

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 20133 - L2 Version 2
Chandra X-Ray Center

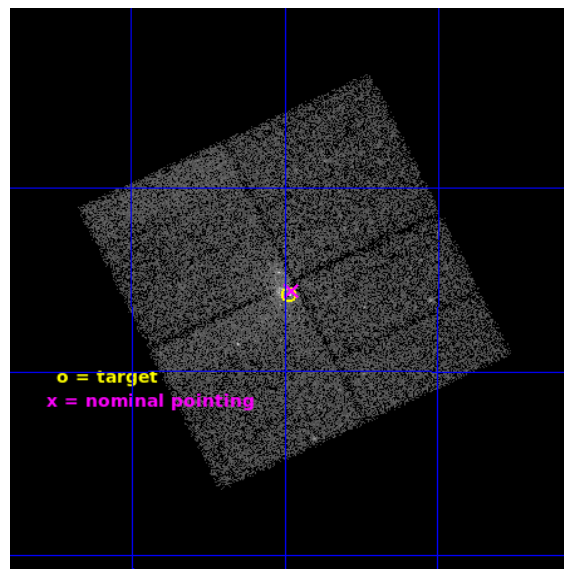
L2 Processing Date : Oct 27 2020

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1 Front

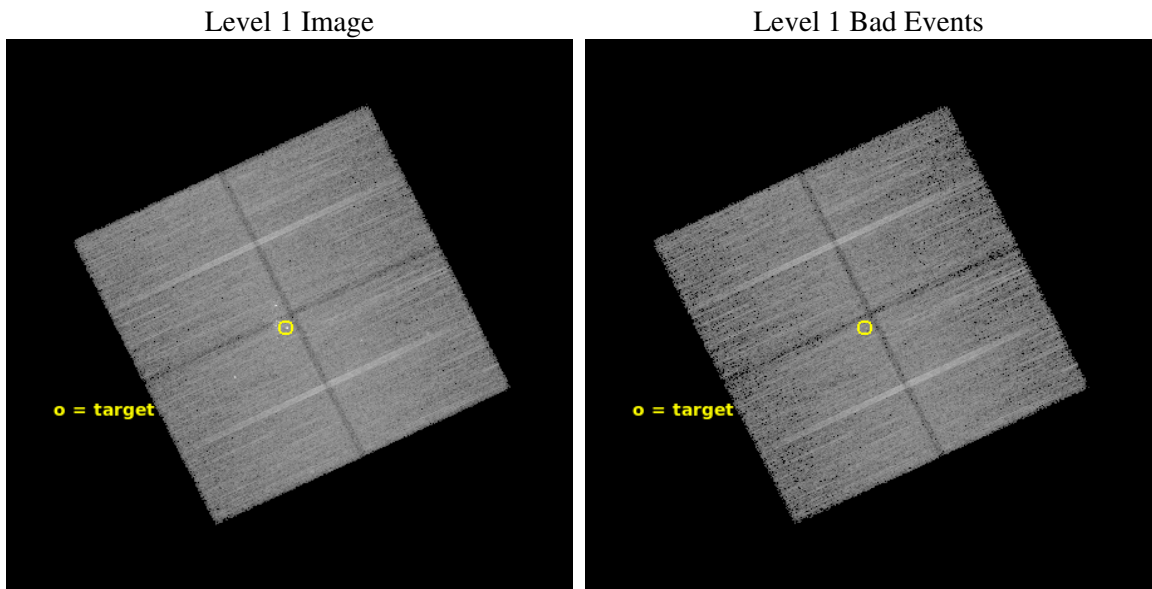
seq_num	201156	Sequence number
obs_id	20133	Observation id
title	Probing the X-ray Emission from the Massive Star Cluster Westerlund 2	Proposal title
observer	Laura Lopez	Principal investigator
object	Westerlund 2	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	155.992083	Observer's specified target RA [deg]
dec_targ	-57.763611	Observer's specified target Dec [deg]
ra_nom	155.98779363804	Nominal RA [deg]
dec_nom	-57.760142656649	Nominal Dec [deg]
roll_nom	154.1849294443	Nominal Roll [deg]
revision	2	Processing version of data
ontime	25990.400200009	Sum of GTIs [s]
livetime	25650.816487542	Livetime [s]
ontime0	25990.400200009	Sum of GTIs [s]
ontime1	25990.400200009	Sum of GTIs [s]
ontime2	25987.259219766	Sum of GTIs [s]
ontime3	25990.400200009	Sum of GTIs [s]
l2events	84731	Number of level 2 events



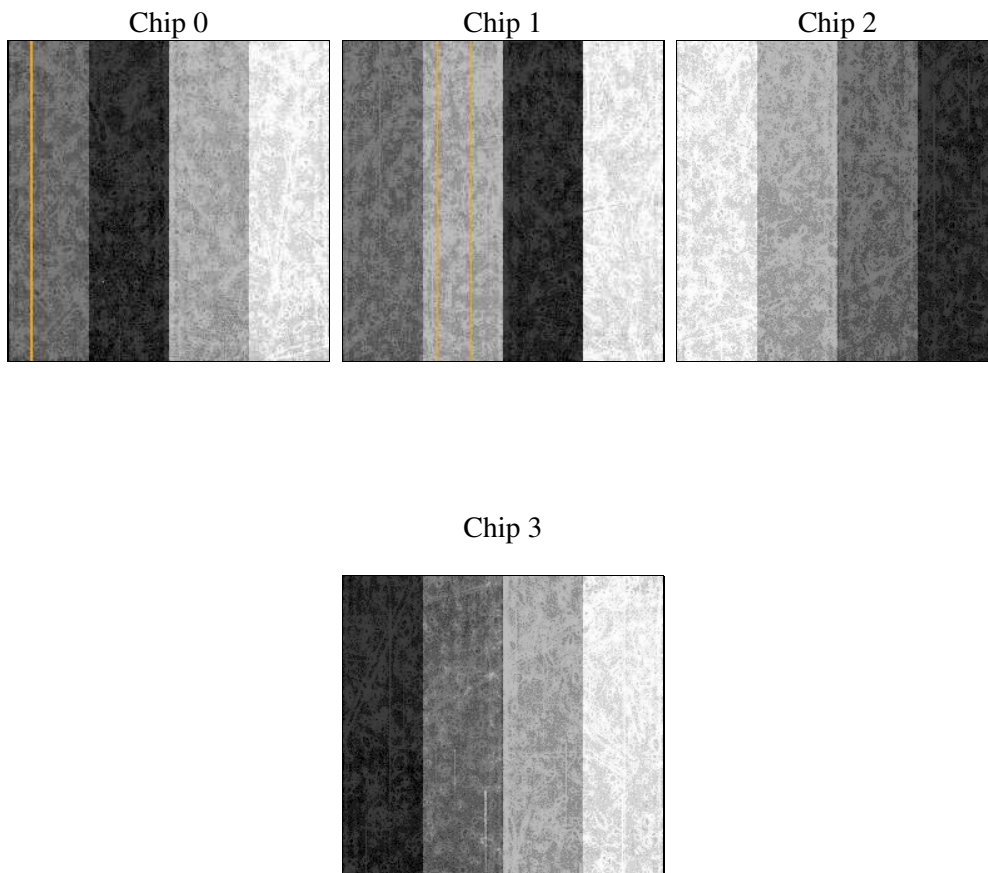
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	25910.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	25990.400200009	Sum of GTIs [s]
caldsver	4.9.3	 	ontime0	25990.400200009	Sum of GTIs [s]
date	2020-10-27T18:25:07	Date and time of file creation	ontime1	25990.400200009	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	25987.259219766	Sum of GTIs [s]
			ontime3	25990.400200009	Sum of GTIs [s]
			l1events	733927	Number of level 1 events

