

# V&V Reference Report

## L2 ASCDS Version : 10.5.4

Observation 20077 - L2 Version 1  
Chandra X-Ray Center

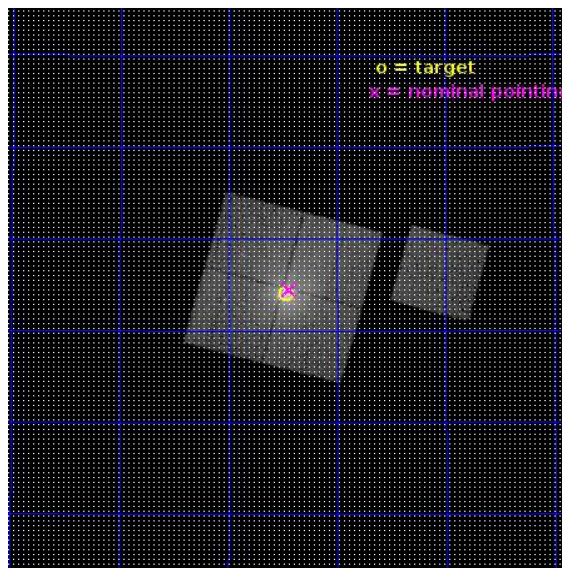
L2 Processing Date : May 14 2017

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# 1 Front

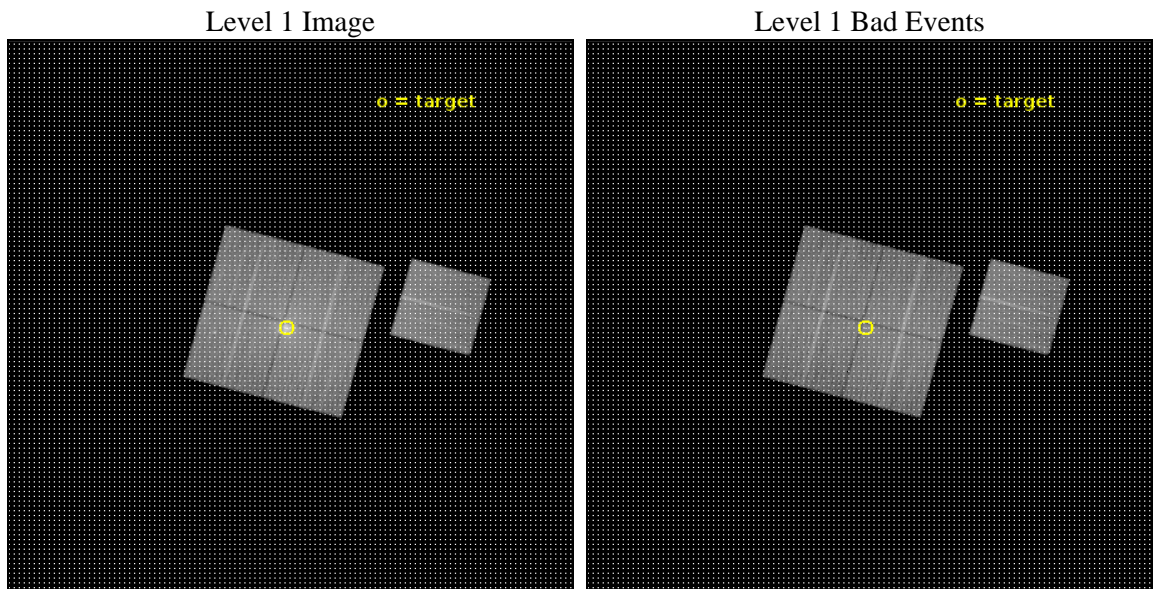
seq_num	703131	Sequence number
obs_id	20077	Observation id
title	The Rise to Power: Half a Billion Years of Intense AGN Activity in the Merging Cluster Cygnus A	Proposal title
observer	Dr. Michael Wise	Principal investigator
object	Cygnus A - Nucleus	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	299.867917	Observer's specified target RA [deg]
dec_targ	40.733889	Observer's specified target Dec [deg]
ra_nom	299.85962971891	Nominal RA [deg]
dec_nom	40.741370730495	Nominal Dec [deg]
roll_nom	105.21405107007	Nominal Roll [deg]
revision	1	Processing version of data
ontime	28064.259205699	Sum of GTIs [s]
livetime	27697.578998569	Livetime [s]
ontime0	28057.977205396	Sum of GTIs [s]
ontime1	28061.118214726	Sum of GTIs [s]
ontime2	28061.118205667	Sum of GTIs [s]
ontime3	28064.259205699	Sum of GTIs [s]
ontime6	28064.259195805	Sum of GTIs [s]
l2events	228525	Number of level 2 events



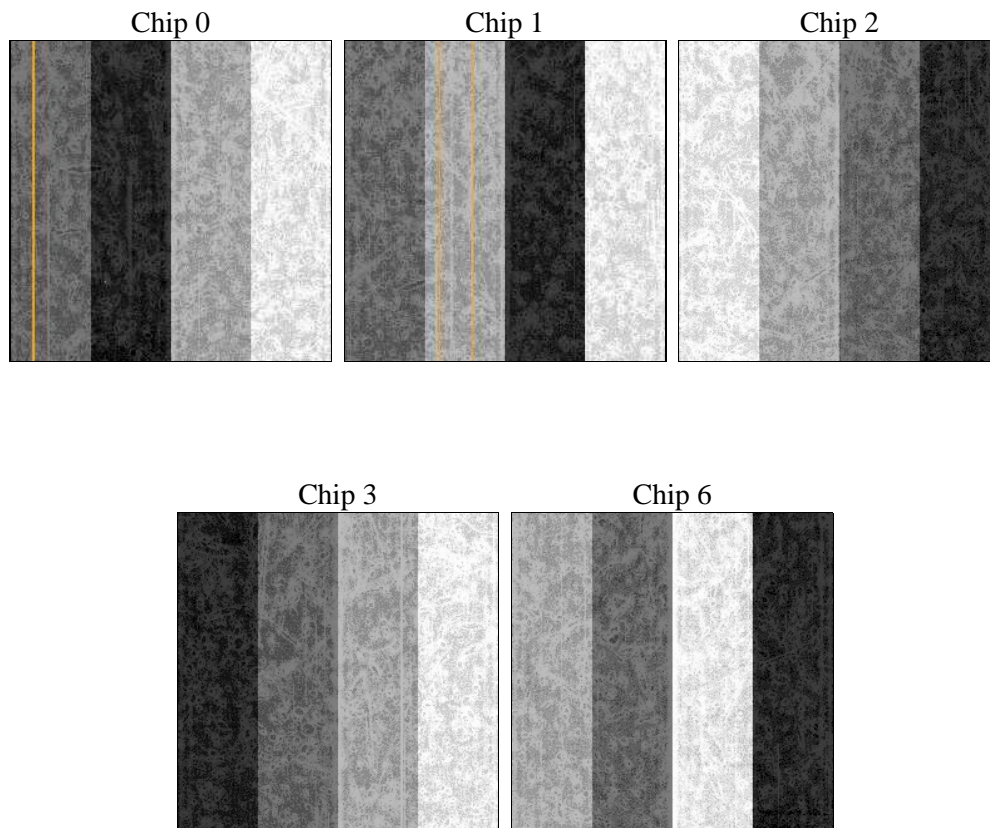
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	28000.000000	[s] Scheduled observation exposure time
ascdsver	10.5.4	Processing system revision	ontime	28064.259205699	Sum of GTIs [s]
caldbver	4.7.4	&#160	ontime0	28057.977205396	Sum of GTIs [s]
date	2017-05-14T15:12:25	Date and time of file creation	ontime1	28061.118214726	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	28061.118205667	Sum of GTIs [s]
			ontime3	28064.259205699	Sum of GTIs [s]
			ontime6	28064.259195805	Sum of GTIs [s]
			l1events	1173682	Number of level 1 events

