

V&V Reference Report

L2 ASCDS Version : 10.9

Observation 23350 - L2 Version 2
Chandra X-Ray Center

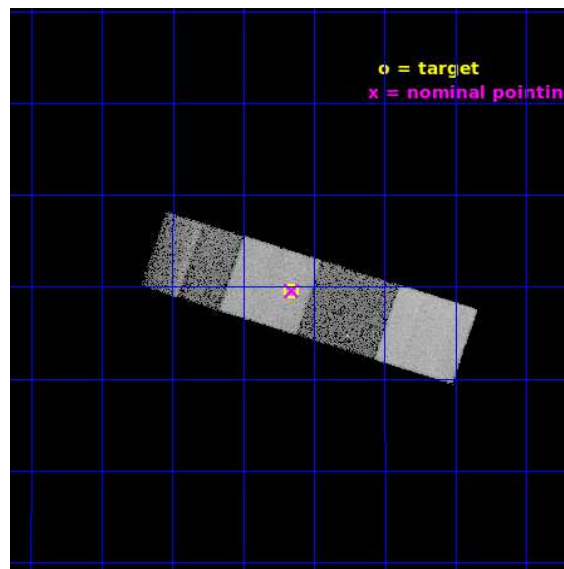
L2 Processing Date : Aug 10 2020

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1 Front

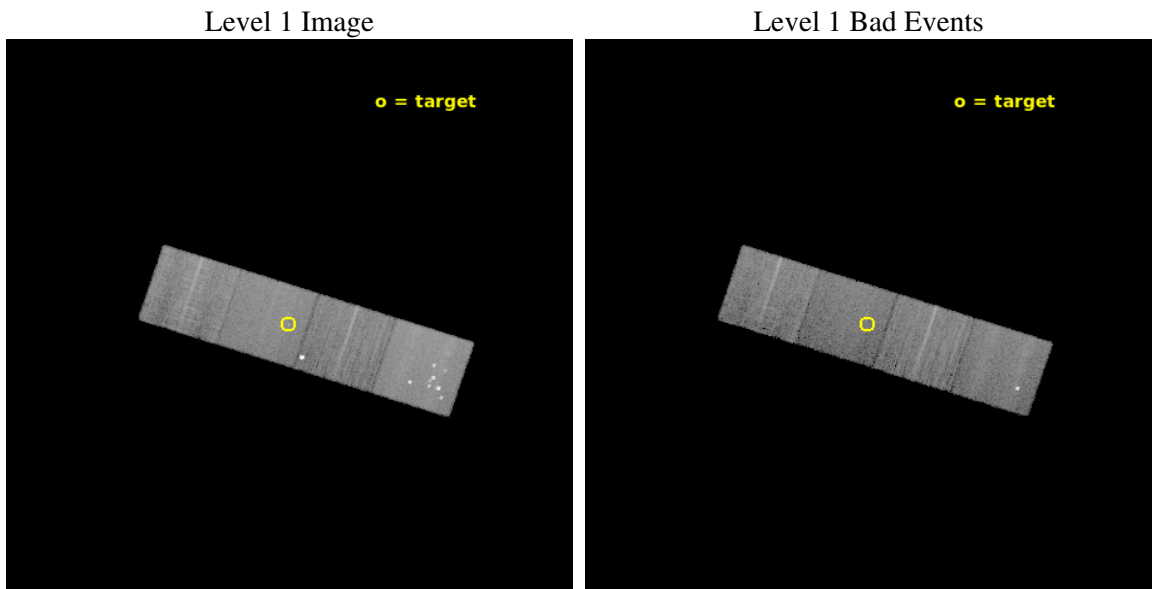
seq_num	704058	Sequence number
obs_id	23350	Observation id
title	C-BASS: A Chandra Legacy Survey of AGN at the Highest Spatial Resolutions	Proposal title
observer	Michael Koss	Principal investigator
object	SWIFT J2033.1+0991	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	308.414368	Observer's specified target RA [deg]
dec_targ	9.826031	Observer's specified target Dec [deg]
ra_nom	308.41404667322	Nominal RA [deg]
dec_nom	9.8266421285661	Nominal Dec [deg]
roll_nom	198.14785286617	Nominal Roll [deg]
revision	2	Processing version of data
ontime	10058.464137077	Sum of GTIs [s]
livetime	9927.0428981928	Livetime [s]
ontime5	10058.423097134	Sum of GTIs [s]
ontime6	10055.240966797	Sum of GTIs [s]
ontime7	10058.464137077	Sum of GTIs [s]
ontime8	10055.199947119	Sum of GTIs [s]
l2events	118554	Number of level 2 events



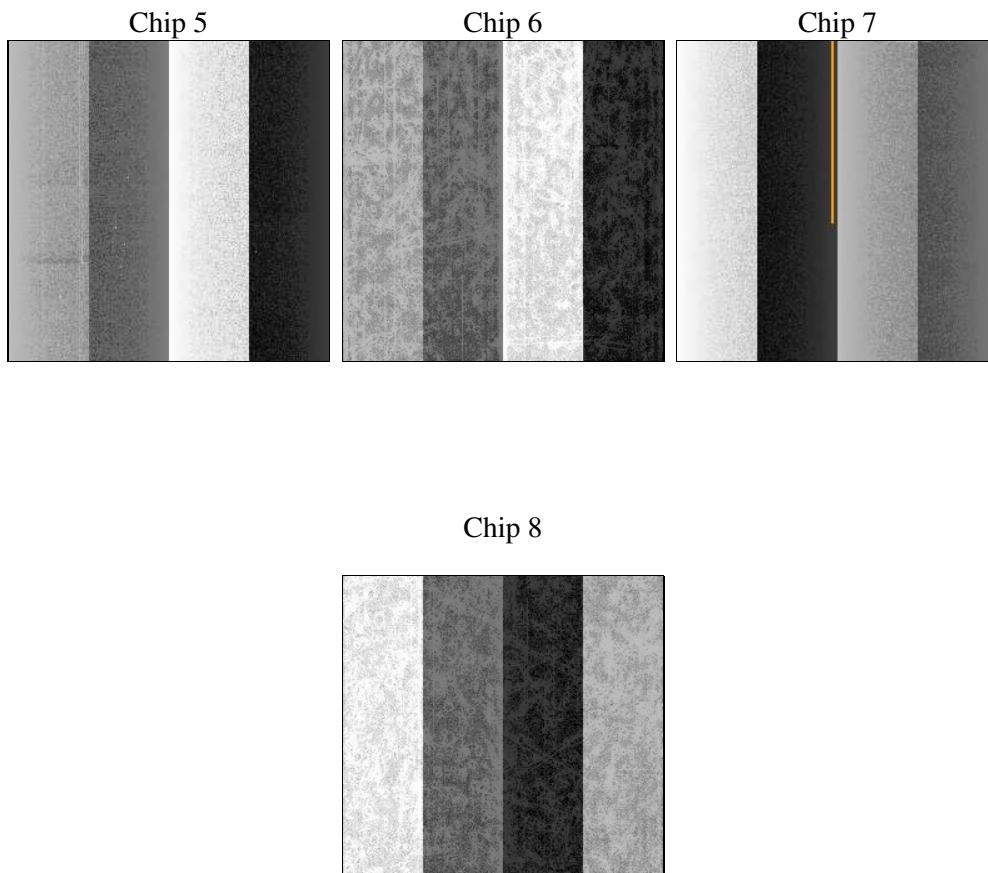
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ascdsver	10.9	Processing system revision	ontime	10058.464137077	Sum of GTIs [s]
caldbver	4.9.2	 	ontime5	10058.423097134	Sum of GTIs [s]
date	2020-08-10T23:06:40	Date and time of file creation	ontime6	10055.240966797	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	10058.464137077	Sum of GTIs [s]
			ontime8	10055.199947119	Sum of GTIs [s]
			l1events	452724	Number of level 1 events

