

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 20519 - L2 Version 3
Chandra X-Ray Center

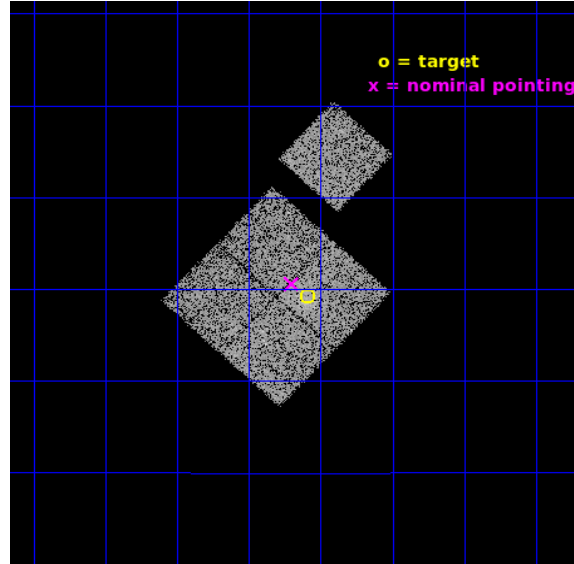
L2 Processing Date : Oct 26 2020

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1 Front

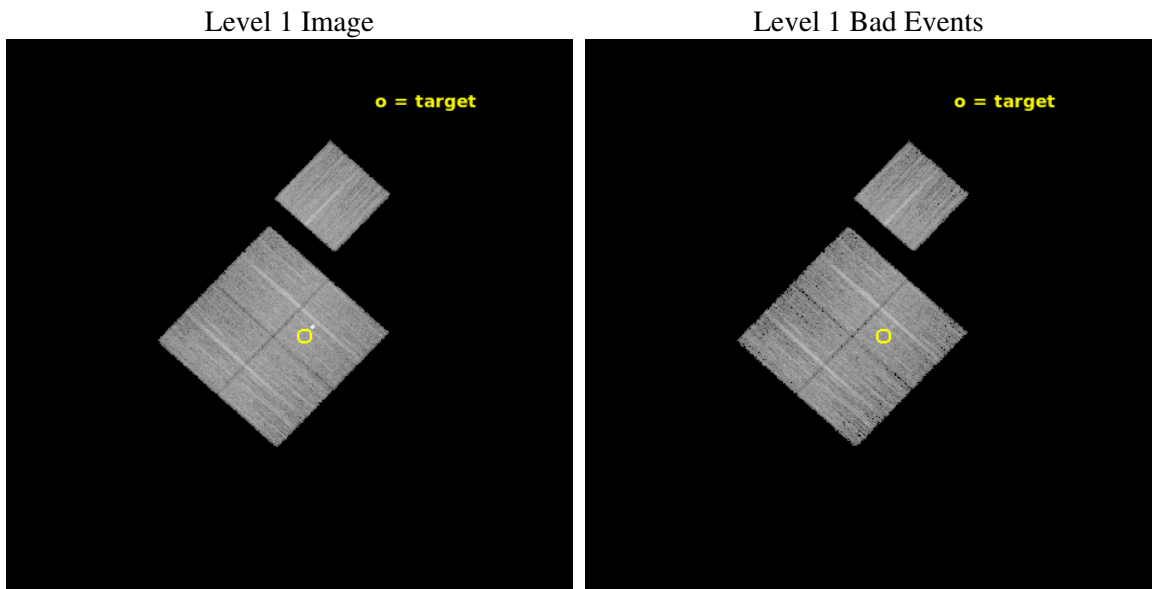
seq_num	801733	Sequence number
obs_id	20519	Observation id
title	Enabling precision cosmology with optically selected galaxy clusters	
observer	Roger Morris	Principal investigator
object	CIG J085436+003833	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	133.6475	Observer's specified target RA [deg]
dec_targ	0.653194	Observer's specified target Dec [deg]
ra_nom	133.67527884137	Nominal RA [deg]
dec_nom	0.67664219728754	Nominal Dec [deg]
roll_nom	42.939375301179	Nominal Roll [deg]
revision	3	Processing version of data
ontime	9066.1726124287	Sum of GTIs [s]
livetime	8947.7163928281	Livetime [s]
ontime0	9062.9084122181	Sum of GTIs [s]
ontime1	9062.9494622946	Sum of GTIs [s]
ontime2	9066.131572485	Sum of GTIs [s]
ontime3	9066.1726124287	Sum of GTIs [s]
ontime6	9066.0084524155	Sum of GTIs [s]
l2events	31343	Number of level 2 events



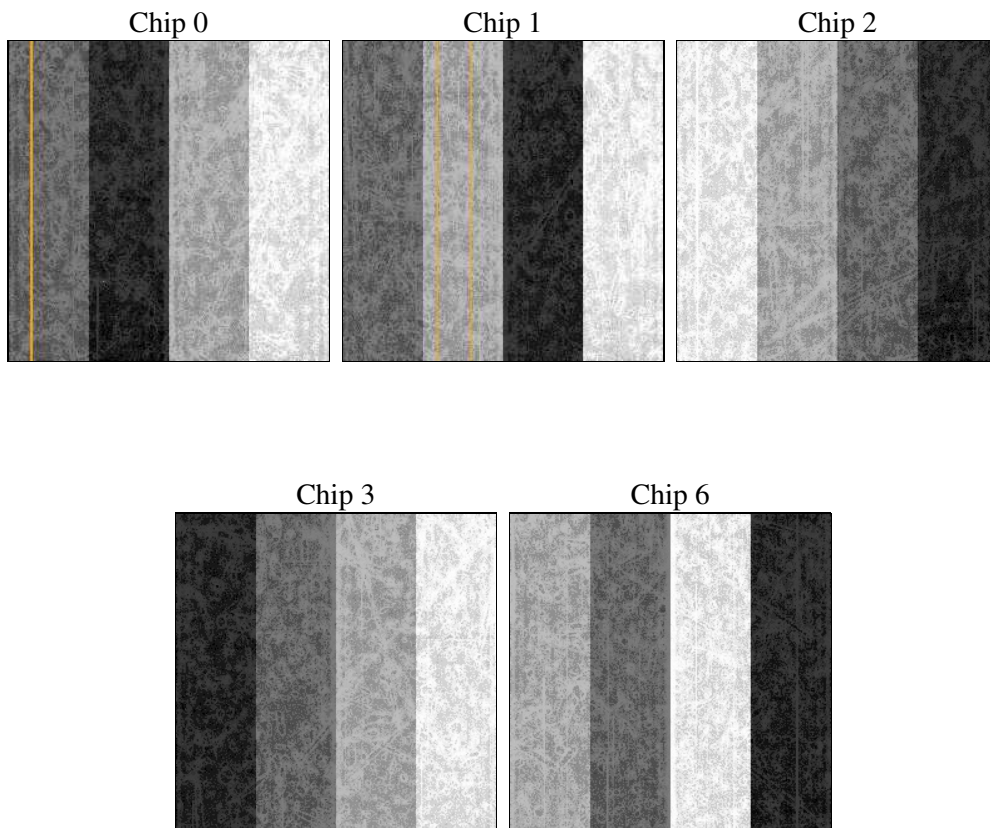
2 OBI

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	9066.1726124287	Sum of GTIs [s]
caldsver	4.9.3	 	ontime0	9062.9084122181	Sum of GTIs [s]
date	2020-10-27T00:10:18	Date and time of file creation	ontime1	9062.9494622946	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	9066.131572485	Sum of GTIs [s]
			ontime3	9066.1726124287	Sum of GTIs [s]
			ontime6	9066.0084524155	Sum of GTIs [s]
			l1events	334522	Number of level 1 events

