

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 20284 - L2 Version 3
Chandra X-Ray Center

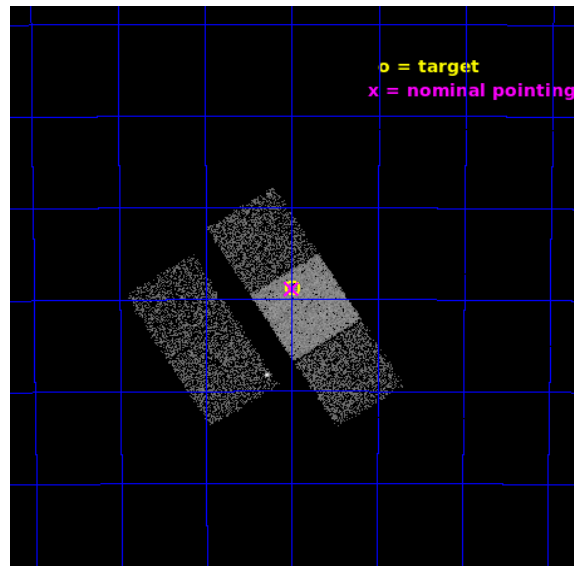
L2 Processing Date : Oct 26 2020

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1 Front

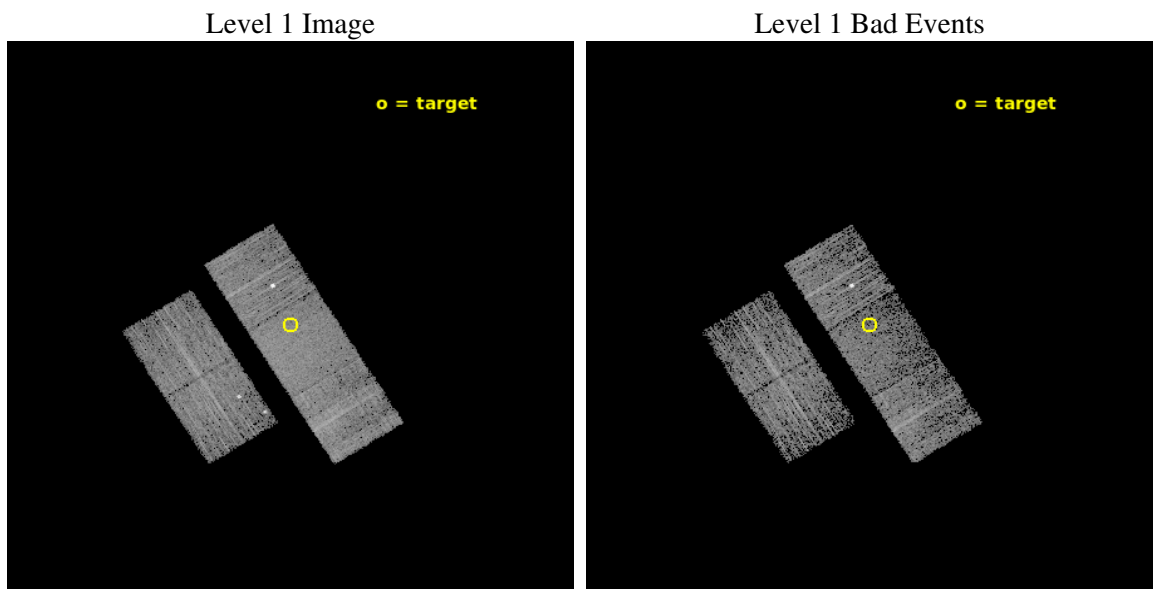
seq_num	502983	Sequence number
obs_id	20284	Observation id
title	Where Have All the Central Compact Objects Gone?	Proposal title
observer	Eric Gotthelf	Principal investigator
object	PSR J1544-5308	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	236.249167	Observer's specified target RA [deg]
dec_targ	-53.14625	Observer's specified target Dec [deg]
ra_nom	236.24989852389	Nominal RA [deg]
dec_nom	-53.147544030024	Nominal Dec [deg]
roll_nom	57.814928344714	Nominal Roll [deg]
revision	3	Processing version of data
ontime	3546.3476705551	Sum of GTIs [s]
livetime	3500.0120274561	Livetime [s]
ontime2	3546.1835105419	Sum of GTIs [s]
ontime3	3546.2655905485	Sum of GTIs [s]
ontime6	3546.3066306114	Sum of GTIs [s]
ontime7	3546.3476705551	Sum of GTIs [s]
ontime8	3546.2245506048	Sum of GTIs [s]
l2events	24433	Number of level 2 events



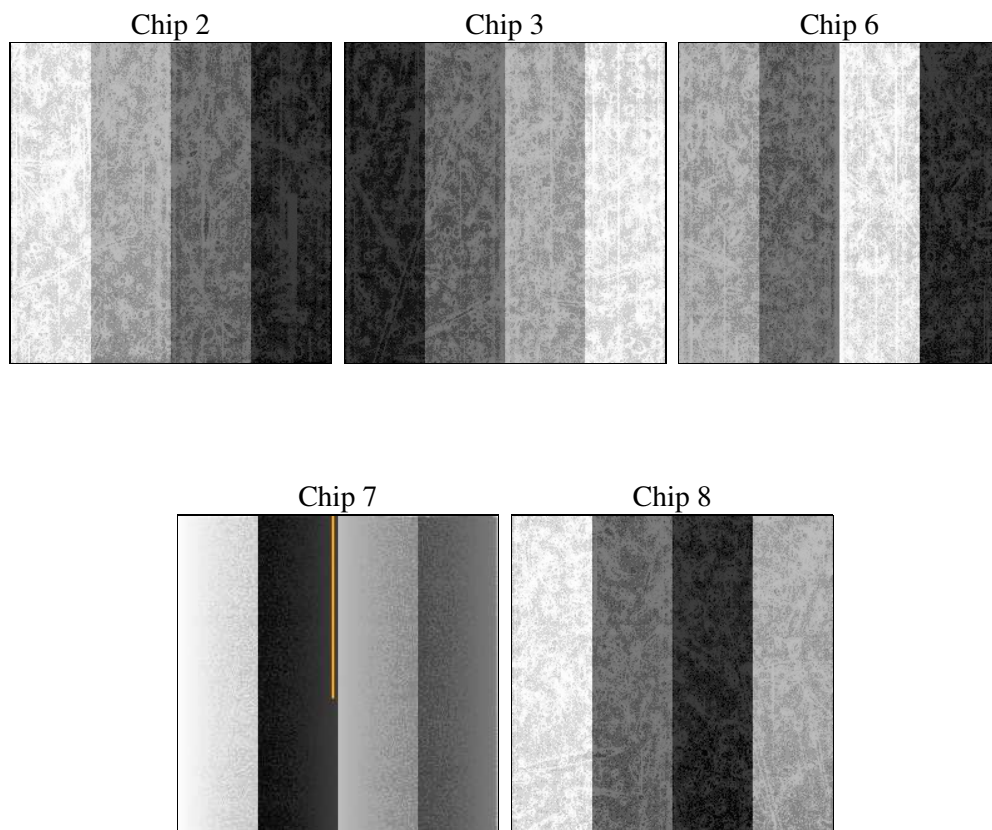
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	3500.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	3546.3476705551	Sum of GTIs [s]
caldsver	4.9.3	 	ontime2	3546.1835105419	Sum of GTIs [s]
date	2020-10-27T00:19:30	Date and time of file creation	ontime3	3546.2655905485	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	3546.3066306114	Sum of GTIs [s]
			ontime7	3546.3476705551	Sum of GTIs [s]
			ontime8	3546.2245506048	Sum of GTIs [s]
			l1events	153533	Number of level 1 events

2.1.4 Events

	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	26210	28301	31396	33889	33737
rejected events	23561	23960	27719	19548	25351
rejected %	89%	84%	88%	57%	75%

