

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 20529 - L2 Version 2
Chandra X-Ray Center

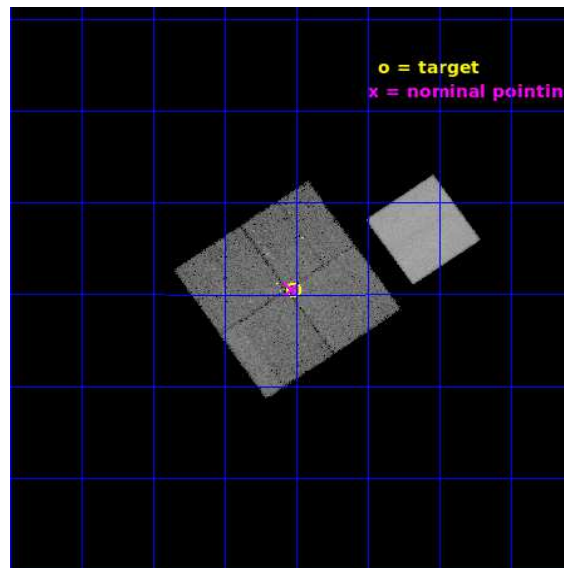
L2 Processing Date : Oct 28 2020

Contents

1	Front	2
2	OBI	3
2.1	OBI	3
2.1.1	Images	3
2.1.2	Bias	3
2.1.3	Parameters	4
2.1.4	Events	4
2.2	Compared Parameters	5
2.3	Aspect	6
2.4	Star Slots	9
2.4.1	Slot 3	9
2.4.2	Slot 5	10
2.4.3	Slot 6	11
2.4.4	Slot 7	12
2.5	FID Slots	13
2.5.1	Slot 0	13
2.5.2	Slot 1	14
2.5.3	Slot 2	15
A	Summary	16
A.1	Status	16
A.2	Comments	16

1 Front

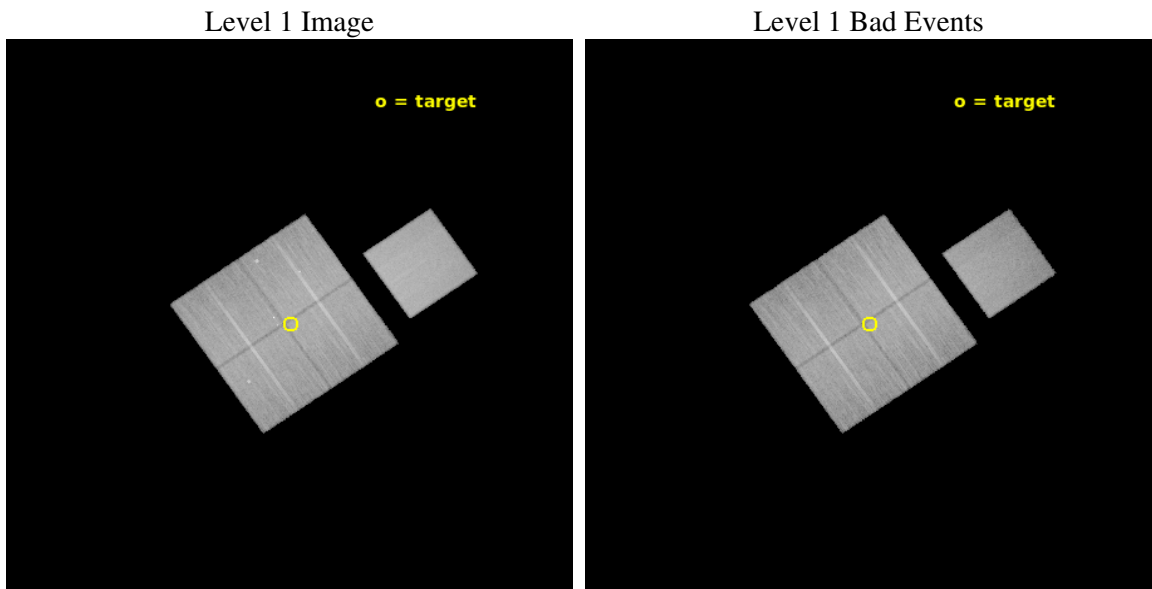
seq_num	801743	Sequence number
obs_id	20529	Observation id
title	Group-size accretion beyond the virial radius onto A2029: infall along a cosmic filament caught in the act	Proposal title
observer	Sabrina De Grandi	Principal investigator
object	MSPM 06070	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	227.754167	Observer's specified target RA [deg]
dec_targ	4.842	Observer's specified target Dec [deg]
ra_nom	227.75768221298	Nominal RA [deg]
dec_nom	4.8420953757228	Nominal Dec [deg]
roll_nom	55.21017539389	Nominal Roll [deg]
revision	2	Processing version of data
ontime	30048.300231218	Sum of GTIs [s]
livetime	29655.697067461	Livetime [s]
ontime0	30042.018260241	Sum of GTIs [s]
ontime1	30048.300231218	Sum of GTIs [s]
ontime2	30038.877309799	Sum of GTIs [s]
ontime3	30048.300231218	Sum of GTIs [s]
ontime7	30048.300231218	Sum of GTIs [s]
l2events	213439	Number of level 2 events



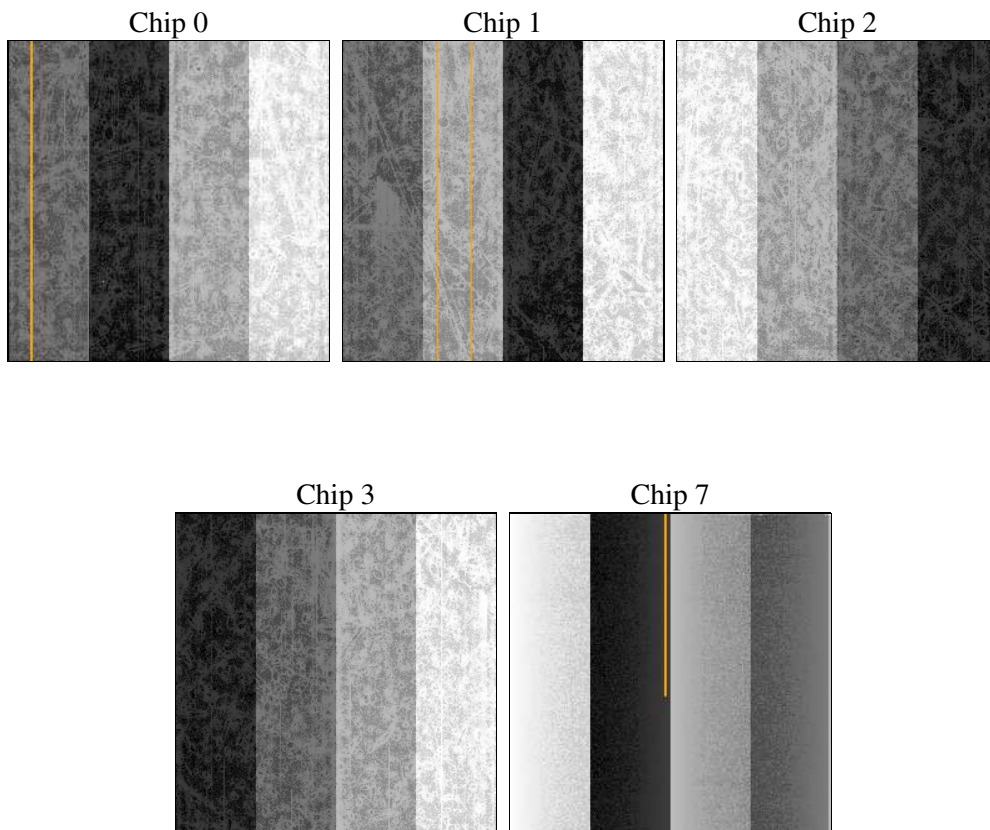
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	30000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	30048.300231218	Sum of GTIs [s]
caldbver	4.9.3	 	ontime0	30042.018260241	Sum of GTIs [s]
date	2020-10-28T18:04:56	Date and time of file creation	ontime1	30048.300231218	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	30038.877309799	Sum of GTIs [s]
			ontime3	30048.300231218	Sum of GTIs [s]
			ontime7	30048.300231218	Sum of GTIs [s]
			l1events	1215288	Number of level 1 events

