

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 20373 - L2 Version 3
Chandra X-Ray Center

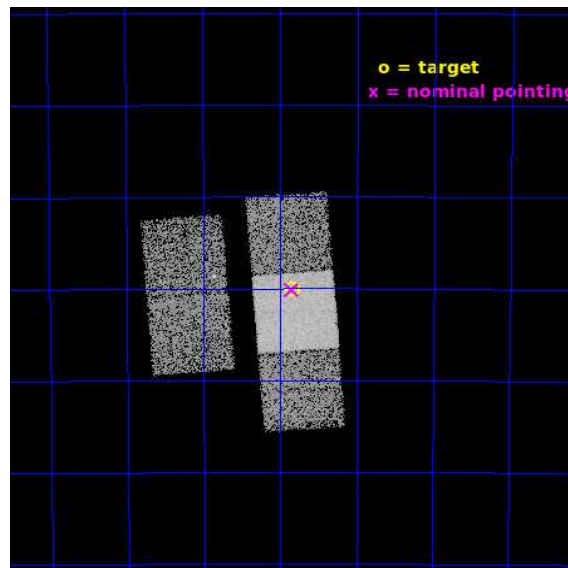
L2 Processing Date : Oct 26 2020

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1 Front

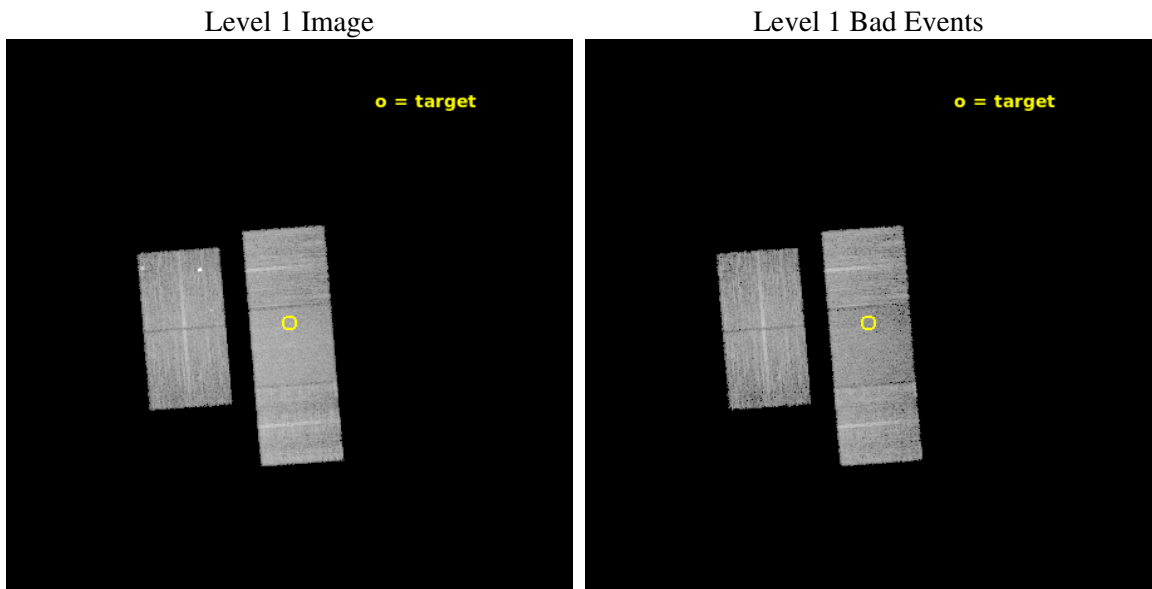
seq_num	703478	Sequence number
obs_id	20373	Observation id
title	HEAVILY REDDENED, LUMINOUS TYPE 1 QSOs: A TRANSITION POPULATION EMERGING FROM THE DUST	Proposal title
observer	Enrico Piconcelli	Principal investigator
object	VHSJ2028-5740	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	307.209167	Observer's specified target RA [deg]
dec_targ	-57.668111	Observer's specified target Dec [deg]
ra_nom	307.2114564516	Nominal RA [deg]
dec_nom	-57.668901530099	Nominal Dec [deg]
roll_nom	85.528689545348	Nominal Roll [deg]
revision	3	Processing version of data
ontime	9053.9774501324	Sum of GTIs [s]
livetime	8935.6805693052	Livetime [s]
ontime2	9053.8132901192	Sum of GTIs [s]
ontime3	9053.8953701258	Sum of GTIs [s]
ontime6	9053.9364101887	Sum of GTIs [s]
ontime7	9053.9774501324	Sum of GTIs [s]
ontime8	9053.8543301821	Sum of GTIs [s]
l2events	60952	Number of level 2 events



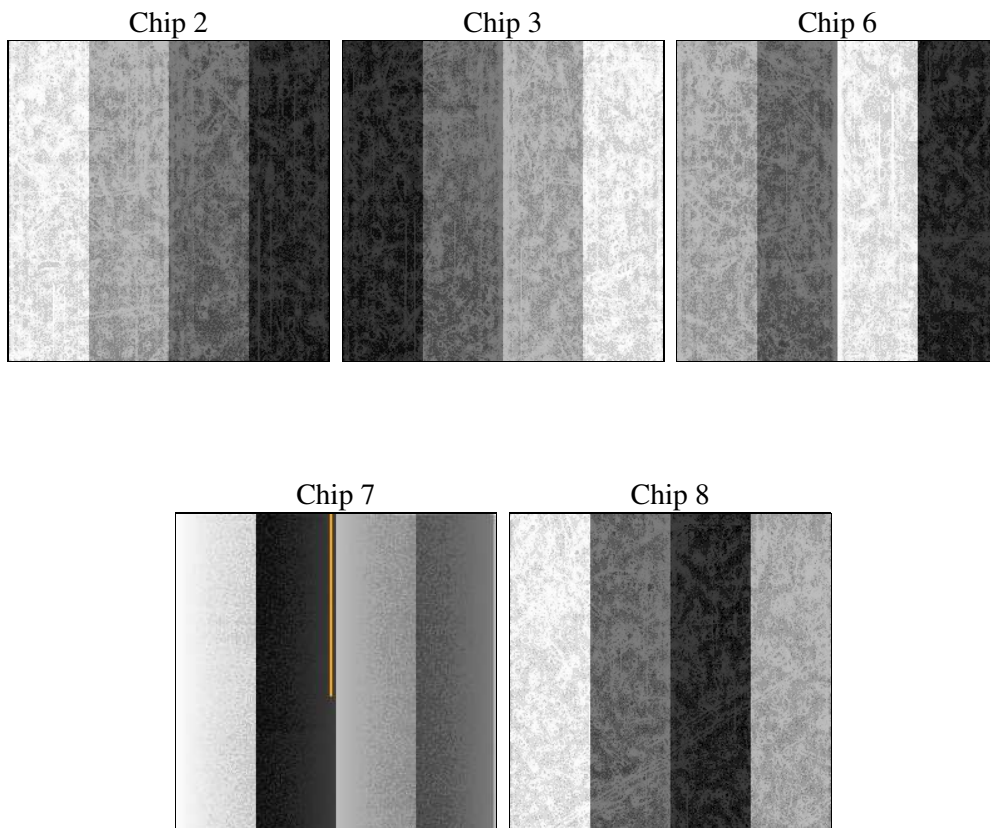
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	9000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	9053.9774501324	Sum of GTIs [s]
caldsver	4.9.3	 	ontime2	9053.8132901192	Sum of GTIs [s]
date	2020-10-27T00:54:15	Date and time of file creation	ontime3	9053.8953701258	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	9053.9364101887	Sum of GTIs [s]
			ontime7	9053.9774501324	Sum of GTIs [s]
			ontime8	9053.8543301821	Sum of GTIs [s]
			l1events	379693	Number of level 1 events

