

# V&V Reference Report

## L2 ASCDS Version : 10.9.2

Observation 20742 - L2 Version 2  
Chandra X-Ray Center

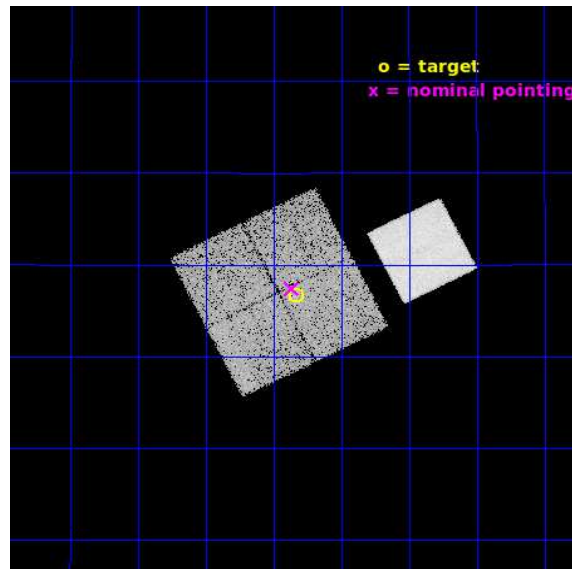
L2 Processing Date : Oct 24 2020

## 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

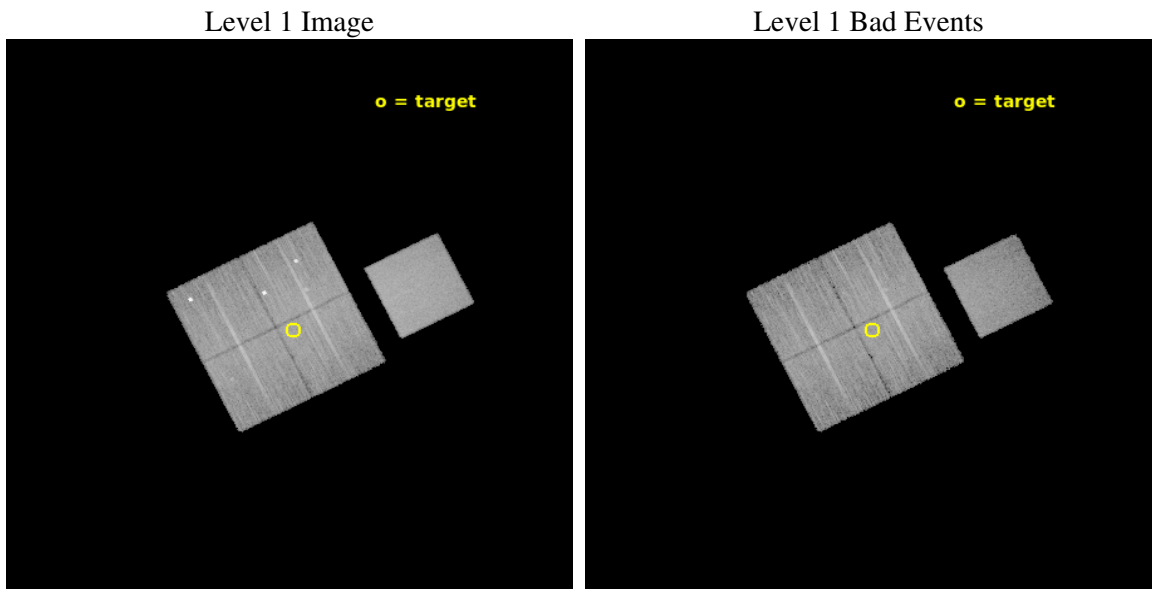
seq_num	503036	Sequence number
obs_id	20742	Observation id
title	Gamma-ray pulsar J1932+1916 and its pulsar wind nebula	Proposal ti
observer	Gordon Garmire	Principal investigator
object	PSR J1932+1916	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	293.082083	Observer's specified target RA [deg]
dec_targ	19.2775	Observer's specified target Dec [deg]
ra_nom	293.09106133033	Nominal RA [deg]
dec_nom	19.290088845831	Nominal Dec [deg]
roll_nom	63.200248991175	Nominal Roll [deg]
revision	2	Processing version of data
ontime	15049.855010271	Sum of GTIs [s]
livetime	14853.21757502	Livetime [s]
ontime0	15046.590880036	Sum of GTIs [s]
ontime1	15046.631940007	Sum of GTIs [s]
ontime2	15049.813970208	Sum of GTIs [s]
ontime3	15049.855010271	Sum of GTIs [s]
ontime7	15049.896050215	Sum of GTIs [s]
l2events	100331	Number of level 2 events



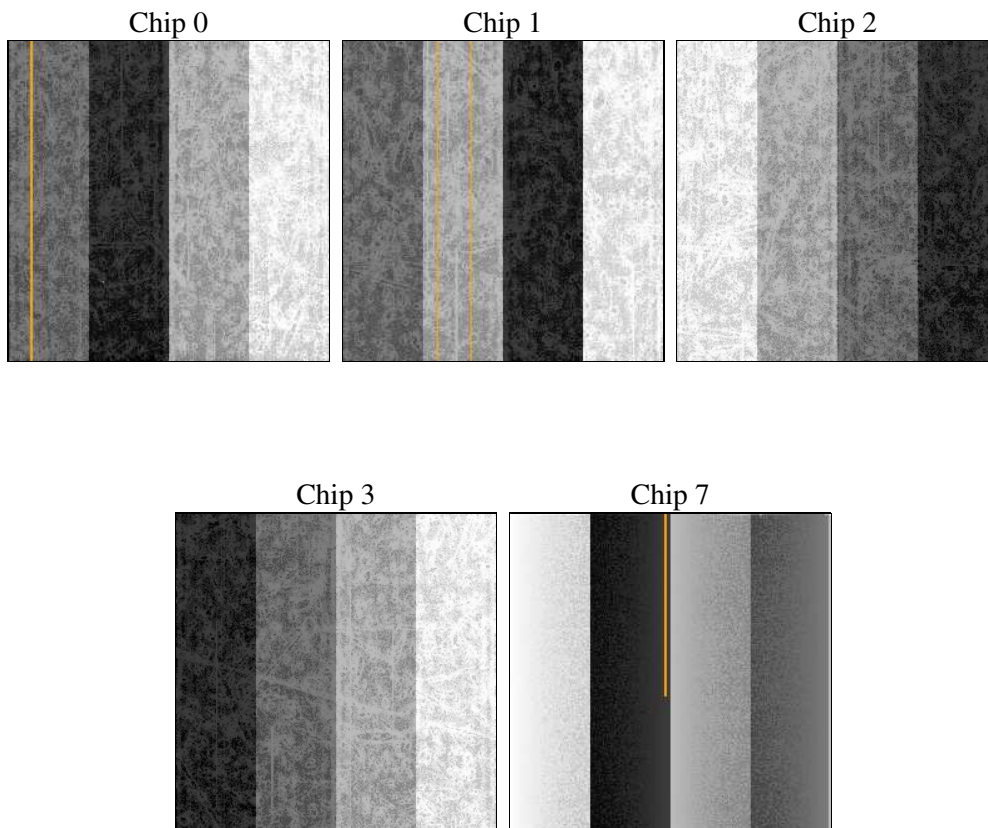
## 2 OBI

### 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	15049.855010271	Sum of GTIs [s]
caldbver	4.9.3	&#160	ontime0	15046.590880036	Sum of GTIs [s]
date	2020-10-24T19:20:49	Date and time of file creation	ontime1	15046.631940007	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	15049.813970208	Sum of GTIs [s]
			ontime3	15049.855010271	Sum of GTIs [s]
			ontime7	15049.896050215	Sum of GTIs [s]
			l1events	582502	Number of level 1 events