2.1.4 Events

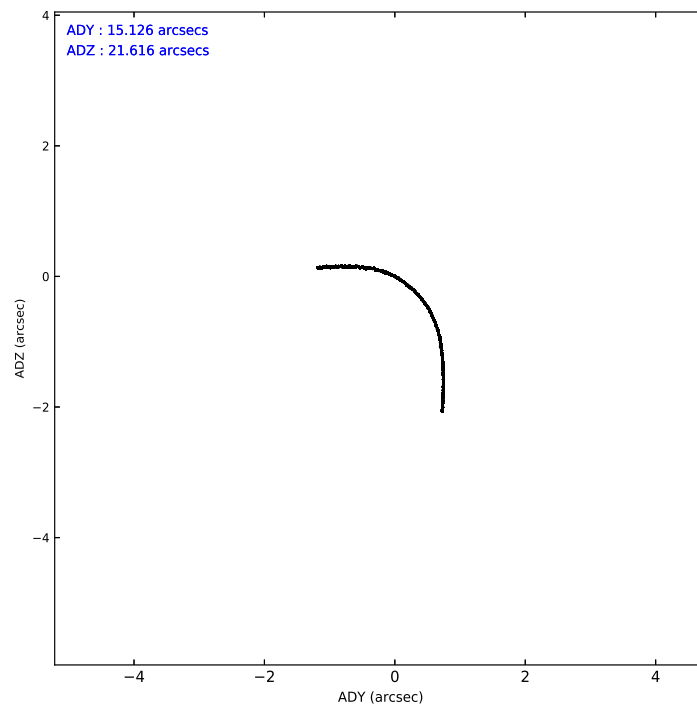
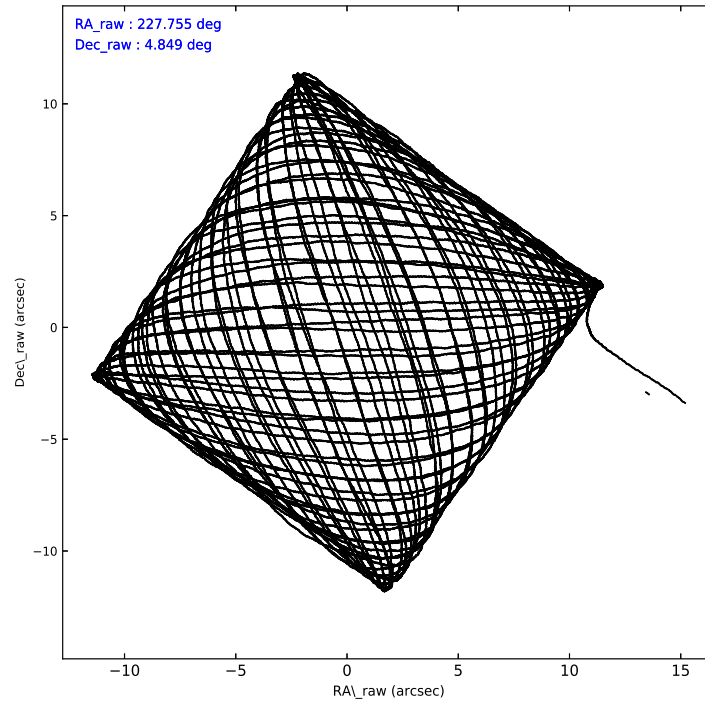
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 7
level 1 events	219291	221714	247210	229502	297571
rejected events	191884	192489	220556	204104	168962
rejected %	87%	86%	89%	88%	56%

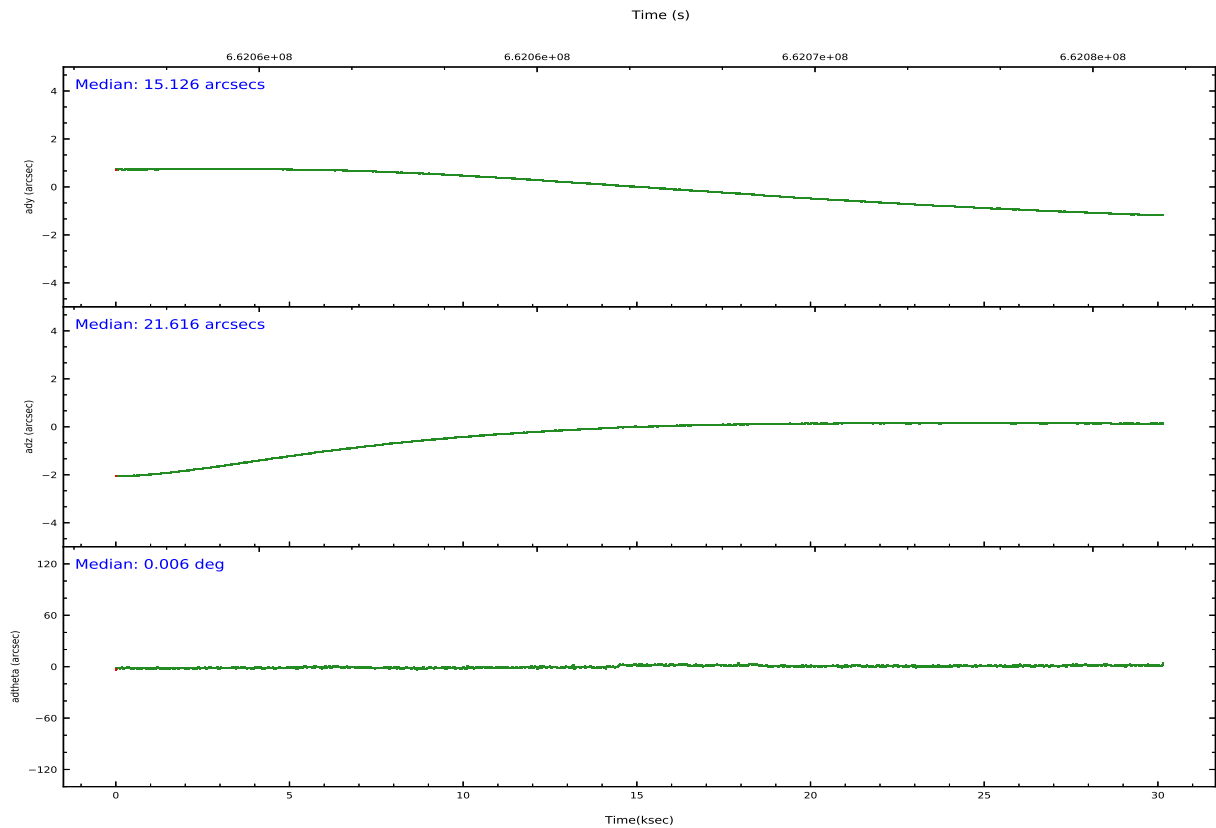
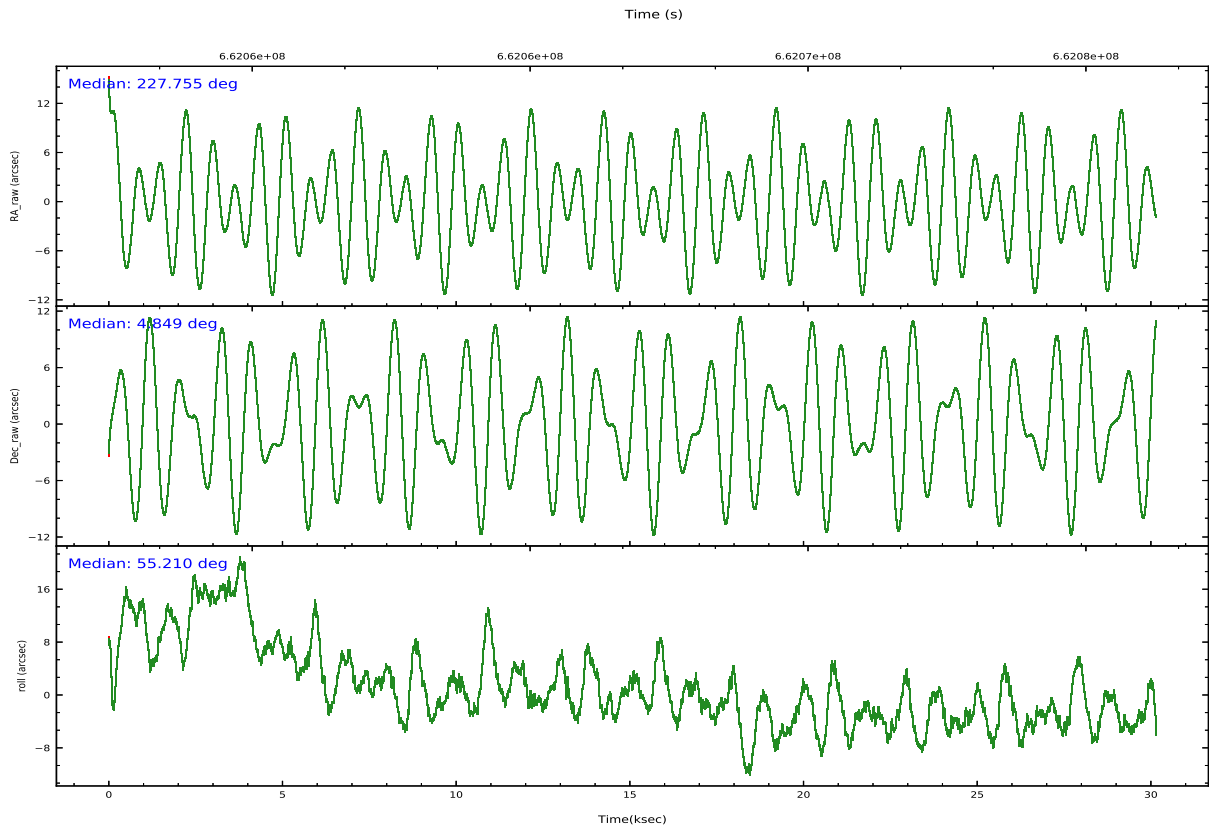
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 7
grade 0 events	9945	9864	10654	9492	10771
	4%	4%	4%	4%	3%
grade 1 events	138	128	132	132	475
	0%	0%	0%	0%	0%
grade 2 events	6891	7794	6191	5505	27467
	3%	3%	2%	2%	9%
grade 3 events	2573	2572	2370	2540	10032
	1%	1%	0%	1%	3%
grade 4 events	2496	2460	2533	2587	9878
	1%	1%	1%	1%	3%
grade 5 events	9213	9859	8961	10742	28686
	4%	4%	3%	4%	9%
grade 6 events	5506	6540	4917	5276	70477
	2%	2%	1%	2%	23%
grade 7 events	182529	182497	211452	193228	139785
	83%	82%	85%	84%	46%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-01237	ACIS-01237	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	227.752851	227.75768221298	Subarray requested	NONE	NONE
[deg] Pointing Dec	4.821932	4.8420953757228	Alternating exposures requested	N	N
[deg] Pointing Roll	55.000117	55.21017539389	[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)	662052022.184000	662050761.0116301			
Observation start date	2018-12-24T15:19:13	2018-12-24T14:59:21			
[s] Observation end time (MET)	662082022.184000	662082804.0510499			
Observation end date	2018-12-24T23:39:13	2018-12-24T23:53:24			
Read mode	TIMED	TIMED			

