

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 20930 - L2 Version 3
Chandra X-Ray Center

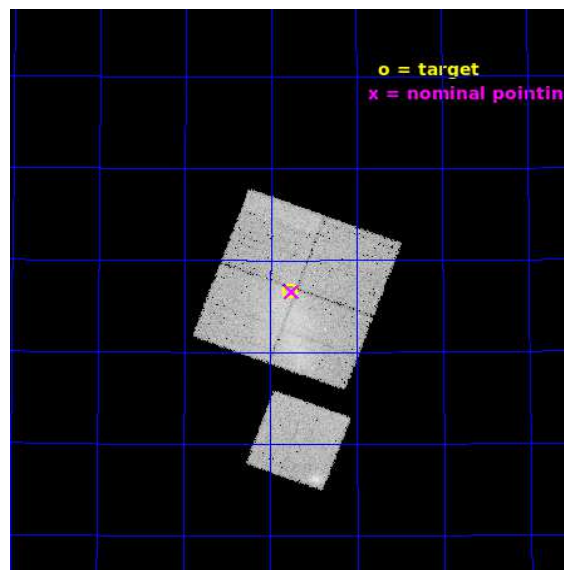
L2 Processing Date : Oct 27 2020

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1 Front

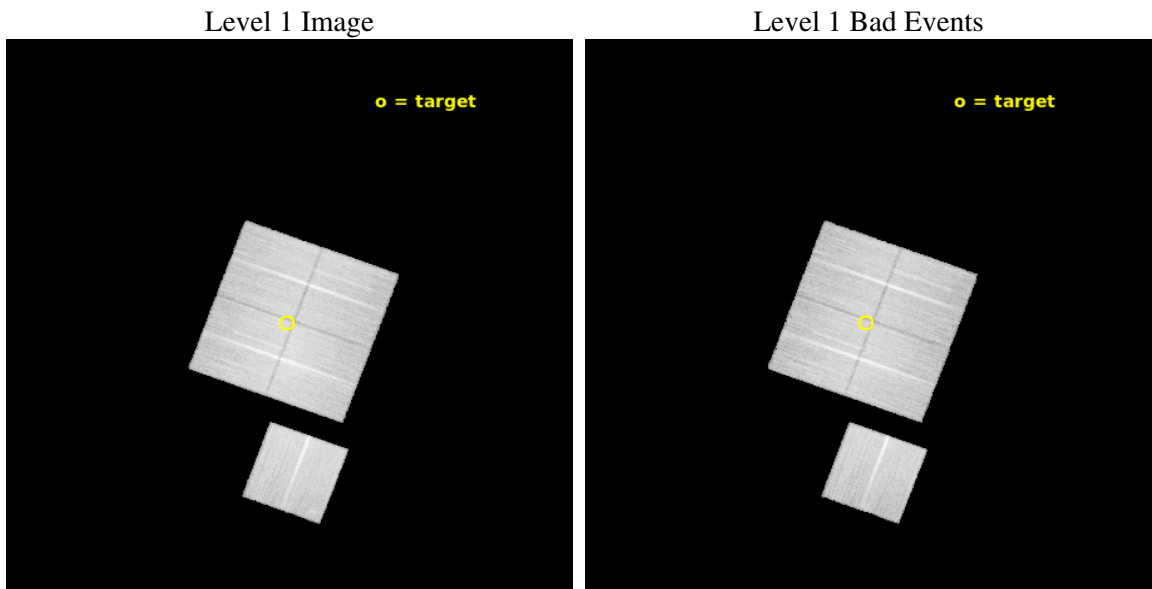
seq_num	801784	Sequence number
obs_id	20930	Observation id
title	A POSSIBLE FIRST DETECTION OF INVERSE COMPTON EMISSION FROM A GALAXY CLUSTER	Proposal title
observer	Maxim Markevitch	Principal investigator
object	CIZA J2242.8+5301	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	340.695	Observer's specified target RA [deg]
dec_targ	53.11	Observer's specified target Dec [deg]
ra_nom	340.68792896465	Nominal RA [deg]
dec_nom	53.109879372099	Nominal Dec [deg]
roll_nom	200.21054343738	Nominal Roll [deg]
revision	3	Processing version of data
ontime	30193.918182015	Sum of GTIs [s]
livetime	29799.412412528	Livetime [s]
ontime0	30200.200232387	Sum of GTIs [s]
ontime1	30193.918151975	Sum of GTIs [s]
ontime2	30190.77708149	Sum of GTIs [s]
ontime3	30193.918182015	Sum of GTIs [s]
ontime6	30190.777231097	Sum of GTIs [s]
l2events	124699	Number of level 2 events



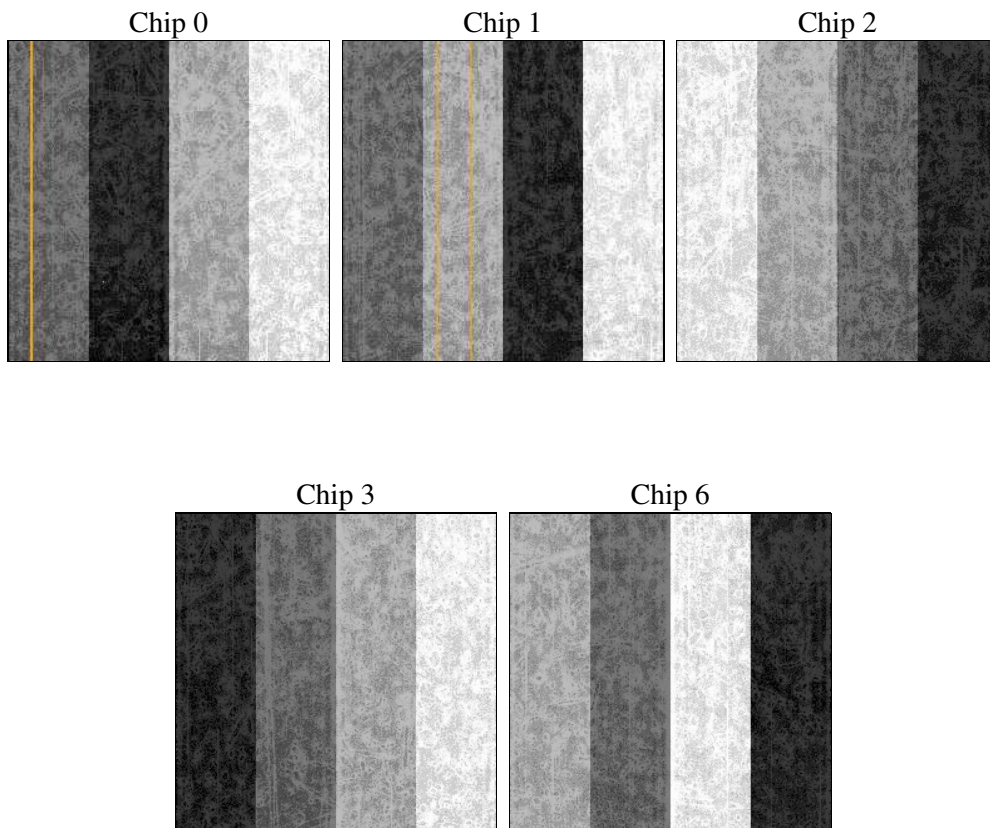
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30135.884000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	30193.918182015	Sum of GTIs [s]
caldbver	4.9.3	 	ontime0	30200.200232387	Sum of GTIs [s]
date	2020-10-28T00:29:48	Date and time of file creation	ontime1	30193.918151975	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	30190.77708149	Sum of GTIs [s]
			ontime3	30193.918182015	Sum of GTIs [s]
			ontime6	30190.777231097	Sum of GTIs [s]
			l1events	1143242	Number of level 1 events

