

# V&V Reference Report

## L2 ASCDS Version : 10.9.2

Observation 21085 - L2 Version 2  
Chandra X-Ray Center

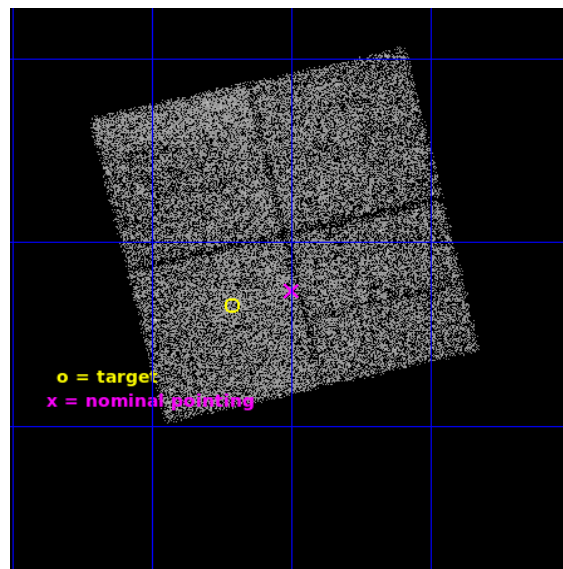
L2 Processing Date : Oct 25 2020

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# 1 Front

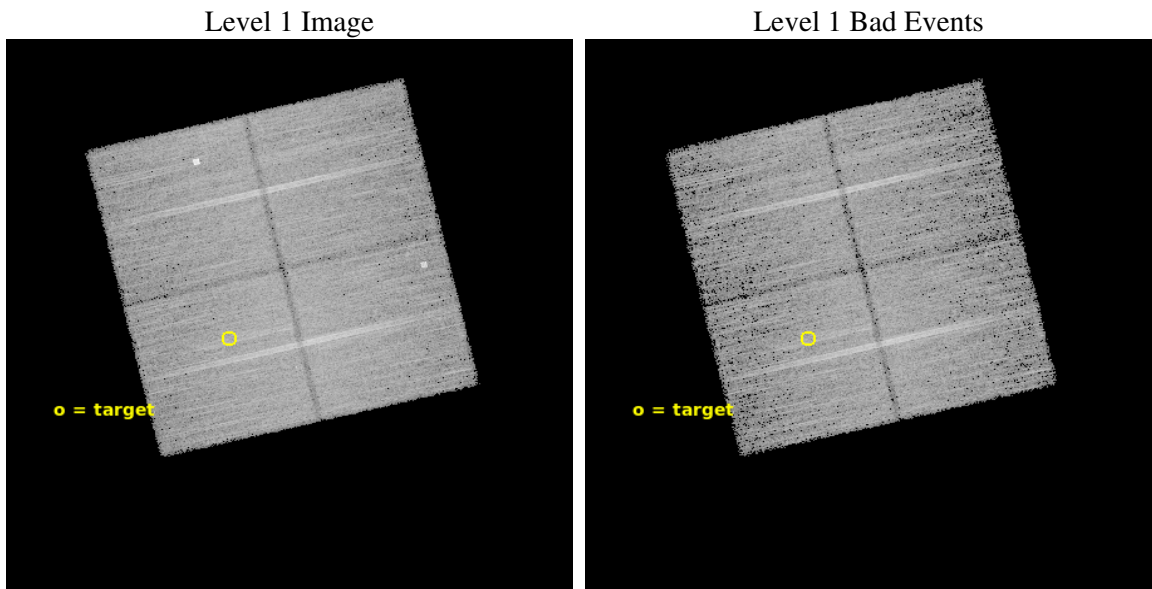
seq_num	801671	Sequence number
obs_id	21085	Observation id
title	Determining the Universality of f_gas at High Redshift	Proposal ti
observer	Mark Brodwin	Principal investigator
object	MOO J1514+1346	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	228.677917	Observer's specified target RA [deg]
dec_targ	13.775278	Observer's specified target Dec [deg]
ra_nom	228.62454823435	Nominal RA [deg]
dec_nom	13.789323297159	Nominal Dec [deg]
roll_nom	166.61535988136	Nominal Roll [deg]
revision	2	Processing version of data
ontime	21569.759145617	Sum of GTIs [s]
livetime	21287.934362954	Livetime [s]
ontime0	21569.759116054	Sum of GTIs [s]
ontime1	21566.618085623	Sum of GTIs [s]
ontime2	21569.759135842	Sum of GTIs [s]
ontime3	21569.759145617	Sum of GTIs [s]
l2events	59375	Number of level 2 events



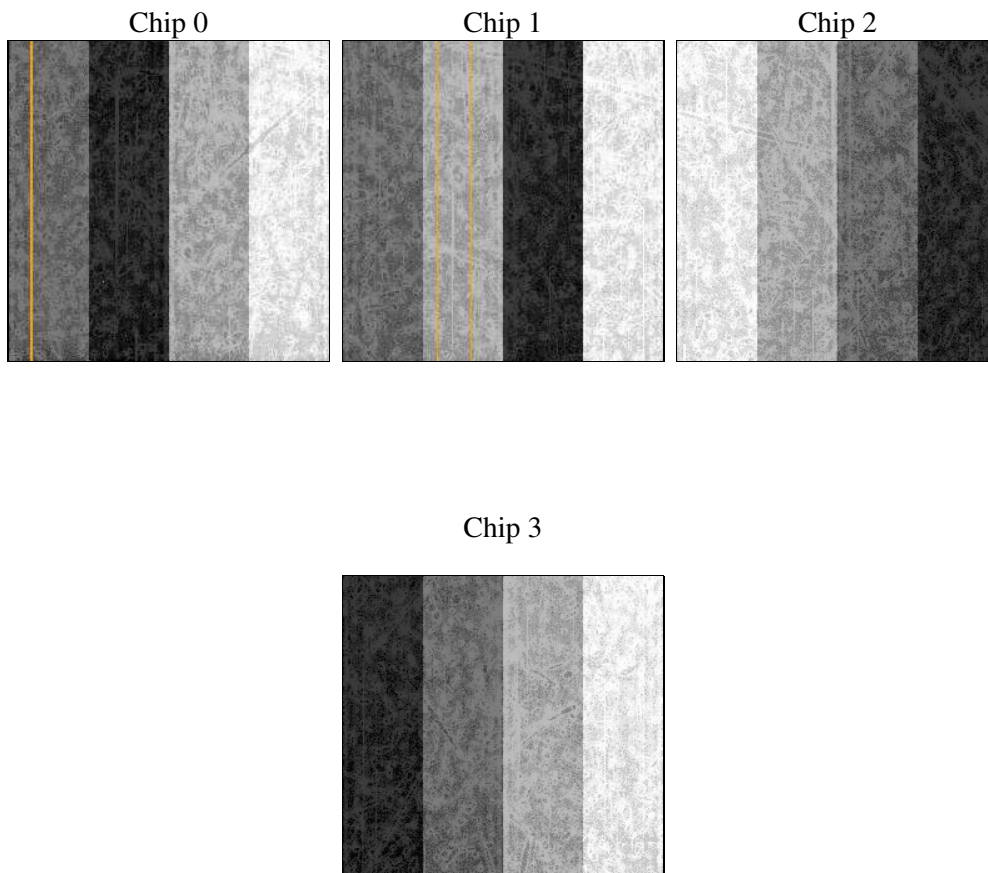
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	21500.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	21569.759145617	Sum of GTIs [s]
caldsver	4.9.3	&#160	ontime0	21569.759116054	Sum of GTIs [s]
date	2020-10-25T21:16:59	Date and time of file creation	ontime1	21566.618085623	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	21569.759135842	Sum of GTIs [s]
			ontime3	21569.759145617	Sum of GTIs [s]
			l1events	627758	Number of level 1 events

