

# V&V Reference Report

## L2 ASCDS Version : 10.9.2

Observation 20510 - L2 Version 2  
Chandra X-Ray Center

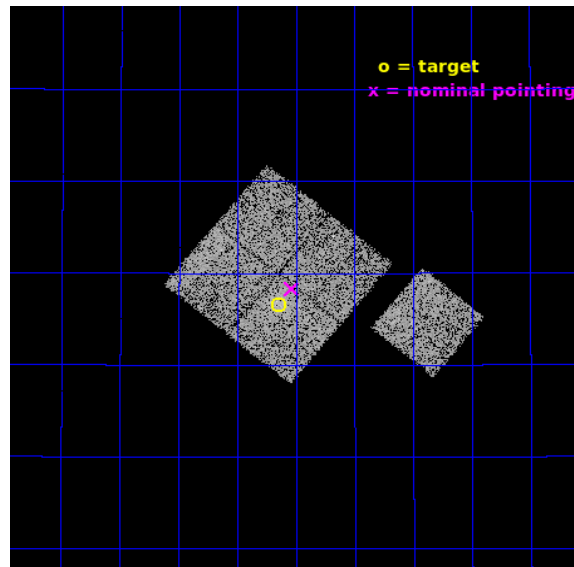
L2 Processing Date : Oct 24 2020

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI</b>	<b>3</b>
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
<b>A</b>	<b>Summary</b>	<b>17</b>
A.1	Status . . . . .	17
A.2	Comments . . . . .	17

# 1 Front

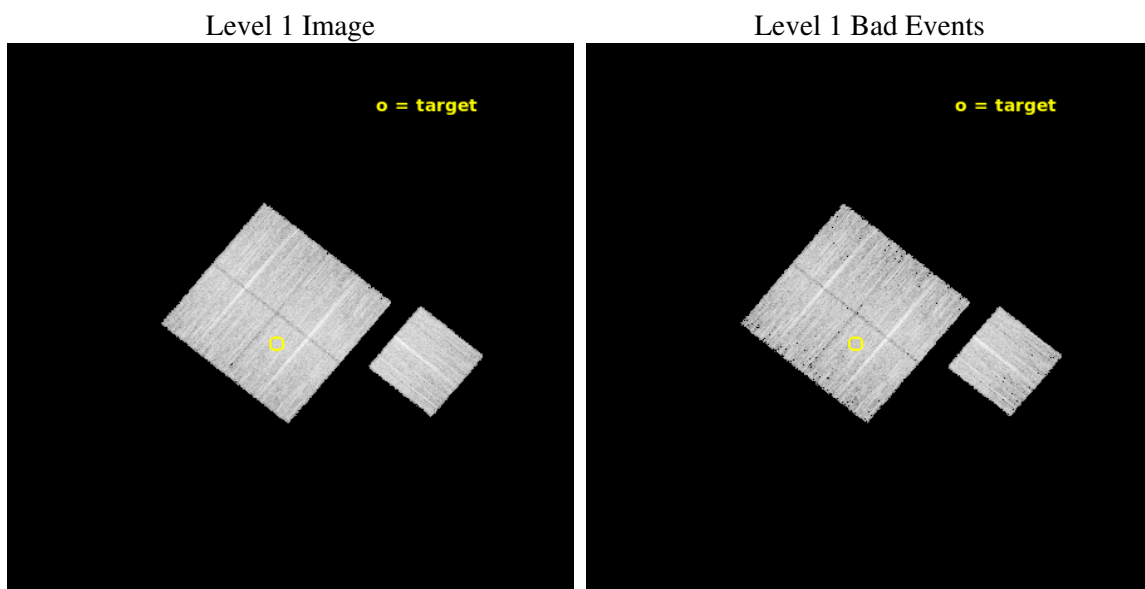
seq_num	801724	Sequence number
obs_id	20510	Observation id
title	Enabling precision cosmology with optically selected galaxy clusters	&#160
observer	Roger Morris	Principal investigator
object	CIG J081008+351631	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	122.535417	Observer's specified target RA [deg]
dec_targ	35.275278	Observer's specified target Dec [deg]
ra_nom	122.50861710987	Nominal RA [deg]
dec_nom	35.305096218518	Nominal Dec [deg]
roll_nom	129.36144814458	Nominal Roll [deg]
revision	2	Processing version of data
ontime	9052.0000697374	Sum of GTIs [s]
livetime	8933.7290248408	Livetime [s]
ontime0	9052.0000697374	Sum of GTIs [s]
ontime1	9048.8590495586	Sum of GTIs [s]
ontime2	9052.0000697374	Sum of GTIs [s]
ontime3	9052.0000697374	Sum of GTIs [s]
ontime6	9052.0000697374	Sum of GTIs [s]
l2events	32397	Number of level 2 events



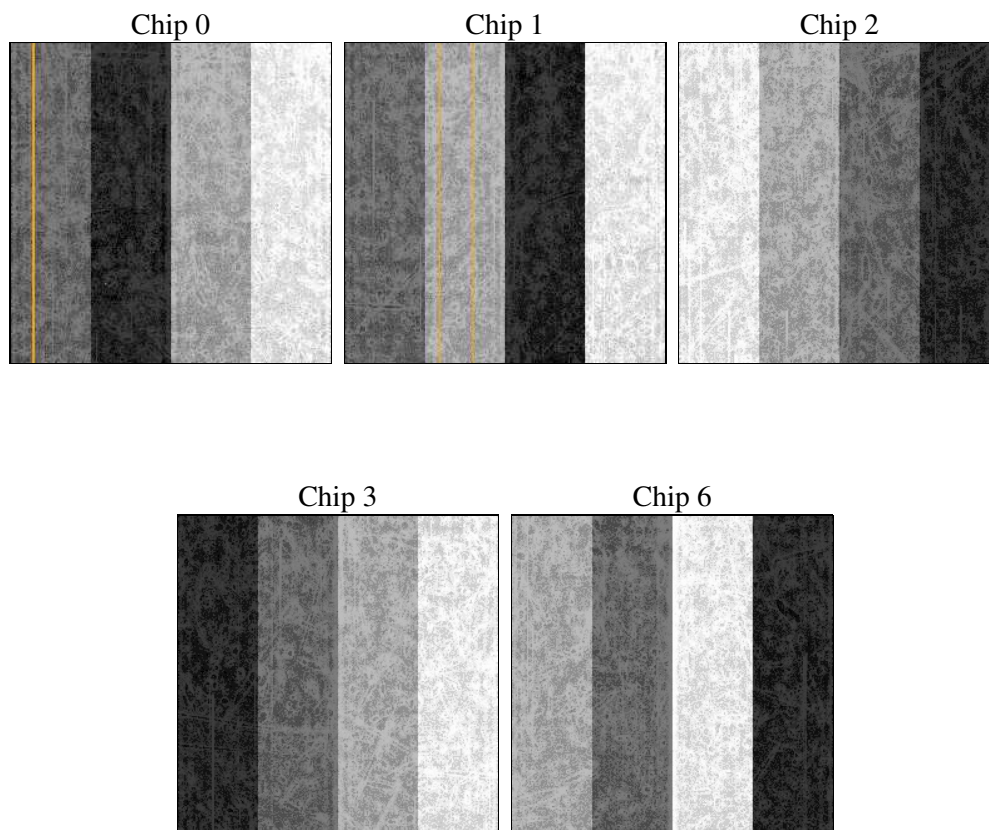
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	9000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	9052.0000697374	Sum of GTIs [s]
caldsver	4.9.3	&#160	ontime0	9052.0000697374	Sum of GTIs [s]
date	2020-10-24T05:03:22	Date and time of file creation	ontime1	9048.8590495586	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	9052.0000697374	Sum of GTIs [s]
			ontime3	9052.0000697374	Sum of GTIs [s]
			ontime6	9052.0000697374	Sum of GTIs [s]
			l1events	322500	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	61007	63220	66378	63246	68649
rejected events	53445	55076	59051	55406	61122
rejected %	87%	87%	88%	87%	89%