### 2.1.4 Events

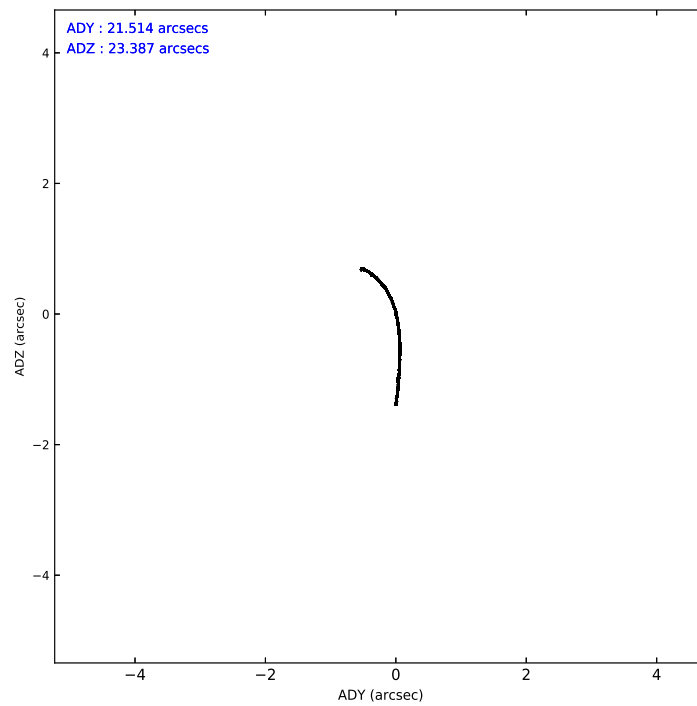
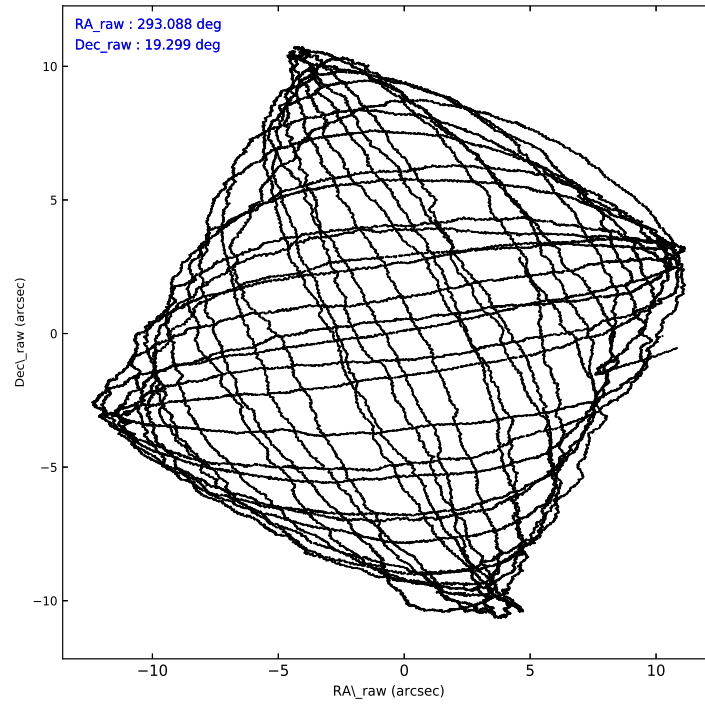
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 7
level 1 events	107180	103526	121061	109412	141323
rejected events	90306	89886	102244	97675	80369
rejected %	84%	86%	84%	89%	56%

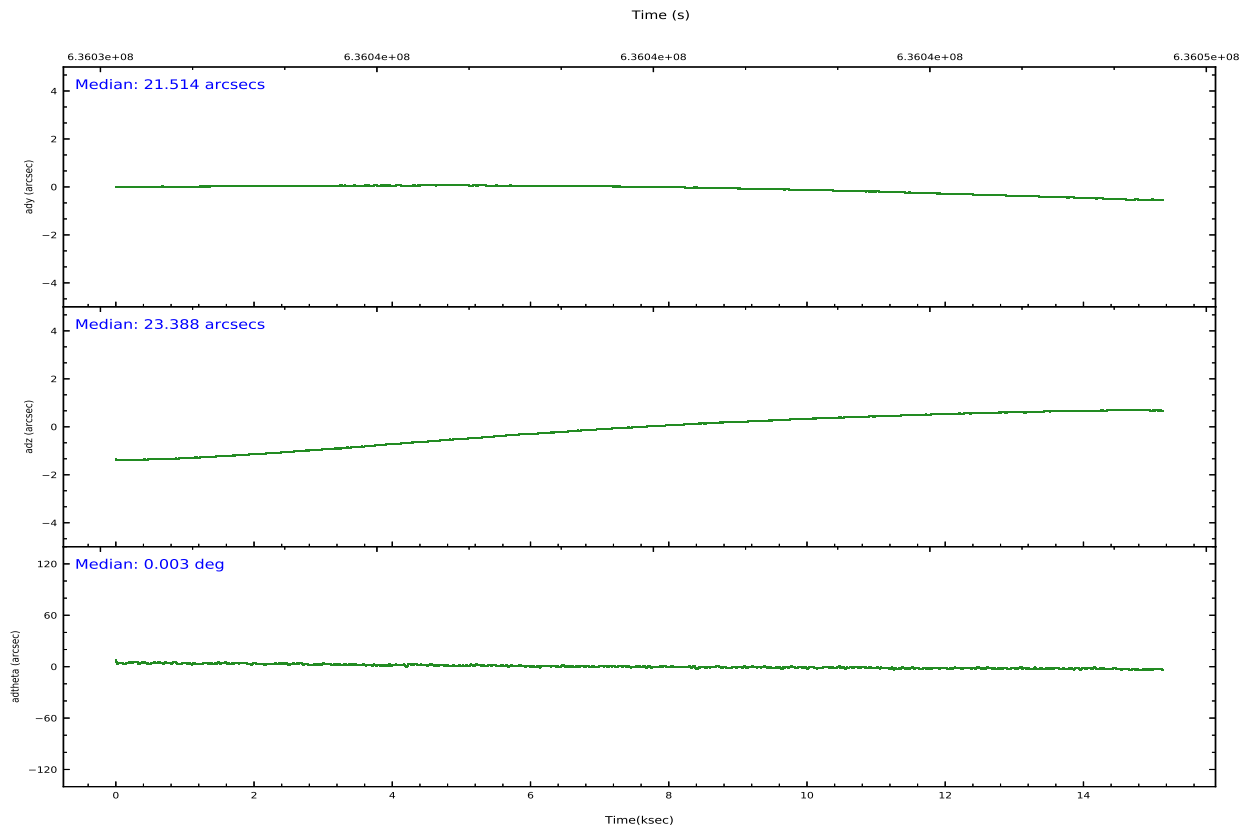
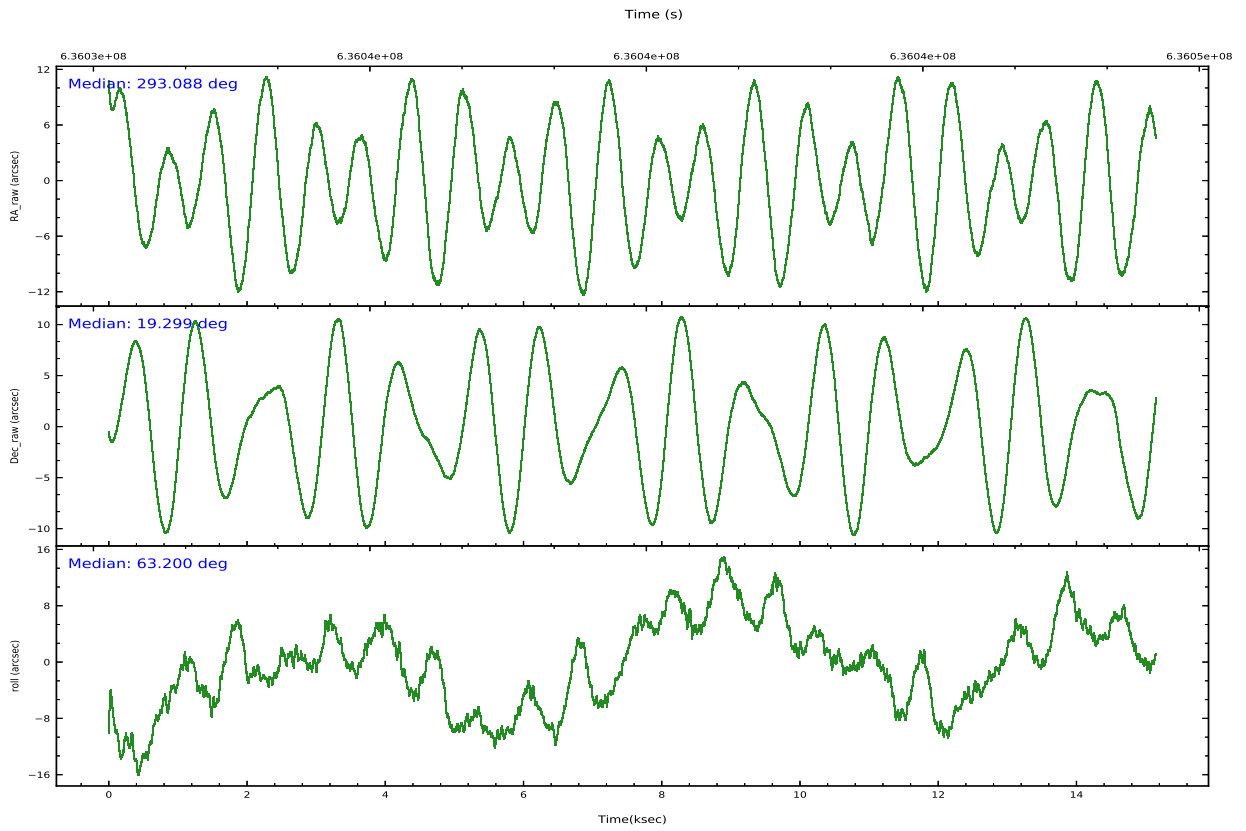
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 7
grade 0 events	8919	4641	8961	4422	5246
	8%	4%	7%	4%	3%
grade 1 events	65	51	156	69	213
	0%	0%	0%	0%	0%
grade 2 events	2932	3582	5135	2525	12751
	2%	3%	4%	2%	9%
grade 3 events	1197	1127	1176	1195	4869
	1%	1%	0%	1%	3%
grade 4 events	1170	1180	1164	1171	4761
	1%	1%	0%	1%	3%
grade 5 events	4478	4519	4051	5201	13928
	4%	4%	3%	4%	9%
grade 6 events	2664	3115	2388	2432	33350
	2%	3%	1%	2%	23%
grade 7 events	85755	85311	98030	92397	66205
	80%	82%	80%	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	293.089418	293.09106133033	CCD I2 on	Y	Y
[deg] Pointing Dec	19.271066	19.290088845831	CCD I3 on	Y	Y
[deg] Pointing Roll	62.997569	63.200248991175	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	N	N
[mm] SIM translation stage pos	-230.667463	-230.6708287110191	CCD S3 on	O1	Y
[mm] SIM translation stage offset	-2.925	-2.921624291910604	CCD S4 on	N	N
[s] Observation start time (MET)	636032374.184000	636031092.87679	CCD S5 on	N	N
Observation start date	2018-02-26T11:38:25	2018-02-26T11:18:12	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	636047374.184000	636048415.89031	On-chip summing requested	N	N
Observation end date	2018-02-26T15:48:25	2018-02-26T16:06:55	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





