

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 21088 - L2 Version 3
Chandra X-Ray Center

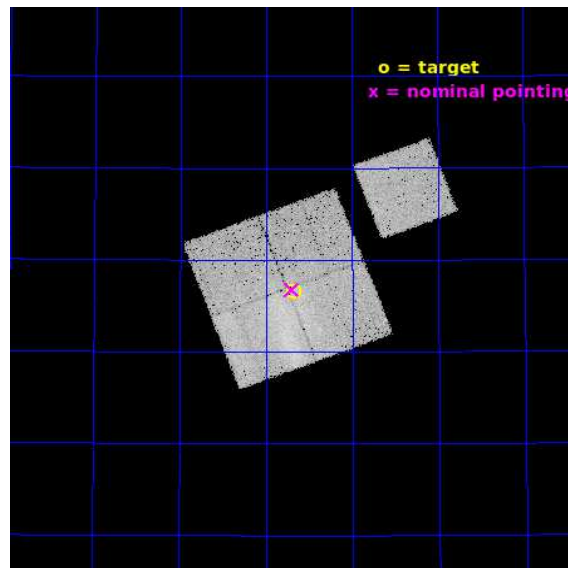
L2 Processing Date : Oct 26 2020

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1 Front

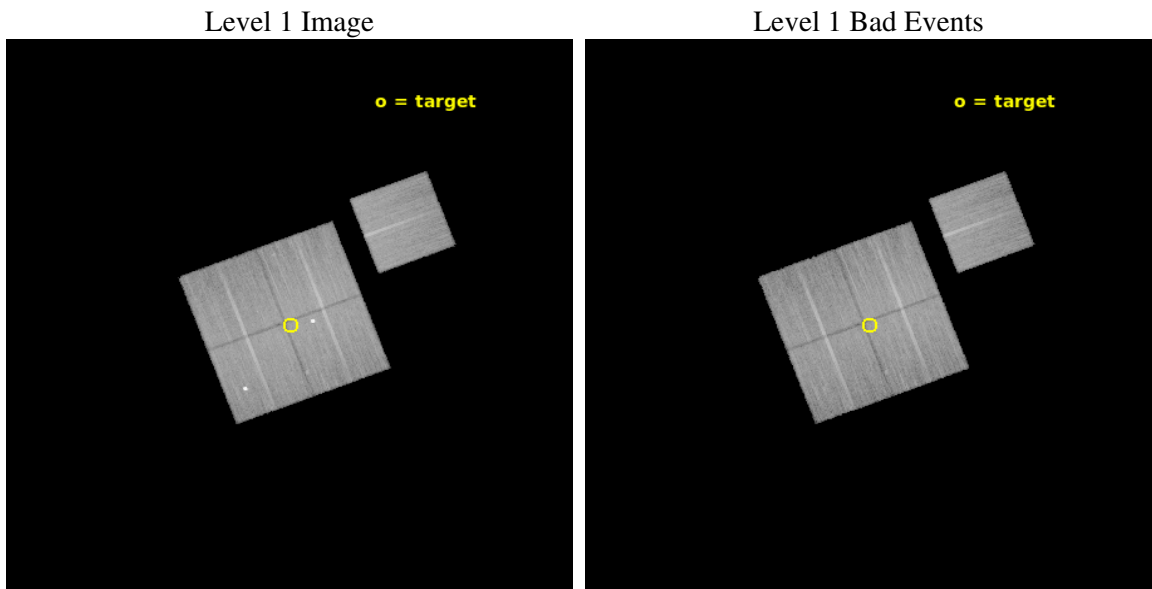
seq_num	801784	Sequence number
obs_id	21088	Observation id
title	A POSSIBLE FIRST DETECTION OF INVERSE COMPTON EMISSION FROM A GALAXY CLUSTER	Proposal title
observer	Maxim Markevitch	Principal investigator
object	CIZA J2242.8+5301	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	340.67	Observer's specified target RA [deg]
dec_targ	53.11	Observer's specified target Dec [deg]
ra_nom	340.67507740713	Nominal RA [deg]
dec_nom	53.112897894726	Nominal Dec [deg]
roll_nom	69.196667509025	Nominal Roll [deg]
revision	3	Processing version of data
ontime	25066.580843568	Sum of GTIs [s]
livetime	24739.067511098	Livetime [s]
ontime0	25066.457723618	Sum of GTIs [s]
ontime1	25063.357743263	Sum of GTIs [s]
ontime2	25066.539803624	Sum of GTIs [s]
ontime3	25066.580843568	Sum of GTIs [s]
ontime6	25066.416683555	Sum of GTIs [s]
l2events	100756	Number of level 2 events



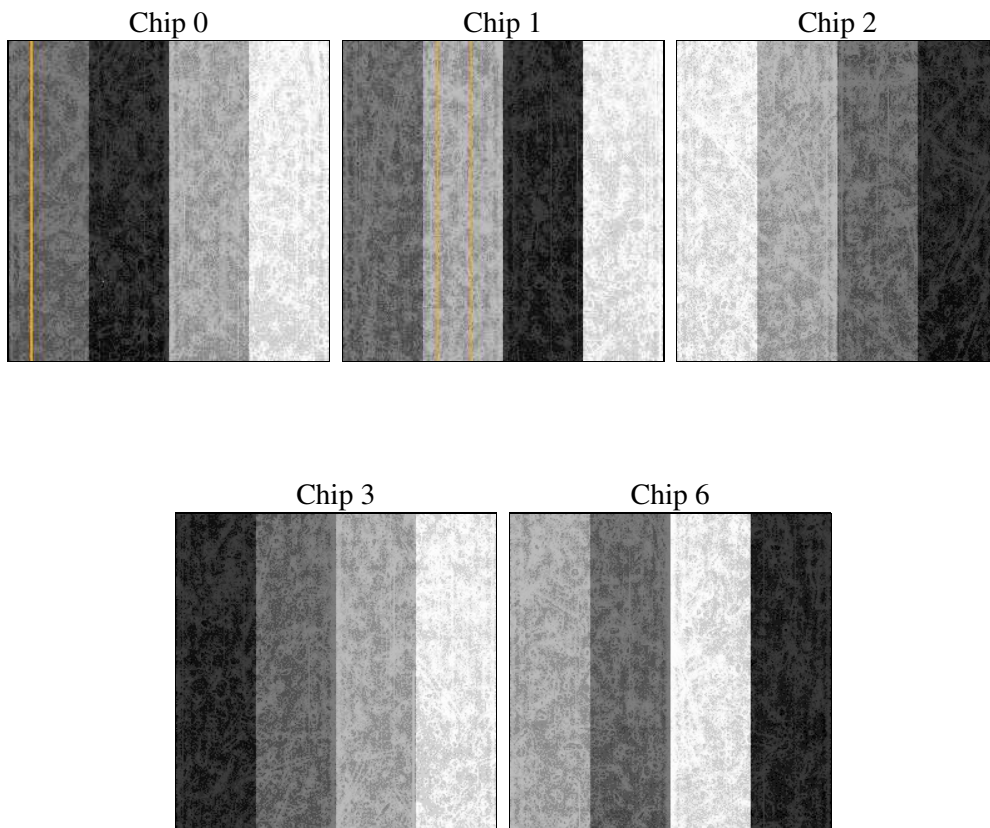
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	25000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	25066.580843568	Sum of GTIs [s]
caldsver	4.9.3	 	ontime0	25066.457723618	Sum of GTIs [s]
date	2020-10-27T00:50:59	Date and time of file creation	ontime1	25063.357743263	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	25066.539803624	Sum of GTIs [s]
			ontime3	25066.580843568	Sum of GTIs [s]
			ontime6	25066.416683555	Sum of GTIs [s]
			l1events	955794	Number of level 1 events

