

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 8048 - L2 Version 3  
Chandra X-Ray Center

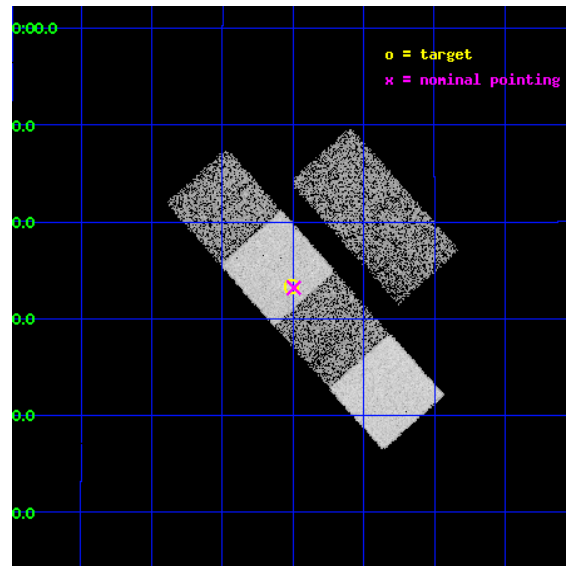
L2 Processing Date : Apr 23 2012

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# 1 Front

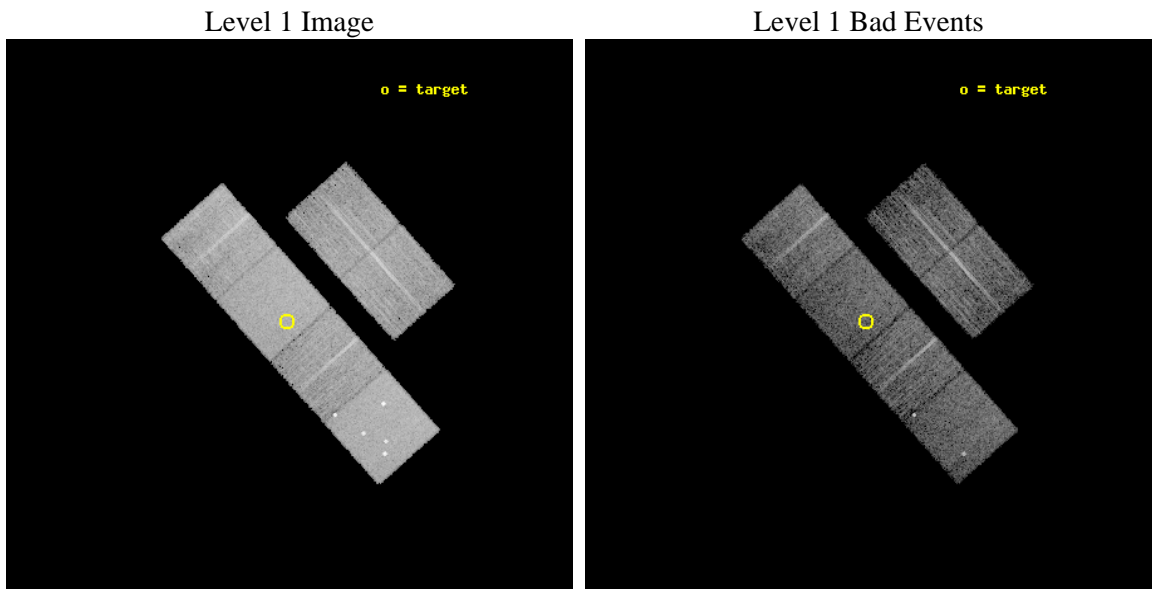
seq_num	900589	Sequence number
obs_id	8048	Observation id
title	The Duty Cycle of Supermassive Black Holes: X-raying Virgo	Proposa
observer	Prof Tommaso Treu	Principal investigator
object	1720	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	189.3775	Observer's specified target RA [deg]
dec_targ	9.555222	Observer's specified target Dec [deg]
ra_nom	189.37352814848	Nominal RA [deg]
dec_nom	9.5531790184873	Nominal Dec [deg]
roll_nom	228.25085329301	Nominal Roll [deg]
revision	3	Processing version of data
ontime	5157.4764134288	Sum of GTIs [s]
livetime	5092.1693416225	Livetime [s]
ontime2	5157.5174633265	Sum of GTIs [s]
ontime3	5157.3532934189	Sum of GTIs [s]
ontime5	5157.4353734255	Sum of GTIs [s]
ontime6	5157.3943334222	Sum of GTIs [s]
ontime7	5157.4764134288	Sum of GTIs [s]
ontime8	5154.0712035298	Sum of GTIs [s]
l2events	80090	Number of level 2 events



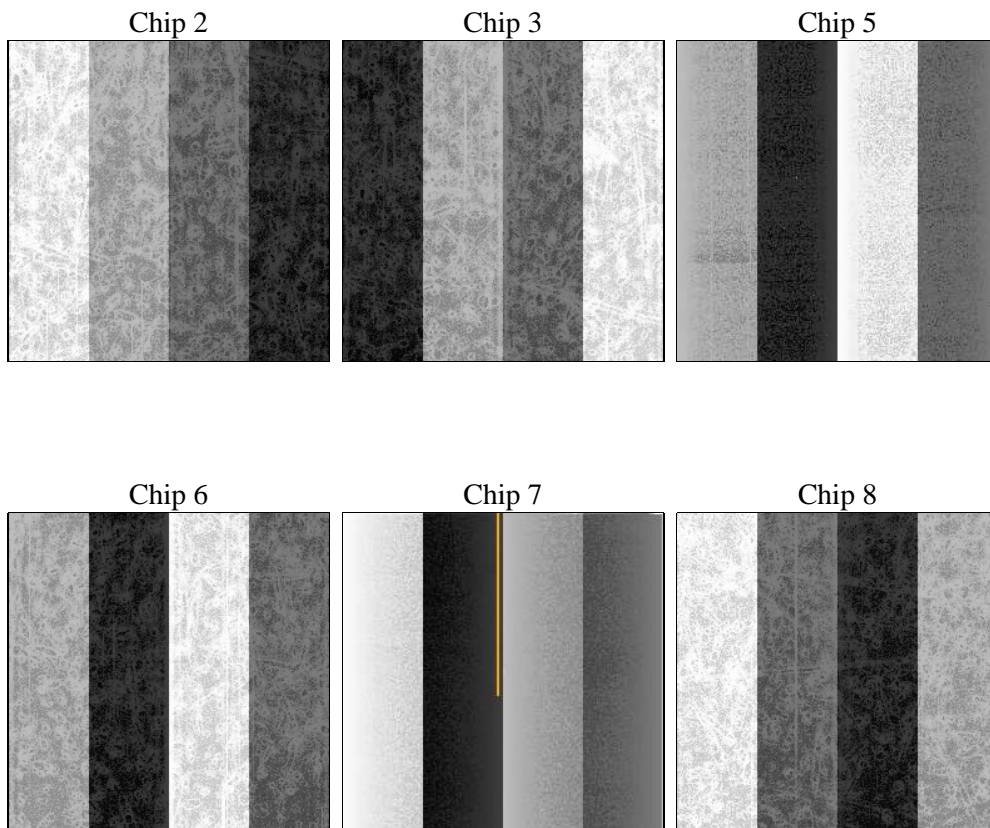
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5400.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	5157.4764134288	Sum of GTIs [s]
caldsver	4.4.9	&#160	ontime2	5157.5174633265	Sum of GTIs [s]
date	2012-04-23T21:31:30	Date and time of file creation	ontime3	5157.3532934189	Sum of GTIs [s]
revision	3	Processing version of data	ontime5	5157.4353734255	Sum of GTIs [s]
			ontime6	5157.3943334222	Sum of GTIs [s]
			ontime7	5157.4764134288	Sum of GTIs [s]
			ontime8	5154.0712035298	Sum of GTIs [s]
			l1events	355529	Number of level 1 events