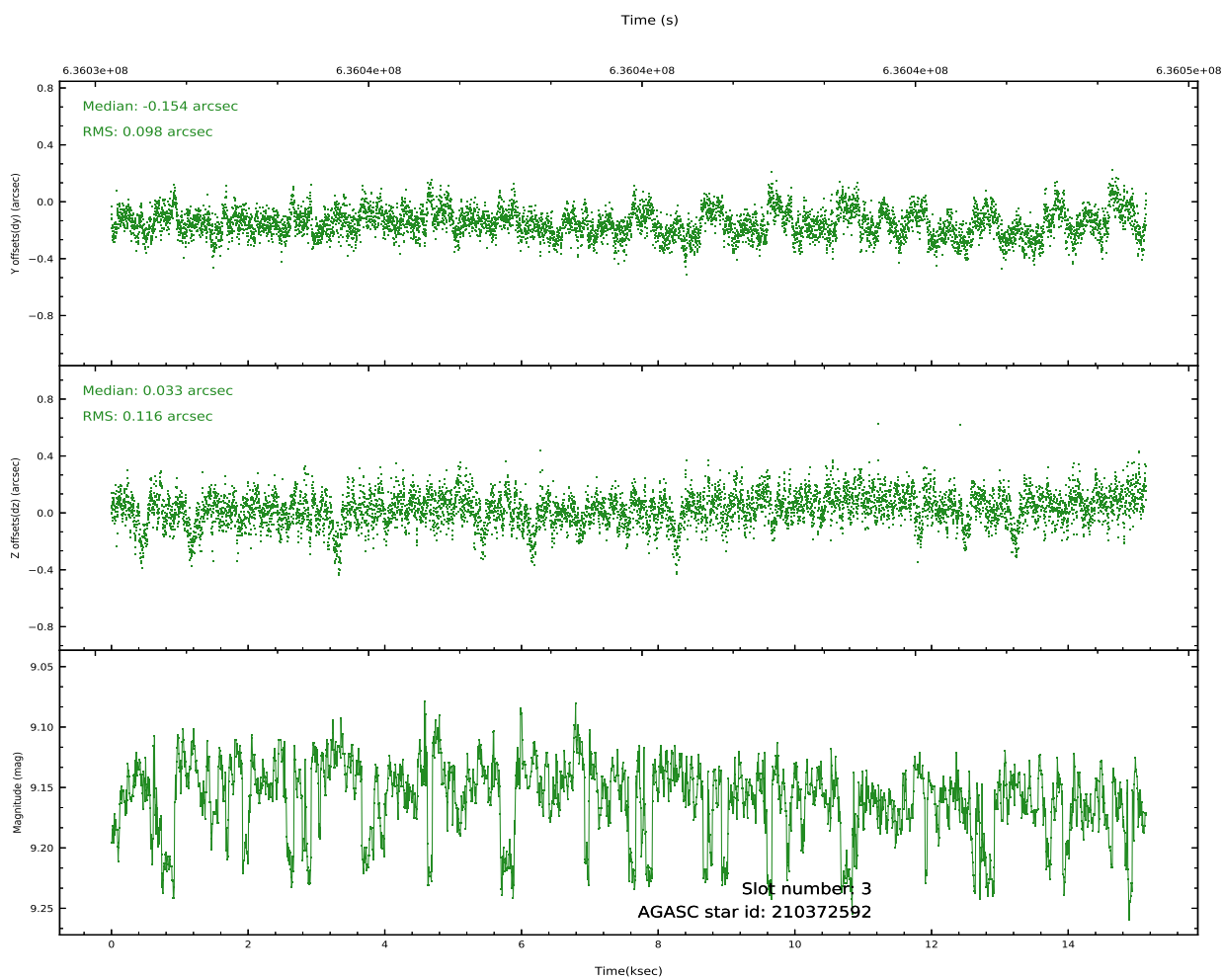
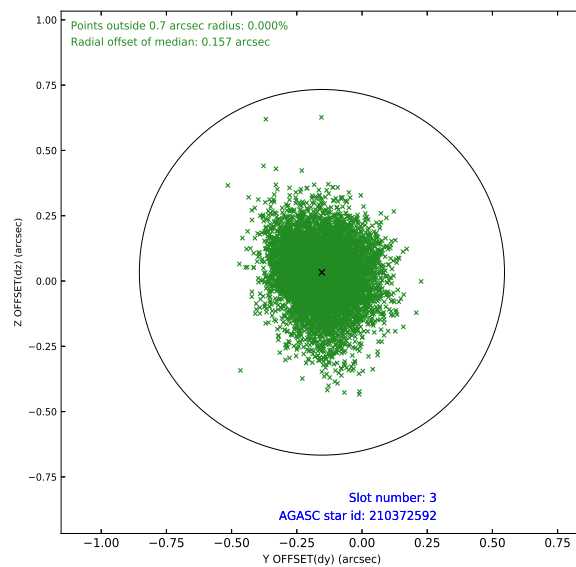
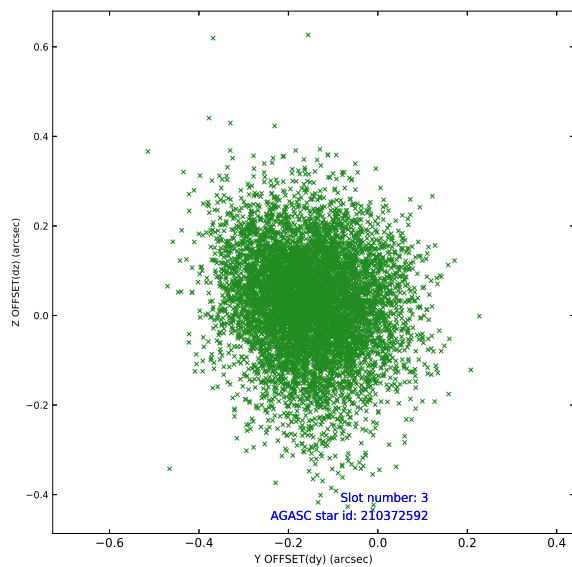
### Slot Statistics

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	7.29	3696	1.000	0.248	-0.104	0.017	0.026	0.000000	0.000000	917.97	-907
1	FID		ACIS-I-4	7.22	3695	1.000	0.062	-0.025	0.014	0.021	0.000000	0.000000	2138.01	992
2	FID		ACIS-I-5	7.26	3696	1.000	-0.408	0.198	0.018	0.030	0.000000	0.000000	-1830.12	991
3	GUIDE	used	210372592	9.15	7361	1.000	-0.154	0.033	0.160	0.266	292.900736	18.702395	-2115.69	-355
4	GUIDE	used	210376496	8.63	7392	1.000	0.156	0.026	0.132	0.227	293.385337	18.705566	-1354.71	-1823
5	GUIDE	used	210909704	8.34	7387	1.000	-0.059	-0.032	0.147	0.244	293.560733	19.386974	1101.33	-1235
6	GUIDE	used	210910720	8.93	7377	1.000	-0.032	-0.136	0.132	0.220	293.320637	18.950574	-669.49	-1225
7	GUIDE	used	210380592	9.06	7385	1.000	0.091	0.118	0.186	0.302	293.362355	18.406916	-2348.14	-2242