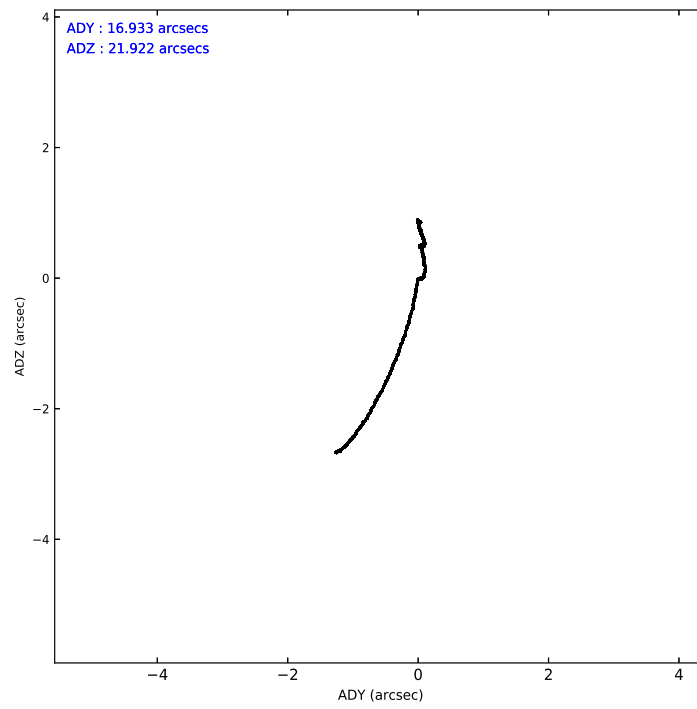
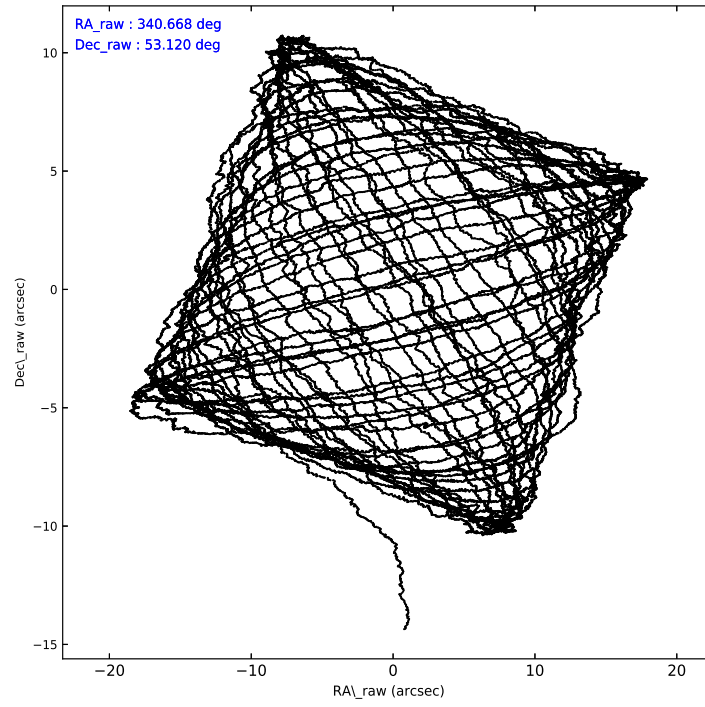
2.1.4 Events

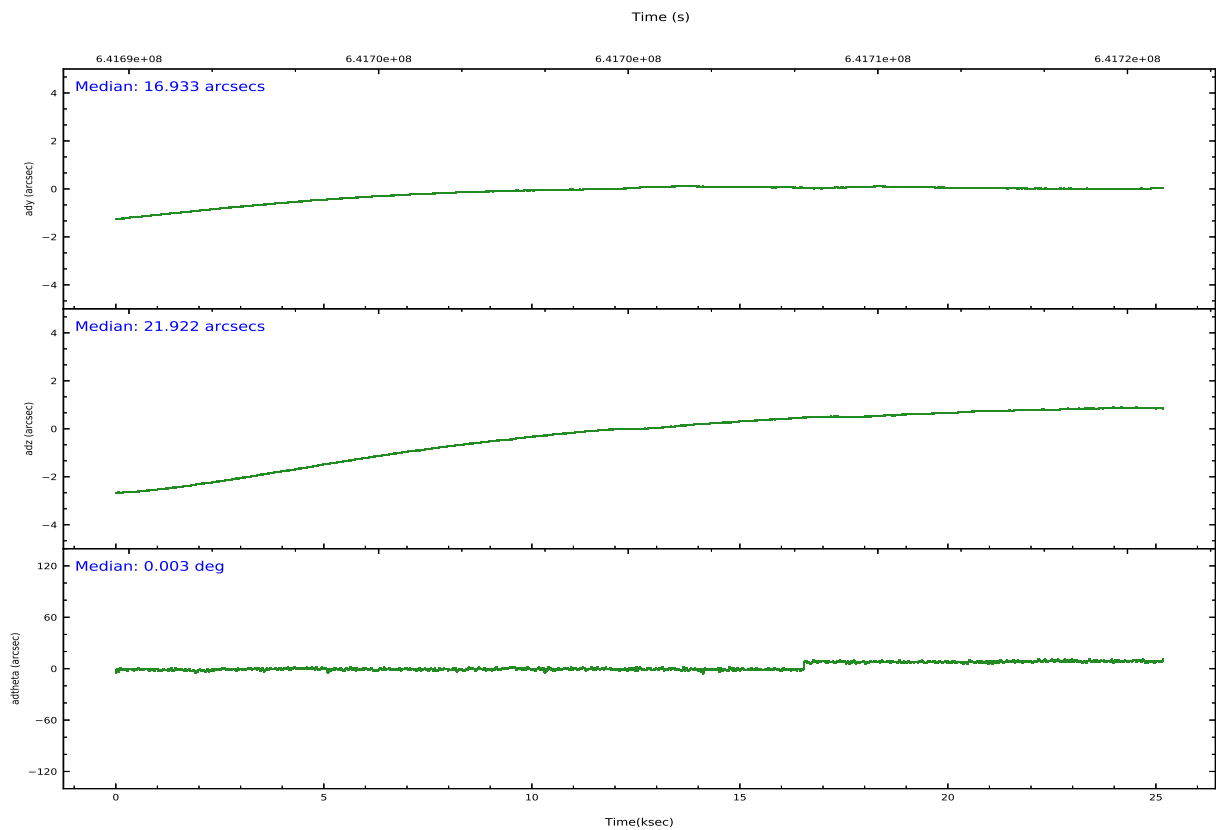
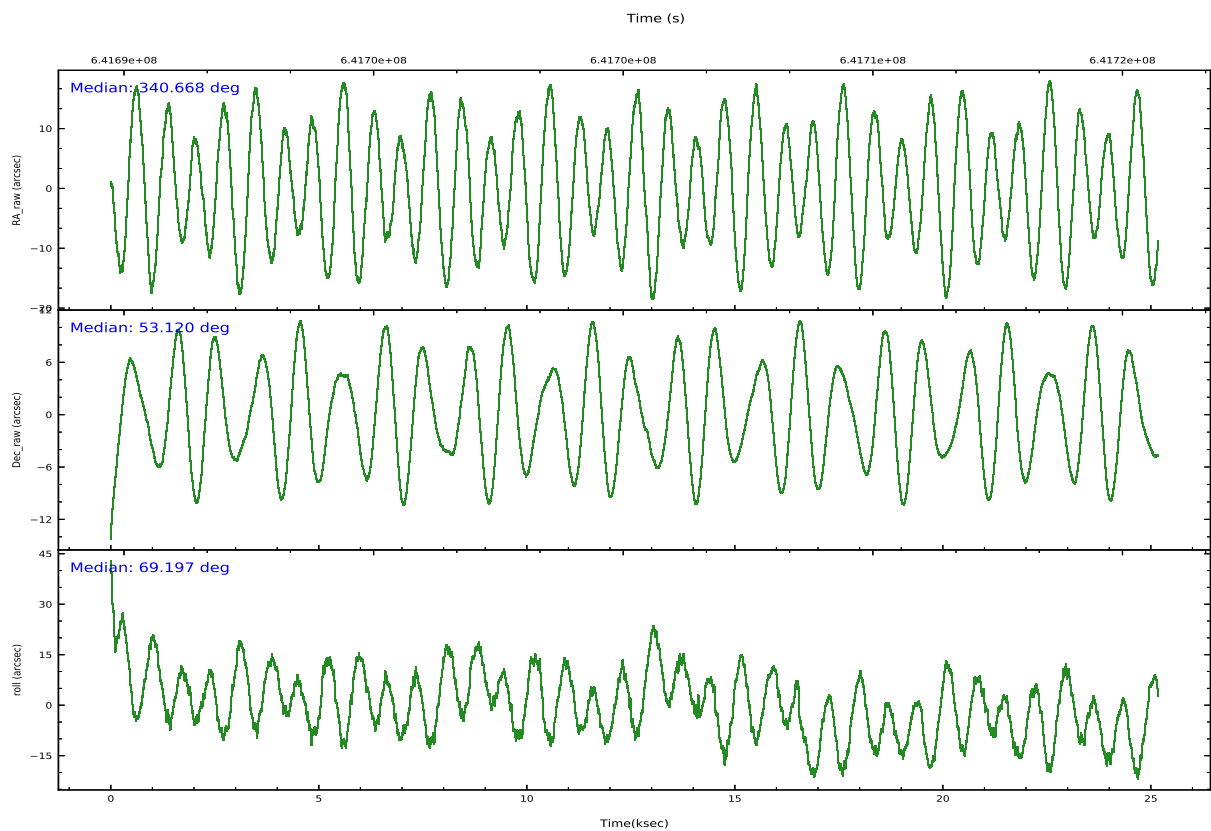
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	172128	194364	200655	197792	190855	grade 0 events	7544	15293	7445	9492	6892
rejected events	150949	153433	179990	167159	169899		4%	7%	3%	4%	3%
rejected %	87%	78%	89%	84%	89%	grade 1 events	107	137	129	124	71
							0%	0%	0%	0%	0%
						grade 2 events	5330	14905	5207	12405	4945
							3%	7%	2%	6%	2%
						grade 3 events	2127	2649	1956	2131	2171
							1%	1%	0%	1%	1%
						grade 4 events	1941	2501	2087	2185	2052
							1%	1%	1%	1%	1%
						grade 5 events	7915	8437	7321	8866	8553
							4%	4%	3%	4%	4%
						grade 6 events	4240	5596	3976	4430	4901
							2%	2%	1%	2%	2%
						grade 7 events	142924	144846	172534	158159	161270
							83%	74%	85%	79%	84%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-01236	ACIS-01236	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	340.675757	340.67507740713	CCD I2 on	Y	Y
[deg] Pointing Dec	53.092396	53.112897894726	CCD I3 on	Y	Y
[deg] Pointing Roll	68.995396	69.196667509025	CCD S0 on	N	N
[mm] SIM focus pos	-0.782348	-0.7809083437167272	CCD S1 on	N	N
[mm] SIM defocus	0	0.001439871863259334	CCD S2 on	O1	Y
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S3 on	N	N
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	641691857.184000	641690742.94823	CCD S5 on	N	N
Observation start date	2018-05-02T23:43:08	2018-05-02T23:25:42	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	641716857.184000	641718032.03734	On-chip summing requested	N	N
Observation end date	2018-05-03T06:39:48	2018-05-03T07:00:32	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



