

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 8108 - L2 Version 2  
Chandra X-Ray Center

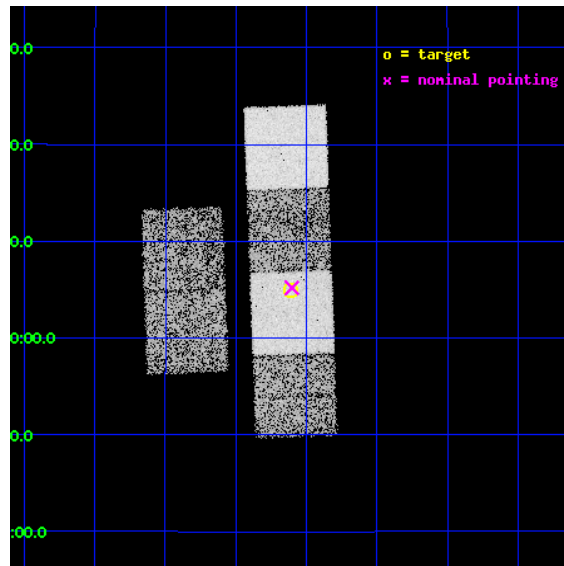
L2 Processing Date : May 10 2012

## 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

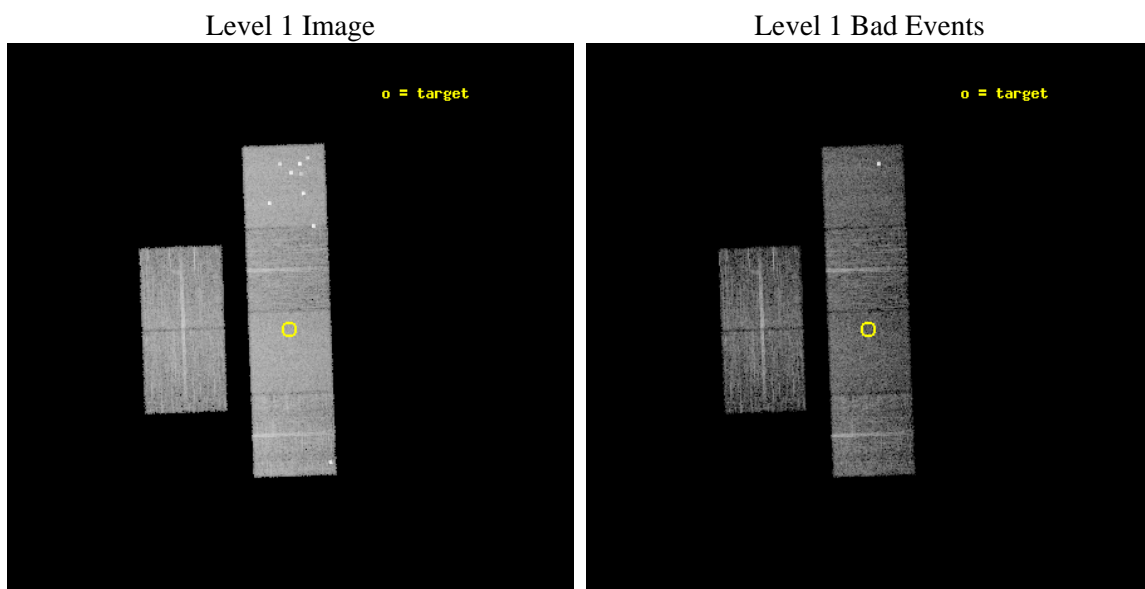
seq_num	900649	Sequence number
obs_id	8108	Observation id
title	The Duty Cycle of Supermassive Black Holes: X-raying Virgo	Proposa
observer	Prof Tommaso Treu	Principal investigator
object	1743	Source name
dtycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	189.528333	Observer's specified target RA [deg]
dec_targ	10.082389	Observer's specified target Dec [deg]
ra_nom	189.52586409467	Nominal RA [deg]
dec_nom	10.086486170803	Nominal Dec [deg]
roll_nom	87.905766336158	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5158.3999808431	Sum of GTIs [s]
livetime	5093.0812142701	Livetime [s]
ontime2	5158.3999808431	Sum of GTIs [s]
ontime3	5158.3999808431	Sum of GTIs [s]
ontime5	5158.3999808431	Sum of GTIs [s]
ontime6	5158.3999808431	Sum of GTIs [s]
ontime7	5158.3999808431	Sum of GTIs [s]
ontime8	5155.1589505672	Sum of GTIs [s]
l2events	82713	Number of level 2 events



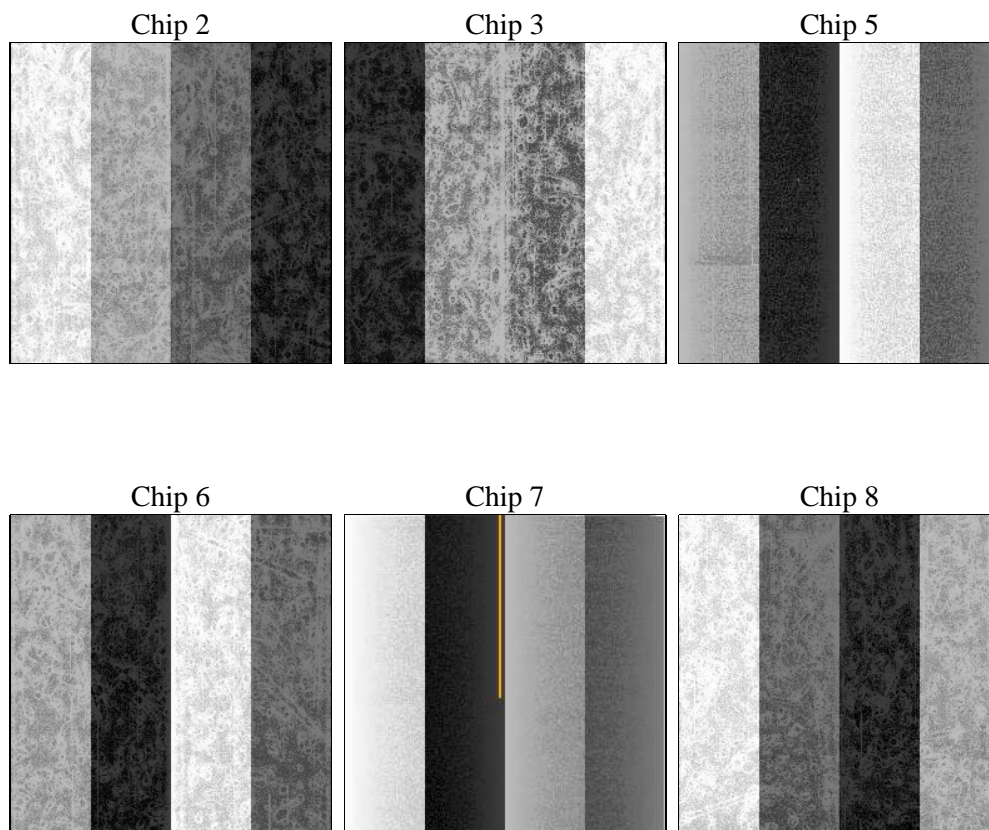
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	5400.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	5158.3999808431	Sum of GTIs [s]
caldsver	4.4.9	&#160	ontime2	5158.3999808431	Sum of GTIs [s]
date	2012-05-10T08:33:01	Date and time of file creation	ontime3	5158.3999808431	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	5158.3999808431	Sum of GTIs [s]
			ontime6	5158.3999808431	Sum of GTIs [s]
			ontime7	5158.3999808431	Sum of GTIs [s]
			ontime8	5155.1589505672	Sum of GTIs [s]
			l1events	375651	Number of level 1 events

