

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 6221 - L2 Version 4  
Chandra X-Ray Center

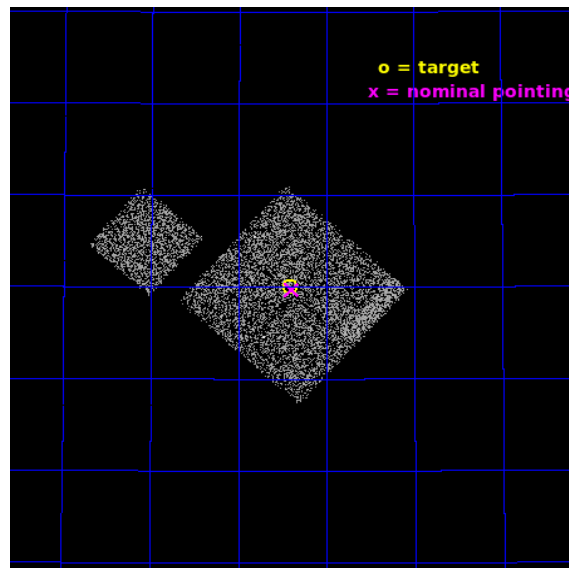
L2 Processing Date : Oct 10 2020

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# 1 Front

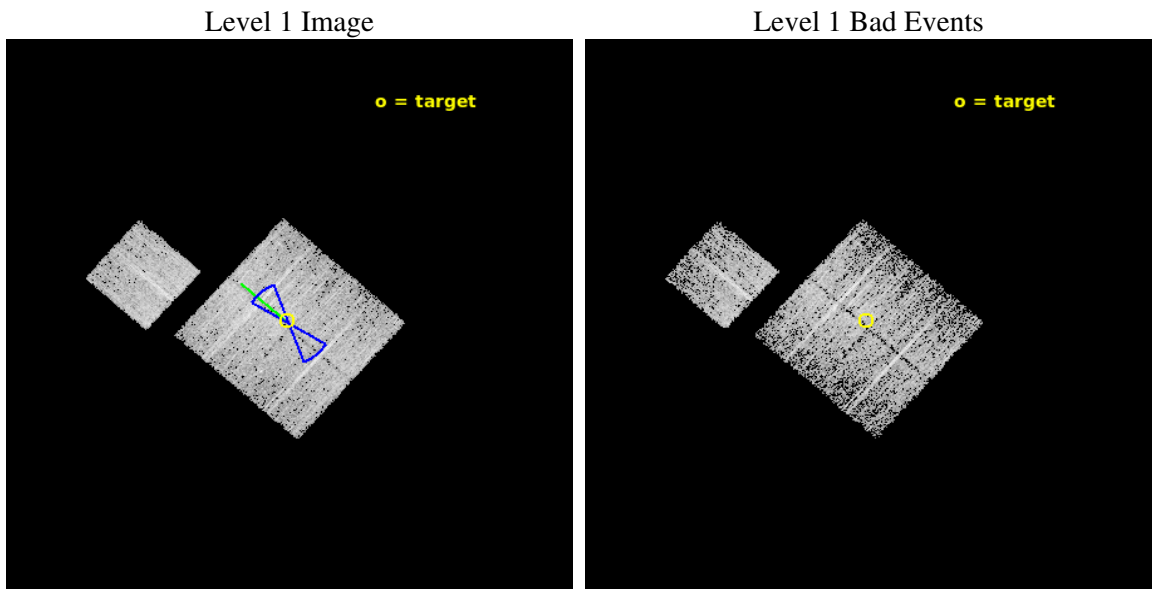
seq_num	900353	Sequence number
obs_id	6221	Observation id
title	Deep Chandra Imaging of the Extended Groth Strip: The Co-evolution of Black Holes and Galaxies	Proposal title
observer	Prof Kirpal Nandra	Principal investigator
object	Extended Groth Strip (EGS)	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	214.102081	Observer's specified target RA [deg]
dec_targ	52.334053	Observer's specified target Dec [deg]
ra_nom	214.09848889687	Nominal RA [deg]
dec_nom	52.328833072691	Nominal Dec [deg]
roll_nom	311.65334848073	Nominal Roll [deg]
revision	4	Processing version of data
ontime	3763.3590224683	Sum of GTIs [s]
livetime	3714.1879662952	Livetime [s]
ontime0	3766.4999927282	Sum of GTIs [s]
ontime1	3766.4999927282	Sum of GTIs [s]
ontime2	3766.4999927282	Sum of GTIs [s]
ontime3	3763.3590224683	Sum of GTIs [s]
ontime6	3766.4999927282	Sum of GTIs [s]
l2events	12067	Number of level 2 events



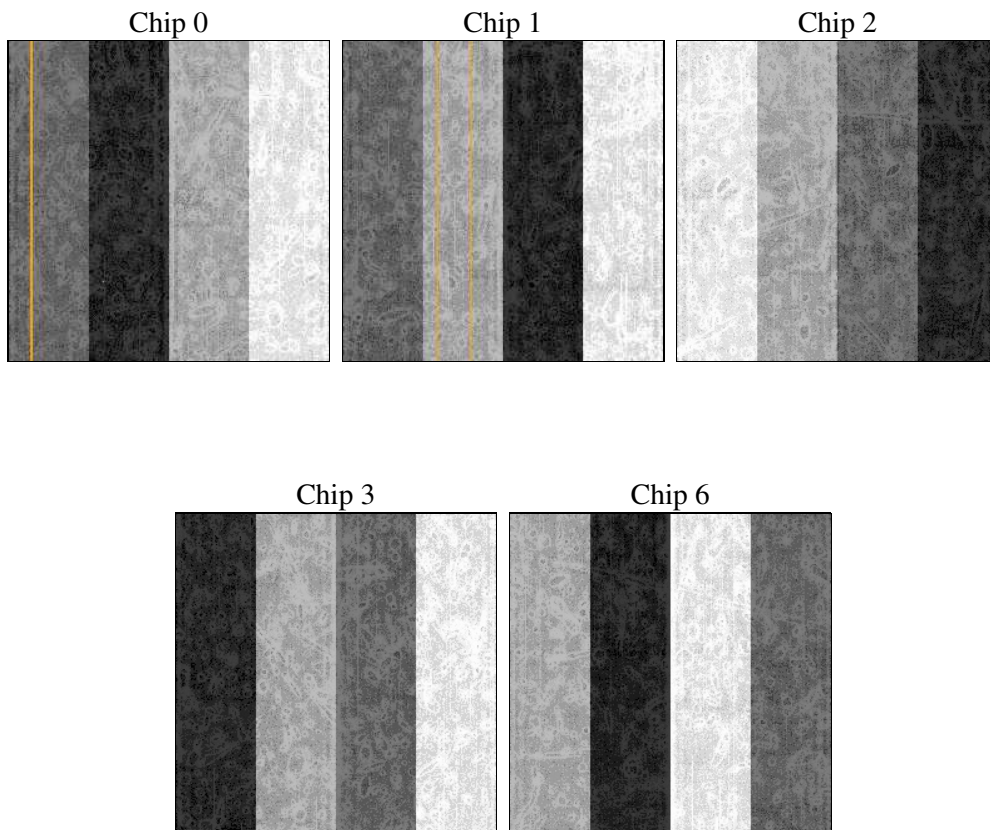
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	45000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	3763.3590224683	Sum of GTIs [s]
caldbver	4.9.2	&#160	ontime0	3766.4999927282	Sum of GTIs [s]
date	2020-10-10T13:11:12	Date and time of file creation	ontime1	3766.4999927282	Sum of GTIs [s]
revision	4	Processing version of data	ontime2	3766.4999927282	Sum of GTIs [s]
			ontime3	3763.3590224683	Sum of GTIs [s]
			ontime6	3766.4999927282	Sum of GTIs [s]
			l1events	142578	Number of level 1 events