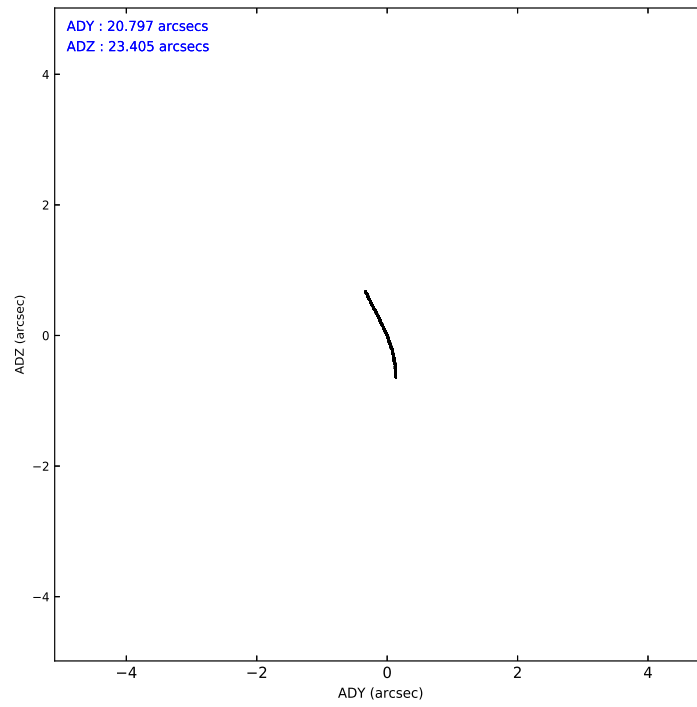
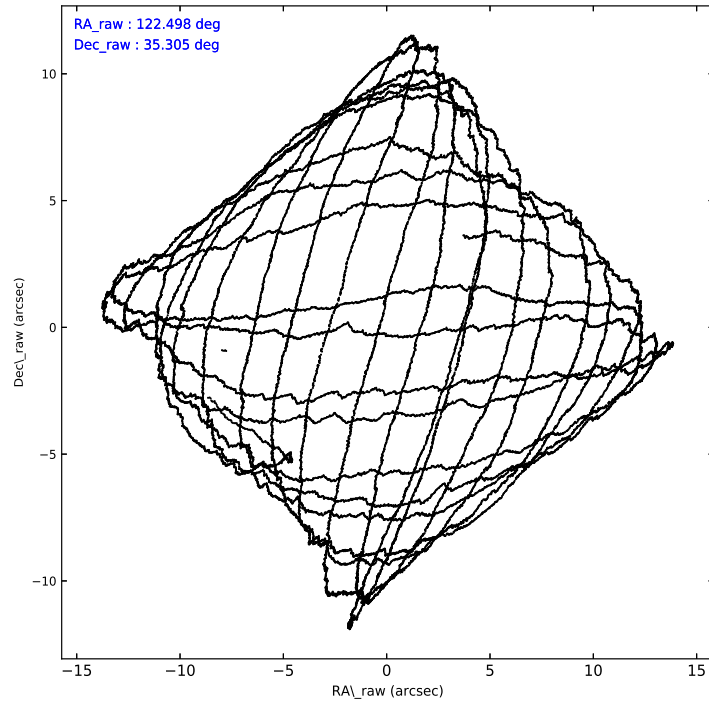
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	2597	2835	2687	3161	2582
	4%	4%	4%	4%	3%
grade 1 events	35	44	44	34	25
	0%	0%	0%	0%	0%
grade 2 events	1901	1945	1807	1696	1784
	3%	3%	2%	2%	2%
grade 3 events	796	736	681	717	750
	1%	1%	1%	1%	1%
grade 4 events	687	772	725	742	709
	1%	1%	1%	1%	1%
grade 5 events	2764	2887	2823	3306	3129
	4%	4%	4%	5%	4%
grade 6 events	1587	1864	1436	1528	1706
	2%	2%	2%	2%	2%
grade 7 events	50640	52137	56175	52062	57964
	83%	82%	84%	82%	84%

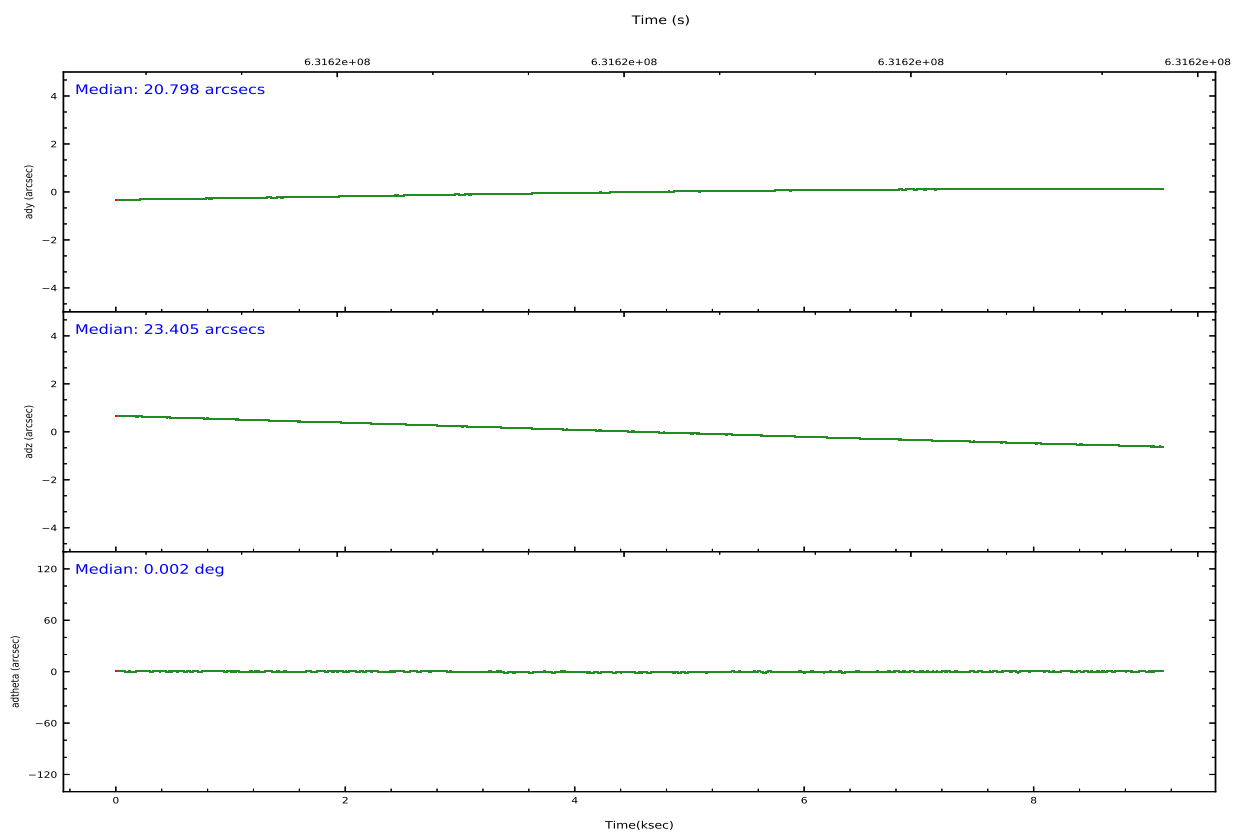
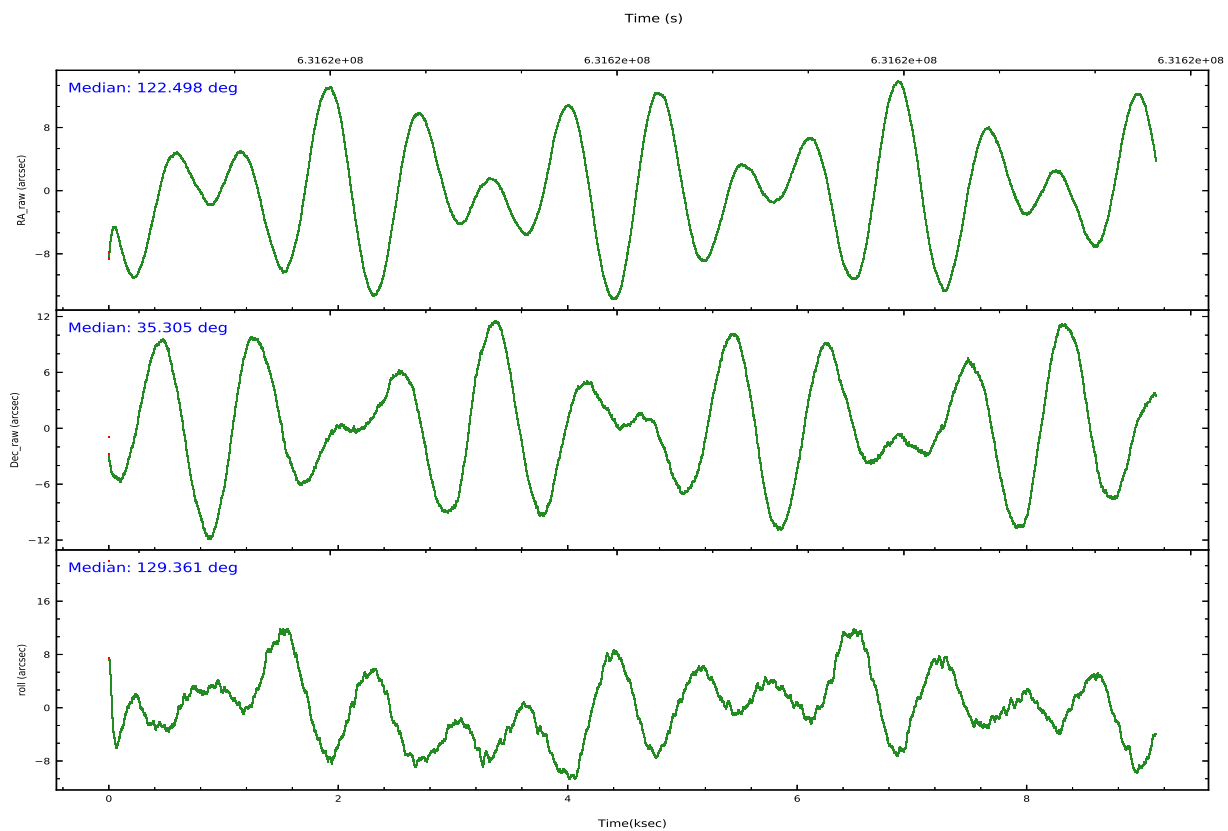