### 2.1.4 Events

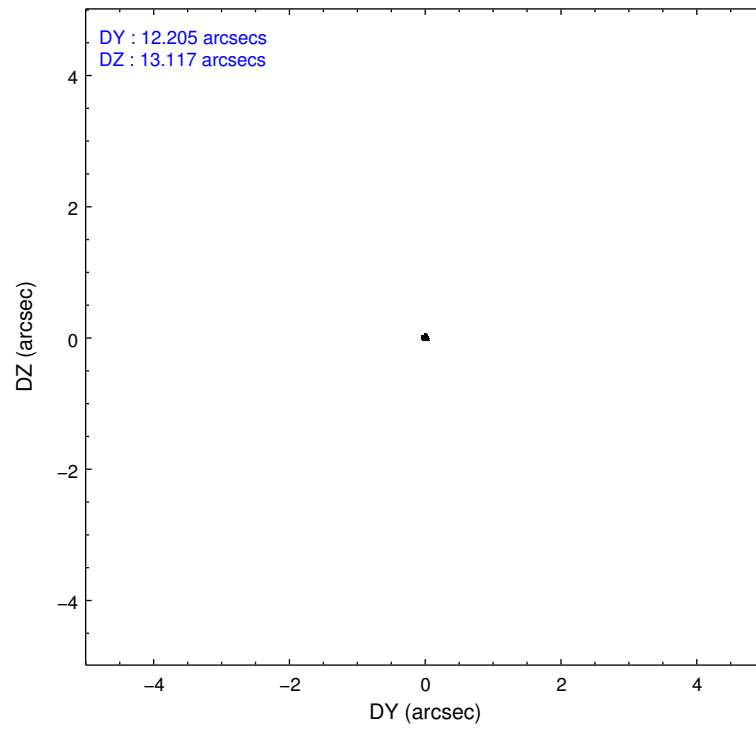
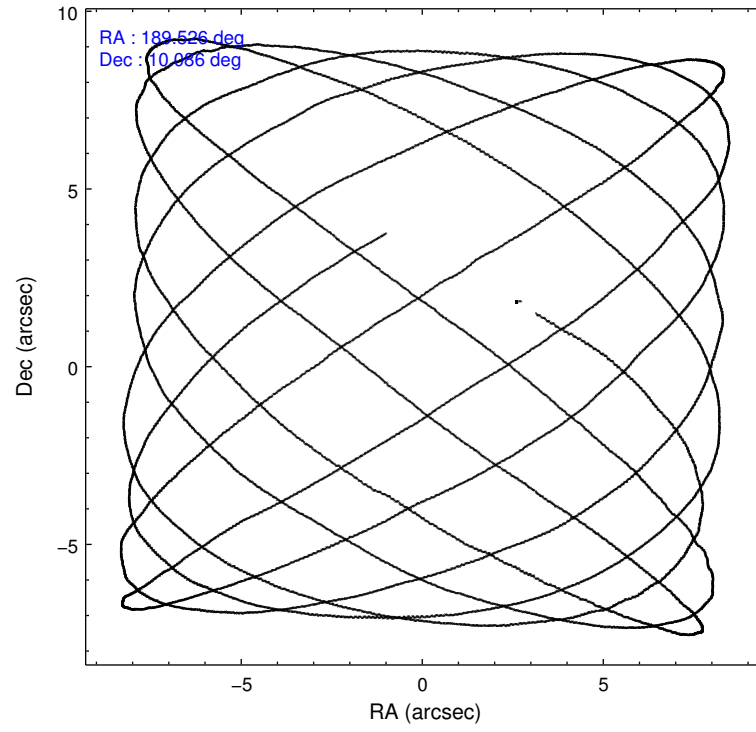
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	52553	49617	86057	51143	69981	66300	grade 0 events	2560	2609	7715	2339	2522	5721
rejected events	46715	43683	43482	45019	41457	51641		4%	5%	8%	4%	3%	8%
rejected %	88%	88%	50%	88%	59%	77%	grade 1 events	25	19	108	25	77	69
								0%	0%	0%	0%	0%	0%
							grade 2 events	1219	1205	11700	1410	5827	2947
								2%	2%	13%	2%	8%	4%
							grade 3 events	531	566	1412	586	2355	1413
								1%	1%	1%	1%	3%	2%
							grade 4 events	545	563	1213	559	2307	1356
								1%	1%	1%	1%	3%	2%
							grade 5 events	1925	2234	5200	2387	6454	3114
								3%	4%	6%	4%	9%	4%
							grade 6 events	990	996	20562	1235	15535	3254
								1%	2%	23%	2%	22%	4%
							grade 7 events	44758	41425	38147	42602	34904	48426
								85%	83%	44%	83%	49%	73%