### 2.1.4 Events

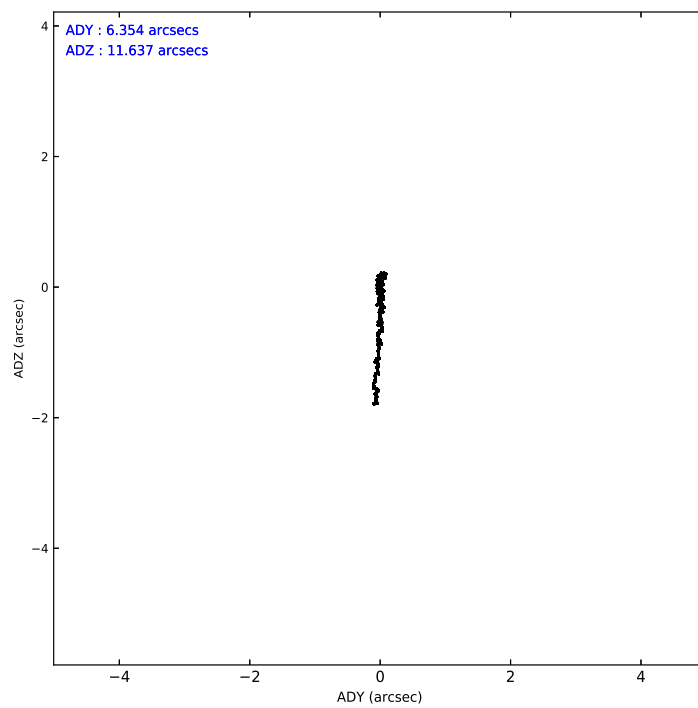
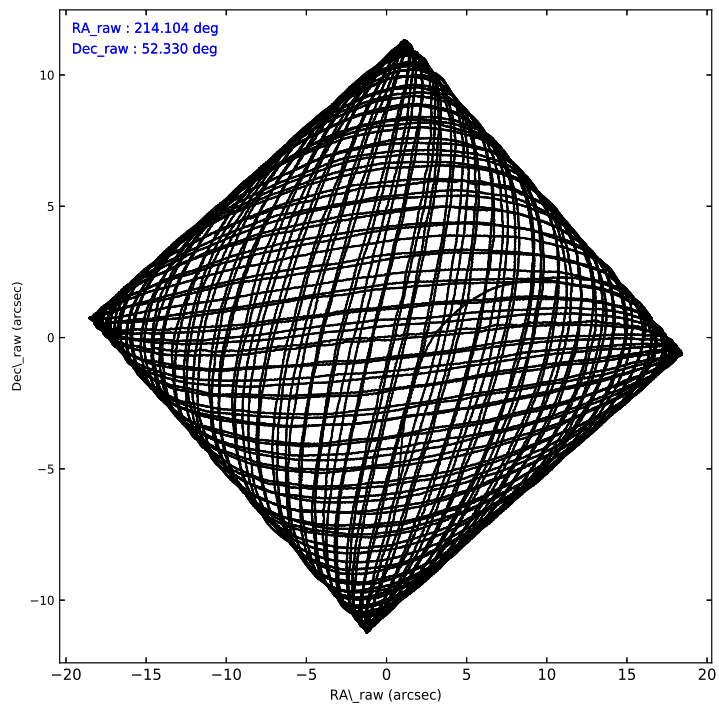
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	23909	26490	31562	29555	31062
rejected events	20281	23002	27103	26897	27345
rejected %	84%	86%	85%	91%	88%

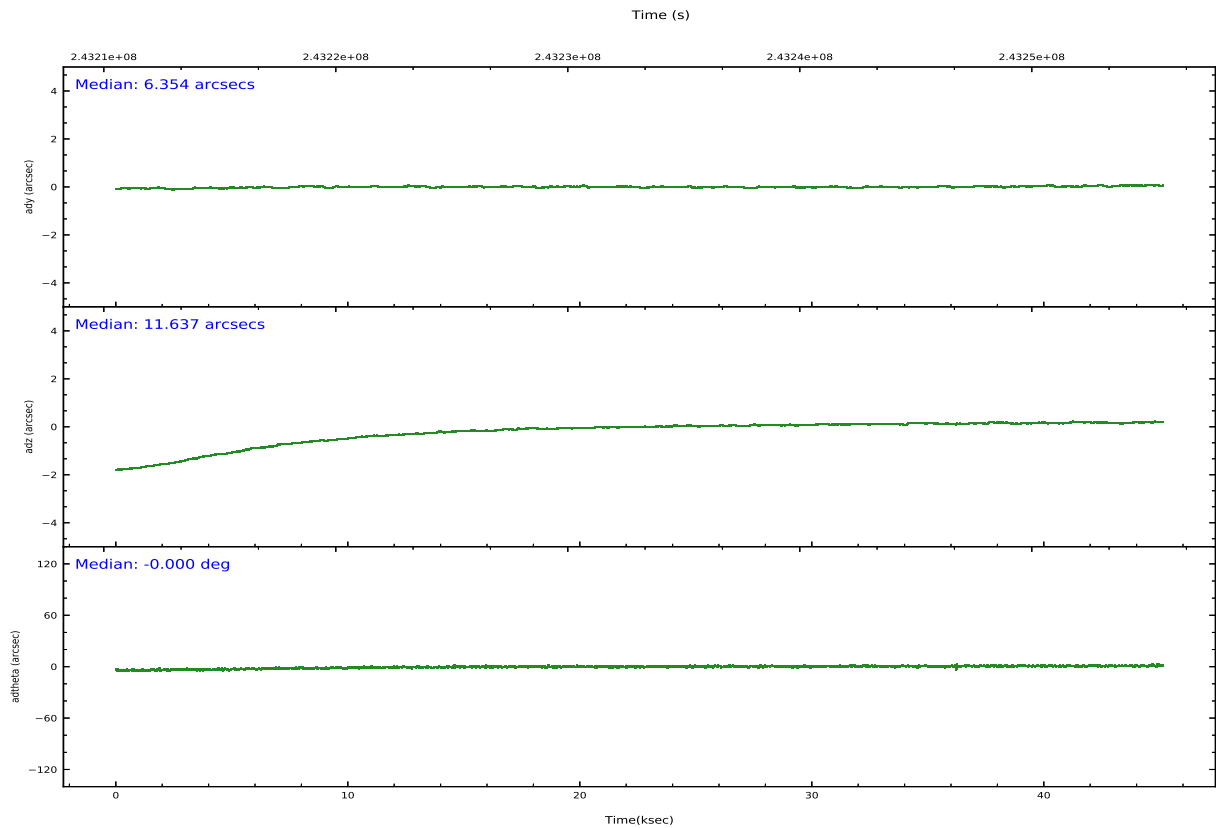
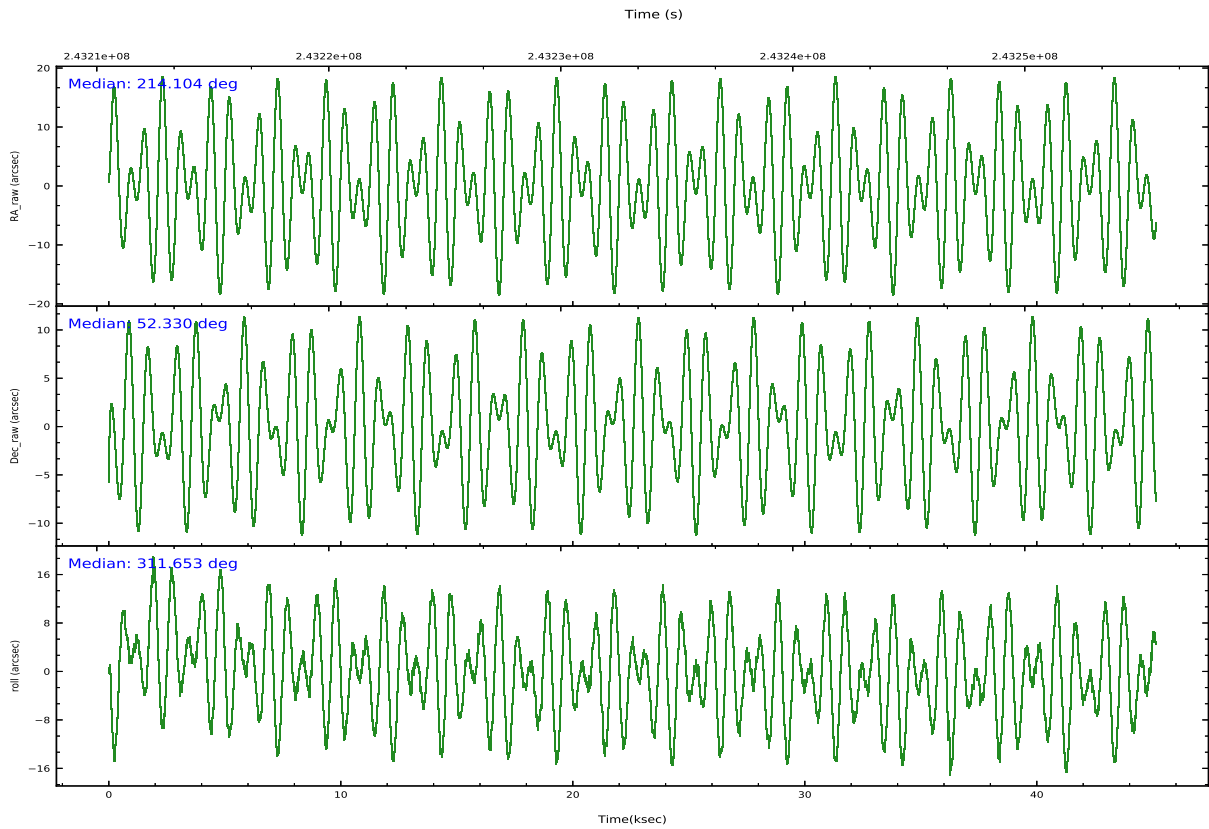
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	1950	1651	2386	1303	1895
	8%	6%	7%	4%	6%
grade 1 events	23	9	28	13	17
	0%	0%	0%	0%	0%
grade 2 events	1103	988	1324	685	1133
	4%	3%	4%	2%	3%
grade 3 events	260	310	255	271	253
	1%	1%	0%	0%	0%
grade 4 events	267	273	491	267	279
	1%	1%	1%	0%	0%
grade 5 events	687	759	700	830	792
	2%	2%	2%	2%	2%
grade 6 events	472	689	561	486	599
	1%	2%	1%	1%	1%
grade 7 events	19147	21811	25817	25700	26094
	80%	82%	81%	86%	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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	214.061923	214.09848889687	Subarray requested	NONE	NONE
[deg] Pointing Dec	52.338164	52.328833072691	Alternating exposures requested	N	N
[deg] Pointing Roll	311.478249	311.65334848073	[s] Primary exposure time	0.000000	3.1
[deg] Roll angle	50.756000	50.756000			
[deg] Roll tolerance	20.000000	20.000000			
Roll constraint allows 180D rotation	Y	Y			
[mm] SIM focus pos	-0.782348	-0.7809083437167272			
[mm] SIM defocus	0	0.001439871863259334			
[mm] SIM translation stage pos	-233.592463	-233.5874344608287			
[mm] SIM translation stage offset	0	-0.005018542100998502			
[s] Observation start time (MET)	243210664.184000	243209472.17658			
Observation start date	2005-09-15T22:30:00	2005-09-15T22:11:12			
[s] Observation end time (MET)	243255664.184000	243256543.25375			
Observation end date	2005-09-16T11:00:00	2005-09-16T11:15:43			
Read mode	TIMED	TIMED			

