

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 19398 - L2 Version 3
Chandra X-Ray Center

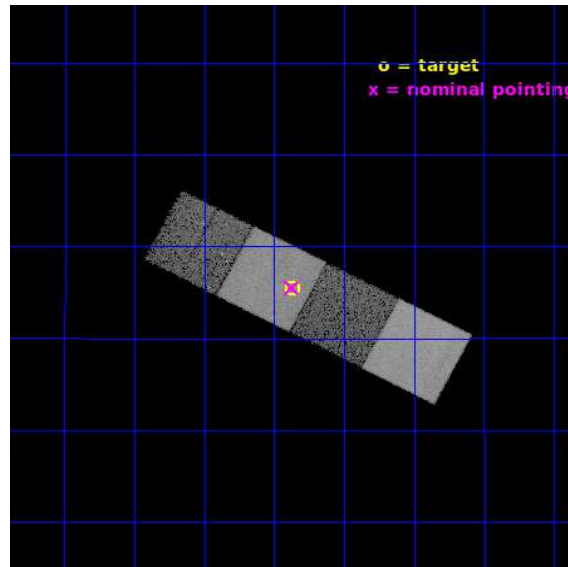
L2 Processing Date : Oct 27 2020

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1 Front

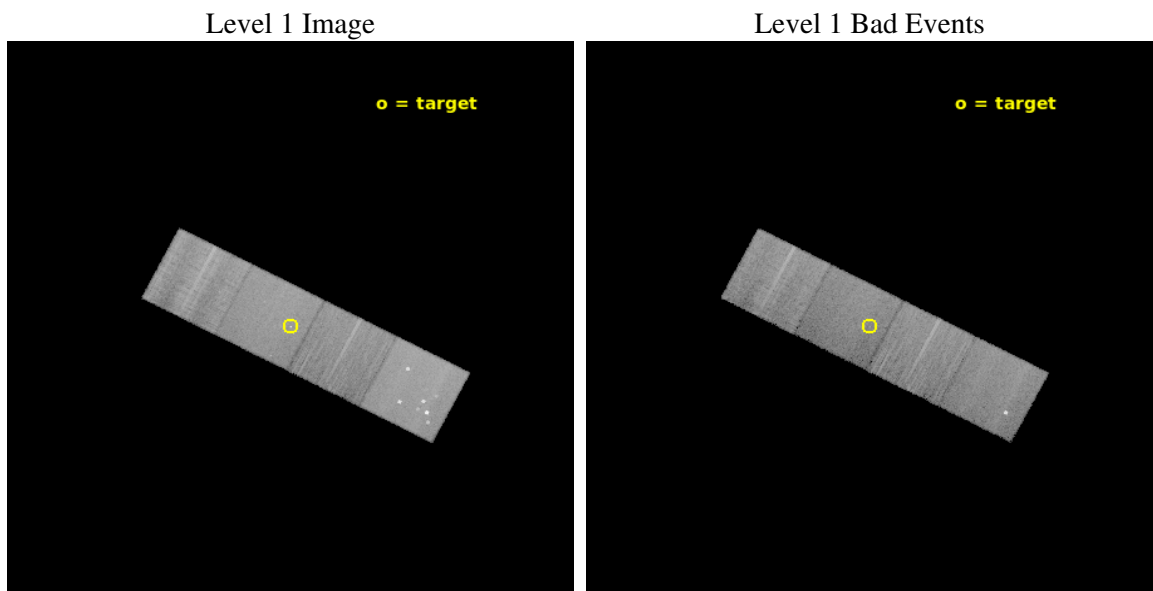
seq_num	601355	Sequence number
obs_id	19398	Observation id
title	Spiral galaxies of the Virgo cluster	Proposal title
observer	Roberto Soria	Principal investigator
object	NGC 4639	Source name
dtcycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	190.718333	Observer's specified target RA [deg]
dec_targ	13.257389	Observer's specified target Dec [deg]
ra_nom	190.7184040734	Nominal RA [deg]
dec_nom	13.258714875286	Nominal Dec [deg]
roll_nom	207.41629794035	Nominal Roll [deg]
revision	3	Processing version of data
ontime	14907.900114775	Sum of GTIs [s]
livetime	14713.117424739	Livetime [s]
ontime5	14907.900114775	Sum of GTIs [s]
ontime6	14907.900114775	Sum of GTIs [s]
ontime7	14907.900114775	Sum of GTIs [s]
ontime8	14892.194873571	Sum of GTIs [s]
l2events	165233	Number of level 2 events



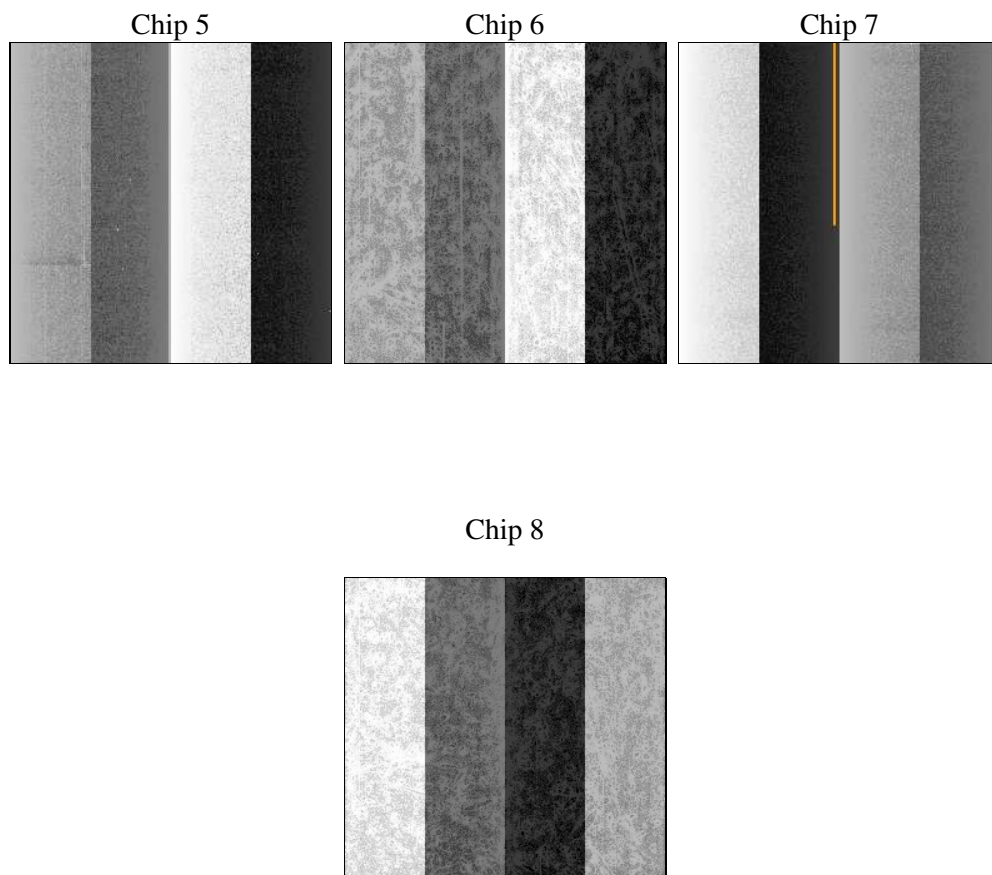
2 OBI

2.1 OBI

2.1.1 Images



2.1.2 Bias



2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	15000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	14907.900114775	Sum of GTIs [s]
caldsver	4.9.3	 	ontime5	14907.900114775	Sum of GTIs [s]
date	2020-10-27T23:45:13	Date and time of file creation	ontime6	14907.900114775	Sum of GTIs [s]
revision	3	Processing version of data	ontime7	14907.900114775	Sum of GTIs [s]
			ontime8	14892.194873571	Sum of GTIs [s]
			l1events	601432	Number of level 1 events