2.1.4 Events

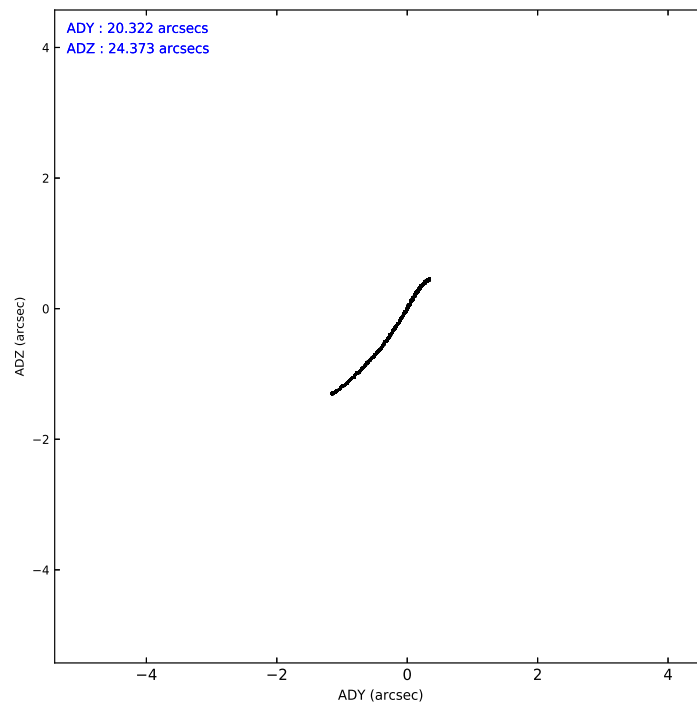
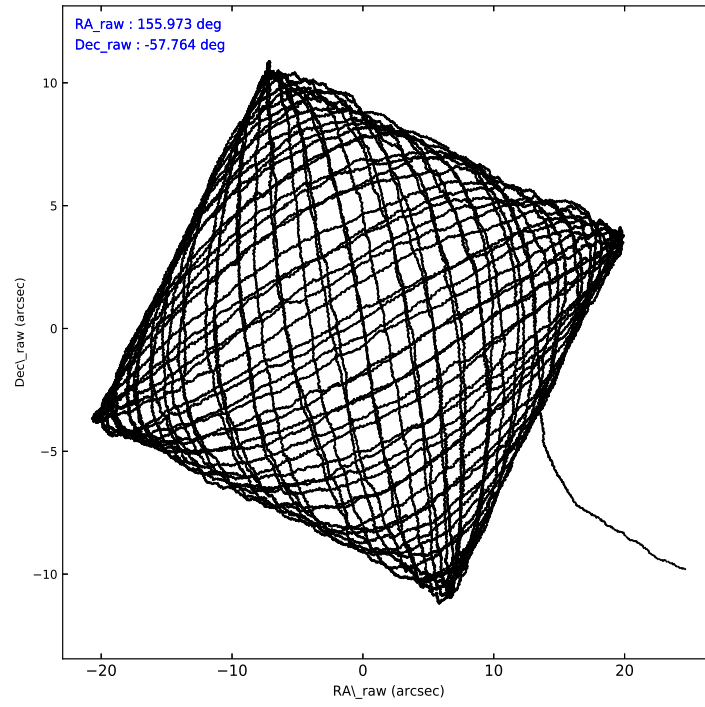
	ccd 0	ccd 1	ccd 2	ccd 3
level 1 events	173119	179730	192671	188407
rejected events	150227	151973	169624	161700
rejected %	86%	84%	88%	85%

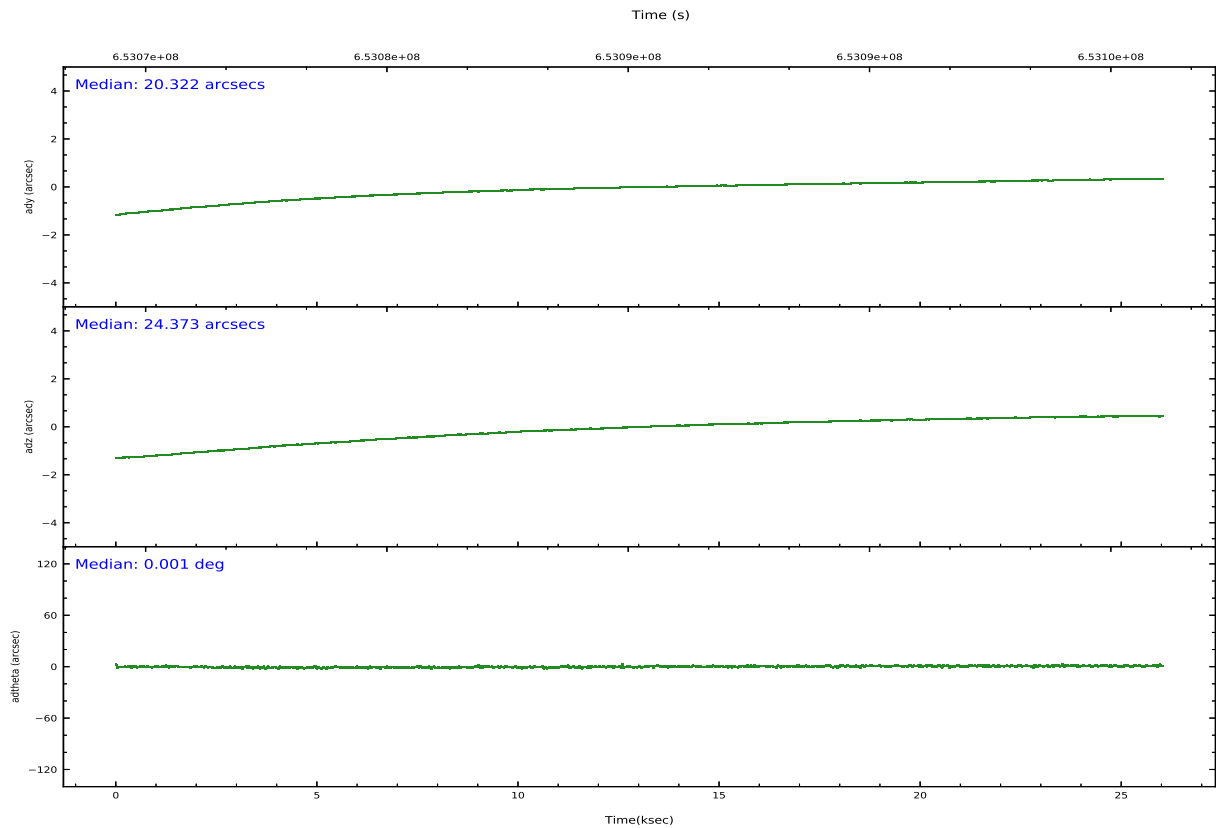
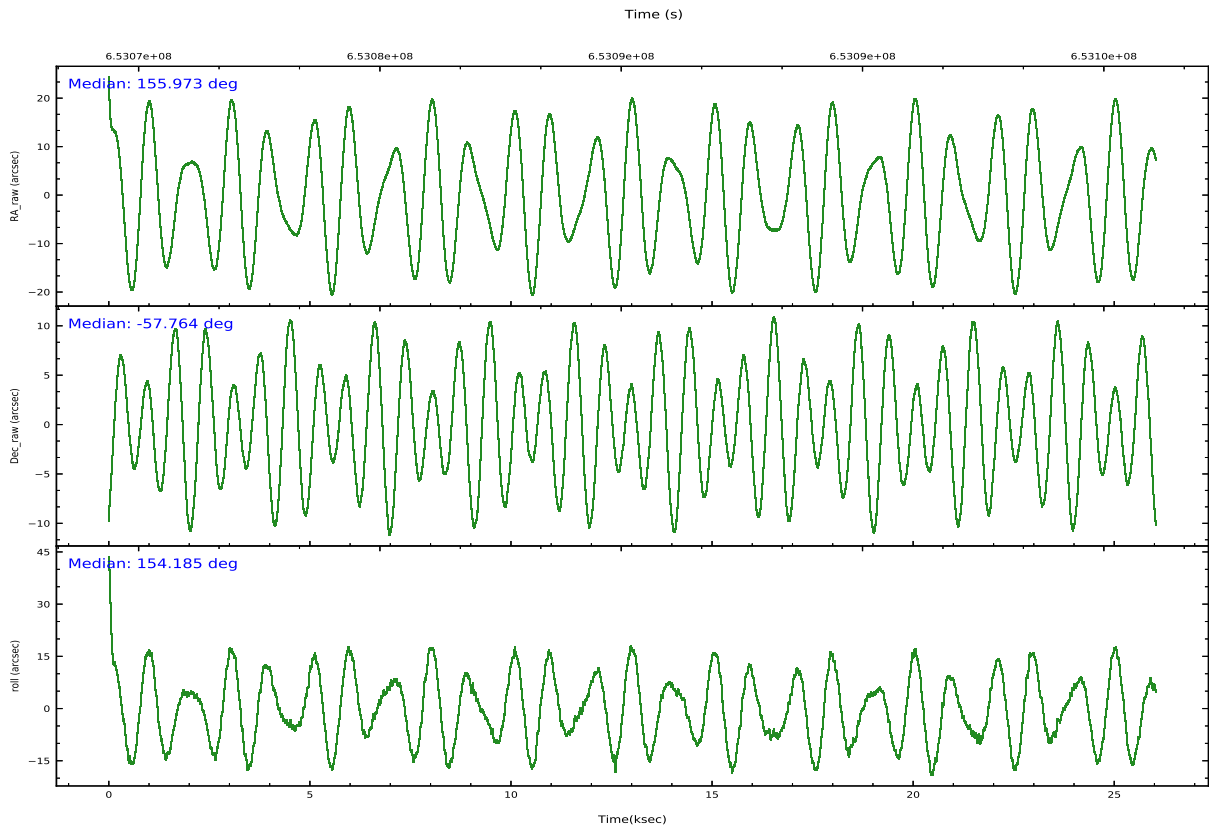
	ccd 0	ccd 1	ccd 2	ccd 3
grade 0 events	8118	10677	8857	12414
	4%	5%	4%	6%
grade 1 events	128	153	117	149
	0%	0%	0%	0%
grade 2 events	5800	6664	5545	5302
	3%	3%	2%	2%
grade 3 events	2307	2467	2238	2296
	1%	1%	1%	1%
grade 4 events	2127	2371	2188	2298
	1%	1%	1%	1%
grade 5 events	8540	8785	8147	9248
	4%	4%	4%	4%
grade 6 events	4546	5580	4222	4398
	2%	3%	2%	2%
grade 7 events	141553	143033	161357	152302
	81%	79%	83%	80%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-0123	ACIS-0123	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	156.023867	155.98779363804	Subarray requested	NONE	NONE
[deg] Pointing Dec	-57.761718	-57.760142656649	Alternating exposures requested	N	N
[deg] Pointing Roll	154.026888	154.1849294443	[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	-233.592463	-233.5874344608287			
[mm] SIM translation stage offset	0	-0.005018542100998502			
[s] Observation start time (MET)	653073391.184000	653072070.97237			
Observation start date	2018-09-11T17:15:22	2018-09-11T16:54:30			
[s] Observation end time (MET)	653099301.184000	653100554.18656			
Observation end date	2018-09-12T00:27:12	2018-09-12T00:49:14			
Read mode	TIMED	TIMED			

