

# V&V Reference Report

## L2 ASCDS Version : 10.9.2

Observation 19417 - L2 Version 2  
Chandra X-Ray Center

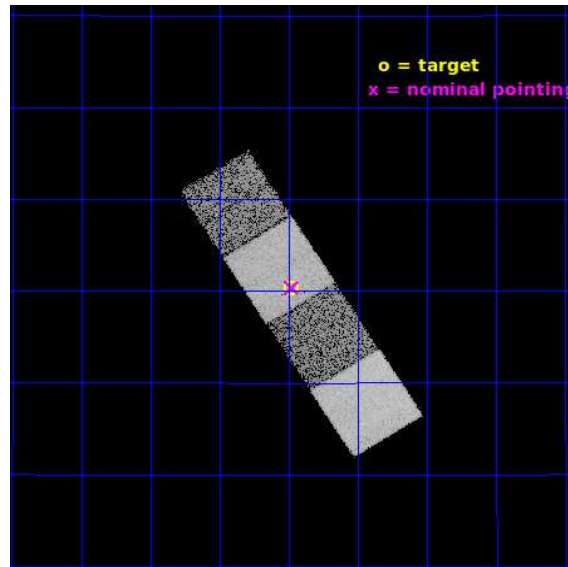
L2 Processing Date : Oct 25 2020

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# 1 Front

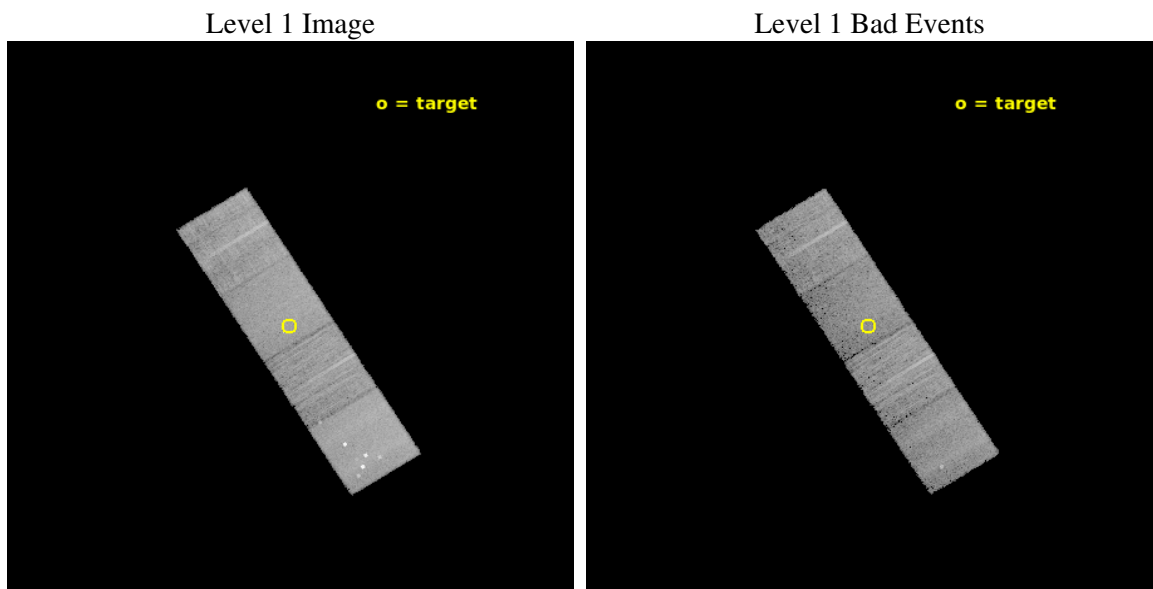
seq_num	601374	Sequence number
obs_id	19417	Observation id
title	Spiral galaxies of the Virgo cluster	Proposal title
observer	Roberto Soria	Principal investigator
object	NGC 4396	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	186.495	Observer's specified target RA [deg]
dec_targ	15.671472	Observer's specified target Dec [deg]
ra_nom	186.49439391707	Nominal RA [deg]
dec_nom	15.672776293947	Nominal Dec [deg]
roll_nom	237.69399713164	Nominal Roll [deg]
revision	2	Processing version of data
ontime	8214.315967083	Sum of GTIs [s]
livetime	8106.9898816816	Livetime [s]
ontime5	8214.2749271393	Sum of GTIs [s]
ontime6	8214.2338870764	Sum of GTIs [s]
ontime7	8214.315967083	Sum of GTIs [s]
ontime8	8214.1928471327	Sum of GTIs [s]
l2events	86506	Number of level 2 events



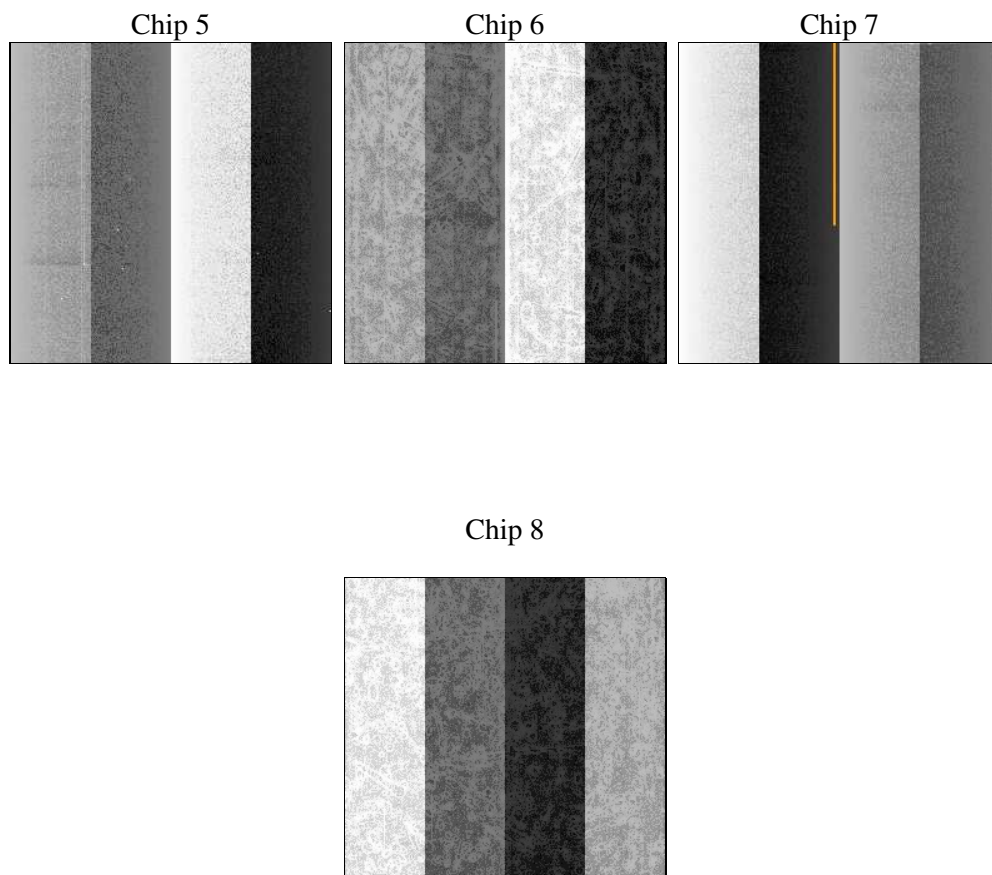
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	8153.345000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	8214.315967083	Sum of GTIs [s]
caldsver	4.9.3	&#160	ontime5	8214.2749271393	Sum of GTIs [s]
date	2020-10-26T00:45:01	Date and time of file creation	ontime6	8214.2338870764	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	8214.315967083	Sum of GTIs [s]
			ontime8	8214.1928471327	Sum of GTIs [s]
			l1events	321655	Number of level 1 events

### 2.1.4 Events

	<b>ccd 5</b>	<b>ccd 6</b>	<b>ccd 7</b>	<b>ccd 8</b>
level 1 events	102707	65202	76907	76839
rejected events	51046	58330	43775	57903
rejected %	49%	89%	56%	75%