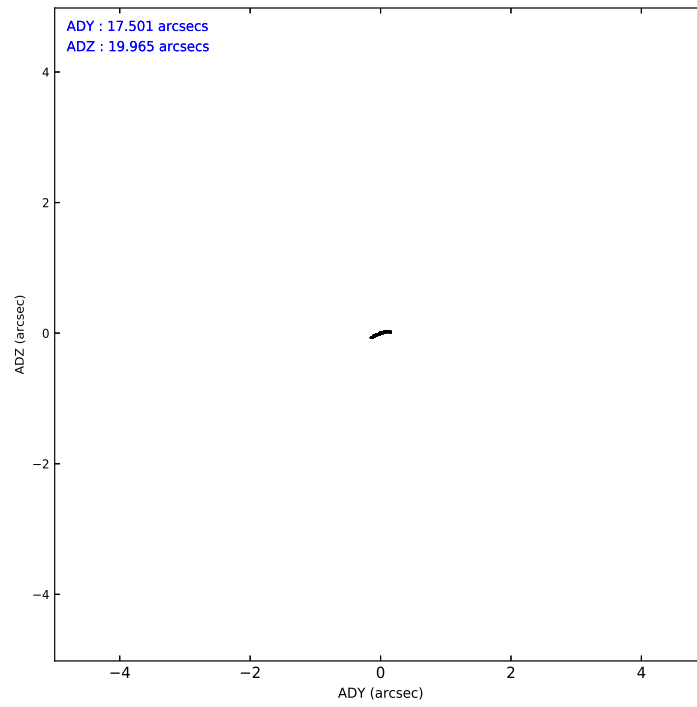
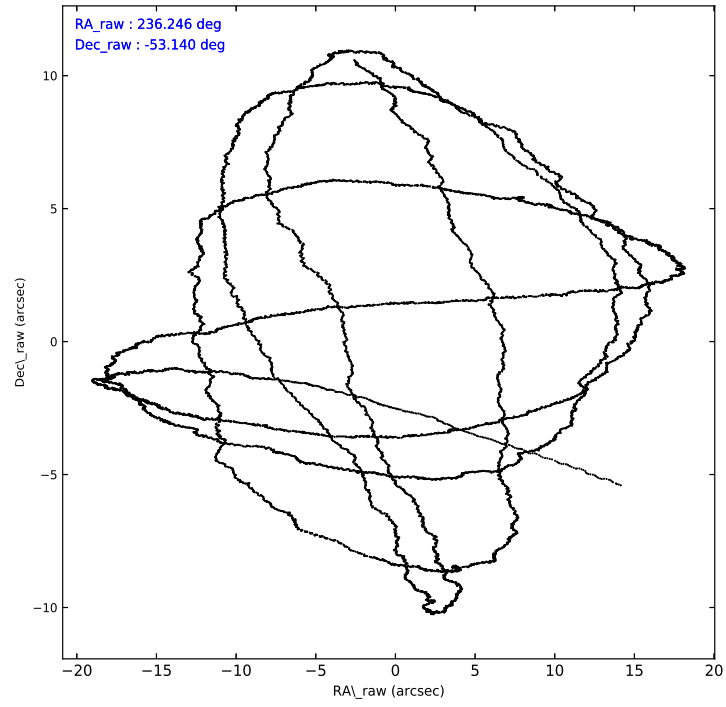
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	990	2400	857	1209	2299
	3%	8%	2%	3%	6%
grade 1 events	28	22	2283	57	18
	0%	0%	7%	0%	0%
grade 2 events	638	668	1555	2919	2015
	2%	2%	4%	8%	5%
grade 3 events	238	311	260	1142	909
	0%	1%	0%	3%	2%
grade 4 events	255	332	240	1124	803
	0%	1%	0%	3%	2%
grade 5 events	1011	1162	1154	3281	1677
	3%	4%	3%	9%	4%
grade 6 events	537	641	770	7978	2366
	2%	2%	2%	23%	7%
grade 7 events	22513	22765	24277	16179	23650
	85%	80%	77%	47%	70%

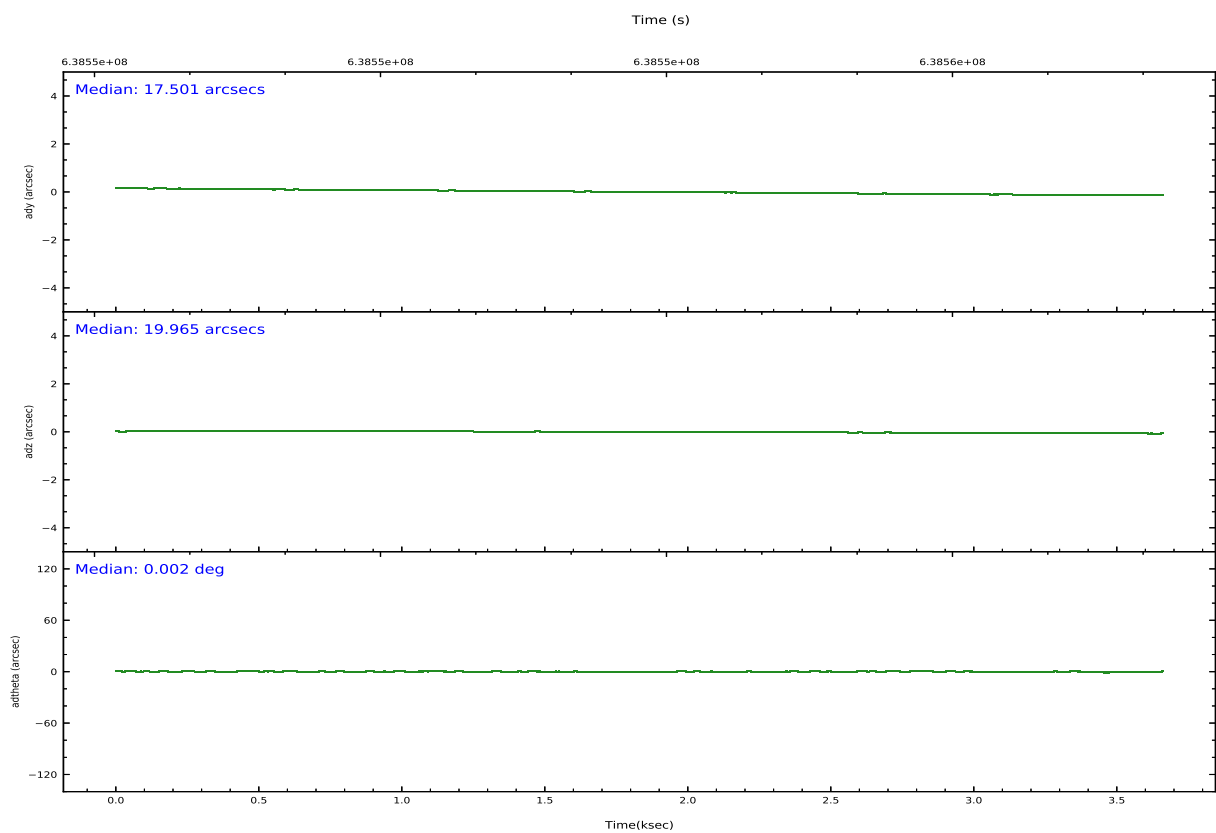
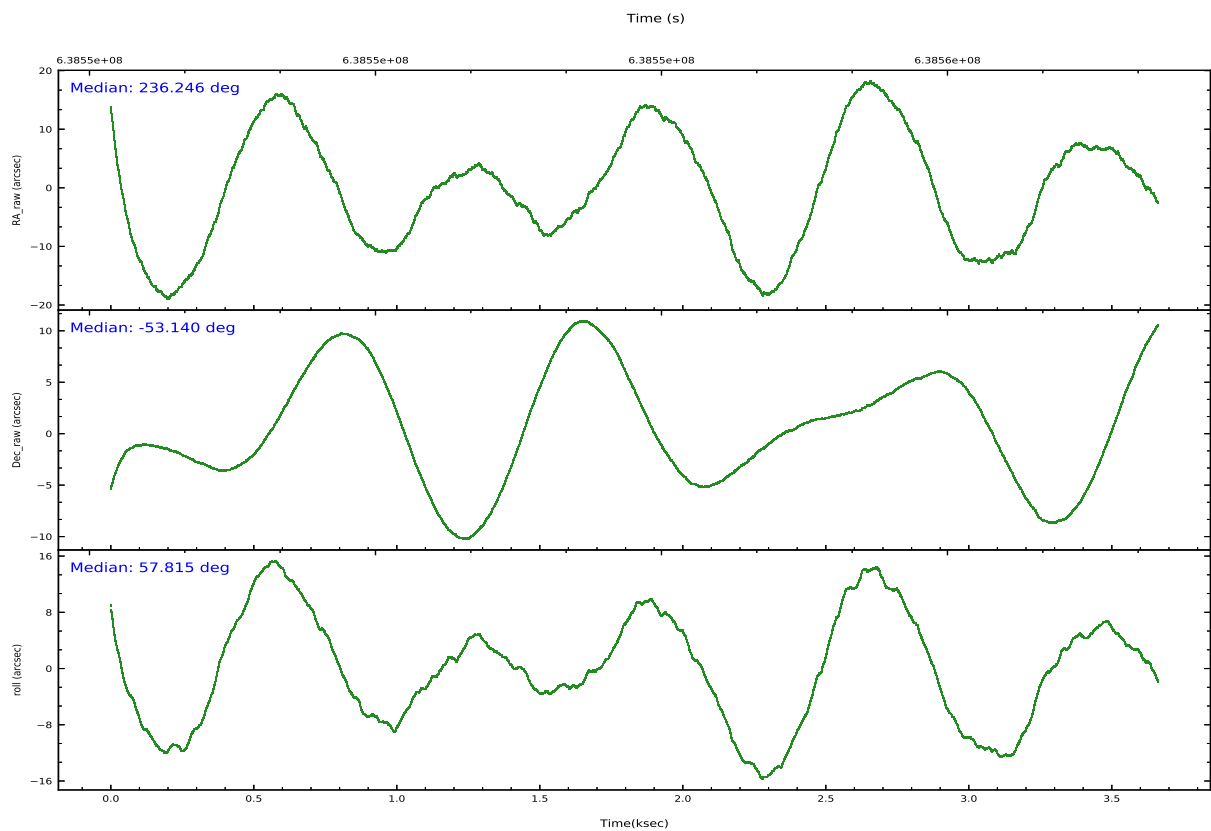
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-23678	ACIS-23678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	236.245394	236.24989852389
[deg] Pointing Dec	-53.167557	-53.147544030024
[deg] Pointing Roll	57.666514	57.814928344714
[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)	638552236.184000	638551232.3379101
Observation start date	2018-03-27T15:36:07	2018-03-27T15:20:32
[s] Observation end time (MET)	638555736.184000	638556454.71322
Observation end date	2018-03-27T16:34:27	2018-03-27T16:47:34
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar version number	8	8
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
CCD I0 on	N	N
CCD I1 on	N	N
CCD I2 on	O1	Y
CCD I3 on	O2	Y
CCD S0 on	N	N
CCD S1 on	N	N
CCD S2 on	Y	Y
CCD S3 on	Y	Y
CCD S4 on	Y	Y
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