2.1.4 Events

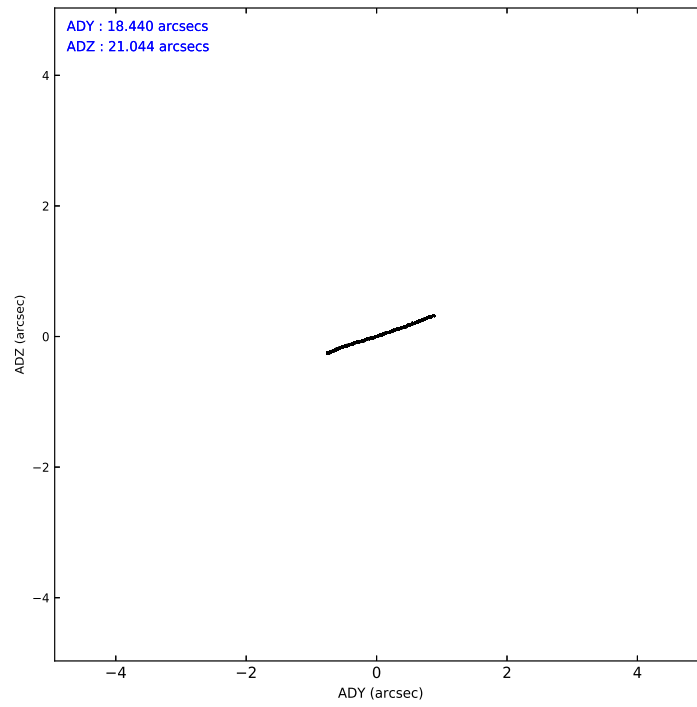
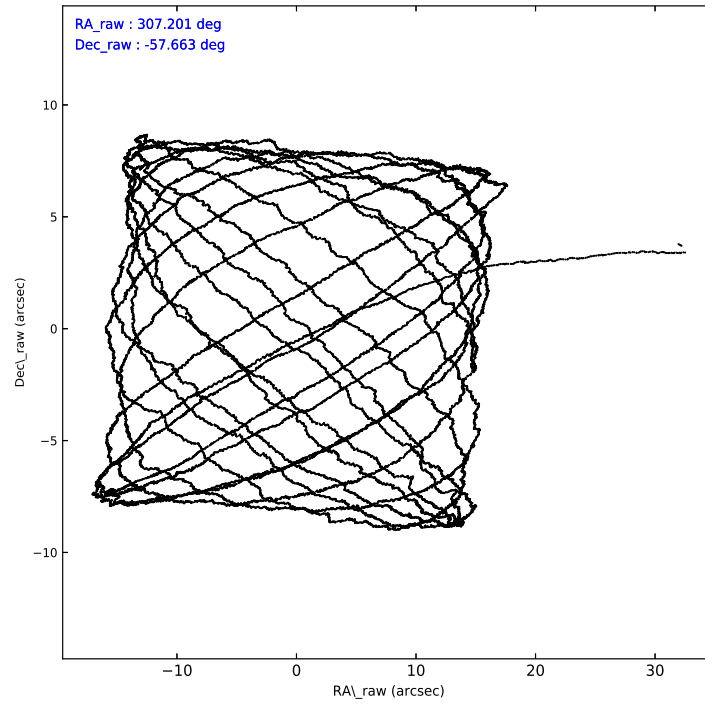
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	71600	64829	70870	85532	86862
rejected events	61441	58171	63370	48867	65648
rejected %	85%	89%	89%	57%	75%

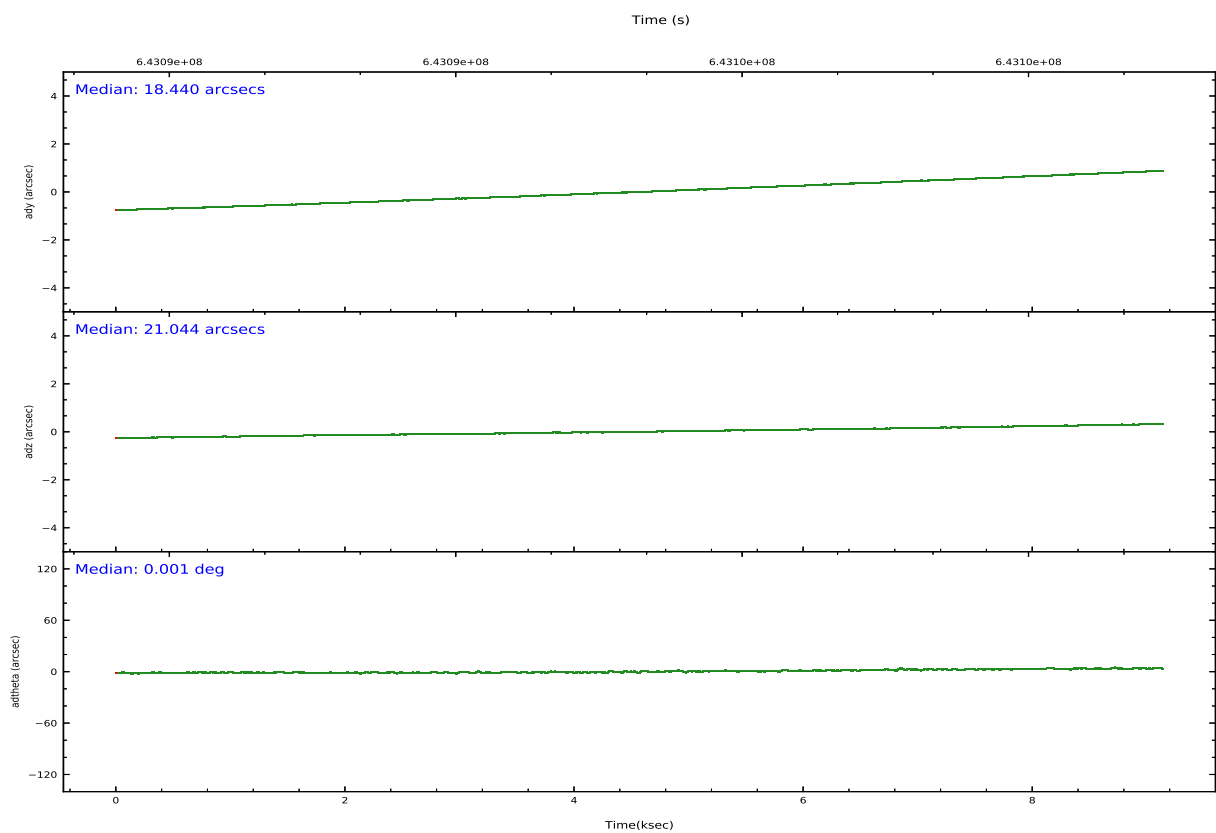
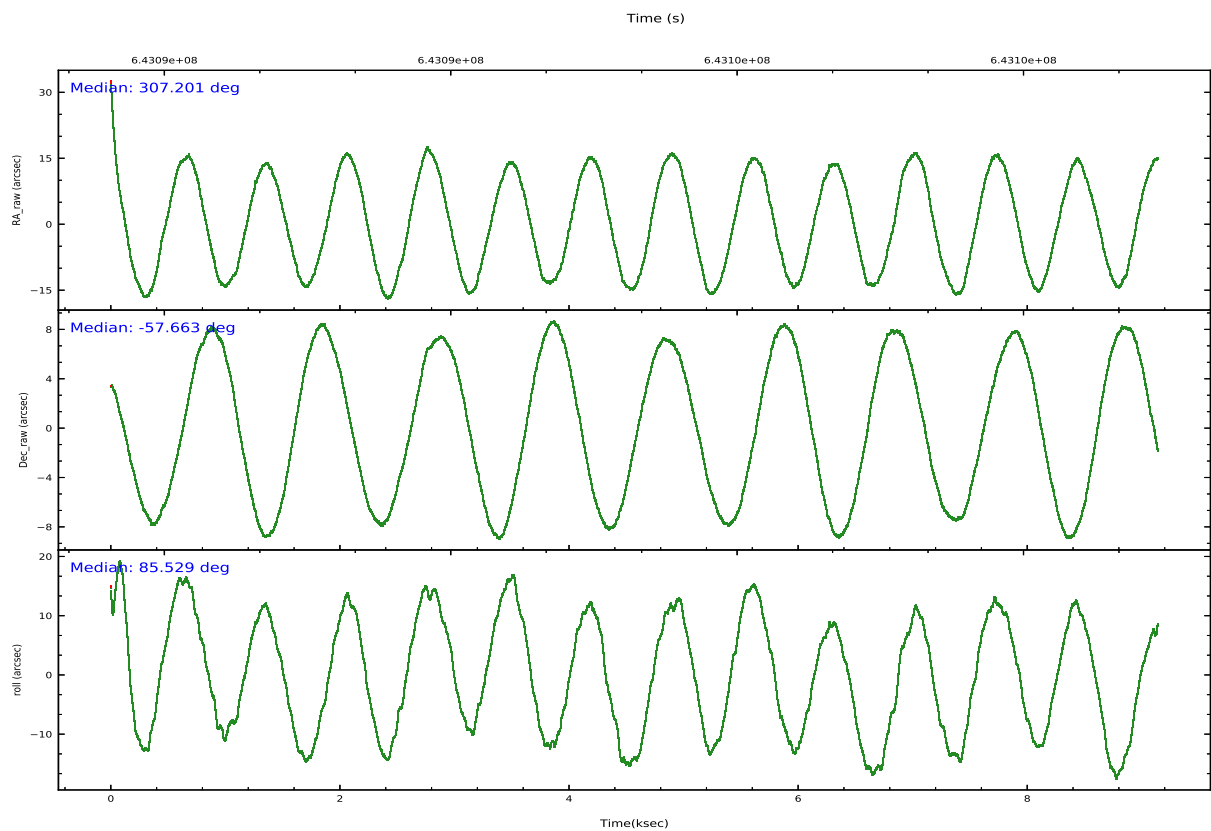
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	5753	2291	2290	3053	5547
	8%	3%	3%	3%	6%
grade 1 events	72	35	44	114	68
	0%	0%	0%	0%	0%
grade 2 events	1637	1441	1855	7633	5351
	2%	2%	2%	8%	6%
grade 3 events	713	751	670	2878	2130
	0%	1%	0%	3%	2%
grade 4 events	694	678	689	2799	2058
	0%	1%	0%	3%	2%
grade 5 events	2541	3015	2988	8399	4581
	3%	4%	4%	9%	5%
grade 6 events	1369	1498	1998	20327	6164
	1%	2%	2%	23%	7%
grade 7 events	58821	55120	60336	40329	60963
	82%	85%	85%	47%	70%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-23678	ACIS-23678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	307.223717	307.2114564516	CCD I2 on	O1	Y
[deg] Pointing Dec	-57.687724	-57.668901530099	CCD I3 on	O2	Y
[deg] Pointing Roll	85.397964	85.528689545348	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	N	N
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.145094680475	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01257209746719923	CCD S4 on	O3	Y
[s] Observation start time (MET)	643089676.184000	643088033.79329	CCD S5 on	N	N
Observation start date	2018-05-19T04:00:07	2018-05-19T03:33:53	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	643098676.184000	643099258.05645	On-chip summing requested	N	N
Observation end date	2018-05-19T06:30:07	2018-05-19T06:40:58	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