	<b>ccd 5</b>	<b>ccd 6</b>	<b>ccd 7</b>	<b>ccd 8</b>
grade 0 events	7976	1933	2783	5300
	7%	2%	3%	6%
grade 1 events	353	26	106	54
	0%	0%	0%	0%
grade 2 events	15429	1917	6742	4696
	15%	2%	8%	6%
grade 3 events	1396	529	2689	1934
	1%	0%	3%	2%
grade 4 events	1322	546	2590	1812
	1%	0%	3%	2%
grade 5 events	5871	2464	7434	3982
	5%	3%	9%	5%
grade 6 events	25581	1953	18355	5215
	24%	2%	23%	6%
grade 7 events	44779	55834	36208	53846
	43%	85%	47%	70%

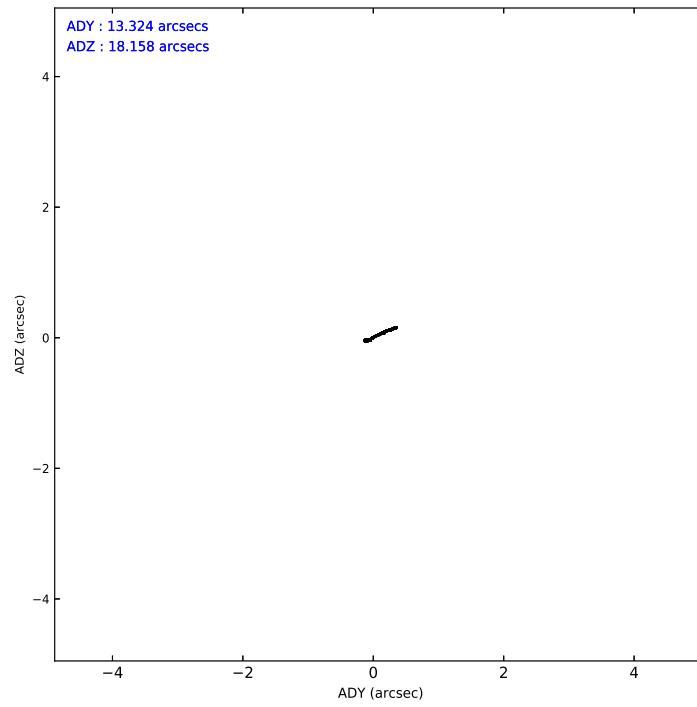
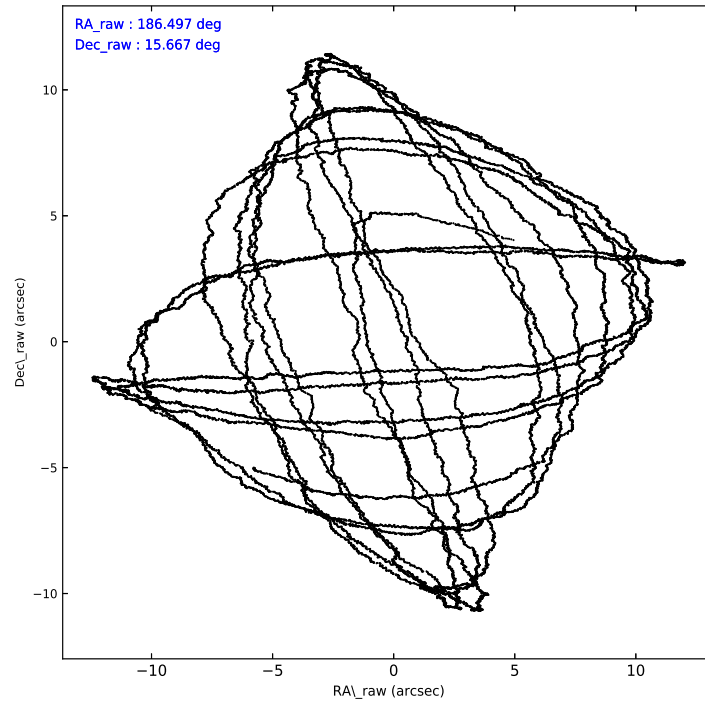


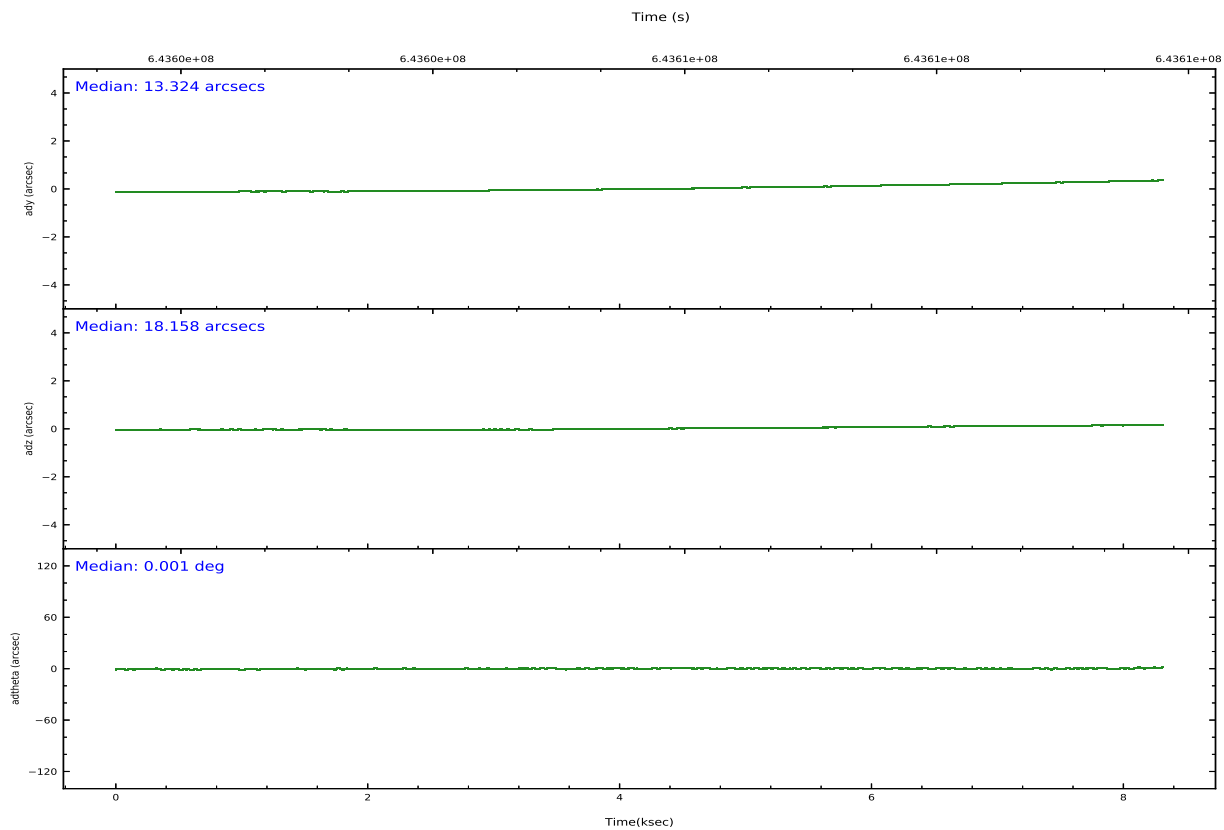
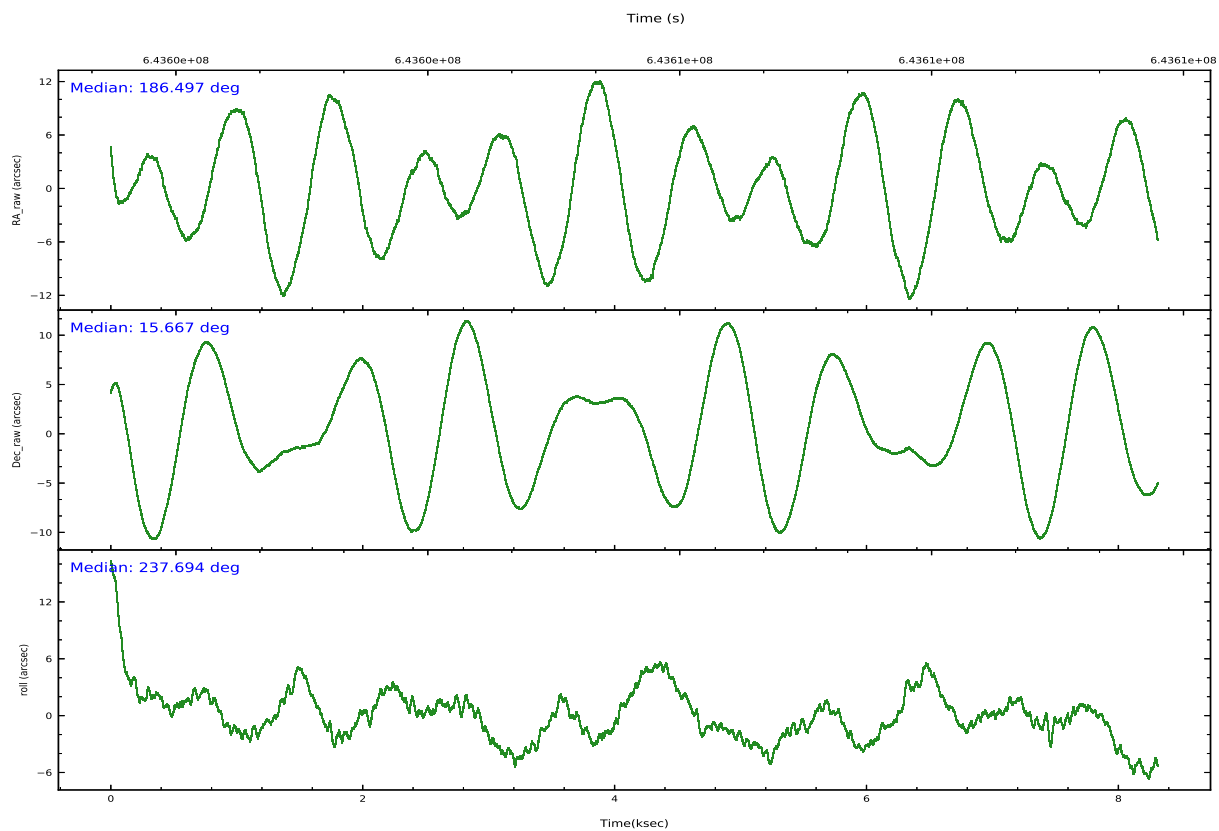
## 2.2 Compared Parameters