2.3 Aspect





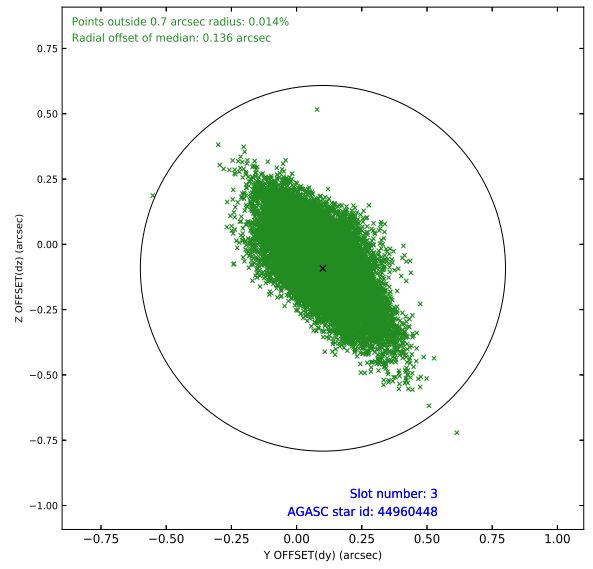
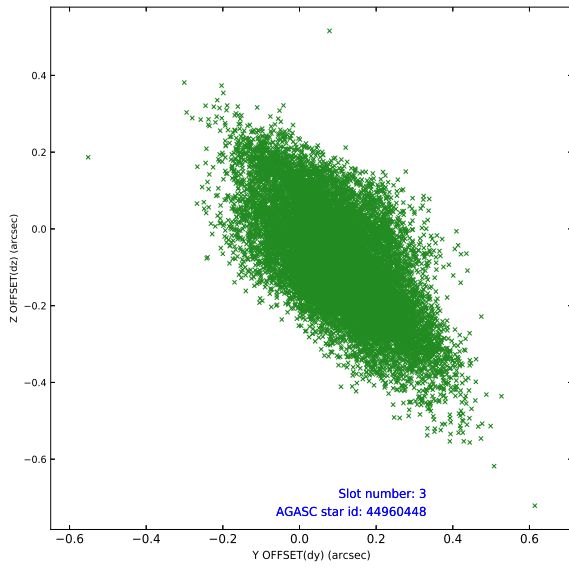
Slot Statistics

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	7.26	7355	1.000	0.237	-0.169	0.031	0.052	0.000000	0.000000	924.50	-845
1	FID		ACIS-I-4	7.21	7354	1.000	0.079	0.034	0.018	0.045	0.000000	0.000000	2144.70	1054
2	FID		ACIS-I-5	7.26	7355	1.000	-0.414	0.208	0.024	0.033	0.000000	0.000000	-1823.78	1053
3	GUIDE	used	44960448	8.30	14698	1.000	0.101	-0.092	0.183	0.332	228.589596	4.993840	2230.11	-2100
4	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0
5	GUIDE	used	44963368	8.45	14693	1.000	0.208	-0.060	0.112	0.194	228.047229	4.322284	-867.37	-1895
6	GUIDE	used	44965624	7.27	14701	1.000	-0.280	0.072	0.091	0.159	228.383124	5.044201	1952.37	-1391
7	GUIDE	used	44964104	8.65	14695	1.000	-0.030	0.092	0.121	0.252	227.589937	4.119424	-2406.89	-969