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-01236	ACIS-01236	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	122.529256	122.50861710987	CCD I2 on	Y	Y
[deg] Pointing Dec	35.295840	35.305096218518	CCD I3 on	Y	Y
[deg] Pointing Roll	129.141391	129.36144814458	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	Y
[mm] SIM translation stage pos	-228.472463	-228.4783457680588	CCD S3 on	N	N
[mm] SIM translation stage offset	-5.12	-5.114107234870914	CCD S4 on	N	N
[s] Observation start time (MET)	631613198.184000	631611988.59159	CCD S5 on	N	N
Observation start date	2018-01-06T08:05:29	2018-01-06T07:46:28	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	631622198.184000	631622648.07972	On-chip summing requested	N	N
Observation end date	2018-01-06T10:35:29	2018-01-06T10:44:08	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



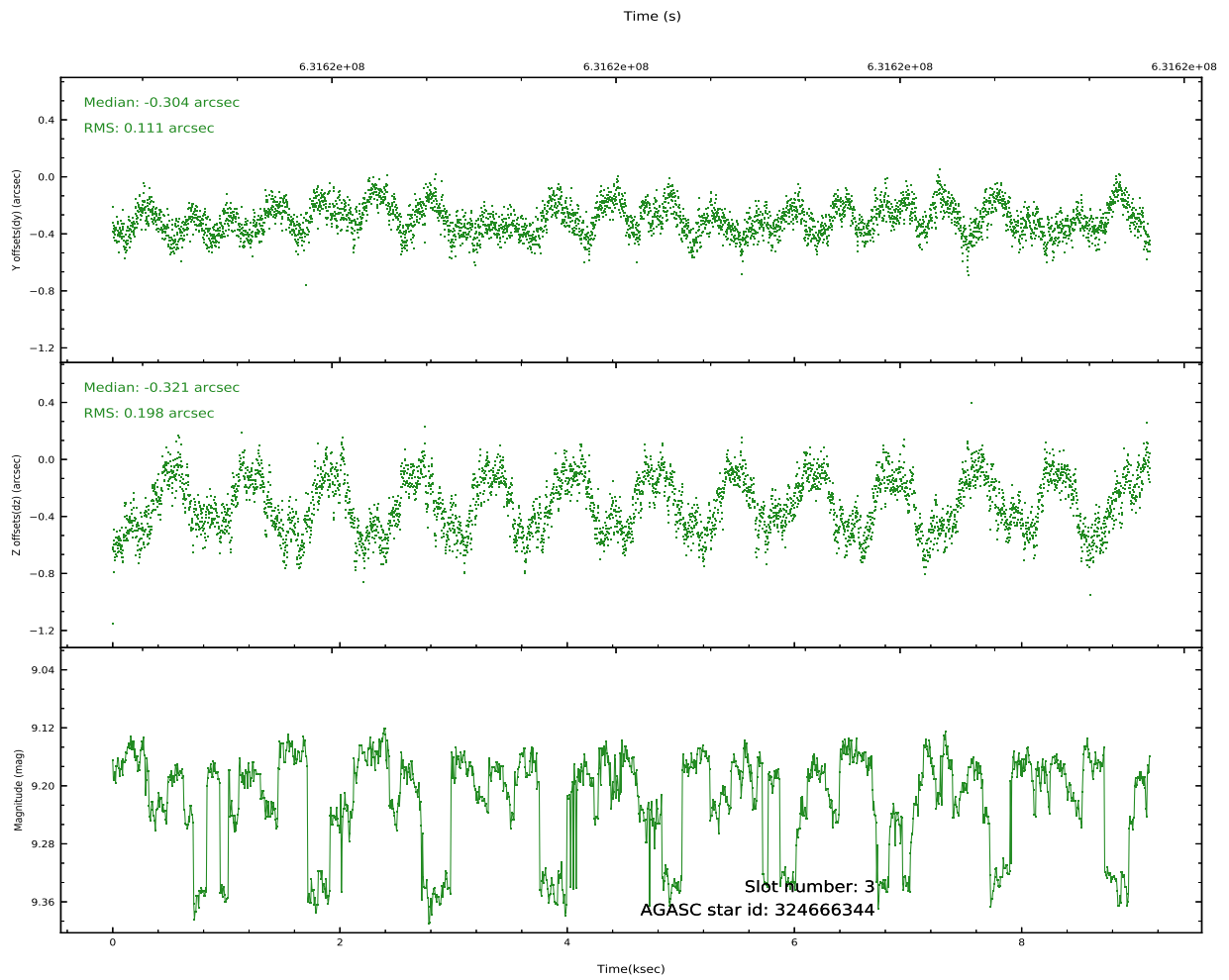
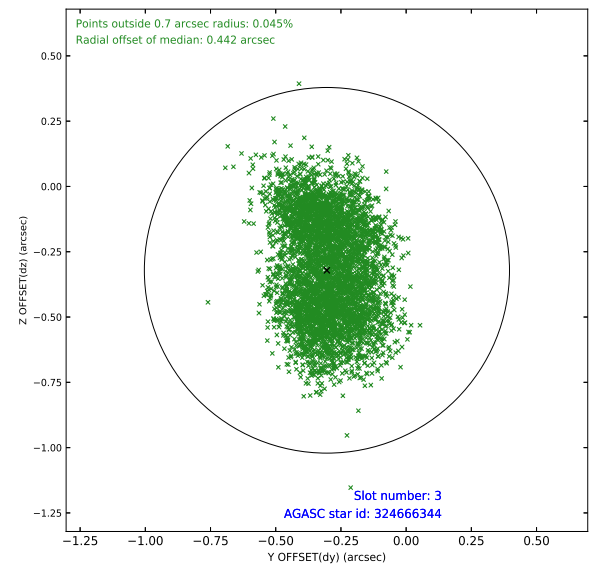
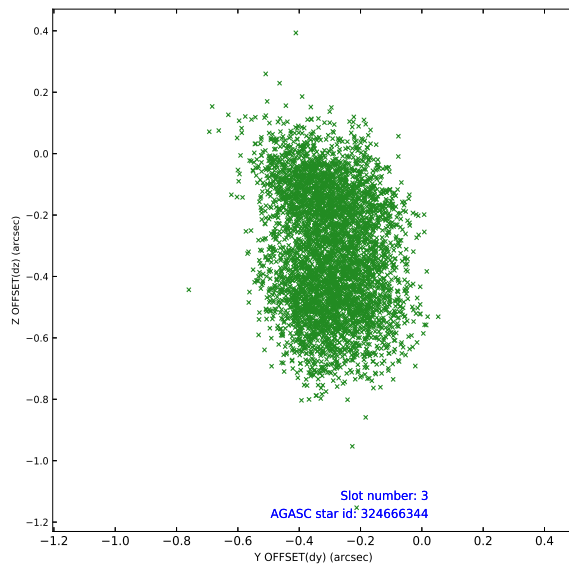