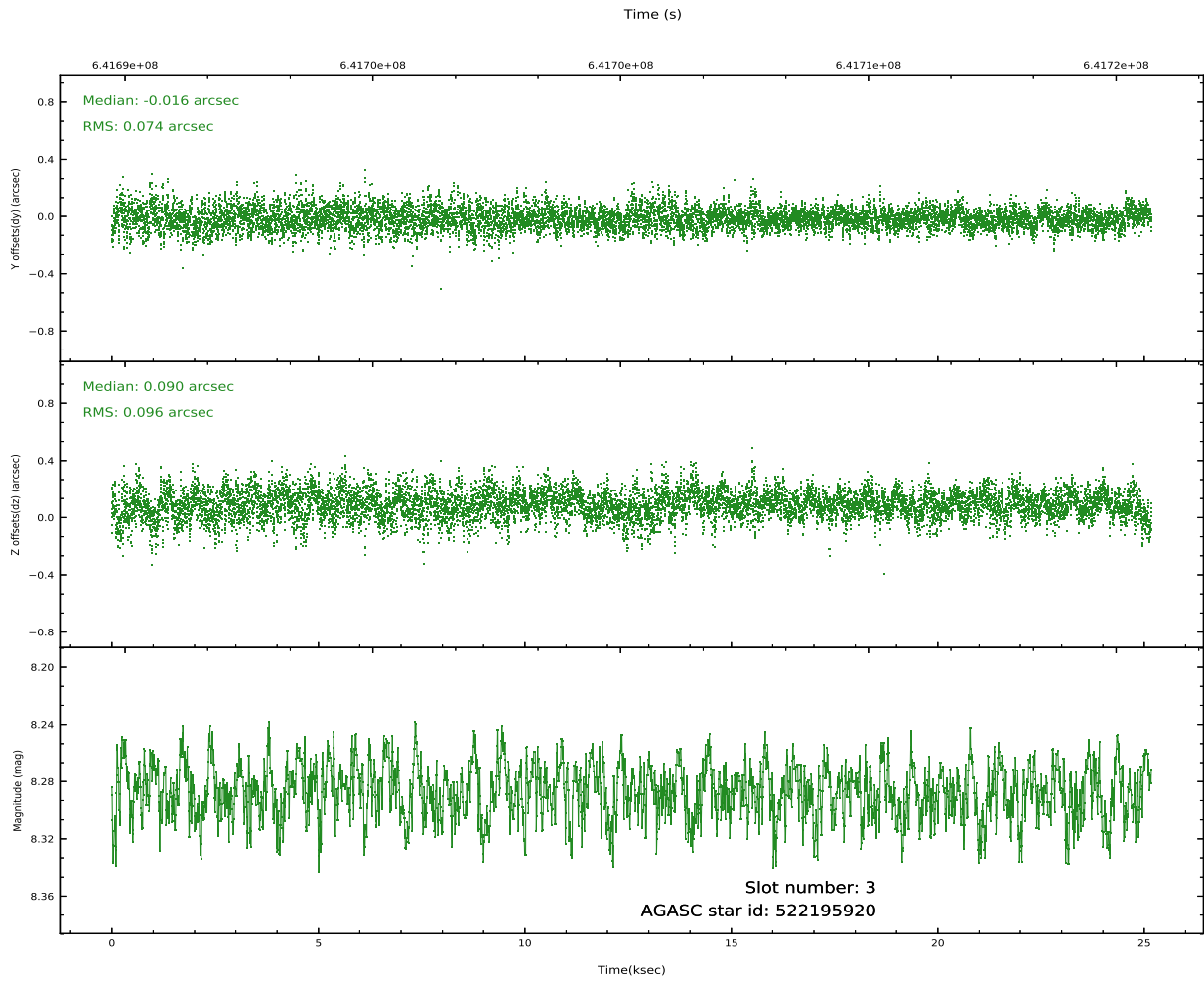
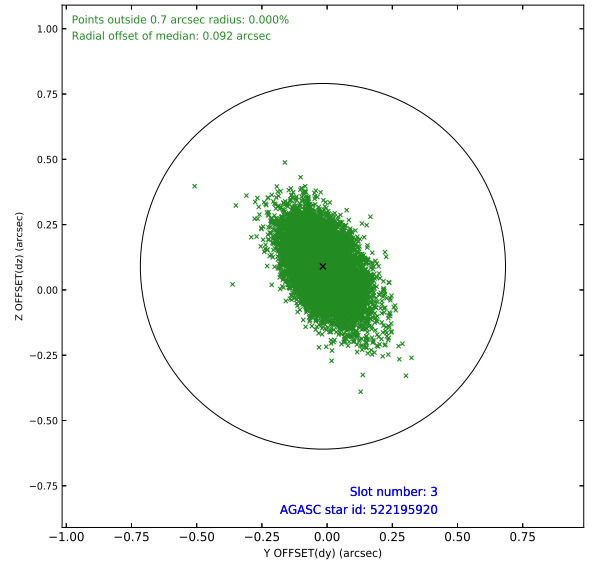
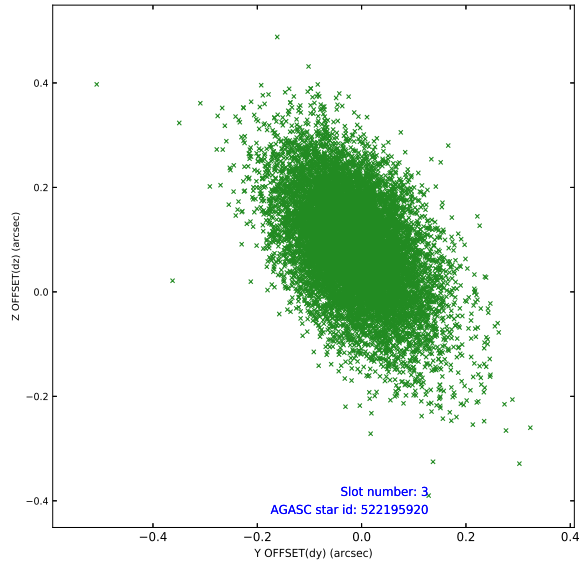


