

# V&V Reference Report

## L2 ASCDS Version : 10.4.3.1

Observation 17506 - L2 Version 1  
Chandra X-Ray Center

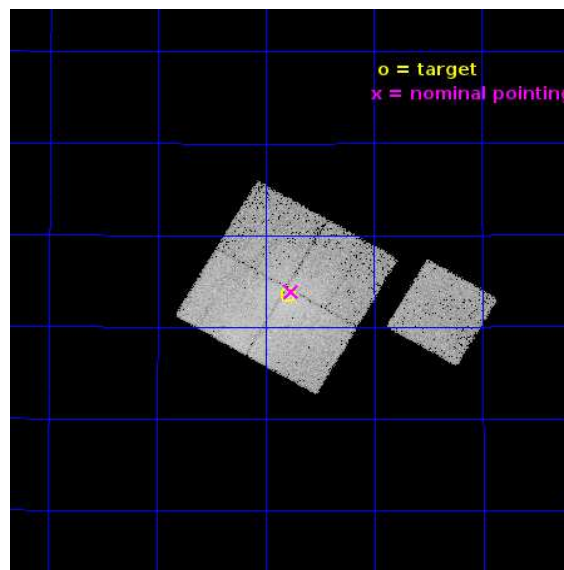
L2 Processing Date : May 31 2016

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI</b>	<b>3</b>
2.1	OBI . . . . .	3
2.1.1	Images . . . . .	3
2.1.2	Bias . . . . .	3
2.1.3	Parameters . . . . .	4
2.1.4	Events . . . . .	4
2.2	Compared Parameters . . . . .	5
2.3	Aspect . . . . .	6
2.4	Star Slots . . . . .	9
2.4.1	Slot 3 . . . . .	9
2.4.2	Slot 4 . . . . .	10
2.4.3	Slot 5 . . . . .	11
2.4.4	Slot 6 . . . . .	12
2.4.5	Slot 7 . . . . .	13
2.5	FID Slots . . . . .	14
2.5.1	Slot 0 . . . . .	14
2.5.2	Slot 1 . . . . .	15
2.5.3	Slot 2 . . . . .	16
<b>A</b>	<b>Summary</b>	<b>17</b>
A.1	Status . . . . .	17
A.2	Comments . . . . .	17

# 1 Front

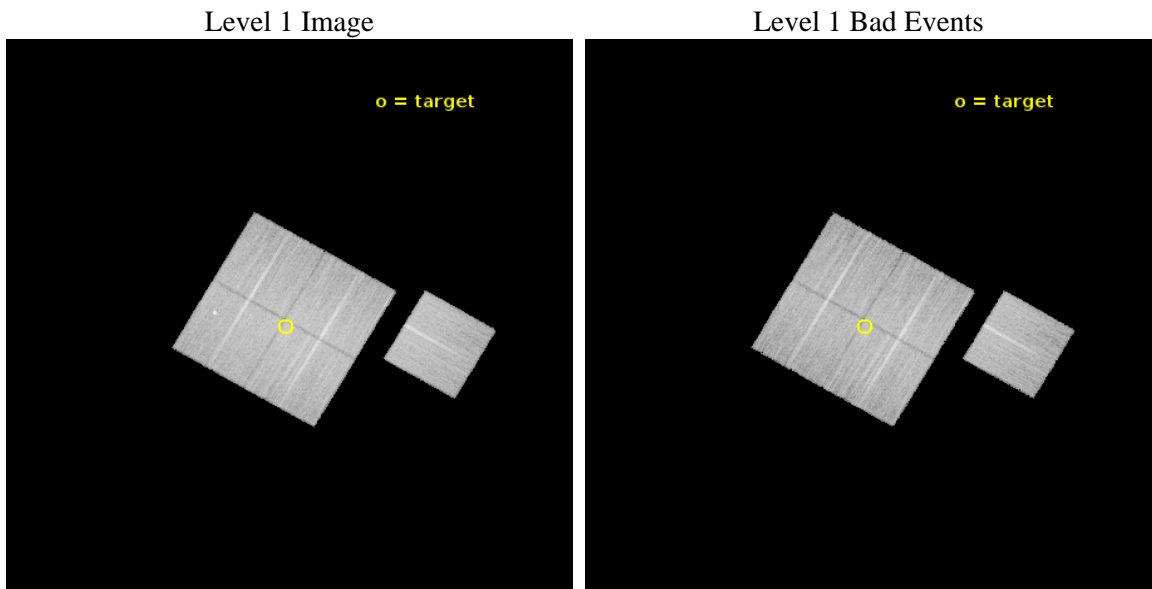
seq_num	703135	Sequence number
obs_id	17506	Observation id
title	The Rise to Power: Half a Billion Years of Intense AGN Activity in the Merging Cluster Cygnus A	Proposal title
observer	Dr. Michael Wise	Principal investigator
object	Cygnus A - NW Subcluster	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	299.698333	Observer's specified target RA [deg]
dec_targ	40.893111	Observer's specified target Dec [deg]
ra_nom	299.69080126714	Nominal RA [deg]
dec_nom	40.897852022975	Nominal Dec [deg]
roll_nom	120.21360158456	Nominal Roll [deg]
revision	1	Processing version of data
ontime	22050.300169706	Sum of GTIs [s]
livetime	21762.196764794	Livetime [s]
ontime0	22044.018089294	Sum of GTIs [s]
ontime1	22050.300169706	Sum of GTIs [s]
ontime2	22050.300169706	Sum of GTIs [s]
ontime3	22050.300169706	Sum of GTIs [s]
ontime6	22050.300169706	Sum of GTIs [s]
l2events	100151	Number of level 2 events



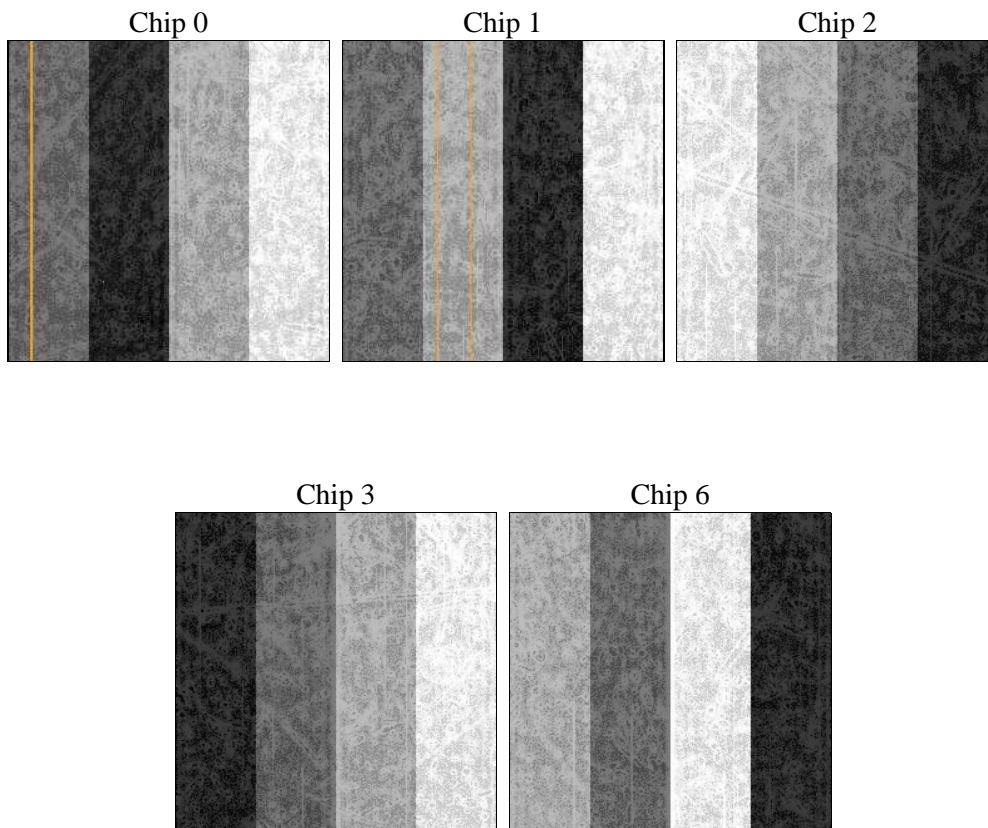
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	22000.000000	[s] Scheduled observation exposure time
ascdsver	10.4.3.1	Processing system revision	ontime	22050.300169706	Sum of GTIs [s]
caldsver	4.7.2	&#160	ontime0	22044.018089294	Sum of GTIs [s]
date	2016-05-31T23:45:24	Date and time of file creation	ontime1	22050.300169706	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	22050.300169706	Sum of GTIs [s]
			ontime3	22050.300169706	Sum of GTIs [s]
			ontime6	22050.300169706	Sum of GTIs [s]
			l1events	725654	Number of level 1 events