### 2.1.4 Events

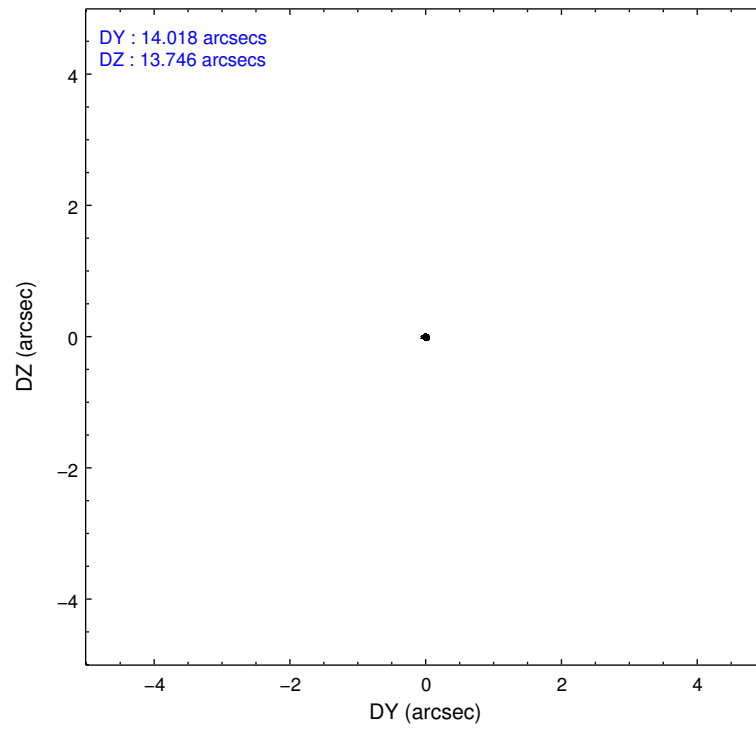
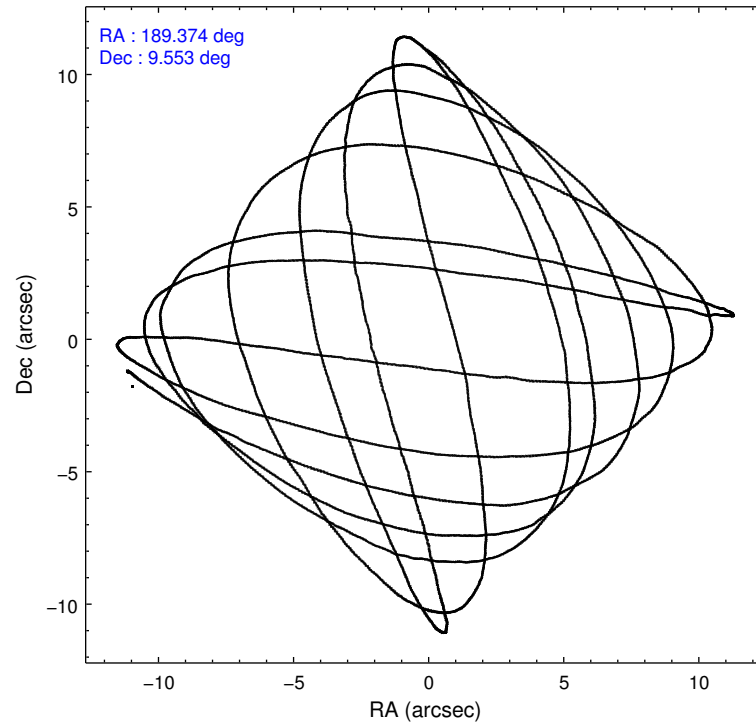
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	51537	47125	78018	48528	66821	63500	grade 0 events	2419	2571	5769	2399	2456	4344
rejected events	45859	41354	40280	42585	39026	50083		4%	5%	7%	4%	3%	6%
rejected %	88%	87%	51%	87%	58%	78%	grade 1 events	28	33	339	20	69	48
								0%	0%	0%	0%	0%	0%
							grade 2 events	1202	1098	10913	1285	5732	3002
								2%	2%	13%	2%	8%	4%
							grade 3 events	564	534	1342	532	2328	1359
								1%	1%	1%	1%	3%	2%
							grade 4 events	528	557	1270	556	2386	1312
								1%	1%	1%	1%	3%	2%
							grade 5 events	1923	2174	5528	2310	6451	2904
								3%	4%	7%	4%	9%	4%
							grade 6 events	971	1017	18495	1183	14929	3406
								1%	2%	23%	2%	22%	5%
							grade 7 events	43902	39141	34362	40243	32470	47125
								85%	83%	44%	82%	48%	74%