## 2.3 Aspect



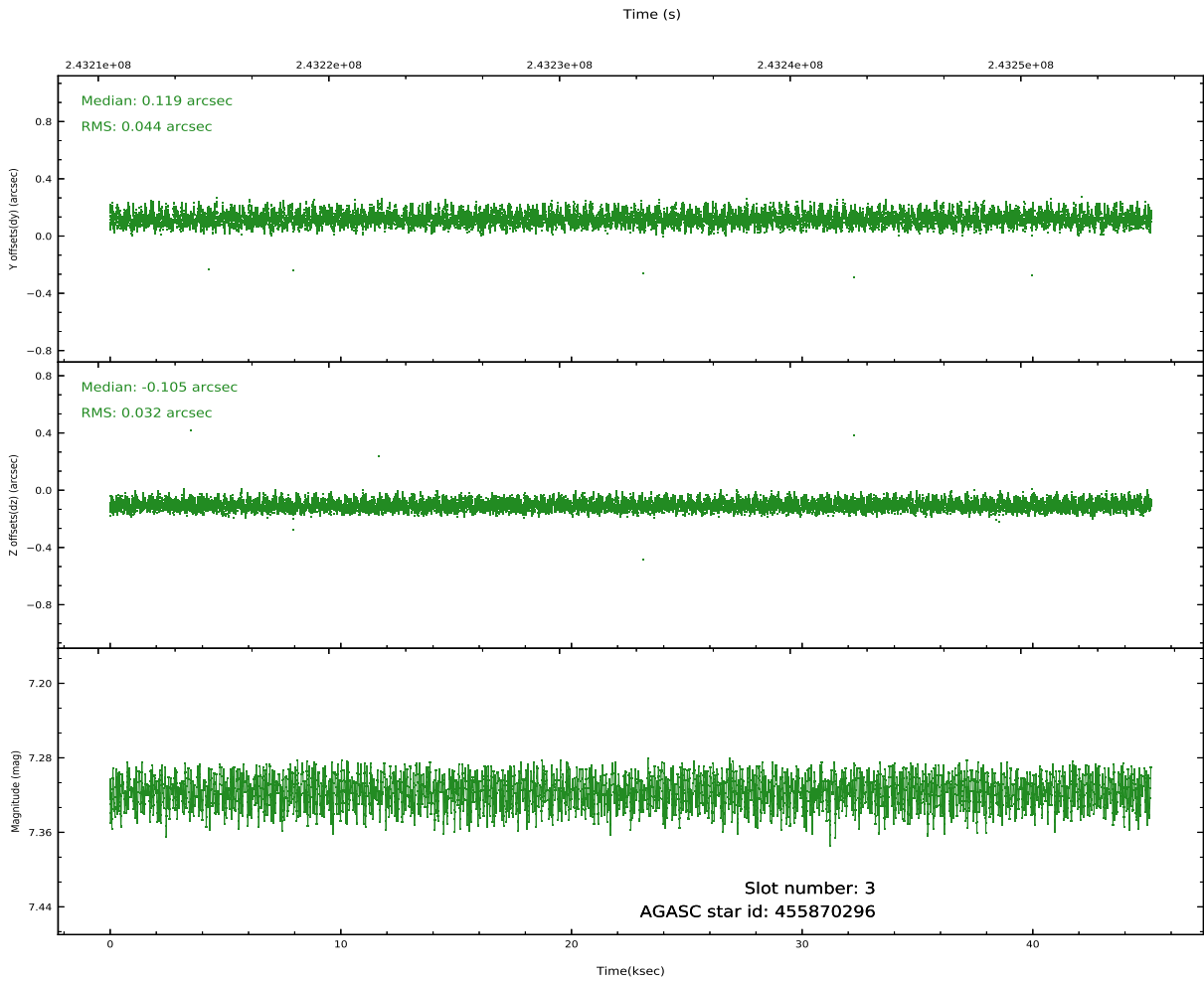
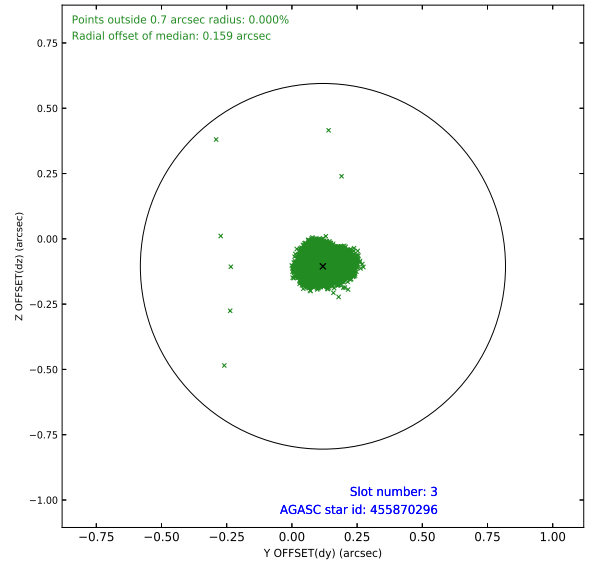
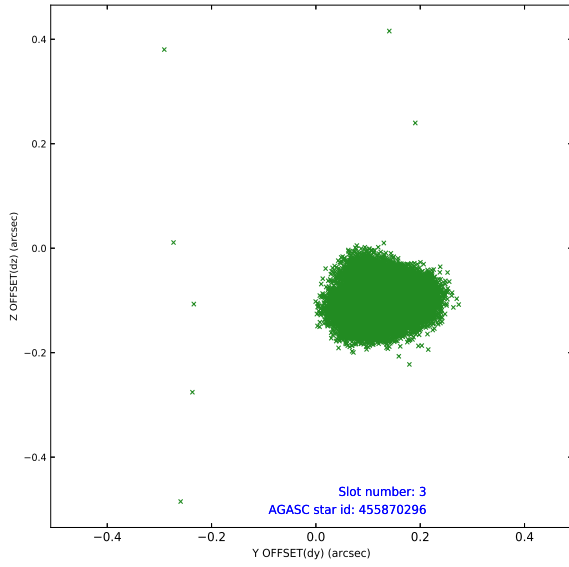