### 2.1.4 Events

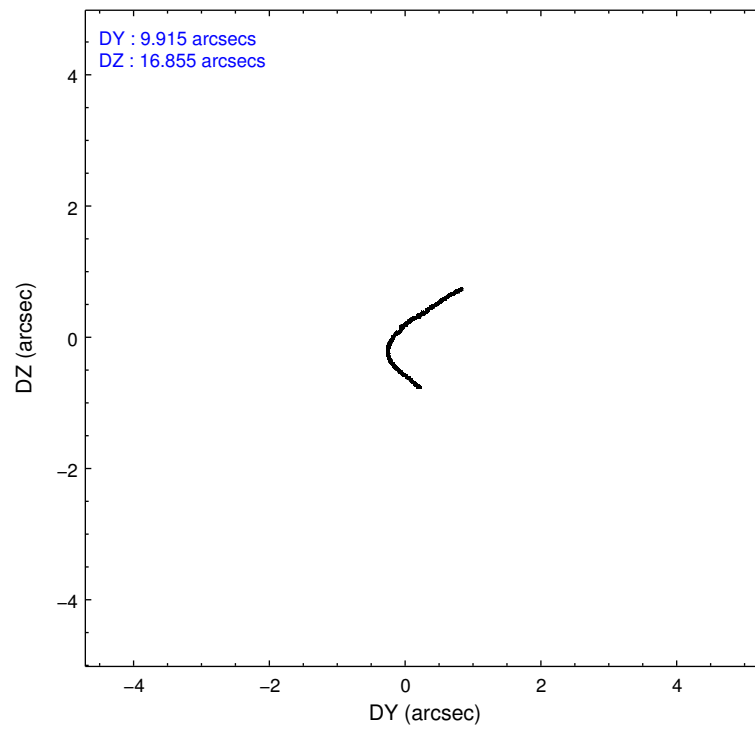
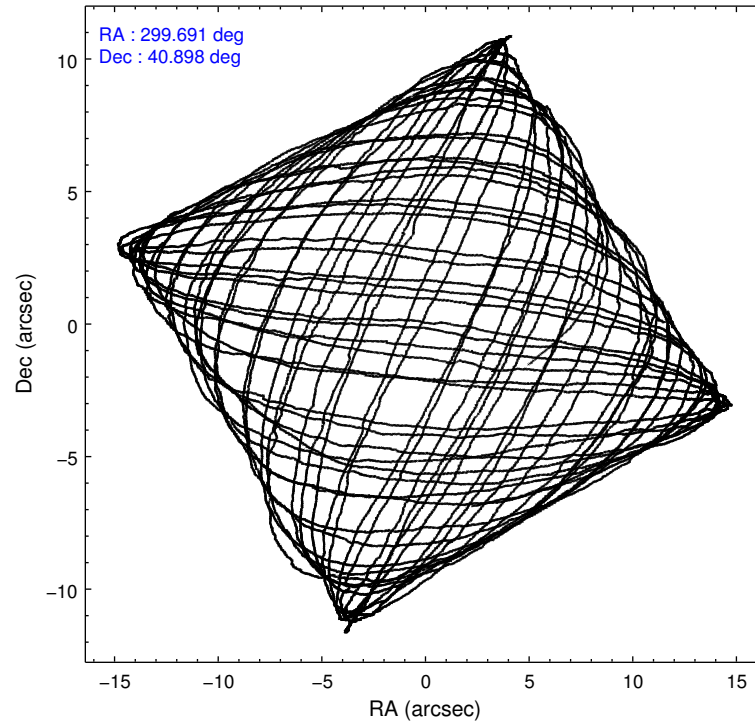
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	133020	148538	149197	155067	139832
rejected events	114153	116084	128994	127651	123558
rejected %	85%	78%	86%	82%	88%

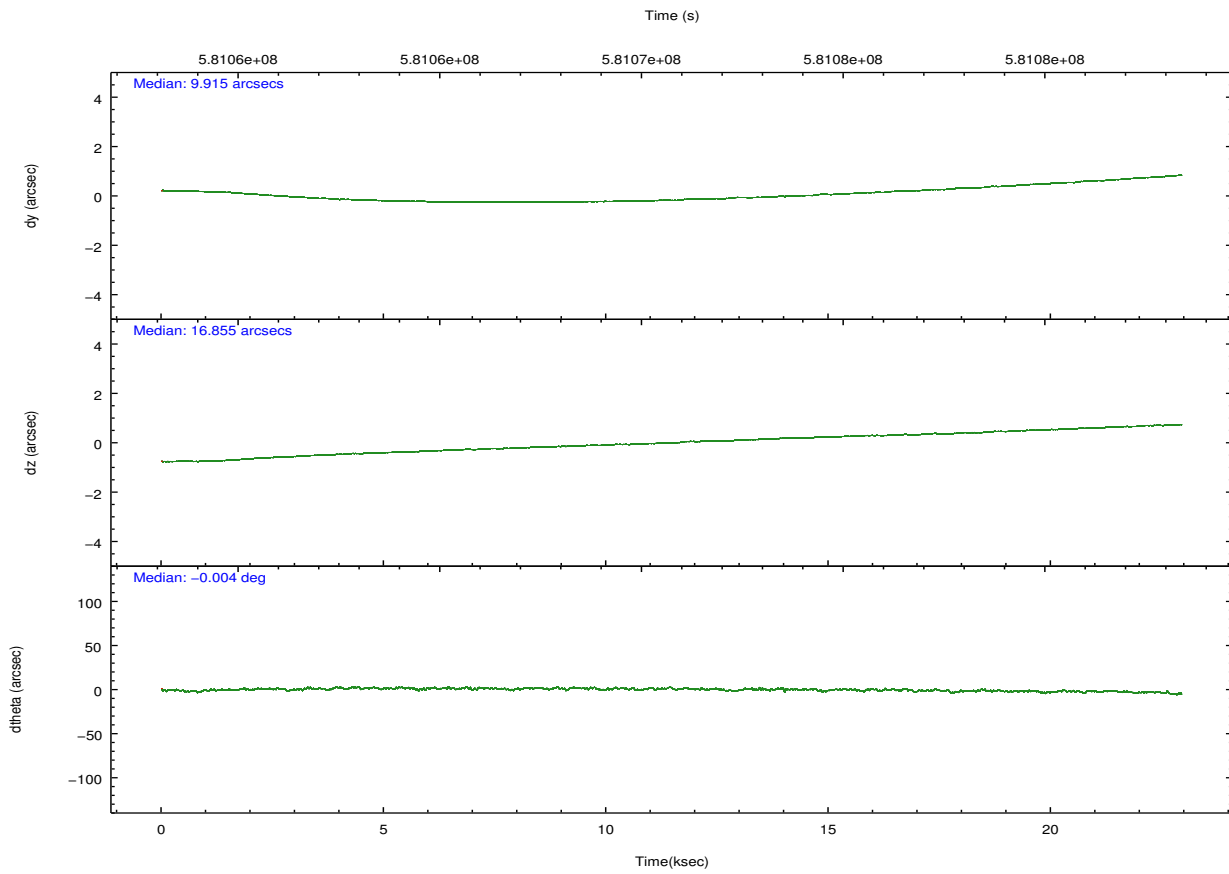
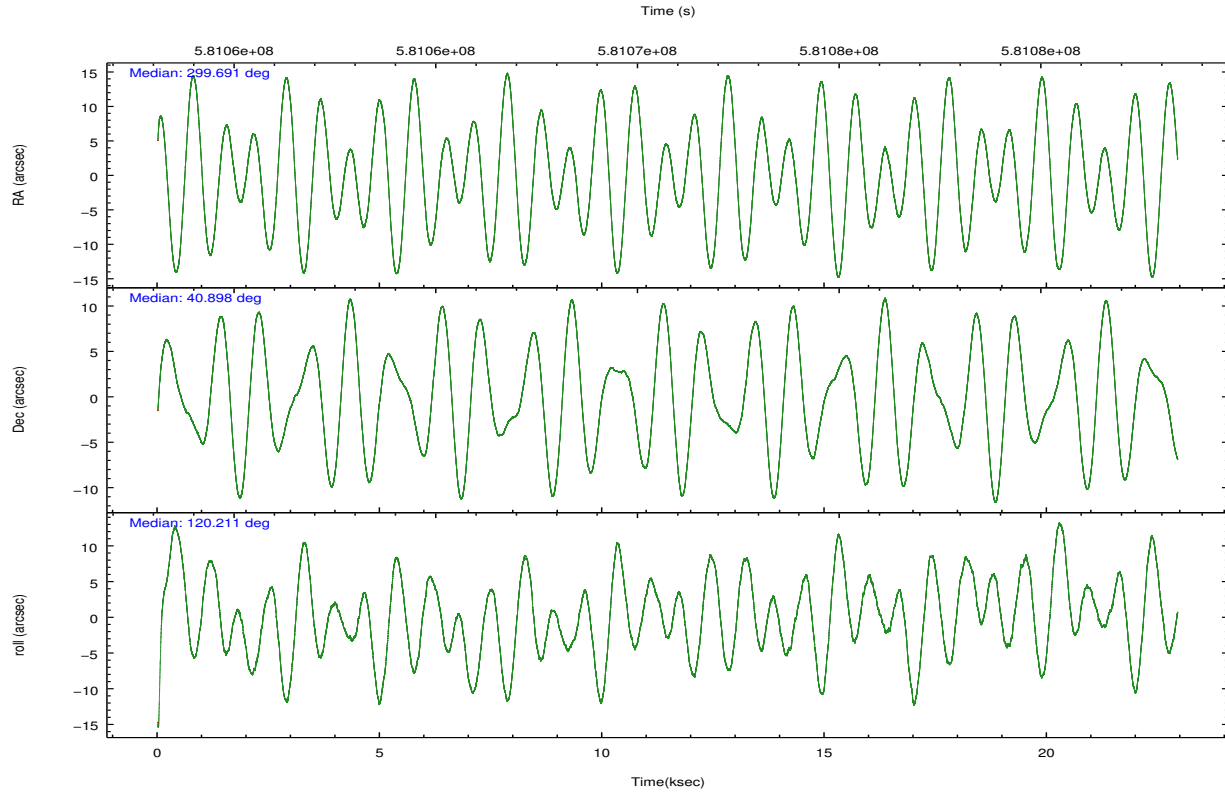
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	8043	17609	9626	15026	5643
	6%	11%	6%	9%	4%
grade 1 events	106	137	108	147	52
	0%	0%	0%	0%	0%
grade 2 events	4228	6186	4061	4688	3724
	3%	4%	2%	3%	2%
grade 3 events	1659	2100	1669	2084	1565
	1%	1%	1%	1%	1%
grade 4 events	1544	2107	1702	2029	1543
	1%	1%	1%	1%	1%
grade 5 events	5854	6348	5649	6778	6456
	4%	4%	3%	4%	4%
grade 6 events	3395	4456	3148	3592	3803
	2%	2%	2%	2%	2%
grade 7 events	108191	109595	123234	120723	117046
	81%	73%	82%	77%	83%

