

# V&V Reference Report

## L2 ASCDS Version : 10.9.2

Observation 20934 - L2 Version 2  
Chandra X-Ray Center

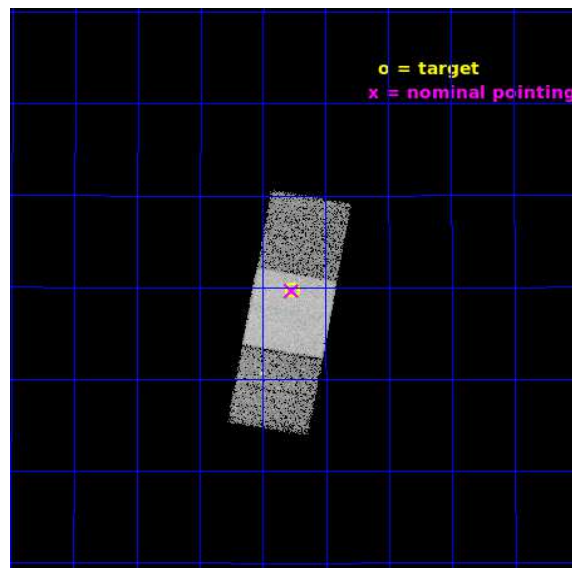
L2 Processing Date : Oct 24 2020

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# 1 Front

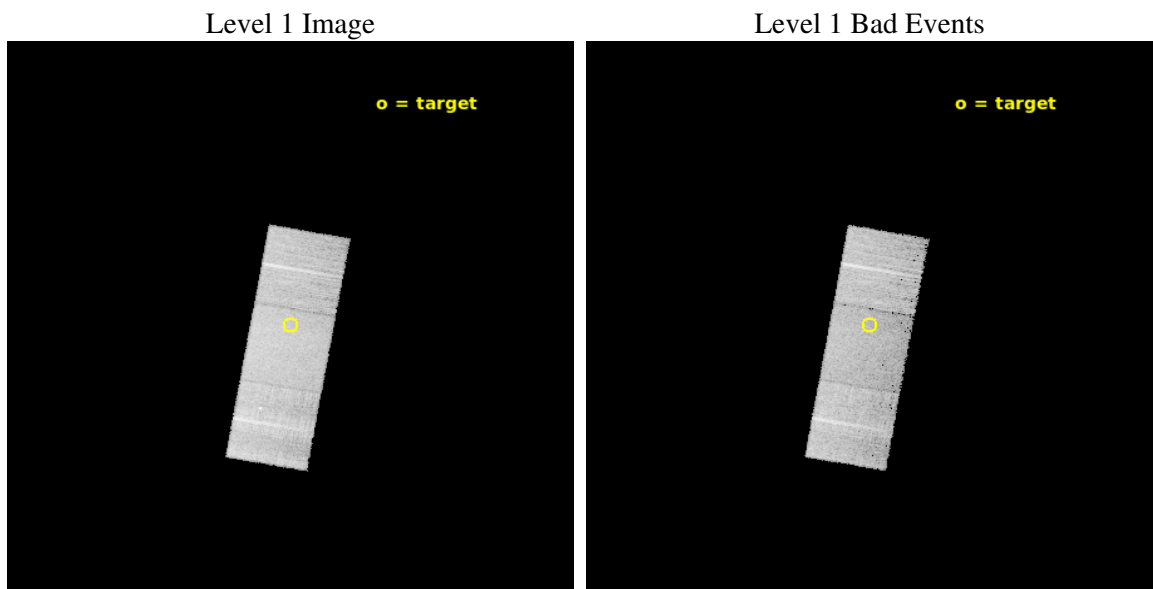
seq_num	601290	Sequence number
obs_id	20934	Observation id
title	A Close-Up Look at a $z = 10$ Galaxy Analog: A Deep Chandra Exposure of DDO68	Proposal title
observer	Bret Lehmer	Principal investigator
object	DDO 68	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	149.190833	Observer's specified target RA [deg]
dec_targ	28.828583	Observer's specified target Dec [deg]
ra_nom	149.19229289949	Nominal RA [deg]
dec_nom	28.827614876989	Nominal Dec [deg]
roll_nom	100.15048955677	Nominal Roll [deg]
revision	2	Processing version of data
ontime	10006.800077081	Sum of GTIs [s]
livetime	9876.0538671746	Livetime [s]
ontime6	10006.800077081	Sum of GTIs [s]
ontime7	10006.800077081	Sum of GTIs [s]
ontime8	10006.800077081	Sum of GTIs [s]
l2events	55299	Number of level 2 events



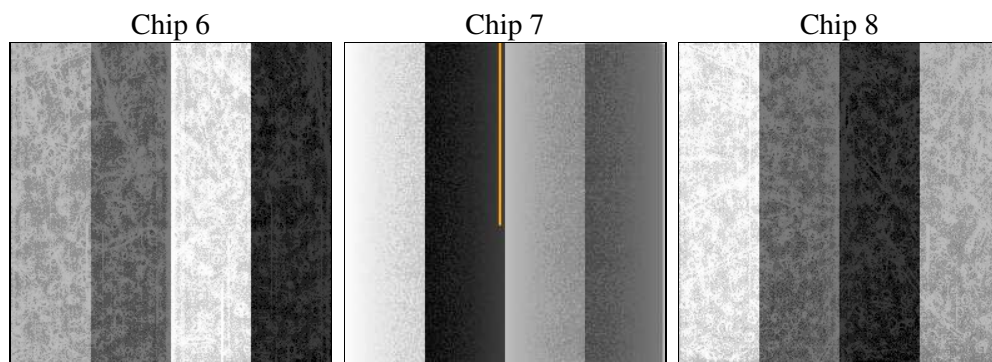
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	9900.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	10006.800077081	Sum of GTIs [s]
caldsver	4.9.3	&#160	ontime6	10006.800077081	Sum of GTIs [s]
date	2020-10-24T07:20:25	Date and time of file creation	ontime7	10006.800077081	Sum of GTIs [s]
revision	2	Processing version of data	ontime8	10006.800077081	Sum of GTIs [s]
			l1events	270323	Number of level 1 events

### 2.1.4 Events

	<b>ccd 6</b>	<b>ccd 7</b>	<b>ccd 8</b>
level 1 events	78887	94564	96872
rejected events	70692	53667	71852
rejected %	89%	56%	74%

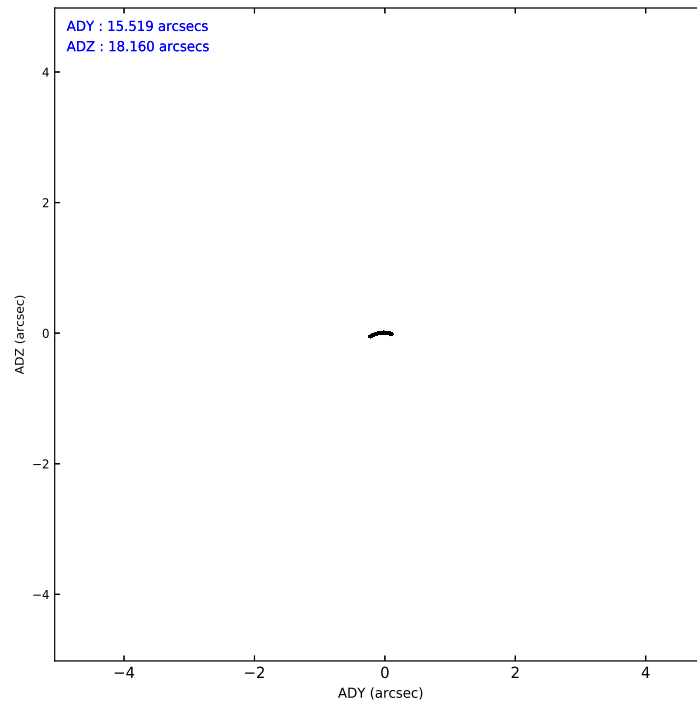
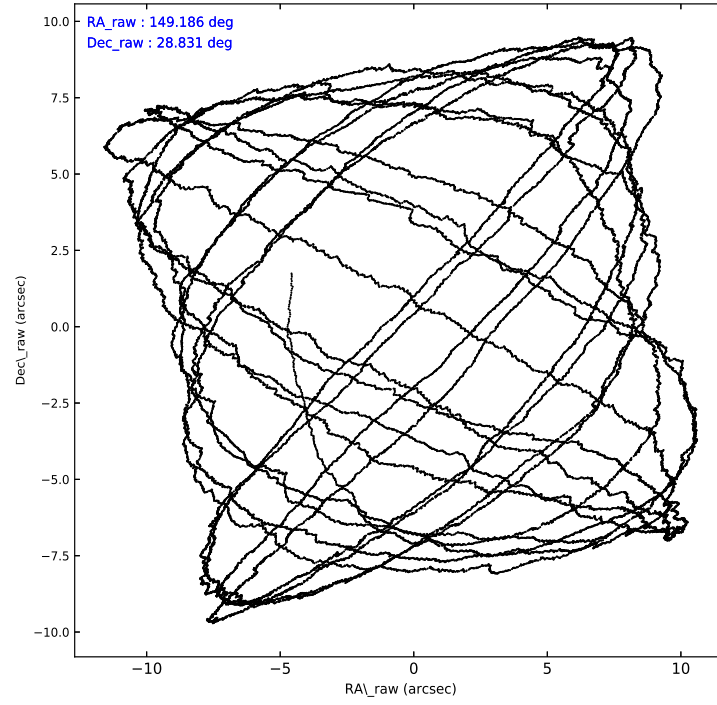
	<b>ccd 6</b>	<b>ccd 7</b>	<b>ccd 8</b>
grade 0 events	2542	3523	6948
	3%	3%	7%
grade 1 events	37	126	65
	0%	0%	0%
grade 2 events	2038	8588	6188
	2%	9%	6%
grade 3 events	768	3316	2599
	0%	3%	2%
grade 4 events	724	3197	2363
	0%	3%	2%
grade 5 events	3349	9320	5009
	4%	9%	5%
grade 6 events	2128	22290	6926
	2%	23%	7%
grade 7 events	67301	44204	66774
	85%	46%	68%