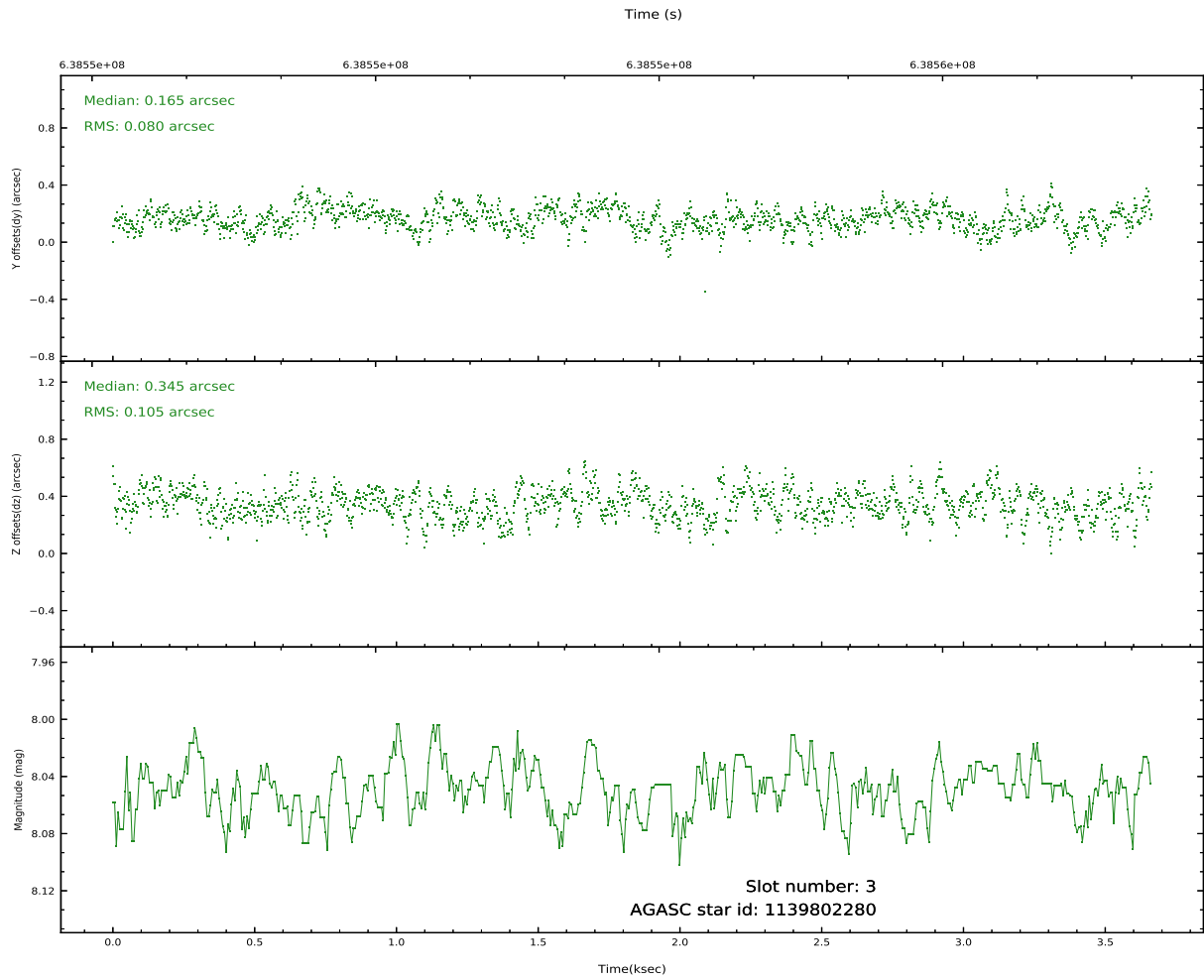
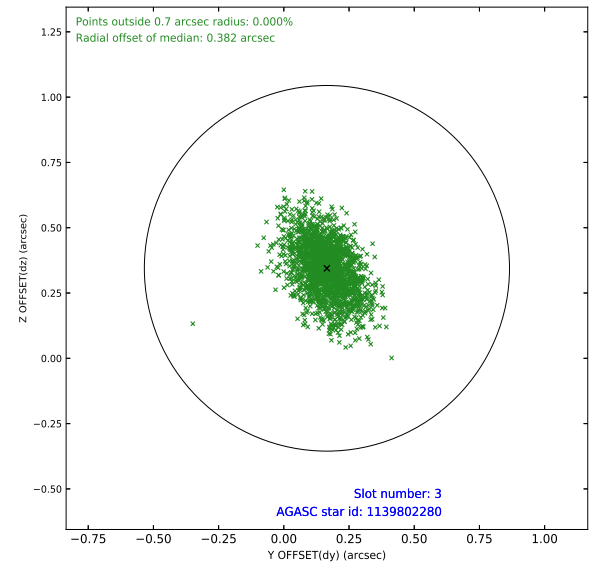
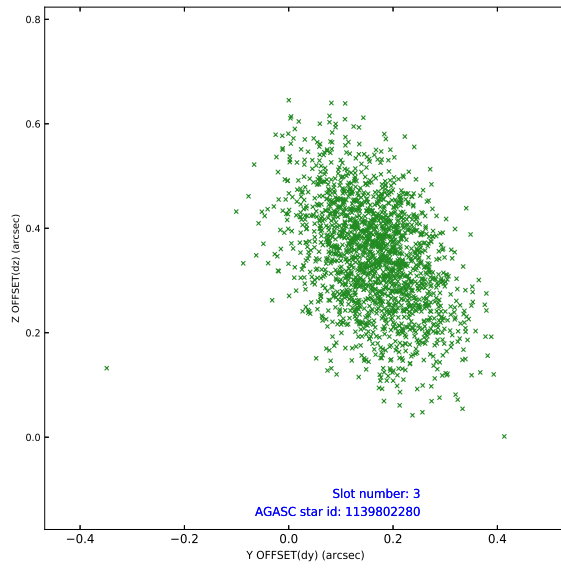