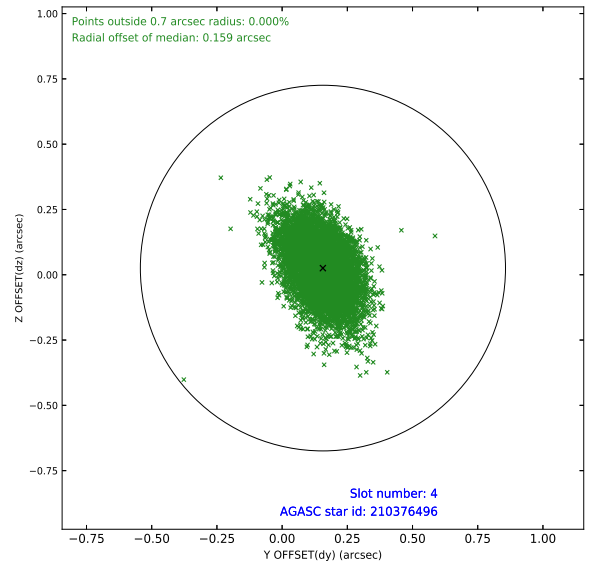
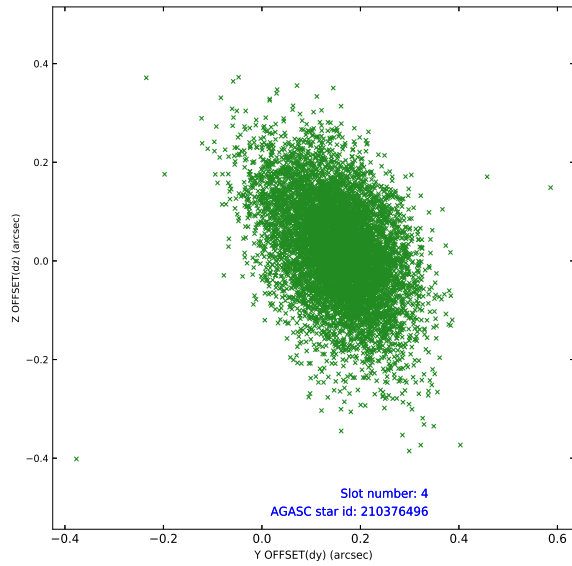
∞

## 2.4 Star Slots

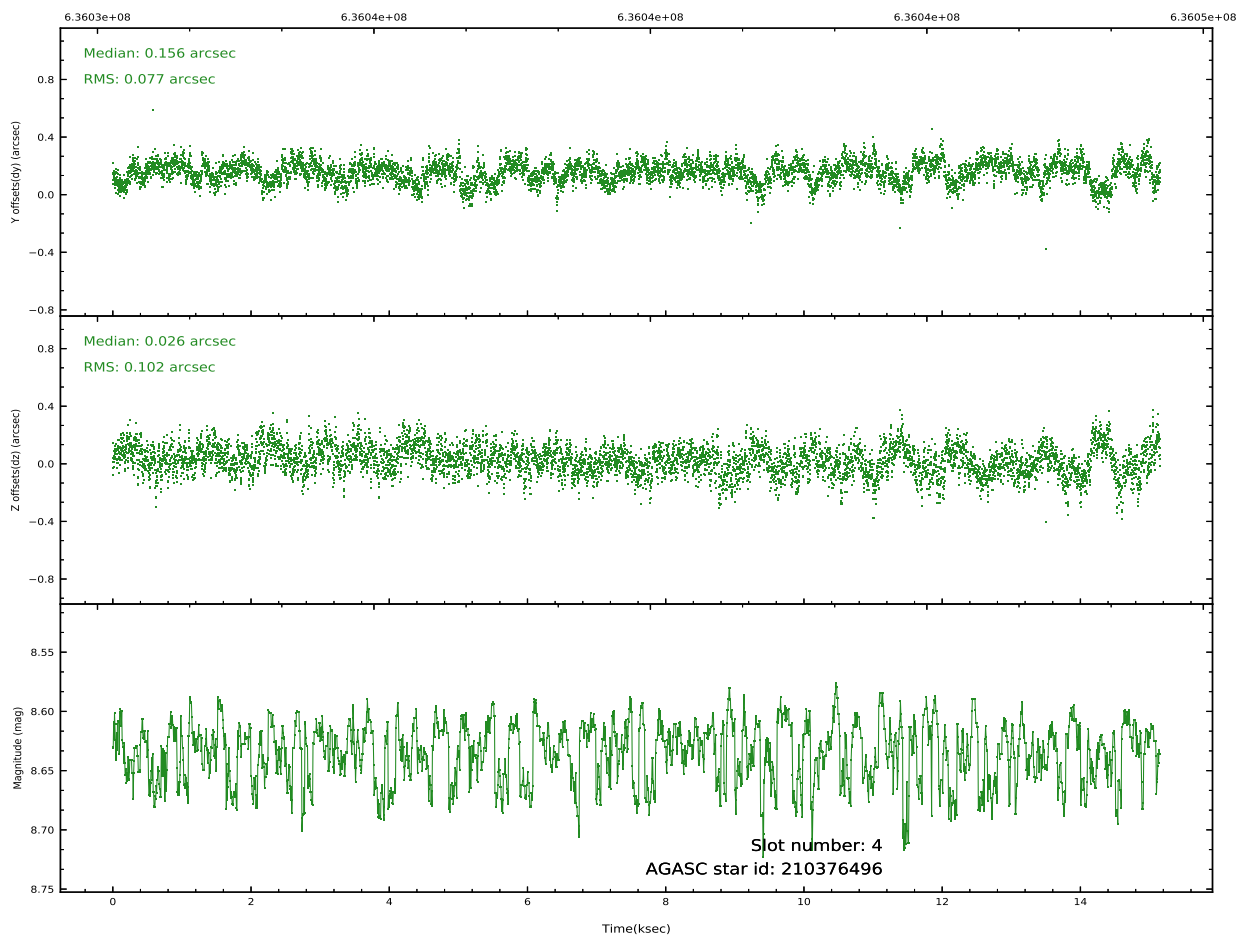
### 2.4.1 Slot 3



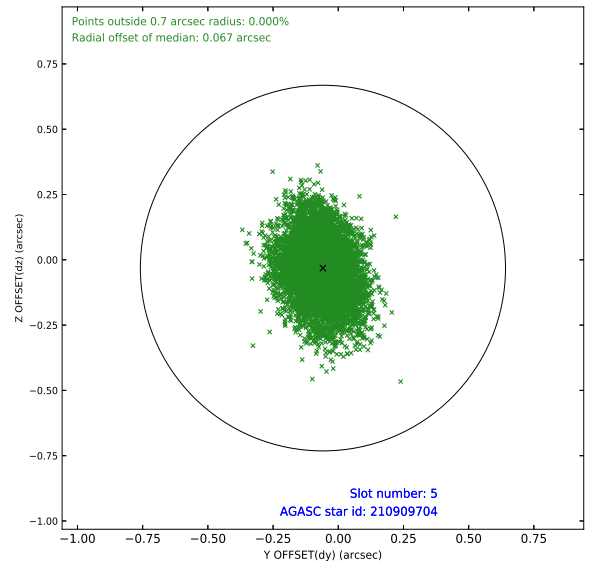
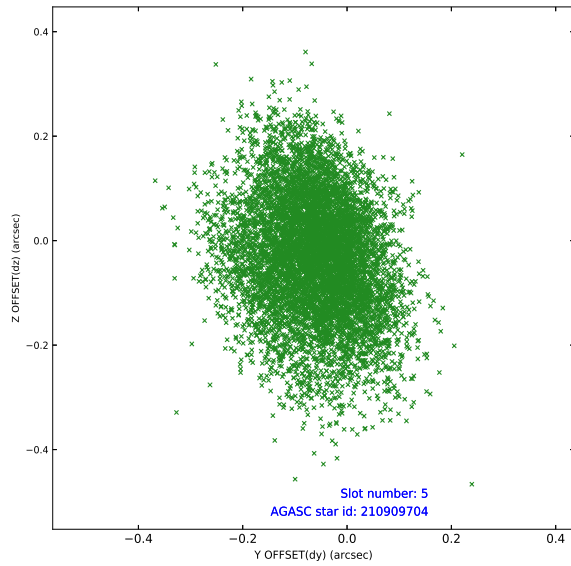
## 2.4.2 Slot 4



