

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 4678 - L2 Version 3  
Chandra X-Ray Center

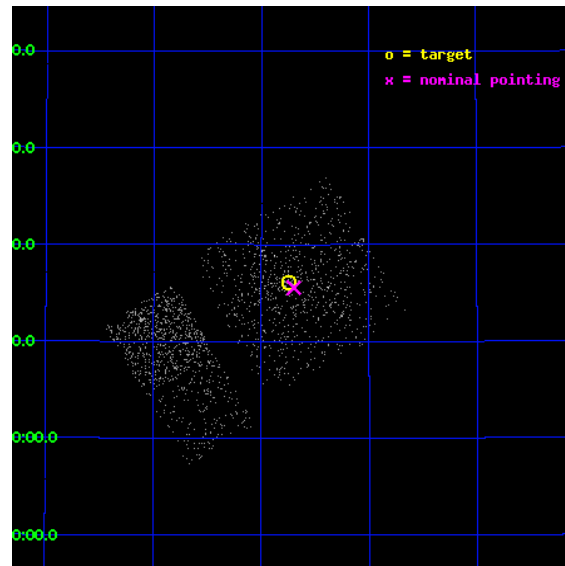
L2 Processing Date : Nov 7 2012

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# 1 Front

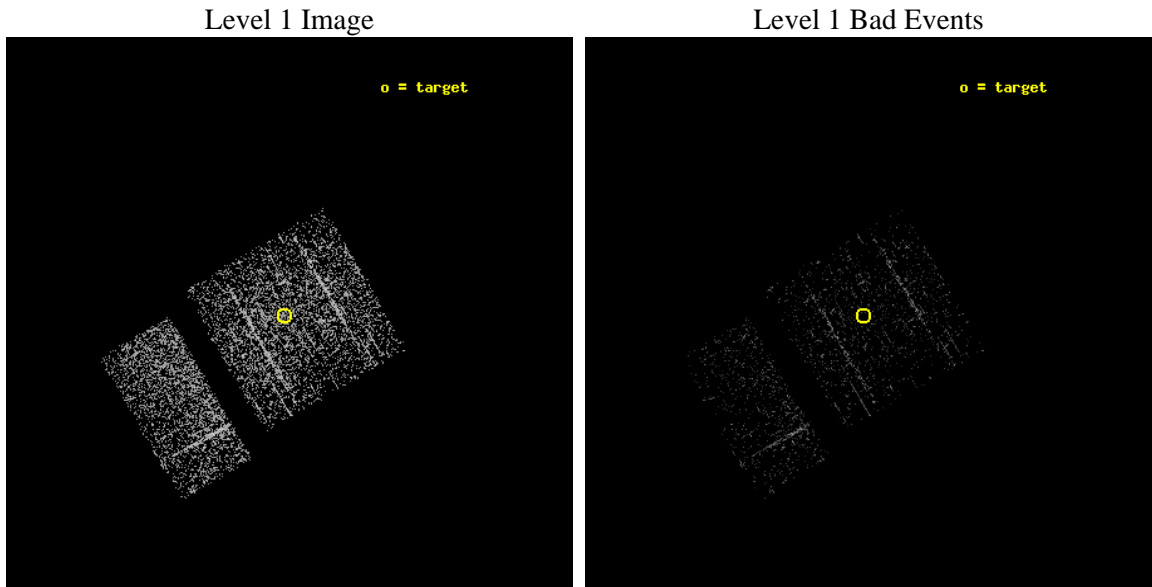
seq_num	600333	Sequence number
obs_id	4678	Observation id
title	Searching for Black Hole X-ray Nova in M31	Proposal title
observer	Dr. Stephen Murray	Principal investigator
object	M31-Center	Source name
dtcycle	0	&#160
cycle	P	events are from which exps? P[primary] S[econdar
ra_targ	10.685	Observer's specified target RA [deg]
dec_targ	41.268972	Observer's specified target Dec [deg]
ra_nom	10.67435392589	Nominal RA [deg]
dec_nom	41.259020674311	Nominal Dec [deg]
roll_nom	239.5323364473	Nominal Roll [deg]
revision	3	Processing version of data
ontime	922.1965123713	Sum of GTIs [s]
livetime	145.17597587811	Livetime [s]
ontime0	922.1965123713	Sum of GTIs [s]
ontime1	922.1965123713	Sum of GTIs [s]
ontime2	922.1965123713	Sum of GTIs [s]
ontime3	922.1965123713	Sum of GTIs [s]
ontime6	922.1965123713	Sum of GTIs [s]
ontime7	922.1965123713	Sum of GTIs [s]
l2events	2015	Number of level 2 events



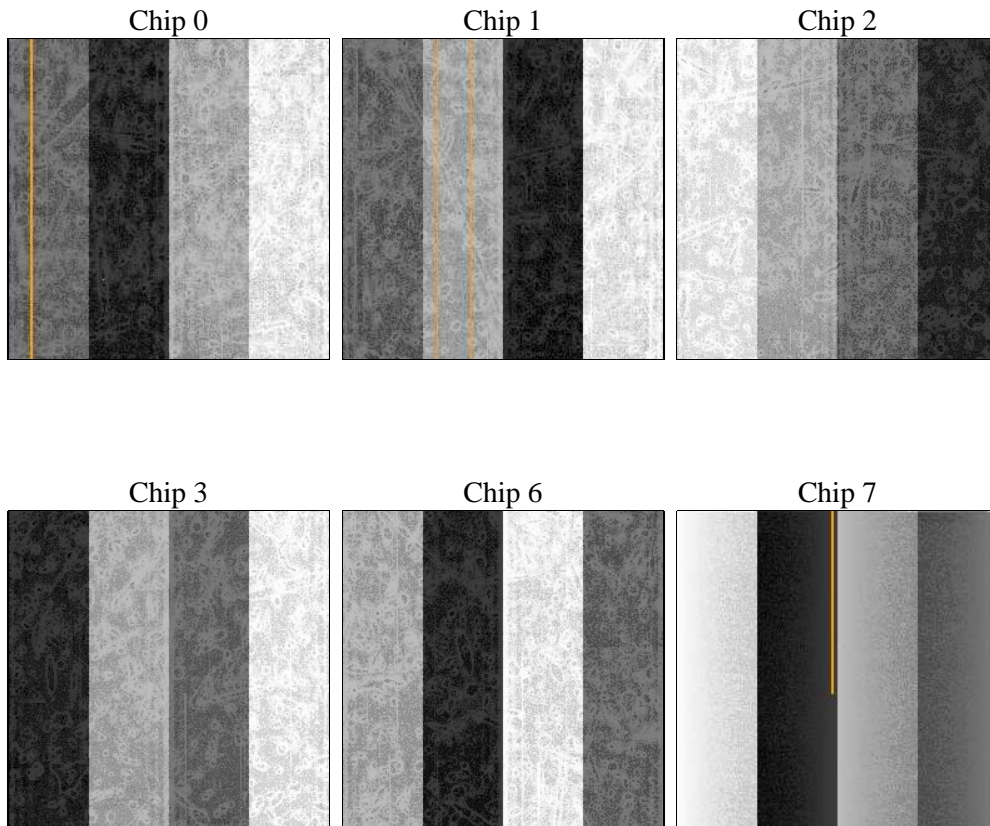
## 2 OBI Primary

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	4850.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	922.1965123713	Sum of GTIs [s]
caldsver	4.5.2	&#160	ontime0	922.1965123713	Sum of GTIs [s]
date	2012-11-07T12:47:32	Date and time of file creation	ontime1	922.1965123713	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	922.1965123713	Sum of GTIs [s]
			ontime3	922.1965123713	Sum of GTIs [s]
			ontime6	922.1965123713	Sum of GTIs [s]
			ontime7	922.1965123713	Sum of GTIs [s]
			l1events	14582	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	2199	2394	2338	2492	2560	2599
rejected events	1913	2063	2073	2084	2325	1831
rejected %	86%	86%	88%	83%	90%	70%

