

# V&V Reference Report

## L2 ASCDS Version : 10.5.4

Observation 20048 - L2 Version 1  
Chandra X-Ray Center

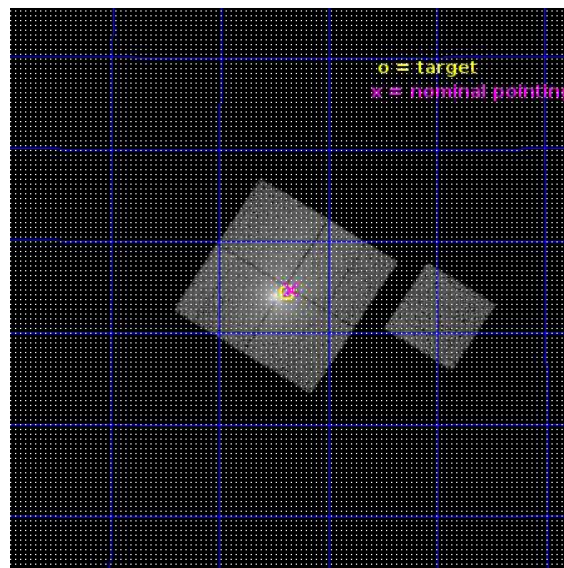
L2 Processing Date : May 20 2017

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# 1 Front

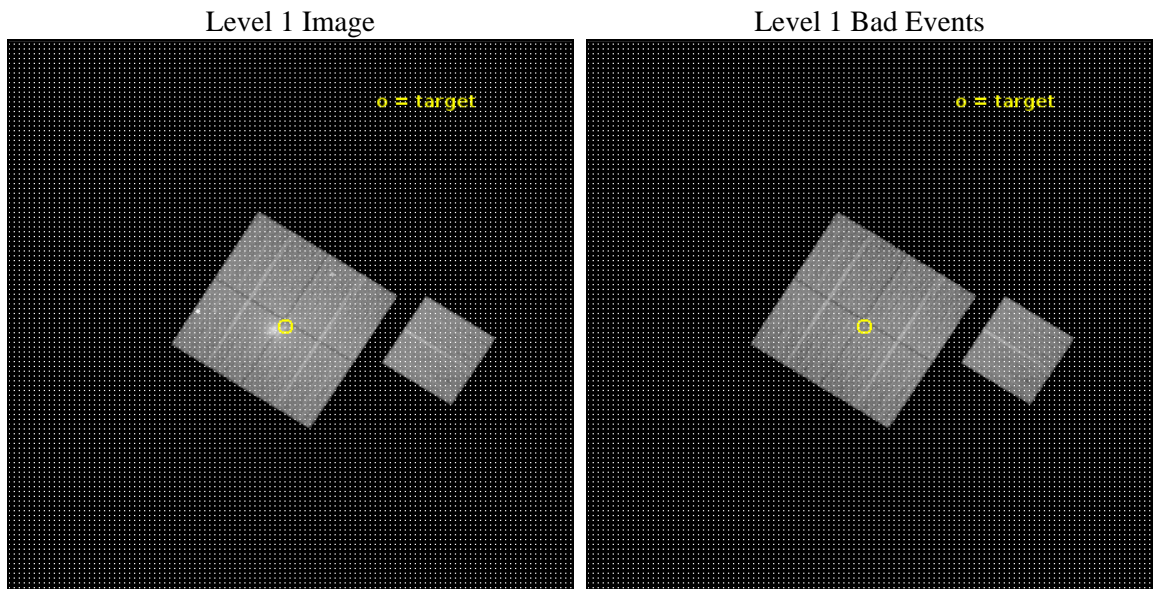
seq_num	703132	Sequence number
obs_id	20048	Observation id
title	The Rise to Power: Half a Billion Years of Intense AGN Activity in the Merging Cluster Cygnus A	Proposal title
observer	Dr. Michael Wise	Principal investigator
object	Cygnus A - W Hotspot	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	299.845	Observer's specified target RA [deg]
dec_targ	40.740361	Observer's specified target Dec [deg]
ra_nom	299.83472954312	Nominal RA [deg]
dec_nom	40.745380118956	Nominal Dec [deg]
roll_nom	122.33632573798	Nominal Roll [deg]
revision	1	Processing version of data
ontime	23060.81813693	Sum of GTIs [s]
livetime	22759.511570844	Livetime [s]
ontime0	23067.100177526	Sum of GTIs [s]
ontime1	23063.959157348	Sum of GTIs [s]
ontime2	23067.100177526	Sum of GTIs [s]
ontime3	23060.81813693	Sum of GTIs [s]
ontime6	23067.100177526	Sum of GTIs [s]
l2events	182362	Number of level 2 events



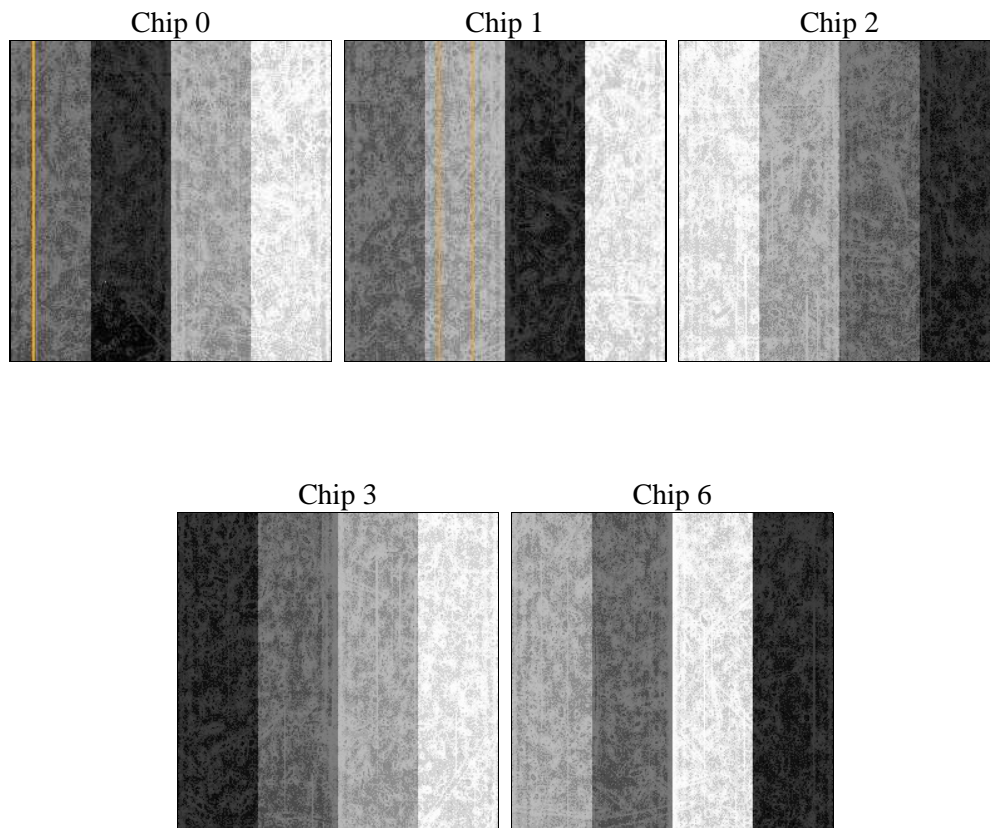
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	23000.000000	[s] Scheduled observation exposure time
ascdsver	10.5.4	Processing system revision	ontime	23060.81813693	Sum of GTIs [s]
caldbver	4.7.4	&#160	ontime0	23067.100177526	Sum of GTIs [s]
date	2017-05-20T05:03:00	Date and time of file creation	ontime1	23063.959157348	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	23067.100177526	Sum of GTIs [s]
			ontime3	23060.81813693	Sum of GTIs [s]
			ontime6	23067.100177526	Sum of GTIs [s]
			l1events	967144	Number of level 1 events