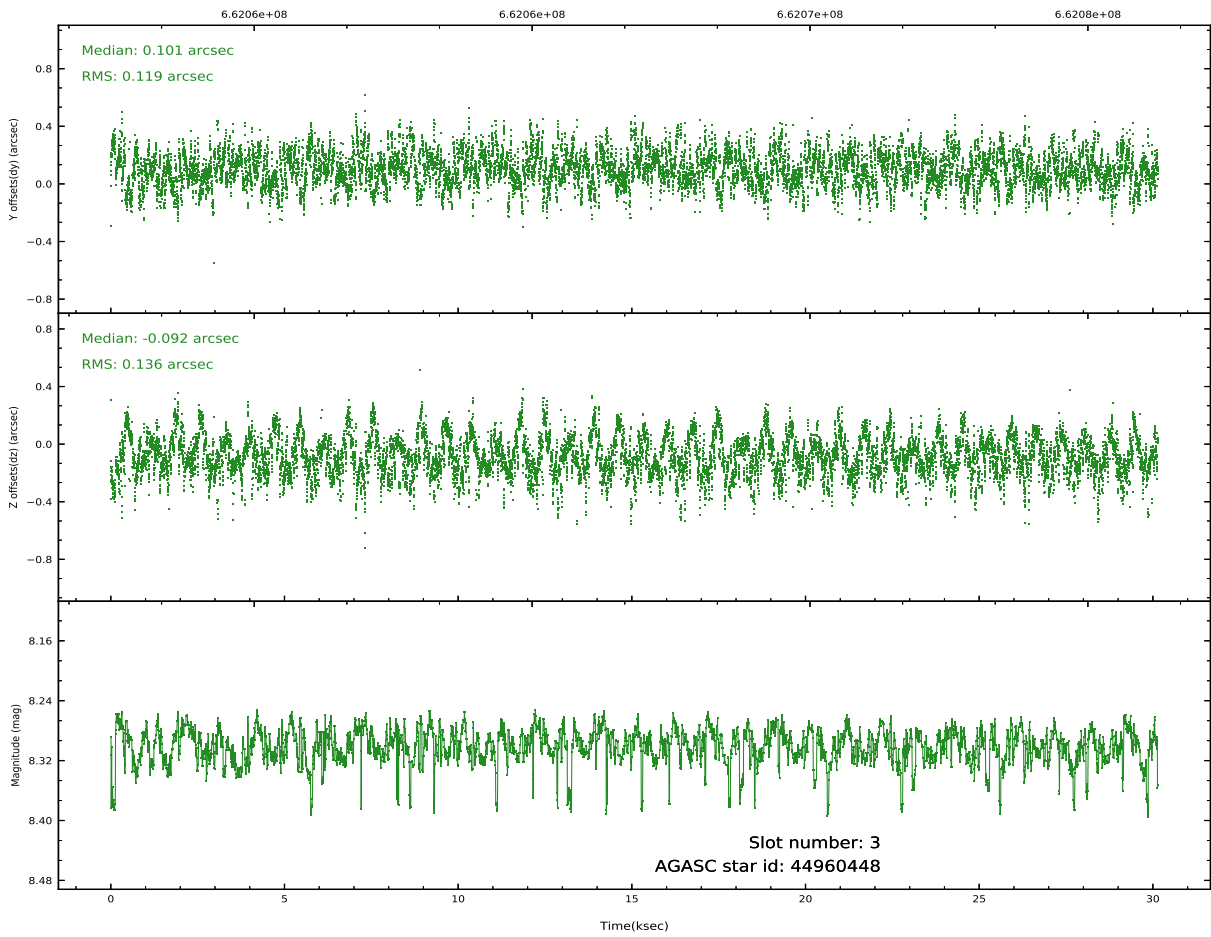
∞

2.4 Star Slots

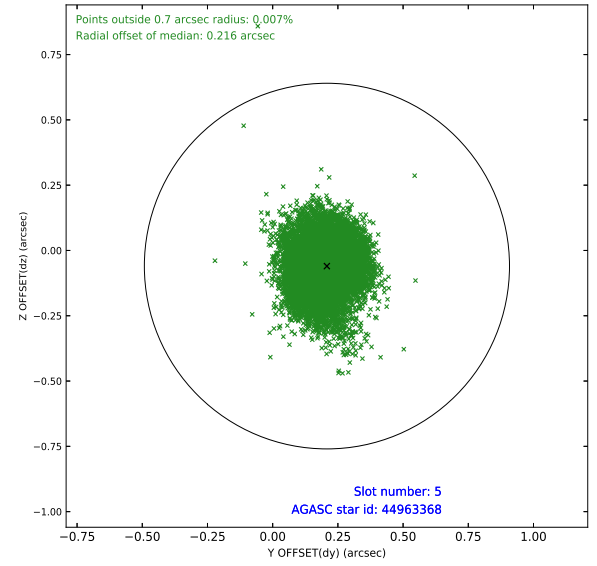
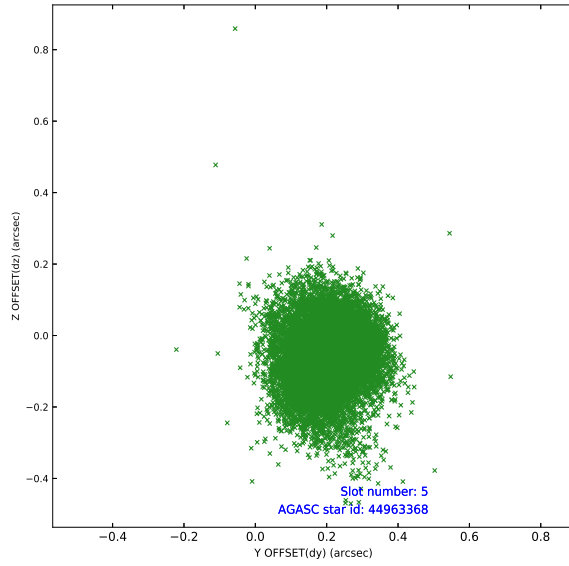
2.4.1 Slot 3



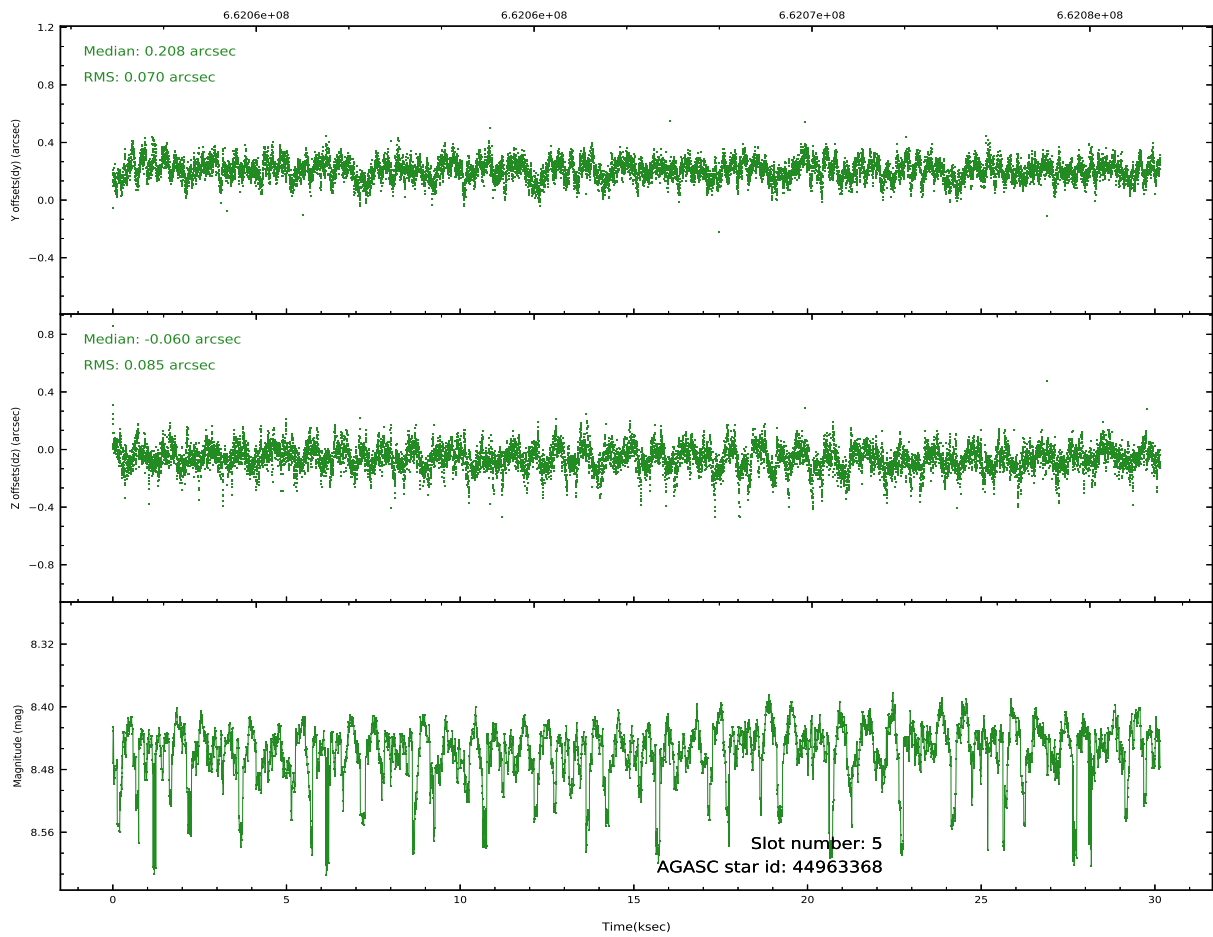
Time (s)