2.1.4 Events

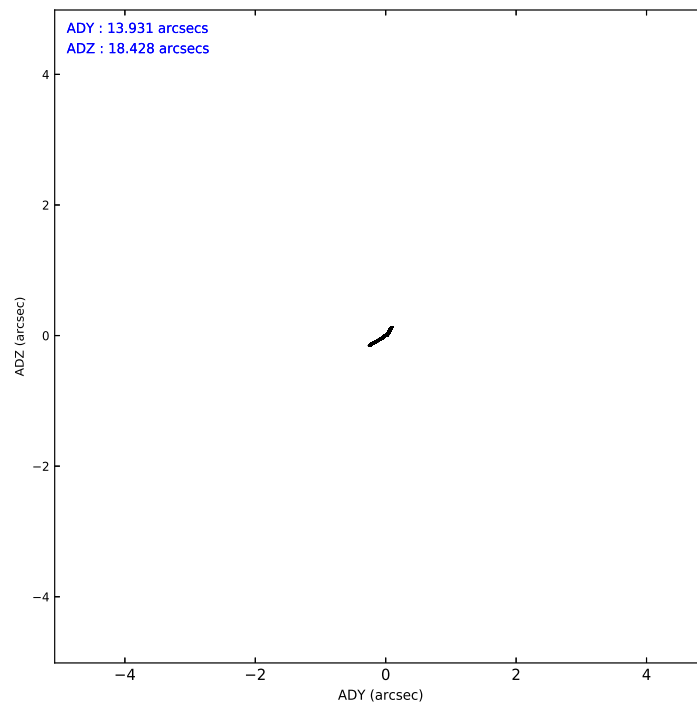
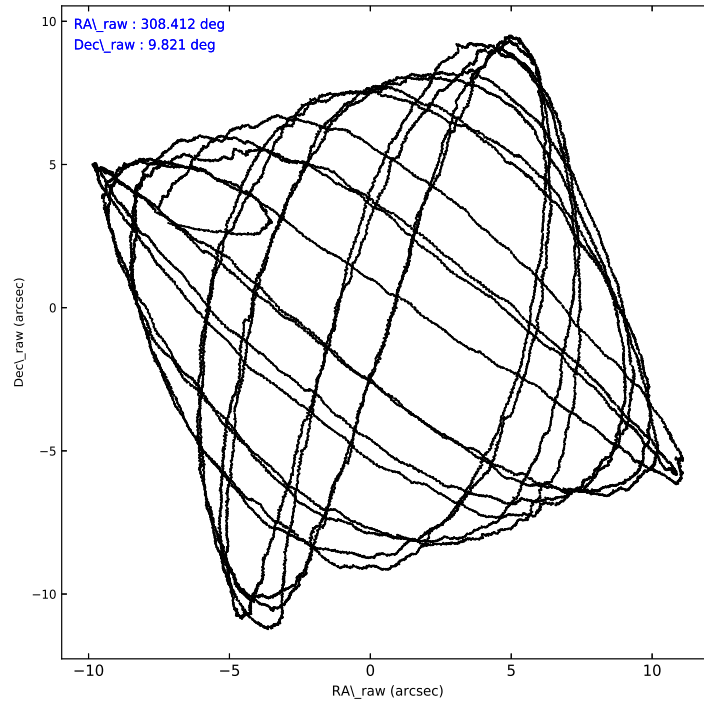
	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	146675	96731	104537	104781
rejected events	73089	76526	59667	78213
rejected %	49%	79%	57%	74%

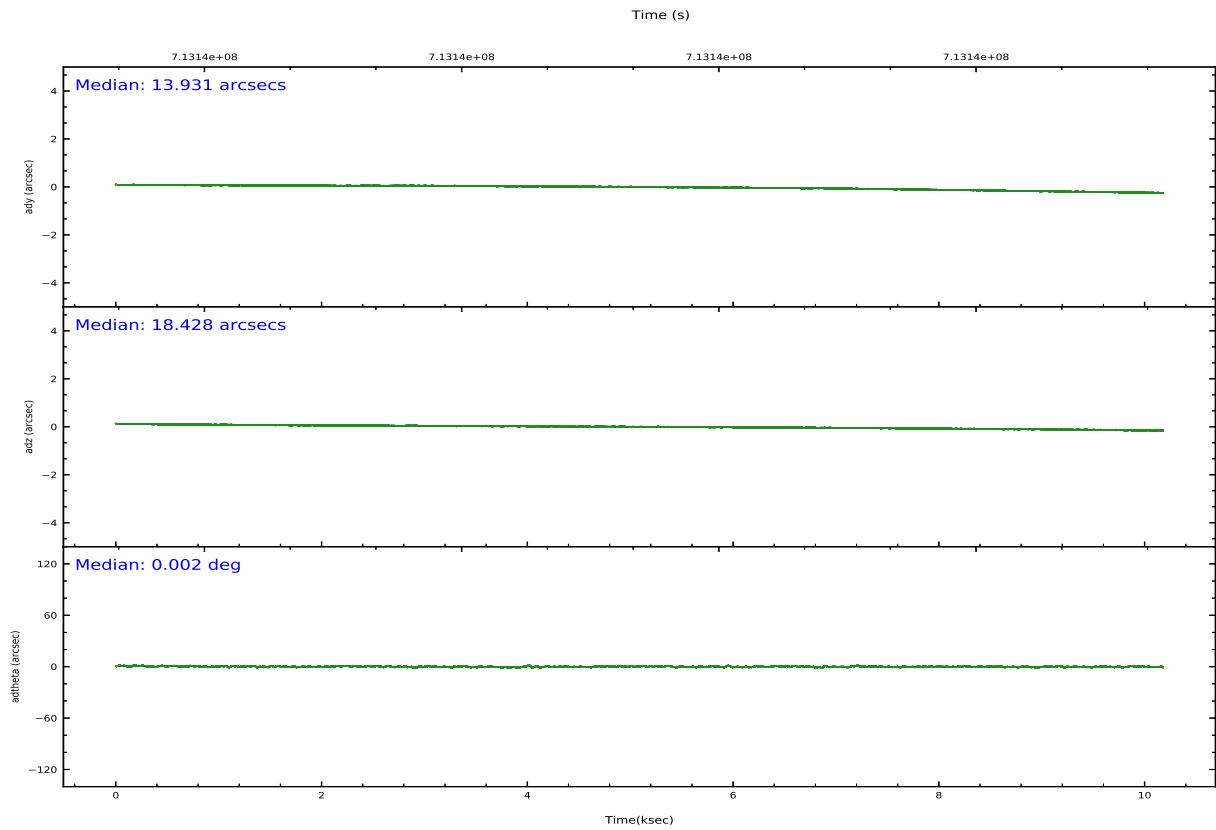
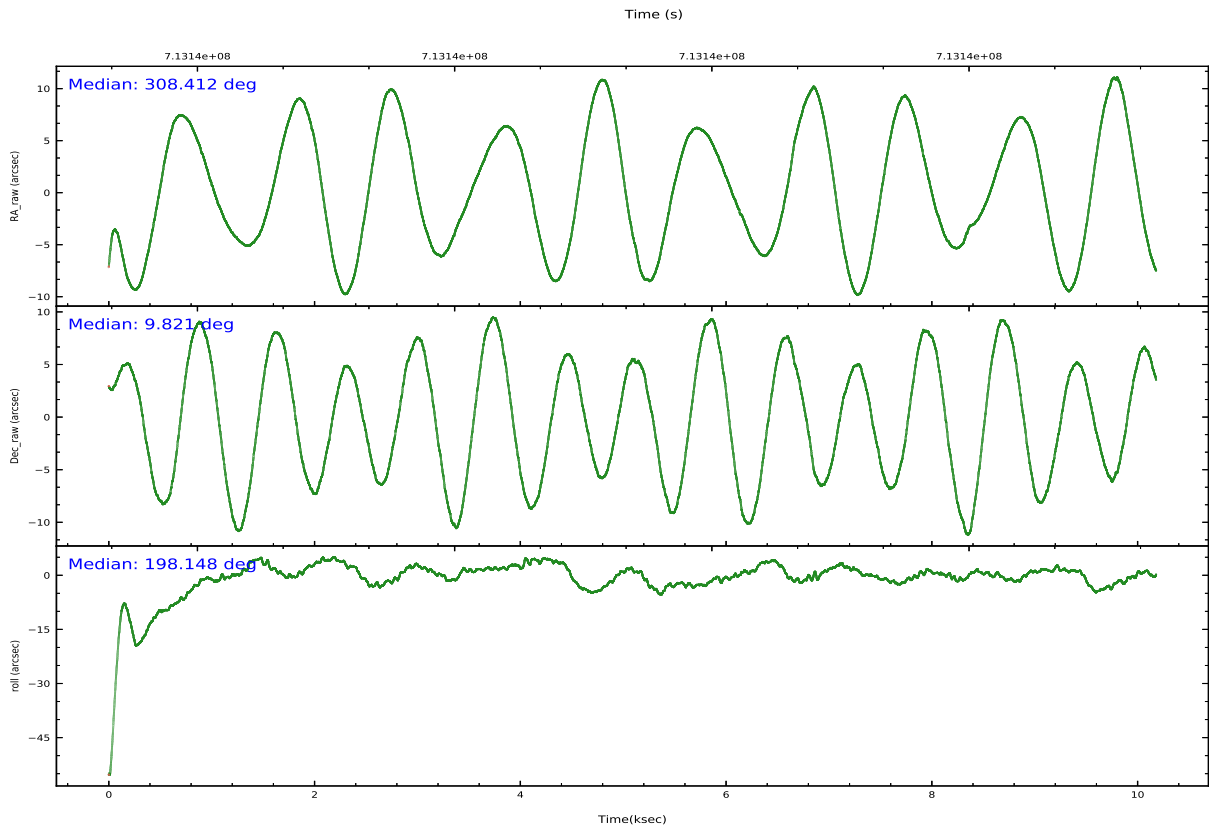
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	13290	13649	3700	7357
	9%	14%	3%	7%
grade 1 events	416	49	158	57
	0%	0%	0%	0%
grade 2 events	21344	2572	9397	6515
	14%	2%	8%	6%
grade 3 events	2183	712	3329	2638
	1%	0%	3%	2%
grade 4 events	1715	655	3276	2461
	1%	0%	3%	2%
grade 5 events	8283	3170	9724	5187
	5%	3%	9%	4%
grade 6 events	35108	2626	25196	7618
	23%	2%	24%	7%
grade 7 events	64336	73298	49757	72948
	43%	75%	47%	69%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-5678	ACIS-5678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	308.430064	308.41404667322	CCD I2 on	N	N
[deg] Pointing Dec	9.840838	9.8266421285661	CCD I3 on	N	N
[deg] Pointing Roll	197.987302	198.14785286617	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O1	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	713136819.184000	713135912.08898	CCD S5 on	N	N
Observation start date	2020-08-06T21:32:30	2020-08-06T21:18:32	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	713146819.184000	713147558.13969	On-chip summing requested	N	N
Observation end date	2020-08-07T00:19:10	2020-08-07T00:32:38	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect