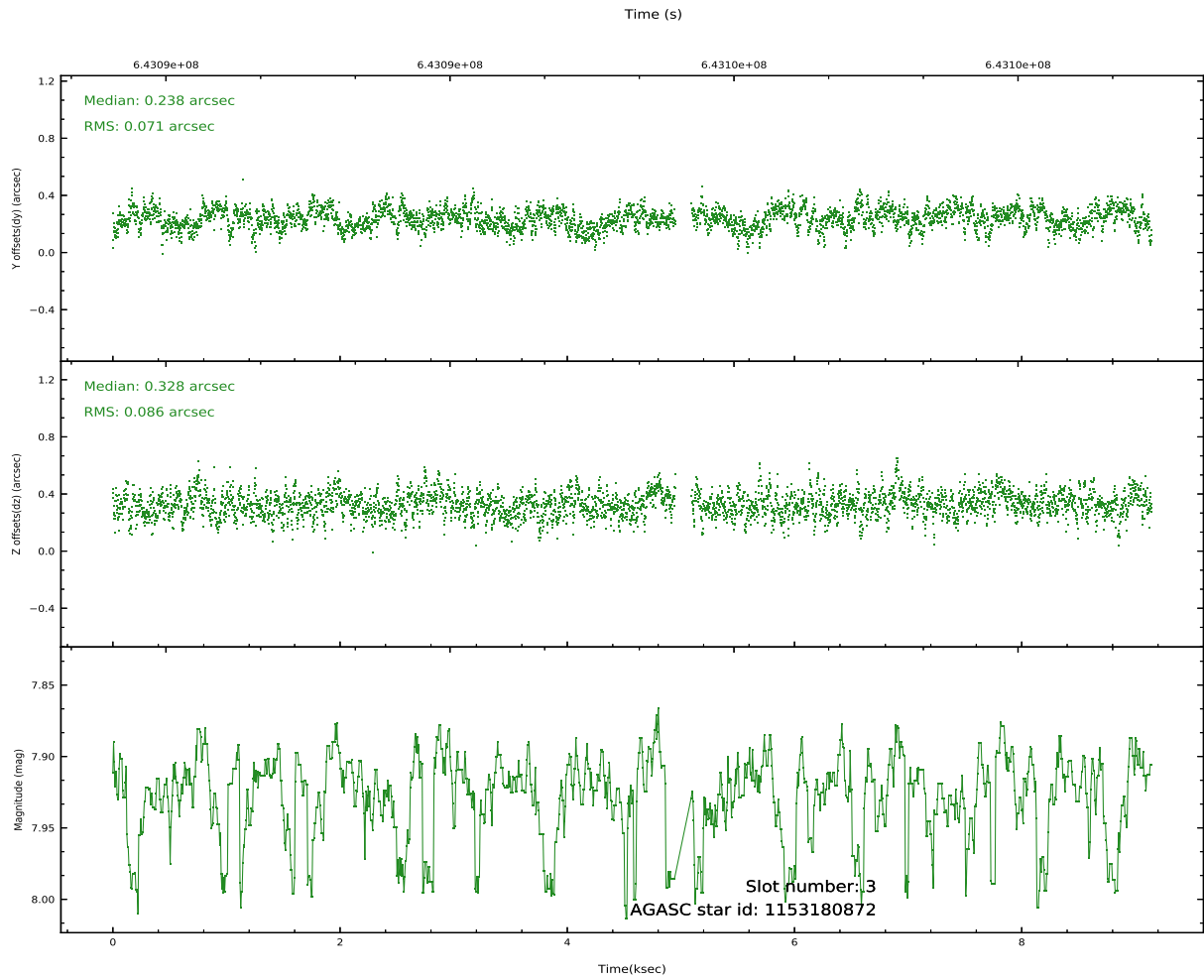
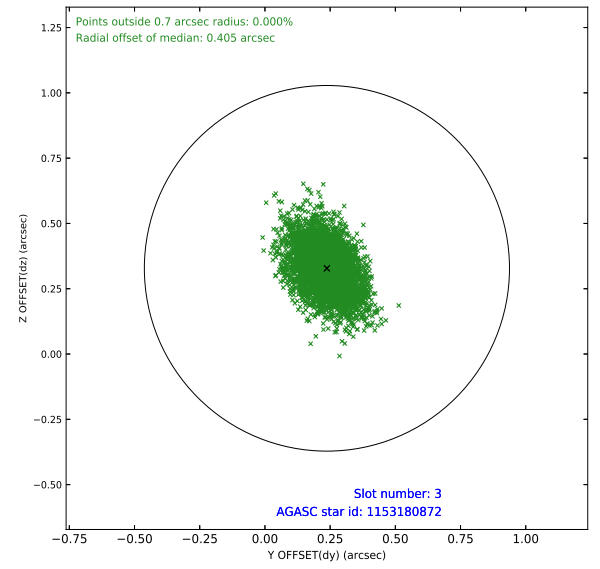
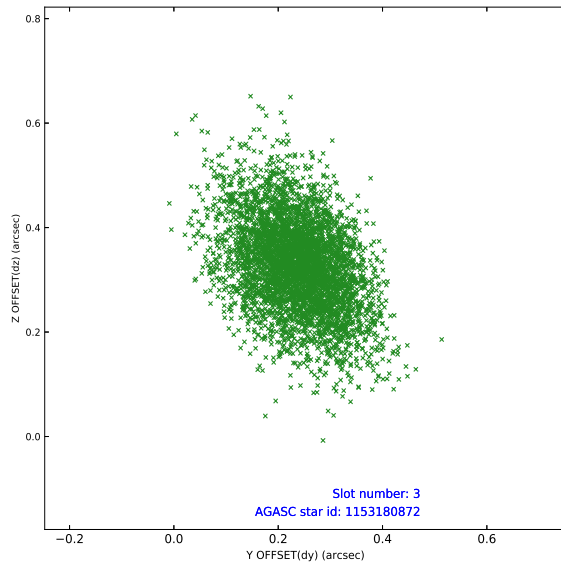