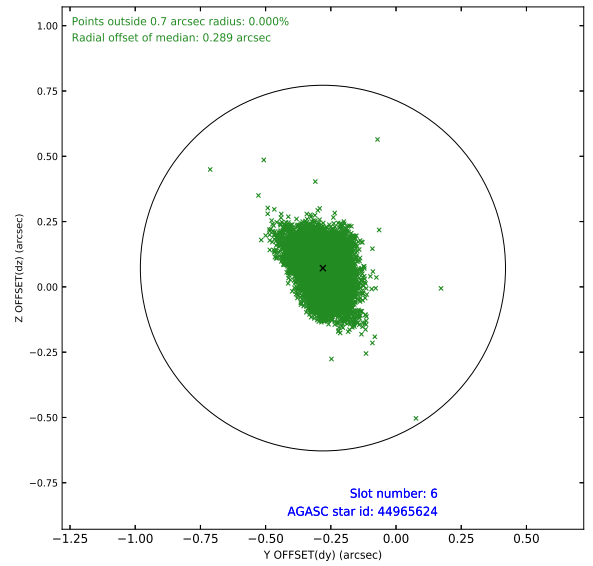
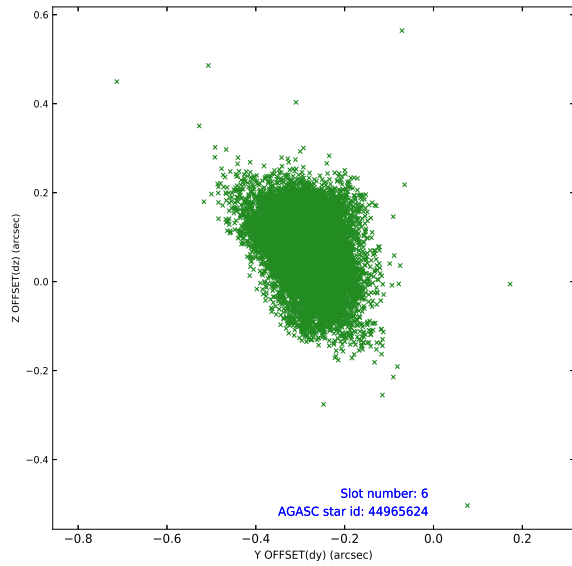
2.4.2 Slot 5



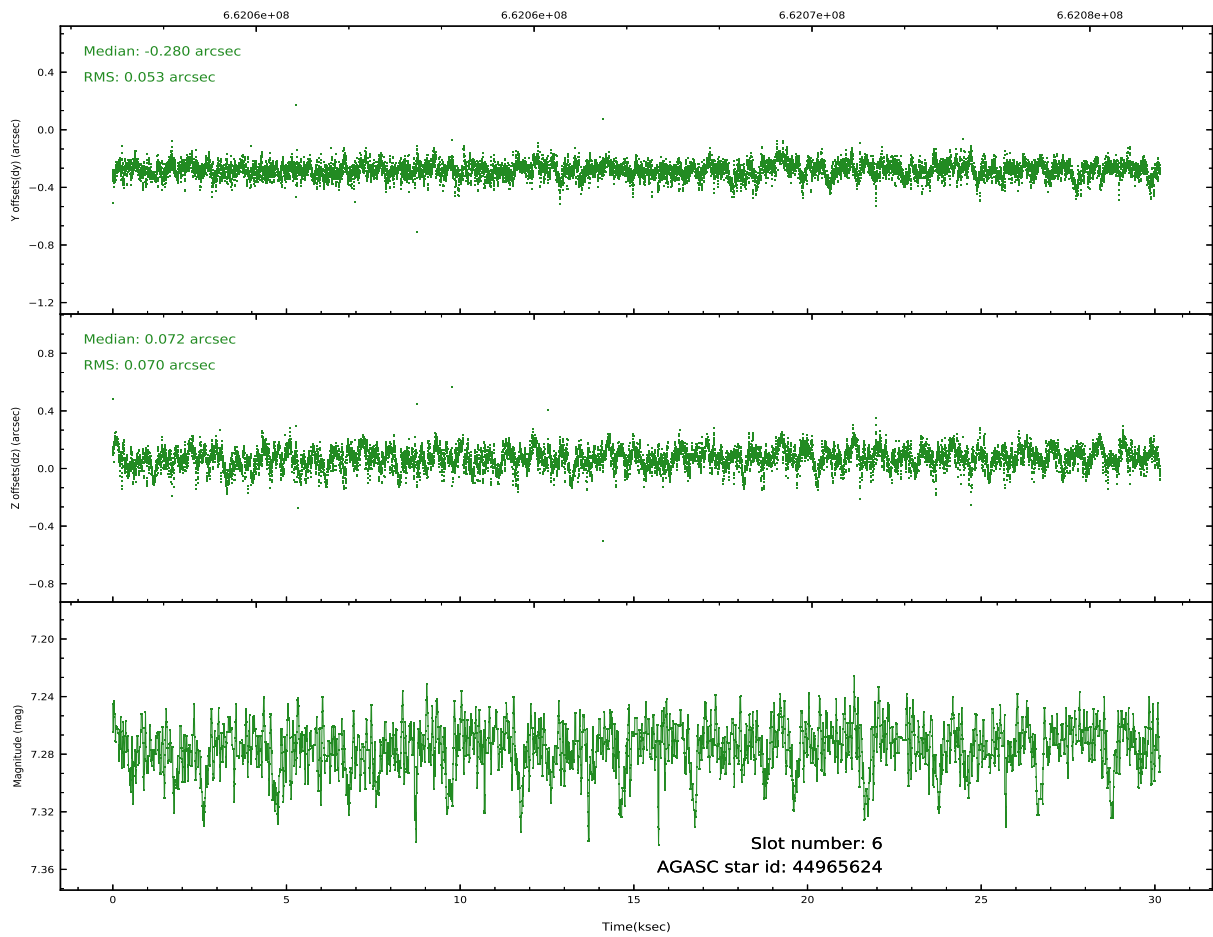
Time (s)



