

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 20571 - L2 Version 3
Chandra X-Ray Center

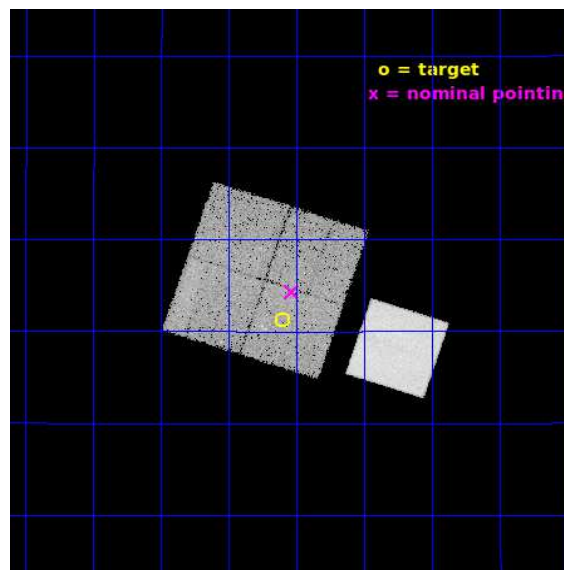
L2 Processing Date : Oct 26 2020

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 4	10
2.4.3	Slot 5	11
2.4.4	Slot 6	12
2.4.5	Slot 7	13
2.5	FID Slots	14
2.5.1	Slot 0	14
2.5.2	Slot 1	15
2.5.3	Slot 2	16
A	Summary	17
A.1	Status	17
A.2	Comments	17

1 Front

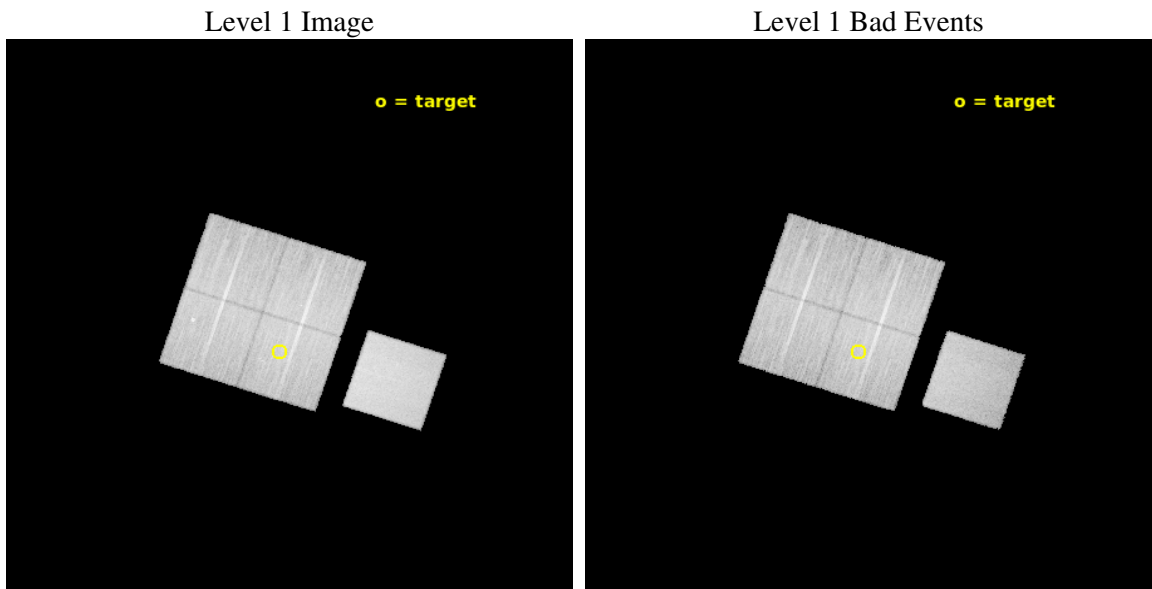
seq_num	801770	Sequence number
obs_id	20571	Observation id
title	The Chandra Strong Lens Sample: Revealing Baryonic Physics In Strong Lensing Selected Clusters	Proposal title
observer	Matthew Bayliss	Principal investigator
object	SDSSJ1156+1911	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	179.025	Observer's specified target RA [deg]
dec_targ	19.186944	Observer's specified target Dec [deg]
ra_nom	179.00844020691	Nominal RA [deg]
dec_nom	19.238847001194	Nominal Dec [deg]
roll_nom	108.21587000626	Nominal Roll [deg]
revision	3	Processing version of data
ontime	22455.448414445	Sum of GTIs [s]
livetime	22162.05144945	Livetime [s]
ontime0	22452.184294224	Sum of GTIs [s]
ontime1	22455.366334438	Sum of GTIs [s]
ontime2	22455.407374382	Sum of GTIs [s]
ontime3	22455.448414445	Sum of GTIs [s]
ontime7	22455.489454389	Sum of GTIs [s]
l2events	154216	Number of level 2 events



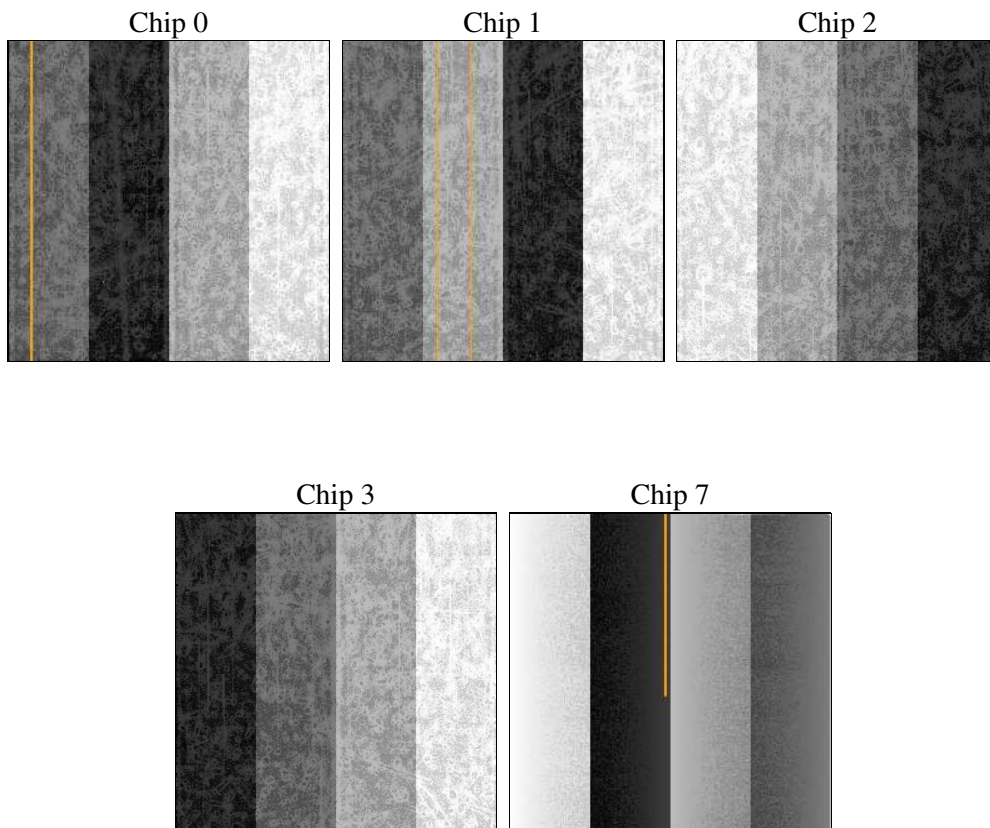
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	22400.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	22455.448414445	Sum of GTIs [s]
caldbver	4.9.3	 	ontime0	22452.184294224	Sum of GTIs [s]
date	2020-10-27T00:15:22	Date and time of file creation	ontime1	22455.366334438	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	22455.407374382	Sum of GTIs [s]
			ontime3	22455.448414445	Sum of GTIs [s]
			ontime7	22455.489454389	Sum of GTIs [s]
			l1events	854580	Number of level 1 events