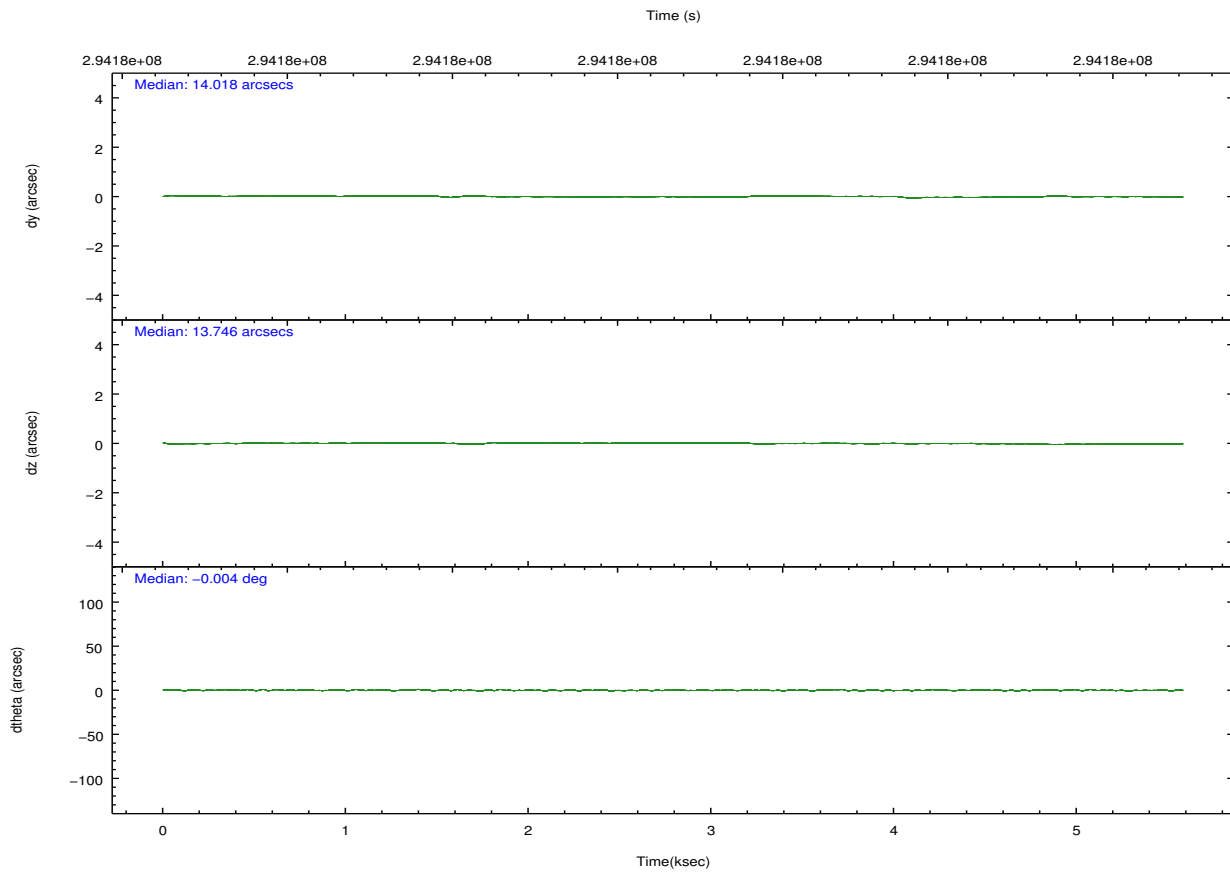
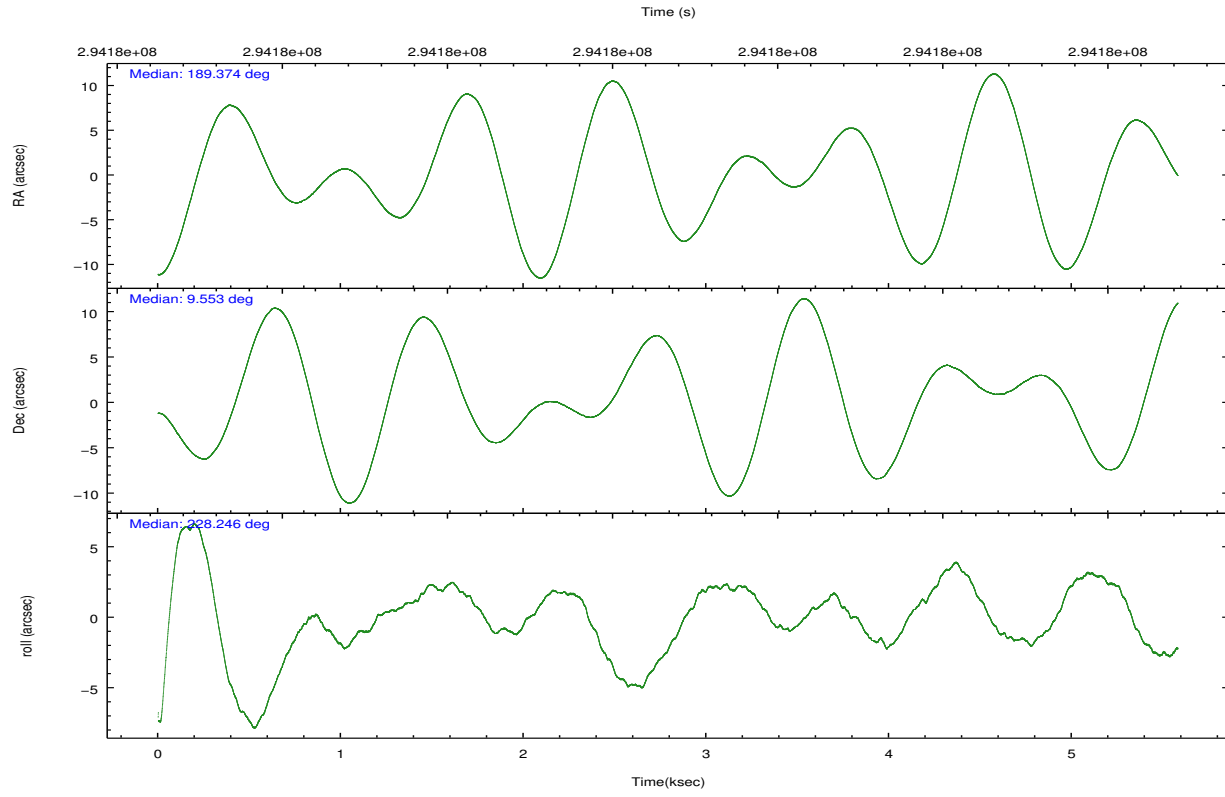


## 2.2 Compared Parameters

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	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	189.378769	189.3735281484803	Subarray requested	NONE	NONE
[deg] Pointing Dec	9.580076	9.553179018487304	Alternating exposures requested	N	N
[deg] Pointing Roll	228.093345	228.2508532930136	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1425803651734			
[mm] SIM translation stage offset	0	0.01005778216563158			
[s] Observation start time (MET)	294177720.184000	294177250.039			
Observation start date	2007-04-28T20:00:55	2007-04-28T19:54:10			
[s] Observation end time (MET)	294183120.184000	294183273.45179			
Observation end date	2007-04-28T21:30:55	2007-04-28T21:34:33			
Read mode	TIMED	TIMED			