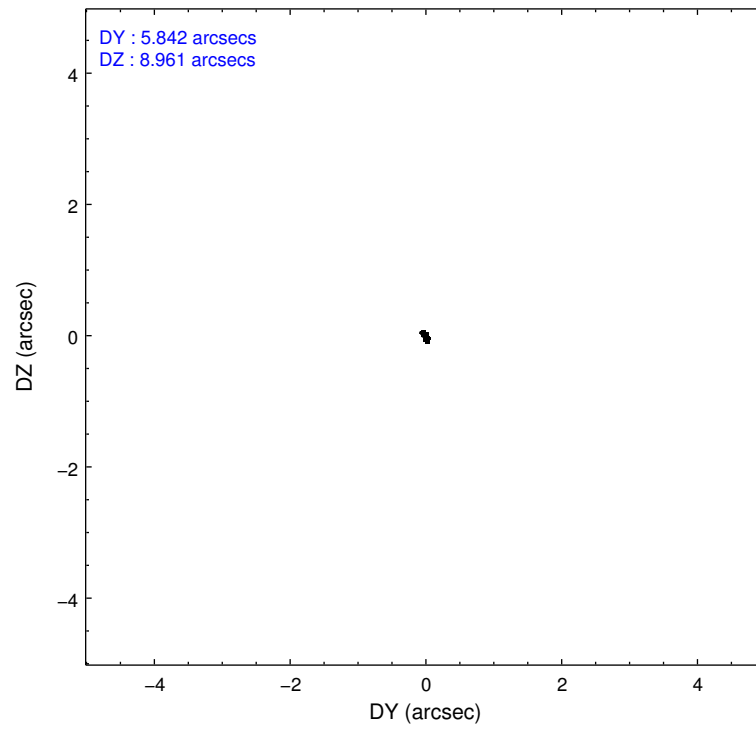
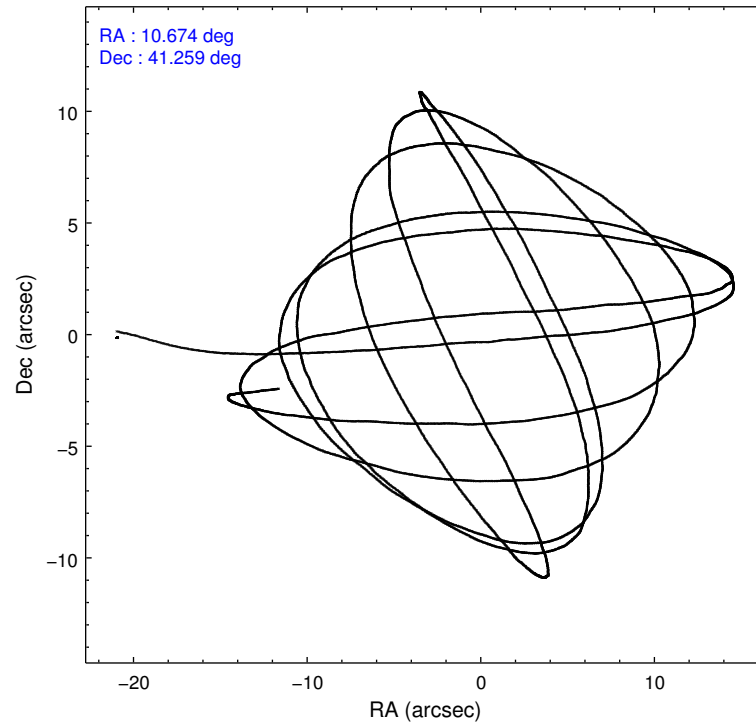
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
grade 0 events	153	144	107	233	76	100
	6%	6%	4%	9%	2%	3%
grade 1 events	3	5	1	2	1	3
	0%	0%	0%	0%	0%	0%
grade 2 events	48	64	61	73	55	165
	2%	2%	2%	2%	2%	6%
grade 3 events	29	43	30	24	25	68
	1%	1%	1%	0%	0%	2%
grade 4 events	22	37	21	29	26	84
	1%	1%	0%	1%	1%	3%
grade 5 events	84	72	77	95	93	181
	3%	3%	3%	3%	3%	6%
grade 6 events	37	43	50	52	55	359
	1%	1%	2%	2%	2%	13%
grade 7 events	1823	1986	1991	1984	2229	1639
	82%	82%	85%	79%	87%	63%

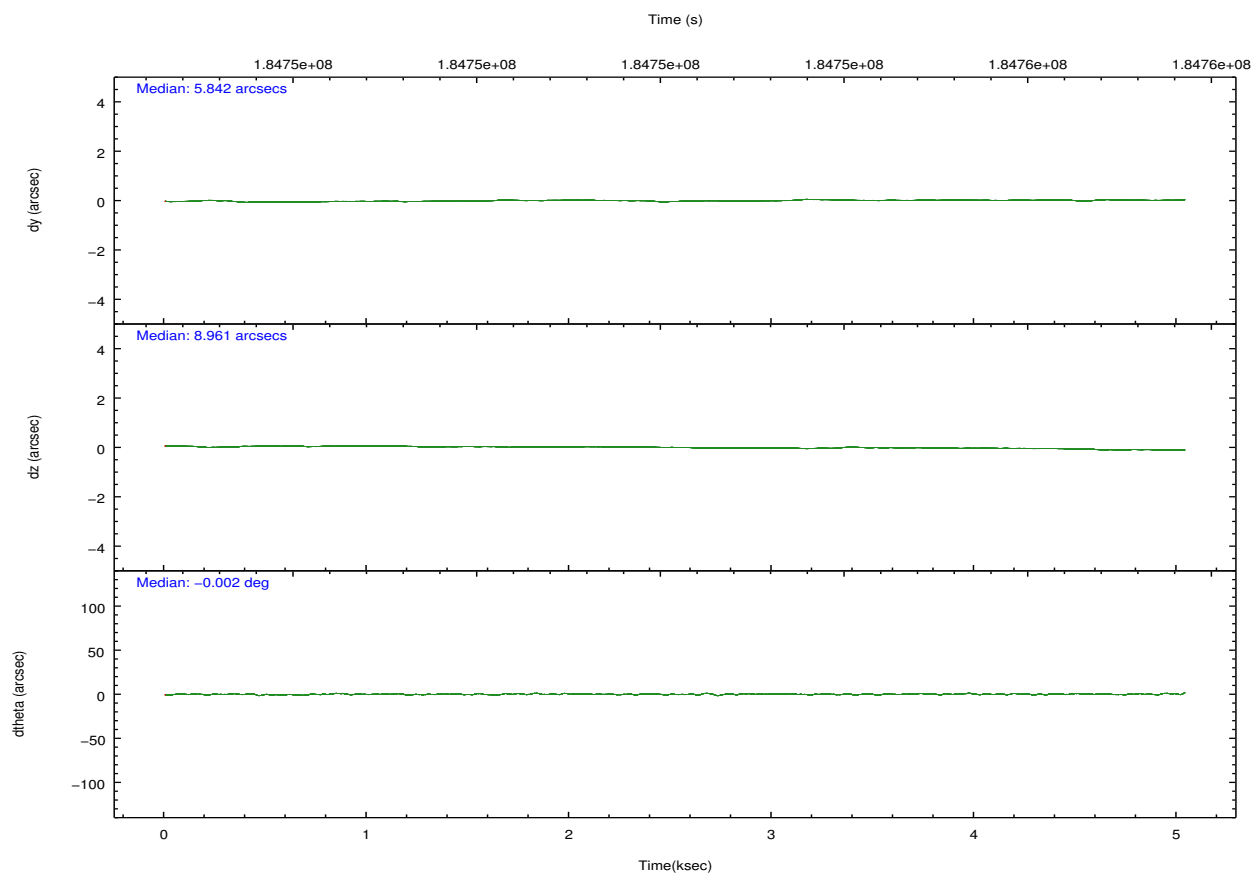
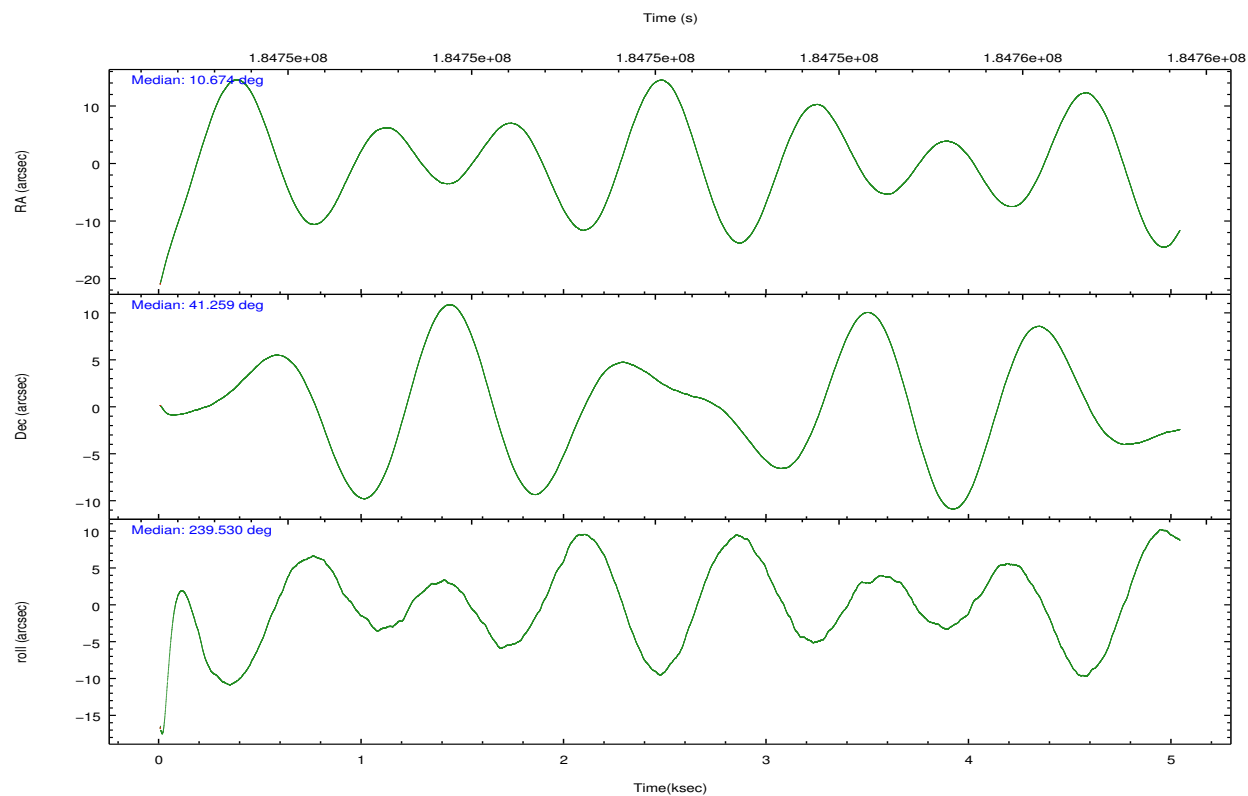