2.1.4 Events

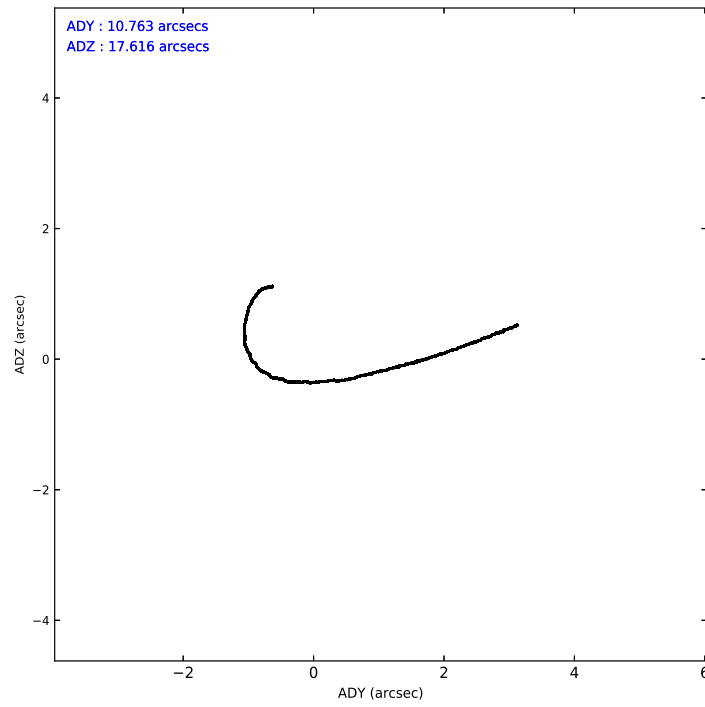
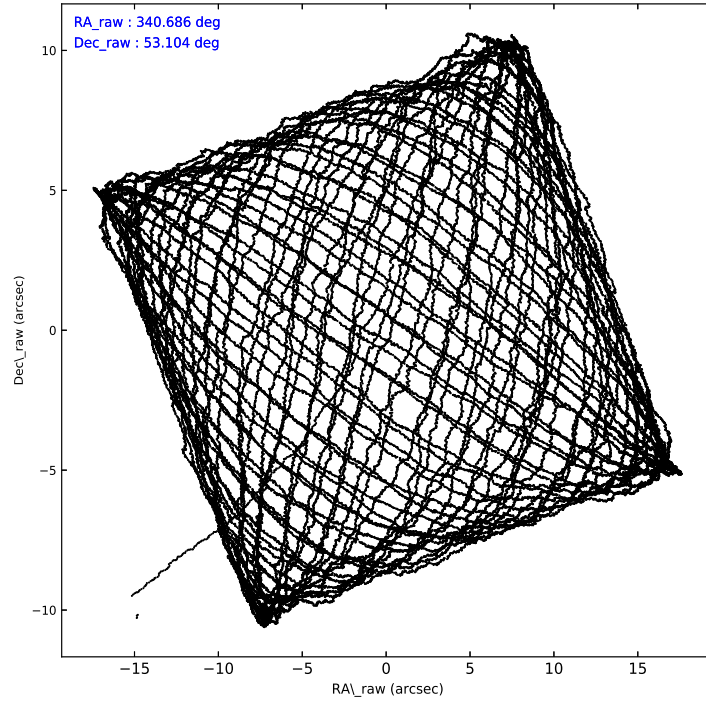
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	210748	217232	244289	231179	239794
rejected events	184961	189163	208352	202368	212941
rejected %	87%	87%	85%	87%	88%

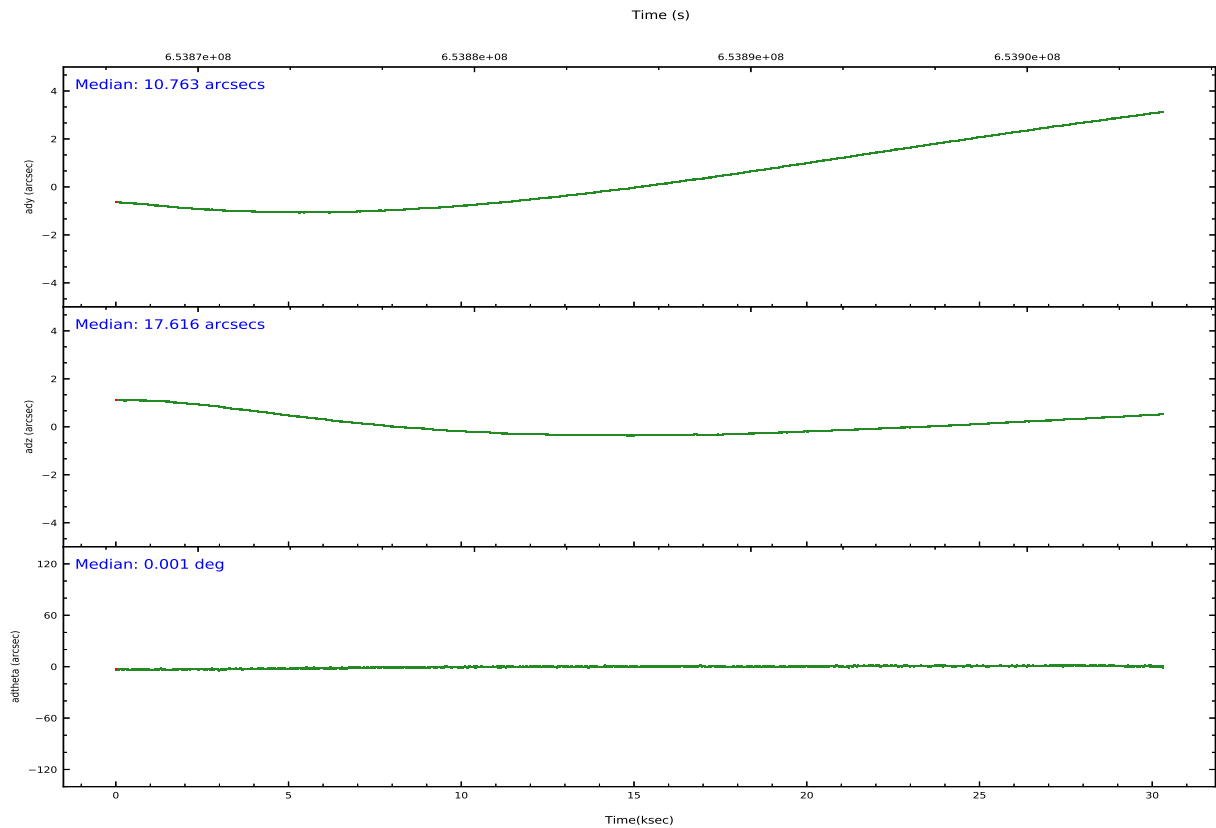
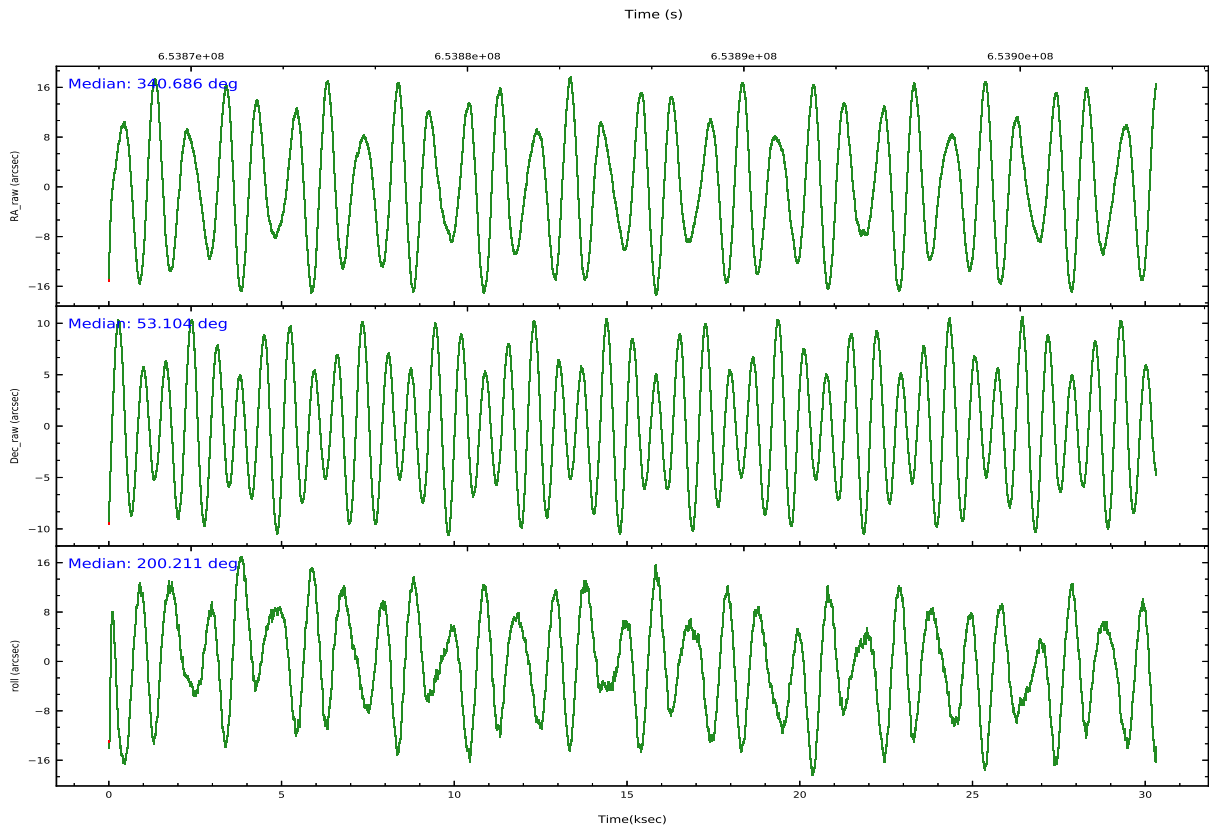
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	8915	9118	17487	12163	9196
	4%	4%	7%	5%	3%
grade 1 events	119	122	193	137	98
	0%	0%	0%	0%	0%
grade 2 events	6445	7500	7298	5915	6294
	3%	3%	2%	2%	2%
grade 3 events	2582	2515	2886	2670	2585
	1%	1%	1%	1%	1%
grade 4 events	2404	2555	2990	2714	2544
	1%	1%	1%	1%	1%
grade 5 events	9635	9829	9235	11024	10416
	4%	4%	3%	4%	4%
grade 6 events	5447	6389	5283	5356	6238
	2%	2%	2%	2%	2%
grade 7 events	175201	179204	198917	191200	202423
	83%	82%	81%	82%	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	340.715167	340.68792896465	CCD I2 on	Y	Y
[deg] Pointing Dec	53.125247	53.109879372099	CCD I3 on	Y	Y
[deg] Pointing Roll	199.983872	200.21054343738	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)	653869798.184000	653868754.8322001	CCD S5 on	N	N
Observation start date	2018-09-20T22:28:49	2018-09-20T22:12:34	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	653899934.184000	653900504.72159	On-chip summing requested	N	N
Observation end date	2018-09-21T06:51:05	2018-09-21T07:01:44	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