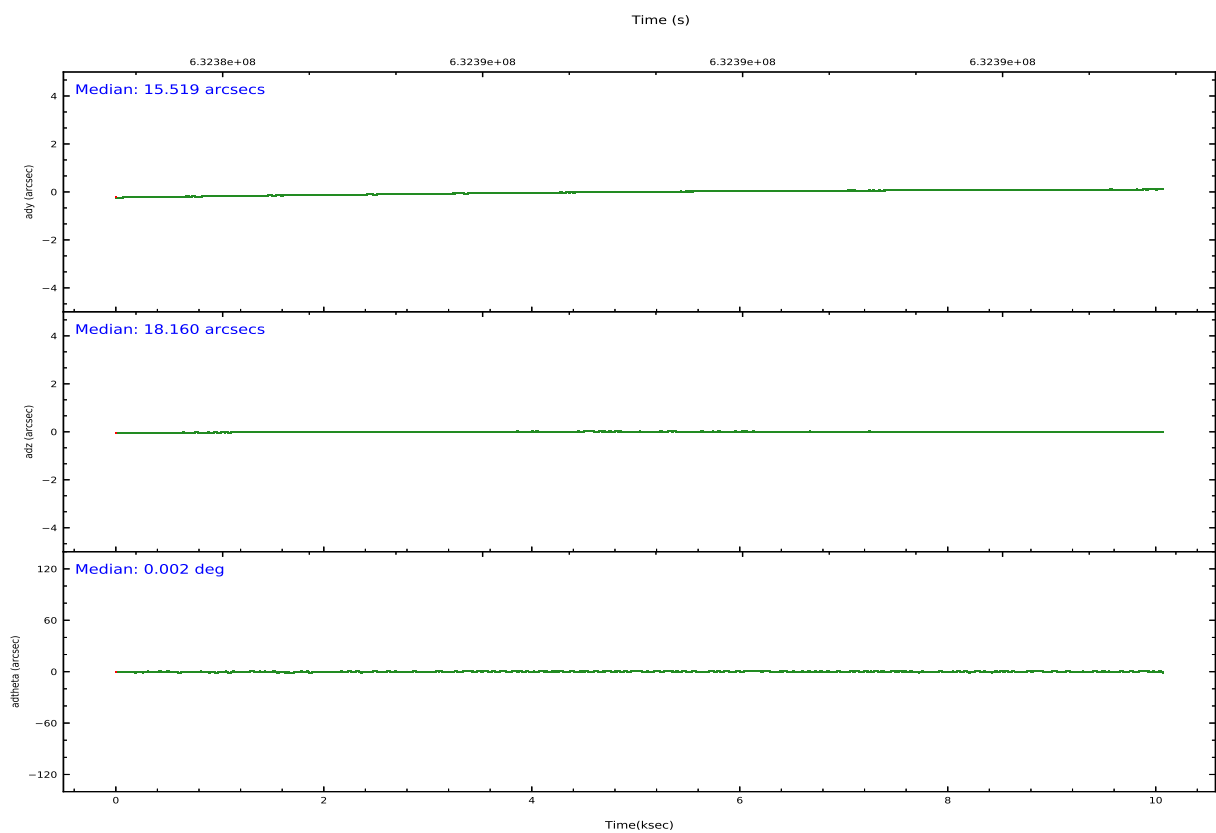
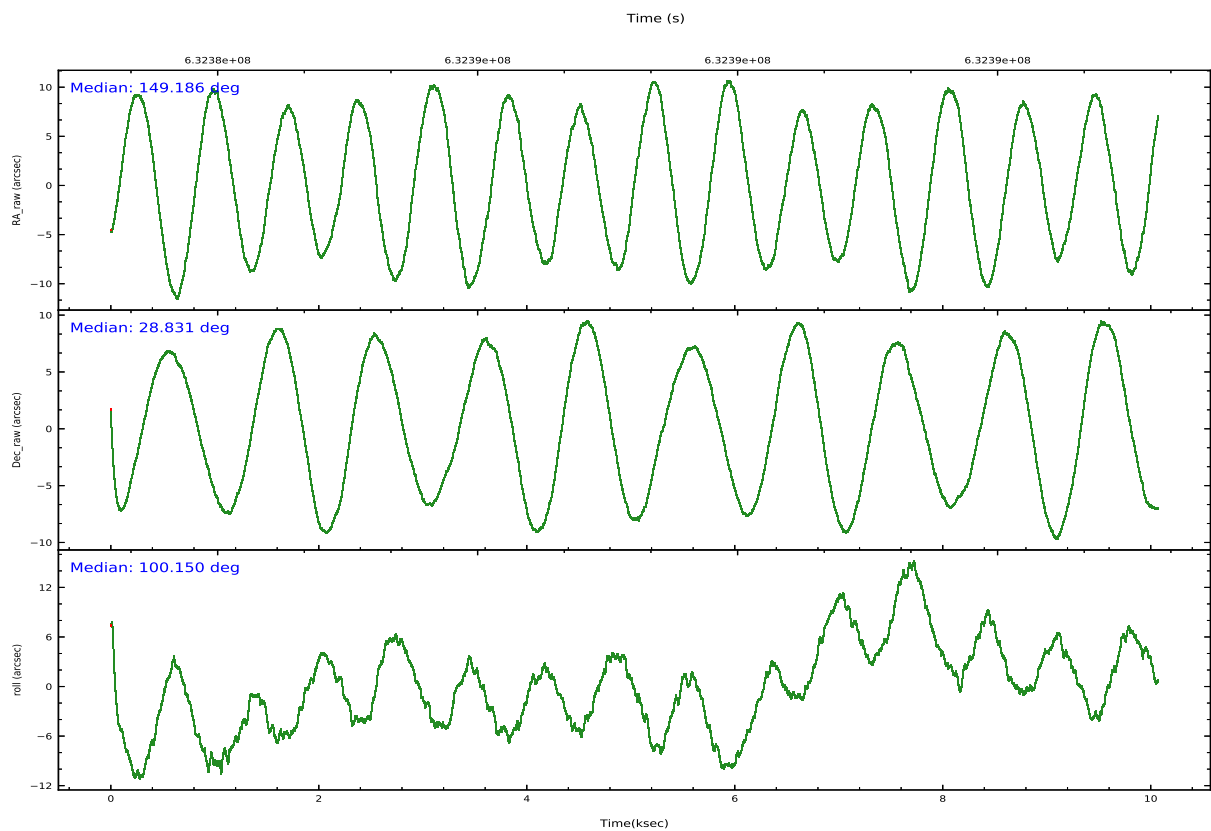


