

V&V Reference Report

L2 ASCDS Version : 10.9.1

Observation 5759 - L2 Version 5
Chandra X-Ray Center

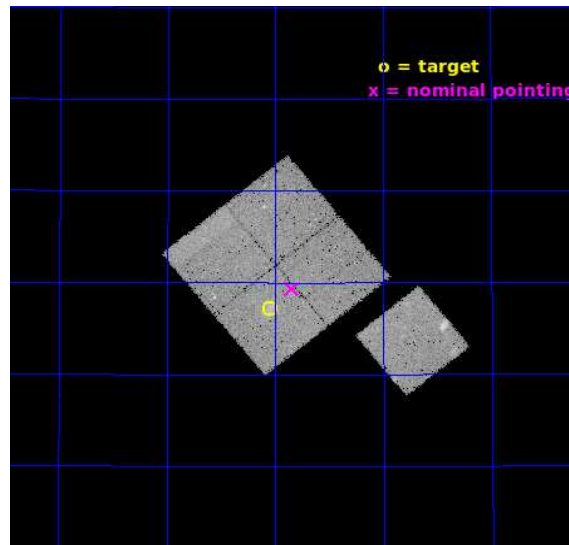
L2 Processing Date : Oct 9 2020

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1 Front

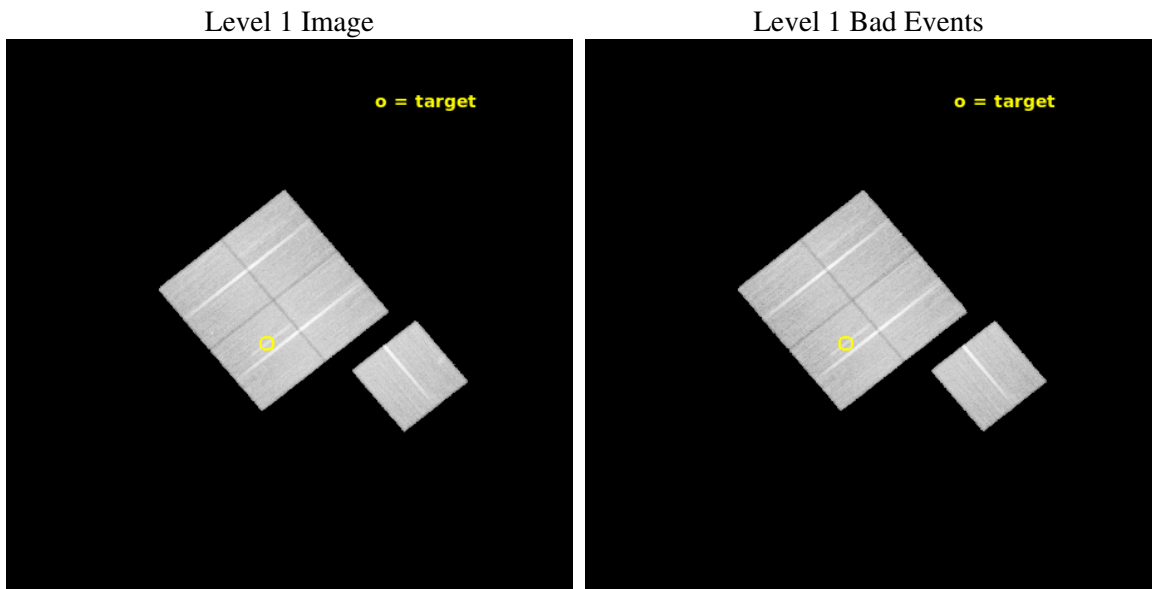
seq_num	800472	Sequence number
obs_id	5759	Observation id
title	DARK ENERGY WITH X-RAY CLUSTERS: CHANDRA OBSERVATIONS OF 41 HIGH-REDSHIFT CLUSTERS FROM THE 400 deg ² ROSAT PSPC SURVEY	Proposal titl
observer	Dr Alexey Vikhlinin	Principal investigator
object	CIG J0956+4107	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	149.011667	Observer's specified target RA [deg]
dec_targ	41.118889	Observer's specified target Dec [deg]
ra_nom	148.96170700508	Nominal RA [deg]
dec_nom	41.155789507875	Nominal Dec [deg]
roll_nom	140.74937034594	Nominal Roll [deg]
revision	5	Processing version of data
ontime	40696.758931458	Sum of GTIs [s]
livetime	40165.0258155	Livetime [s]
ontime0	40699.899921715	Sum of GTIs [s]
ontime1	40696.758941472	Sum of GTIs [s]
ontime2	40699.899921715	Sum of GTIs [s]
ontime3	40696.758931458	Sum of GTIs [s]
ontime6	40696.758951396	Sum of GTIs [s]
l2events	108489	Number of level 2 events



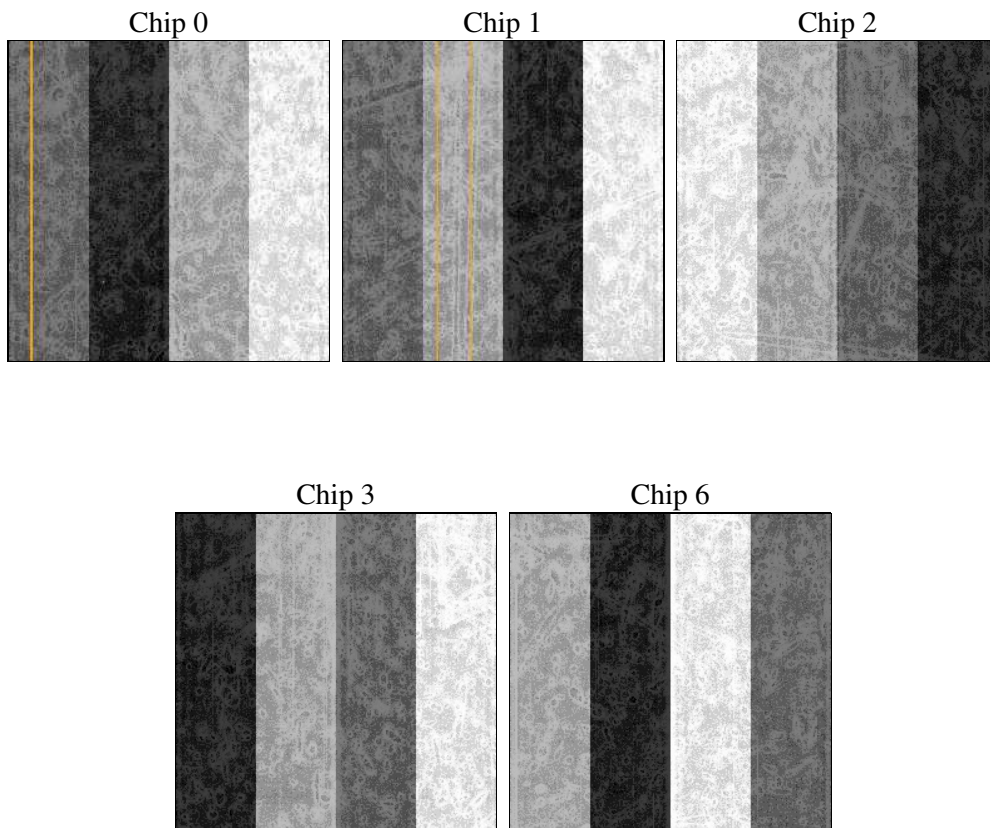
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	40517.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	40696.758931458	Sum of GTIs [s]
caldbver	4.9.2	 	ontime0	40699.899921715	Sum of GTIs [s]
date	2020-10-09T22:17:55	Date and time of file creation	ontime1	40696.758941472	Sum of GTIs [s]
revision	5	Processing version of data	ontime2	40699.899921715	Sum of GTIs [s]
			ontime3	40696.758931458	Sum of GTIs [s]
			ontime6	40696.758951396	Sum of GTIs [s]
			l1events	1223782	Number of level 1 events