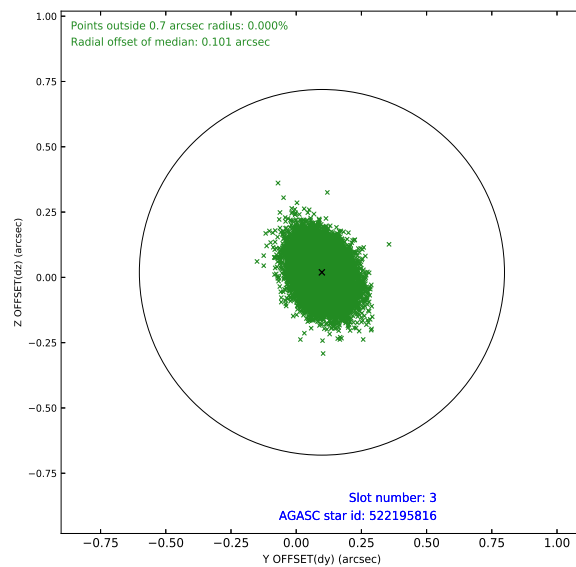
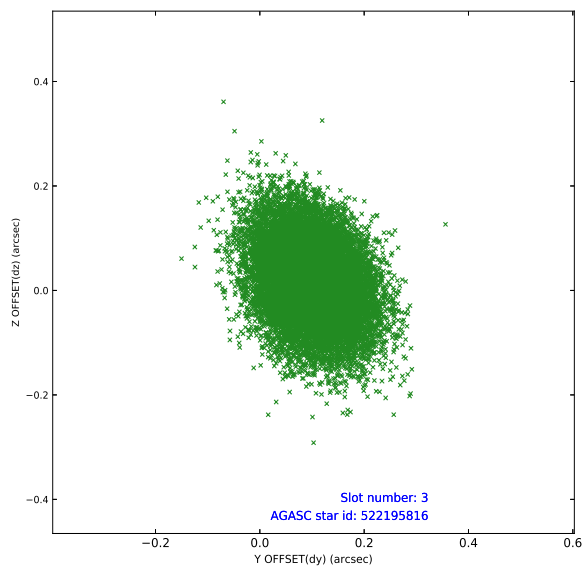


Slot Statistics

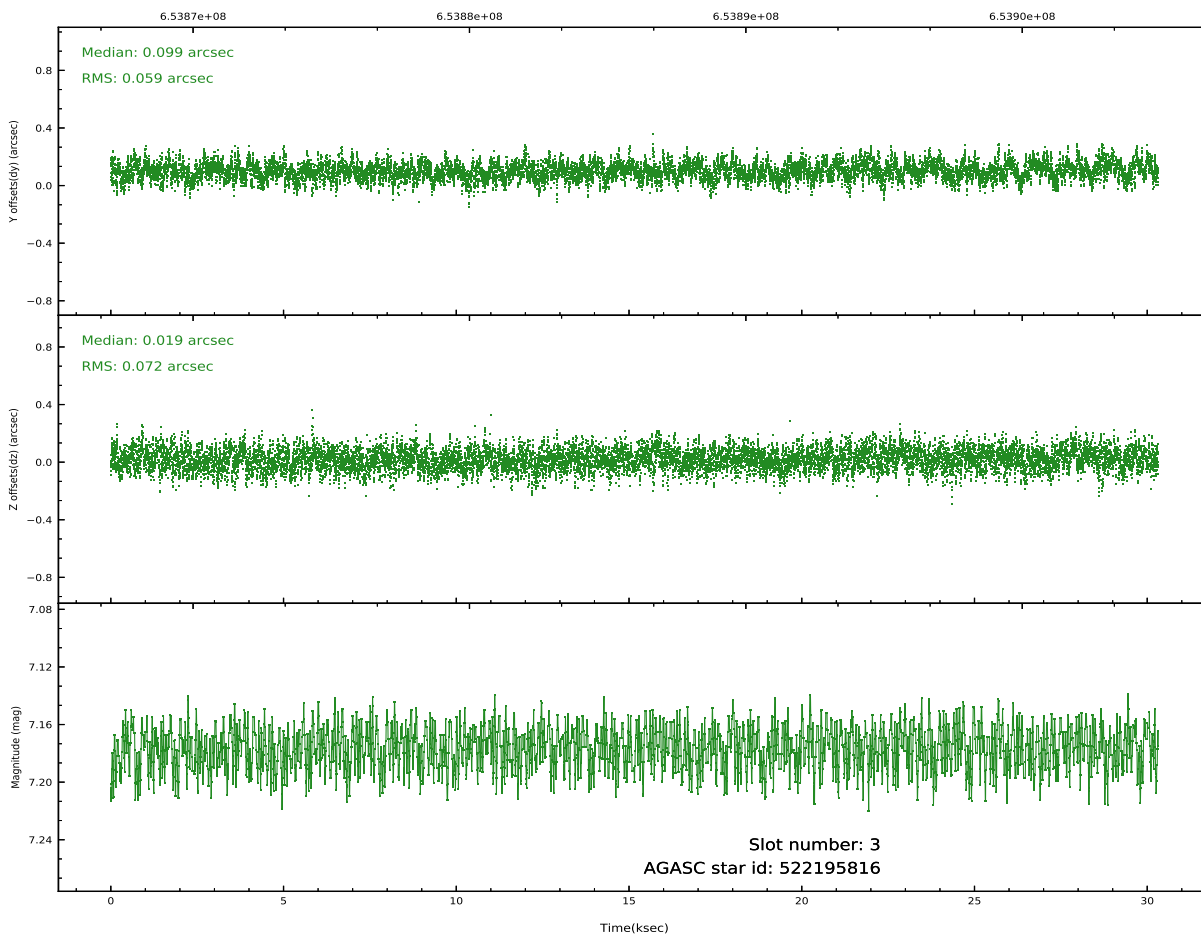
slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-I-1	7.24	7395	1.000	0.163	-0.107	0.017	0.053	0.000000	0.000000	928.51	-841
1	FID		ACIS-I-5	7.21	7395	1.000	-0.276	0.143	0.011	0.016	0.000000	0.000000	-1819.90	1056
2	FID		ACIS-I-6	7.21	7395	1.000	0.021	0.030	0.021	0.040	0.000000	0.000000	393.96	1700
3	GUIDE	used	522195816	7.18	14788	1.000	0.099	0.019	0.099	0.162	341.124906	53.756426	-1596.59	-1839
4	GUIDE	used	522195920	8.26	14778	1.000	-0.105	-0.109	0.103	0.177	340.534111	52.561582	1065.47	1771
5	GUIDE	used	522197712	8.36	14779	1.000	-0.145	-0.074	0.098	0.172	341.160967	52.624062	-300.15	2025
6	GUIDE	used	522204136	7.17	14789	1.000	0.037	0.169	0.100	0.169	341.384669	53.374616	-1660.39	-358
7	GUIDE	used	476077024	8.80	14775	1.000	0.114	-0.004	0.107	0.180	340.083340	52.280622	2345.06	2376