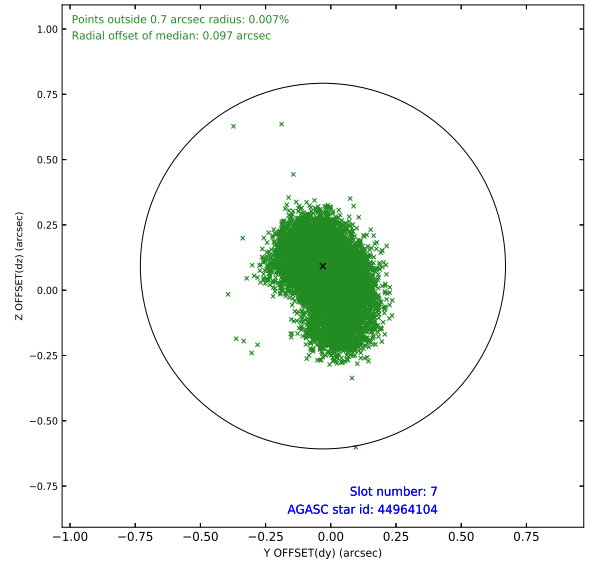
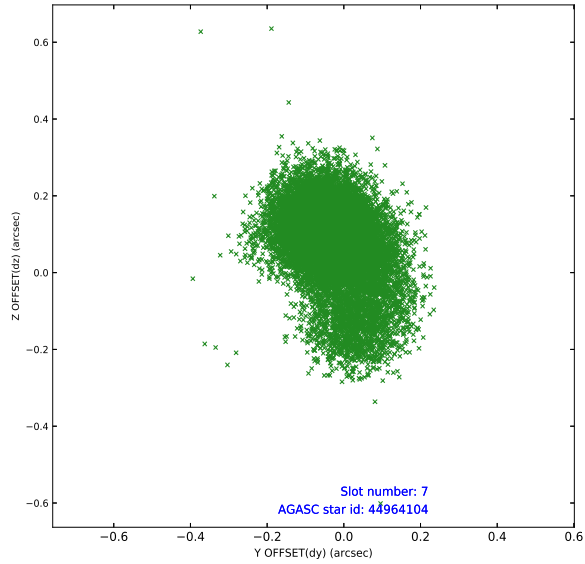
2.4.3 Slot 6



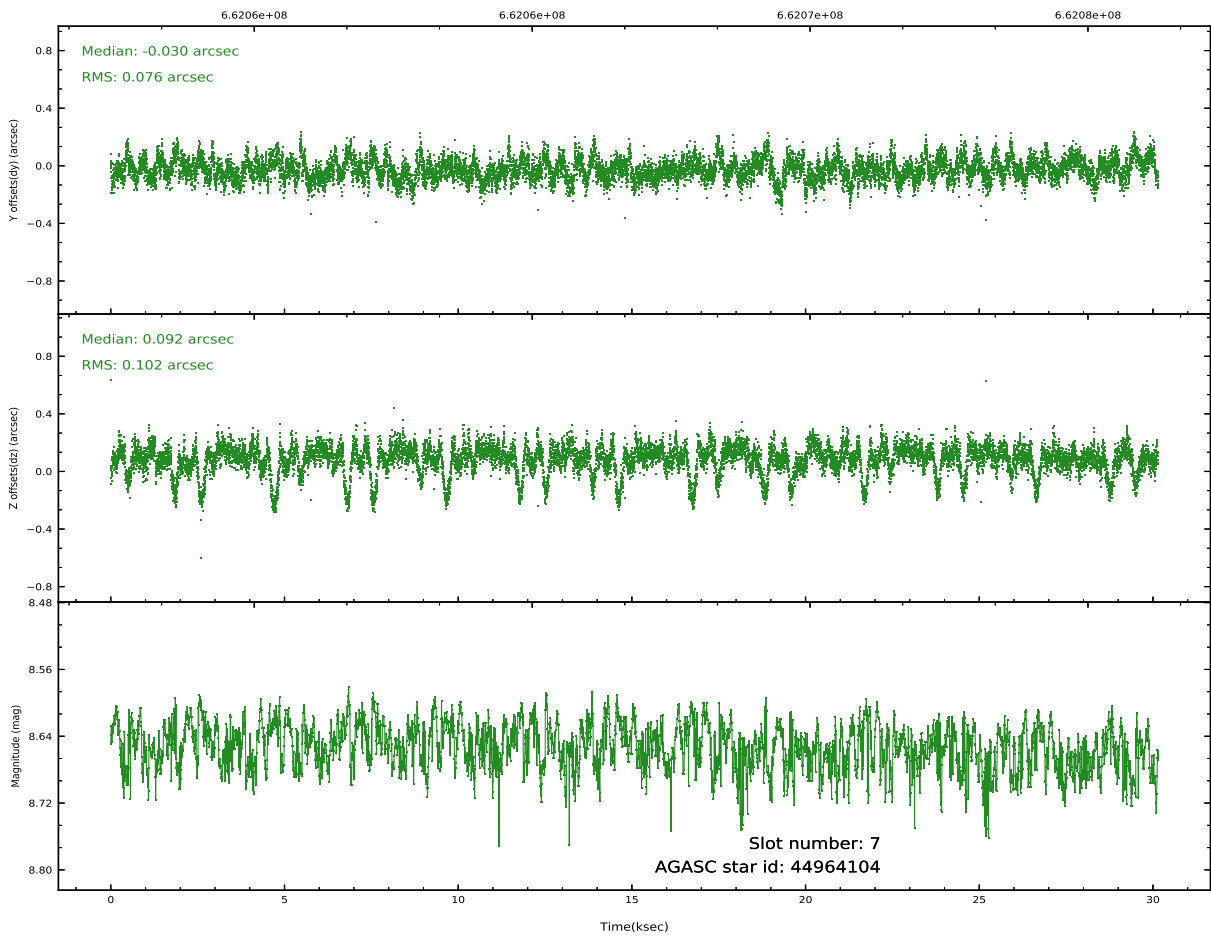
Time (s)



2.4.4 Slot 7

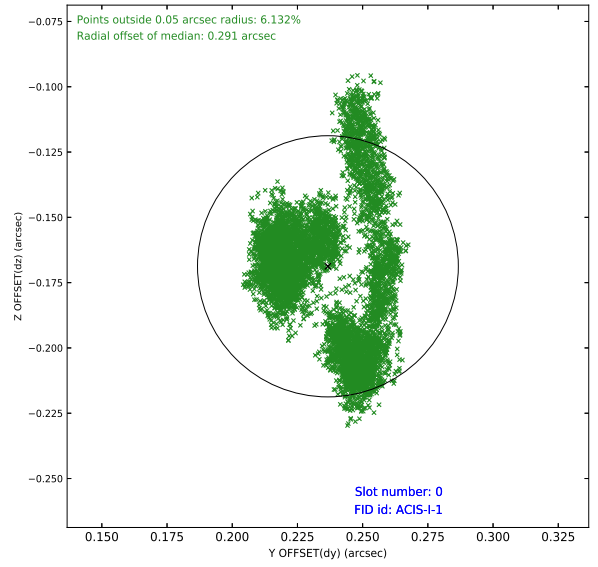
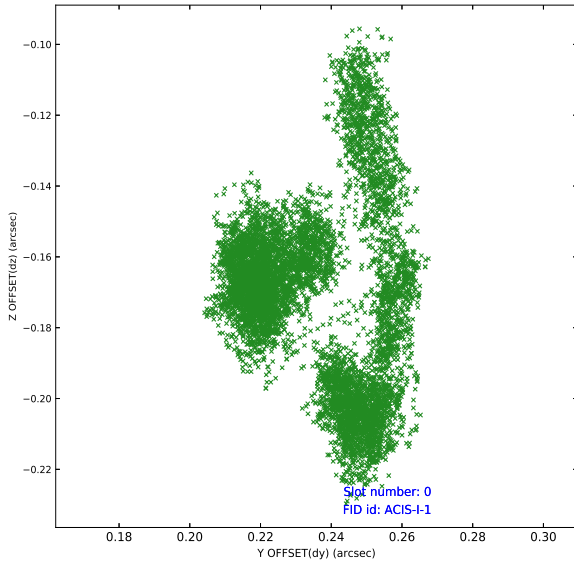


Time (s)