2.1.4 Events

	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	192179	113886	144337	151030
rejected events	96029	101255	81303	111443
rejected %	49%	88%	56%	73%

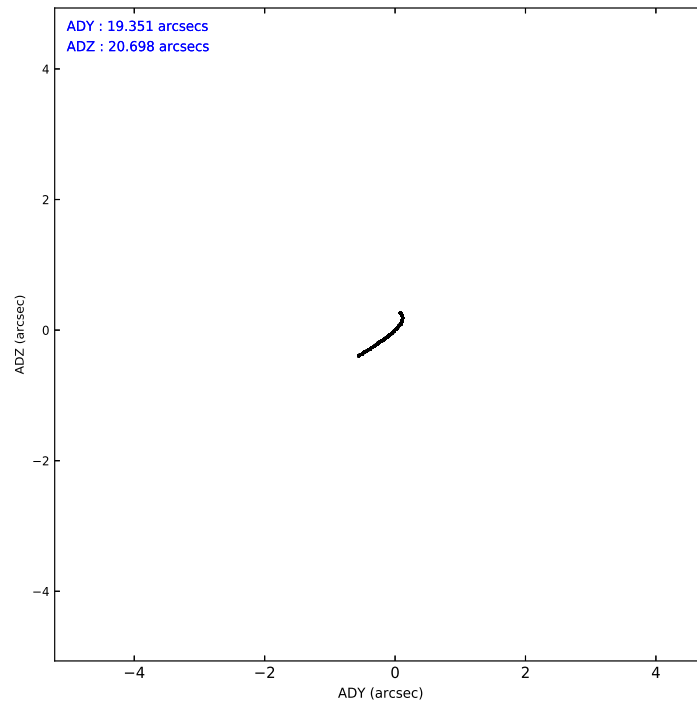
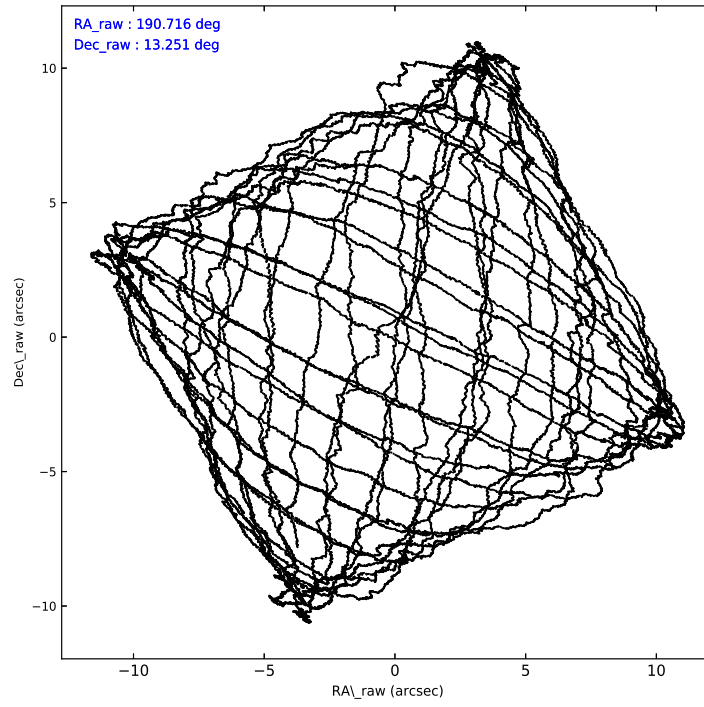
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	14762	4037	5554	11012
	7%	3%	3%	7%
grade 1 events	409	56	220	133
	0%	0%	0%	0%
grade 2 events	29115	3045	13502	9476
	15%	2%	9%	6%
grade 3 events	2540	1261	5050	4180
	1%	1%	3%	2%
grade 4 events	2380	1221	4882	3891
	1%	1%	3%	2%
grade 5 events	11941	5023	14216	7583
	6%	4%	9%	5%
grade 6 events	47396	3069	34068	11037
	24%	2%	23%	7%
grade 7 events	83636	96174	66845	103718
	43%	84%	46%	68%

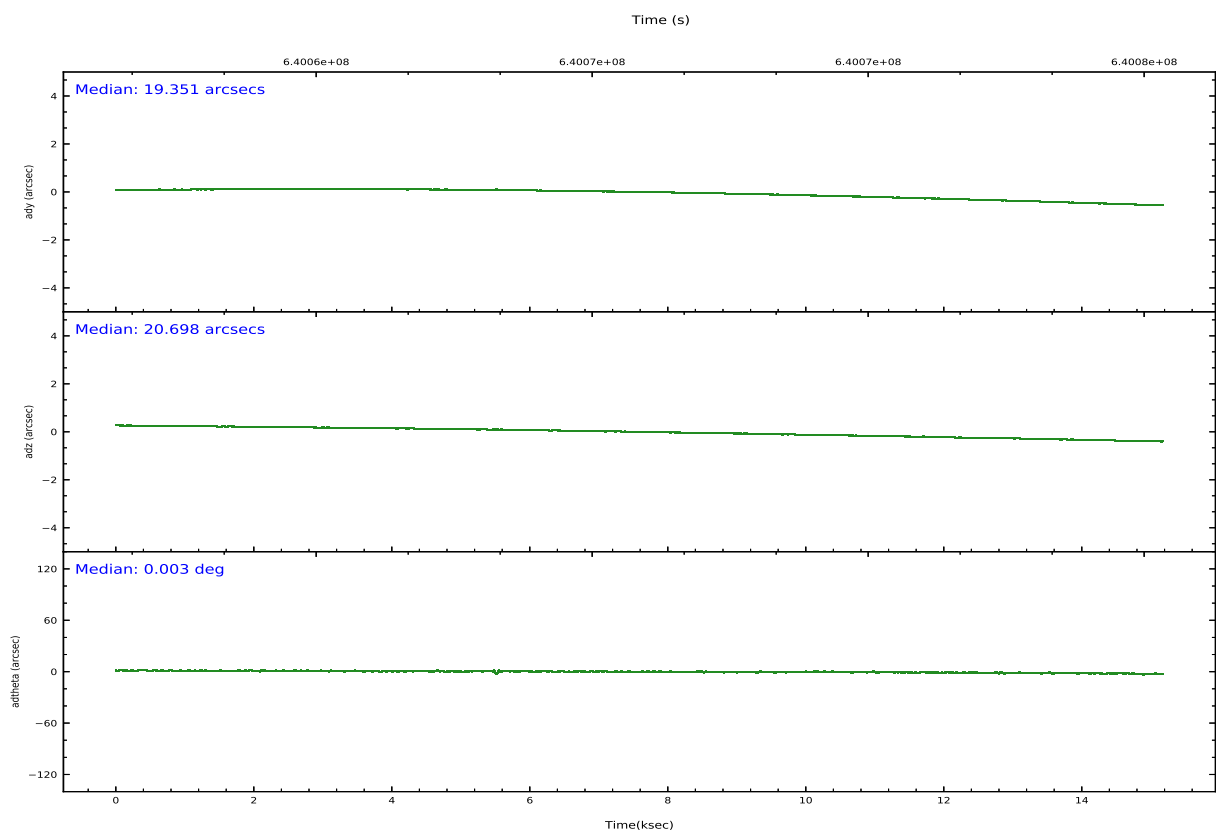
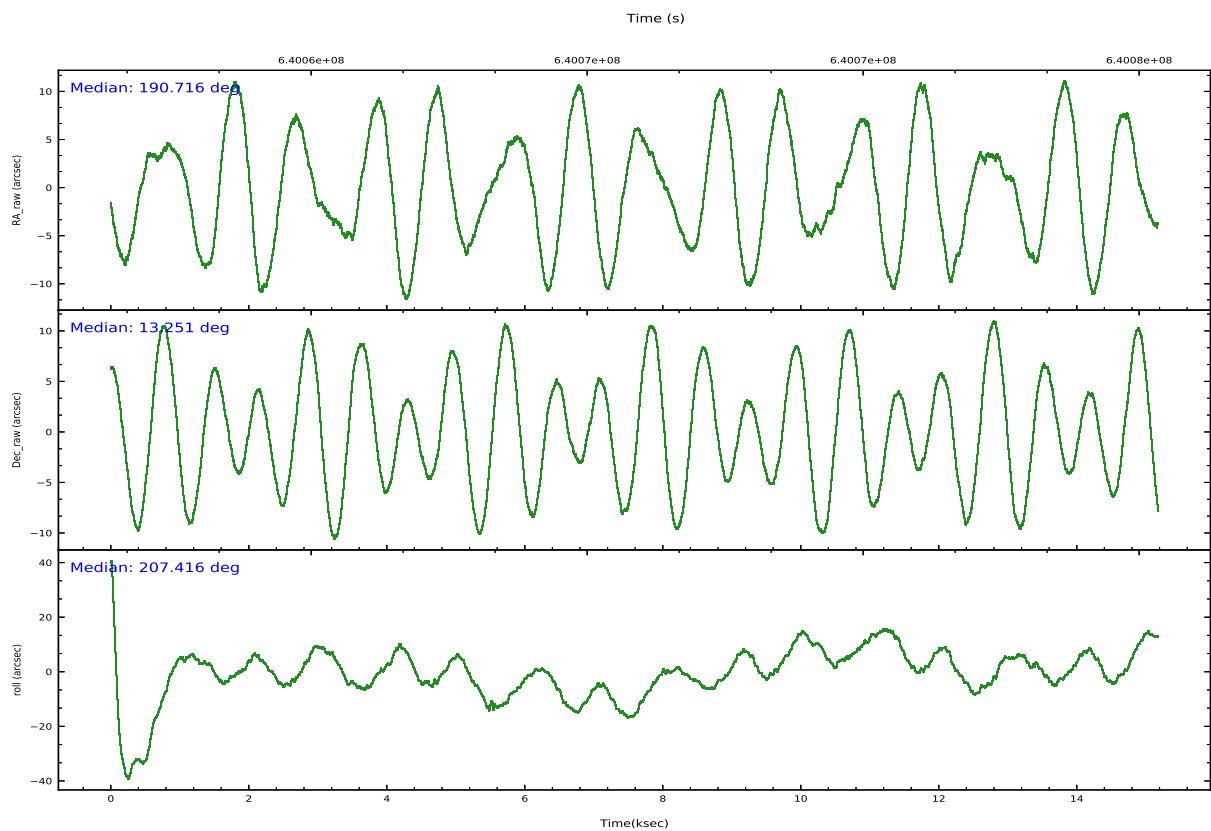
2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-5678	ACIS-5678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	190.731073	190.7184040734
[deg] Pointing Dec	13.274148	13.258714875286
[deg] Pointing Roll	207.268314	207.41629794035
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1425803651734
[mm] SIM translation stage offset	0	0.01005778216563158
[s] Observation start time (MET)	640061275.184000	640060783.7519701
Observation start date	2018-04-14T02:46:46	2018-04-14T02:39:43
[s] Observation end time (MET)	640076275.184000	640076957.74043
Observation end date	2018-04-14T06:56:46	2018-04-14T07:09:17
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar version number	8	8
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.1