2.4 Star Slots

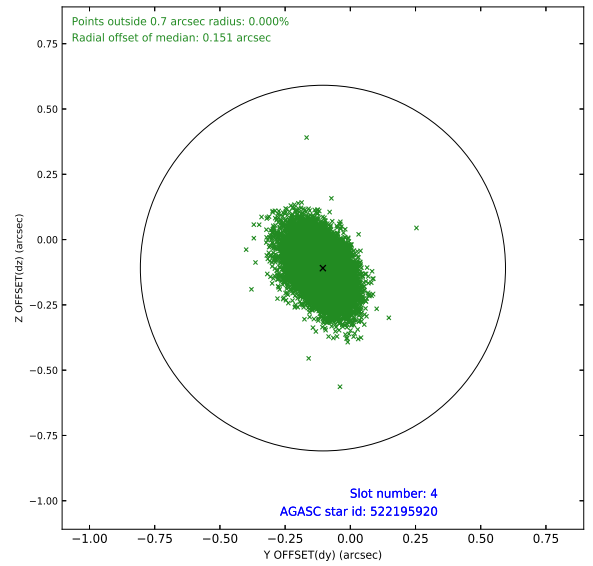
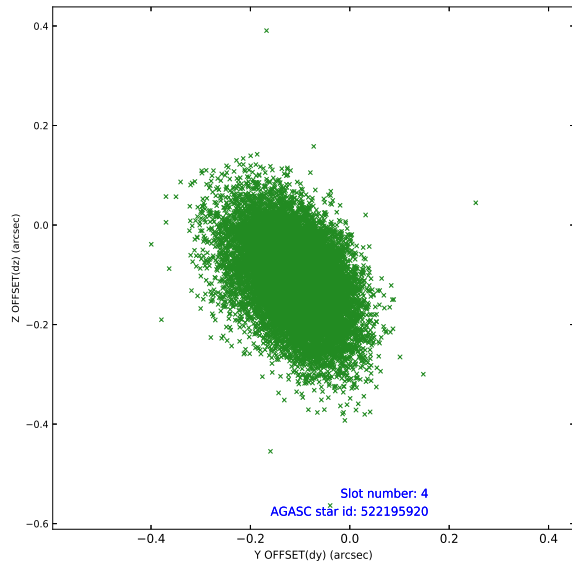
2.4.1 Slot 3



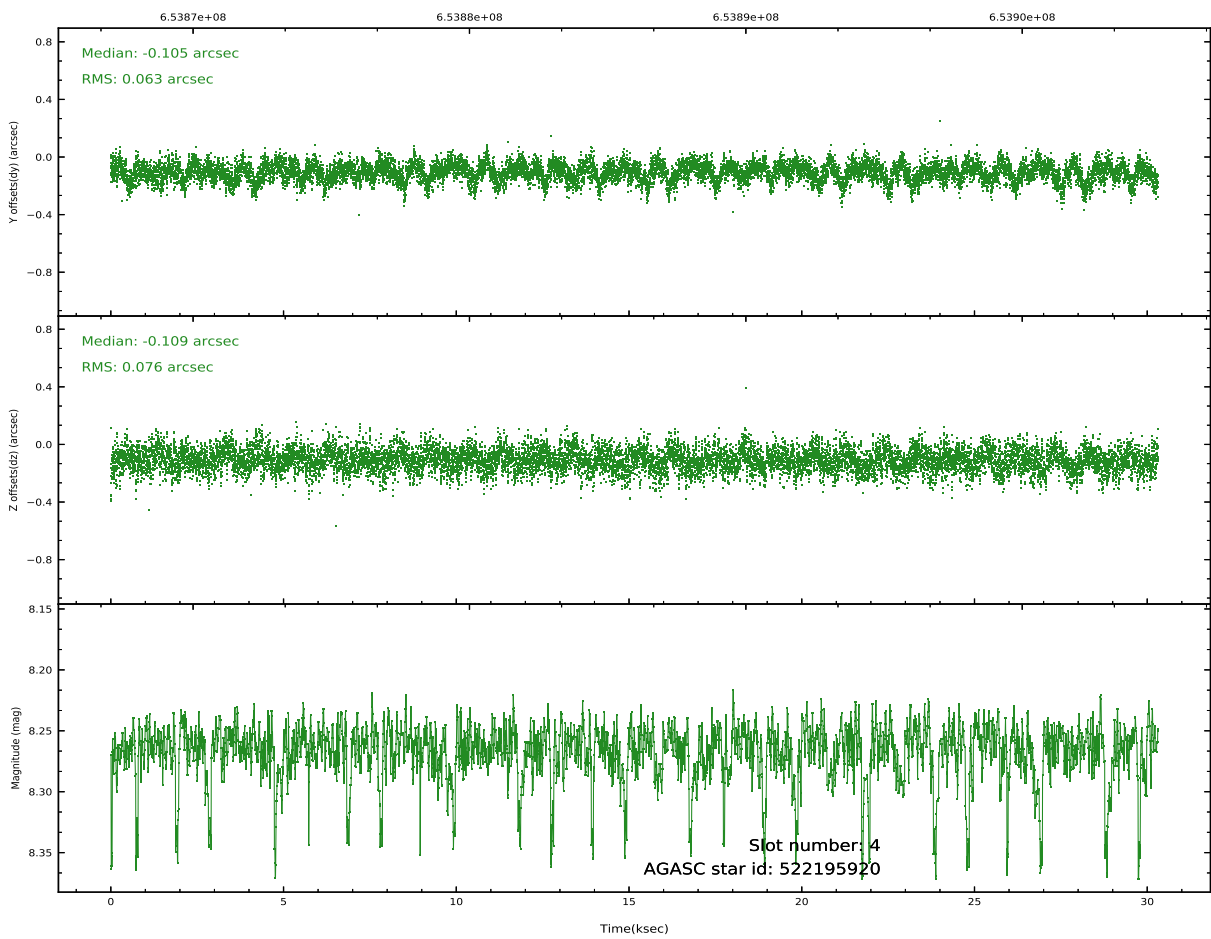
Time (s)



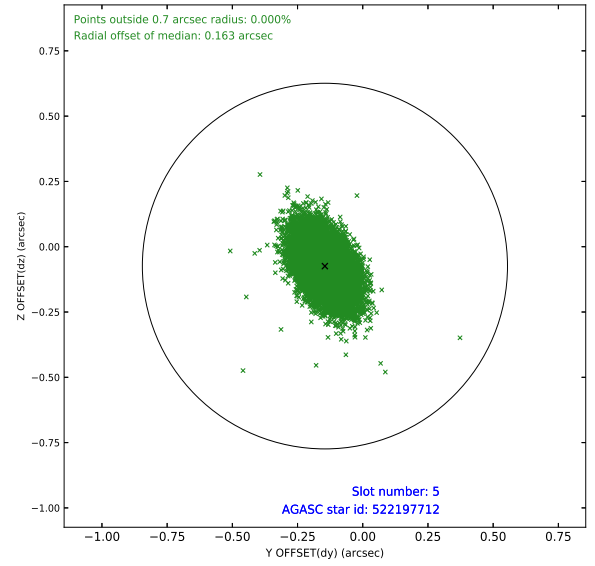
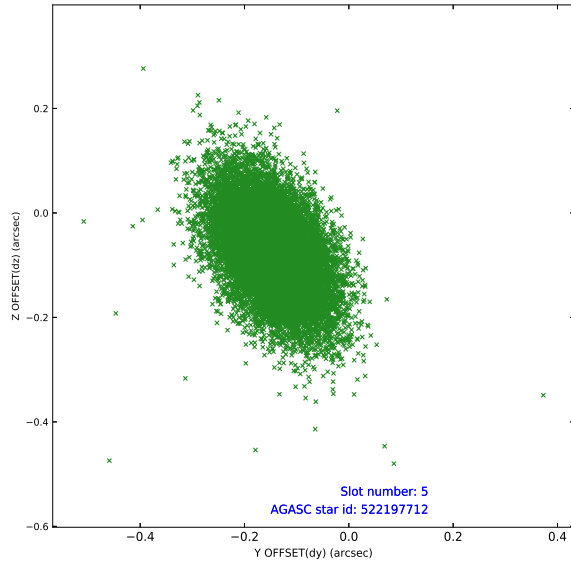
2.4.2 Slot 4