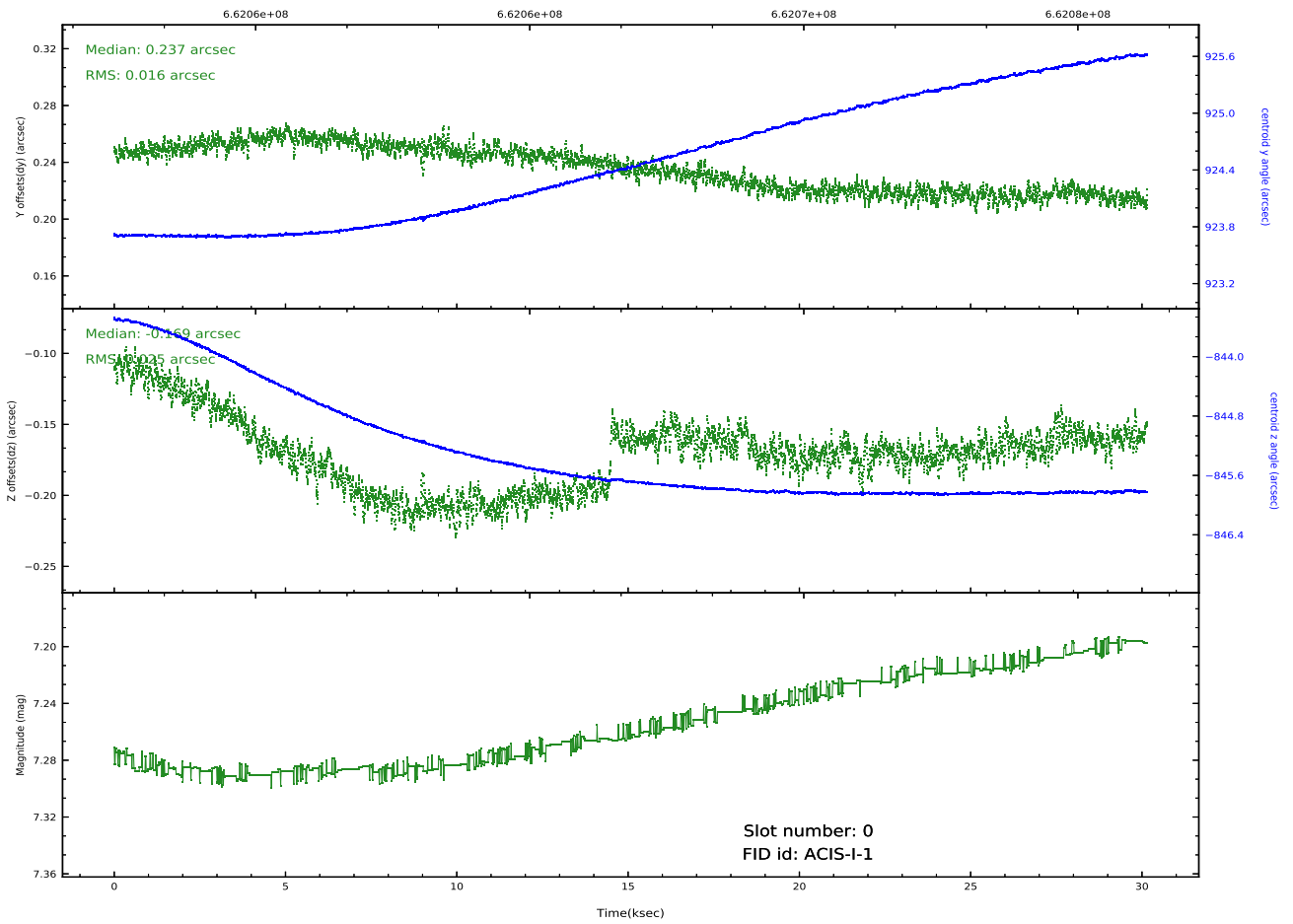


2.5 FID Slots

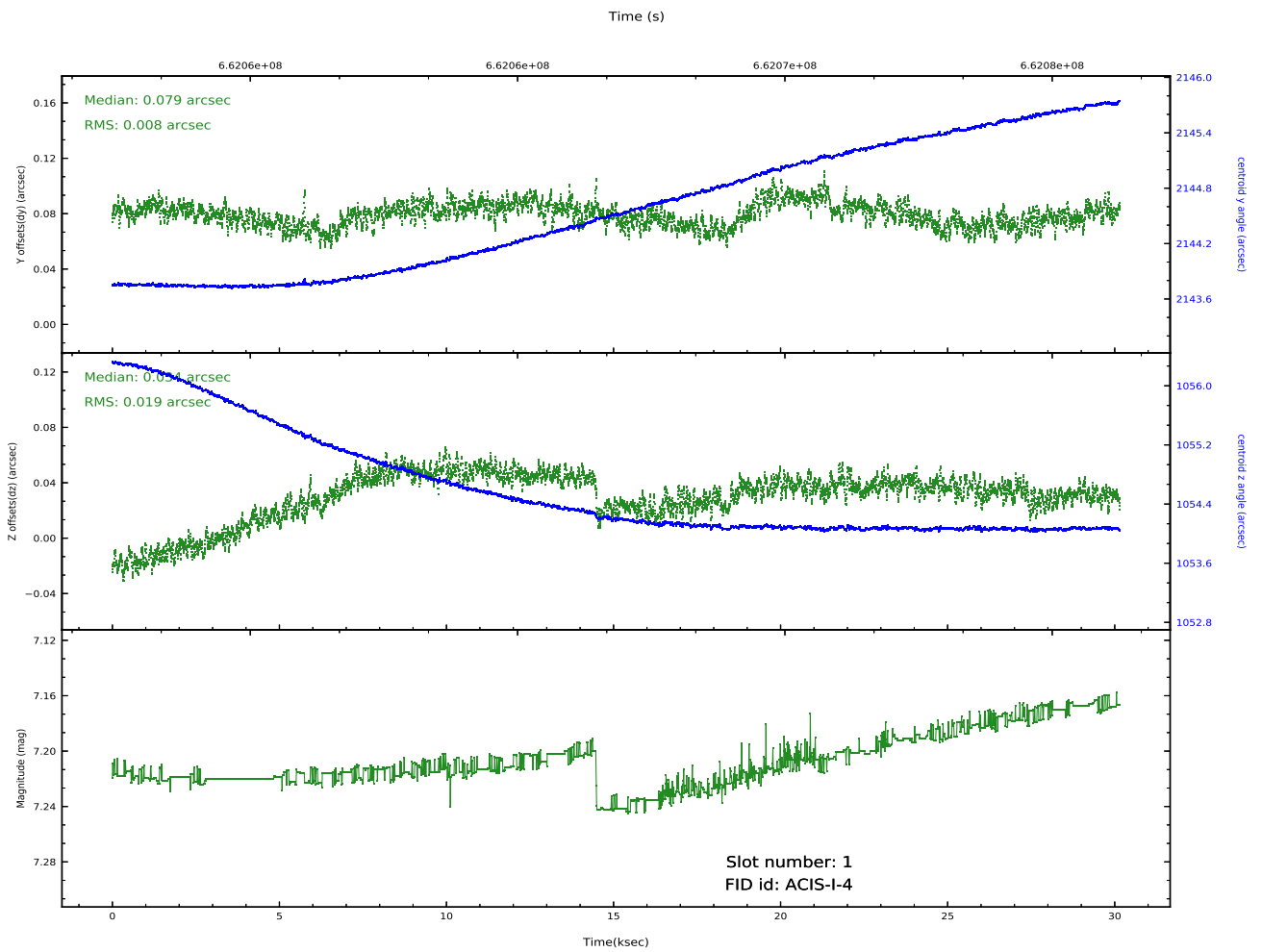
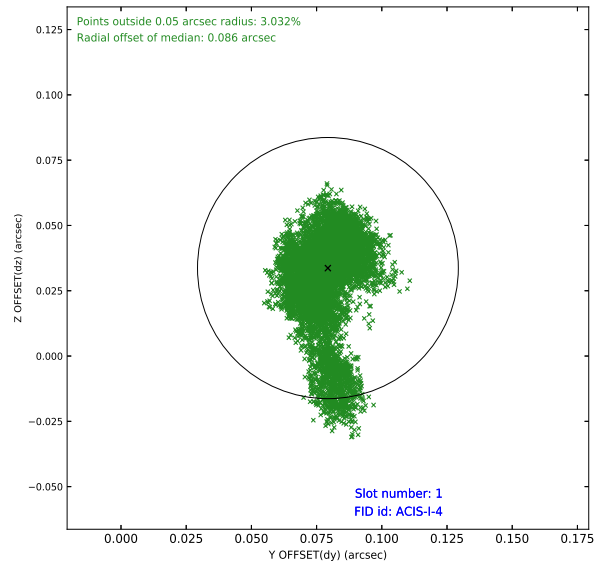
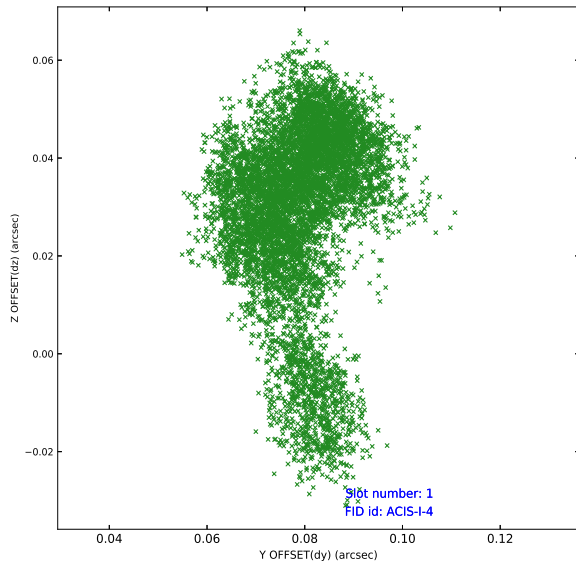
2.5.1 Slot 0