2.3 Aspect



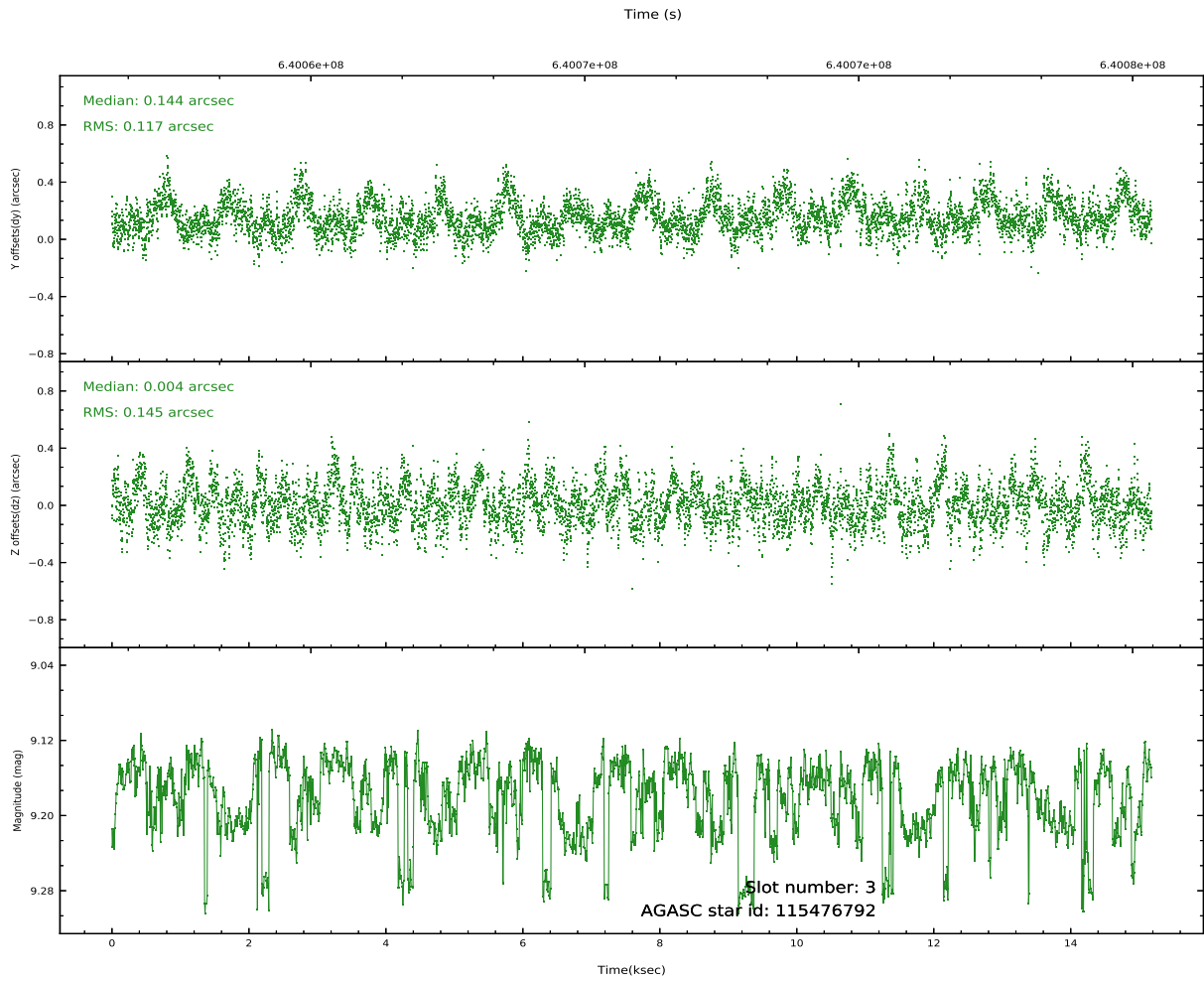
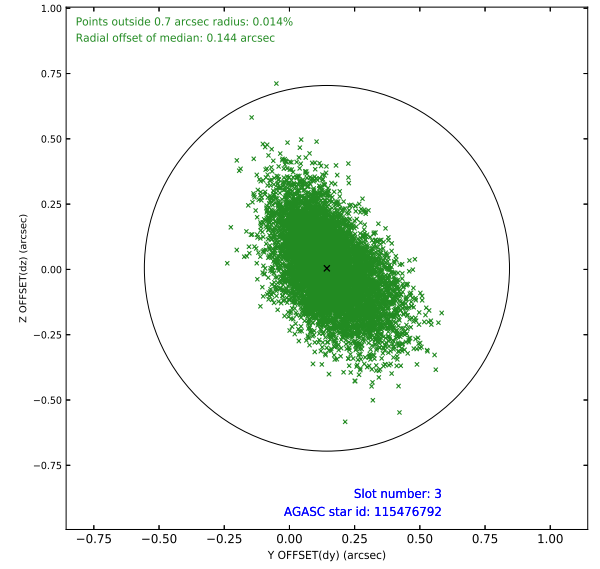
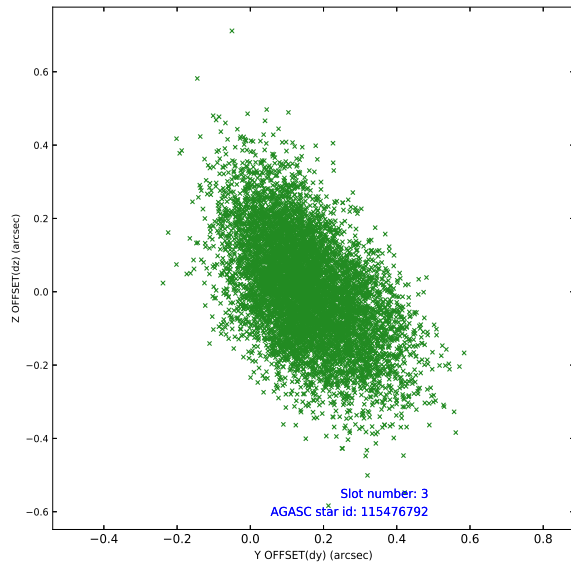