Slot Statistics

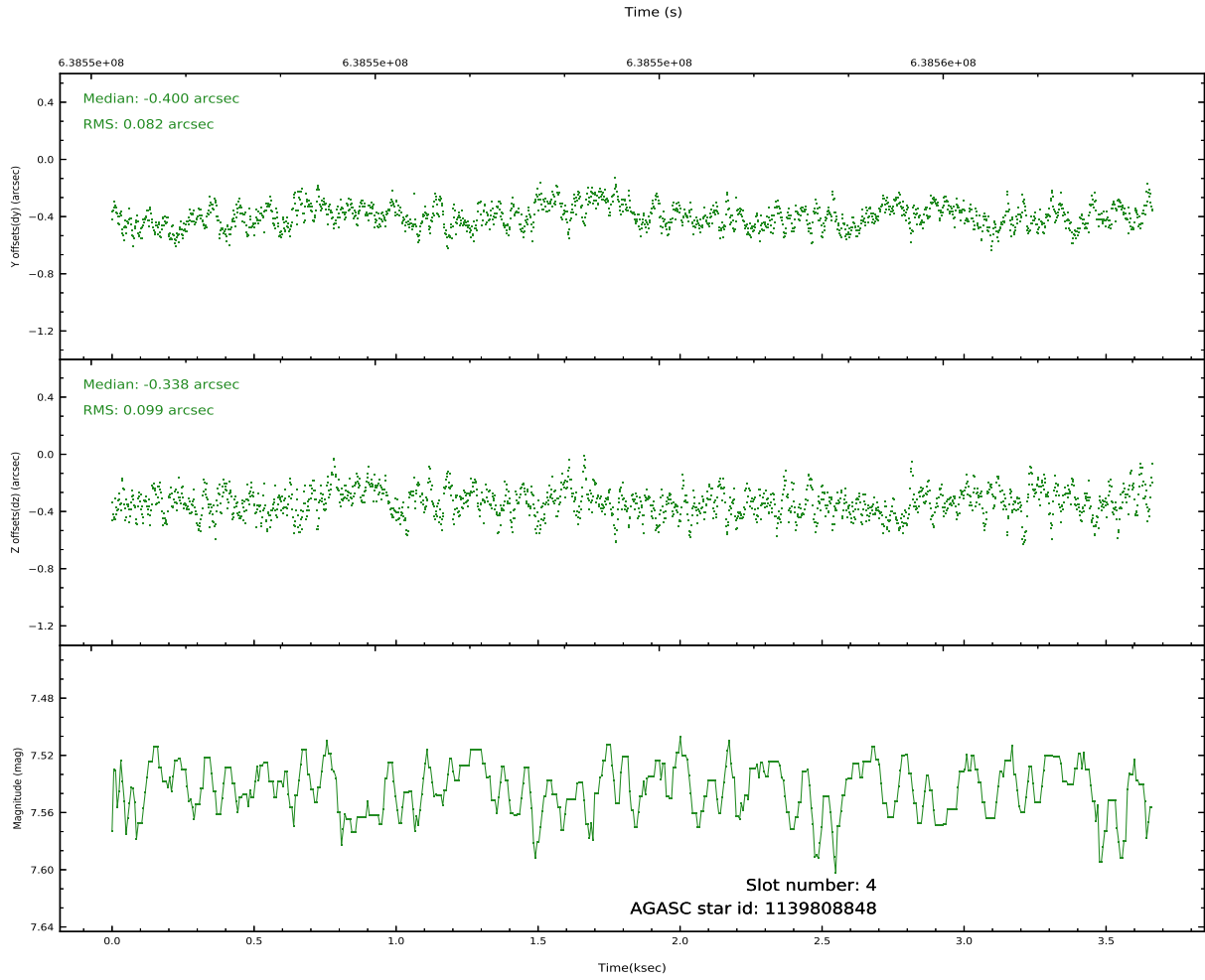
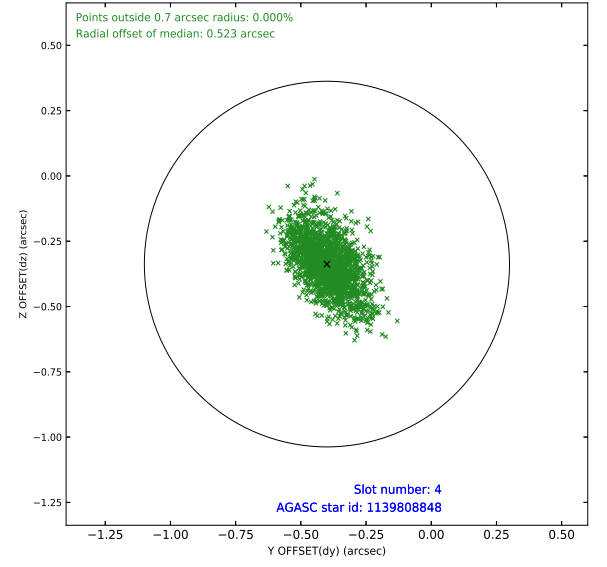
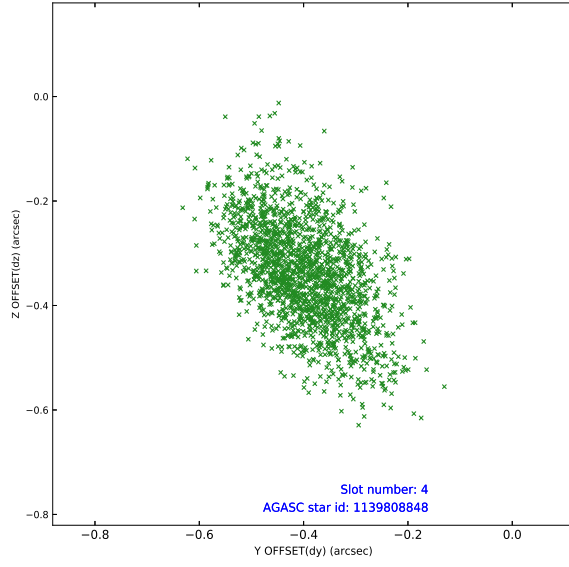
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.15	894	1.000	0.114	-0.091	0.008	0.012	0.000000	0.000000	-770.61	-1741
1	FID		ACIS-S-4	7.24	893	1.000	0.135	-0.030	0.007	0.011	0.000000	0.000000	2142.09	164
2	FID		ACIS-S-5	7.24	894	1.000	-0.281	0.131	0.007	0.012	0.000000	0.000000	-1821.46	161
3	GUIDE	used	1139802280	8.05	1788	1.000	0.165	0.345	0.137	0.235	236.525595	-54.011505	-2250.29	-2126
4	GUIDE	used	1139808848	7.54	1787	1.000	-0.400	-0.338	0.134	0.231	236.360535	-52.566830	1960.95	942
5	GUIDE	used	1139825624	7.34	1788	1.000	-0.003	-0.177	0.133	0.248	235.377653	-53.391269	-1684.83	1137
6	GUIDE	used	1139945360	8.77	1786	1.000	0.079	0.274	0.169	0.277	237.358594	-53.295227	877.07	-2278
7	GUIDE	used	1139936880	8.65	1785	1.000	0.154	-0.099	0.155	0.265	237.384113	-52.812793	2389.19	-1422