## 2.3 Aspect



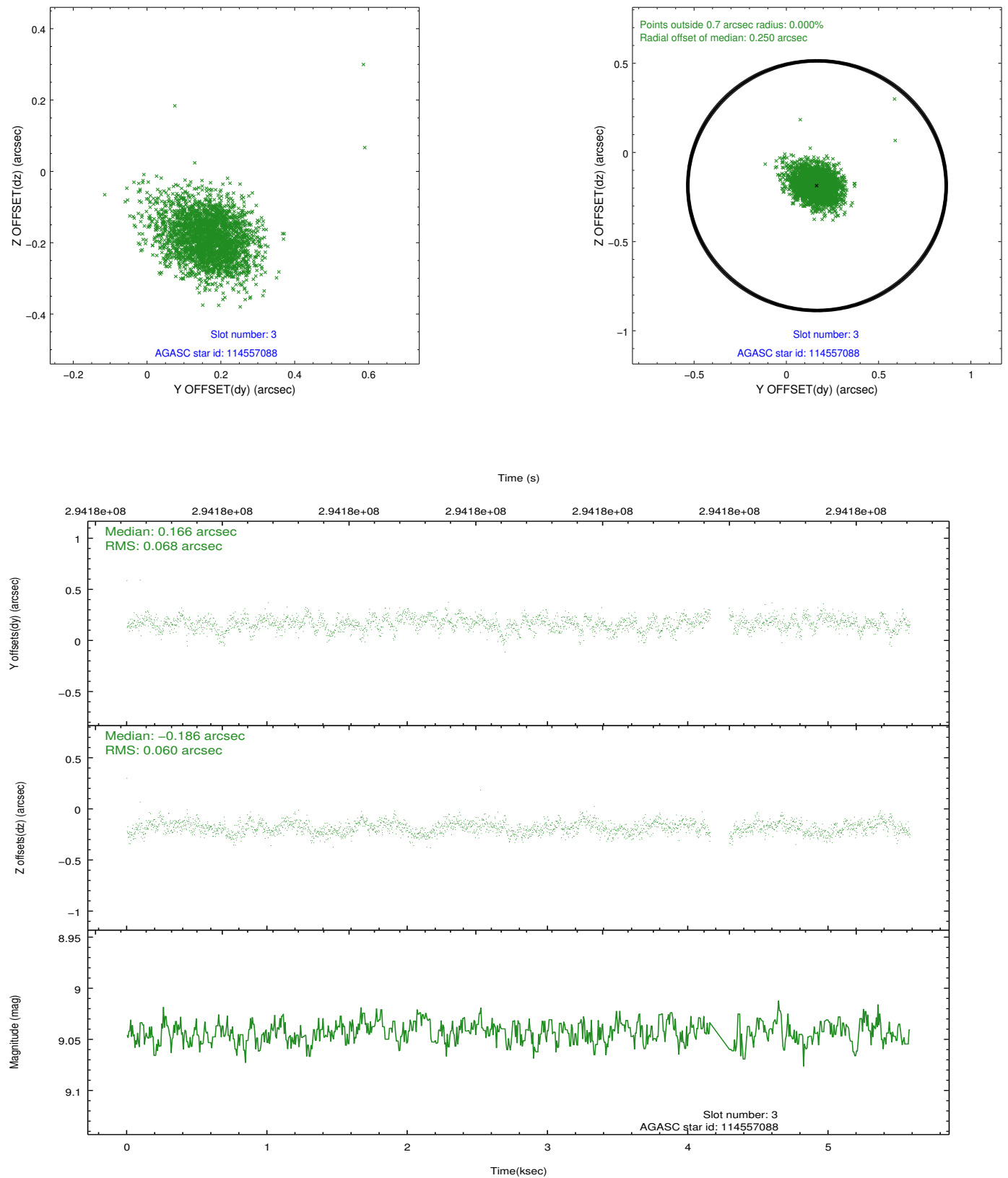


### Slot Statistics

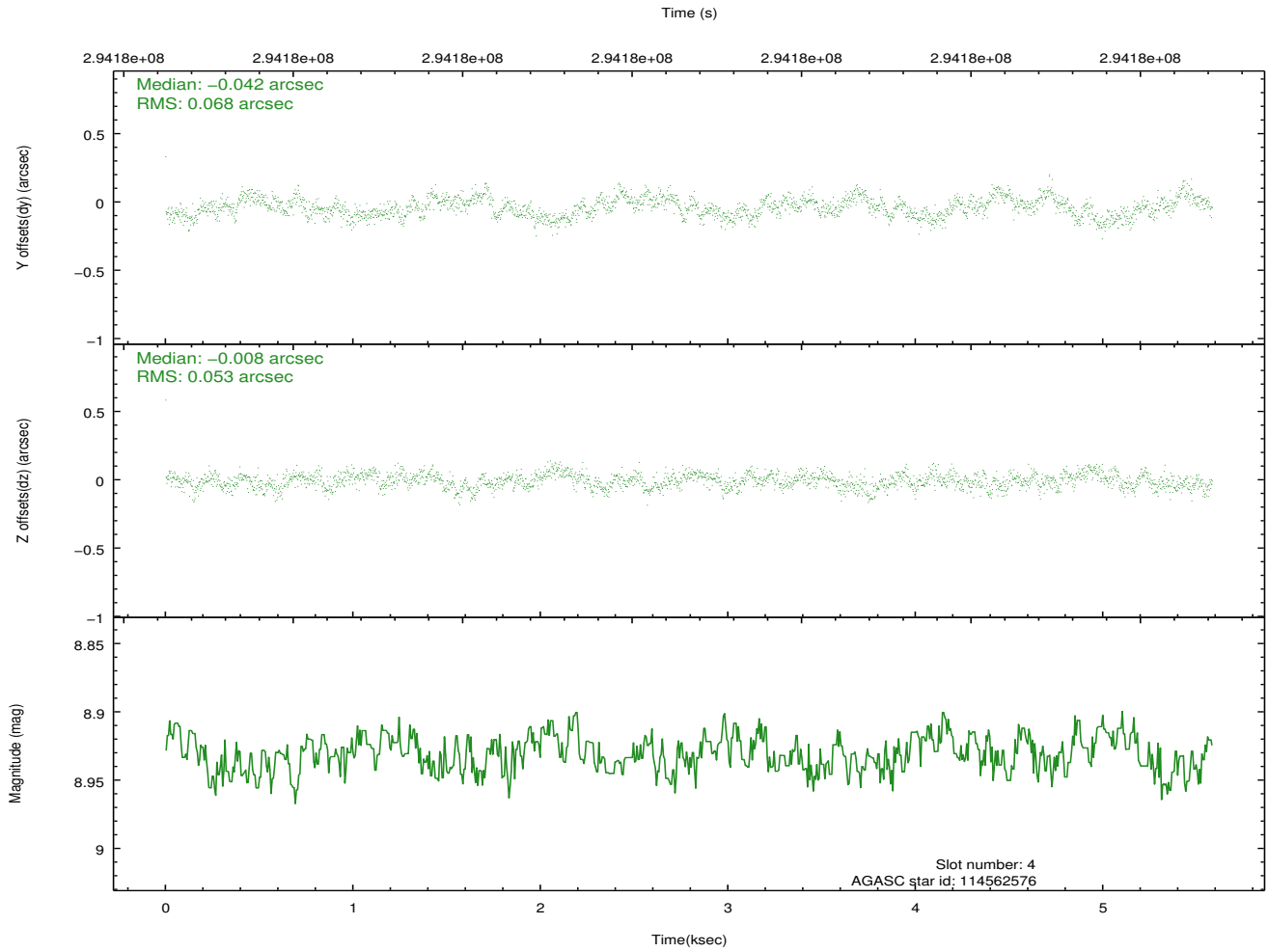
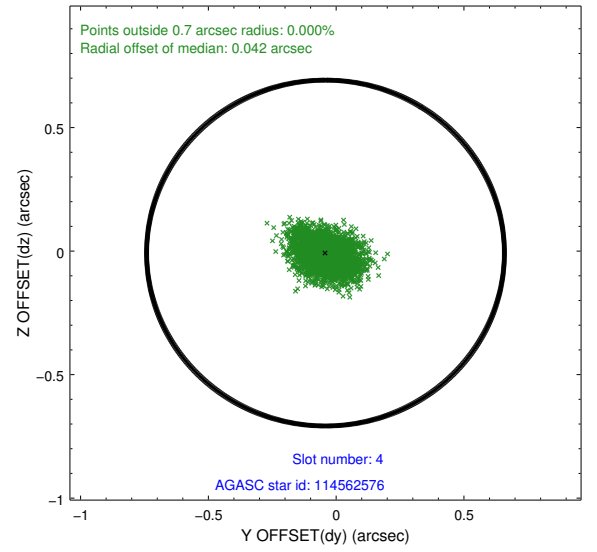
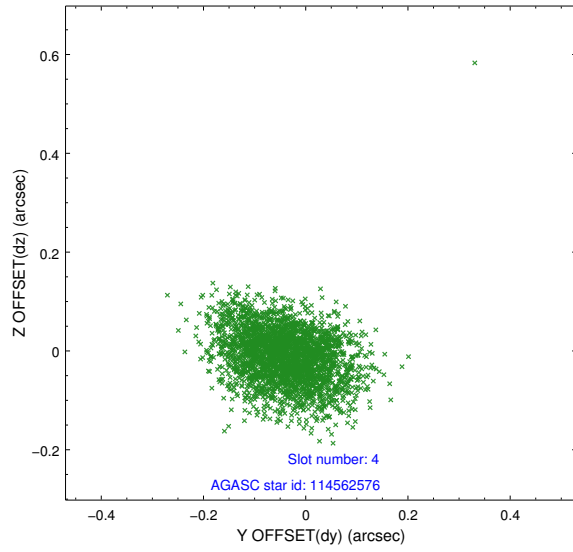
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	1362	-0.058	-0.065	0.008	0.014	0.000000	0.000000	-767.03	-1735.10
1	FID	ACIS-S-4	7.19	1362	0.196	0.046	0.007	0.011	0.000000	0.000000	2146.02	172.37
2	FID	ACIS-S-5	7.23	1362	-0.169	0.029	0.007	0.011	0.000000	0.000000	-1818.60	167.27
3	GUIDE	114557088	9.04	2657	0.166	-0.186	0.093	0.156	188.466353	9.531660	2291.16	-2297.45
4	GUIDE	114562576	8.93	2723	-0.042	-0.008	0.090	0.148	188.579291	9.672237	1647.29	-2336.06
5	GUIDE	114692072	8.73	2722	-0.056	-0.076	0.094	0.143	189.537092	9.585599	-389.30	404.04
6	GUIDE	114692224	9.36	2717	-0.040	0.160	0.105	0.174	189.020175	9.229887	1789.35	-105.50
7	GUIDE	115089624	9.67	2718	-0.018	0.112	0.117	0.189	189.471947	10.002512	-1351.33	-769.87