Slot Statistics

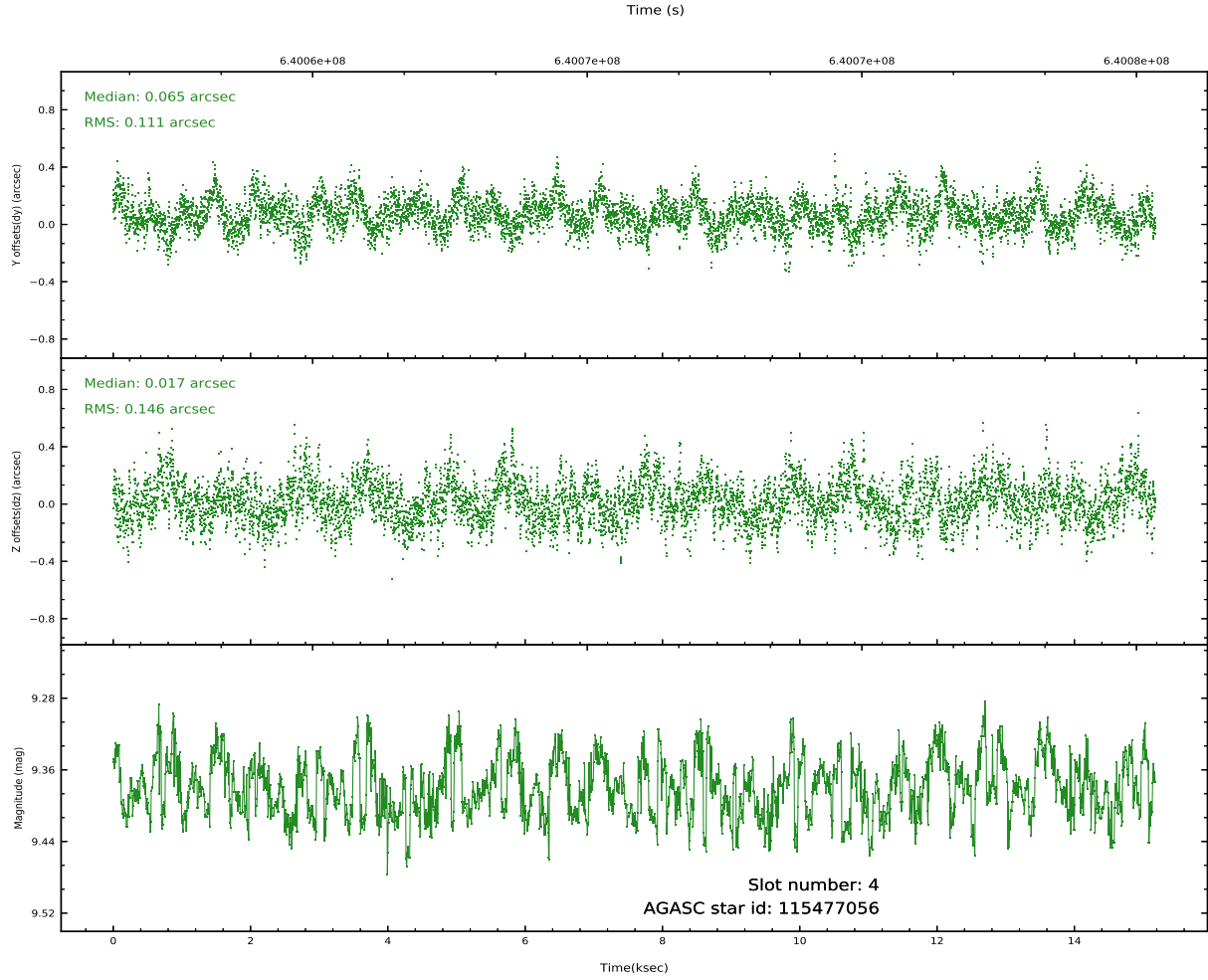
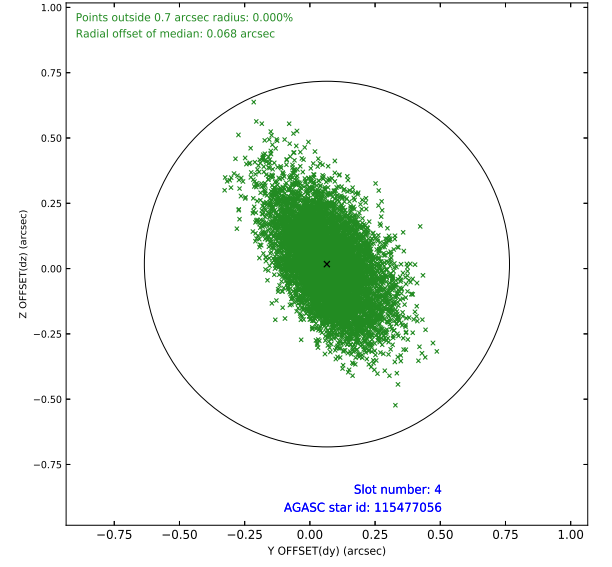
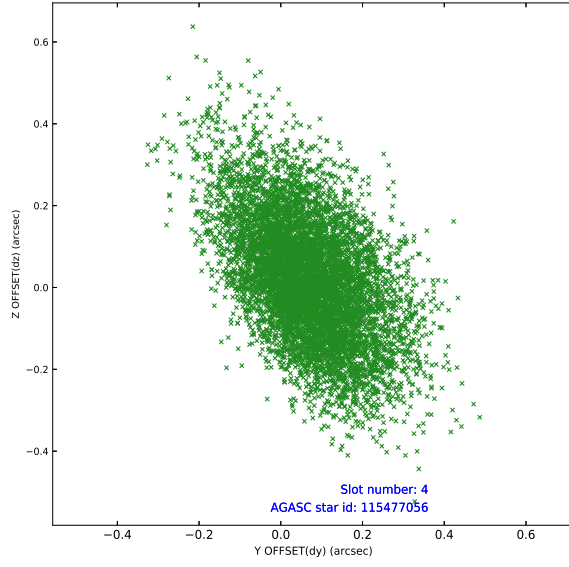
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-1	7.16	3703	1.000	0.283	-0.148	0.009	0.014	0.000000	0.000000	923.71	-1738
1	FID		ACIS-S-4	7.19	3703	1.000	0.042	-0.028	0.009	0.014	0.000000	0.000000	2141.30	165
2	FID		ACIS-S-5	7.18	3702	1.000	-0.351	0.189	0.010	0.018	0.000000	0.000000	-1825.16	160
3	GUIDE	used	115476792	9.17	7393	1.000	0.144	0.004	0.193	0.334	190.933104	13.143247	-413.54	743
4	GUIDE	used	115477056	9.38	7383	1.000	0.065	0.017	0.189	0.330	191.137929	12.866912	-597.81	1956
5	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0
6	GUIDE	used	115477200	8.66	7400	1.000	-0.097	-0.007	0.147	0.257	191.140191	13.348570	-1396.84	418
7	GUIDE	used	115477424	9.19	7393	1.000	-0.129	-0.023	0.166	0.291	190.783230	12.743104	713.00	1784