Slot Statistics

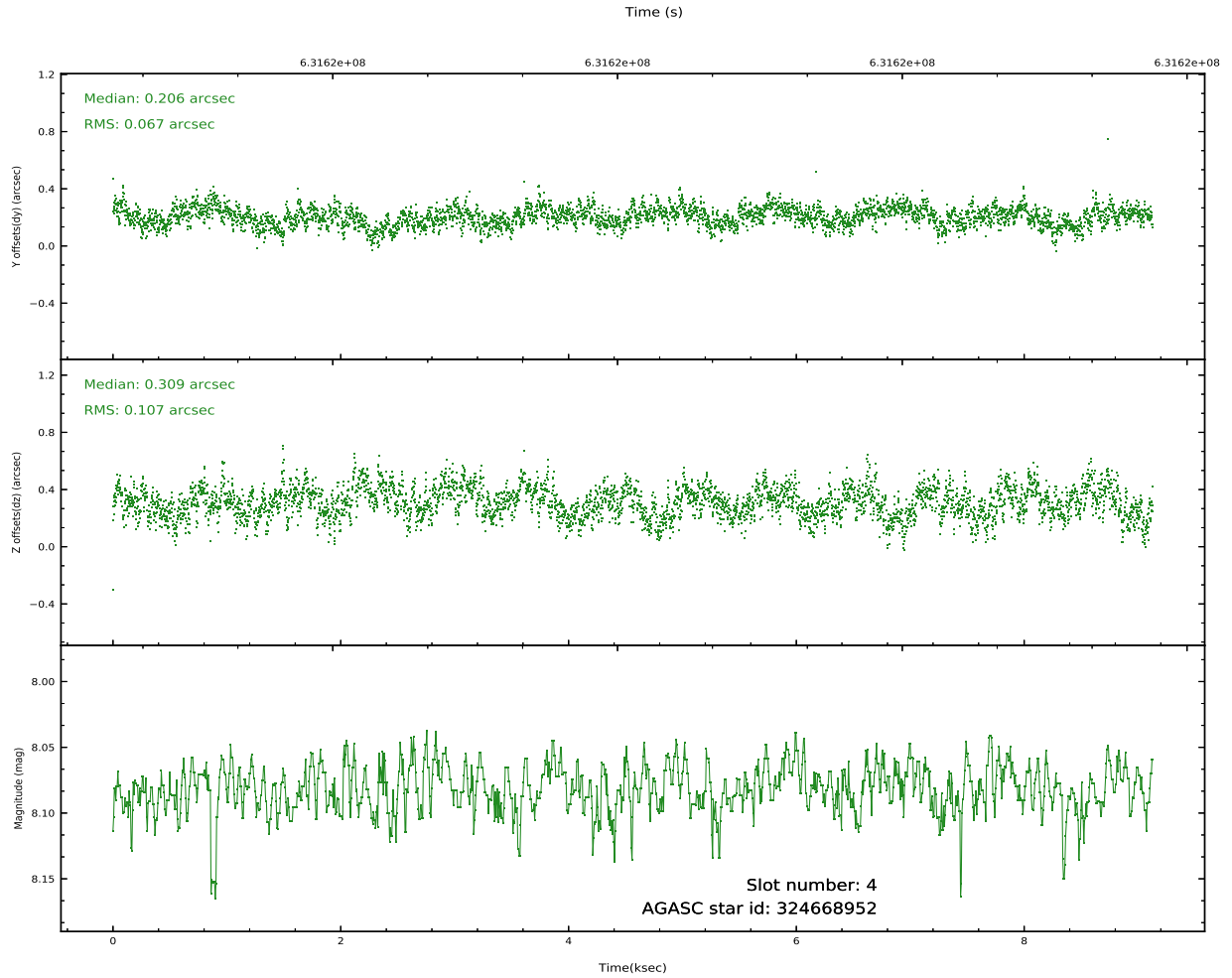
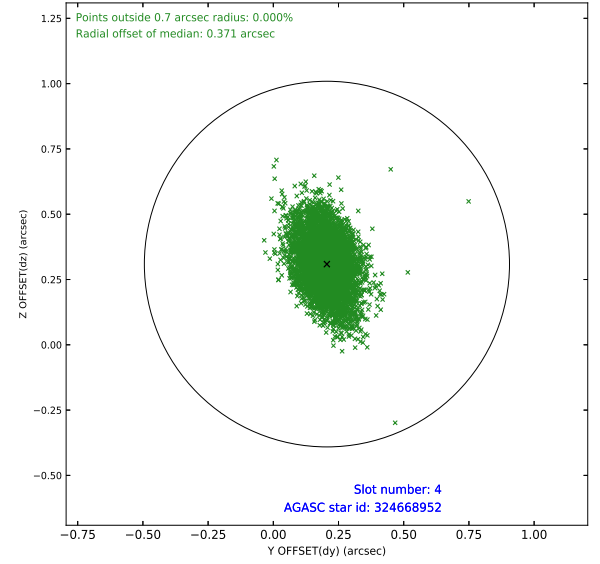
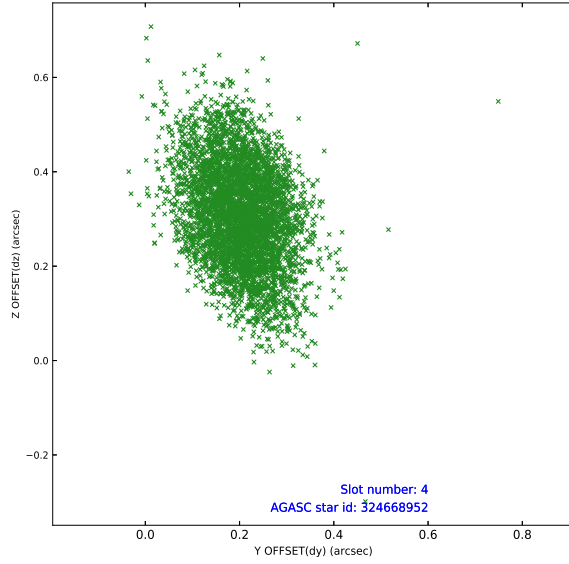
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.09	2227	1.000	0.253	-0.160	0.011	0.027	0.000000	0.000000	918.63	-952
1	FID		ACIS-I-5	7.08	2227	1.000	-0.349	0.211	0.010	0.015	0.000000	0.000000	-1829.63	945
2	FID		ACIS-I-6	7.09	2227	1.000	0.006	0.020	0.016	0.035	0.000000	0.000000	383.44	1590
3	GUIDE	used	324666344	9.20	4452	1.000	-0.304	-0.321	0.246	0.376	122.141932	35.310900	762.17	846
4	GUIDE	used	324668952	8.08	4453	1.000	0.206	0.309	0.130	0.222	123.557526	35.241665	-2046.63	-2231
5	GUIDE	used	324669672	6.79	4454	1.000	0.048	0.325	0.139	0.233	122.547825	35.454982	404.19	-404
6	GUIDE	used	325190264	8.70	4452	1.000	-0.017	-0.103	0.172	0.286	121.936002	35.625301	2020.08	594
7	GUIDE	used	324669304	8.80	4448	1.000	0.066	-0.212	0.136	0.223	122.725203	35.025130	-1119.17	166