### 2.1.4 Events

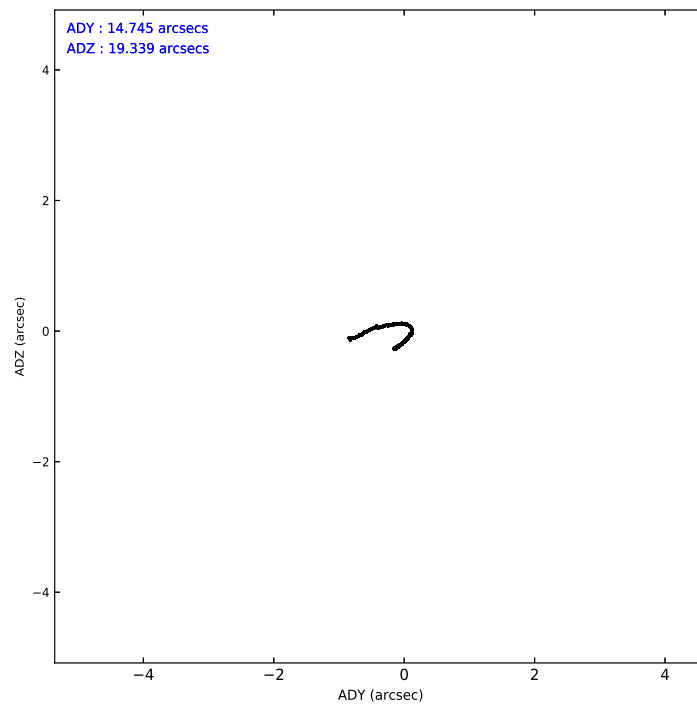
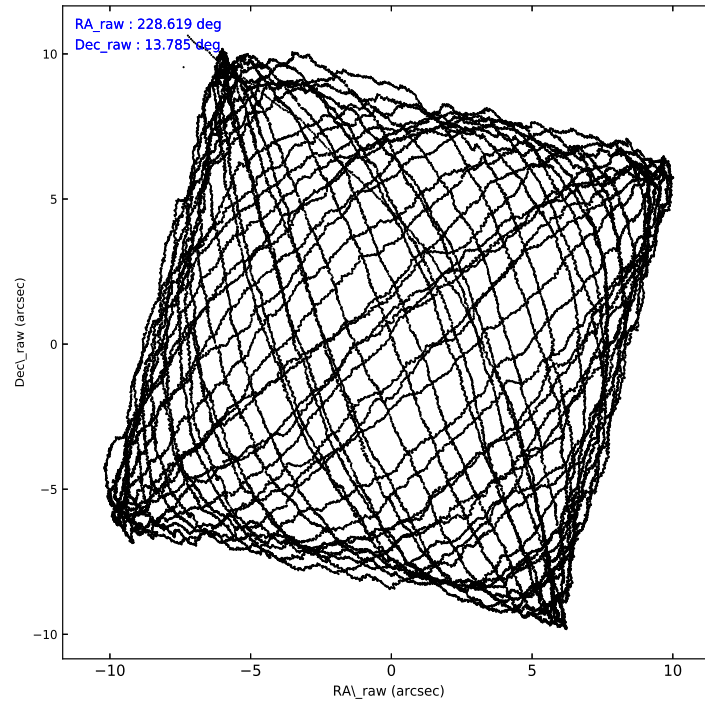
	ccd 0	ccd 1	ccd 2	ccd 3
level 1 events	147491	155179	164562	160526
rejected events	129890	133641	146363	143625
rejected %	88%	86%	88%	89%

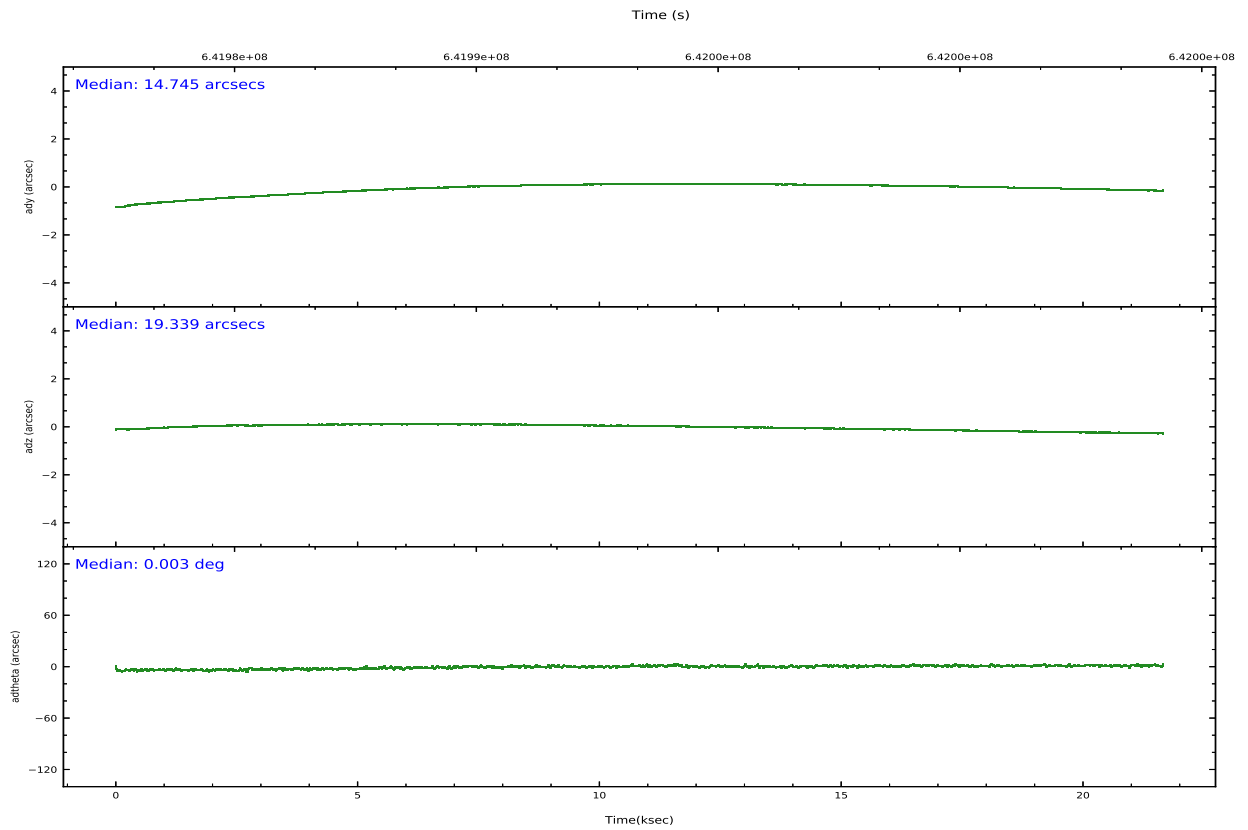
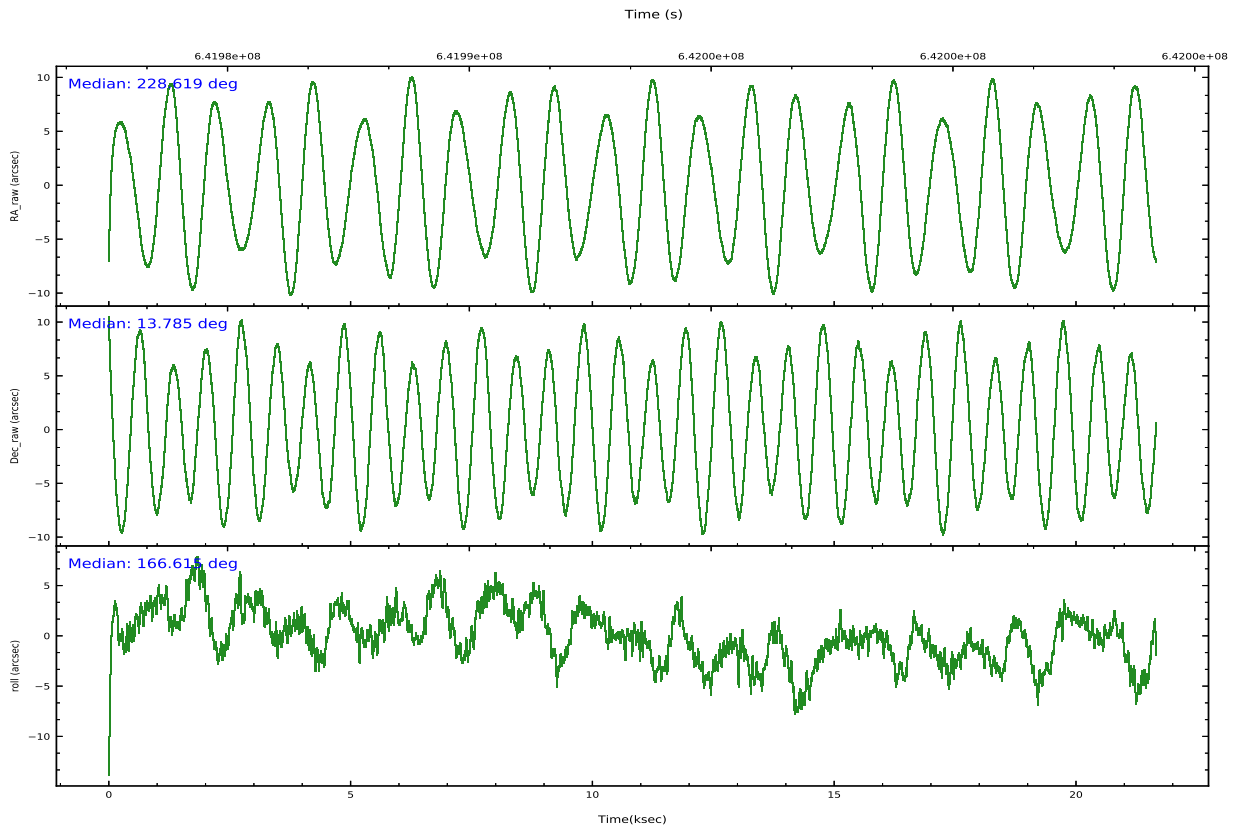
	ccd 0	ccd 1	ccd 2	ccd 3
grade 0 events	5899	8449	7123	6071
	3%	5%	4%	3%
grade 1 events	83	94	95	106
	0%	0%	0%	0%
grade 2 events	4357	5009	4205	3687
	2%	3%	2%	2%
grade 3 events	1849	1789	1720	1775
	1%	1%	1%	1%
grade 4 events	1659	1741	1706	1775
	1%	1%	1%	1%
grade 5 events	6659	6862	6321	7545
	4%	4%	3%	4%
grade 6 events	3844	4557	3447	3595
	2%	2%	2%	2%
grade 7 events	123141	126678	139945	135972
	83%	81%	85%	84%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar version number	8	8
Detector	ACIS-0123	ACIS-0123	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	228.646196	228.62454823435	CCD I2 on	Y	Y
[deg] Pointing Dec	13.792898	13.789323297159	CCD I3 on	Y	Y
[deg] Pointing Roll	166.407548	166.61535988136	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	N
[mm] SIM translation stage pos	-225.840463	-225.8433433320239	CCD S3 on	N	N
[mm] SIM translation stage offset	-7.752	-7.749109670905796	CCD S4 on	N	N
[s] Observation start time (MET)	641982702.184000	641981411.95289	CCD S5 on	N	N
Observation start date	2018-05-06T08:30:33	2018-05-06T08:10:11	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	642004202.184000	642004533.39176	On-chip summing requested	N	N
Observation end date	2018-05-06T14:28:53	2018-05-06T14:35:33	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





