

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 10716 - L2 Version 2  
Chandra X-Ray Center

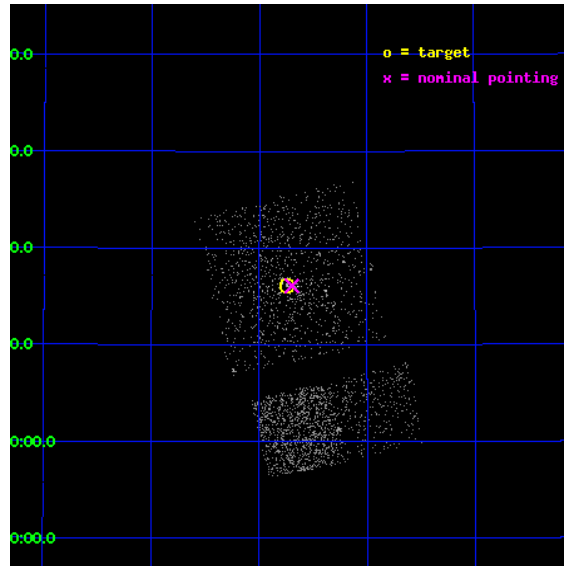
L2 Processing Date : Jun 13 2012

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# 1 Front

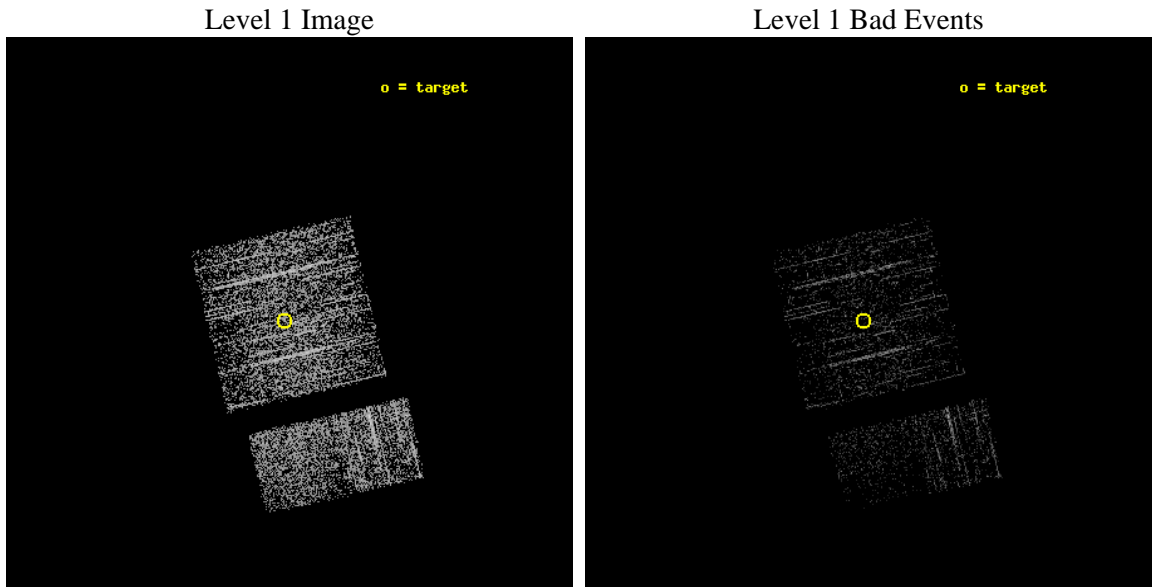
seq_num	600766	Sequence number
obs_id	10716	Observation id
title	Black Hole X-ray Novae in M31	Proposal title
observer	Dr. Stephen Murray	Principal investigator
object	M31	Source name
dtcycle	0	&#160
cycle	P	events are from which exps? P[rimary] S[econdar
ra_targ	10.685	Observer's specified target RA [deg]
dec_targ	41.268972	Observer's specified target Dec [deg]
ra_nom	10.67432487714	Nominal RA [deg]
dec_nom	41.268331076126	Nominal Dec [deg]
roll_nom	166.83586731564	Nominal Roll [deg]
revision	2	Processing version of data
ontime	971.8599627614	Sum of GTIs [s]
livetime	152.99420093007	Livetime [s]
ontime0	971.7368427515	Sum of GTIs [s]
ontime1	971.7778827548	Sum of GTIs [s]
ontime2	971.8189227581	Sum of GTIs [s]
ontime3	971.8599627614	Sum of GTIs [s]
ontime6	971.89680039883	Sum of GTIs [s]
ontime7	971.89680039883	Sum of GTIs [s]
l2events	3023	Number of level 2 events