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-678	ACIS-678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	149.206072	149.19229289949	CCD I2 on	O1	N
[deg] Pointing Dec	28.810400	28.827614876989	CCD I3 on	O2	N
[deg] Pointing Roll	99.992657	100.15048955677	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	N	N
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	632384144.184000	632382987.48695	CCD S5 on	N	N
Observation start date	2018-01-15T06:14:35	2018-01-15T05:56:27	Number of optional ACIS chips dropped	2	2
[s] Observation end time (MET)	632394044.184000	632394504.90013	On-chip summing requested	N	N
Observation end date	2018-01-15T08:59:35	2018-01-15T09:08:24	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



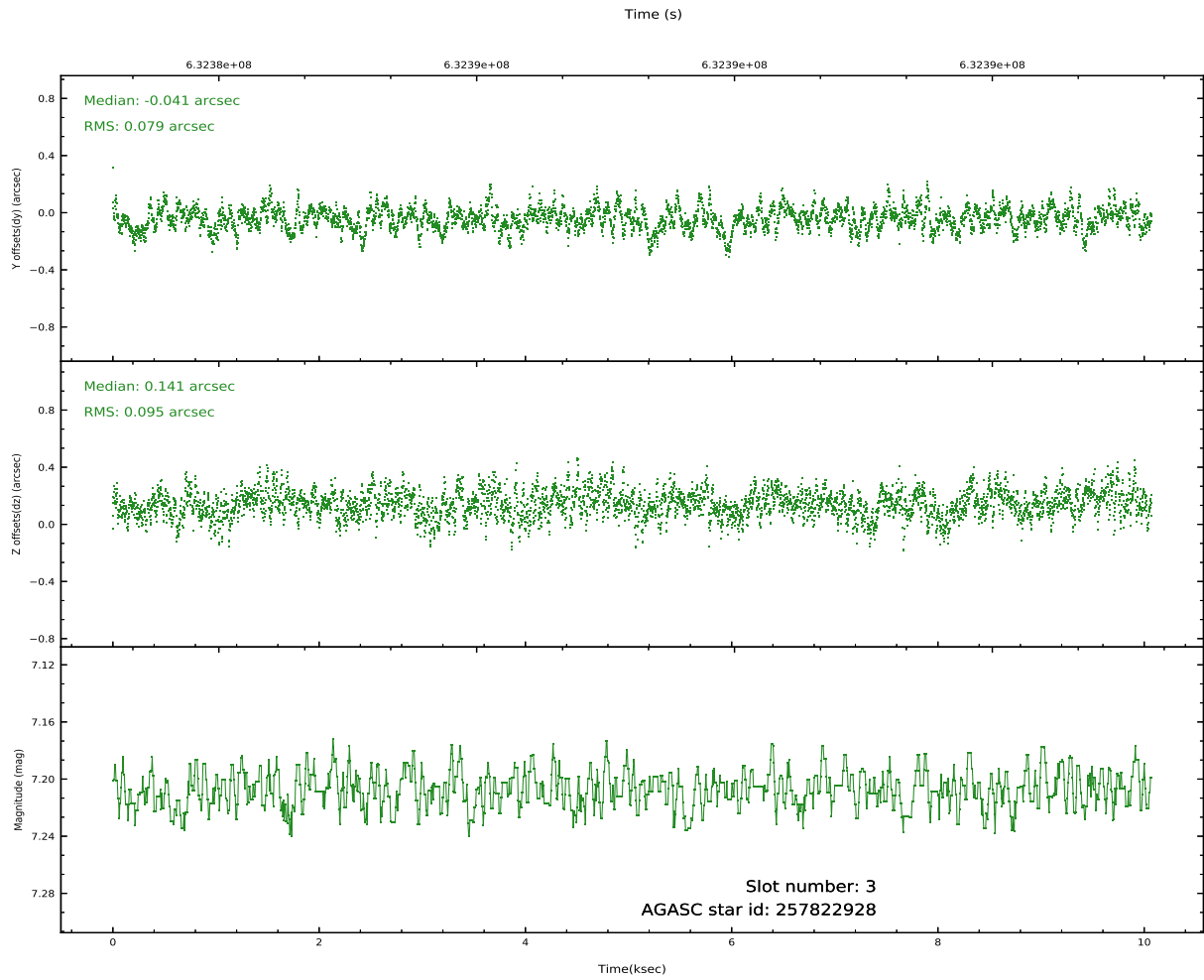
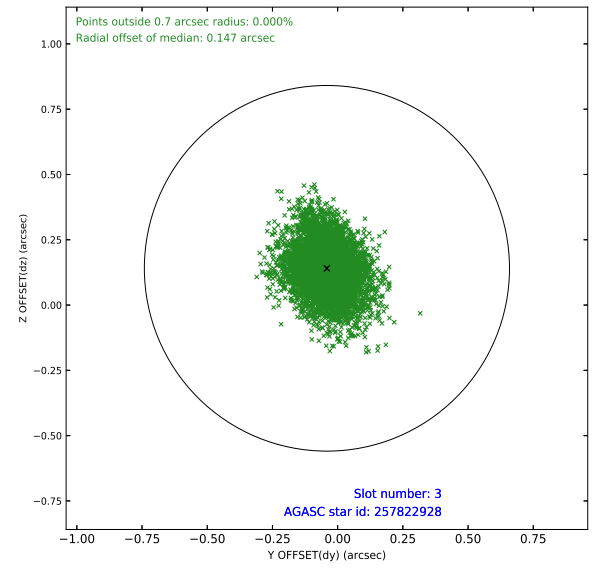
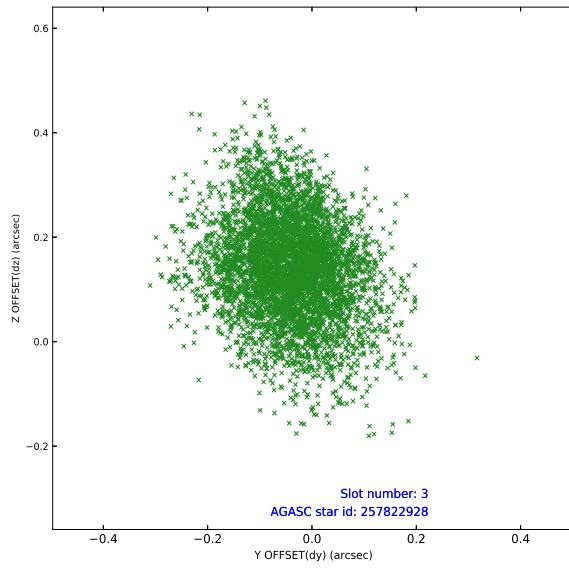