2.1.4 Events

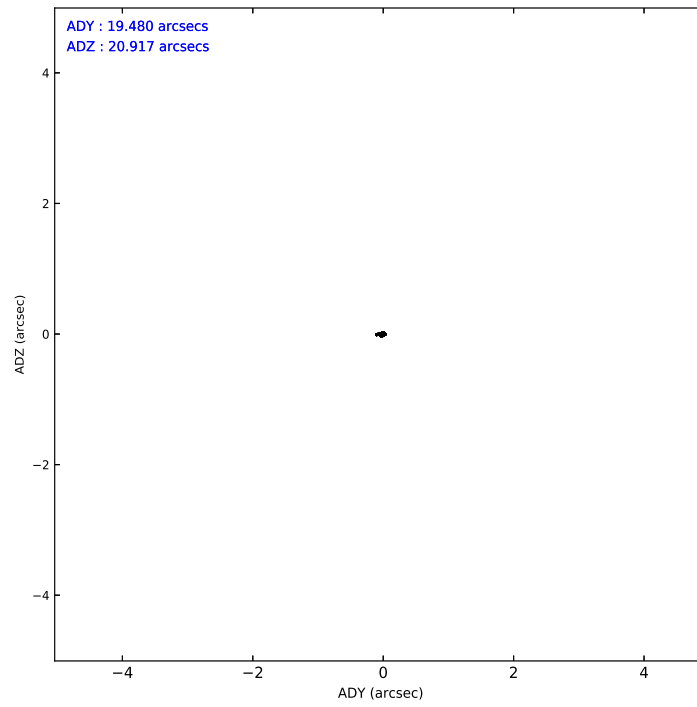
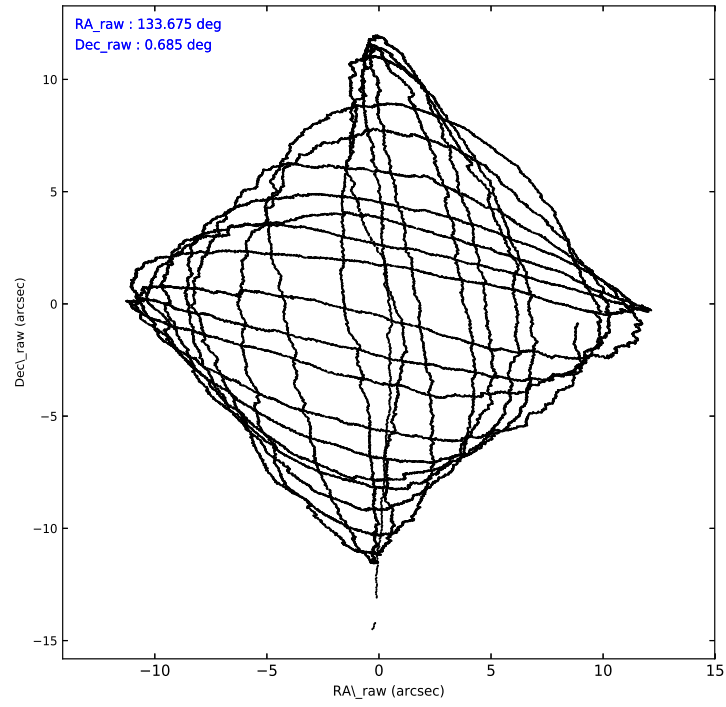
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	61857	65747	67614	69934	69370
rejected events	54811	57711	60753	59113	62113
rejected %	88%	87%	89%	84%	89%

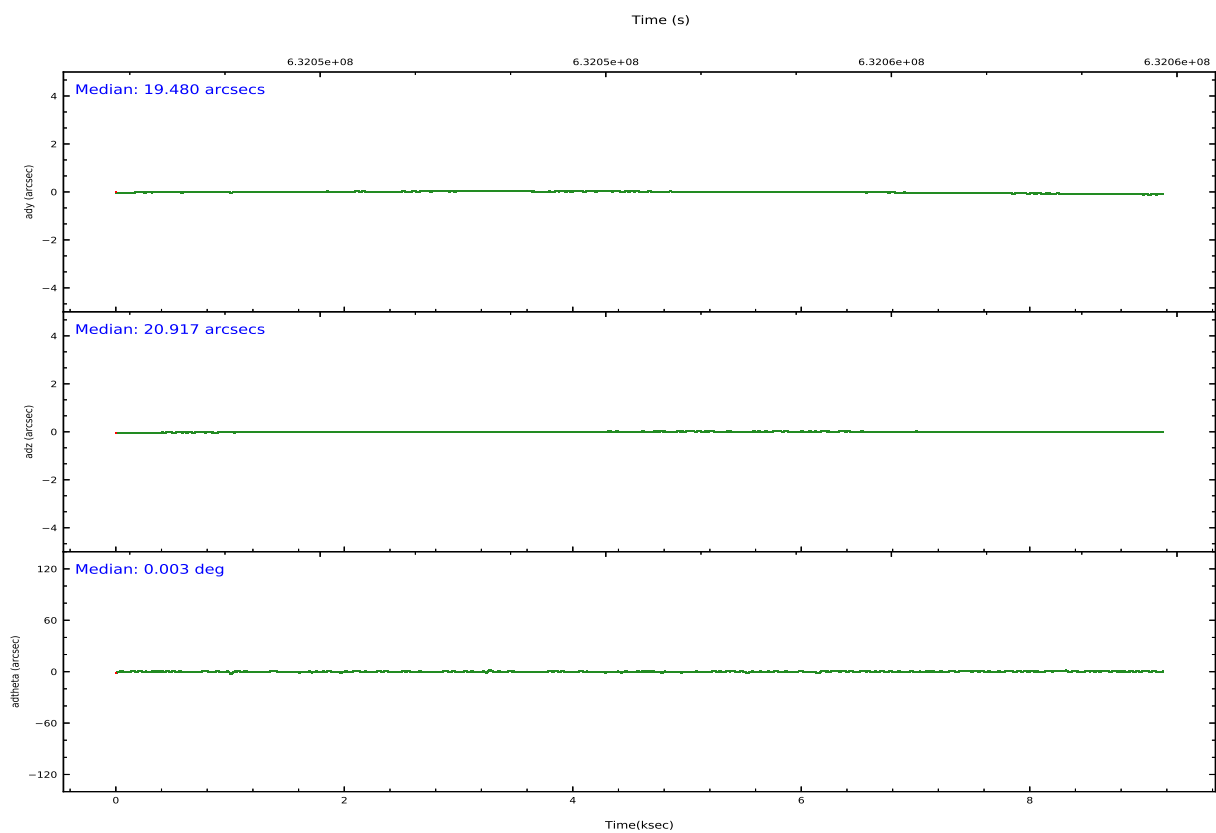
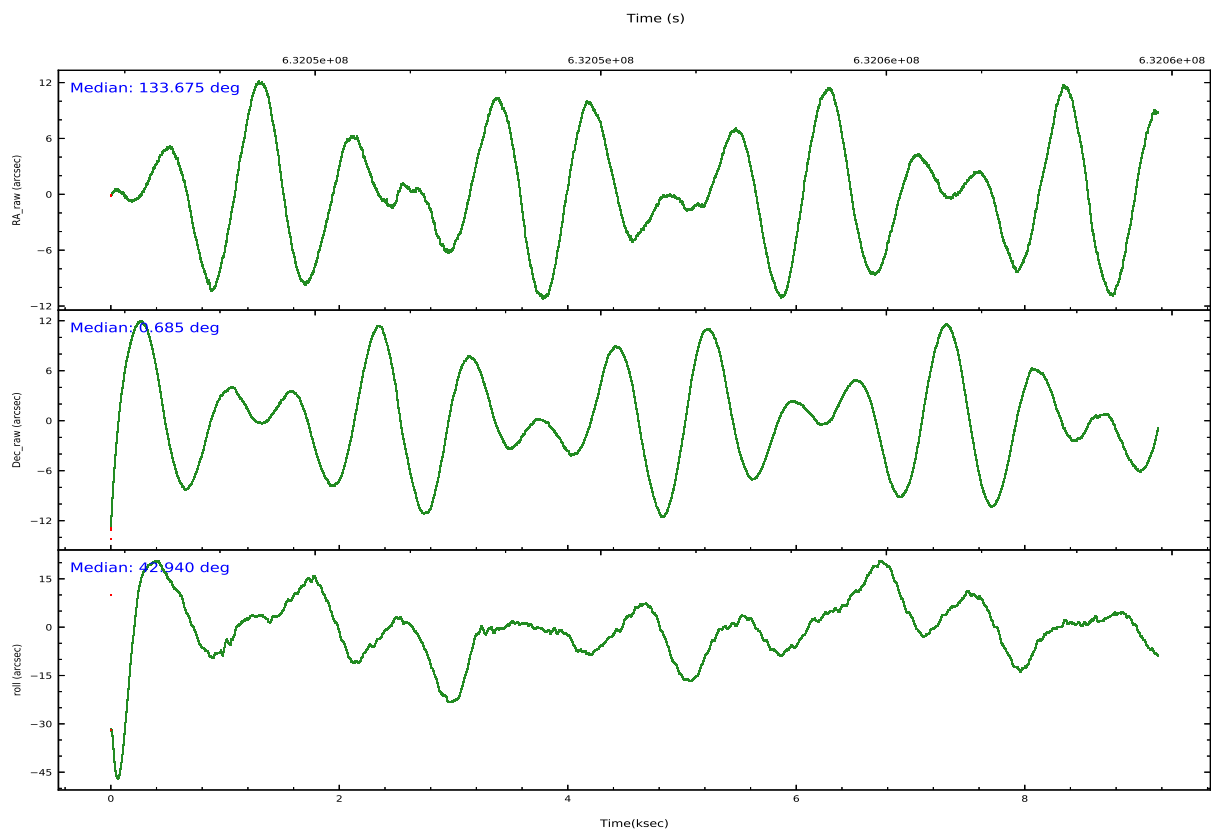
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	2348	2655	2394	3033	2144
	3%	4%	3%	4%	3%
grade 1 events	32	36	23	42	26
	0%	0%	0%	0%	0%
grade 2 events	1740	2036	1637	4778	1819
	2%	3%	2%	6%	2%
grade 3 events	729	665	680	750	687
	1%	1%	1%	1%	0%
grade 4 events	676	683	753	746	650
	1%	1%	1%	1%	0%
grade 5 events	2683	2671	2605	3008	2818
	4%	4%	3%	4%	4%
grade 6 events	1561	2001	1401	1519	1959
	2%	3%	2%	2%	2%
grade 7 events	52088	55000	58121	56058	59267
	84%	83%	85%	80%	85%