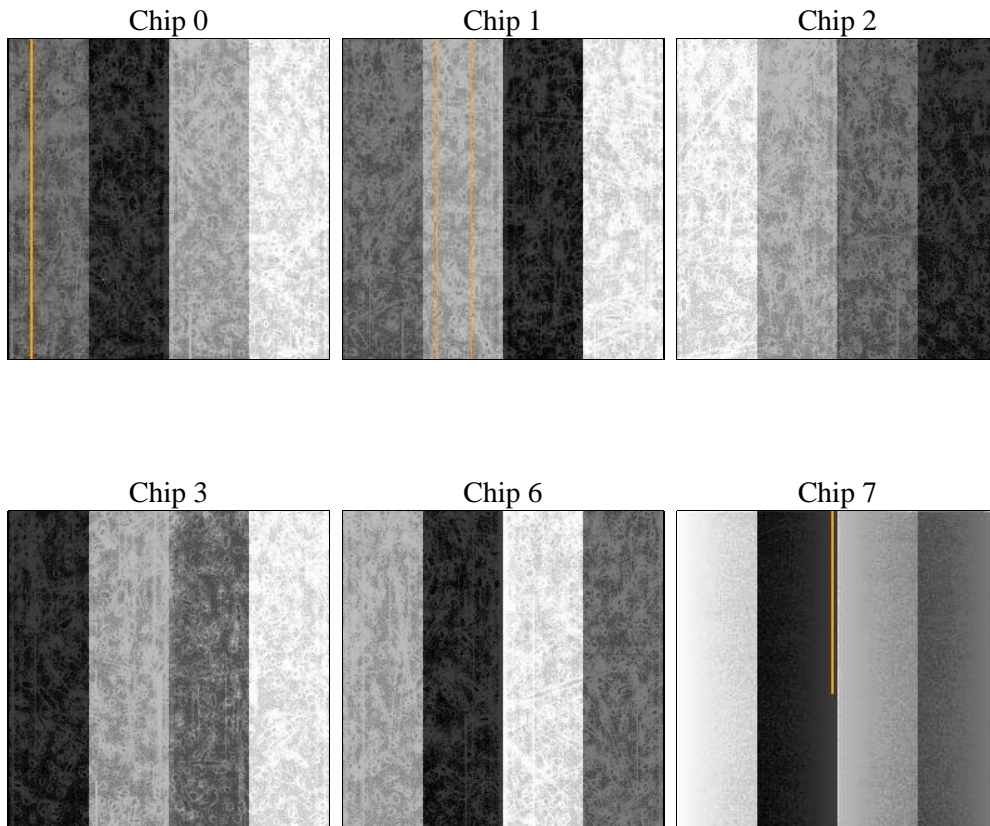
## 2 OBI Primary

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	971.8599627614	Sum of GTIs [s]
caldsver	4.4.10	&#160	ontime0	971.7368427515	Sum of GTIs [s]
date	2012-06-13T19:42:36	Date and time of file creation	ontime1	971.7778827548	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	971.8189227581	Sum of GTIs [s]
			ontime3	971.8599627614	Sum of GTIs [s]
			ontime6	971.89680039883	Sum of GTIs [s]
			ontime7	971.89680039883	Sum of GTIs [s]
			l1events	26505	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	4352	4433	4630	4245	5017	3828
rejected events	4004	3976	4122	3740	4636	2573
rejected %	92%	89%	89%	88%	92%	67%