Slot Statistics

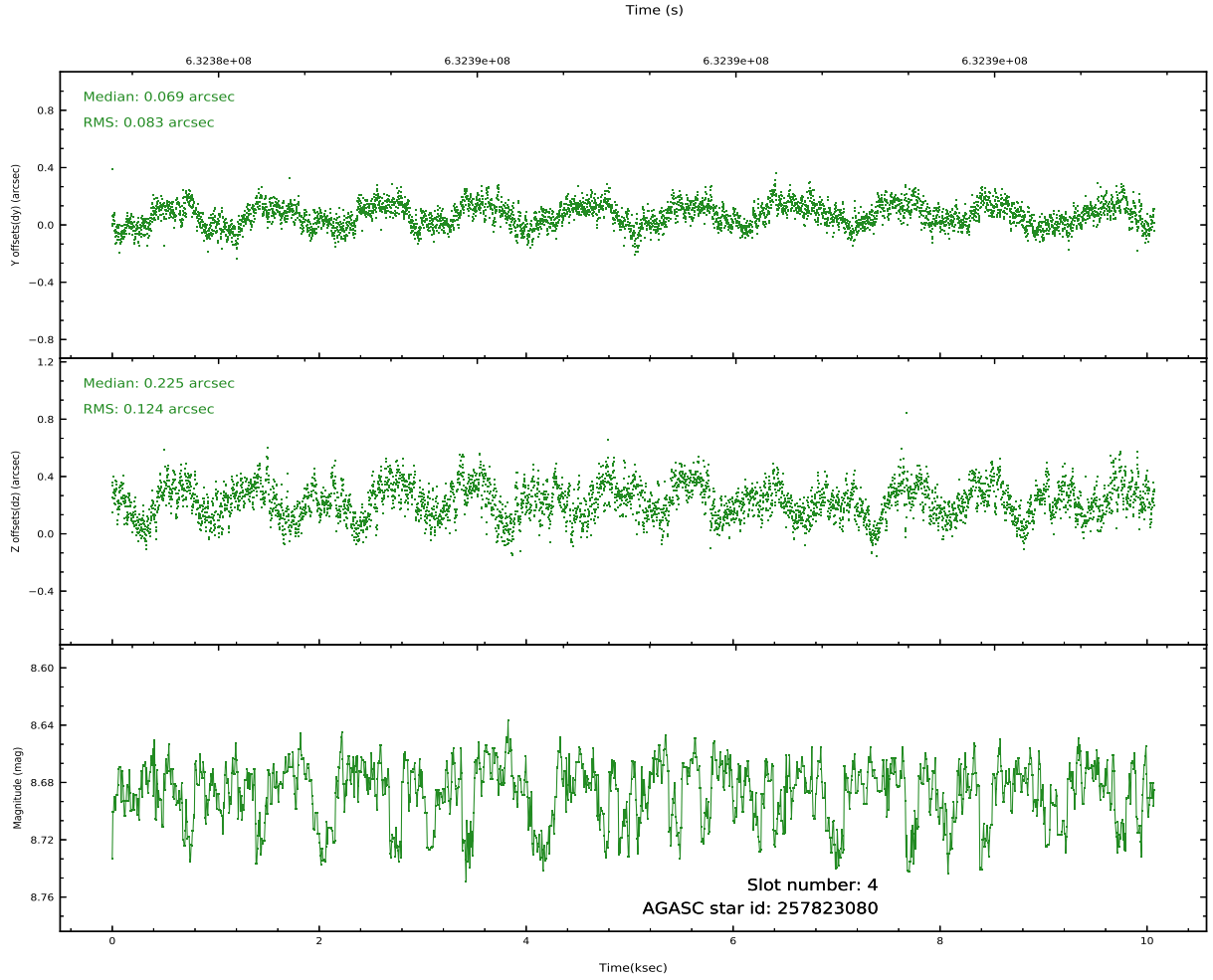
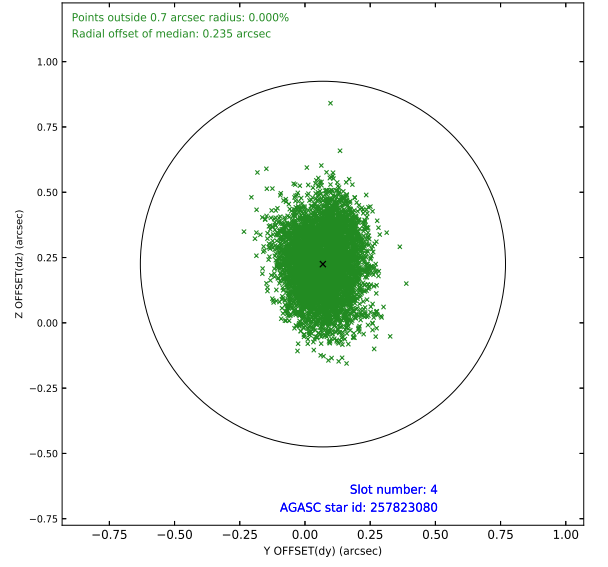
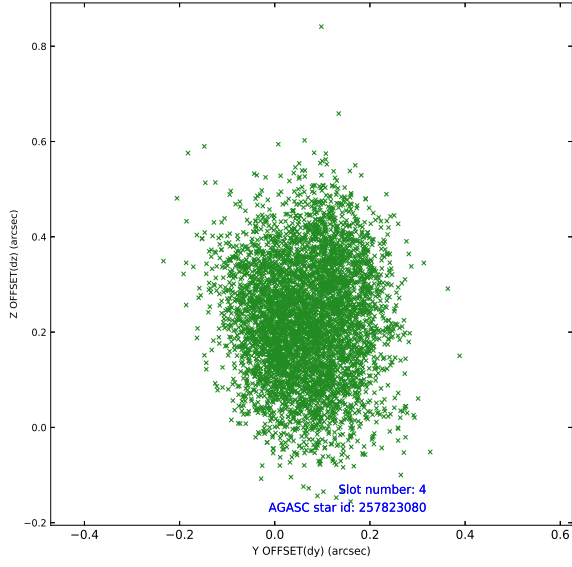
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.12	2457	1.000	0.098	-0.104	0.008	0.014	0.000000	0.000000	-768.58	-1739
1	FID		ACIS-S-4	7.23	2457	1.000	0.134	-0.019	0.008	0.016	0.000000	0.000000	2144.70	168
2	FID		ACIS-S-5	7.22	2457	1.000	-0.265	0.132	0.007	0.011	0.000000	0.000000	-1820.90	162
3	GUIDE	used	257822928	7.21	4914	1.000	-0.041	0.141	0.130	0.218	149.311326	28.561285	-940.26	-171
4	GUIDE	used	257823080	8.68	4913	1.000	0.069	0.225	0.159	0.255	149.610595	28.489924	-1355.82	-1060
5	GUIDE	used	257828304	8.61	4910	1.000	0.192	-0.146	0.196	0.289	149.365873	29.172027	1195.38	-720
6	GUIDE	used	257819432	9.29	4911	1.000	-0.088	-0.284	0.153	0.265	148.523233	28.477865	-797.89	2334
7	GUIDE	used	257826976	8.90	4906	1.000	-0.136	0.065	0.146	0.239	149.445637	29.490398	2281.57	-1163

## 2.4 Star Slots

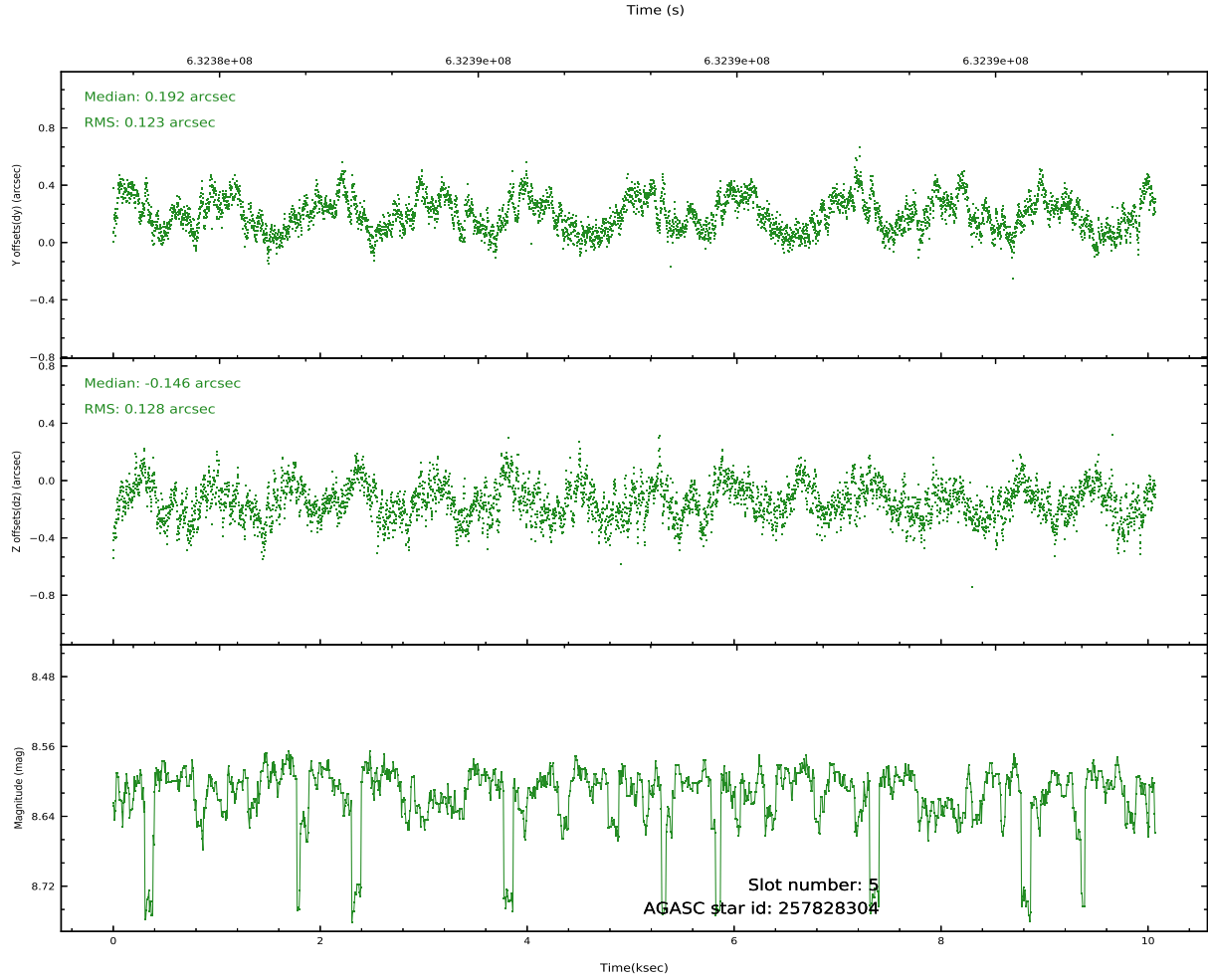
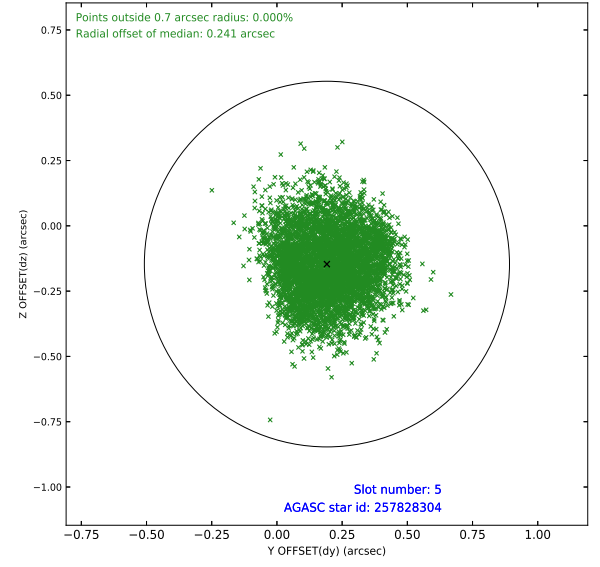
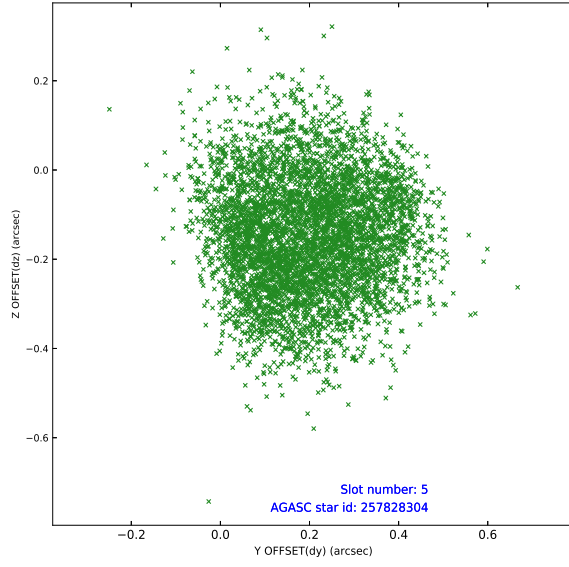
### 2.4.1 Slot 3