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	186.497577	186.49439391707
[deg] Pointing Dec	15.694166	15.672776293947
[deg] Pointing Roll	237.545573	237.69399713164
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1400660498719
[mm] SIM translation stage offset	0	0.00754346686406393
[s] Observation start time (MET)	643601645.184000	643600655.7985899
Observation start date	2018-05-25T02:12:56	2018-05-25T01:57:35
[s] Observation end time (MET)	643609798.184000	643610408.16167
Observation end date	2018-05-25T04:28:49	2018-05-25T04:40:08
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



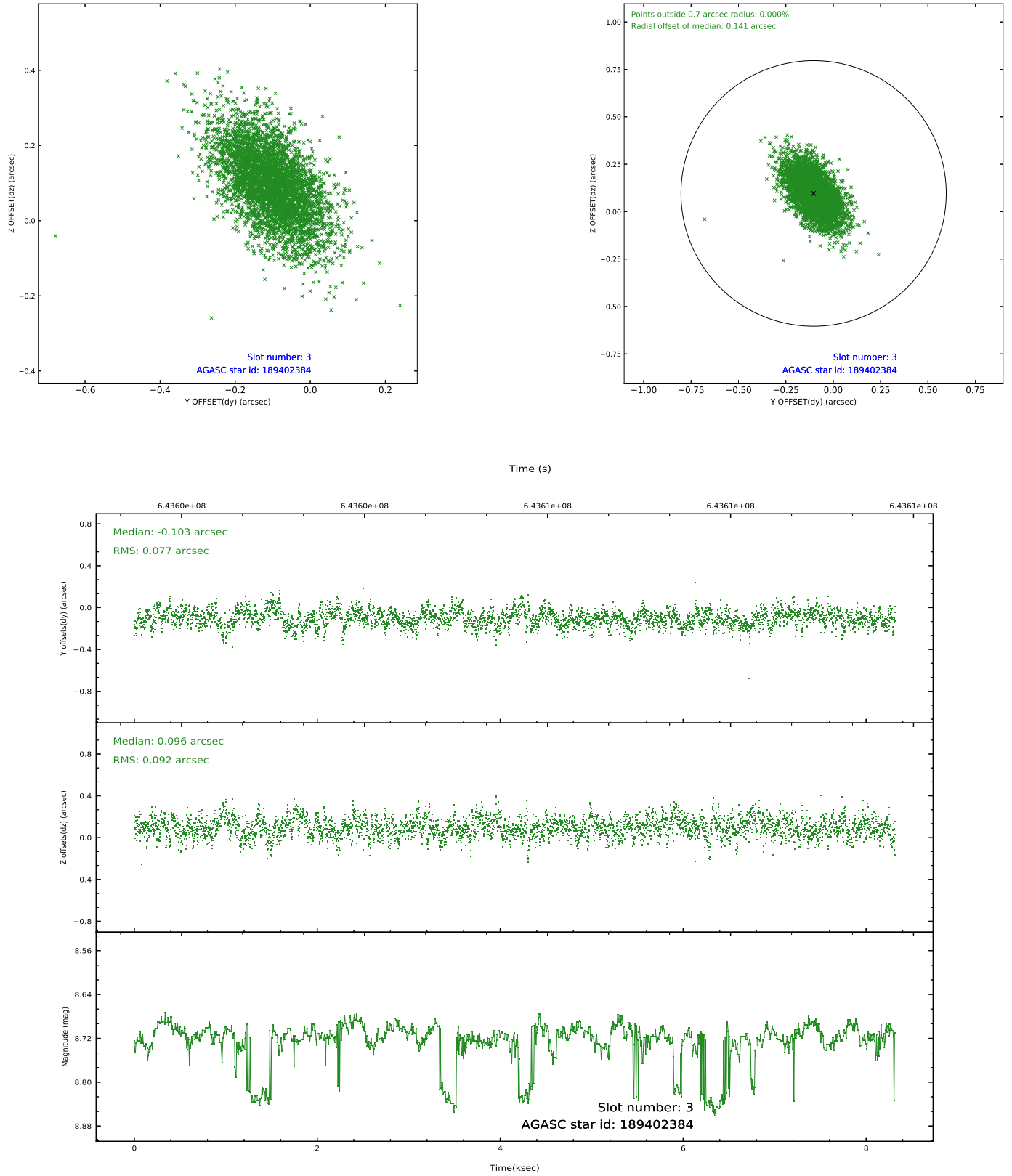


Slot Statistics

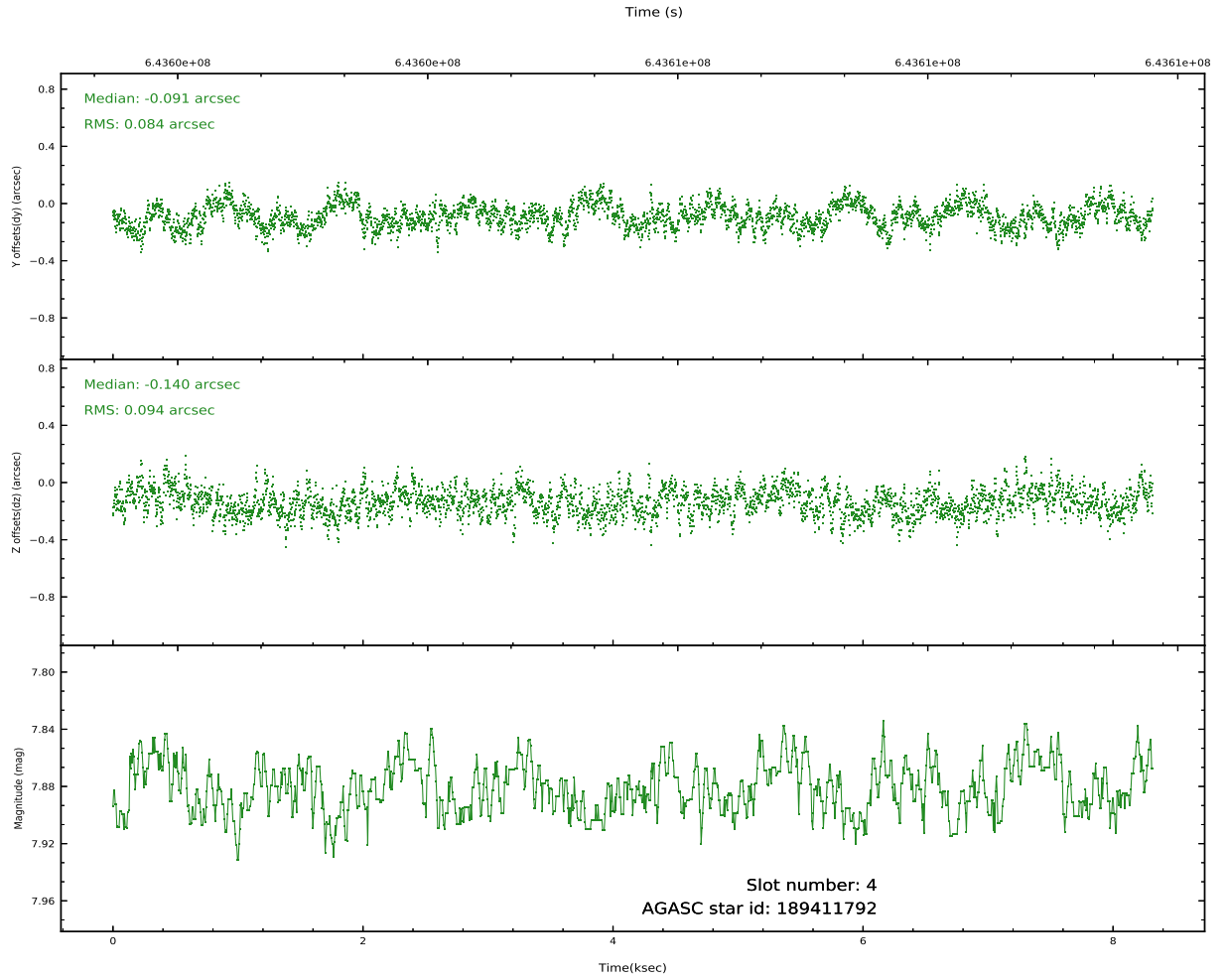
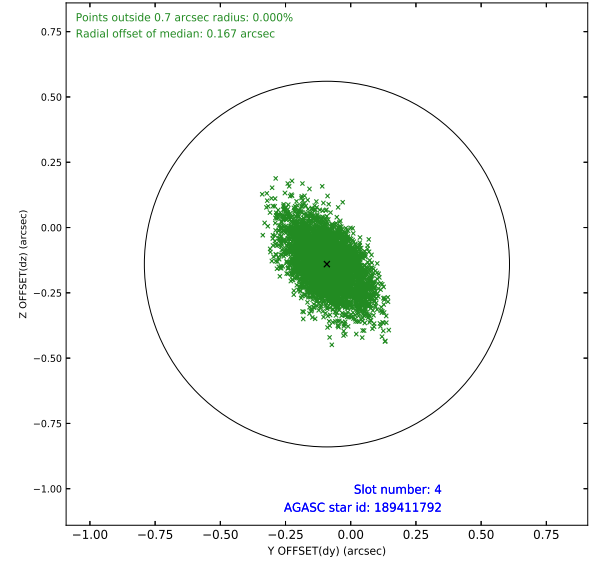
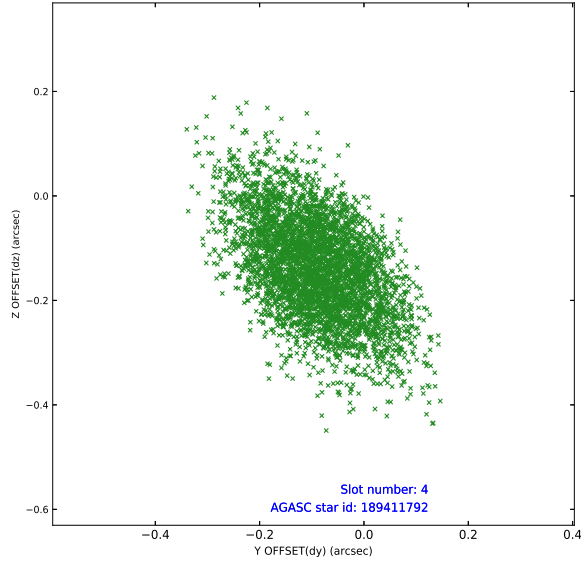
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-1	7.23	2028	1.000	0.287	-0.081	0.008	0.013	0.000000	0.000000	929.85	-1735