2.1.4 Events

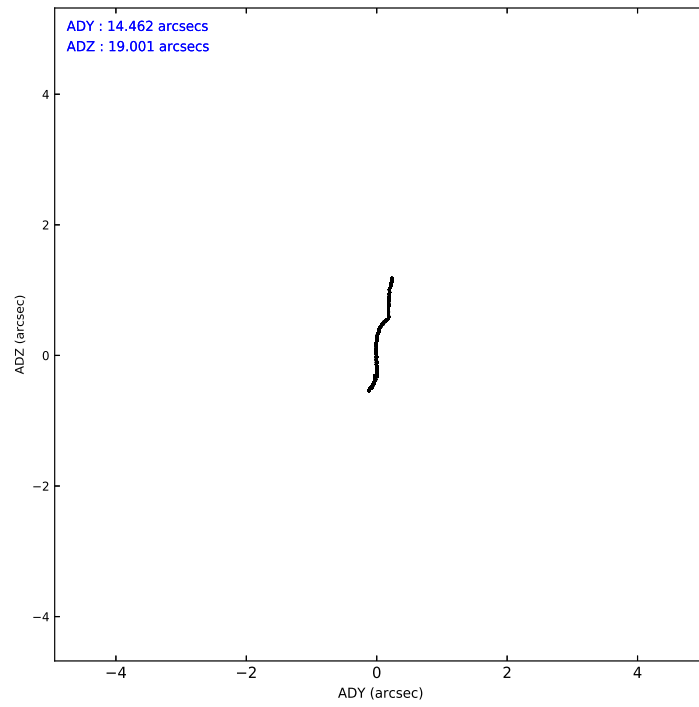
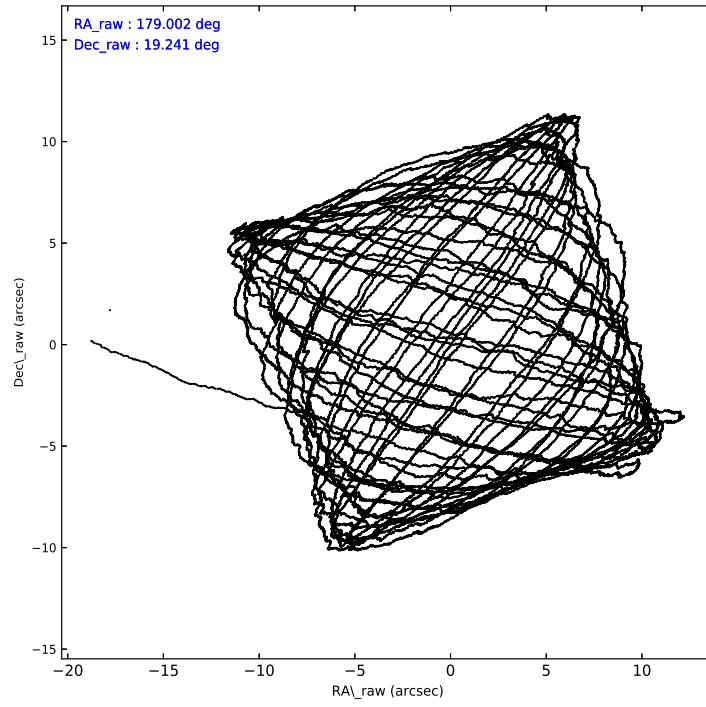
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 7
level 1 events	150419	155327	166898	164899	217037
rejected events	131908	134239	148973	147138	122023
rejected %	87%	86%	89%	89%	56%

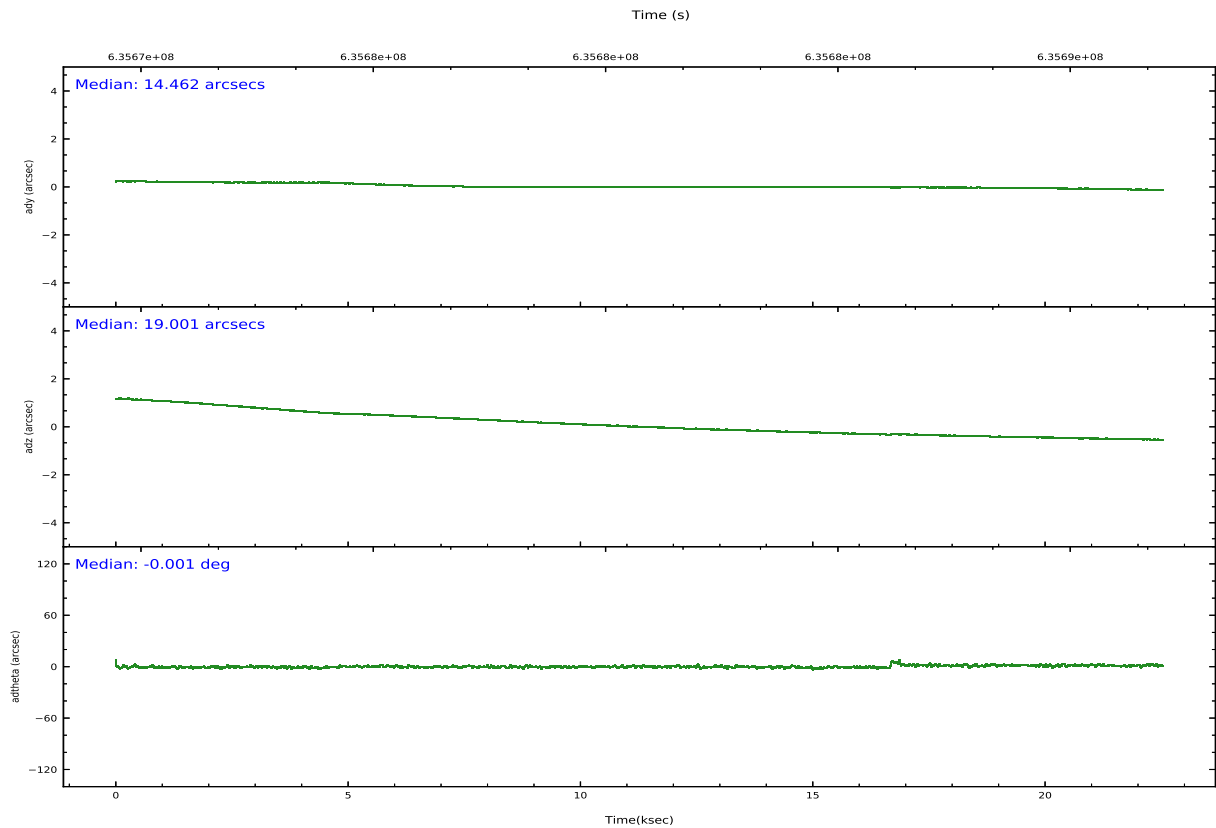
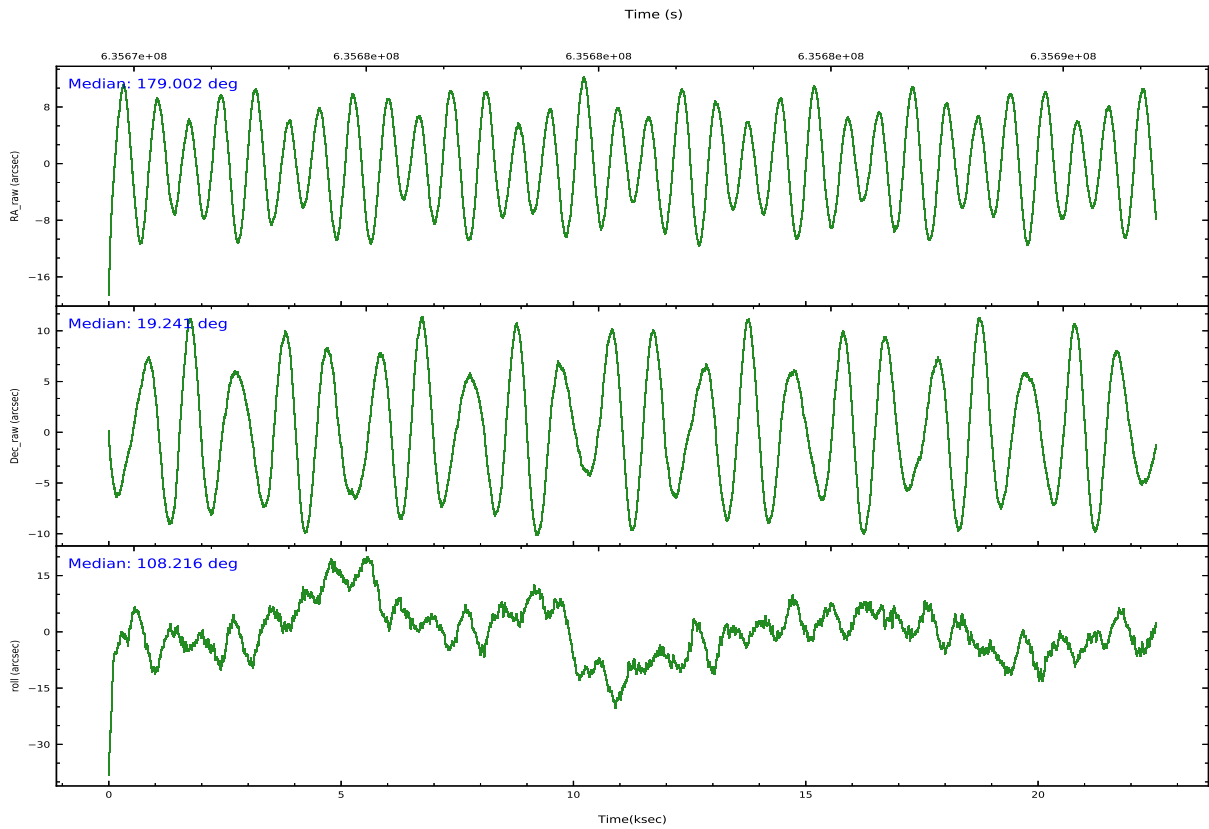
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 7
grade 0 events	6232	7568	6206	6448	8043
	4%	4%	3%	3%	3%
grade 1 events	94	97	118	112	288
	0%	0%	0%	0%	0%
grade 2 events	4779	5088	4619	3953	20191
	3%	3%	2%	2%	9%
grade 3 events	1856	1961	1727	1888	8042
	1%	1%	1%	1%	3%
grade 4 events	1749	1920	1779	1807	7779
	1%	1%	1%	1%	3%
grade 5 events	7138	7498	6669	8133	21860
	4%	4%	3%	4%	10%
grade 6 events	3898	4559	3599	3668	50991
	2%	2%	2%	2%	23%
grade 7 events	124673	126636	142181	138890	99843
	82%	81%	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	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	179.023423	179.00844020691	CCD I2 on	Y	Y
[deg] Pointing Dec	19.222808	19.238847001194	CCD I3 on	Y	Y
[deg] Pointing Roll	108.000504	108.21587000626	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	N
[mm] SIM translation stage pos	-225.840463	-225.8433433320239	CCD S3 on	O2	Y
[mm] SIM translation stage offset	-7.752	-7.749109670905796	CCD S4 on	N	N
[s] Observation start time (MET)	635669599.184000	635668282.83041	CCD S5 on	N	N
Observation start date	2018-02-22T06:52:10	2018-02-22T06:31:22	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	635691999.184000	635692890.00686	On-chip summing requested	N	N
Observation end date	2018-02-22T13:05:30	2018-02-22T13:21:30	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