Slot Statistics

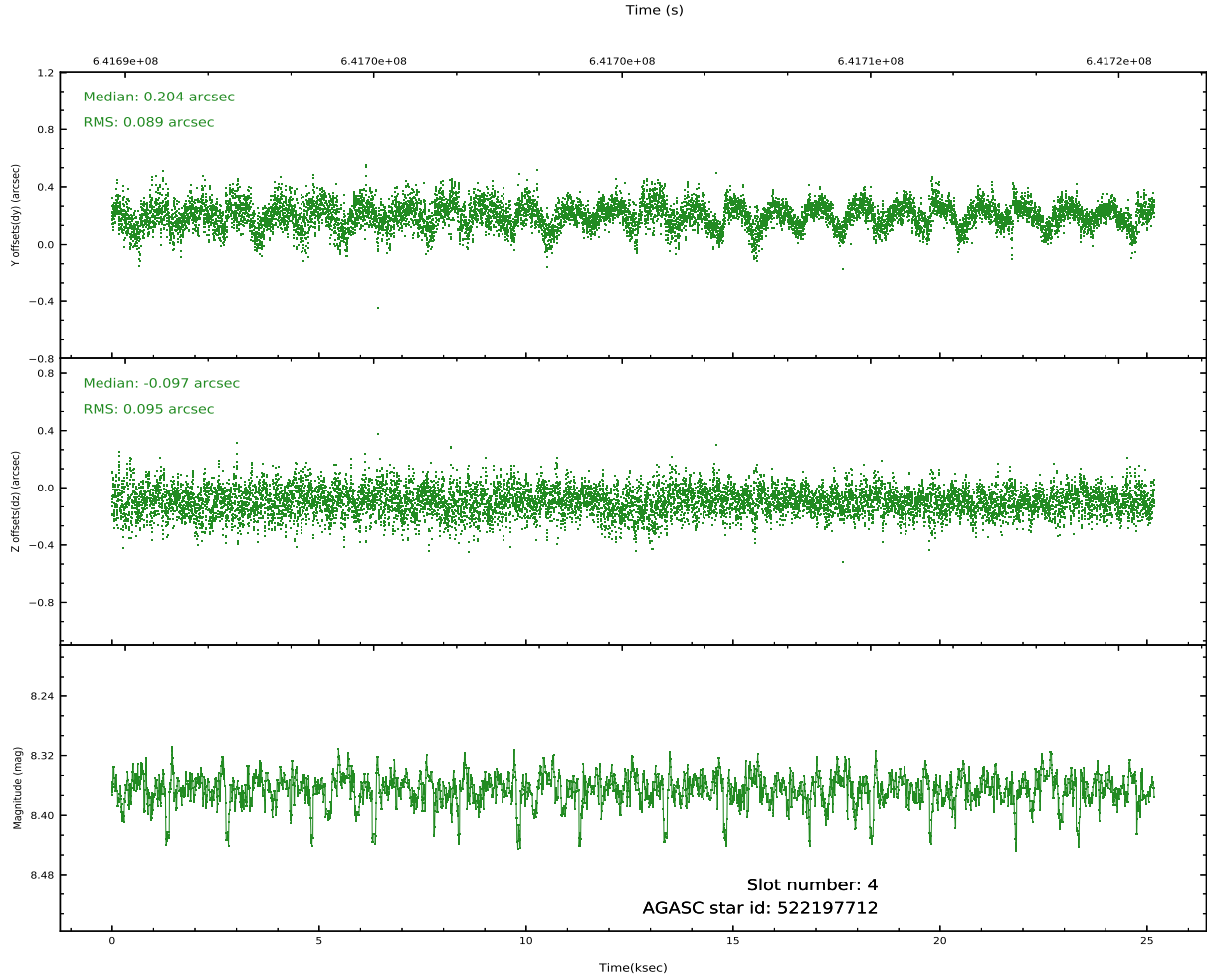
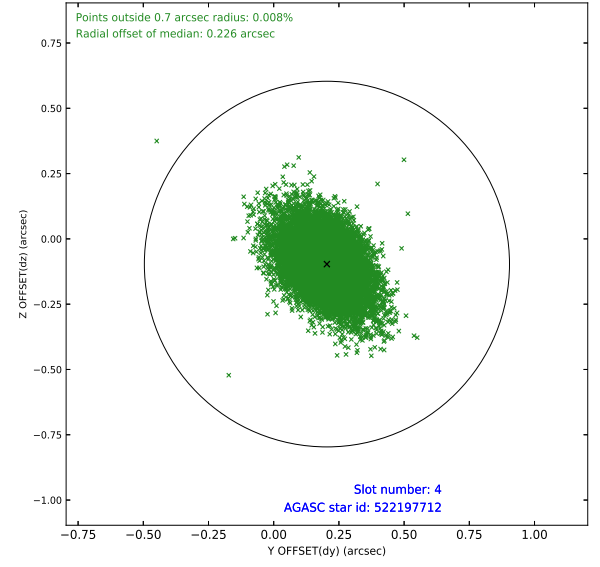
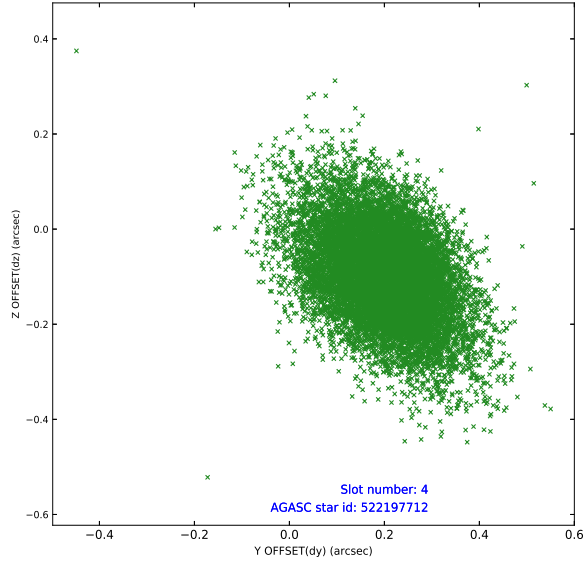
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.19	6141	1.000	0.001	-0.081	0.049	0.064	0.000000	0.000000	922.58	-845
1	FID		ACIS-I-2	7.09	6139	1.000	-0.071	0.061	0.022	0.028	0.000000	0.000000	-771.52	-851
2	FID		ACIS-I-4	7.12	6140	1.000	-0.034	0.076	0.034	0.046	0.000000	0.000000	2142.55	1054
3	GUIDE	used	522195920	8.29	12277	1.000	-0.016	0.090	0.122	0.220	340.534111	52.561582	-1894.49	-395
4	GUIDE	used	522197712	8.36	12271	1.000	0.204	-0.097	0.133	0.234	341.160967	52.624062	-1190.00	-1593
5	GUIDE	used	522204136	7.18	12281	1.000	-0.136	0.108	0.124	0.226	341.384669	53.374616	1501.52	-1054
6	GUIDE	used	522200440	8.89	12266	1.000	0.010	-0.071	0.143	0.251	340.183364	53.917345	2401.34	2039
7	GUIDE	used	522202320	6.94	12279	1.000	-0.064	-0.026	0.114	0.213	341.199728	53.302639	1114.77	-778