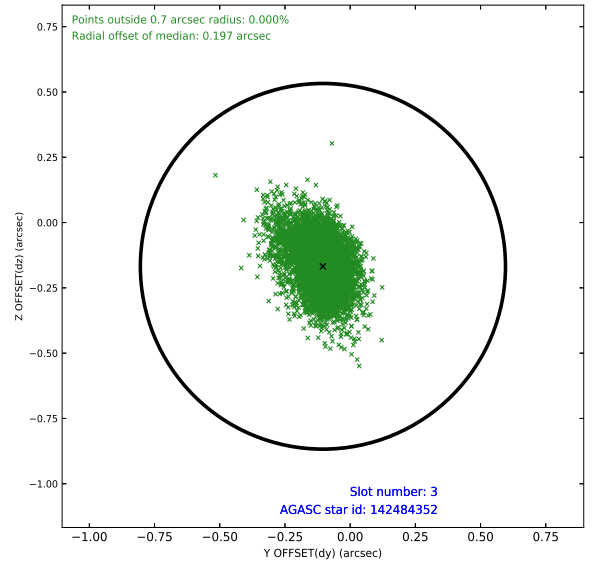
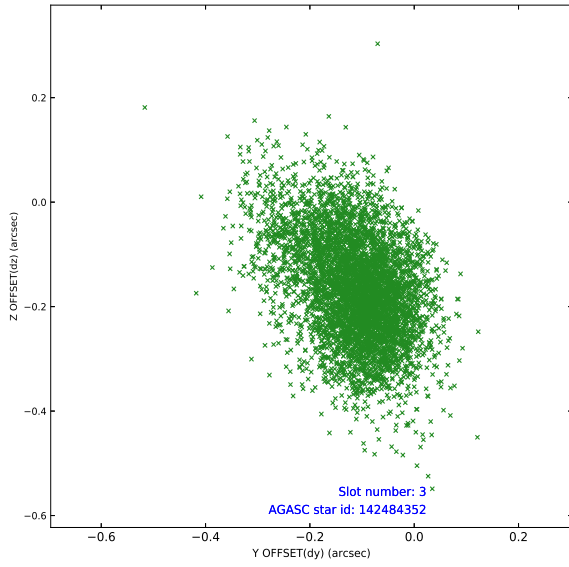
Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-S-1	7.21	2484	1.000	0.404	-0.195	0.013	0.021	0.000000	0.000000	929.37	-1735
1	FID		ACIS-S-5	7.22	2484	1.000	-0.363	0.324	0.014	0.023	0.000000	0.000000	-1819.85	162
2	FID		ACIS-S-6	7.38	2484	1.000	-0.063	-0.117	0.008	0.013	0.000000	0.000000	394.22	805
3	GUIDE	used	142484352	8.59	4961	1.000	-0.104	-0.167	0.129	0.220	308.207795	9.276369	1379.06	1689
4	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0
5	GUIDE	used	143142120	7.62	4961	1.000	0.006	0.124	0.114	0.192	308.583144	10.268119	-989.59	-1294
6	GUIDE	used	143144840	6.98	4967	1.000	-0.044	0.051	0.151	0.250	308.473767	10.059738	-390.27	-701
7	GUIDE	used	143142200	8.55	4960	1.000	0.148	-0.001	0.124	0.201	308.509728	10.253173	-726.26	-1324