## 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	299.722539	299.6908012671354	CCD I2 on	Y	Y
[deg] Pointing Dec	40.884202	40.8978520229751	CCD I3 on	Y	Y
[deg] Pointing Roll	119.984158	120.2136015845579	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)	581060217.184000	581058624.85786	CCD S5 on	N	N
Observation start date	2016-05-31T05:35:49	2016-05-31T05:10:24	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	581082217.184000	581082908.13425	On-chip summing requested	N	N
Observation end date	2016-05-31T11:42:29	2016-05-31T11:55:08	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



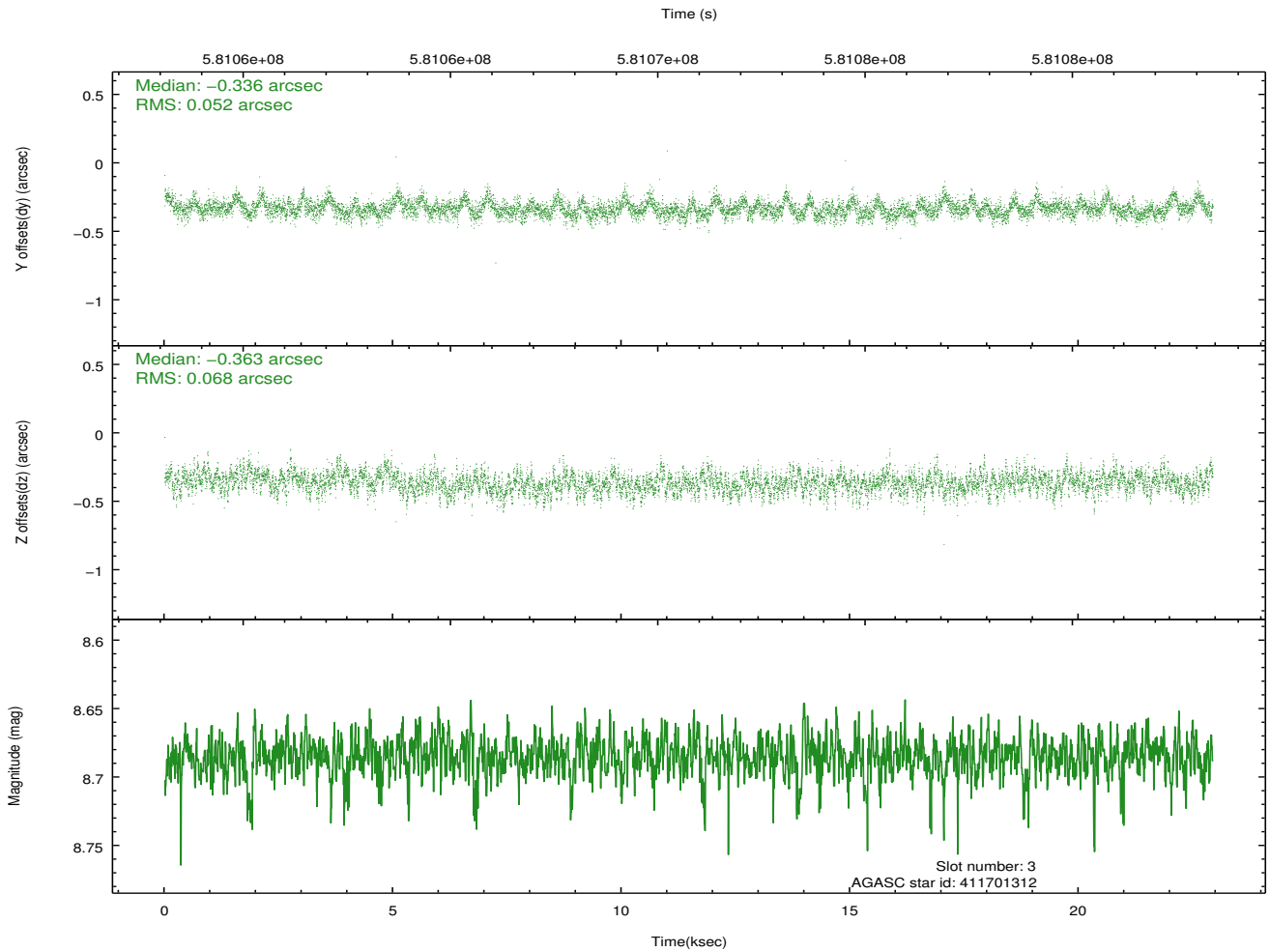
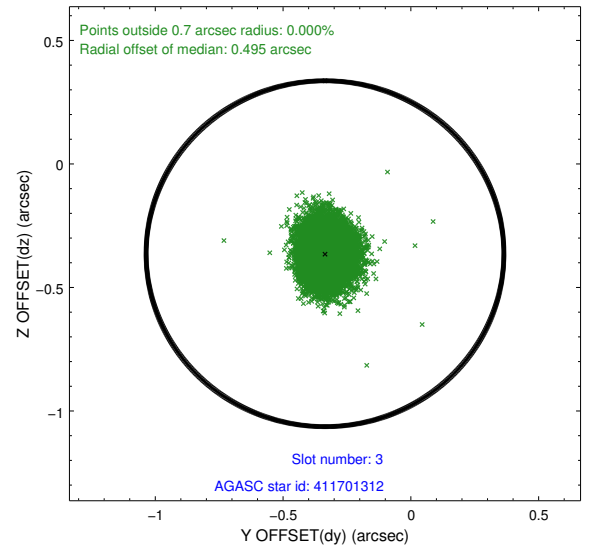
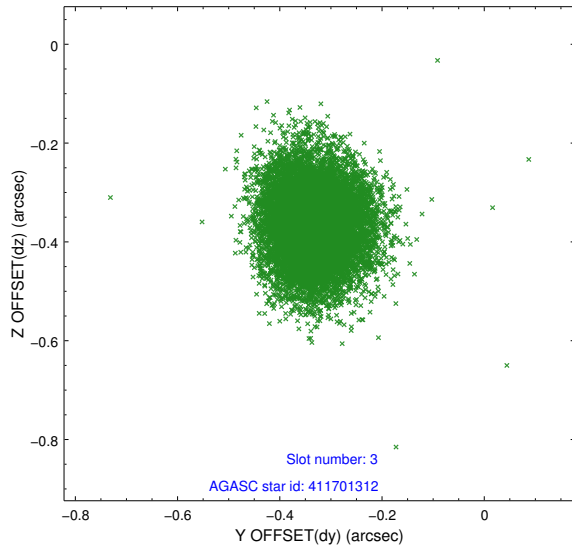