### Slot Statistics

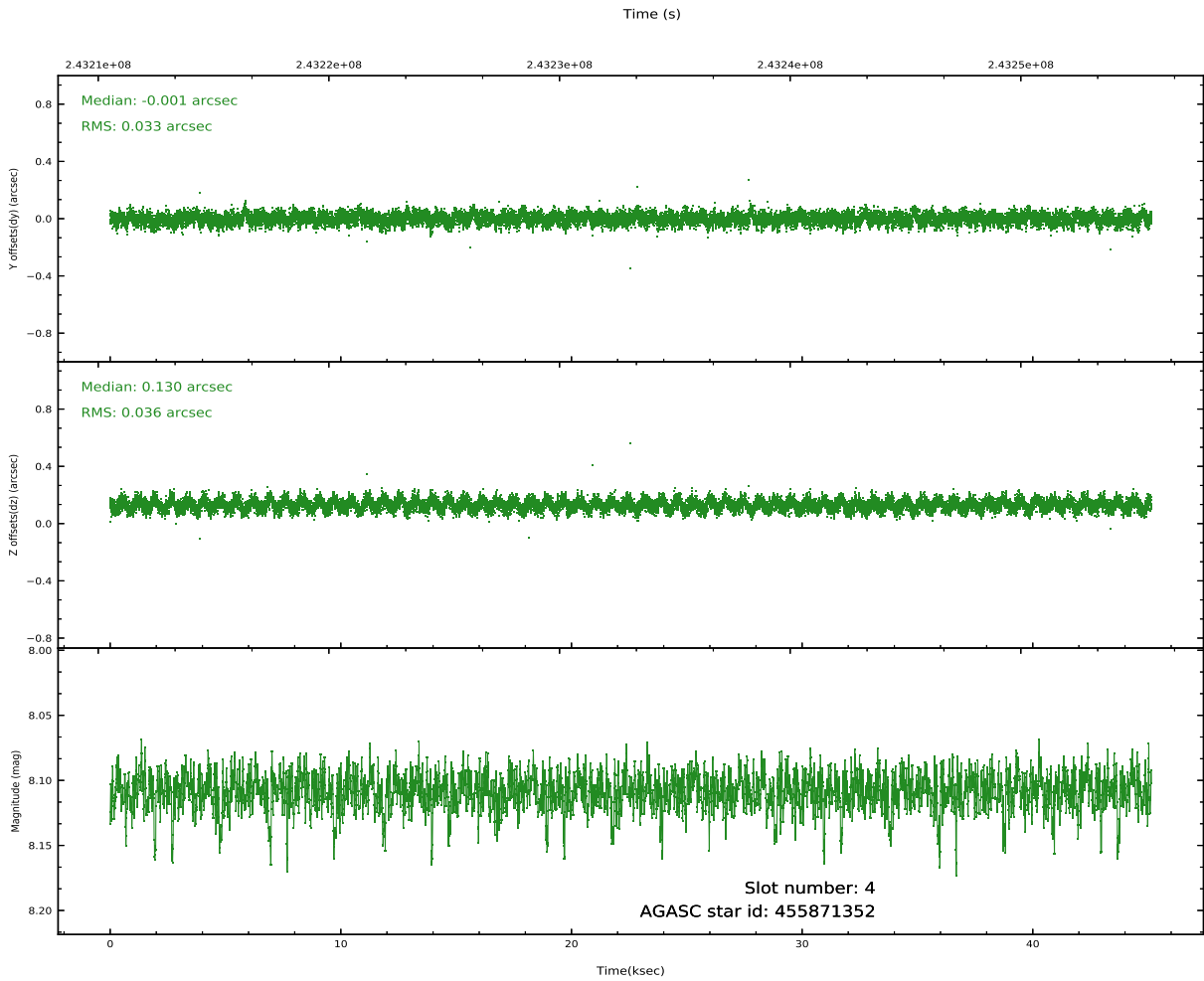
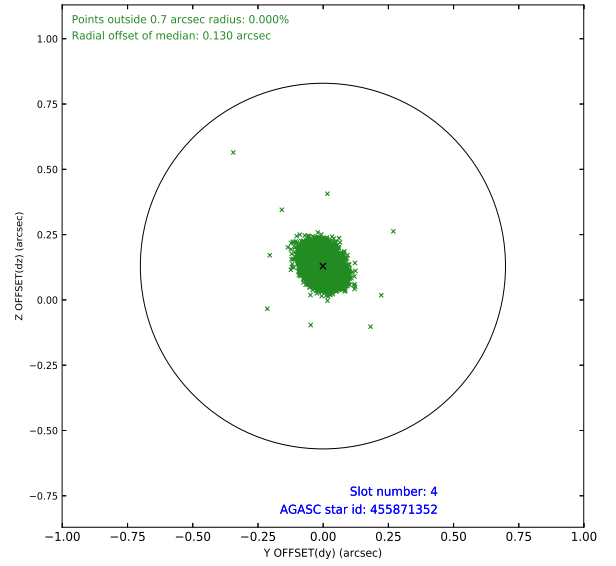
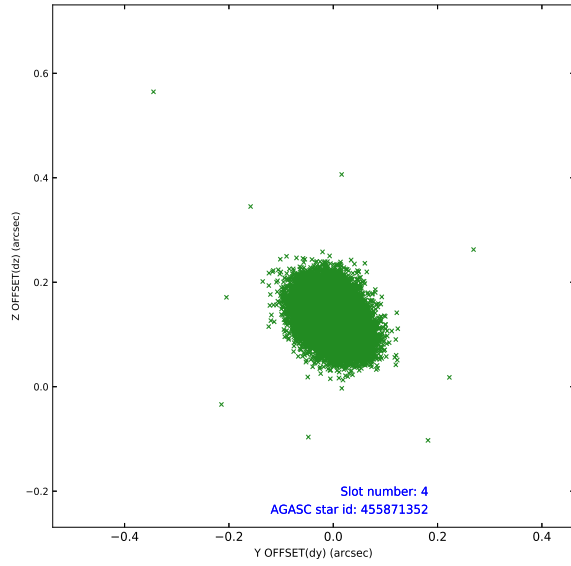
slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_x
0	FID		ACIS-I-2	7.14	11010	1.000	-0.016	-0.117	0.013	0.022	0.000000	0.000000	-760.87	-841
1	FID		ACIS-I-5	7.23	11011	1.000	-0.173	0.075	0.010	0.019	0.000000	0.000000	-1815.07	1062
2	FID		ACIS-I-6	7.25	11011	1.000	0.095	0.109	0.014	0.027	0.000000	0.000000	399.03	1707
3	GUIDE	used	455870296	7.32	22020	1.000	0.119	-0.105	0.058	0.092	214.629779	52.033323	1651.70	218
4	GUIDE	used	455871352	8.11	22014	1.000	-0.001	0.130	0.052	0.084	215.099961	52.172669	1952.22	1333
5	GUIDE	used	505806936	7.01	22022	1.000	-0.031	-0.196	0.067	0.102	213.820815	52.535927	-883.61	76
6	GUIDE	used	505812376	7.62	21964	1.000	-0.098	0.009	0.038	0.063	214.039537	52.937930	-1649.99	1393
7	GUIDE	used	504894728	8.82	22018	1.000	0.004	0.158	0.065	0.106	213.220892	52.722550	-2259.30	-449

## 2.4 Star Slots

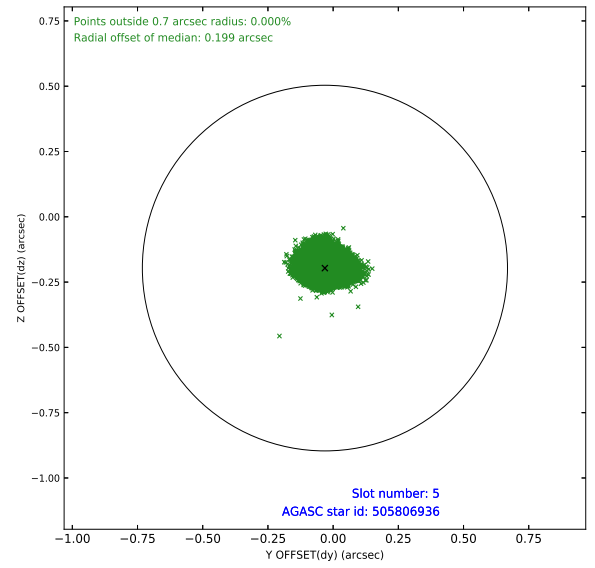
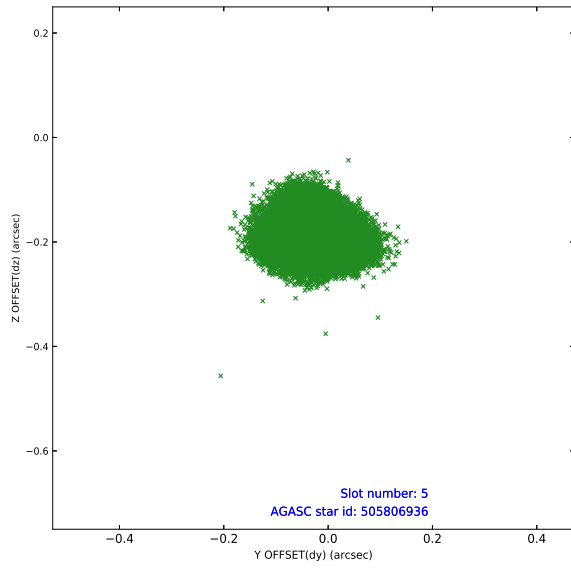
### 2.4.1 Slot 3