### 2.1.4 Events

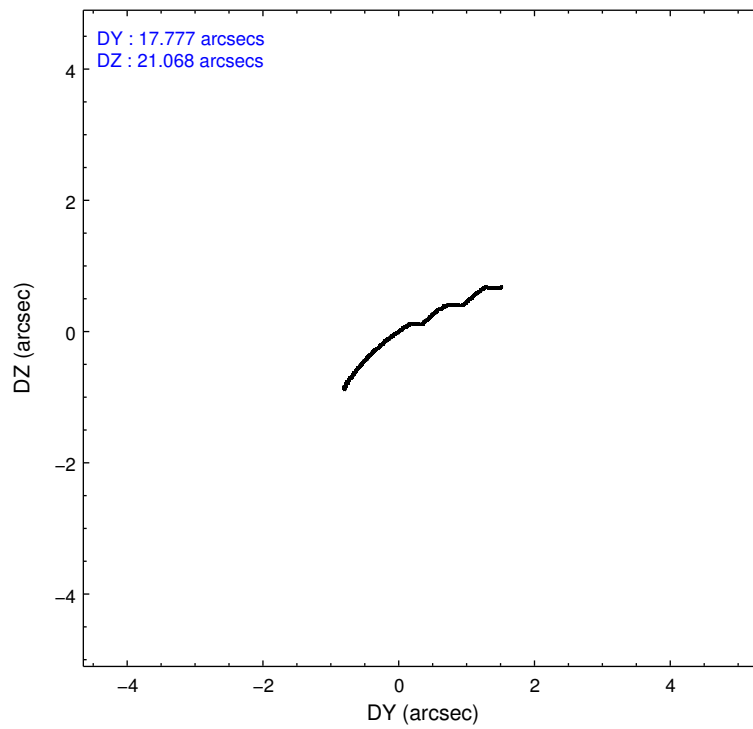
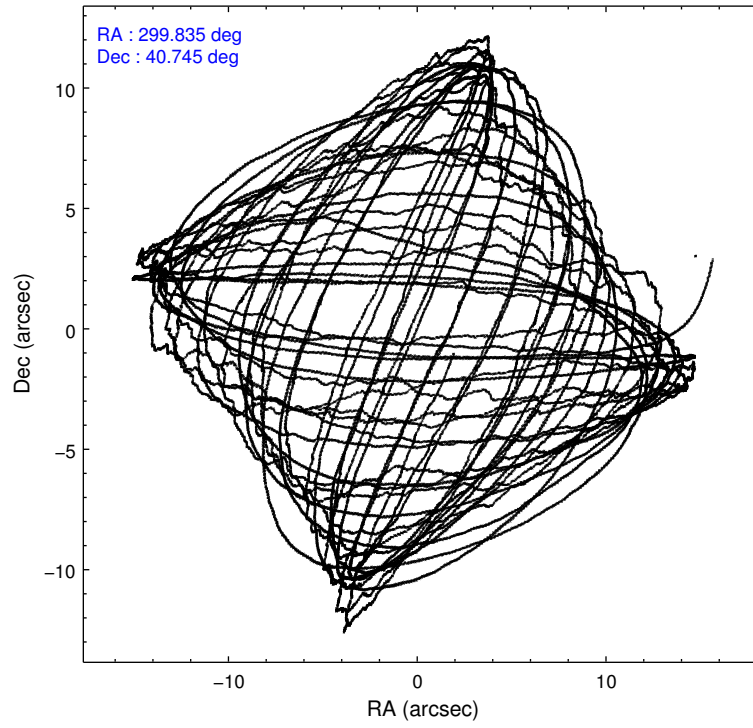
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	172215	224692	198225	199912	172100
rejected events	136214	142772	161608	153175	152911
rejected %	79%	63%	81%	76%	88%

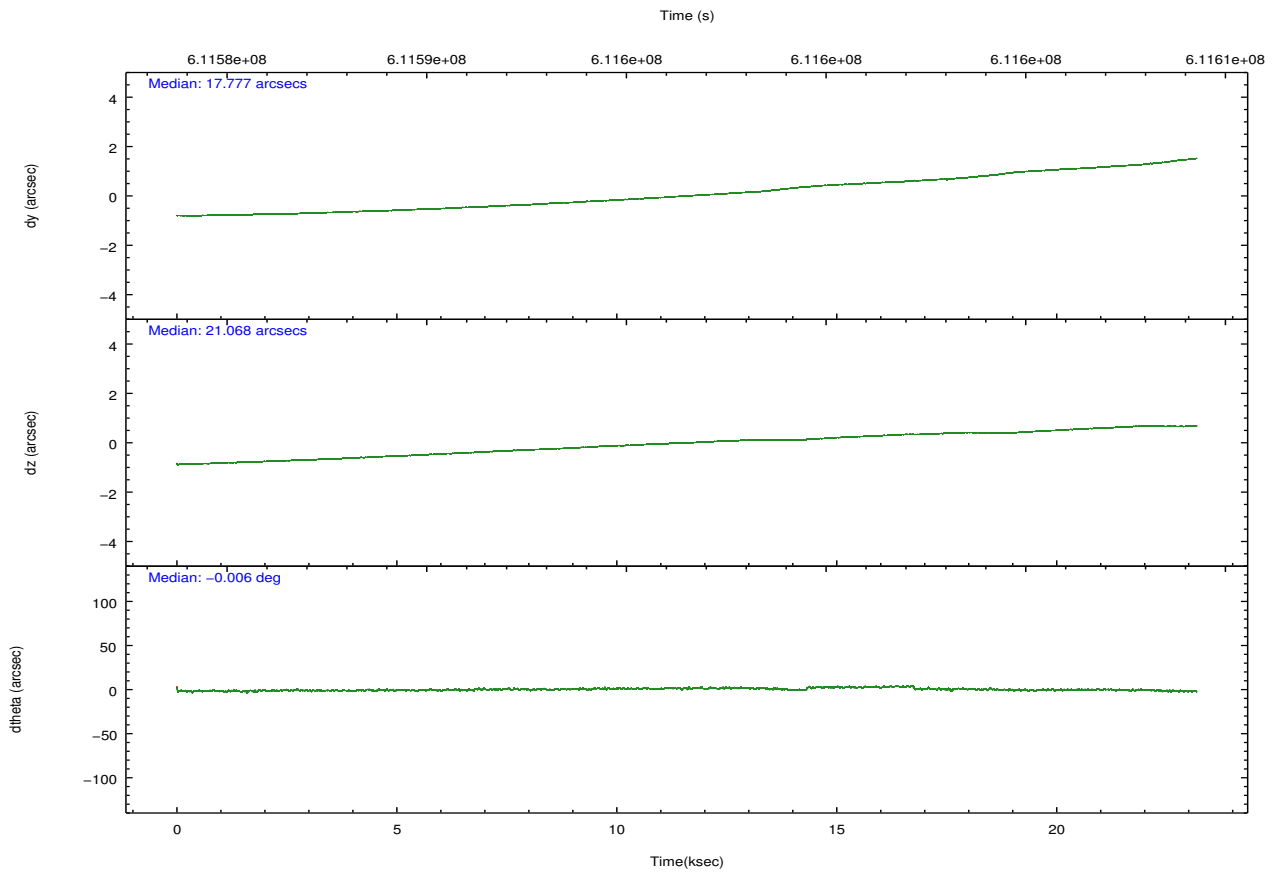
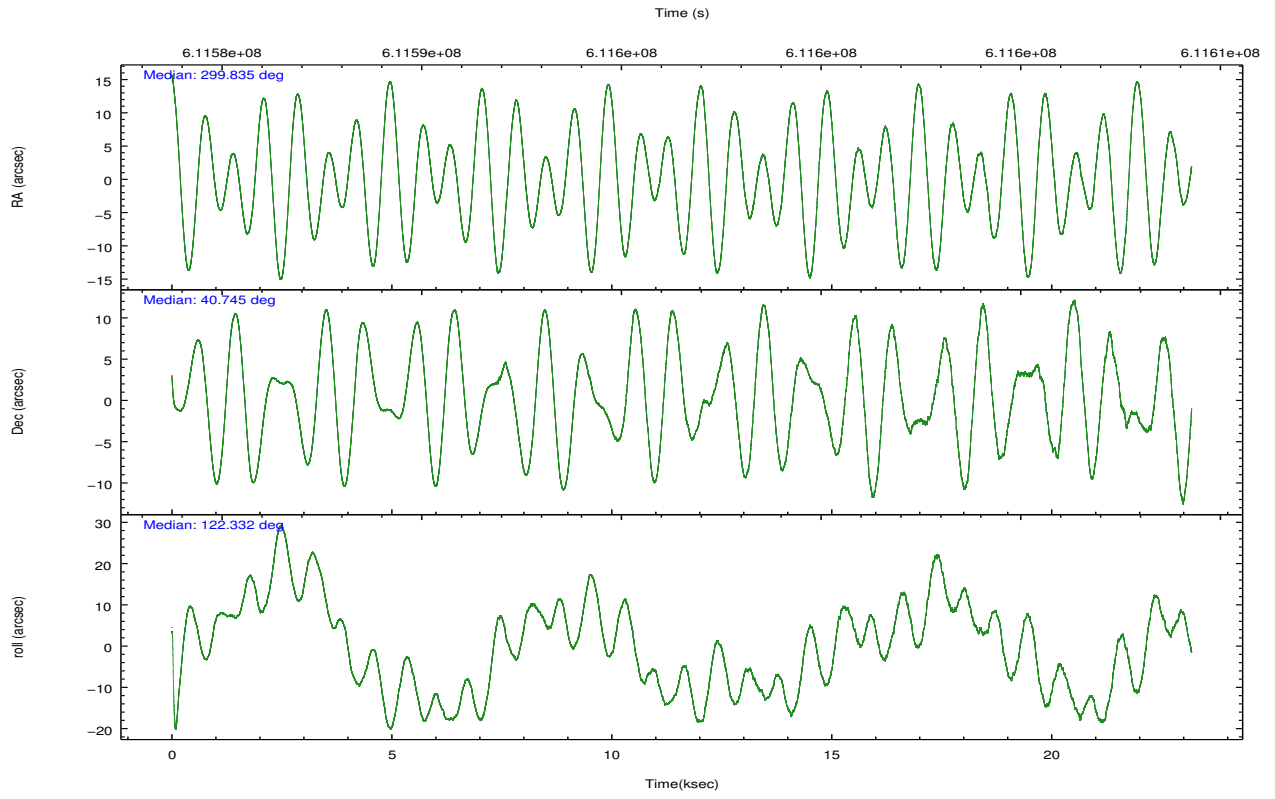
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	19679	47985	19687	29224	6597
	11%	21%	9%	14%	3%
grade 1 events	134	364	193	233	74
	0%	0%	0%	0%	0%
grade 2 events	6843	20174	8074	7024	4547
	3%	8%	4%	3%	2%
grade 3 events	2518	3327	2332	2912	1774
	1%	1%	1%	1%	1%
grade 4 events	2432	3399	2395	2866	1750
	1%	1%	1%	1%	1%
grade 5 events	7072	7620	6291	8004	7454
	4%	3%	3%	4%	4%
grade 6 events	4535	7045	4136	4713	4528
	2%	3%	2%	2%	2%
grade 7 events	129002	134778	155117	144936	145376
	74%	59%	78%	72%	84%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
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	299.867051	299.8347295431207	CCD I2 on	Y	Y
[deg] Pointing Dec	40.732663	40.74538011895637	CCD I3 on	Y	Y
[deg] Pointing Roll	122.106535	122.3363257379843	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	-233.592463	-233.5874344608287	CCD S3 on	N	N
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	611585106.184000	611583705.74507	CCD S5 on	N	N
Observation start date	2017-05-19T12:43:57	2017-05-19T12:21:45	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	611608106.184000	611608769.04653	On-chip summing requested	N	N
Observation end date	2017-05-19T19:07:17	2017-05-19T19:19:29	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