### Slot Statistics

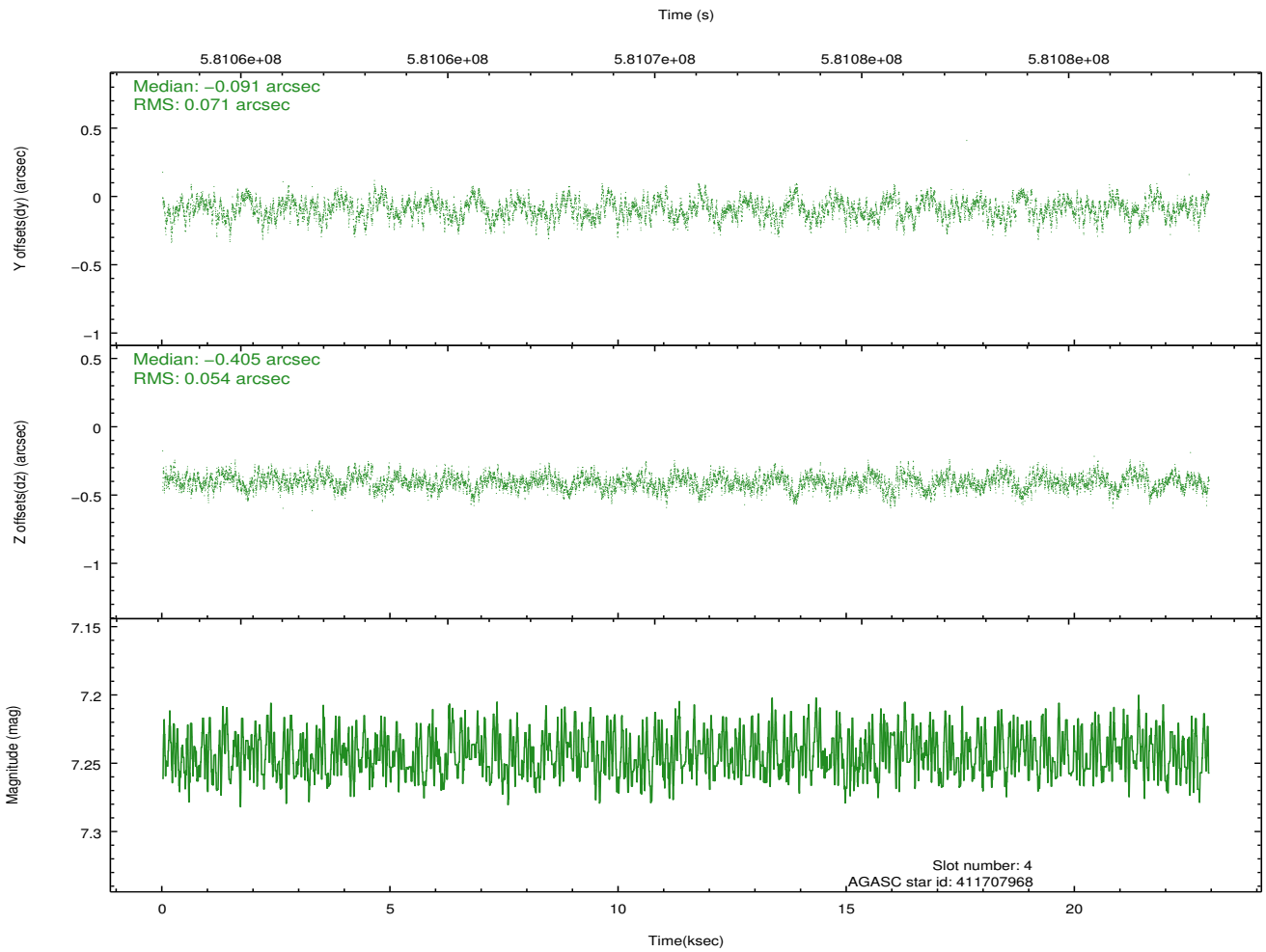
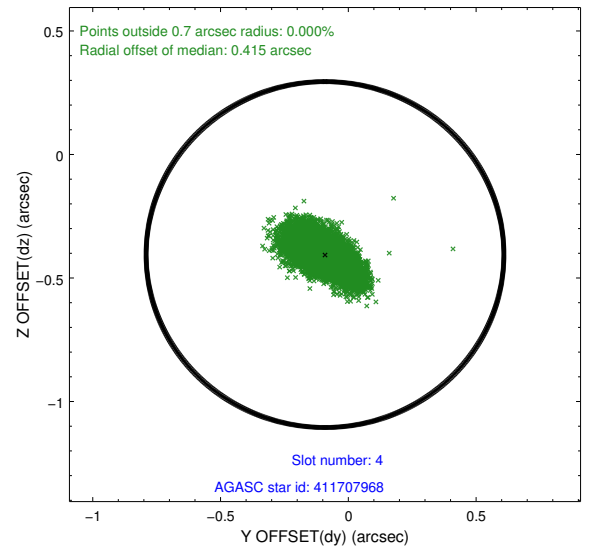
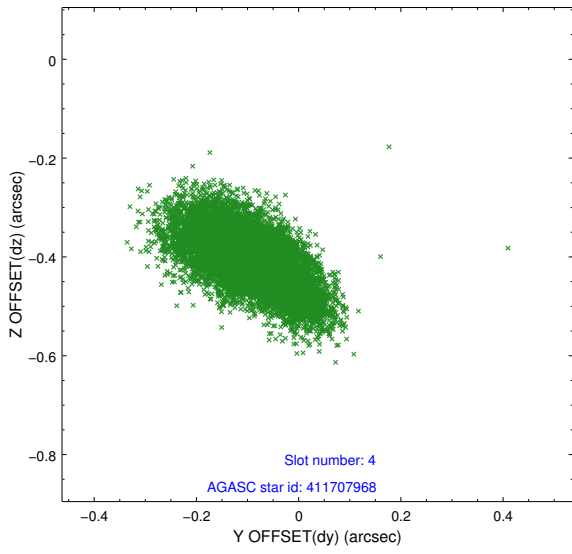
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.26	5594	0.001	-0.123	0.016	0.027	0.000000	0.000000	929.64	-840.60
1	FID		ACIS-I-4	7.18	5592	0.253	0.108	0.012	0.021	0.000000	0.000000	2149.95	1059.40
2	FID		ACIS-I-5	7.24	5593	-0.353	0.086	0.012	0.019	0.000000	0.000000	-1818.59	1057.28
3	GUIDE	used	411701312	8.68	11178	-0.336	-0.363	0.091	0.149	298.889956	40.820220	943.34	2074.16
4	GUIDE	used	411707968	7.24	11186	-0.091	-0.405	0.093	0.162	299.509933	40.926839	422.93	423.70
5	GUIDE	used	412240768	8.26	11182	-0.252	-0.050	0.083	0.131	299.999696	41.280279	861.45	-1362.30
6	GUIDE	used	413421624	8.69	11181	0.244	0.309	0.111	0.174	300.399768	40.893051	-886.61	-1615.55
7	GUIDE	used	413418680	9.23	11175	0.435	0.508	0.133	0.211	300.860298	40.740057	-1982.60	-2437.23