2.3 Aspect





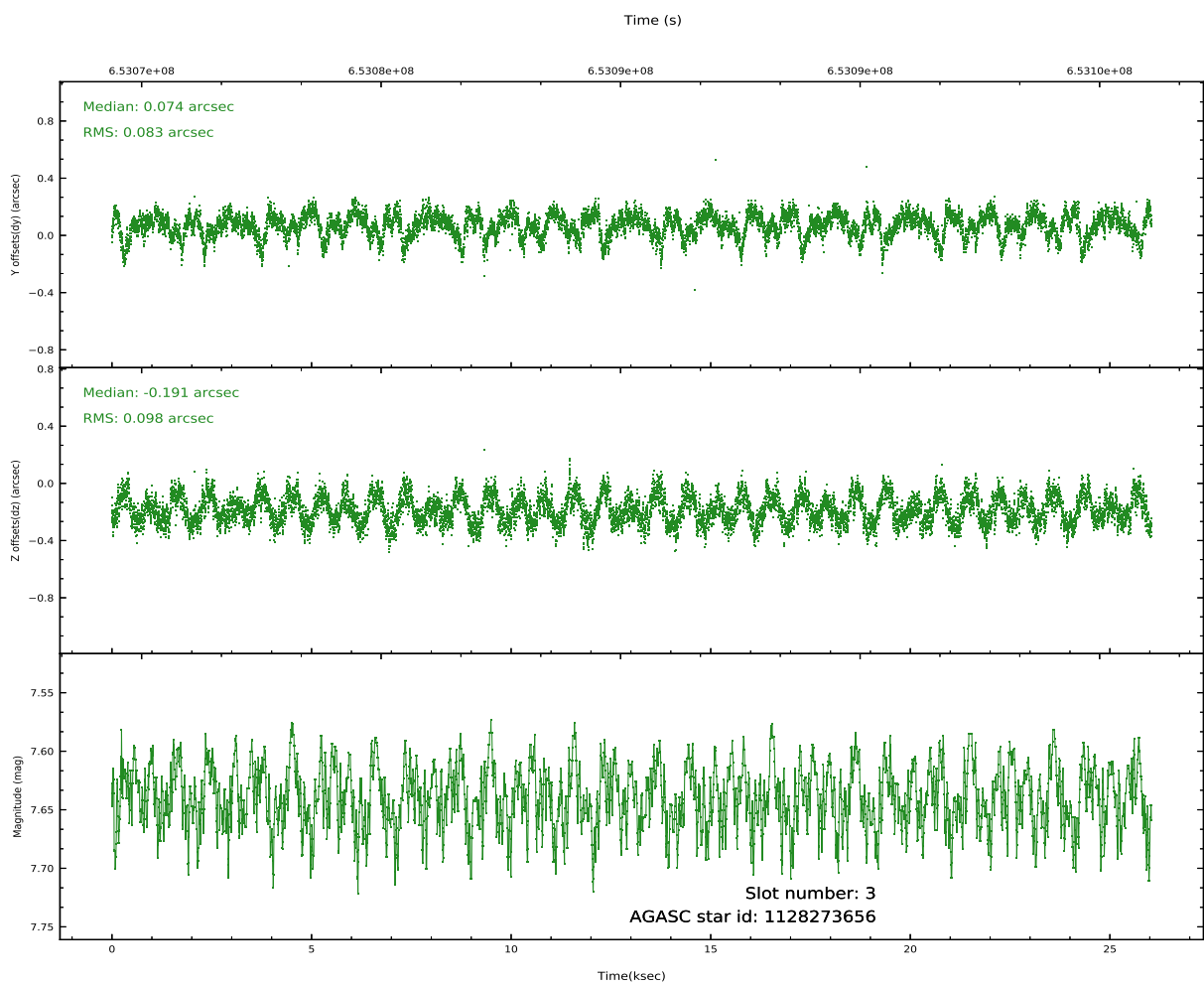
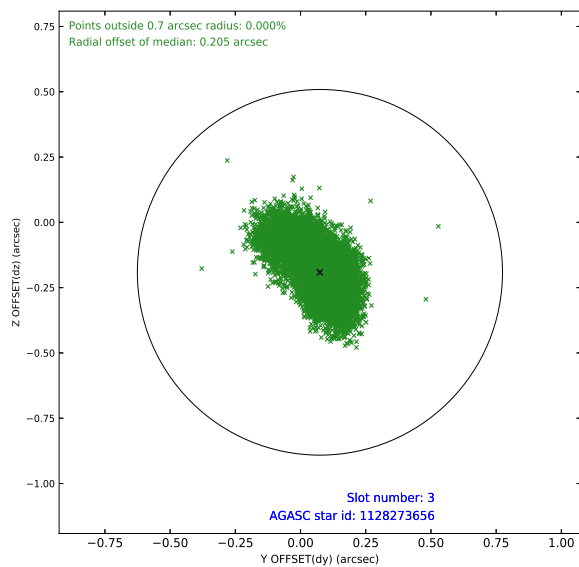
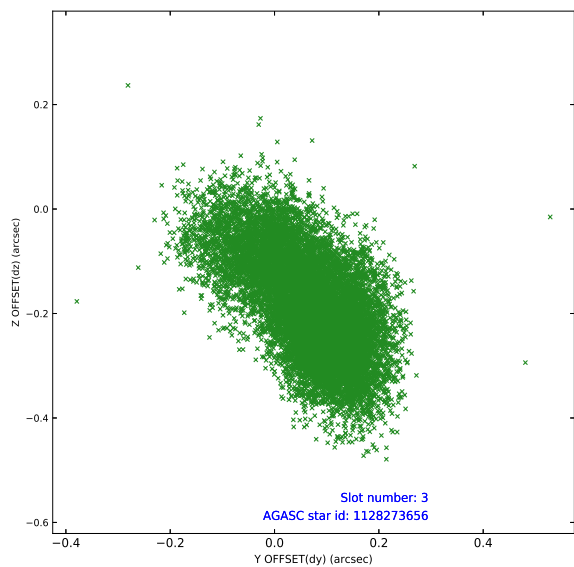
Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.11	6352	1.000	0.032	-0.038	0.015	0.023	0.000000	0.000000	919.10	-848
1	FID		ACIS-I-2	7.01	6351	1.000	-0.034	0.121	0.012	0.021	0.000000	0.000000	-775.00	-854
2	FID		ACIS-I-6	7.11	6352	1.000	-0.089	-0.016	0.012	0.020	0.000000	0.000000	384.70	1693
3	GUIDE	used	1128273656	7.64	12699	1.000	0.074	-0.191	0.135	0.232	154.969776	-57.507105	2227.55	83
4	GUIDE	used	1128275192	7.43	12698	1.000	-0.097	-0.134	0.081	0.136	155.146895	-57.766309	1502.00	762
5	GUIDE	used	1128275200	7.87	12700	1.000	0.112	0.121	0.122	0.211	155.999863	-57.081962	1115.11	-2178
6	GUIDE	used	1128797296	7.90	12700	1.000	-0.204	0.061	0.097	0.169	156.158027	-58.285969	-1055.02	1585
7	GUIDE	used	1128407216	8.19	12695	1.000	0.118	0.142	0.098	0.159	157.296841	-57.613401	-1982.20	-1534