2.4 Star Slots

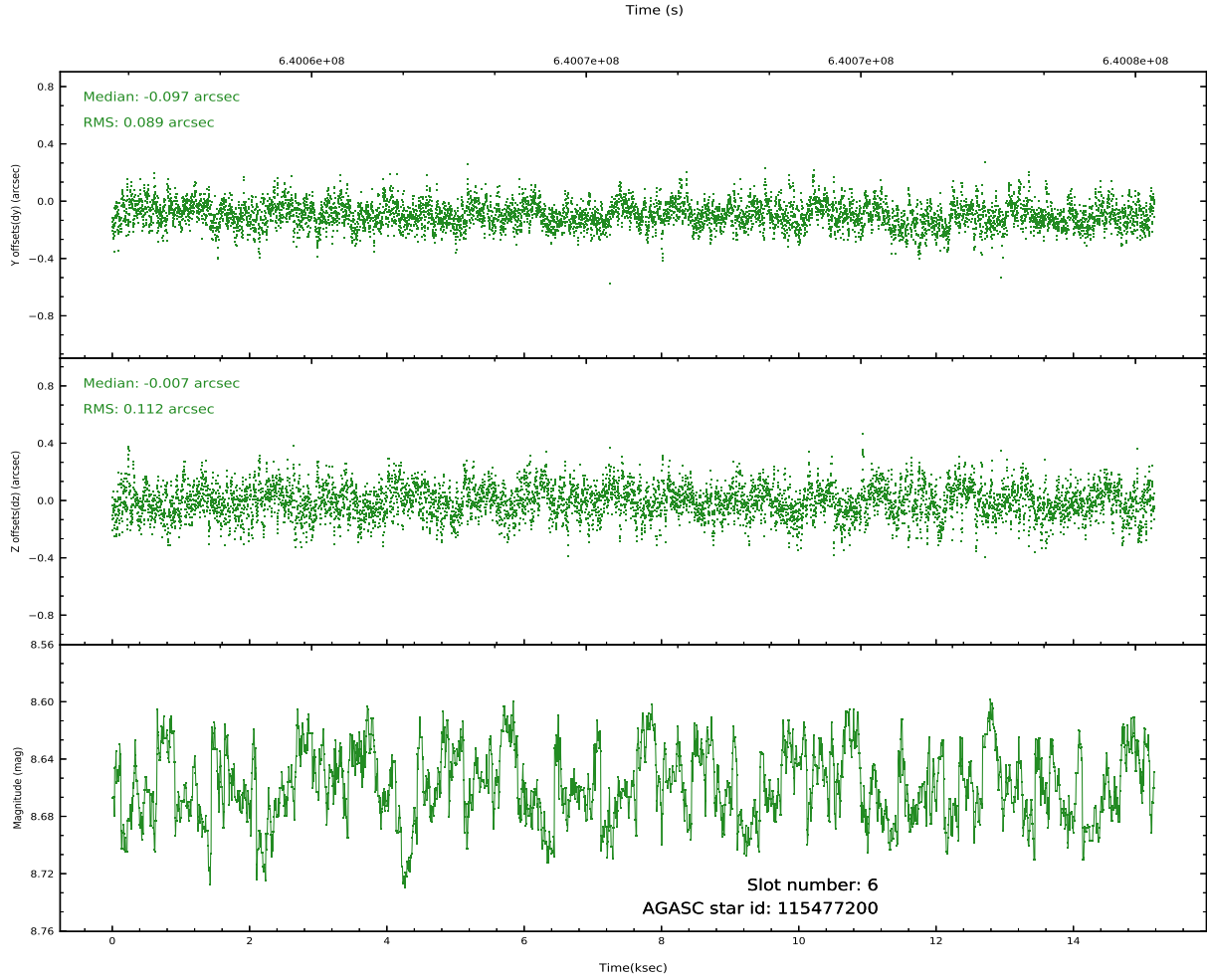
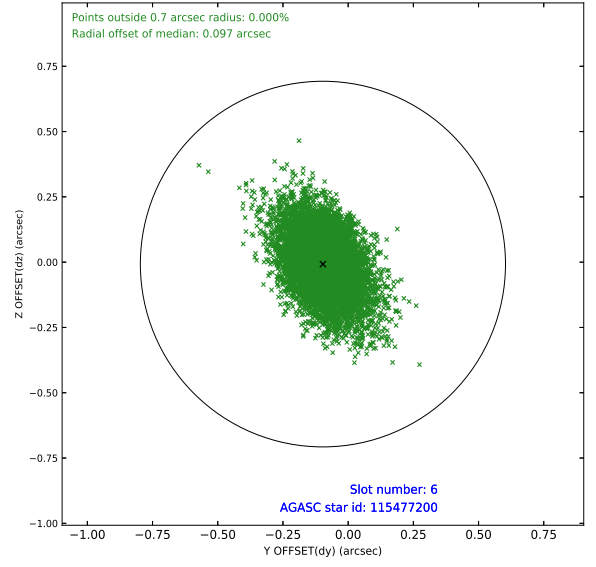
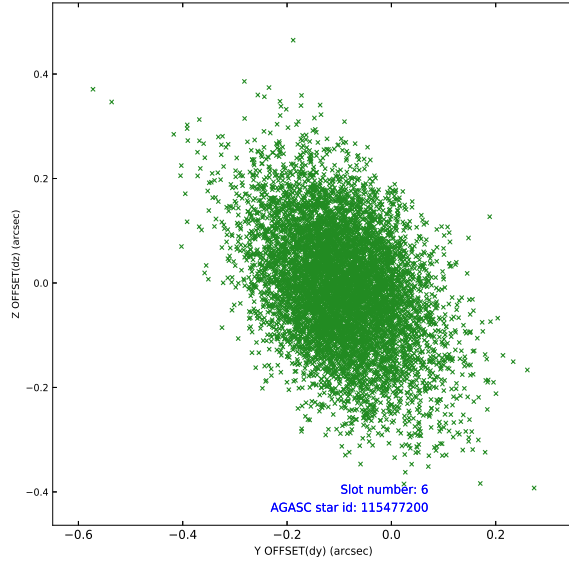
2.4.1 Slot 3