2.3 Aspect



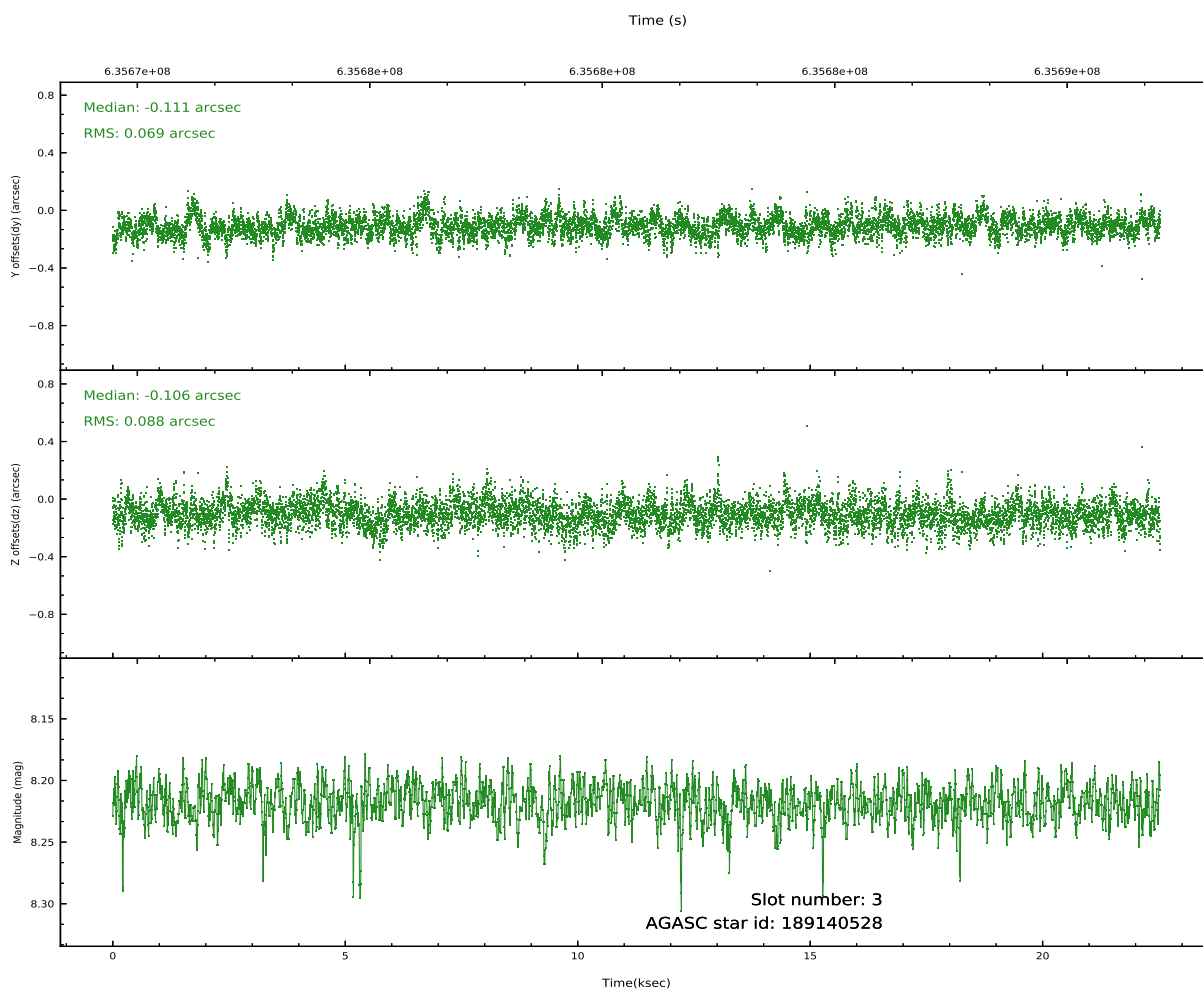
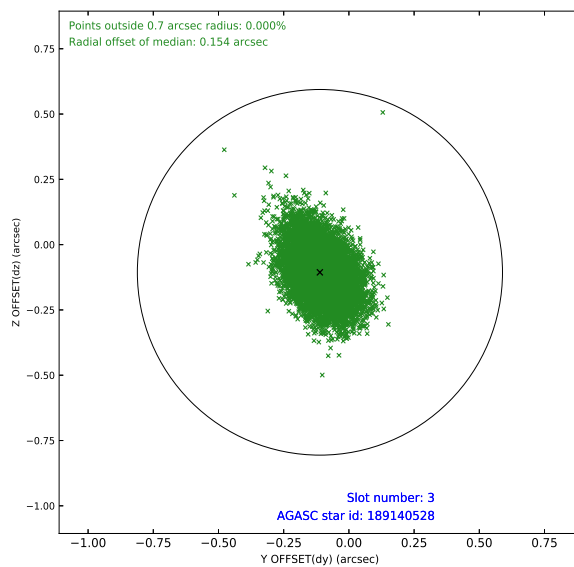
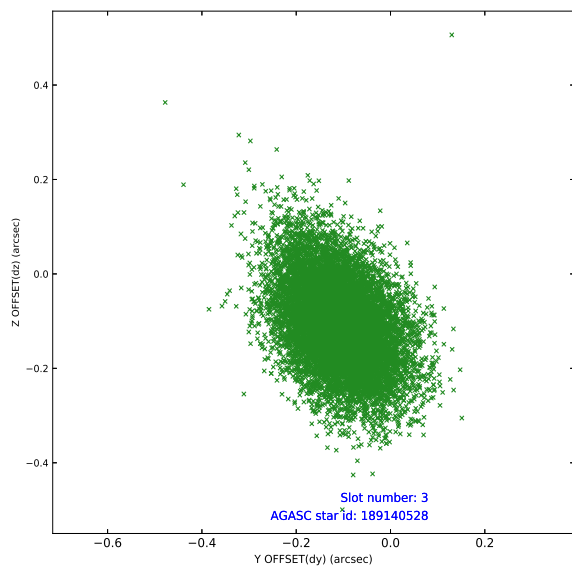