2.1.4 Events

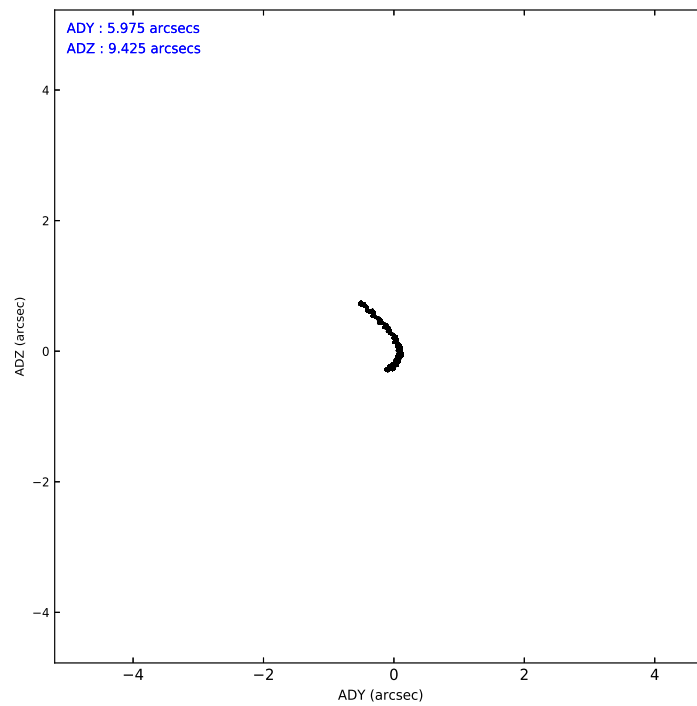
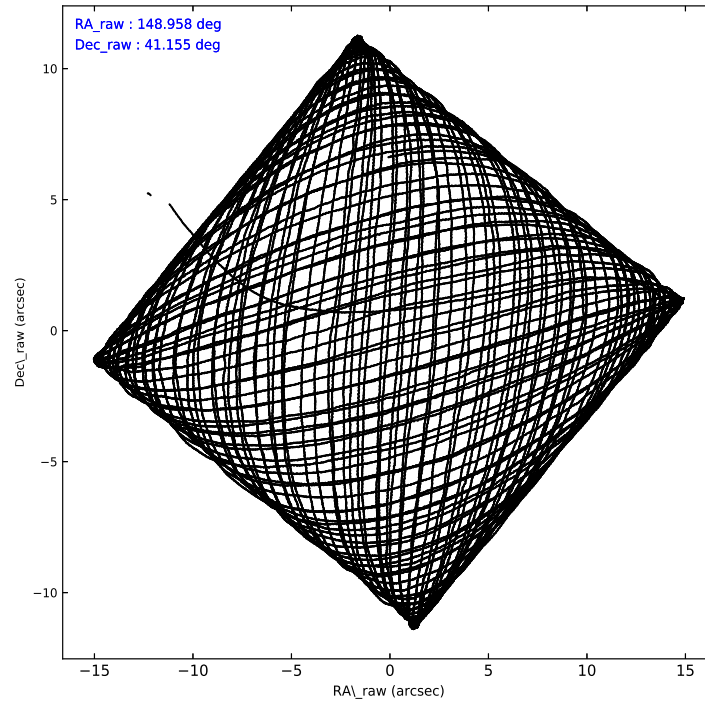
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	232297	232066	261690	249167	248562
rejected events	207219	203647	236957	224202	221670
rejected %	89%	87%	90%	89%	89%

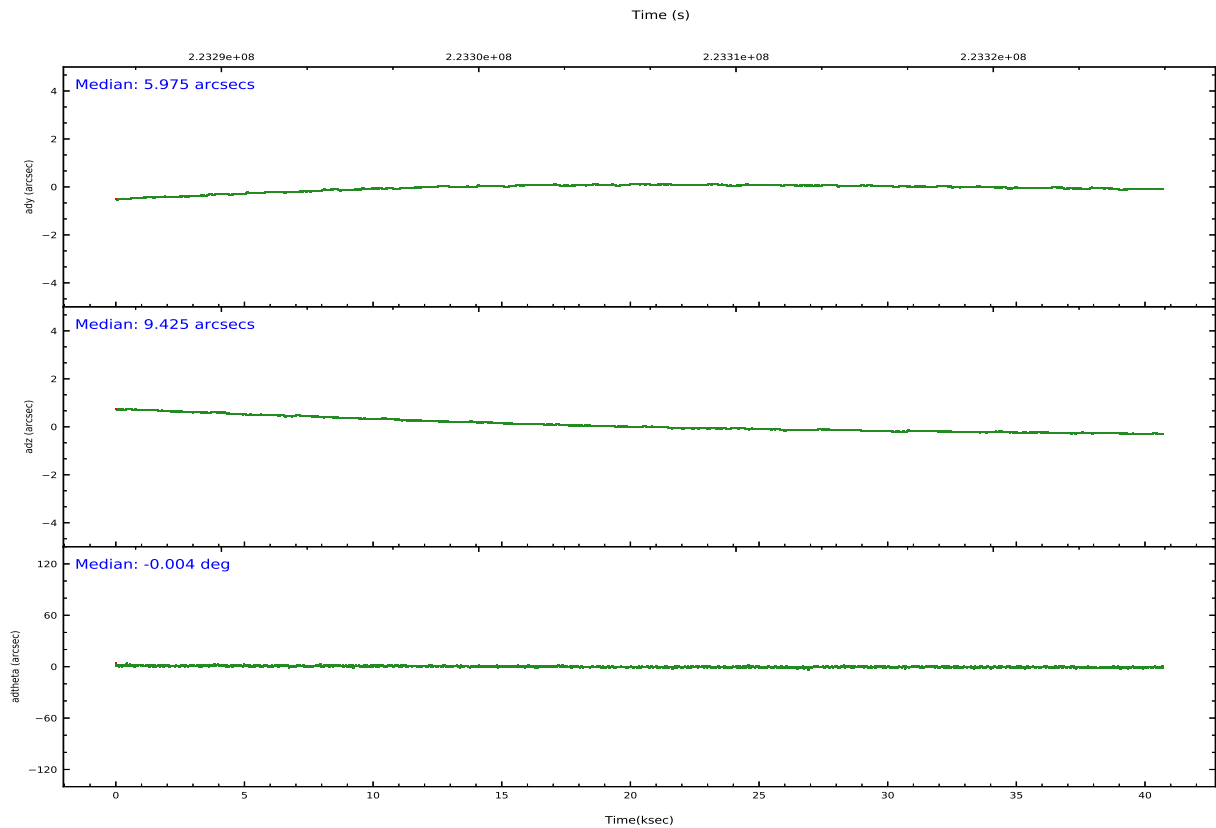
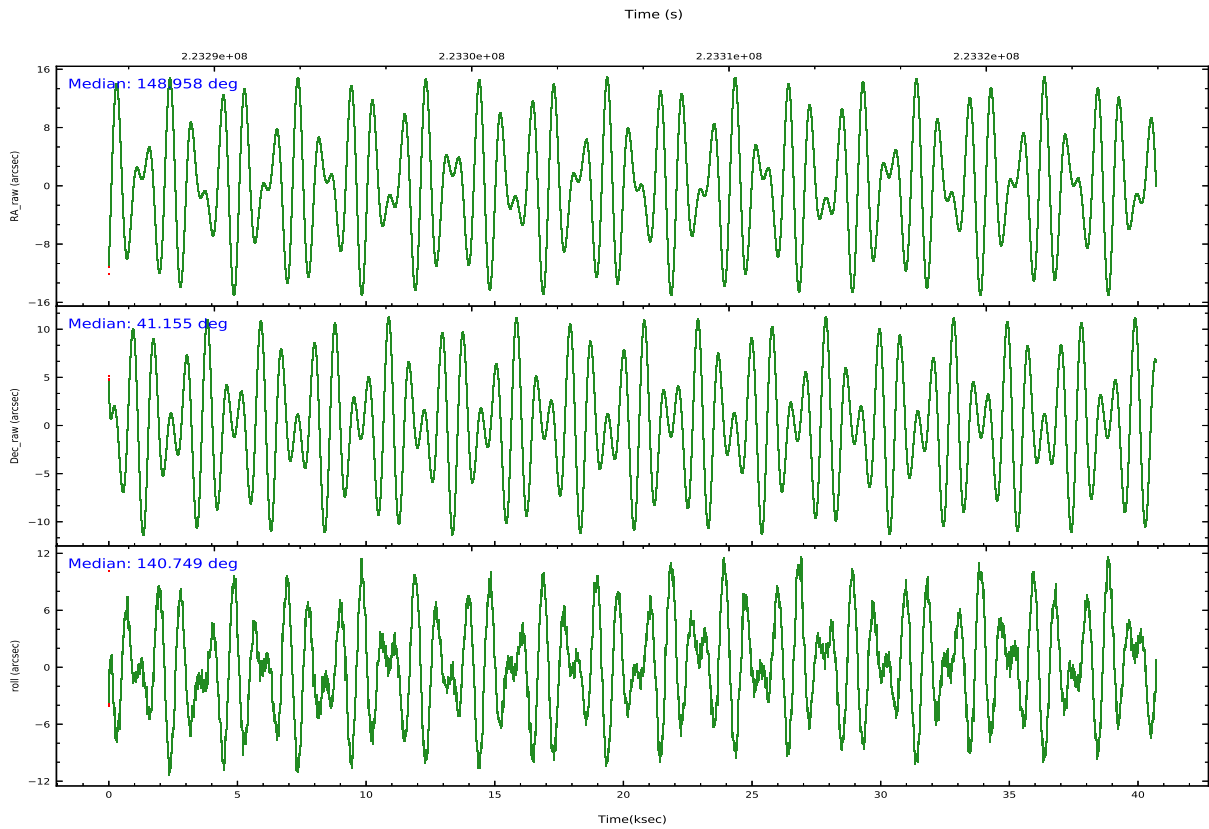
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	8811	10505	9171	9356	10148
	3%	4%	3%	3%	4%
grade 1 events	126	110	125	124	115
	0%	0%	0%	0%	0%
grade 2 events	5895	6083	5765	5353	5440
	2%	2%	2%	2%	2%
grade 3 events	2927	3094	2707	2796	2934
	1%	1%	1%	1%	1%
grade 4 events	2672	3033	2657	2758	2884
	1%	1%	1%	1%	1%
grade 5 events	8759	9429	8352	9937	9710
	3%	4%	3%	3%	3%
grade 6 events	4830	5756	4488	4750	5531
	2%	2%	1%	1%	2%
grade 7 events	198277	194056	228425	214093	211800
	85%	83%	87%	85%	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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	148.993472	148.96170700508	Subarray requested	NONE	NONE
[deg] Pointing Dec	41.150485	41.155789507875	Alternating exposures requested	N	N
[deg] Pointing Roll	140.515016	140.74937034594	[s] Primary exposure time	0.000000	3.1
[mm] SIM focus pos	-0.782348	-0.7809083437167272			
[mm] SIM defocus	0	0.001439871863259334			
[mm] SIM translation stage pos	-225.840463	-225.8433433320239			
[mm] SIM translation stage offset	-7.752	-7.749109670905796			
[s] Observation start time (MET)	223286084.184000	223285041.05596			
Observation start date	2005-01-28T07:53:40	2005-01-28T07:37:21			
[s] Observation end time (MET)	223326601.184000	223327406.35787			
Observation end date	2005-01-28T19:08:57	2005-01-28T19:23:26			
Read mode	TIMED	TIMED			