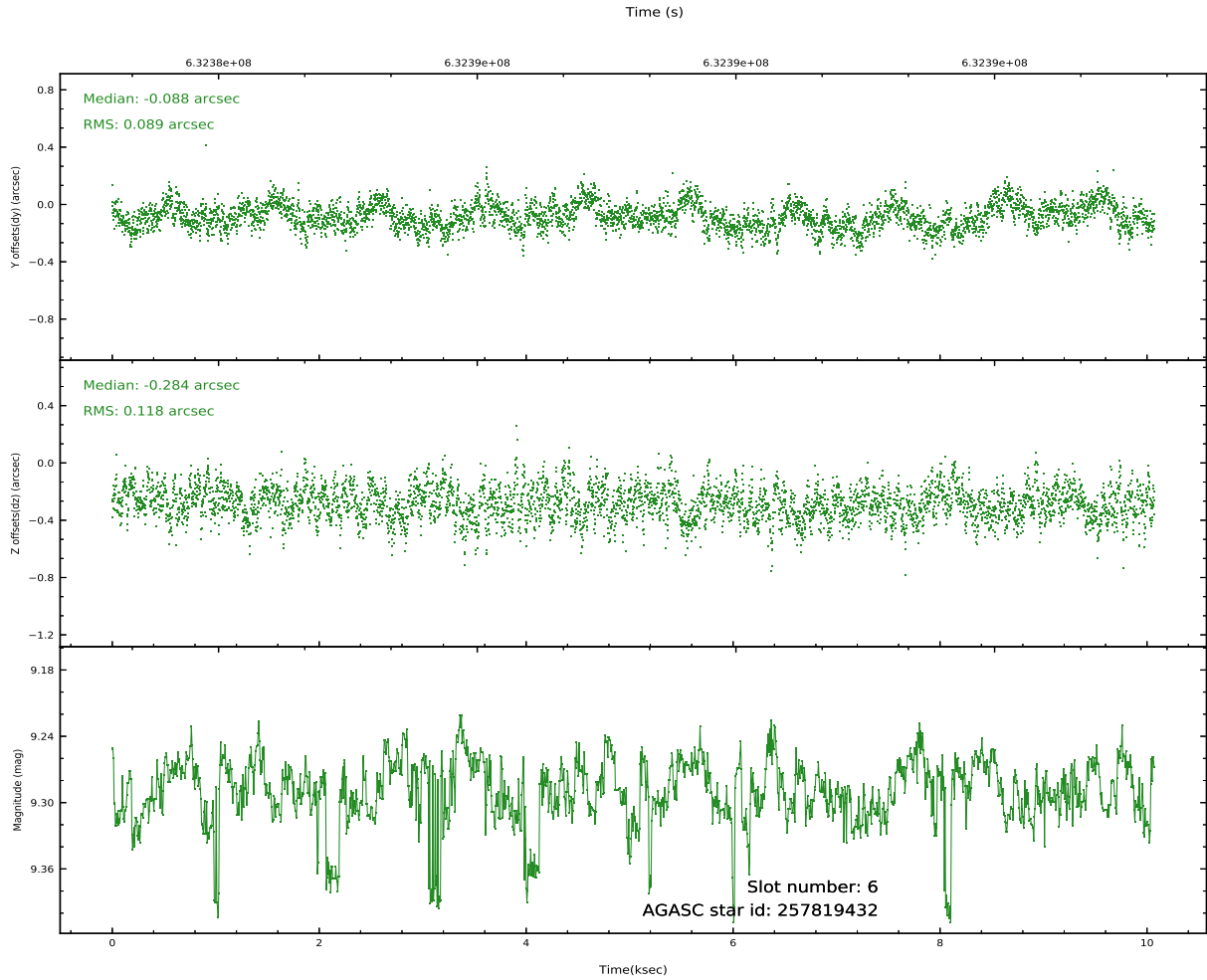
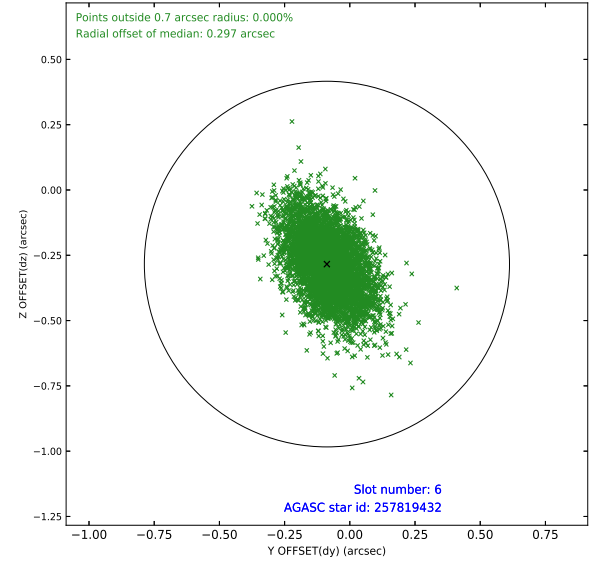
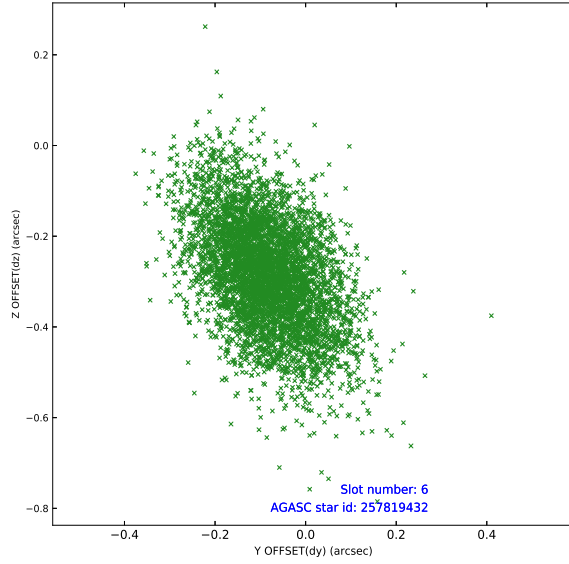
## 2.4.2 Slot 4