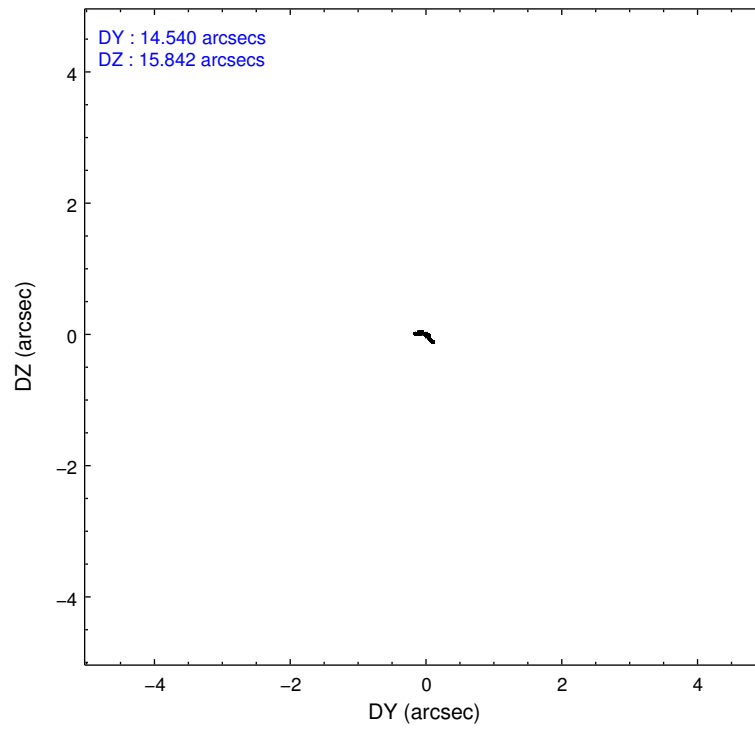
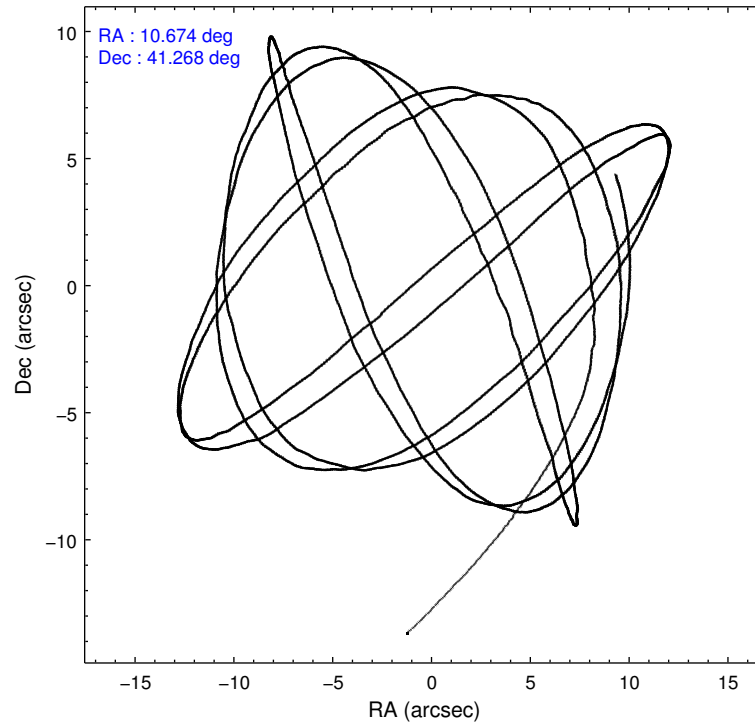
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
grade 0 events	110	154	254	256	103	141
	2%	3%	5%	6%	2%	3%
grade 1 events	3	4	5	2	4	2
	0%	0%	0%	0%	0%	0%
grade 2 events	72	93	98	102	93	279
	1%	2%	2%	2%	1%	7%
grade 3 events	50	57	47	58	65	127
	1%	1%	1%	1%	1%	3%
grade 4 events	42	66	50	36	41	117
	0%	1%	1%	0%	0%	3%
grade 5 events	140	156	107	152	175	370
	3%	3%	2%	3%	3%	9%
grade 6 events	80	99	68	63	87	609
	1%	2%	1%	1%	1%	15%
grade 7 events	3855	3804	4001	3576	4449	2183
	88%	85%	86%	84%	88%	57%