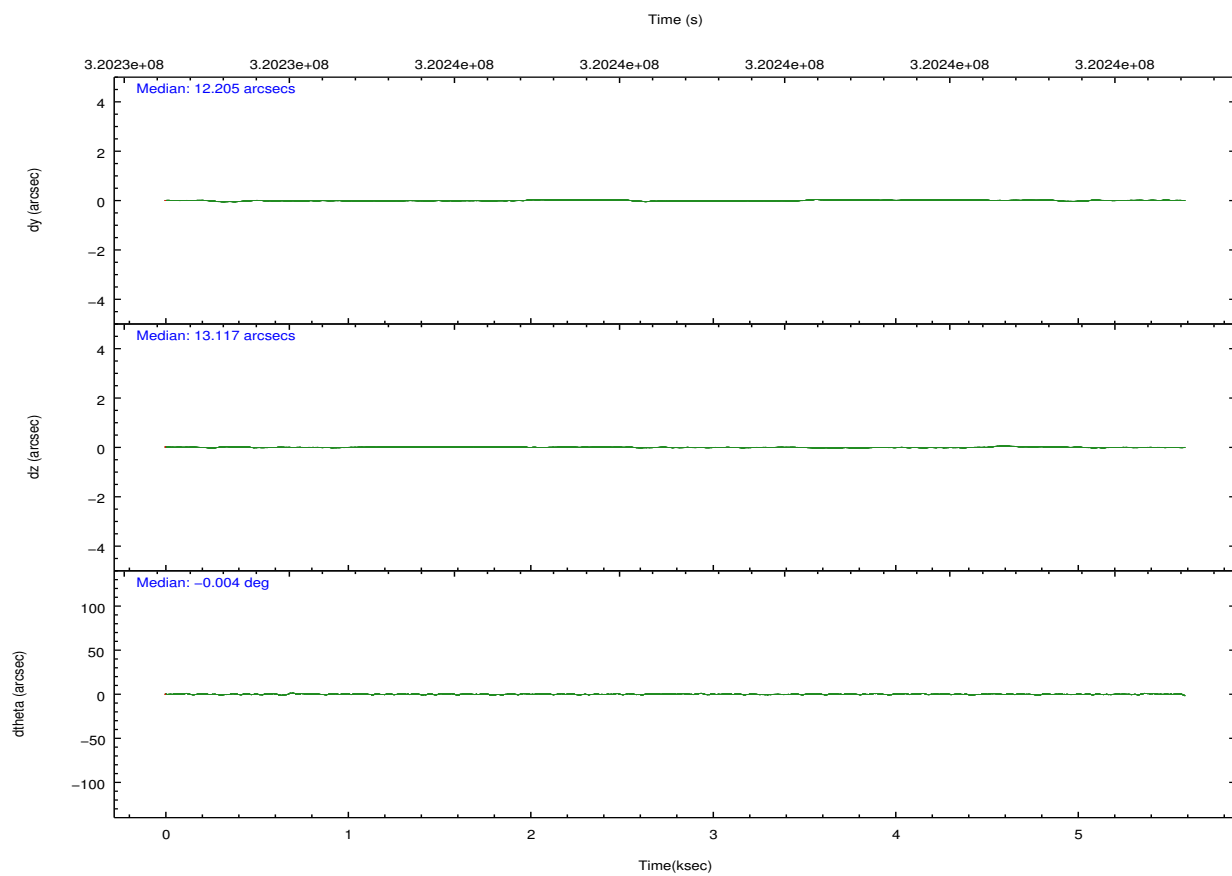
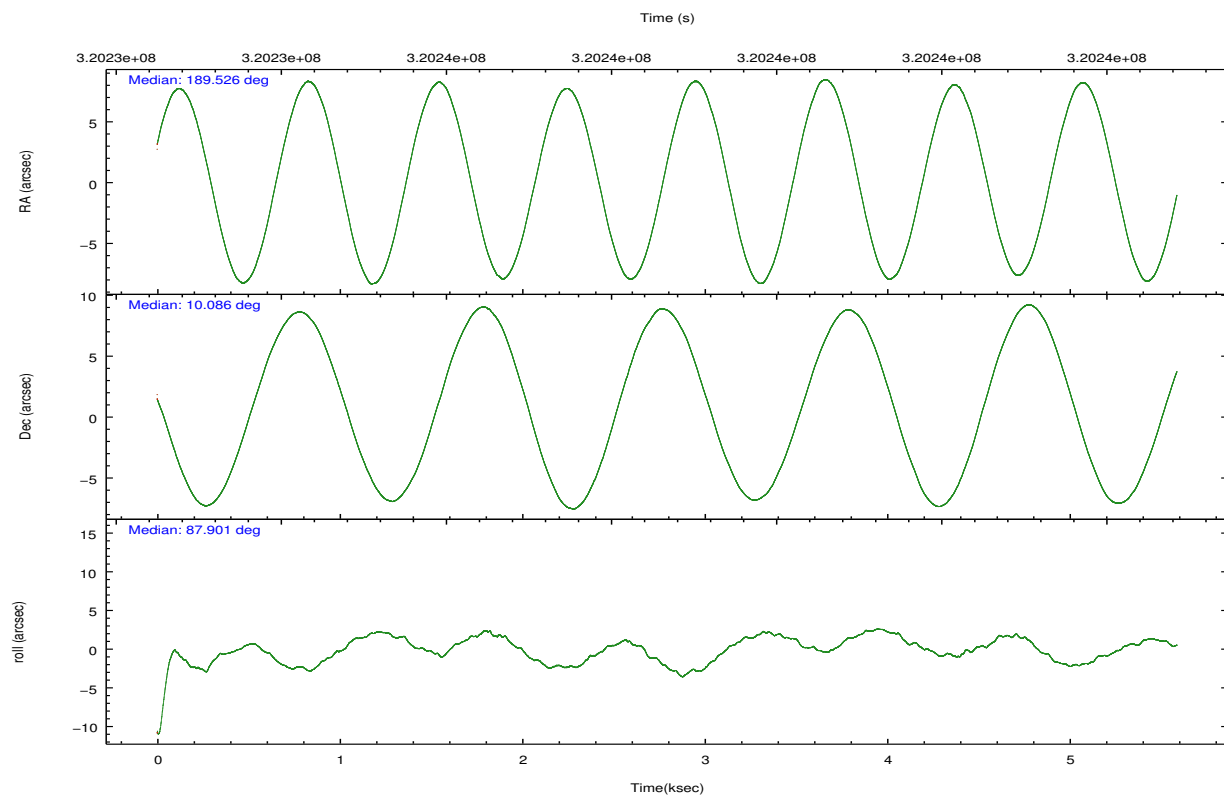


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	189.539236	189.5258640946704	CCD I2 on	O1	Y
[deg] Pointing Dec	10.062618	10.08648617080296	CCD I3 on	O2	Y
[deg] Pointing Roll	87.746809	87.9057663361576	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O3	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	O4	Y
[s] Observation start time (MET)	320233720.184000	320233250.98082	CCD S5 on	N	N
Observation start date	2008-02-24T09:47:35	2008-02-24T09:40:50	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	320239120.184000	320239370.74362	On-chip summing requested	N	N
Observation end date	2008-02-24T11:17:35	2008-02-24T11:22:50	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