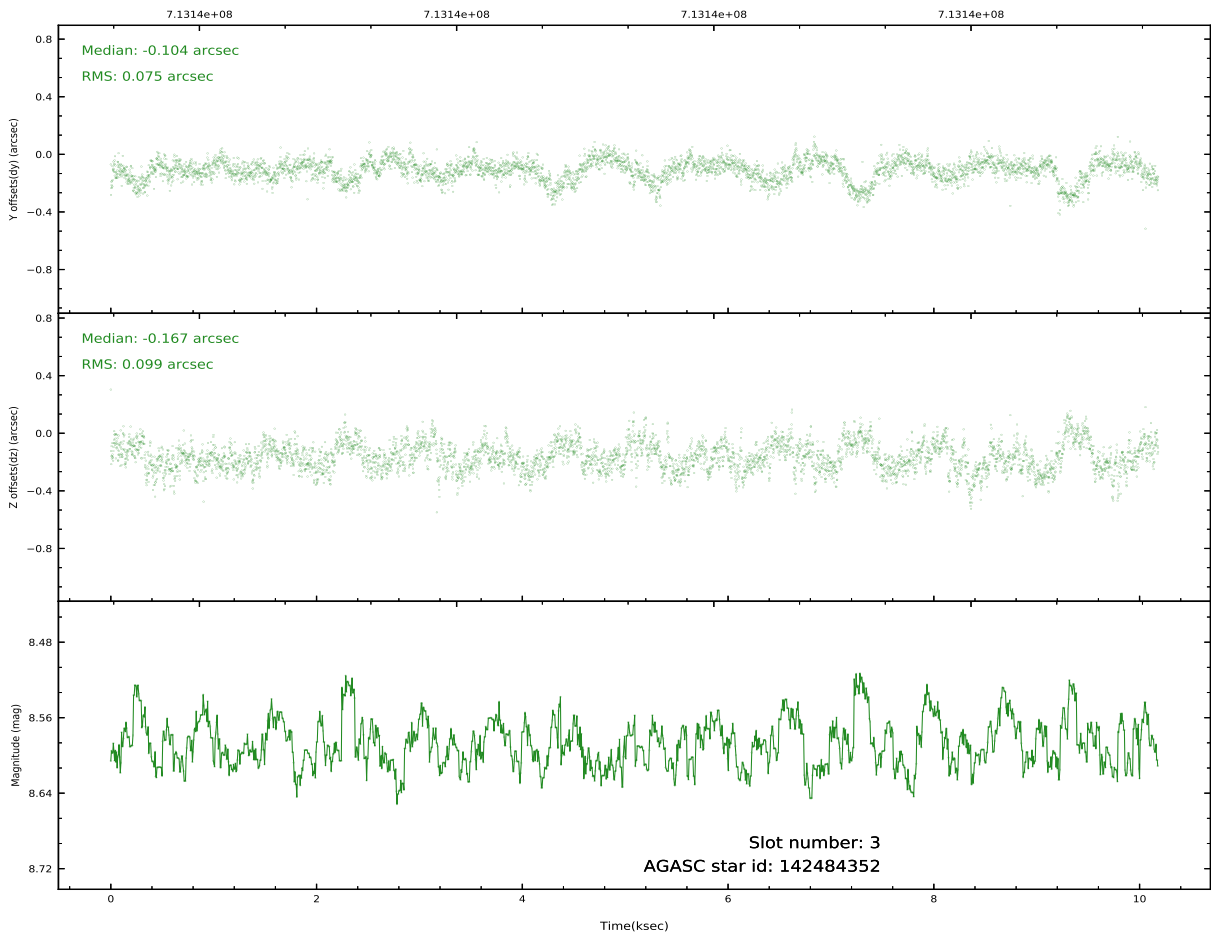
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2.4 Star Slots

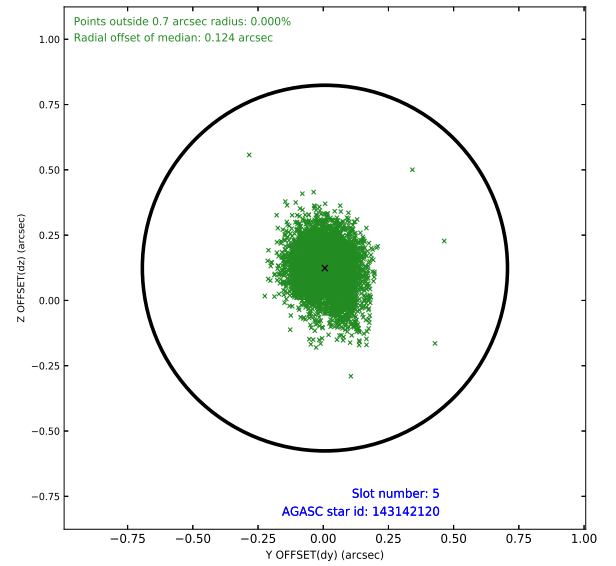
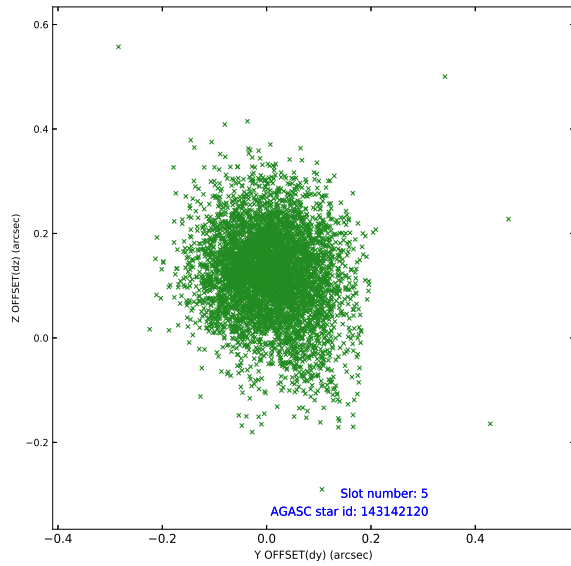
2.4.1 Slot 3



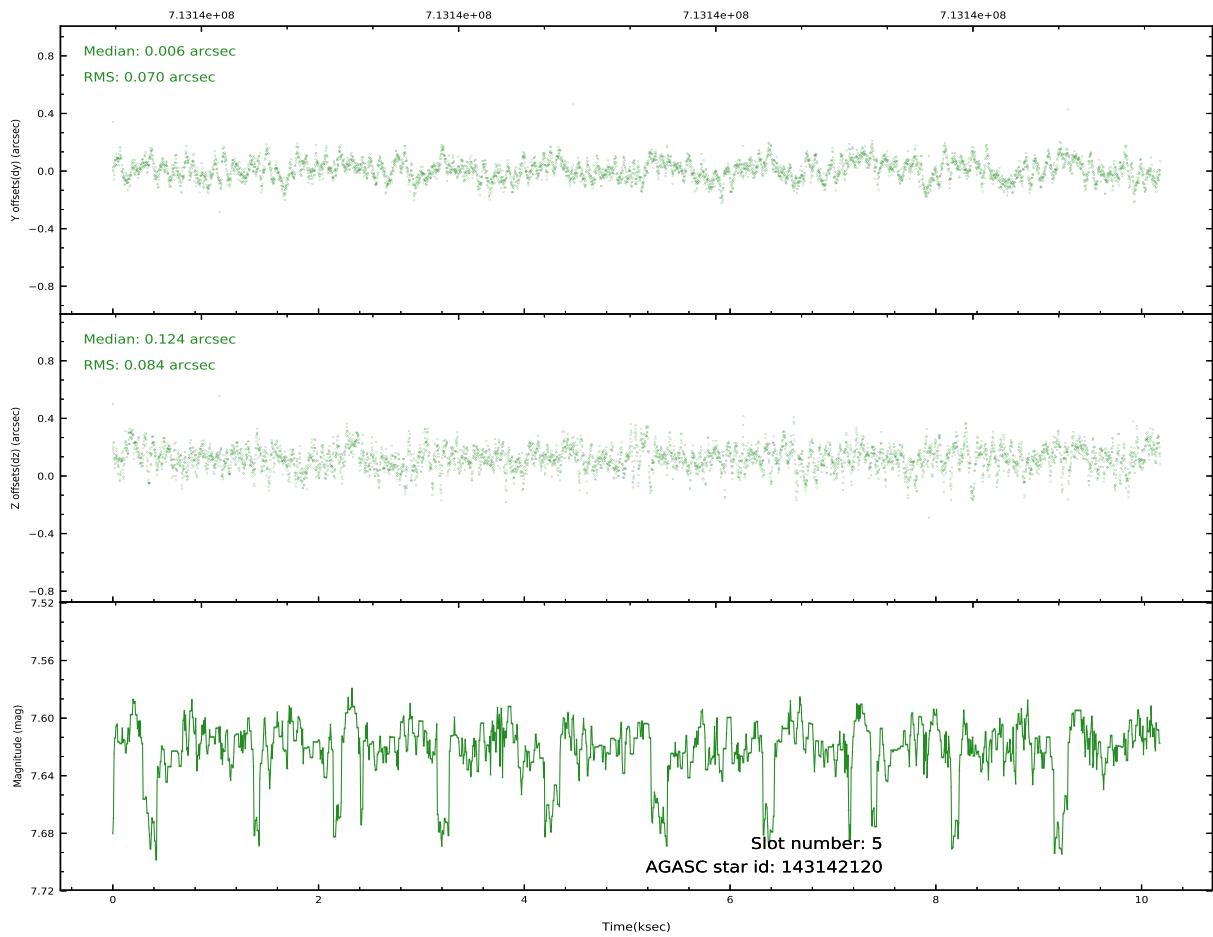
Time (s)