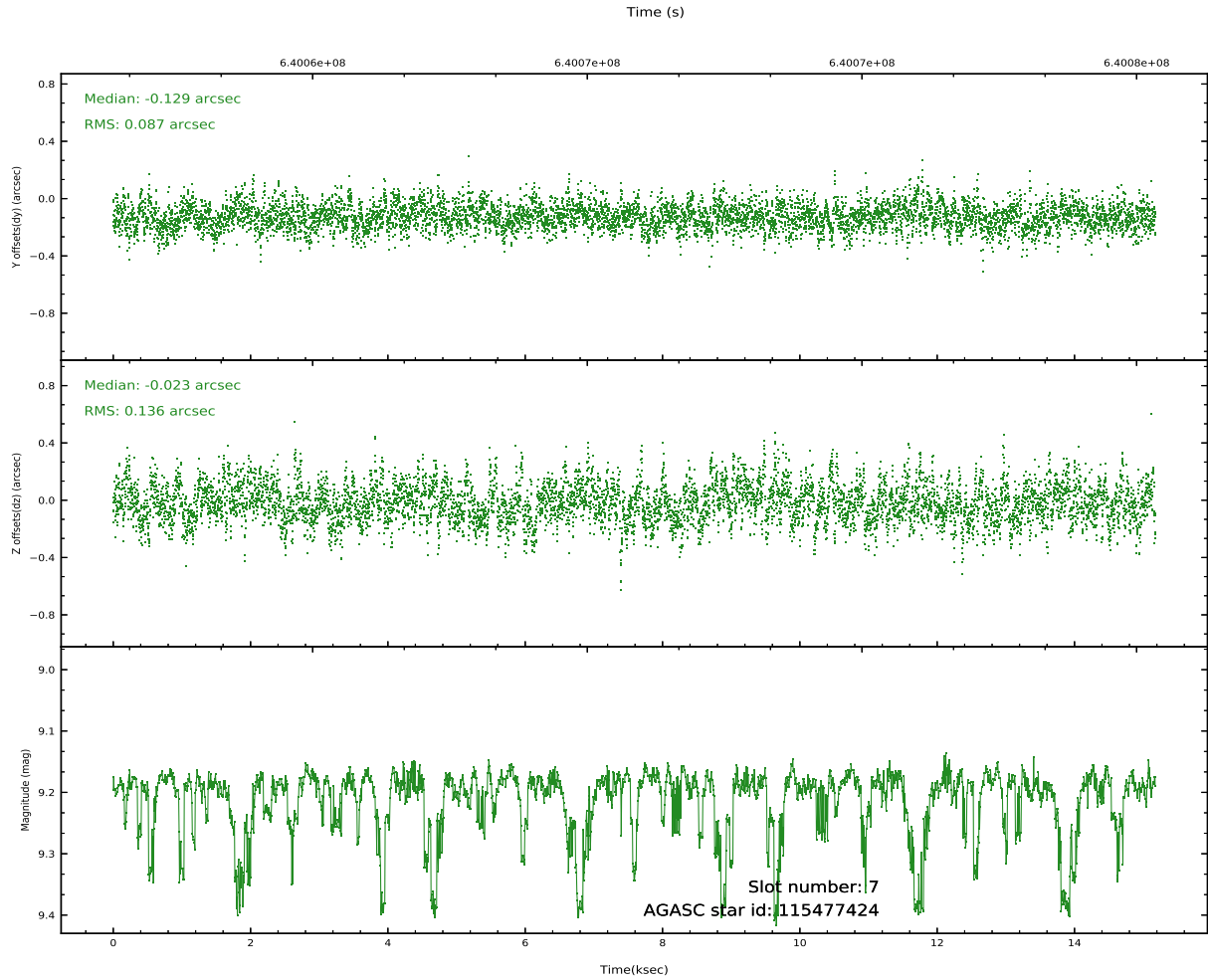
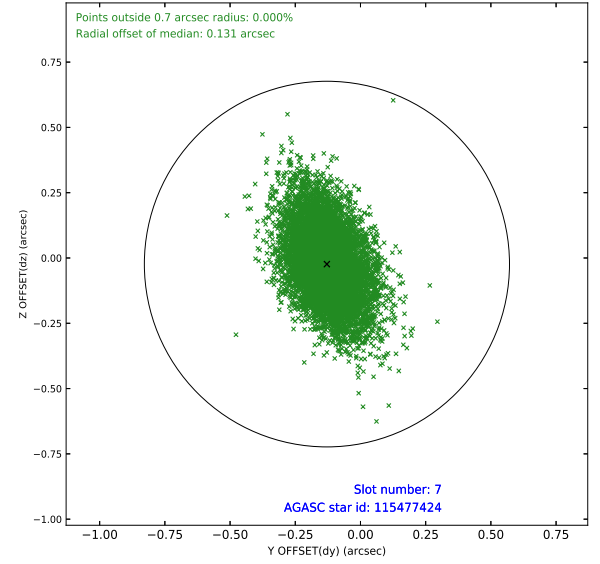
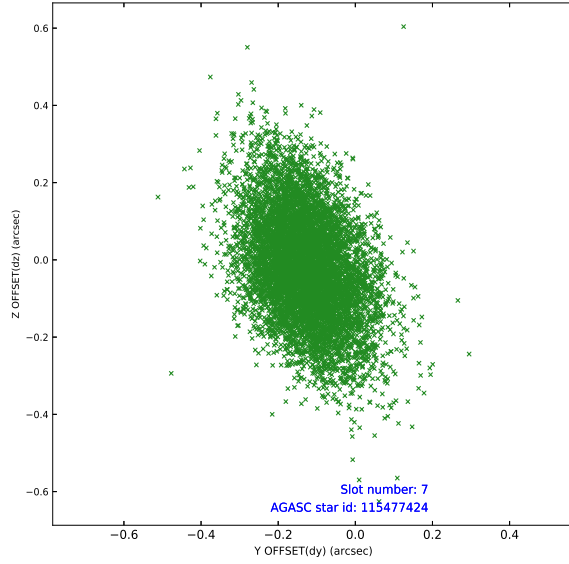
2.4.2 Slot 4