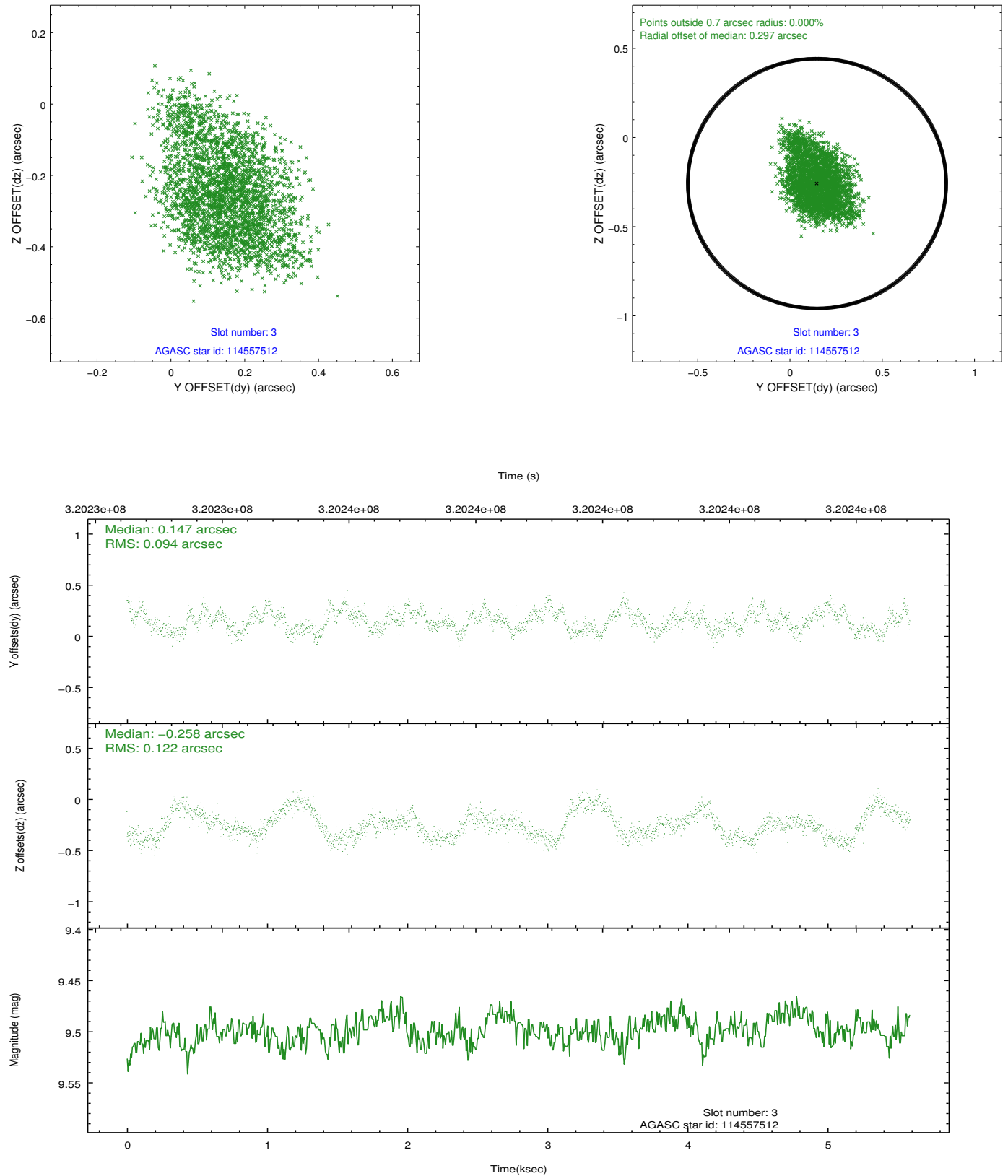


### Slot Statistics

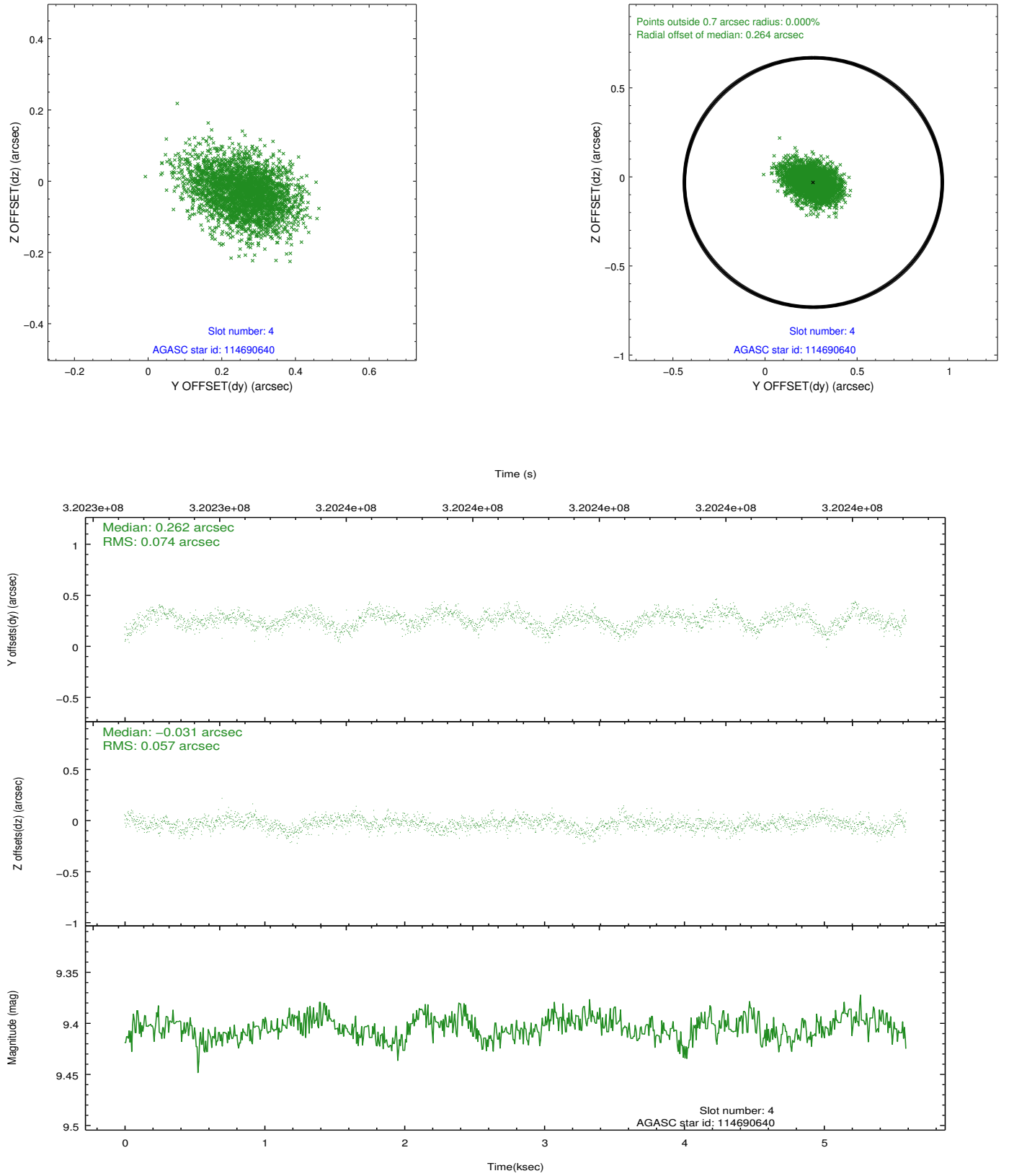
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	1364	-0.022	-0.050	0.006	0.010	0.000000	0.000000	-765.13	-1734.49
1	FID	ACIS-S-4	7.20	1364	0.115	0.024	0.005	0.010	0.000000	0.000000	2147.80	172.94
2	FID	ACIS-S-5	7.24	1364	-0.124	0.035	0.006	0.011	0.000000	0.000000	-1816.69	167.86
3	GUIDE	114557512	9.50	2723	0.147	-0.258	0.164	0.266	188.882545	9.657451	-1546.47	2271.55
4	GUIDE	114690640	9.40	2723	0.262	-0.031	0.098	0.163	189.227794	9.605172	-1688.00	1041.00
5	GUIDE	115087152	7.18	2726	-0.217	-0.199	0.051	0.081	189.409753	10.584138	1857.81	531.88
6	GUIDE	115087240	9.24	2724	-0.106	0.556	0.099	0.162	189.980657	10.358703	1128.83	-1519.13
7	GUIDE	115089856	8.81	2725	-0.082	-0.071	0.093	0.143	189.118504	10.729832	2343.14	1581.08

