

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 15185 - L2 Version 2  
Chandra X-Ray Center

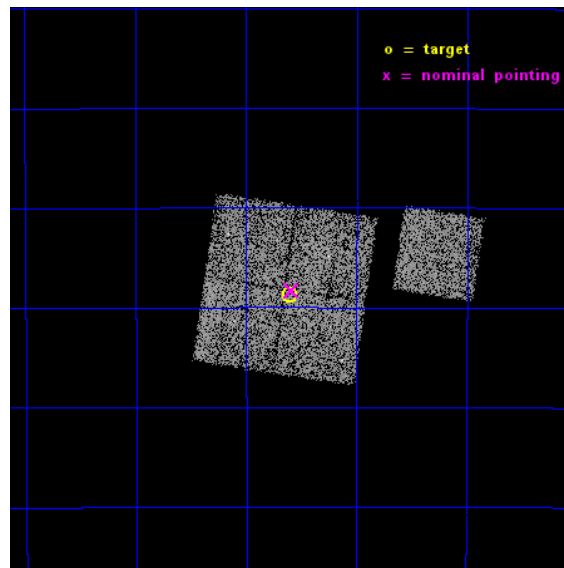
L2 Processing Date : Nov 29 2014

## 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

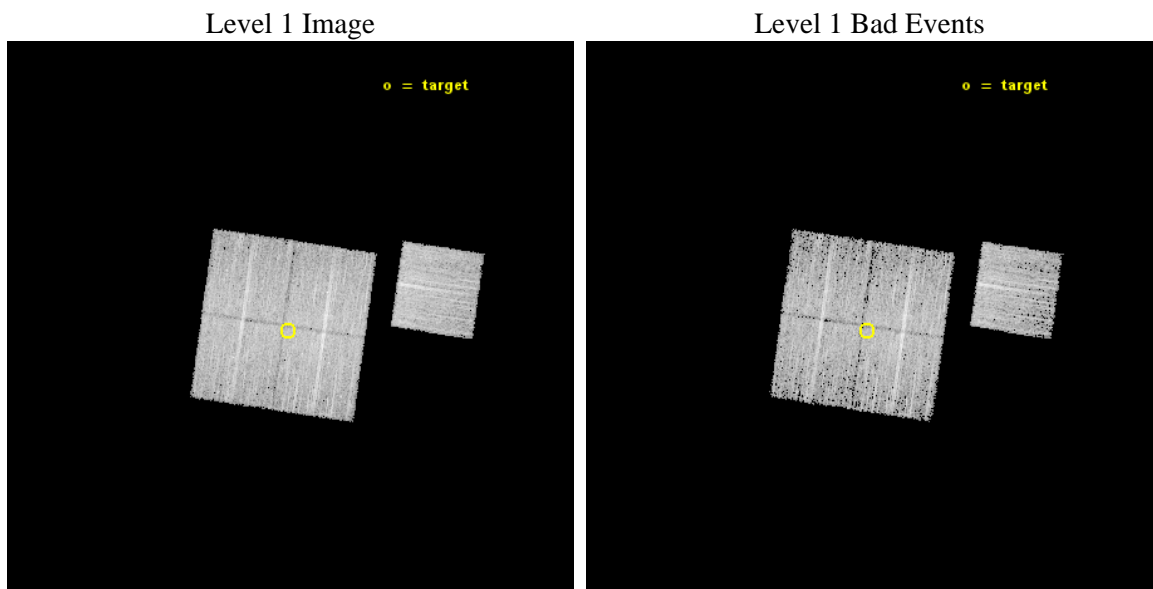
seq_num	801310	Sequence number
obs_id	15185	Observation id
title	Joint Chandra and Suzaku exploration of the outskirts of the nearby, X-ray bright Centaurus cluster	Proposal title
observer	Mr Stephen Walker	Principal investigator
object	Centaurus Cluster	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	191.152083	Observer's specified target RA [deg]
dec_targ	-39.645528	Observer's specified target Dec [deg]
ra_nom	191.14750015187	Nominal RA [deg]
dec_nom	-39.638260636582	Nominal Dec [deg]
roll_nom	98.327536647242	Nominal Roll [deg]
revision	2	Processing version of data
ontime	9771.2000751495	Sum of GTIs [s]
livetime	9643.5321527149	Livetime [s]
ontime0	9768.0592143536	Sum of GTIs [s]
ontime1	9771.2000751495	Sum of GTIs [s]
ontime2	9771.2000751495	Sum of GTIs [s]
ontime3	9771.2000751495	Sum of GTIs [s]
ontime6	9768.0591148138	Sum of GTIs [s]
l2events	25478	Number of level 2 events



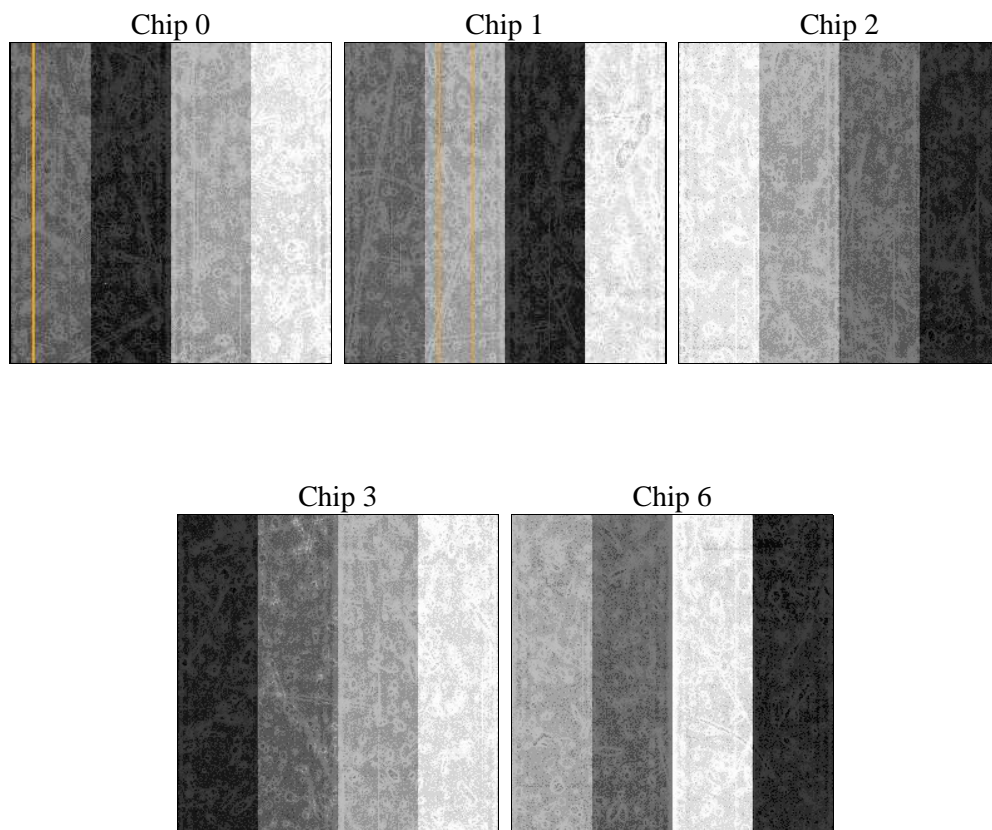
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ascdsver	10.3	Processing system revision	ontime	9771.2000751495	Sum of GTIs [s]
caldbver	4.6.4	&#160	ontime0	9768.0592143536	Sum of GTIs [s]
date	2014-11-30T01:28:20	Date and time of file creation	ontime1	9771.2000751495	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	9771.2000751495	Sum of GTIs [s]
			ontime3	9771.2000751495	Sum of GTIs [s]
			ontime6	9768.0591148138	Sum of GTIs [s]
			l1events	232209	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	43444	44487	48410	47985	47883
rejected events	37702	38025	42176	42358	42125
rejected %	86%	85%	87%	88%	87%