## 2.4 Star Slots

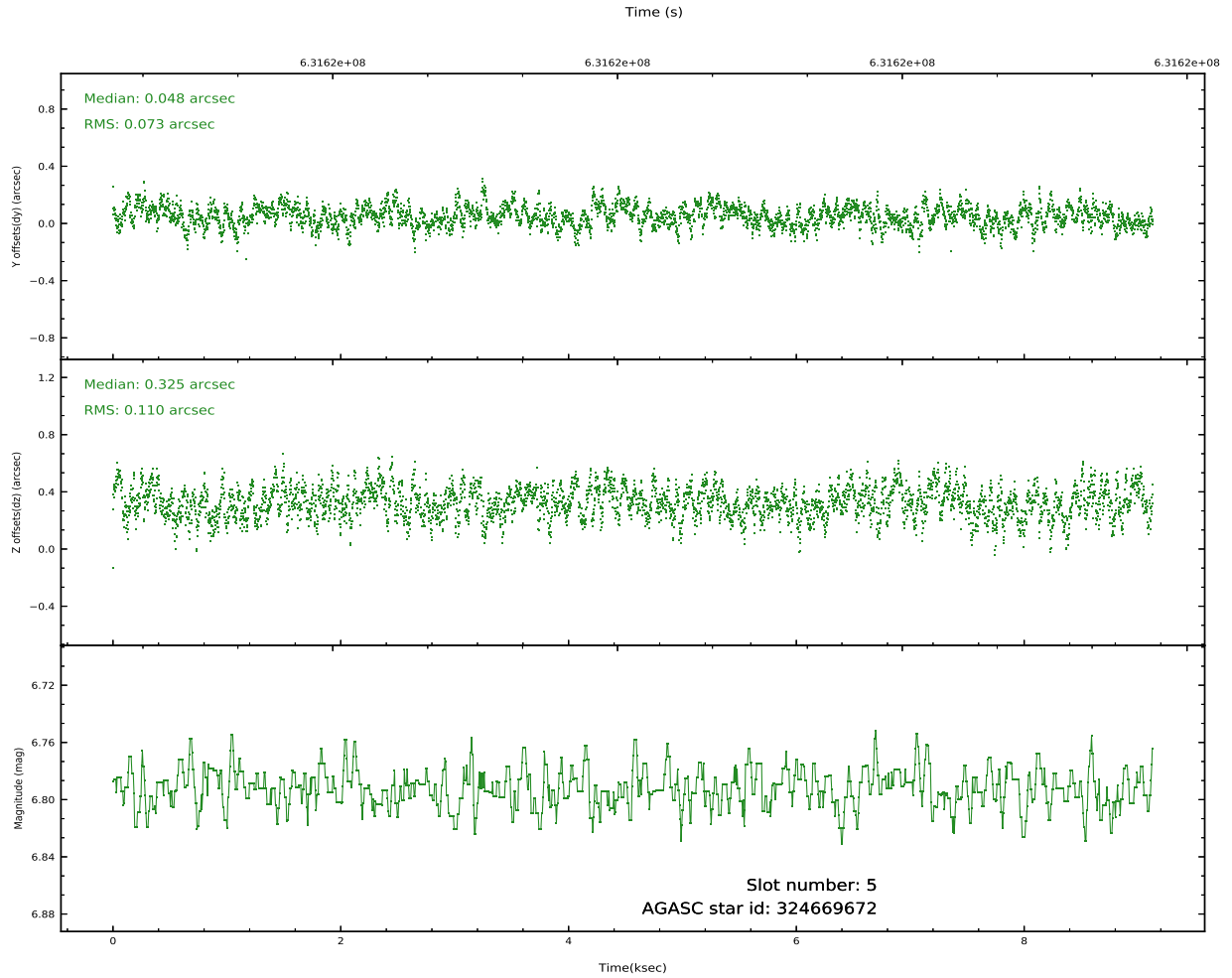
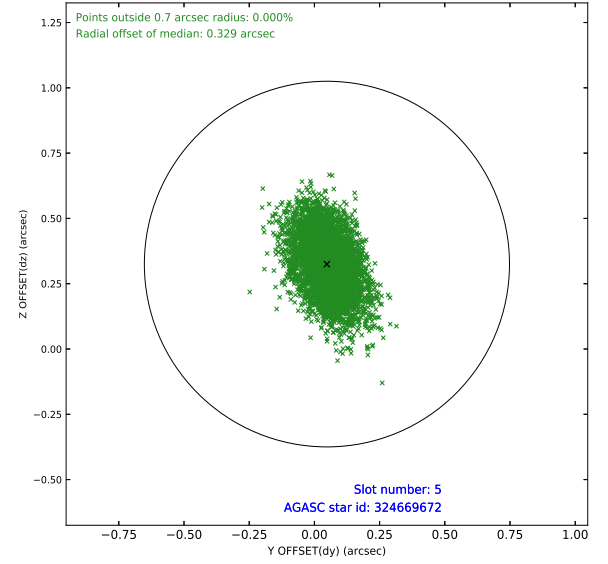
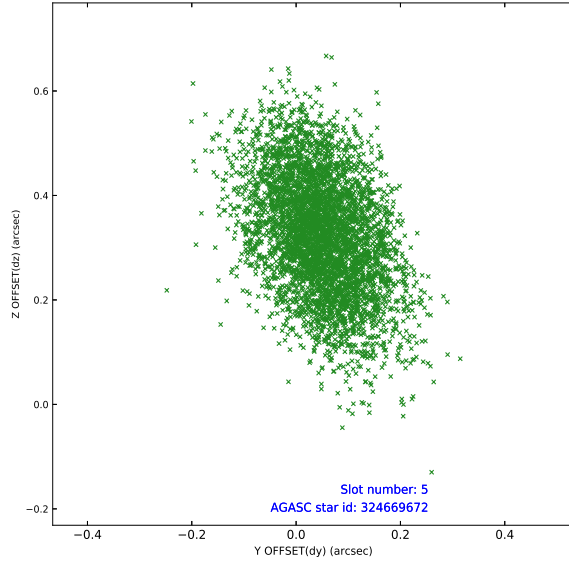
### 2.4.1 Slot 3



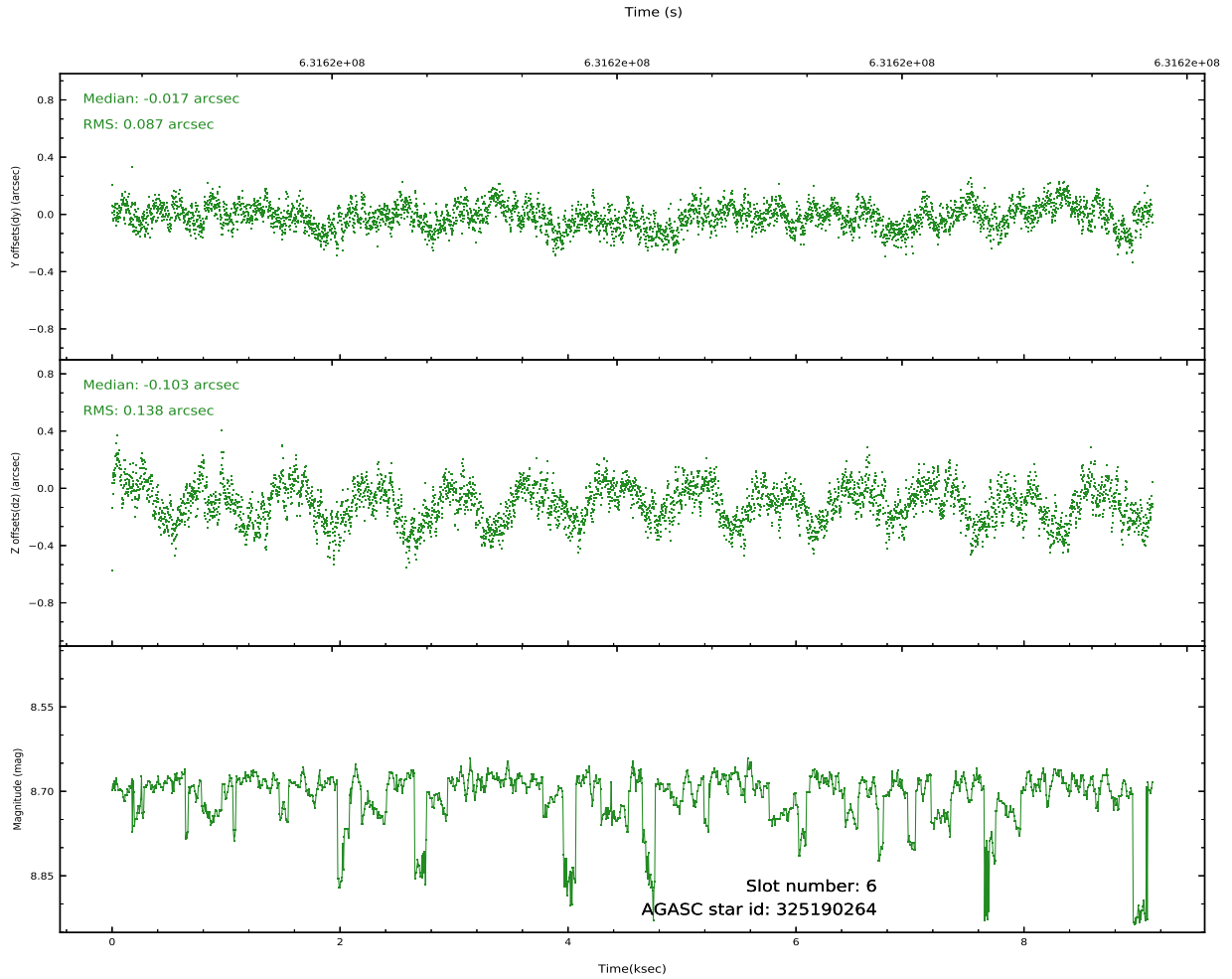
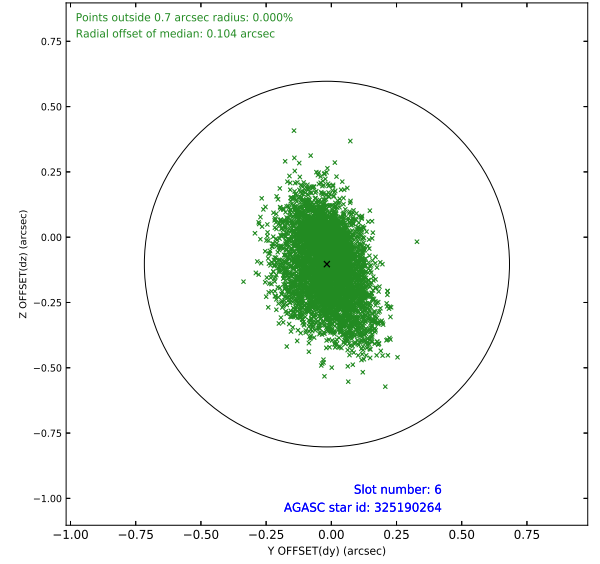
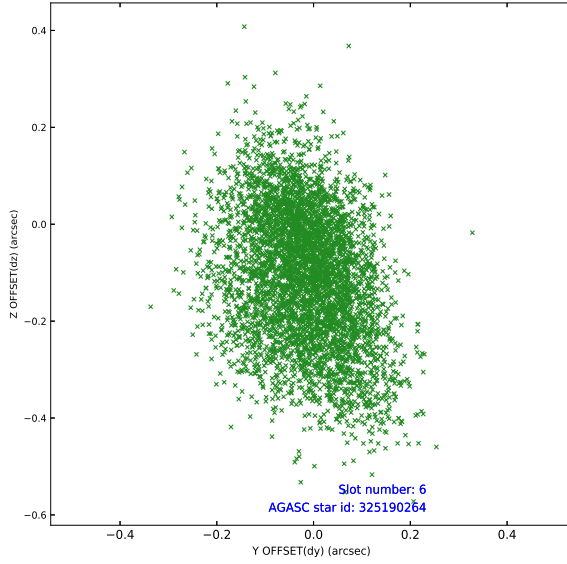
## 2.4.2 Slot 4