## 2.4 Star Slots

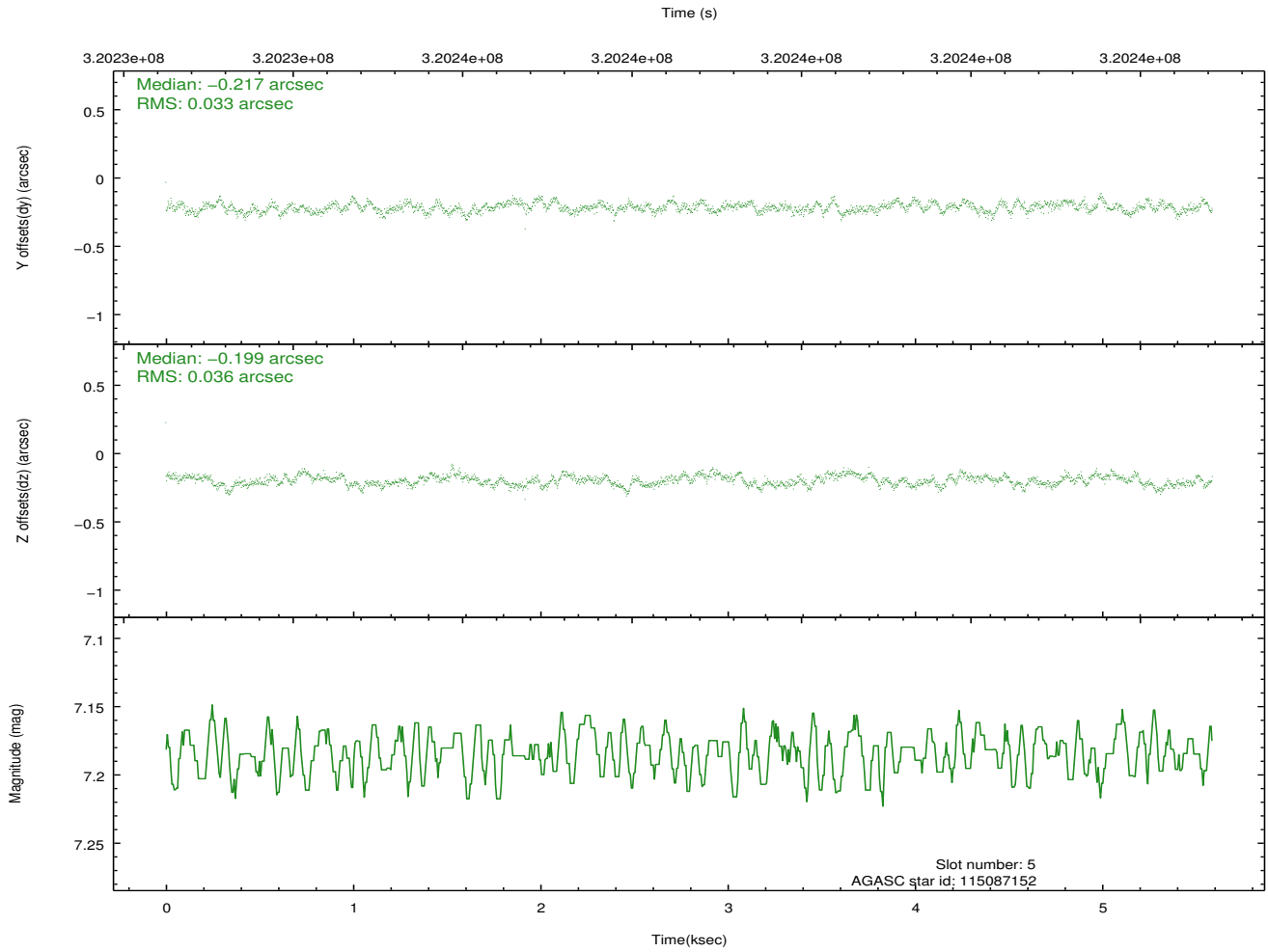
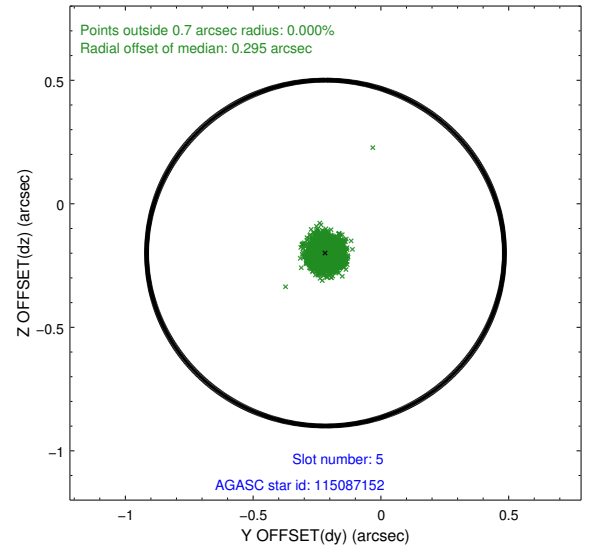
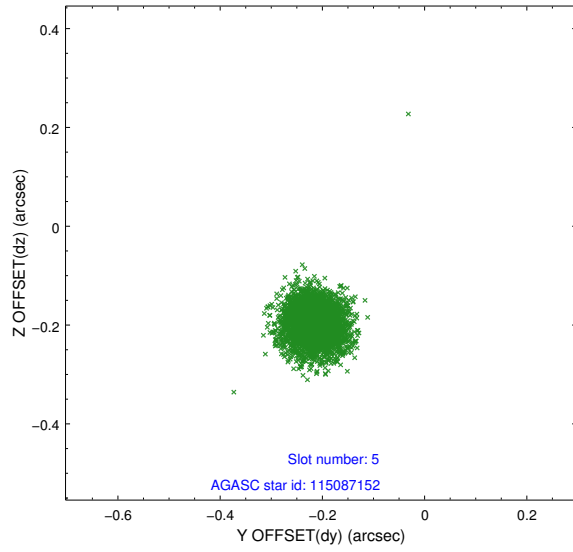
### 2.4.1 Slot 3