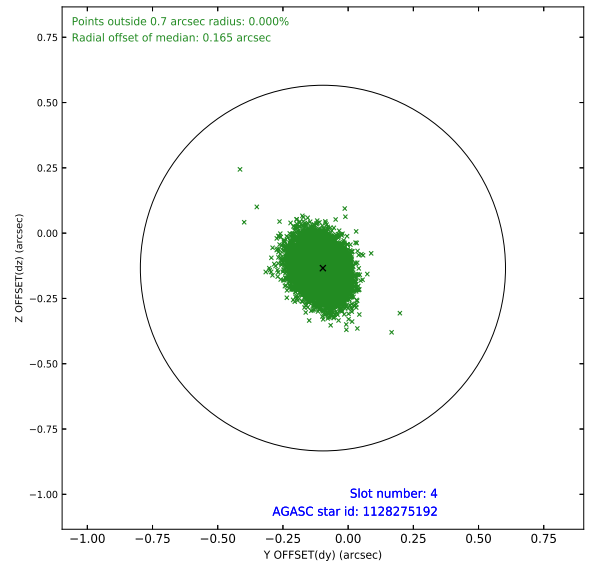
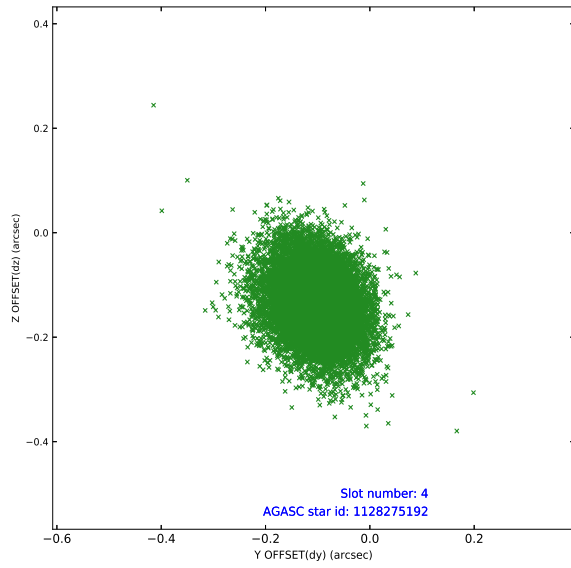
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2.4 Star Slots

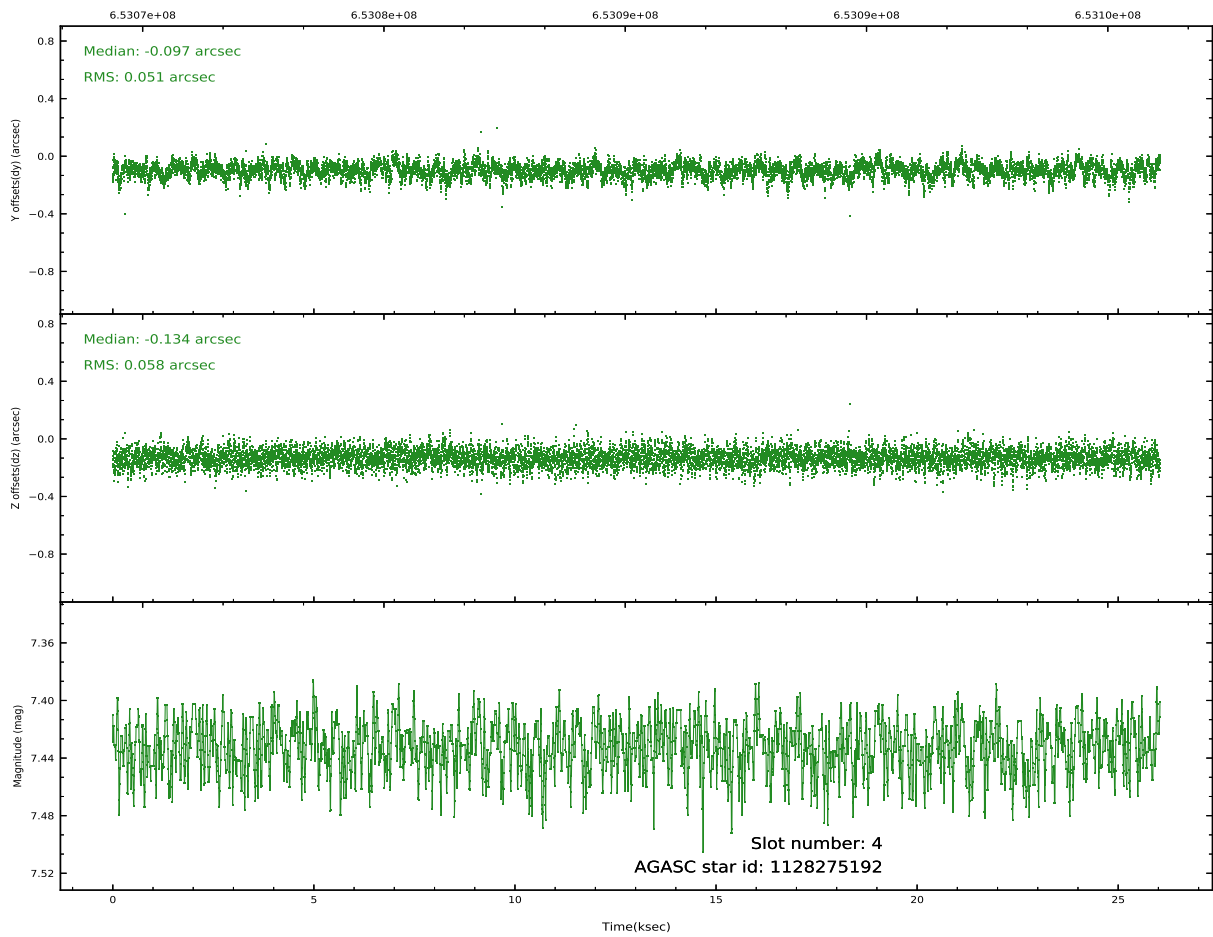
2.4.1 Slot 3



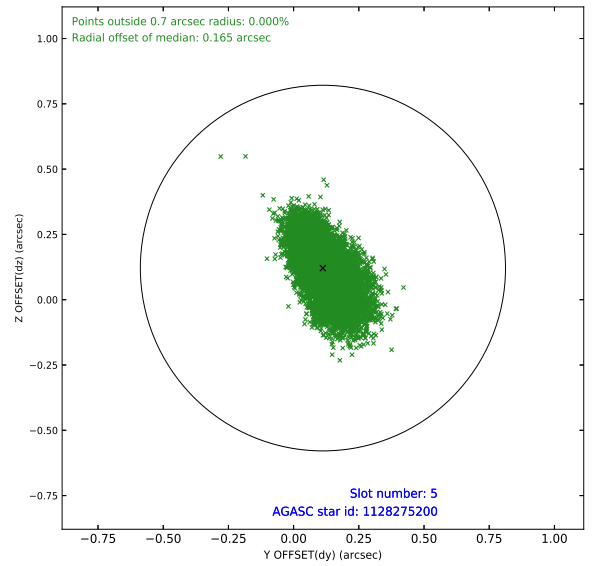
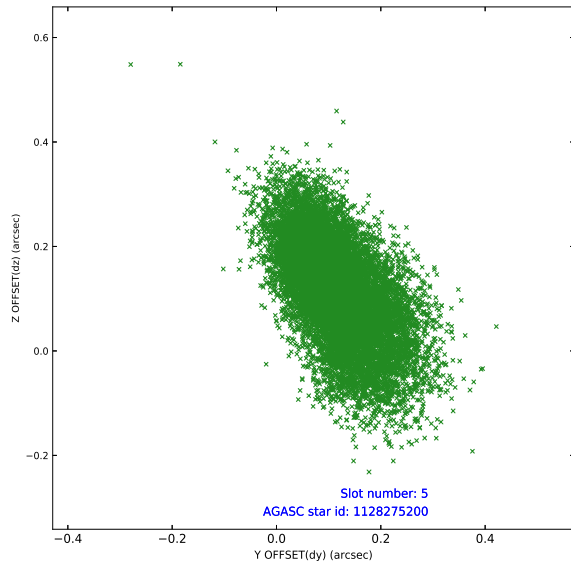
2.4.2 Slot 4