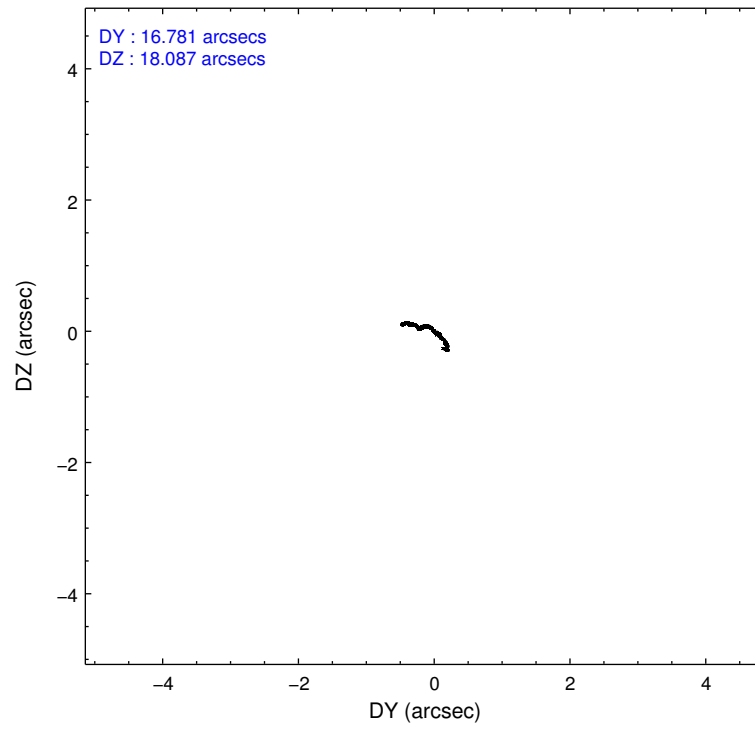
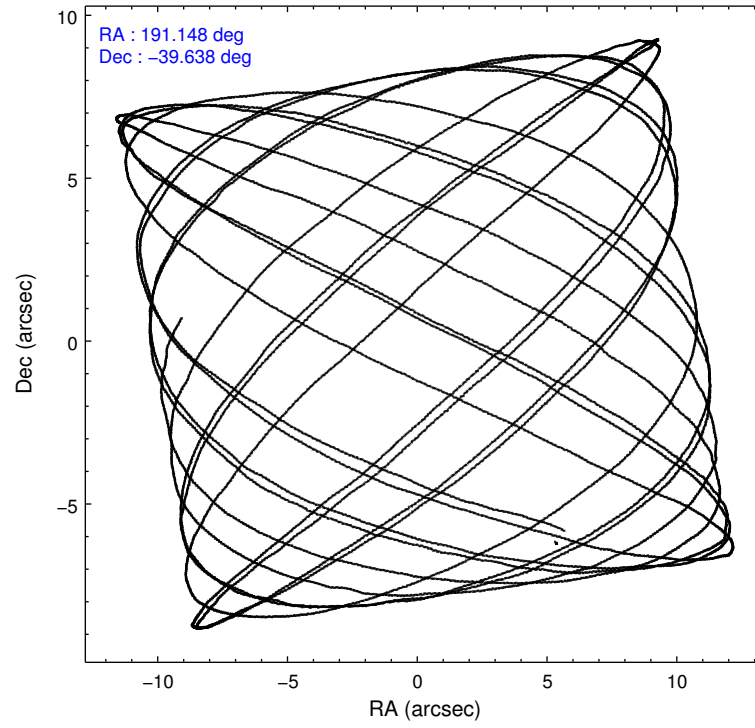
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	2052	2296	2485	2089	1919
	4%	5%	5%	4%	4%
grade 1 events	32	20	37	27	21
	0%	0%	0%	0%	0%
grade 2 events	1452	1524	1472	1249	1316
	3%	3%	3%	2%	2%
grade 3 events	595	633	587	567	613
	1%	1%	1%	1%	1%
grade 4 events	538	662	564	577	617
	1%	1%	1%	1%	1%
grade 5 events	2191	2429	2145	2656	2352
	5%	5%	4%	5%	4%
grade 6 events	1109	1351	1131	1151	1298
	2%	3%	2%	2%	2%
grade 7 events	35475	35572	39989	39669	39747
	81%	79%	82%	82%	83%

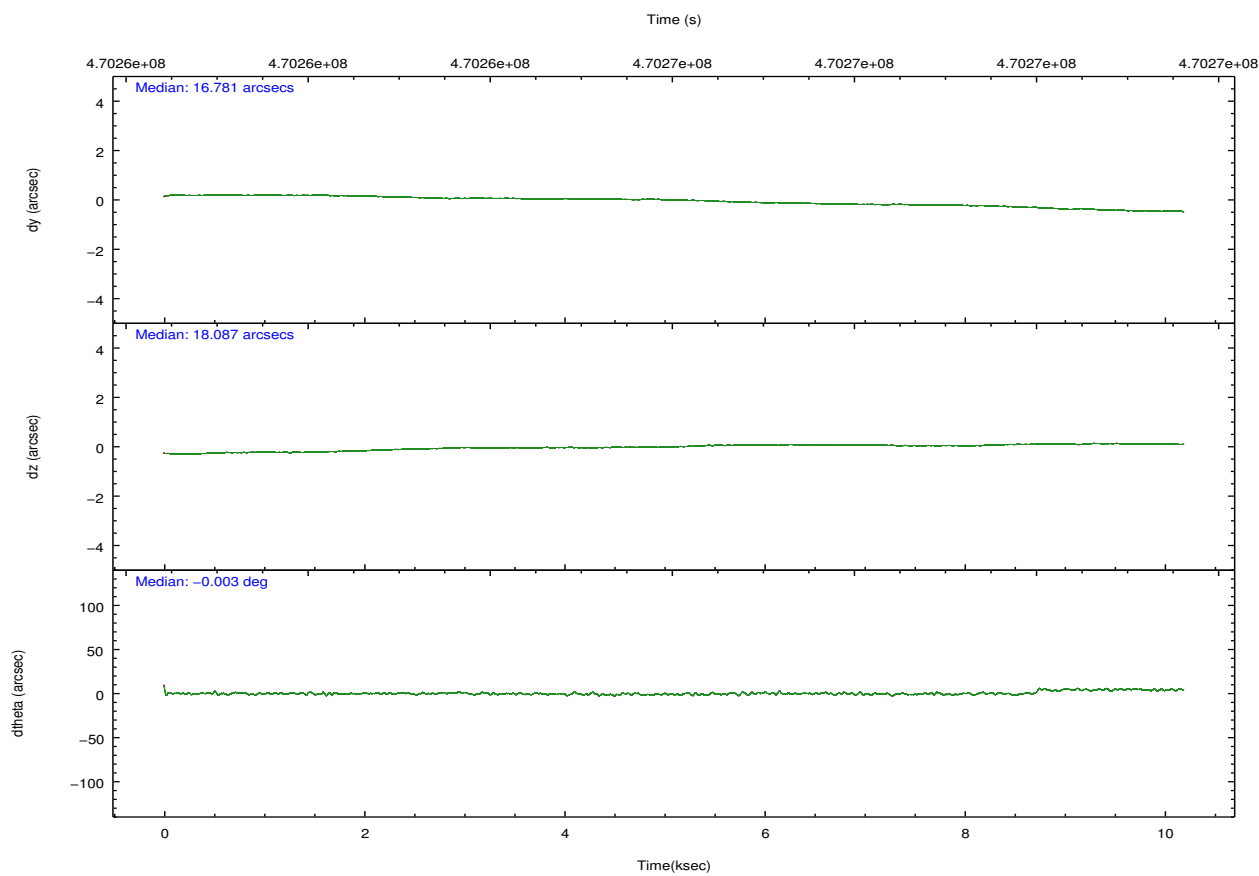
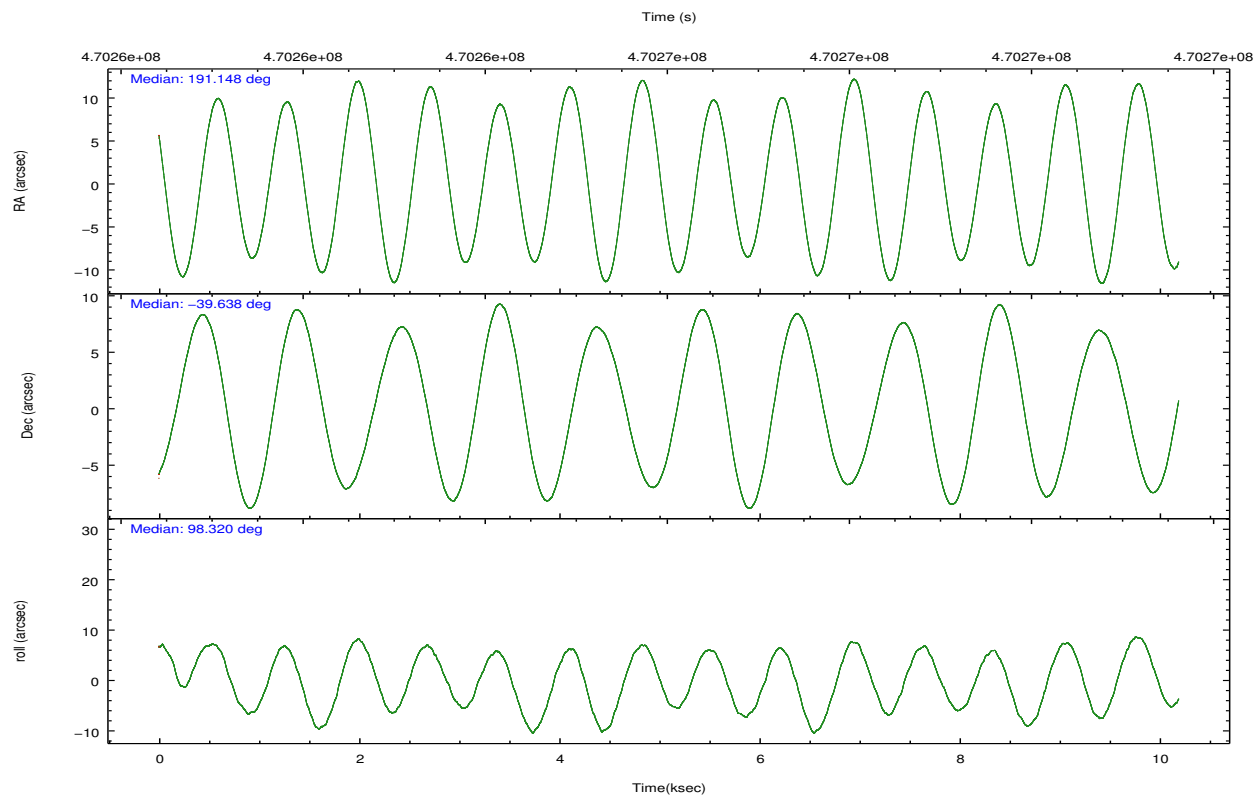