1	FID		ACIS-S-4	7.25	2028	1.000	0.079	-0.077	0.008	0.012	0.000000	0.000000	2147.61	167
2	FID		ACIS-S-5	7.24	2029	1.000	-0.393	0.171	0.008	0.015	0.000000	0.000000	-1818.65	162
3	GUIDE	used	189402384	8.72	4054	1.000	-0.103	0.096	0.123	0.213	187.044872	15.618538	-790.83	1745
4	GUIDE	used	189411792	7.88	4055	1.000	-0.091	-0.140	0.131	0.224	186.226855	16.194788	-1018.61	-1757
5	GUIDE	used	189412368	9.00	4057	1.000	-0.027	0.118	0.129	0.218	186.600821	16.354974	-2198.22	-976
6	GUIDE	used	189401024	8.63	4054	1.000	0.212	-0.083	0.138	0.221	185.977630	15.617765	1197.88	-1375
7	GUIDE	used	189409936	8.77	4055	1.000	0.003	0.008	0.129	0.216	186.093063	16.342557	-1219.49	-2433

## 2.4 Star Slots

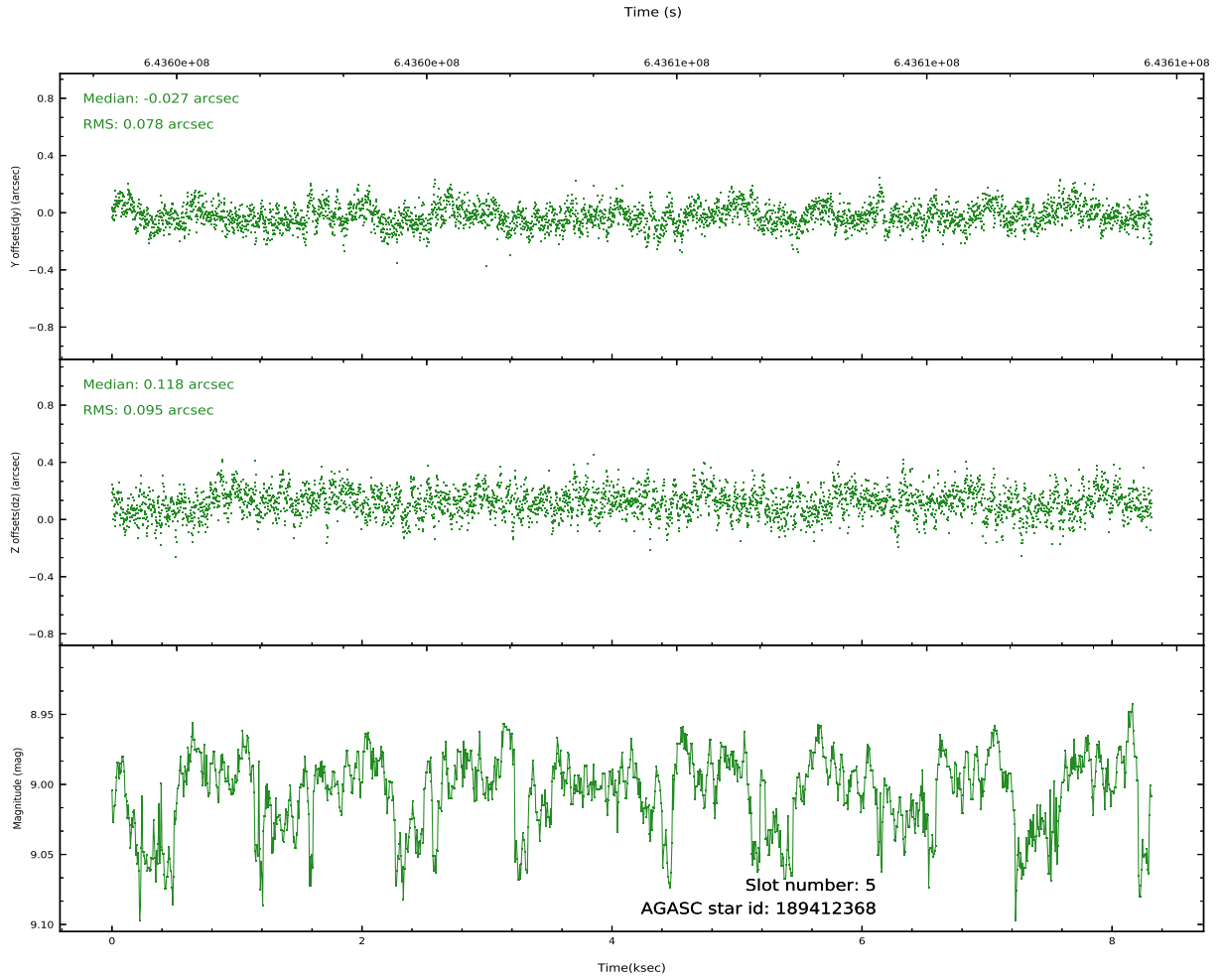
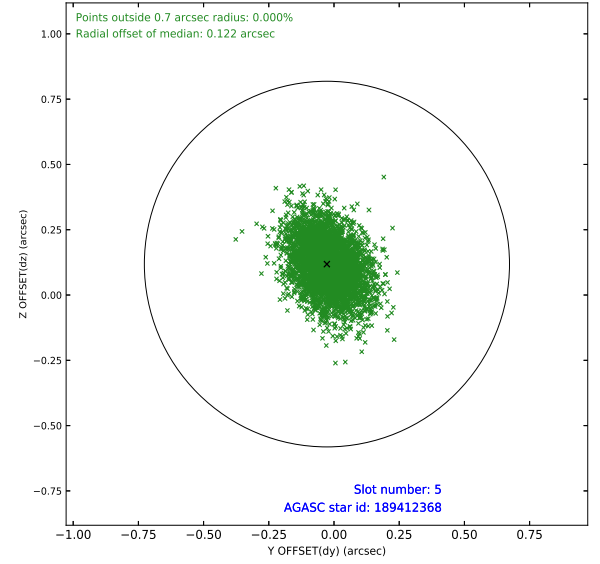
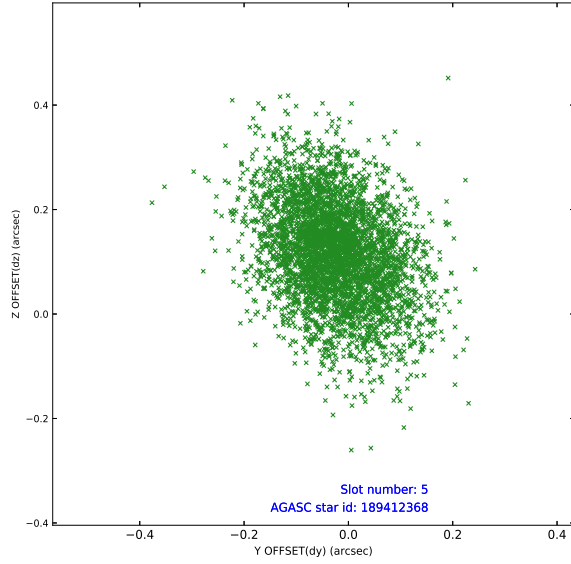
### 2.4.1 Slot 3