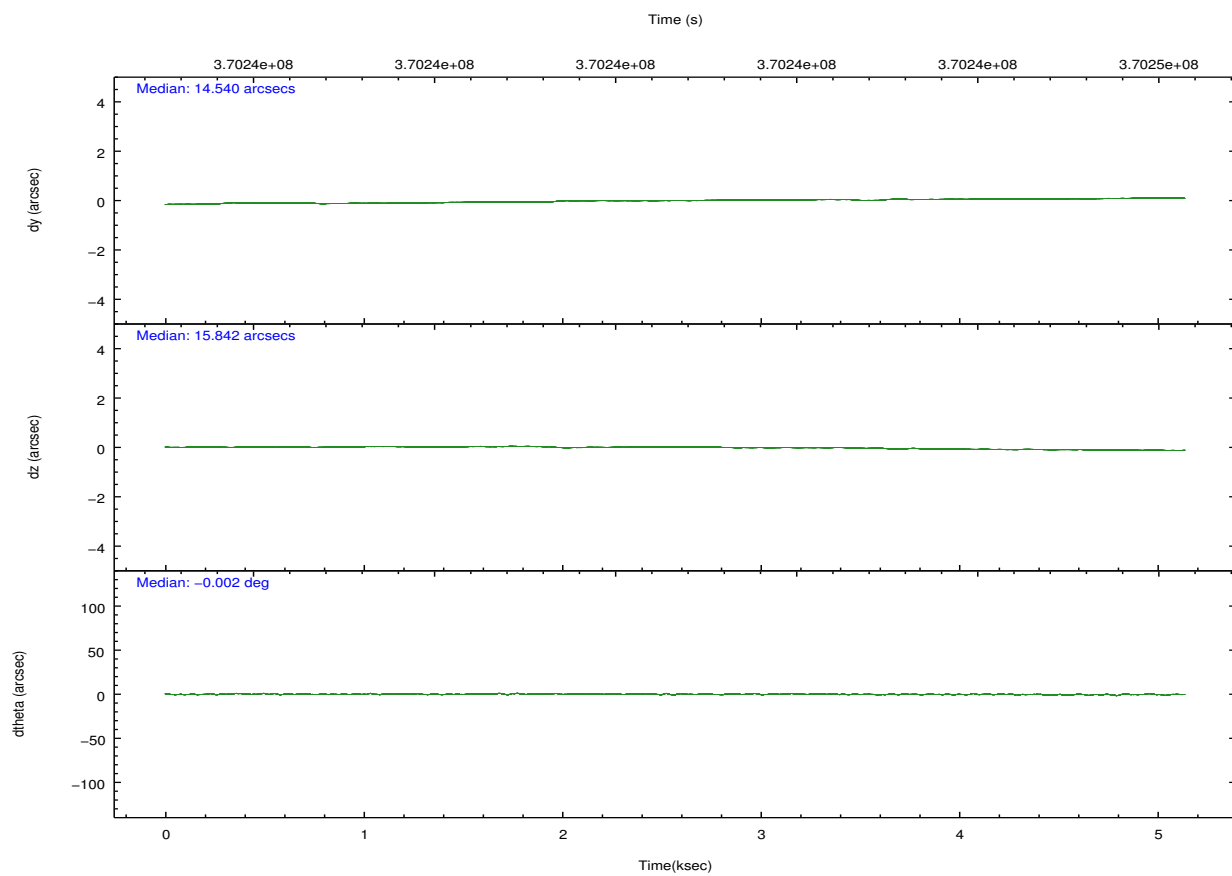
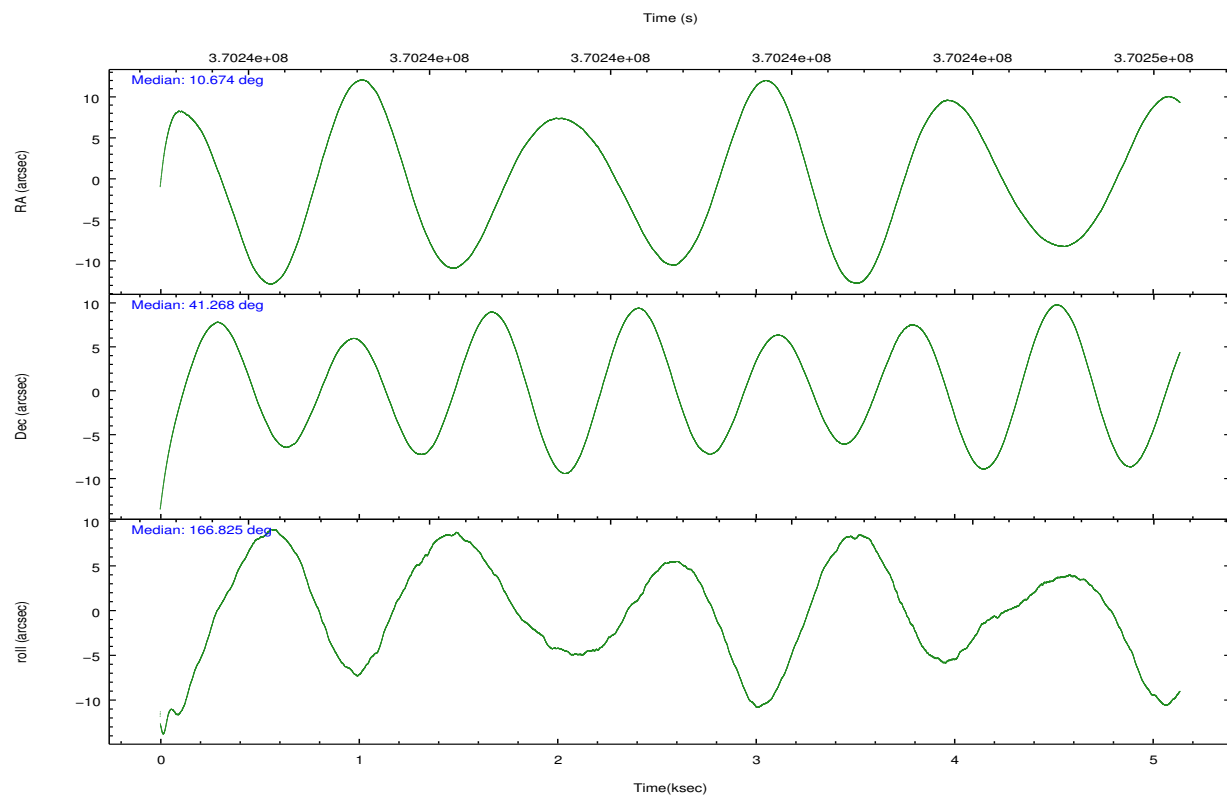


## 2.2 Compared Parameters

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	10.709256	10.67432487713978	CCD I2 on	Y	Y
[deg] Pointing Dec	41.276452	41.26833107612555	CCD I3 on	Y	Y
[deg] Pointing Roll	166.604145	166.8358673156428	CCD S0 on	N	N
[s] Window start time (MET)	369878466.184000	369878466.184000	CCD S1 on	N	N
[s] Window stop time (MET)	370483206.184000	370483206.184000	CCD S2 on	O2	Y
[mm] SIM focus pos	-0.782348	-0.7809083437167272	CCD S3 on	O1	Y
[mm] SIM defocus	0	0.001439871863259334	CCD S4 on	N	N
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S5 on	N	N
[mm] SIM translation stage offset	0	-0.005018542100998502	Number of optional ACIS chips dropped	0	0
[s] Observation start time (MET)	370240904.184000	370239763.19818	On-chip summing requested	N	N
Observation start date	2009-09-25T04:40:38	2009-09-25T04:22:43	Subarray requested	NONE	NONE
[s] Observation end time (MET)	370245904.184000	370246936.14854	Alternating exposures requested	Y	Y
Observation end date	2009-09-25T06:03:58	2009-09-25T06:22:16	[s] Primary exposure time	0.600000	0.6
Read mode	TIMED	TIMED	[s] Secondary exposure time	0.000000	3.2
			Duty cycle	5	5