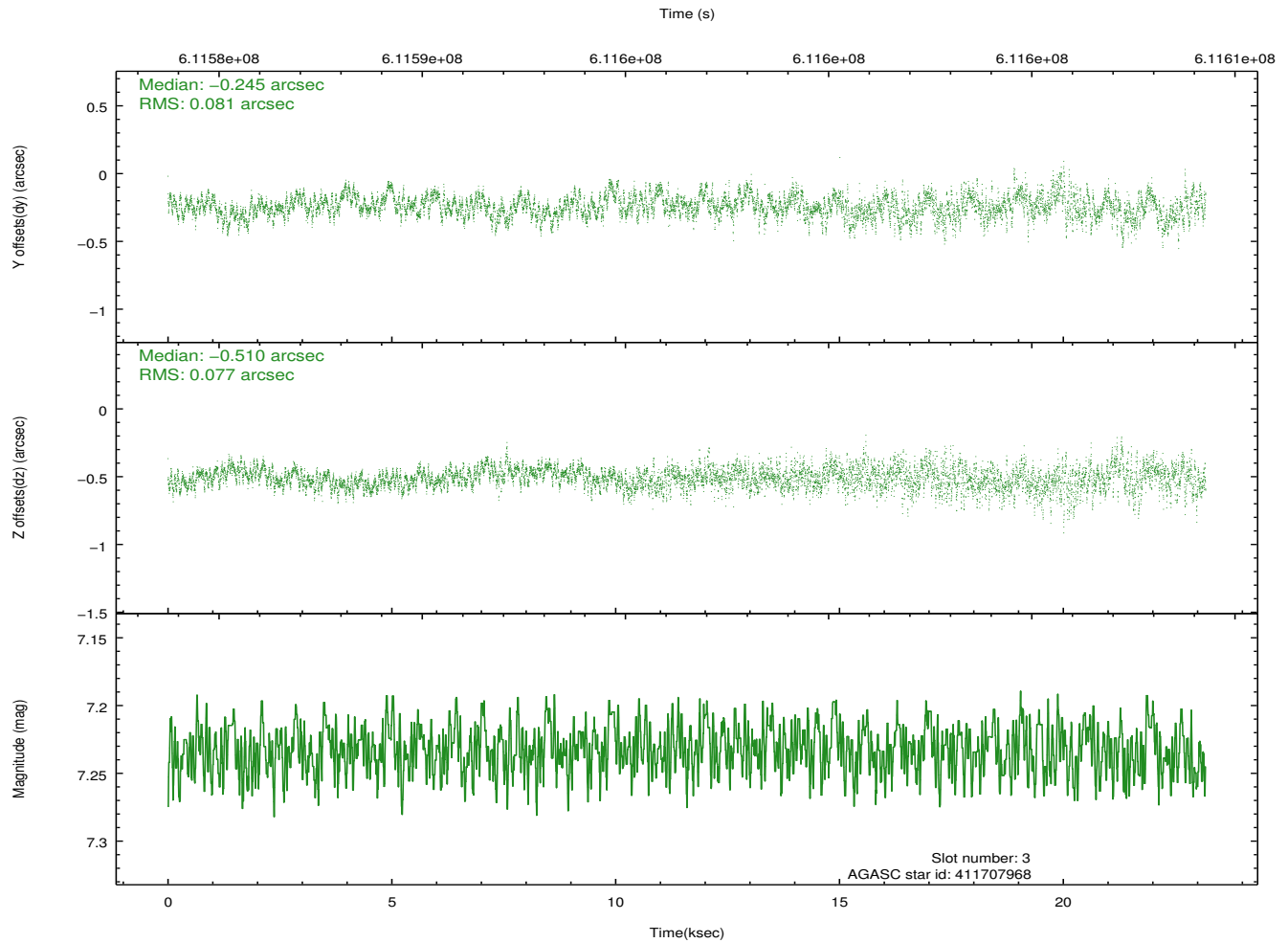
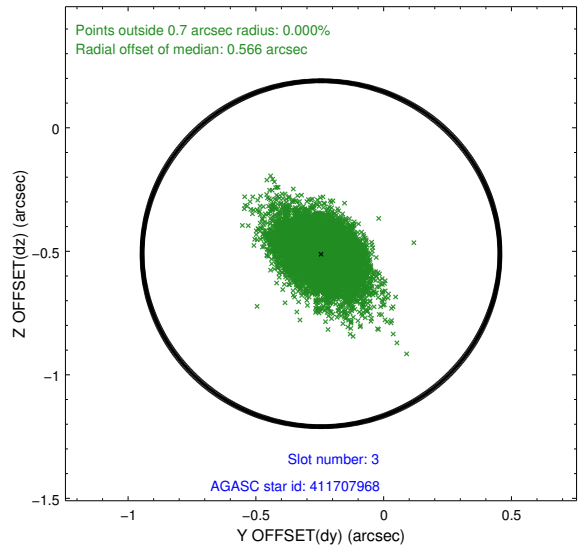
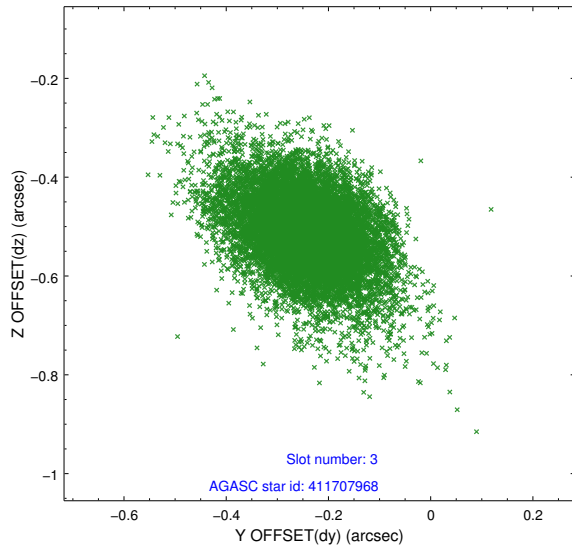
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.21	5652	-0.064	-0.134	0.020	0.047	0.000000	0.000000	921.48	-844.84
1	FID		ACIS-I-4	7.15	5655	0.469	0.149	0.019	0.037	0.000000	0.000000	2142.01	1055.24
2	FID		ACIS-I-5	7.19	5654	-0.502	0.055	0.012	0.020	0.000000	0.000000	-1826.90	1052.91
3	GUIDE	used	411707968	7.23	11308	-0.245	-0.510	0.114	0.199	299.509933	40.926839	1110.34	449.85
4	GUIDE	used	413405352	8.34	11304	-0.063	0.122	0.128	0.211	300.290830	41.091941	487.26	-1662.32
5	GUIDE	used	411701312	8.68	11301	-0.602	-0.574	0.149	0.254	298.889956	40.820220	1694.19	2078.91
6	GUIDE	used	413421016	8.64	11299	0.277	0.369	0.161	0.265	300.612426	40.446254	-1950.59	-1185.37
7	GUIDE	used	413418680	9.21	11295	0.626	0.595	0.158	0.263	300.860298	40.740057	-1403.70	-2315.38