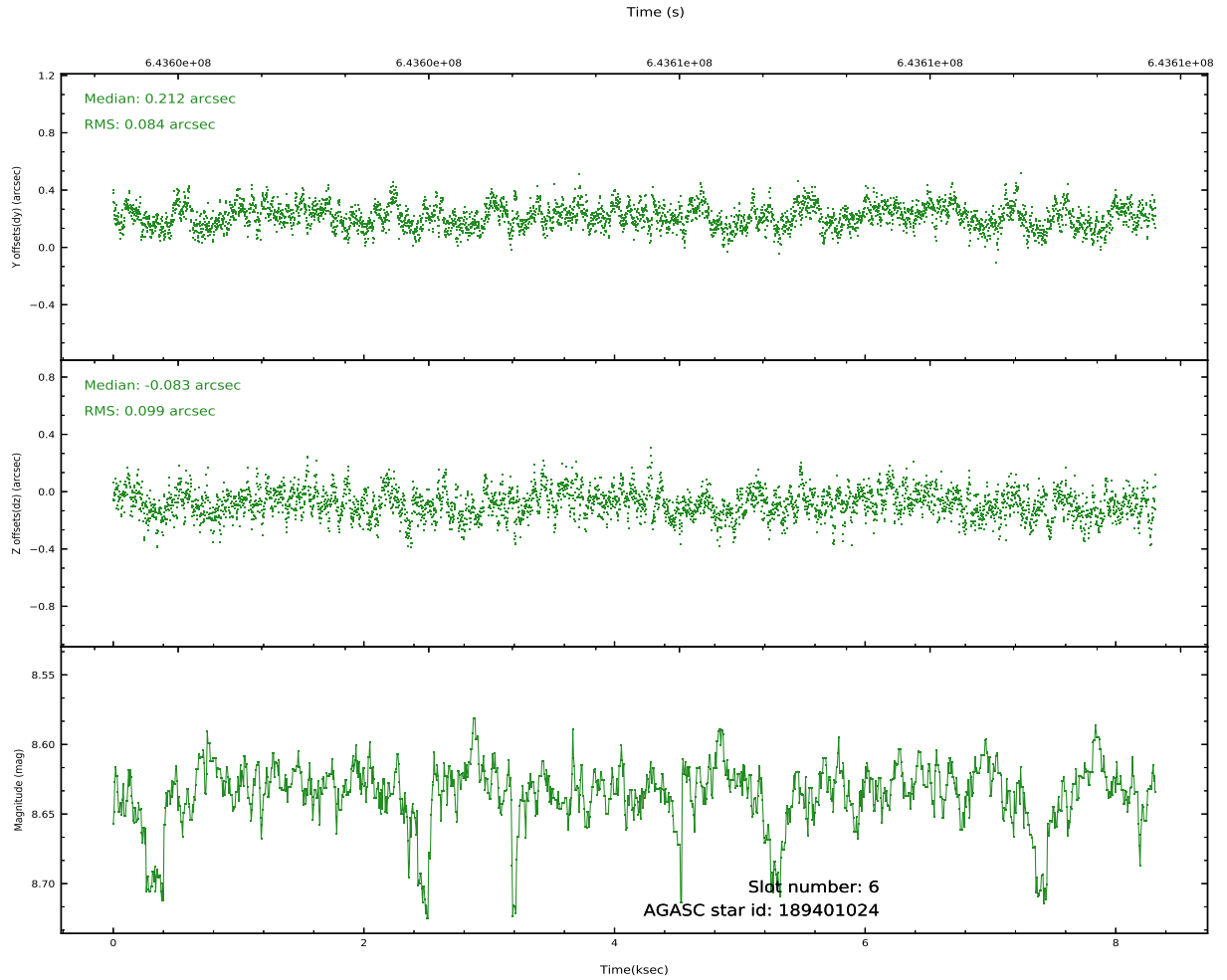
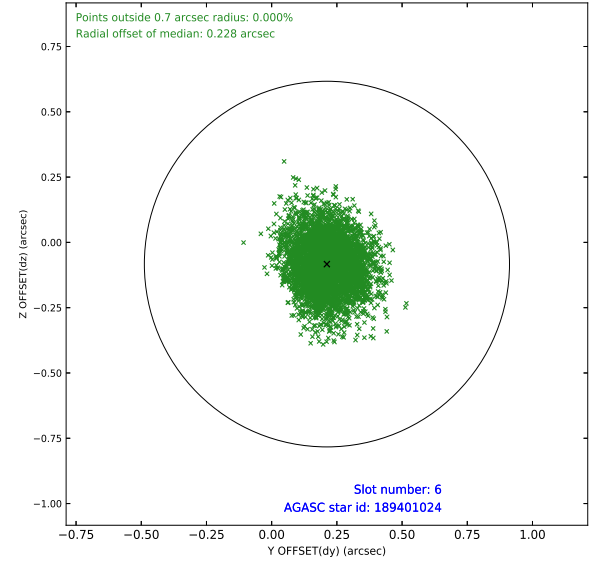
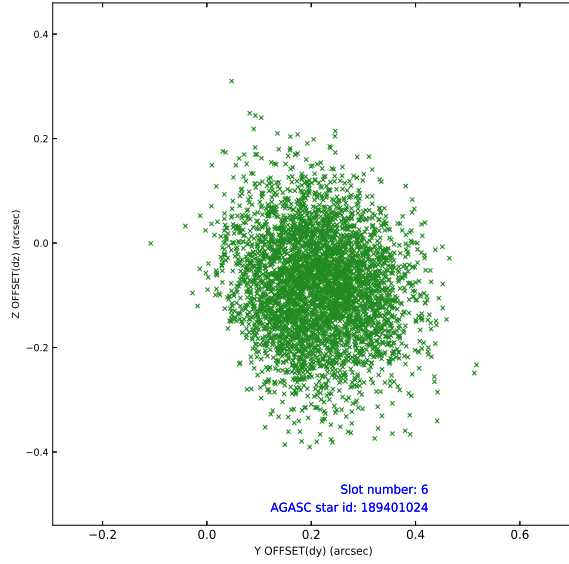
## 2.4.2 Slot 4