### 2.1.4 Events

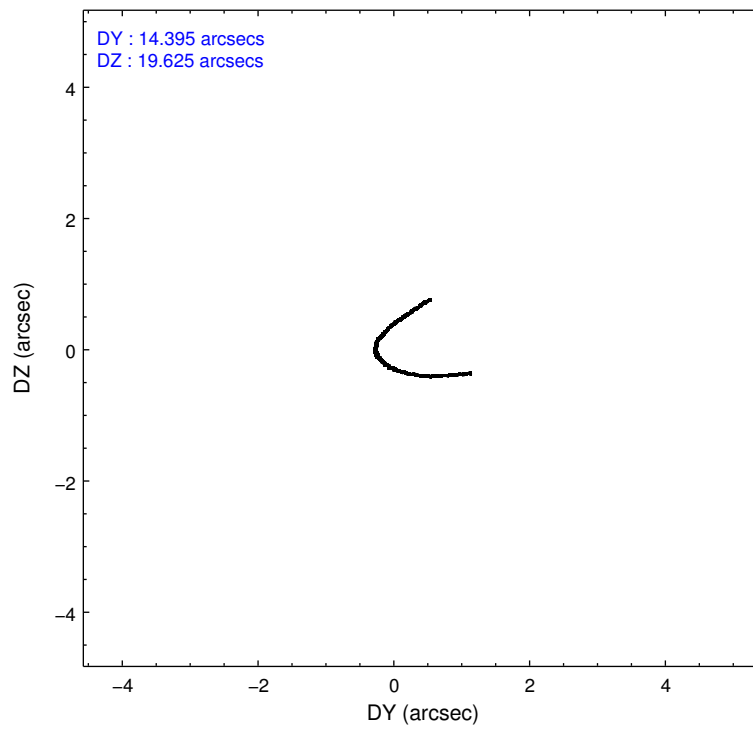
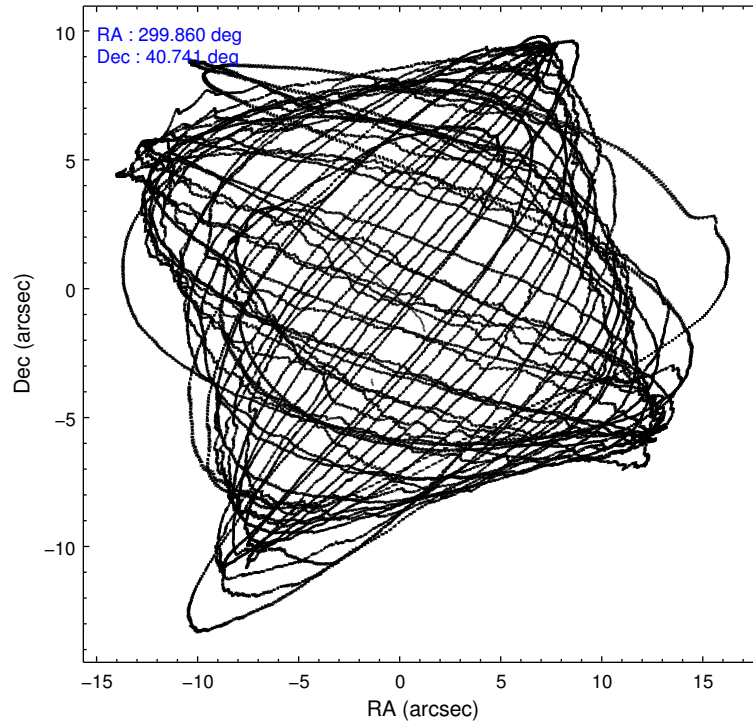
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	212687	219229	244212	279509	218045
rejected events	172721	172547	188633	193390	193449
rejected %	81%	78%	77%	69%	88%

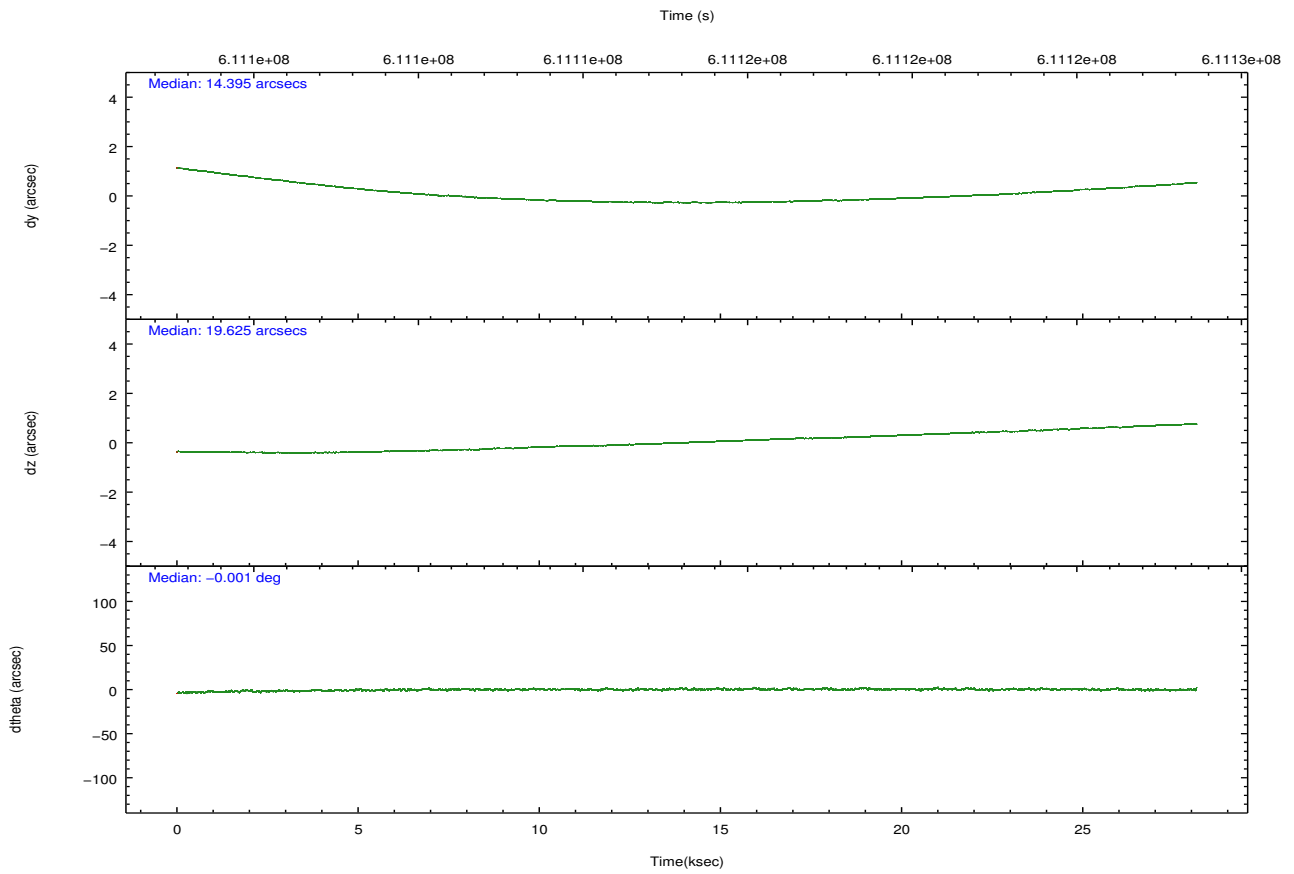
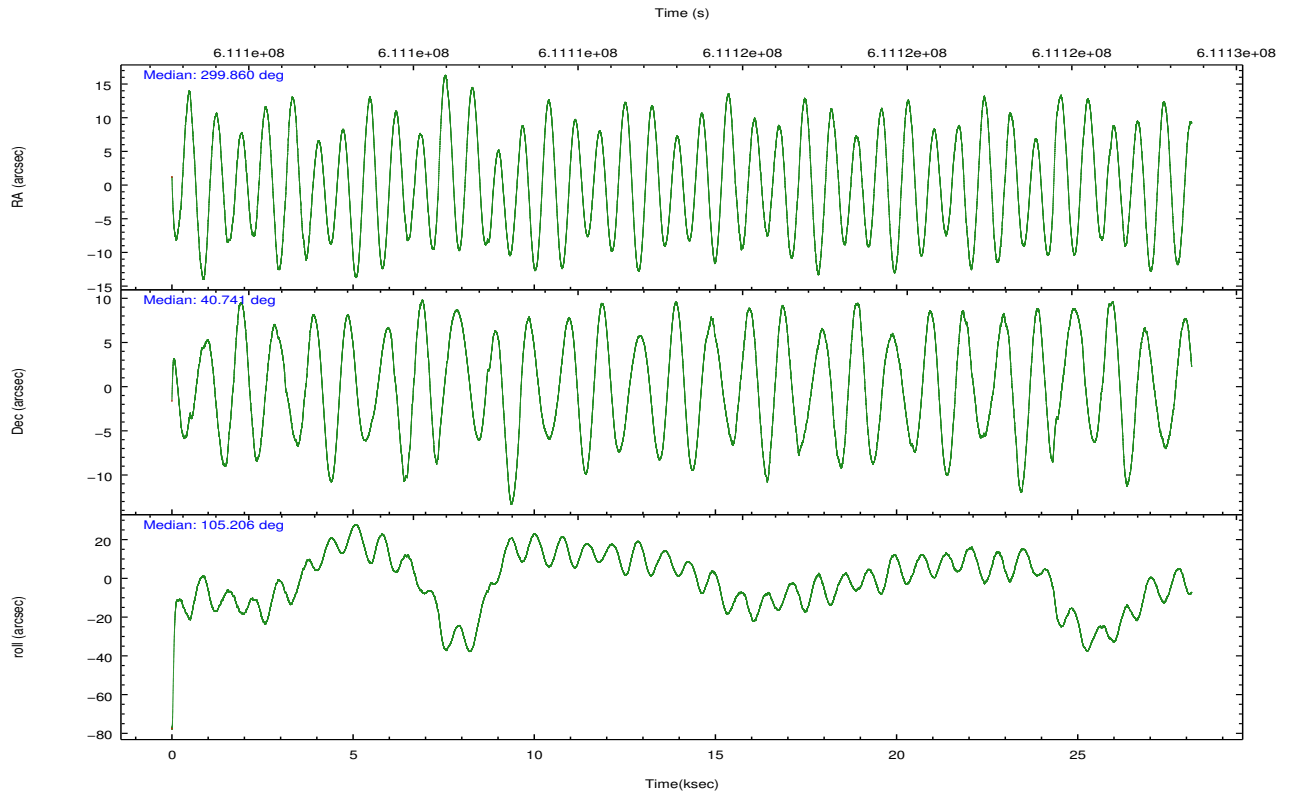
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	20944	23865	34052	57166	8770
	9%	10%	13%	20%	4%
grade 1 events	185	165	246	753	82
	0%	0%	0%	0%	0%
grade 2 events	7841	9979	9173	11956	5745
	3%	4%	3%	4%	2%
grade 3 events	2926	3062	3378	4693	2298
	1%	1%	1%	1%	1%
grade 4 events	2870	2979	3400	4552	2226
	1%	1%	1%	1%	1%
grade 5 events	8452	8963	7930	10403	9218
	3%	4%	3%	3%	4%
grade 6 events	5394	6801	5581	7762	5559
	2%	3%	2%	2%	2%
grade 7 events	164075	163415	180452	182224	184147
	77%	74%	73%	65%	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	299.885565	299.8596297189114	CCD I2 on	Y	Y
[deg] Pointing Dec	40.721992	40.74137073049516	CCD I3 on	Y	Y
[deg] Pointing Roll	104.988480	105.2140510700682	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)	611099204.184000	611097917.7293299	CCD S5 on	N	N
Observation start date	2017-05-13T21:45:35	2017-05-13T21:25:17	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	611127204.184000	611128026.08108	On-chip summing requested	N	N
Observation end date	2017-05-14T05:32:15	2017-05-14T05:47:06	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect





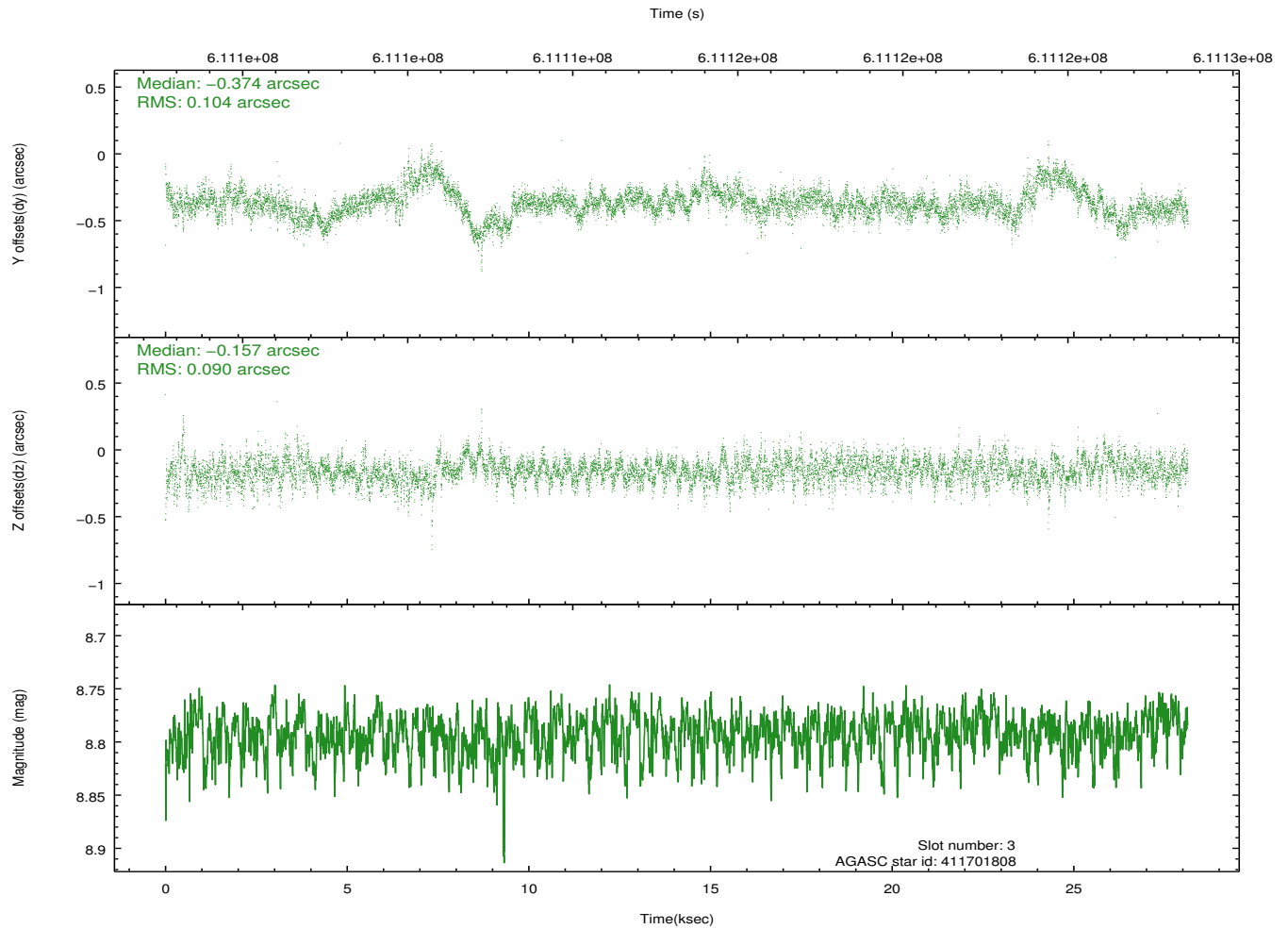
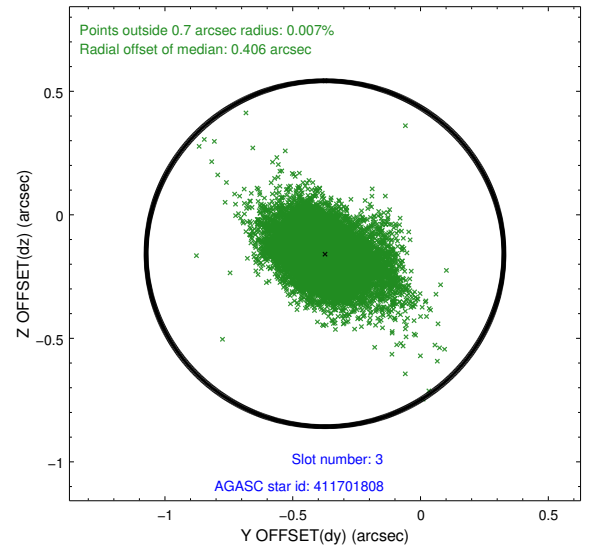
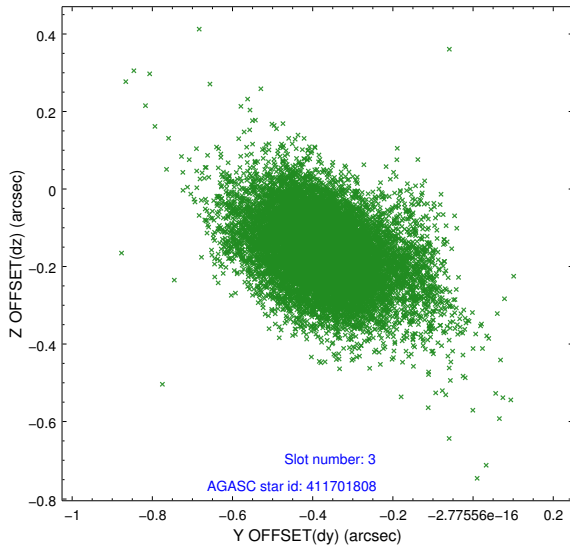
### Slot Statistics

slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-2	7.12	6865	-0.064	-0.032	0.012	0.023	0.000000	0.000000	-769.28	-849.78
1	FID		ACIS-I-5	7.23	6864	-0.275	-0.053	0.012	0.027	0.000000	0.000000	-1823.60	1054.02
2	FID		ACIS-I-6	7.24	6865	0.245	0.154	0.009	0.018	0.000000	0.000000	390.69	1698.79
3	GUIDE	used	411701808	8.79	13711	-0.374	-0.157	0.138	0.253	299.419536	40.880184	881.19	1077.30
4	GUIDE	used	411707968	7.23	13728	-0.120	-0.393	0.122	0.229	299.509933	40.926839	979.06	795.43
5	GUIDE	used	412240768	8.27	13724	-0.198	-0.056	0.127	0.231	299.999696	41.280279	1862.08	-817.69
6	GUIDE	used	413421016	8.66	13722	0.400	0.543	0.137	0.303	300.612426	40.446254	-1465.06	-1668.39
7	GUIDE	used	413414112	8.75	13719	0.289	0.060	0.124	0.217	300.390444	40.913917	316.71	-1506.35

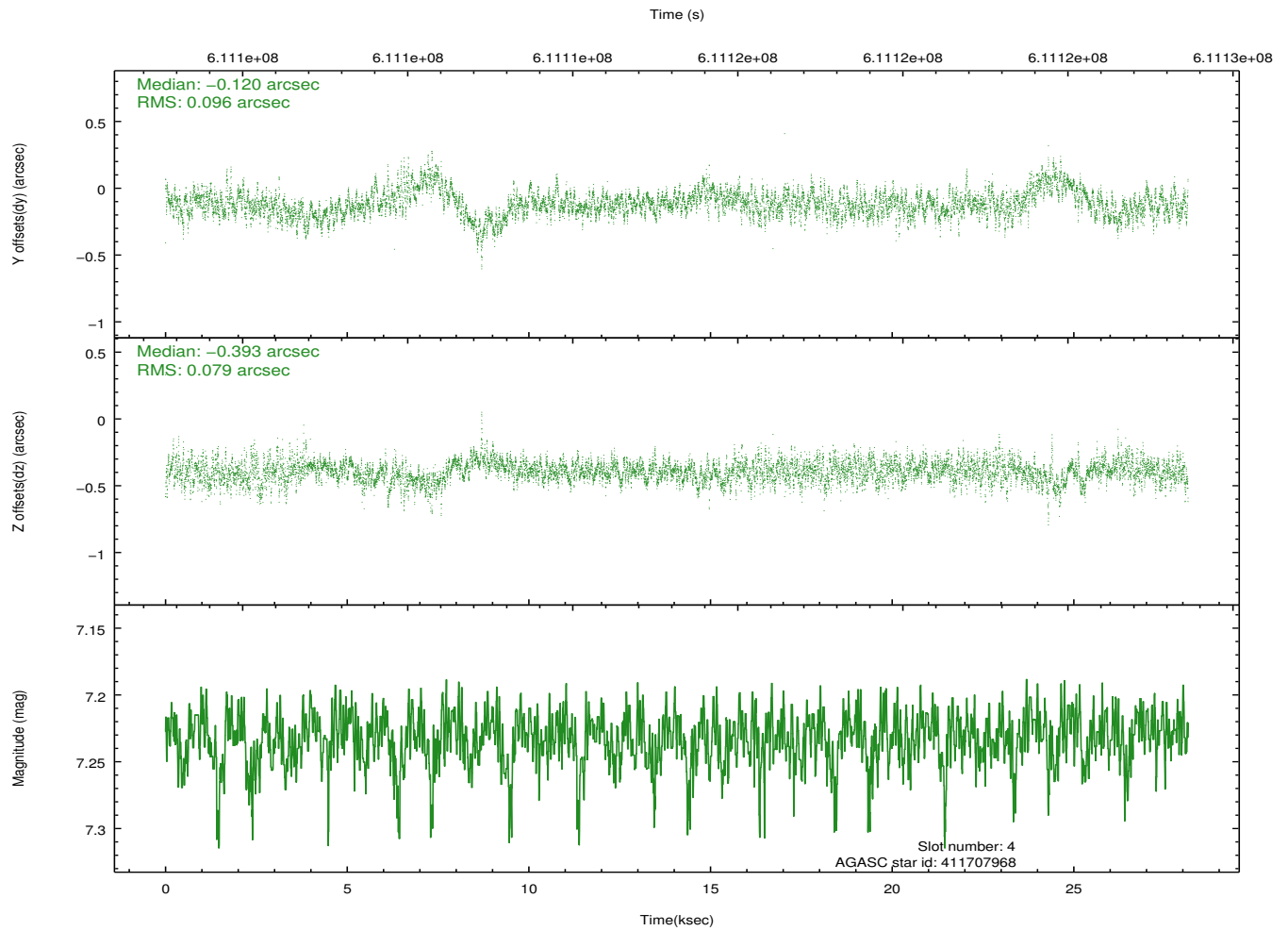
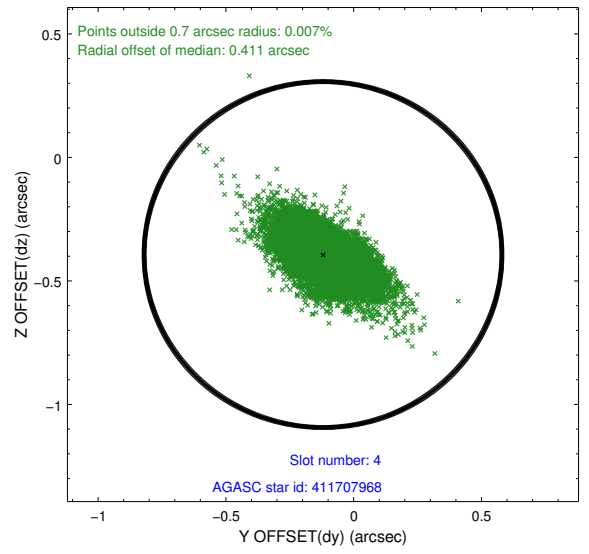
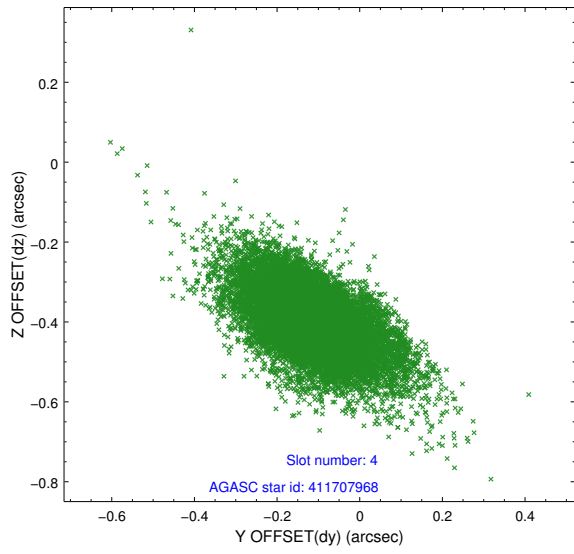
∞