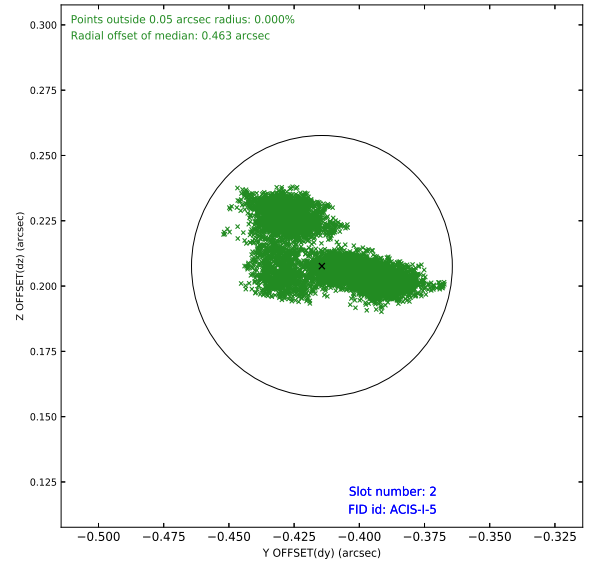
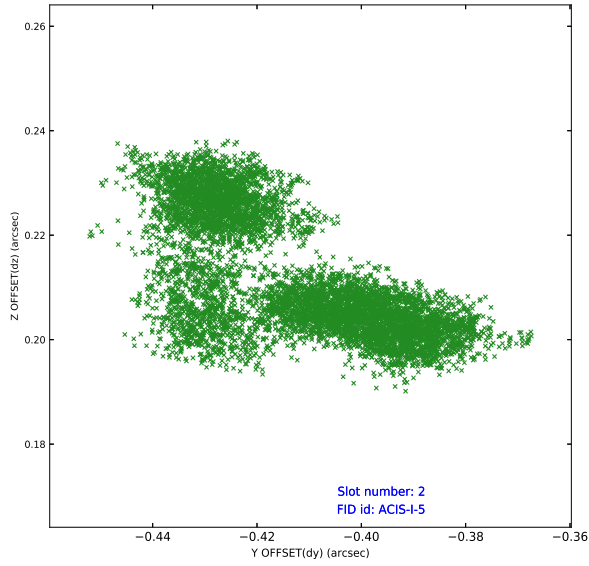
Time (s)



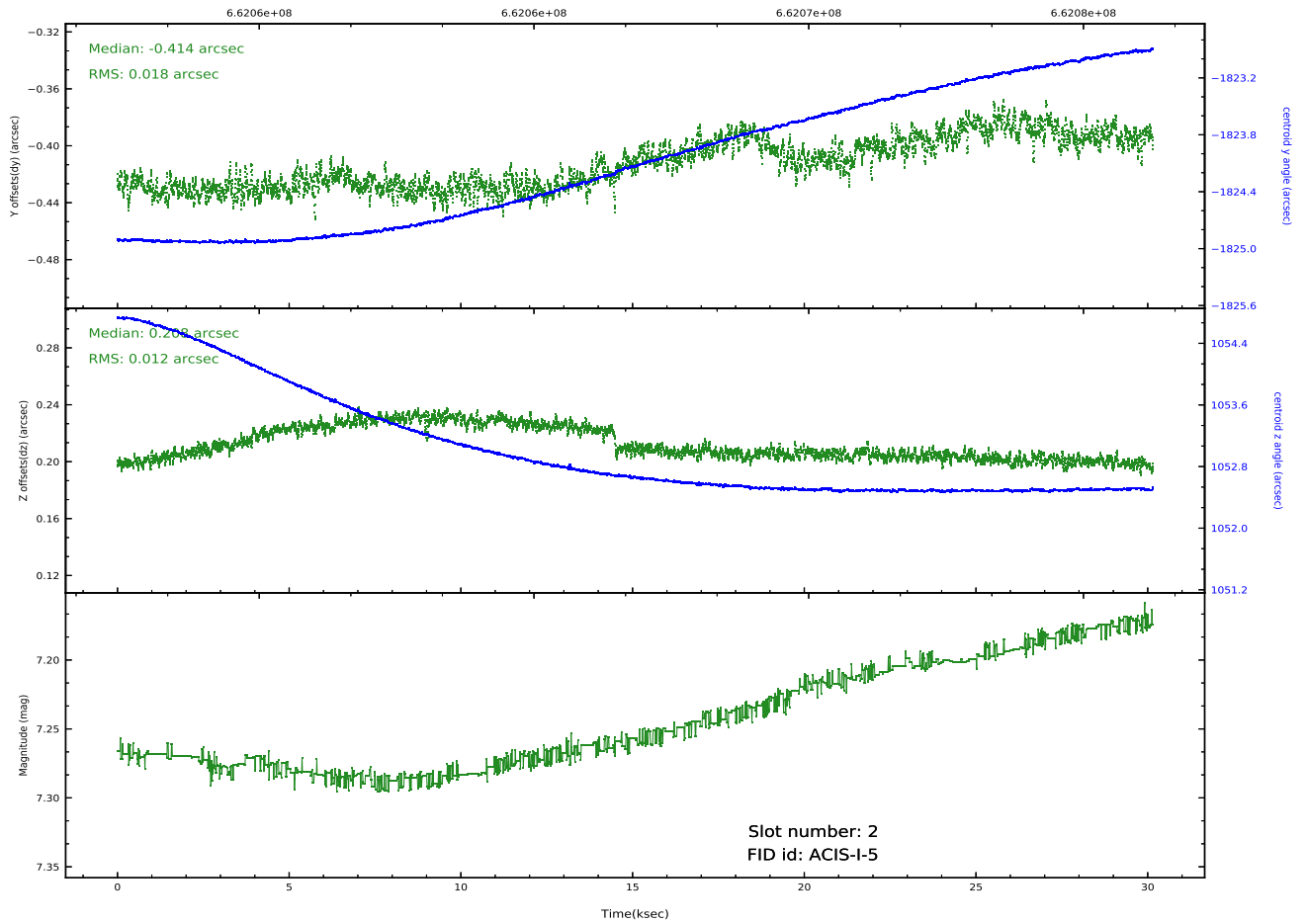
2.5.2 Slot 1



2.5.3 Slot 2



Time (s)



A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2020.10.30
V&V Edition	1
V&V Disposition and Status	Repr+DD
V&V Charge Time	30.048300231218

A.2 Comments

The guide star in slot 4 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this guide star from the solution.

=====

The bias map for CCD_ID = 1 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 = 1 will be recreated to remove this anomaly and the data will be reprocessed.

=====

SAP: please reprocess with the replacement bias for CCD_ID = 1.