### 2.4.3 Slot 5

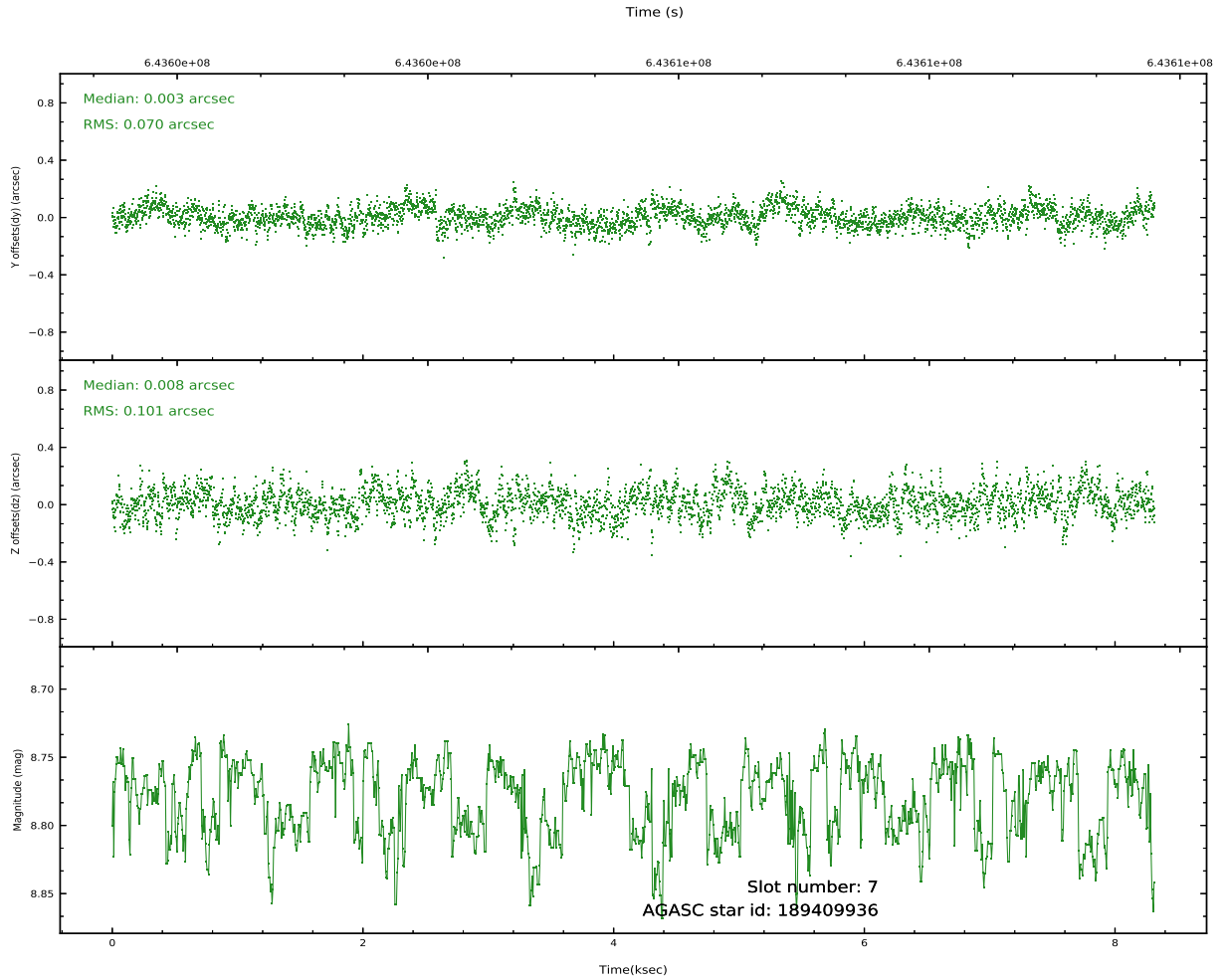
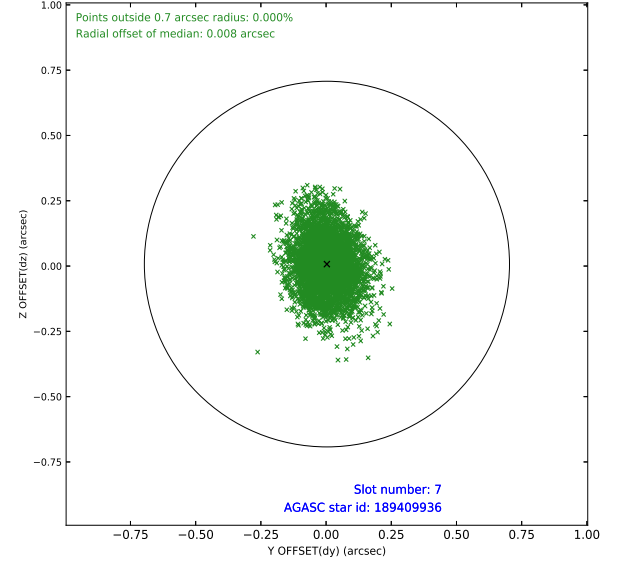
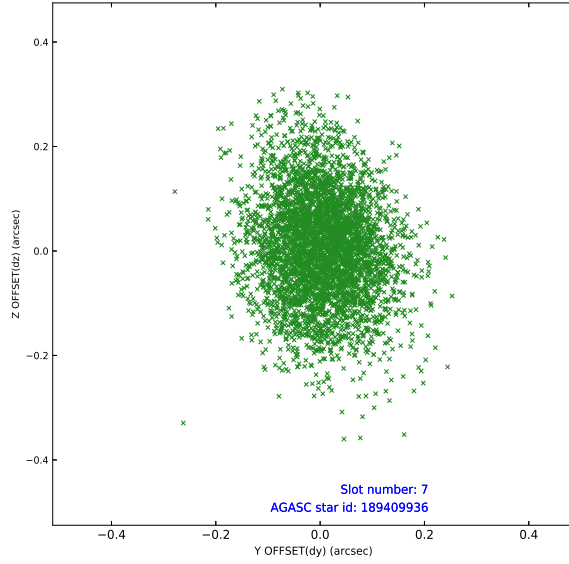