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	133.667293	133.67527884137	CCD I2 on	Y	Y
[deg] Pointing Dec	0.658436	0.67664219728754	CCD I3 on	Y	Y
[deg] Pointing Roll	42.736631	42.939375301179	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	-228.472463	-228.4783457680588	CCD S3 on	N	N
[mm] SIM translation stage offset	-5.12	-5.114107234870914	CCD S4 on	N	N
[s] Observation start time (MET)	632048379.184000	632046731.60467	CCD S5 on	N	N
Observation start date	2018-01-11T08:58:30	2018-01-11T08:32:11	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	632057379.184000	632058412.50535	On-chip summing requested	N	N
Observation end date	2018-01-11T11:28:30	2018-01-11T11:46:52	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



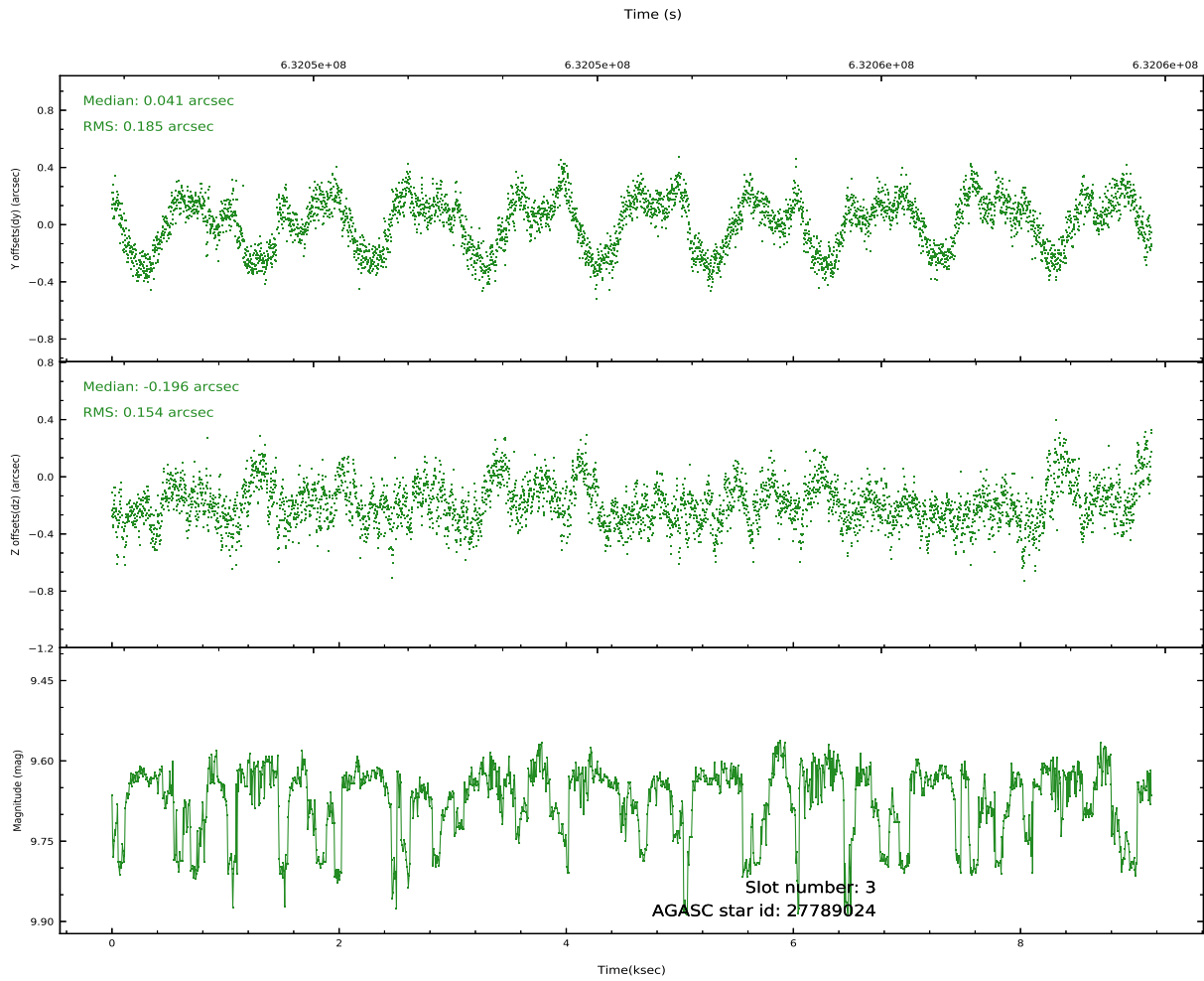
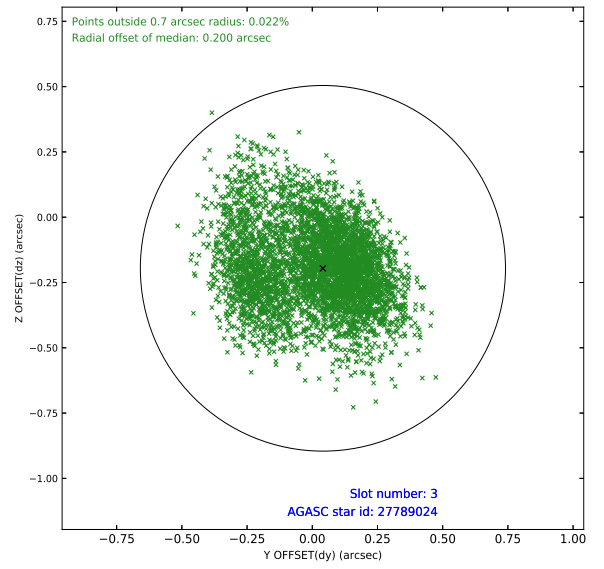
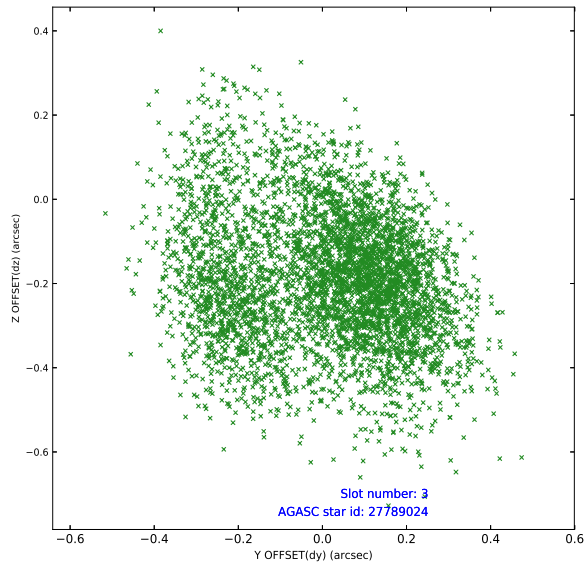