Slot Statistics

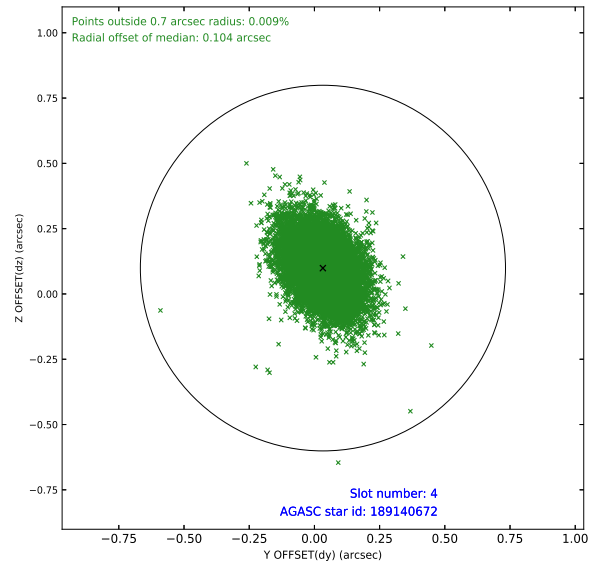
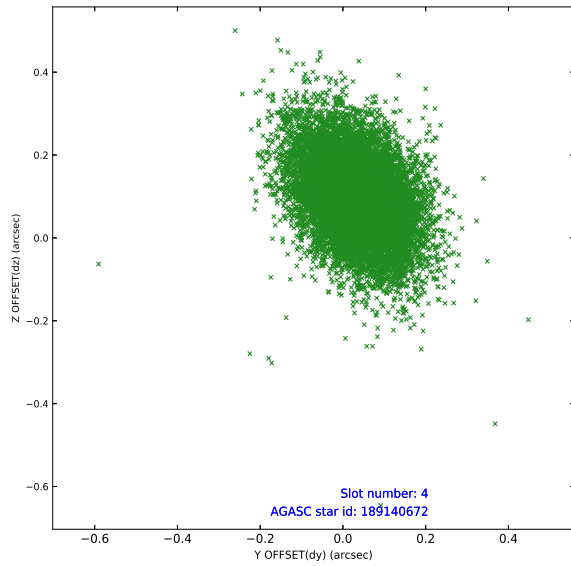
slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.03	5498	1.000	0.158	-0.086	0.013	0.025	0.000000	0.000000	924.97	-1002
1	FID		ACIS-I-2	6.97	5497	1.000	-0.186	0.087	0.011	0.019	0.000000	0.000000	-769.80	-1007
2	FID		ACIS-I-4	6.94	5496	1.000	-0.068	0.065	0.012	0.021	0.000000	0.000000	2144.16	898
3	GUIDE	used	189140528	8.22	10985	1.000	-0.111	-0.106	0.116	0.199	178.633618	19.411233	1057.95	1056
4	GUIDE	used	189140672	9.05	10990	1.000	0.033	0.099	0.129	0.217	178.601271	18.918622	-595.48	1705
5	GUIDE	used	189143880	8.03	10996	1.000	0.094	-0.016	0.170	0.290	179.370549	19.983904	2247.52	-1957
6	GUIDE	used	188874848	10.01	10889	1.000	0.025	0.106	0.259	0.398	178.674197	18.702676	-1411.18	1711
7	GUIDE	used	189137216	8.79	10987	1.000	-0.032	-0.070	0.153	0.261	178.437689	18.776861	-906.76	2394

2.4 Star Slots

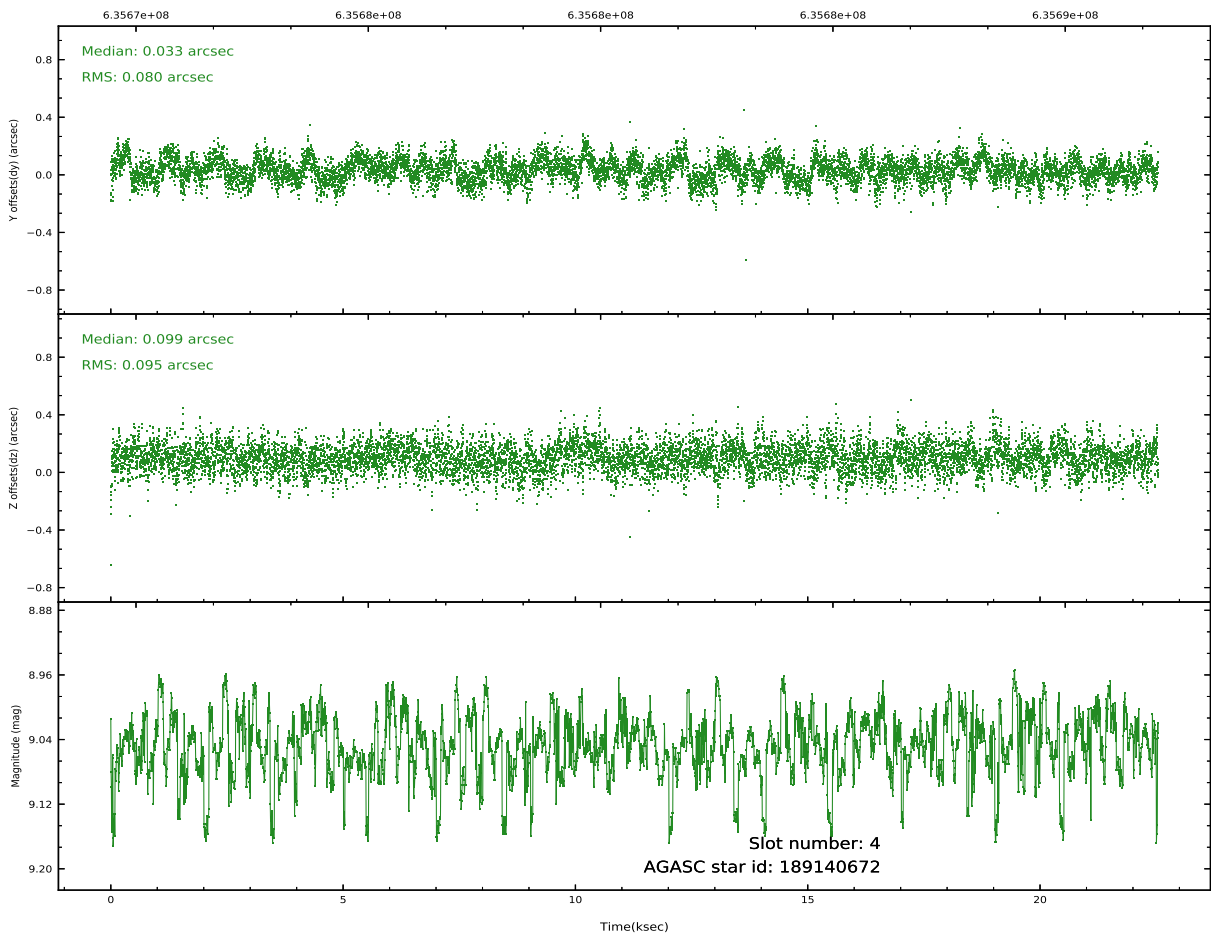
2.4.1 Slot 3



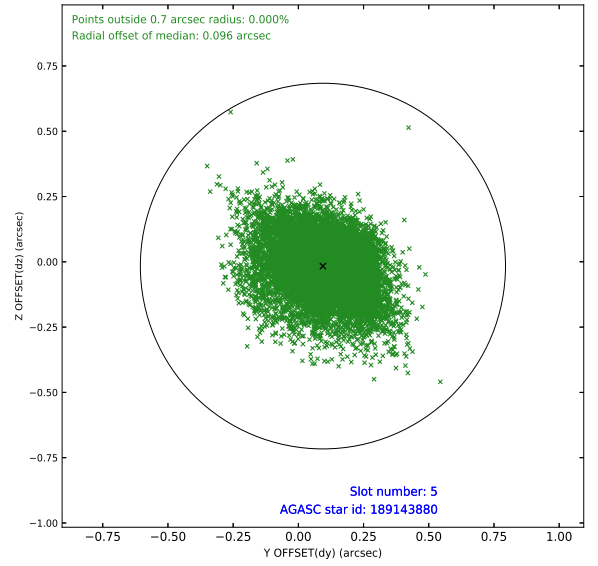
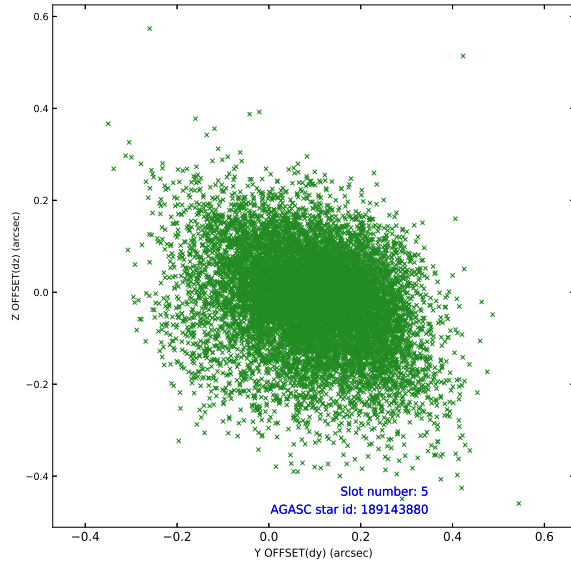
2.4.2 Slot 4