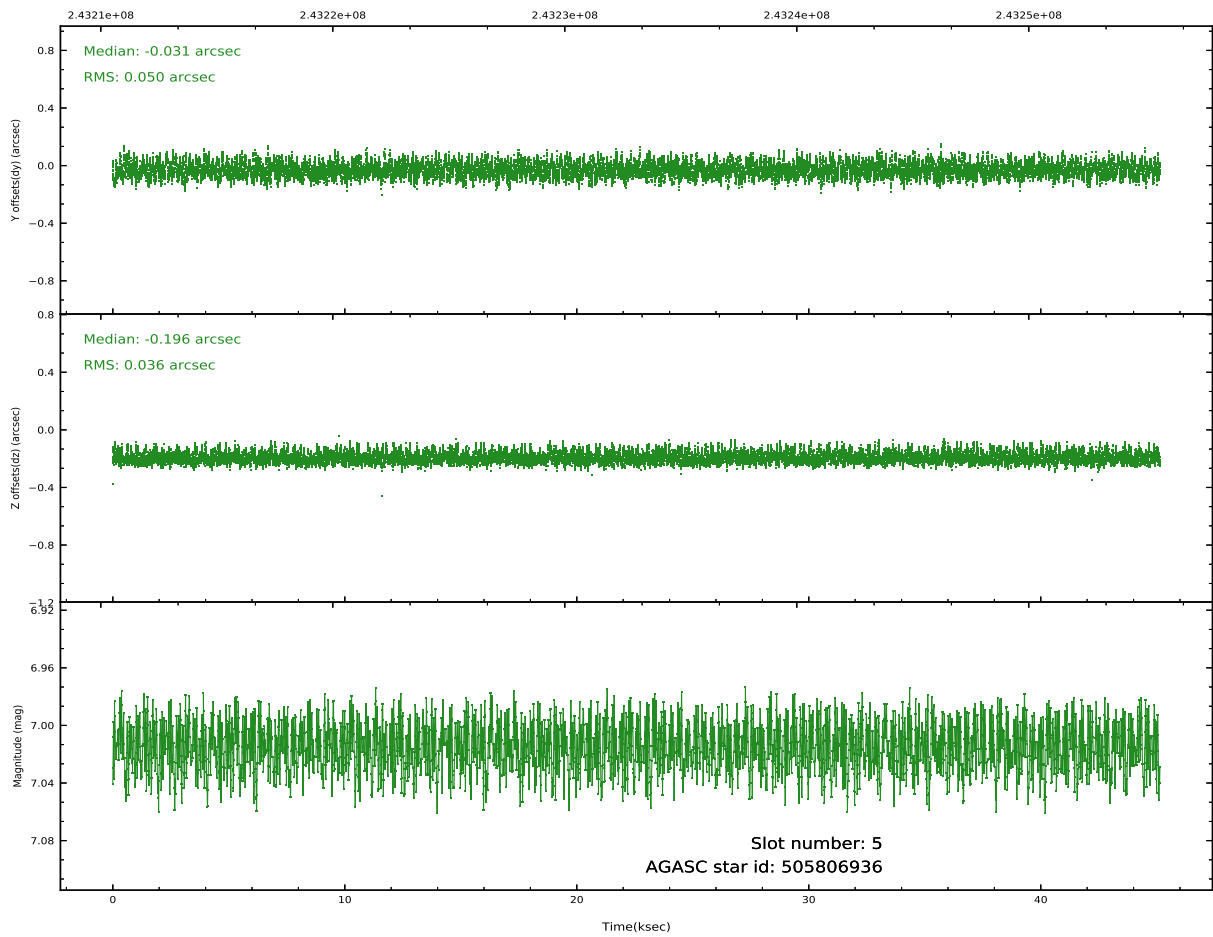
## 2.4.2 Slot 4



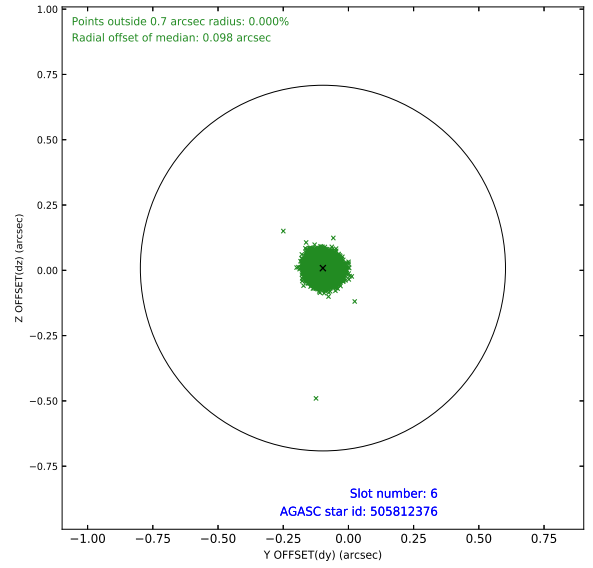
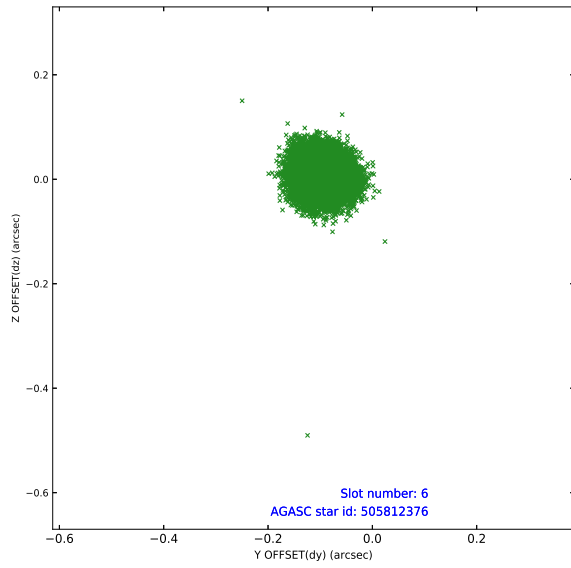
### 2.4.3 Slot 5



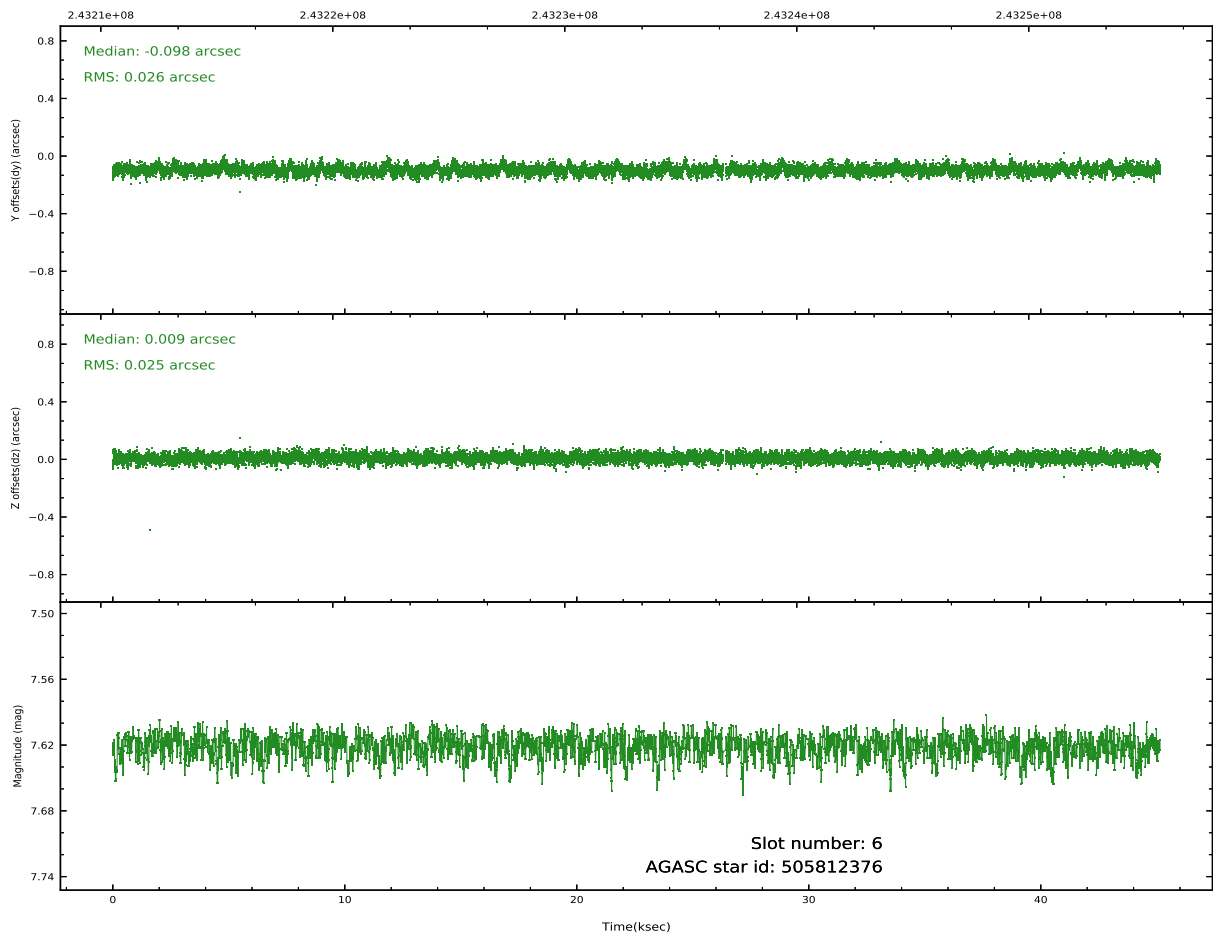
Time (s)