2.4.3 Slot 6

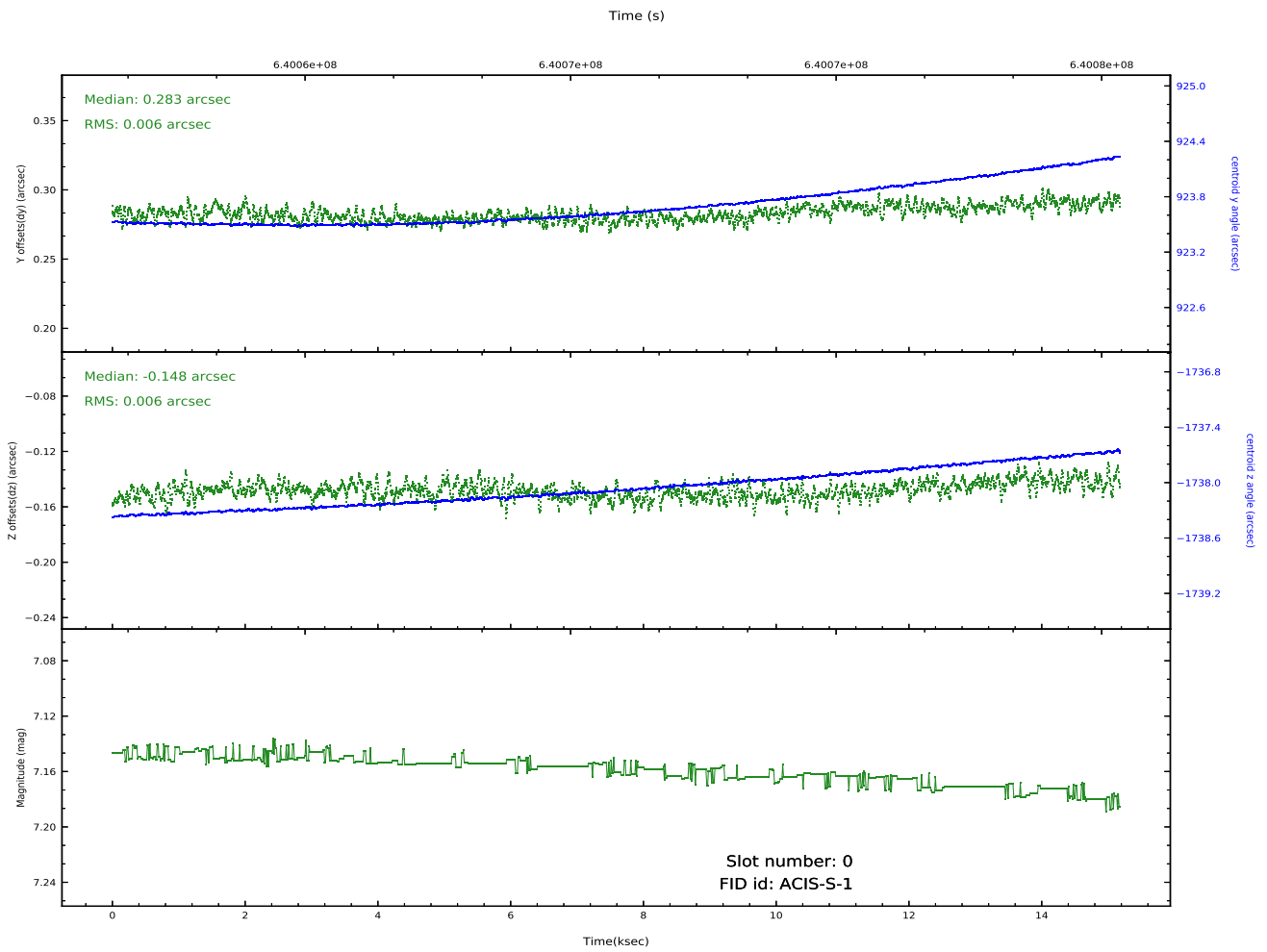
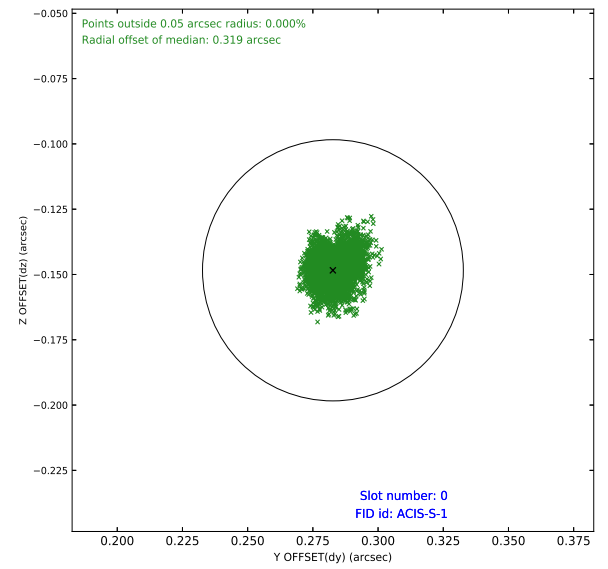
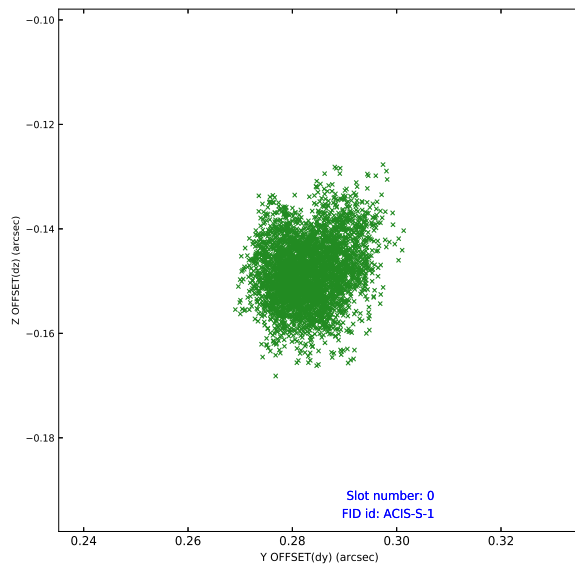


2.4.4 Slot 7

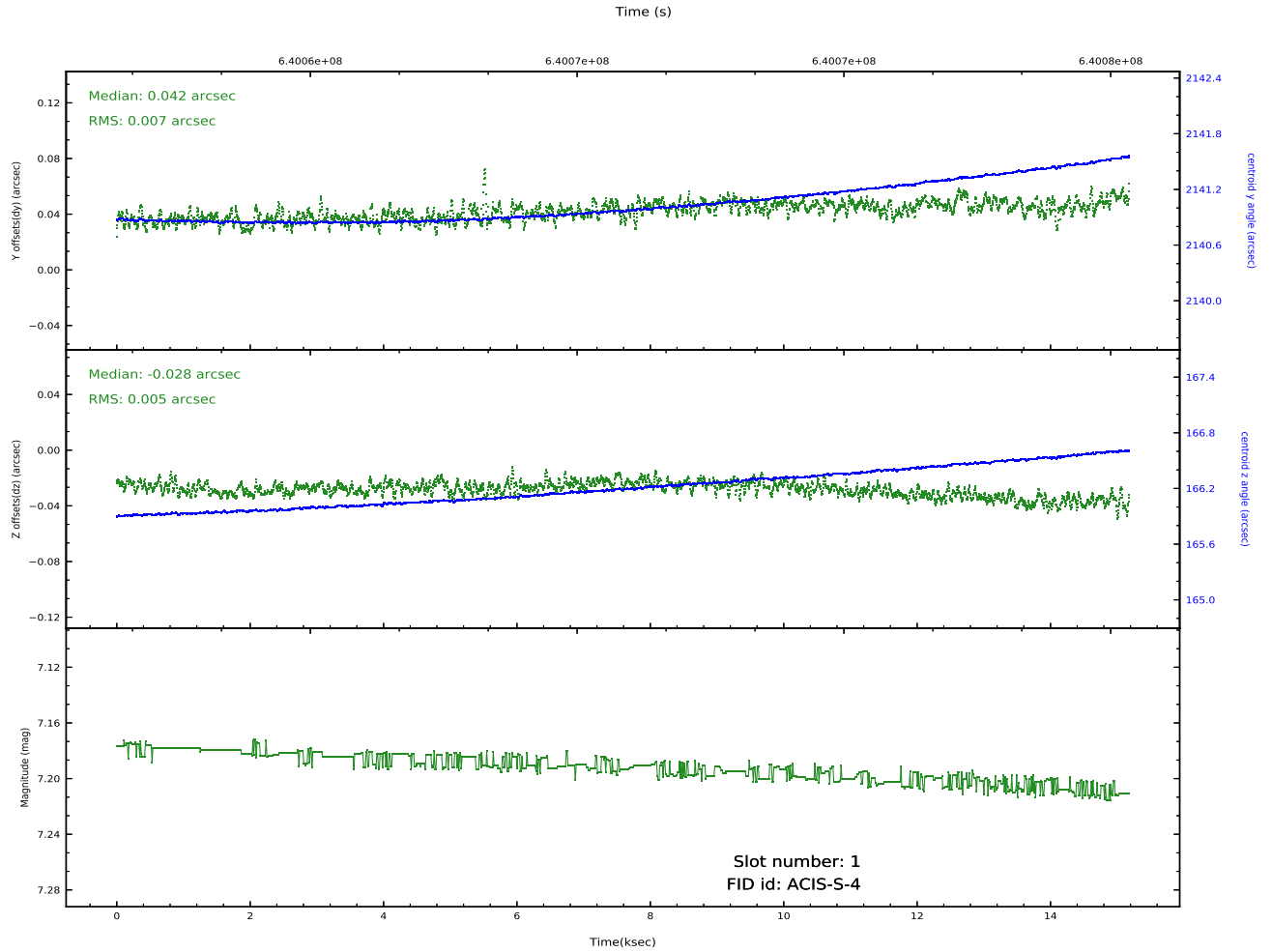
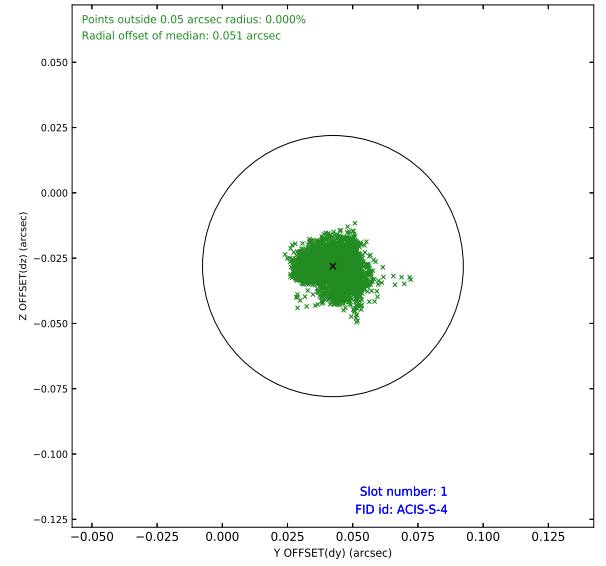
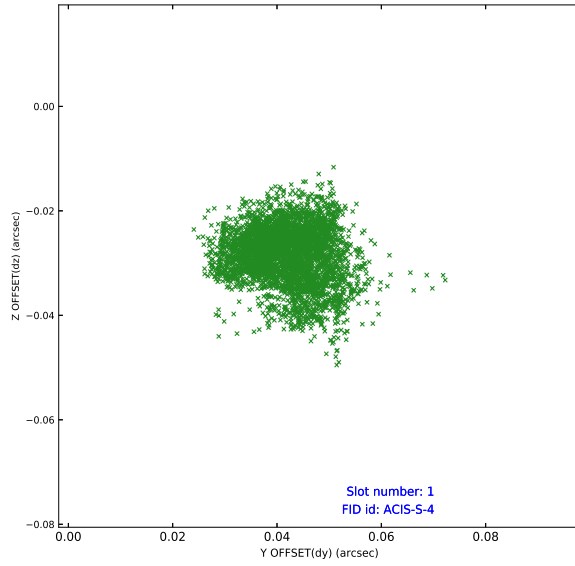