### 2.4.3 Slot 5

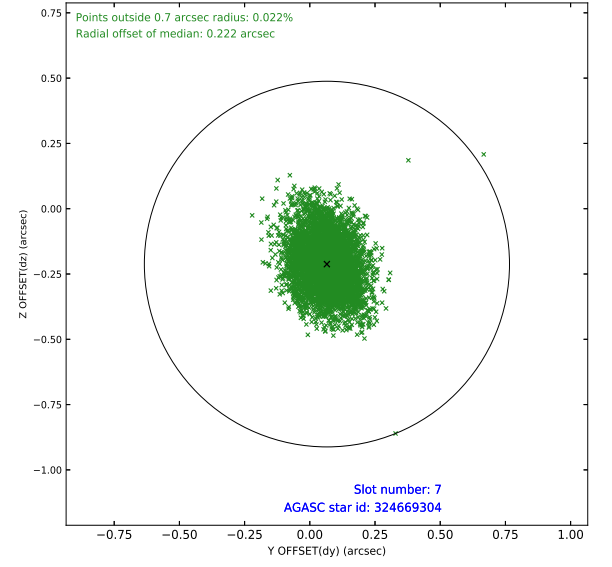
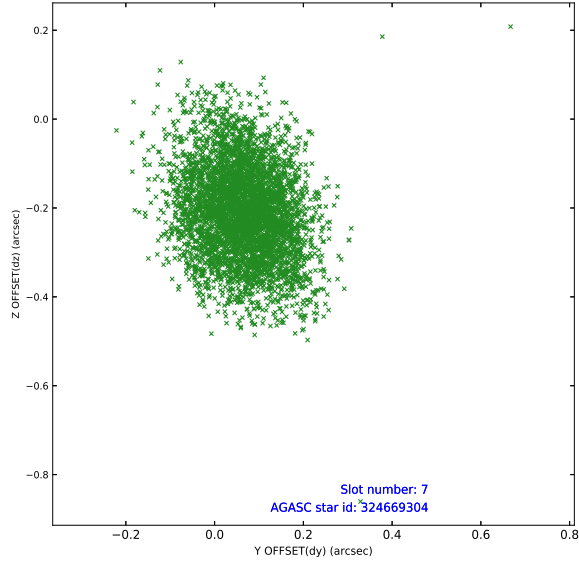