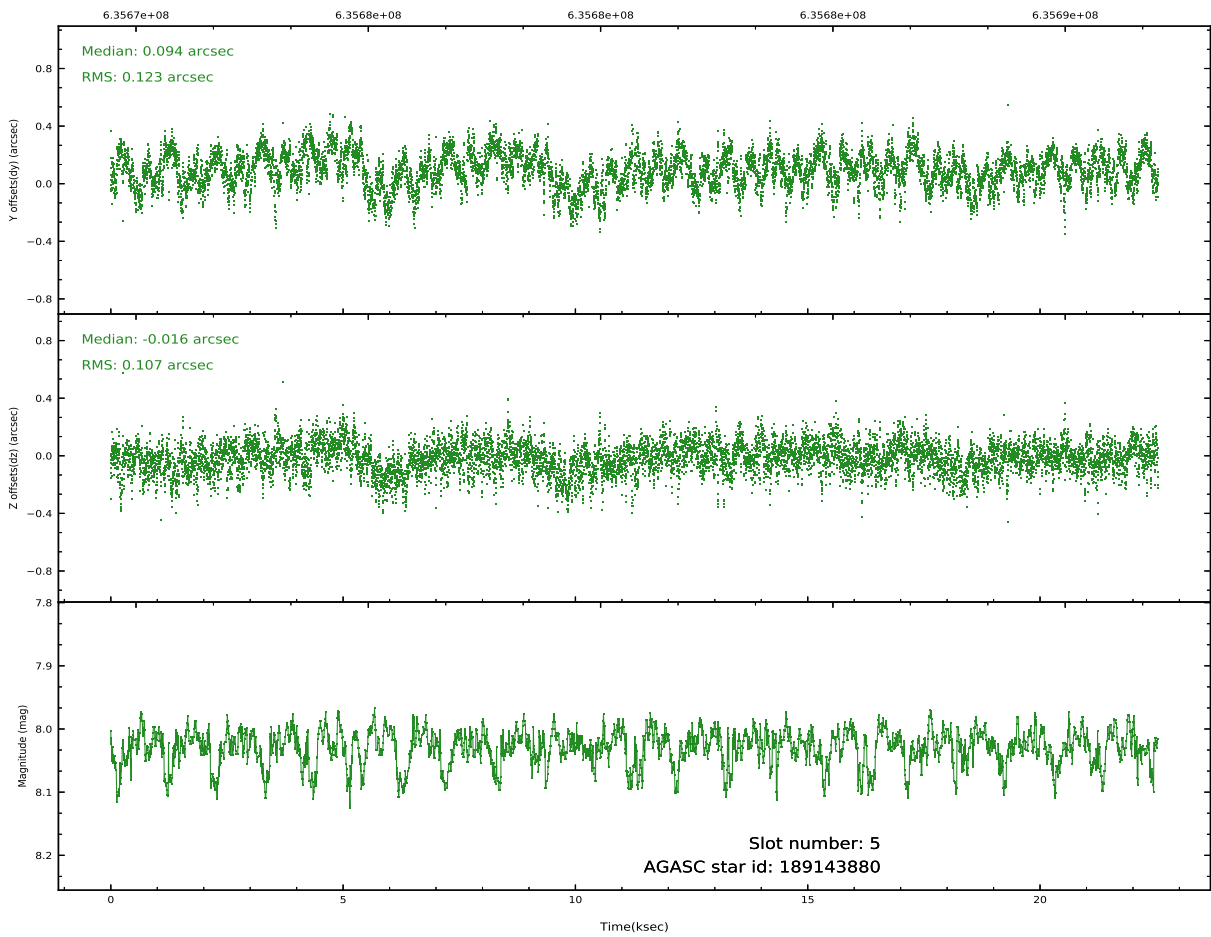
Time (s)



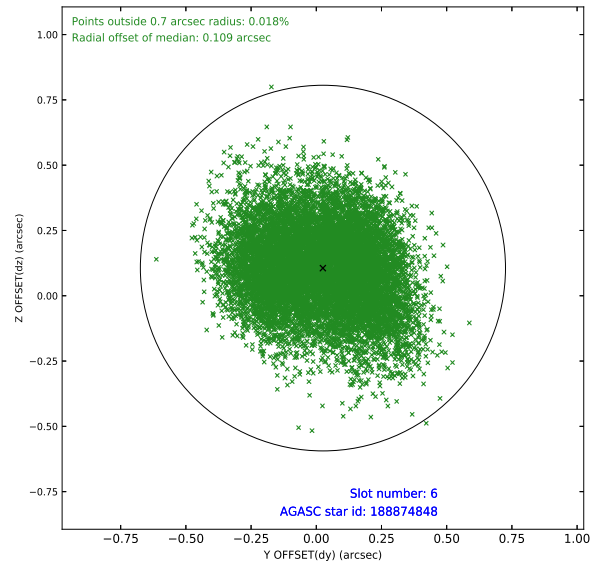
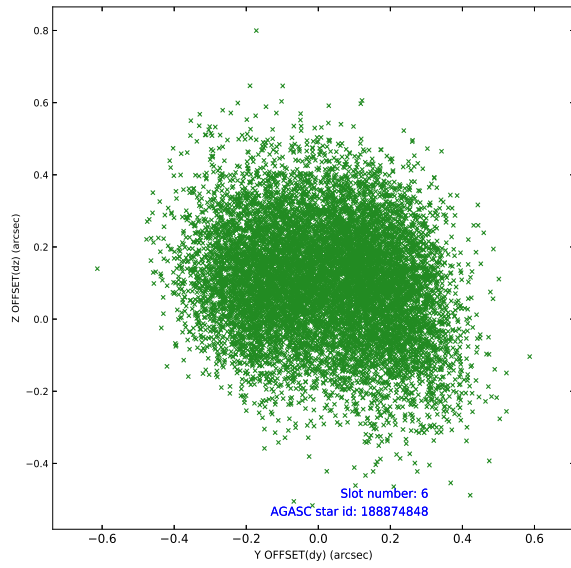
2.4.3 Slot 5



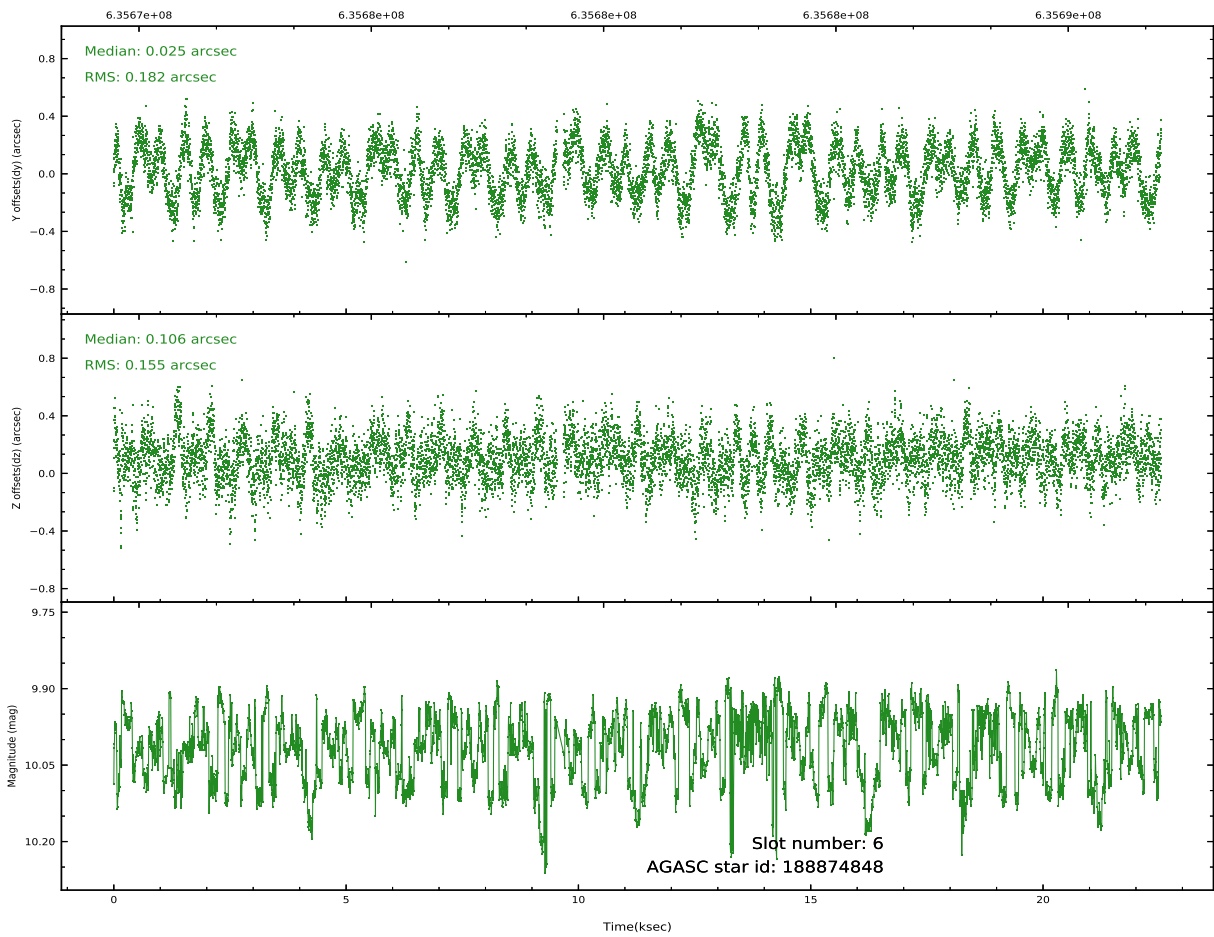
Time (s)