## 2.4 Star Slots

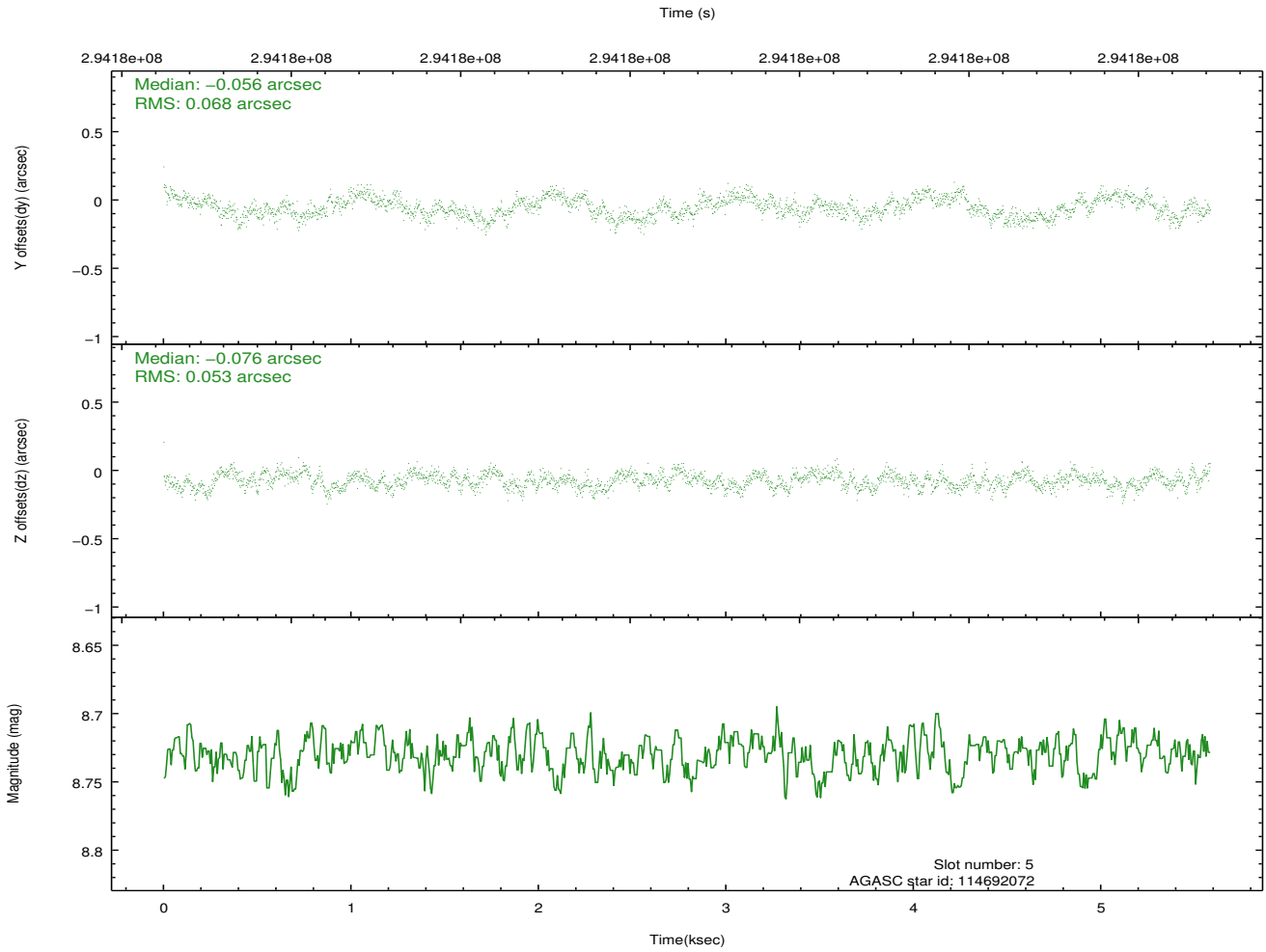
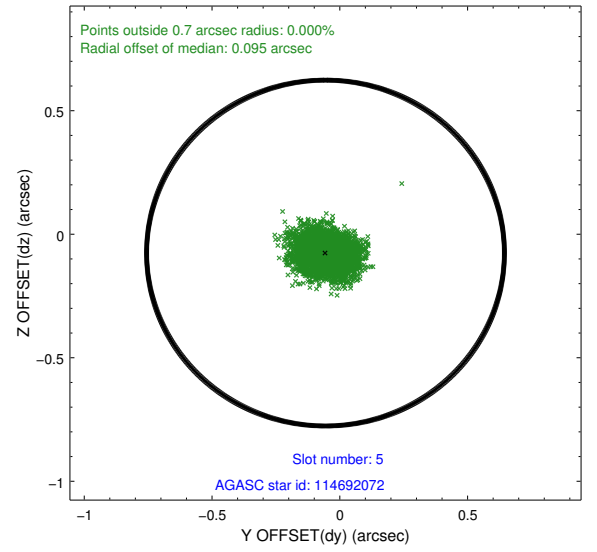
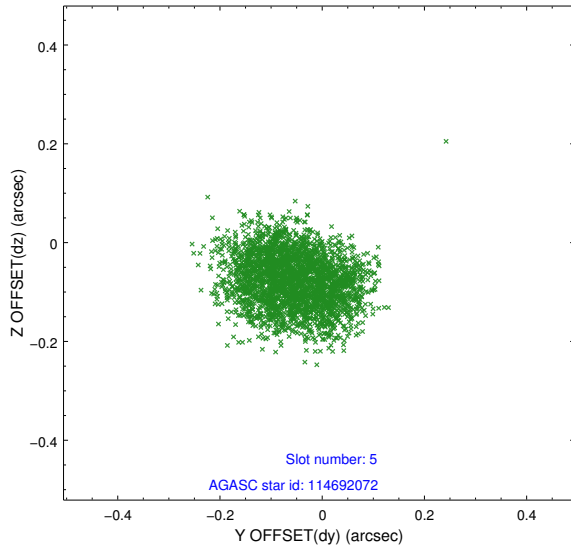
### 2.4.1 Slot 3