## 2.4 Star Slots

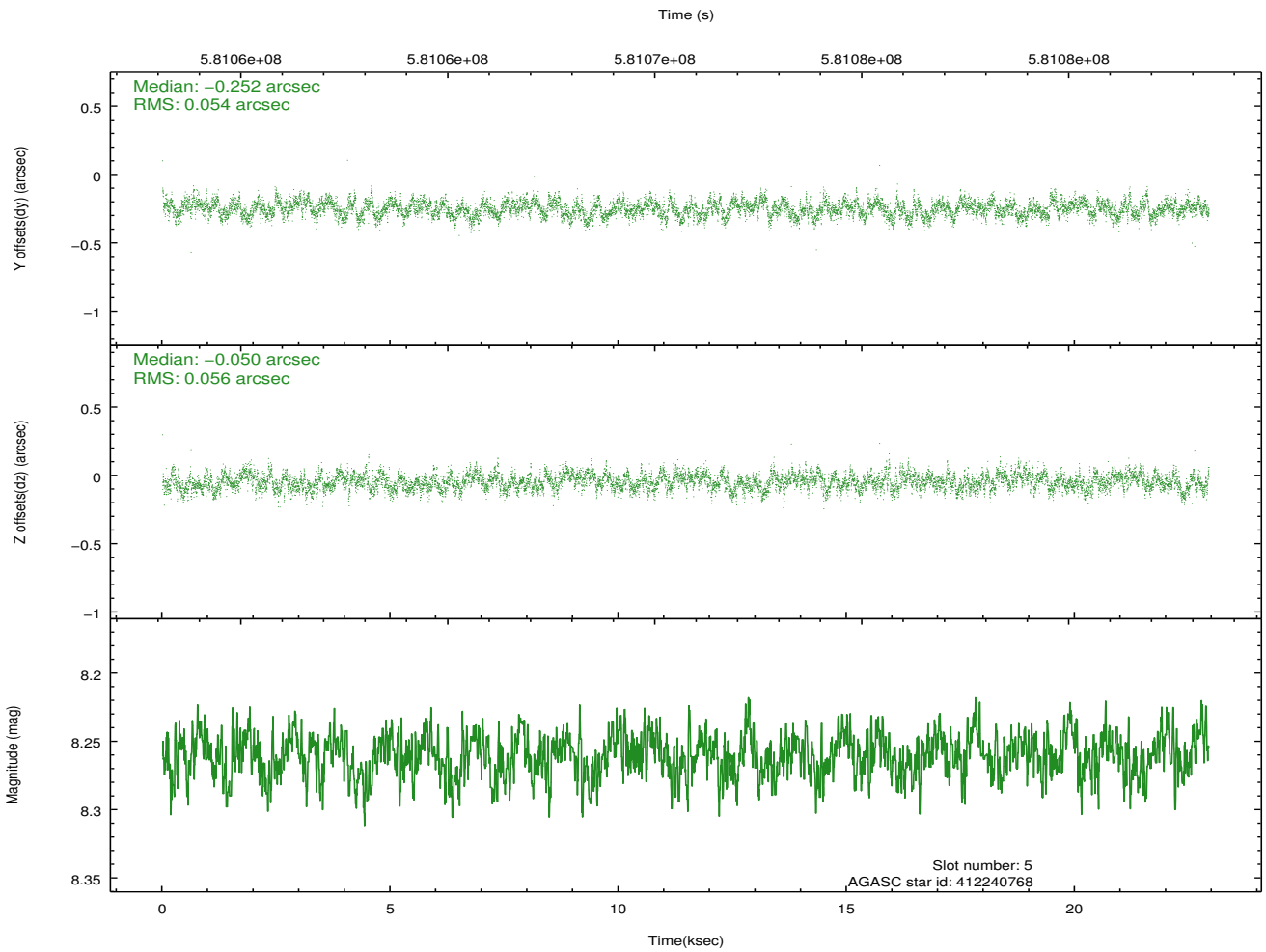
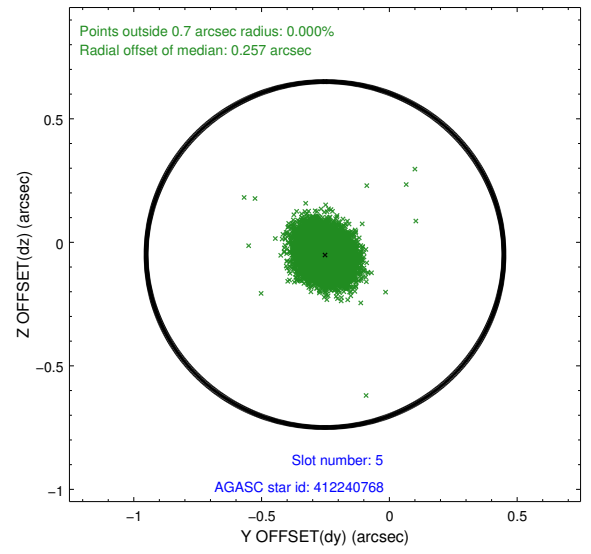
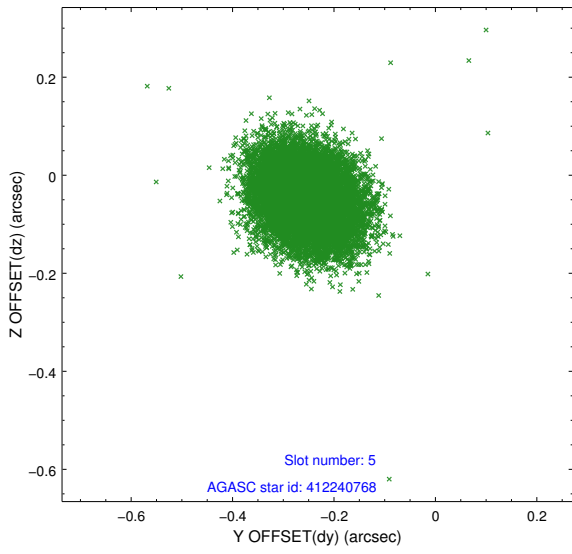
### 2.4.1 Slot 3