### 2.4.3 Slot 5

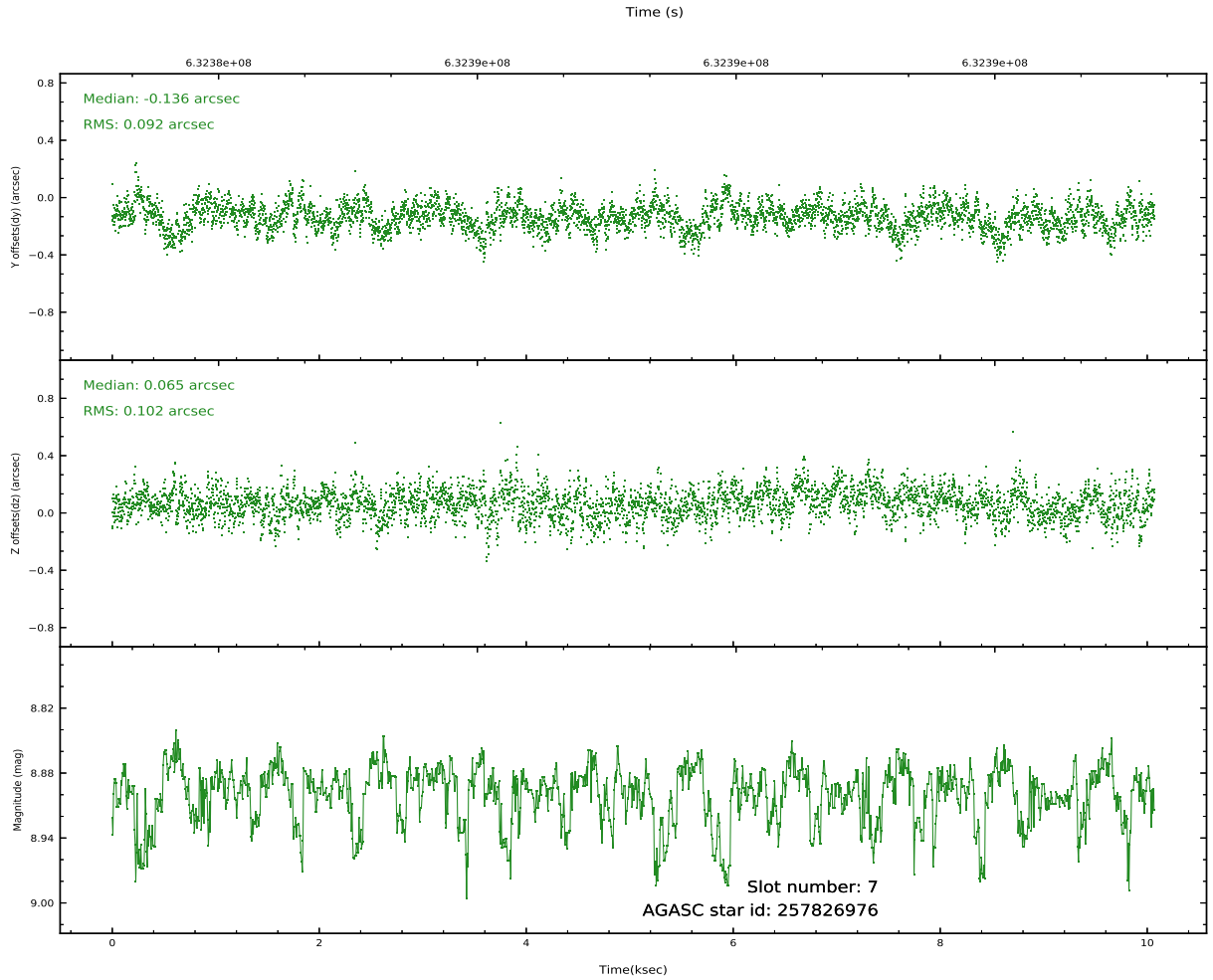
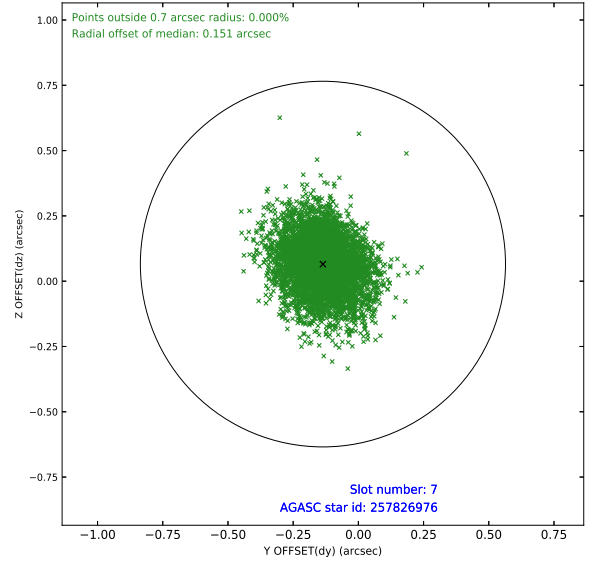
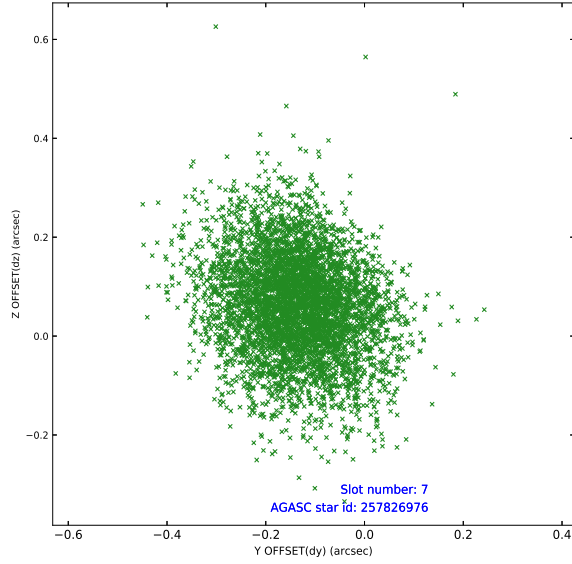