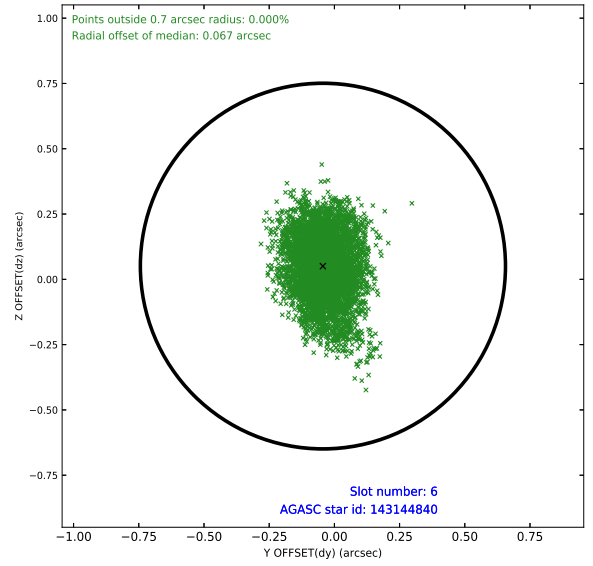
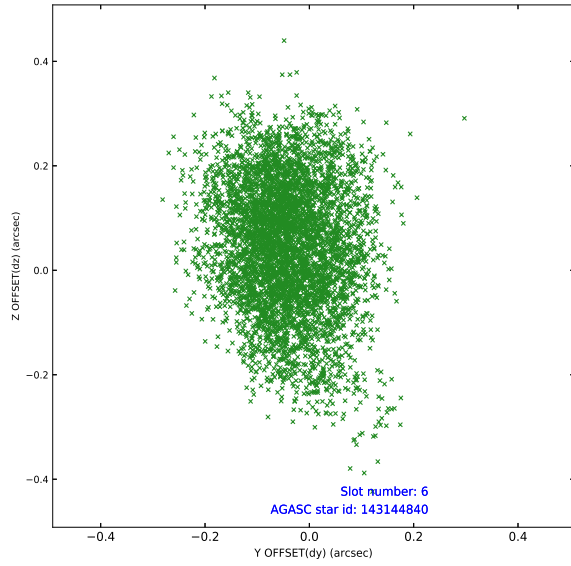
2.4.2 Slot 5



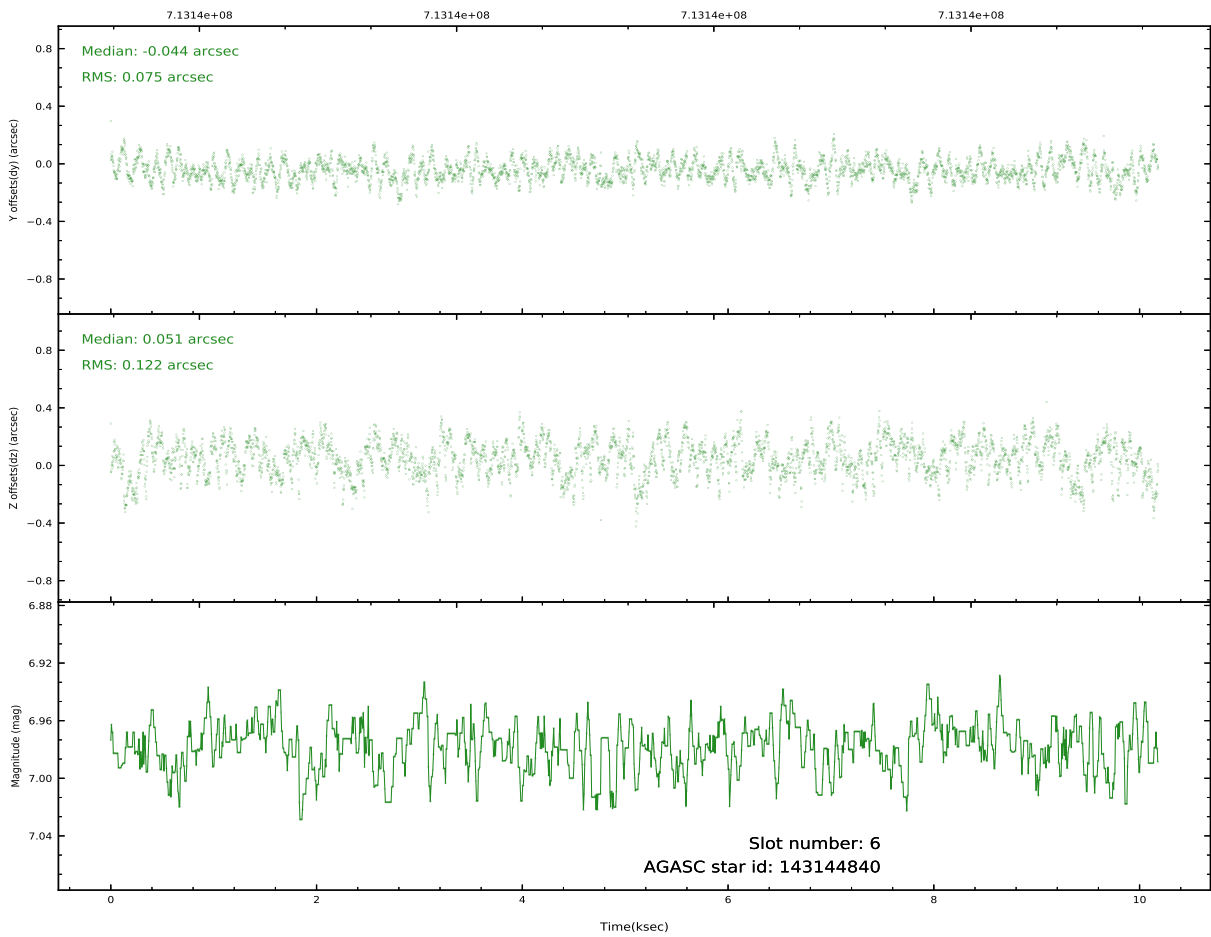
Time (s)



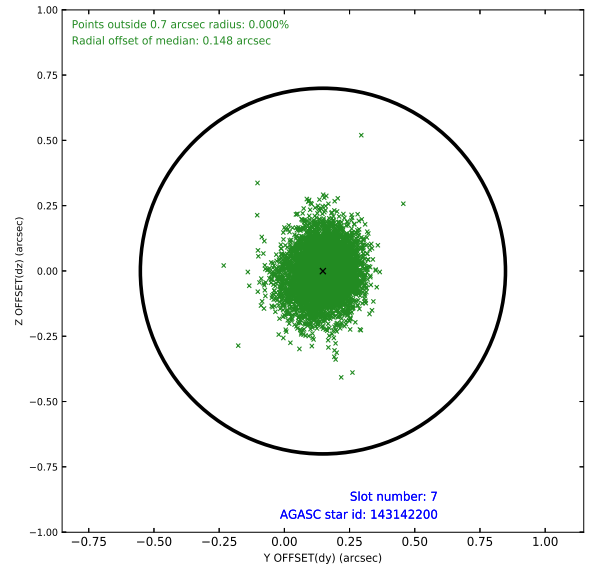
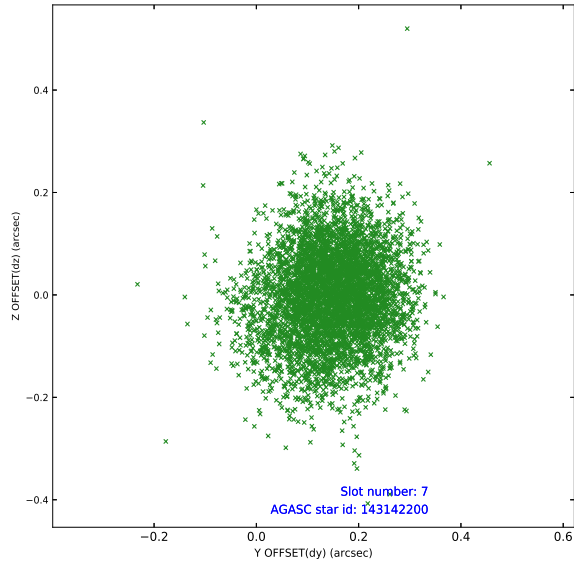
2.4.3 Slot 6