## 2.4.4 Slot 6



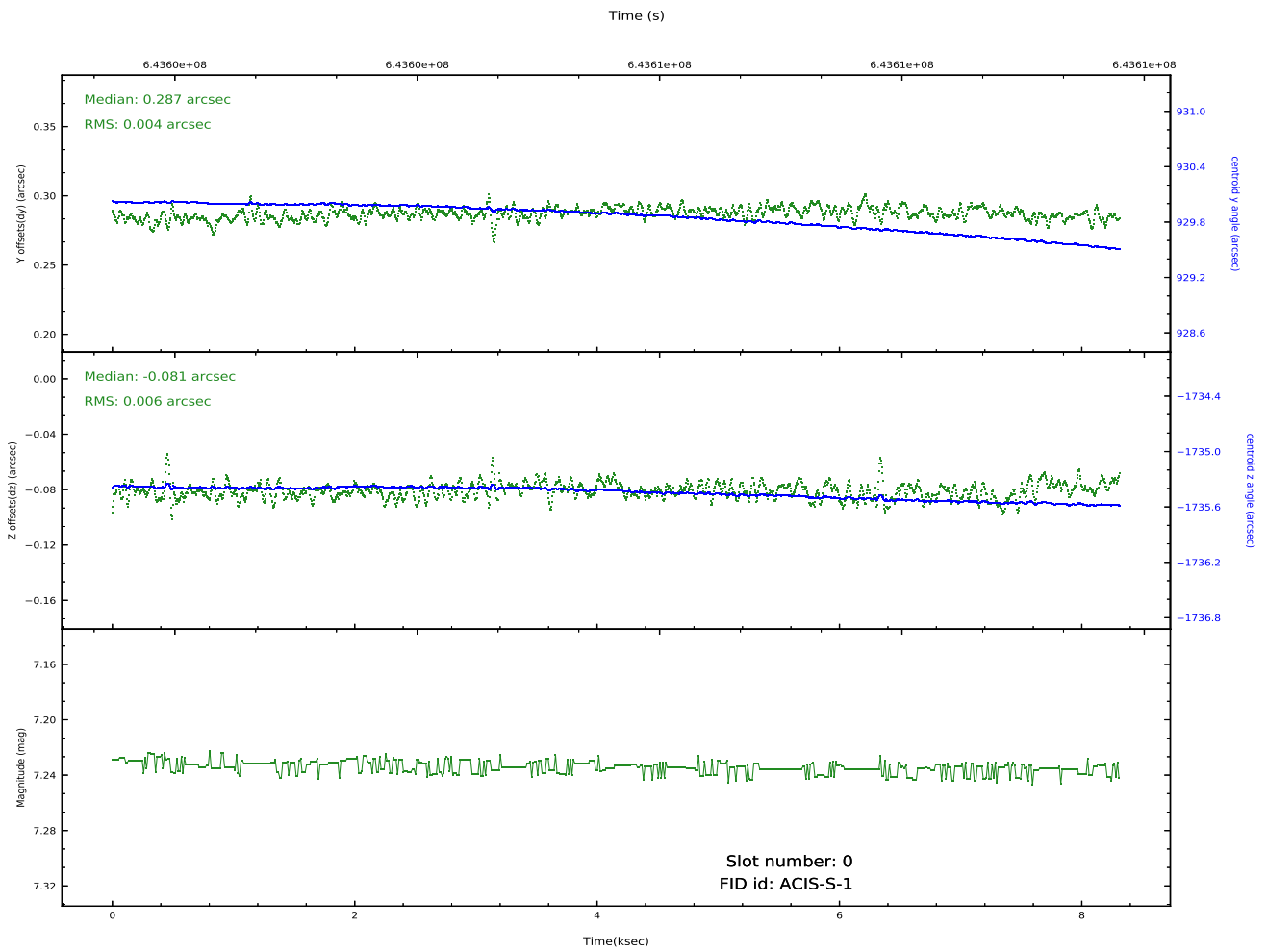
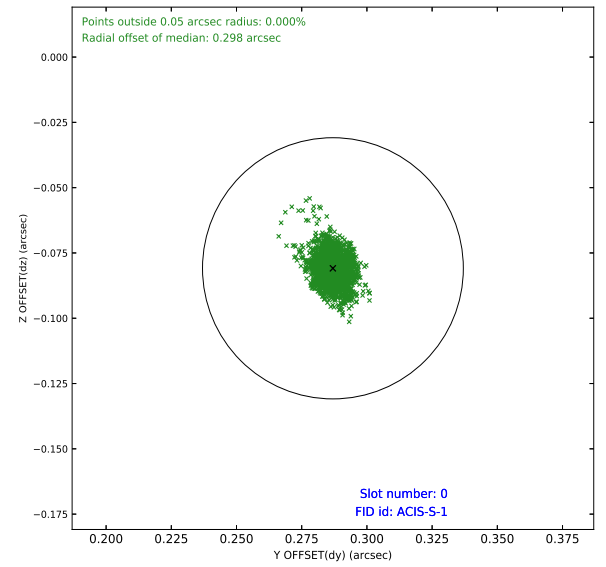
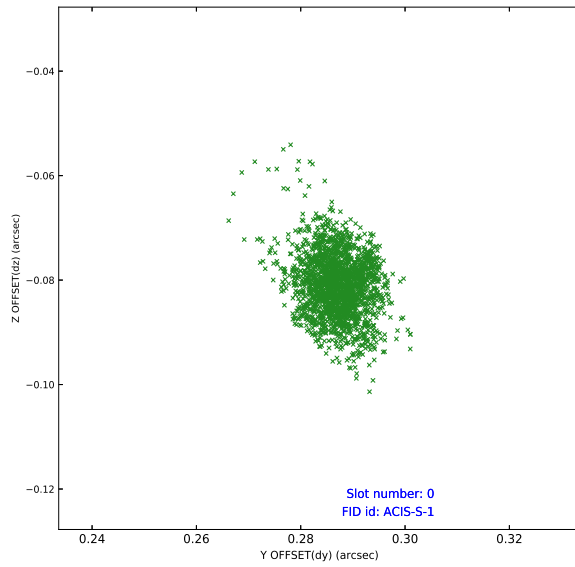


## 2.4.5 Slot 7

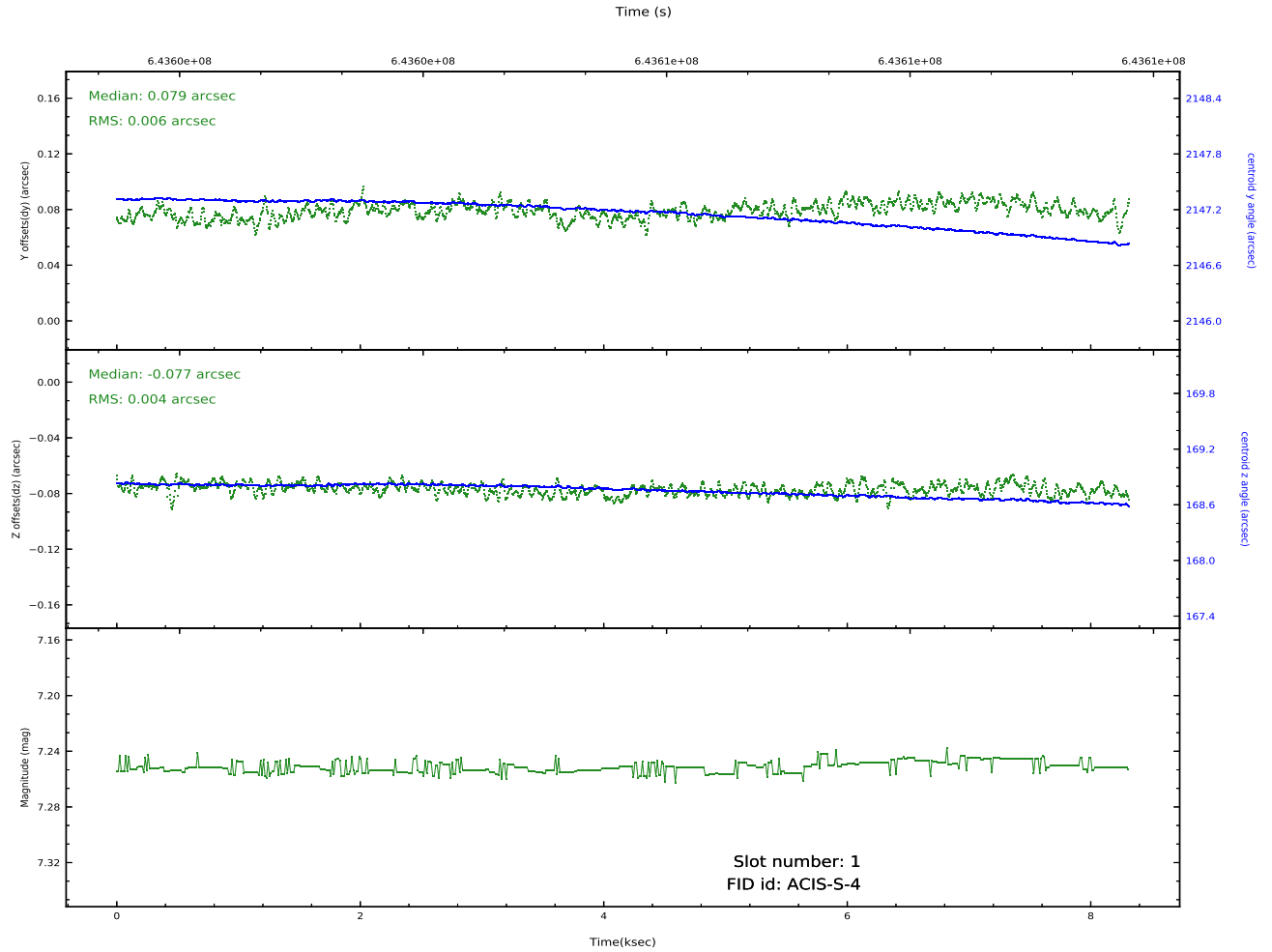
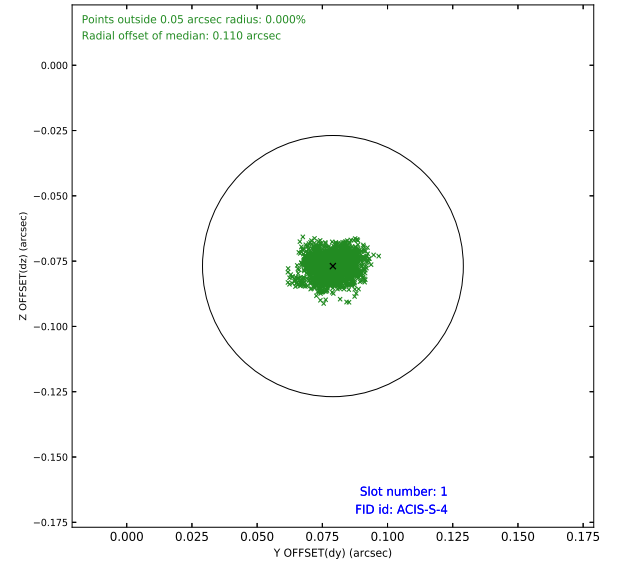
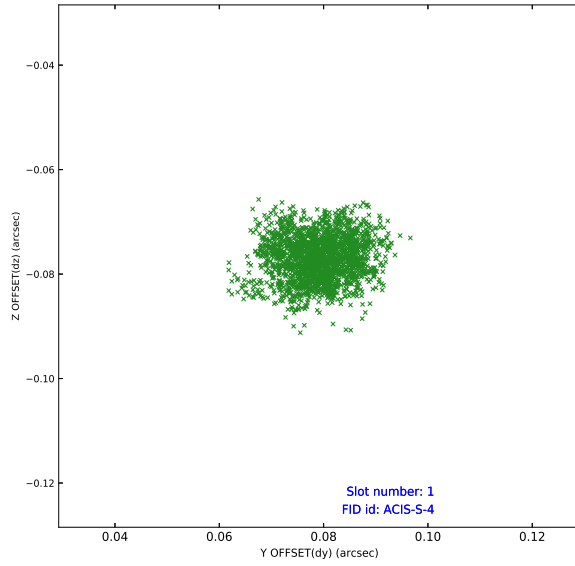