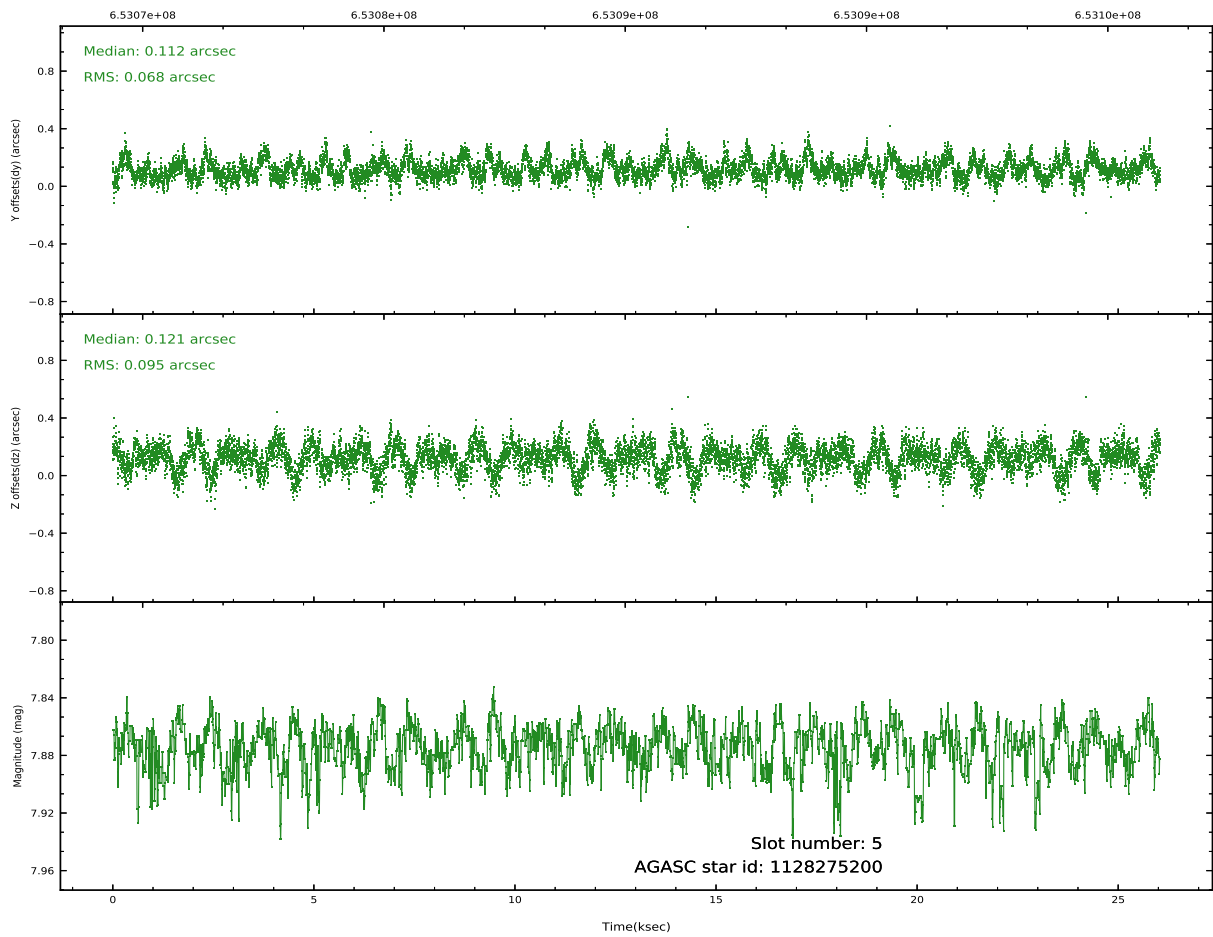
Time (s)



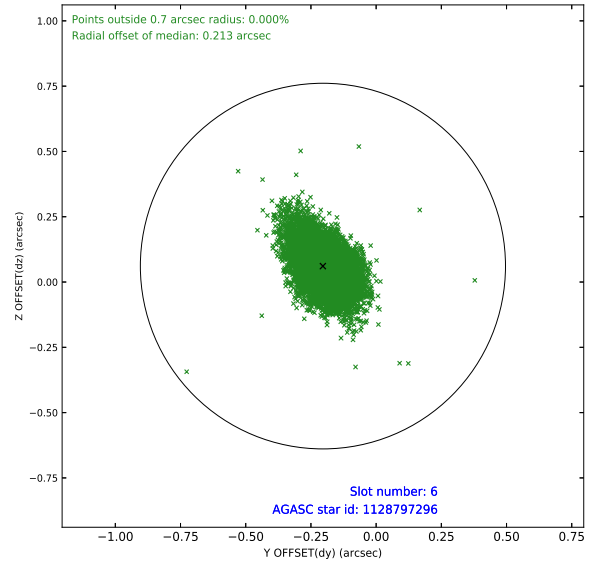
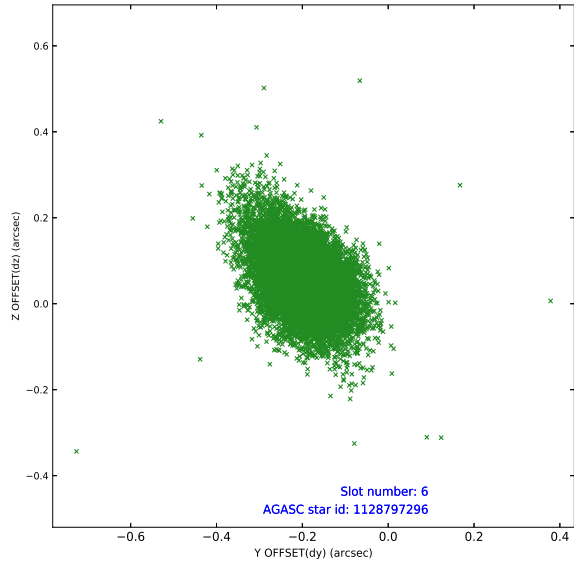
2.4.3 Slot 5



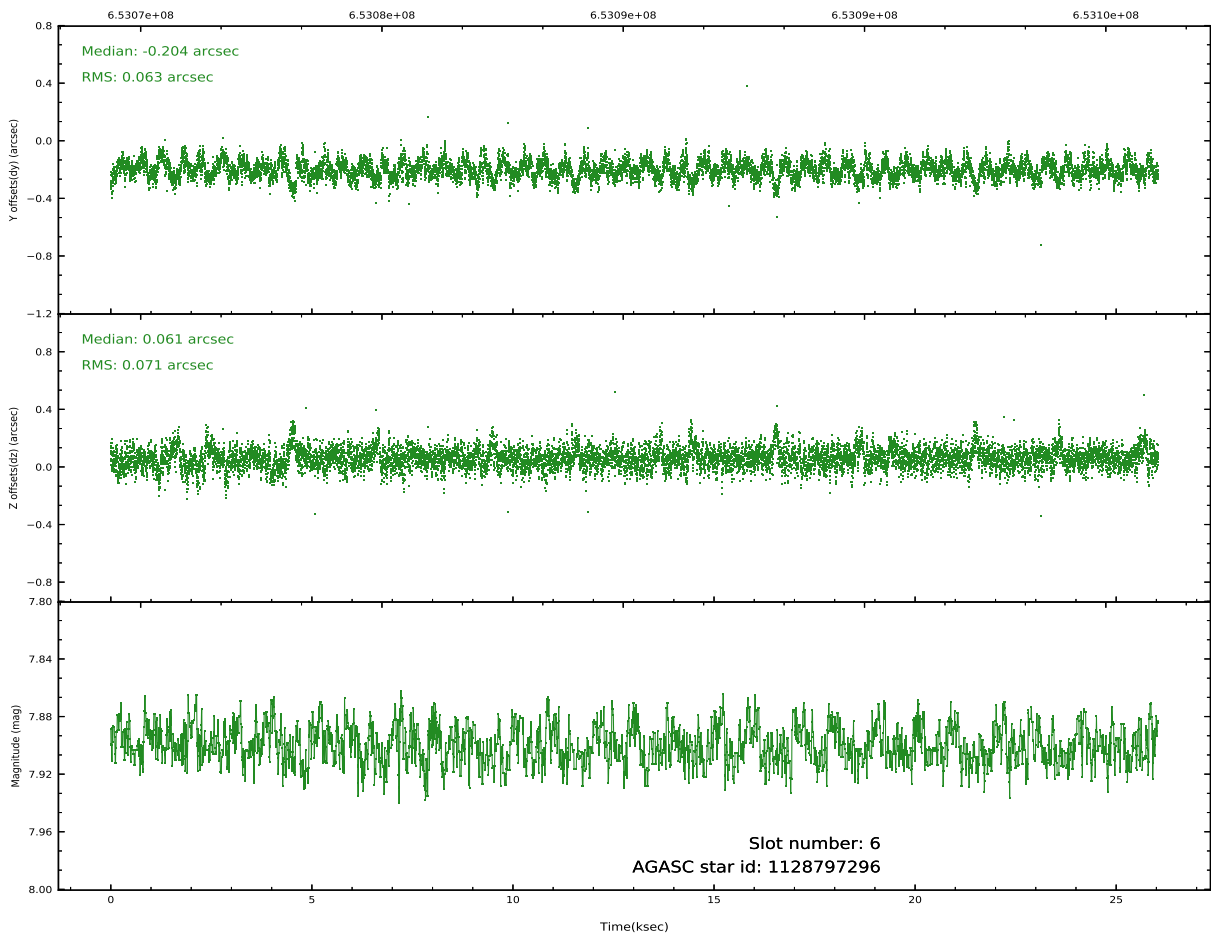
Time (s)