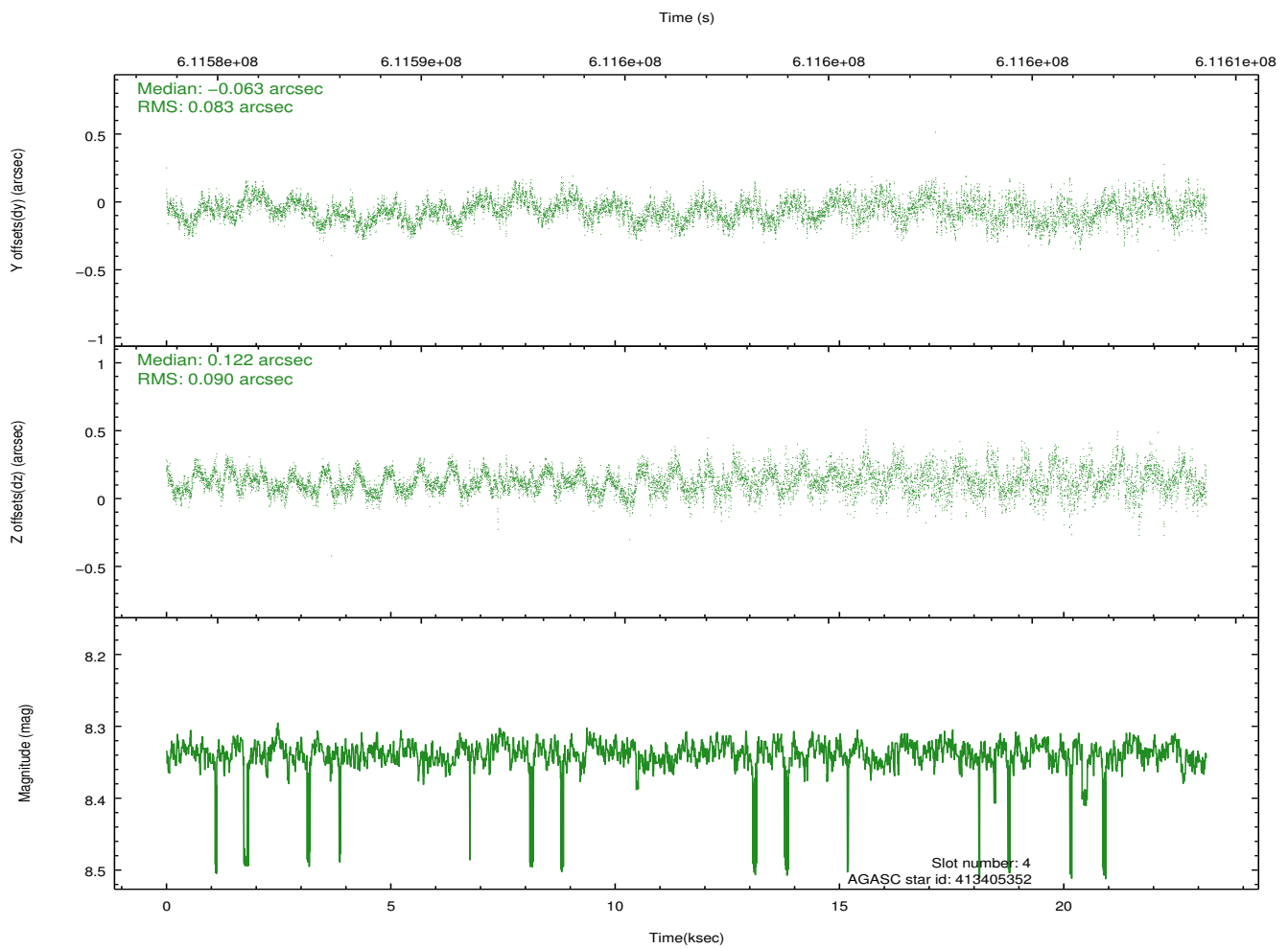
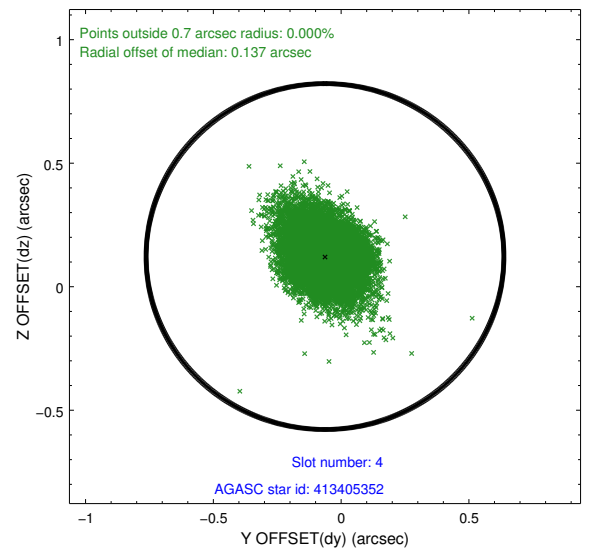
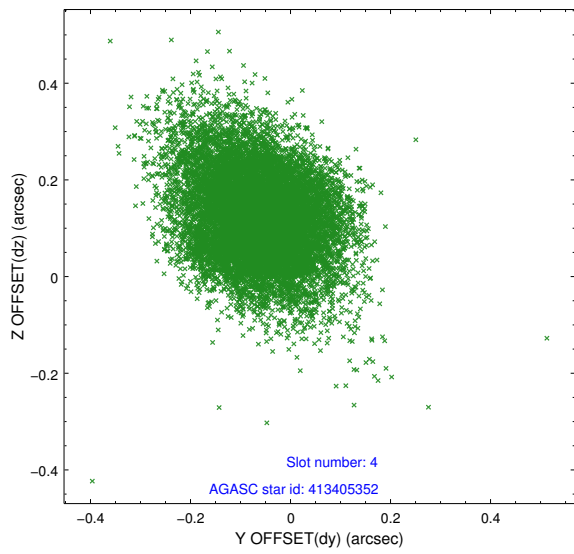
∞