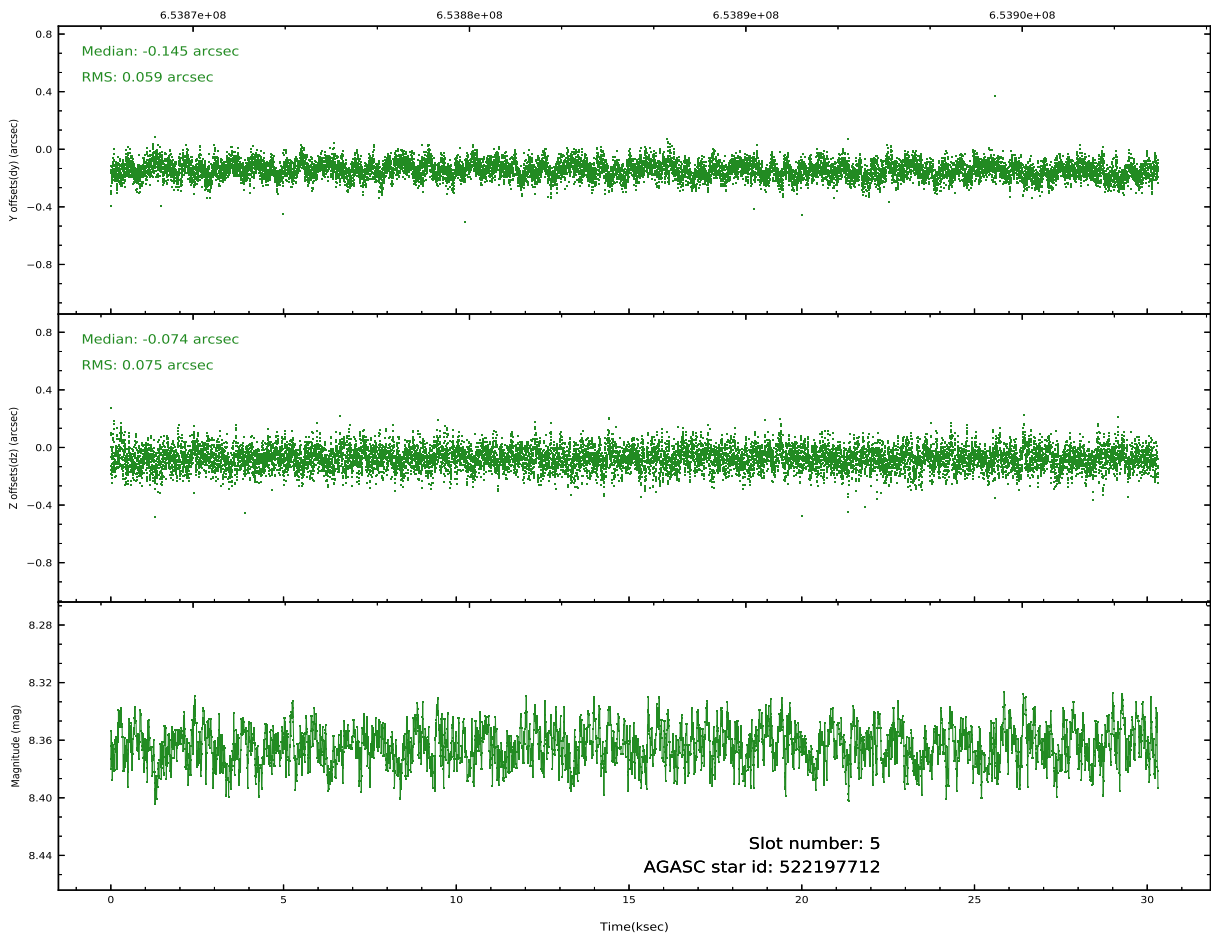
Time (s)



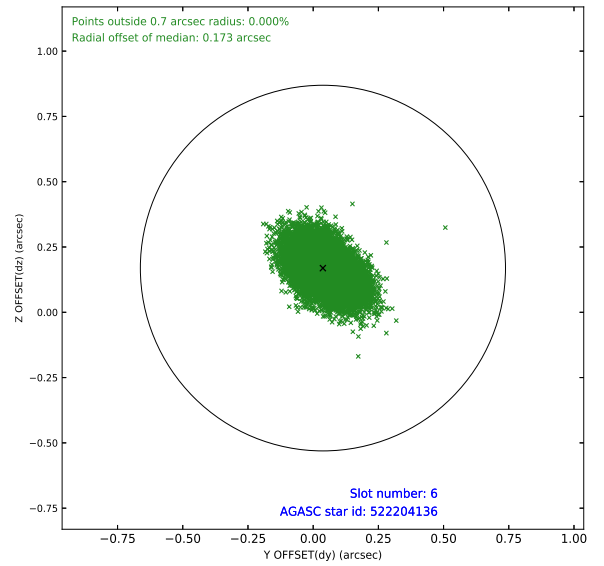
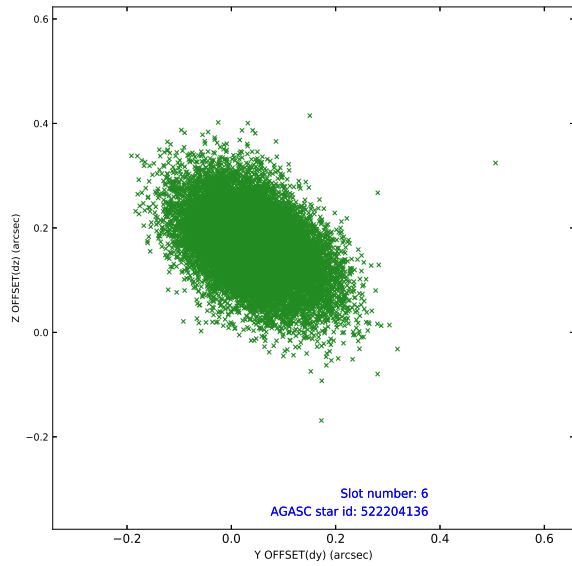
2.4.3 Slot 5



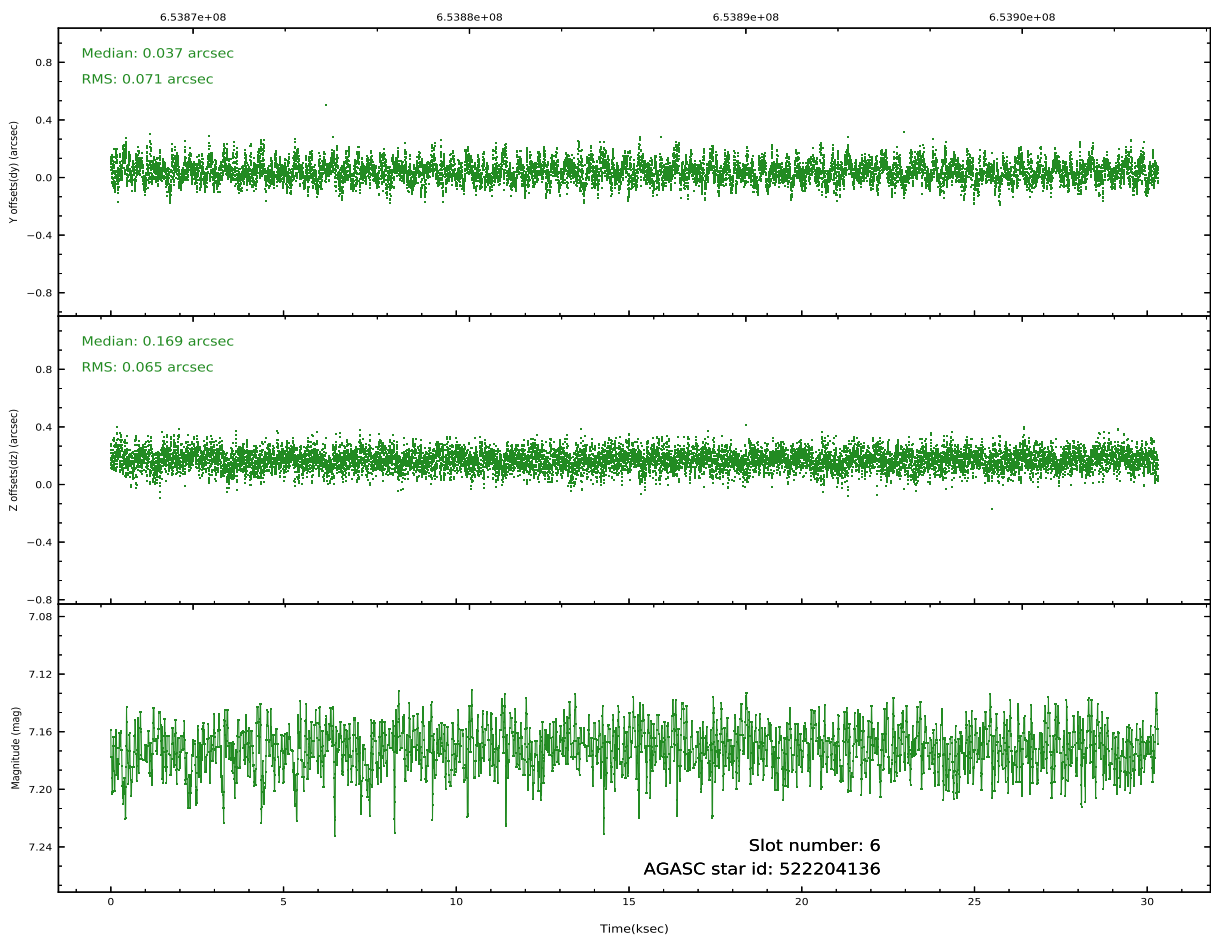
Time (s)