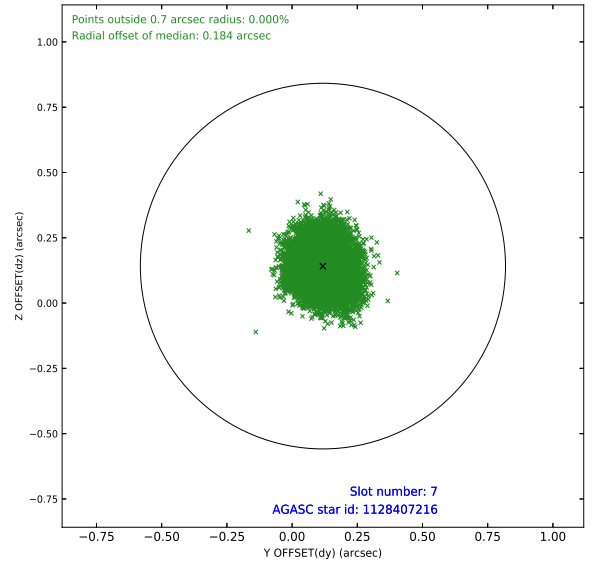
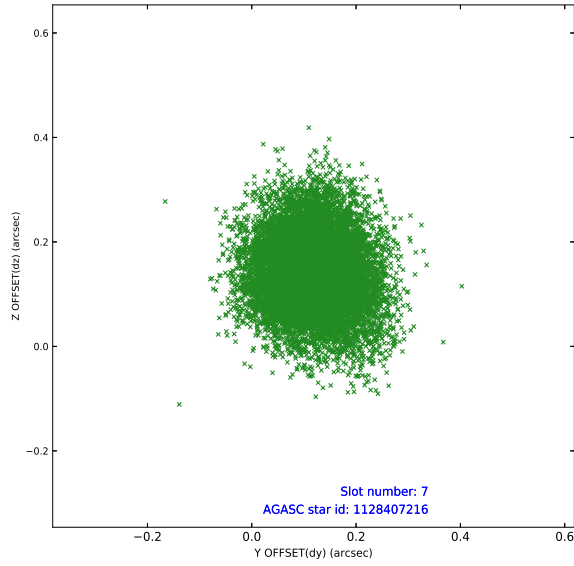
2.4.4 Slot 6



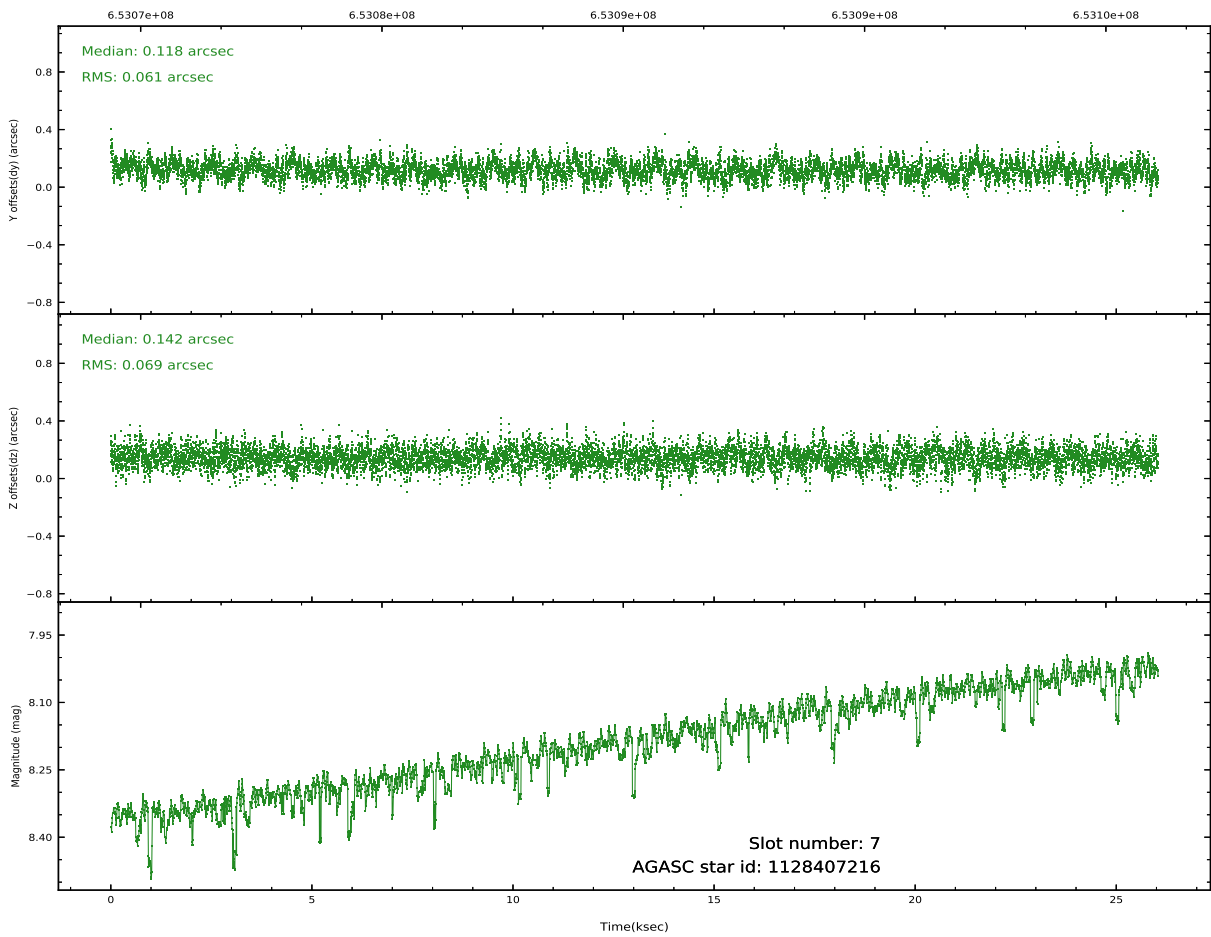
Time (s)