## 2.4 Star Slots

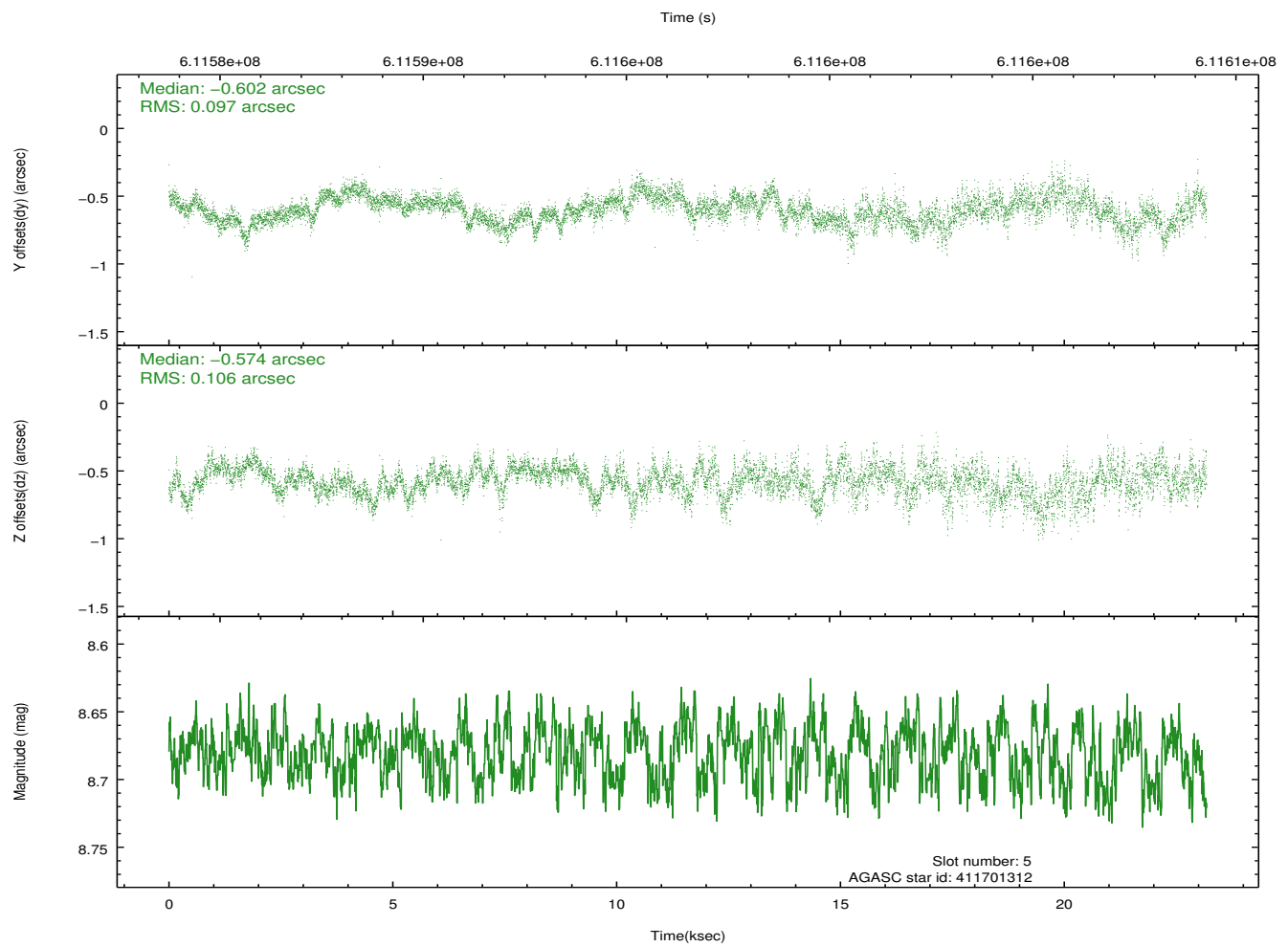
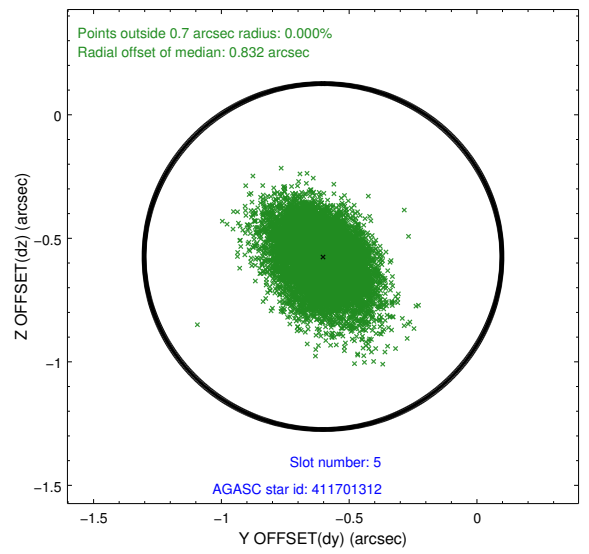
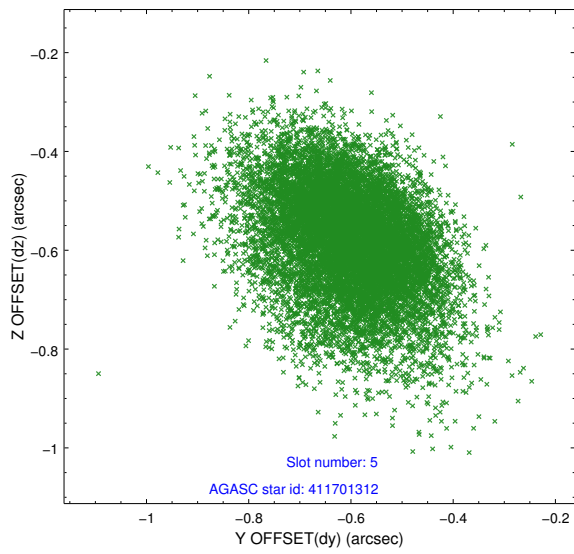
### 2.4.1 Slot 3



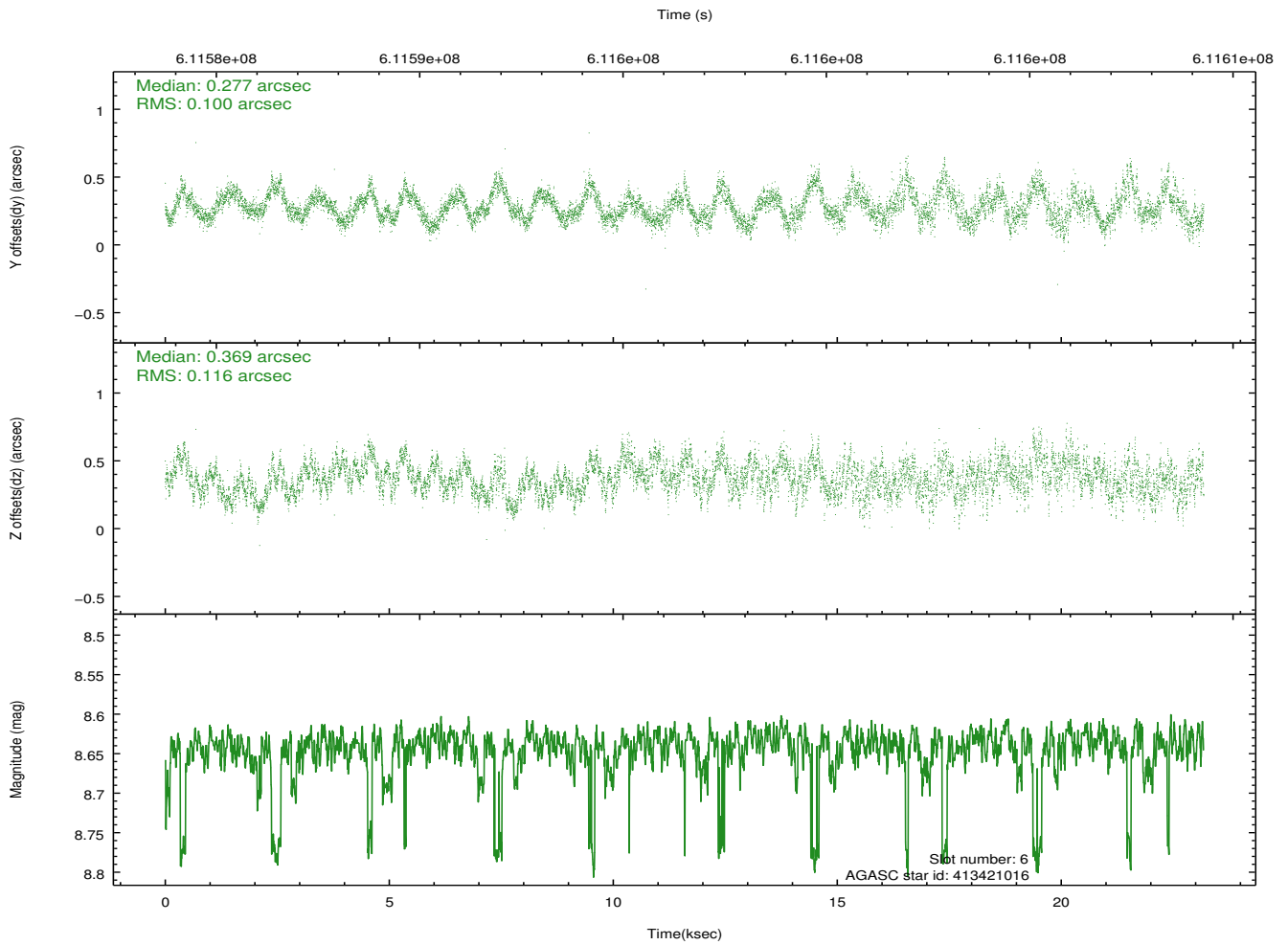
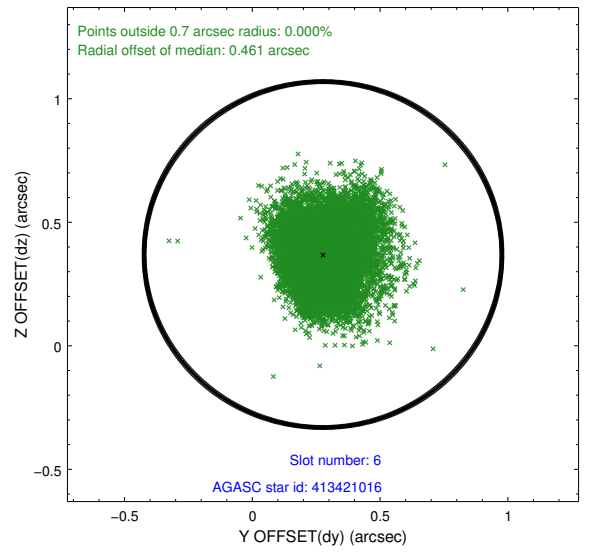
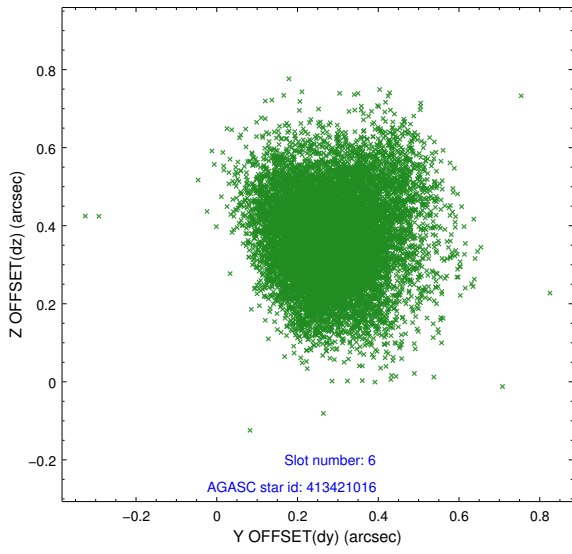
## 2.4.2 Slot 4