## 2.2 Compared Parameters

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	191.169813	191.1475001518697	CCD I2 on	Y	Y
[deg] Pointing Dec	-39.659744	-39.63826063658155	CCD I3 on	Y	Y
[deg] Pointing Roll	98.133091	98.32753664724177	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)	470261110.184000	470260734.07304	CCD S5 on	N	N
Observation start date	2012-11-25T20:04:03	2012-11-25T19:58:54	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	470271110.184000	470271839.43614	On-chip summing requested	N	N
Observation end date	2012-11-25T22:50:43	2012-11-25T23:03:59	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



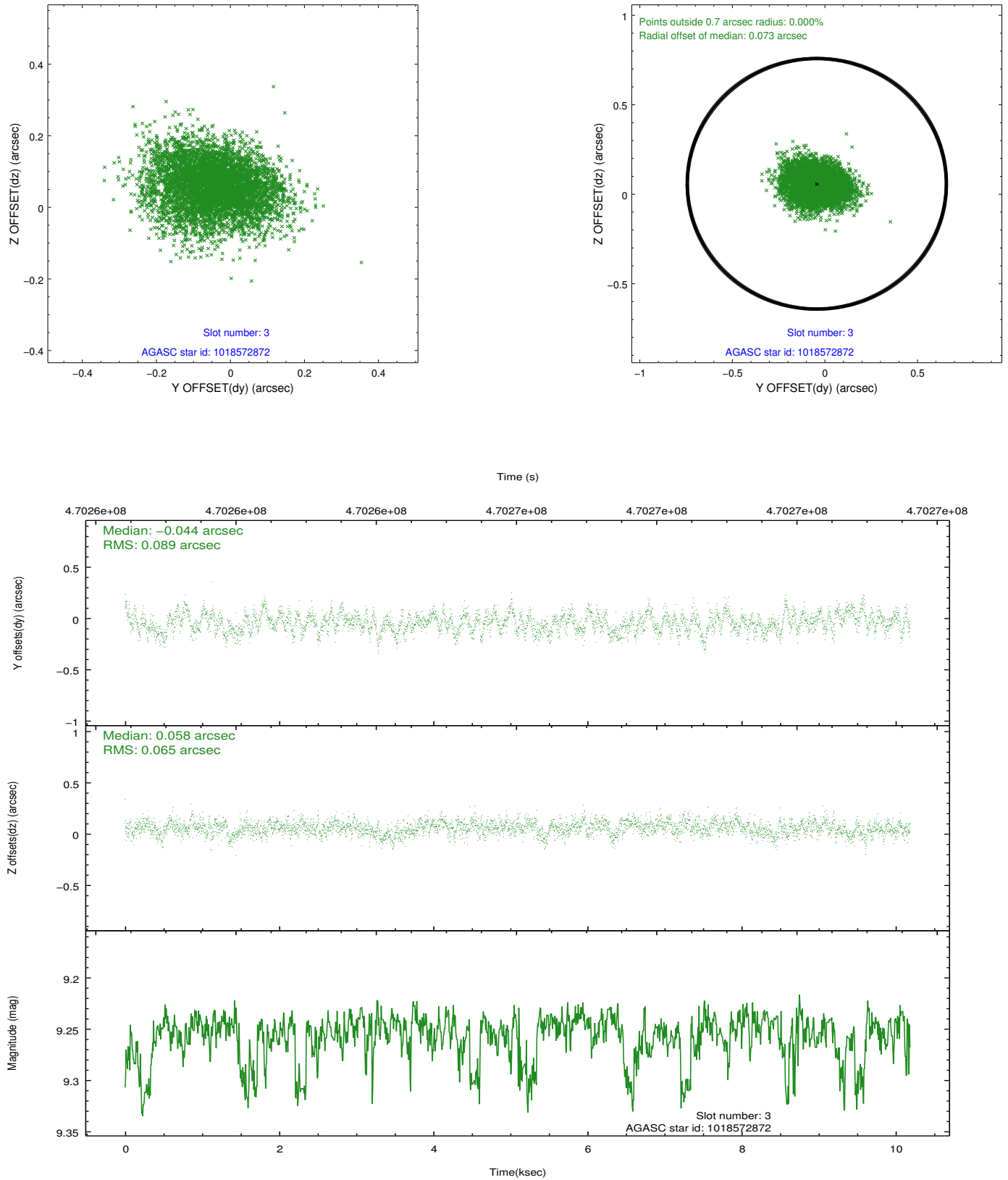


### Slot Statistics

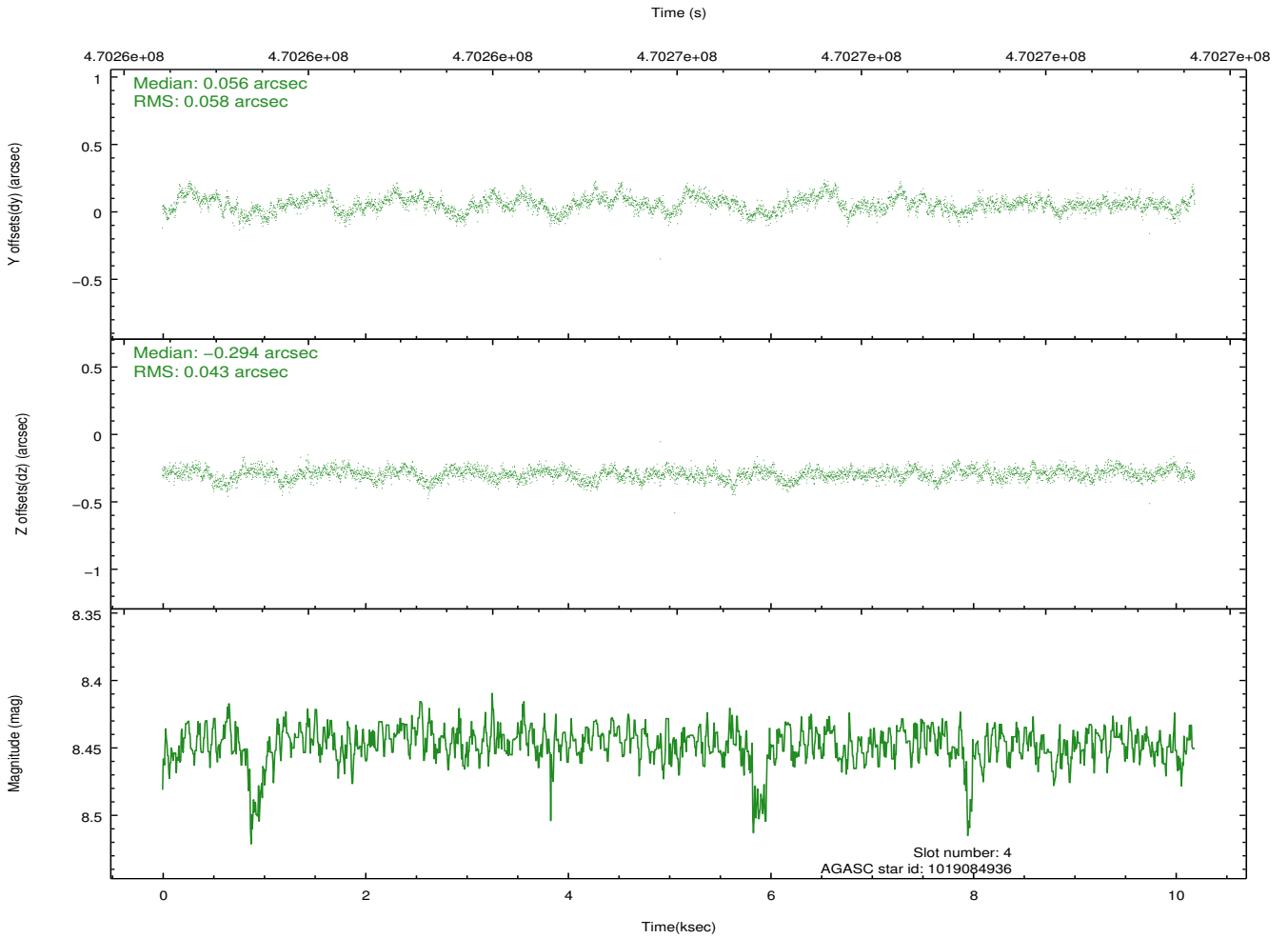
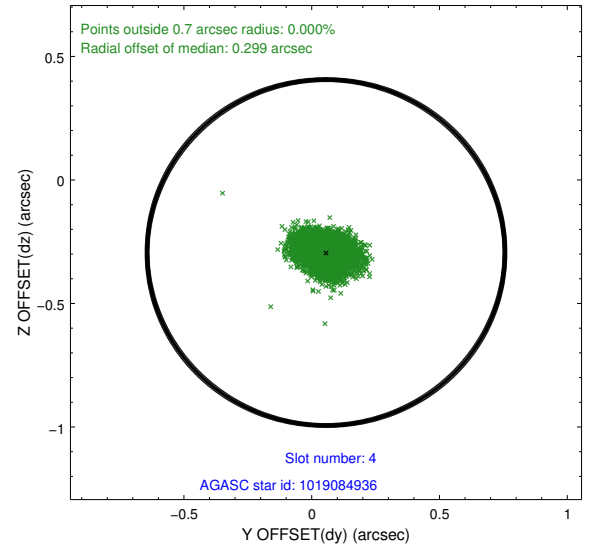
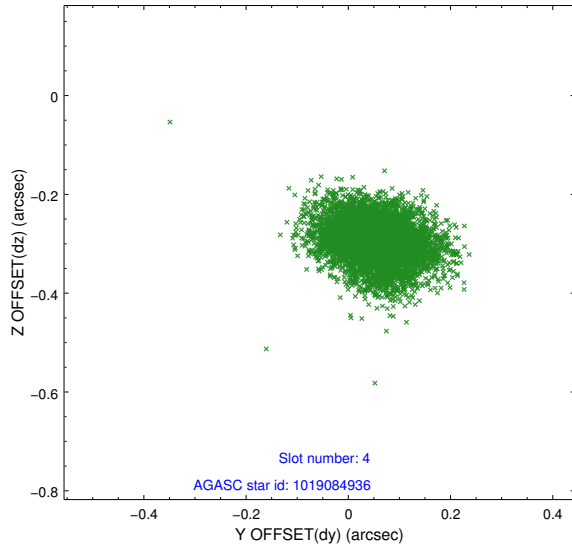
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.06	2486	-0.082	0.020	0.013	0.038	0.000000	0.000000	922.62	-841.70
1	FID		ACIS-I-2	6.97	2486	-0.138	-0.081	0.008	0.014	0.000000	0.000000	-771.24	-848.54
2	FID		ACIS-I-4	6.99	2486	0.123	0.128	0.014	0.044	0.000000	0.000000	2142.44	1057.96
3	GUIDE	used	1018572872	9.25	4969	-0.044	0.058	0.117	0.191	191.786528	-39.007176	2076.25	-2038.72
4	GUIDE	used	1019084936	8.45	4971	0.056	-0.294	0.077	0.126	190.582410	-39.936294	-761.72	1746.36
5	GUIDE	used	1019089352	7.24	4972	0.109	0.423	0.051	0.080	191.830631	-40.127246	-1929.63	-1561.00
6	GUIDE	used	1019089792	8.90	4968	-0.196	-0.021	0.079	0.127	190.585914	-39.523689	708.56	1536.51
7	GUIDE	used	1019101328	6.78	4970	0.076	-0.169	0.072	0.125	190.859432	-40.177847	-1726.98	1109.01