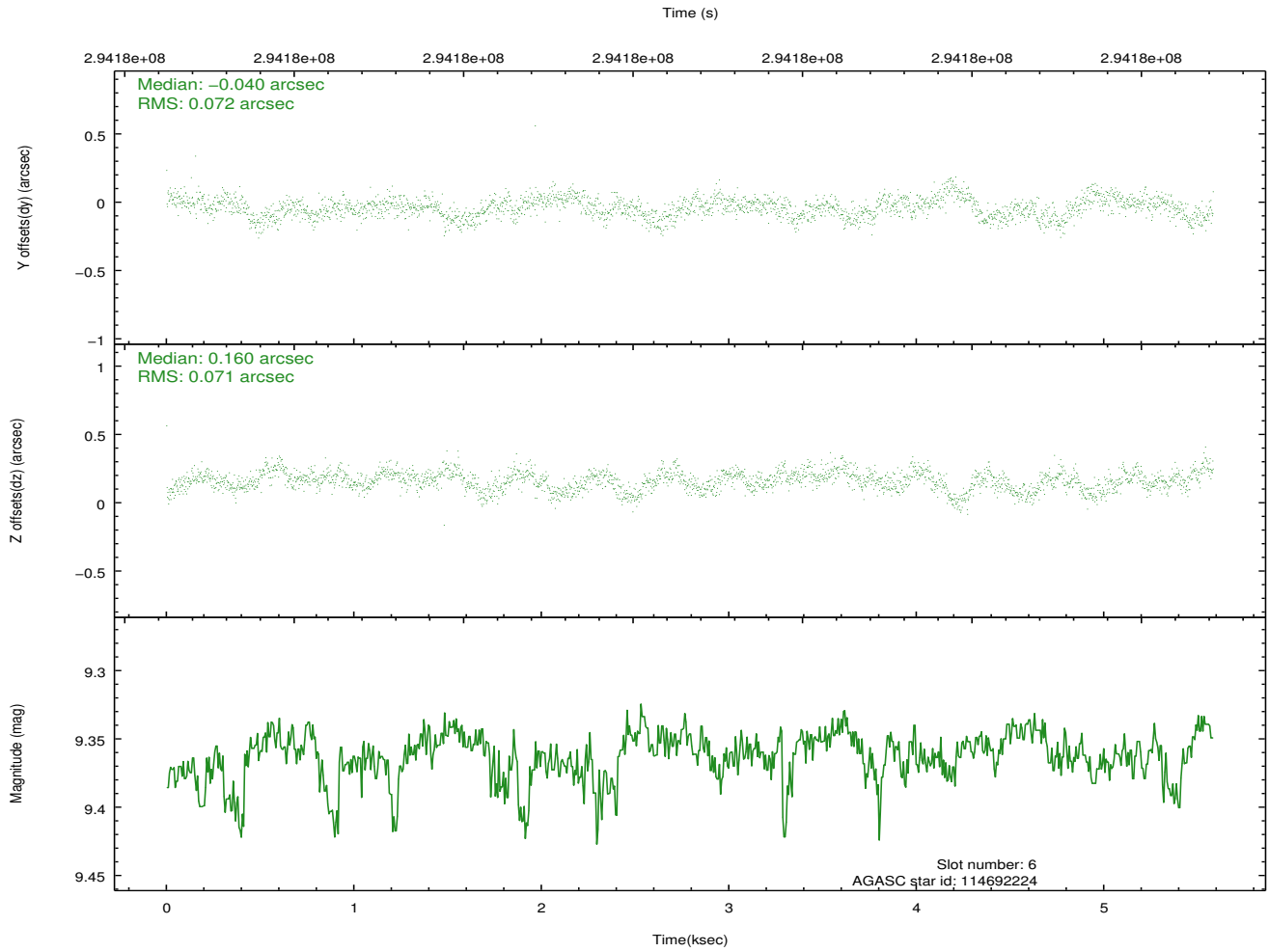
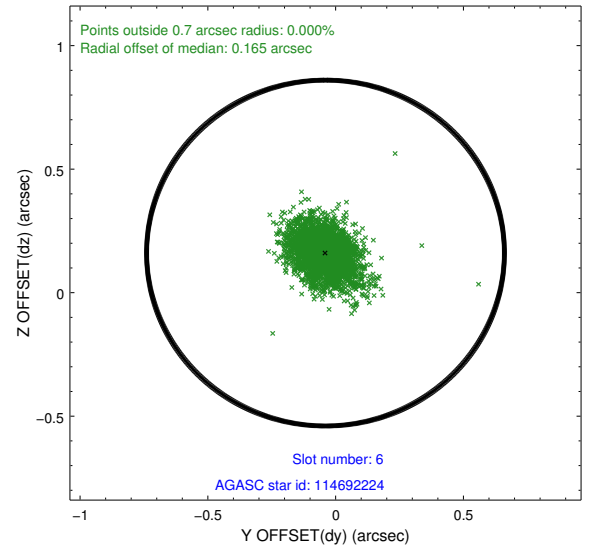
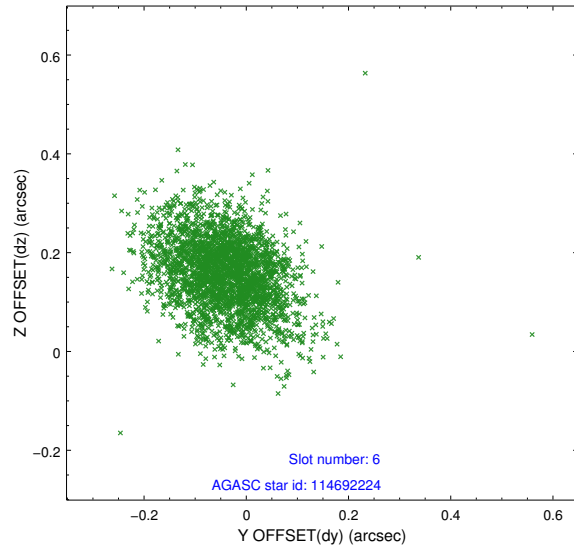
## 2.4.2 Slot 4