## 2.4 Star Slots

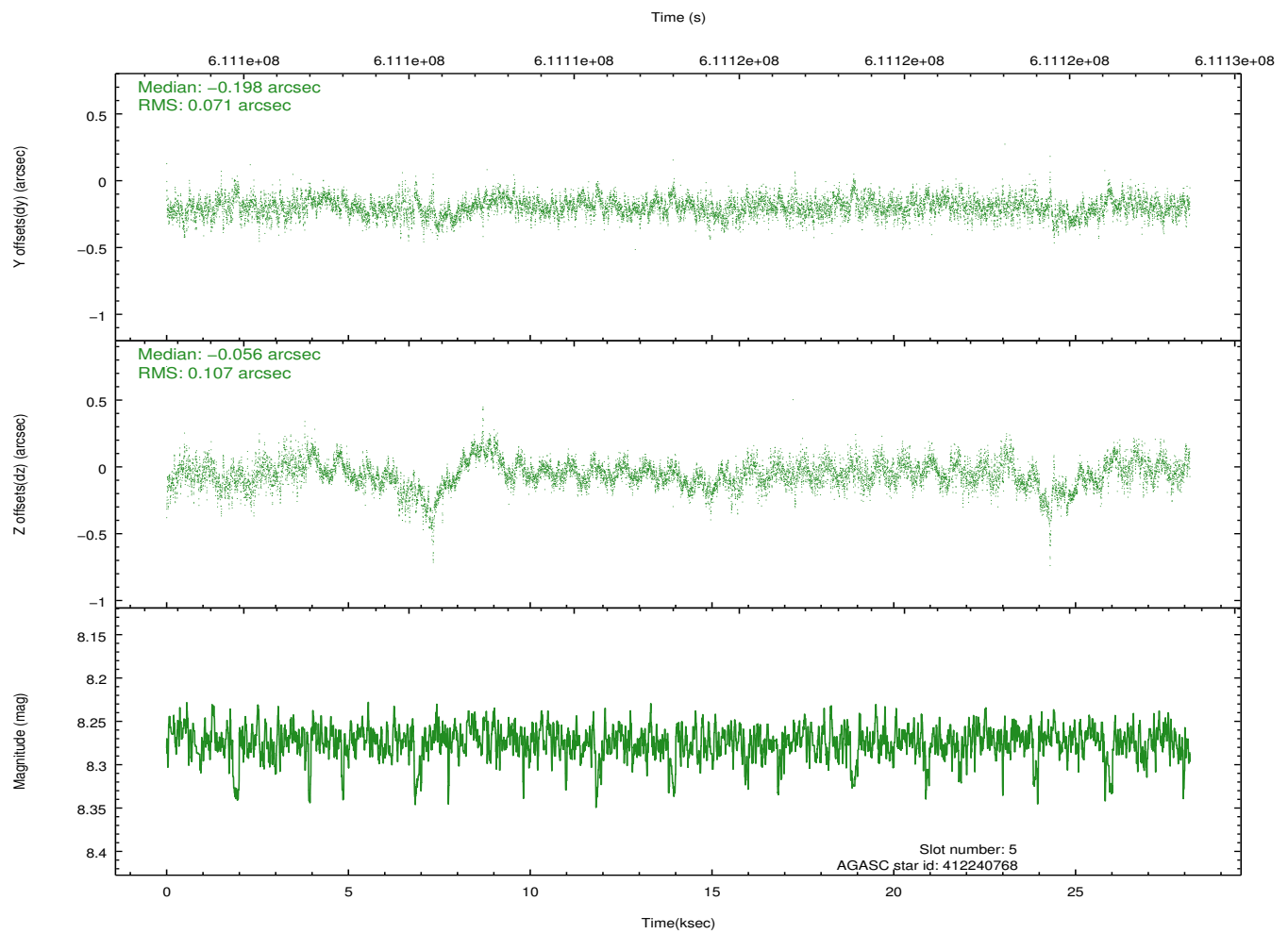
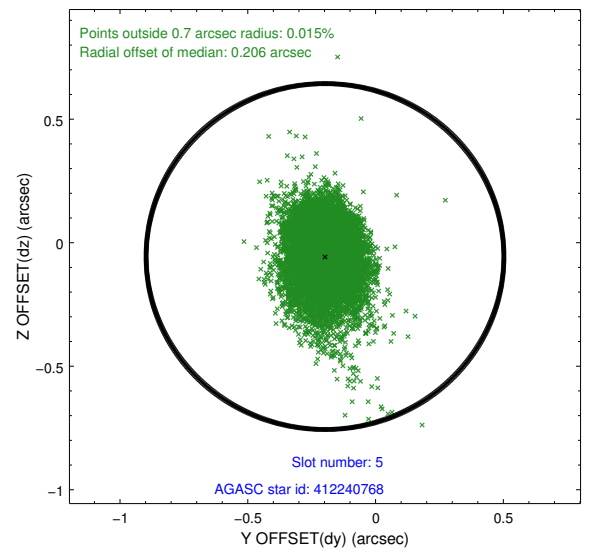
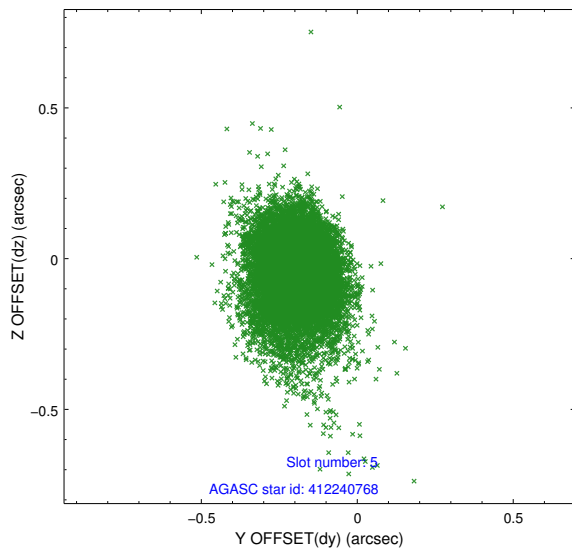
### 2.4.1 Slot 3