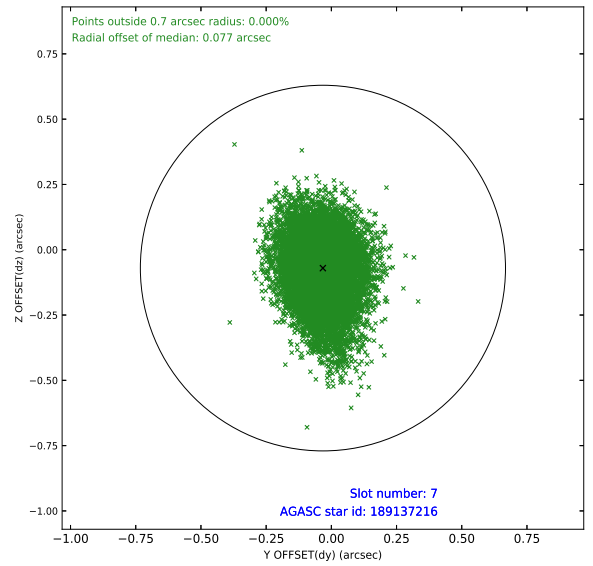
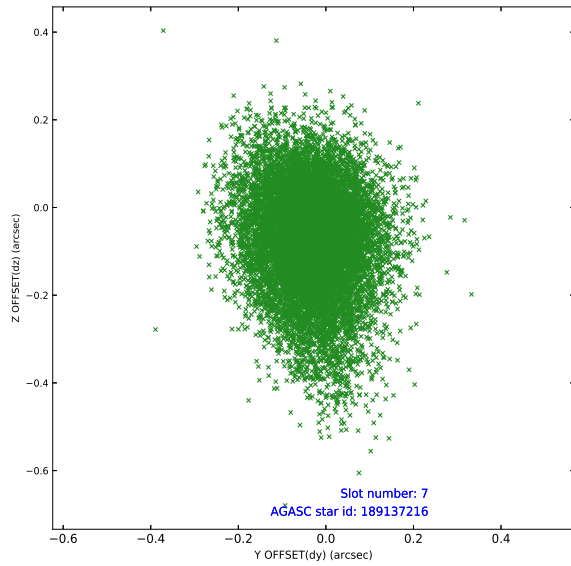
2.4.4 Slot 6



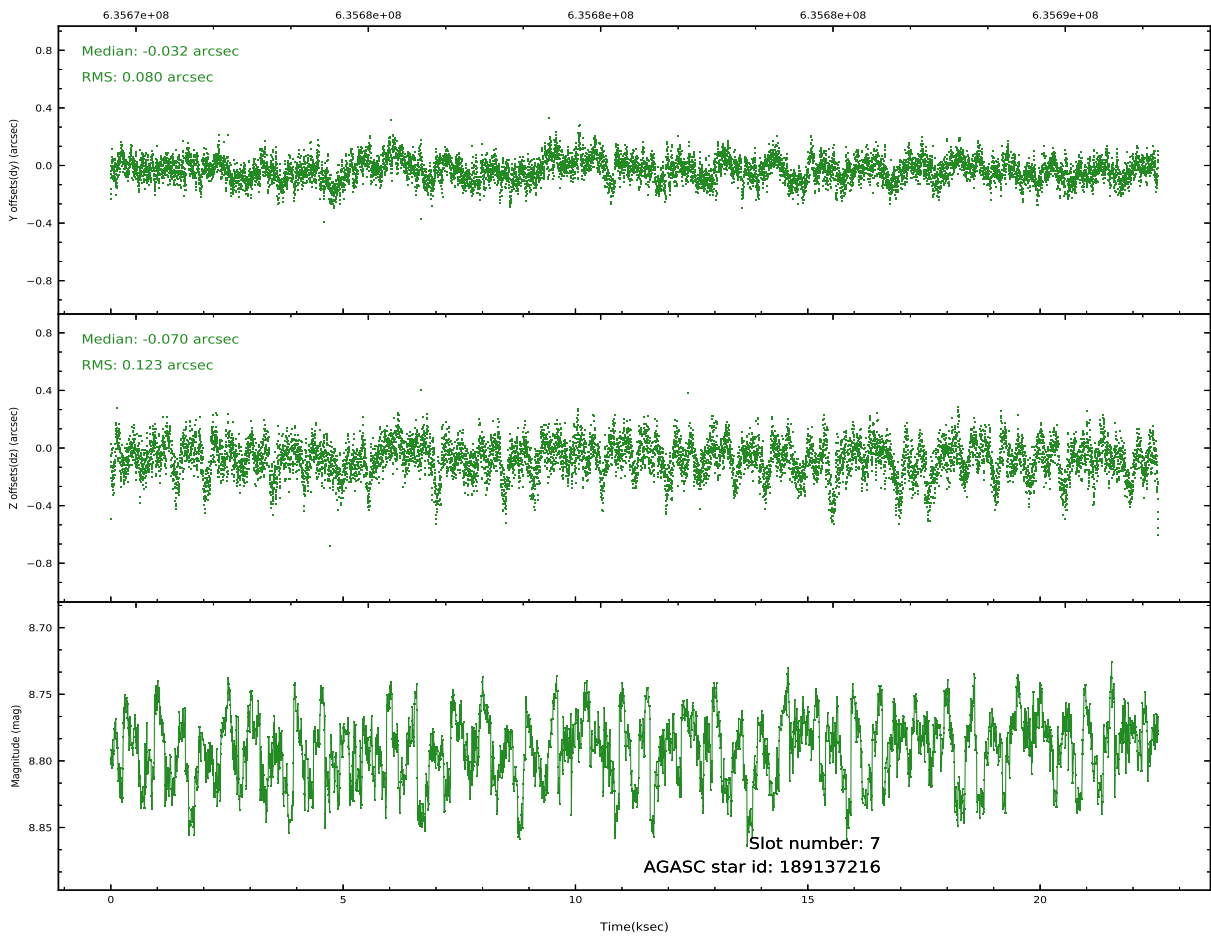
Time (s)