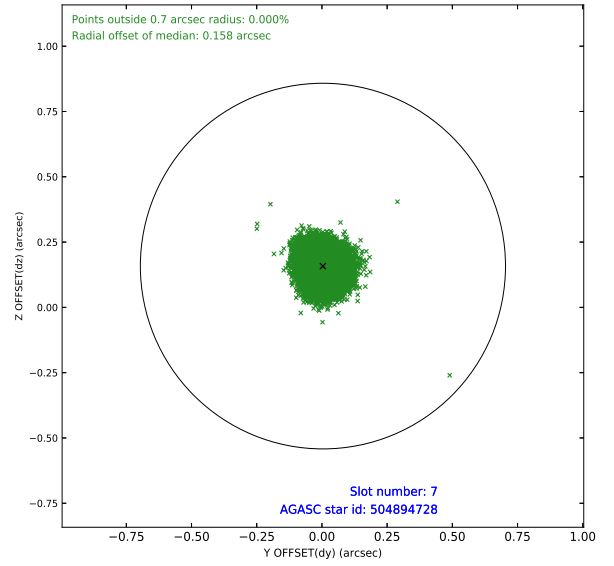
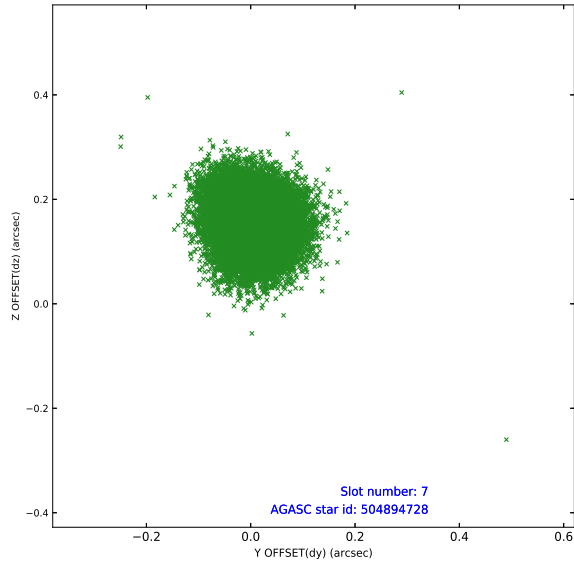
## 2.4.4 Slot 6



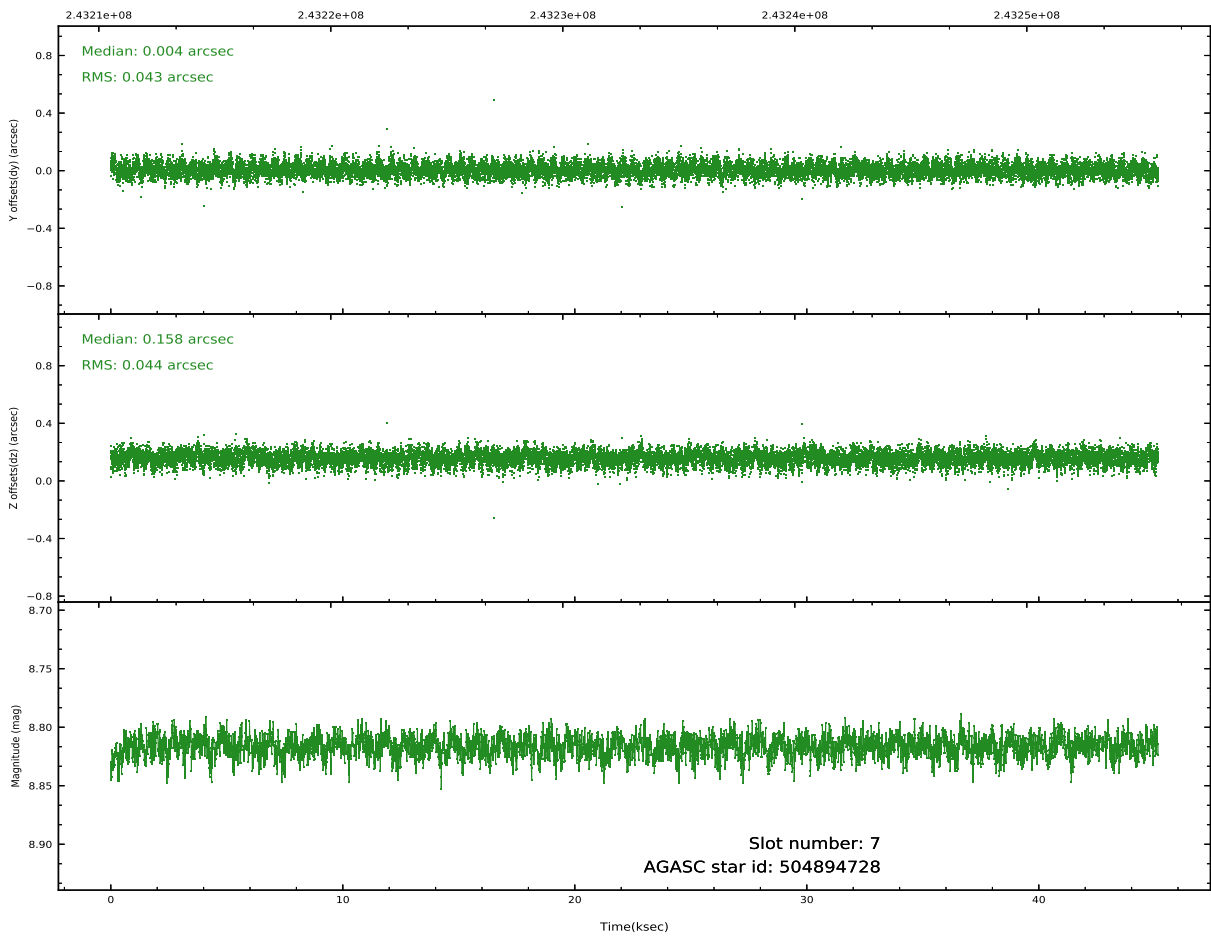
Time (s)