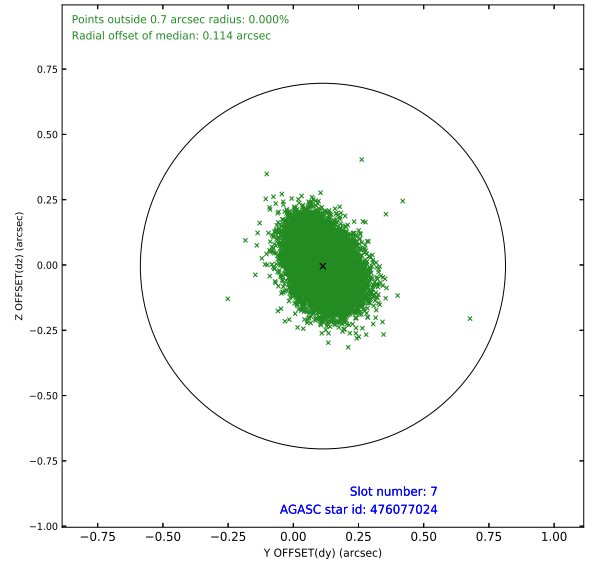
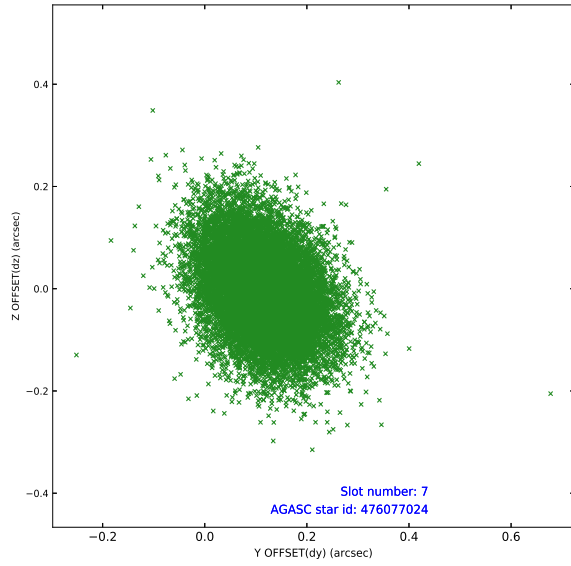
2.4.4 Slot 6



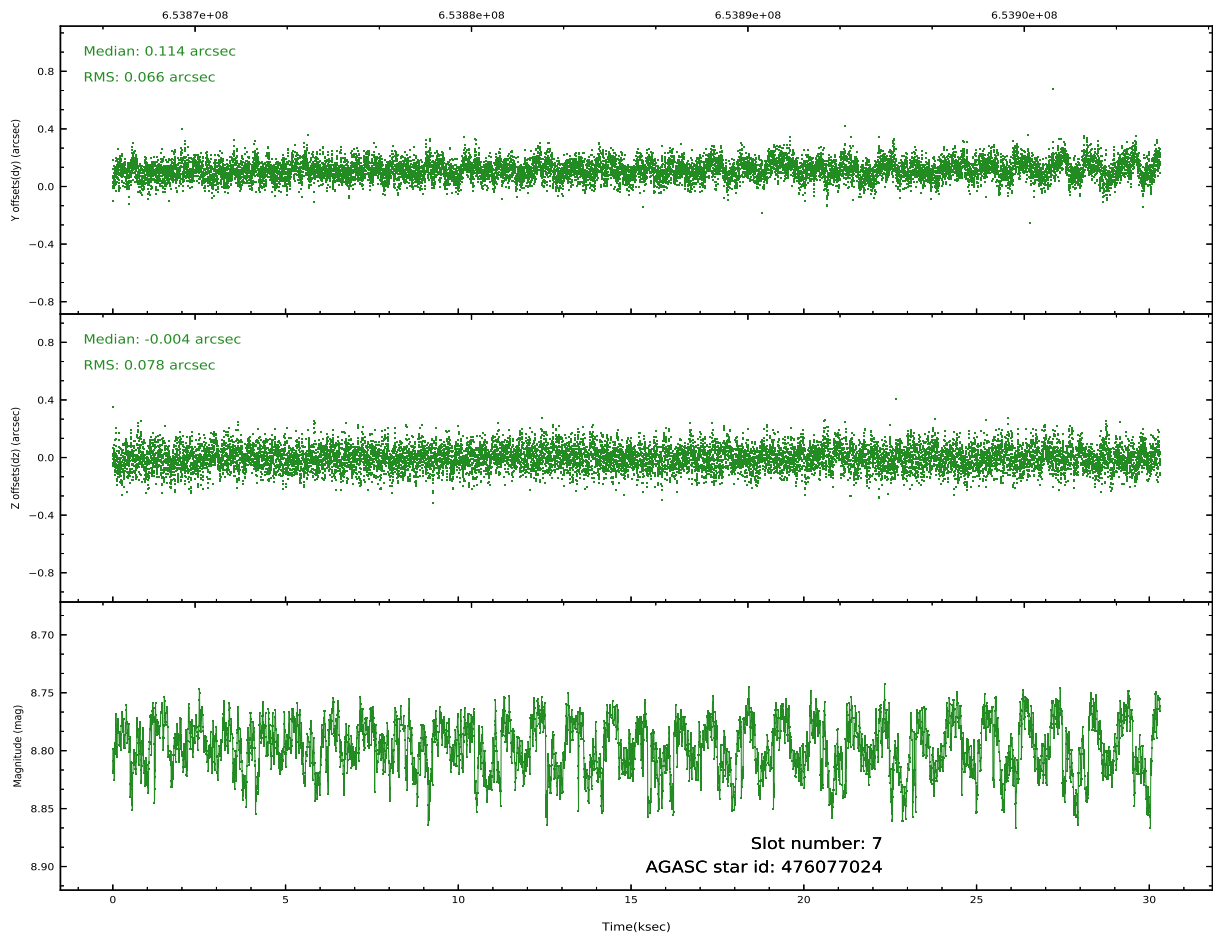
Time (s)