## 2.5 FID Slots

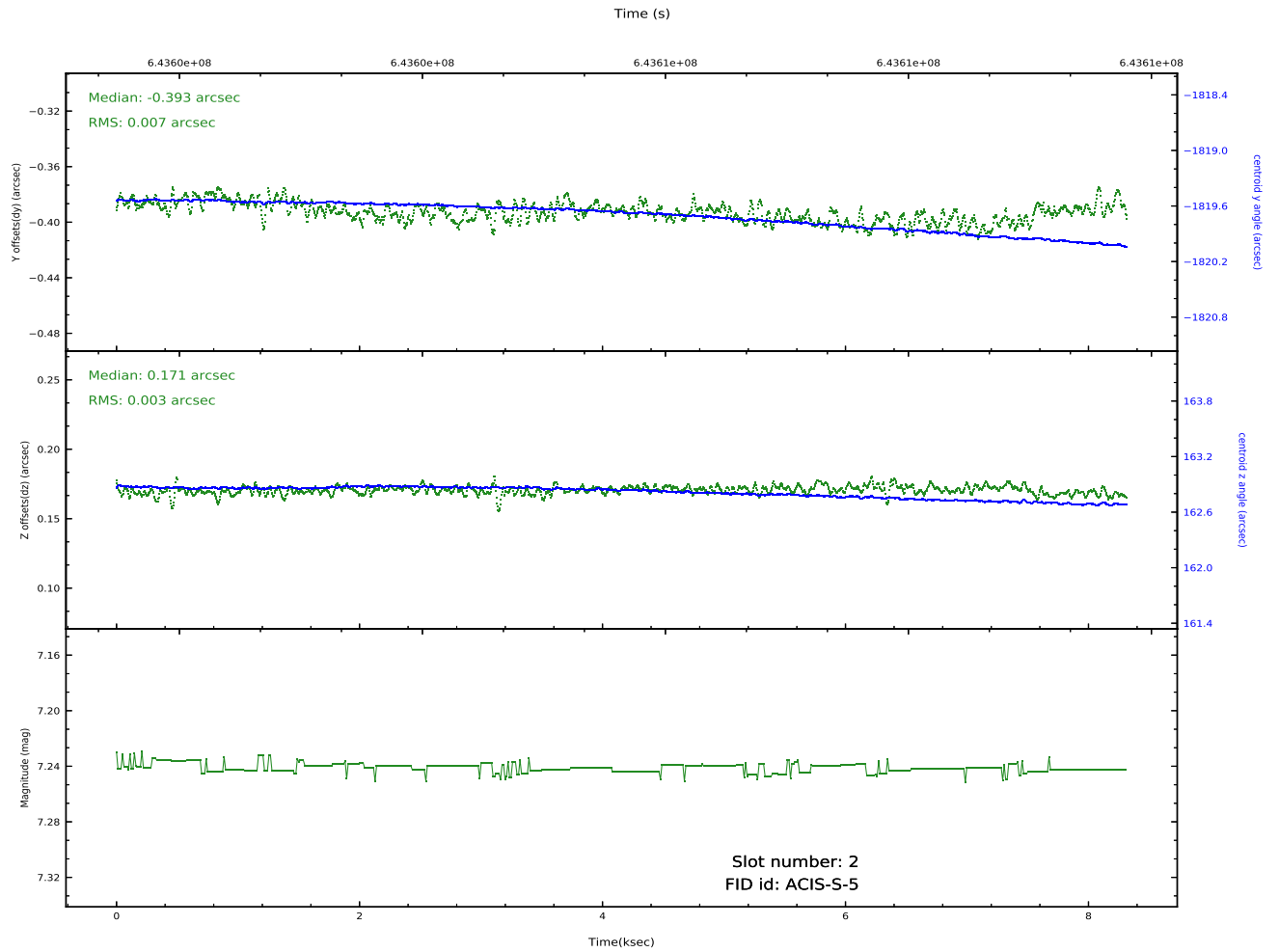
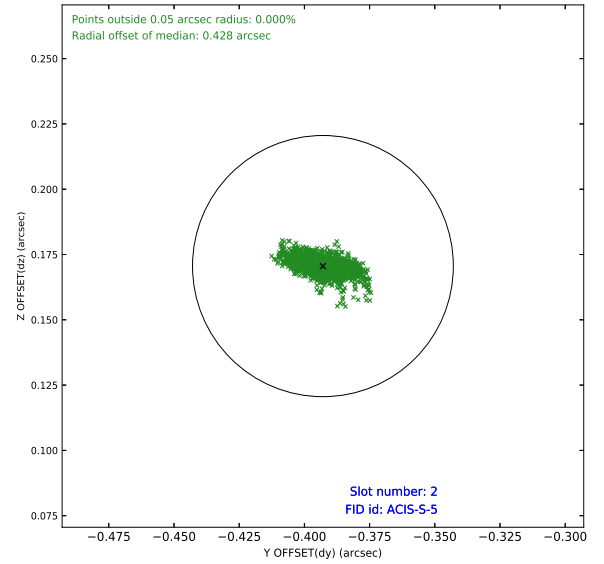
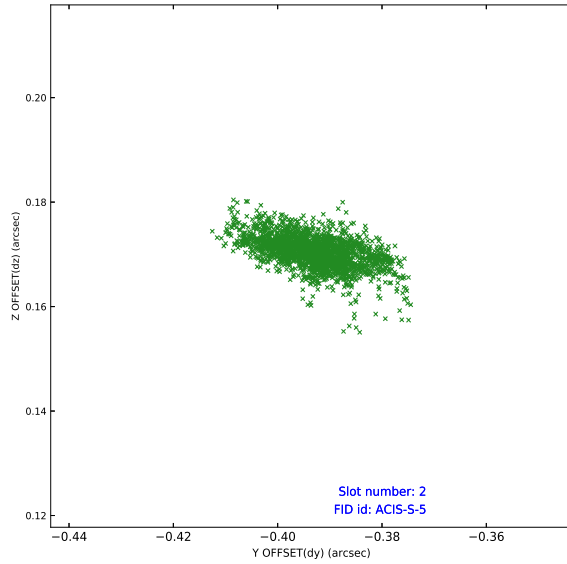
### 2.5.1 Slot 0



## 2.5.2 Slot 1



## 2.5.3 Slot 2



## A Summary

### A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2020.10.26
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	8.2143159689903

### A.2 Comments