## 2.2 Compared Parameters

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	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	10.674544	10.67435392588953	Subarray requested	NONE	NONE
[deg] Pointing Dec	41.286433	41.2590206743111	Alternating exposures requested	Y	Y
[deg] Pointing Roll	239.323587	239.5323364472966	[s] Primary exposure time	0.600000	0.6
[s] Window start time (MET)	184204864.184000	184204864.184000	[s] Secondary exposure time	0.000000	3.2
[s] Window stop time (MET)	184809664.184000	184809664.184000	Duty cycle	5	5
[mm] SIM focus pos	-0.782348	-0.7809083437167272			
[mm] SIM defocus	0	0.001439871863259334			
[mm] SIM translation stage pos	-233.592463	-233.5874344608287			
[mm] SIM translation stage offset	0	-0.005018542100998502			
[s] Observation start time (MET)	184750755.184000	184749726.16289			
Observation start date	2003-11-09T07:38:11	2003-11-09T07:22:06			
[s] Observation end time (MET)	184755605.184000	184756610.06319			
Observation end date	2003-11-09T08:59:01	2003-11-09T09:16:50			
Read mode	TIMED	TIMED			

## 2.3 Aspect



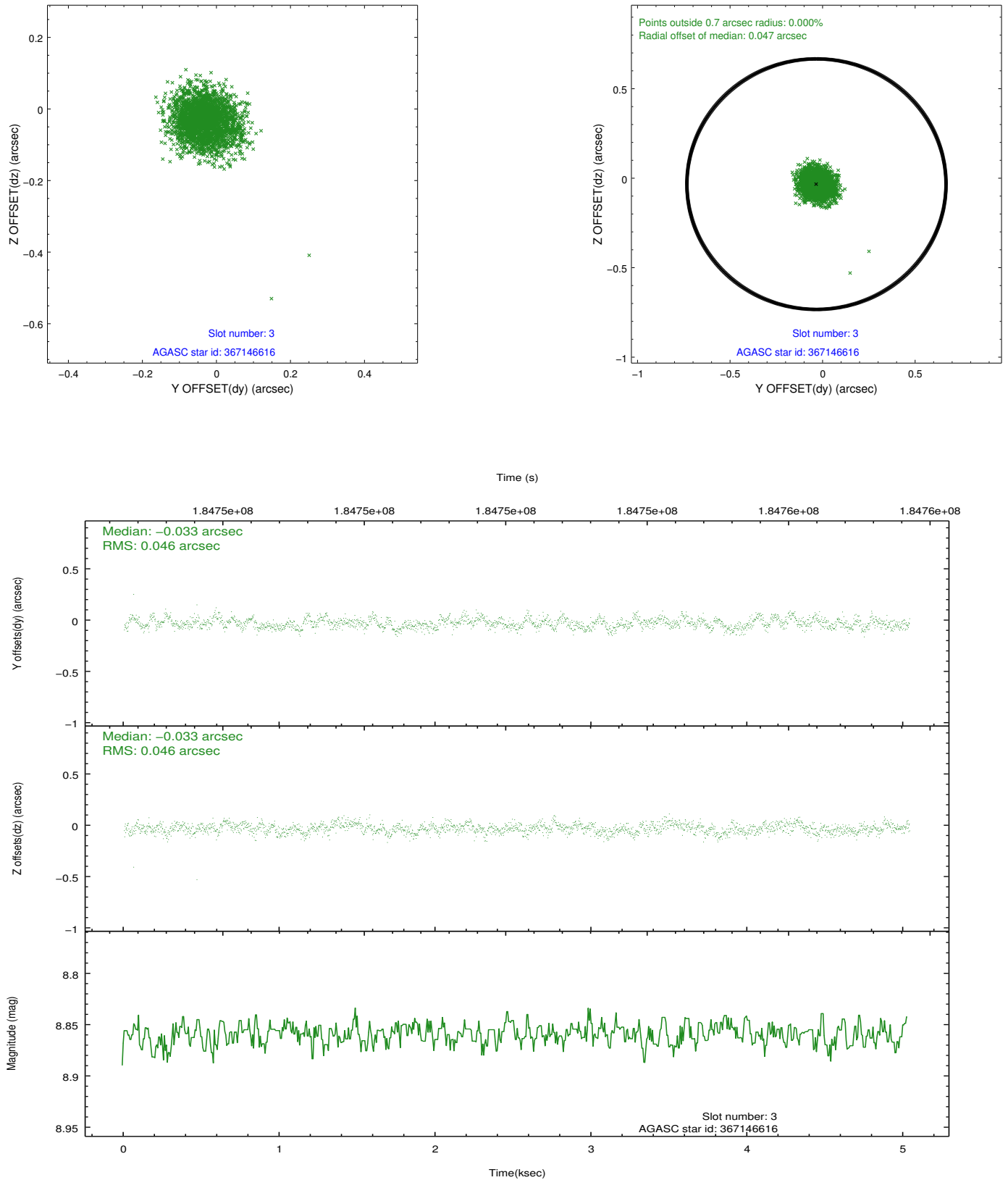


### Slot Statistics

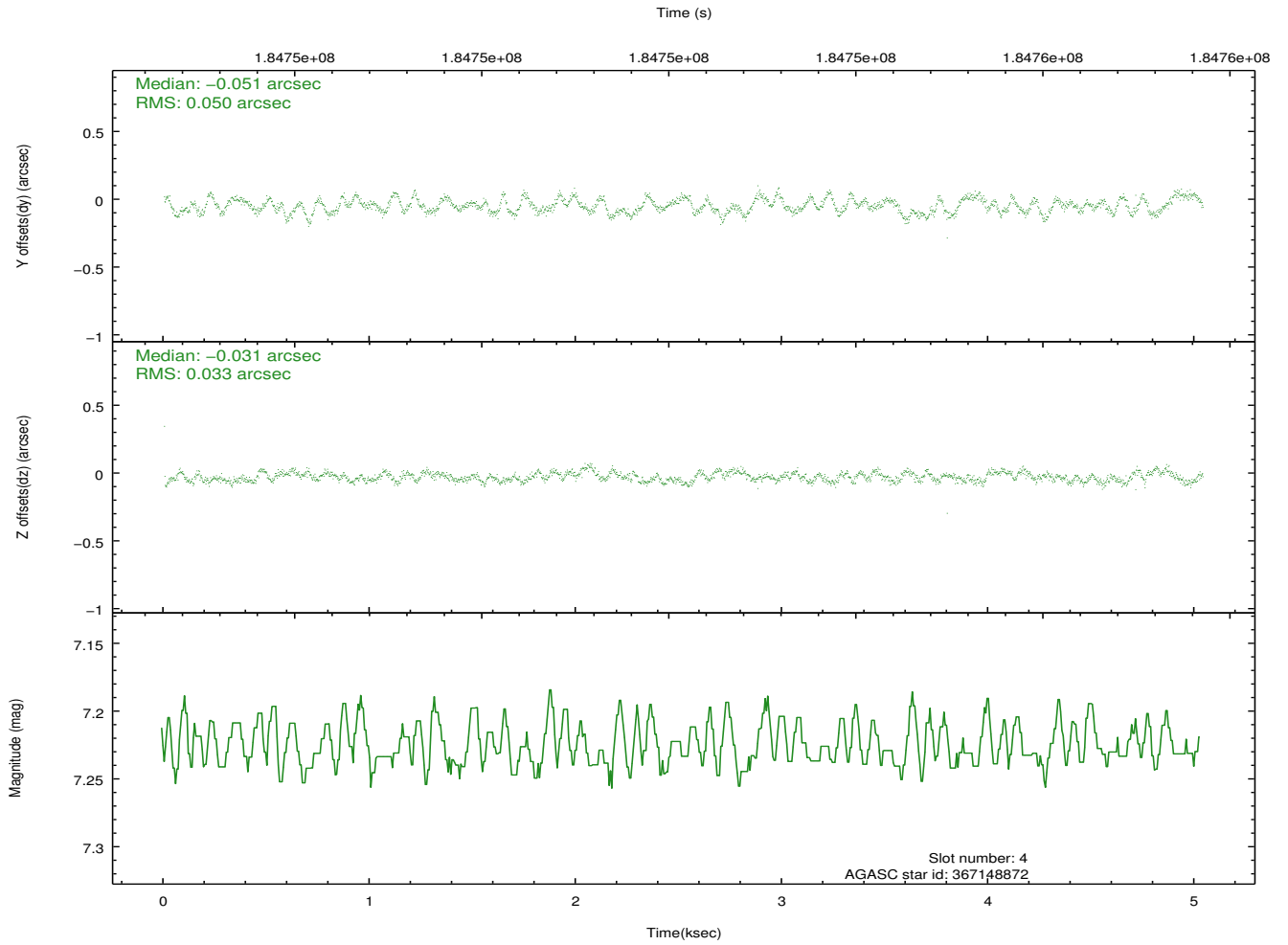
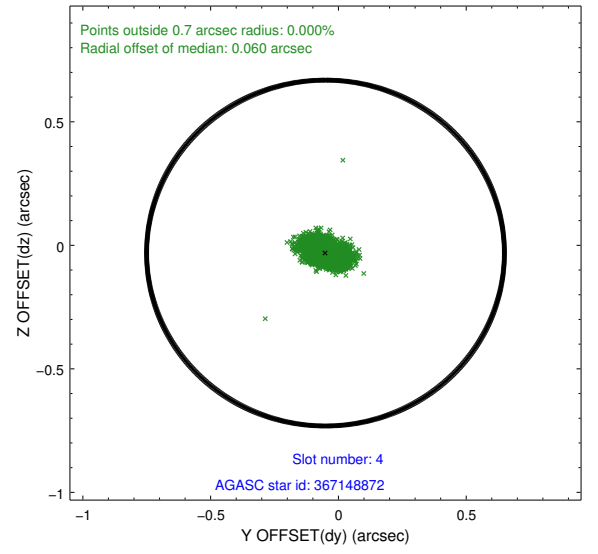
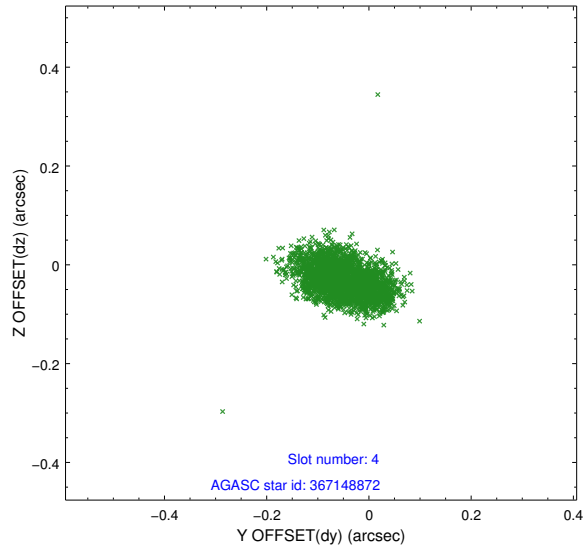
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.24	1229	0.003	0.046	0.006	0.010	0.000000	0.000000	933.88	-832.35
1	FID	ACIS-I-5	7.23	1229	-0.139	0.037	0.006	0.011	0.000000	0.000000	-1813.70	1064.52
2	FID	ACIS-I-6	7.26	1229	0.045	-0.013	0.007	0.011	0.000000	0.000000	398.15	1710.35
3	GUIDE	367146616	8.86	2458	-0.033	-0.033	0.067	0.111	11.418645	41.190163	-737.90	1906.25
4	GUIDE	367148872	7.23	2458	-0.051	-0.031	0.063	0.100	10.505940	40.688258	2086.41	703.67
5	GUIDE	367663272	9.28	2458	-0.032	0.033	0.085	0.139	10.656279	41.699429	-1252.53	-800.54
6	GUIDE	367674552	8.84	2458	-0.014	-0.068	0.067	0.104	11.016238	41.570845	-1352.19	267.98
7	GUIDE	367139648	8.19	2457	0.126	0.099	0.057	0.090	11.021290	40.433909	2152.83	2382.73