2.4 Star Slots

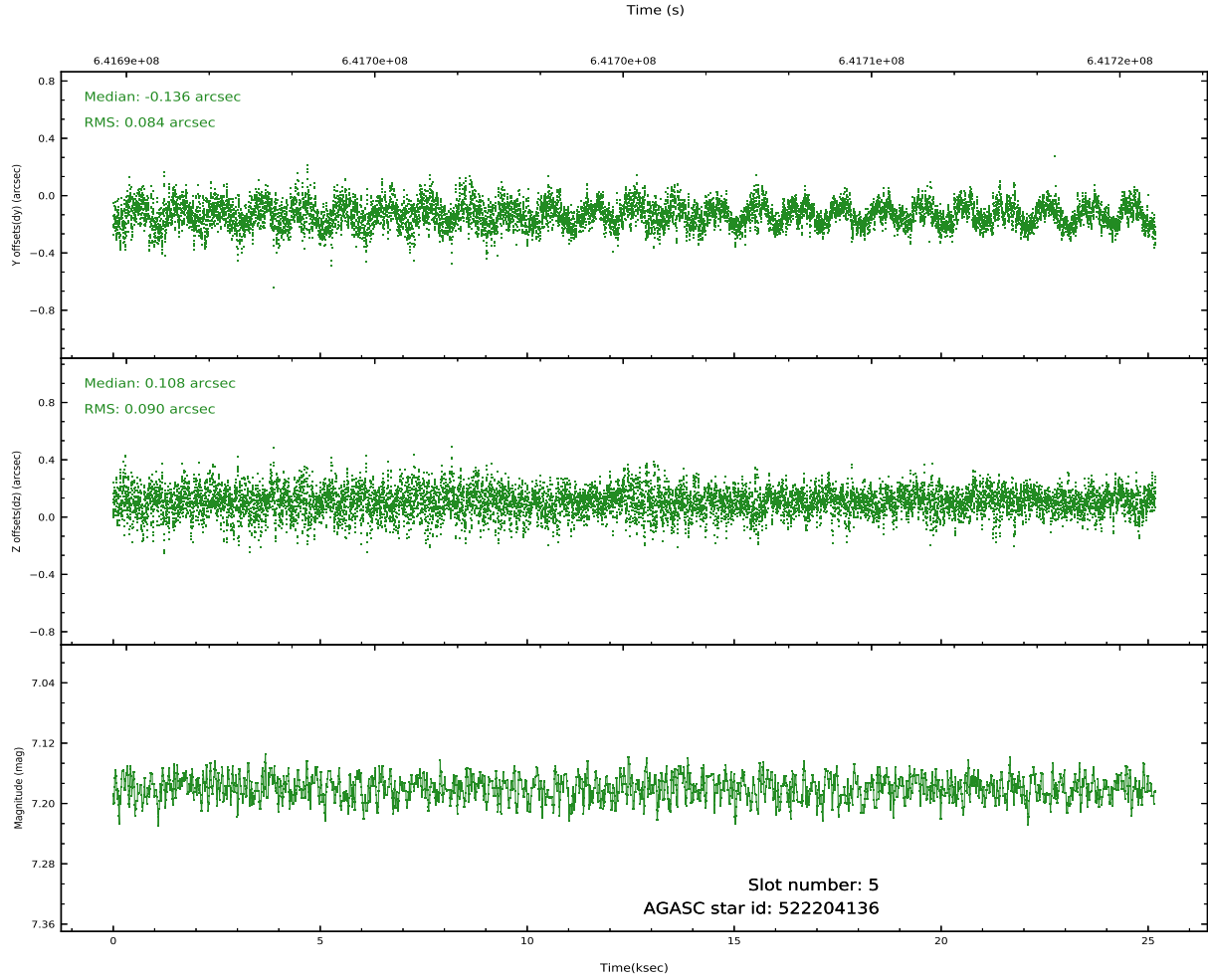
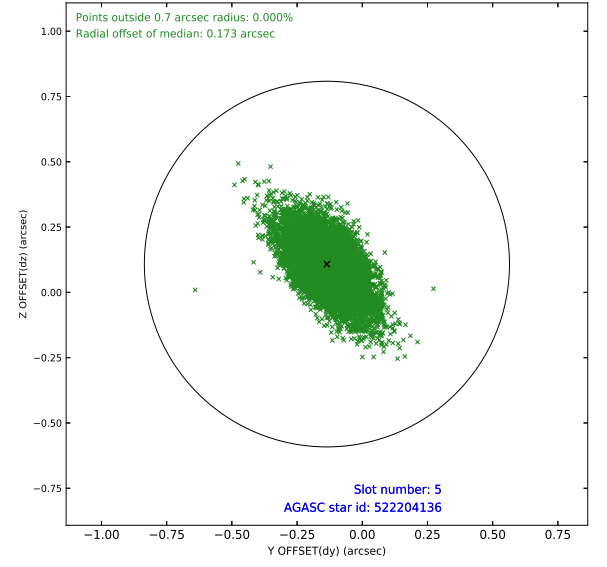
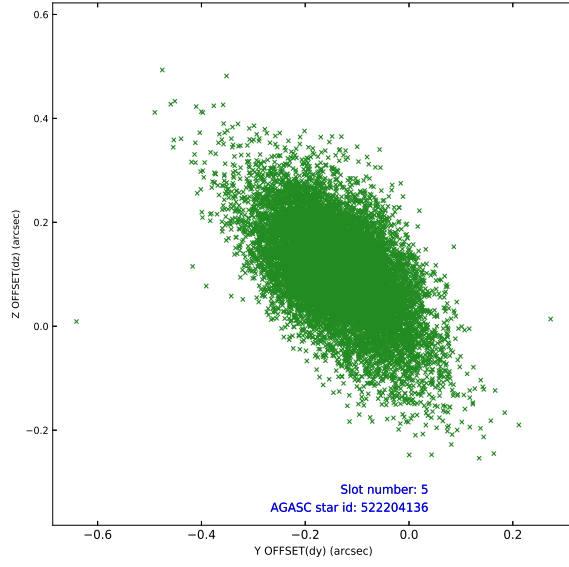
2.4.1 Slot 3



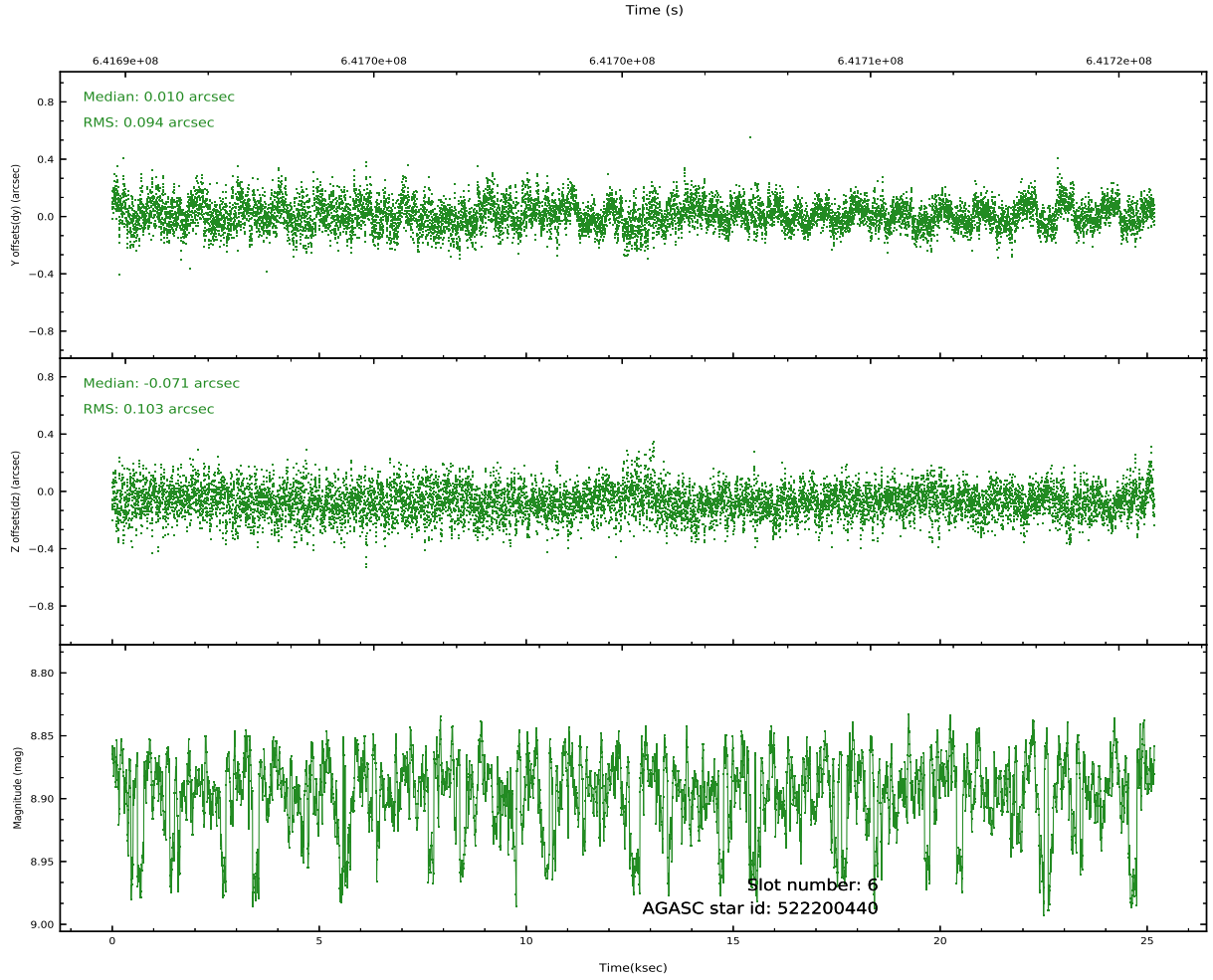
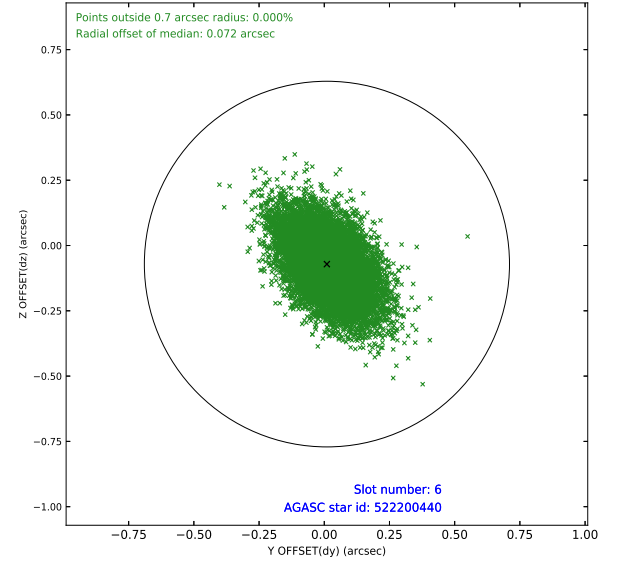
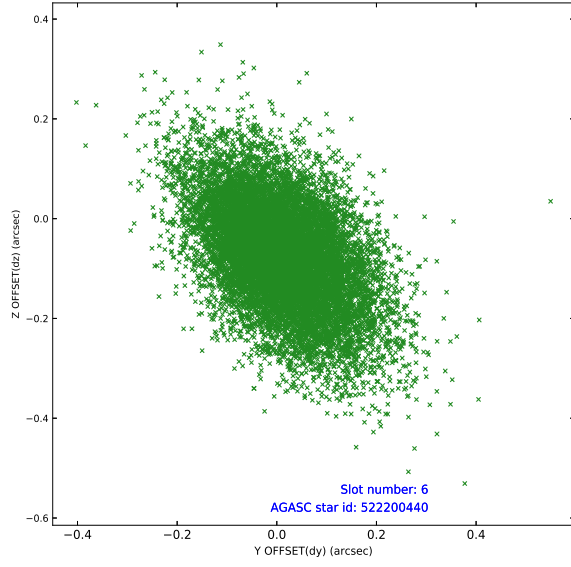
2.4.2 Slot 4