2.3 Aspect





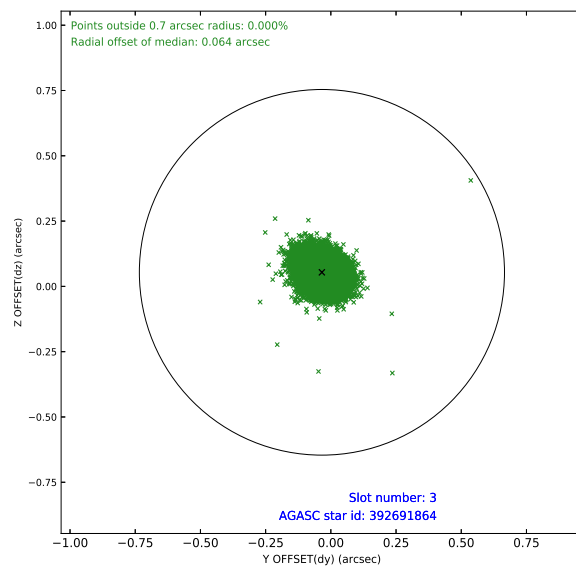
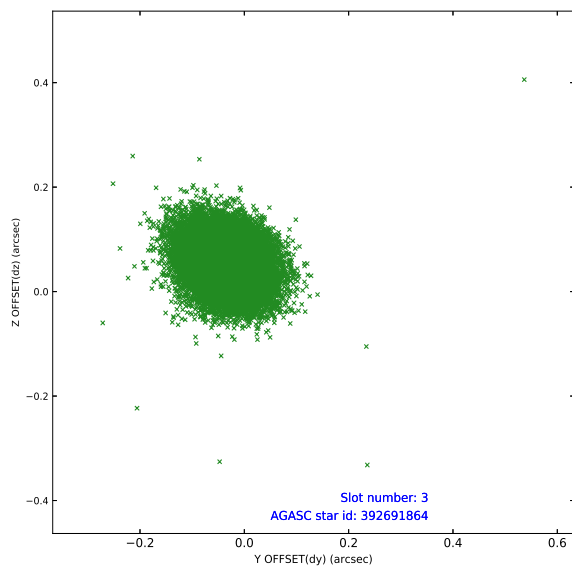
Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-2	7.18	9928	1.000	-0.081	-0.083	0.012	0.019	0.000000	0.000000	-760.98	-997
1	FID		ACIS-I-4	7.14	9928	1.000	0.109	0.073	0.009	0.016	0.000000	0.000000	2153.16	908
2	FID		ACIS-I-5	7.22	9929	1.000	-0.129	0.079	0.009	0.015	0.000000	0.000000	-1814.49	905
3	GUIDE	used	392691864	8.92	19853	1.000	-0.034	0.054	0.063	0.103	148.998449	41.278003	281.95	-362
4	GUIDE	used	392693576	8.17	19854	1.000	-0.019	0.011	0.058	0.094	149.531855	41.595239	-97.30	-2160
5	GUIDE	used	392694320	8.54	19851	1.000	-0.031	-0.040	0.063	0.103	148.201769	41.462521	2369.27	483
6	GUIDE	used	392694512	9.10	19843	1.000	0.071	0.005	0.076	0.123	149.375349	41.193921	-697.03	-779
7	GUIDE	used	392695480	8.86	19847	1.000	0.014	-0.026	0.066	0.105	149.916110	41.131503	-1965.36	-1548

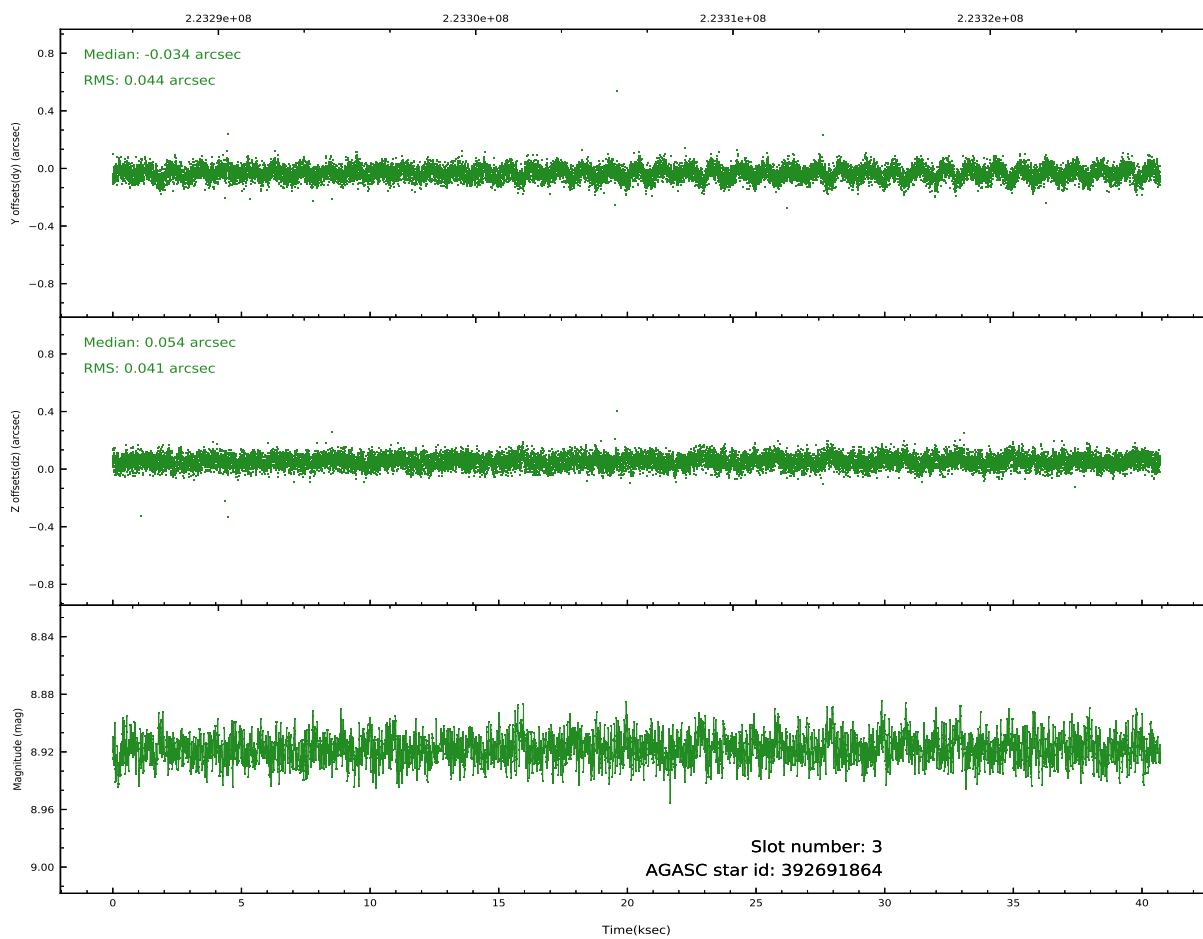
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2.4 Star Slots