Slot Statistics

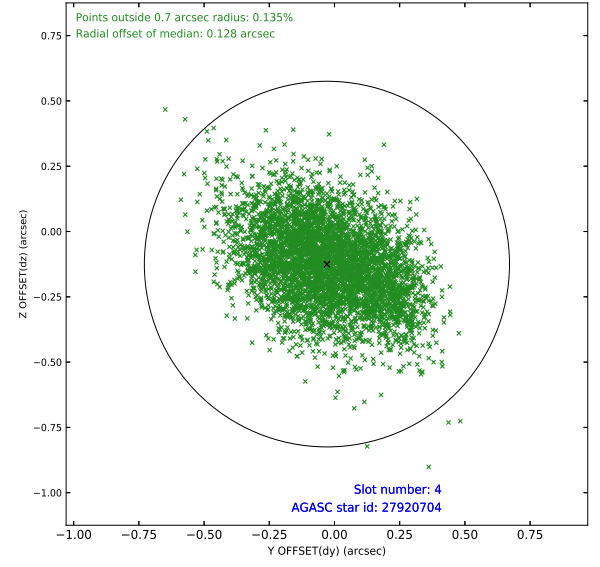
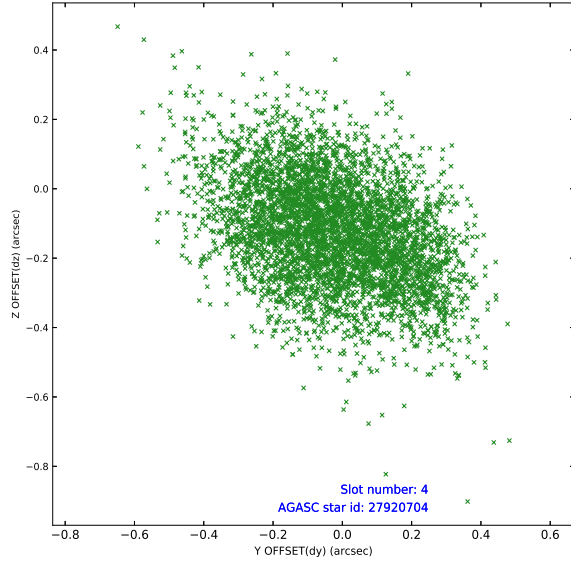
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.28	2237	1.000	0.297	-0.235	0.006	0.011	0.000000	0.000000	919.98	-949
1	FID		ACIS-I-5	7.26	2236	1.000	-0.376	0.238	0.007	0.012	0.000000	0.000000	-1828.31	947
2	FID		ACIS-I-6	7.27	2236	1.000	-0.013	0.068	0.007	0.012	0.000000	0.000000	384.79	1592
3	GUIDE	used	27789024	9.66	4453	1.000	0.041	-0.196	0.260	0.413	133.117966	0.895433	-873.50	1968
4	GUIDE	used	27920704	9.61	4457	1.000	-0.029	-0.125	0.254	0.405	134.280642	0.778598	1914.71	-1180
5	GUIDE	used	27925712	7.38	4472	1.000	0.024	0.213	0.117	0.199	133.493924	0.156899	-1683.09	-902
6	GUIDE	used	27924088	9.43	4464	1.000	-0.209	-0.148	0.187	0.310	133.345286	1.147770	343.46	2080
7	GUIDE	used	27925752	9.67	4456	1.000	0.232	0.253	0.298	0.460	133.762680	0.158669	-968.29	-1553