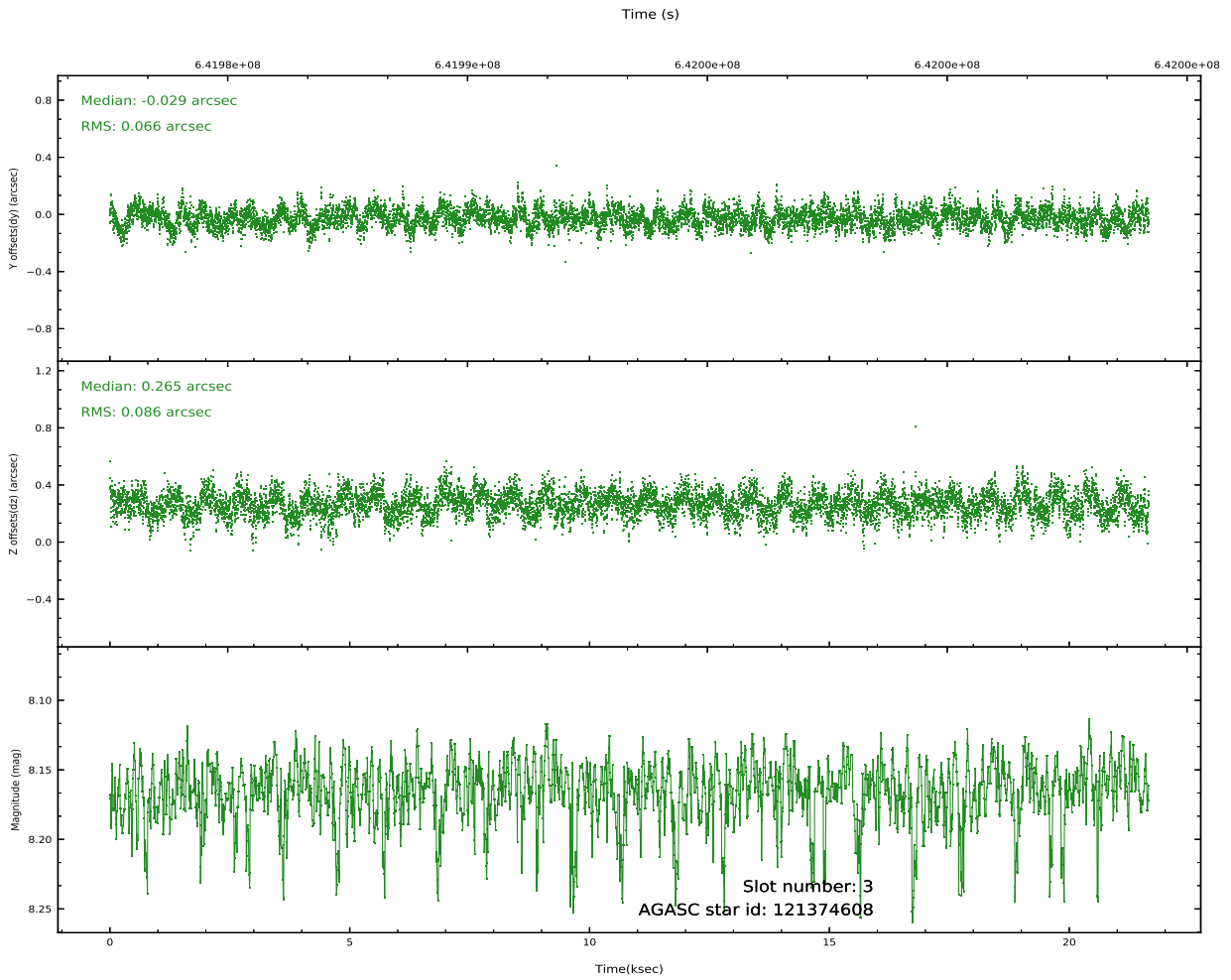
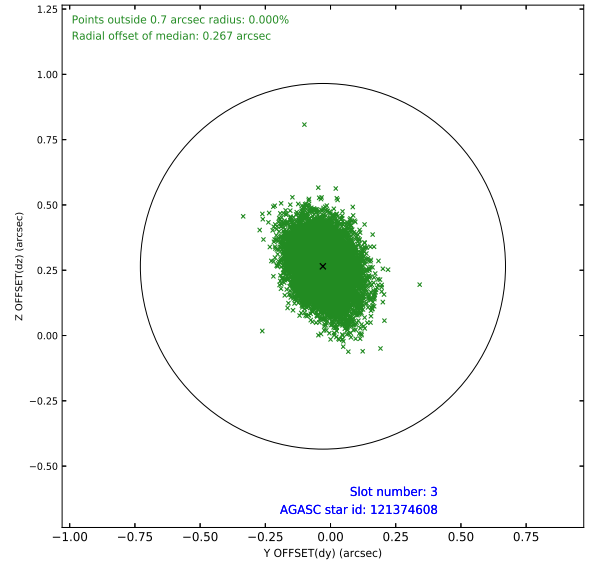
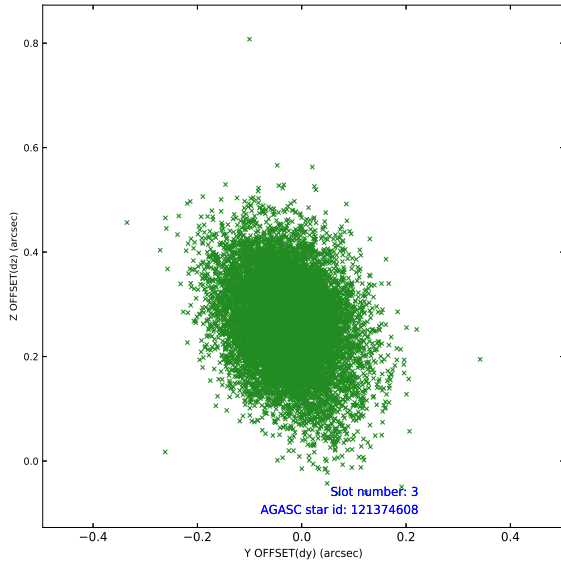
### Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-2	7.13	5282	1.000	-0.078	-0.035	0.014	0.029	0.000000	0.000000	-770.09	-1007
1	FID		ACIS-I-4	7.10	5283	1.000	-0.055	0.058	0.014	0.024	0.000000	0.000000	2144.06	898
2	FID		ACIS-I-6	7.22	5283	1.000	0.035	0.042	0.014	0.021	0.000000	0.000000	390.95	1539
3	GUIDE	used	121374608	8.16	10561	1.000	-0.029	0.265	0.113	0.189	229.231600	14.224898	-1618.81	-1994
4	GUIDE	used	121377872	9.11	10561	1.000	0.253	-0.102	0.163	0.270	228.754541	13.759513	-395.85	28
5	GUIDE	used	121381016	9.00	10557	1.000	-0.040	-0.076	0.131	0.233	228.973703	13.064816	-1731.37	2277
6	GUIDE	used	121381656	7.06	10559	1.000	-0.112	-0.009	0.108	0.187	229.029733	13.470196	-1578.15	813
7	GUIDE	used	121383304	8.76	10554	1.000	-0.080	-0.076	0.120	0.204	228.341612	13.273353	598.79	2068