Slot Statistics

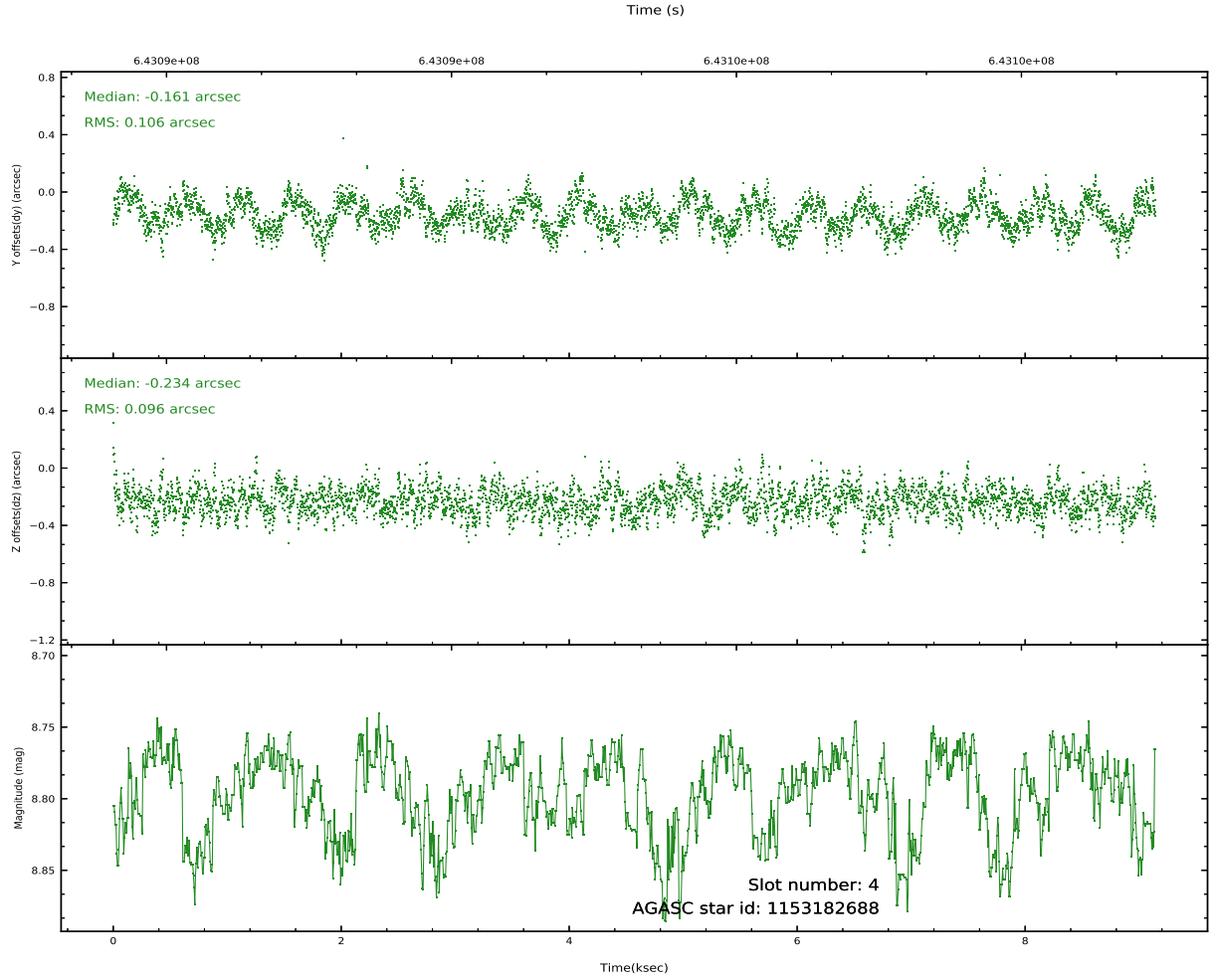
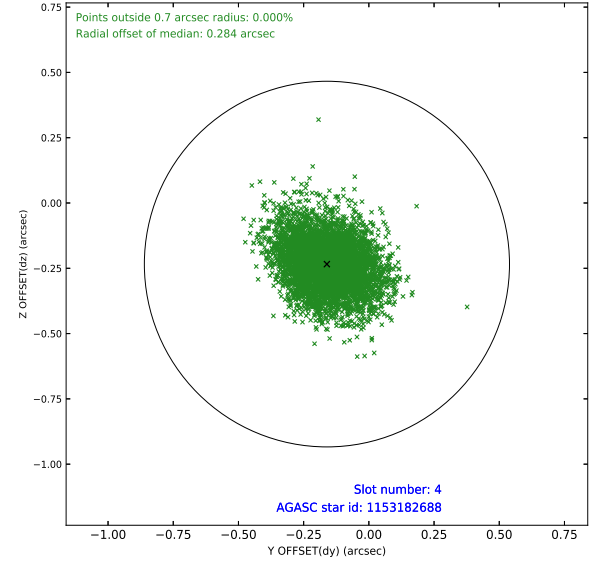
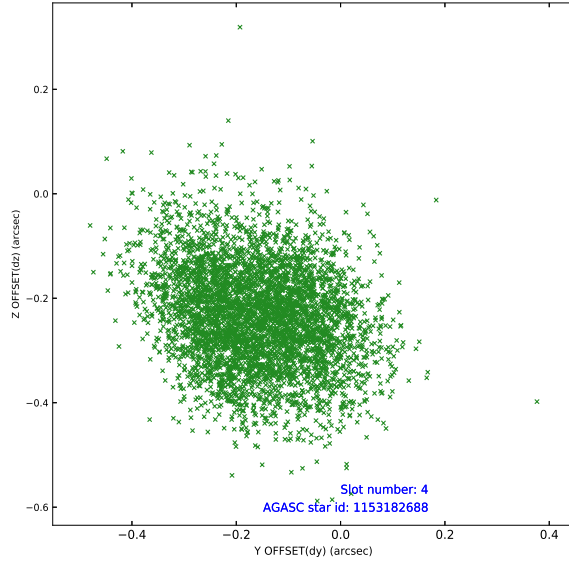
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-1	7.22	2231	1.000	0.299	-0.183	0.010	0.016	0.000000	0.000000	924.62	-1738
1	FID		ACIS-S-2	7.15	2231	1.000	-0.013	-0.057	0.014	0.021	0.000000	0.000000	-771.27	-1743
2	FID		ACIS-S-5	7.24	2231	1.000	-0.310	0.247	0.009	0.013	0.000000	0.000000	-1825.21	159
3	GUIDE	used	1153180872	7.92	4387	1.000	0.238	0.328	0.116	0.198	308.305290	-58.112348	-1374.81	-2174
4	GUIDE	used	1153182688	8.79	4456	1.000	-0.161	-0.234	0.152	0.246	306.975631	-57.644814	112.38	489
5	GUIDE	used	1153183136	8.61	4457	1.000	0.056	-0.199	0.138	0.225	307.294577	-57.177623	1841.82	9
6	GUIDE	used	1151474848	8.09	4459	1.000	-0.037	-0.104	0.114	0.196	306.313236	-58.093786	-1607.50	1608
7	GUIDE	used	1153175472	7.53	4459	1.000	-0.092	0.214	0.114	0.196	308.174893	-57.485224	861.27	-1776