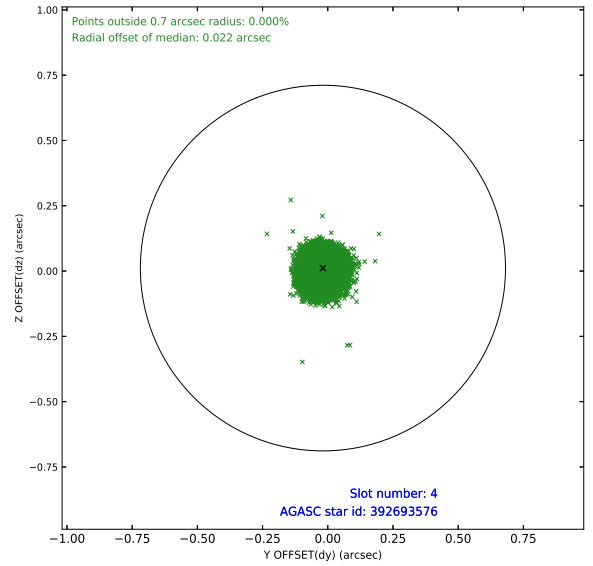
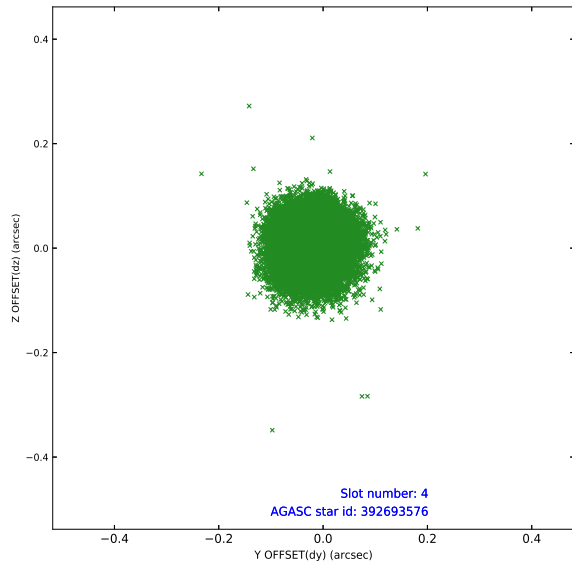
2.4.1 Slot 3



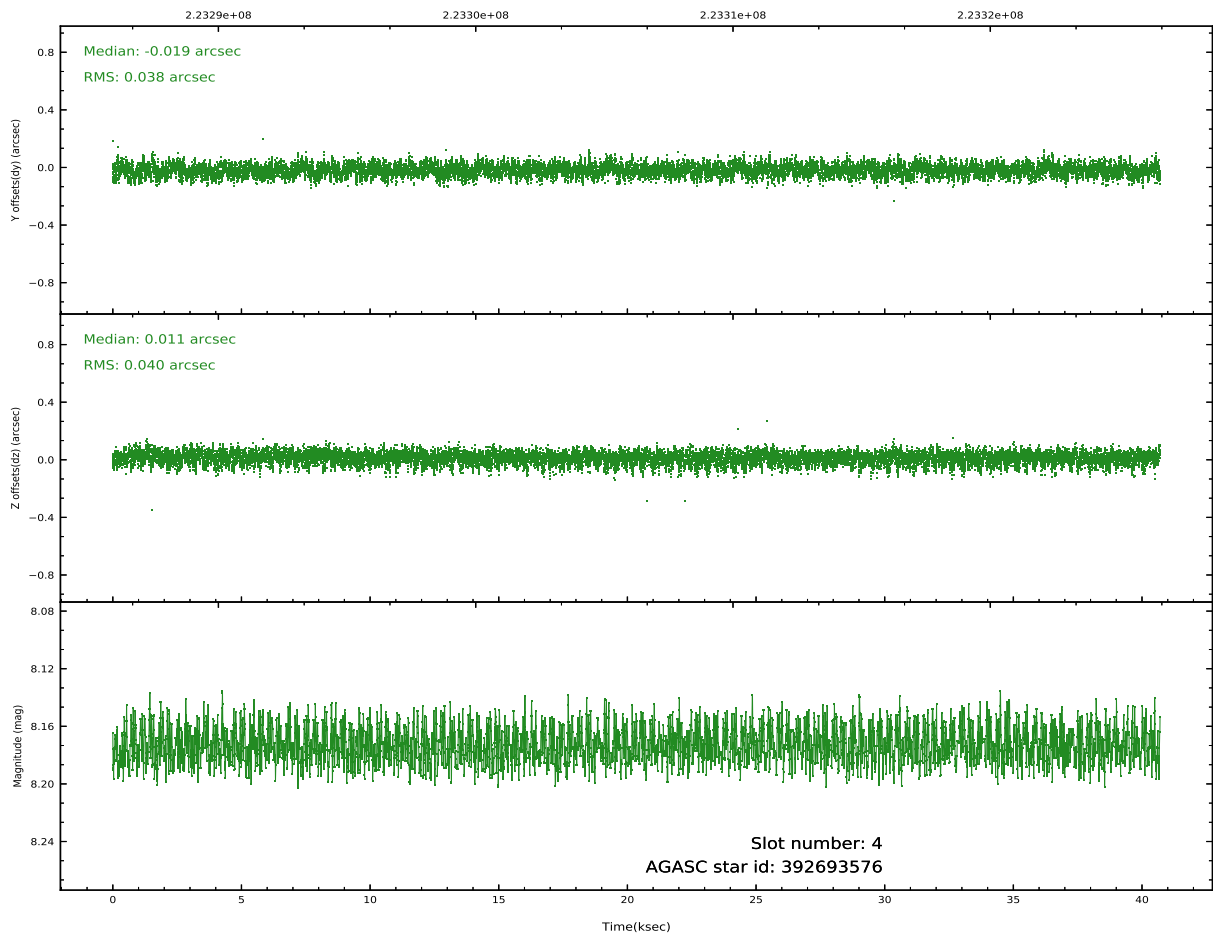
Time (s)



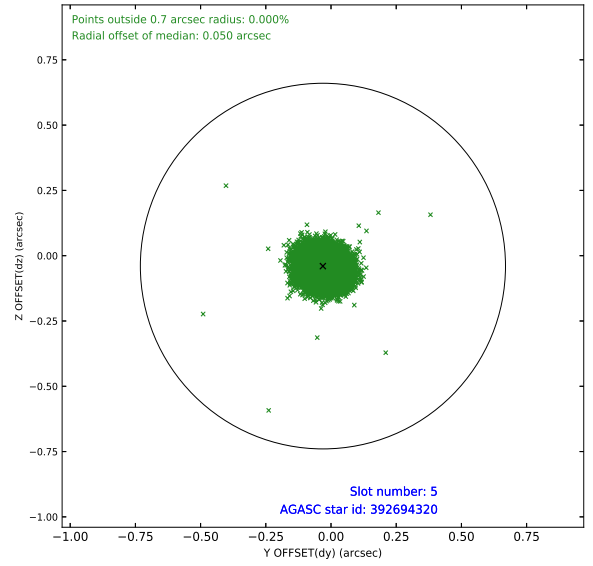
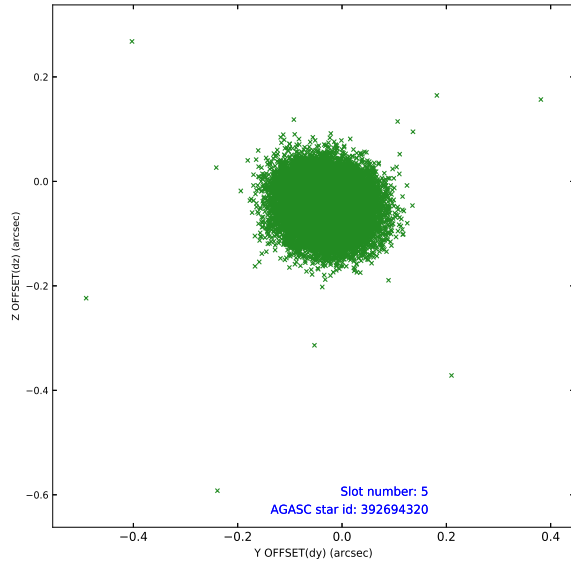
2.4.2 Slot 4



