

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 10949 - L2 Version 3  
Chandra X-Ray Center

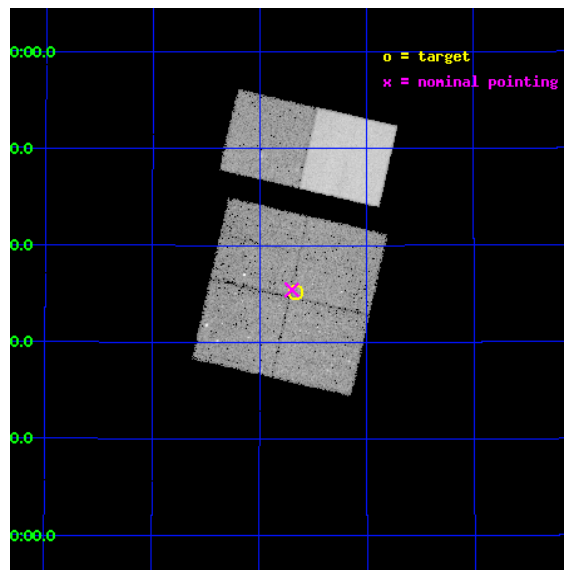
L2 Processing Date : Jun 21 2012

## 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

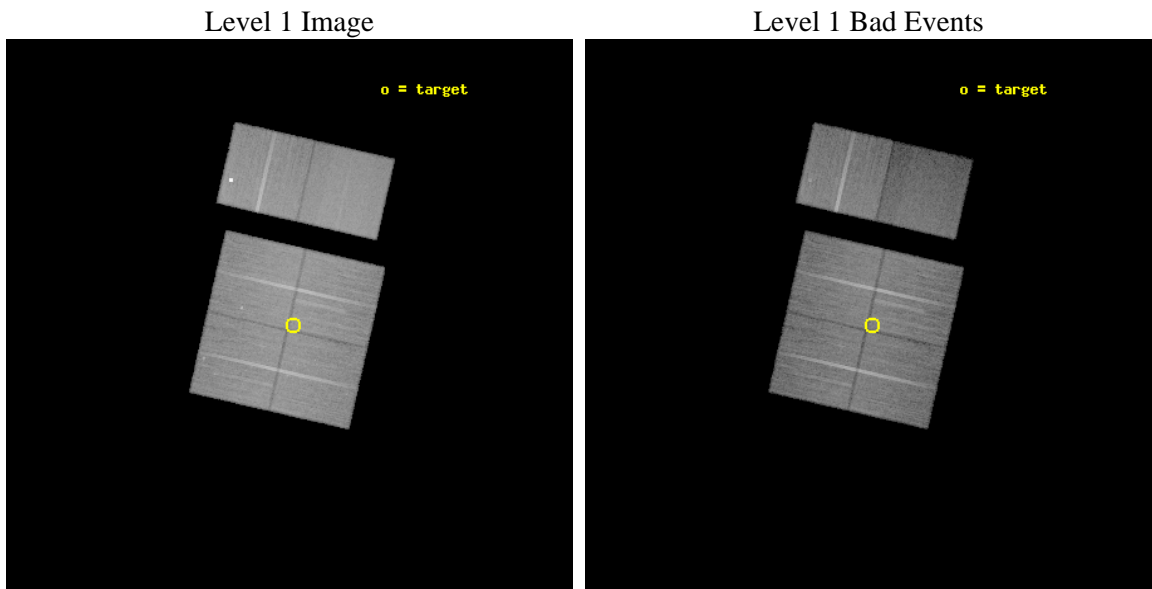
seq_num	200581	Sequence number
obs_id	10949	Observation id
title	The Chandra Cygnus OB2 Survey	Proposal title
observer	Dr. Jeremy Drake	Principal investigator
object	Cygnus OB2	Source name
dtycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	308.415121	Observer's specified target RA [deg]
dec_targ	41.586303	Observer's specified target Dec [deg]
ra_nom	308.42444456768	Nominal RA [deg]
dec_nom	41.590360945302	Nominal Dec [deg]
roll_nom	12.902492927841	Nominal Roll [deg]
revision	3	Processing version of data
ontime	27750.358926415	Sum of GTIs [s]
livetime	27398.967172429	Livetime [s]
ontime0	27737.395015359	Sum of GTIs [s]
ontime1	27747.117906272	Sum of GTIs [s]
ontime2	27750.359025955	Sum of GTIs [s]
ontime3	27750.358926415	Sum of GTIs [s]
ontime6	27750.358926415	Sum of GTIs [s]
ontime7	27753.599896669	Sum of GTIs [s]
l2events	204458	Number of level 2 events



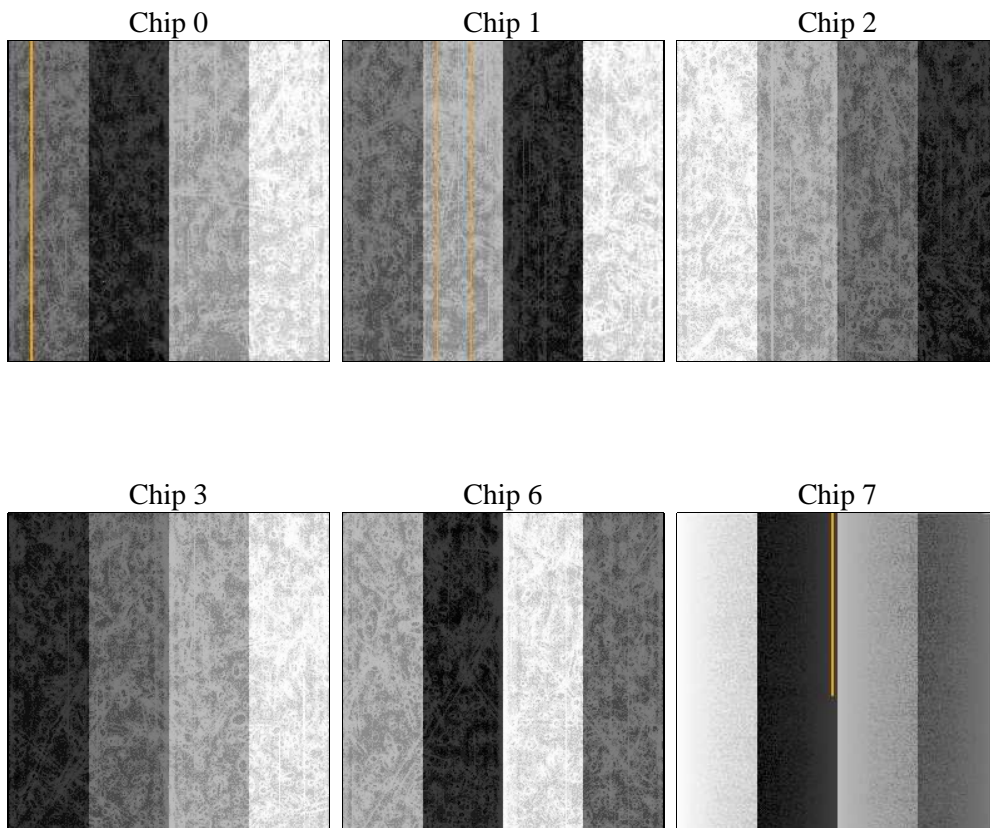
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	27998.953000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	27750.358926415	Sum of GTIs [s]
caldbver	4.4.10	&#160	ontime0	27737.395015359	Sum of GTIs [s]
date	2012-06-21T19:08:20	Date and time of file creation	ontime1	27747.117906272	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	27750.359025955	Sum of GTIs [s]
			ontime3	27750.358926415	Sum of GTIs [s]
			ontime6	27750.358926415	Sum of GTIs [s]
			ontime7	27753.599896669	Sum of GTIs [s]
			l1events	1297608	Number of level 1 events