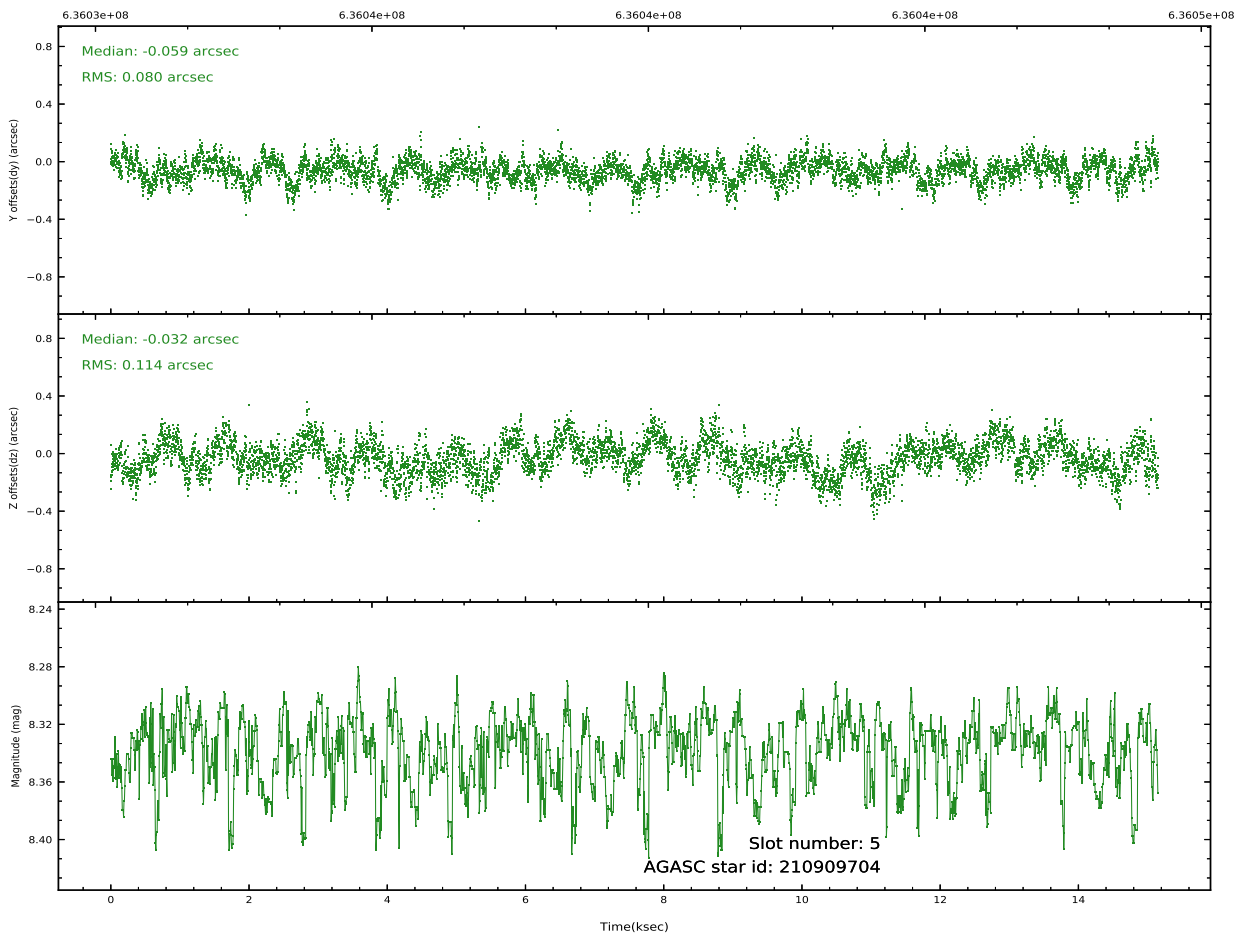
Time (s)



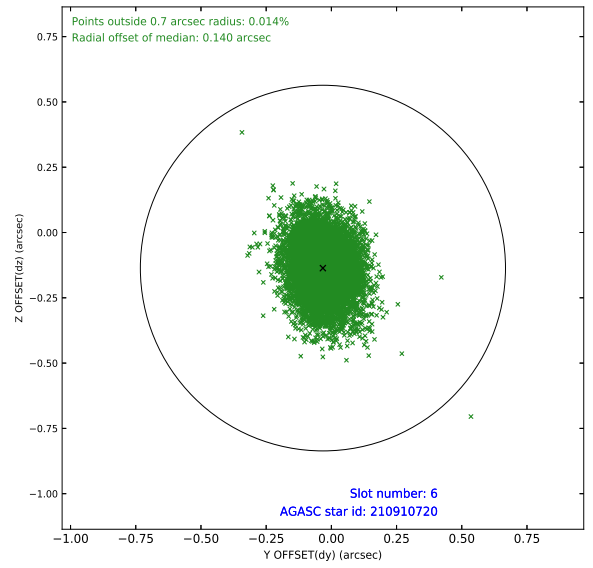
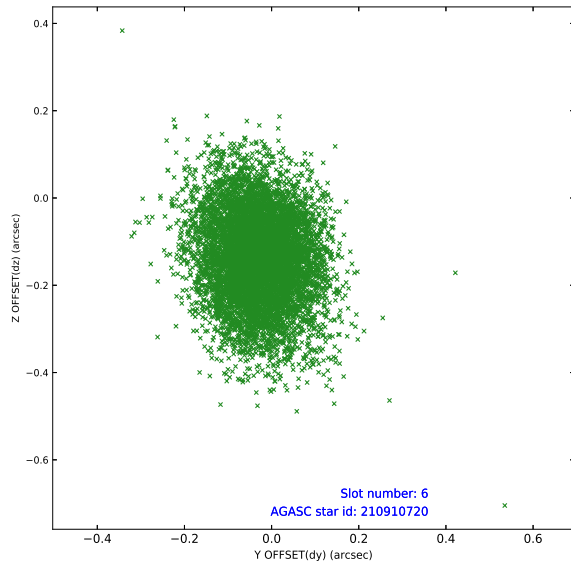
### 2.4.3 Slot 5



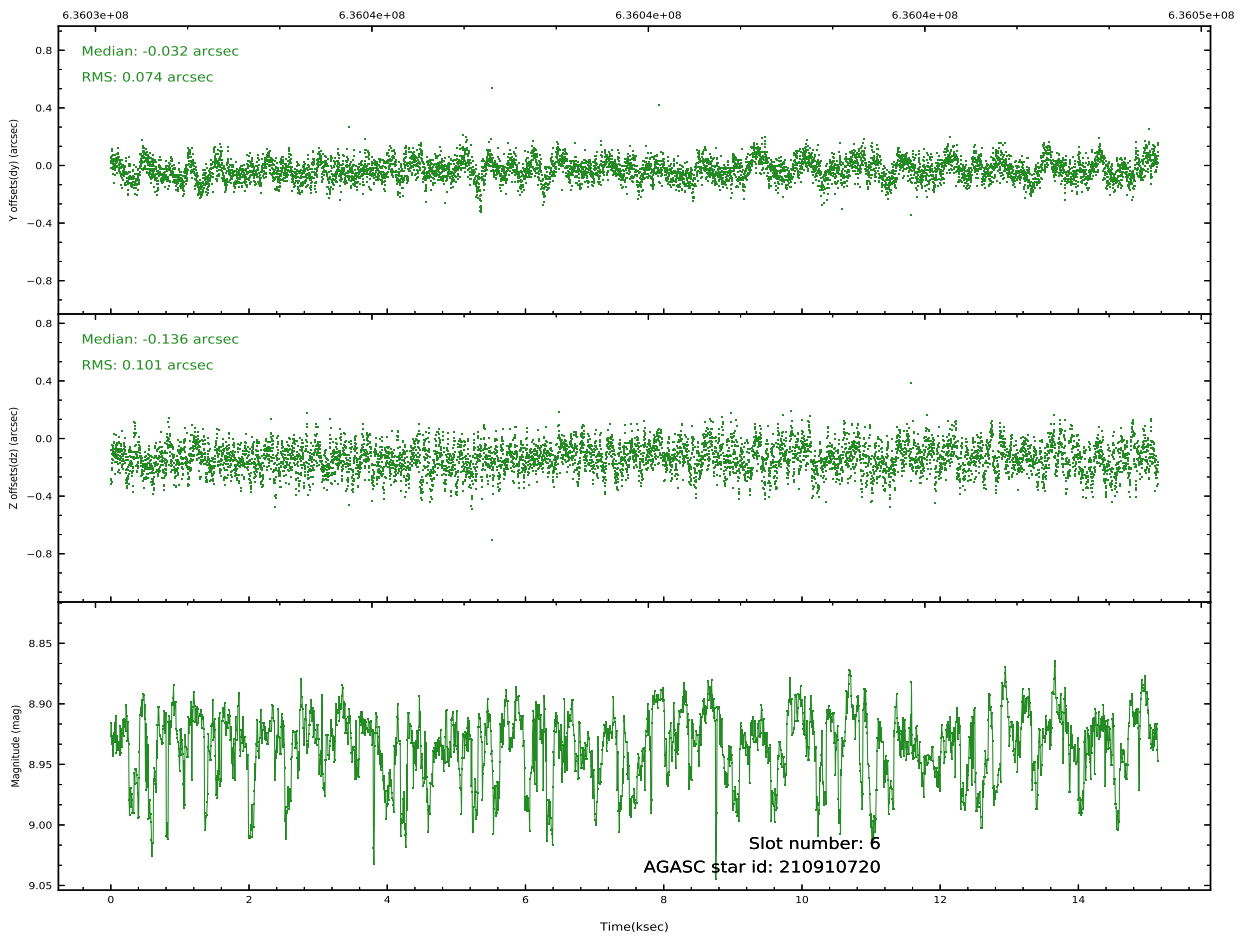
Time (s)