2.4 Star Slots

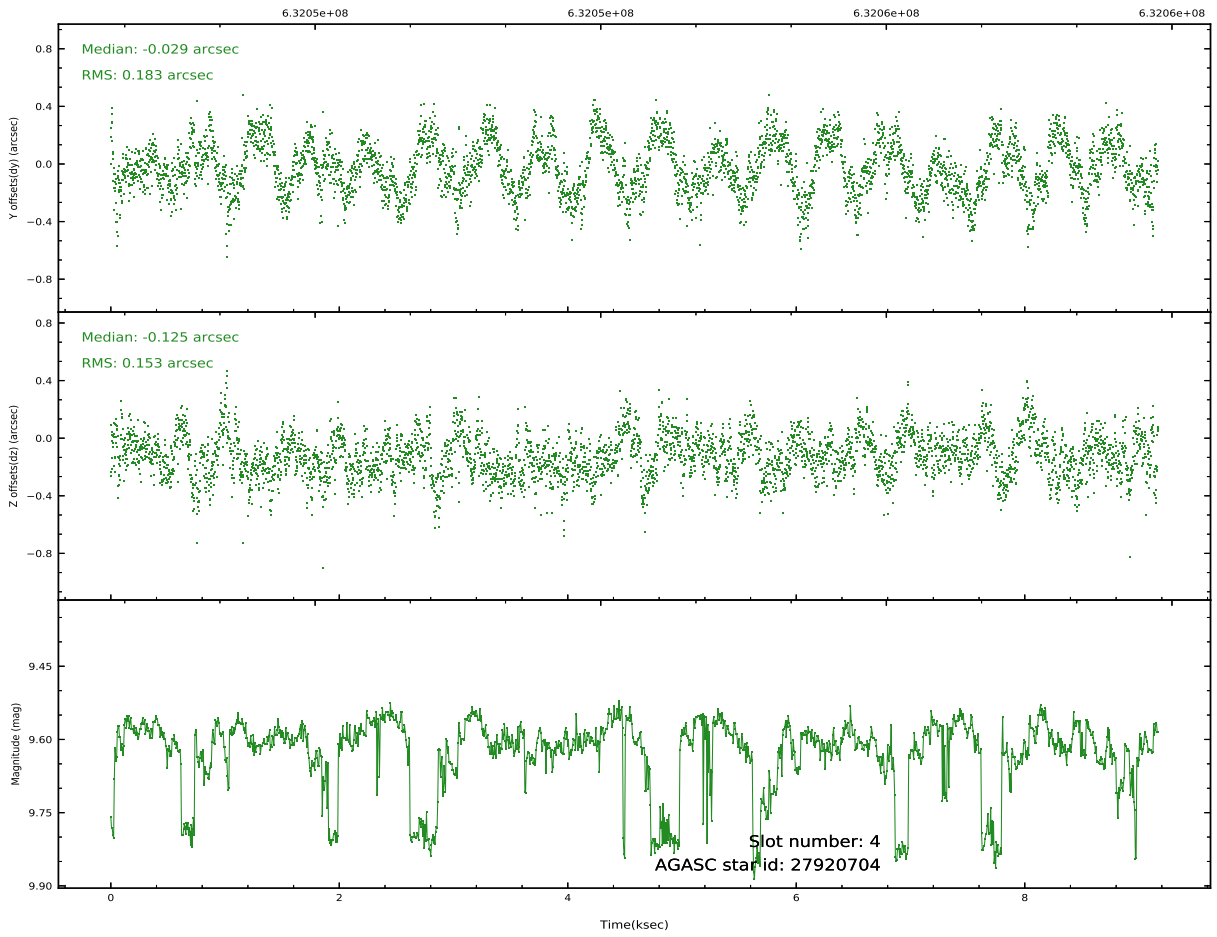
2.4.1 Slot 3



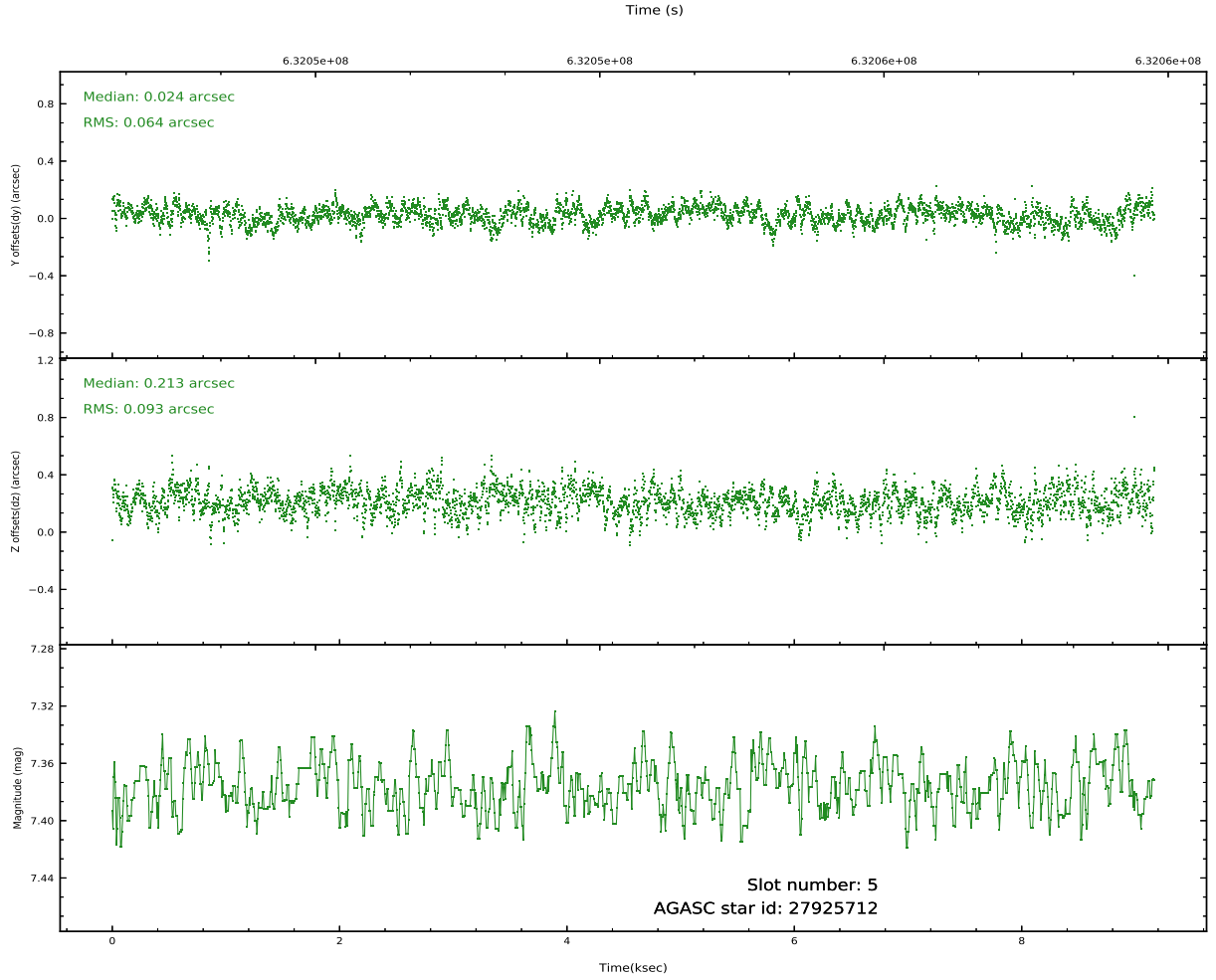
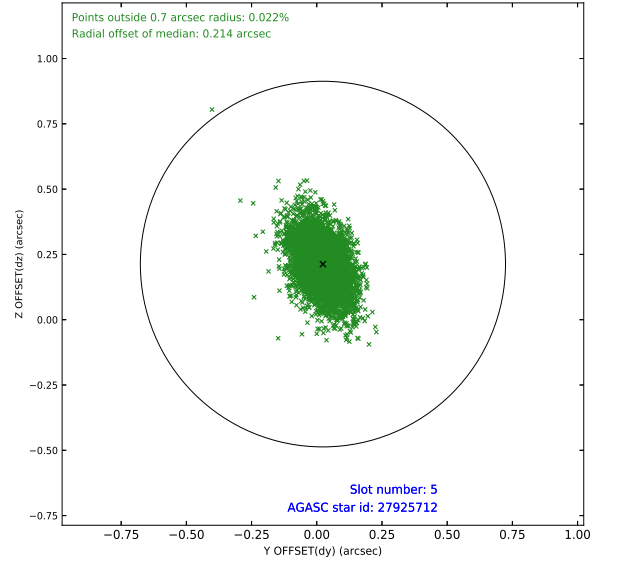
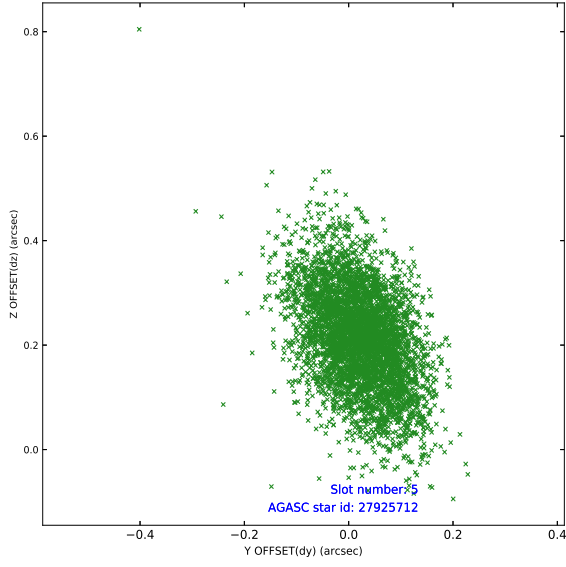
2.4.2 Slot 4



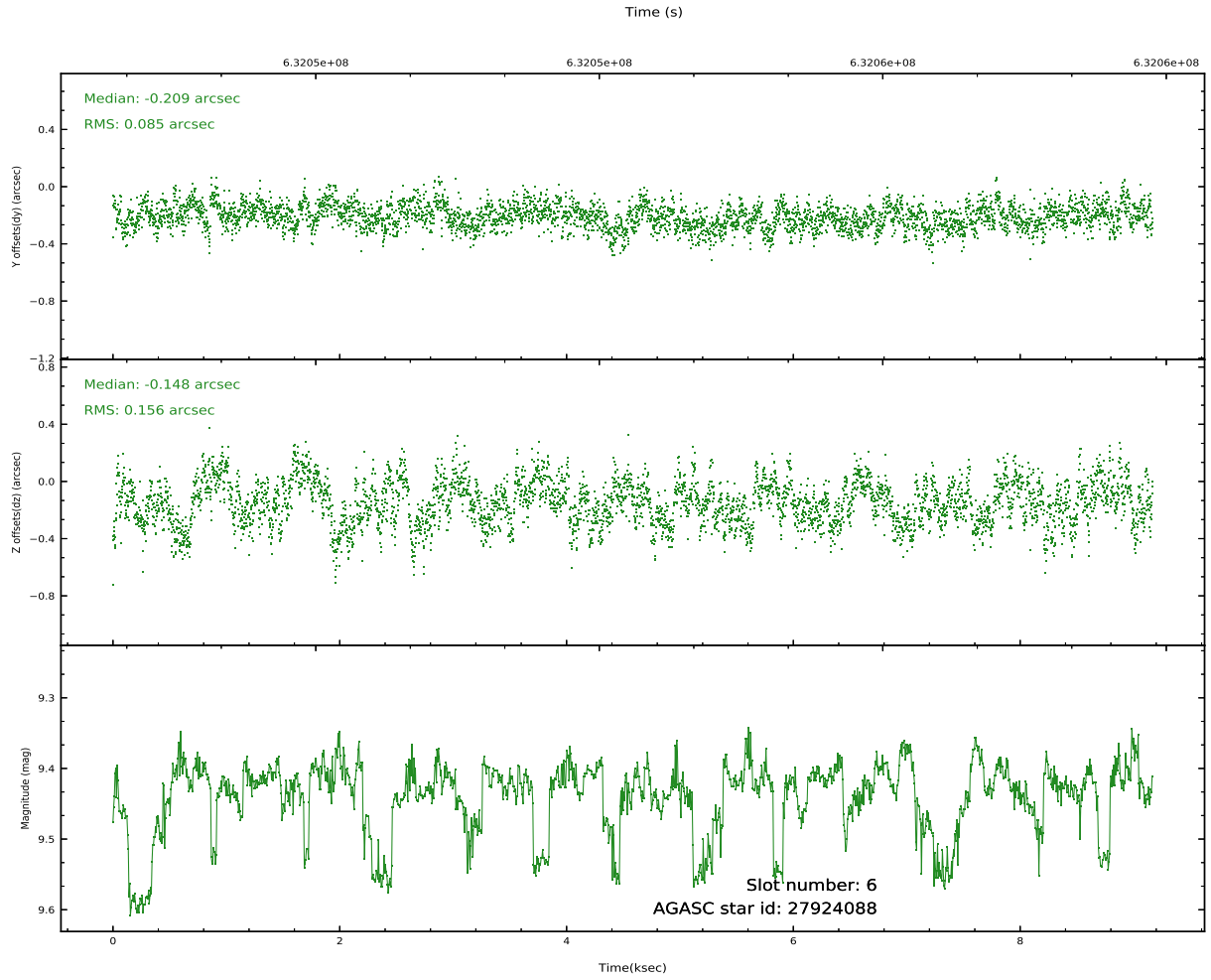
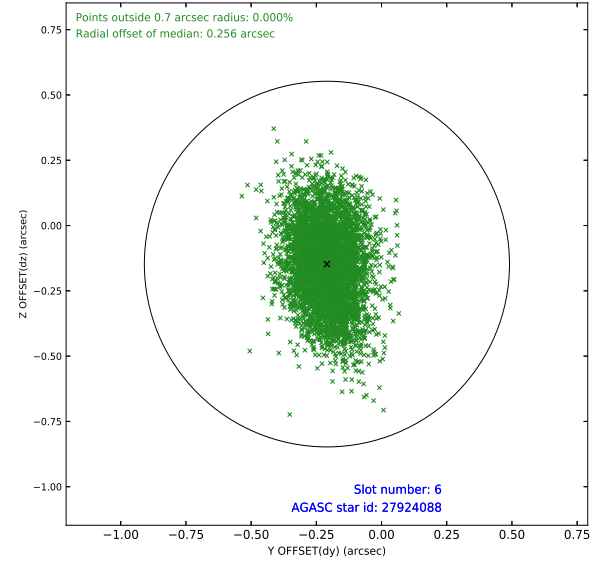
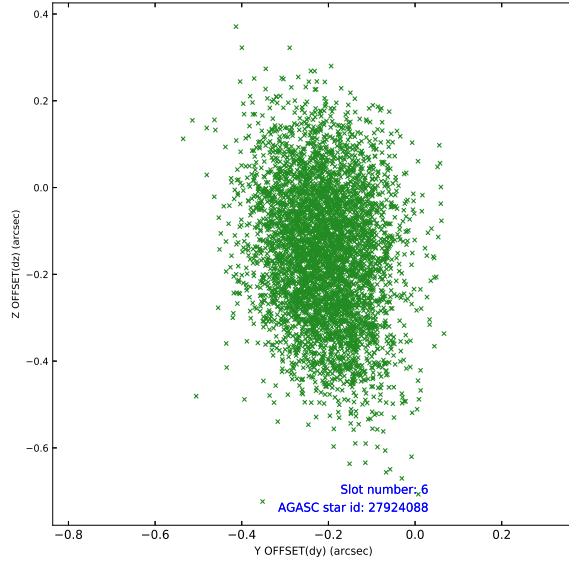
Time (s)