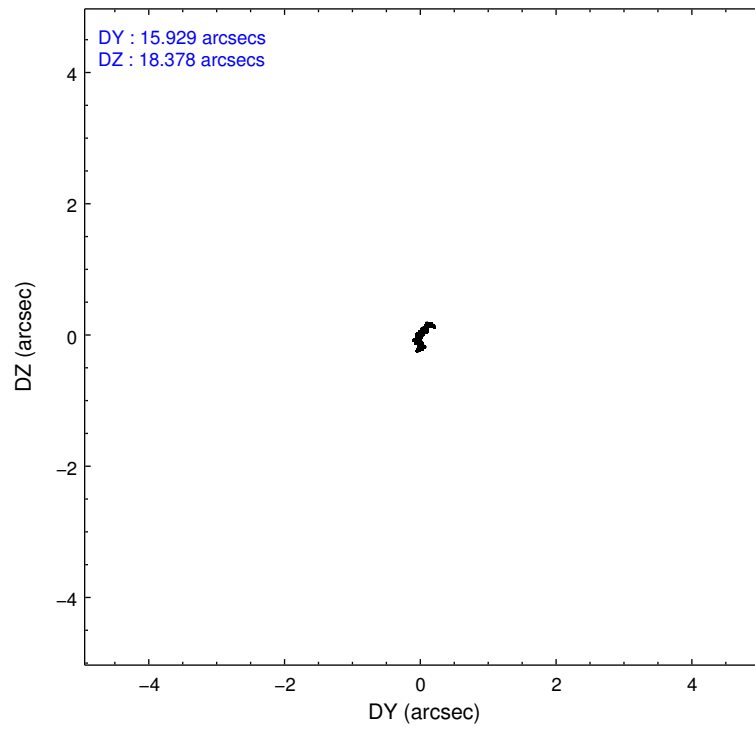
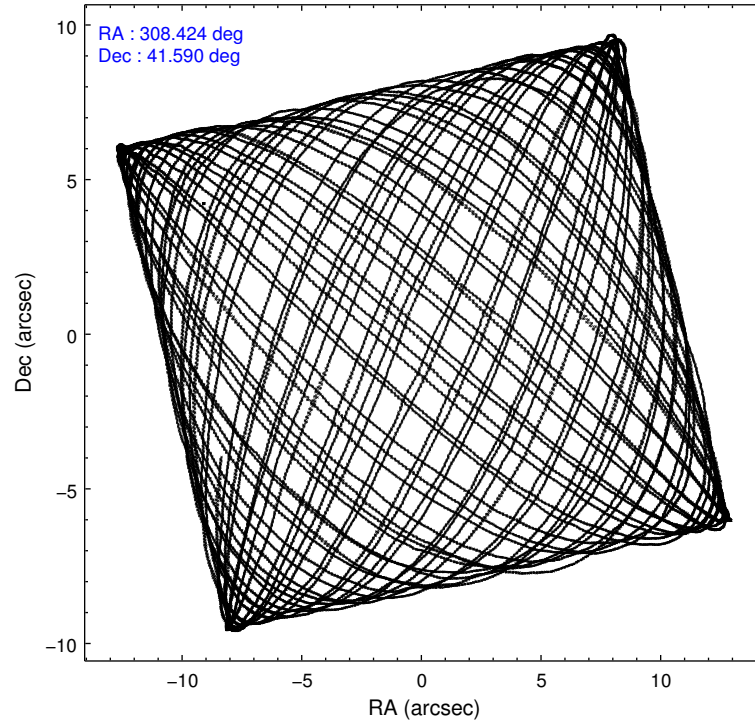
### 2.1.4 Events

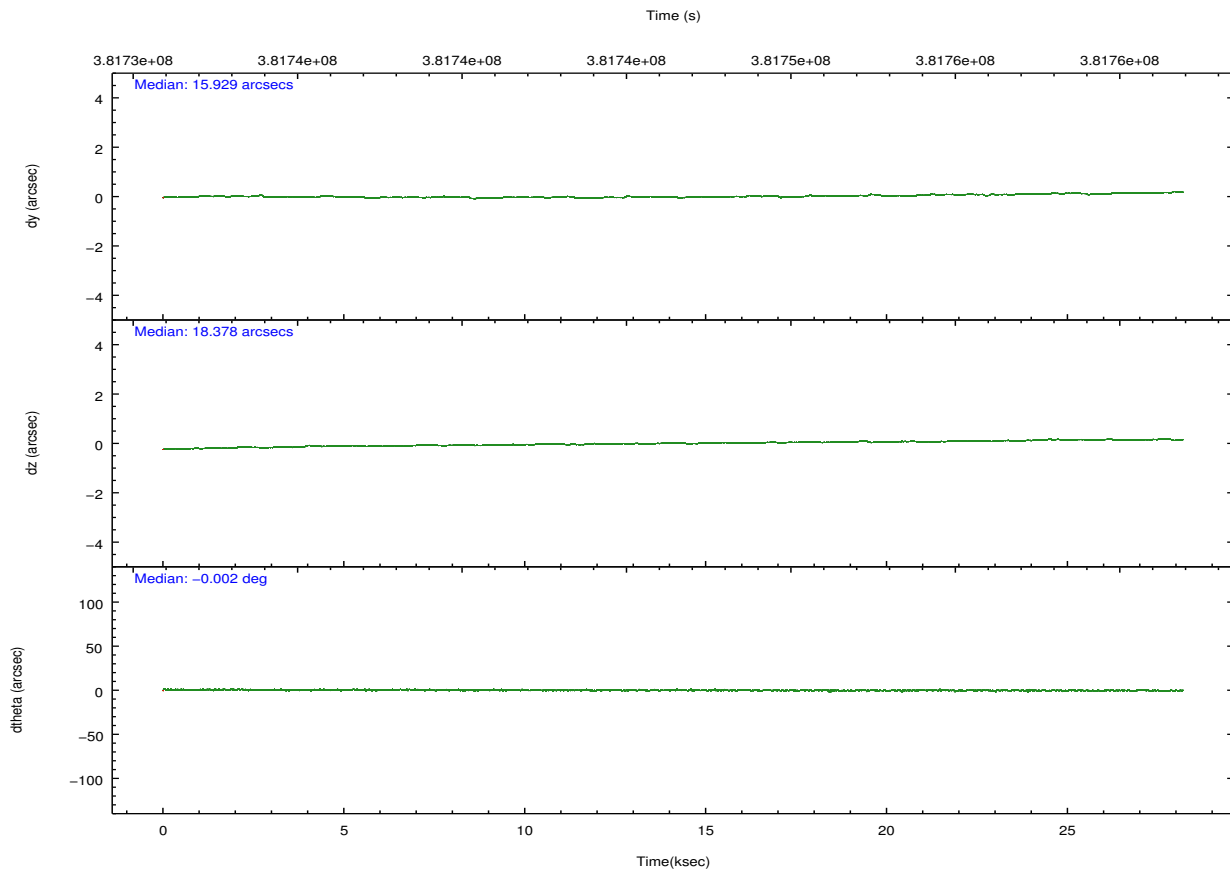
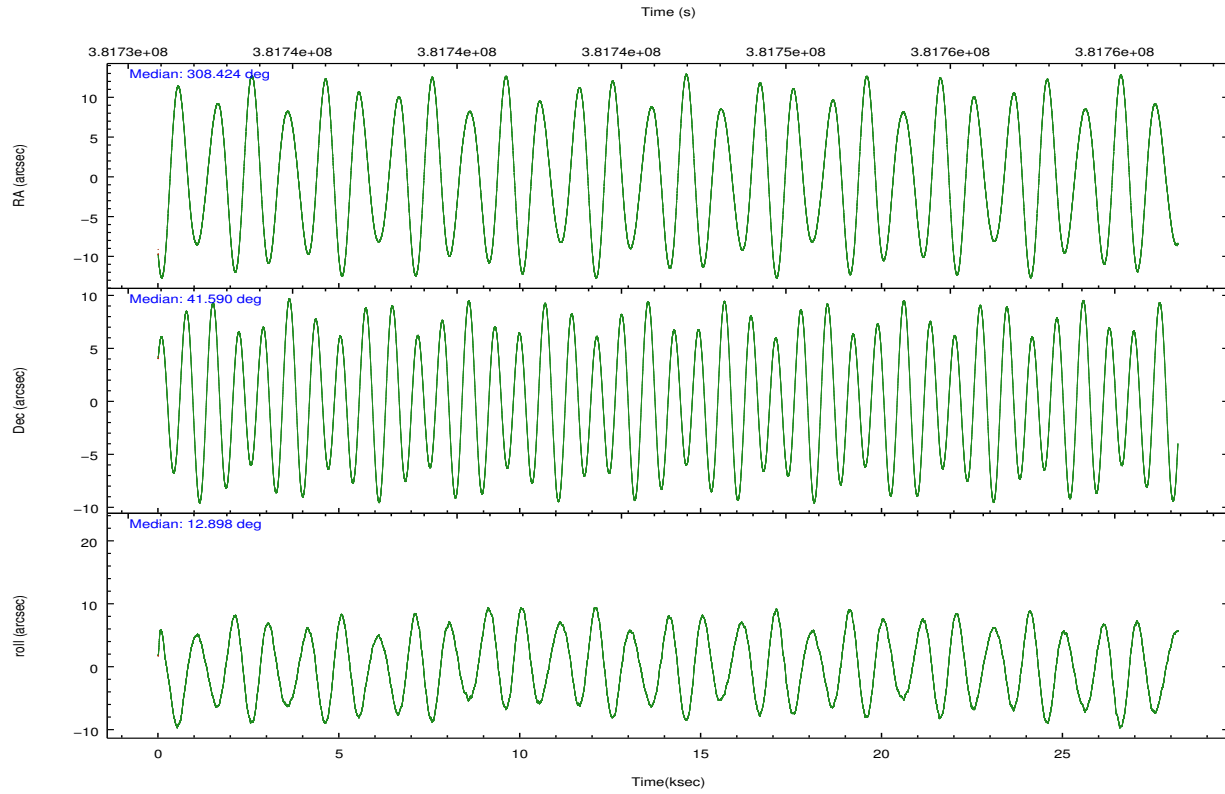
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	202448	202144	222330	217333	236244	217109	grade 0 events	10242	10685	9528	8590	25401	10914
rejected events	177397	175699	198564	195419	195738	110246		5%	5%	4%	3%	10%	5%
rejected %	87%	86%	89%	89%	82%	50%	grade 1 events	156	128	144	134	243	354
								0%	0%	0%	0%	0%	0%
							grade 2 events	5878	5736	5755	4628	5421	23000
								2%	2%	2%	2%	2%	10%
							grade 3 events	2467	2705	2291	2335	2501	9773
								1%	1%	1%	1%	1%	4%
							grade 4 events	2343	2677	2308	2340	2455	9742
								1%	1%	1%	1%	1%	4%
							grade 5 events	6955	7555	6436	7865	8074	23136
								3%	3%	2%	3%	3%	10%
							grade 6 events	4124	4645	3888	4023	4740	53456
								2%	2%	1%	1%	2%	24%
							grade 7 events	170283	168013	191980	187418	187409	86734
								84%	83%	86%	86%	79%	39%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-012367	ACIS-012367	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	308.397639	308.4244445676774	CCD I2 on	Y	Y
[deg] Pointing Dec	41.571558	41.59036094530236	CCD I3 on	Y	Y
[deg] Pointing Roll	12.711600	12.90249292784096	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	O2	Y
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S3 on	O1	Y
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	381732515.184000	381732139.1156	CCD S5 on	N	N
Observation start date	2010-02-05T04:47:29	2010-02-05T04:42:19	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	381760514.184000	381760750.45455	On-chip summing requested	N	N
Observation end date	2010-02-05T12:34:08	2010-02-05T12:39:10	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