2.4.5 Slot 7

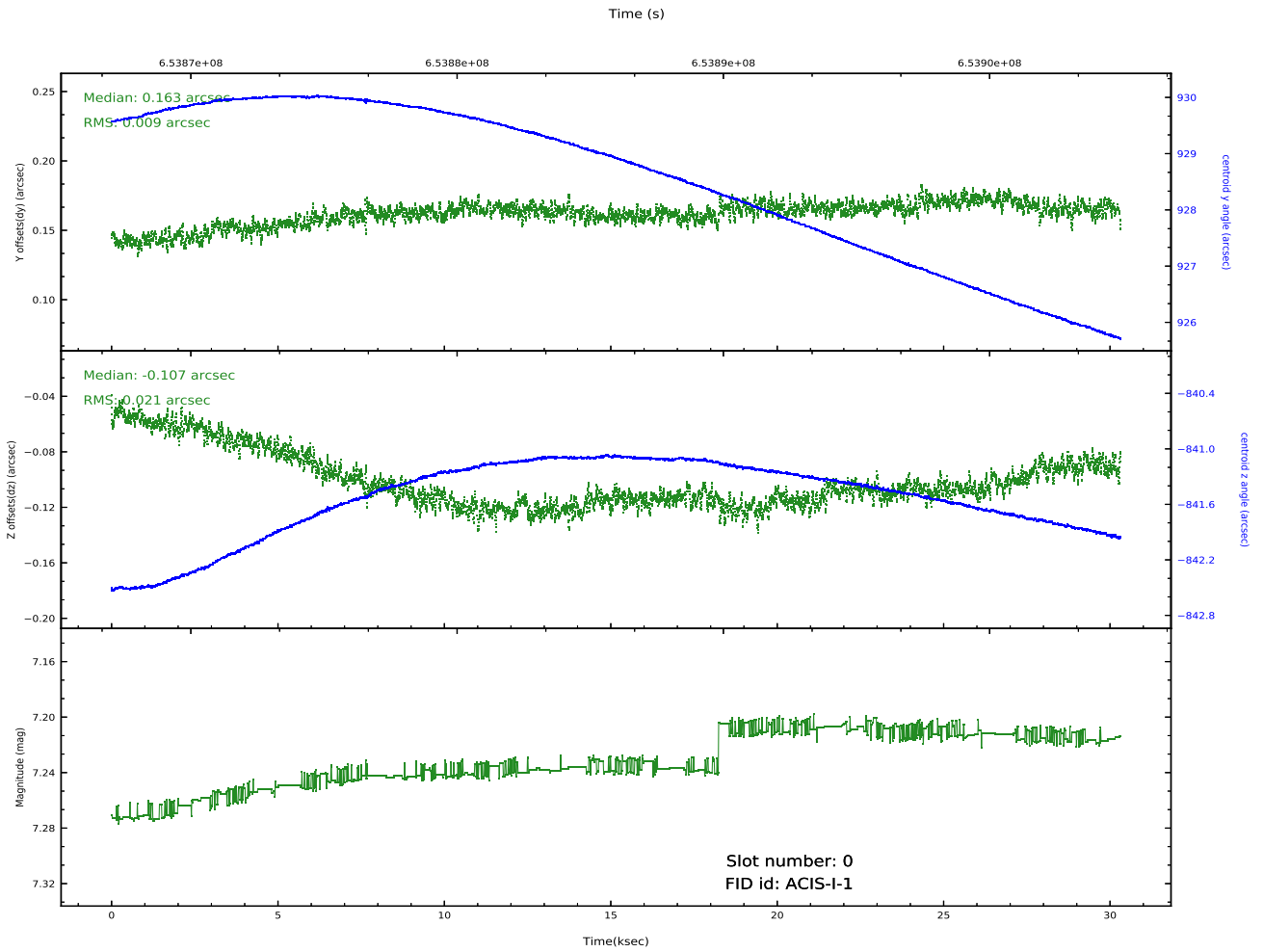
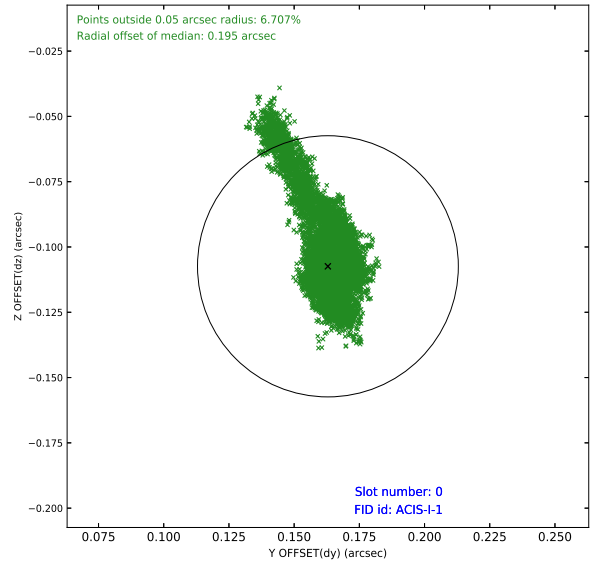
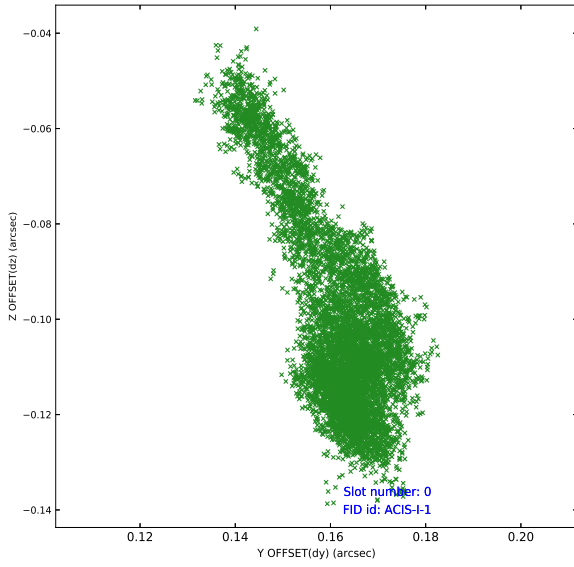


Time (s)

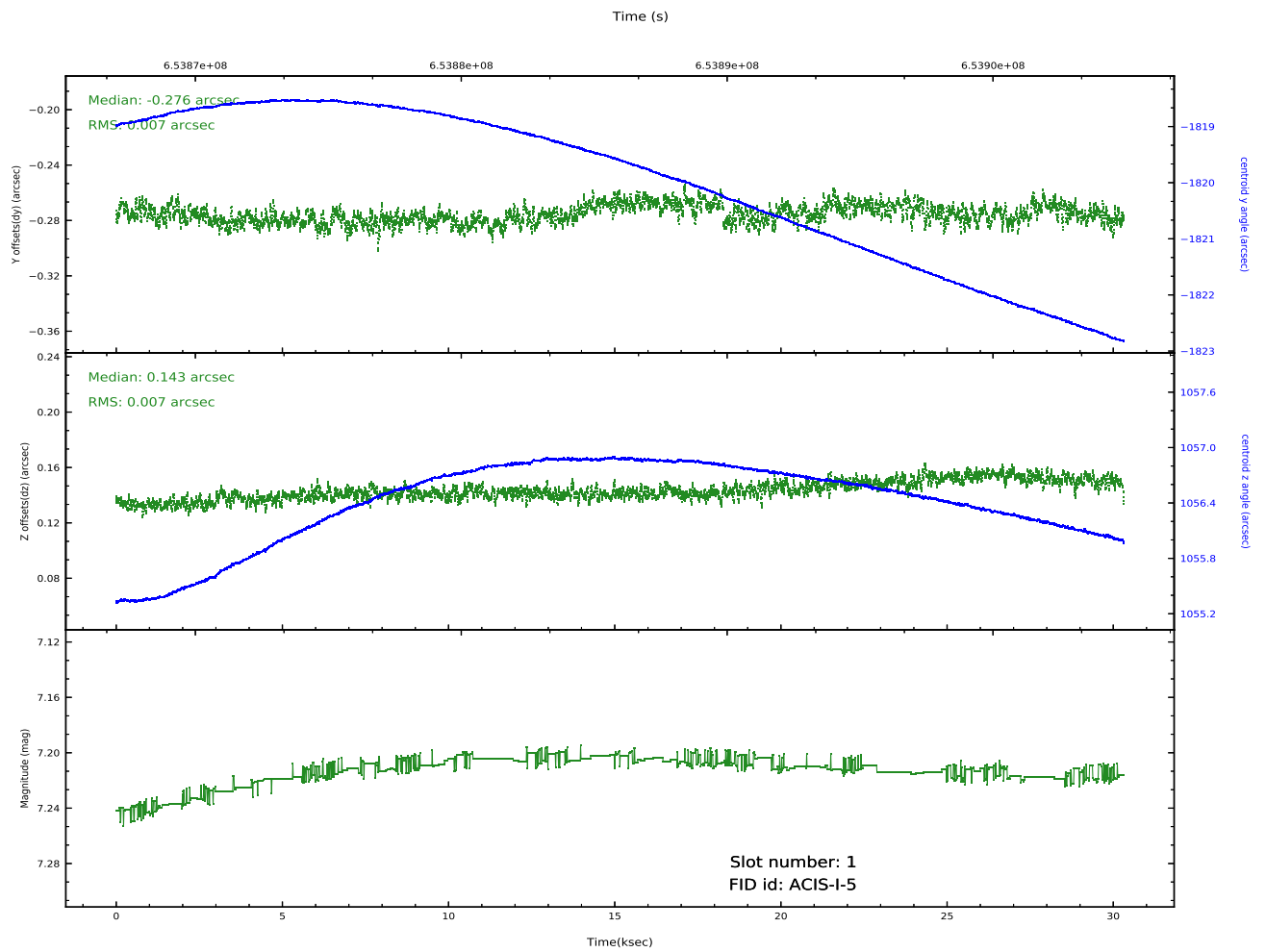
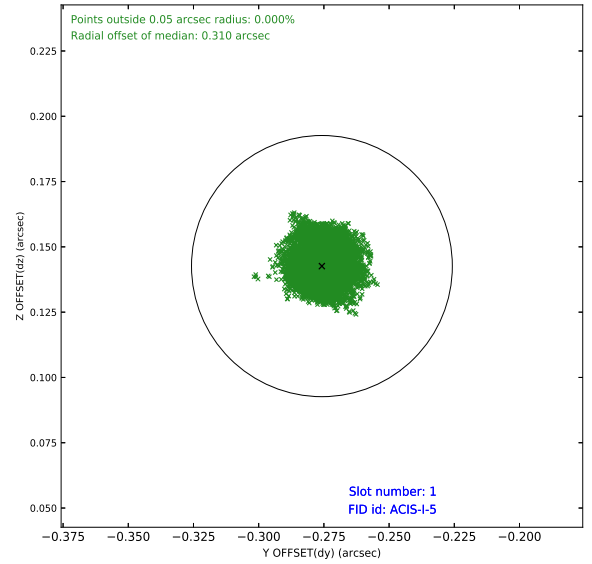
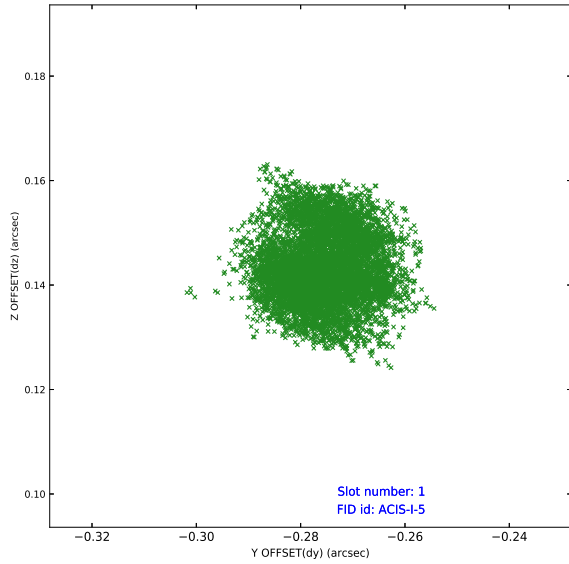