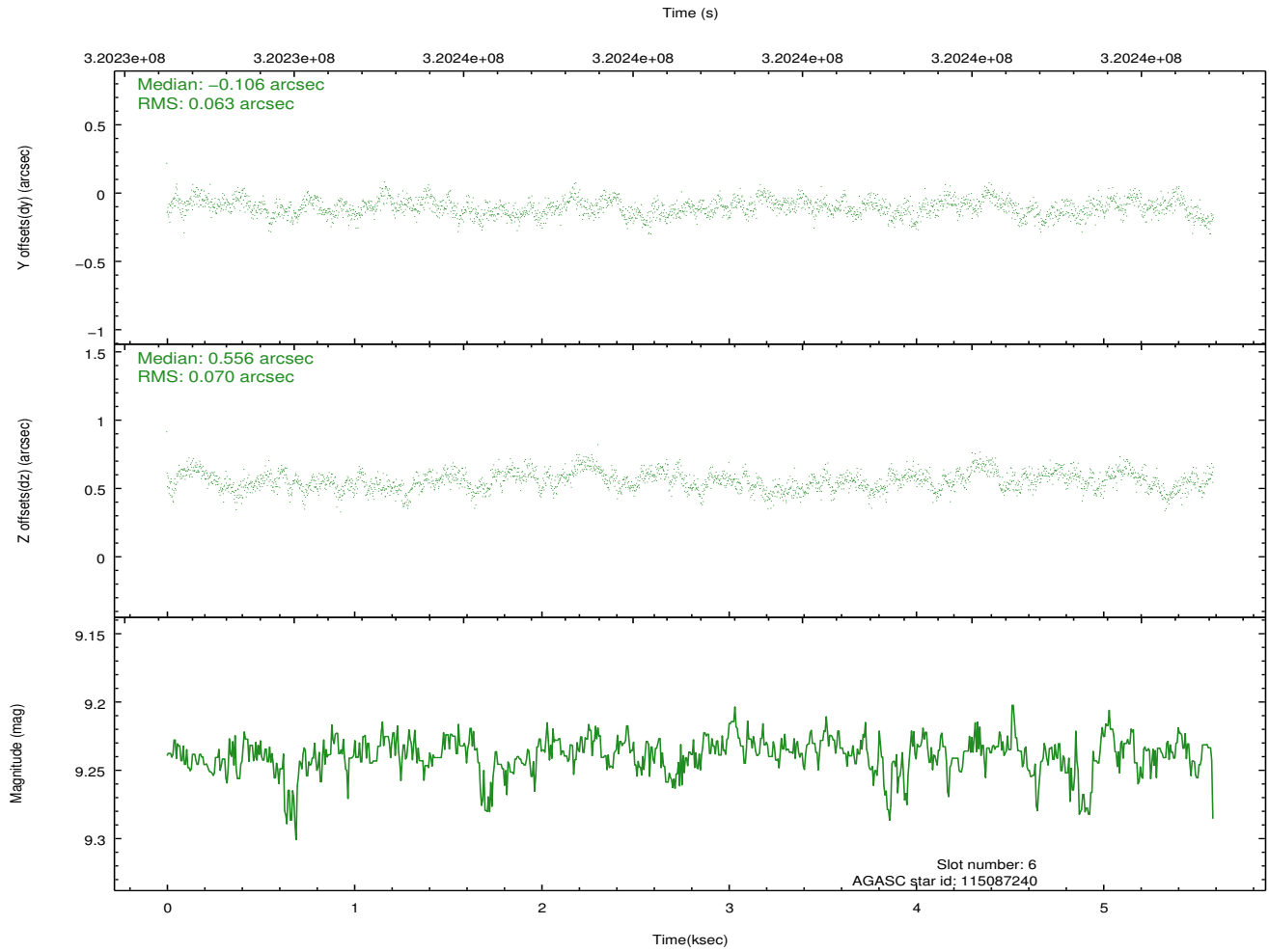
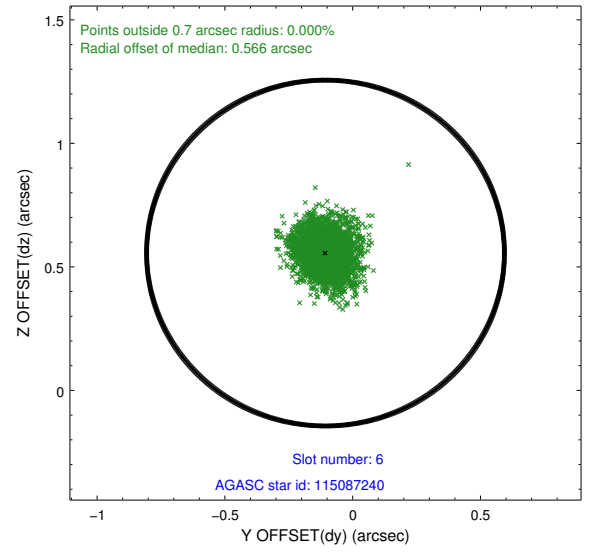
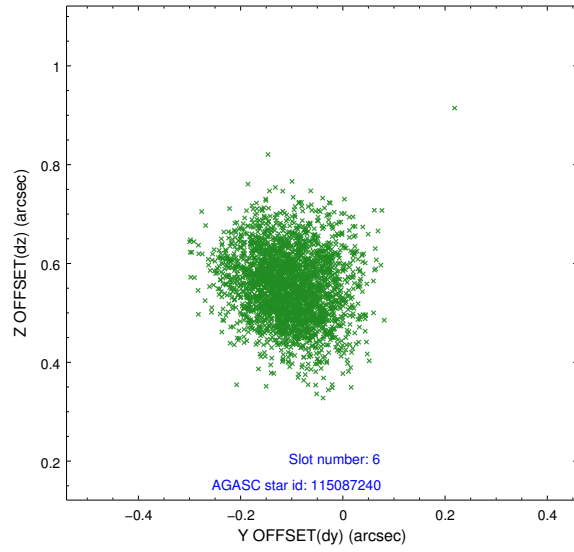