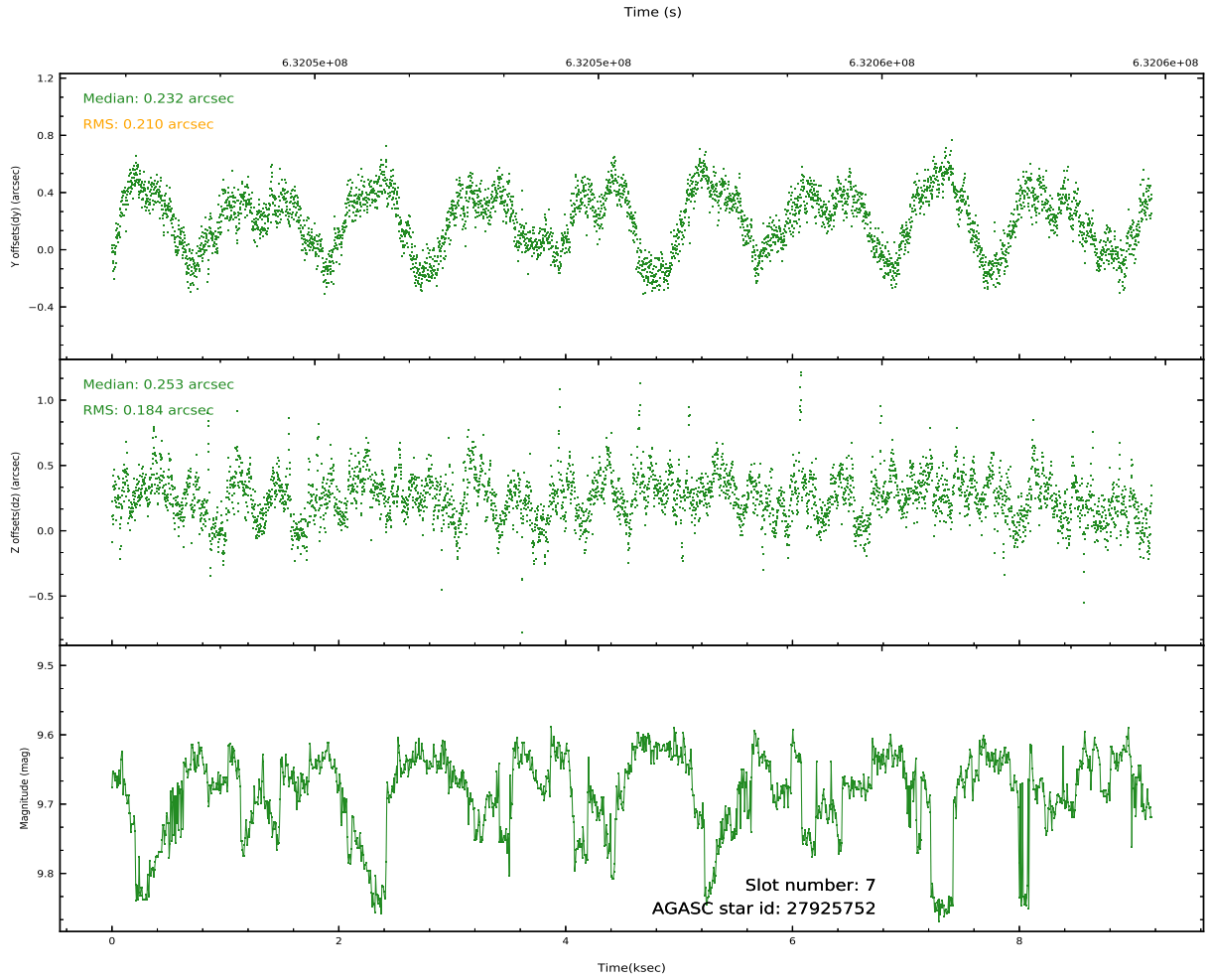
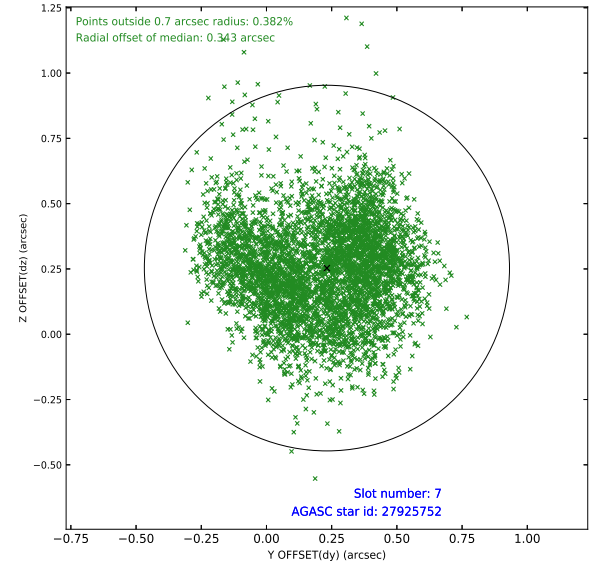
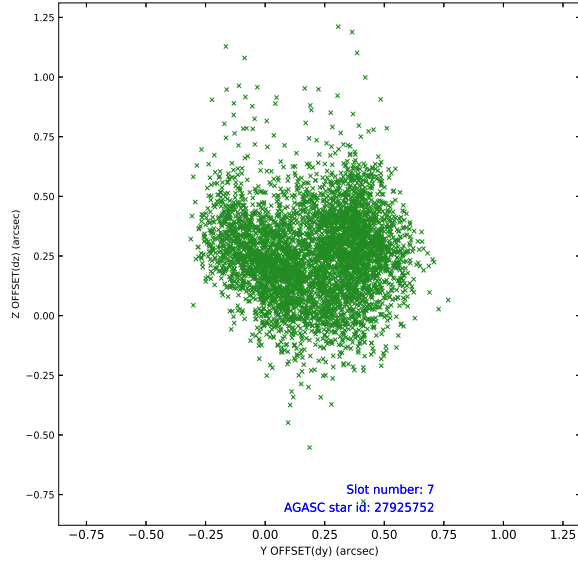
2.4.3 Slot 5