## 2.4.5 Slot 7

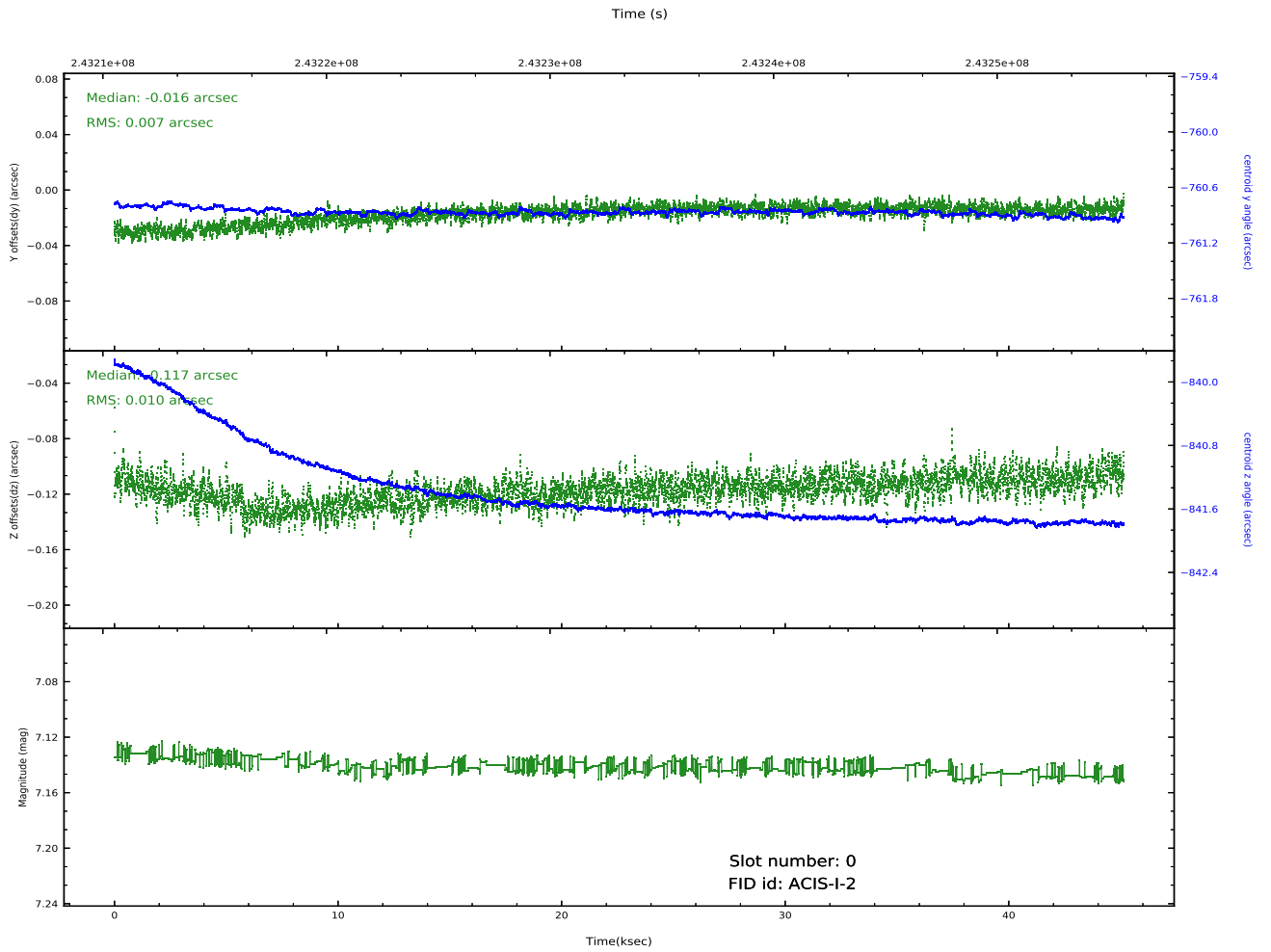
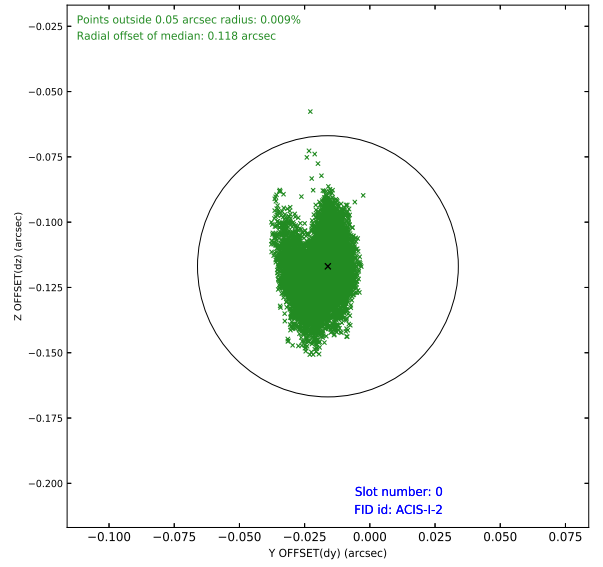
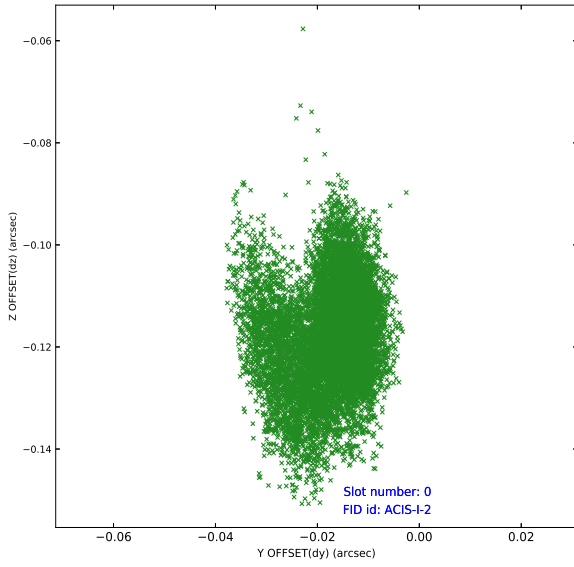


Time (s)

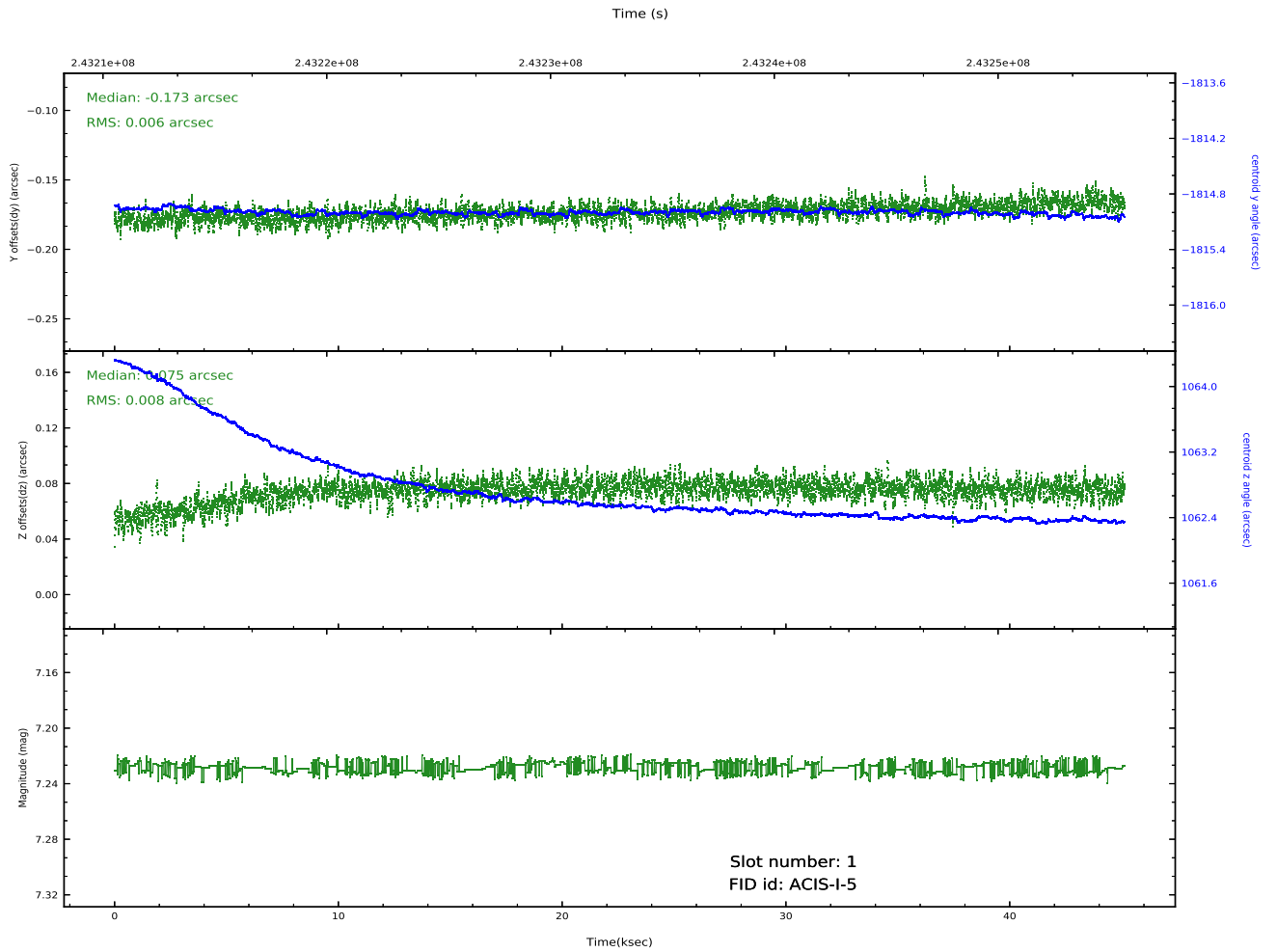
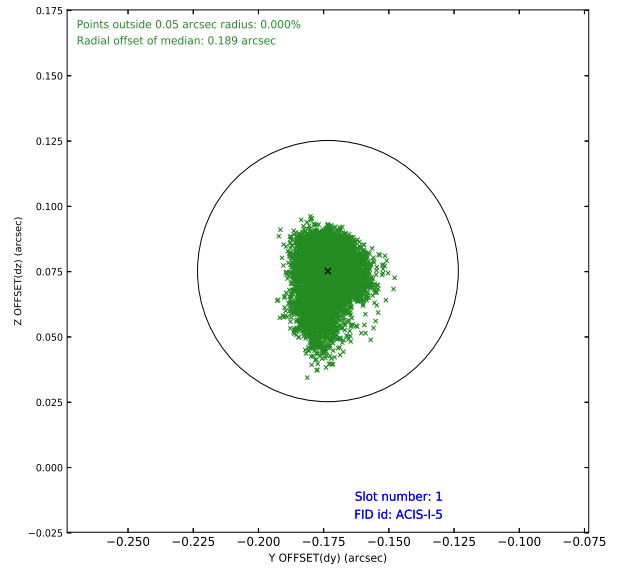
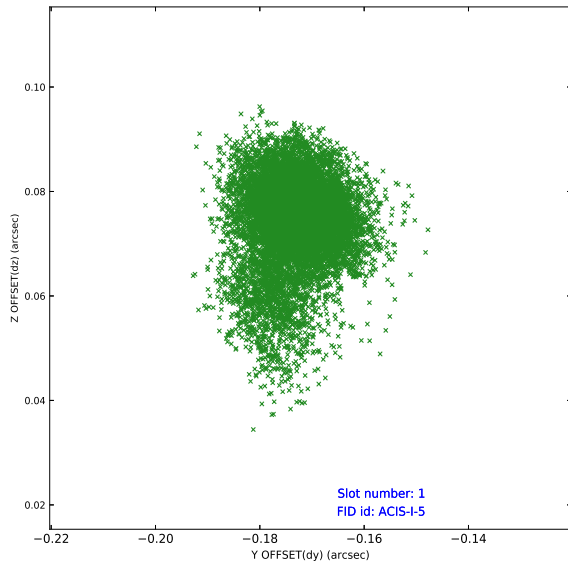