## 2.4.2 Slot 4



### 2.4.3 Slot 5

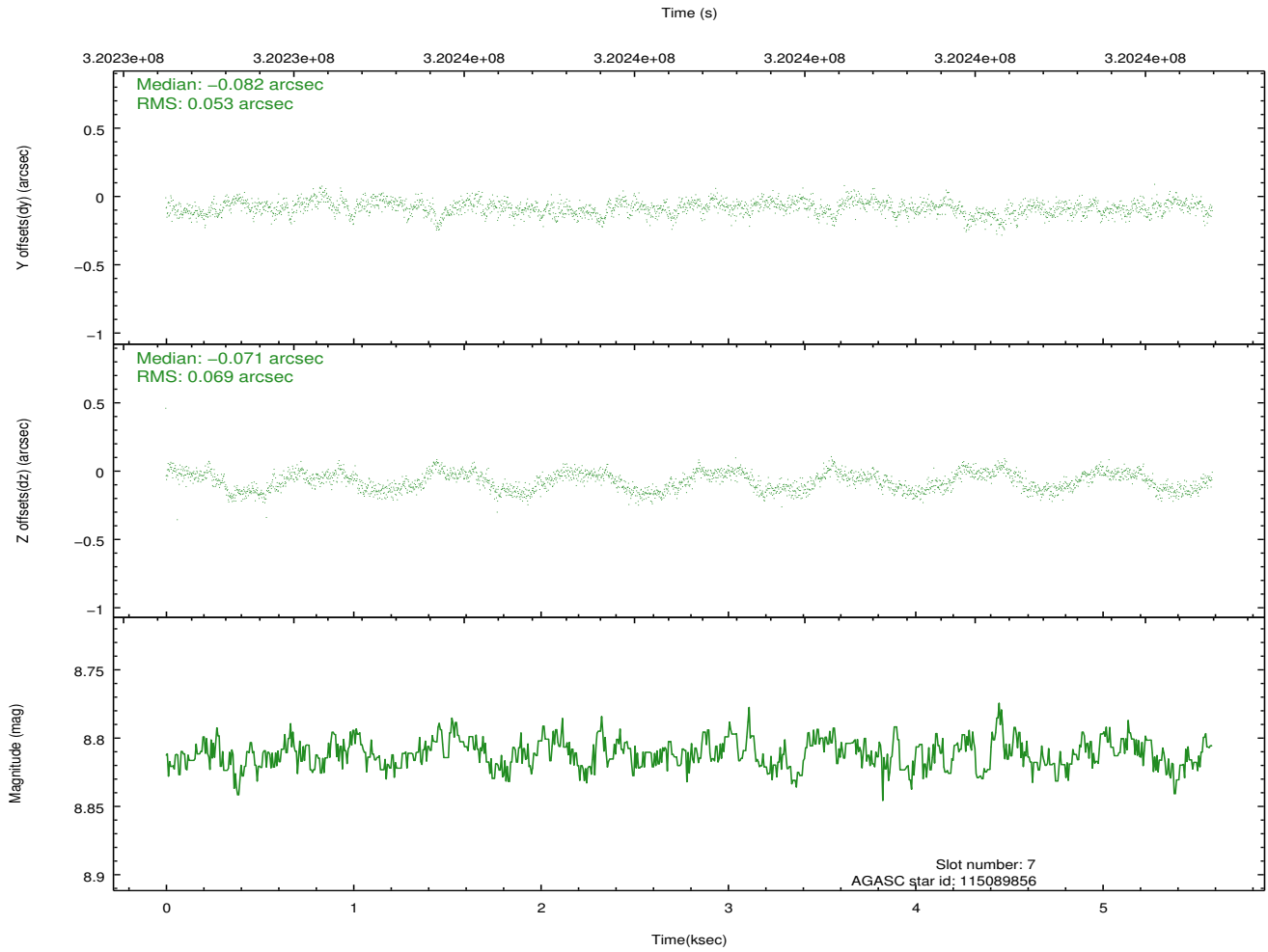
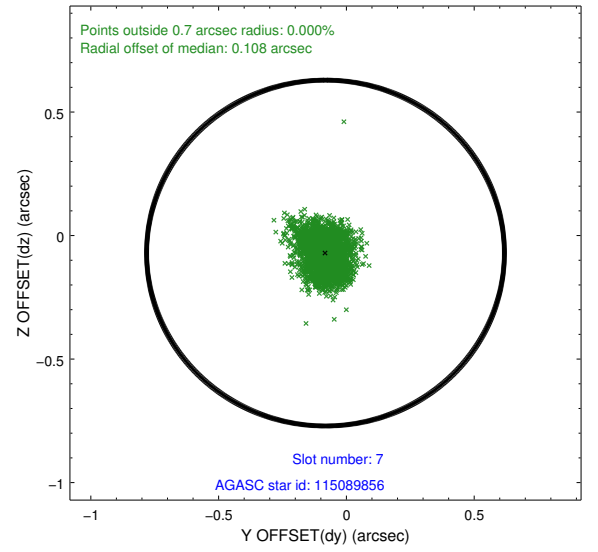
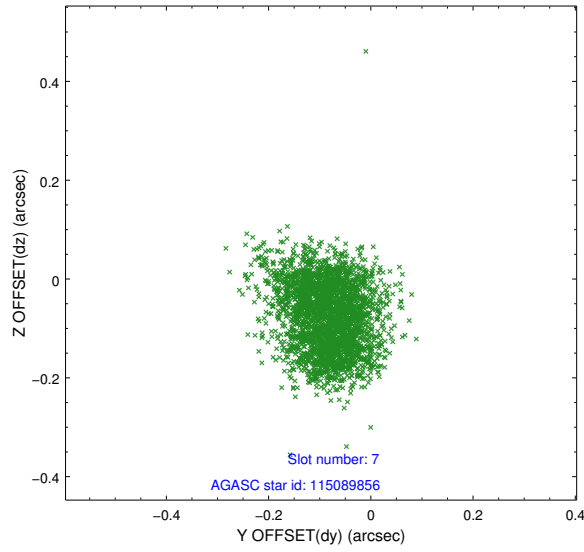