2.4 Star Slots

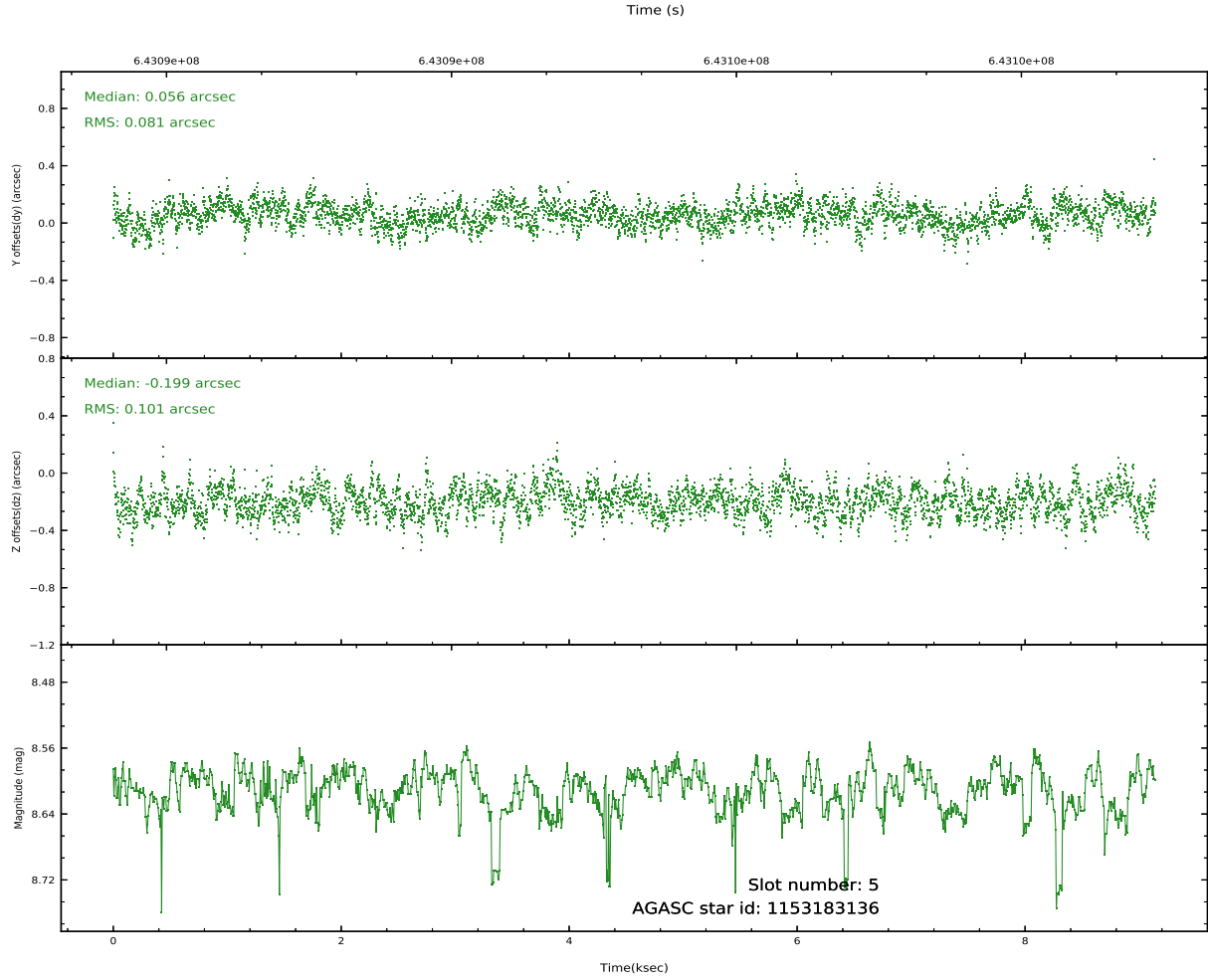
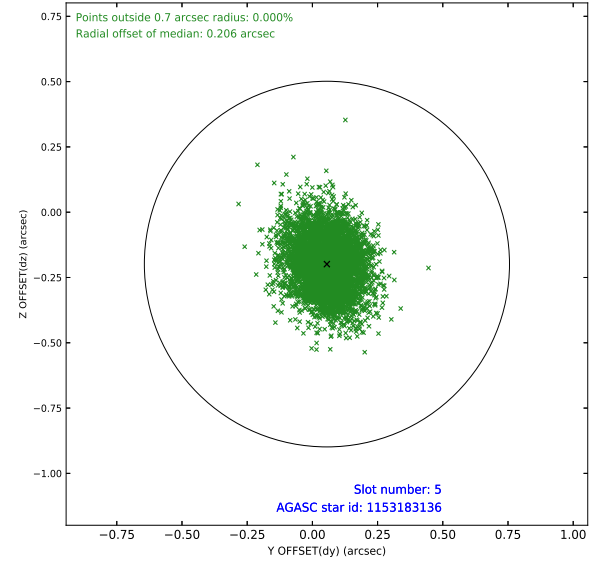
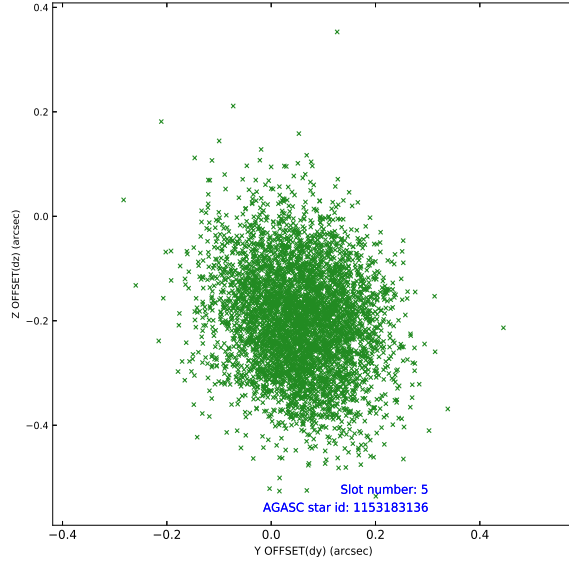
2.4.1 Slot 3



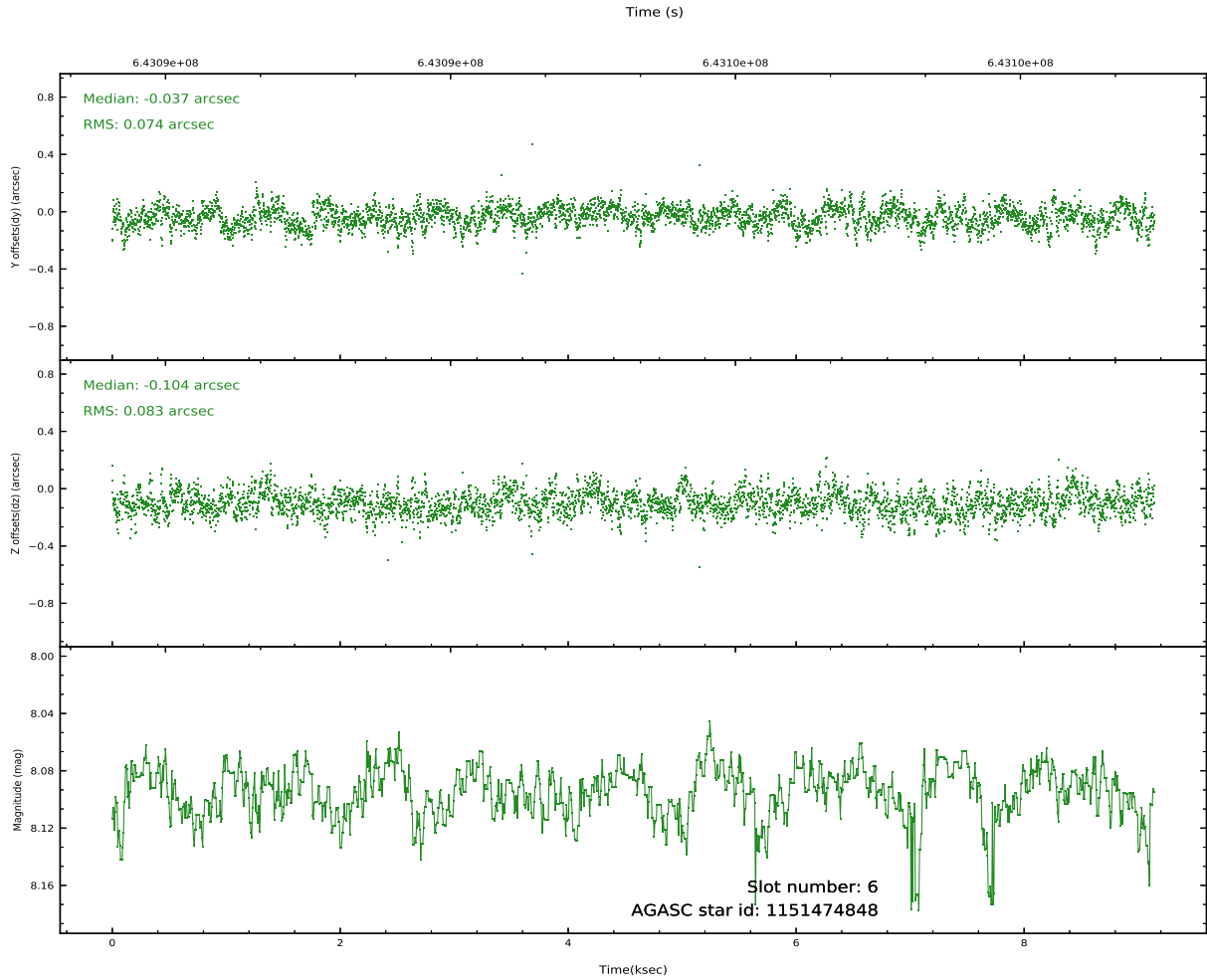
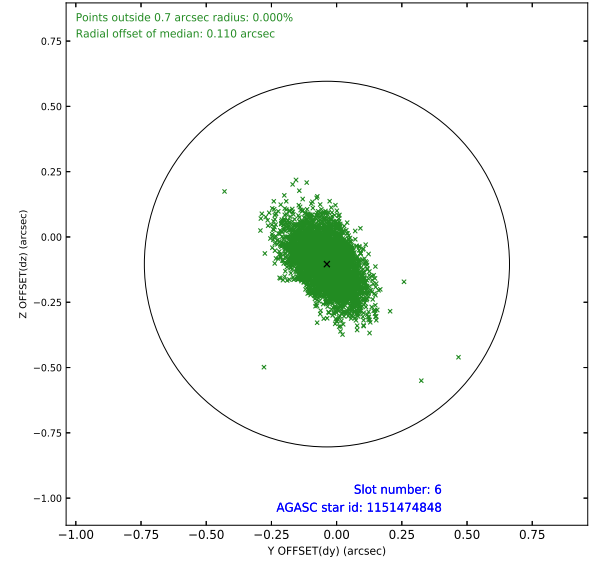
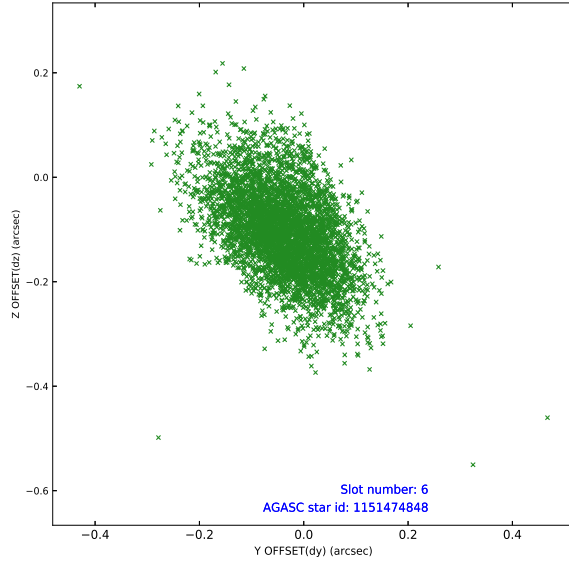
2.4.2 Slot 4