## 2.5 FID Slots

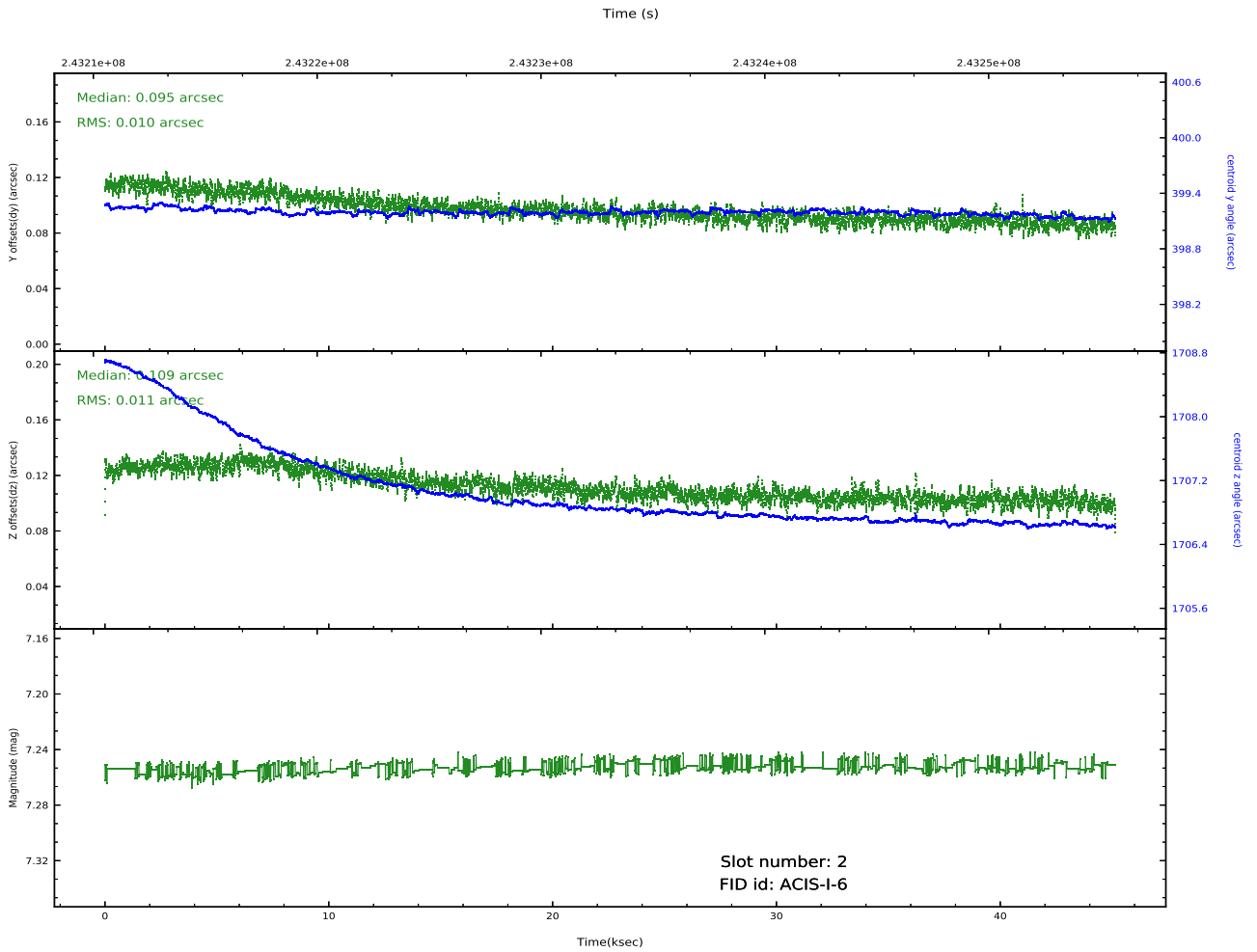
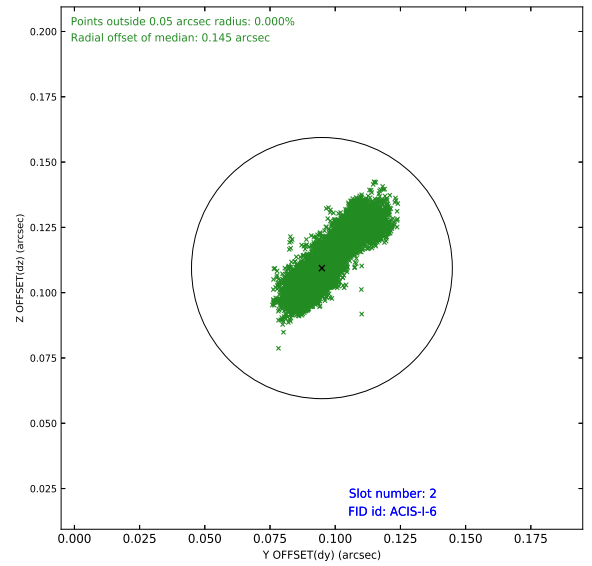
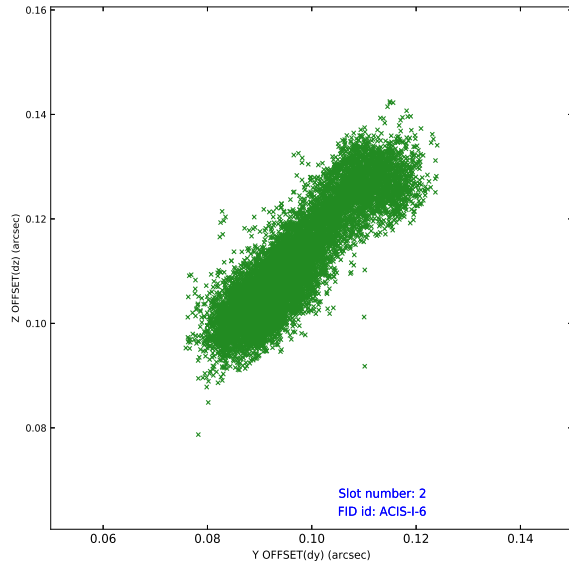
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2020.10.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	3.763359

## A.2 Comments

ACIS DEA anomaly occurred during this observation. Current was autonomously shut off to the ACIS electronics, which ended the observation early. The data that were collected before the anomaly are good.

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Roll constraint met.