2.4 Star Slots

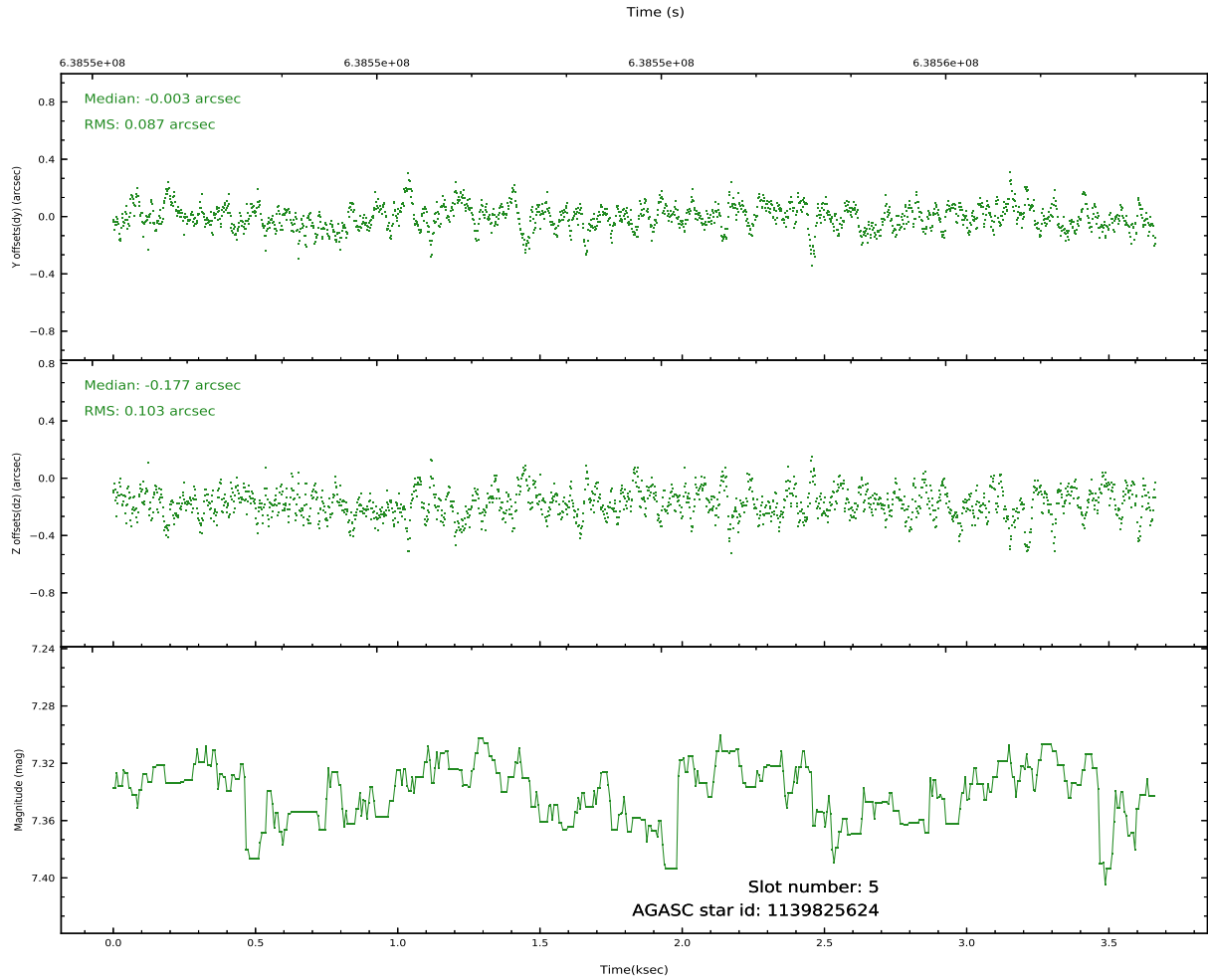
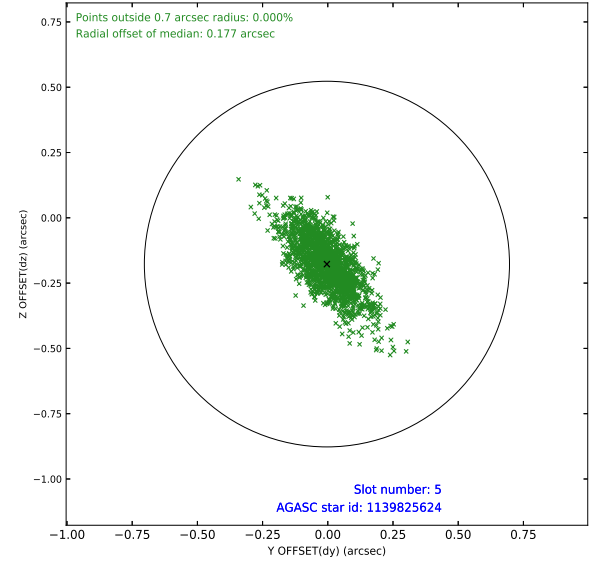
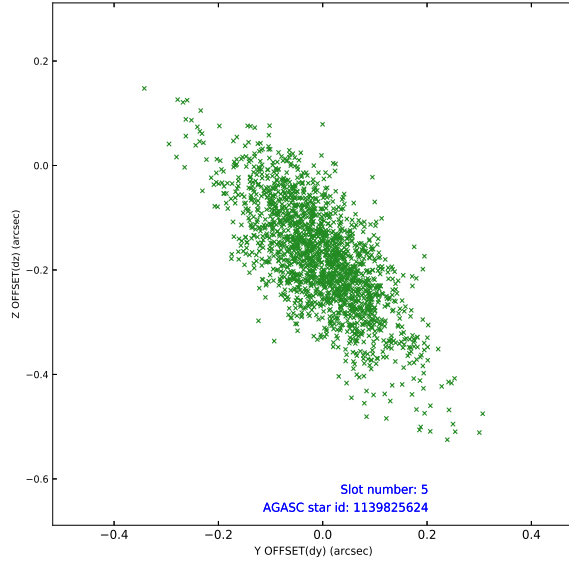
2.4.1 Slot 3



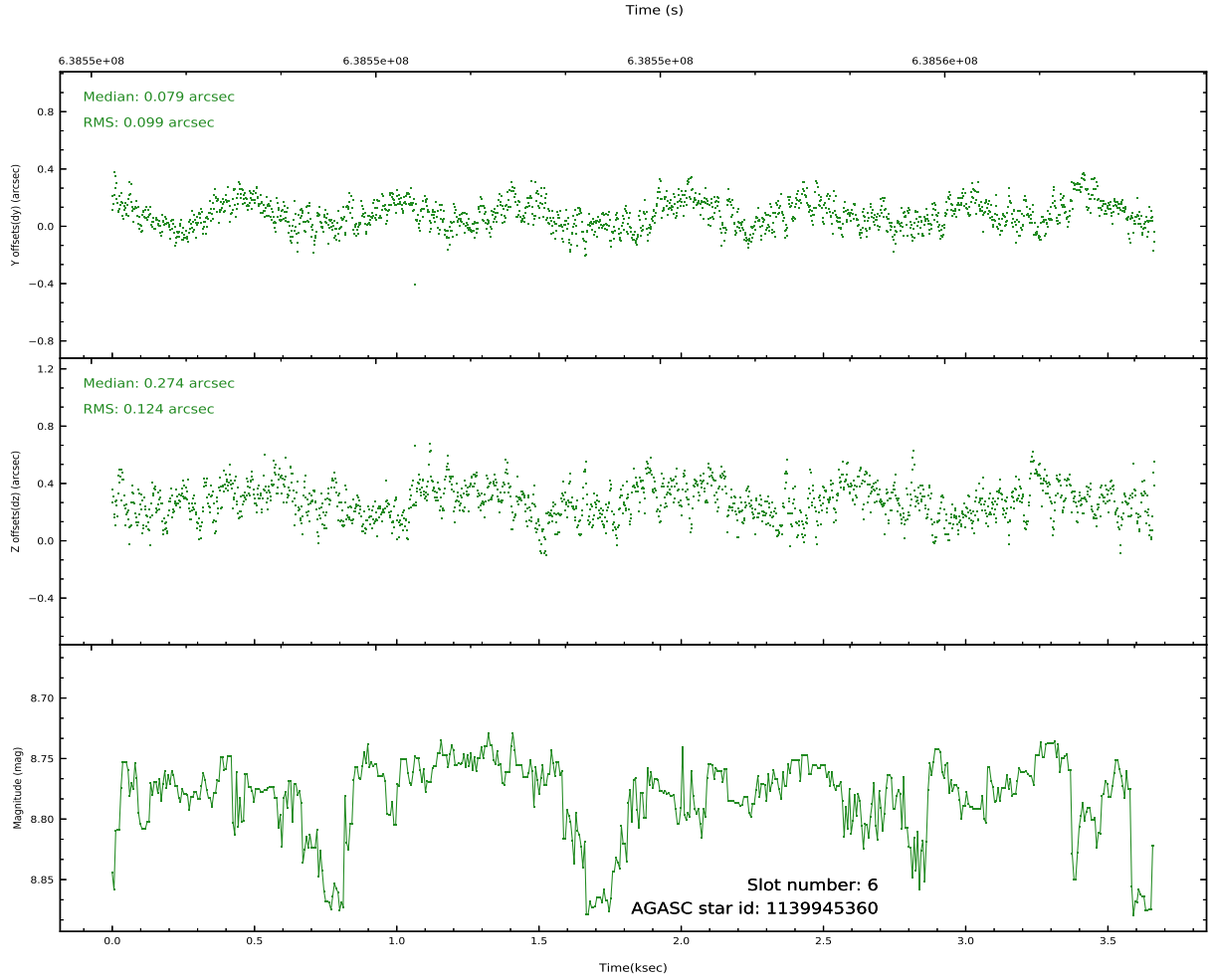
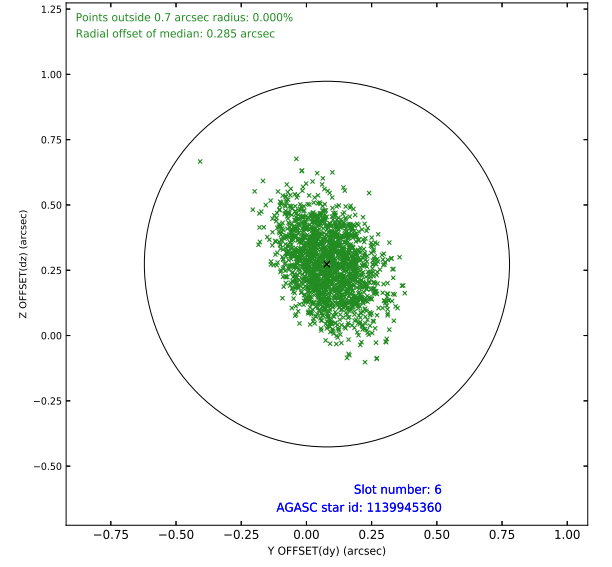
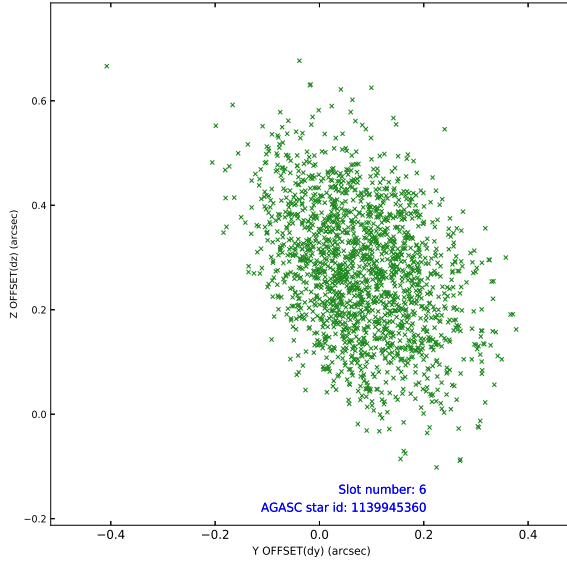
2.4.2 Slot 4