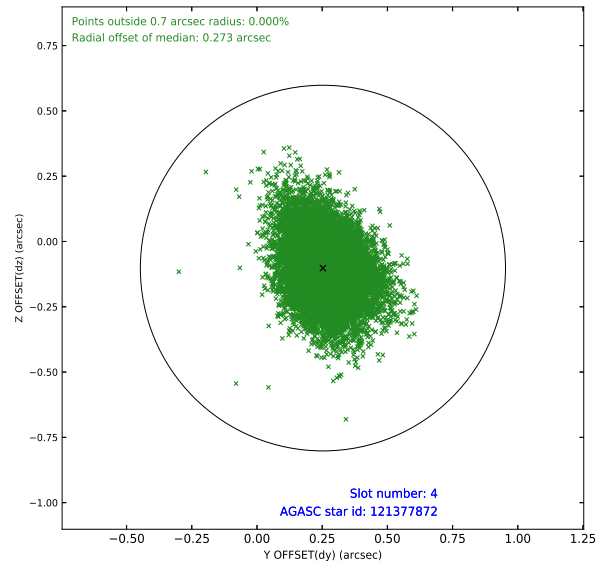
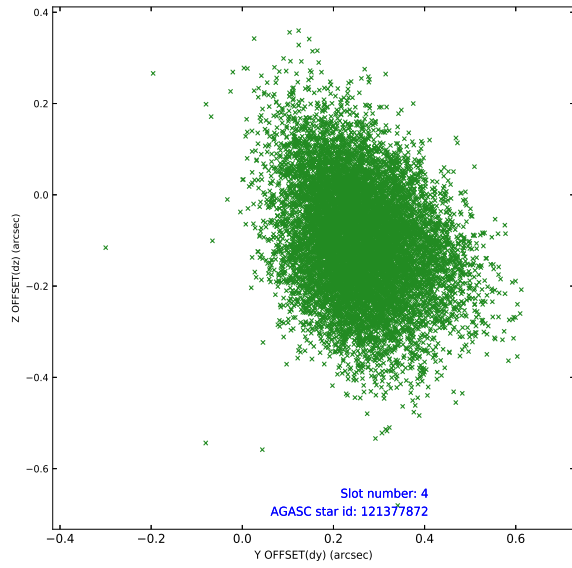
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## 2.4 Star Slots

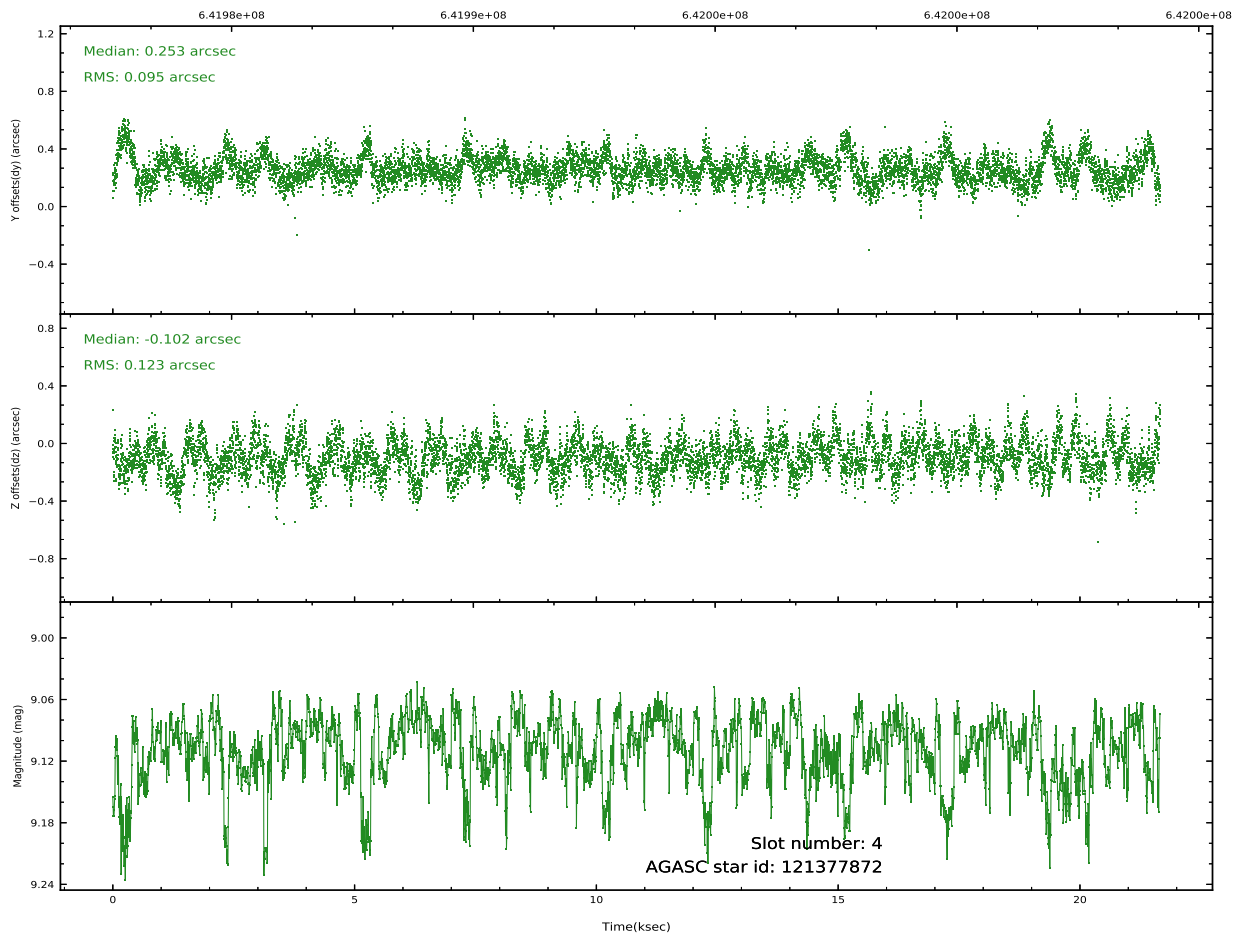
### 2.4.1 Slot 3



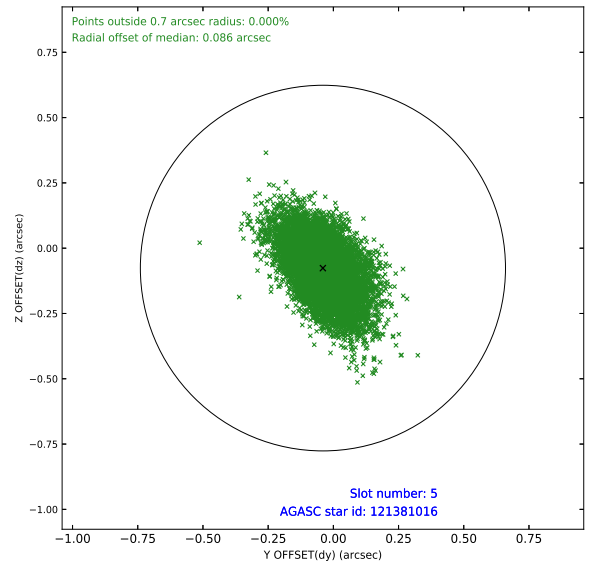
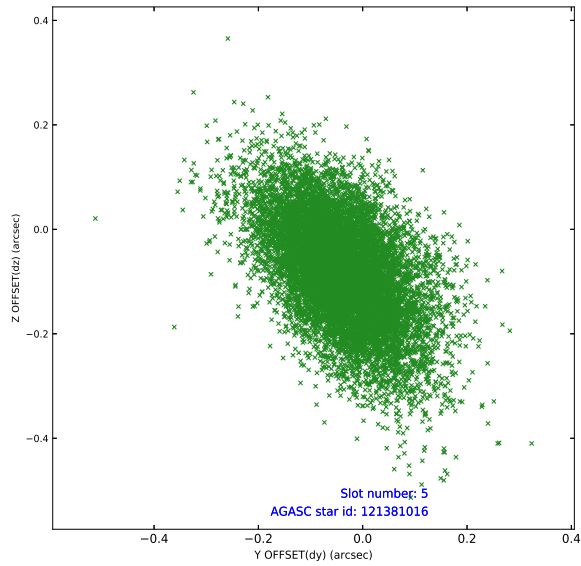
## 2.4.2 Slot 4