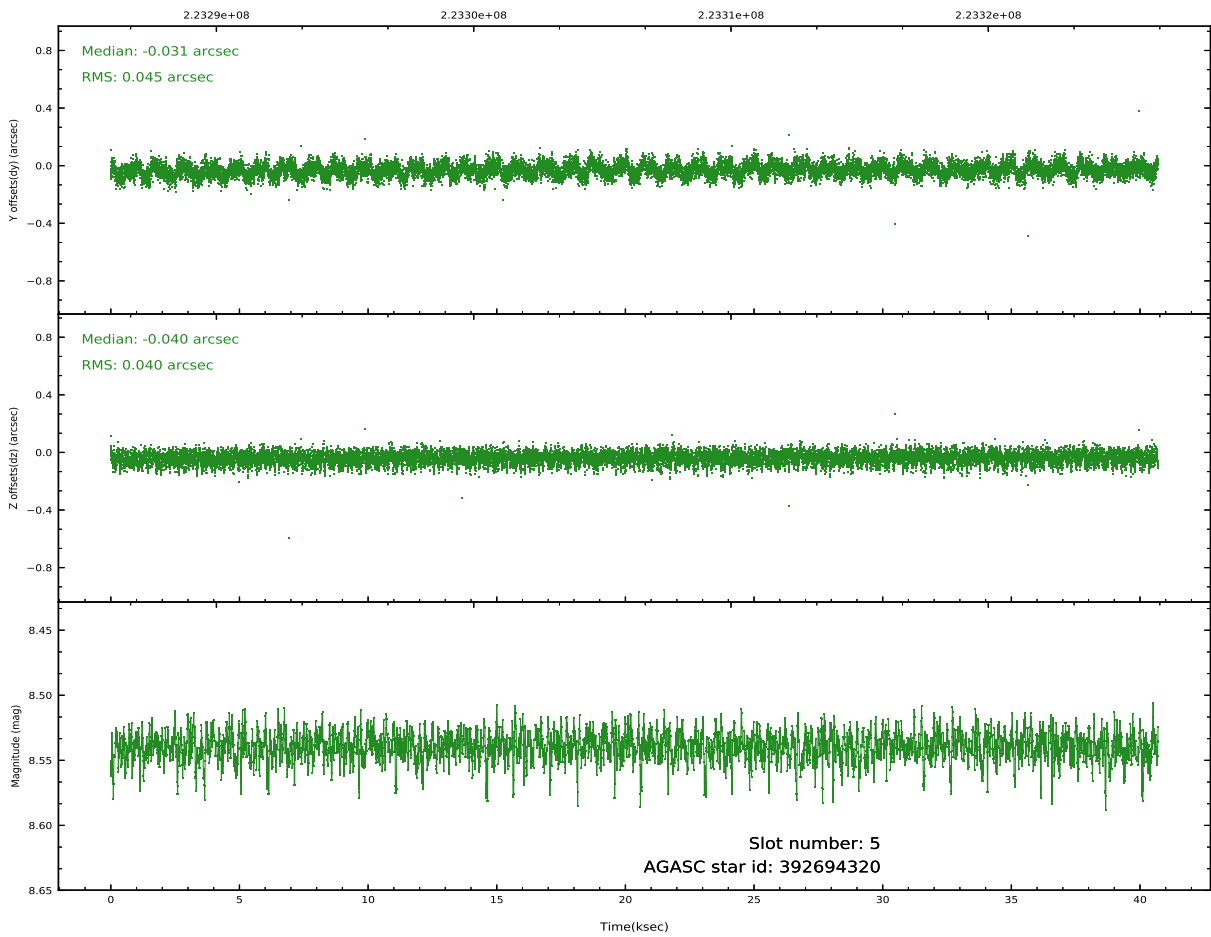
Time (s)



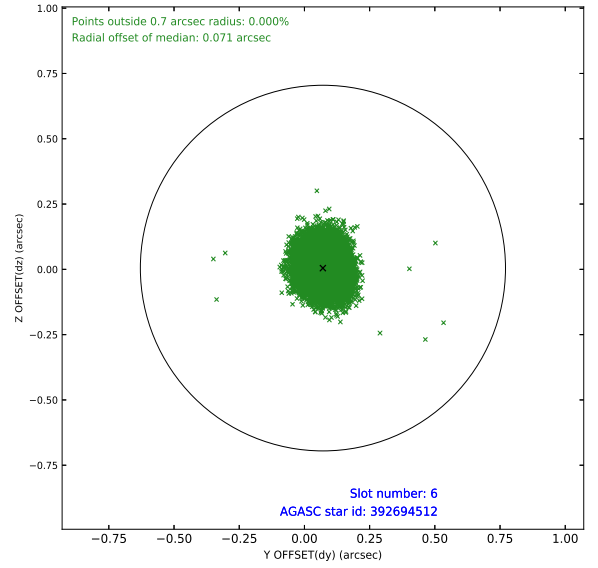
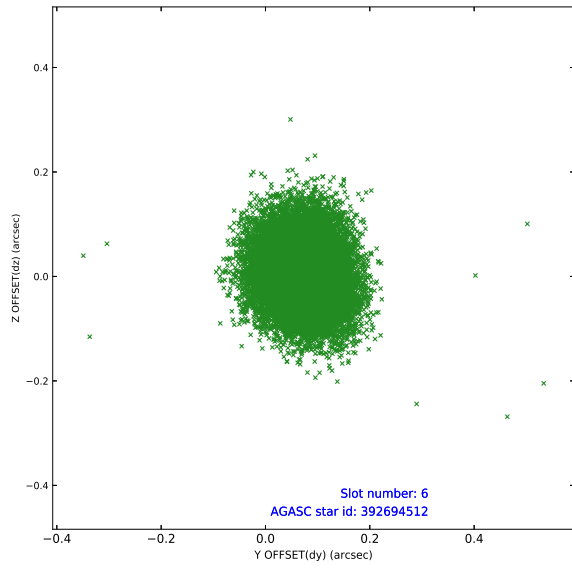
2.4.3 Slot 5



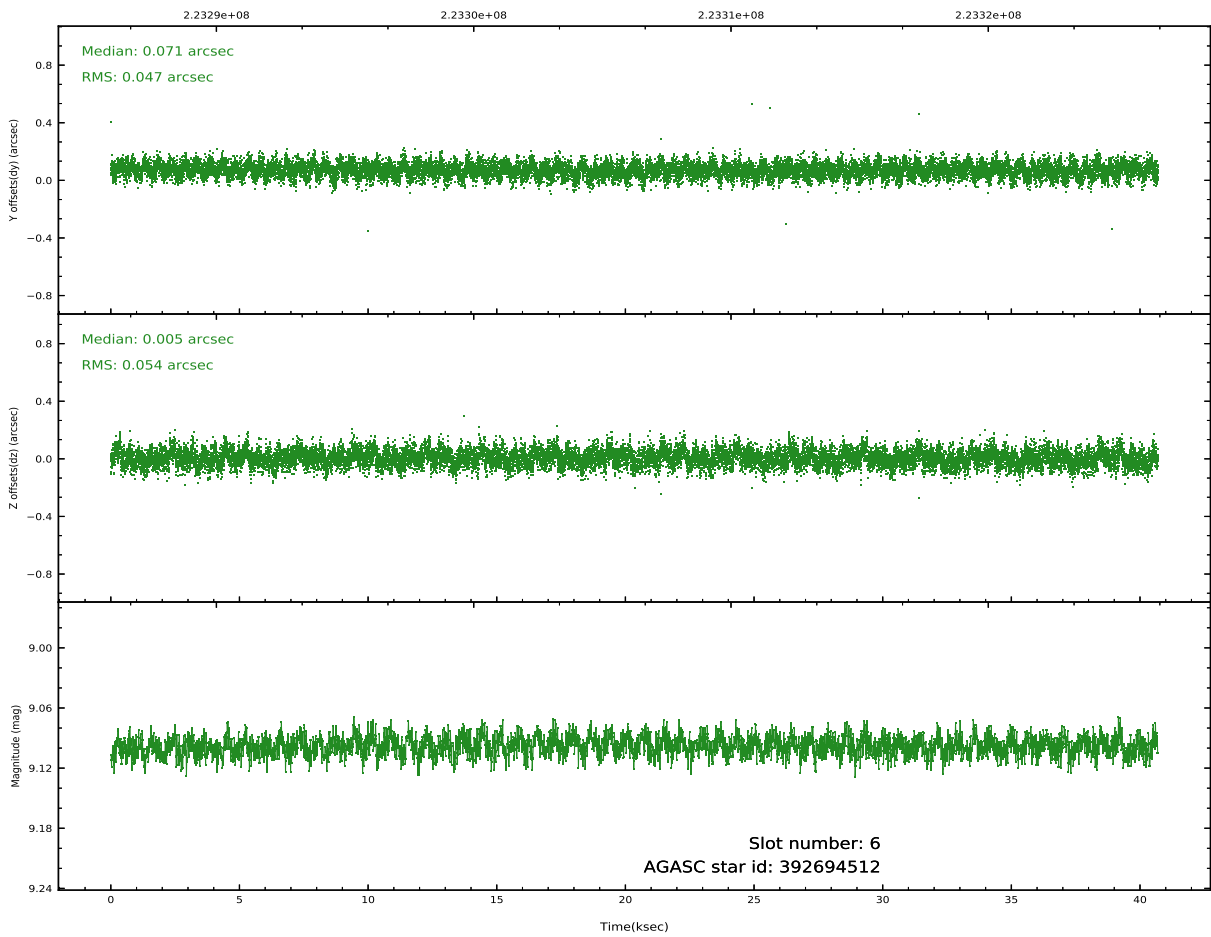
Time (s)