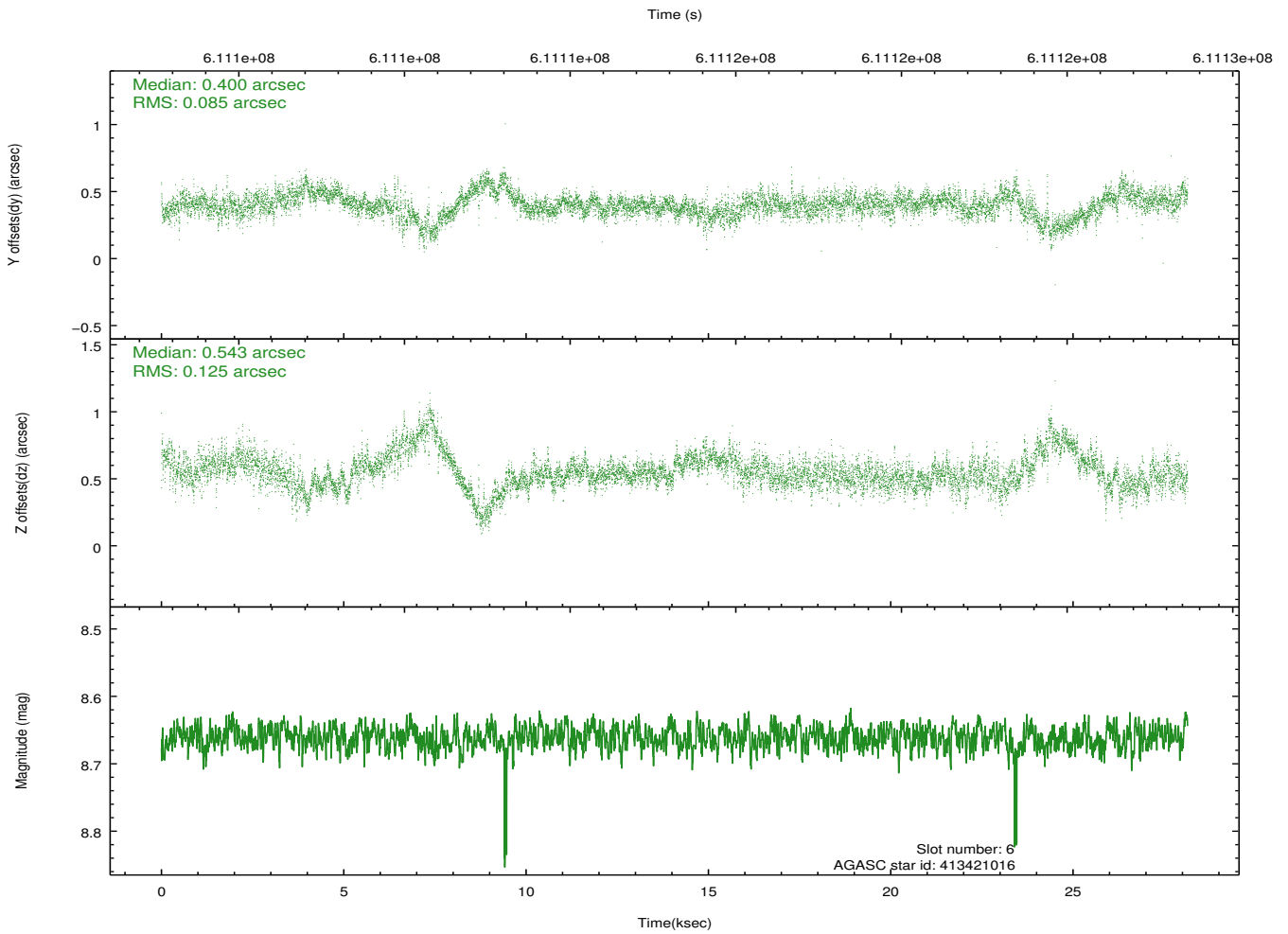
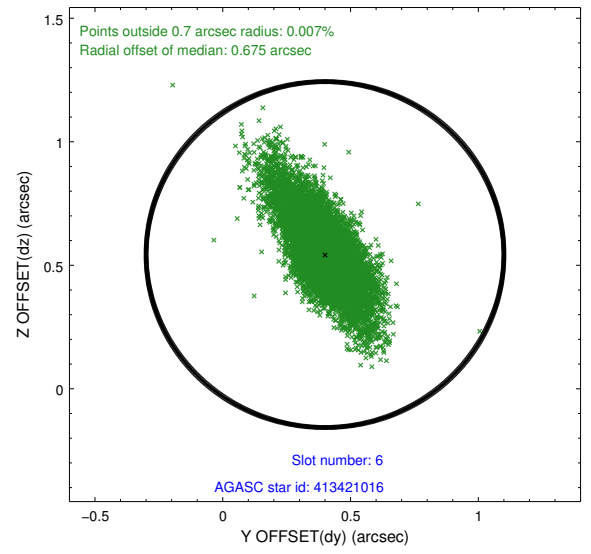
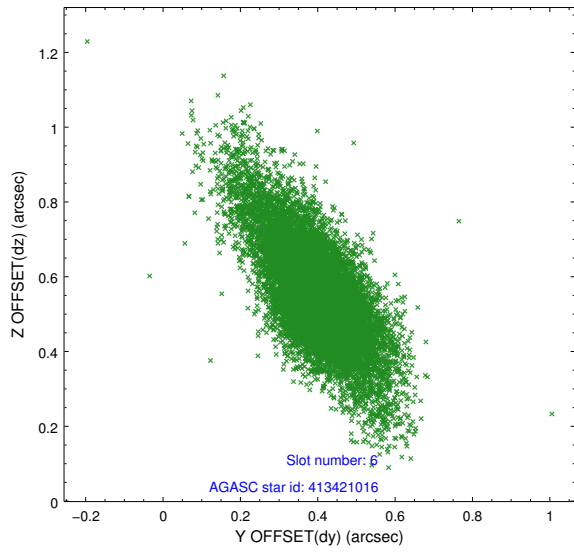
## 2.4.2 Slot 4



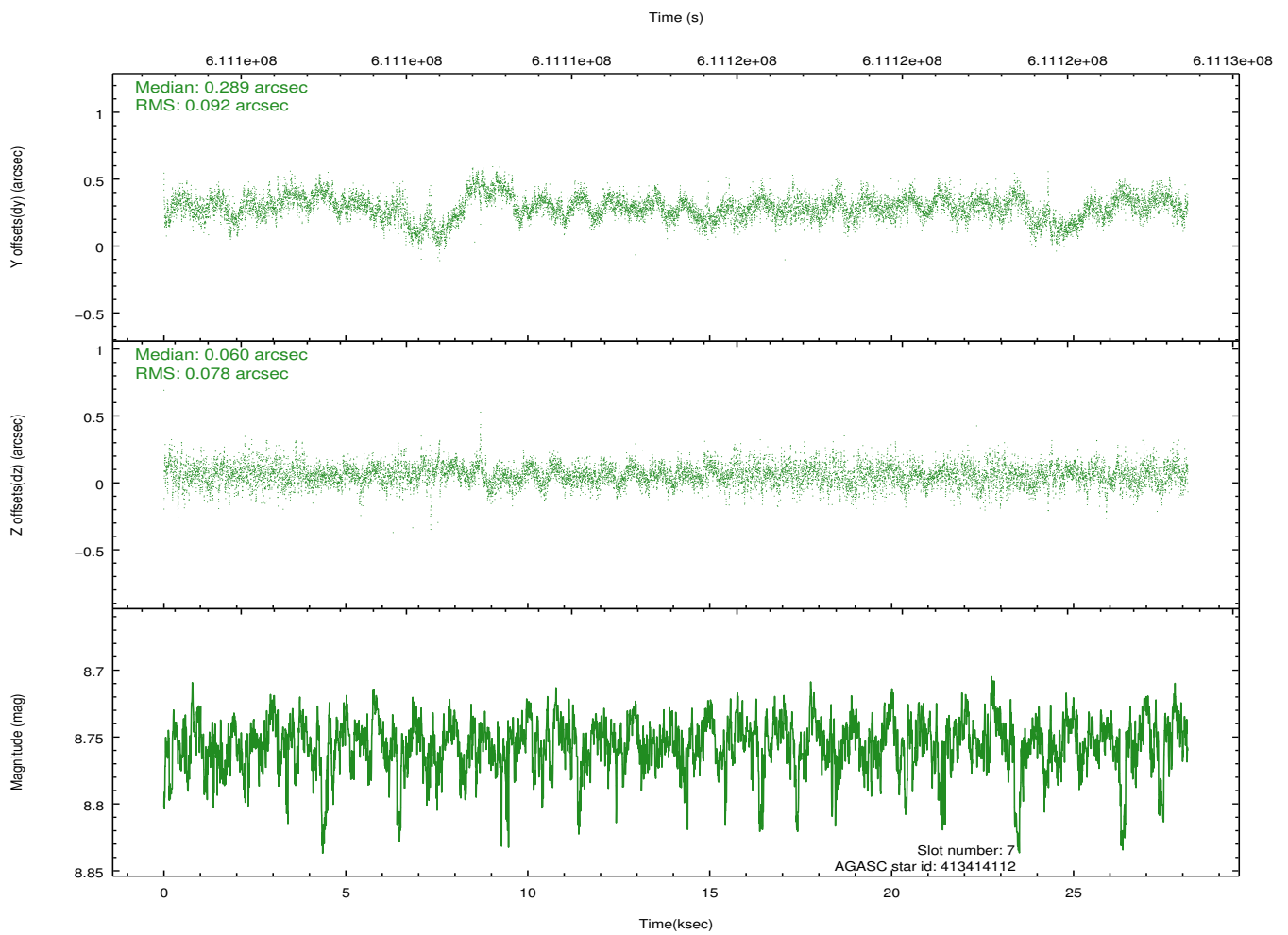
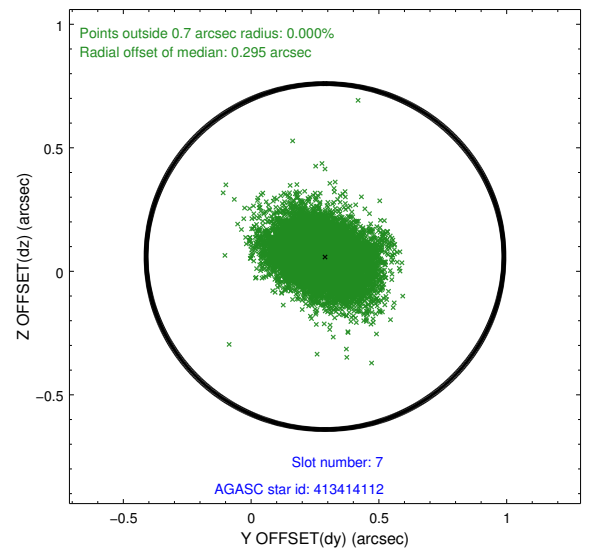
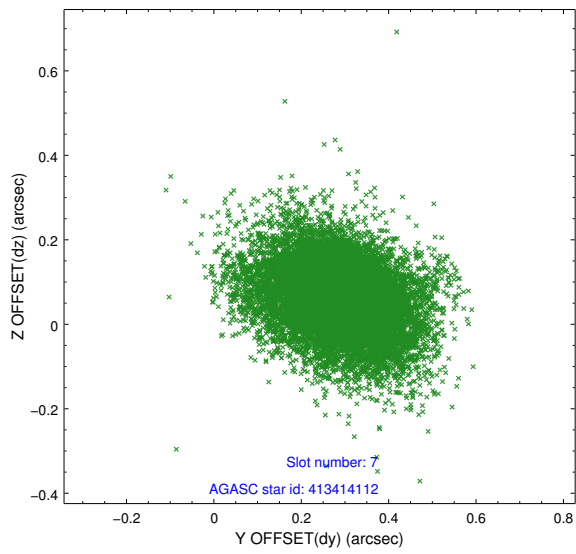
### 2.4.3 Slot 5