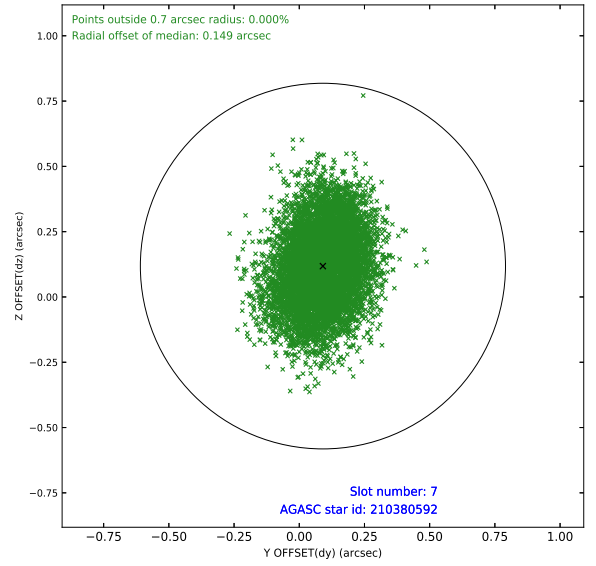
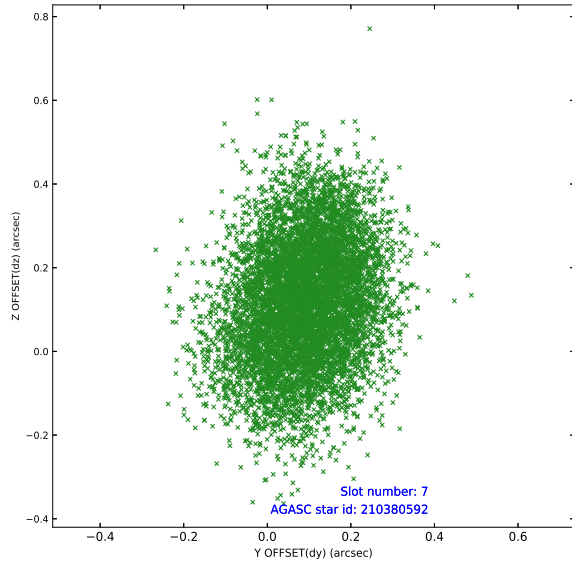
## 2.4.4 Slot 6



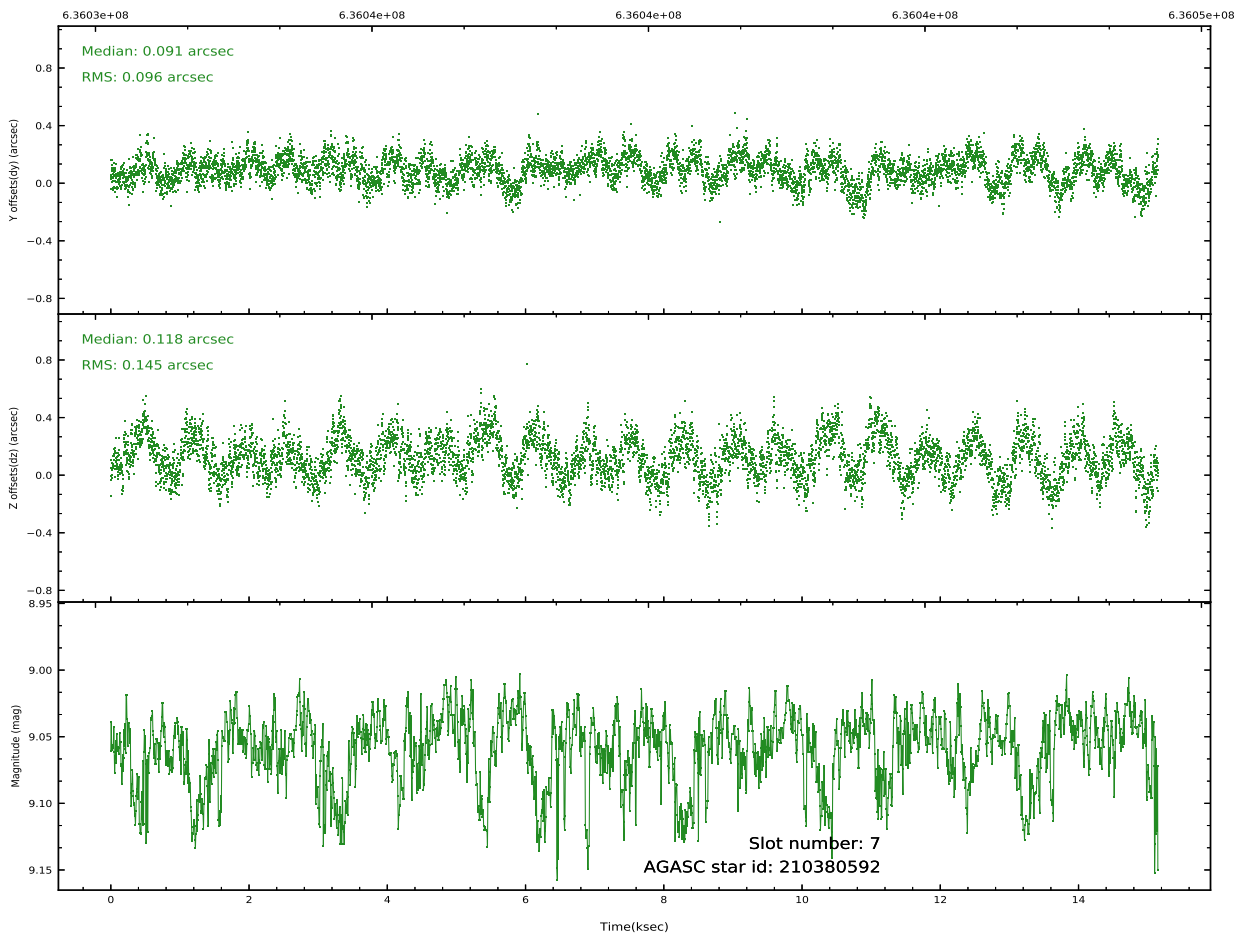
Time (s)