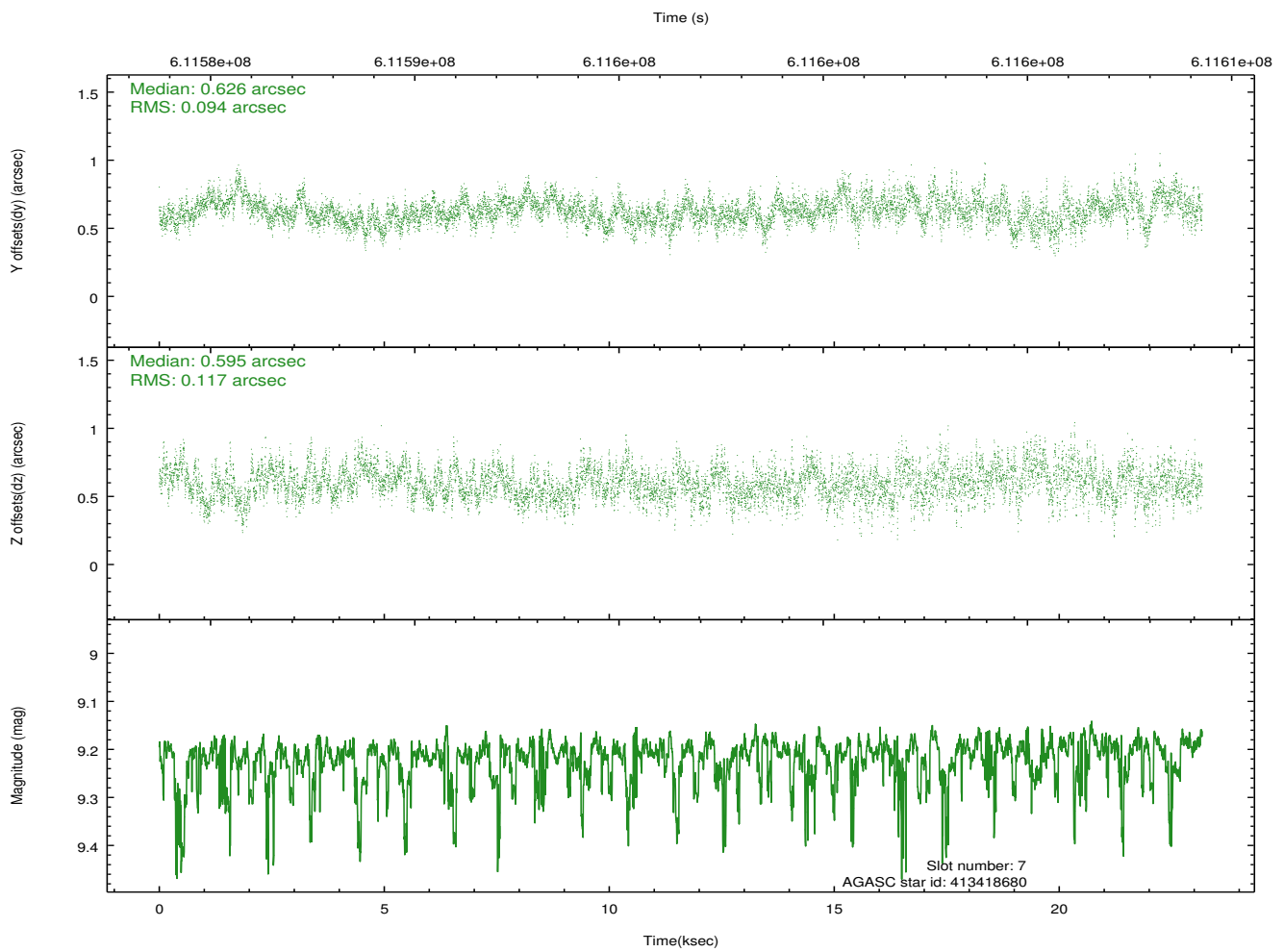
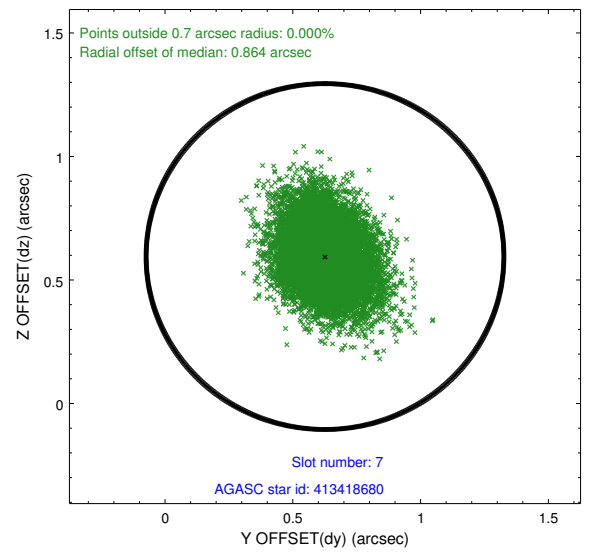
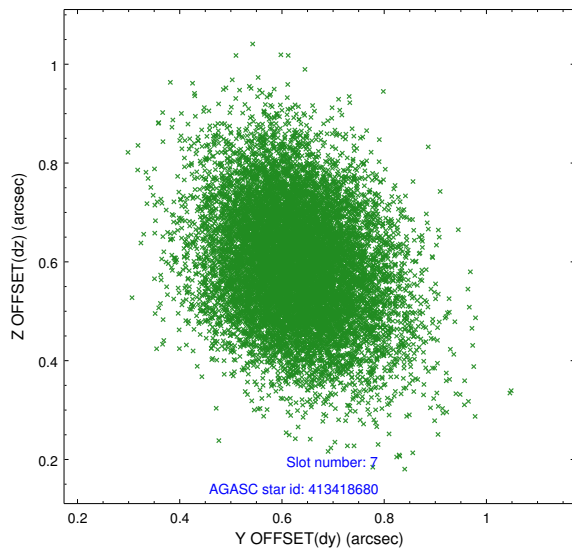
### 2.4.3 Slot 5