## 2.4 Star Slots

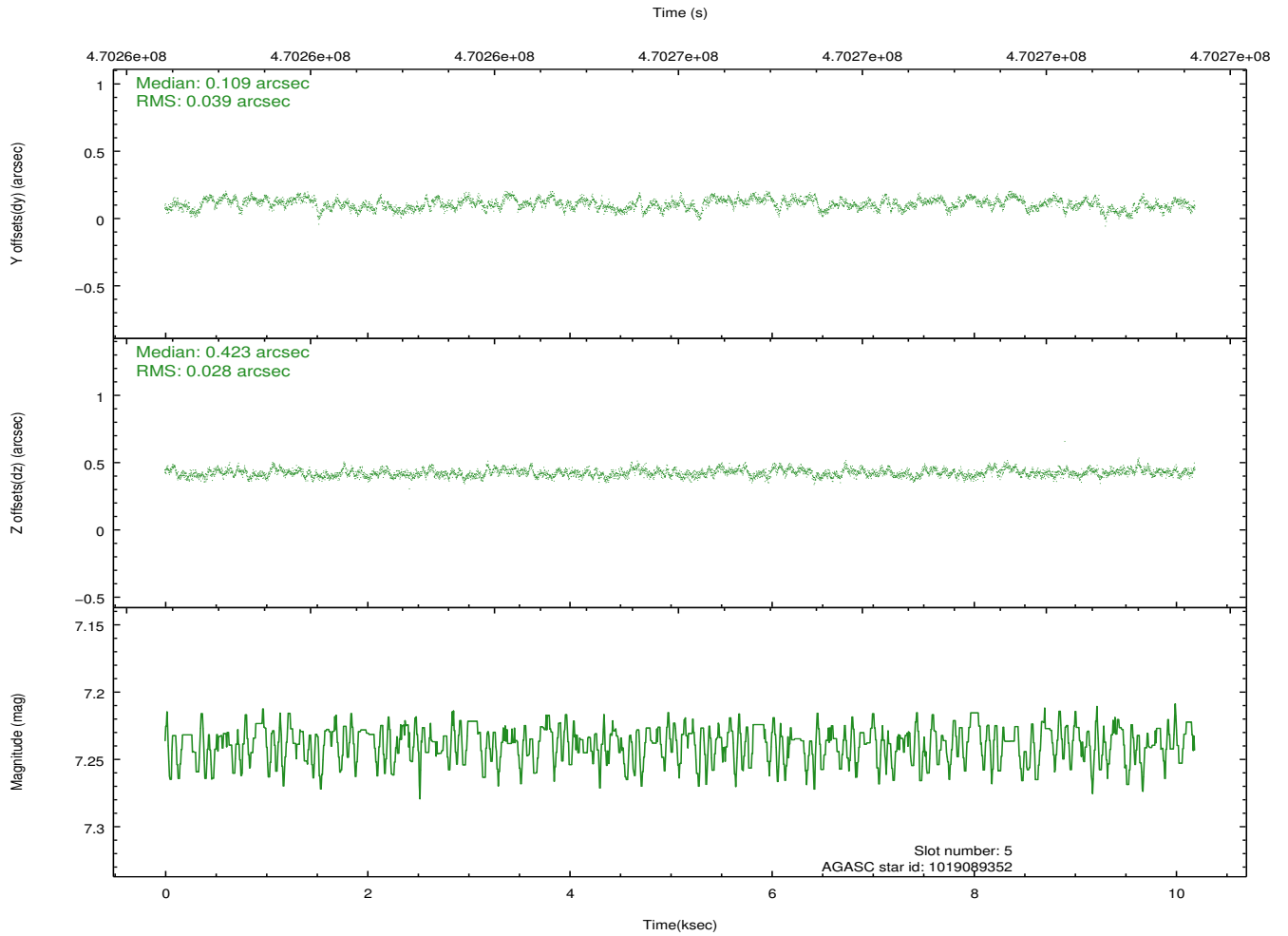
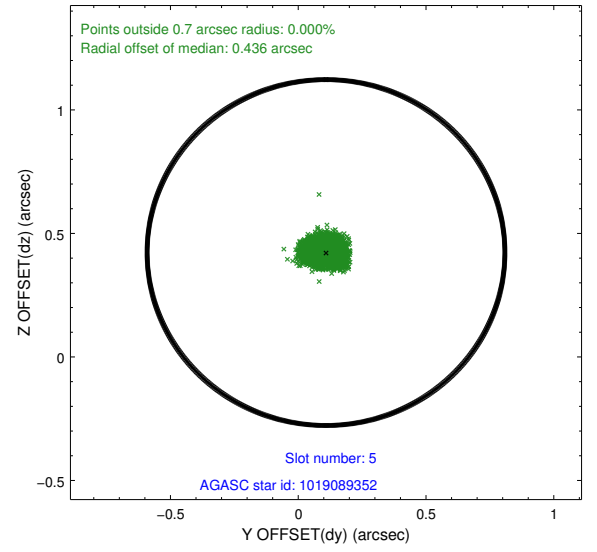
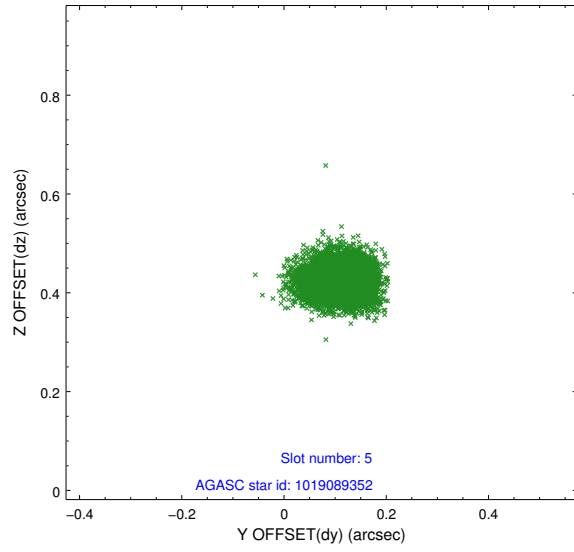
### 2.4.1 Slot 3