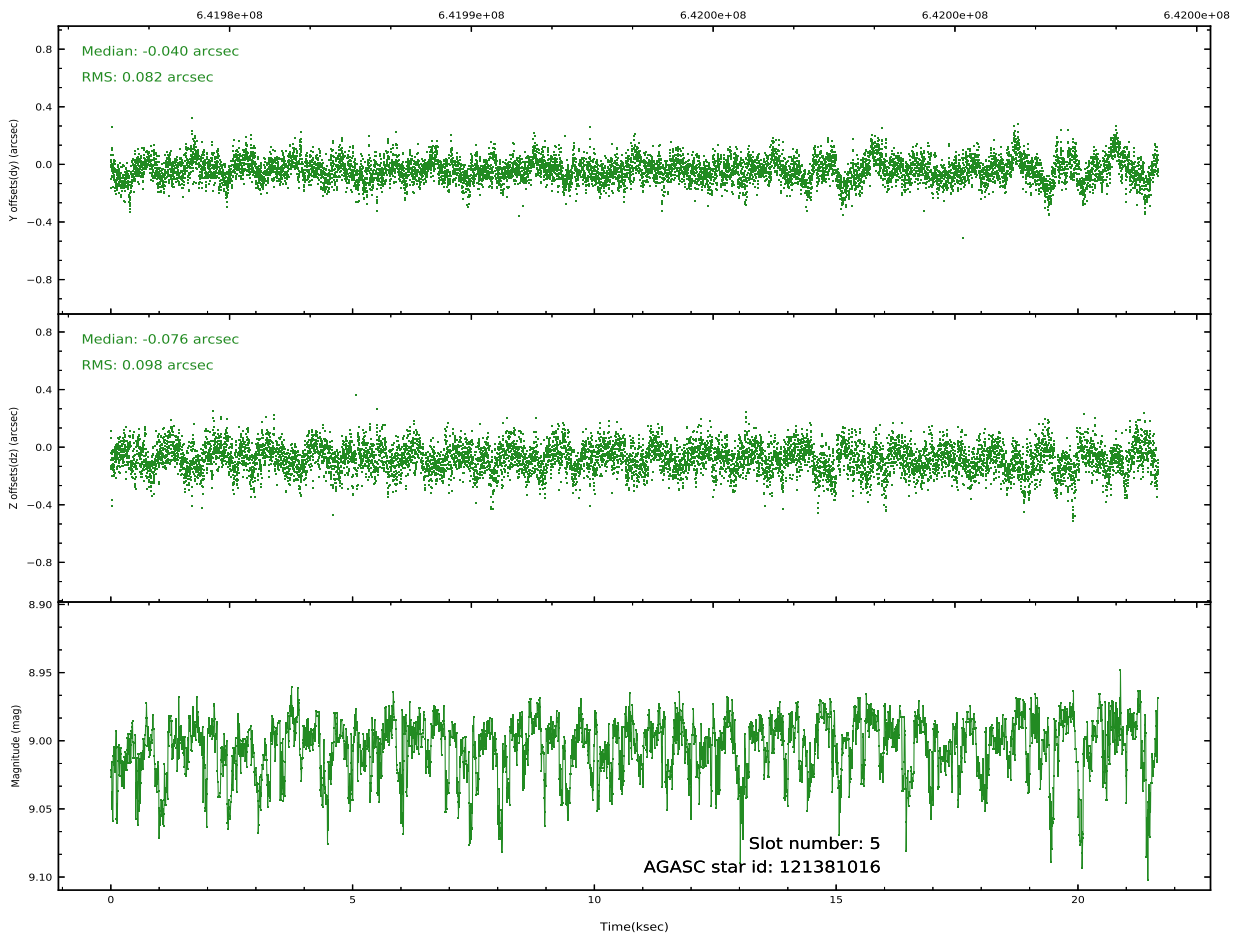
Time (s)



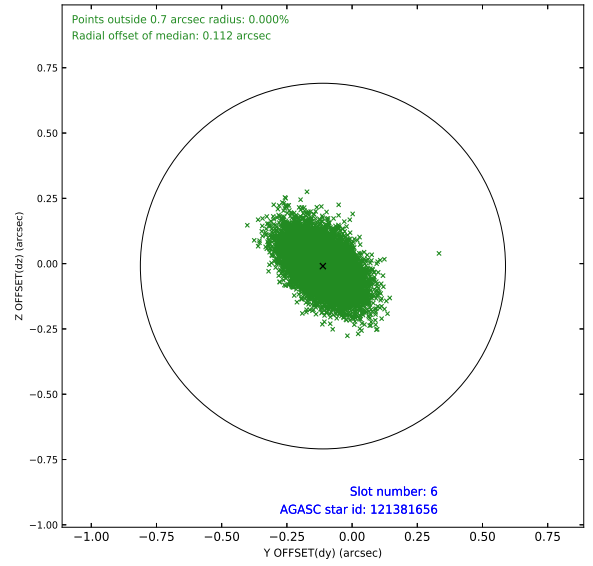
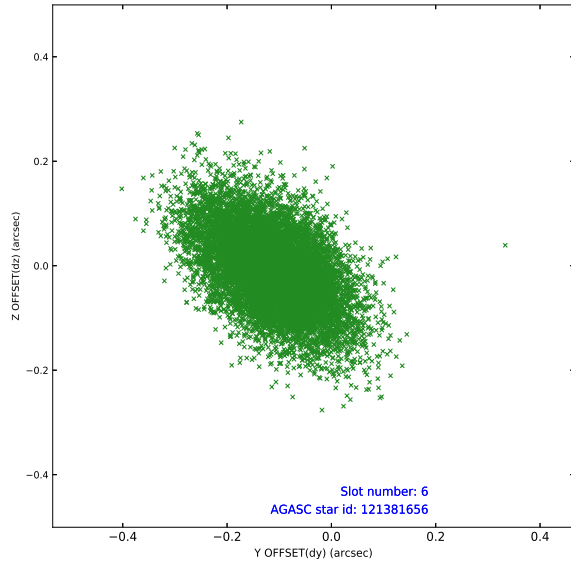
### 2.4.3 Slot 5



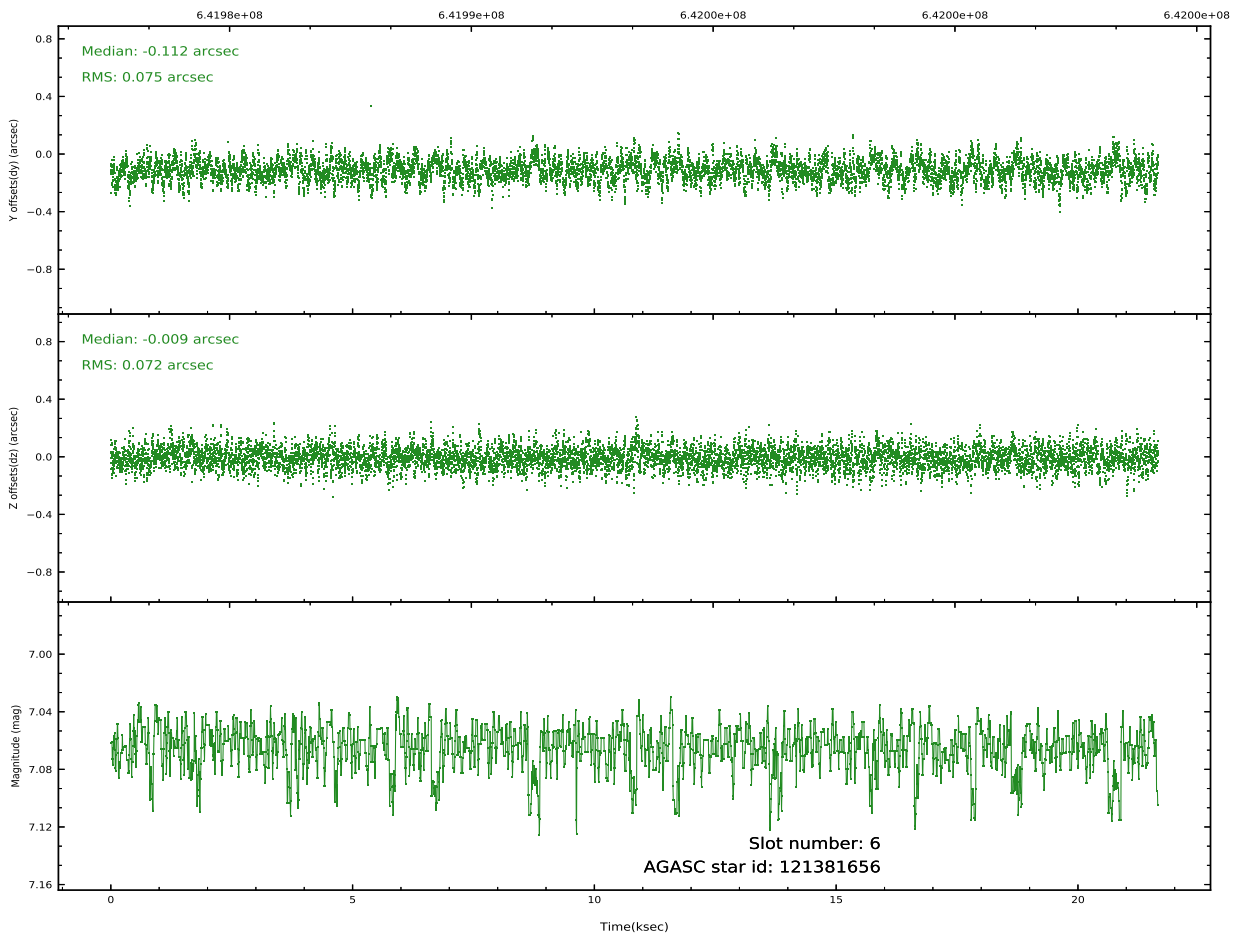
Time (s)



