

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 20513 - L2 Version 3
Chandra X-Ray Center

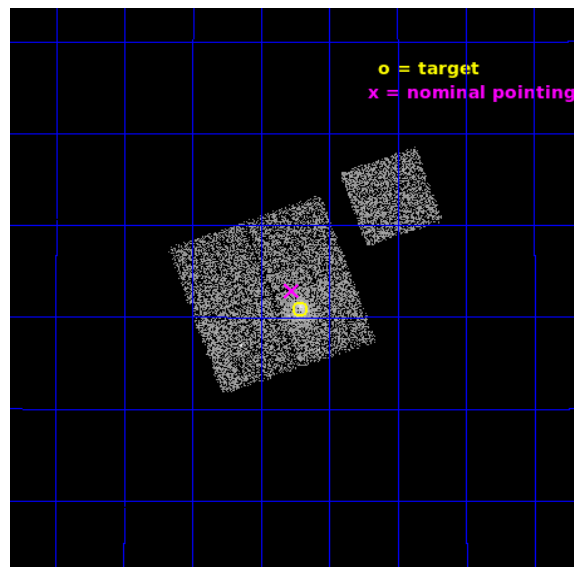
L2 Processing Date : Oct 26 2020

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1 Front

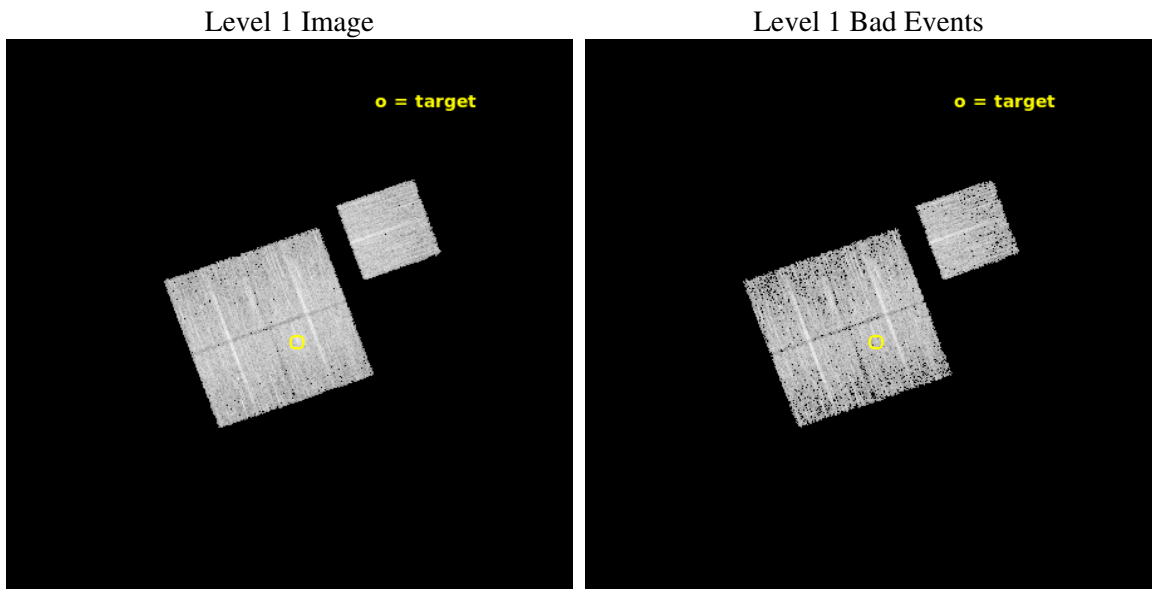
seq_num	801727	Sequence number
obs_id	20513	Observation id
title	Enabling precision cosmology with optically selected galaxy clusters	
observer	Roger Morris	Principal investigator
object	CIG J092642+174110	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	141.67875	Observer's specified target RA [deg]
dec_targ	17.681111	Observer's specified target Dec [deg]
ra_nom	141.69324454959	Nominal RA [deg]
dec_nom	17.714855110536	Nominal Dec [deg]
roll_nom	70.197463207452	Nominal Roll [deg]
revision	3	Processing version of data
ontime	5065.4000390768	Sum of GTIs [s]
livetime	4999.216858473	Livetime [s]
ontime0	5065.4000390768	Sum of GTIs [s]
ontime1	5065.4000390768	Sum of GTIs [s]
ontime2	5065.4000390768	Sum of GTIs [s]
ontime3	5065.4000390768	Sum of GTIs [s]
ontime6	5062.2589889765	Sum of GTIs [s]
l2events	18586	Number of level 2 events



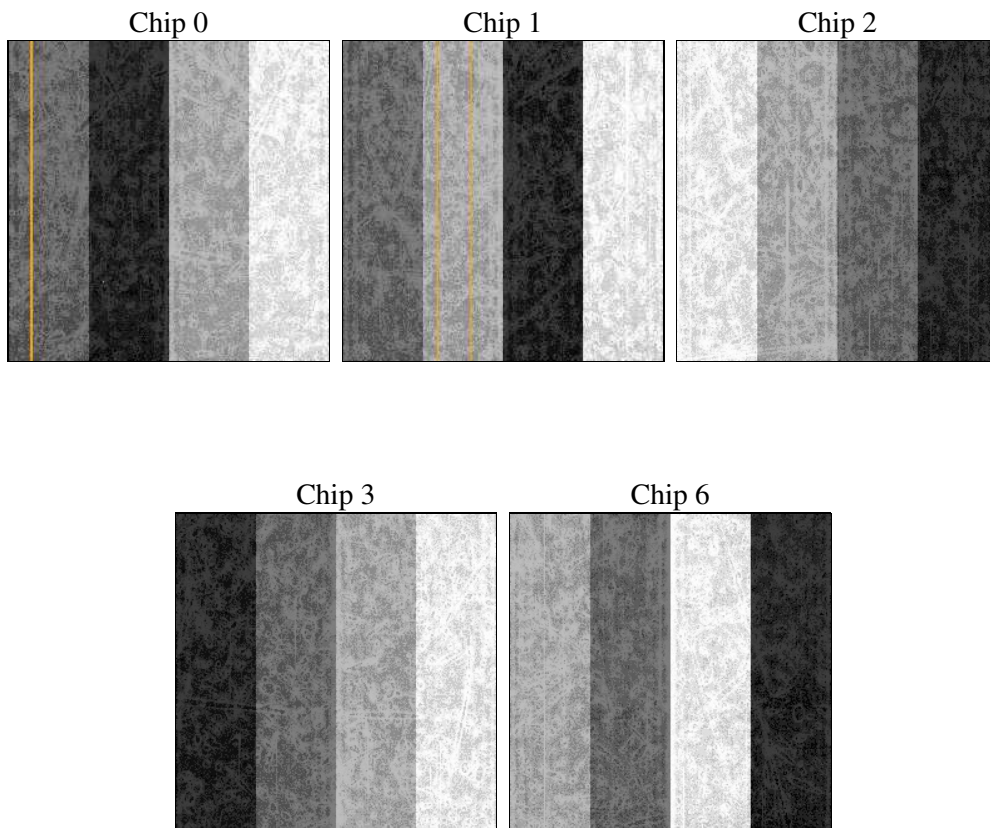
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	5065.4000390768	Sum of GTIs [s]
caldsver	4.9.3	 	ontime0	5065.4000390768	Sum of GTIs [s]
date	2020-10-27T00:10:00	Date and time of file creation	ontime1	5065.4000390768	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	5065.4000390768	Sum of GTIs [s]
			ontime3	5065.4000390768	Sum of GTIs [s]
			ontime6	5062.2589889765	Sum of GTIs [s]
			l1events	180236	Number of level 1 events

2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	33772	35682	37510	35886	37386
rejected events	29790	31092	33607	30696	33367
rejected %	88%	87%	89%	85%	89%