2.4.5 Slot 7

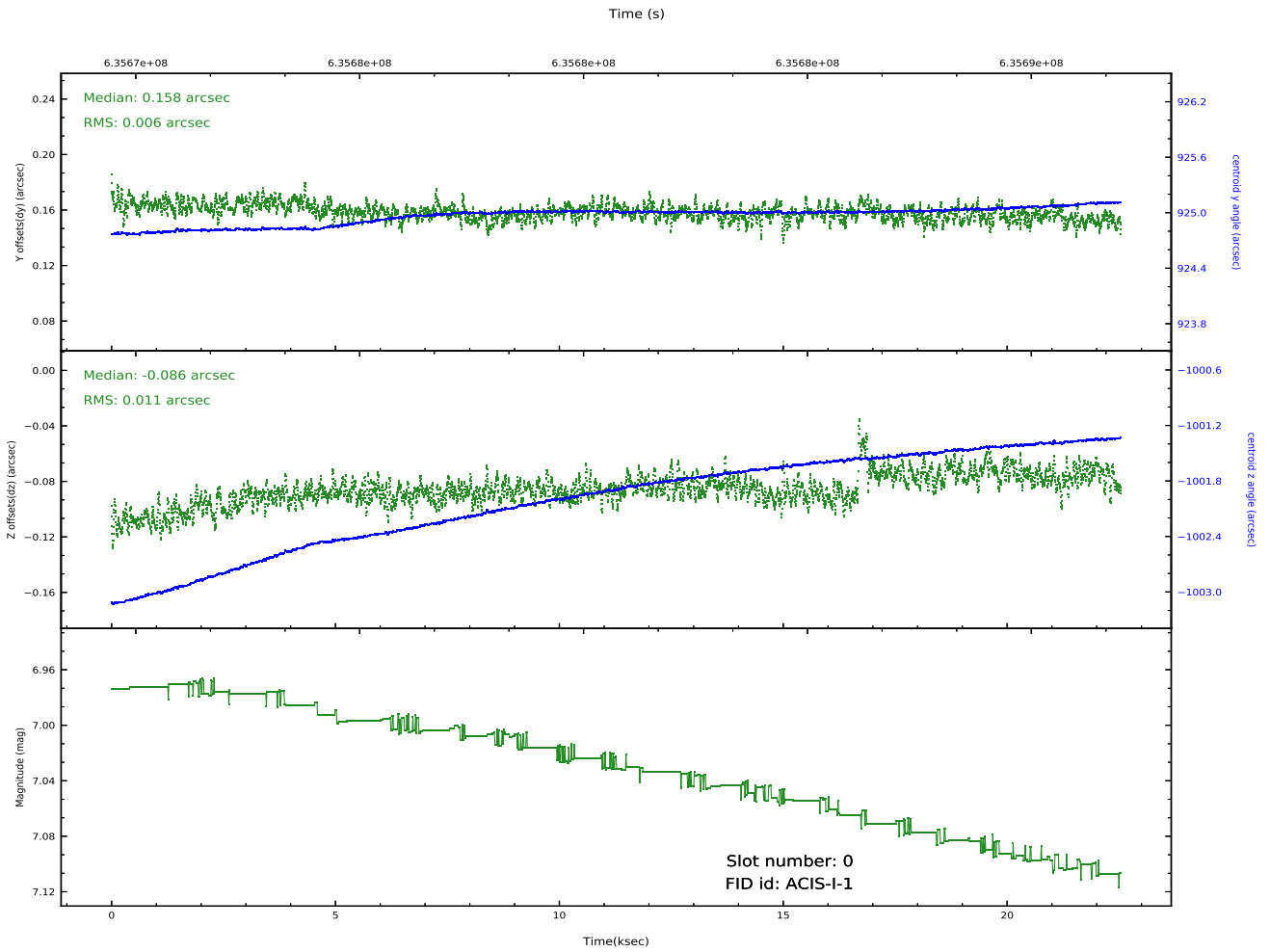
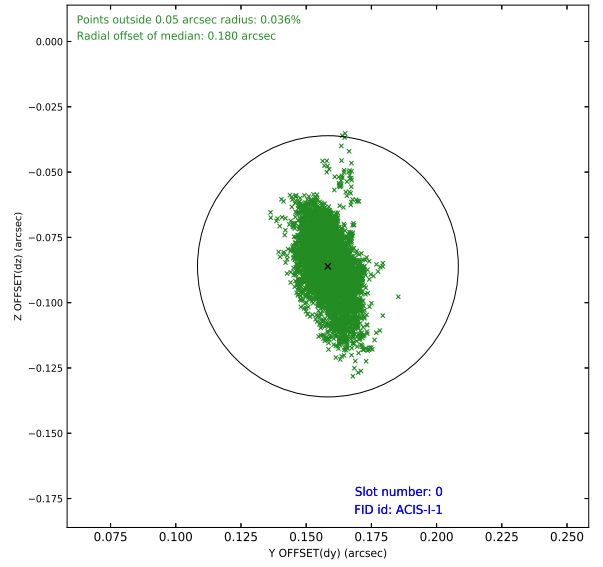
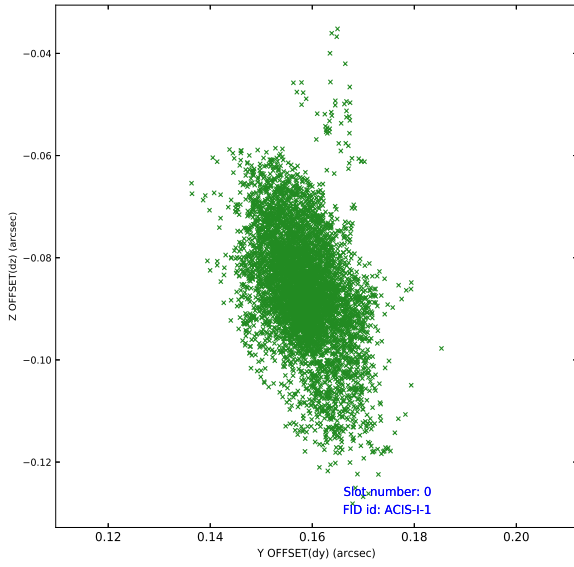


Time (s)

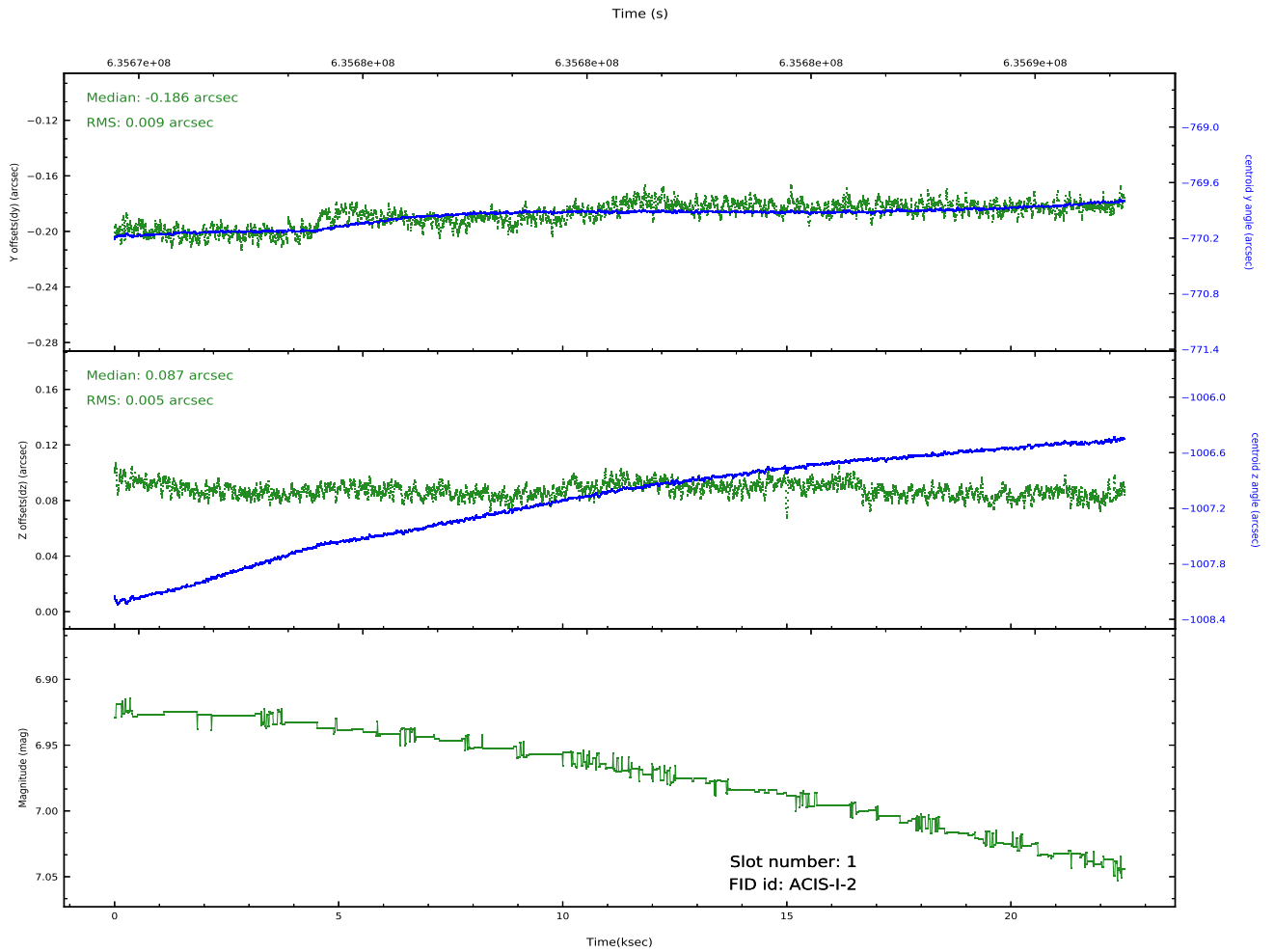
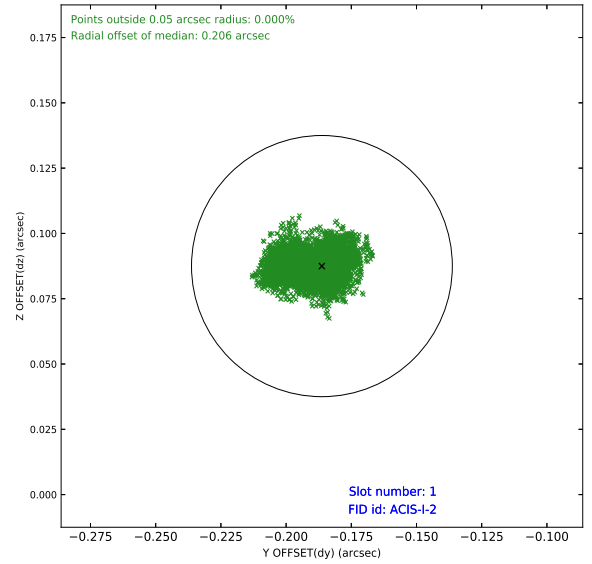
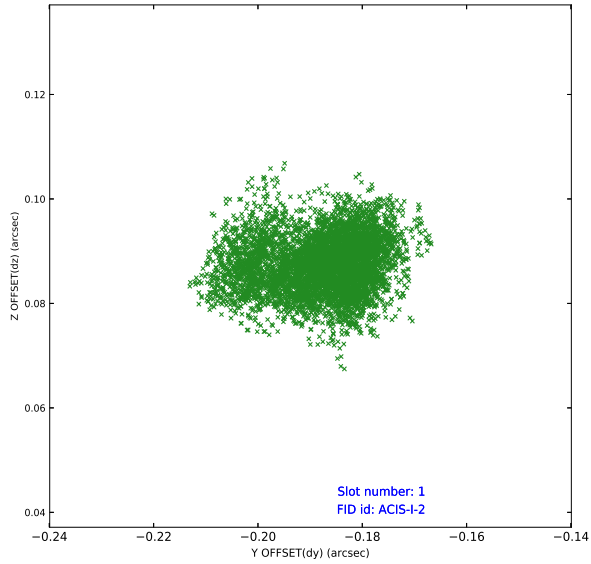