## 2.3 Aspect



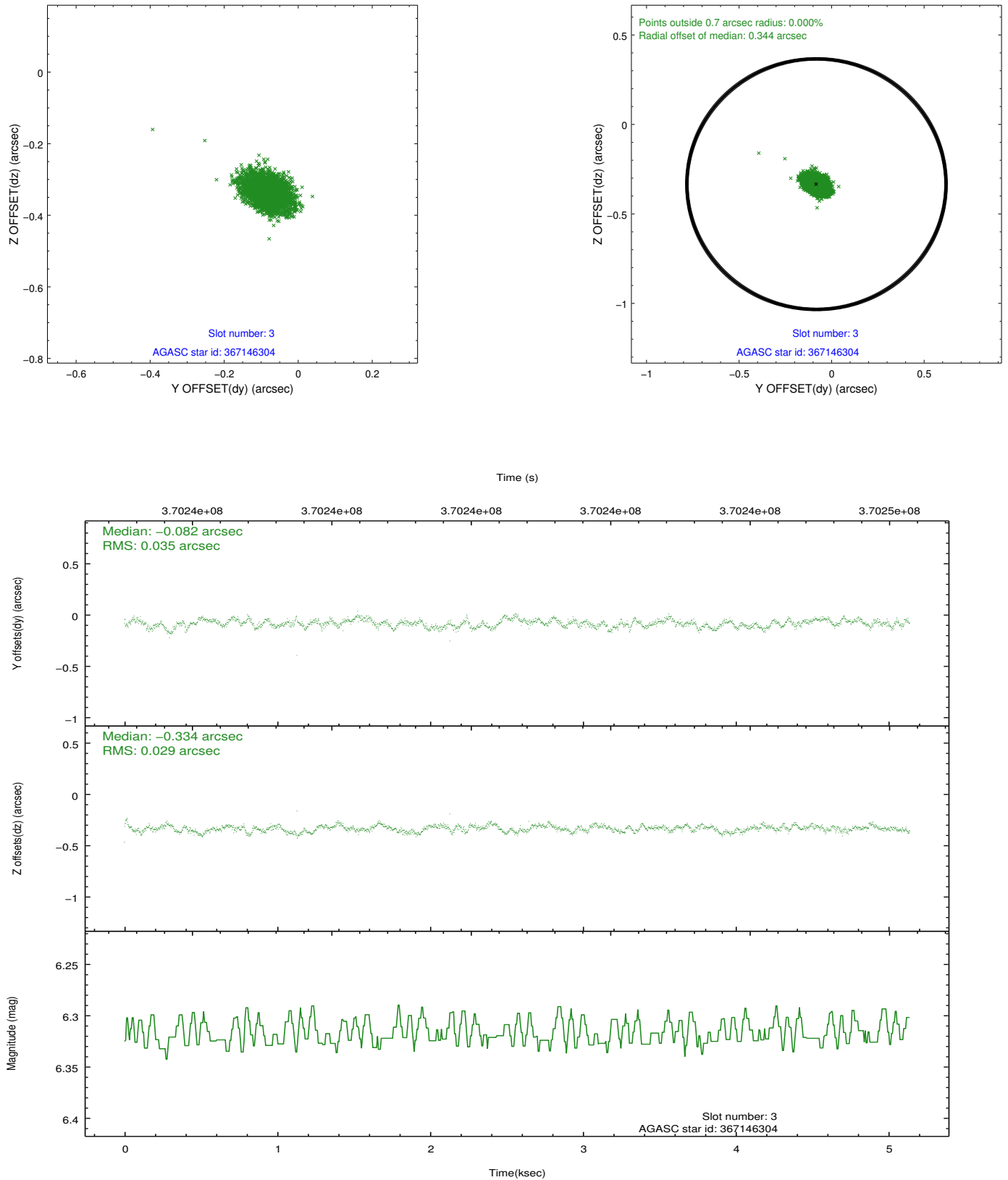


### Slot Statistics

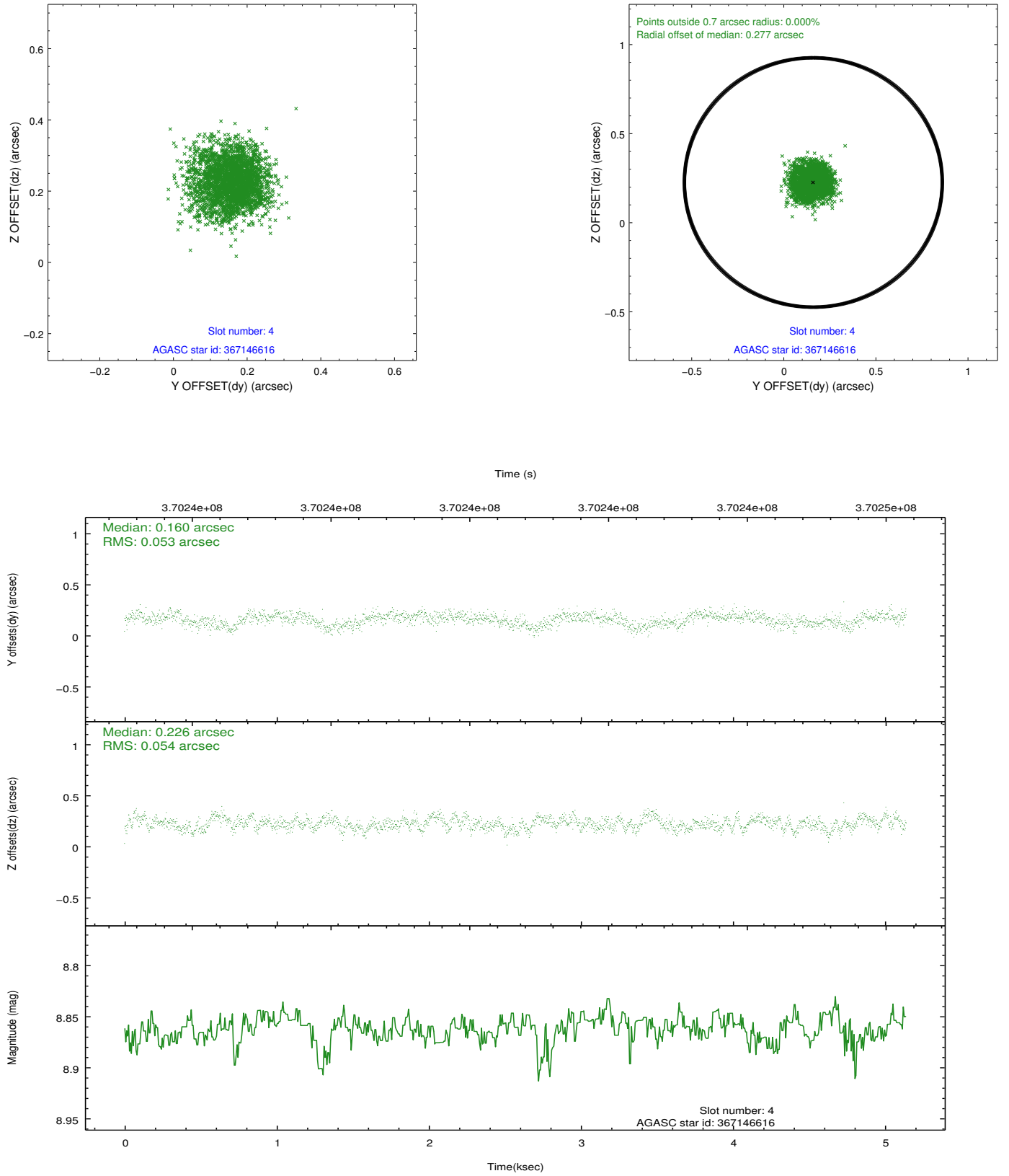
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	6.99	1254	0.042	-0.014	0.006	0.010	0.000000	0.000000	924.98	-839.46
1	FID	ACIS-I-5	6.99	1254	-0.204	0.048	0.006	0.010	0.000000	0.000000	-1822.71	1057.51
2	FID	ACIS-I-6	6.99	1254	0.070	0.037	0.007	0.011	0.000000	0.000000	389.28	1703.33
3	GUIDE	367146304	6.32	2508	-0.082	-0.334	0.047	0.079	11.154952	40.679362	-1681.26	1805.84
4	GUIDE	367146616	8.86	2504	0.160	0.226	0.082	0.128	11.418645	41.190163	-1939.79	-149.88
5	GUIDE	367657896	9.04	2504	-0.003	0.103	0.081	0.129	11.197765	41.313576	-1253.51	-439.62
6	GUIDE	367663272	9.29	2503	-0.136	-0.044	0.096	0.157	10.656279	41.699429	491.99	-1447.69
7	GUIDE	367674552	8.86	2505	0.066	0.051	0.079	0.125	11.016238	41.570845	-557.72	-1224.30