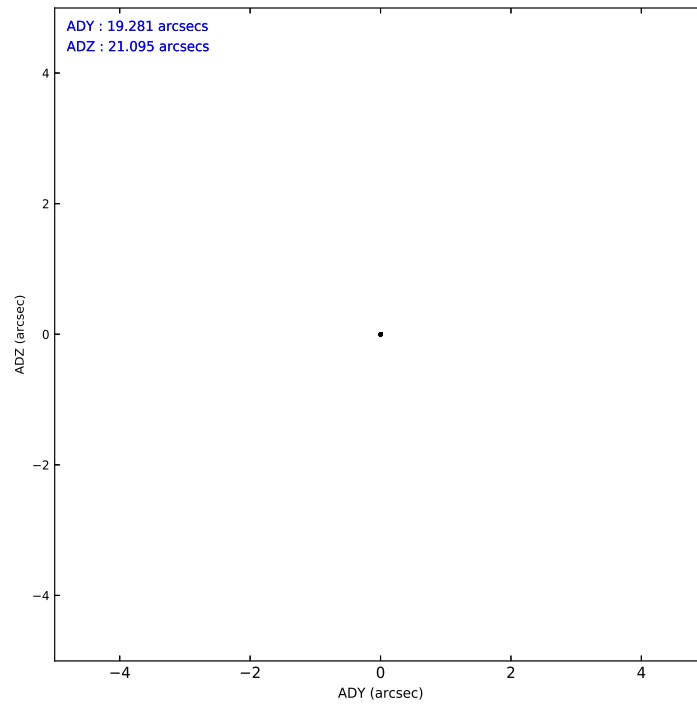
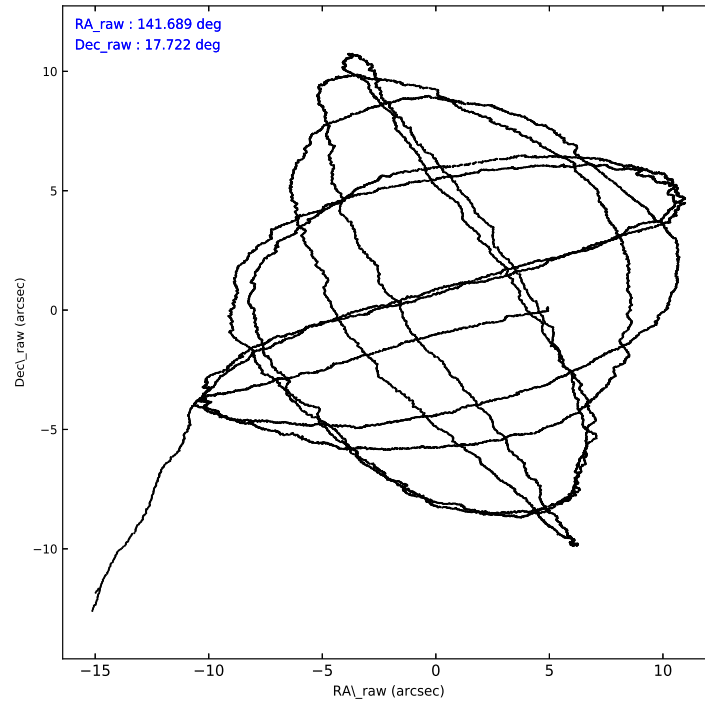
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	1345	1563	1438	2452	1186
	3%	4%	3%	6%	3%
grade 1 events	21	22	17	31	17
	0%	0%	0%	0%	0%
grade 2 events	981	1190	934	973	1046
	2%	3%	2%	2%	2%
grade 3 events	389	369	374	463	360
	1%	1%	0%	1%	0%
grade 4 events	366	381	411	430	360
	1%	1%	1%	1%	0%
grade 5 events	1442	1505	1445	1779	1590
	4%	4%	3%	4%	4%
grade 6 events	904	1096	750	879	1068
	2%	3%	1%	2%	2%
grade 7 events	28324	29556	32141	28879	31759
	83%	82%	85%	80%	84%

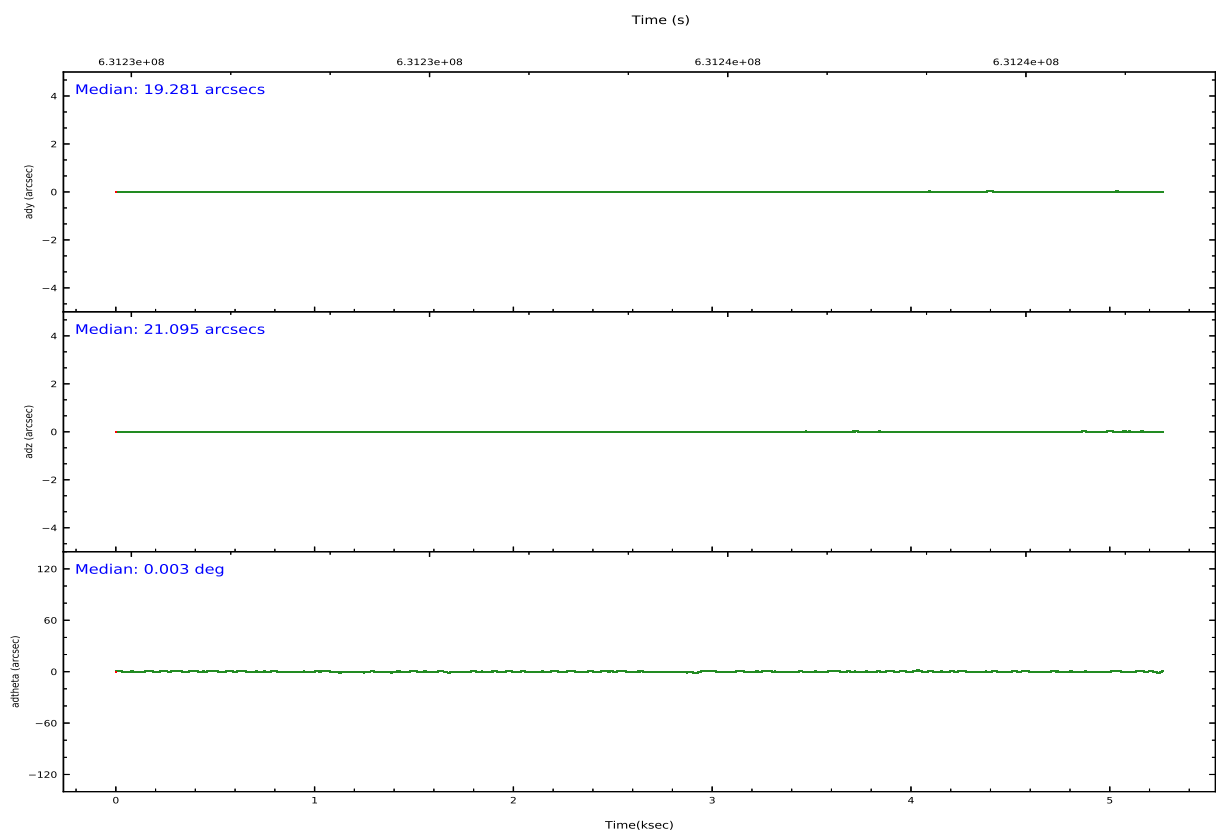
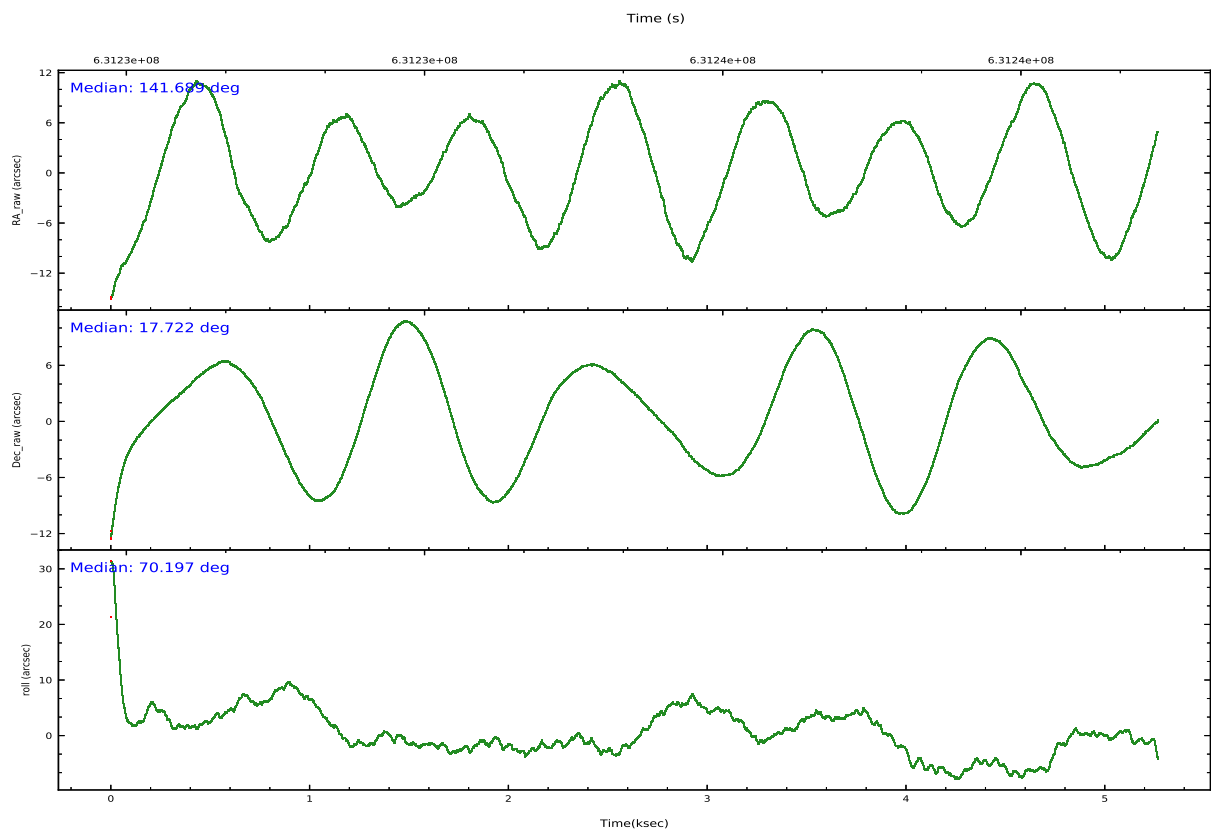
2.2 Compared Parameters