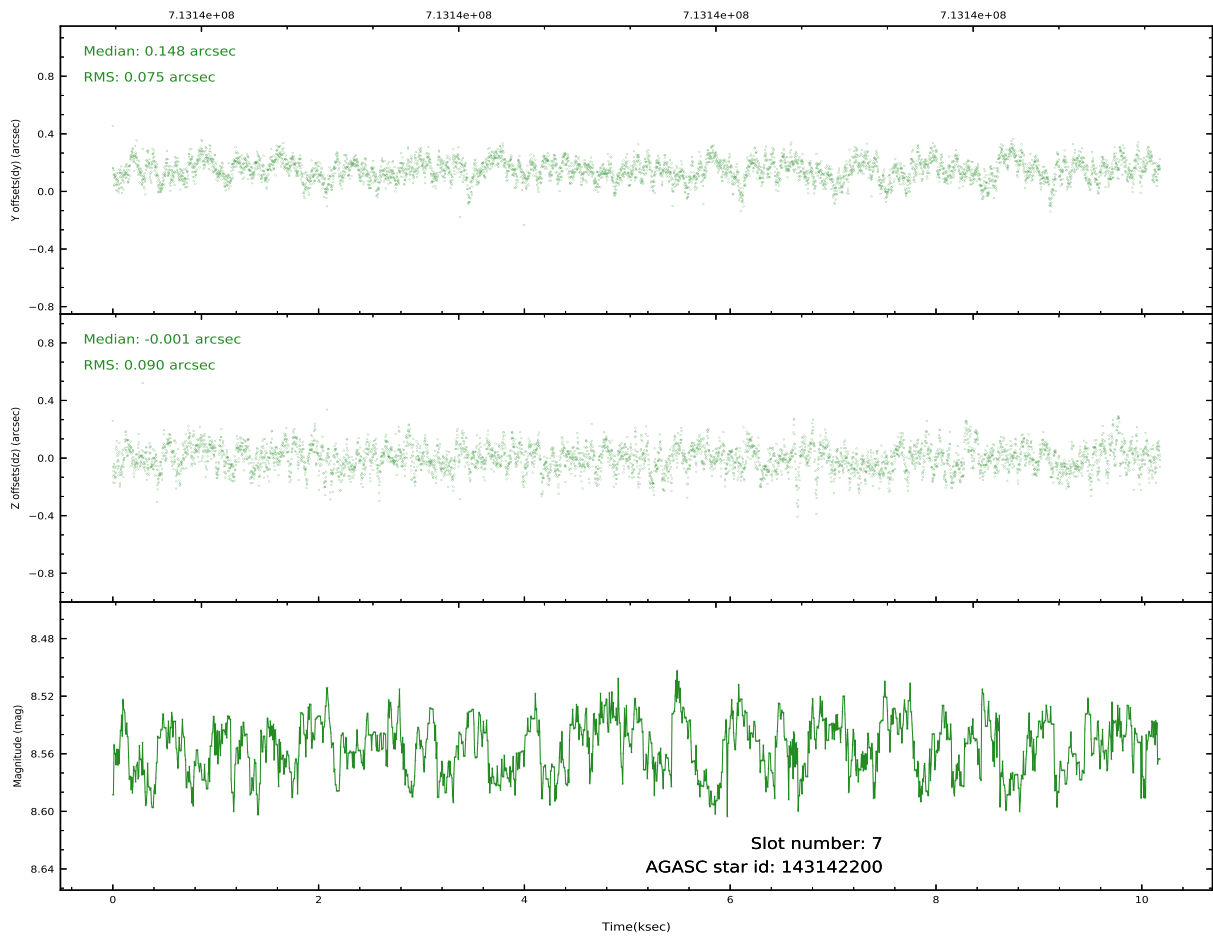
Time (s)



2.4.4 Slot 7

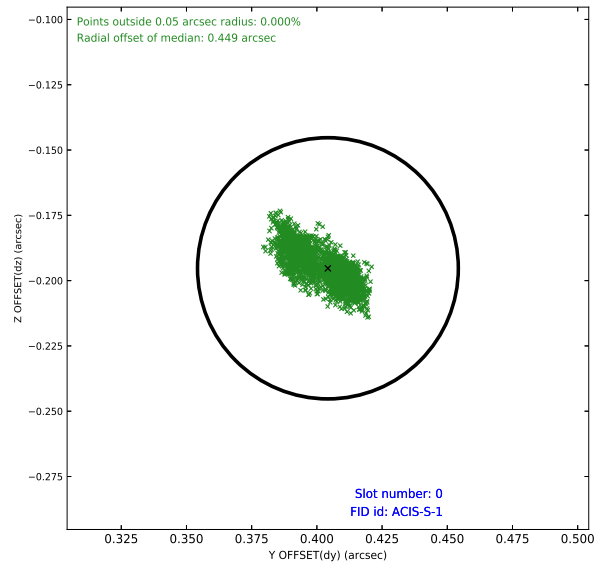
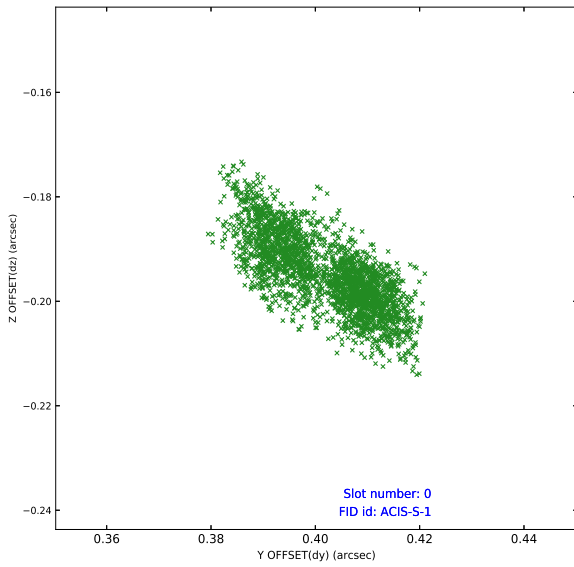


Time (s)