## 2.4 Star Slots

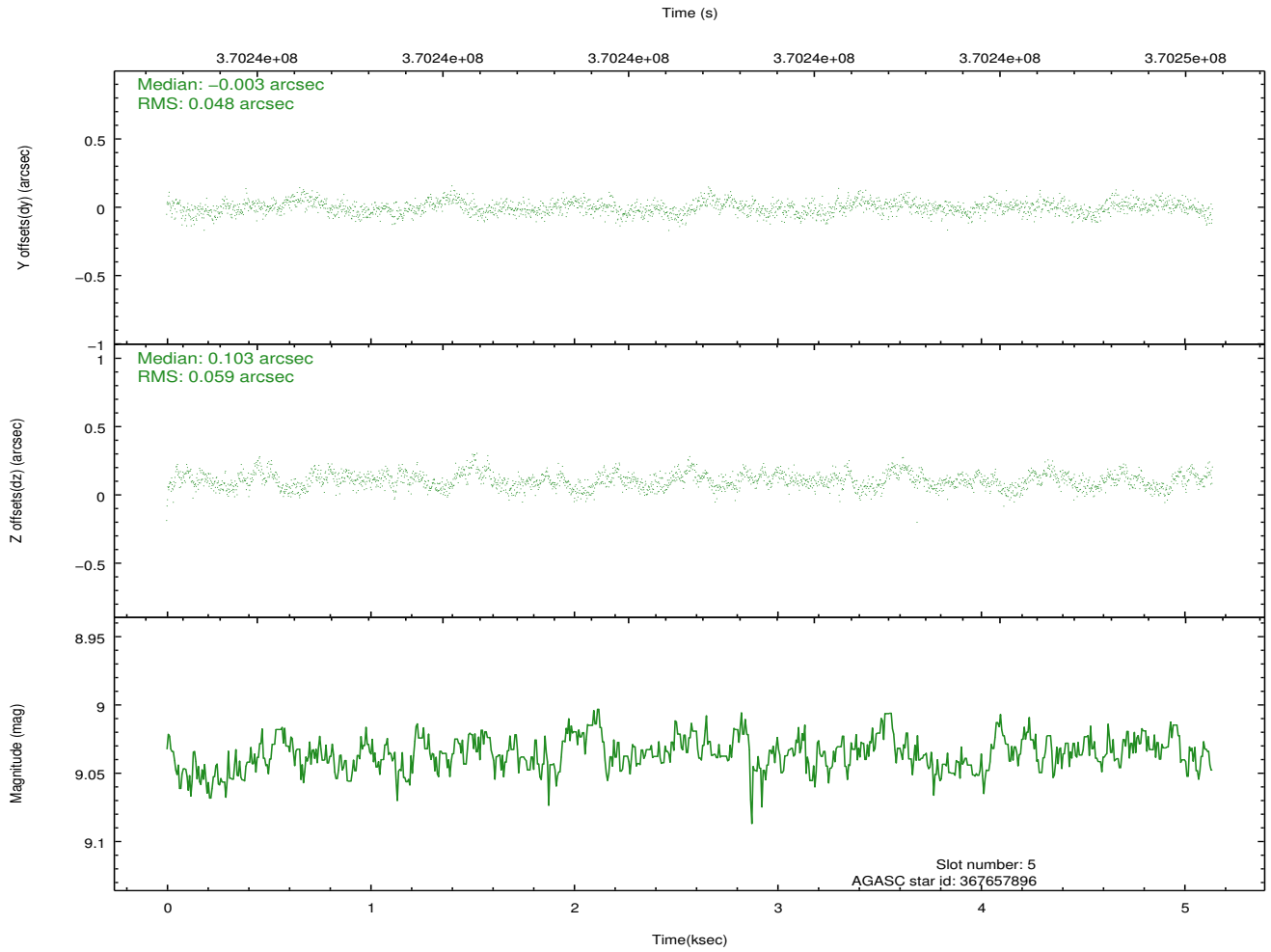
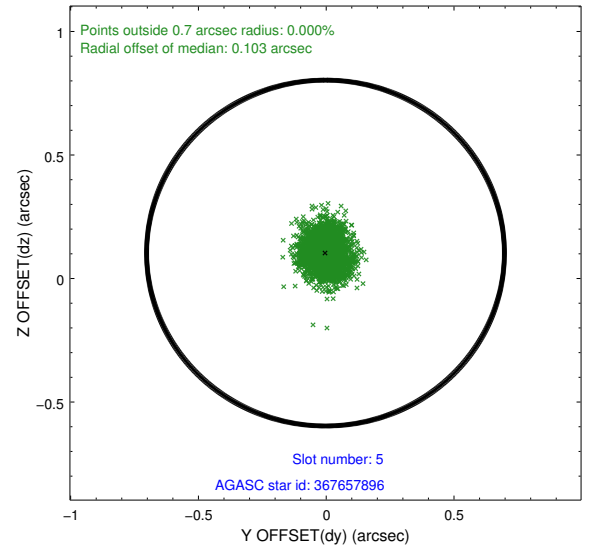
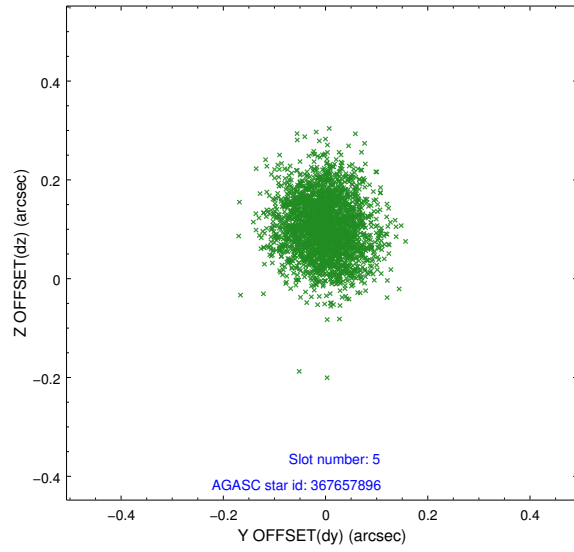
### 2.4.1 Slot 3