2.5 FID Slots

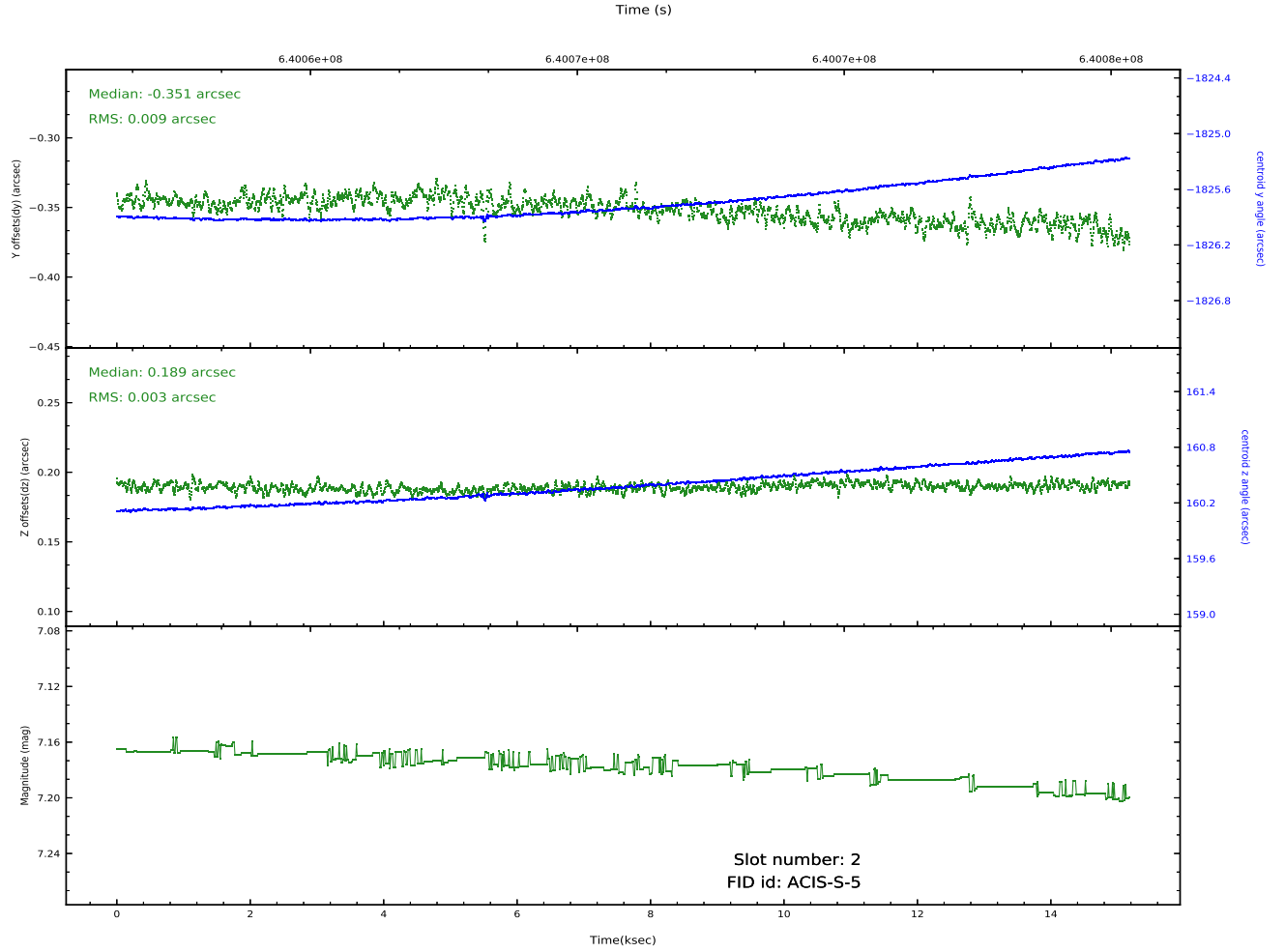
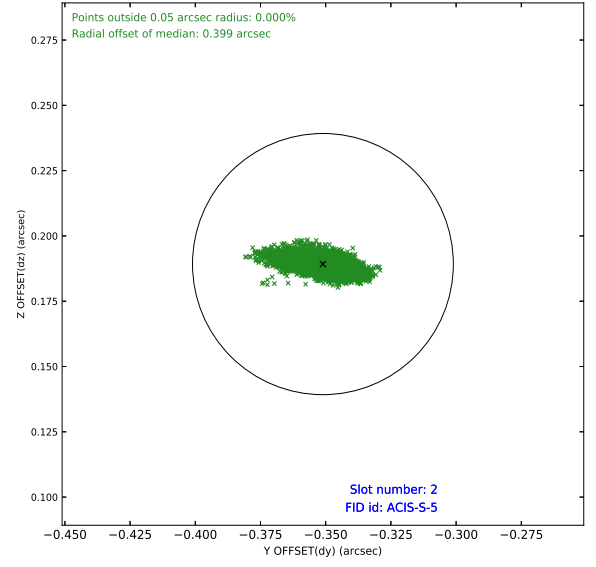
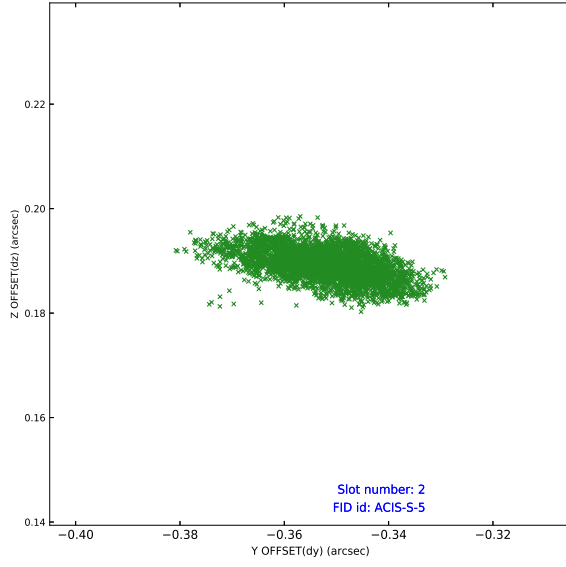
2.5.1 Slot 0



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)	2020.10.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	14.907900114775

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: (190.69951,13.16732), (190.70212,13.16864), (190.63591,13.29249), (190.63330,13.29117).

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The guide star in slot 5 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this slot from the solution.