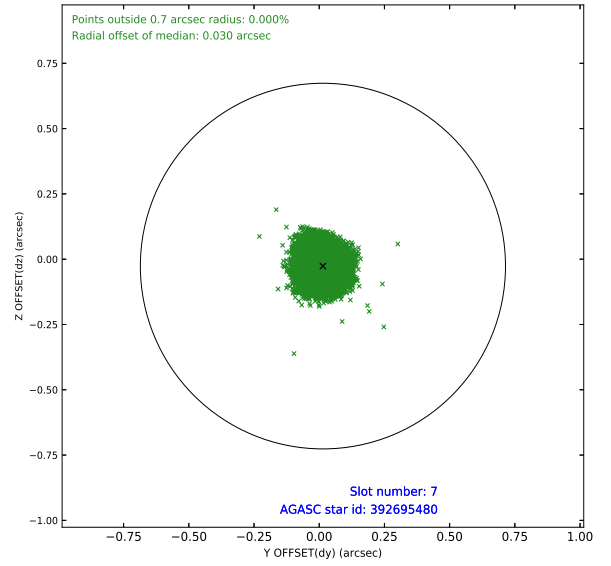
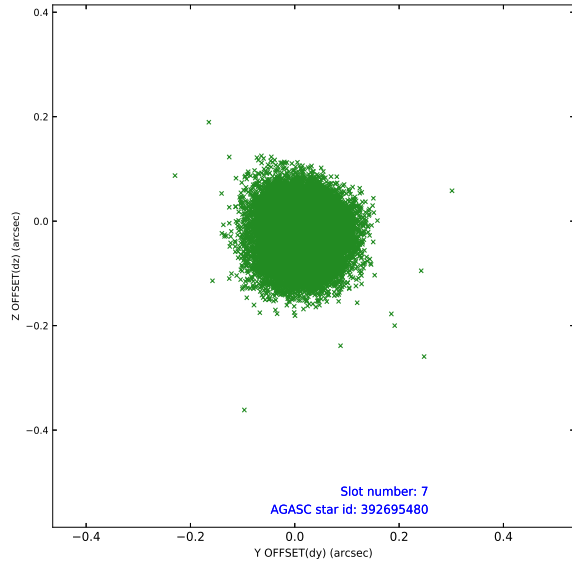
2.4.4 Slot 6



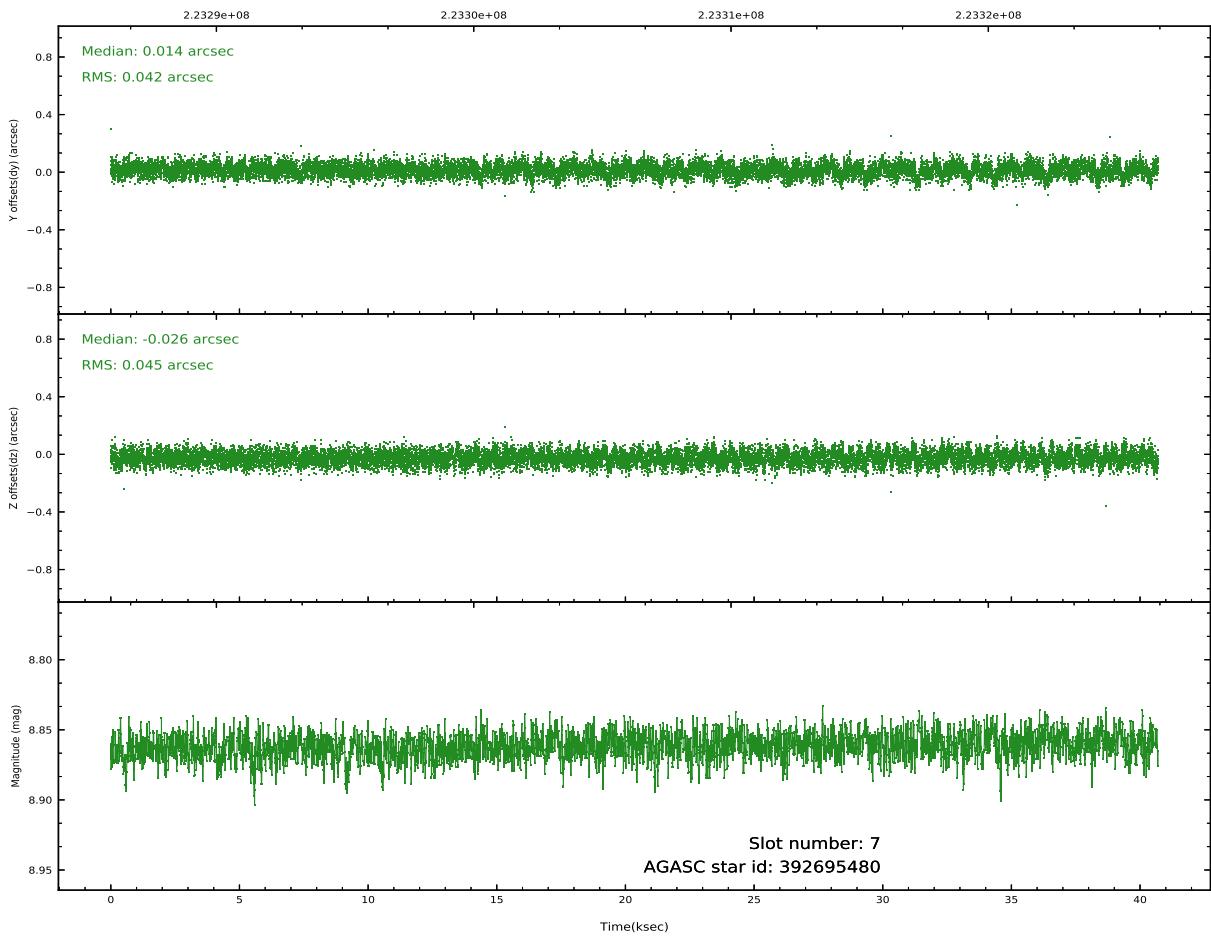
Time (s)



2.4.5 Slot 7

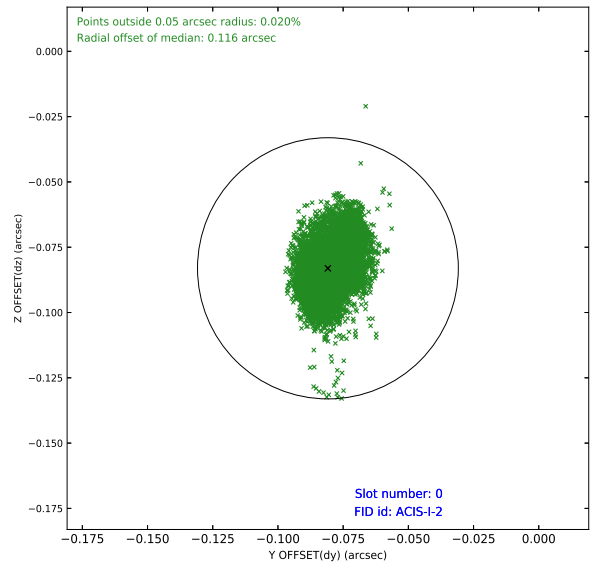
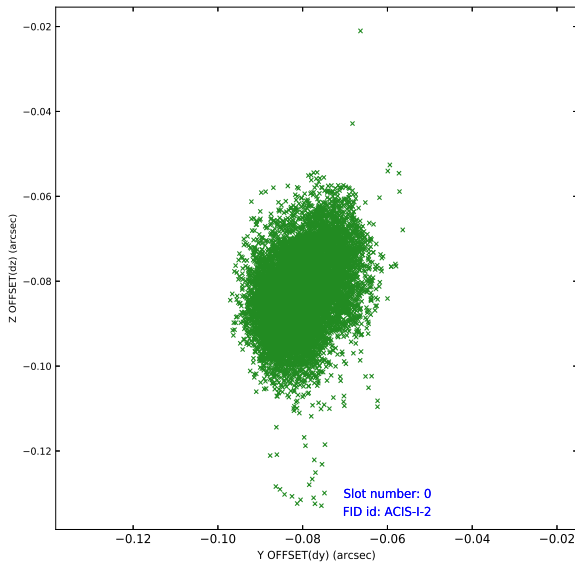