### 2.4.4 Slot 6

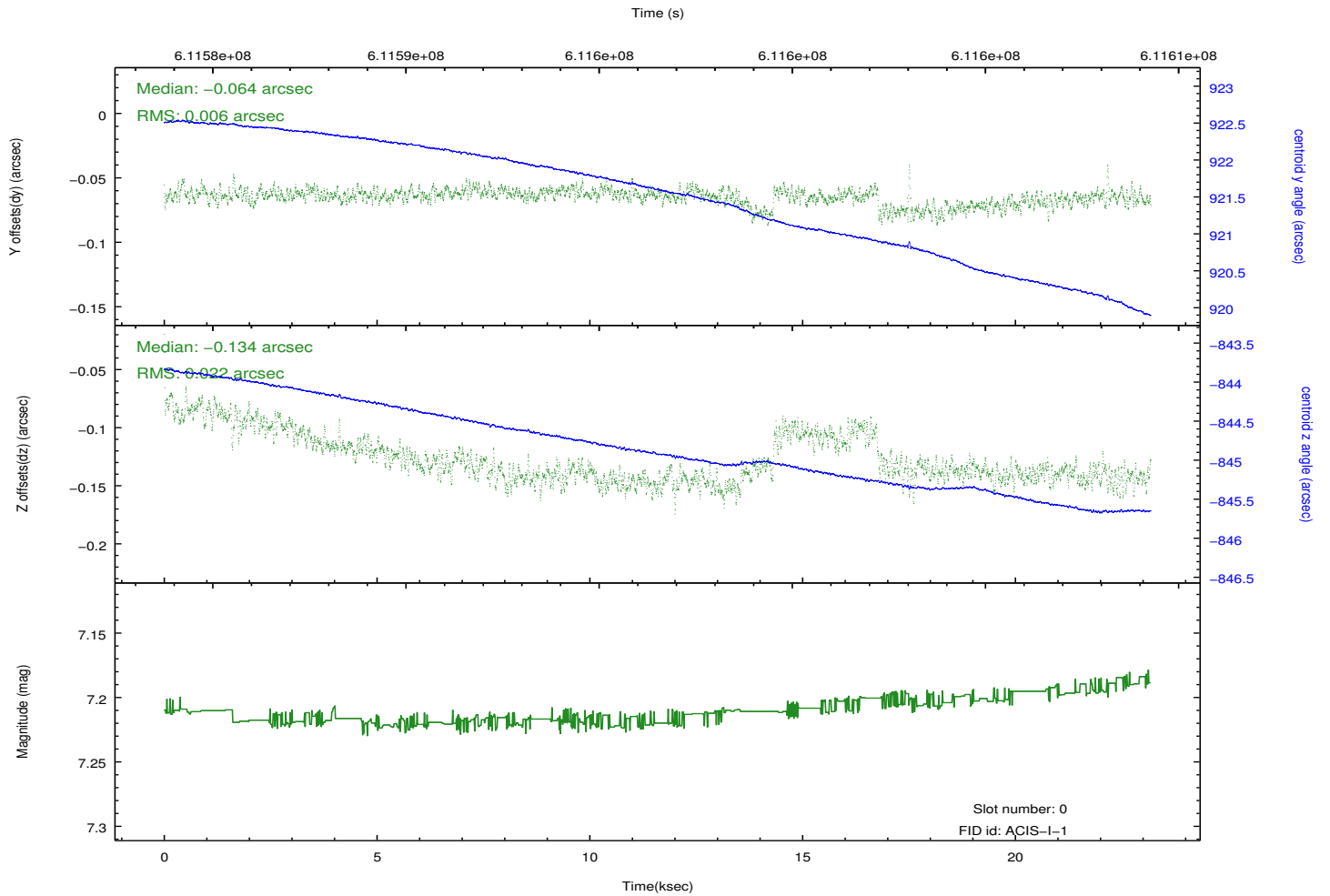
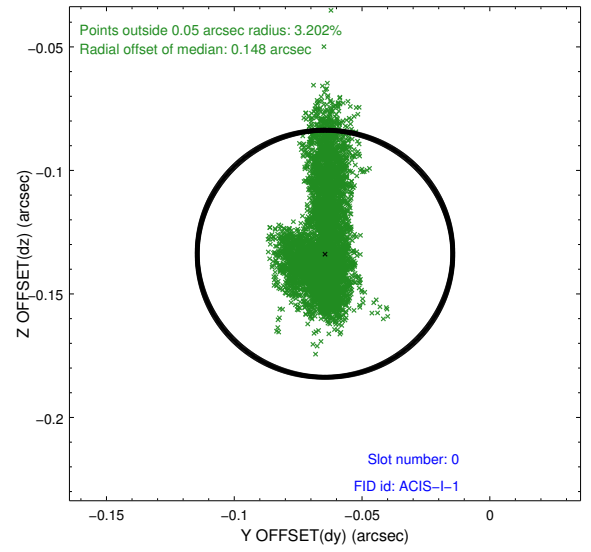
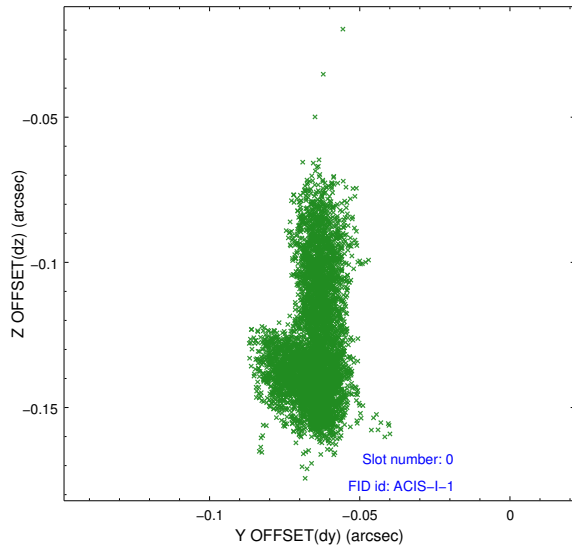


## 2.4.5 Slot 7

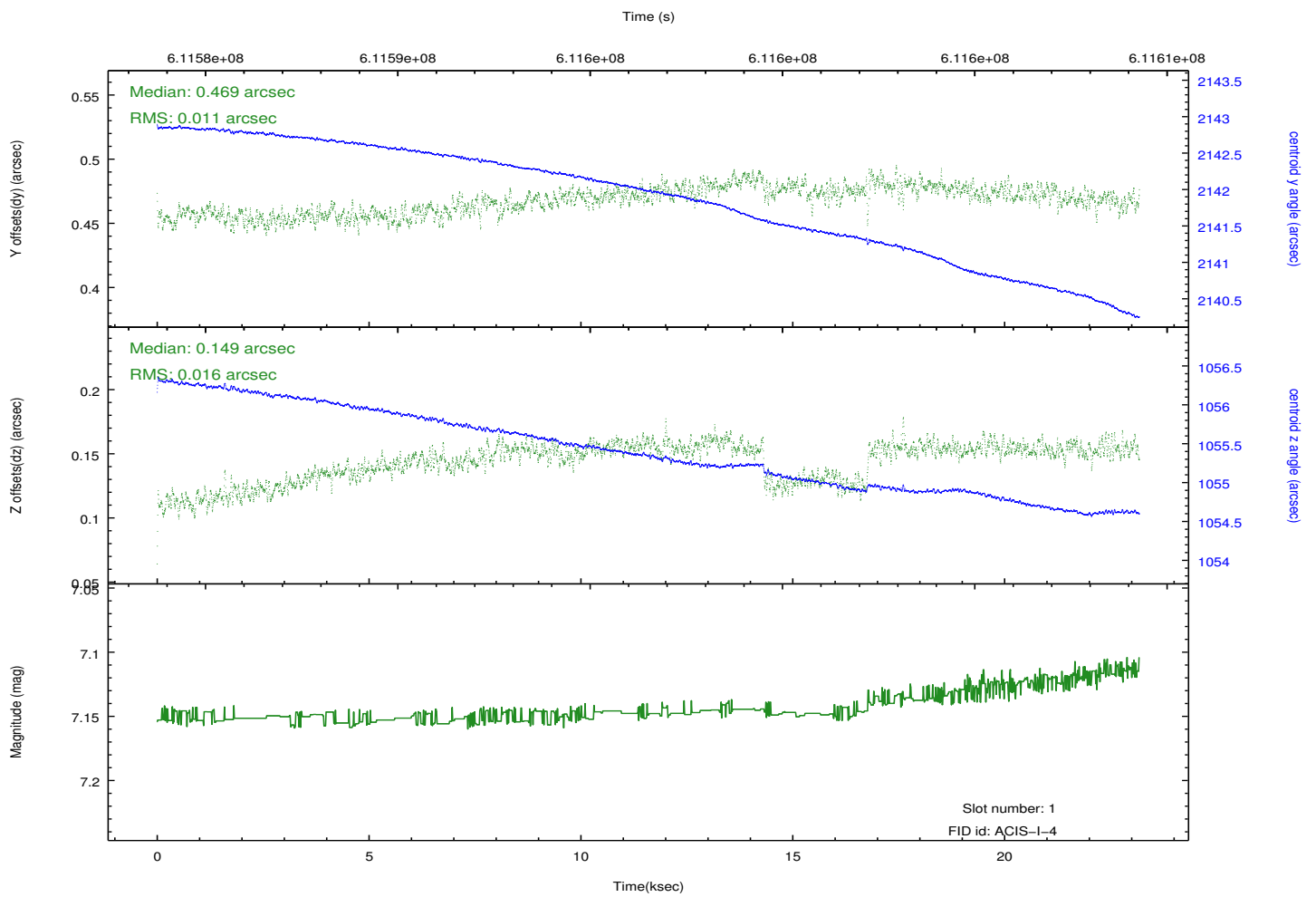
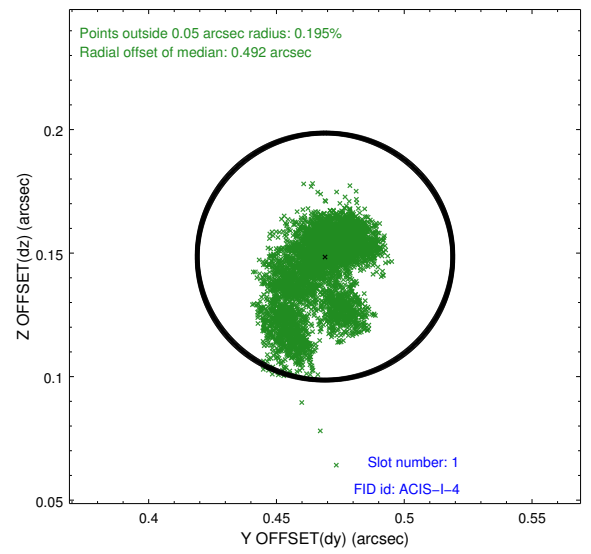
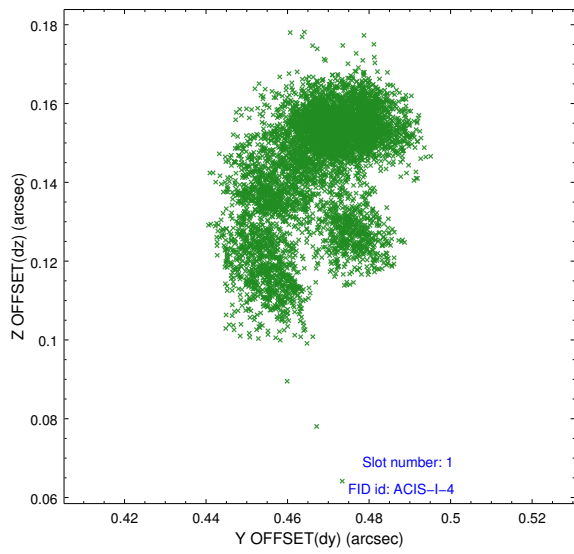