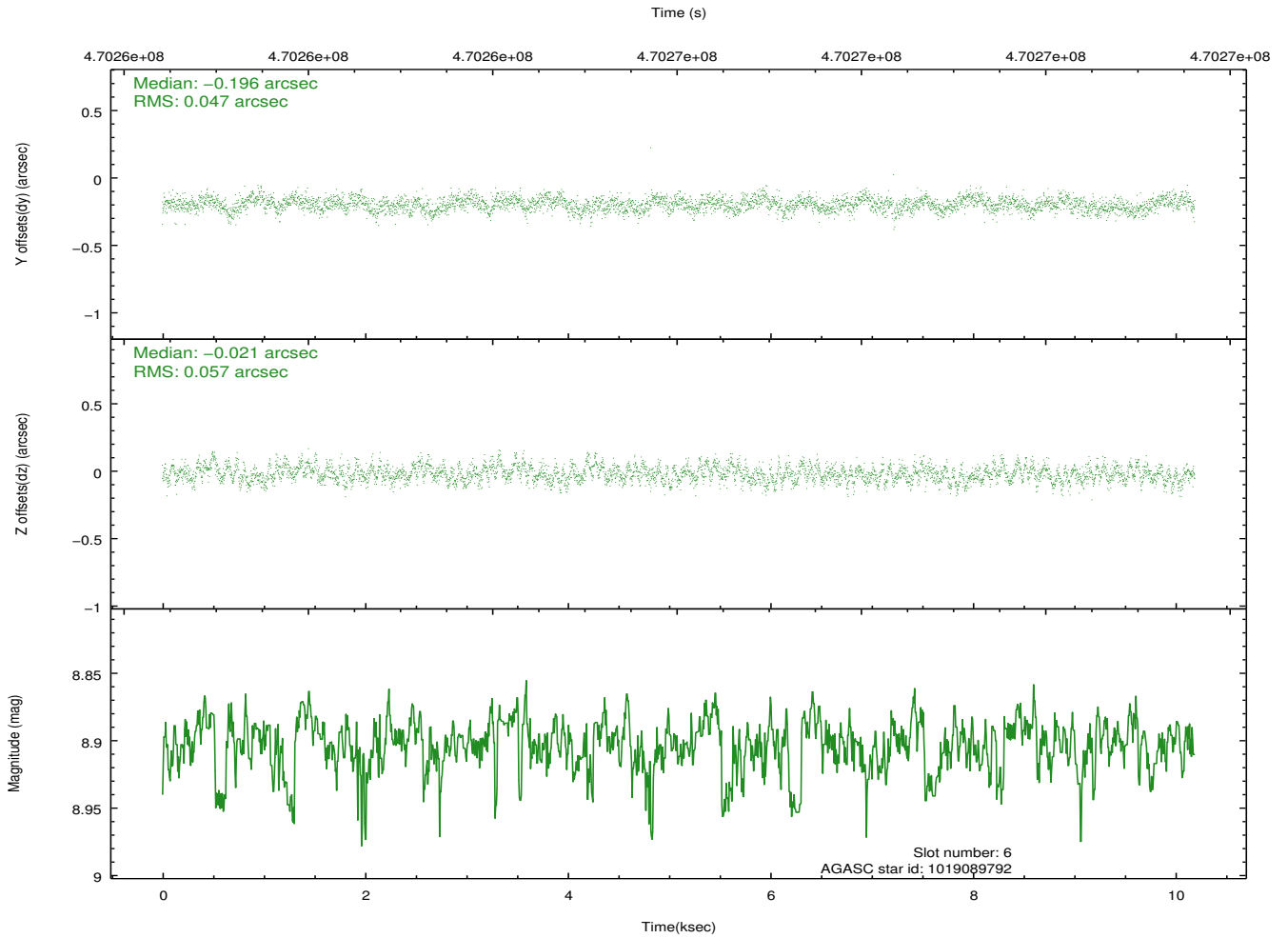
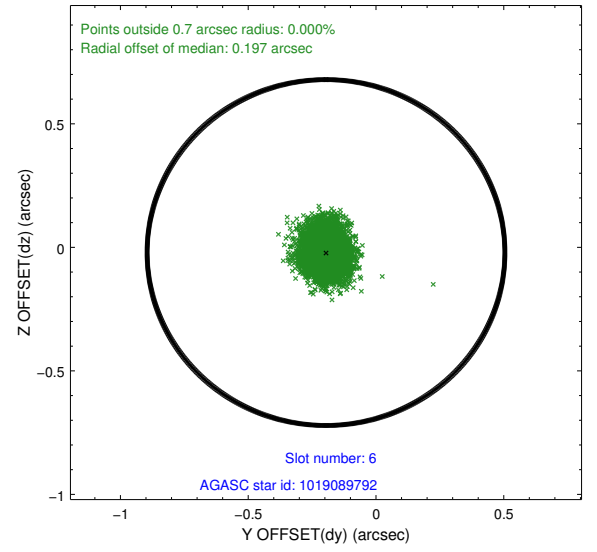
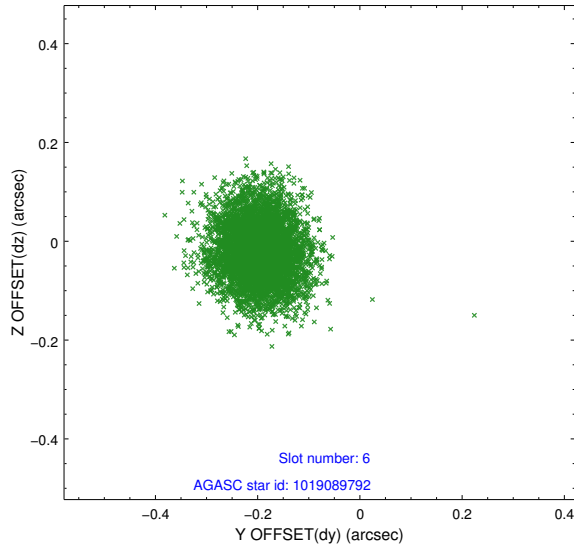