### 2.4.3 Slot 5

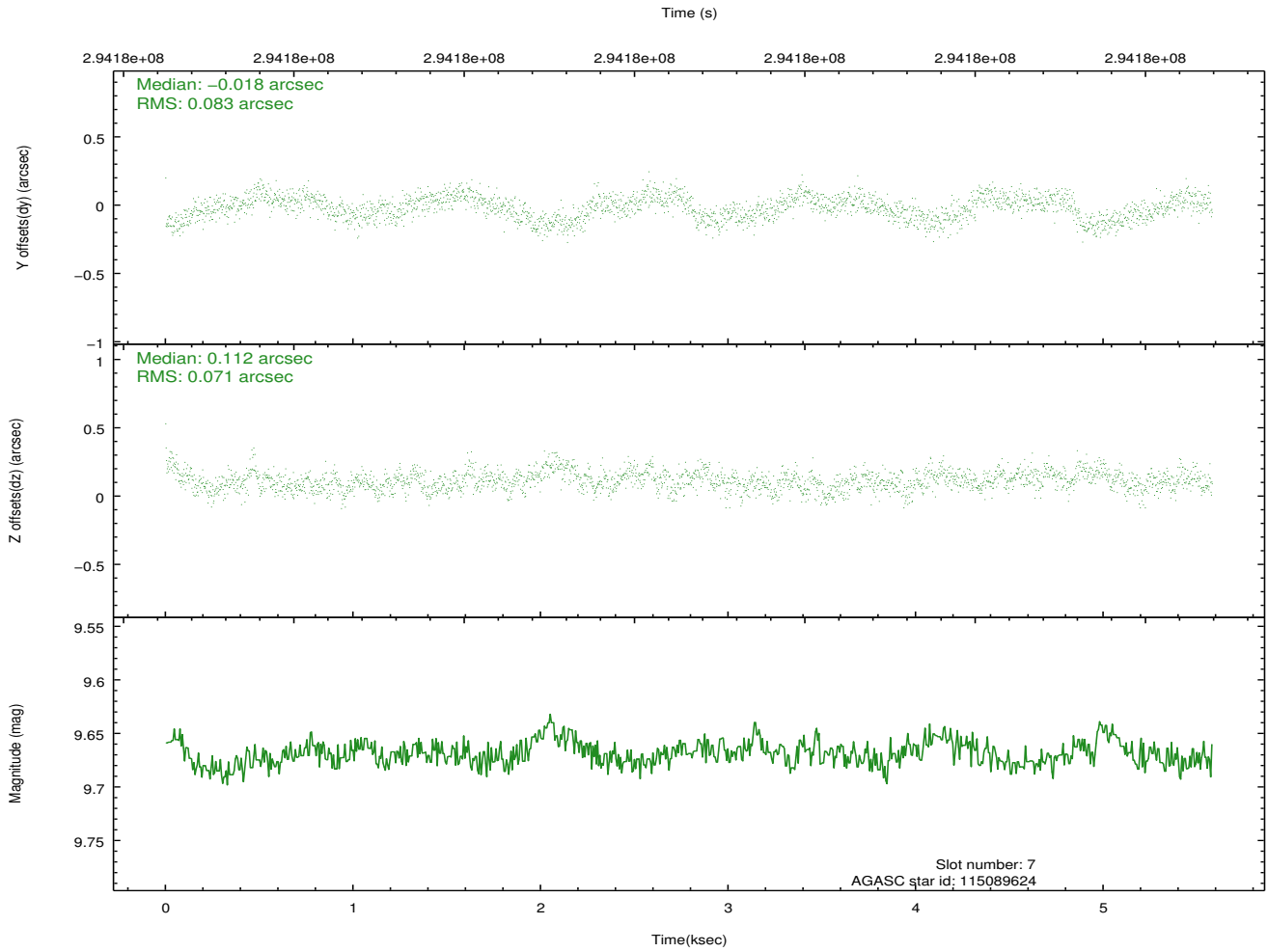
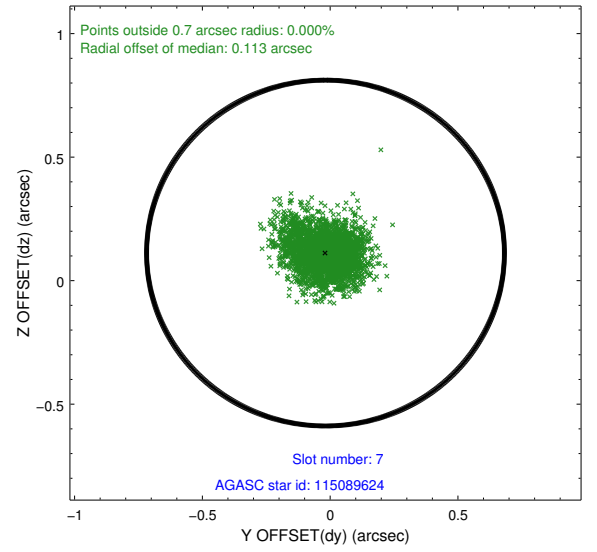
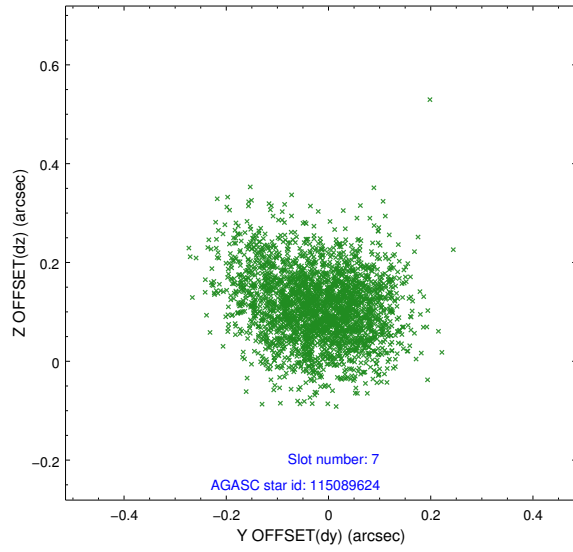