## 2.4.5 Slot 7

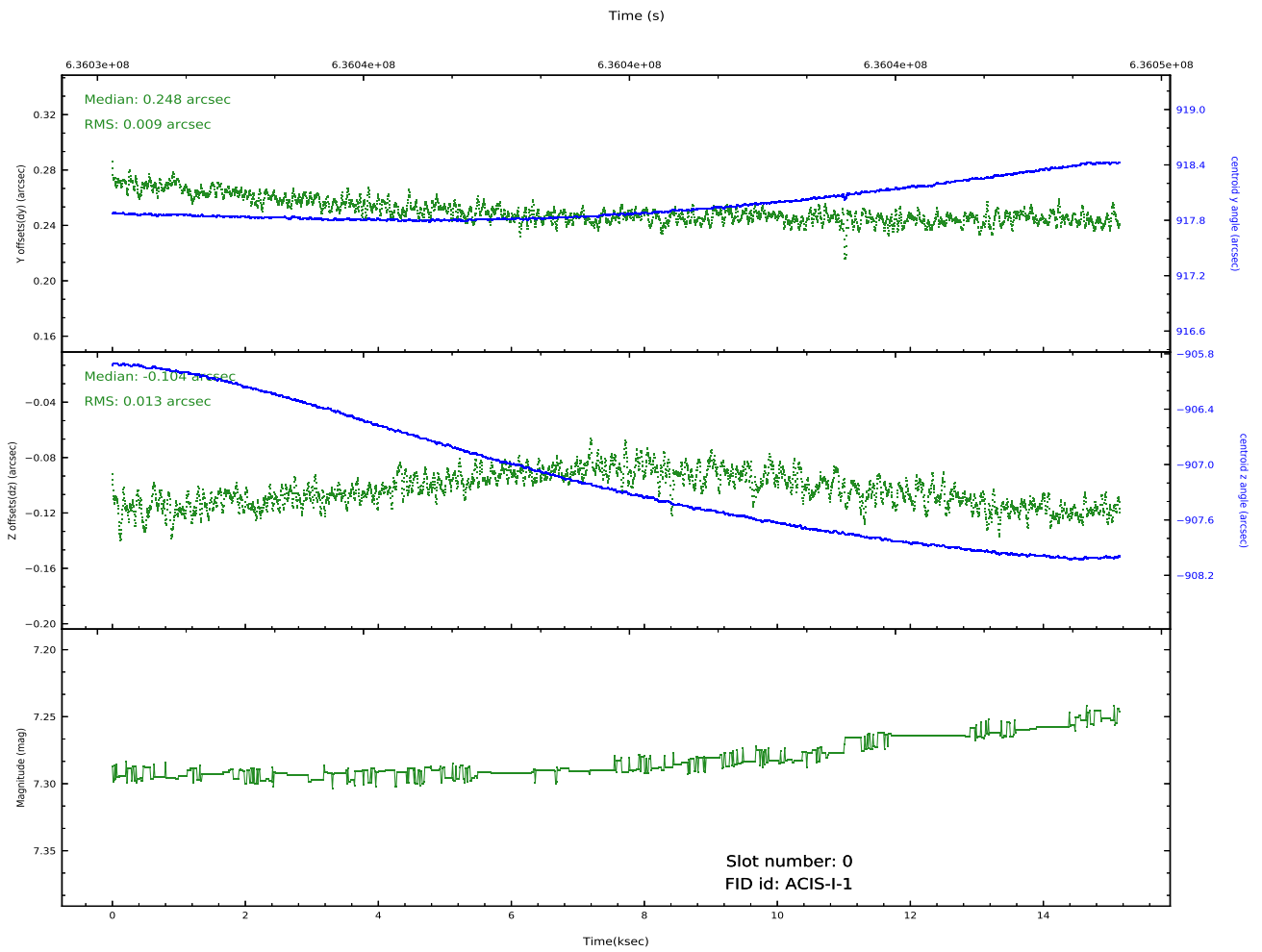
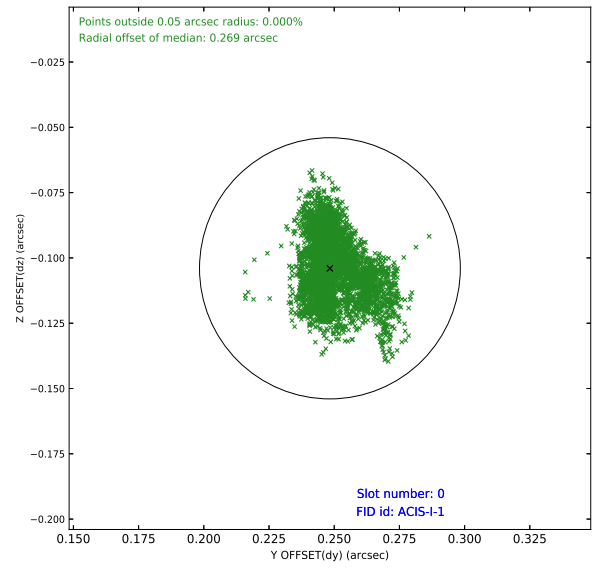
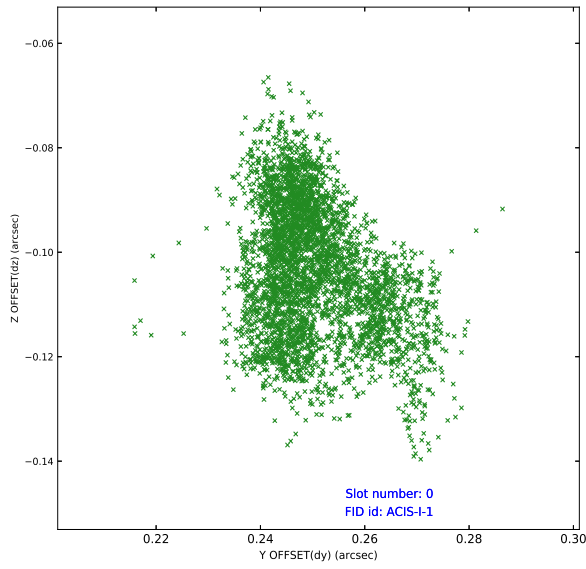


Time (s)

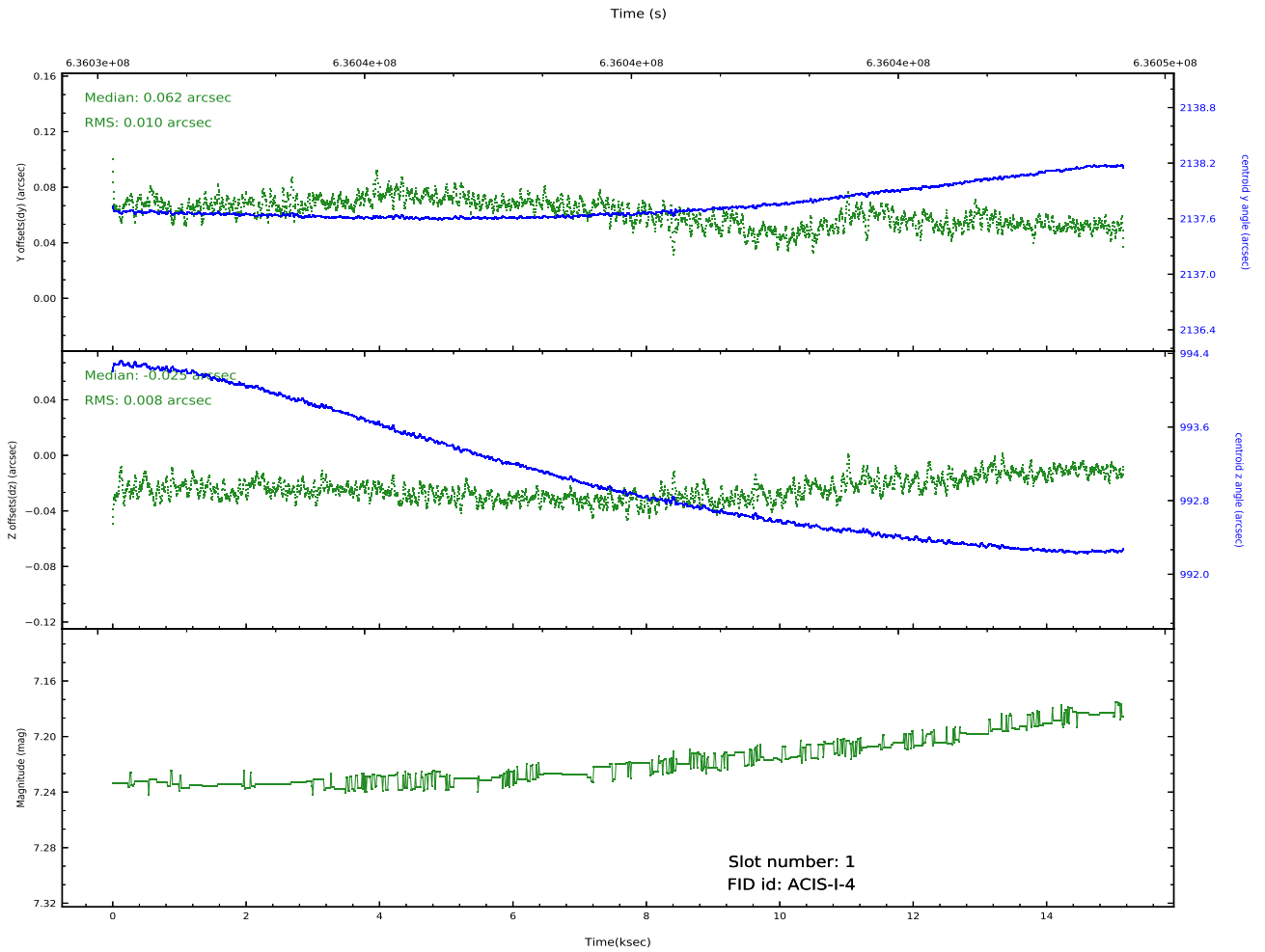
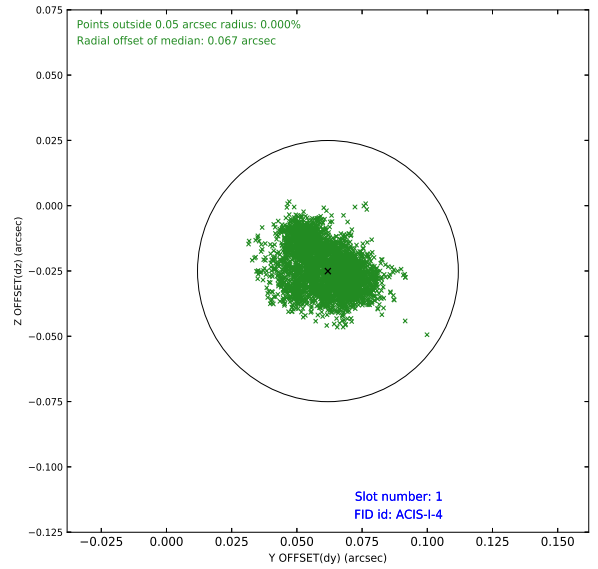
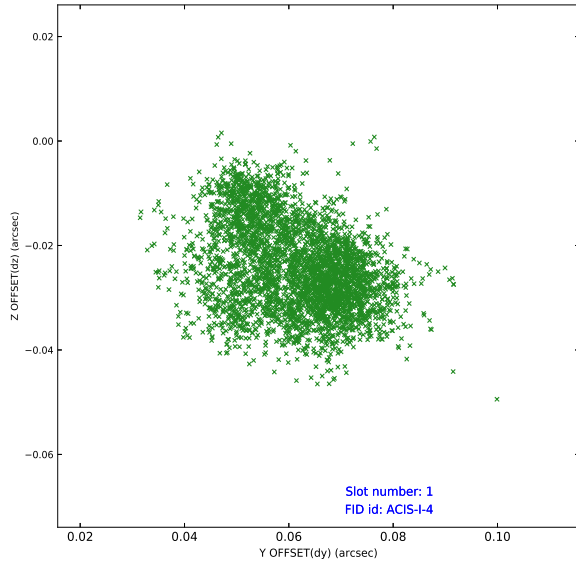


