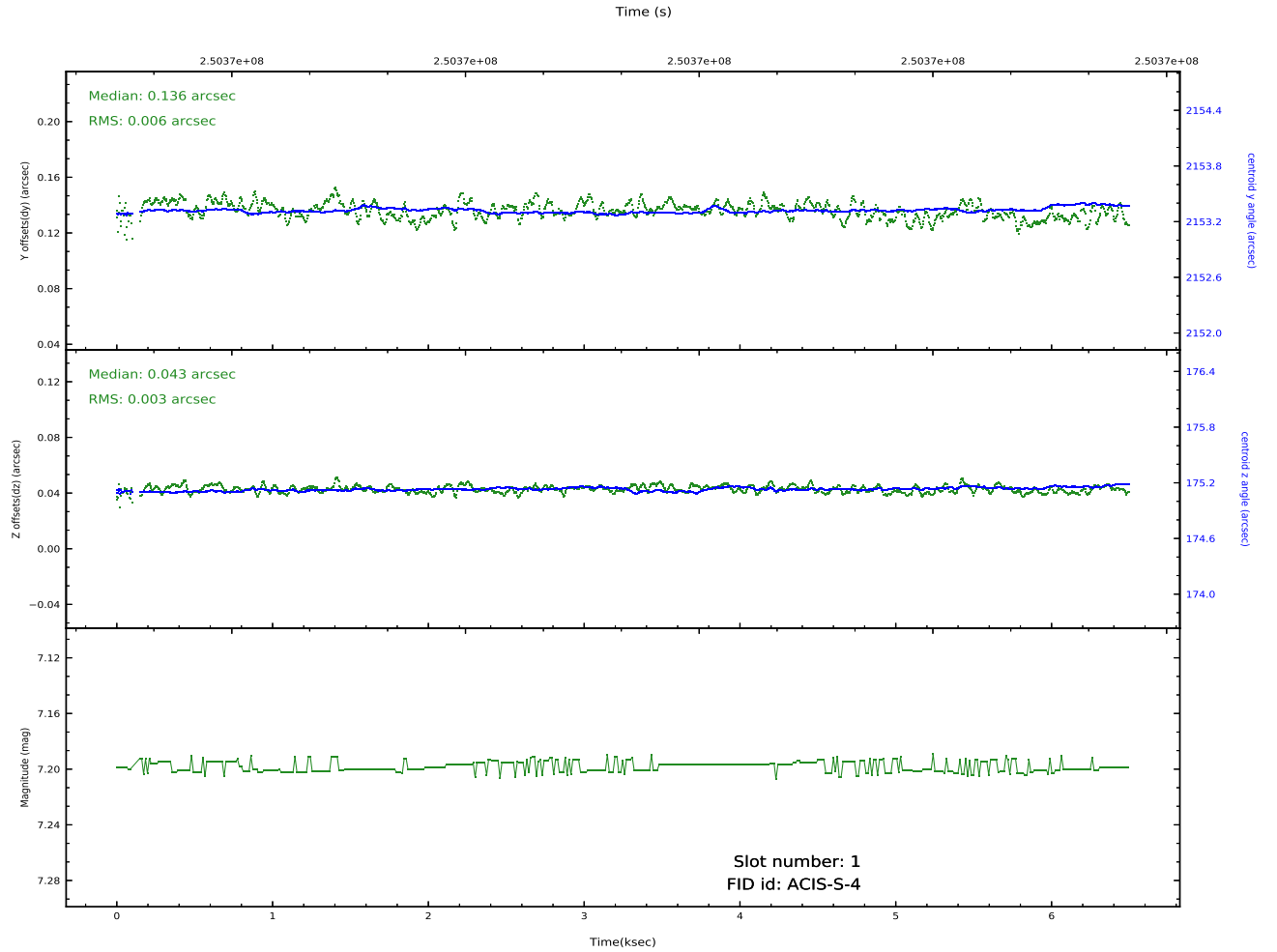
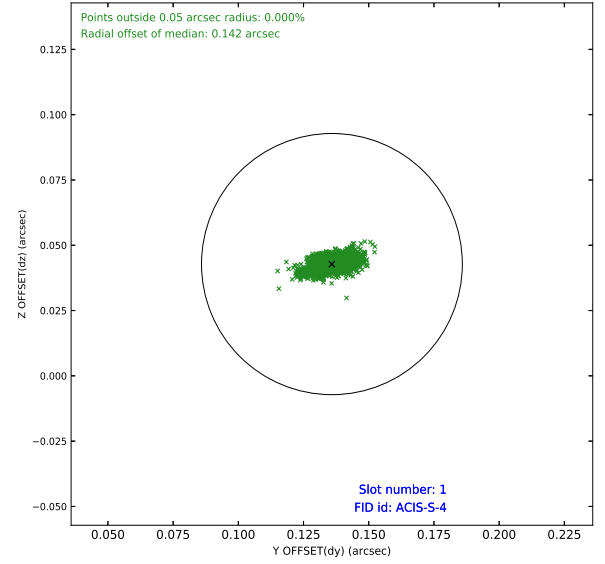
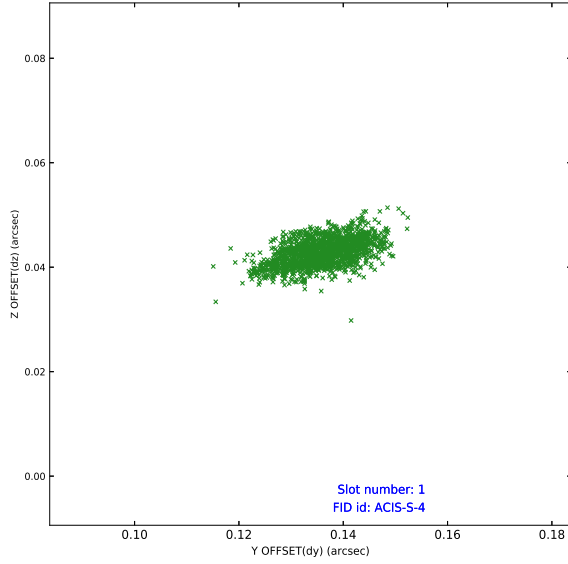


2.5 FID Slots

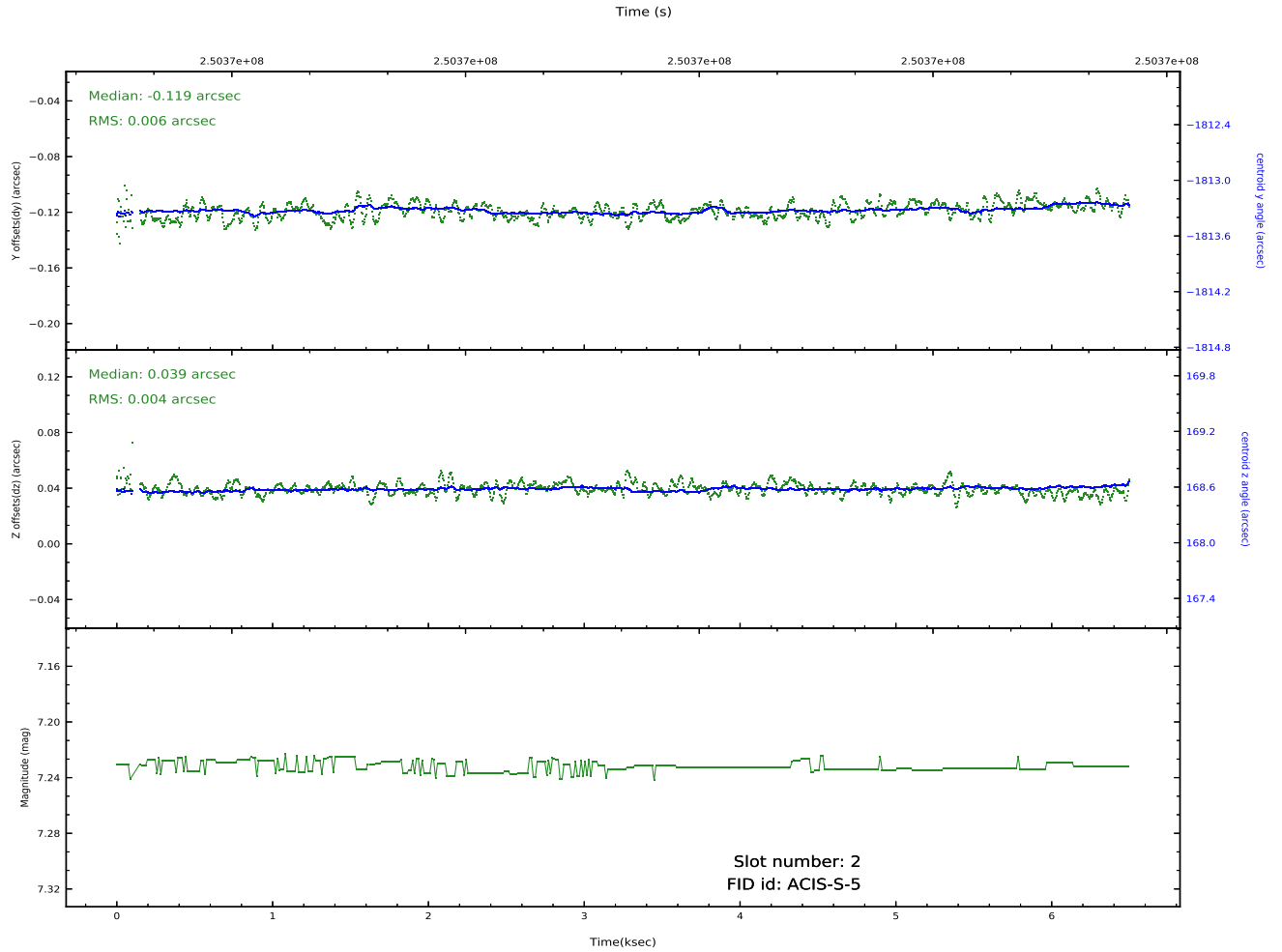
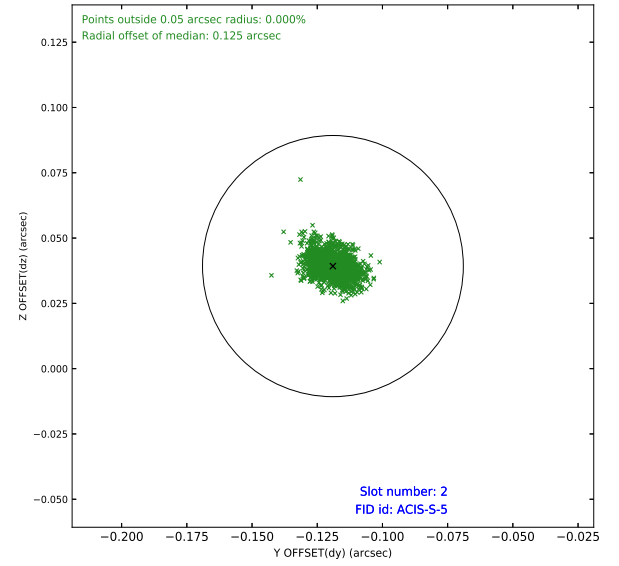
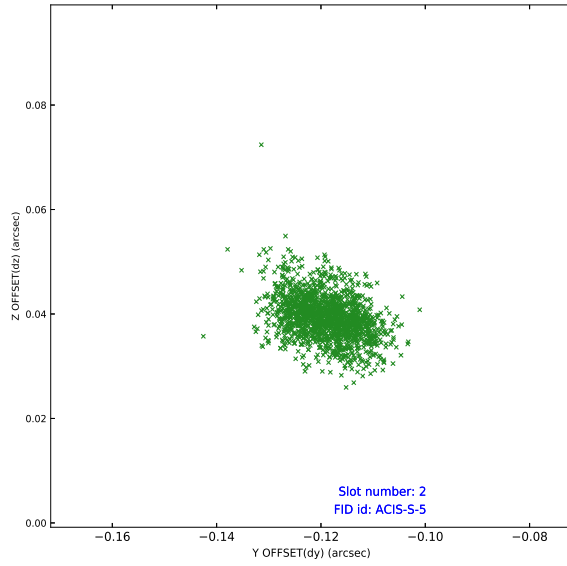
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Francesca Civano
V&V Date (YYYY-MM-DD)	2020.10.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.5962

A.2 Comments

The ACA has the capability to devote one or more of the eight image slots to "monitor" particular sky locations. This allows simultaneous optical photometry of one or more targets in the ACA field of view. These optical sources can be slightly fainter than the ACA guide star limit of $m_{ACA} = 10.2$ mag. The bright-end limit for monitor star photometry is $m_{ACA}=6.2$ mag. However, since there are a fixed number of image slots, devoting a slot to photometry instead of tracking a guide star results in a degradation of the image reconstruction and celestial location accuracy (Section 5.4). Using one monitor slot represents a 15 - 25% increase in the aspect image reconstruction RMS diameter, depending on the particular guide star configuration. Two monitor slots would increase the diameter by about 50 - 60%, but this configuration is not operationally allowed under normal circumstances. The photometric accuracy which can be achieved depends primarily on the star magnitude, integration time, CCD dark current, CCD read noise, sky background, and the CCD dark current uncertainty.