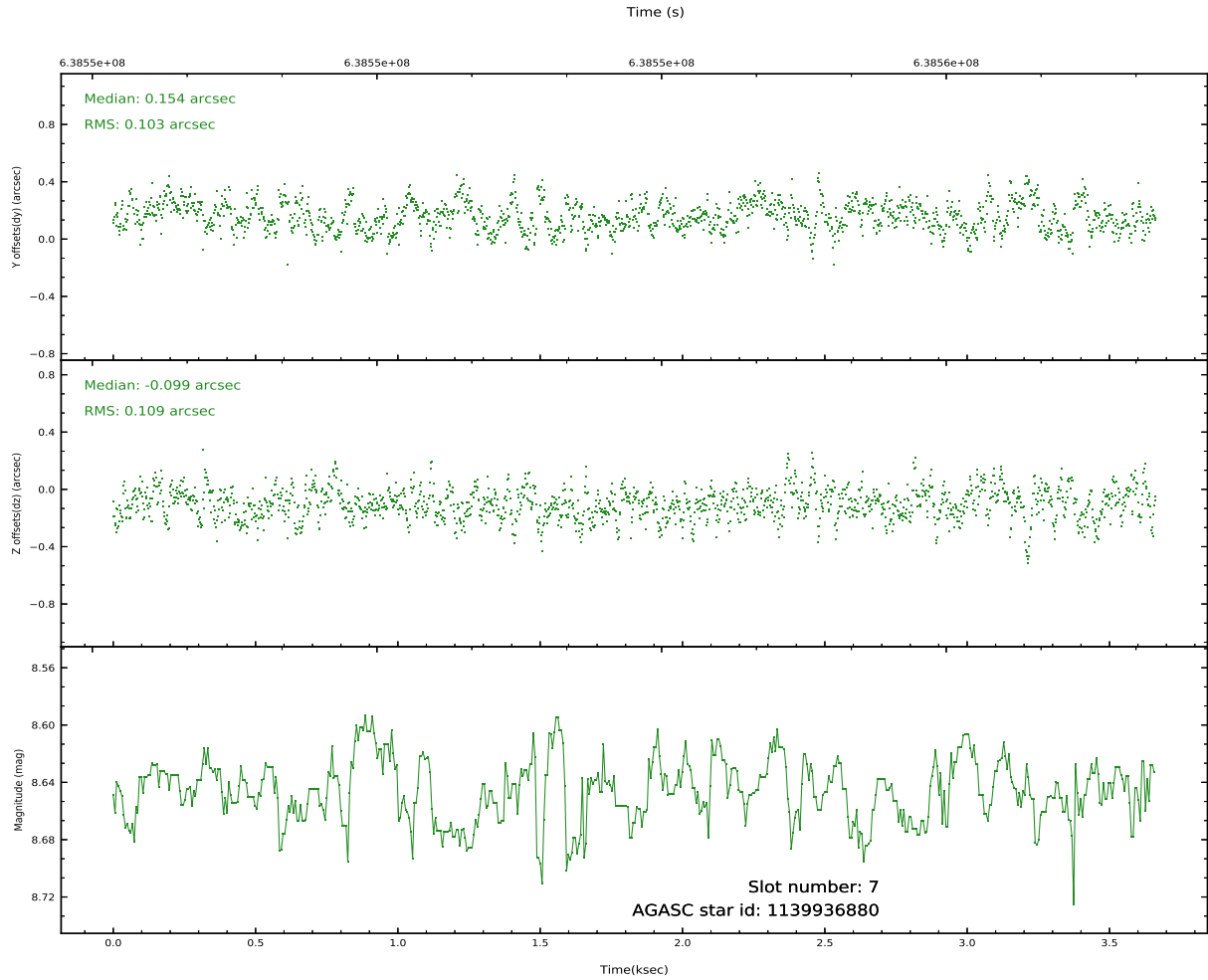
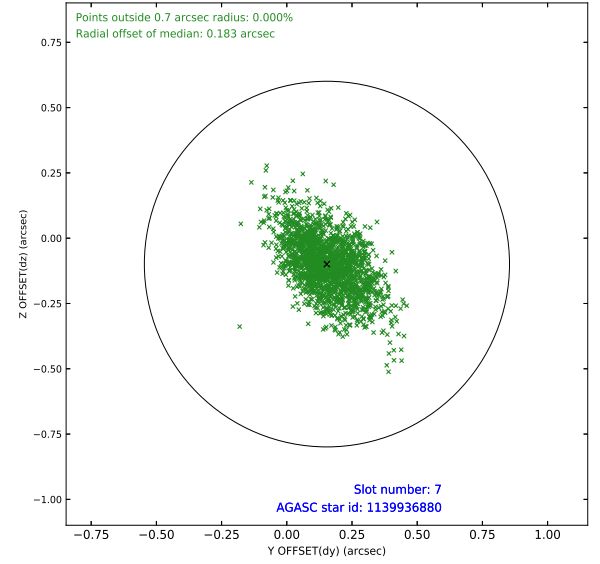
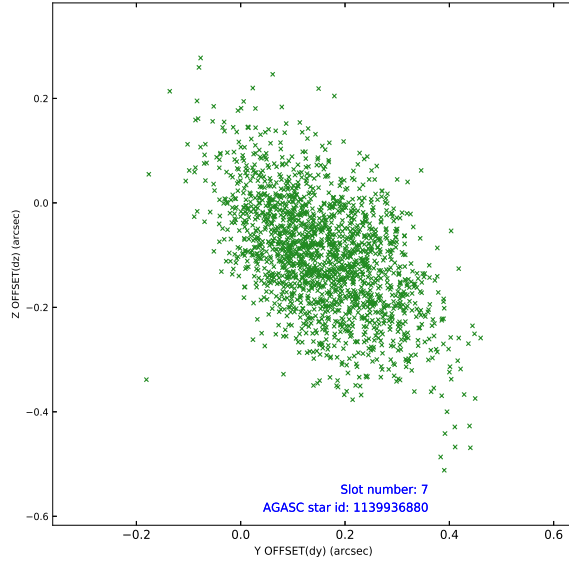
2.4.3 Slot 5