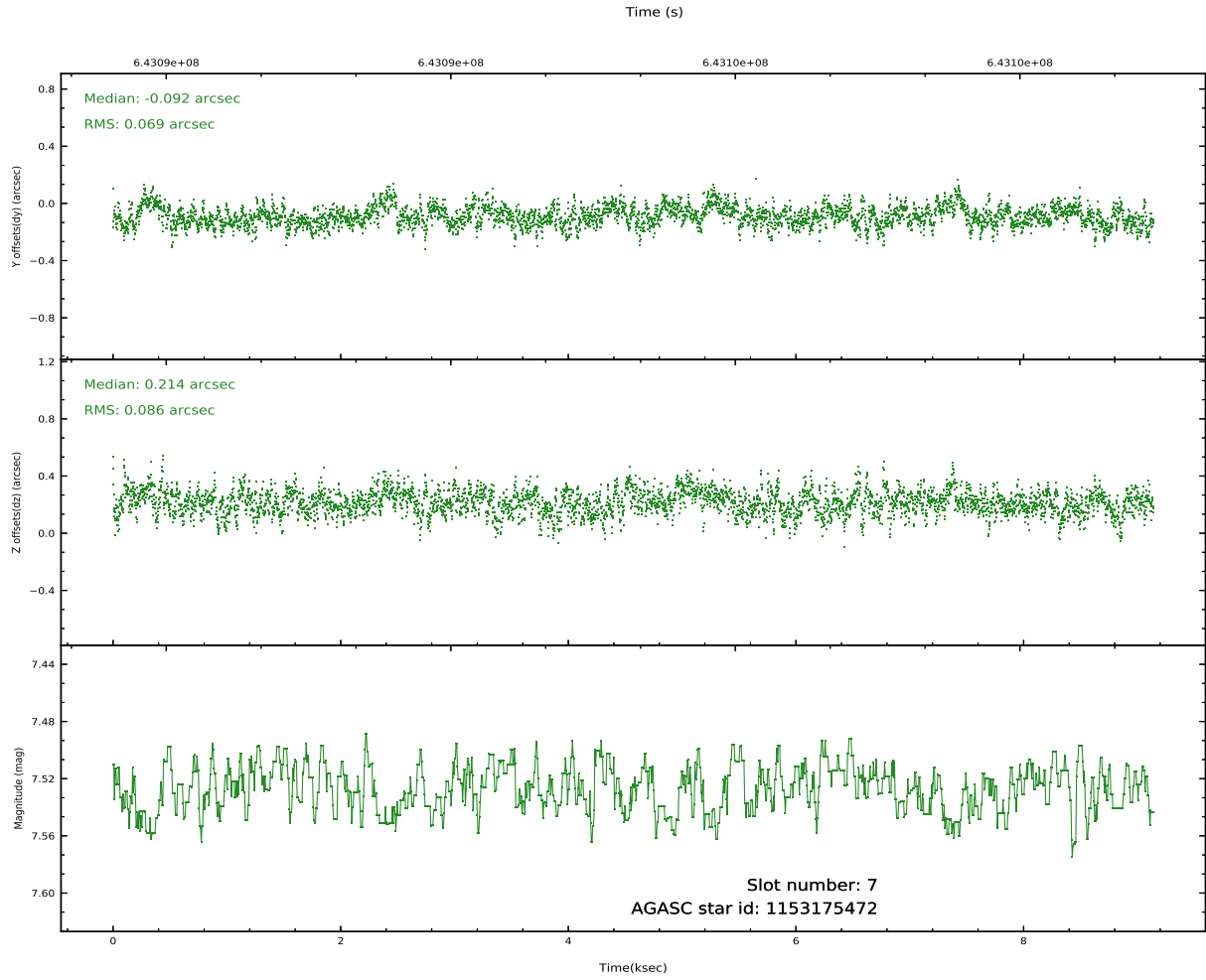
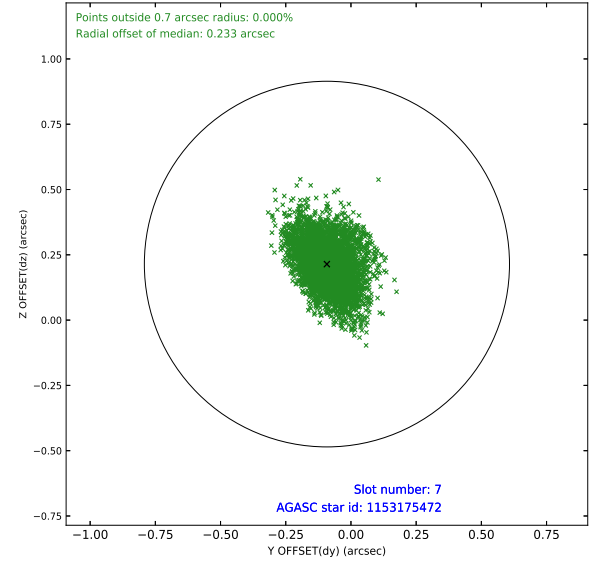
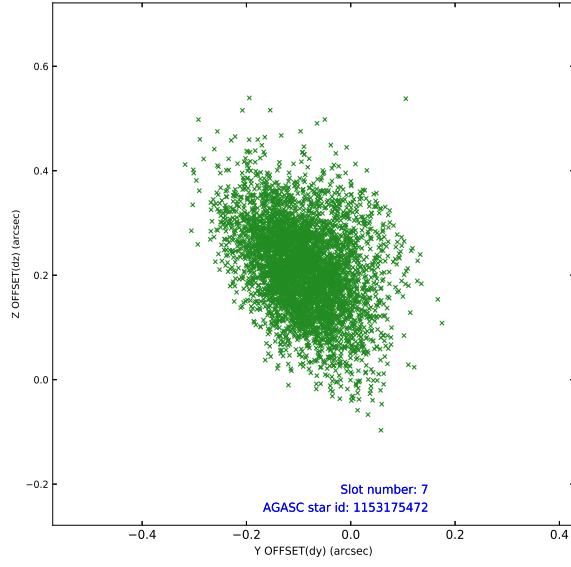
2.4.3 Slot 5