## 2.4 Star Slots

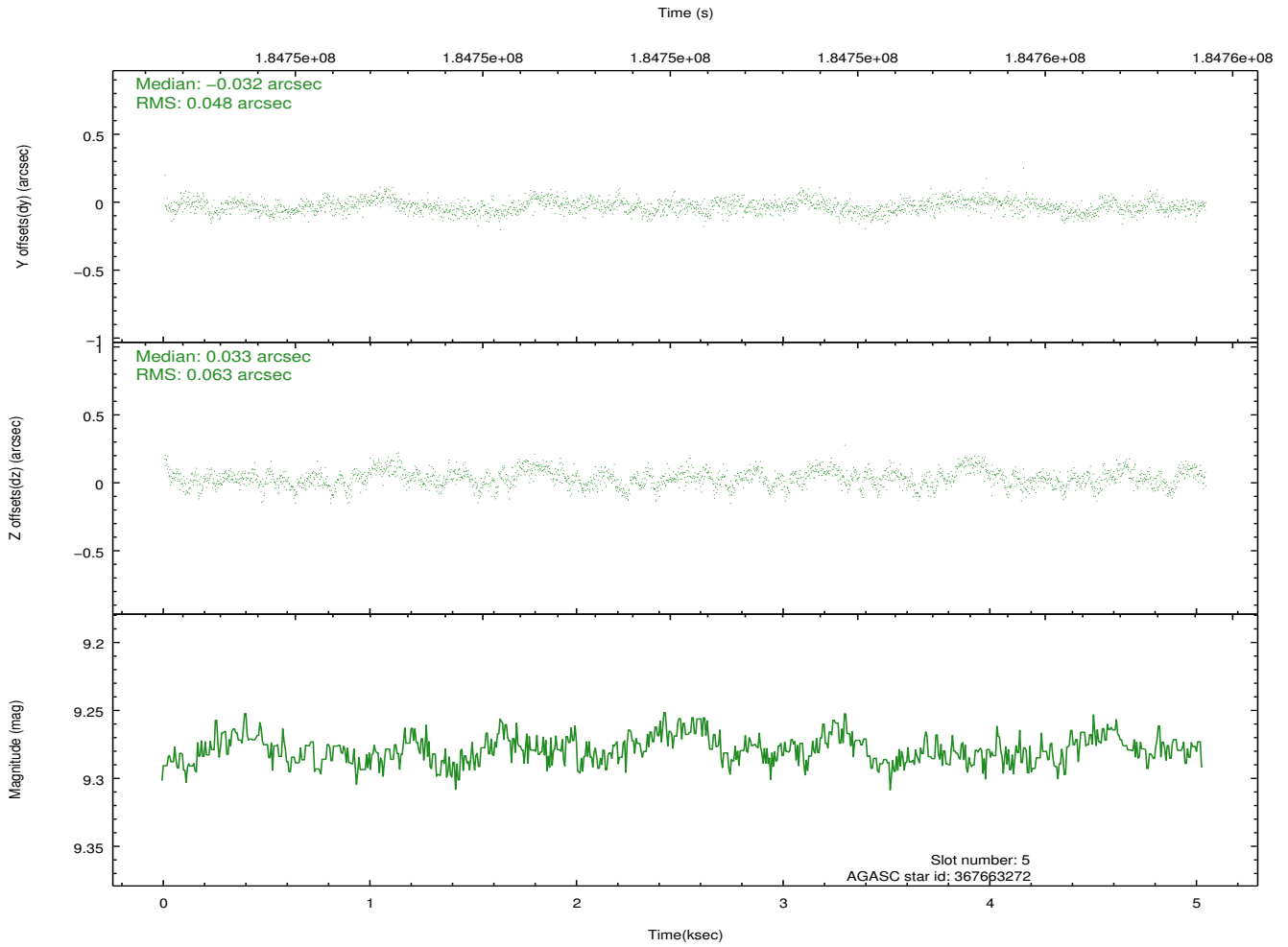
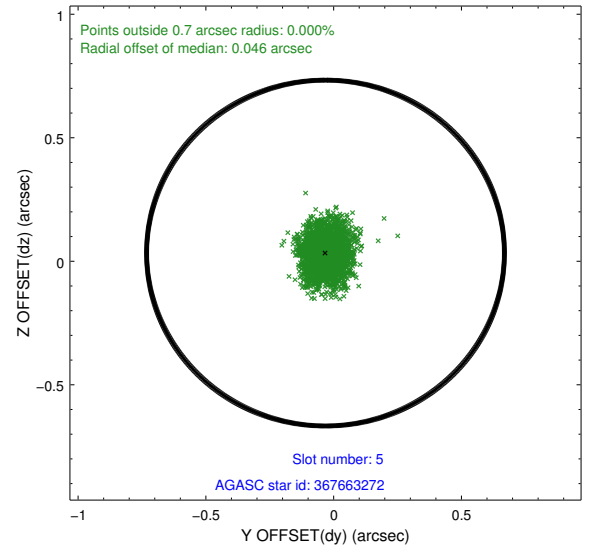
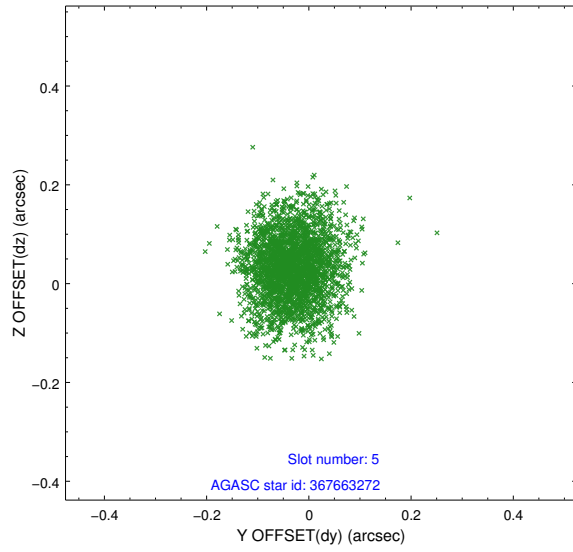
### 2.4.1 Slot 3



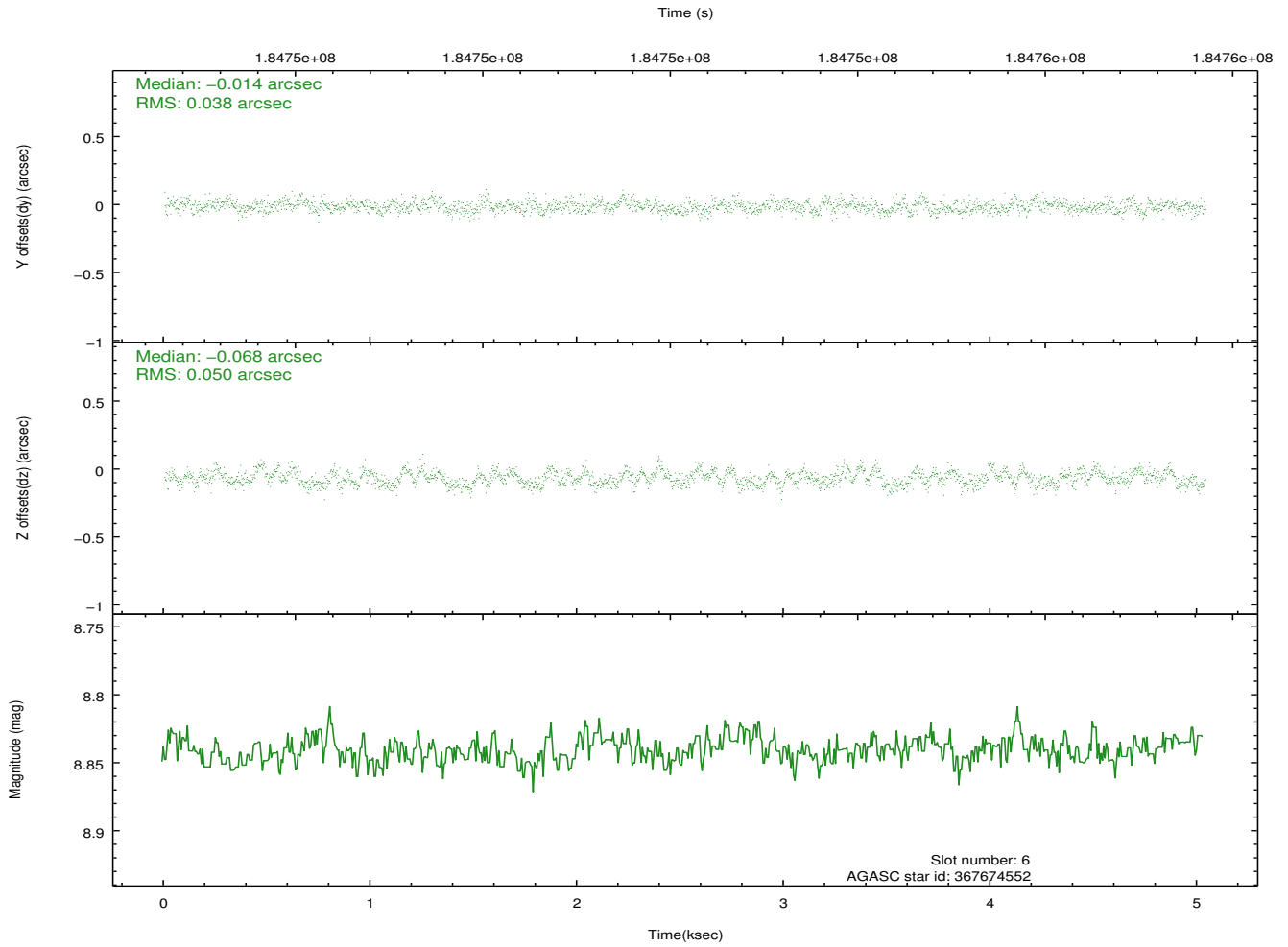
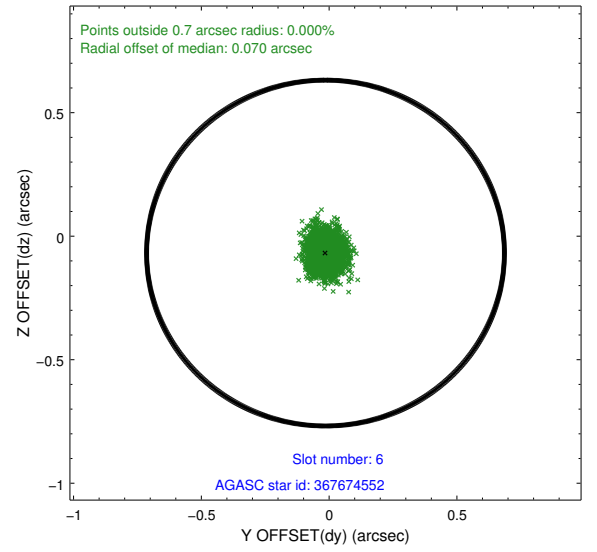
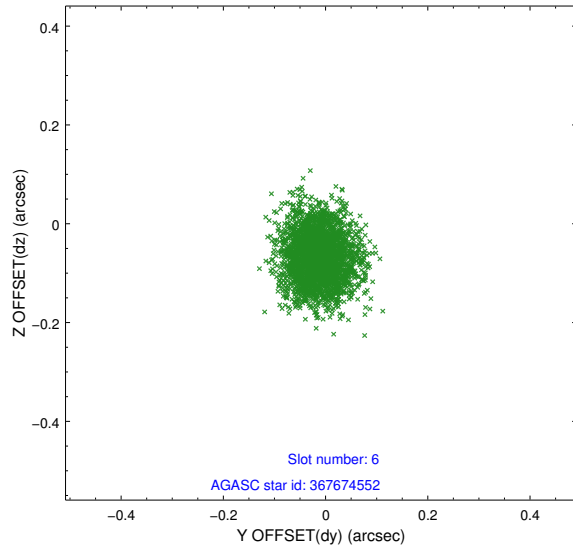
## 2.4.2 Slot 4