2.4.4 Slot 6

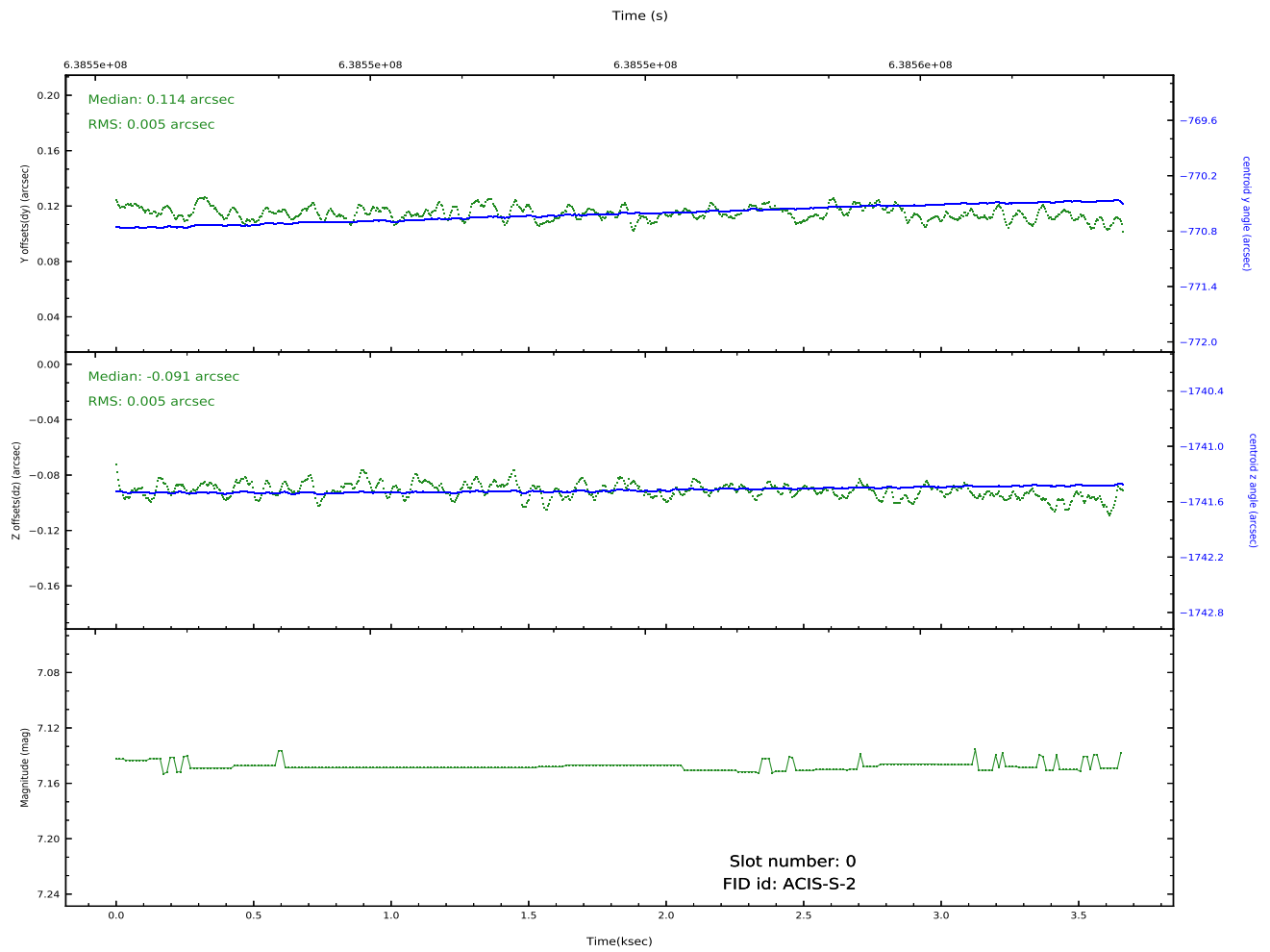
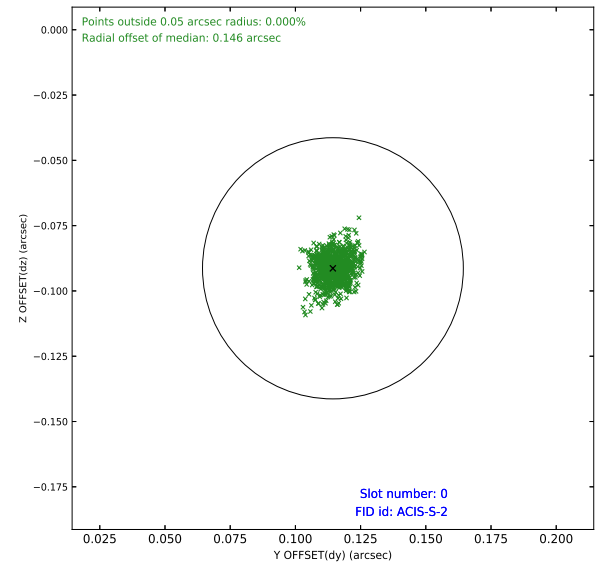
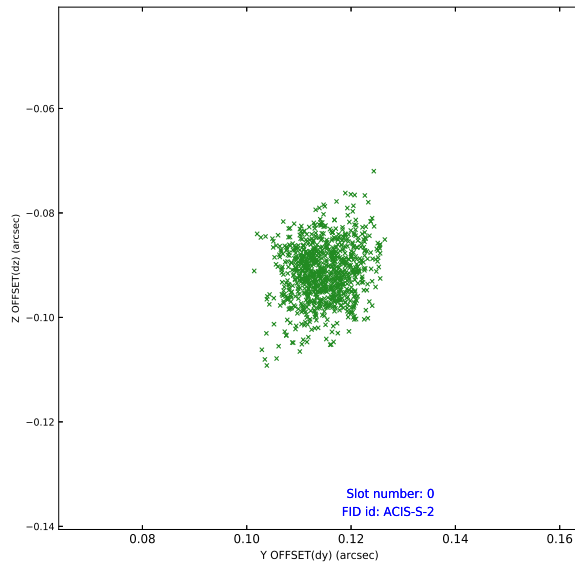


2.4.5 Slot 7

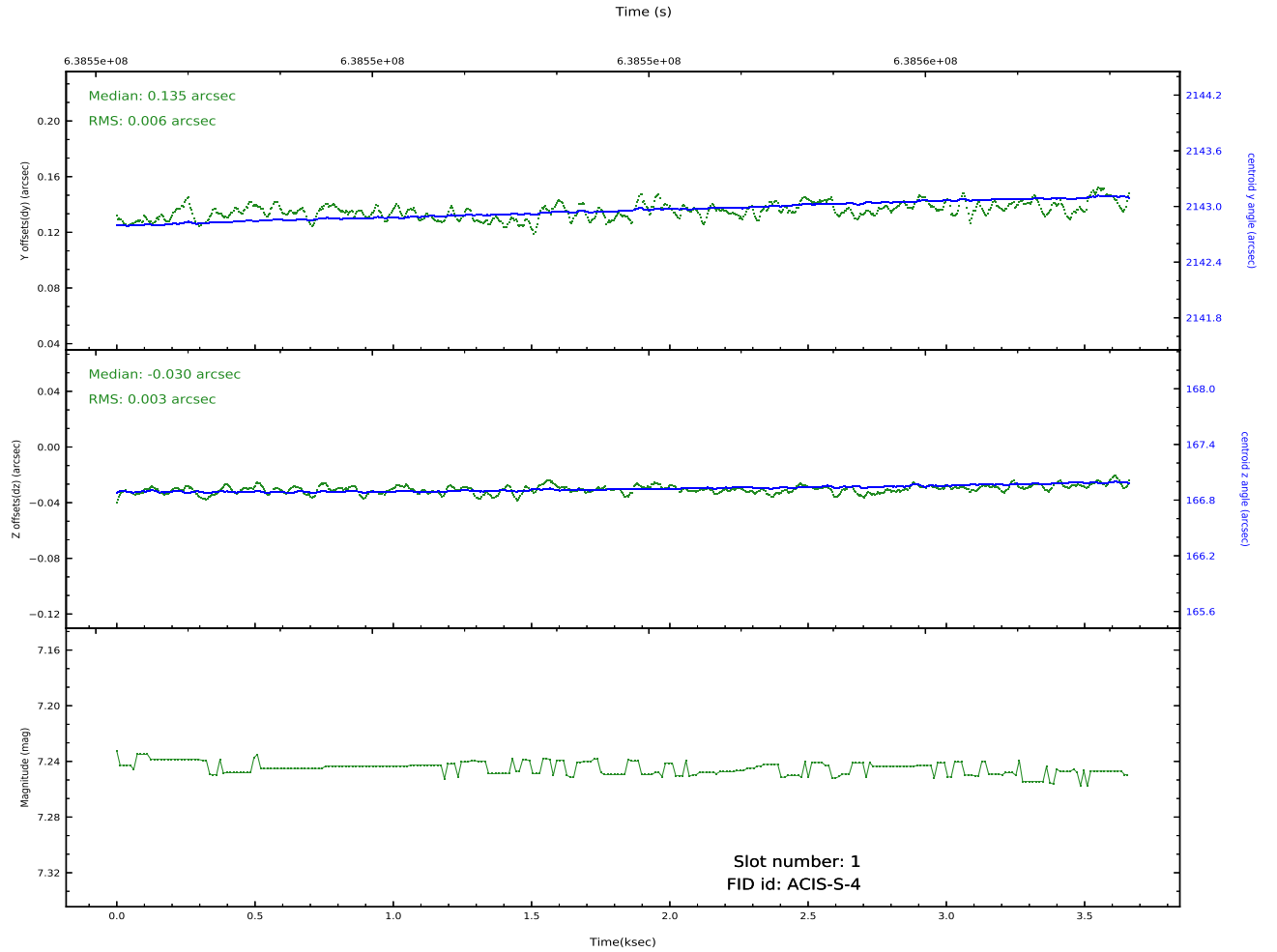
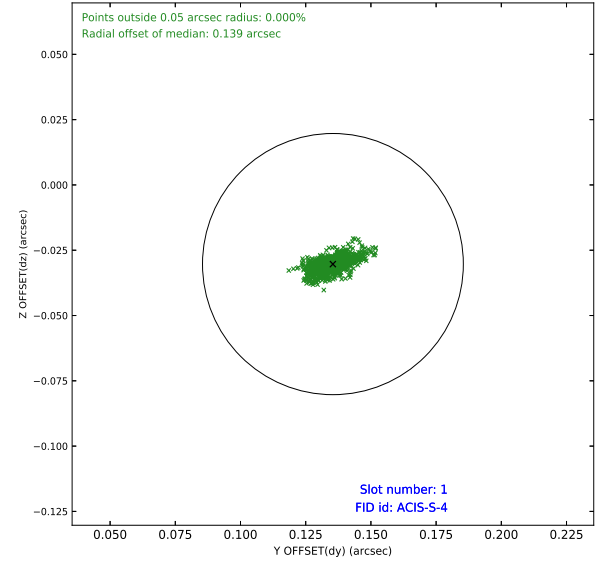
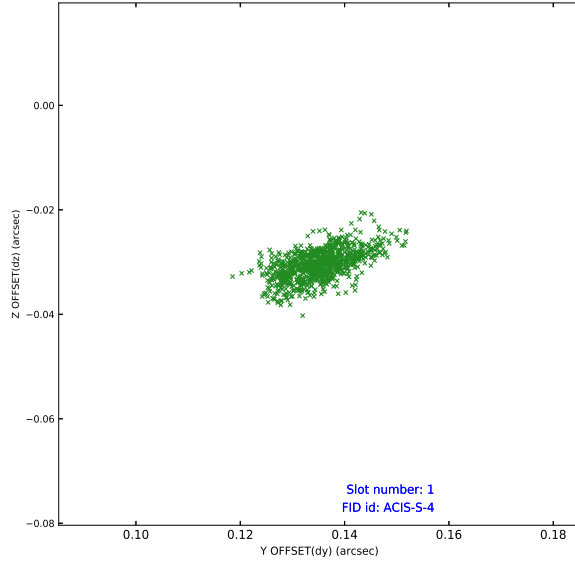