## 2.5 FID Slots

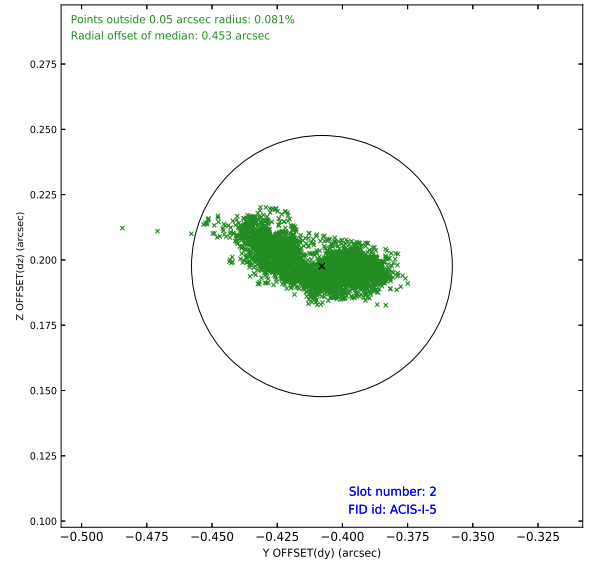
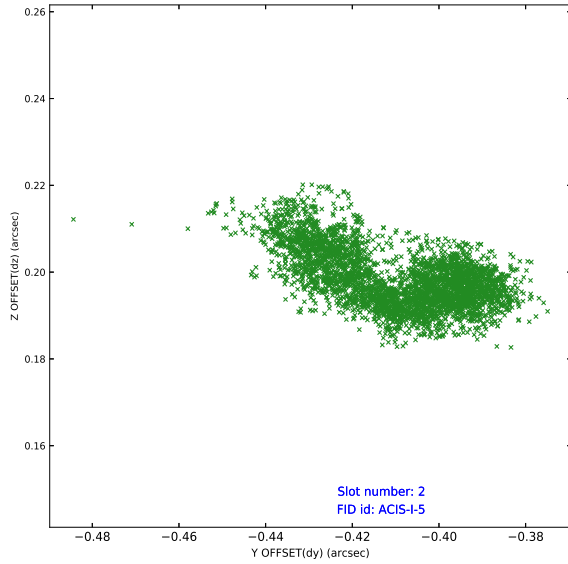
### 2.5.1 Slot 0



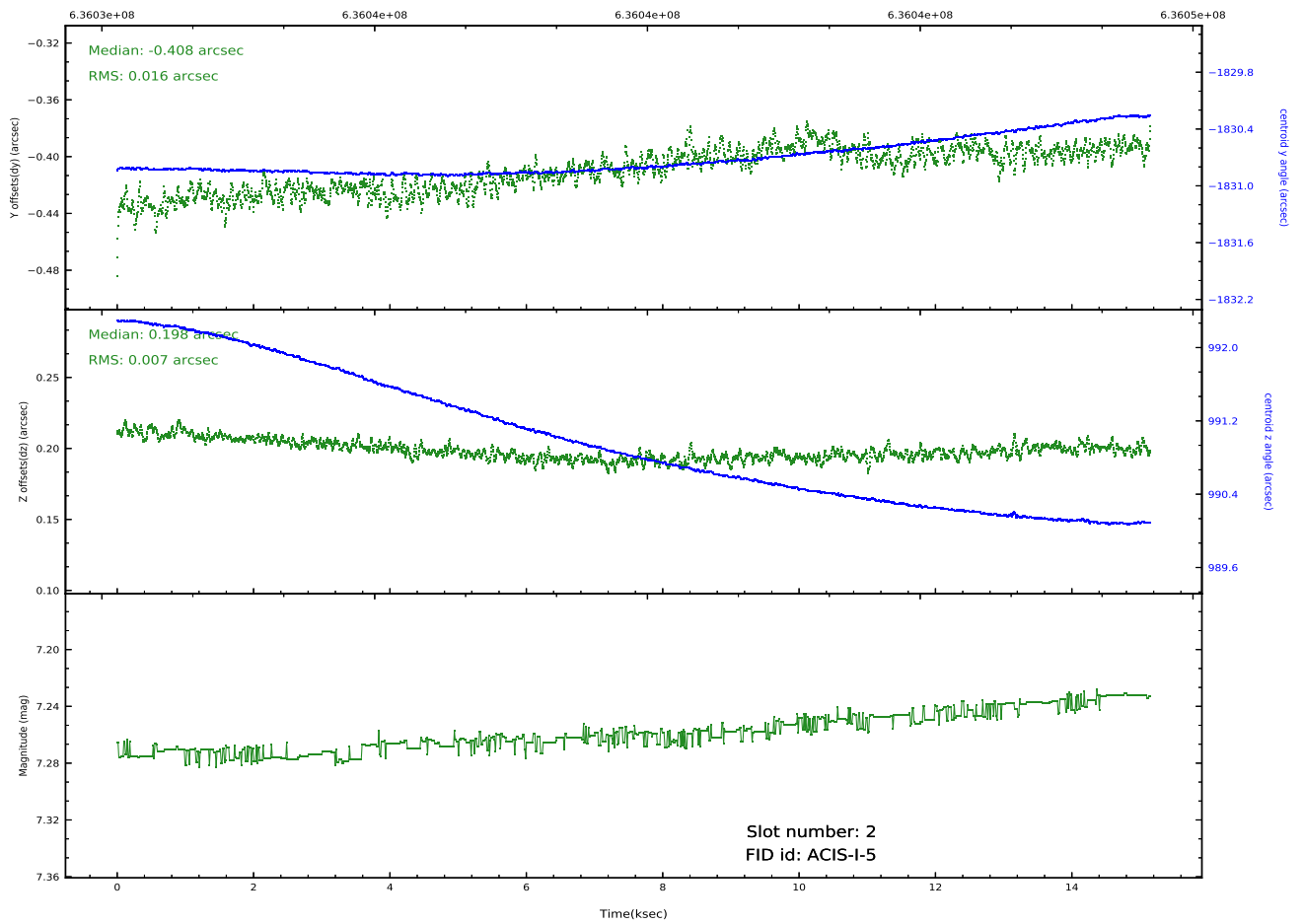
## 2.5.2 Slot 1



### 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	15.049855017066

## A.2 Comments