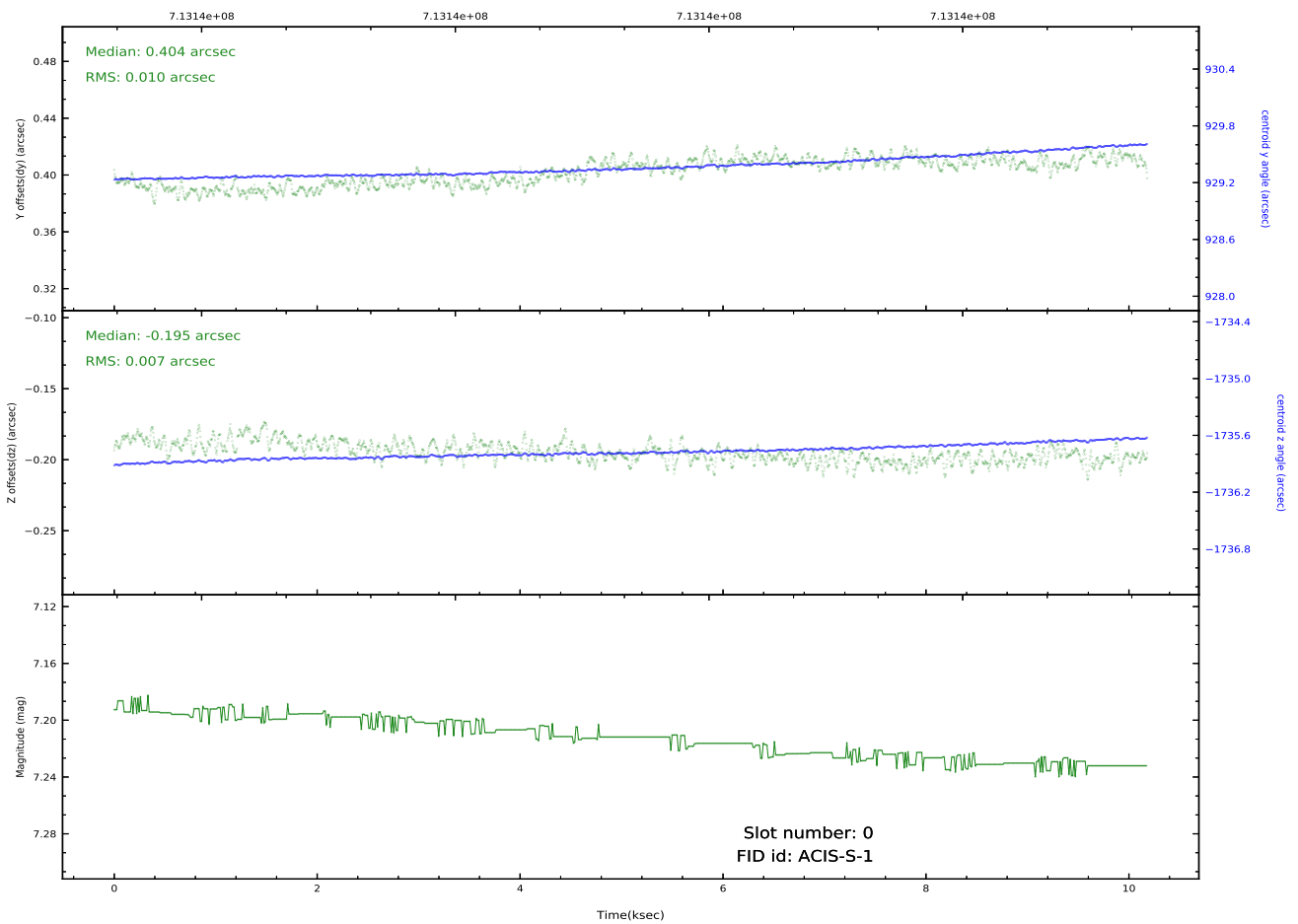


2.5 FID Slots

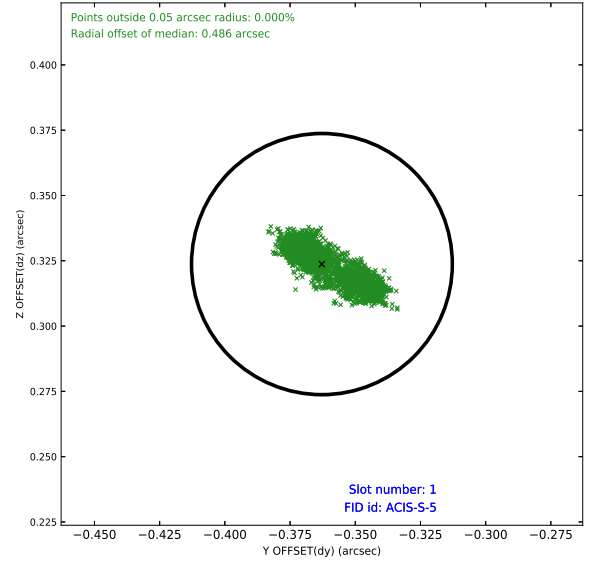
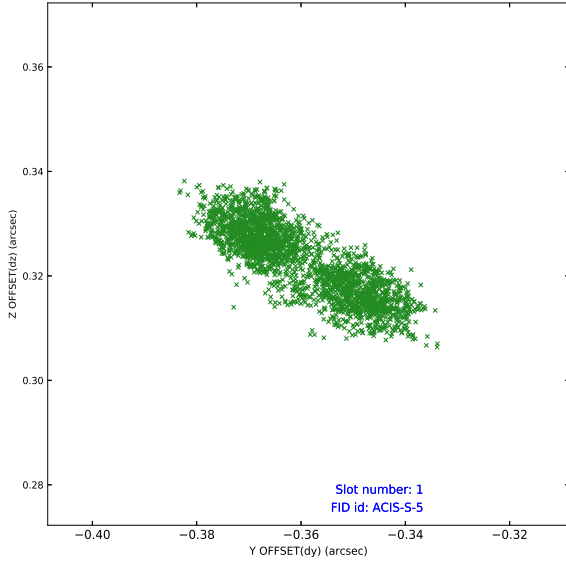
2.5.1 Slot 0



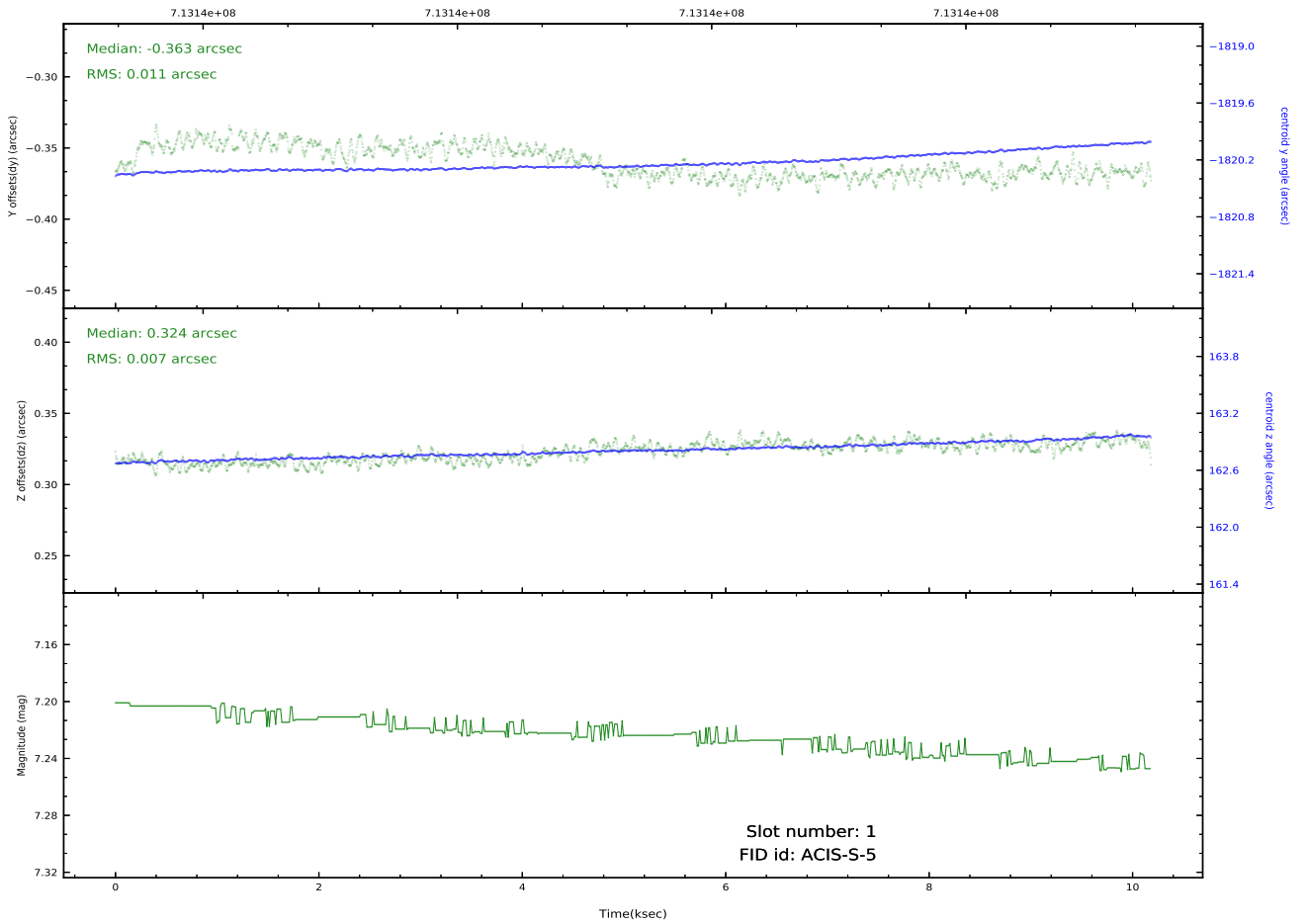
Time (s)