2.5 FID Slots

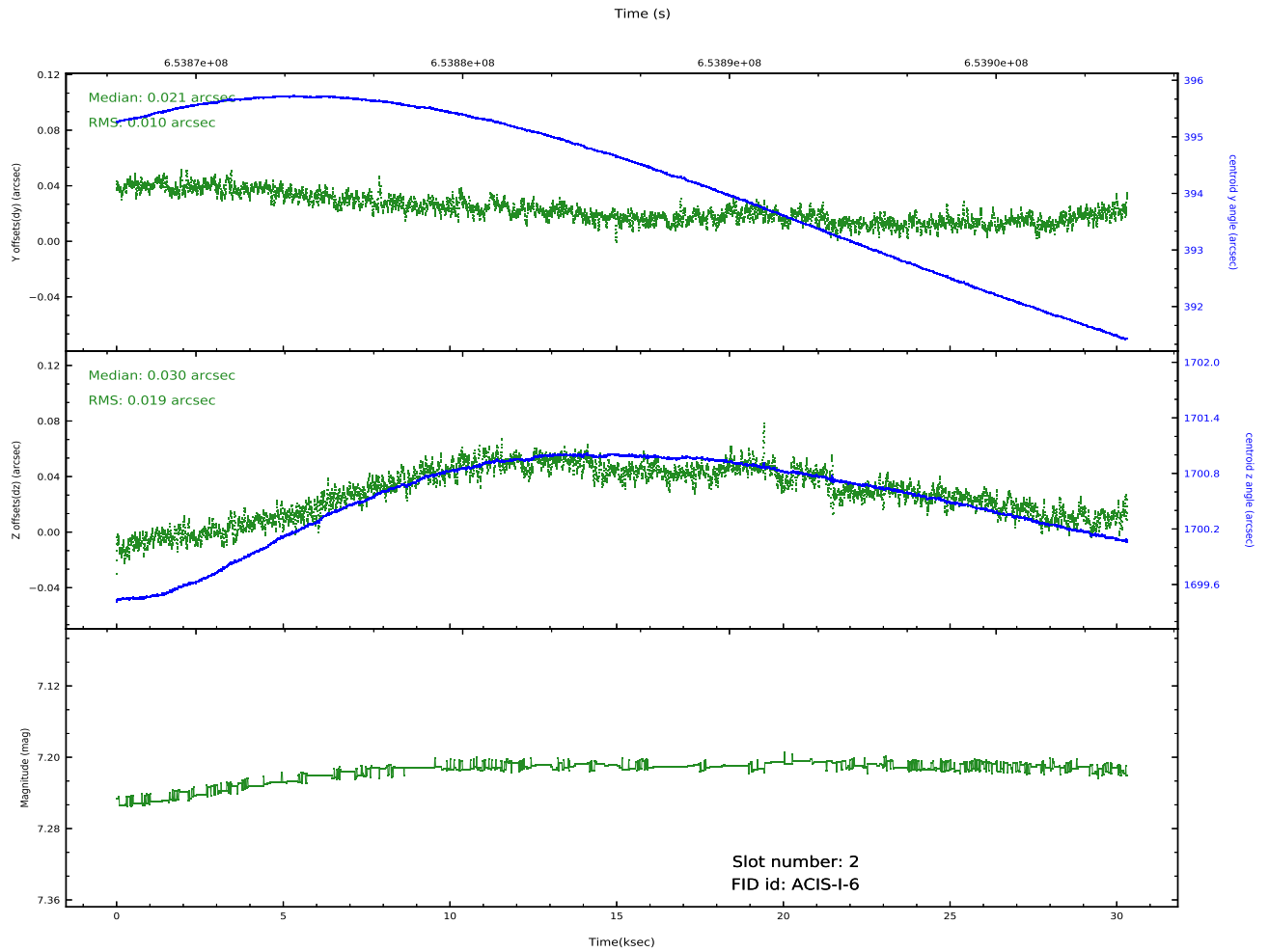
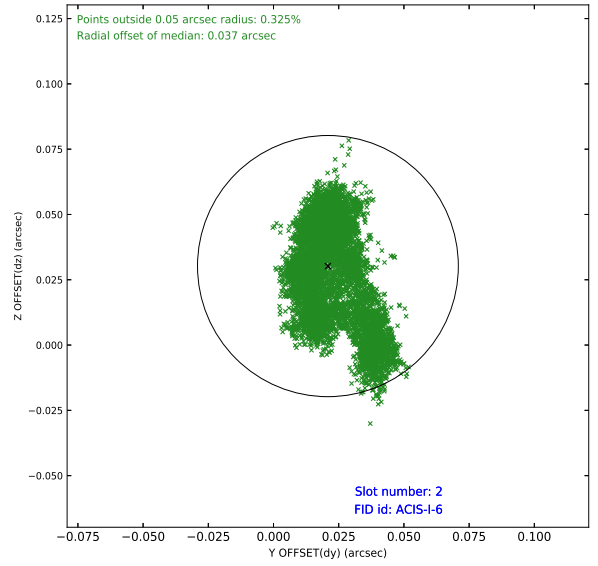
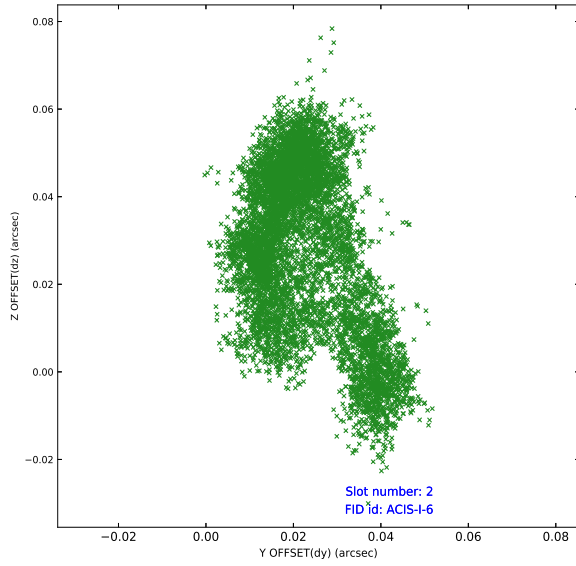
2.5.1 Slot 0



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)	2020.10.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	30.193918181896

A.2 Comments

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: (340.74042,52.78077), (340.74995,52.78289), (340.66994,52.91388), (340.66038,52.91175).