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	141.694673	141.69324454959
[deg] Pointing Dec	17.695041	17.714855110536
[deg] Pointing Roll	69.995152	70.197463207452
[mm] SIM focus pos	-0.782348	-0.7809083437167272
[mm] SIM defocus	0	0.001439871863259334
[mm] SIM translation stage pos	-228.472463	-228.4783457680588
[mm] SIM translation stage offset	-5.12	-5.114107234870914
[s] Observation start time (MET)	631232689.184000	631231695.11923
Observation start date	2018-01-01T22:23:40	2018-01-01T22:08:15
[s] Observation end time (MET)	631237689.184000	631239158.6571701
Observation end date	2018-01-01T23:47:00	2018-01-02T00:12:38
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	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



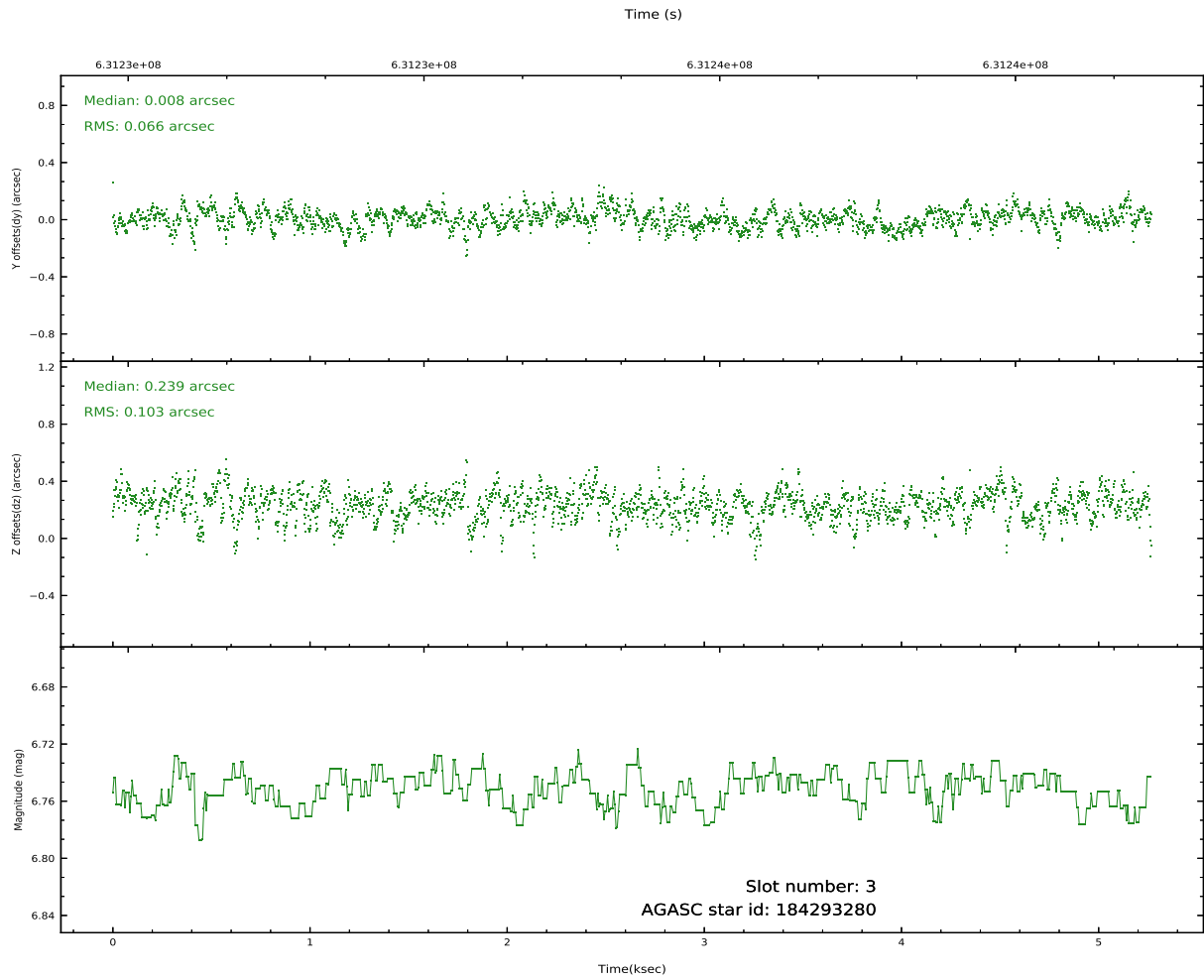
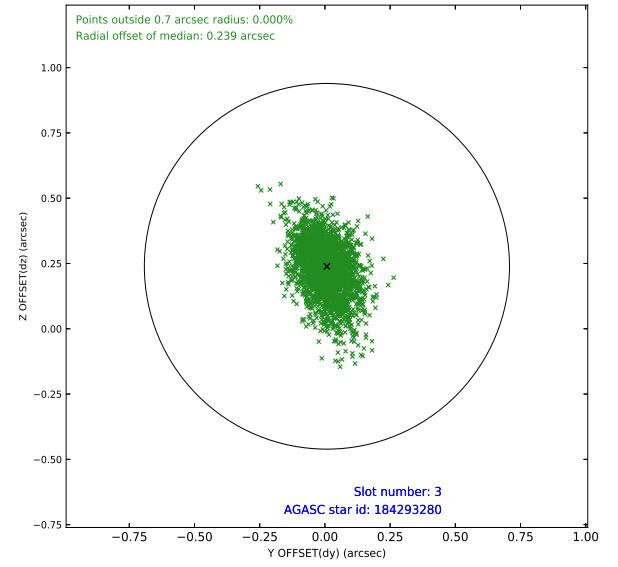
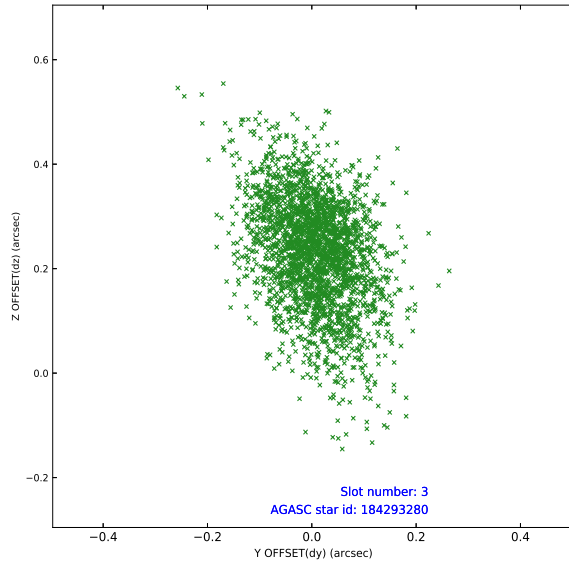