### 2.4.3 Slot 5

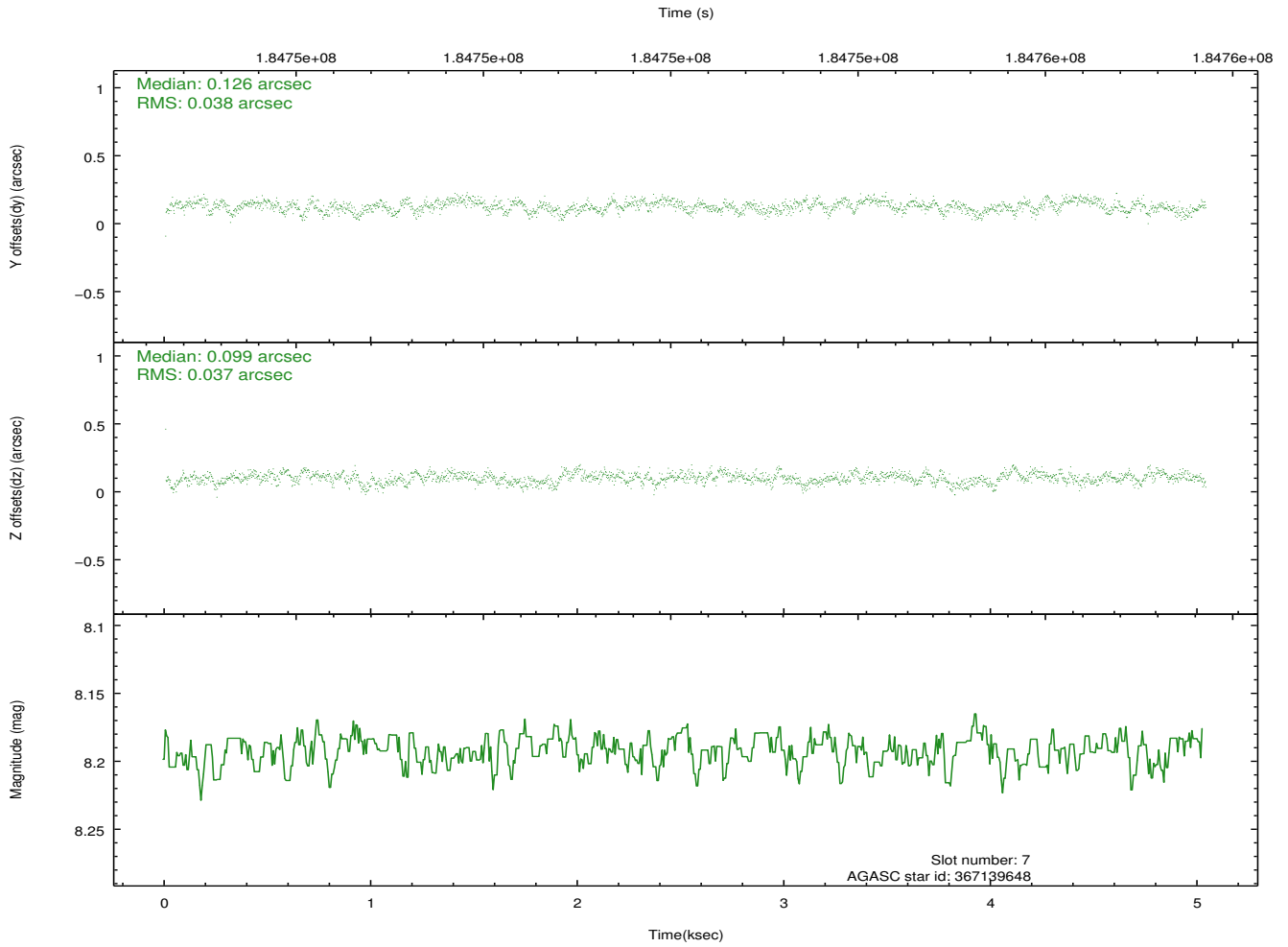
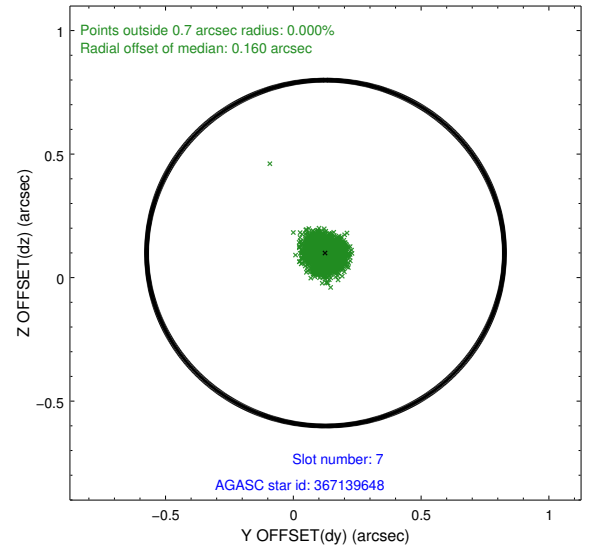
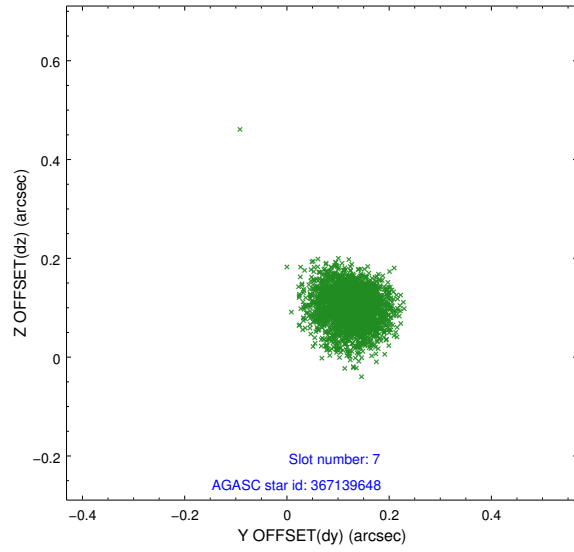