## 2.4.4 Slot 6



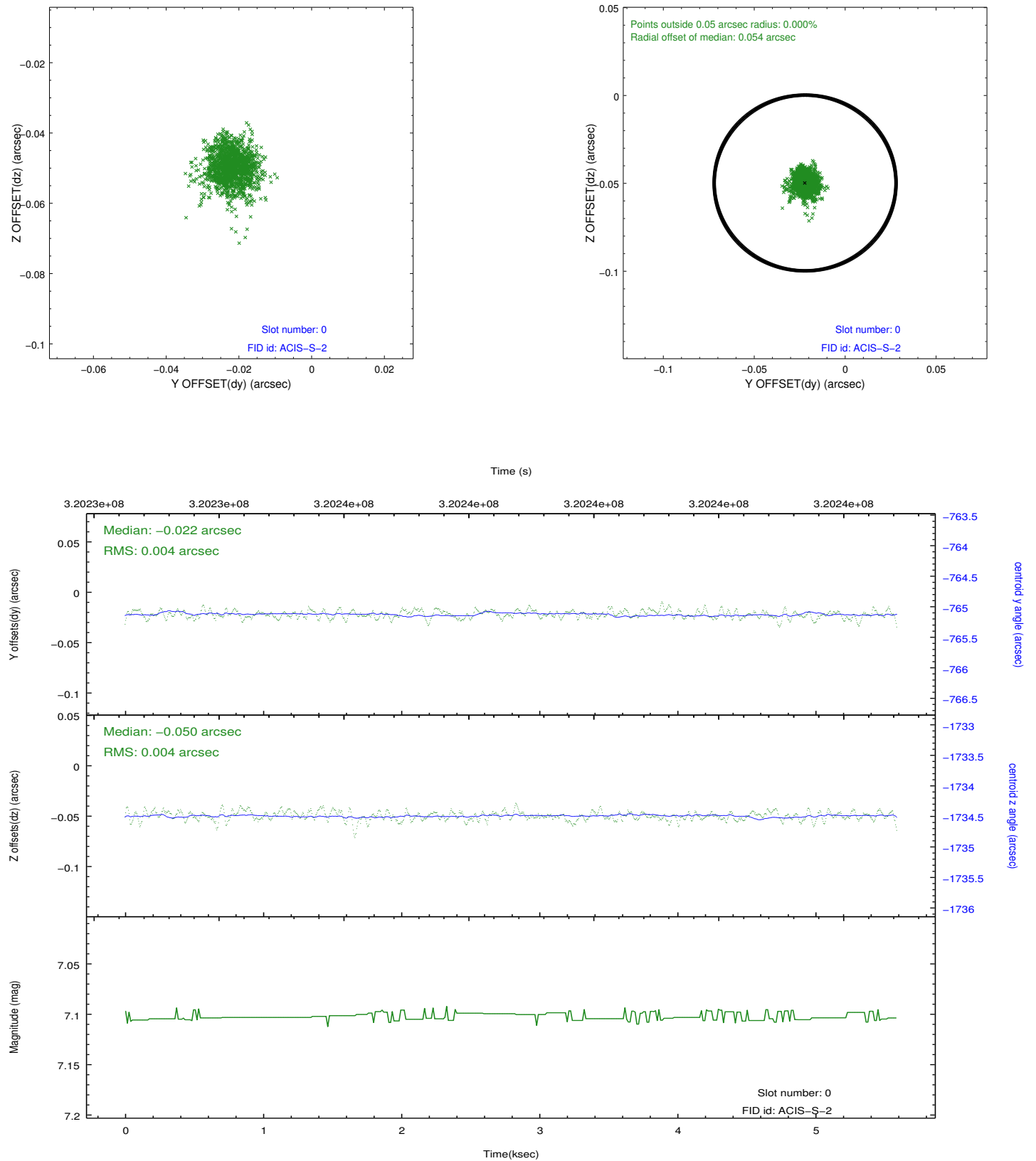


## 2.4.5 Slot 7

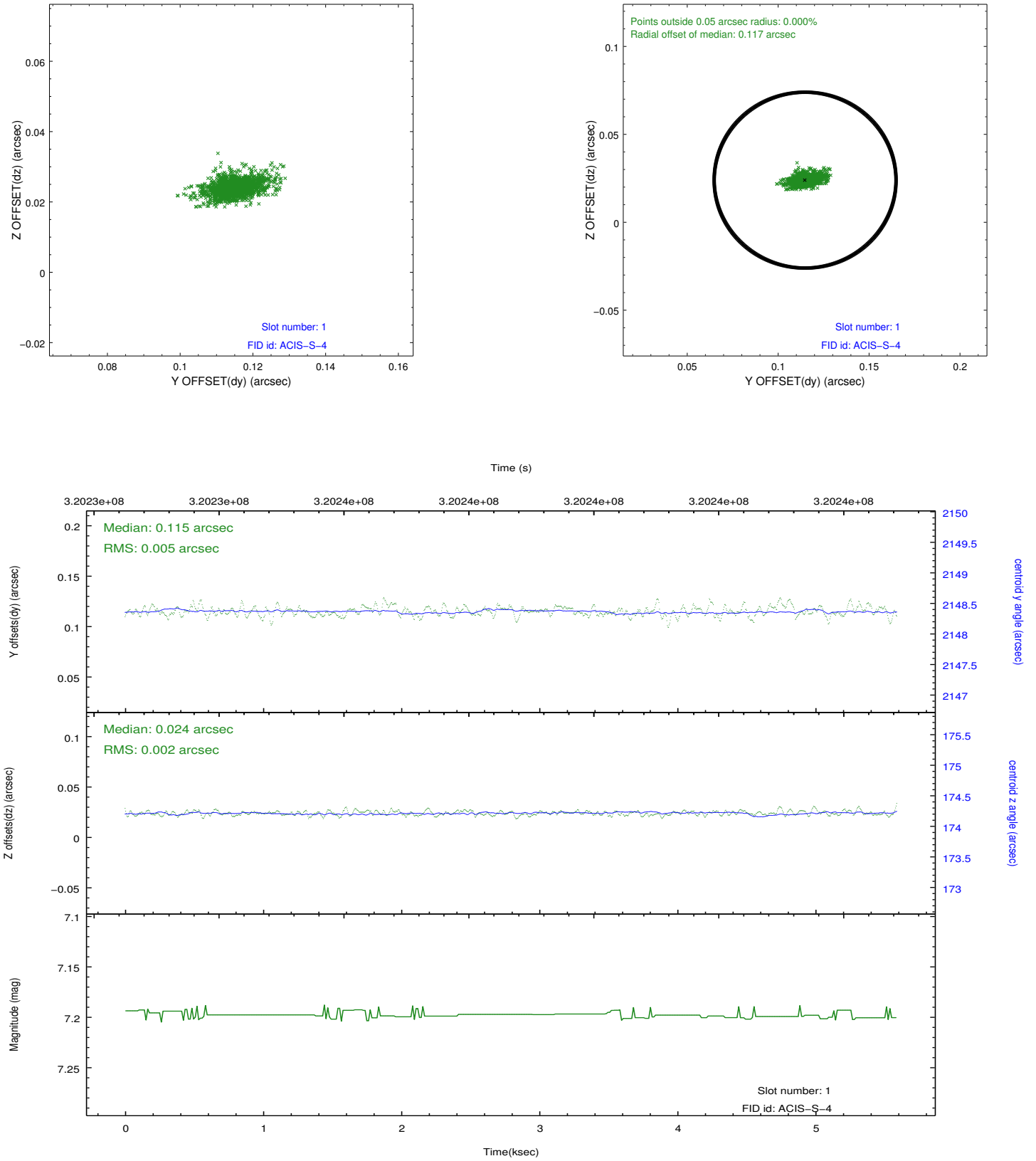


## 2.5 FID Slots

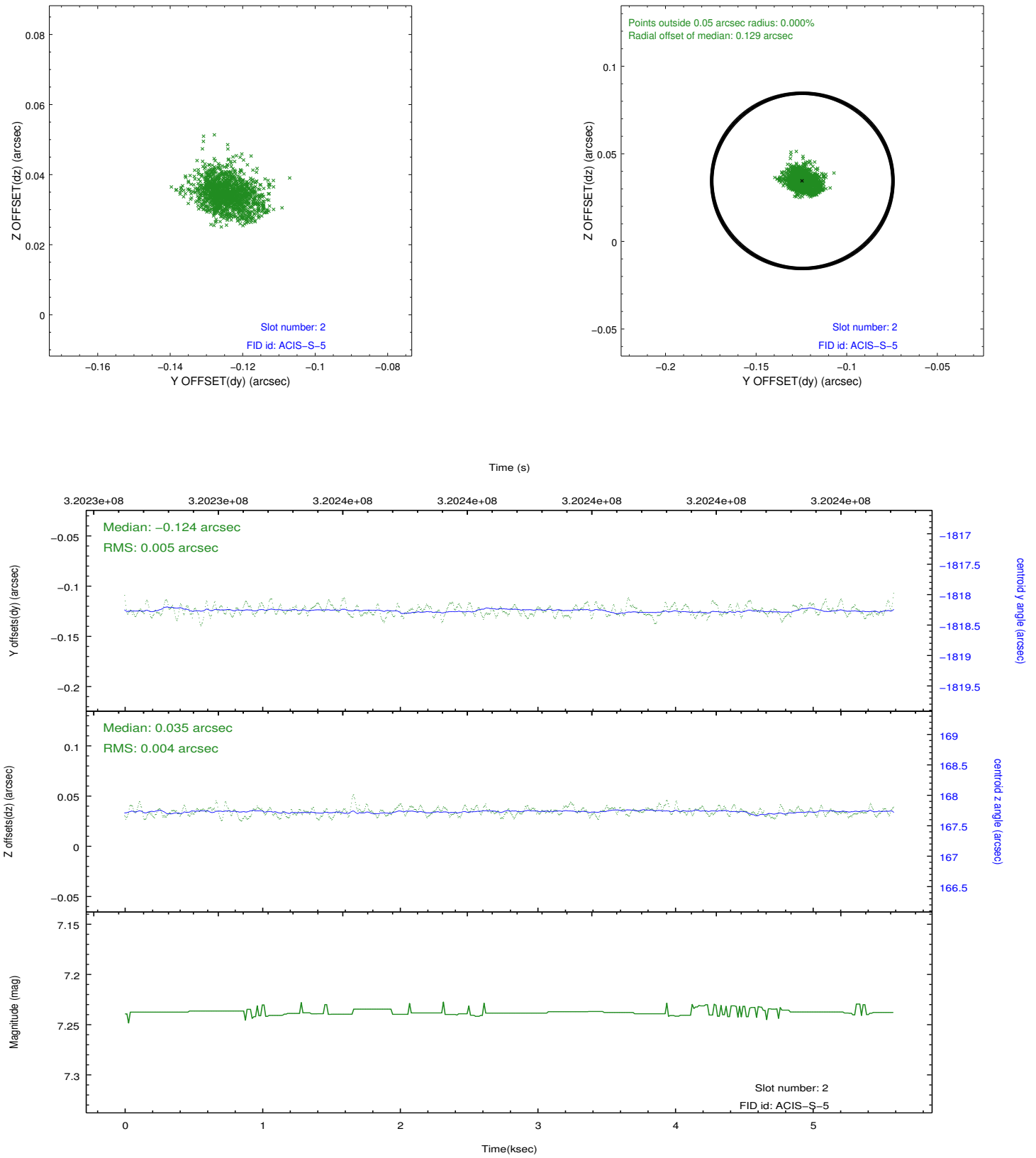
### 2.5.1 Slot 0



## 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)	2012.05.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.15839998

### A.2 Comments

Joint Proposal: Spitzer