Slot Statistics

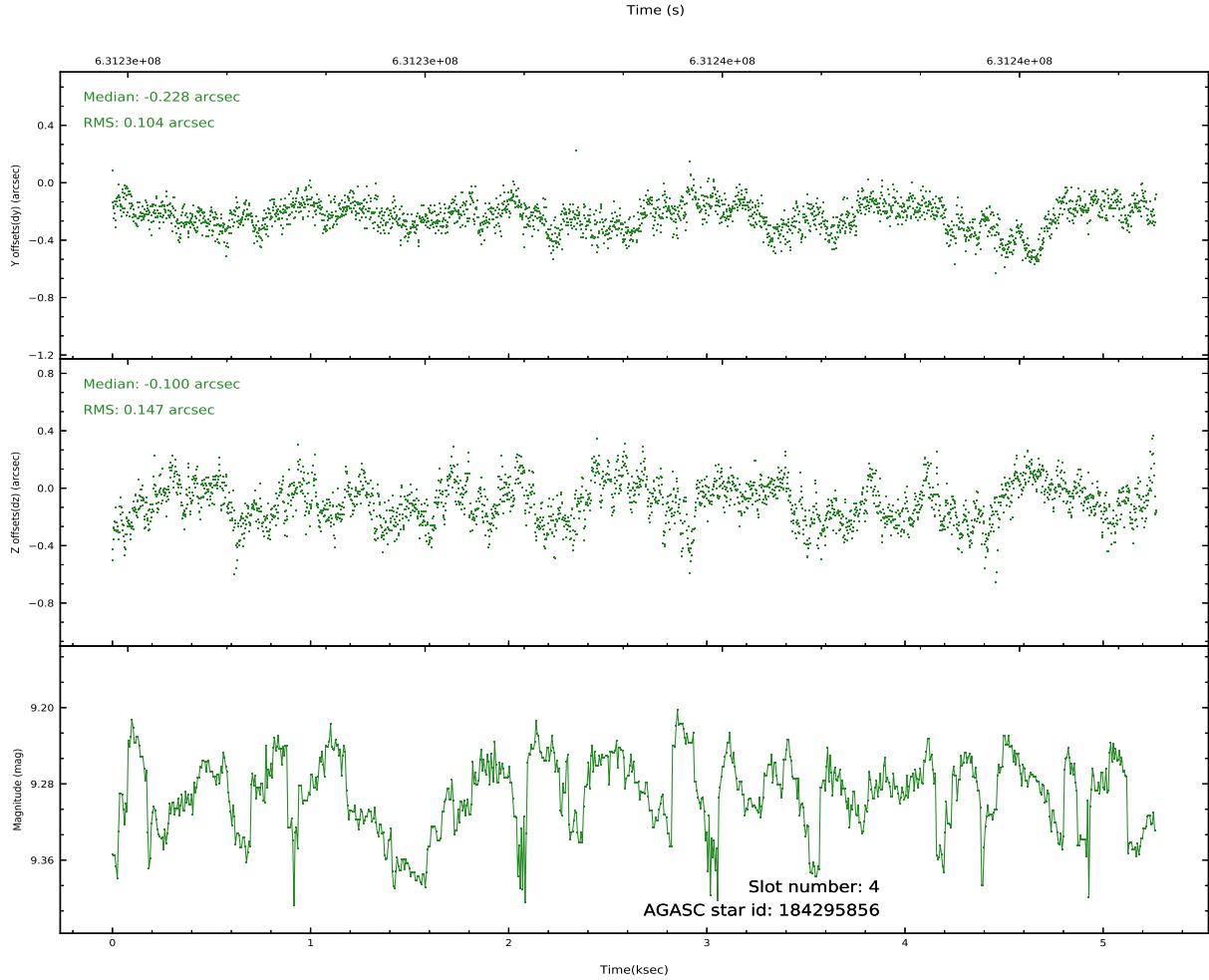
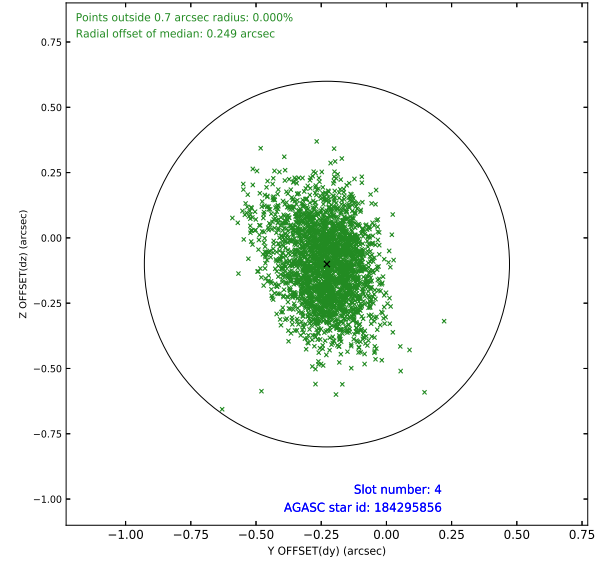
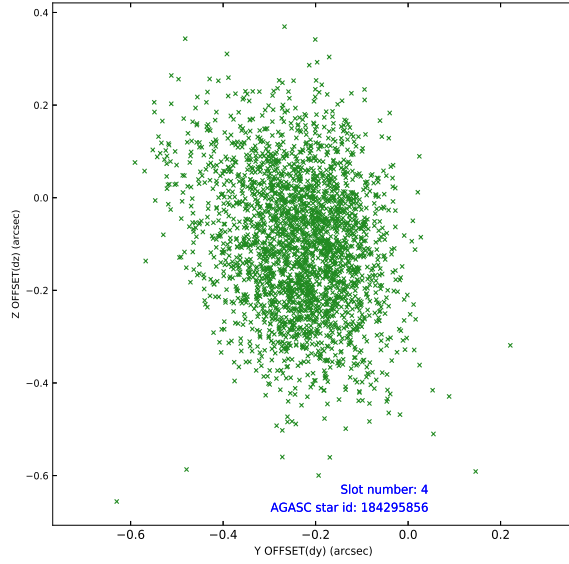
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.28	1286	1.000	0.306	-0.243	0.006	0.011	0.000000	0.000000	920.17	-950
1	FID		ACIS-I-5	7.27	1286	1.000	-0.389	0.242	0.006	0.012	0.000000	0.000000	-1827.82	947
2	FID		ACIS-I-6	7.28	1286	1.000	-0.007	0.072	0.007	0.012	0.000000	0.000000	384.39	1592
3	GUIDE	used	184293280	6.75	2571	1.000	0.008	0.239	0.125	0.223	142.387248	17.651862	671.54	-2284
4	GUIDE	used	184295856	9.29	2567	1.000	-0.228	-0.100	0.188	0.319	141.466392	17.866055	311.68	944
5	GUIDE	used	184297752	8.17	2571	1.000	-0.084	-0.341	0.113	0.206	141.749298	18.037275	1222.15	245
6	GUIDE	used	183896096	9.23	2563	1.000	0.064	-0.140	0.165	0.280	141.419166	17.095655	-2351.47	152
7	GUIDE	used	183900192	8.96	2568	1.000	0.244	0.349	0.150	0.254	141.985532	16.983574	-2064.33	-1817