## 2.4.4 Slot 6

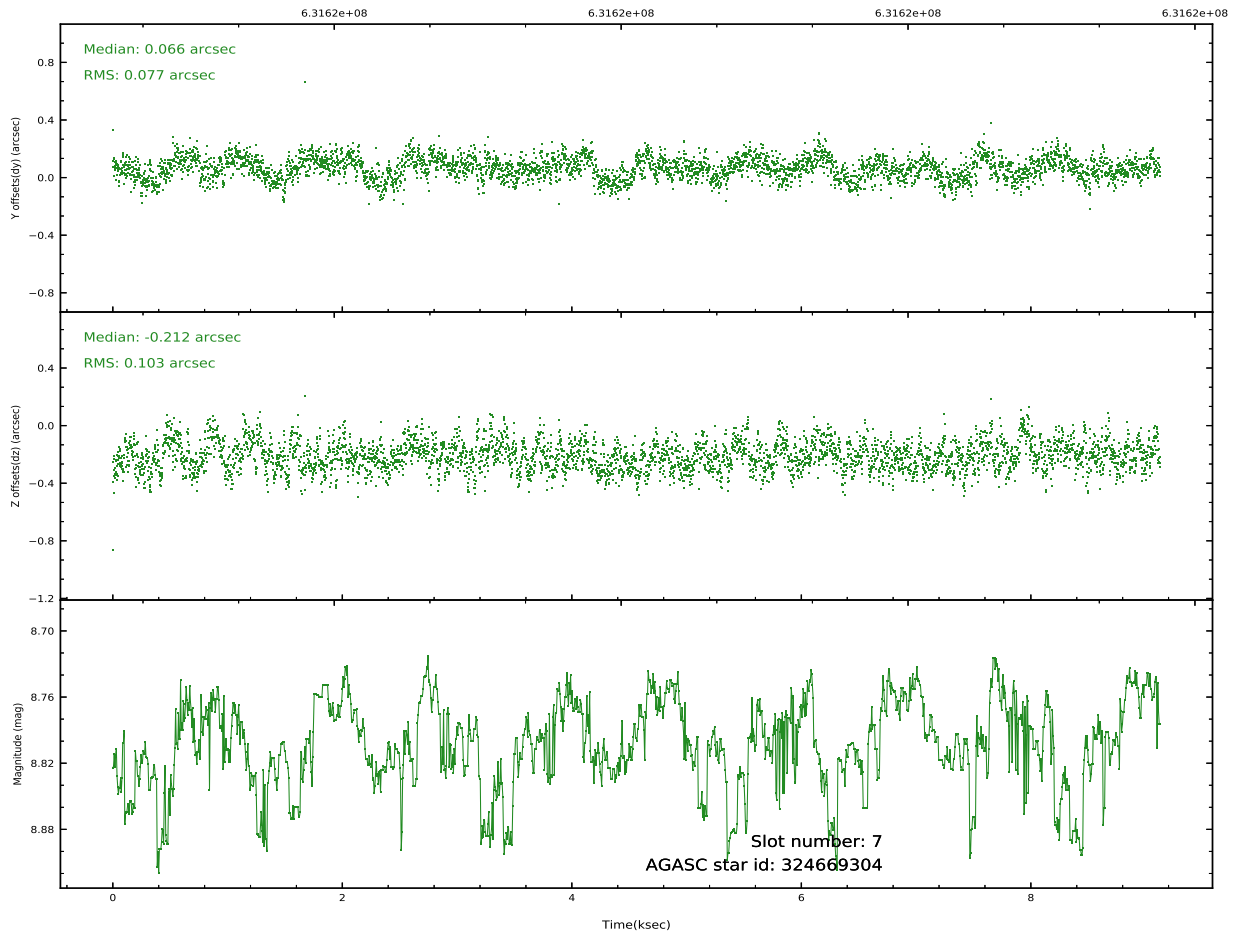




## 2.4.5 Slot 7

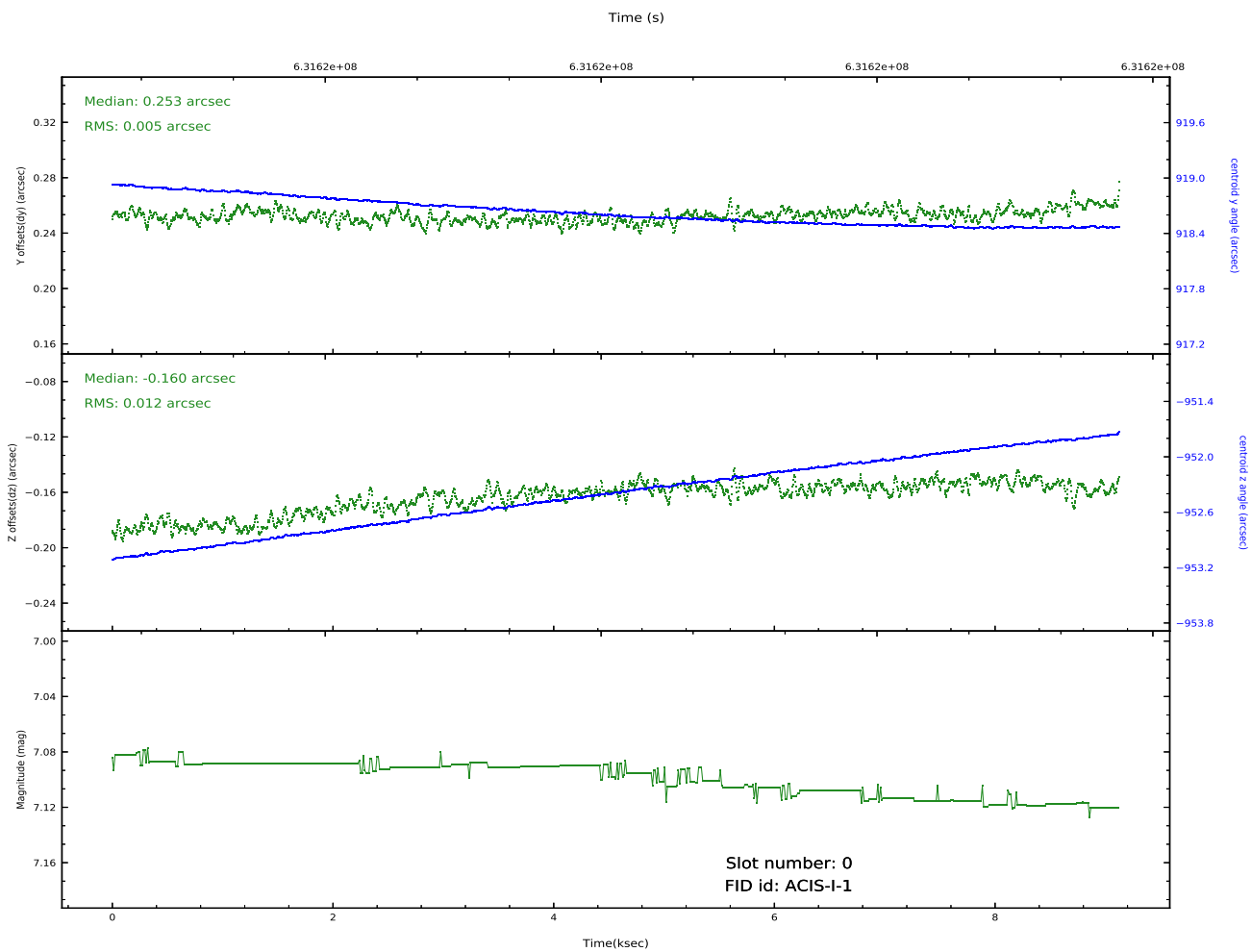
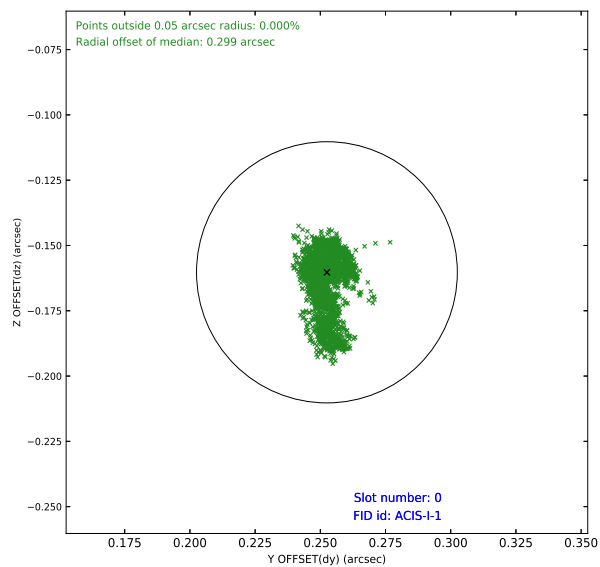
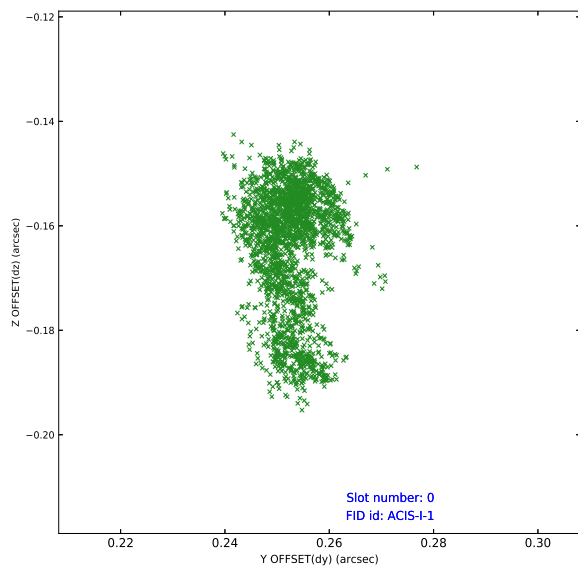


Time (s)

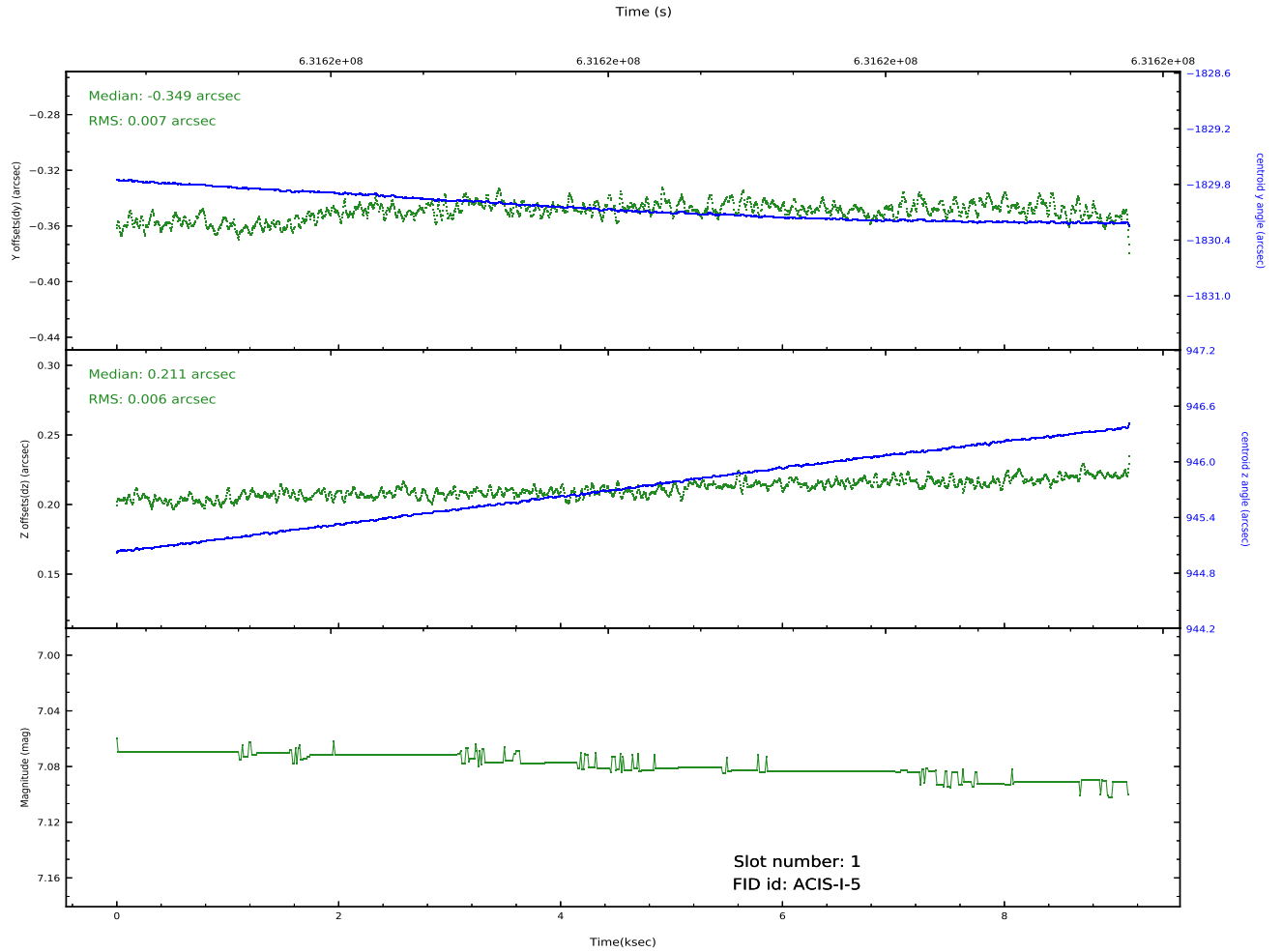
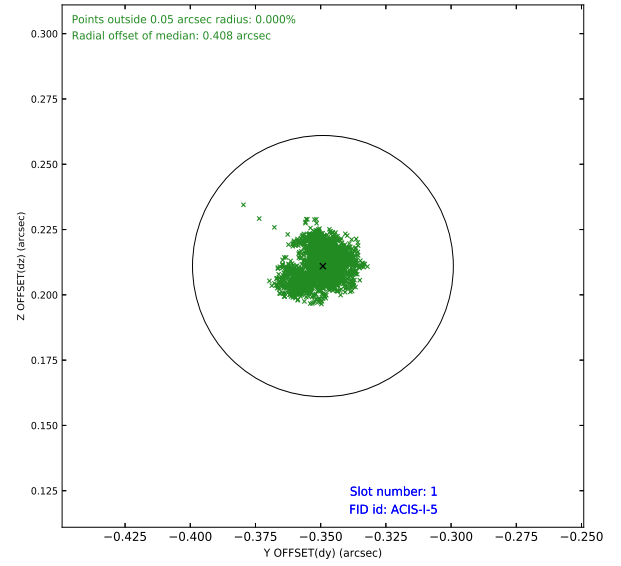
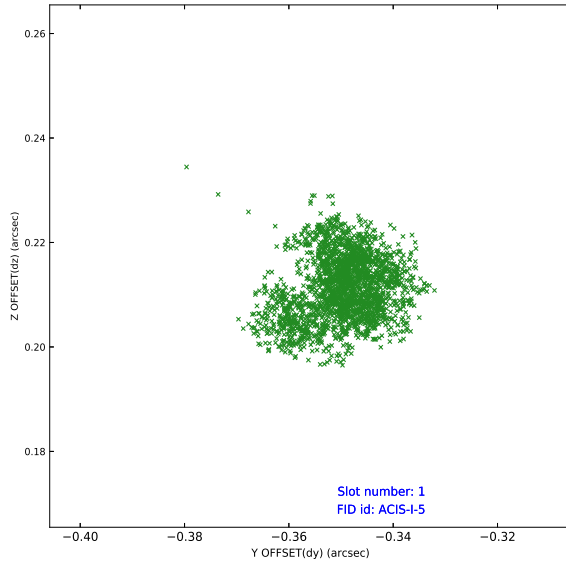