2.5 FID Slots

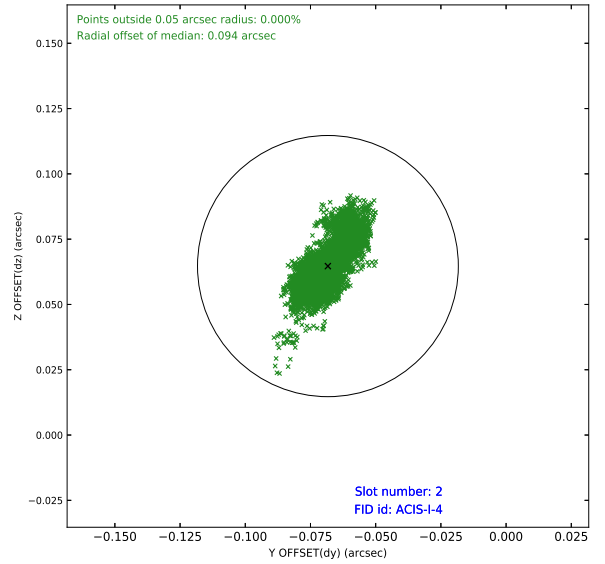
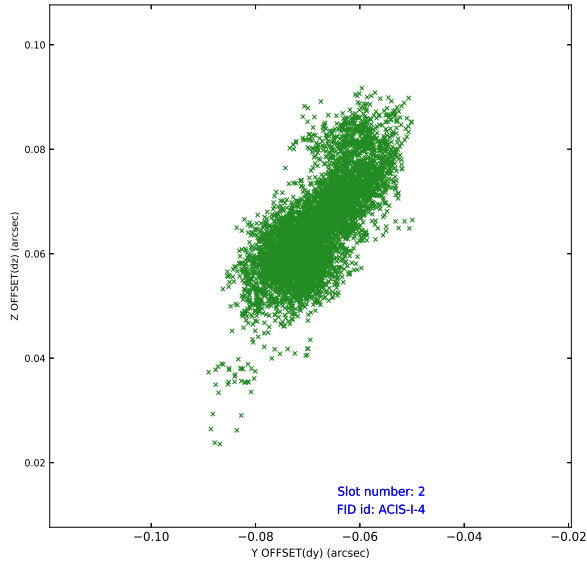
2.5.1 Slot 0



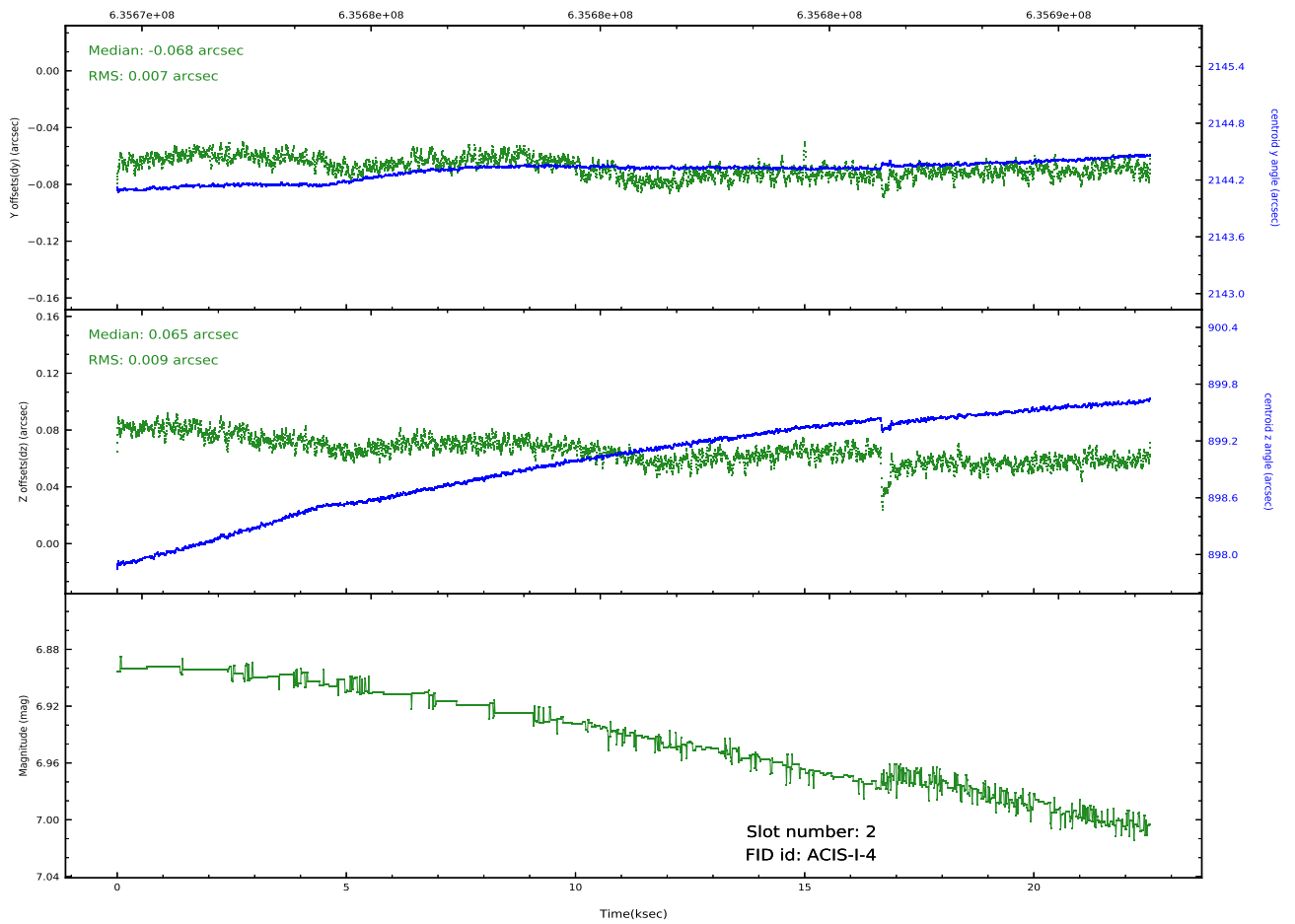
2.5.2 Slot 1



2.5.3 Slot 2



Time (s)



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	22.455448419333

A.2 Comments

Joint proposal with HST.

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One optional chip was dropped.

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A spatial region of the original bias map for CCD = 3 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 = 3 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: (178.97431,19.08597), (178.97746,19.08695), (178.95995,19.13720), (178.95679,19.13622).