2.4 Star Slots

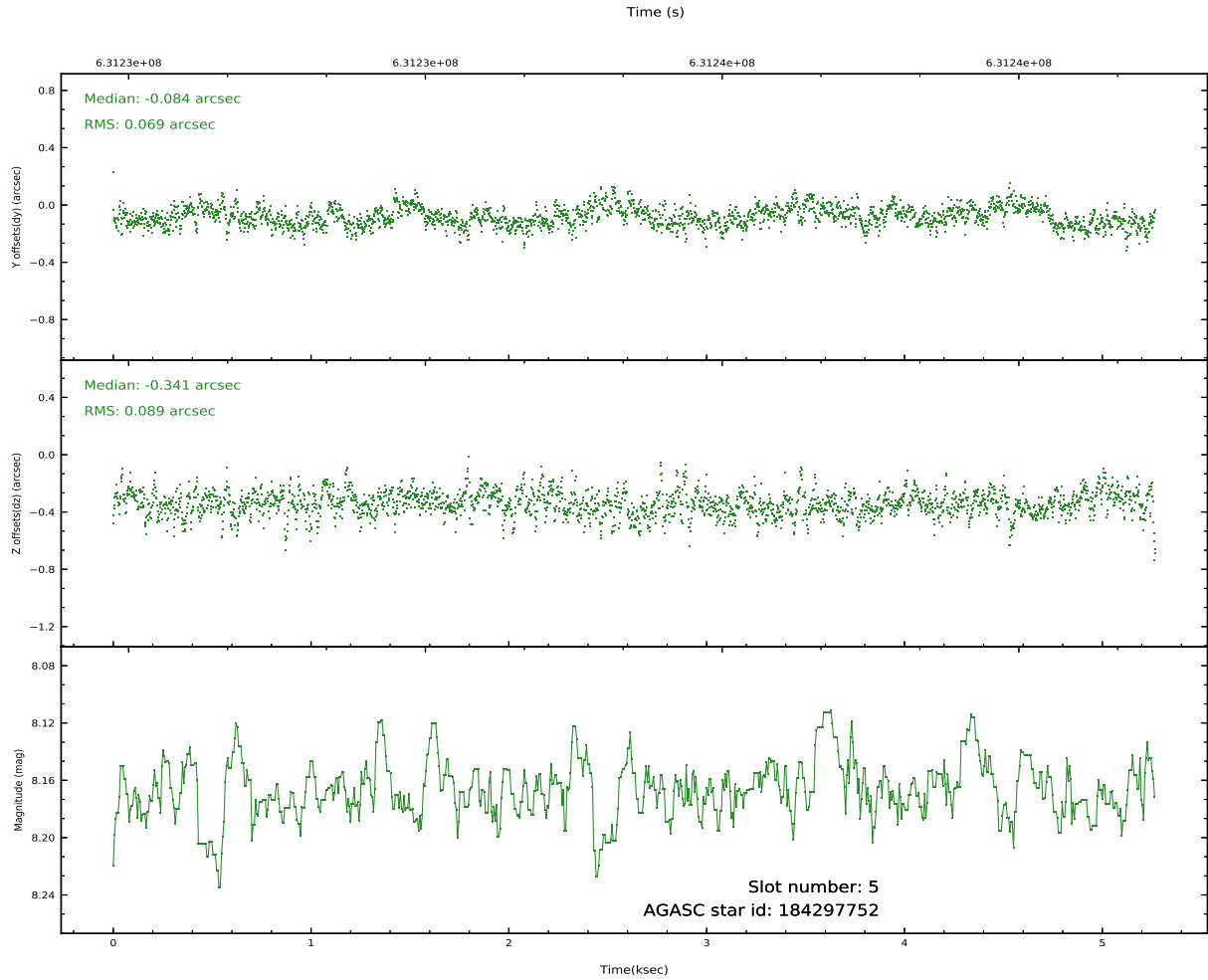
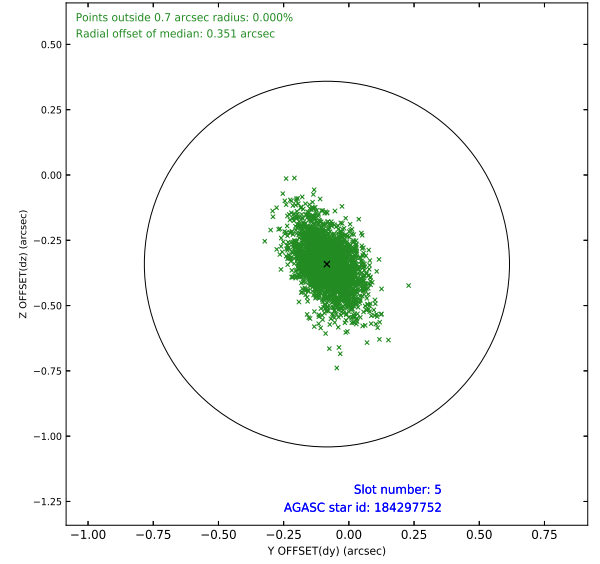
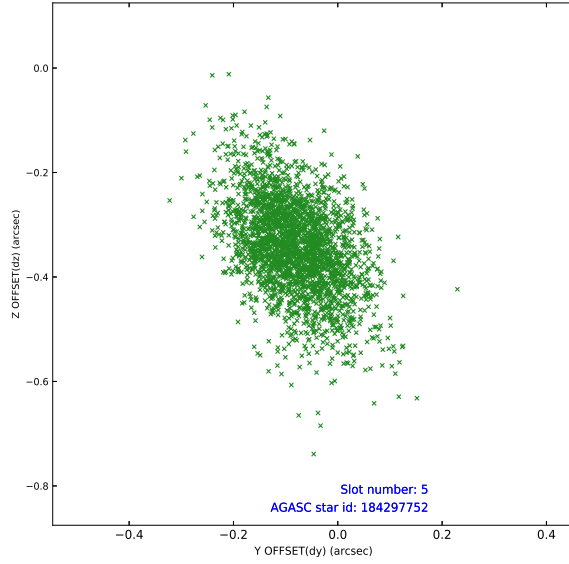
2.4.1 Slot 3



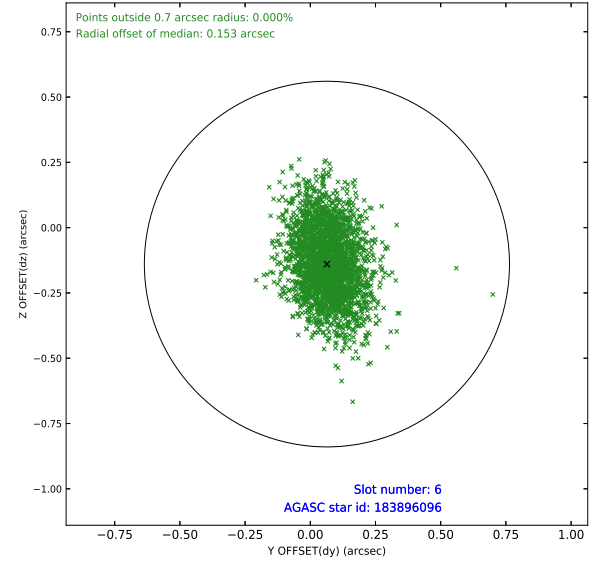
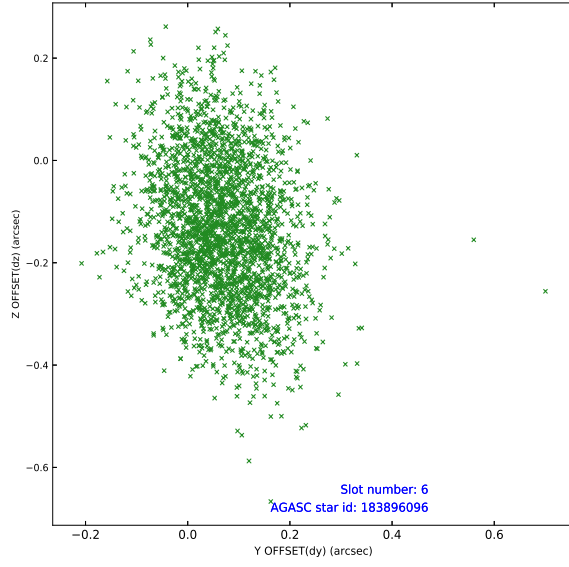
2.4.2 Slot 4