## 2.5 FID Slots

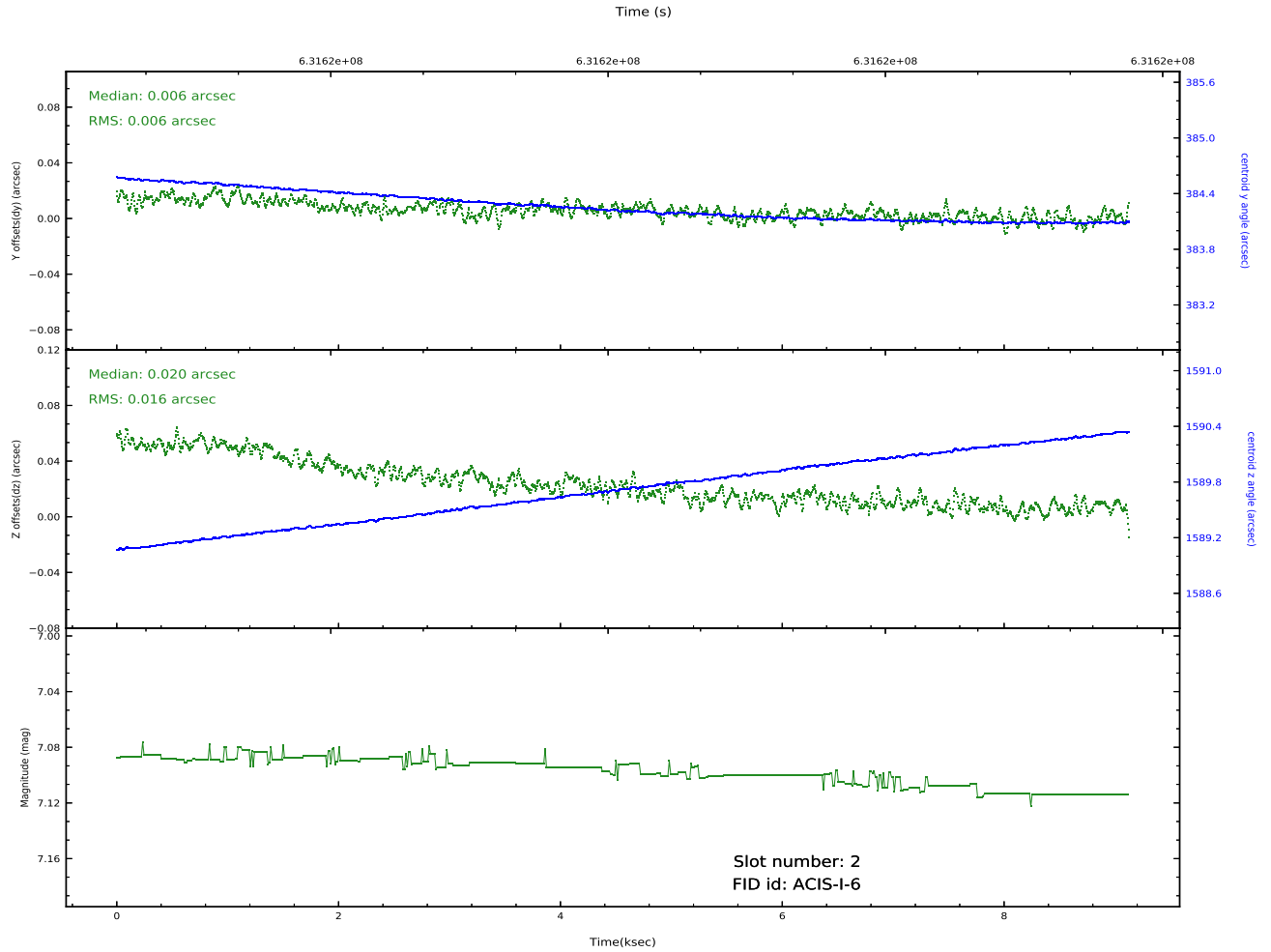
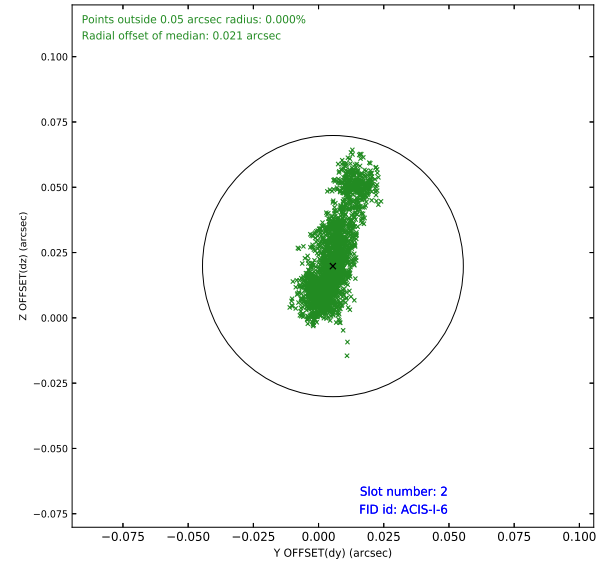
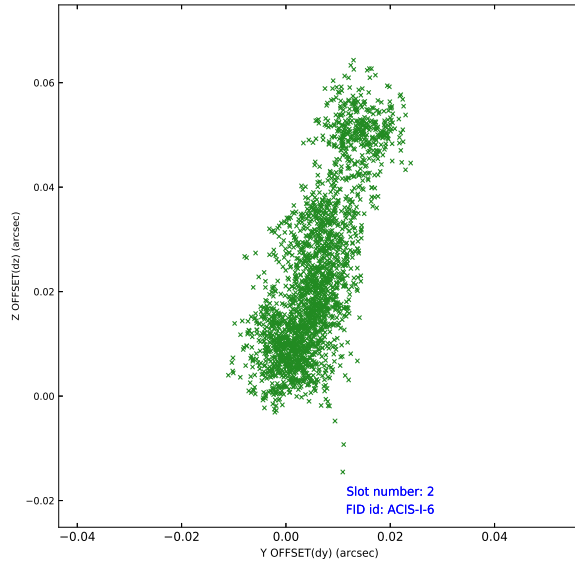
### 2.5.1 Slot 0



## 2.5.2 Slot 1



## 2.5.3 Slot 2



## A Summary

### A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2020.10.26
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.0520000697374

### A.2 Comments