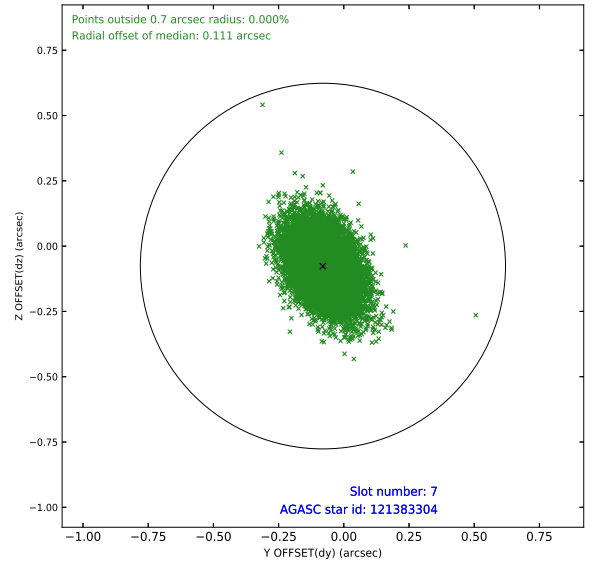
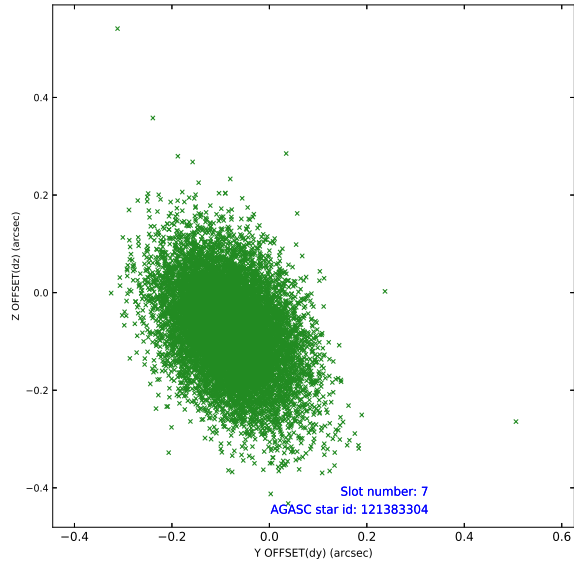
## 2.4.4 Slot 6



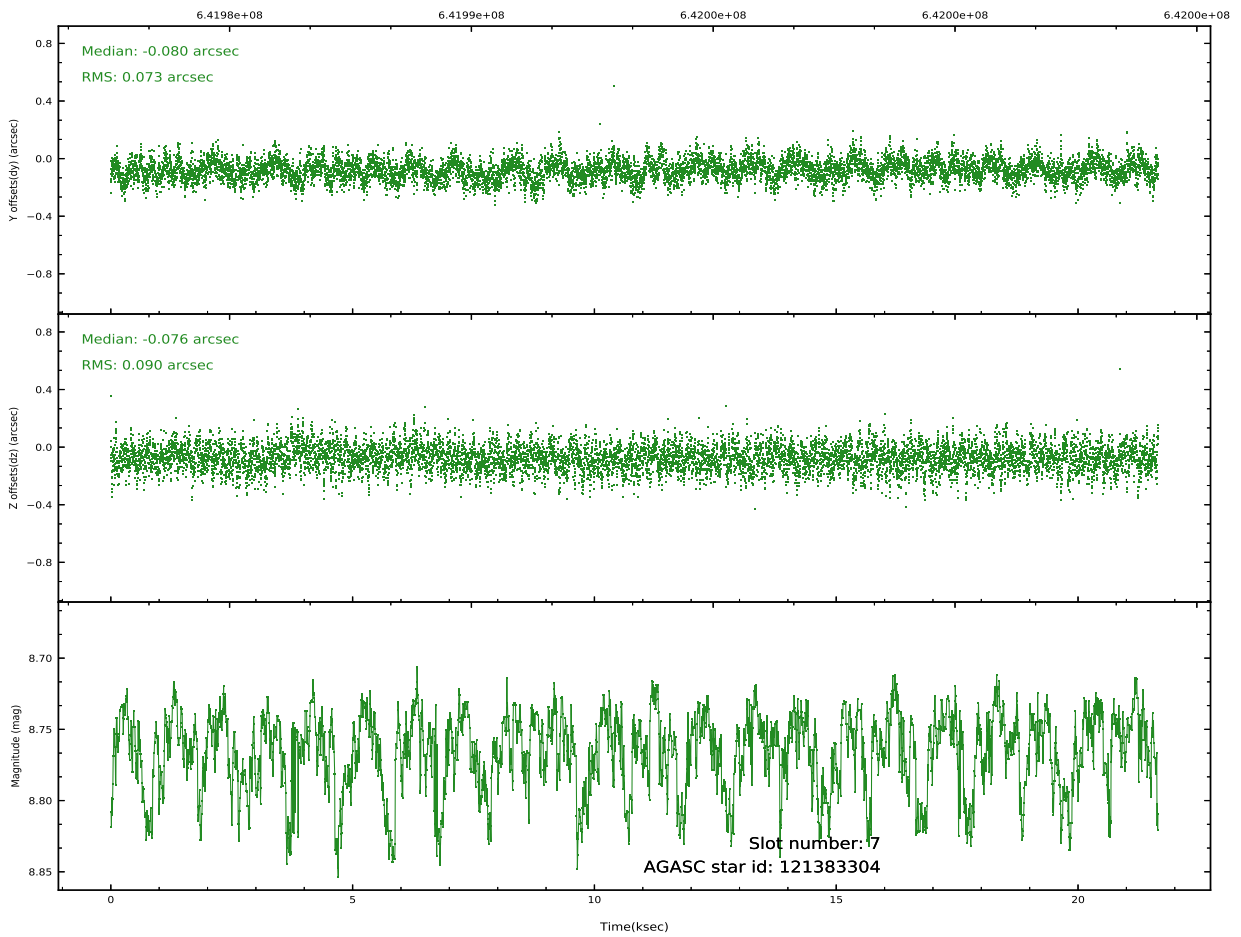
Time (s)