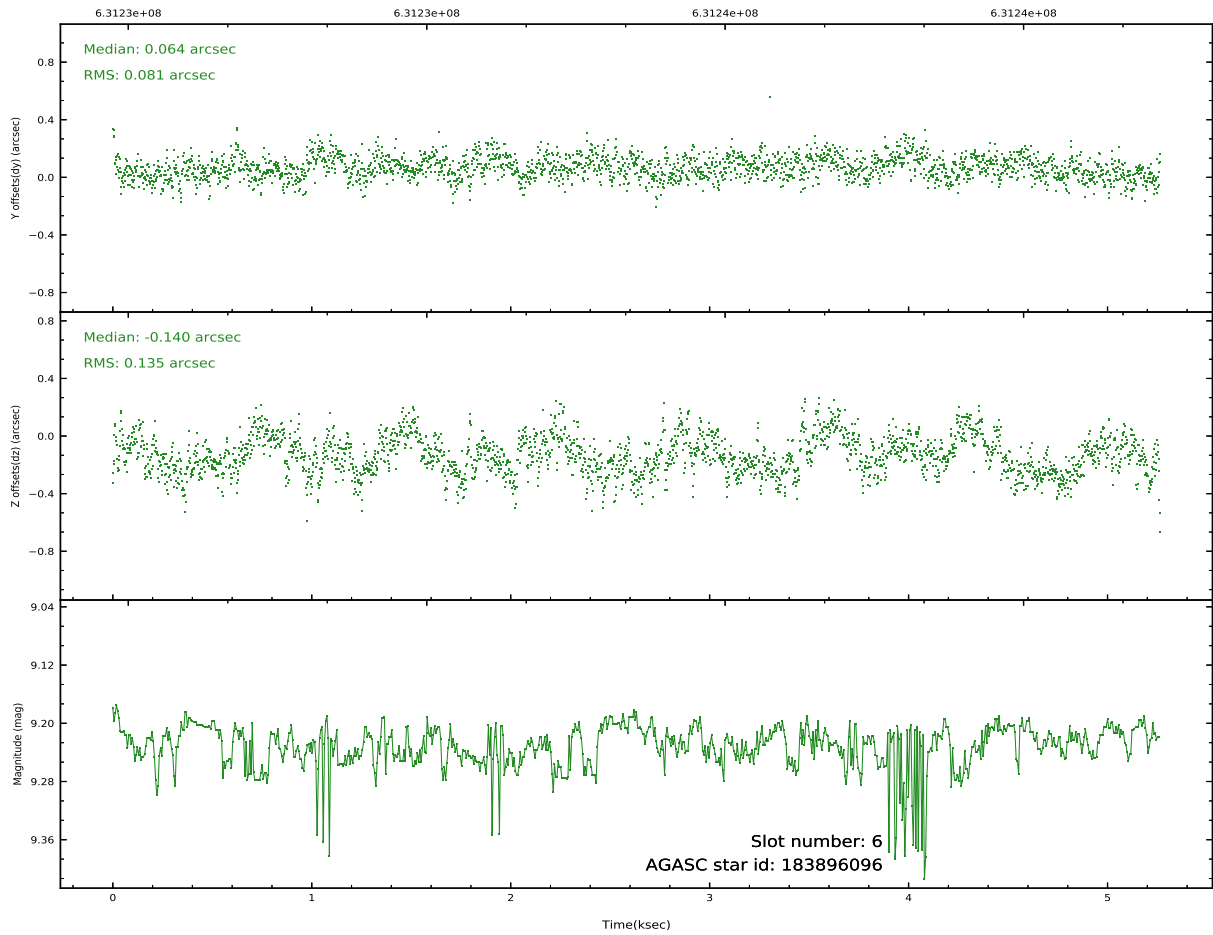
2.4.3 Slot 5



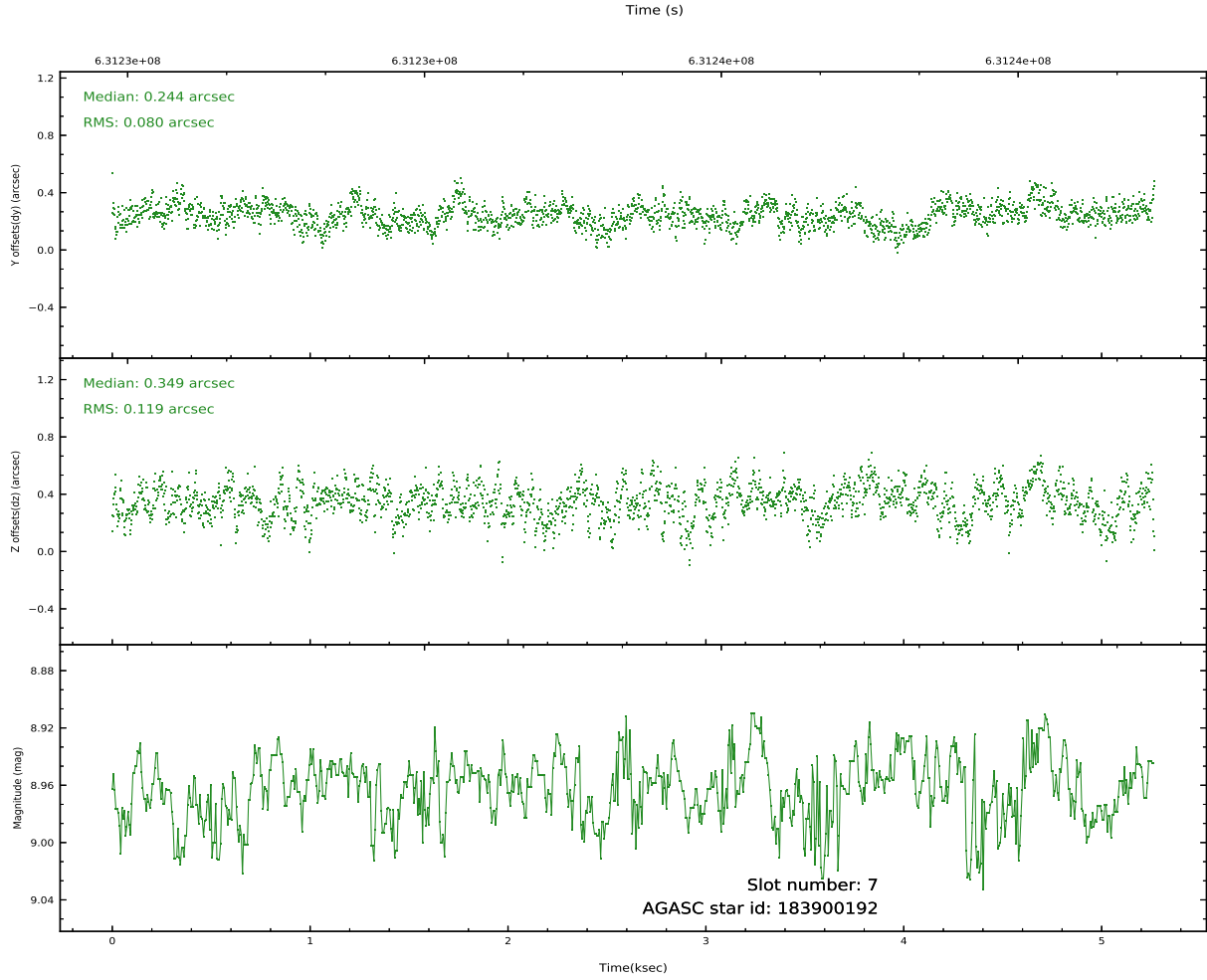
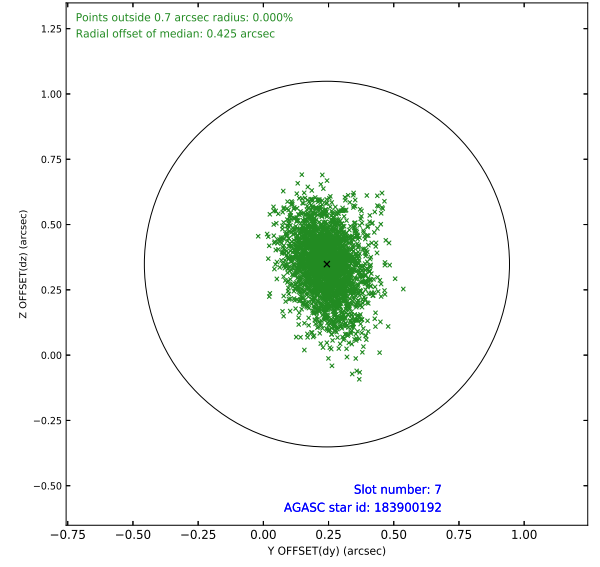
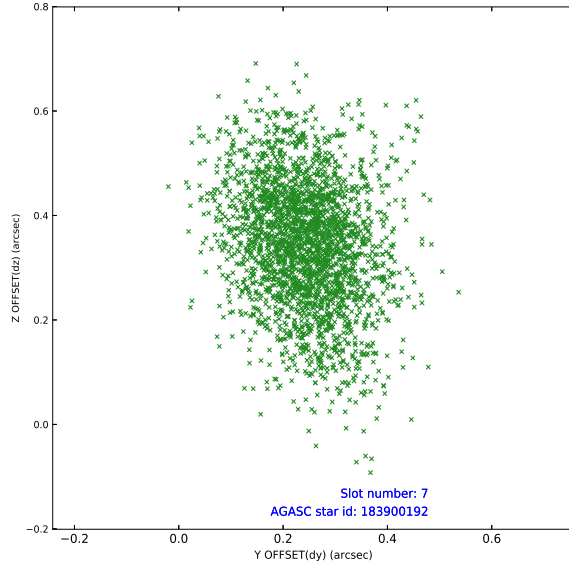
2.4.4 Slot 6



Time (s)