Time (s)

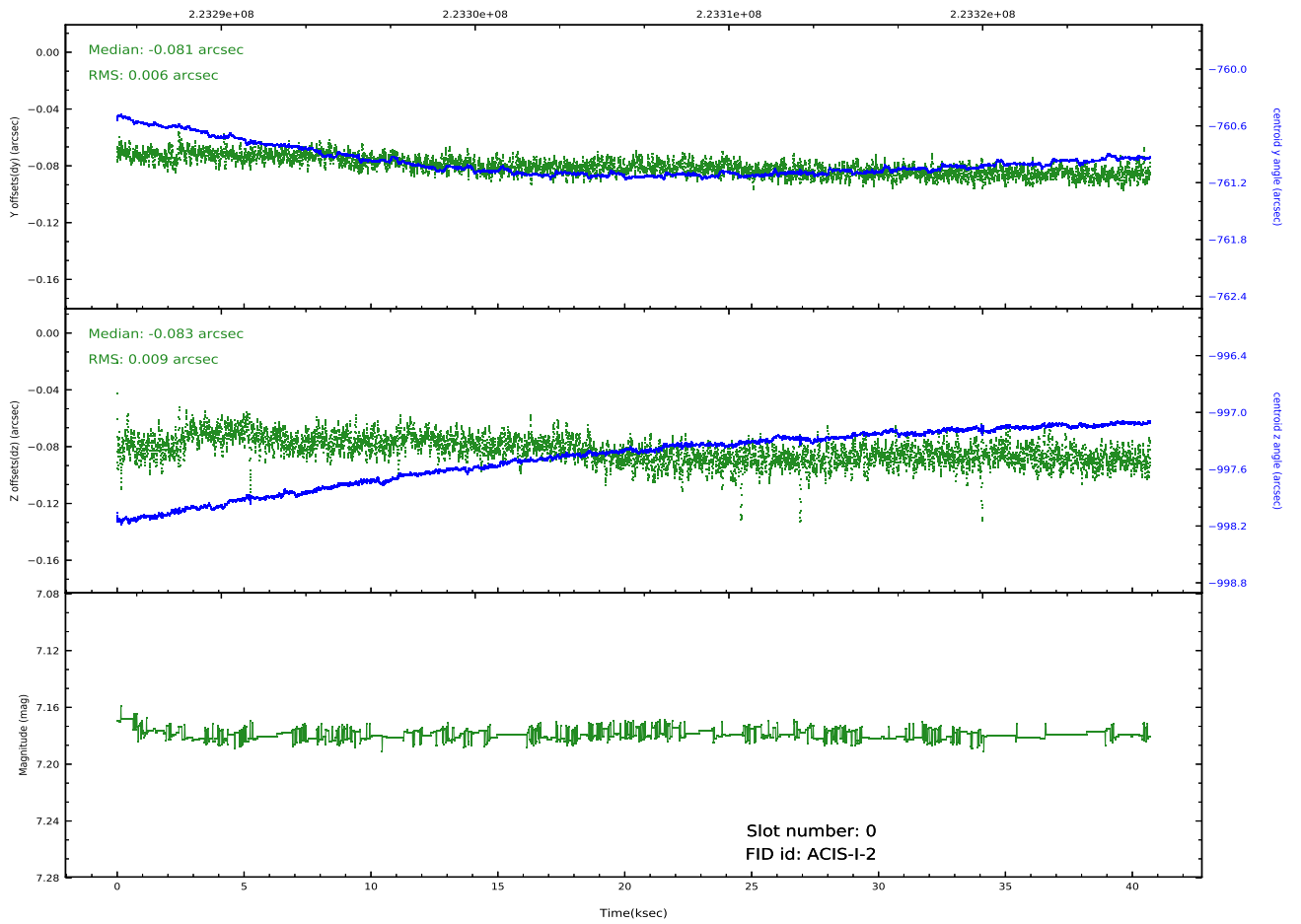


2.5 FID Slots

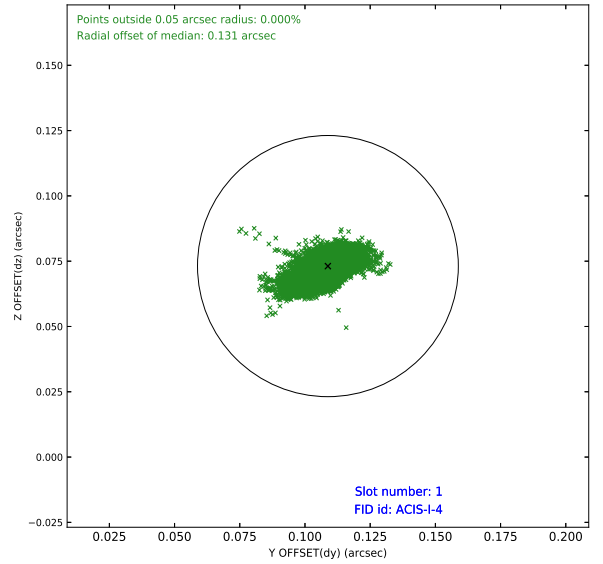
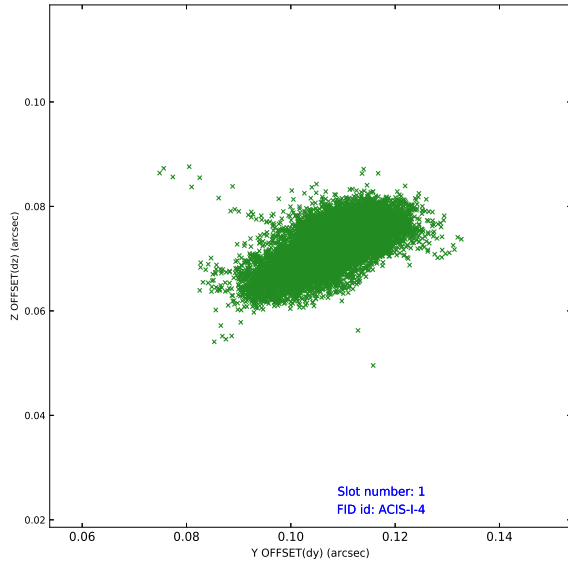
2.5.1 Slot 0