## 2.5 FID Slots

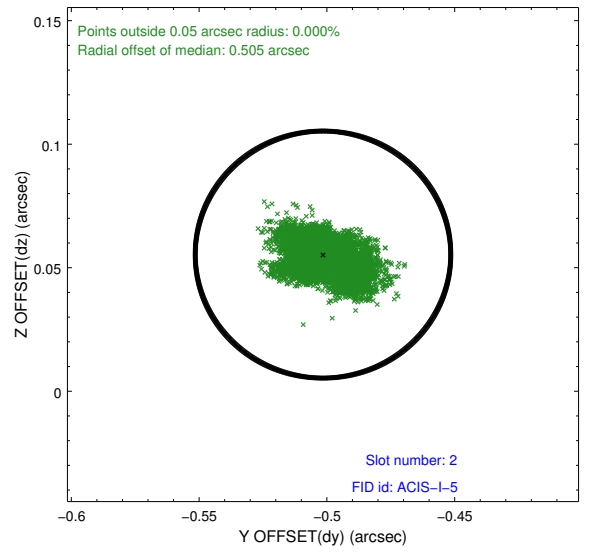
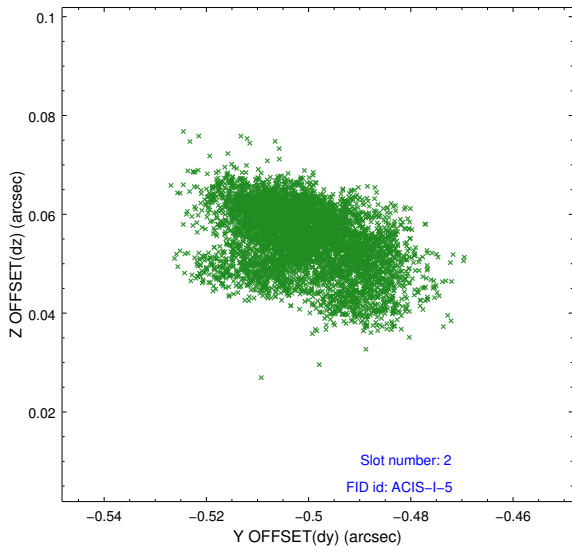
### 2.5.1 Slot 0



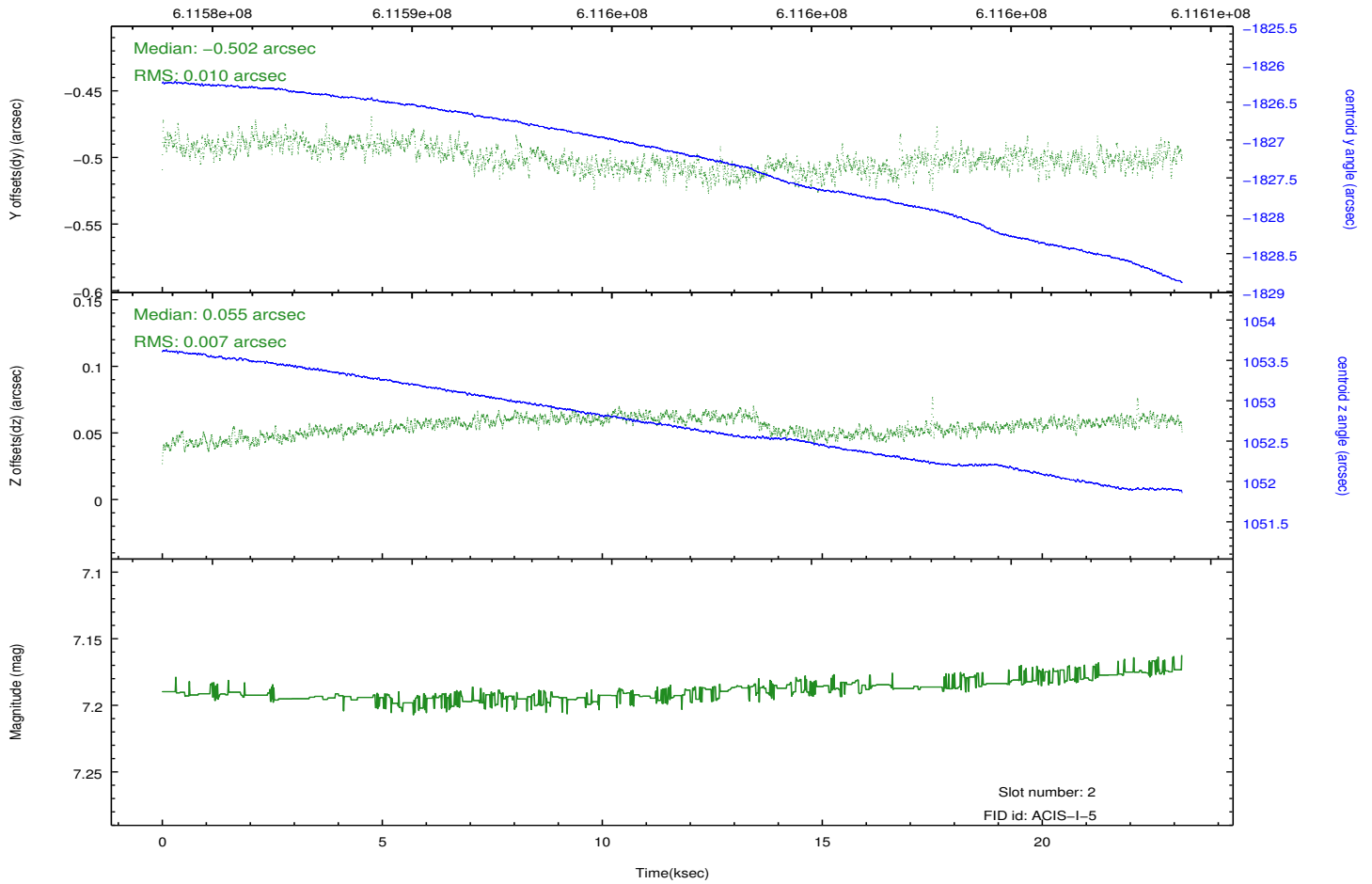
## 2.5.2 Slot 1



### 2.5.3 Slot 2



Time (s)



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2017.05.21
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	23.06081813693

## A.2 Comments