## 2.4.4 Slot 6



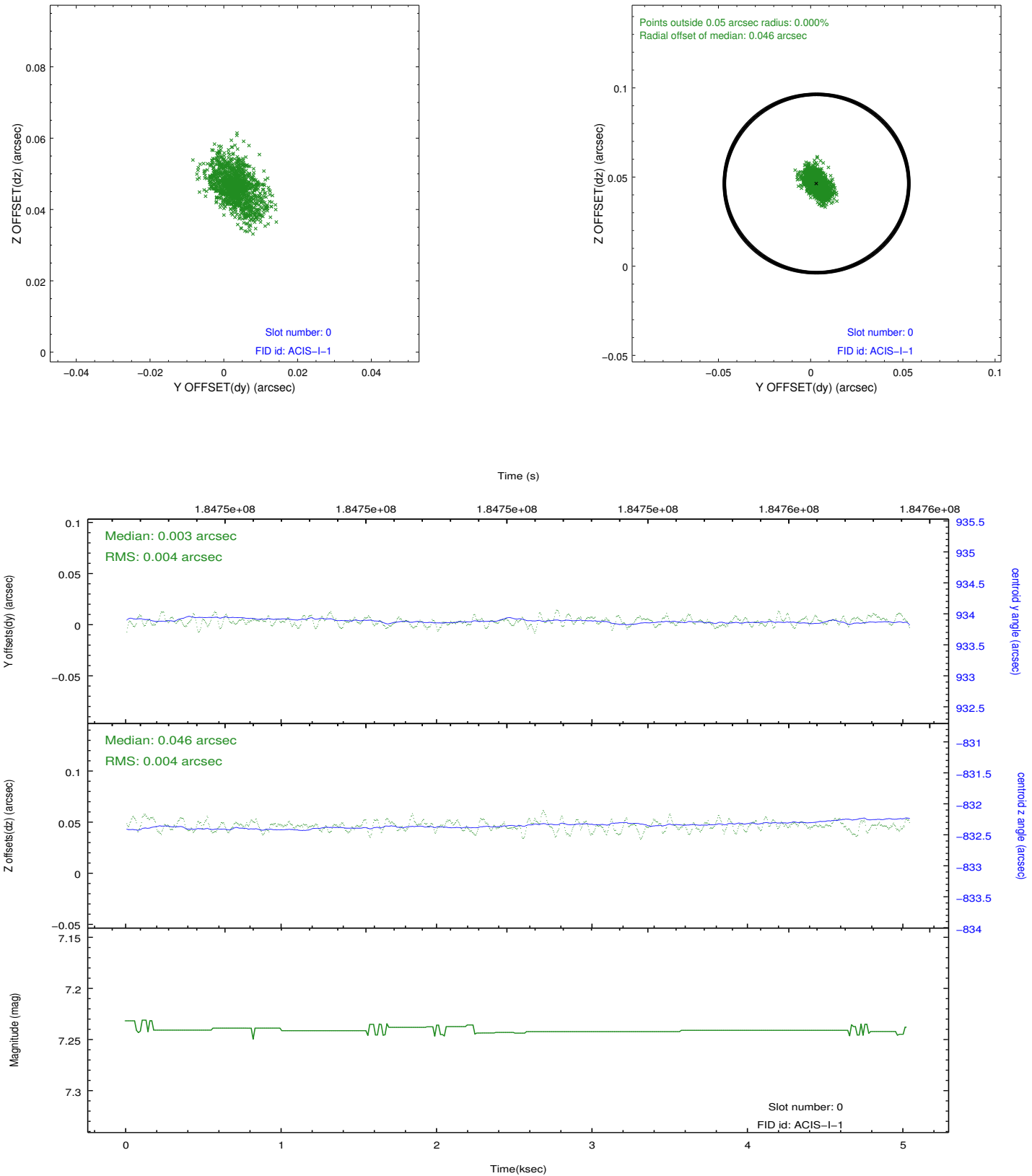


## 2.4.5 Slot 7

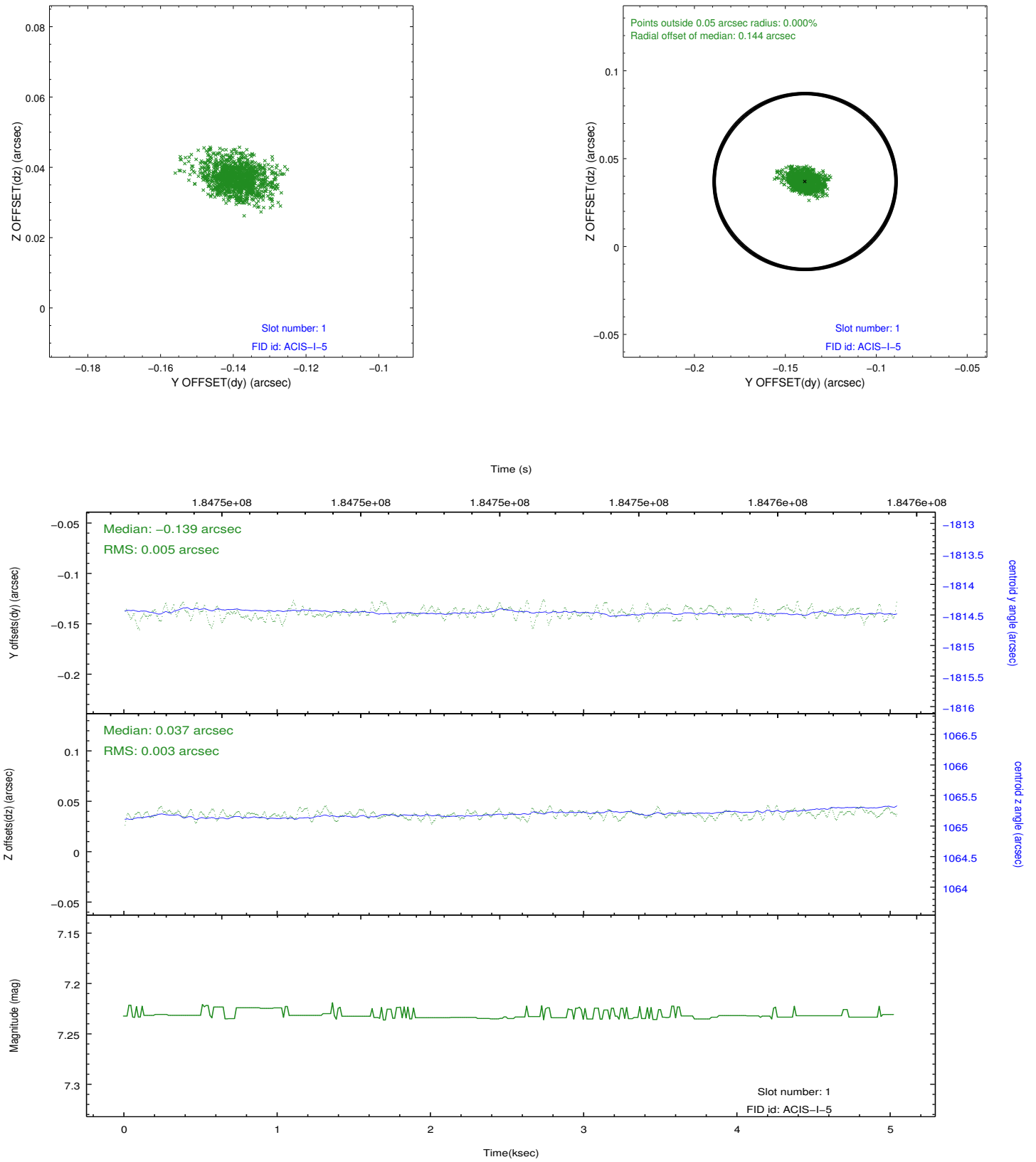


## 2.5 FID Slots

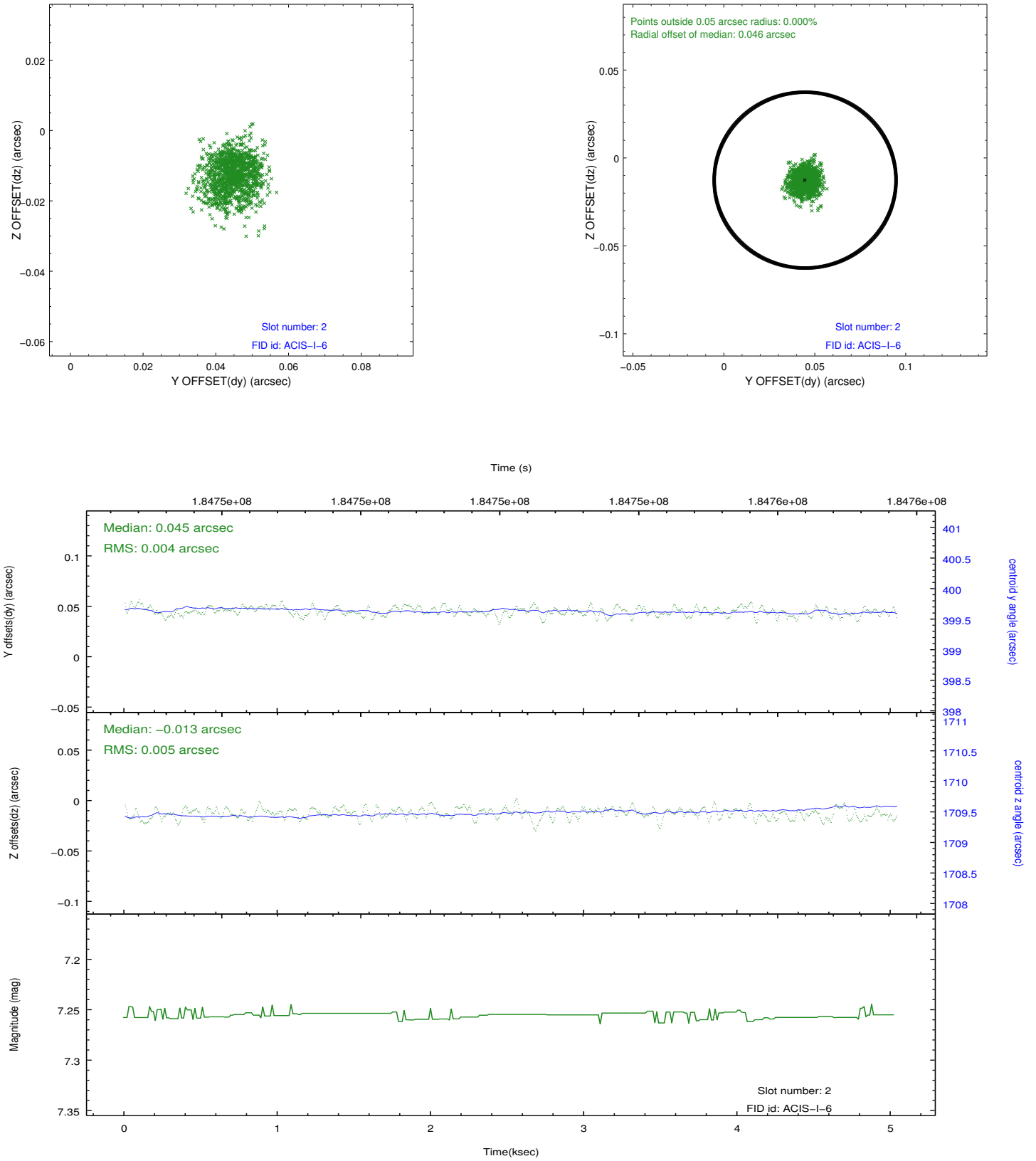
### 2.5.1 Slot 0



## 2.5.2 Slot 1



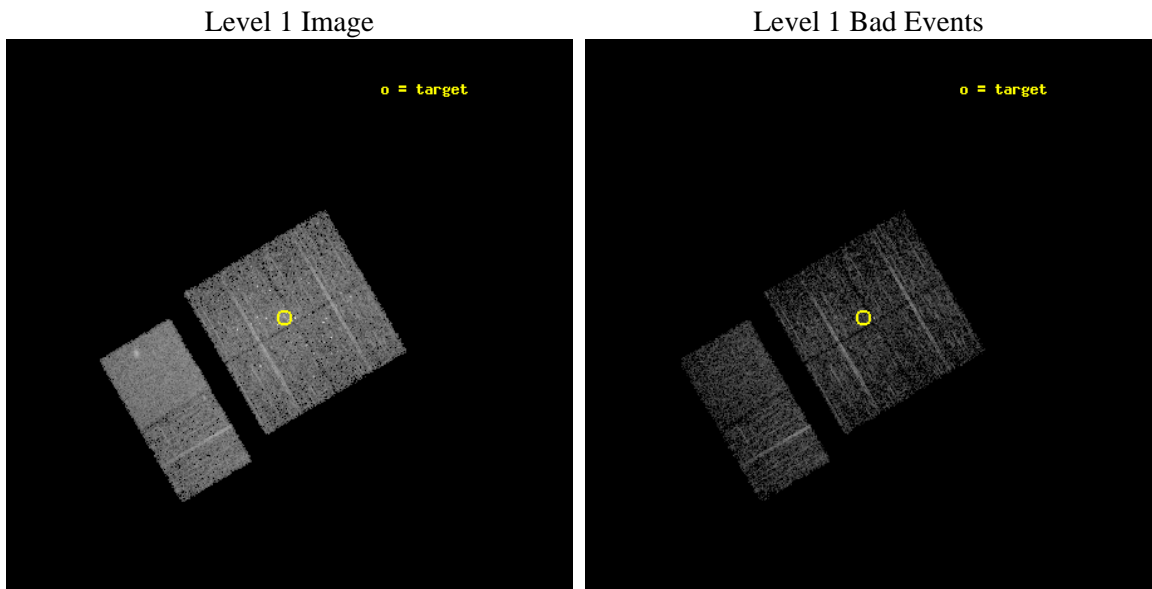
### 2.5.3 Slot 2



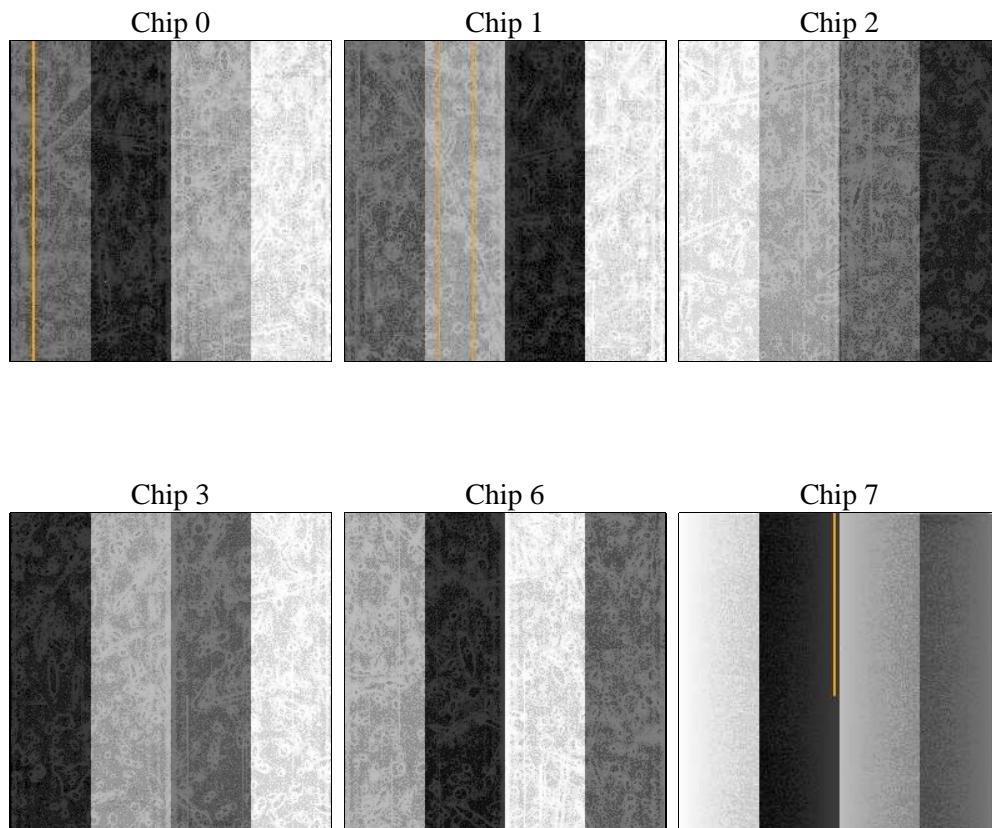
### 3 OBI Secondary

#### 3.1 OBI

##### 3.1.1 Images



##### 3.1.2 Bias



### 3.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	4850.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	3941.0590047836	Sum of GTIs [s]
caldsver	4.5.2	&#160	ontime0	3941.0588954389	Sum of GTIs [s]
date	2012-11-07T12:48:21	Date and time of file creation	ontime1	3941.0587259233	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	3941.0588158071	Sum of GTIs [s]
			ontime3	3941.0590047836	Sum of GTIs [s]
			ontime6	3941.0589353144	Sum of GTIs [s]
			ontime7	3941.0590744615	Sum of GTIs [s]
			l1events	149144	Number of level 1 events

### 3.1.4 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	22525	22312	23385	26524	23072	31326	grade 0 events	3170	2628	2400	5422	1407	1597
rejected events	17203	17381	19162	18567	19912	17320		14%	11%	10%	20%	6%	5%
rejected %	76%	77%	81%	70%	86%	55%	grade 1 events	28	83	29	80	10	35
								0%	0%	0%	0%	0%	0%
							grade 2 events	924	858	744	1060	625	2872
								4%	3%	3%	3%	2%	9%
							grade 3 events	351	373	294	422	256	1270
								1%	1%	1%	1%	1%	4%
							grade 4 events	285	355	273	439	250	1272
								1%	1%	1%	1%	1%	4%
							grade 5 events	902	997	847	1009	997	2896
								4%	4%	3%	3%	4%	9%
							grade 6 events	598	726	516	623	628	7018
								2%	3%	2%	2%	2%	22%
							grade 7 events	16267	16292	18282	17469	18899	14366
								72%	73%	78%	65%	81%	45%

## A Summary

### A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.11.30
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.866

### A.2 Comments

Window constraint satisfied.