## 2.4.2 Slot 4



### 2.4.3 Slot 5

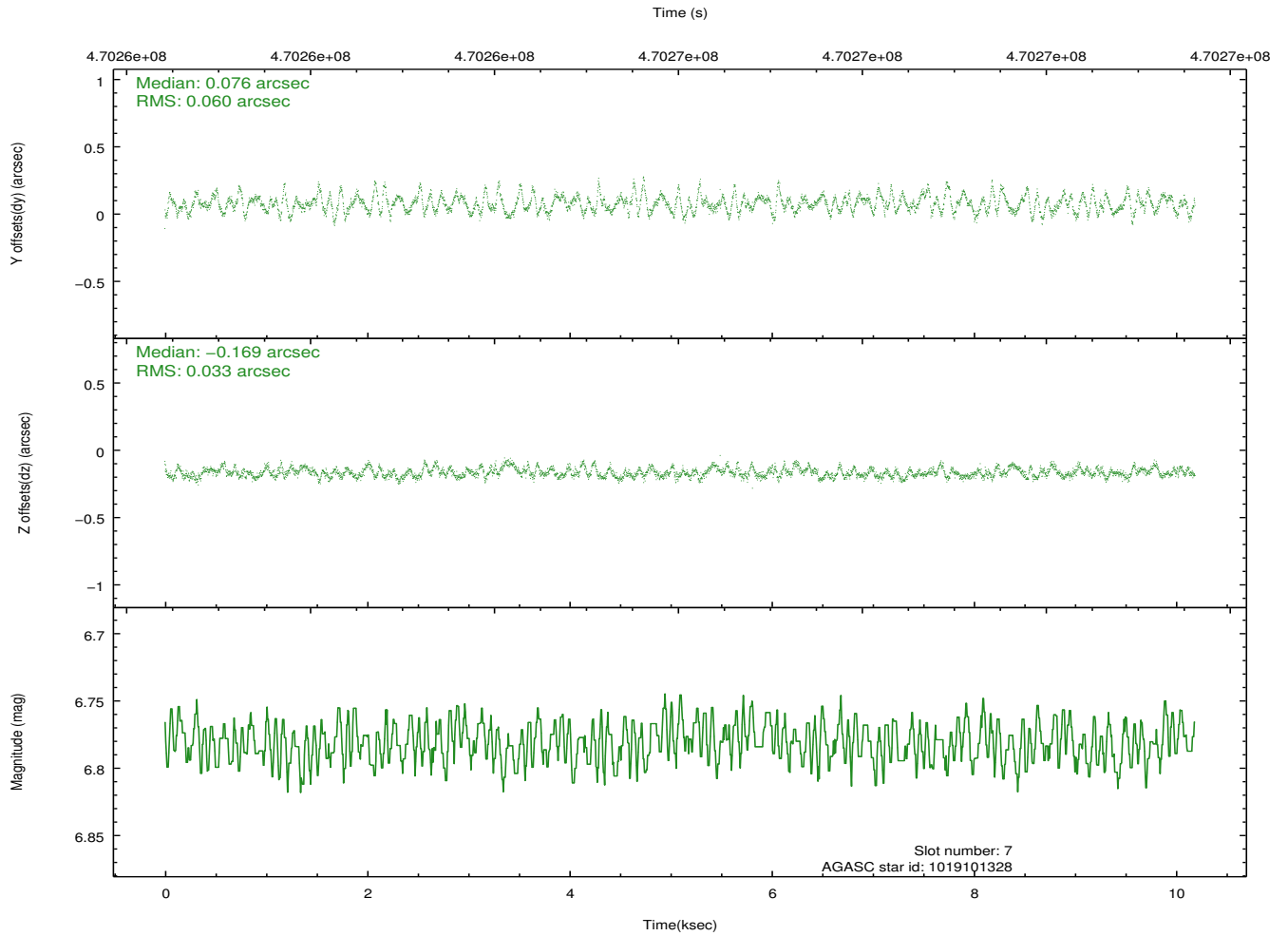
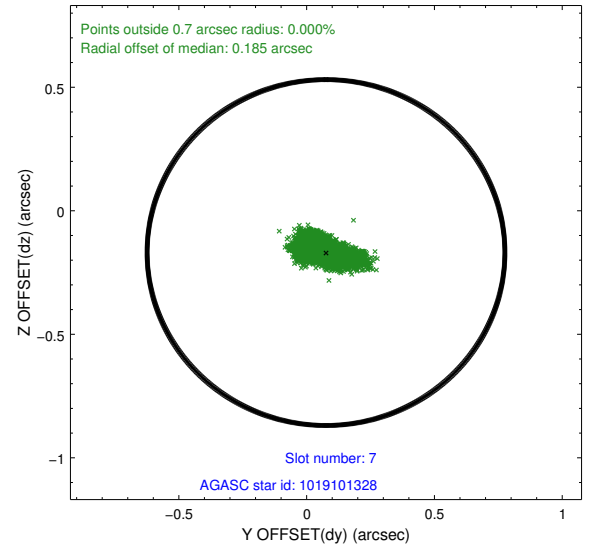
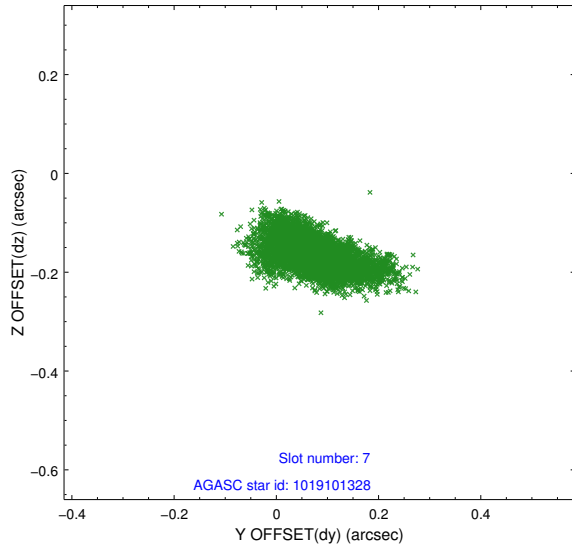