## 2.4.4 Slot 6



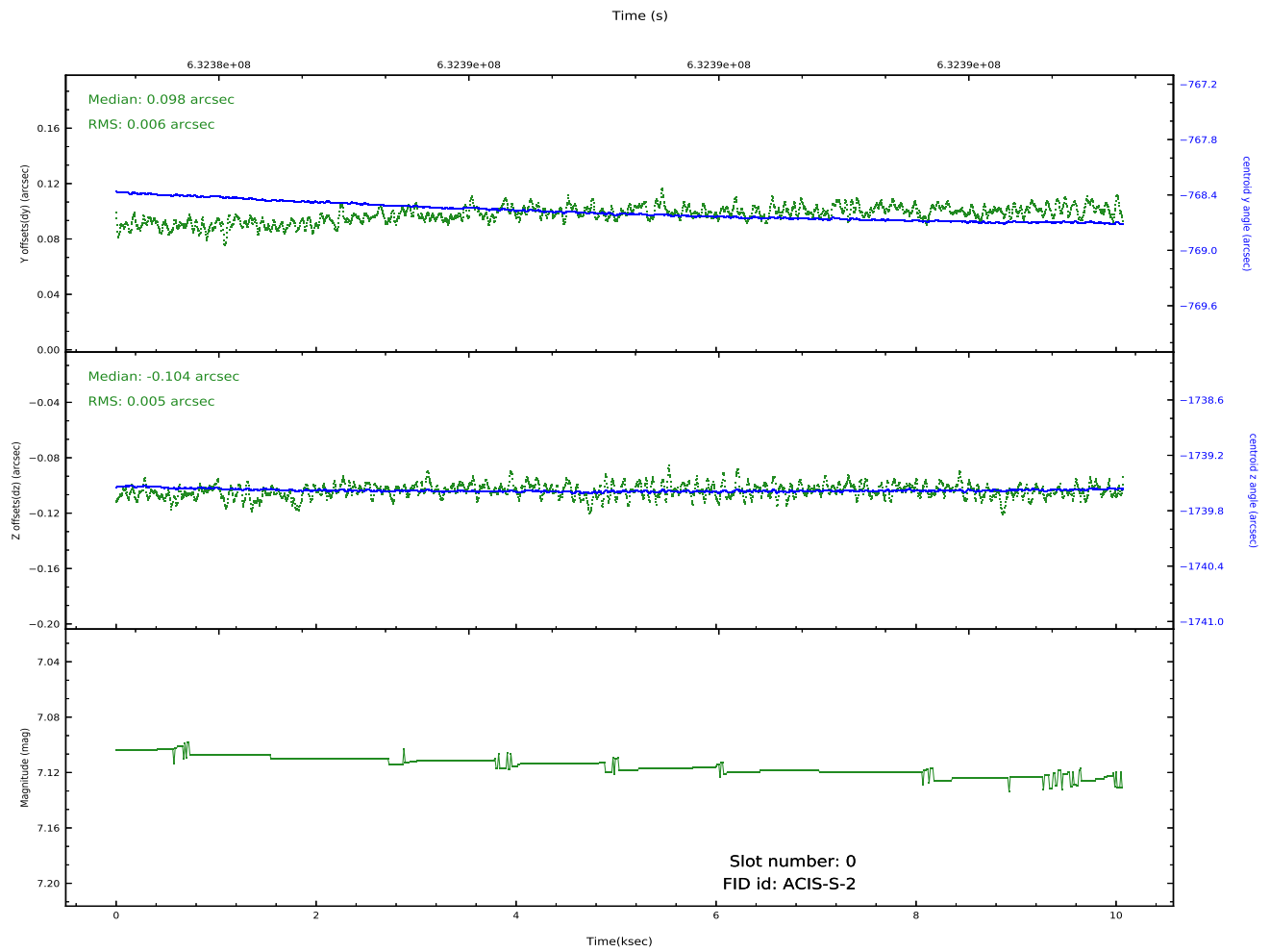
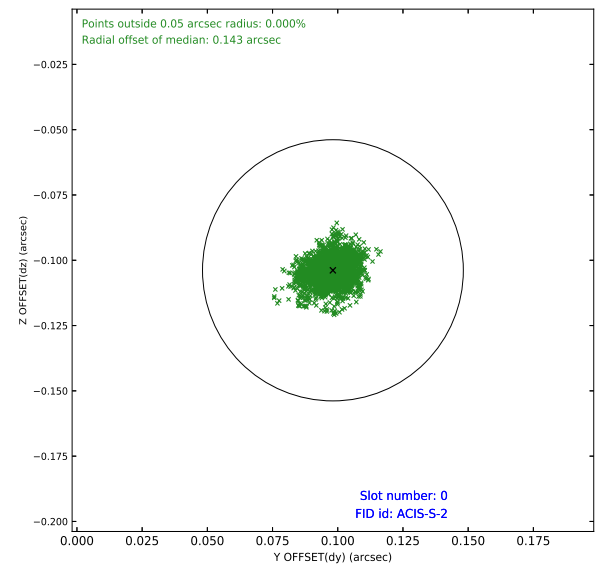
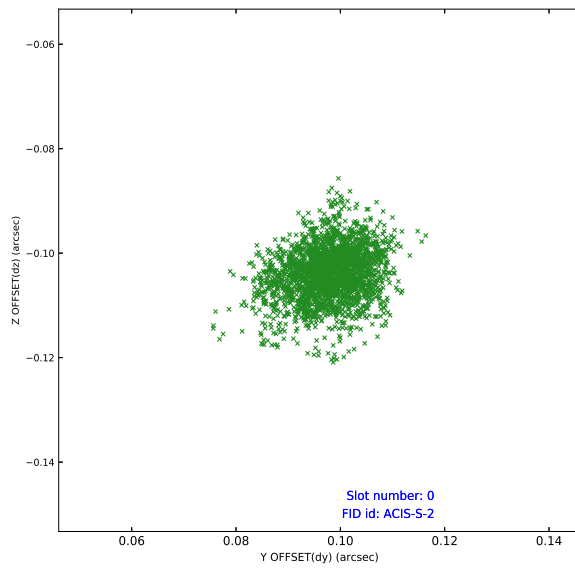


## 2.4.5 Slot 7

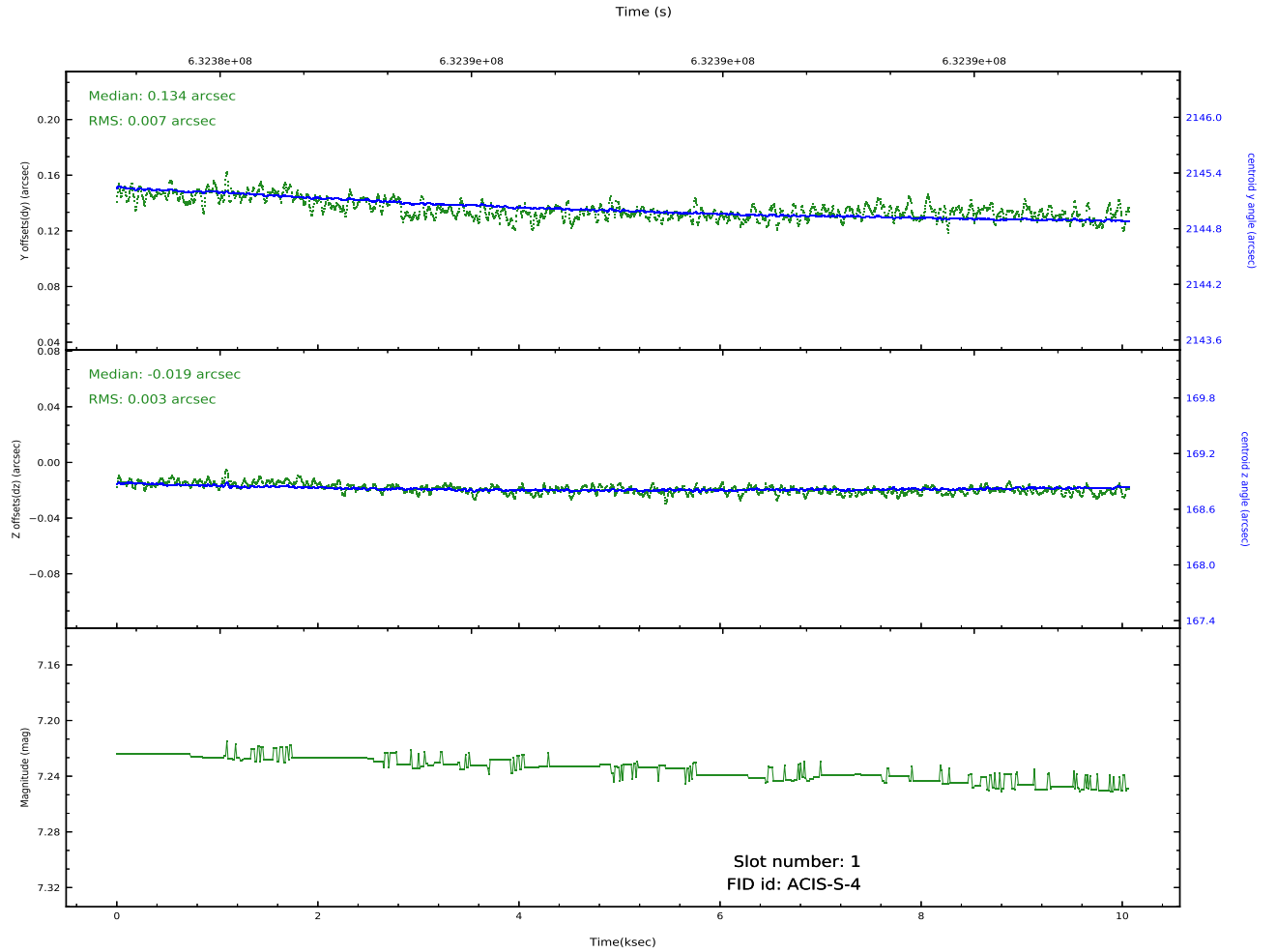
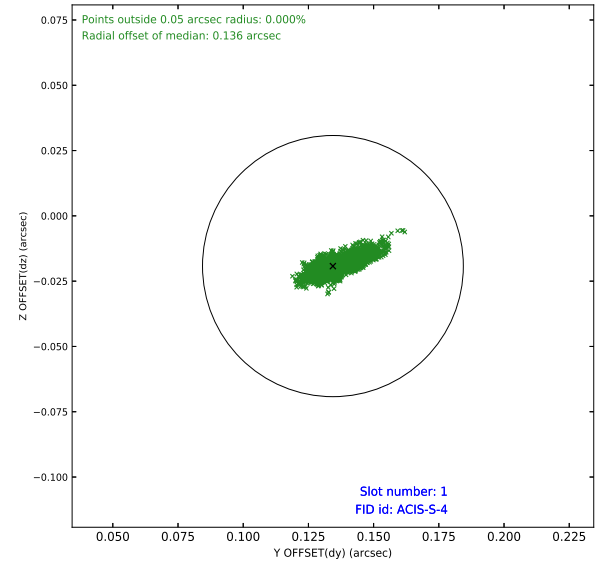
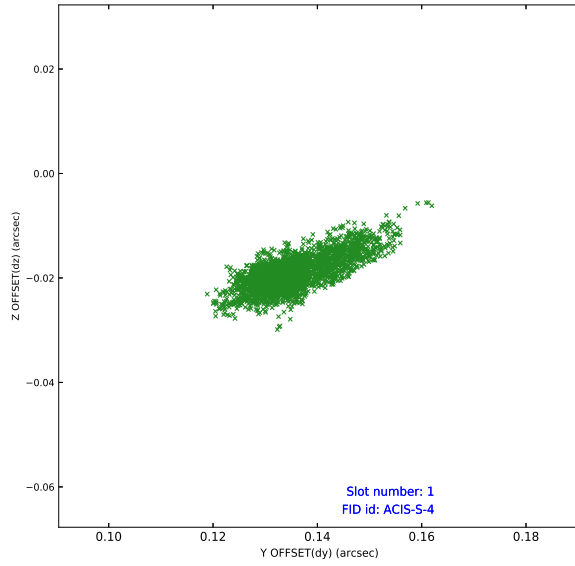