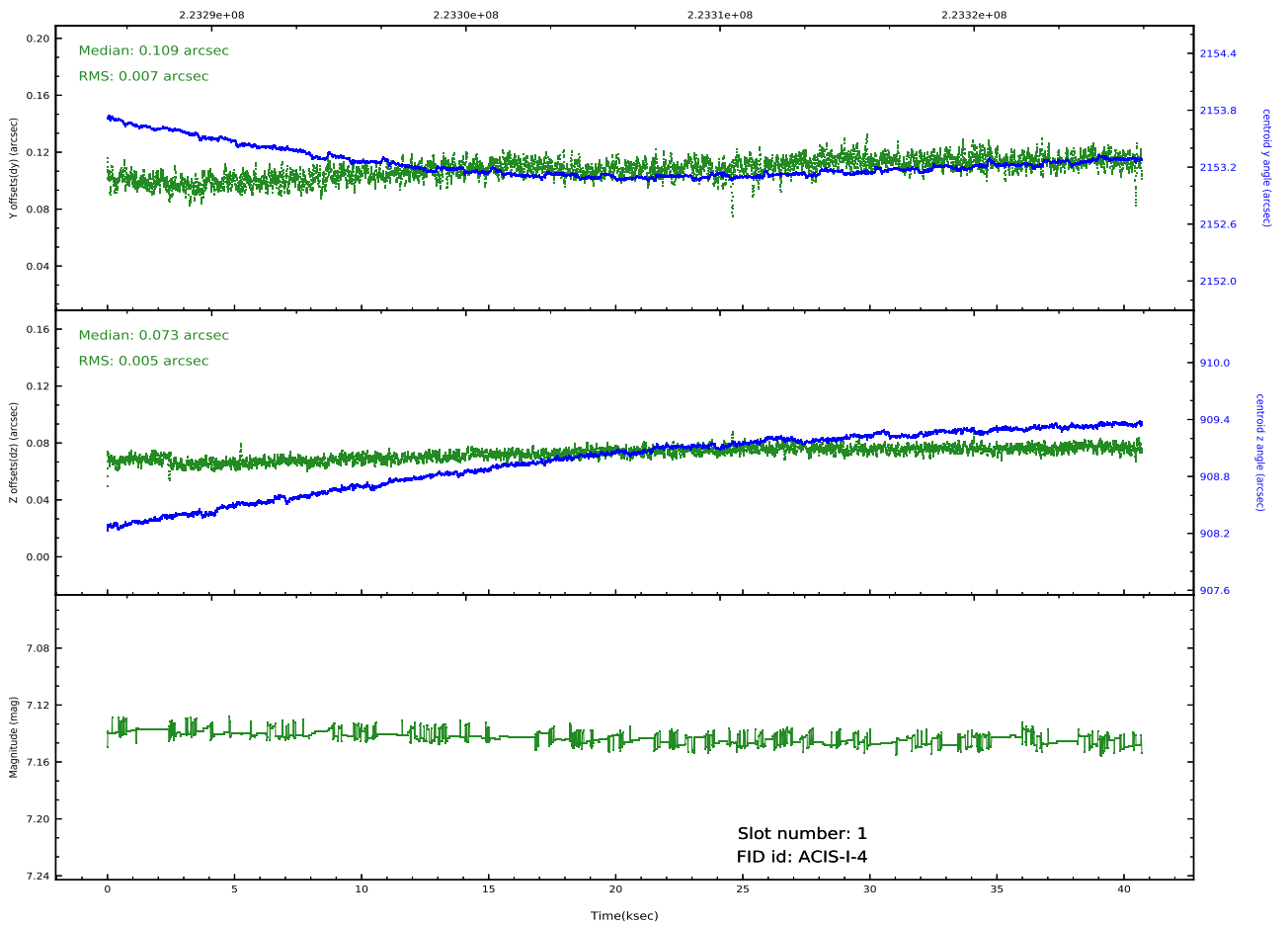
Time (s)



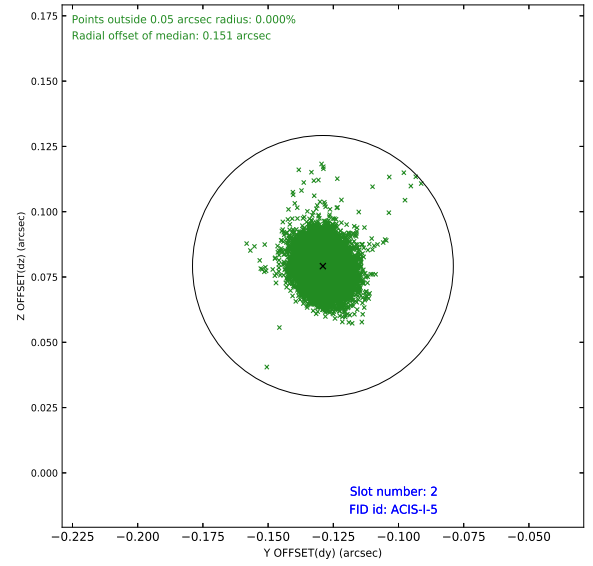
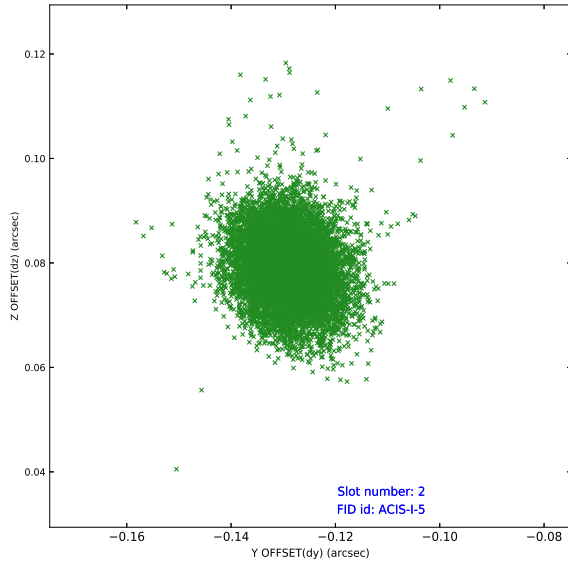
2.5.2 Slot 1



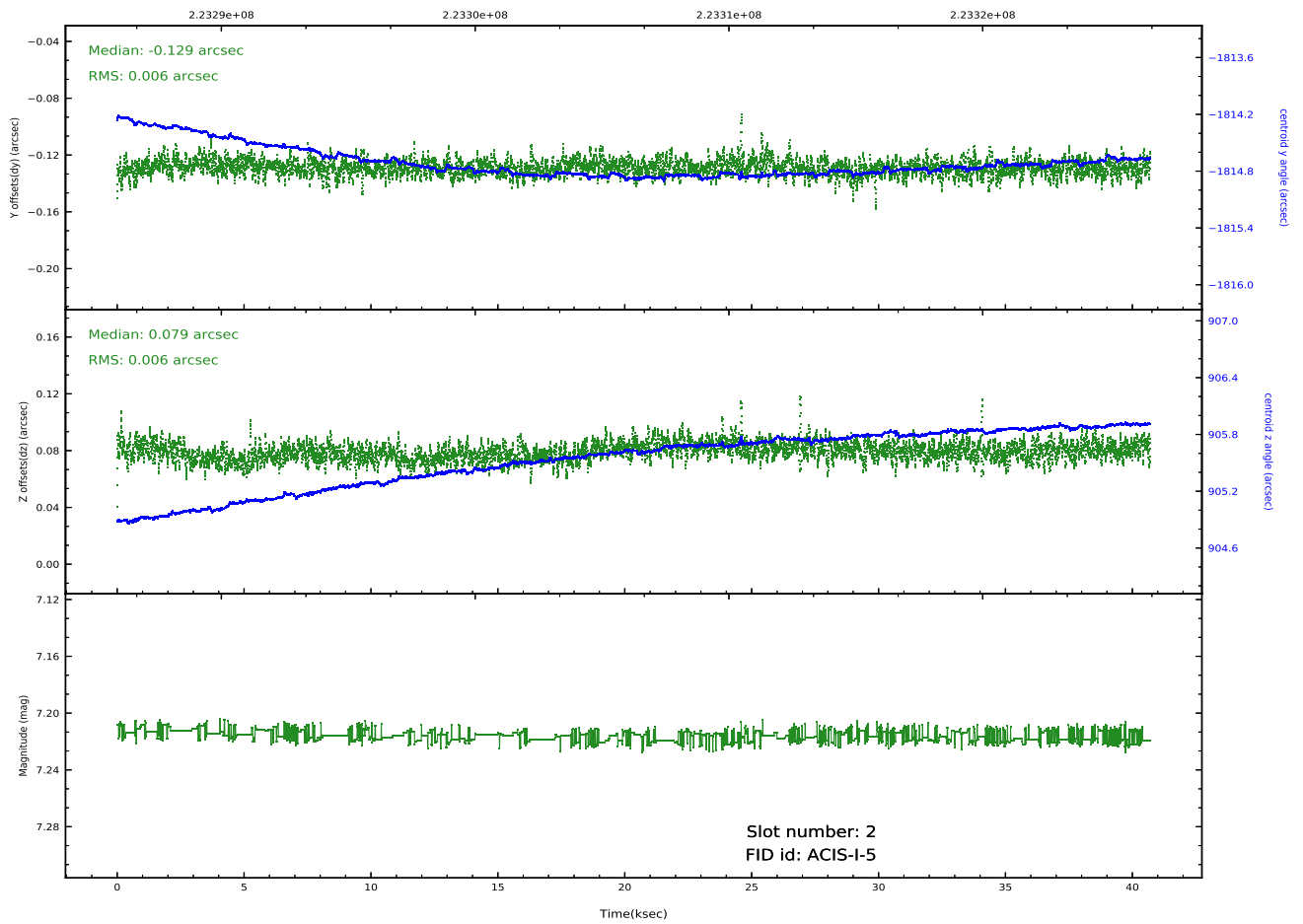
Time (s)



2.5.3 Slot 2



Time (s)



A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2020.10.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	40.69675

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: (148.69103,40.96653), (148.69412,40.96464), (148.81074,41.07305), (148.80765,41.07494).