## 2.4.4 Slot 6

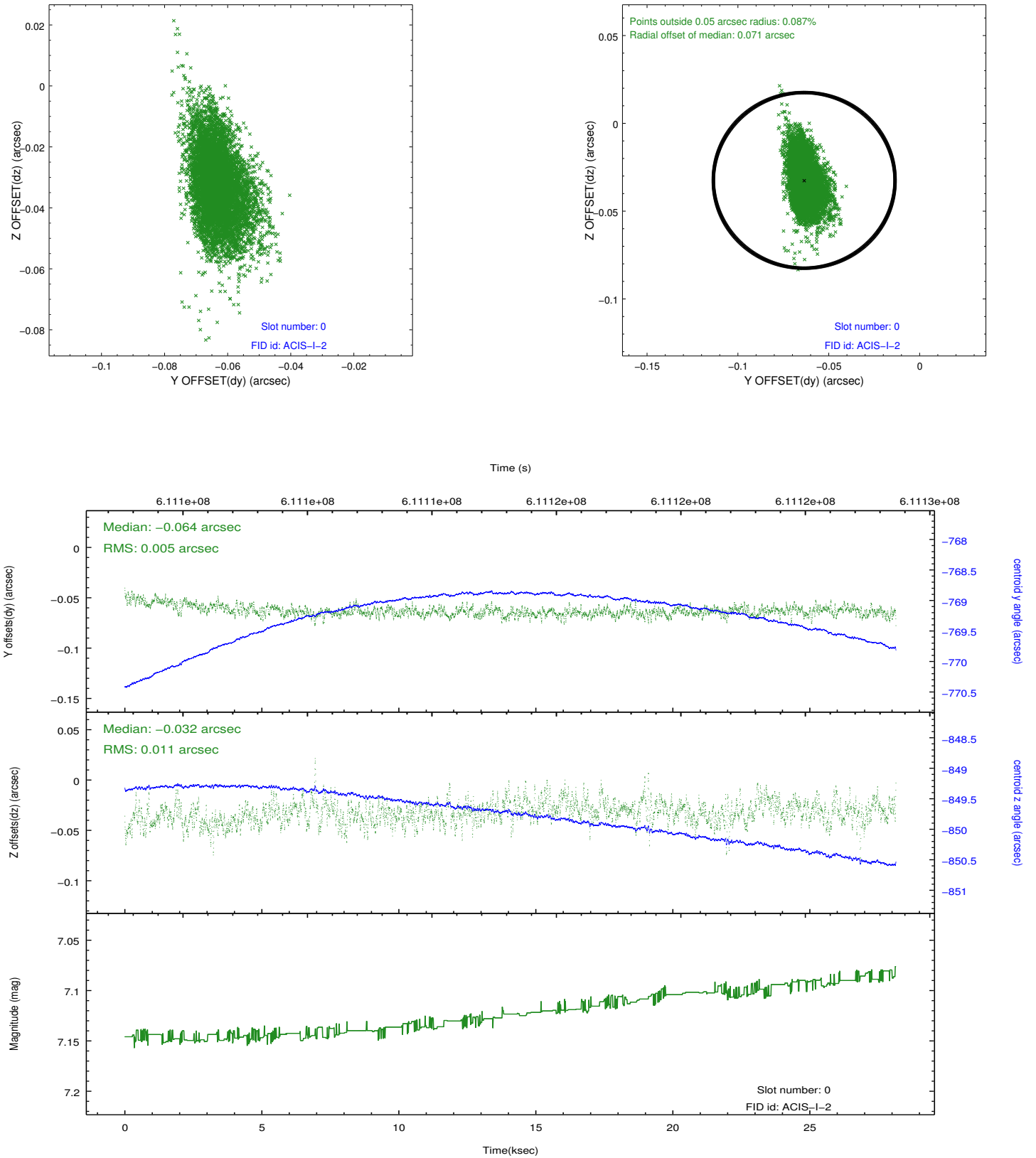


## 2.4.5 Slot 7

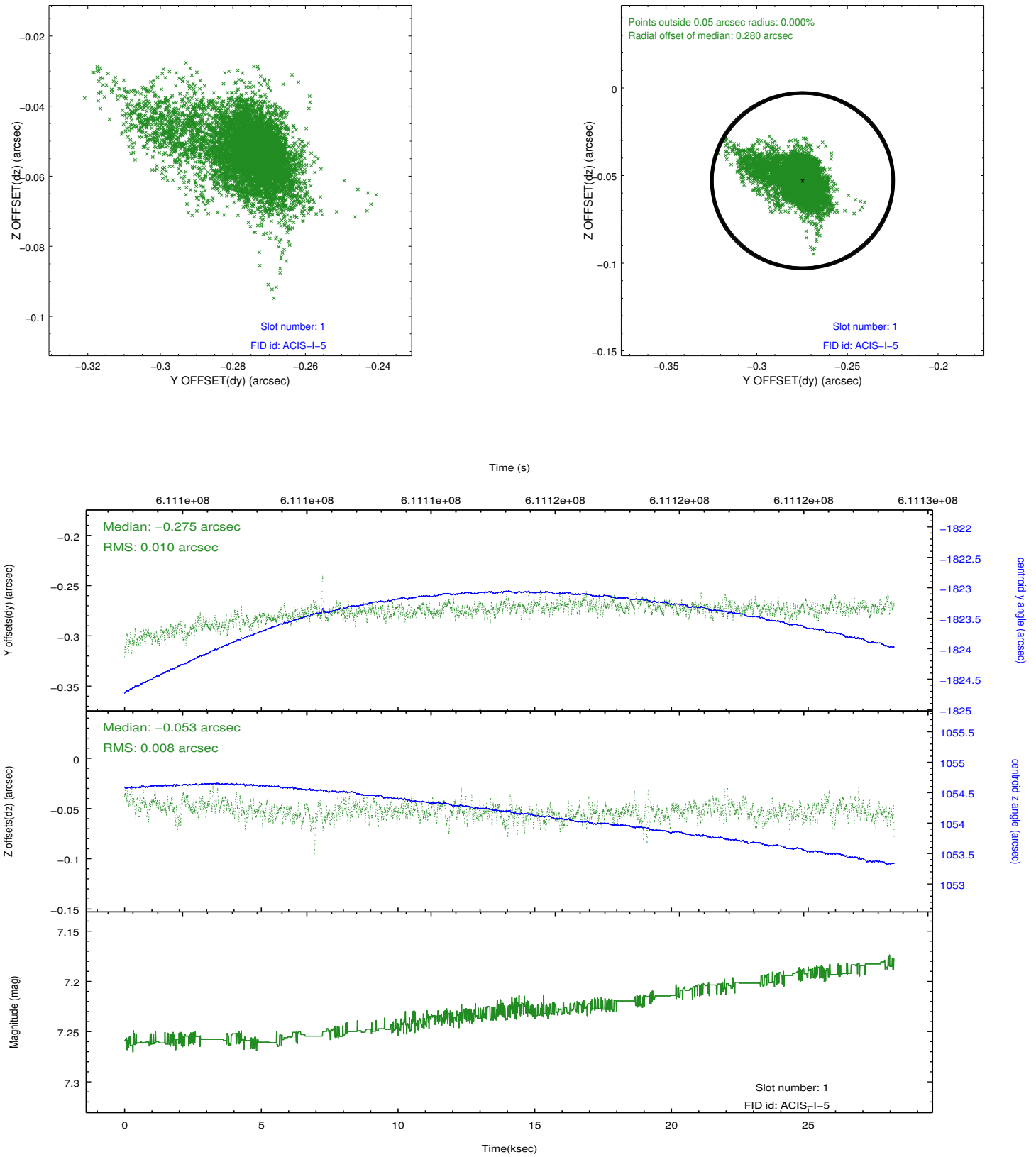


## 2.5 FID Slots

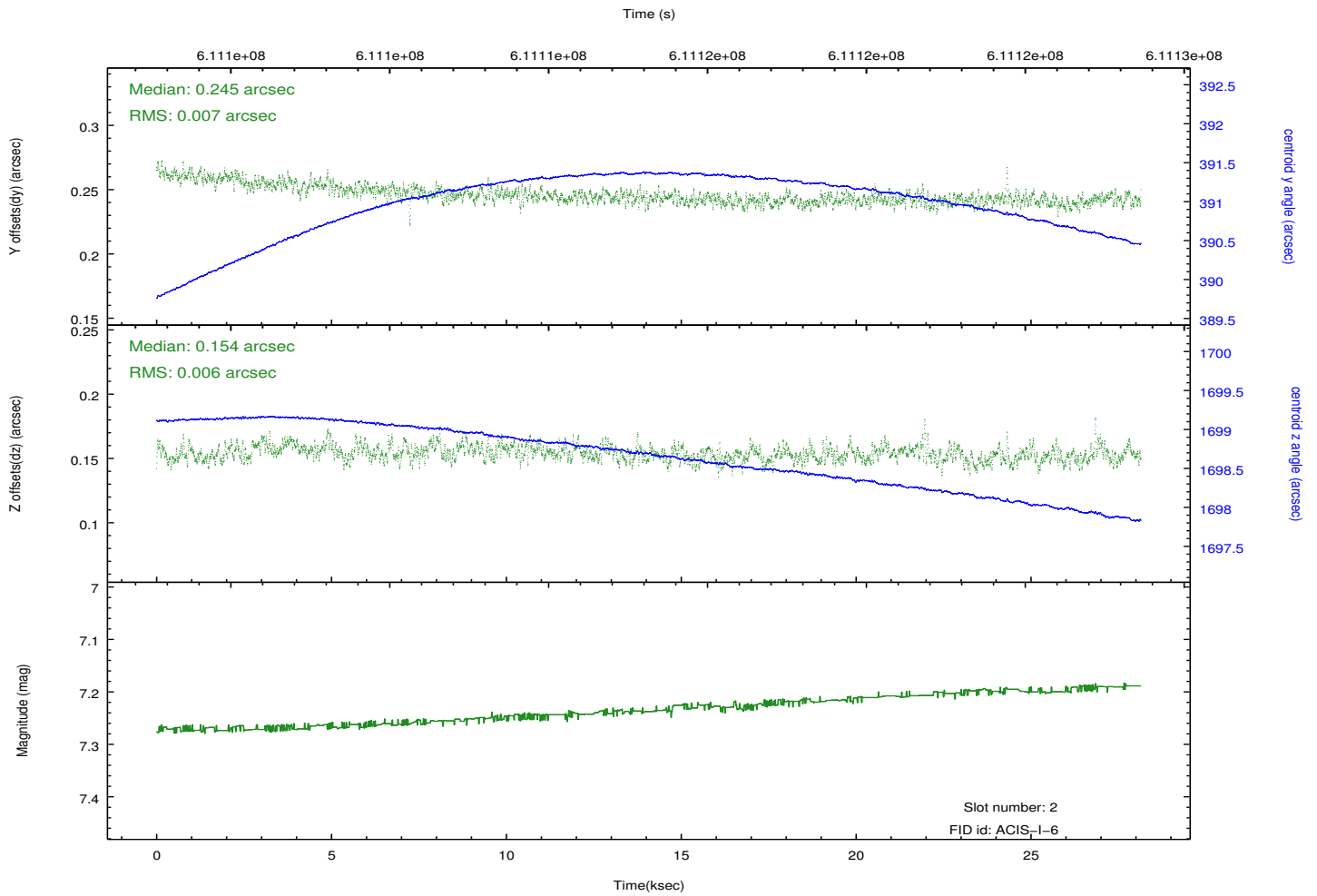
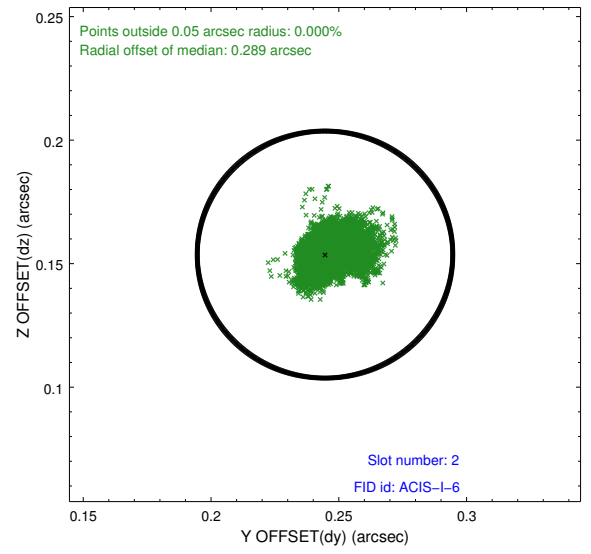
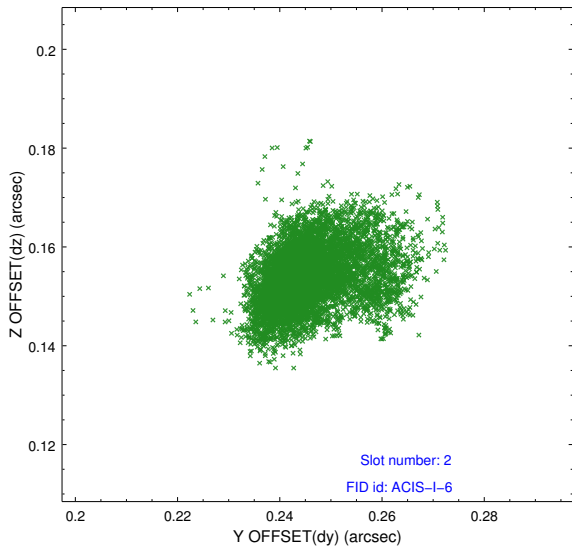
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



## A Summary

### A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2017.05.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	28.064259205699

### A.2 Comments