2.4.4 Slot 6

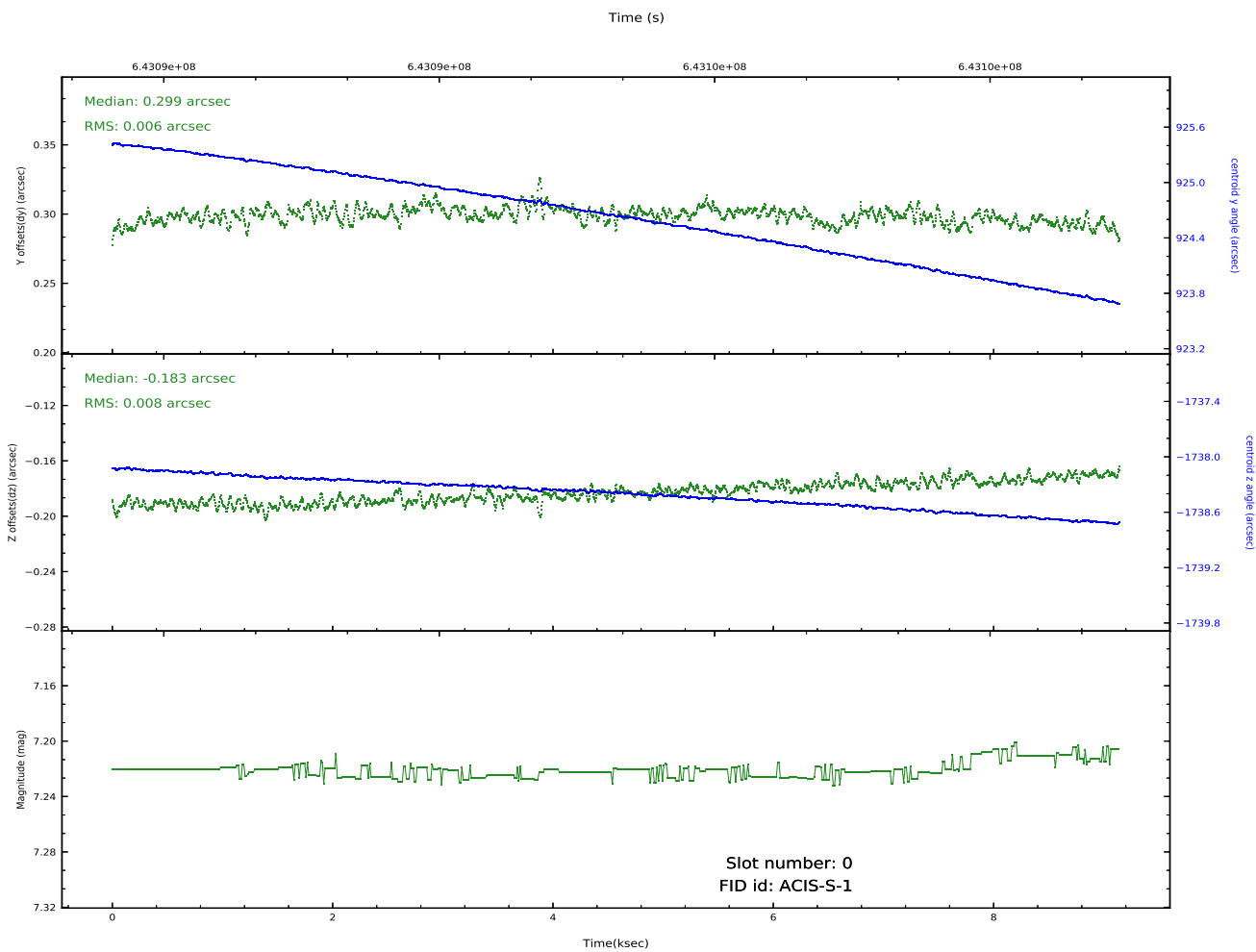
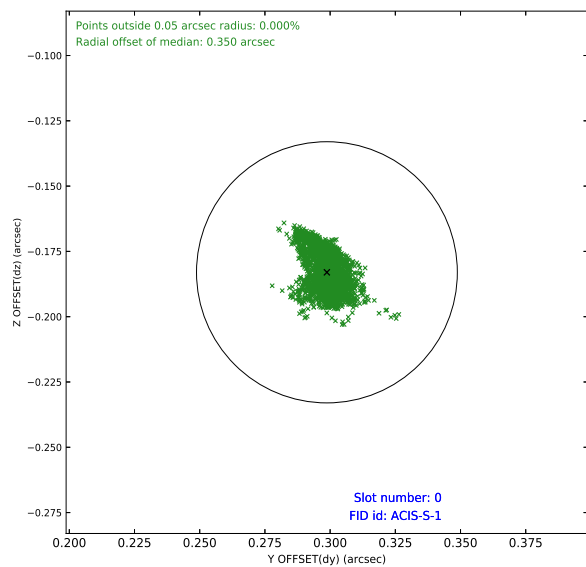
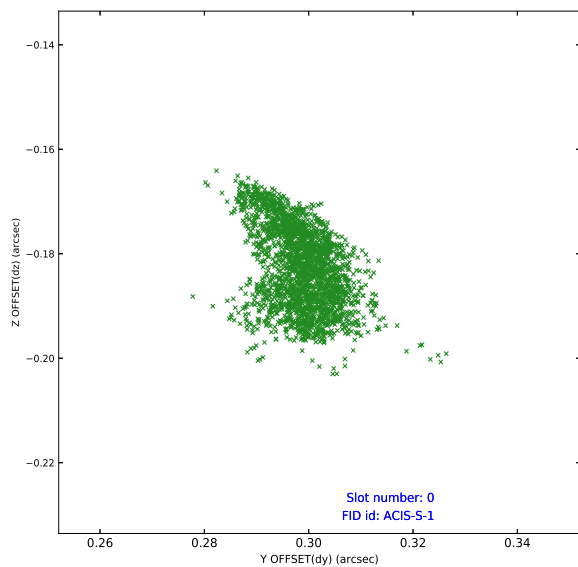


2.4.5 Slot 7

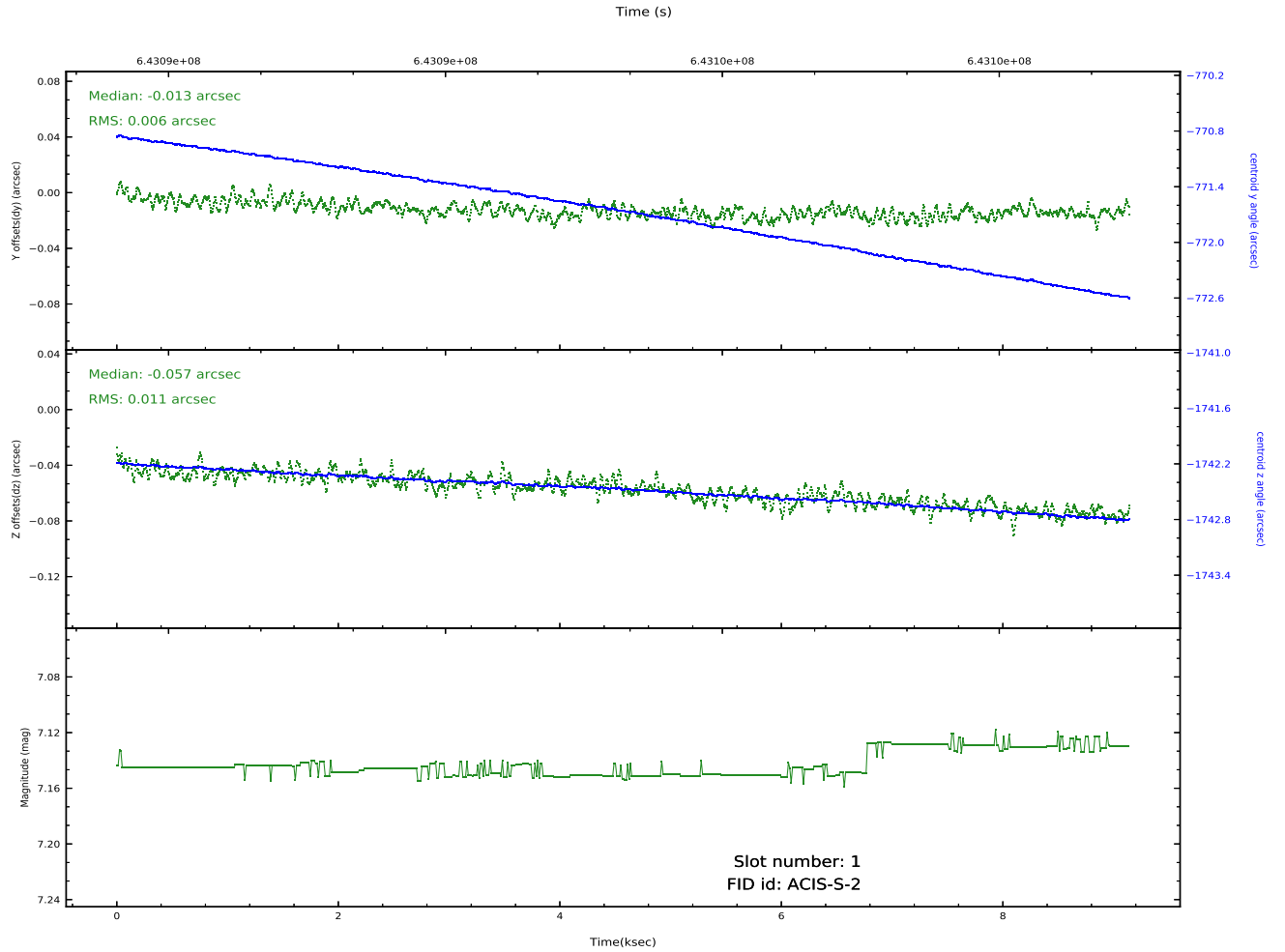
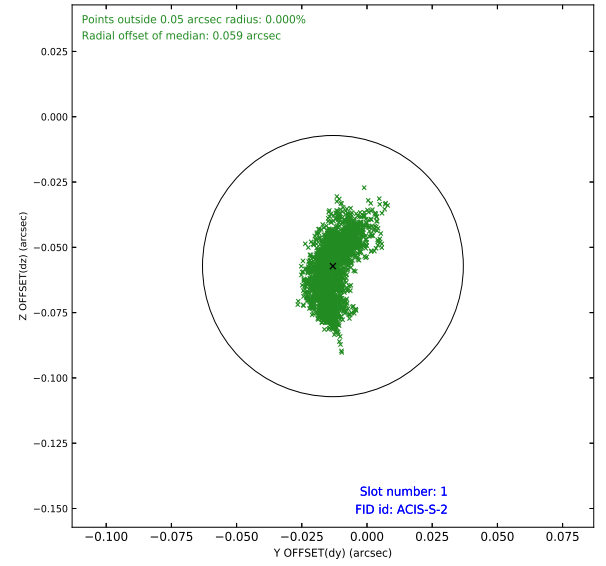
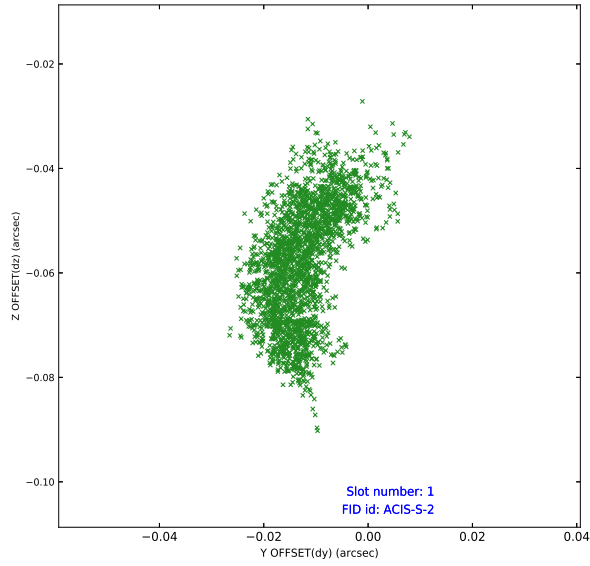