## 2.4.5 Slot 7

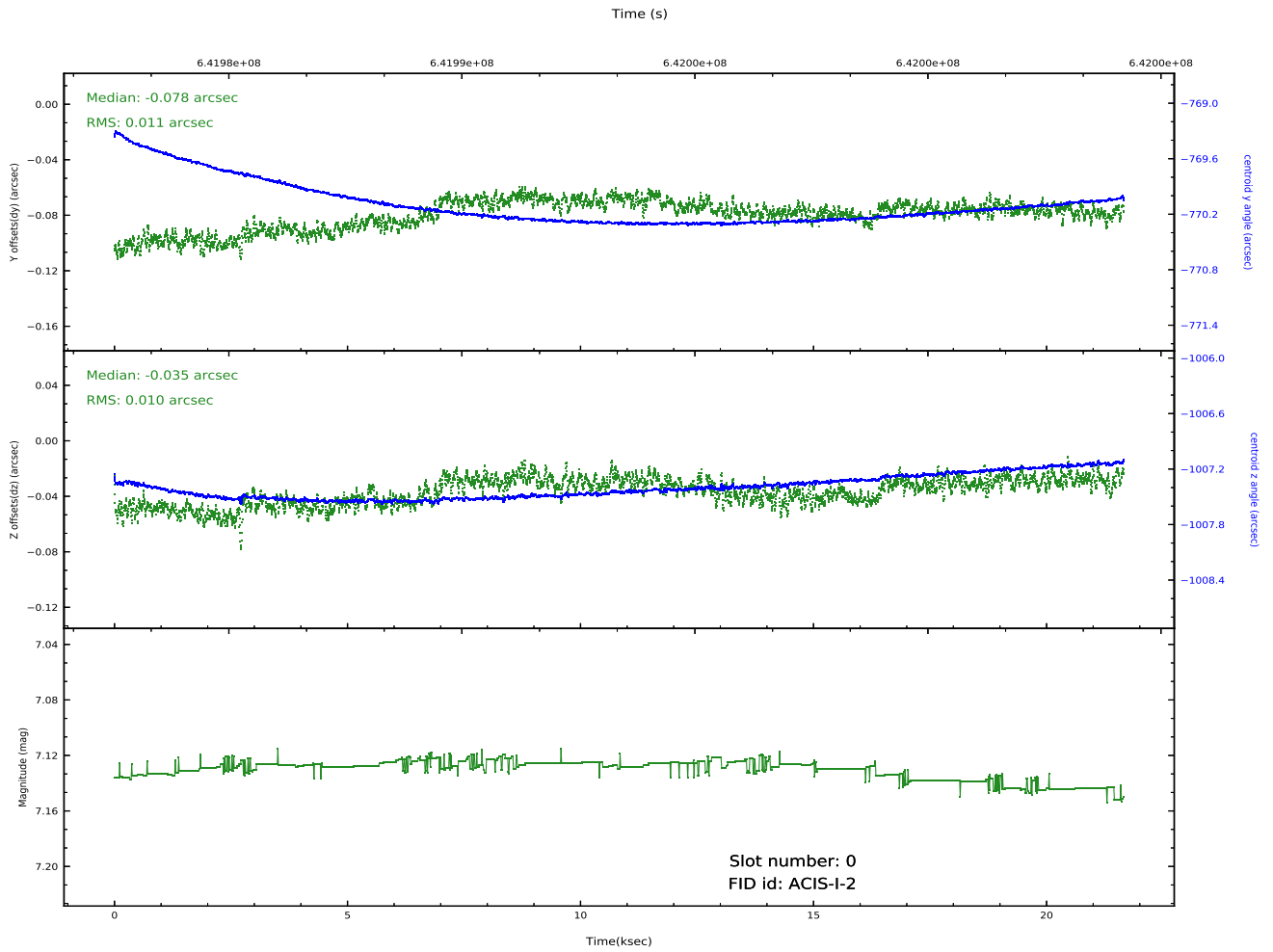
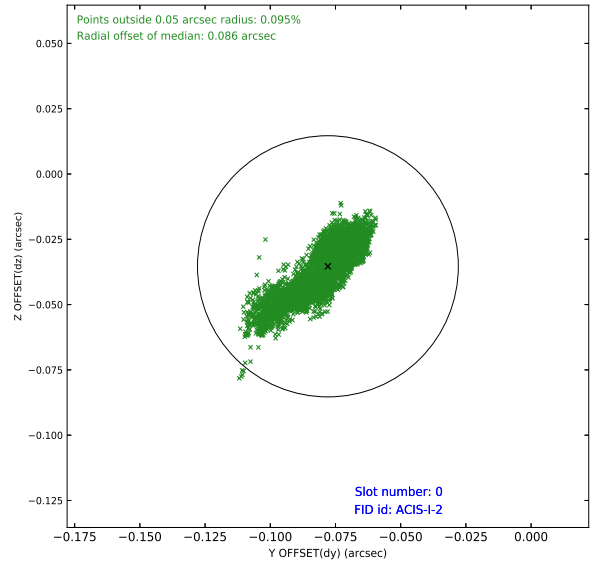
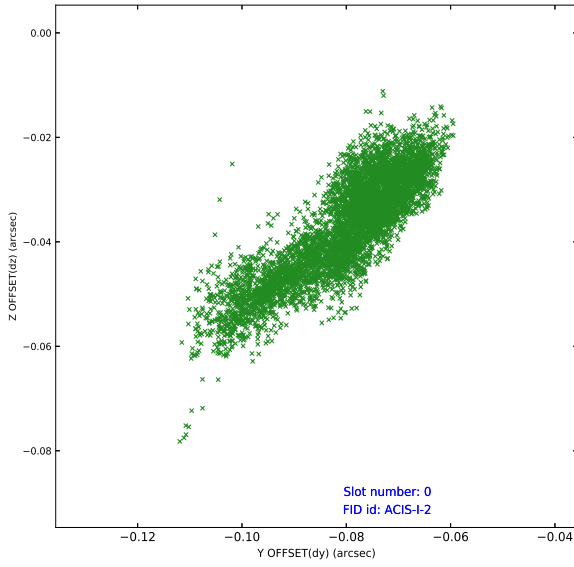


Time (s)

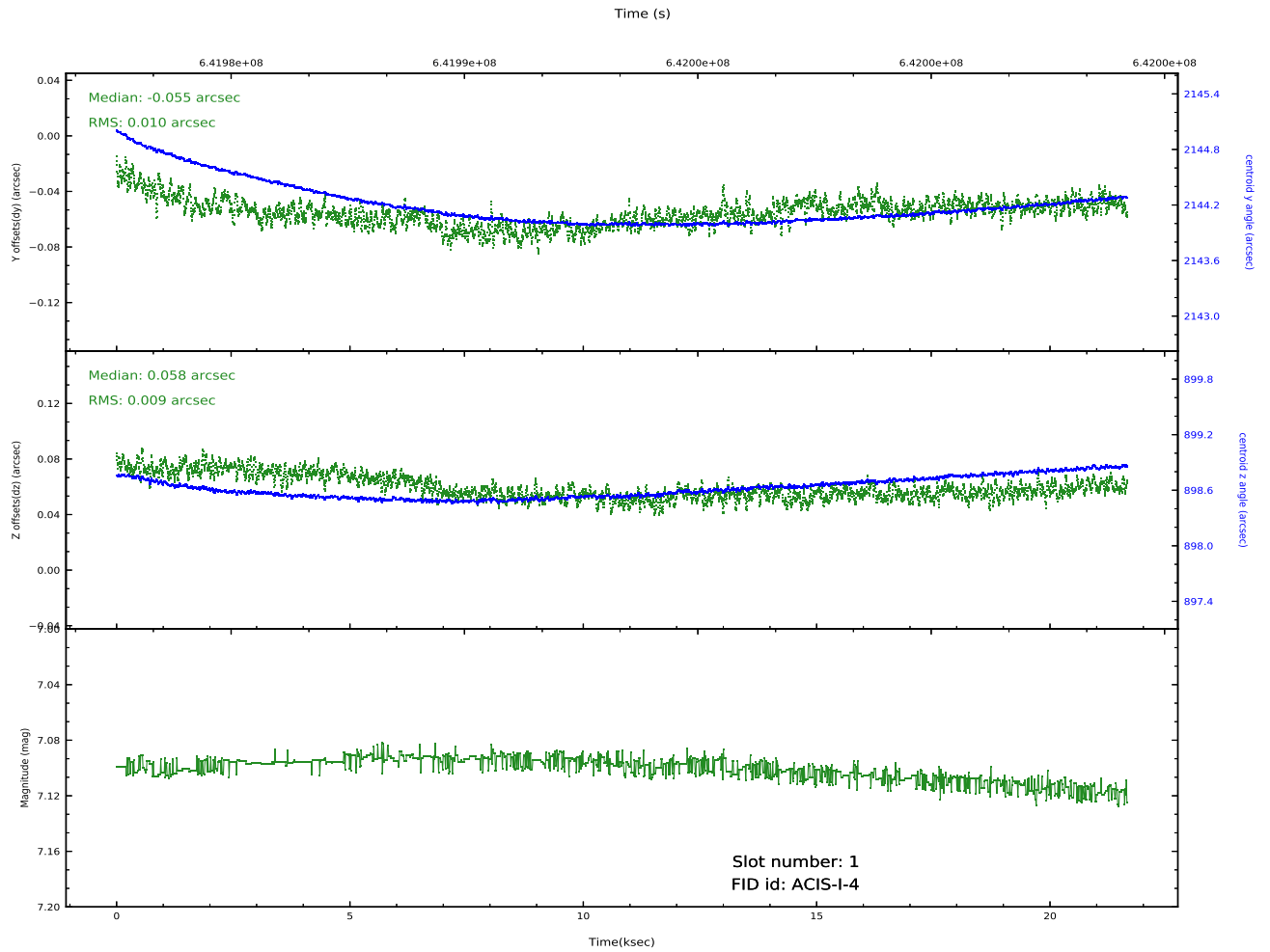
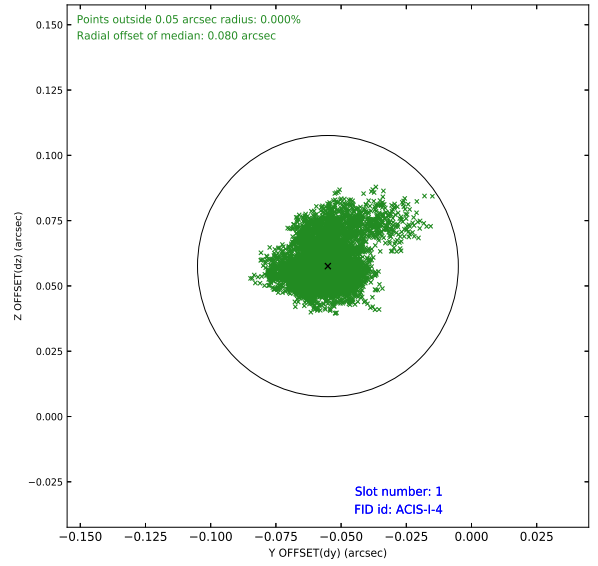
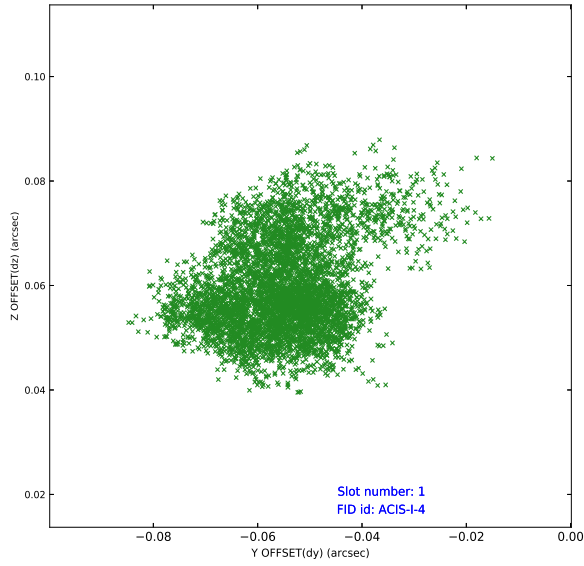