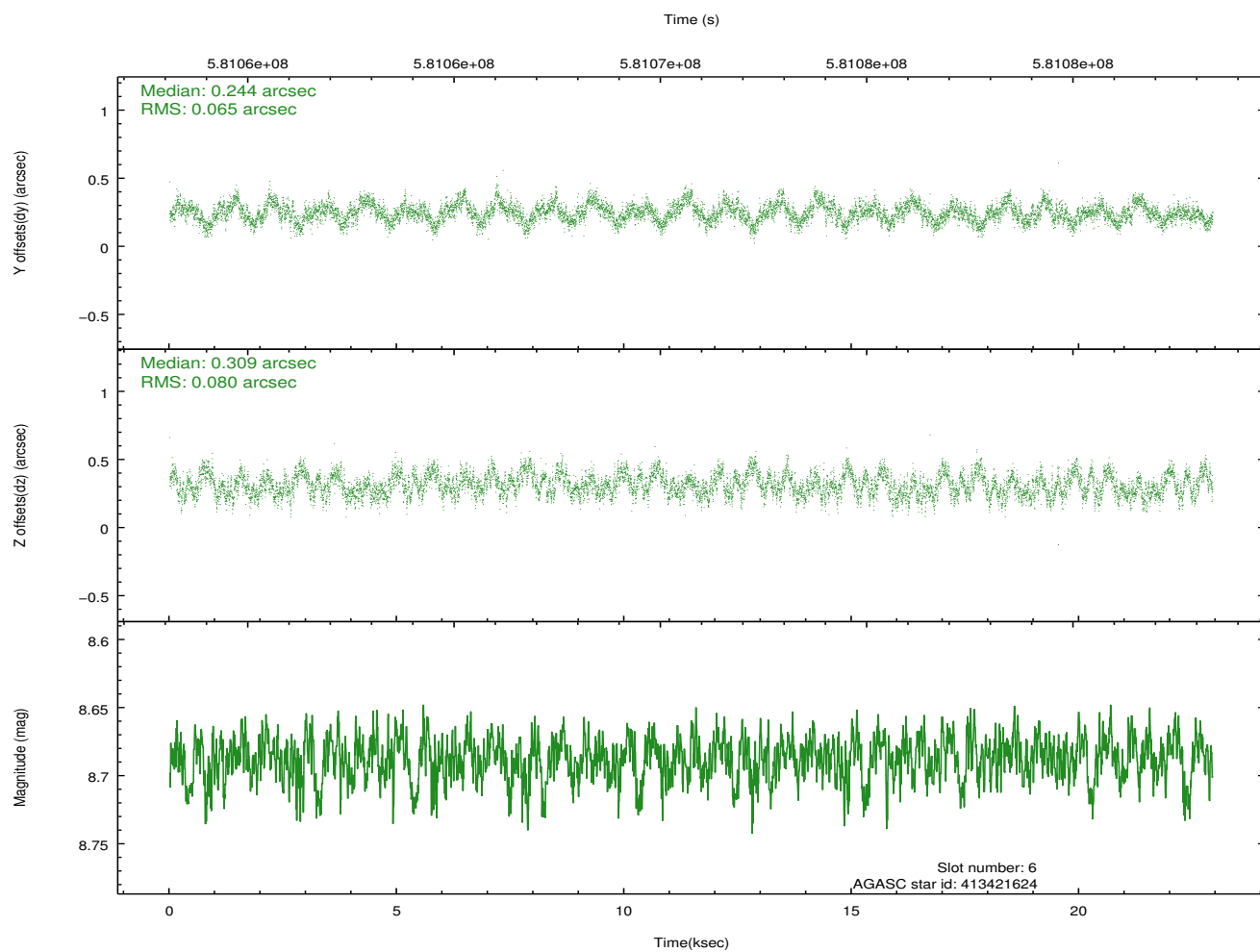
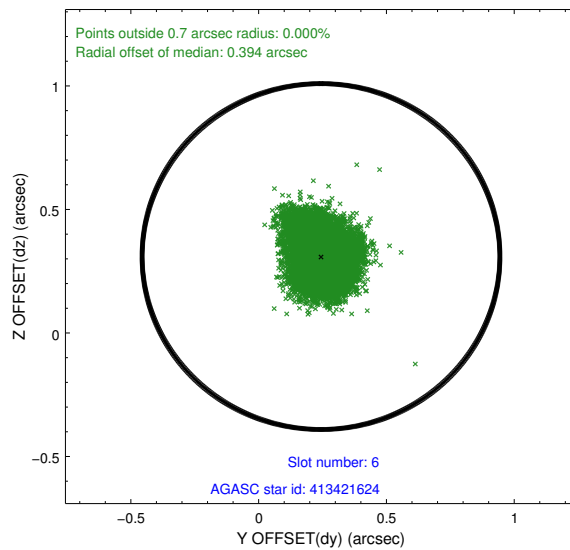
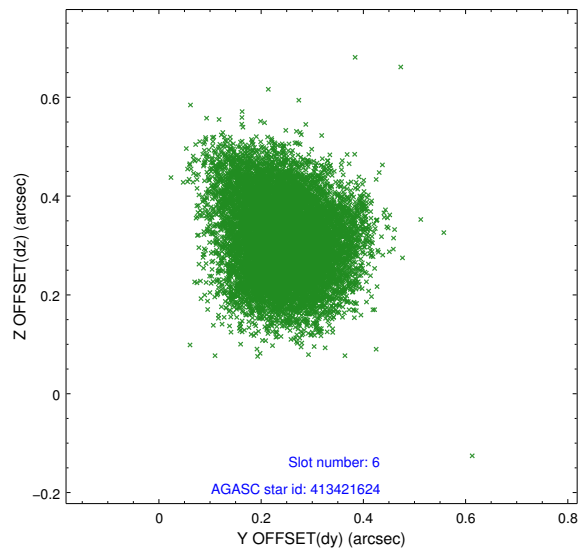
### 2.4.2 Slot 4



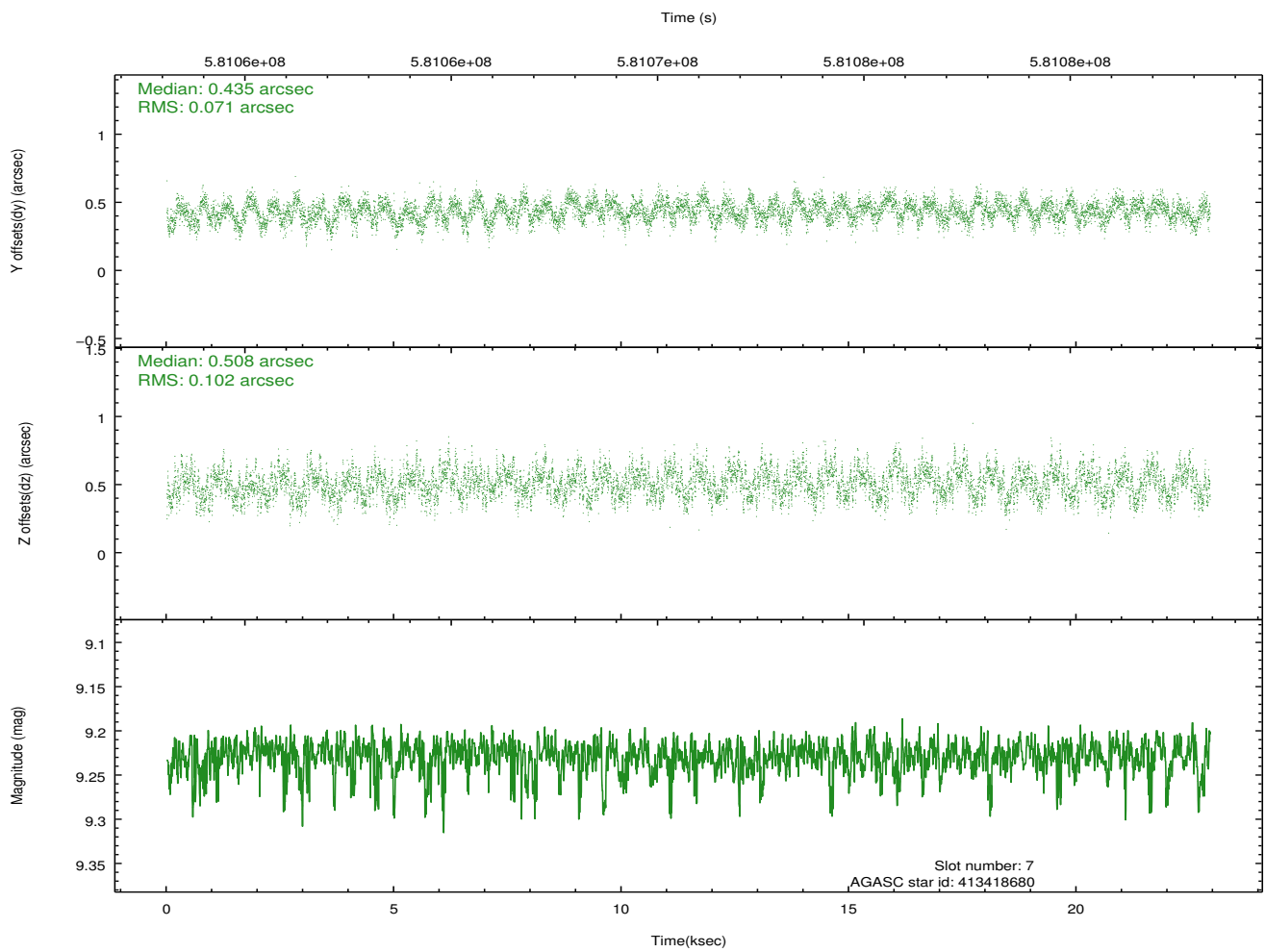
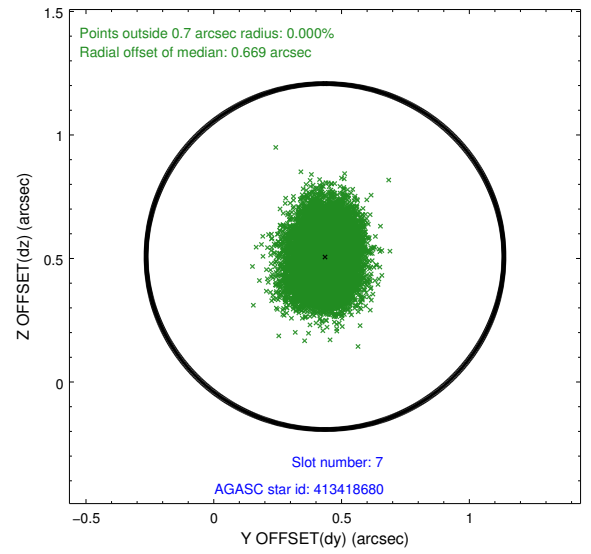
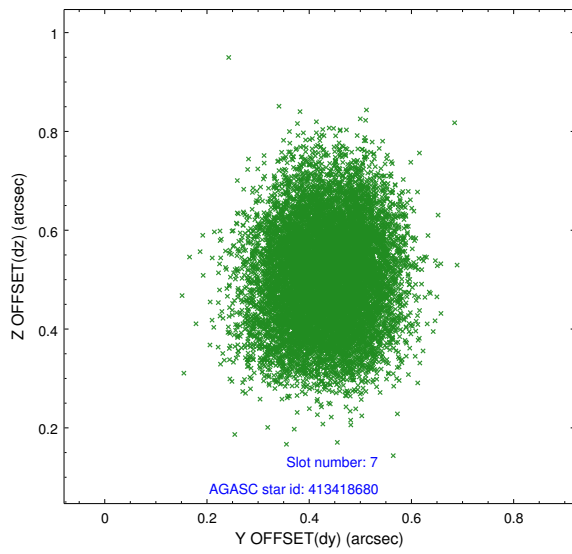
### 2.4.3 Slot 5