2.4.4 Slot 6

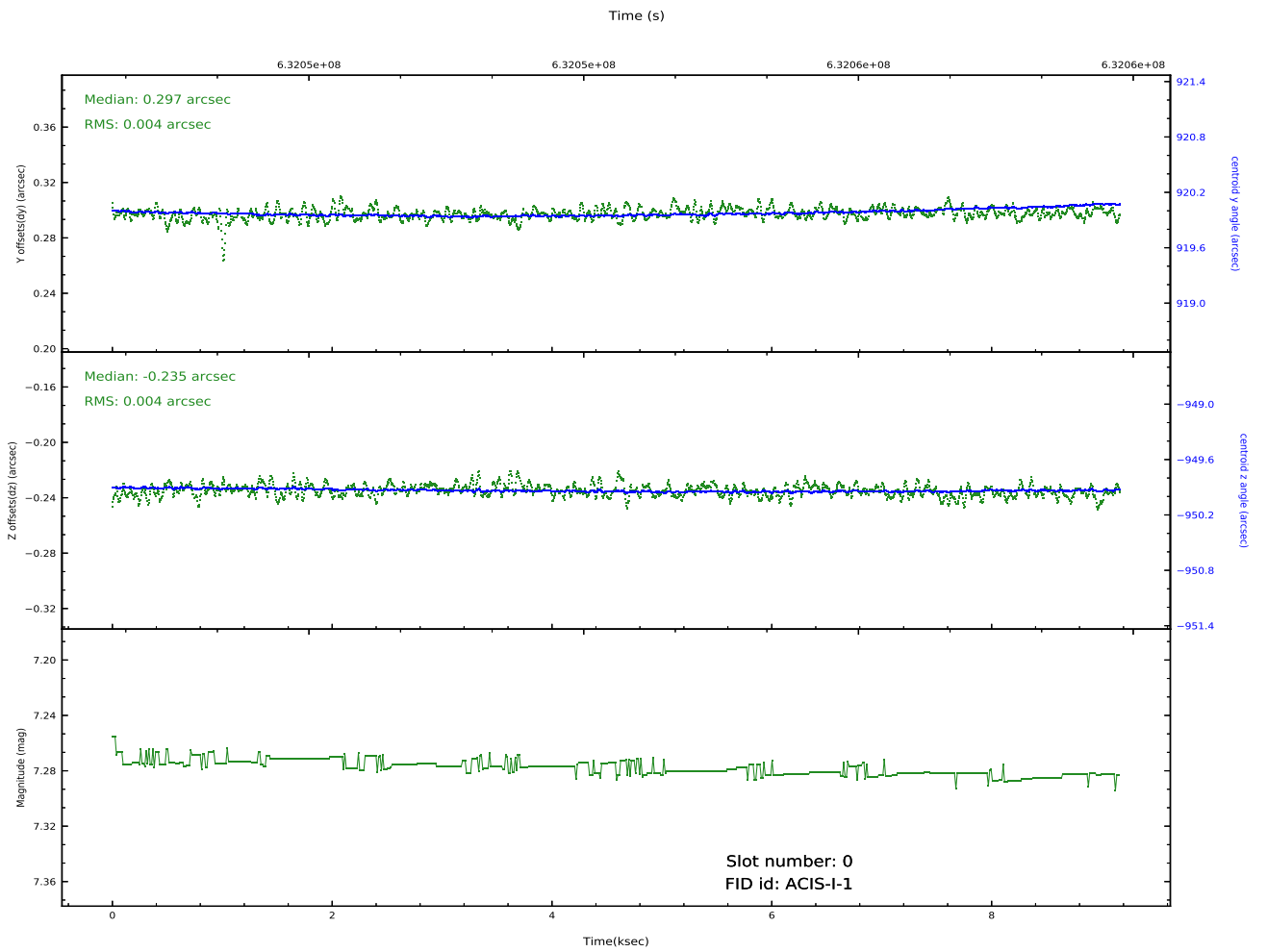
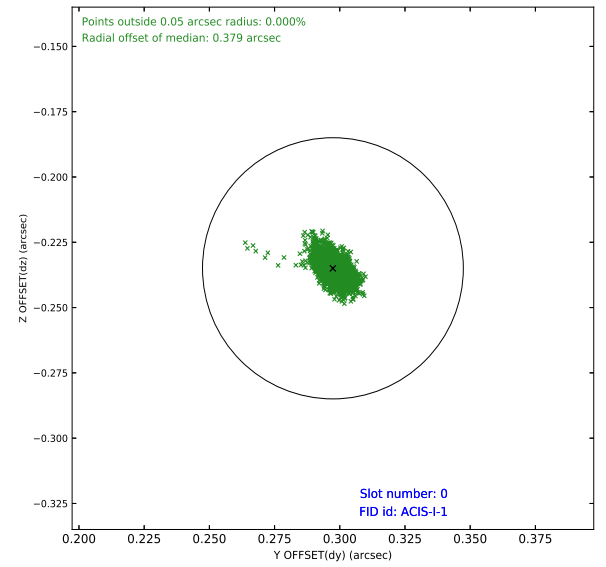
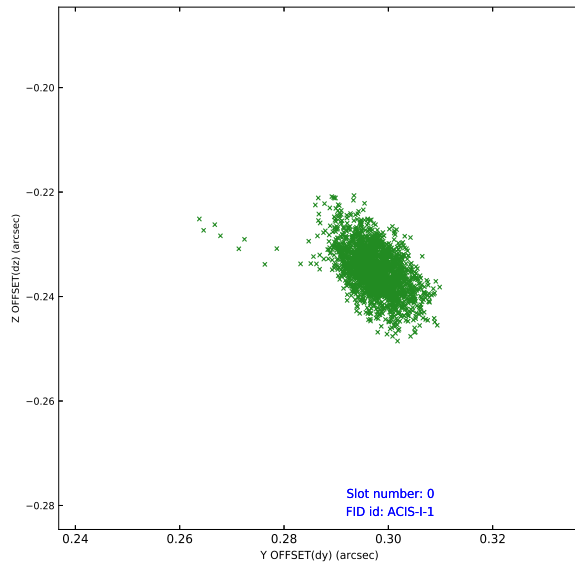