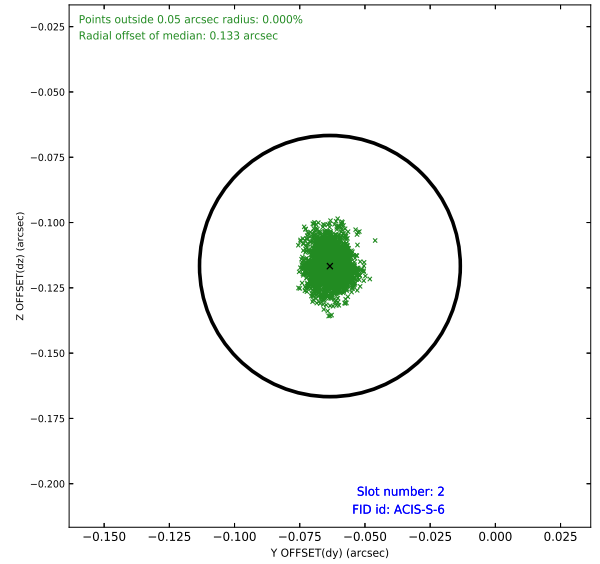
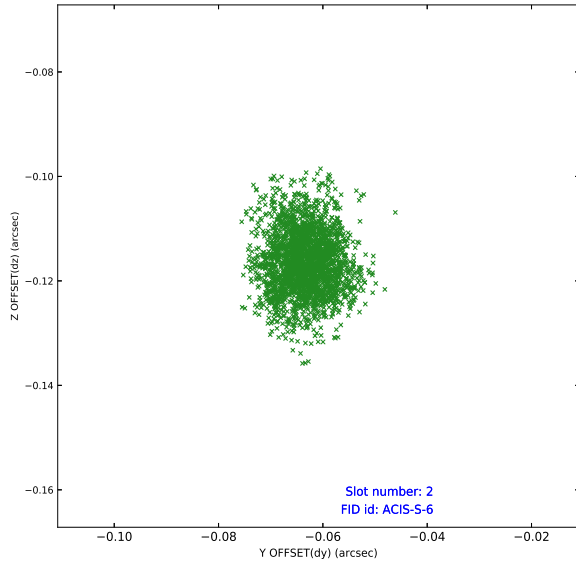
2.5.2 Slot 1



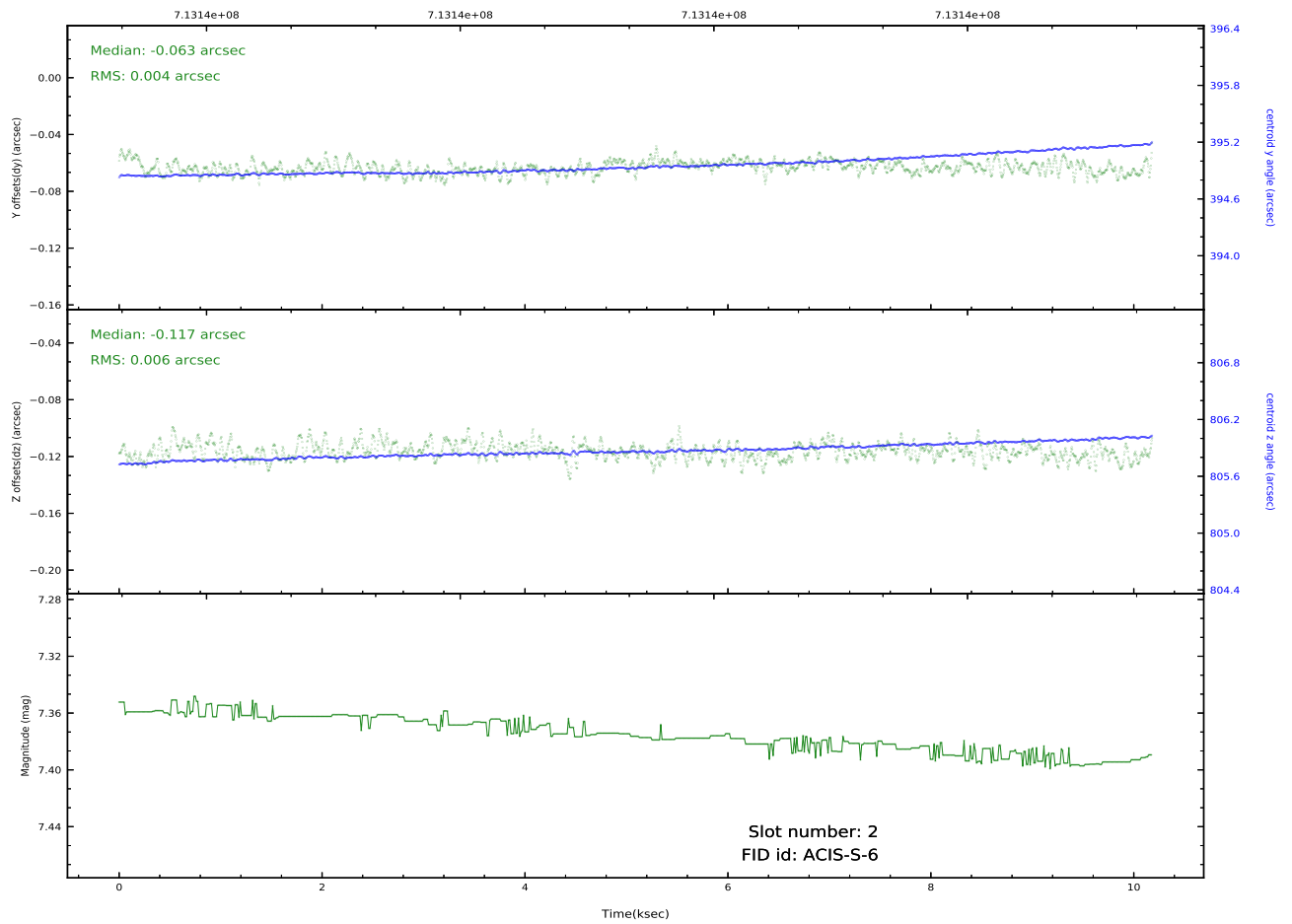
Time (s)



2.5.3 Slot 2



Time (s)



A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2020.08.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.058464137077

A.2 Comments

The guide star in slot 4 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this slot from the solution.

A spatial region of the original bias map for CCD = 6 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 = 6 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: (308.39725,9.74491), (308.40067,9.74602), (308.35641,9.87865), (308.35299,9.87755).