## 2.5 FID Slots

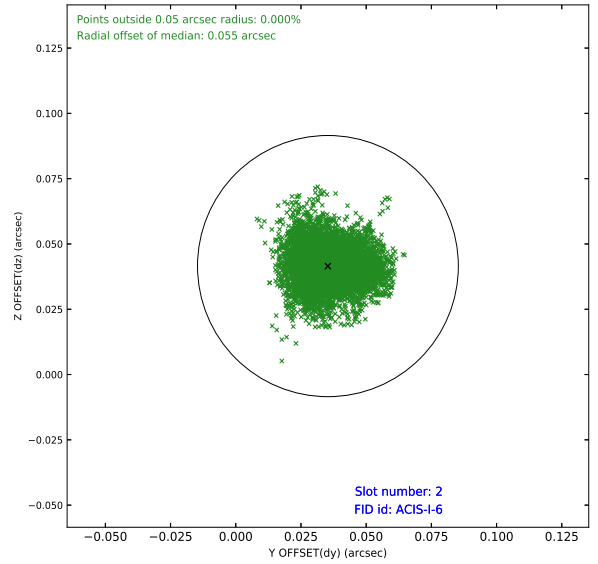
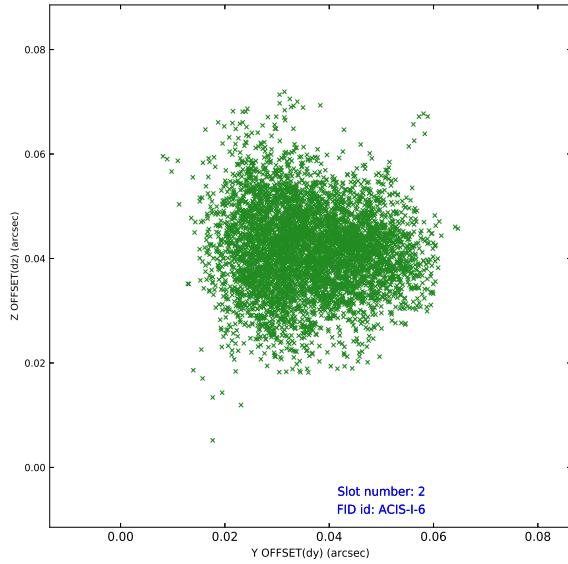
### 2.5.1 Slot 0



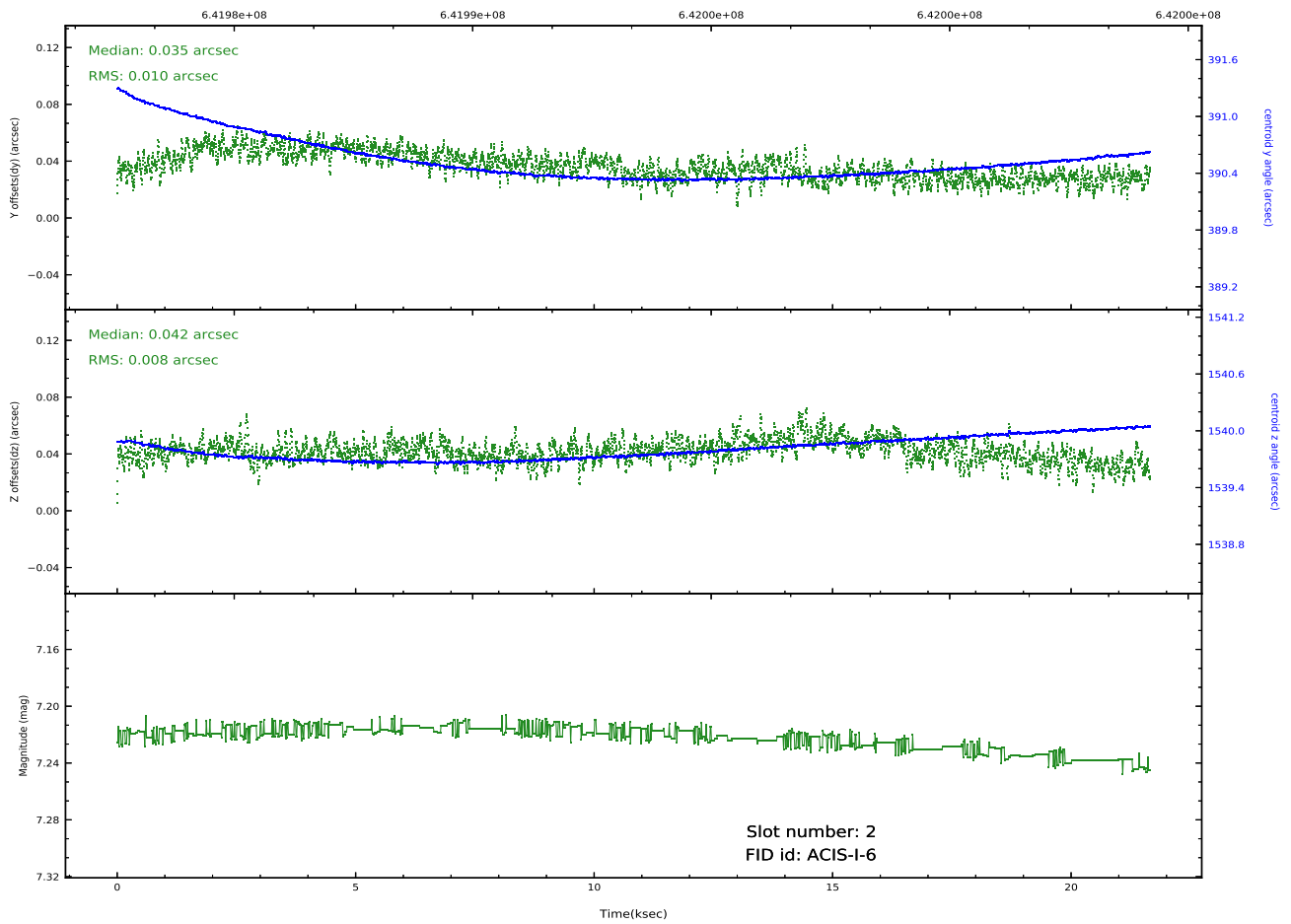
## 2.5.2 Slot 1



### 2.5.3 Slot 2



Time (s)



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2020.10.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	21.569759145737

## A.2 Comments

One optional chip was dropped.