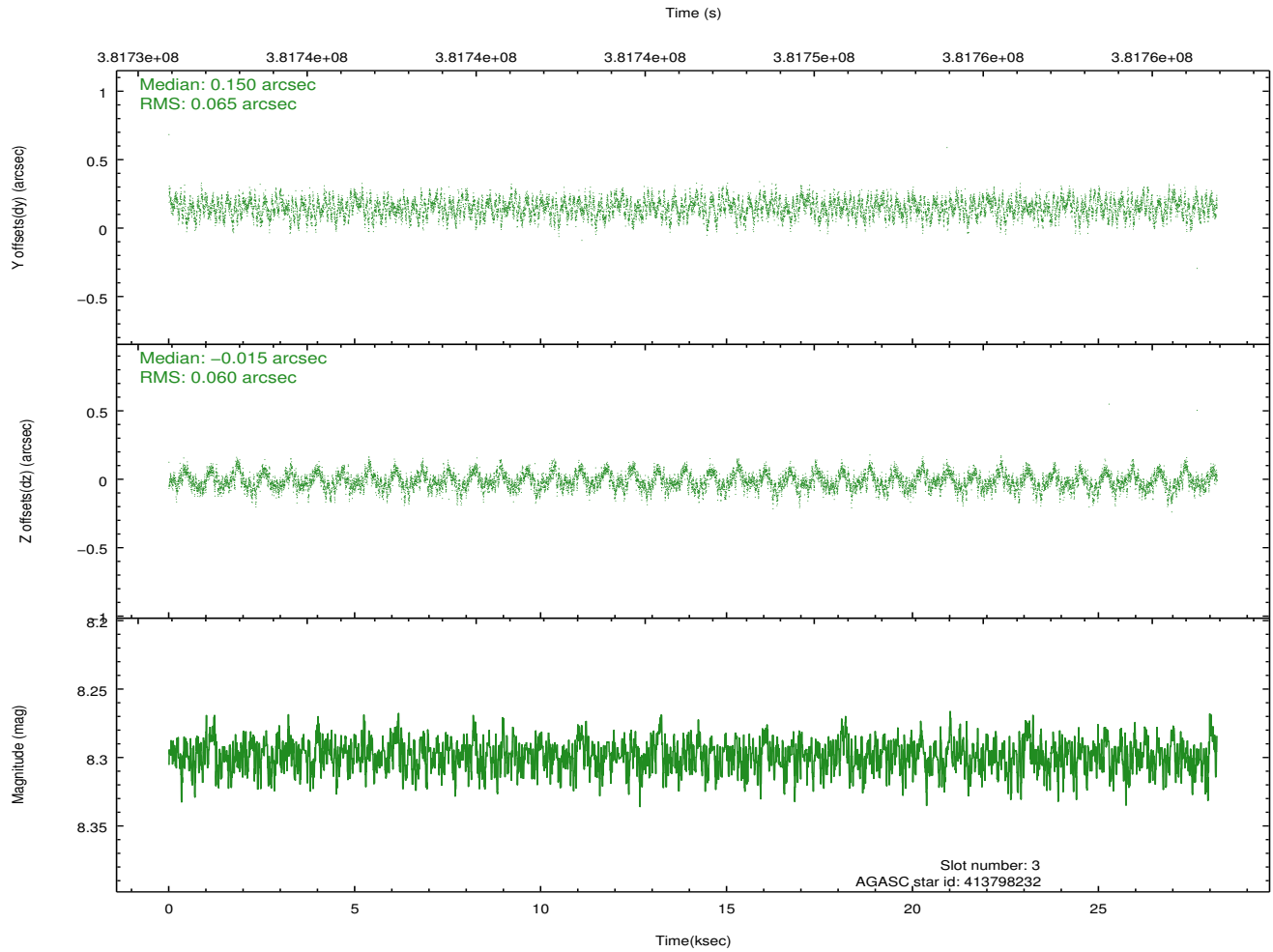
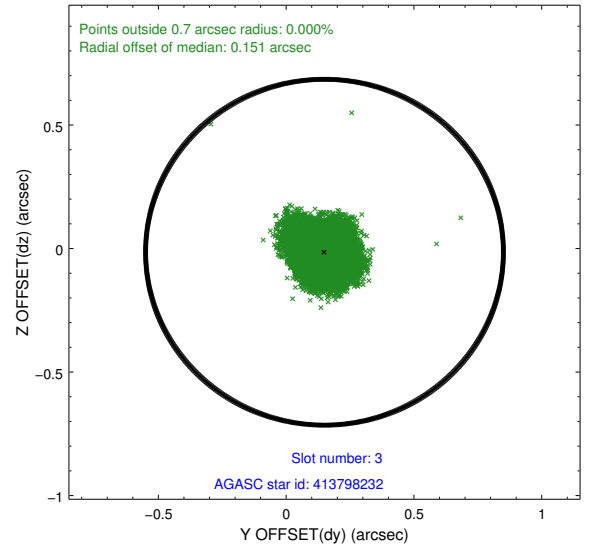
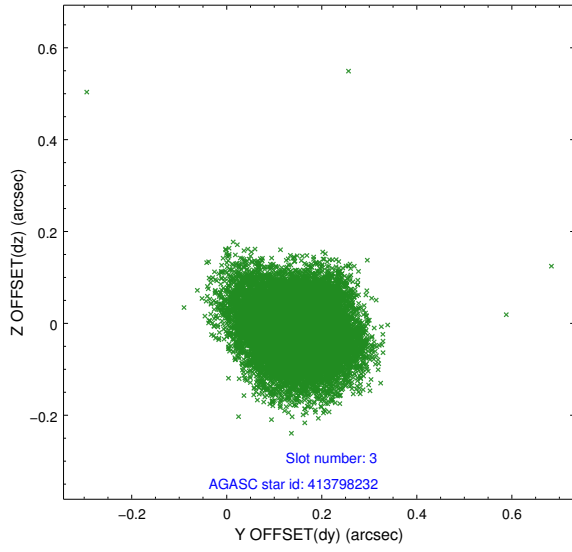