## 2.4.4 Slot 6



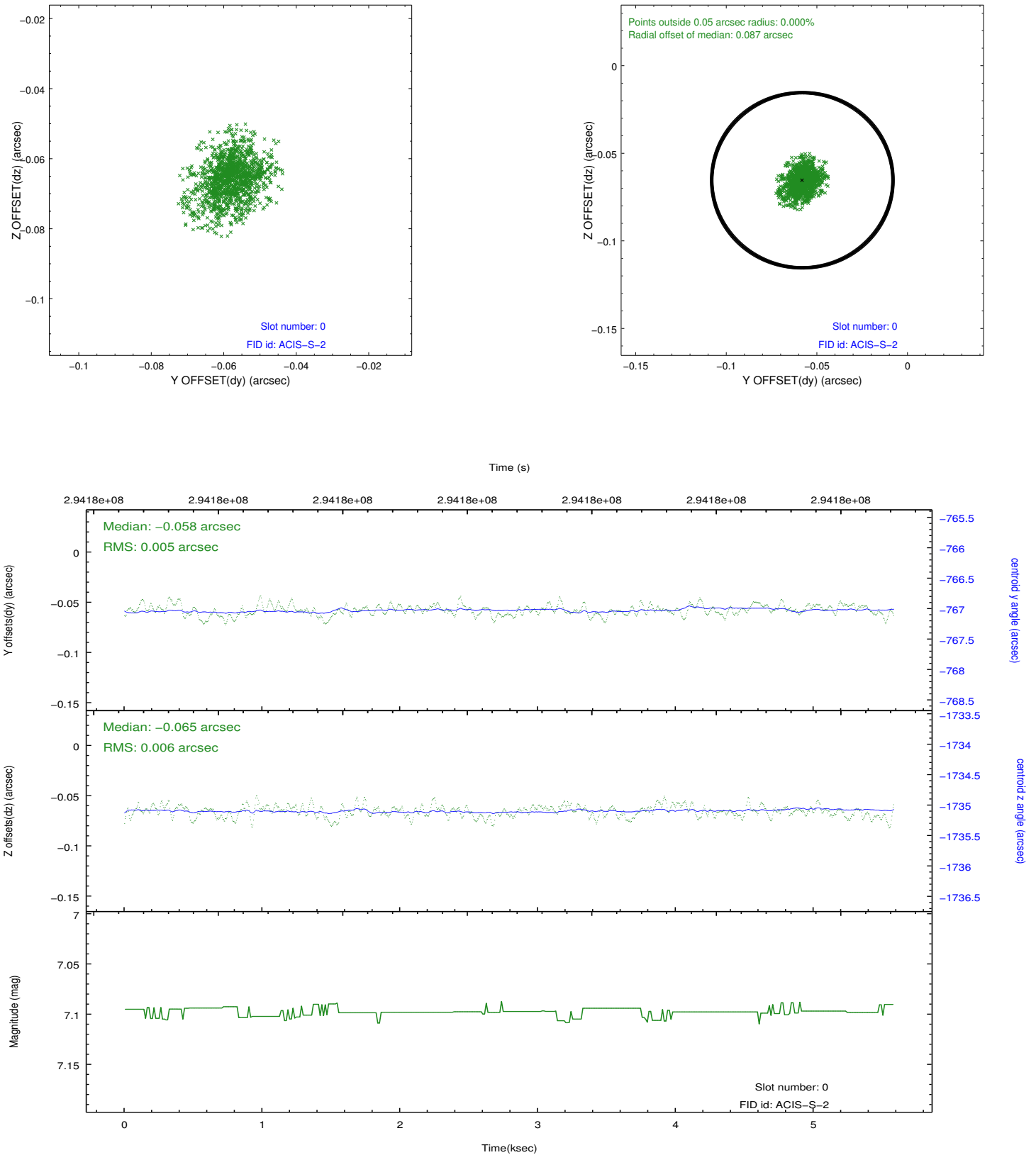


## 2.4.5 Slot 7

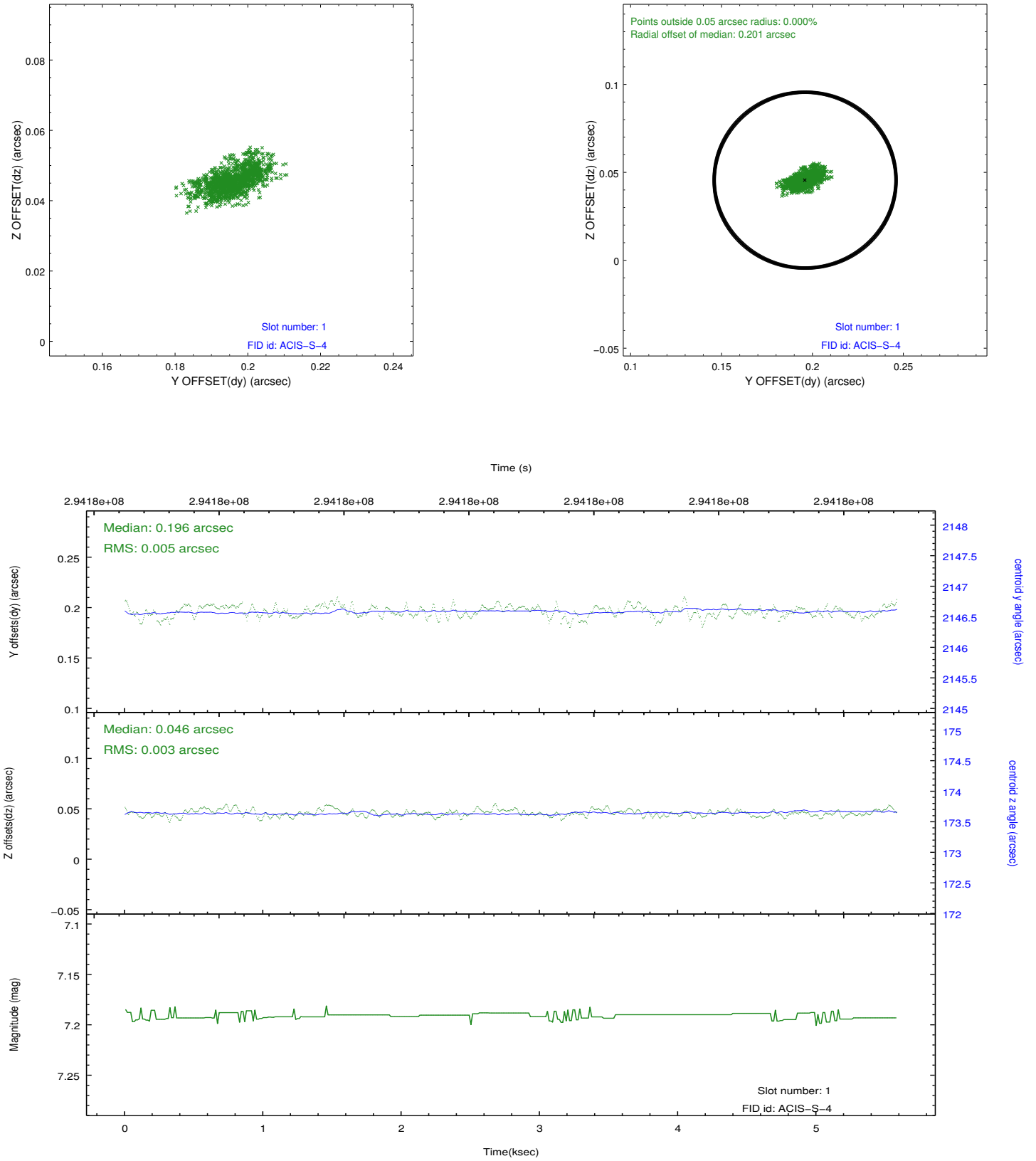


## 2.5 FID Slots

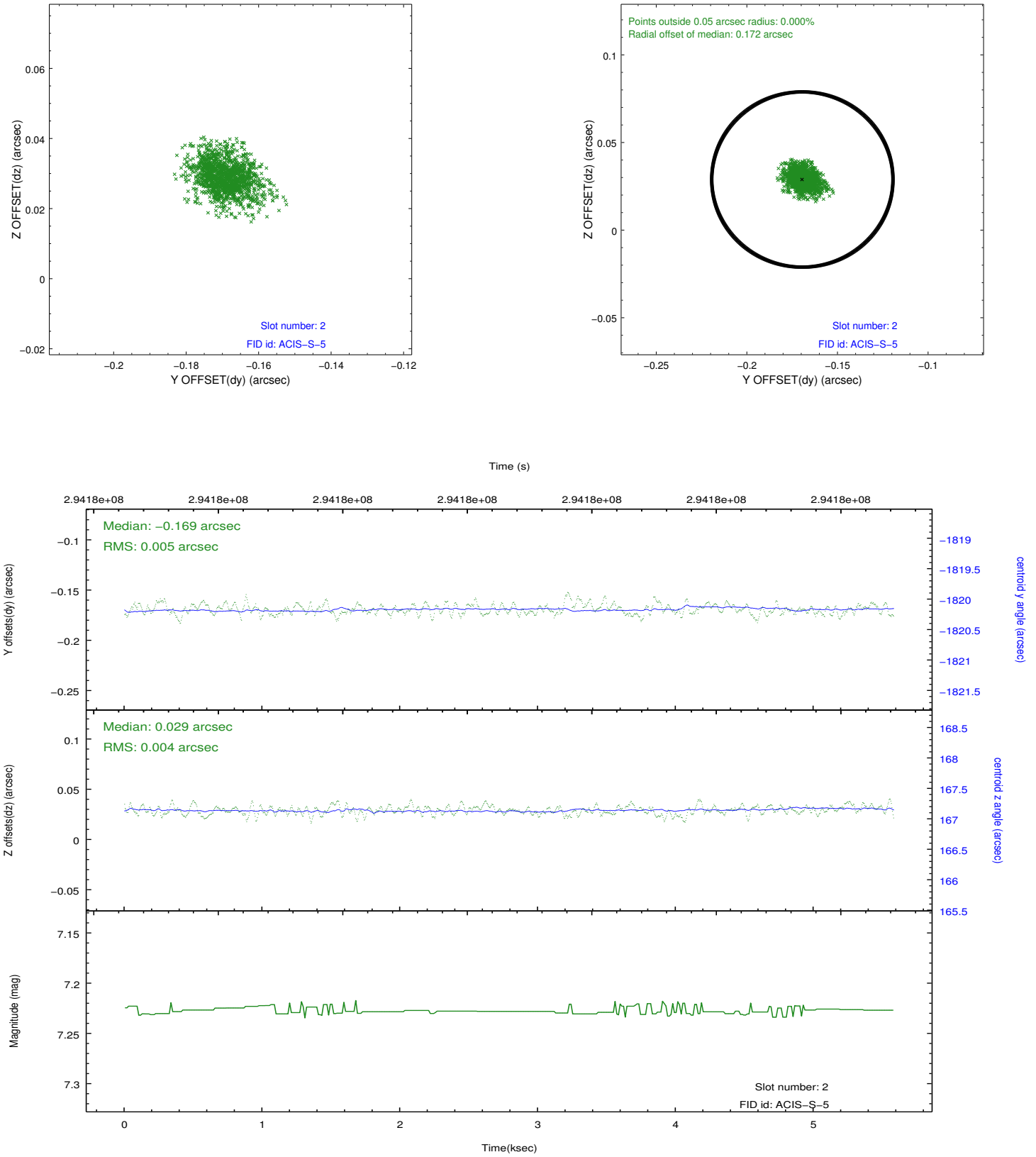
### 2.5.1 Slot 0



## 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)	2012.04.24
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.15839998

### A.2 Comments

Joint proposal with Spitzer.