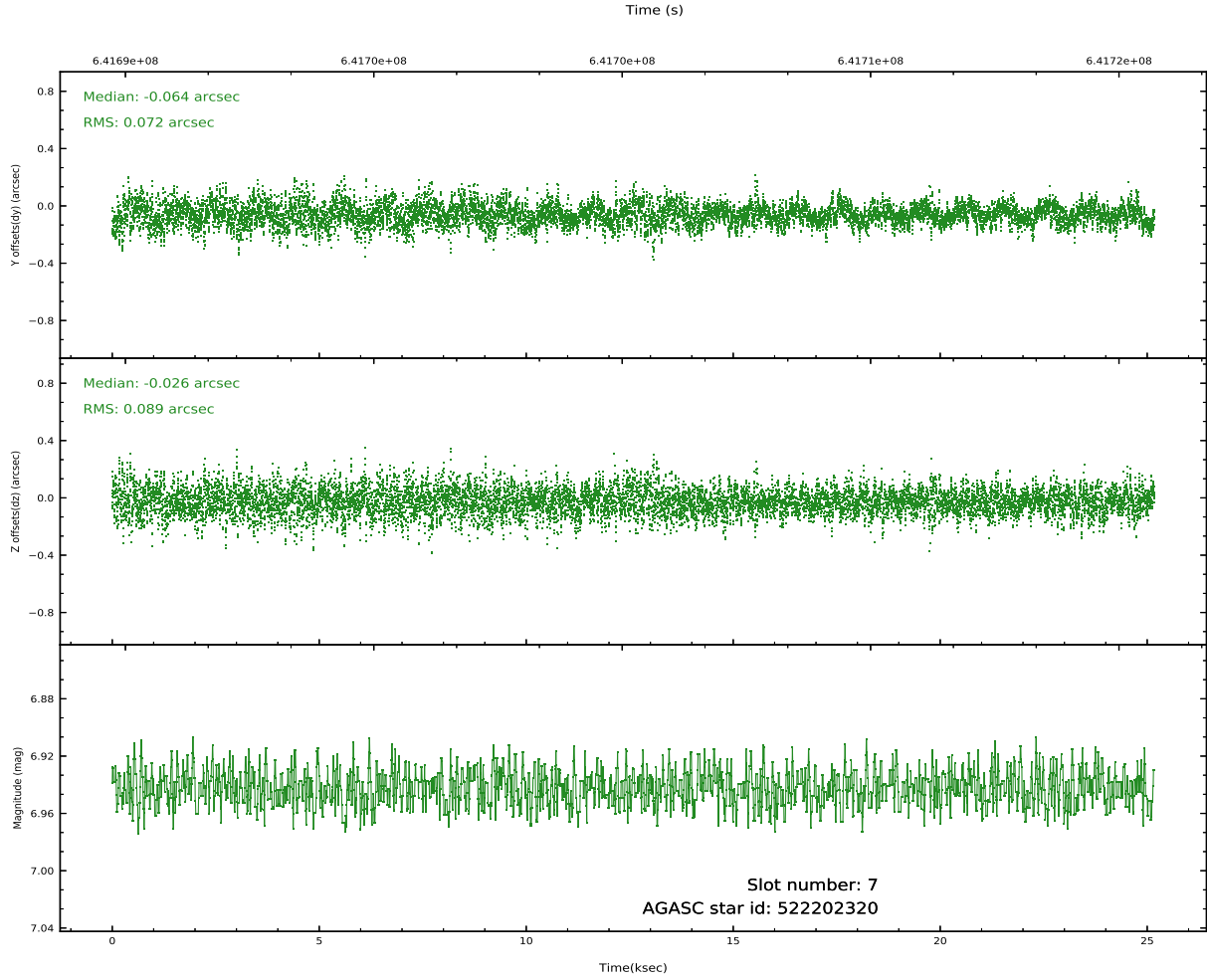
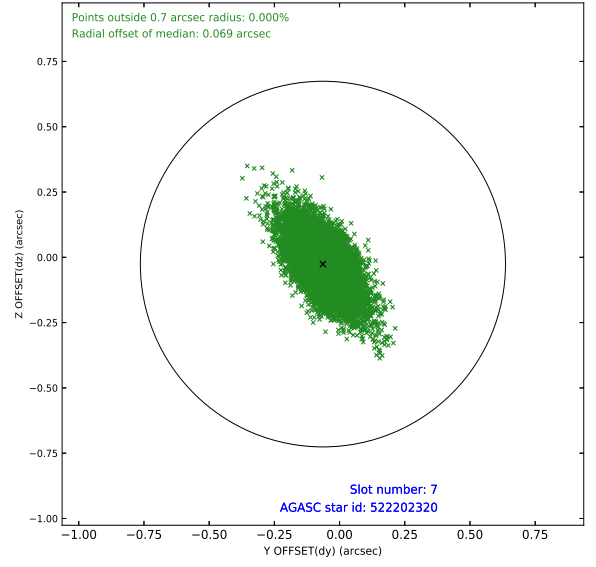
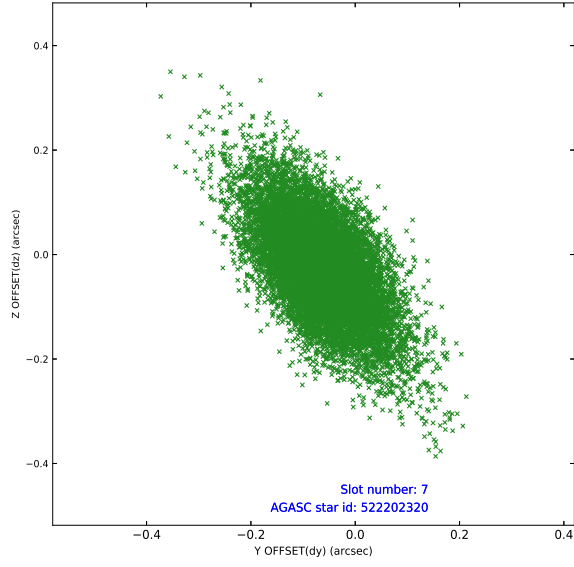
2.4.3 Slot 5