### Slot Statistics

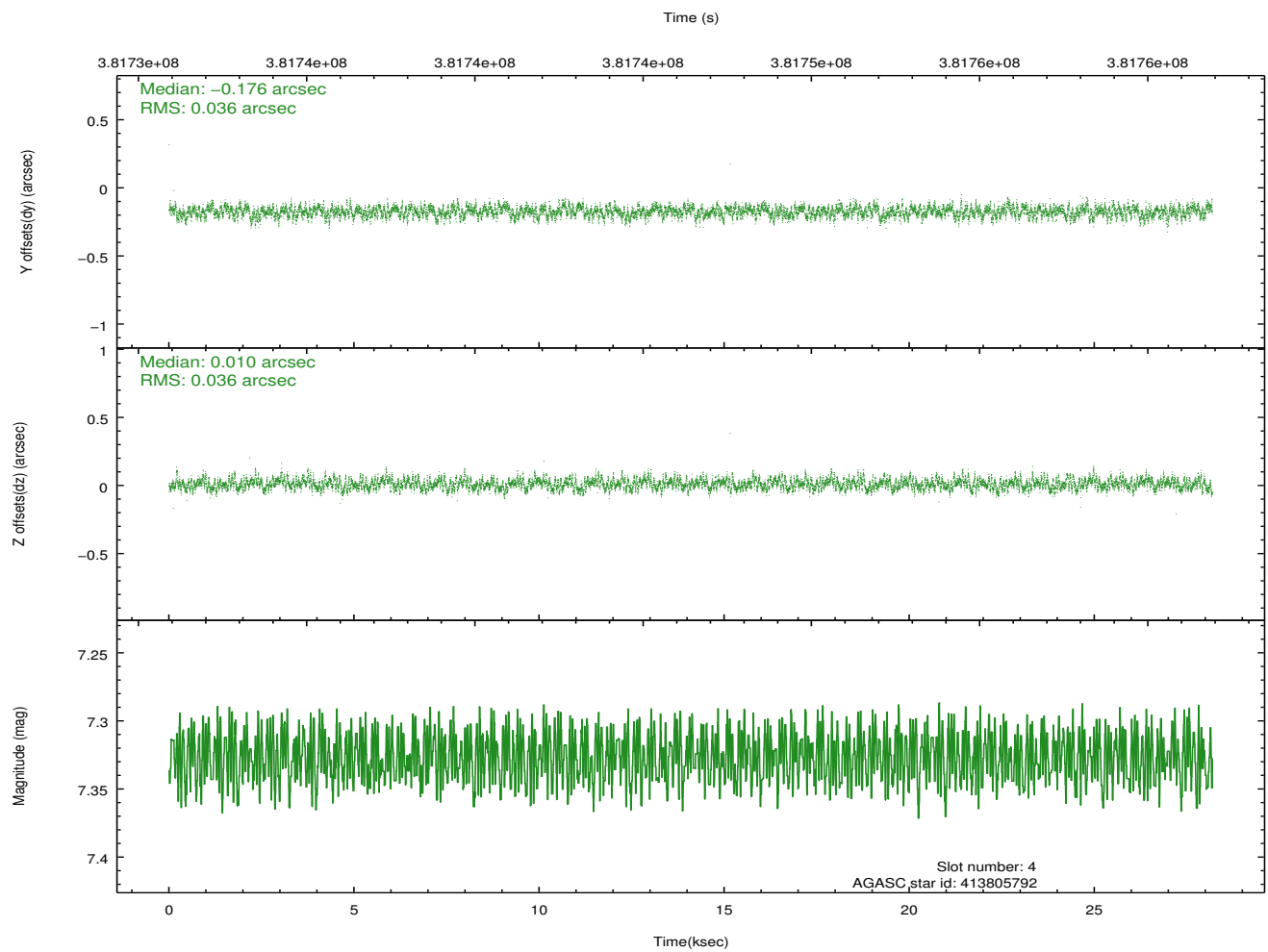
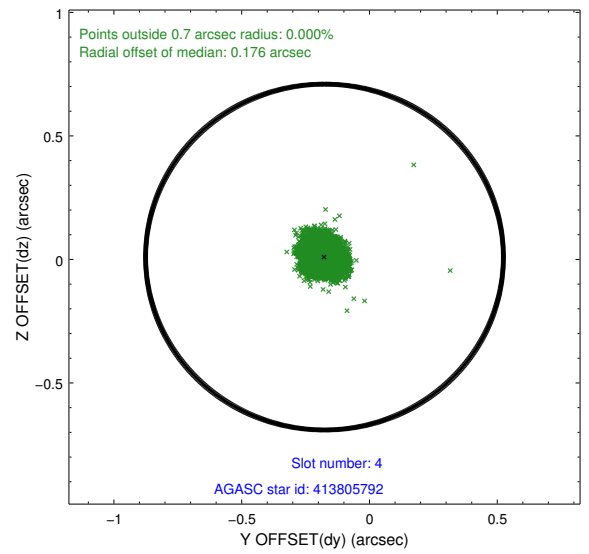
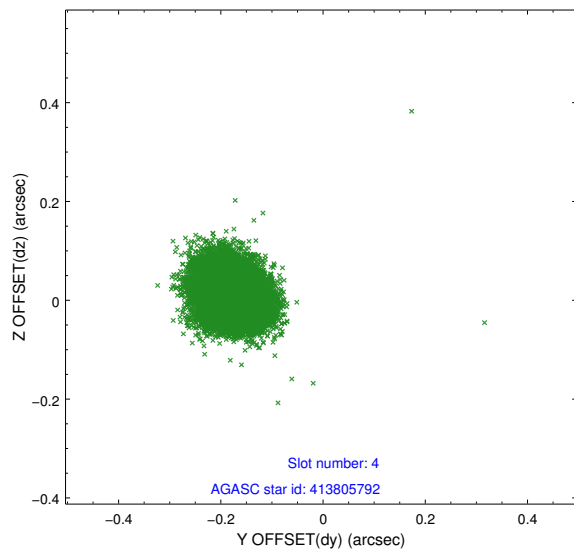
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.01	6875	0.030	0.023	0.007	0.012	0.000000	0.000000	923.51	-842.03
1	FID	ACIS-I-5	7.00	6875	-0.203	0.044	0.007	0.012	0.000000	0.000000	-1824.79	1055.42
2	FID	ACIS-I-6	7.02	6873	0.081	0.003	0.007	0.011	0.000000	0.000000	389.00	1699.99
3	GUIDE	413798232	8.30	13743	0.150	-0.015	0.095	0.149	309.116117	41.044272	1487.66	-2273.11
4	GUIDE	413805792	7.33	13746	-0.176	0.010	0.054	0.086	307.778748	40.858024	-2207.18	-2129.01
5	GUIDE	414324232	8.30	13746	-0.040	-0.012	0.064	0.103	308.637806	41.996627	963.72	1352.22
6	GUIDE	414326136	7.37	13749	-0.013	0.027	0.075	0.128	308.256176	41.473642	-449.03	-259.08
7	GUIDE	414327224	8.00	13746	0.074	-0.015	0.083	0.141	309.355439	41.393115	2385.84	-1181.36