2.5 FID Slots

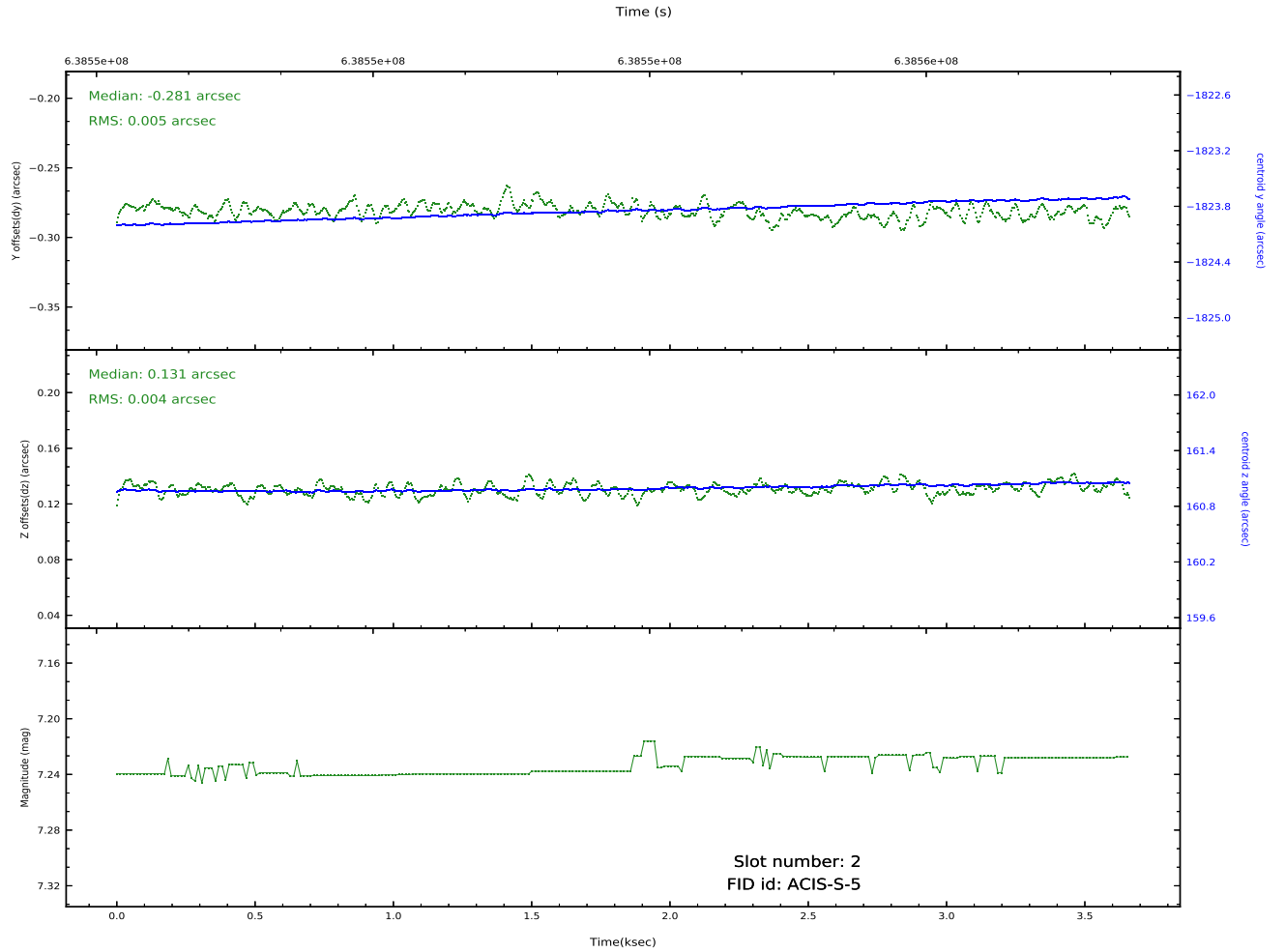
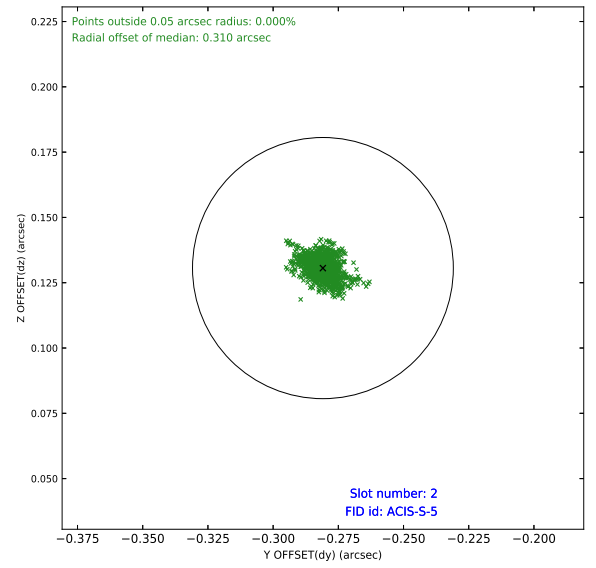
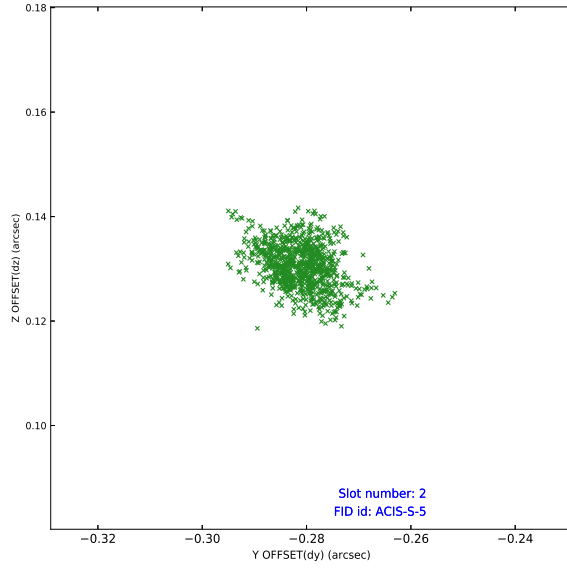
2.5.1 Slot 0



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)	2020.10.28
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	3.546347668767

A.2 Comments

A spatial region of the original bias maps for CCD = 2 and 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: (236.41044, -53.36751), (236.41624, -53.36968), (236.47663, -53.31199), (236.47276, -53.30797).

===

The bias map for CCD = 2 could not be improved because no suitable data at a compatible temperature and time range are available to use as replacement values. The bias map used in this processing is the original bias map telemetered with the observation.