## 2.4.4 Slot 6

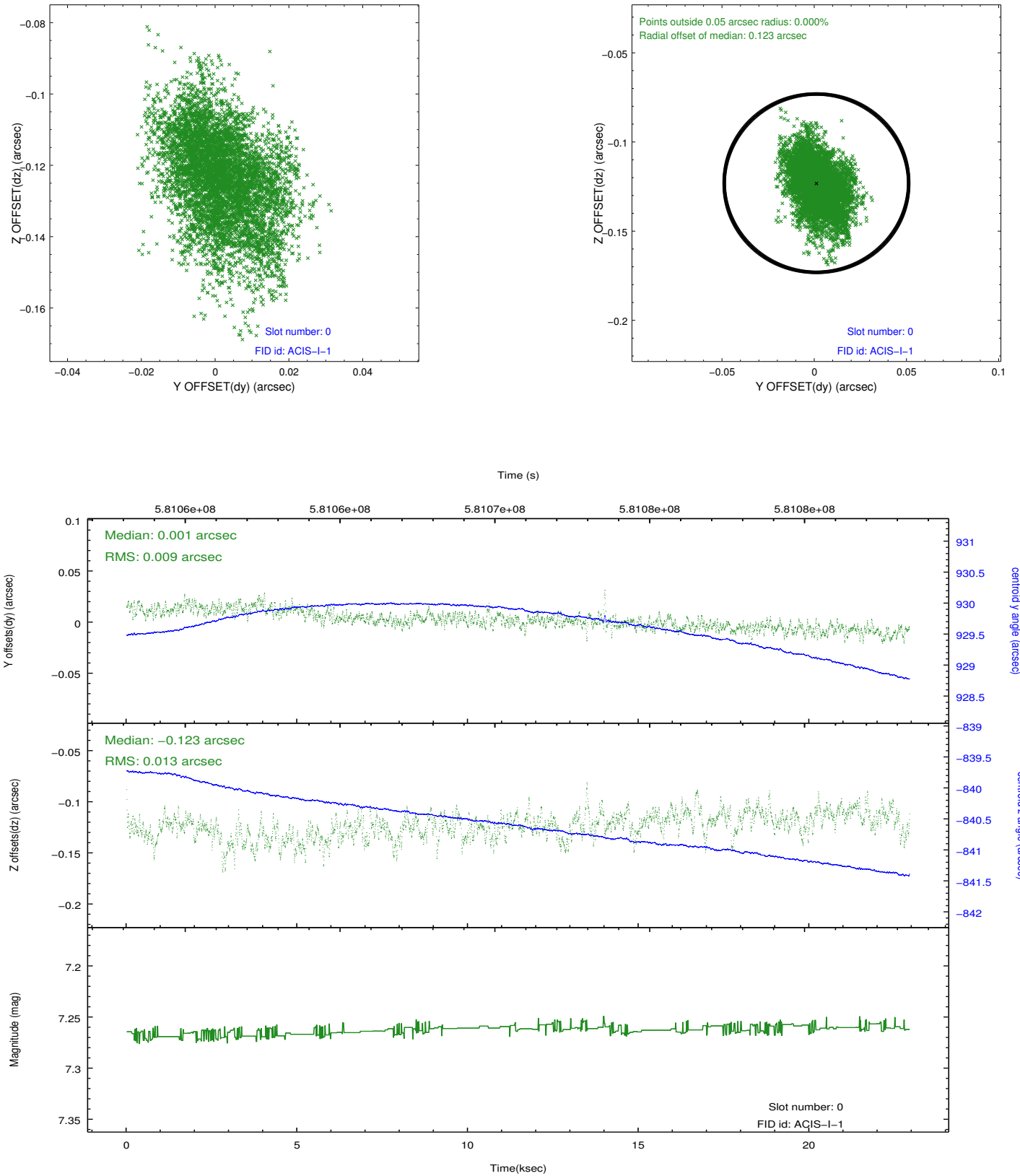


## 2.4.5 Slot 7

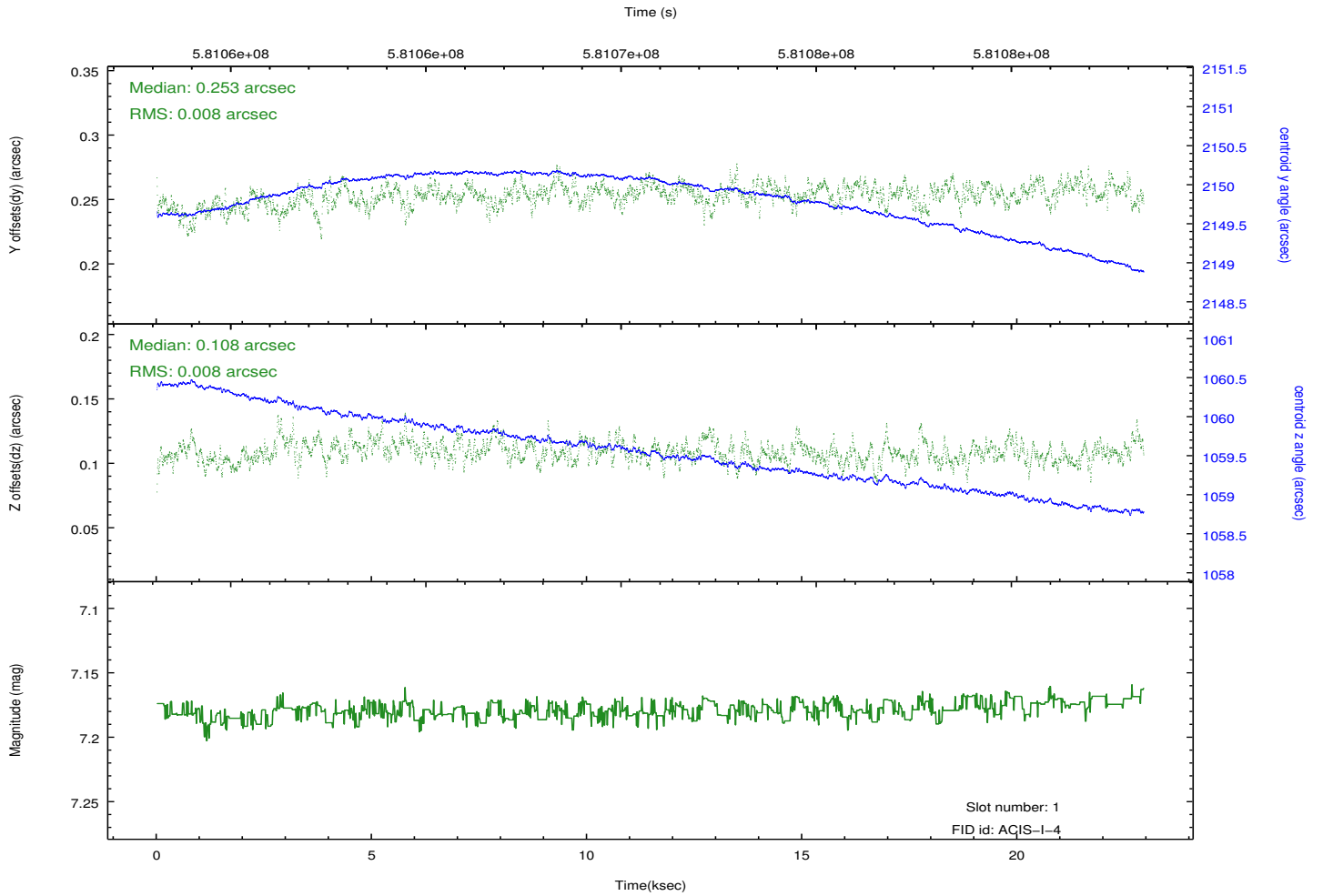
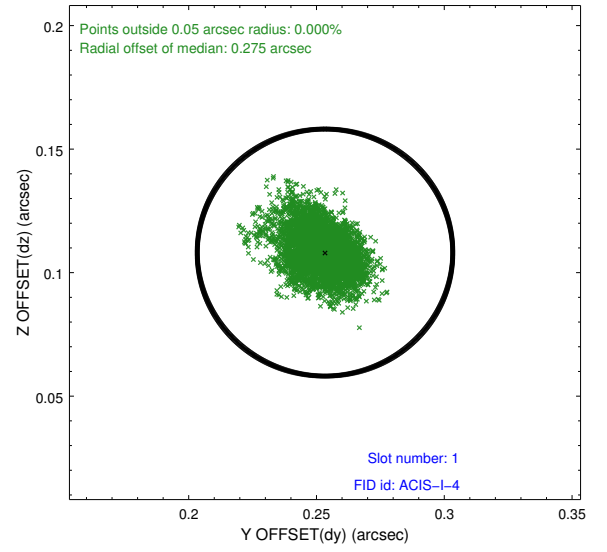
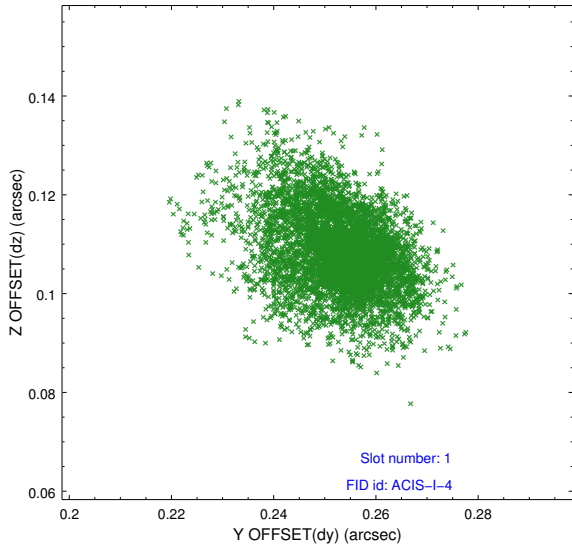