## 2.4 Star Slots

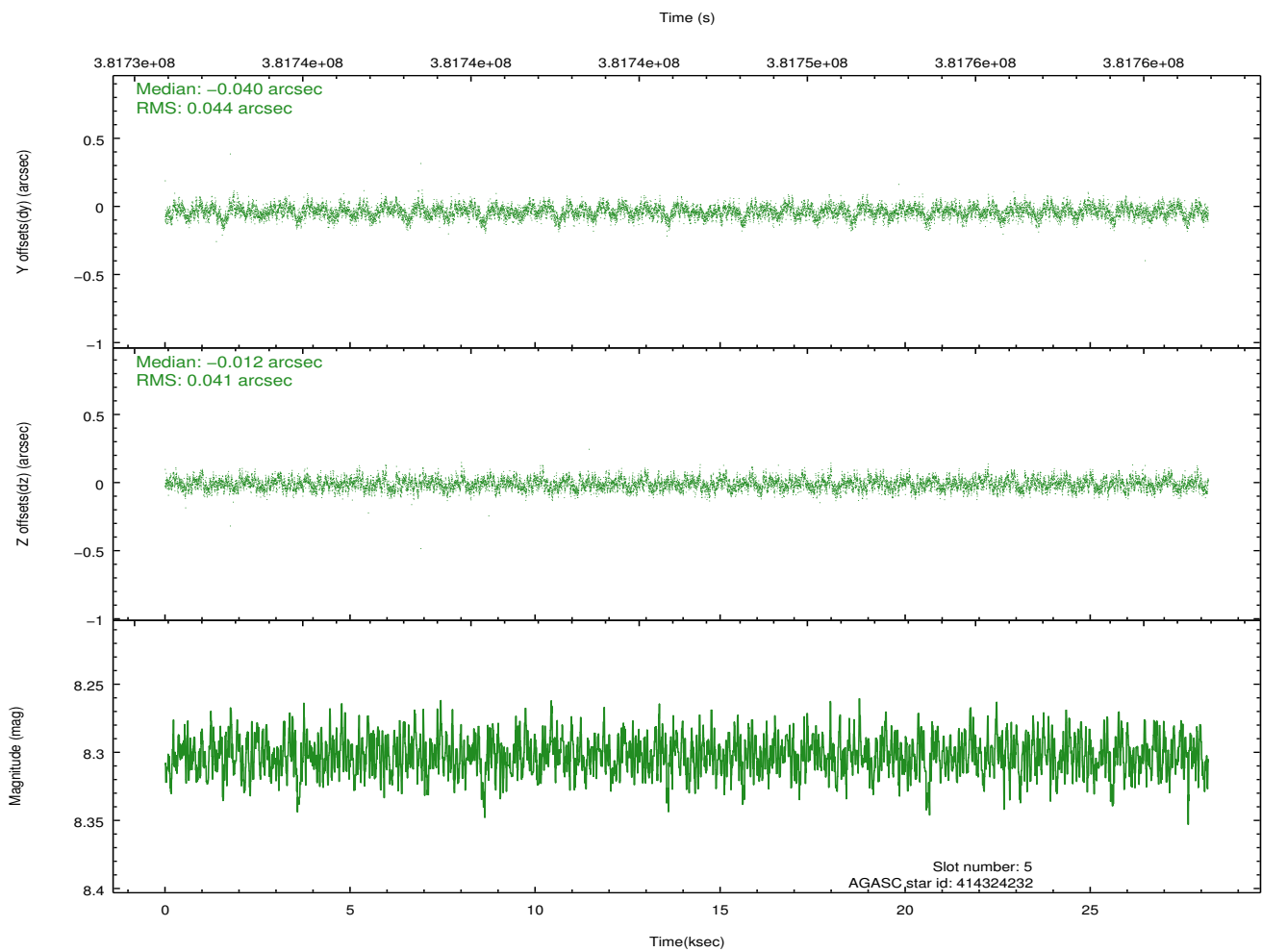
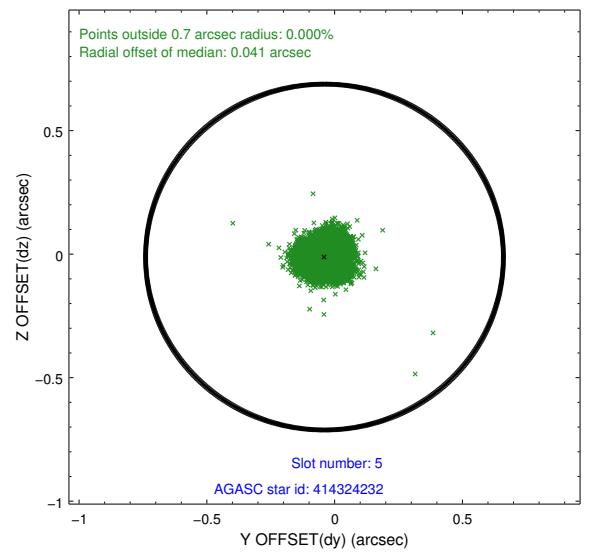
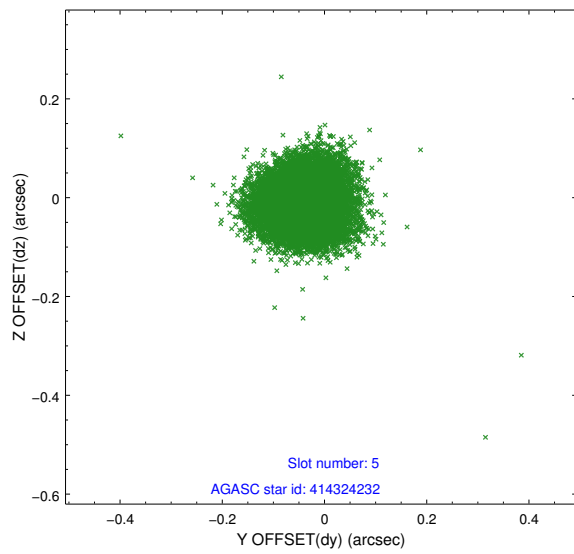
### 2.4.1 Slot 3



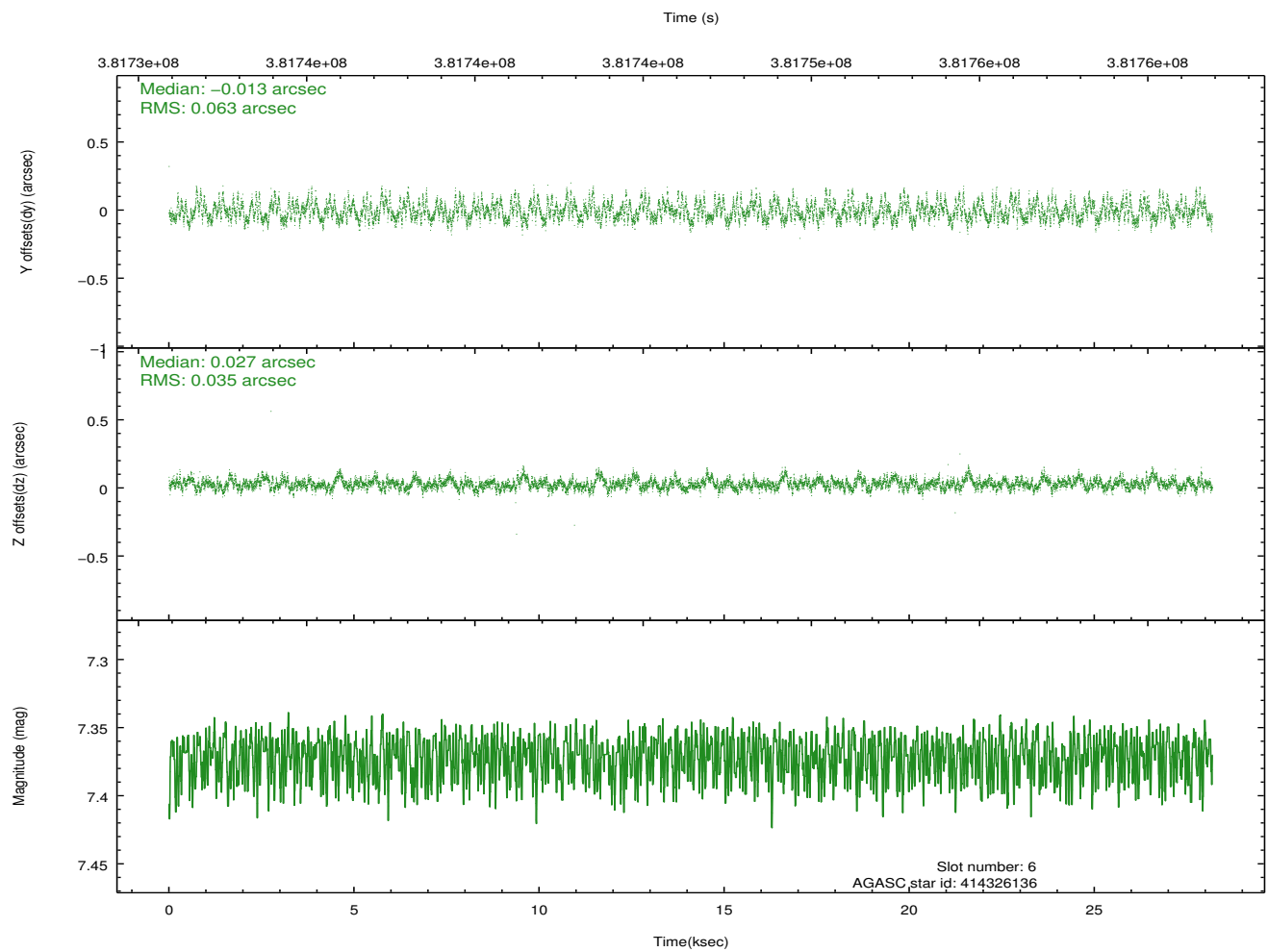
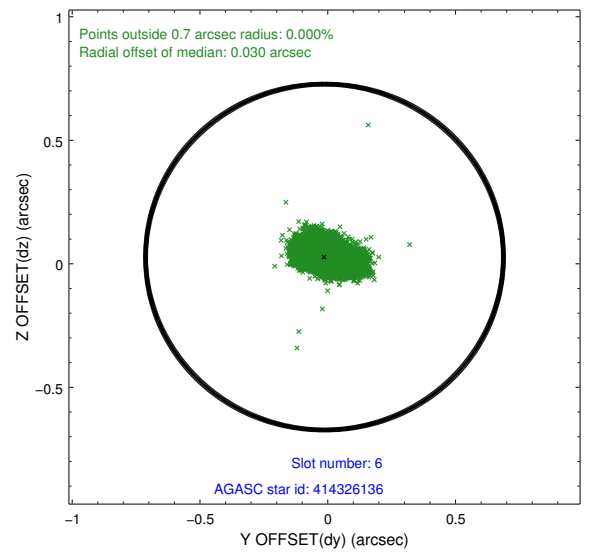
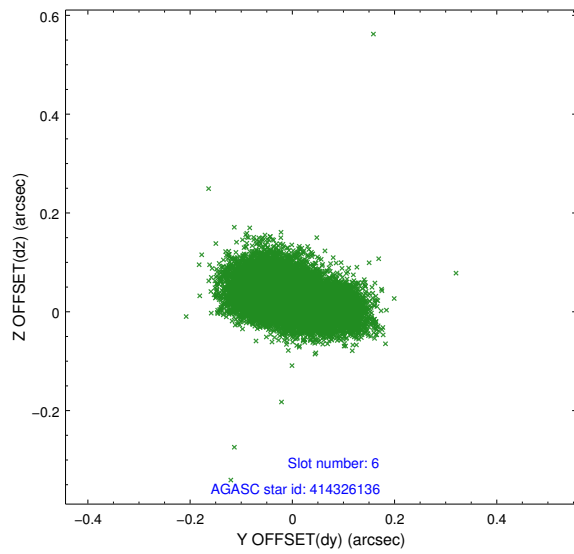
## 2.4.2 Slot 4