2.4.4 Slot 6

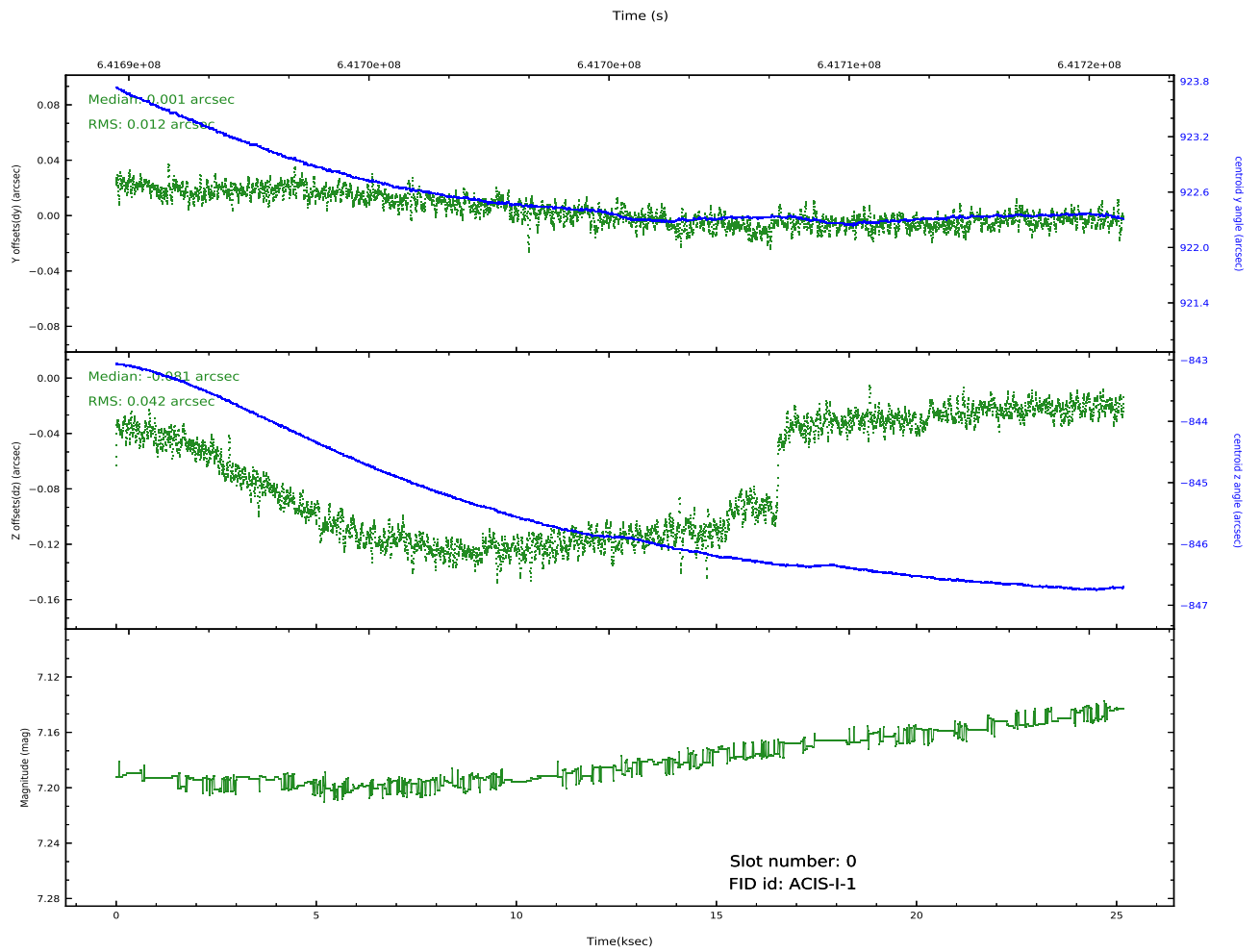
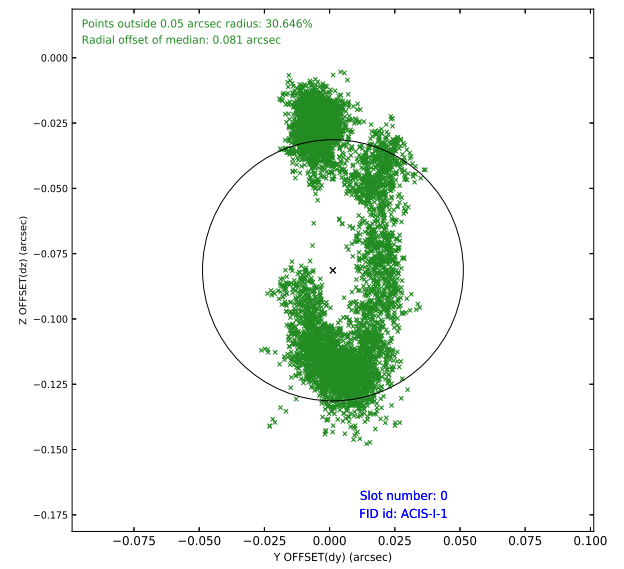
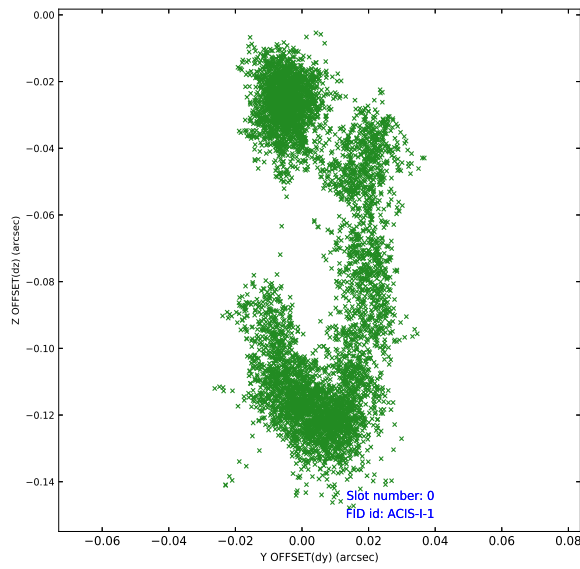


2.4.5 Slot 7

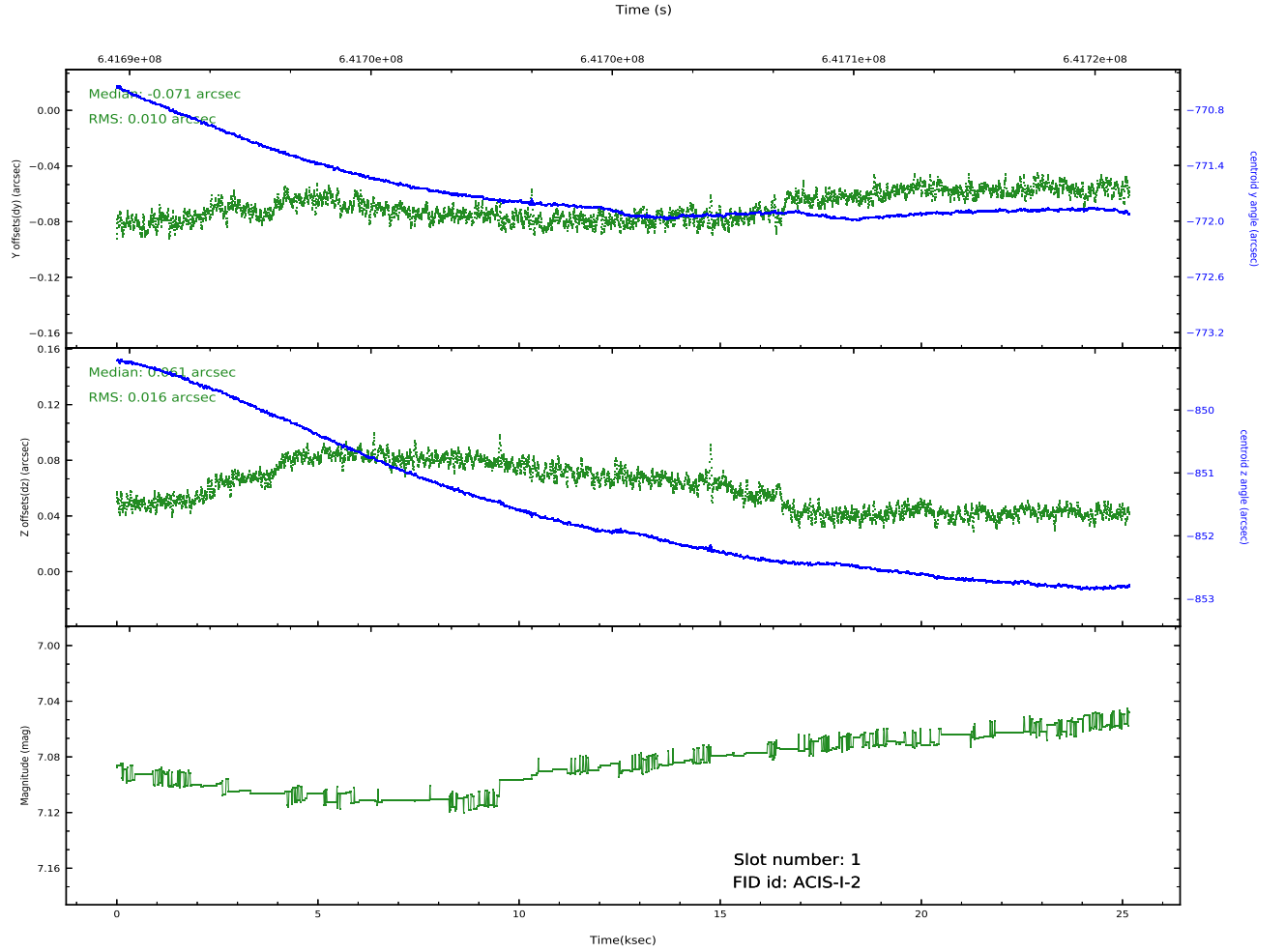
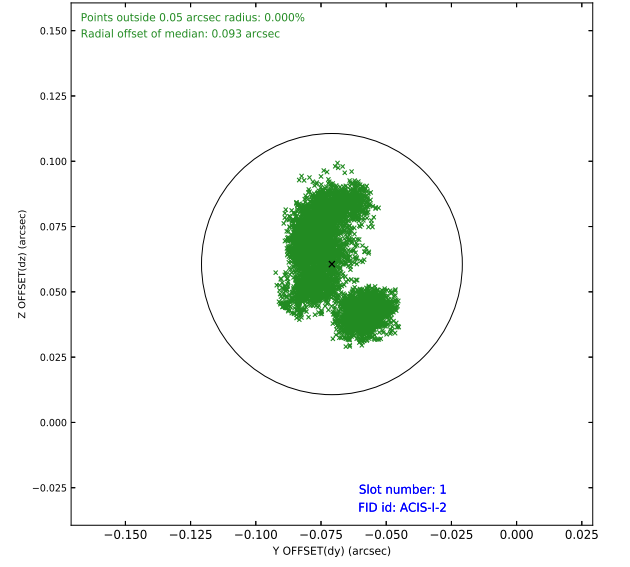
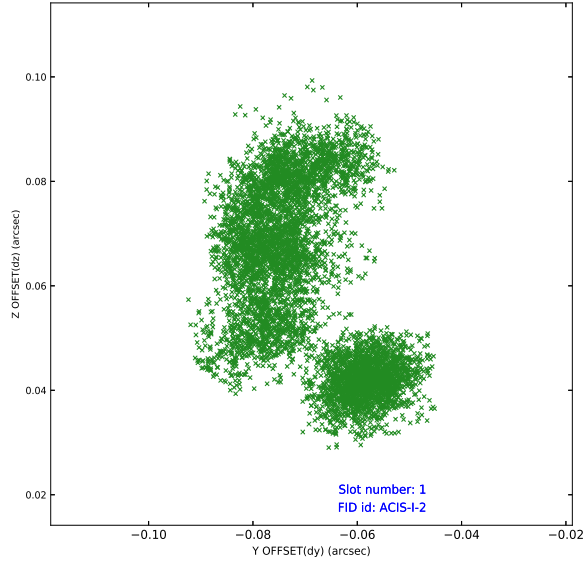