## 2.5 FID Slots

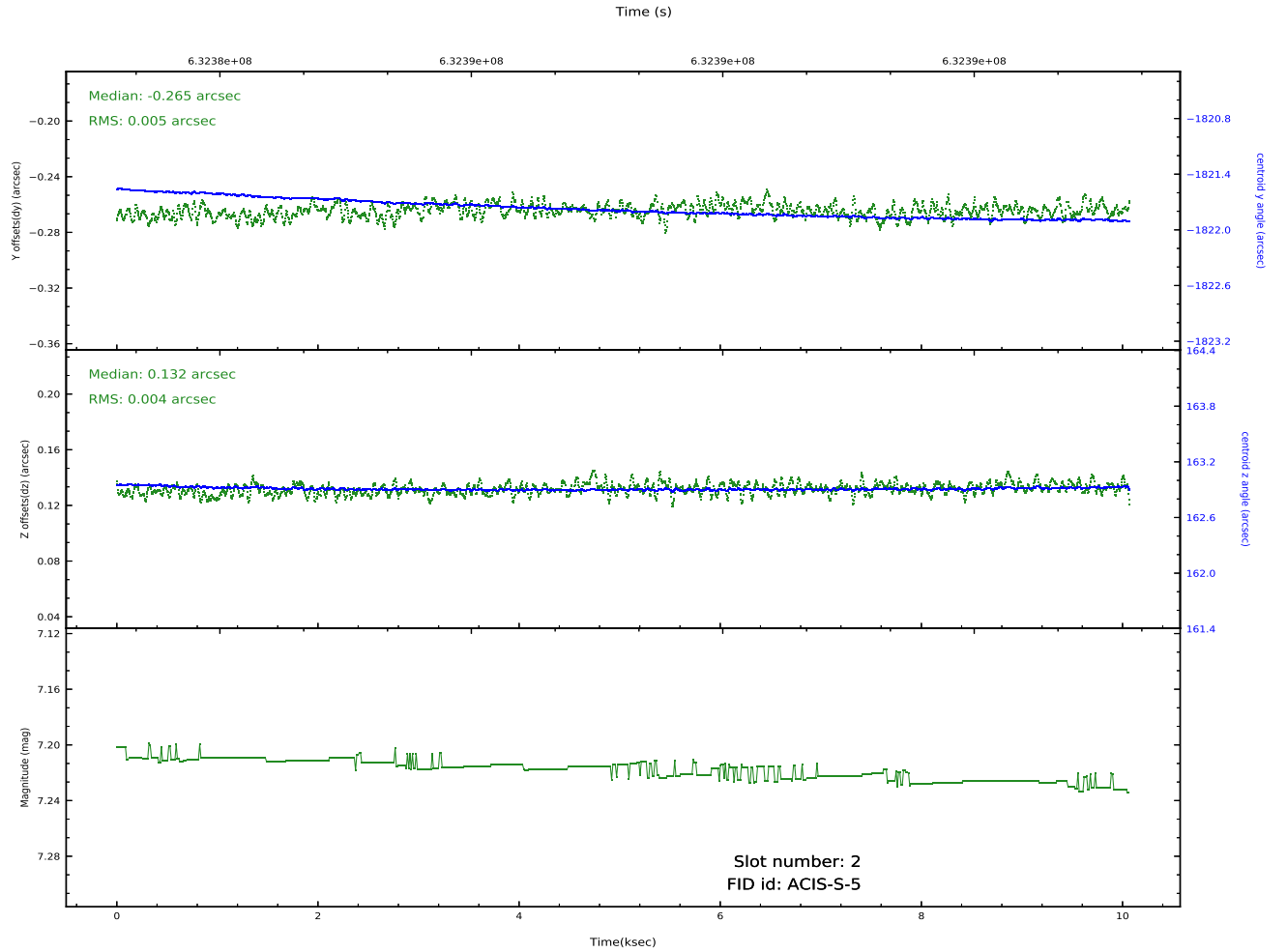
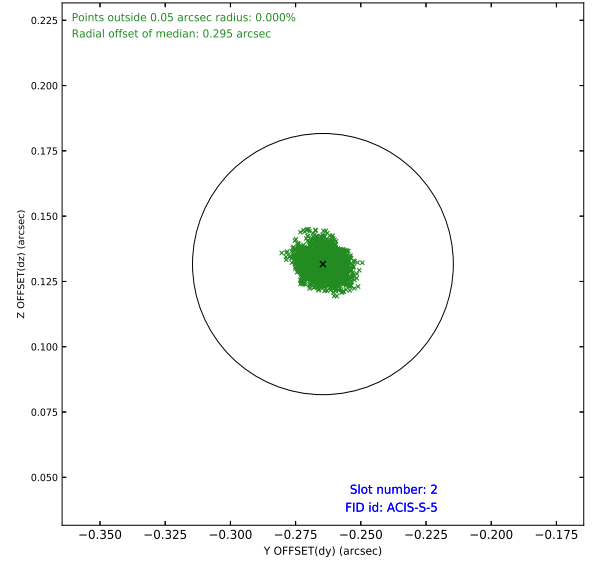
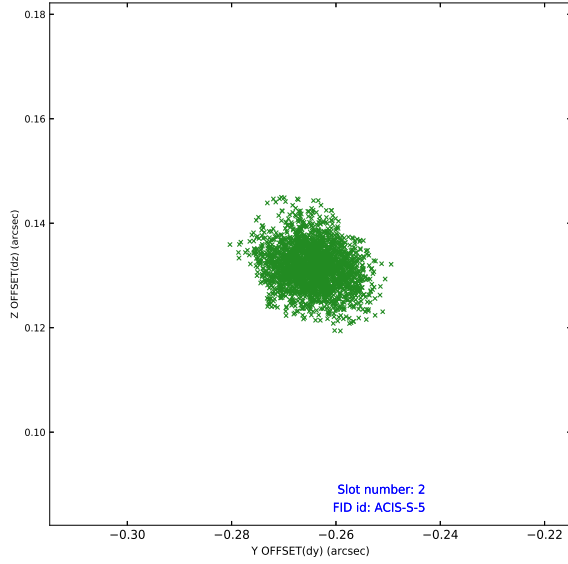
### 2.5.1 Slot 0



## 2.5.2 Slot 1



## 2.5.3 Slot 2



## A Summary

### A.1 Status

V&V Scientist	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	10.006800077081

### A.2 Comments

Two optional chips were dropped.