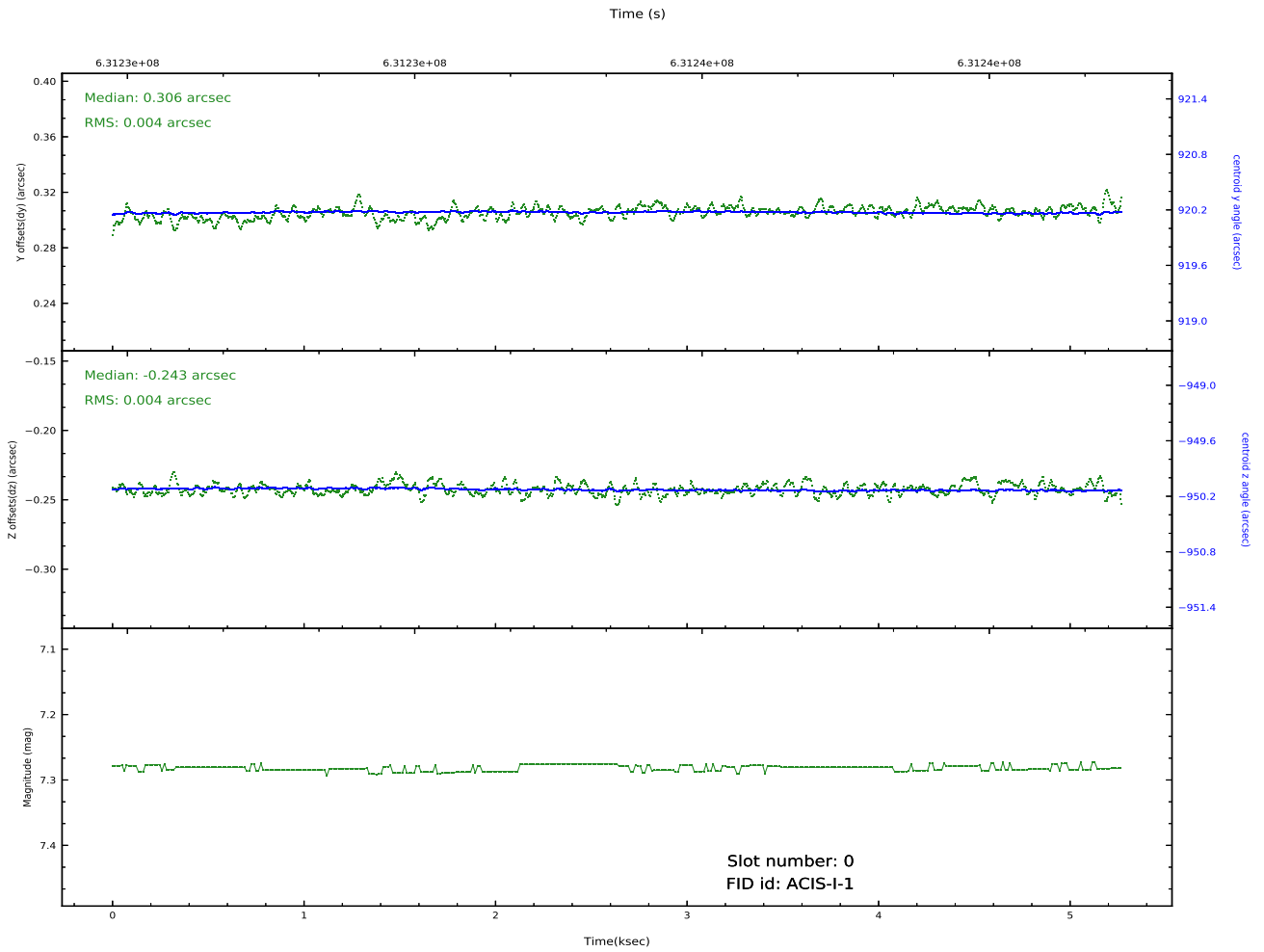
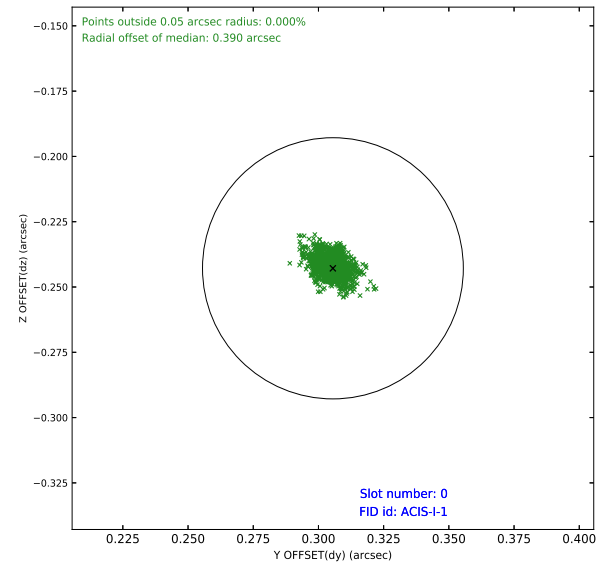
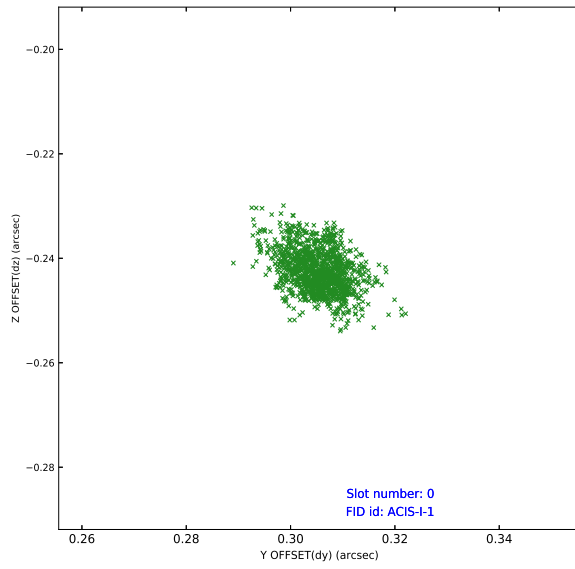


2.4.5 Slot 7

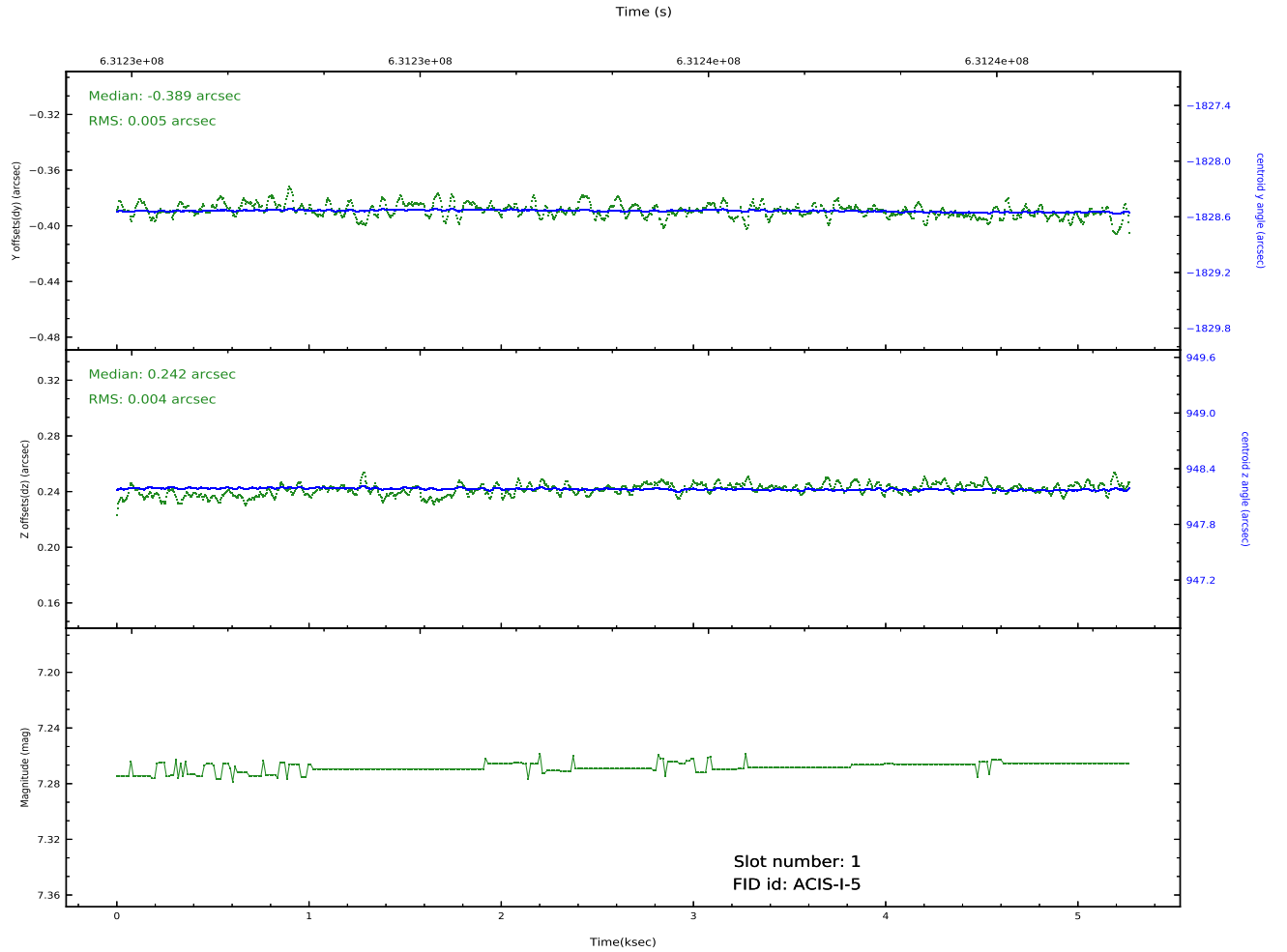
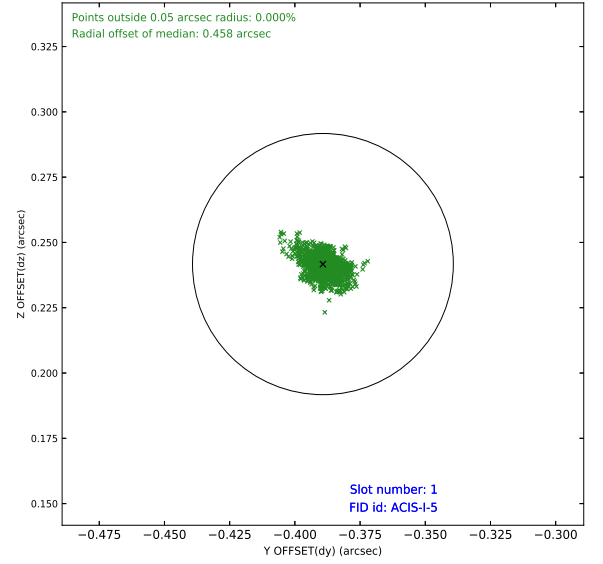
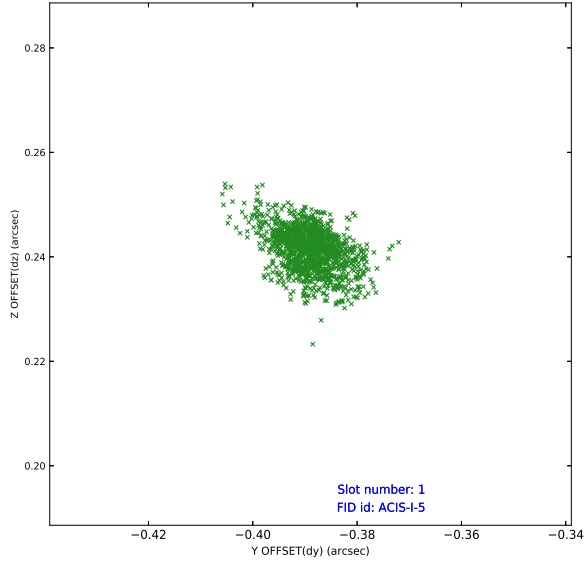