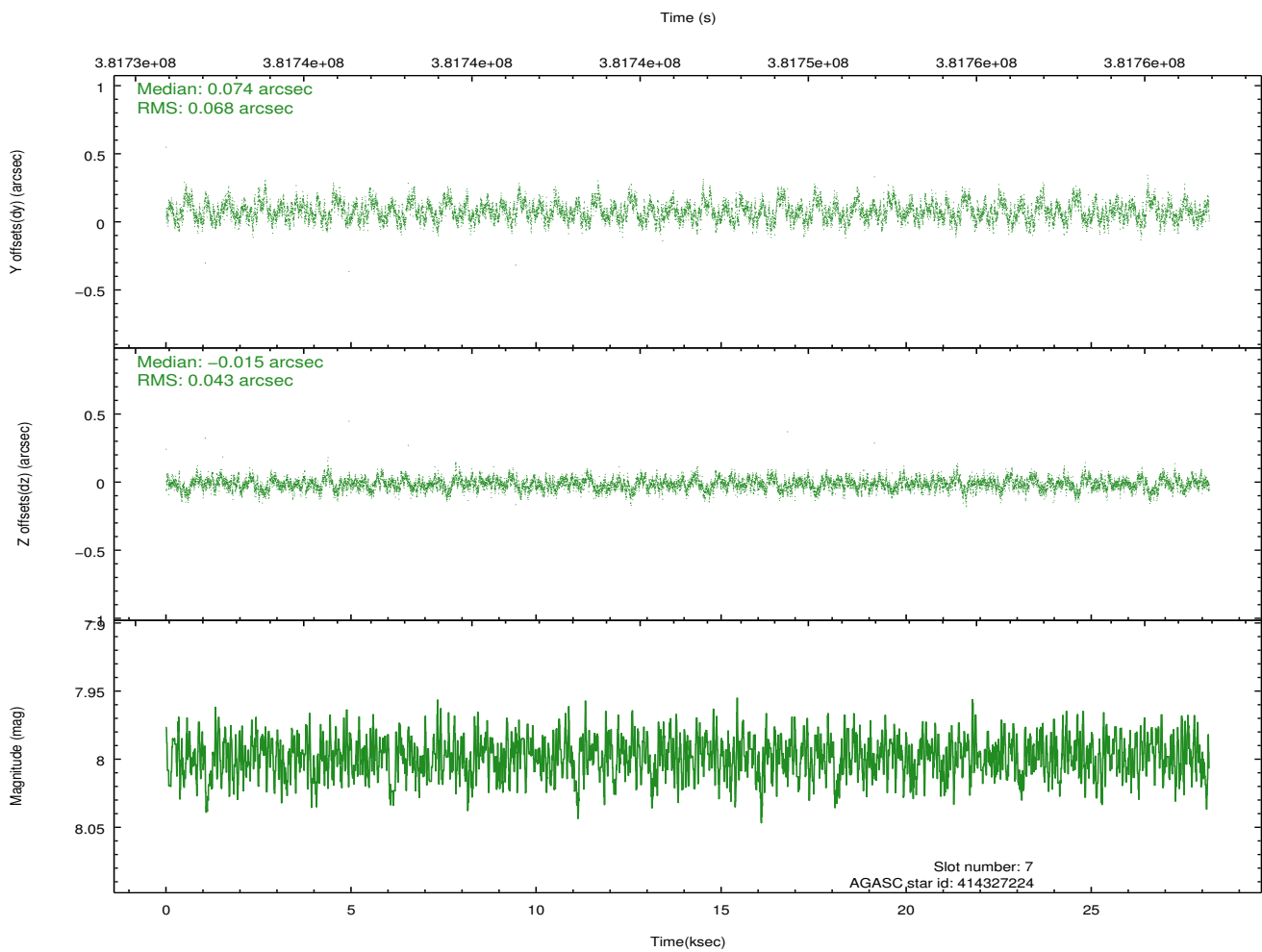
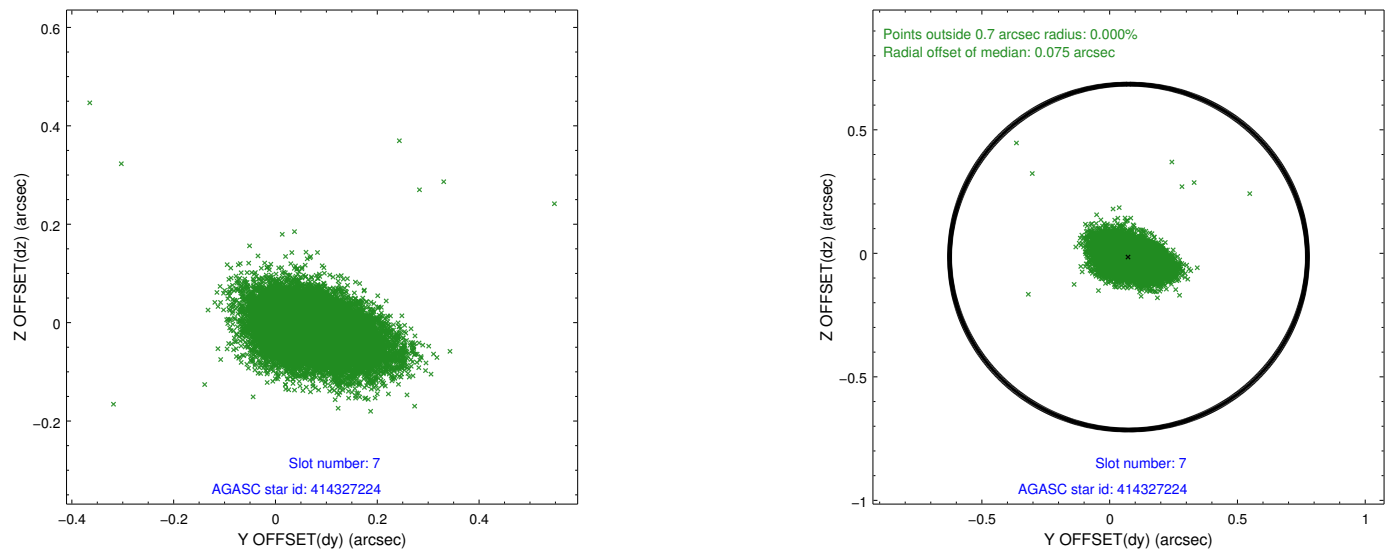
### 2.4.3 Slot 5