## 2.4.4 Slot 6



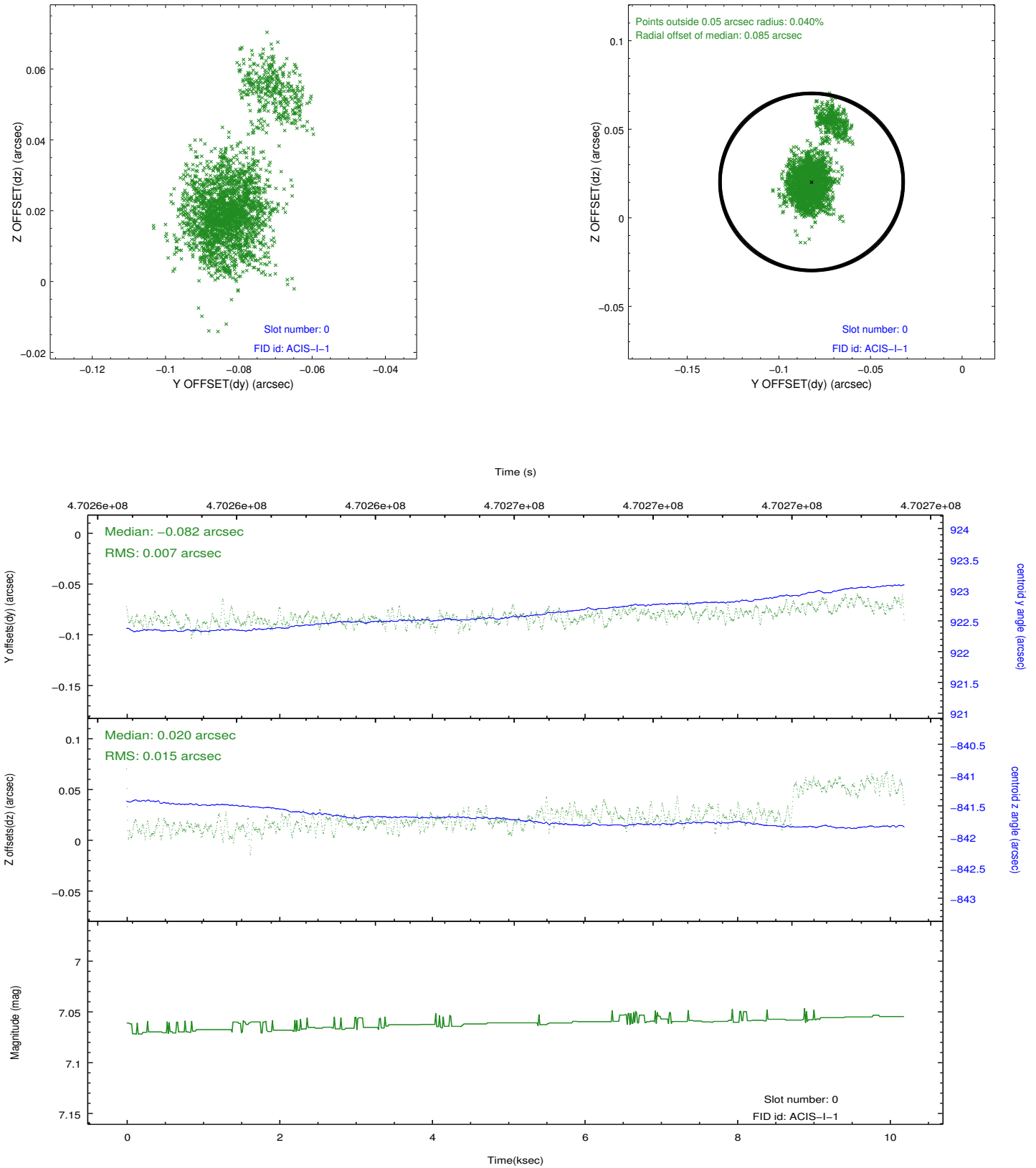


## 2.4.5 Slot 7

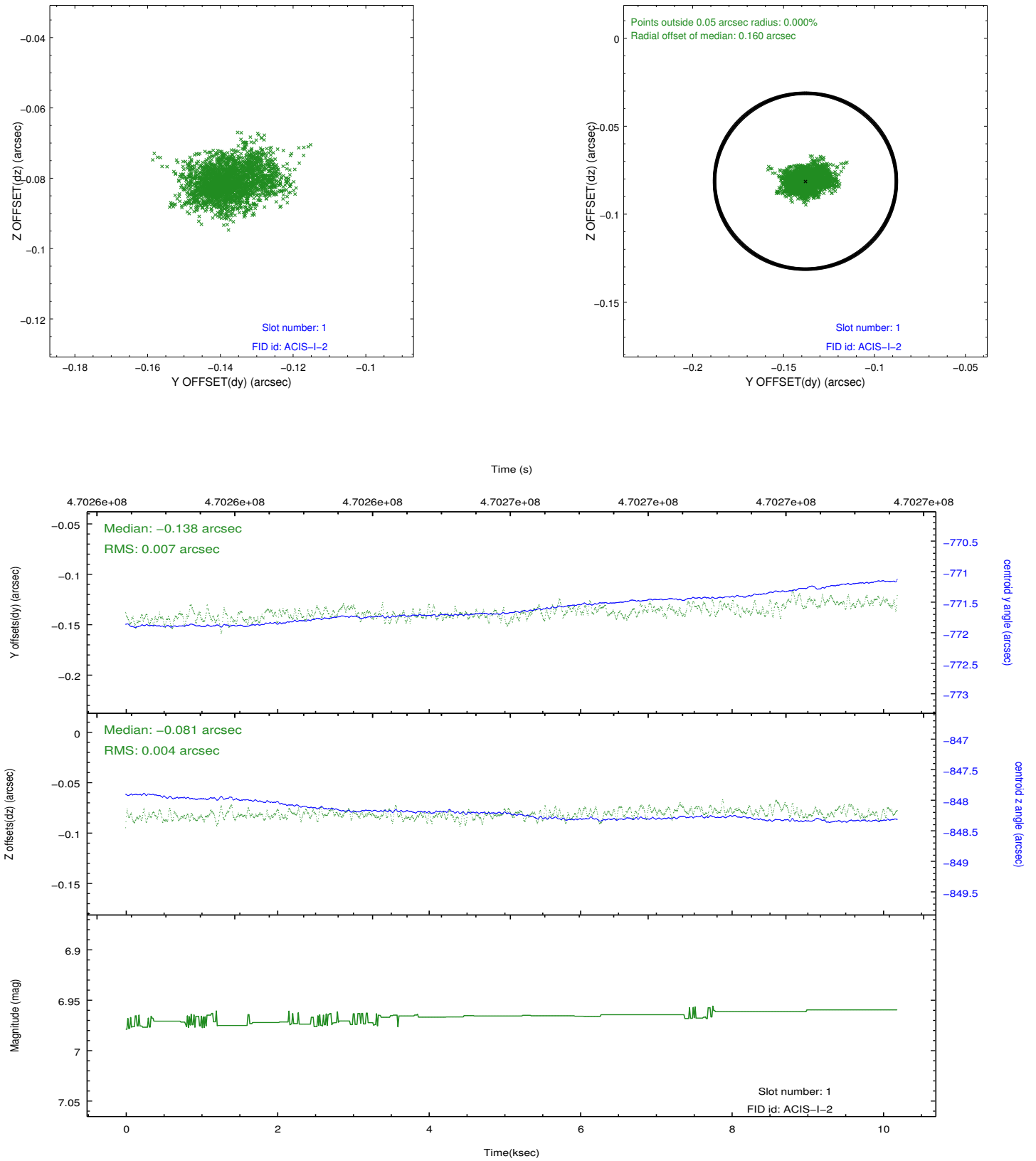


## 2.5 FID Slots

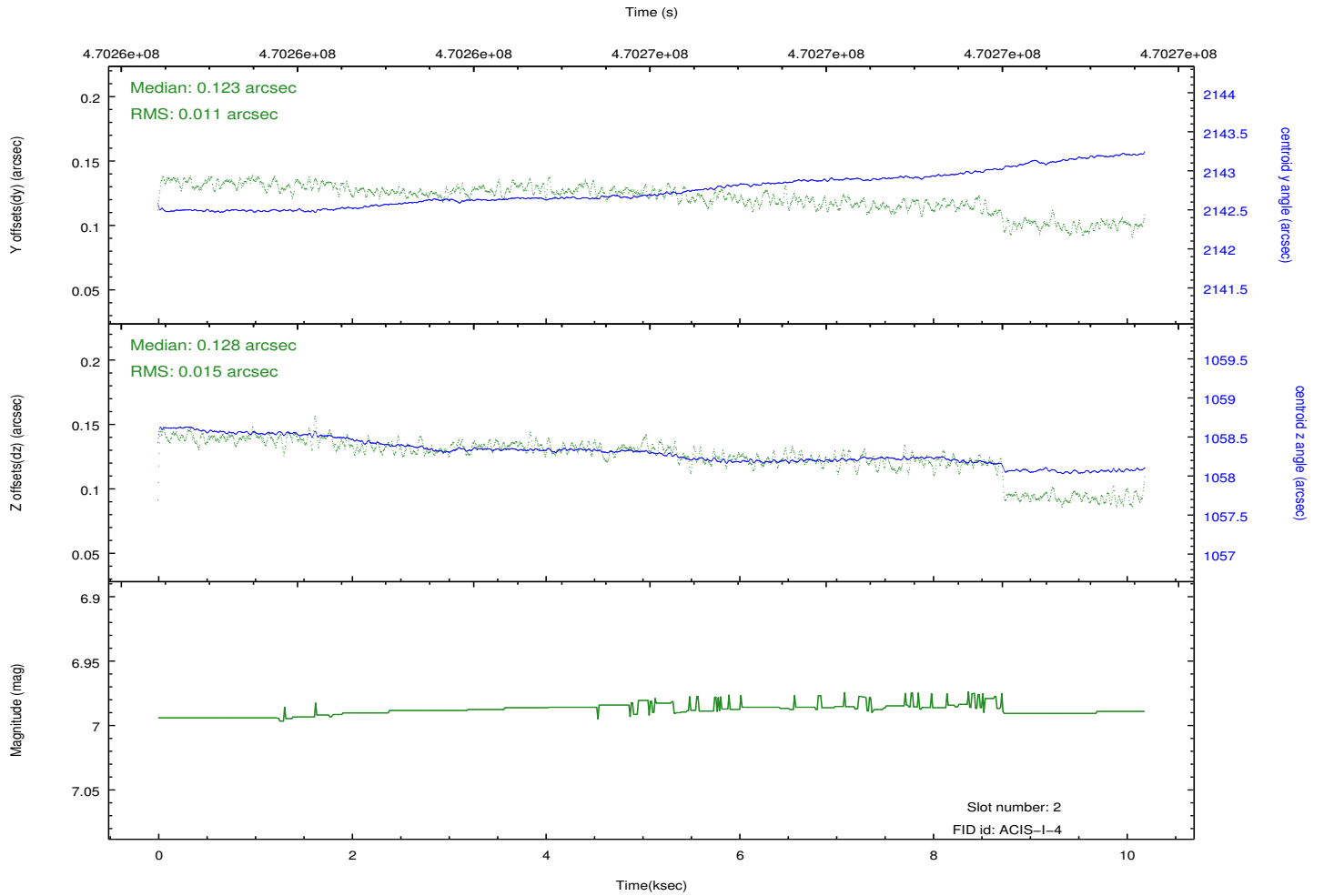
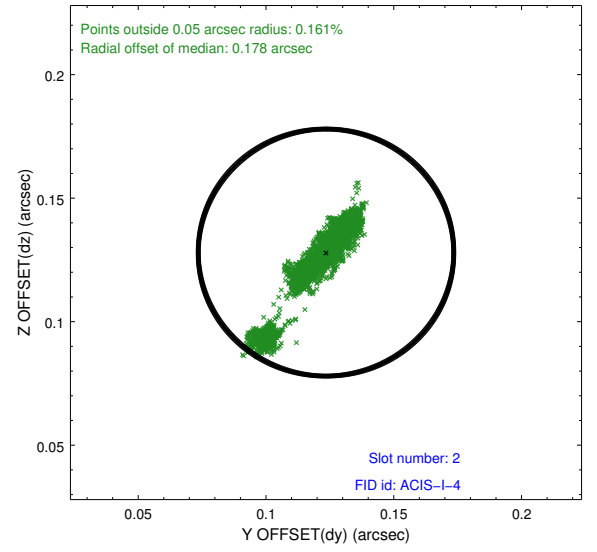
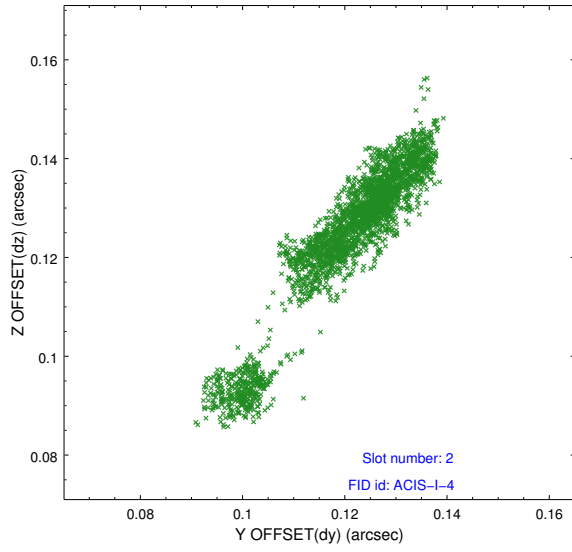
### 2.5.1 Slot 0



## 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)	2014.12.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.7712000751495

## A.2 Comments

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.