2.4.5 Slot 7

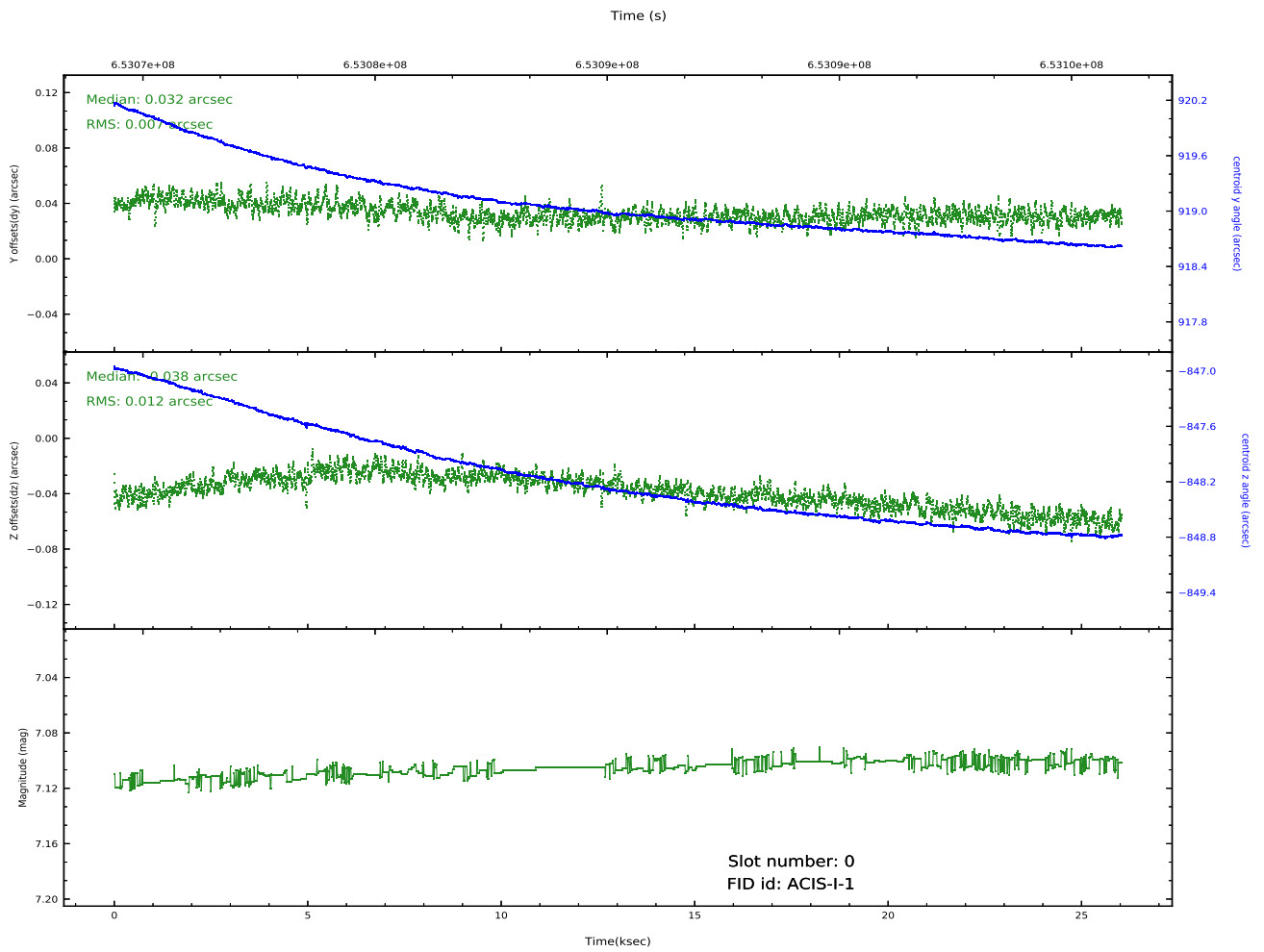
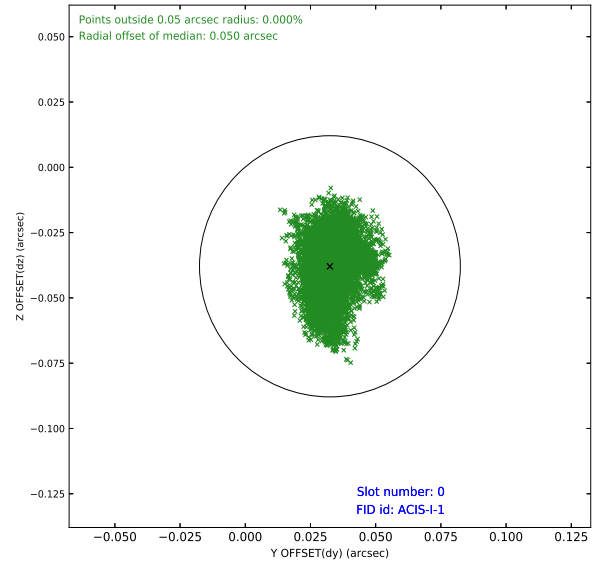
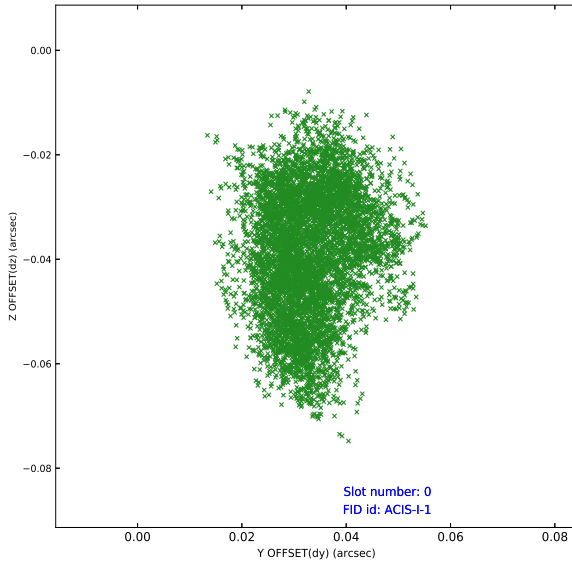


Time (s)

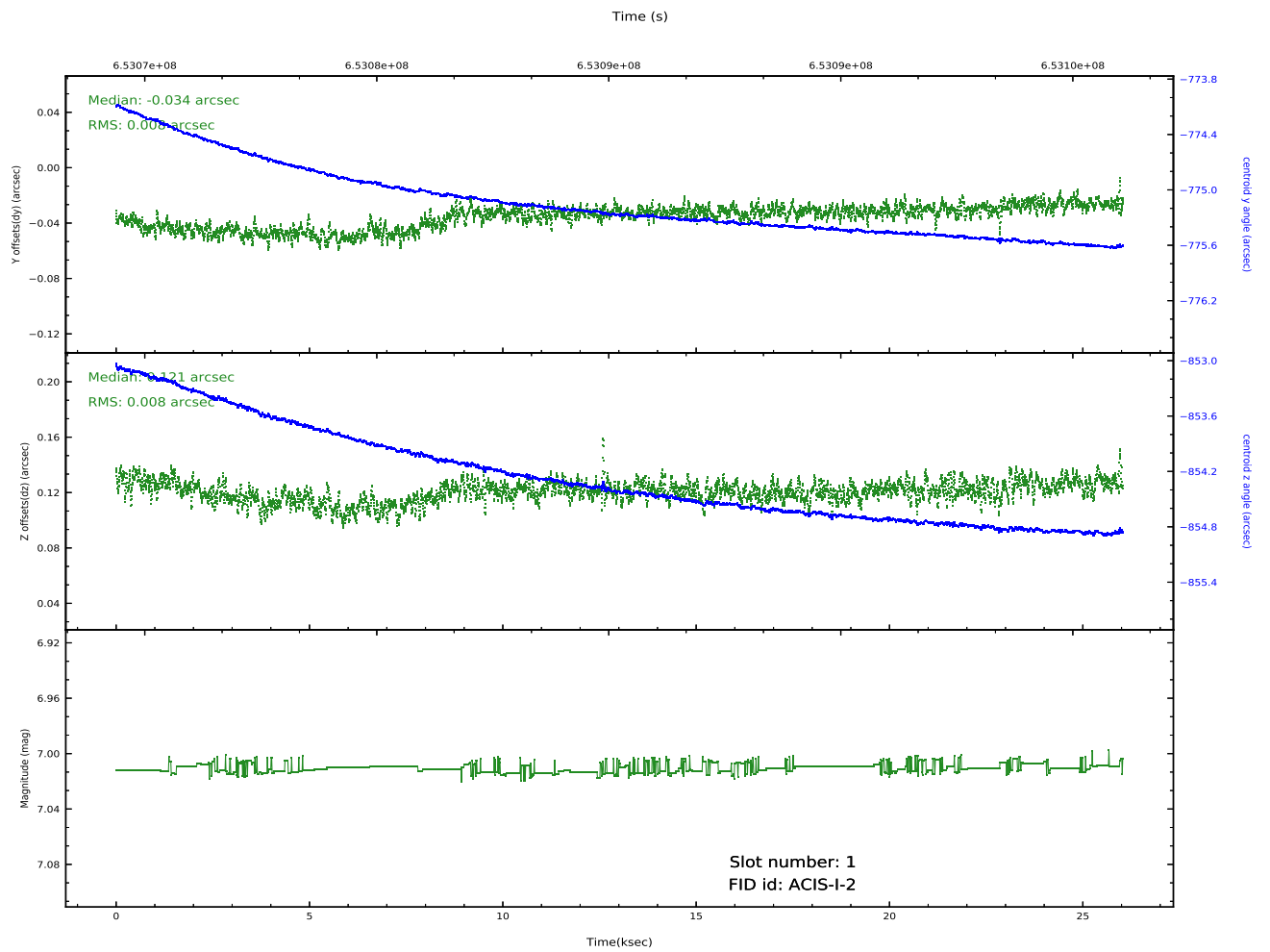
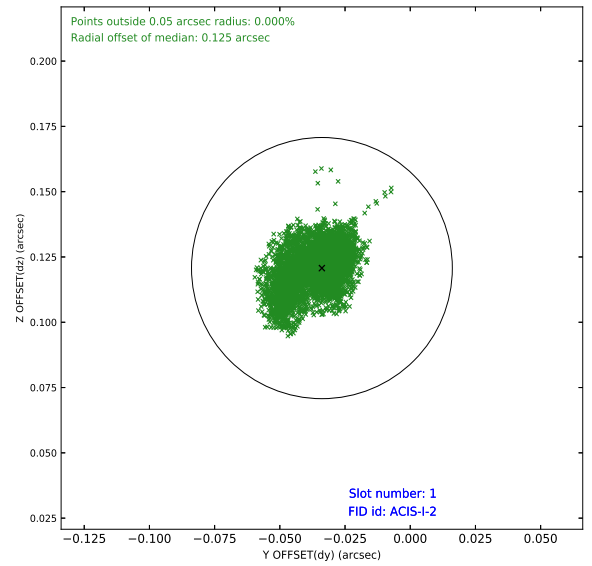
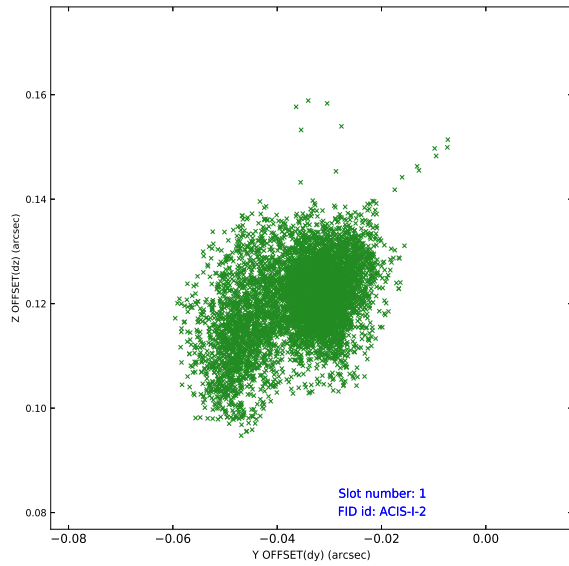