## 2.4.4 Slot 6

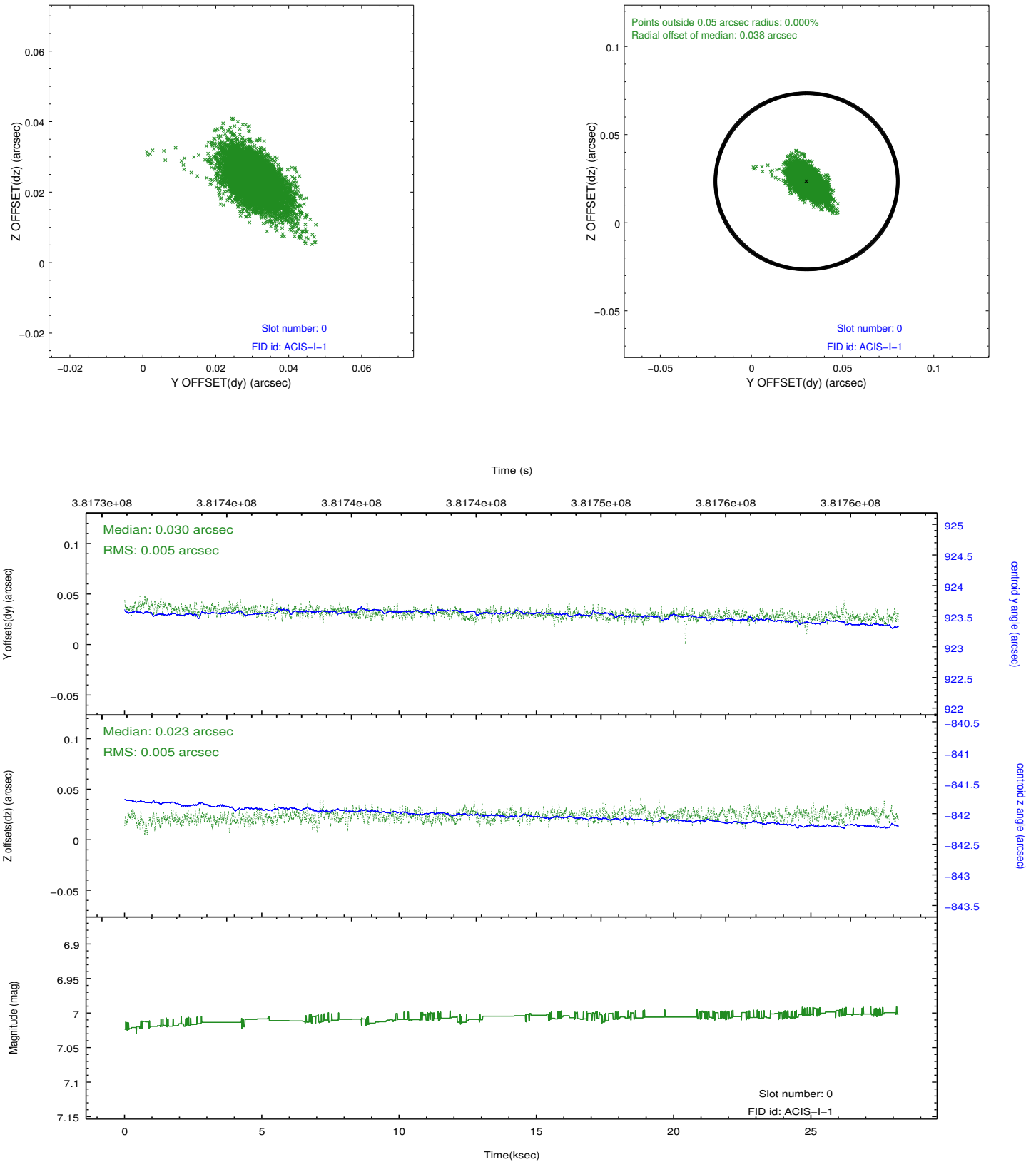


## 2.4.5 Slot 7

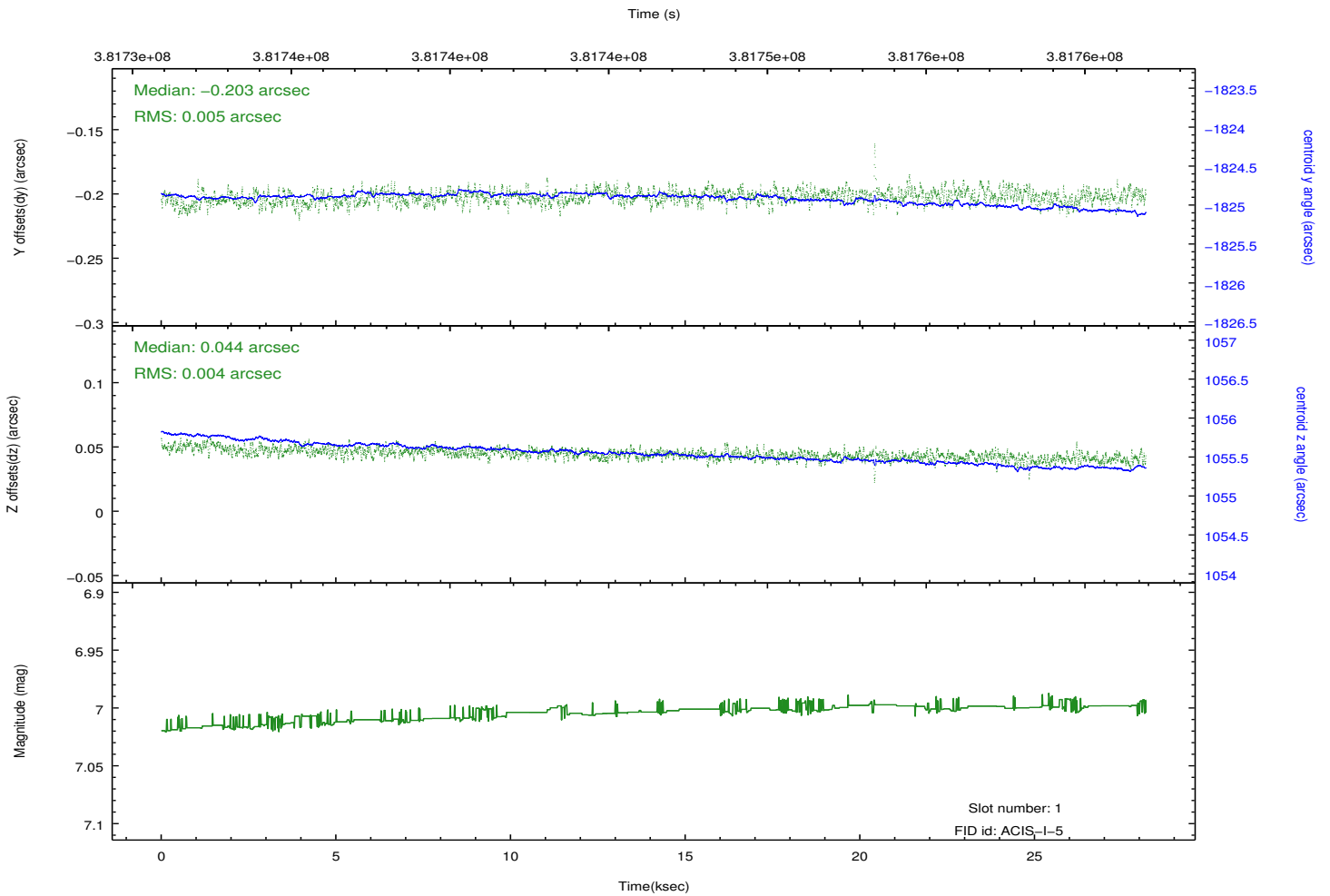
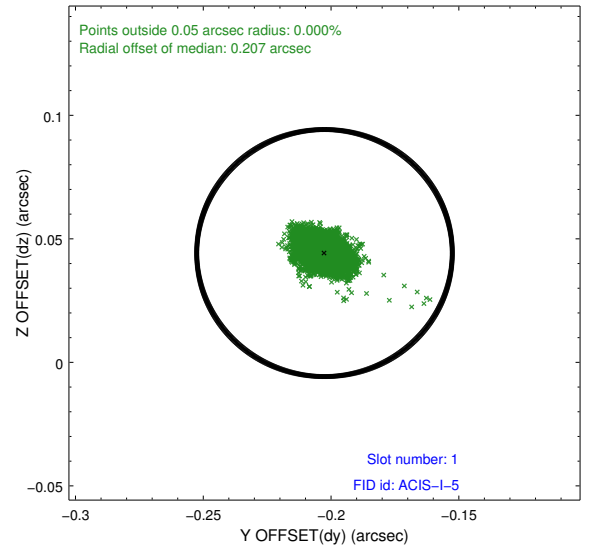
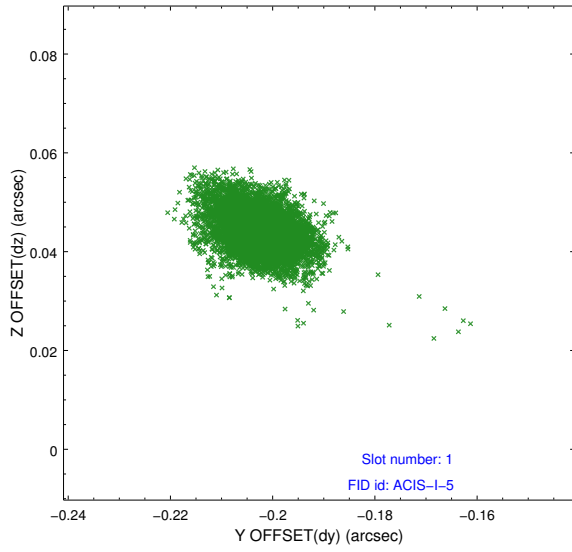