## 2.5 FID Slots

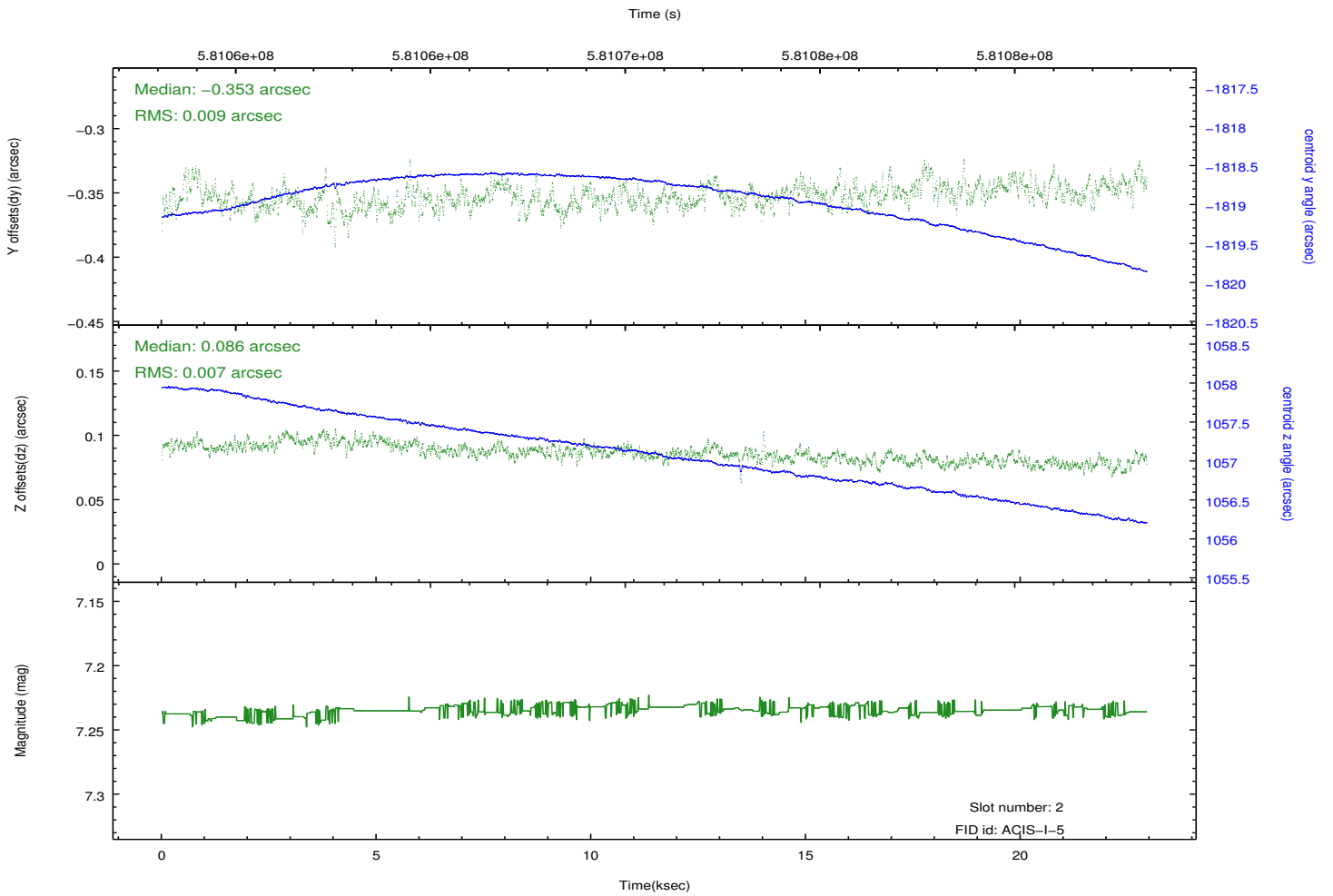
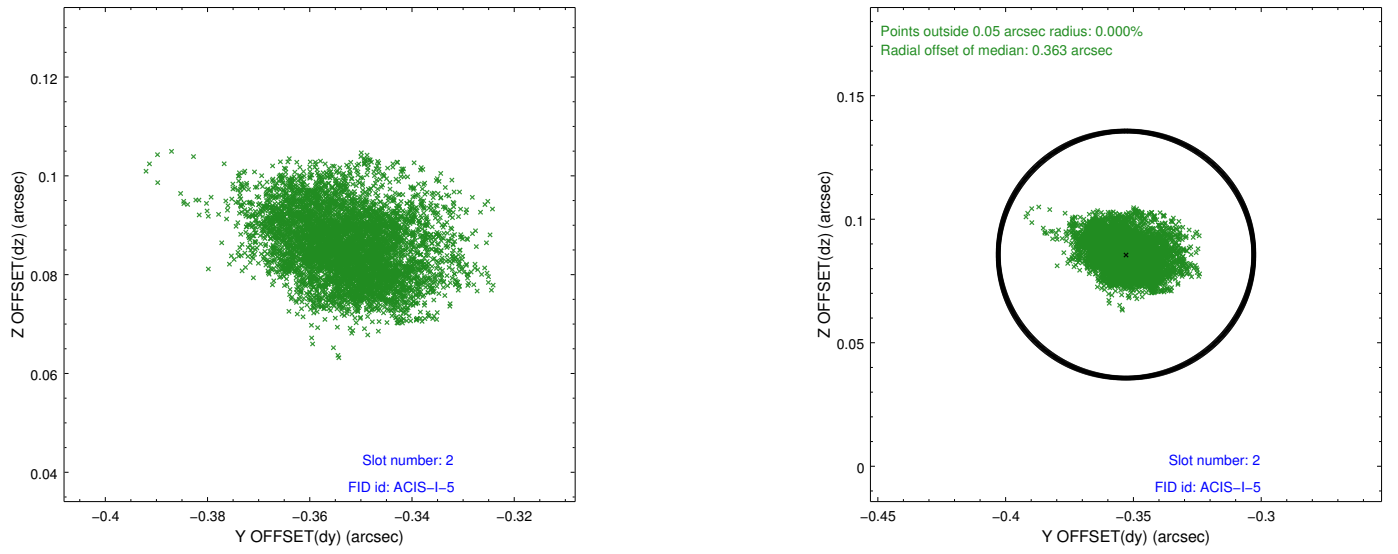
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2016.06.01
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	22.050300169706

## A.2 Comments