2.5 FID Slots

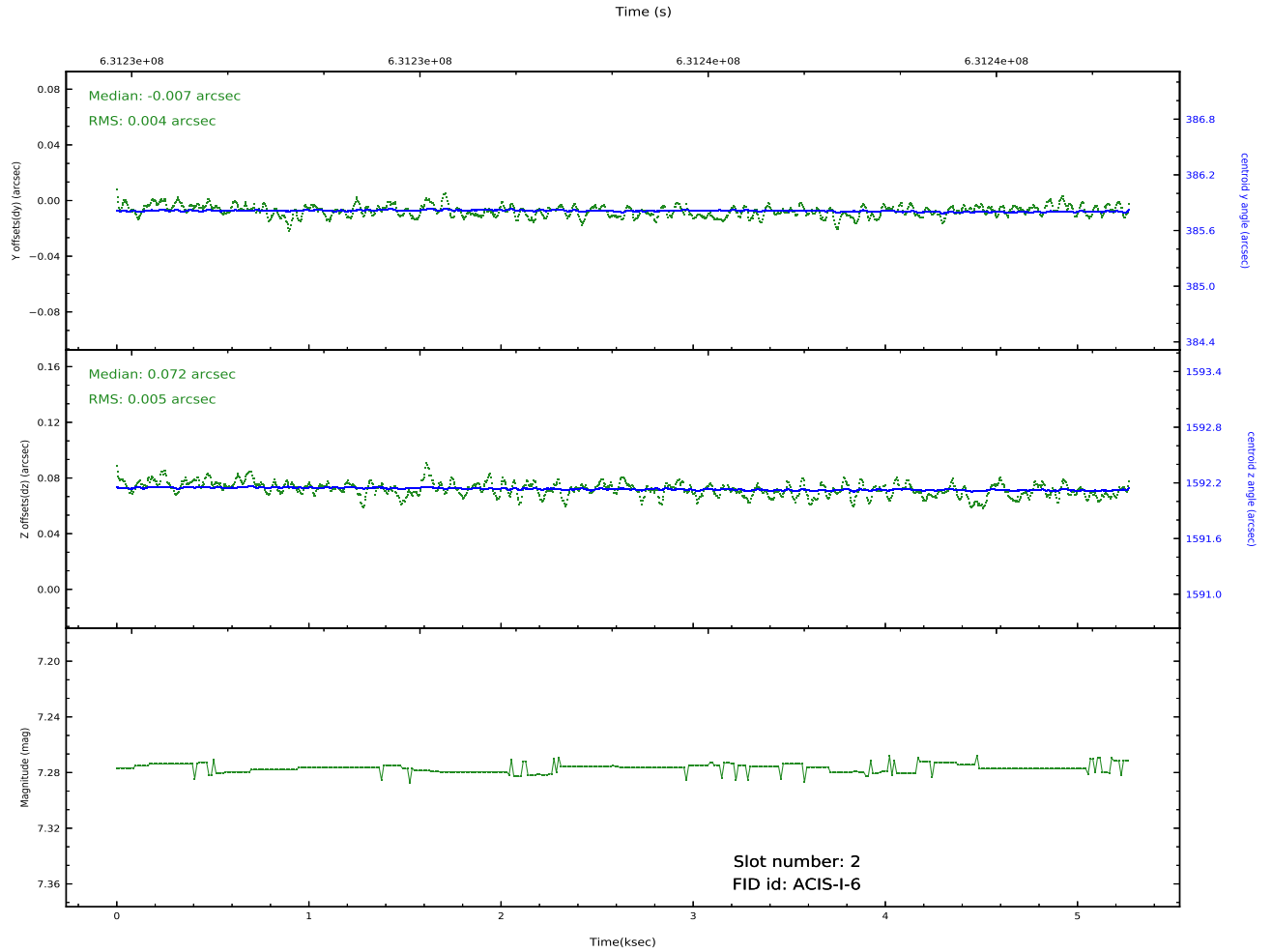
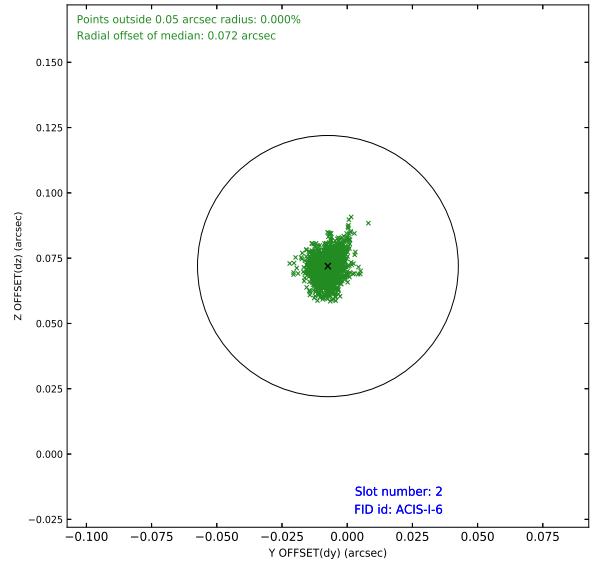
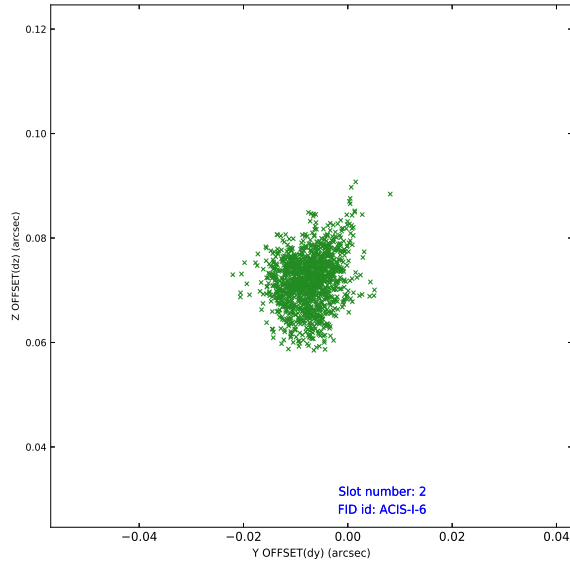
2.5.1 Slot 0



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	5.0654000390768

A.2 Comments

A spatial region of the original bias maps for CCD = 1 and 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 anomaly. The bias maps for CCD = 1 and CCD = 6 have been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation.

The pixels on CCD = 1 affected by the anomaly are bounded by sky coords: (141.81294,17.53020), (141.81738,17.52868), (141.86701,17.65989), (141.86257,17.66140).

The pixels on CCD = 6 affected by the anomaly are bounded by sky coords: (141.46570,17.97184), (141.46343,17.96580), (141.48720,17.95772), (141.49258,17.96270).