2.4.5 Slot 7

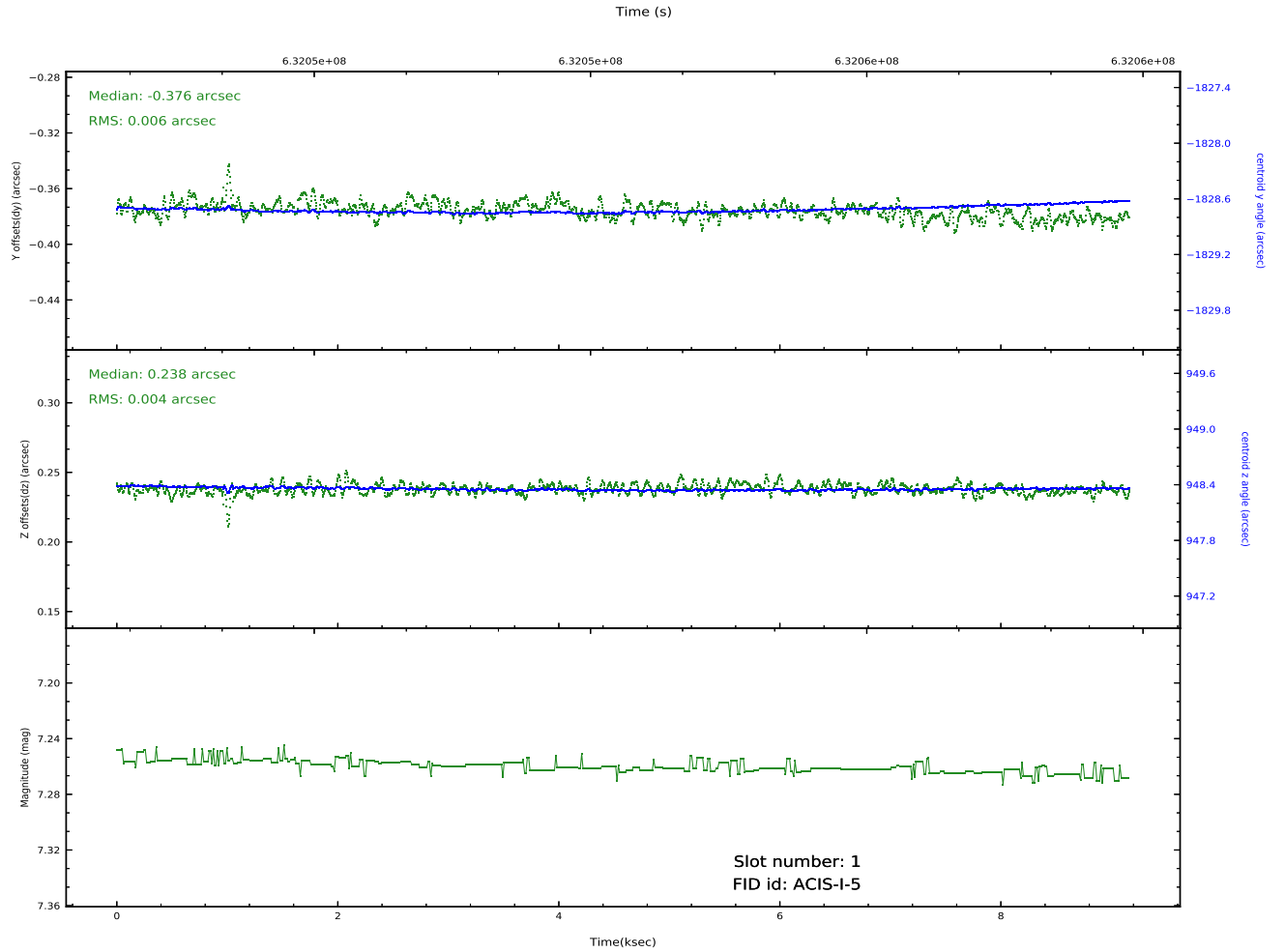
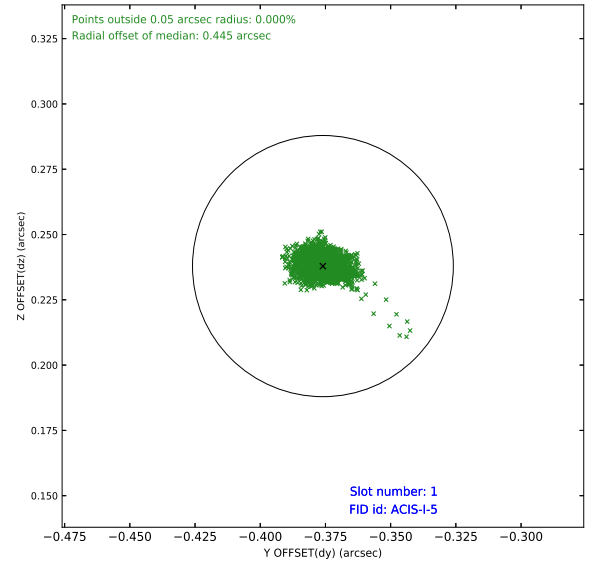
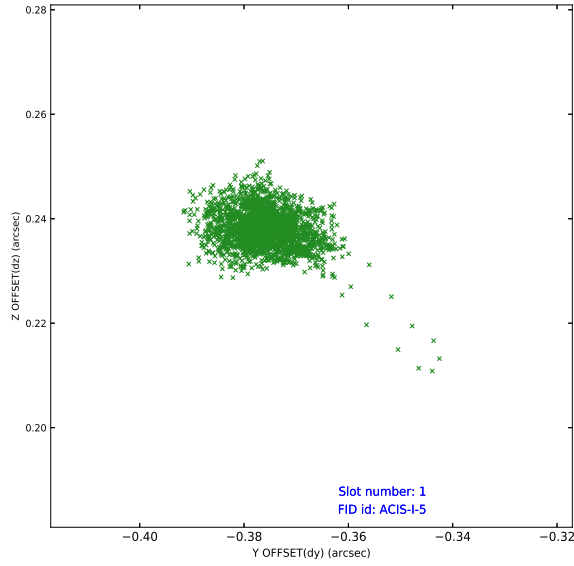


2.5 FID Slots

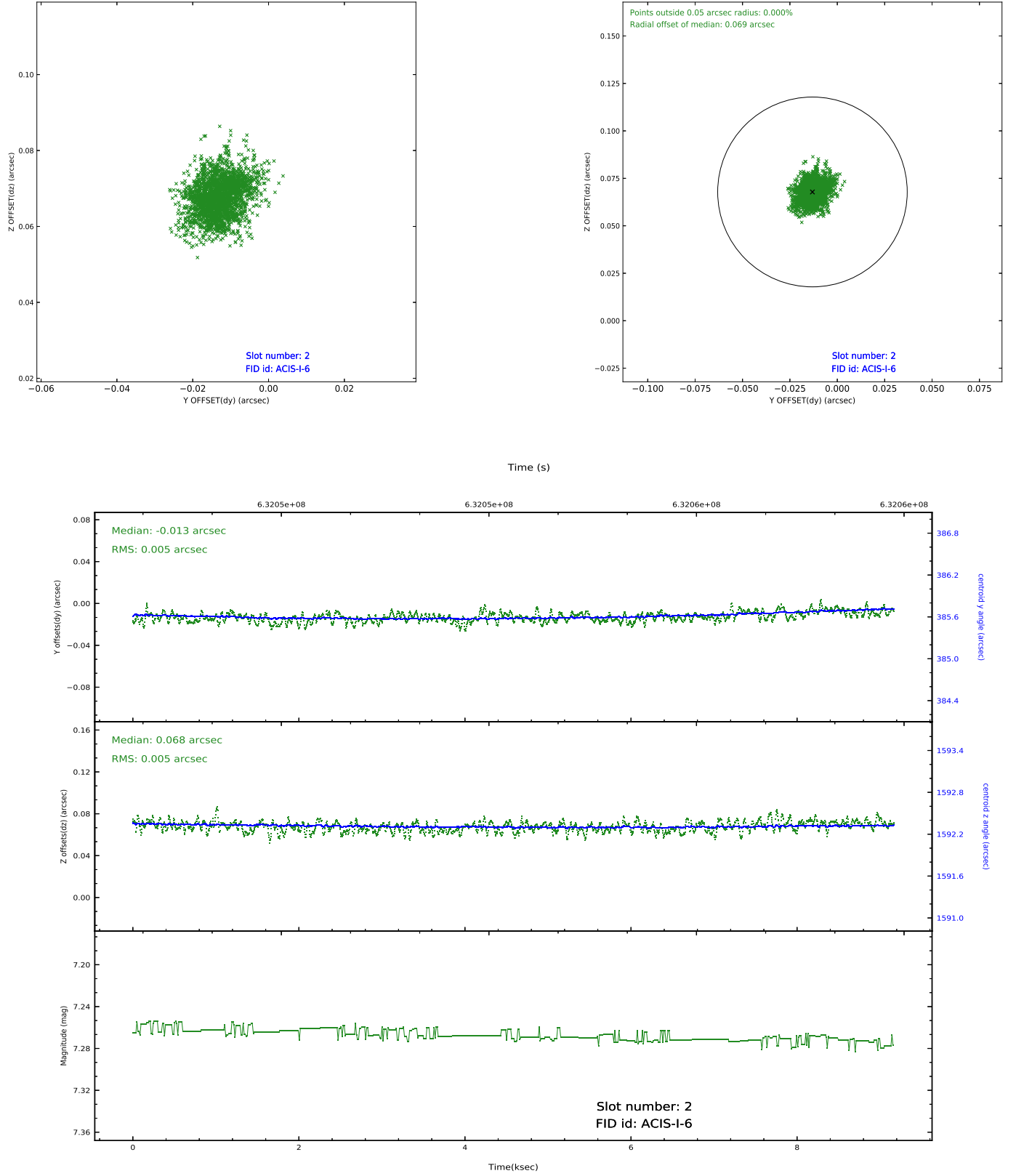
2.5.1 Slot 0



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	9.0661726045609

A.2 Comments

A spatial region of the original bias map for CCD = 1 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 = 1 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: (133.71501,0.49744), (133.71827,0.49396), (133.78951,0.56029), (133.78625,0.56378).