2.5 FID Slots

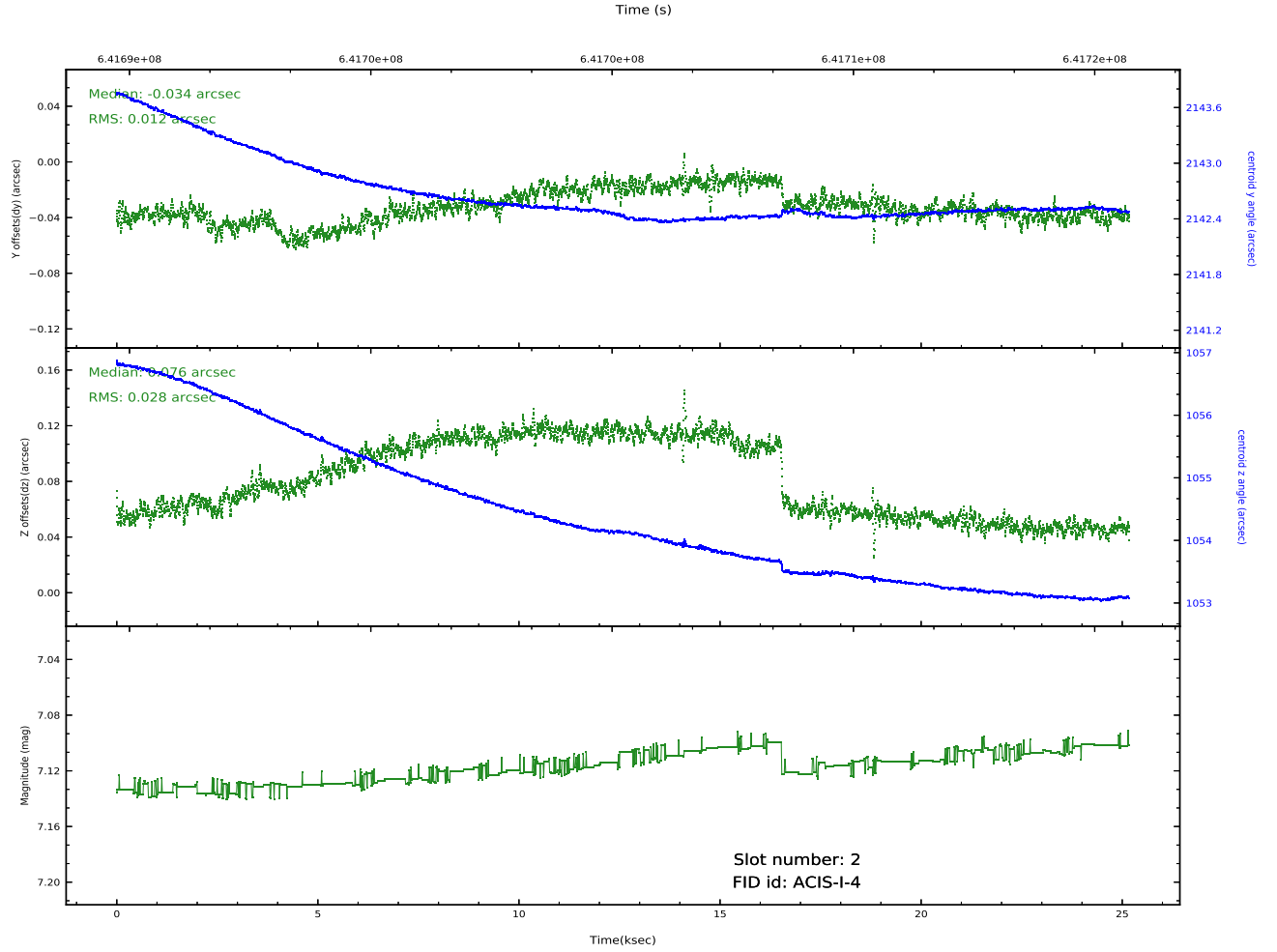
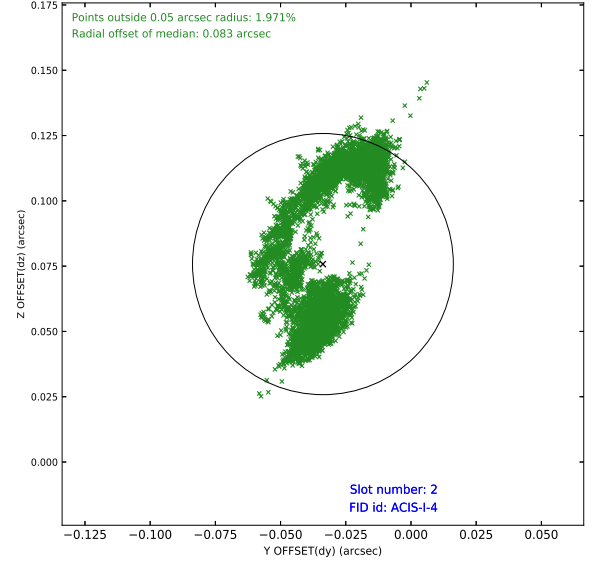
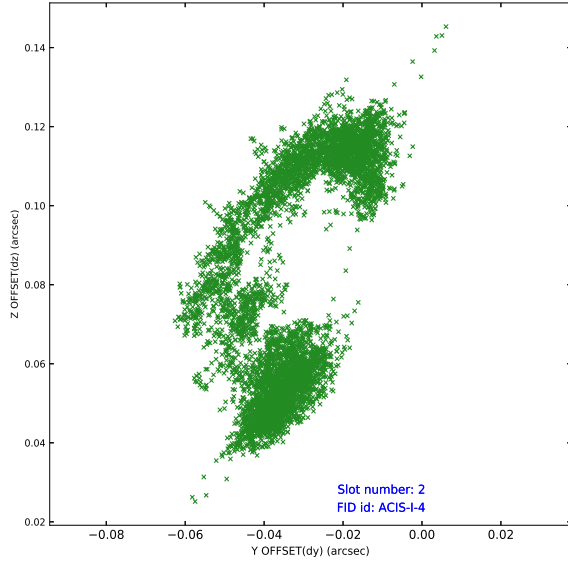
2.5.1 Slot 0



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)	2020.10.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	25.066580837488

A.2 Comments

A spatial region of the original bias map for CCD = 0 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 = 0 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: (340.83614,53.20913), (340.83189,53.21011), (340.80387,53.16617), (340.80877,53.16621).