2.5 FID Slots

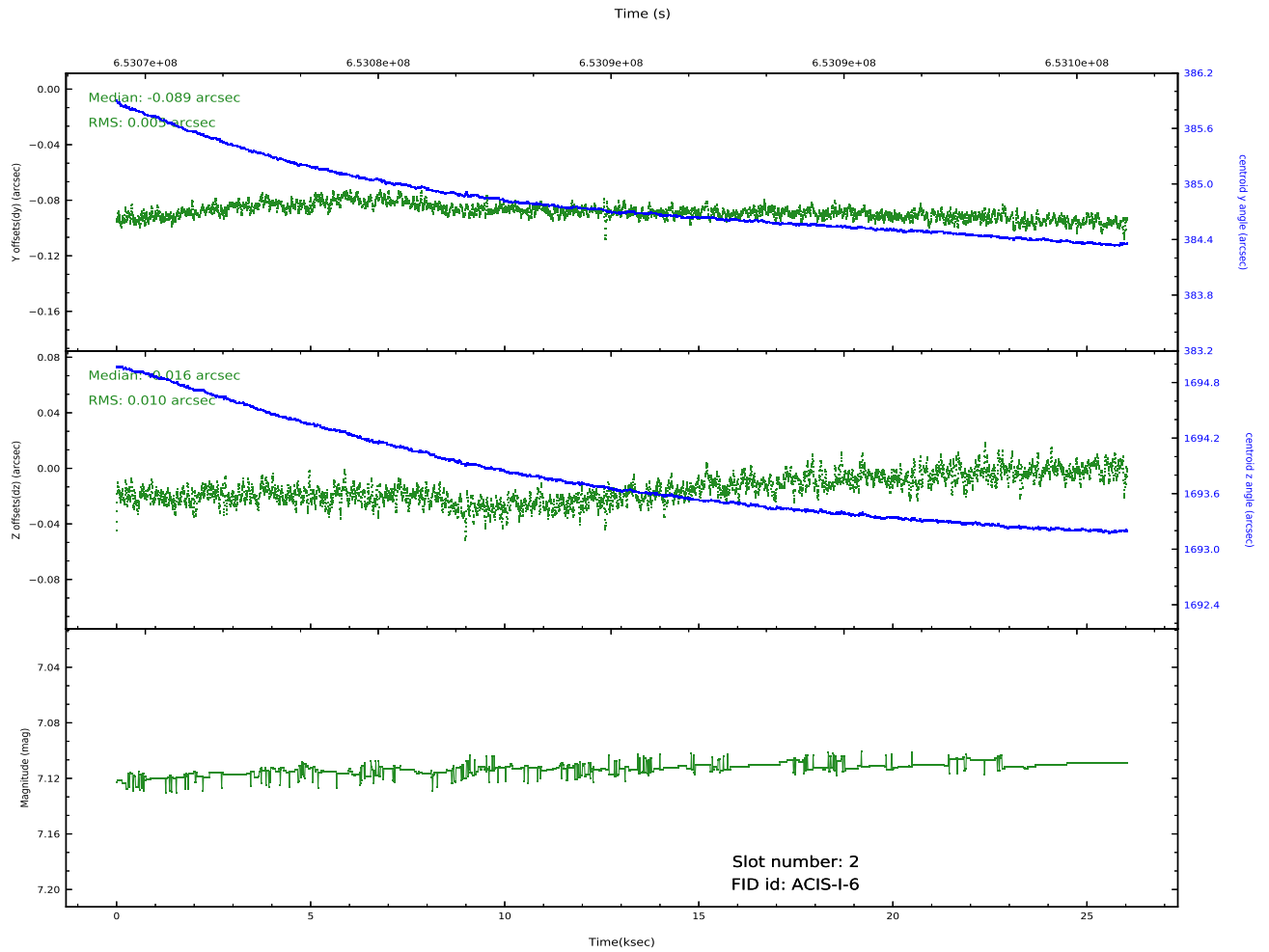
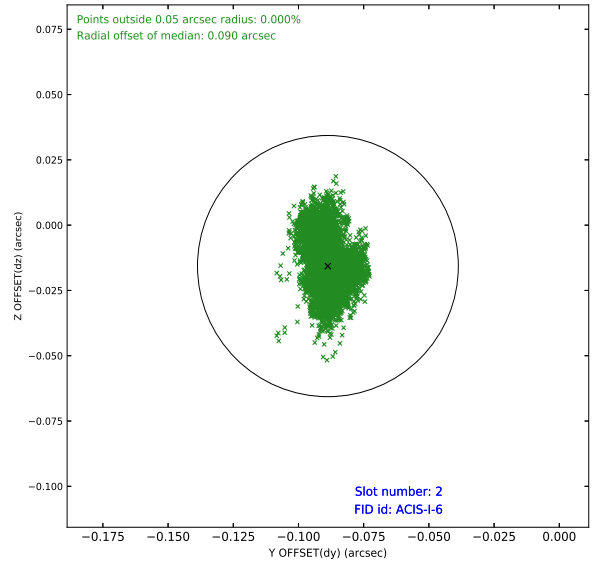
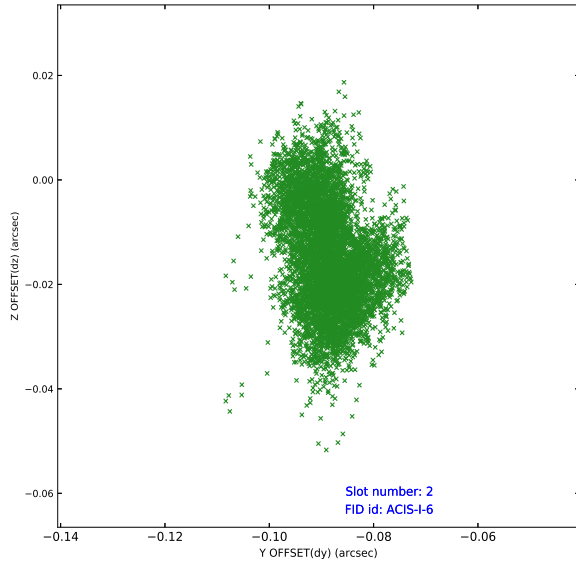
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2020.10.28
V&V Edition	1
V&V Disposition and Status	Repr+DD
V&V Charge Time	25.990400200009

A.2 Comments

SAP: please reprocess with the replacement bias for CCD_ID = 2

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The bias map for CCD_ID = 2 suffers from anomalously high bias values in an 'exacto-knife'-shaped area of the bias file. Pixels in the event data that have been bias-corrected by one of the 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_ID = 2 will be recreated to remove this anomaly and the data will be reprocessed.