2.5 FID Slots

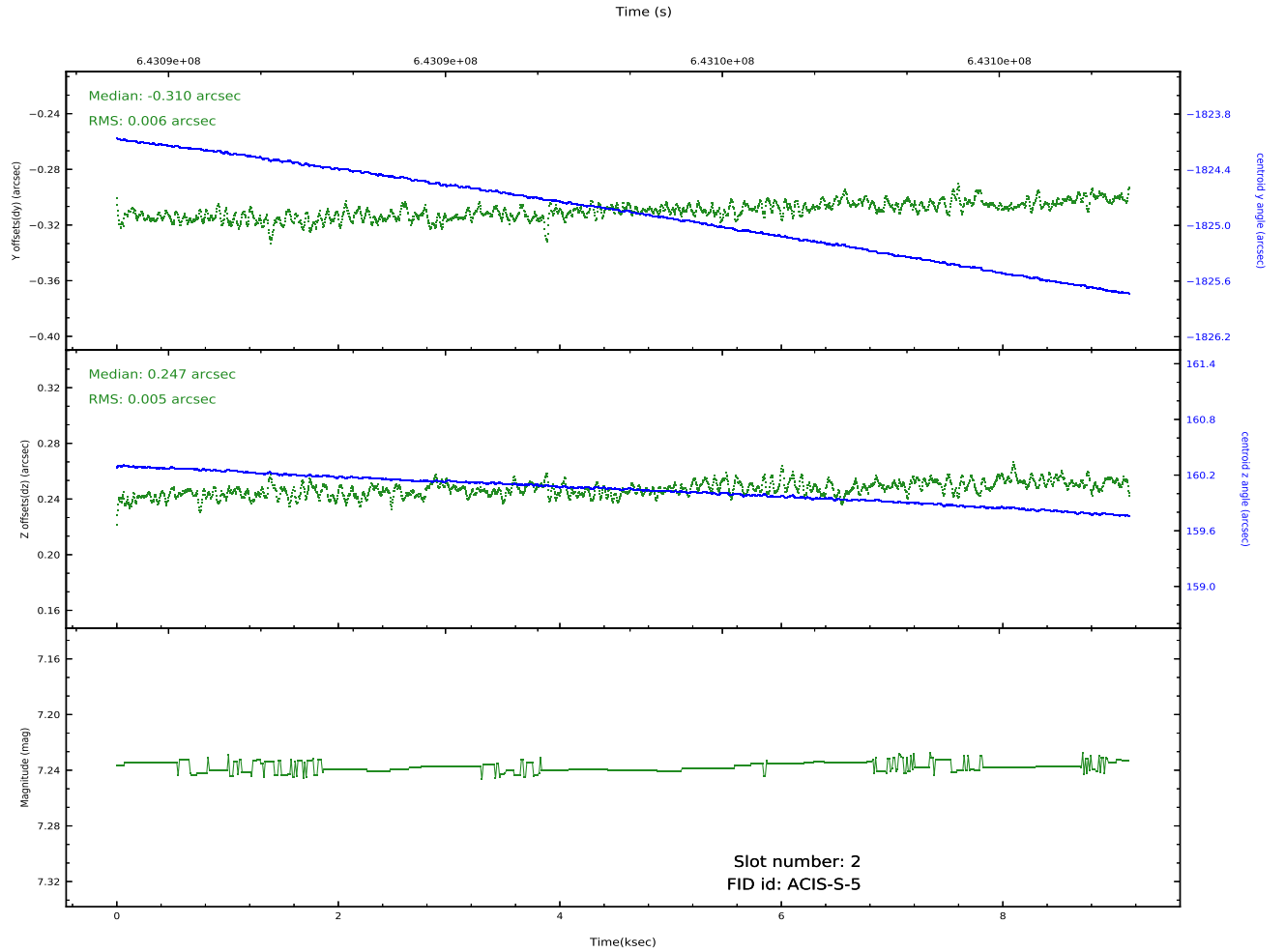
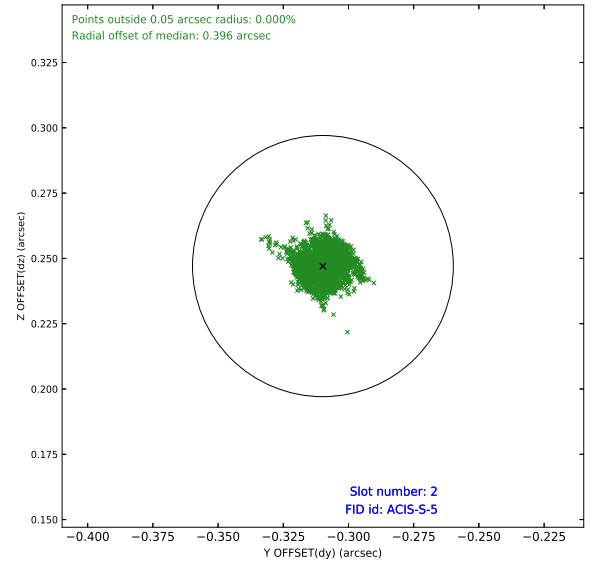
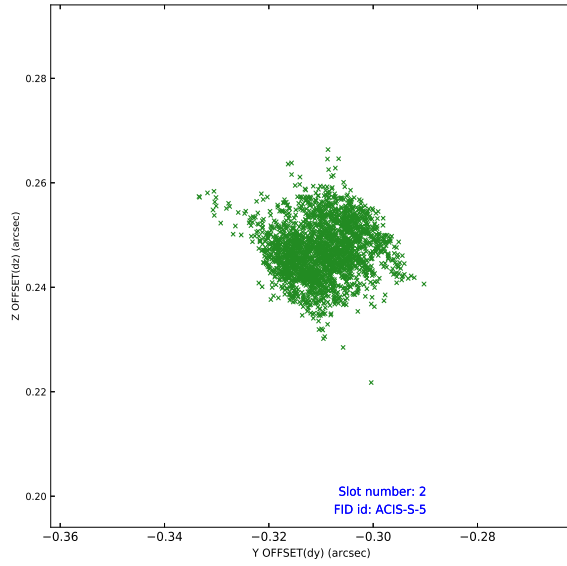
2.5.1 Slot 0



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	9.0539774467945

A.2 Comments

A spatial region of the original bias maps for CCD = 2 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 bias anomaly. The bias maps for CCD = 2 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 affected pixels on CCD = 2 are bounded by sky coords:

(307.56310, -57.53610), (307.55803, -57.53591), (307.54106, -57.66060),
(307.54611, -57.66106).

===

The affected pixels on CCD = 6 are bounded by sky coords:

(307.10093, -57.49522), (307.09956, -57.50460), (307.14566, -57.50654),
(307.16145, -57.49776).