## 2.5 FID Slots

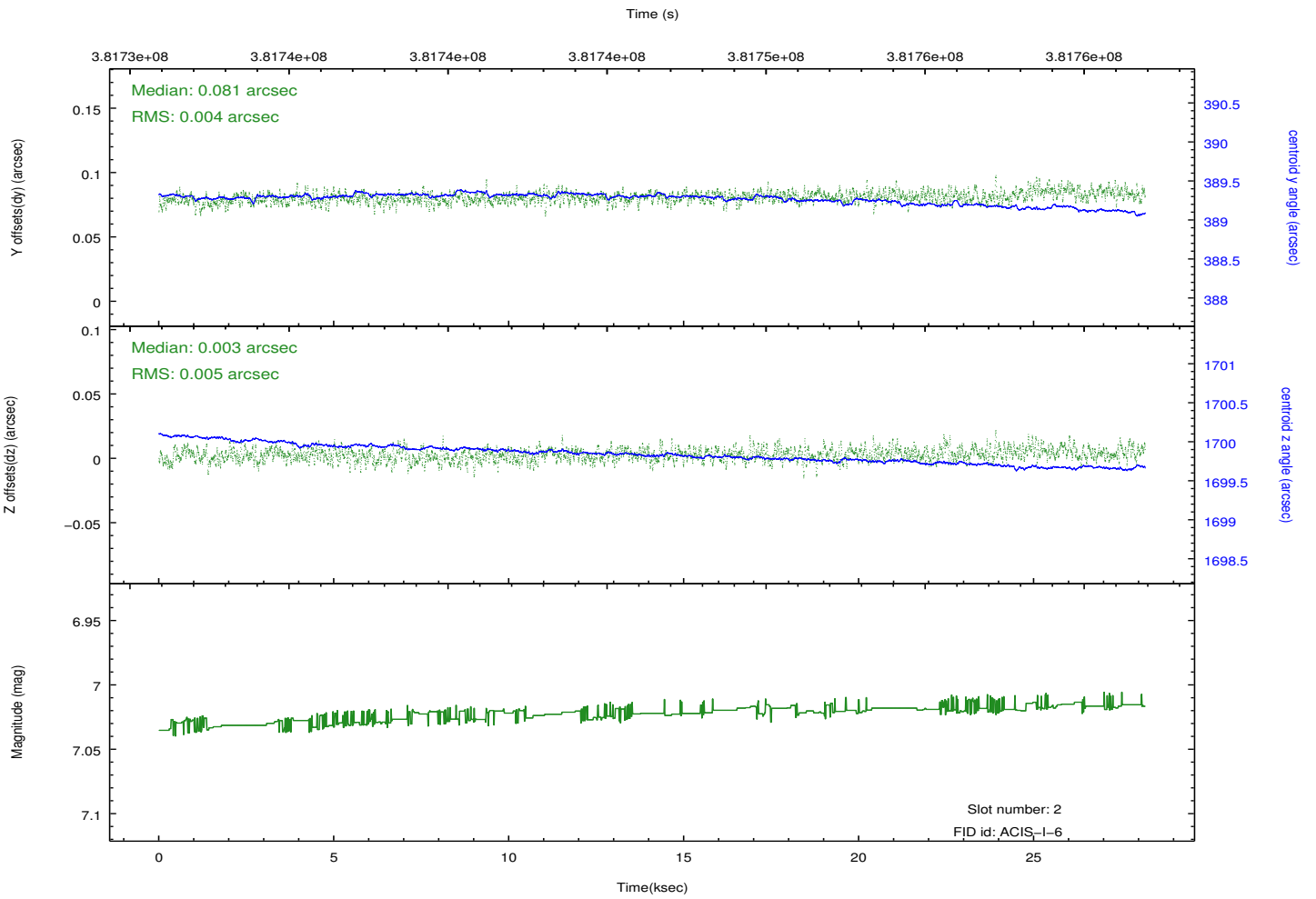
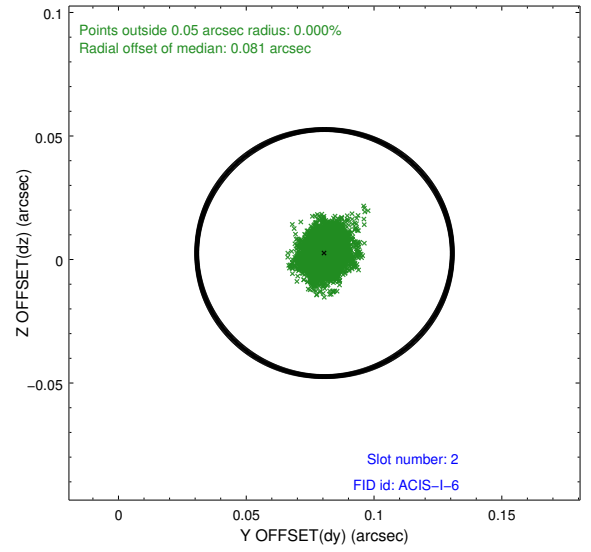
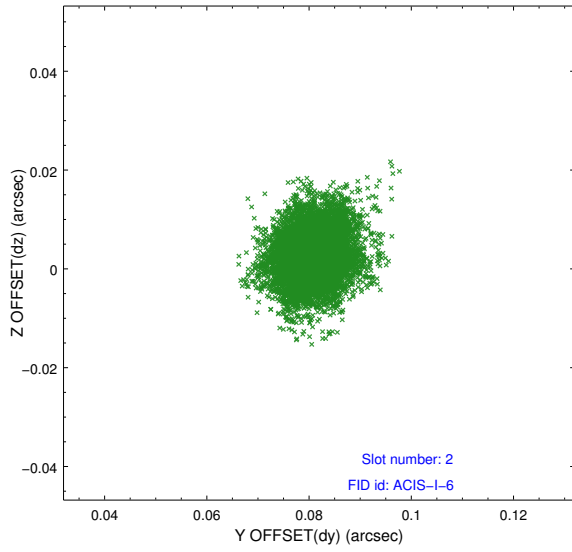
### 2.5.1 Slot 0



## 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)	2012.06.28
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	27.750358926415

## A.2 Comments

Roll preference met.

=====

A spatial region of the original bias map for CCD = 2 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small ( $\sim 20$  eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 2 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords:  
(308.45120,41.69976), (308.45029,41.70269), (308.41719,41.69702), (308.41809,41.69410)