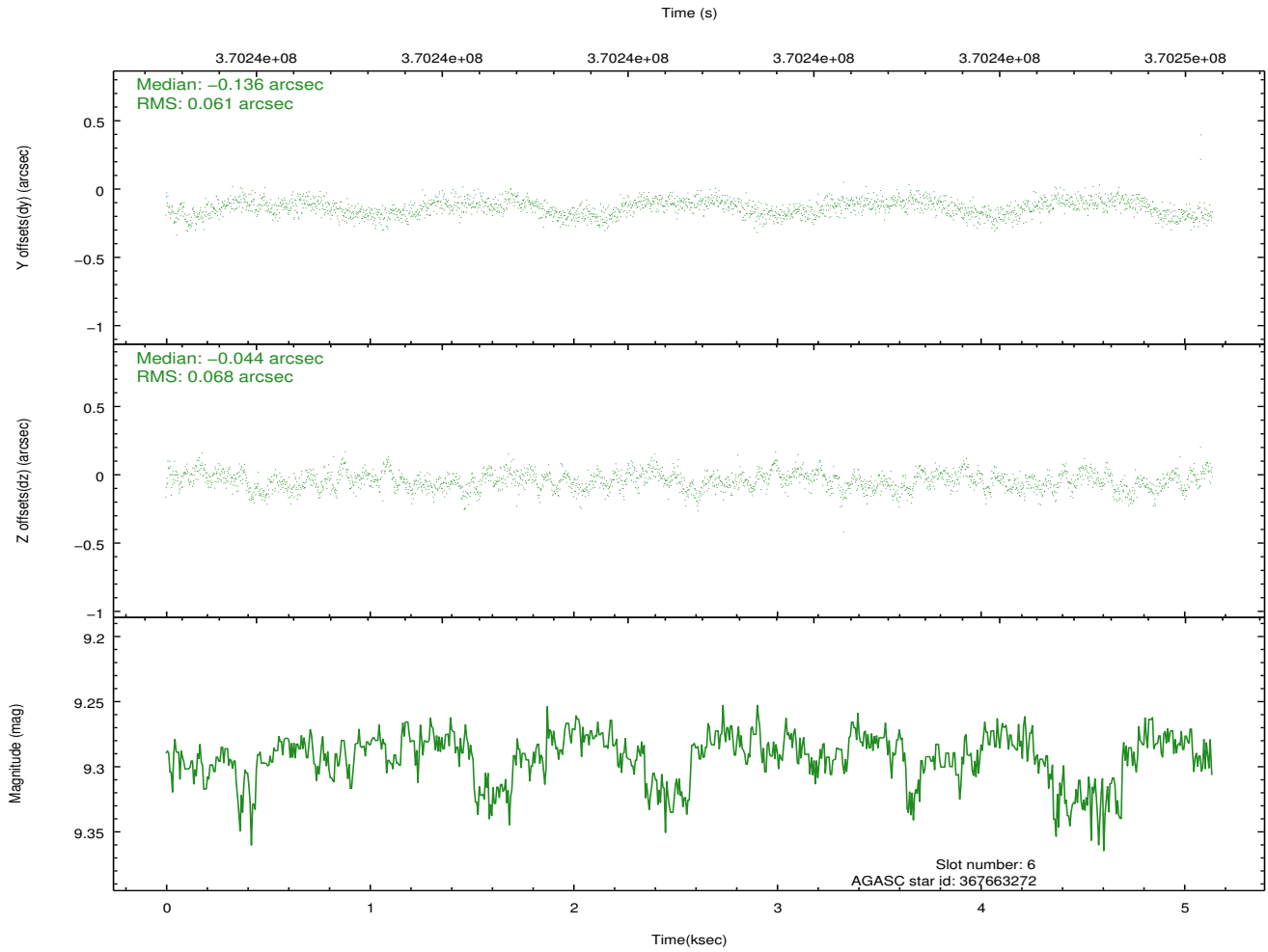
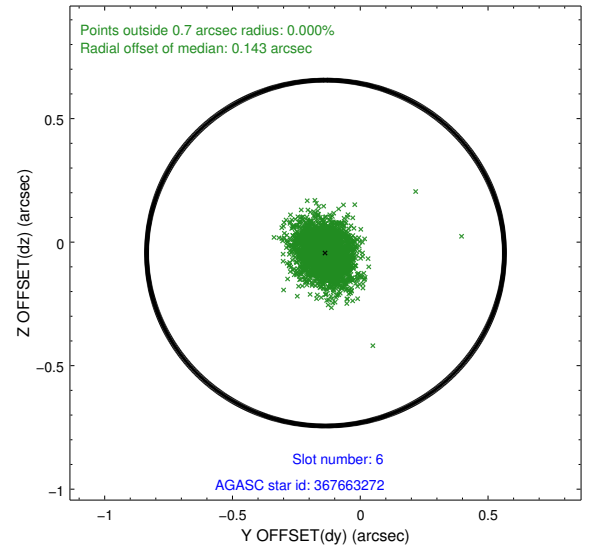
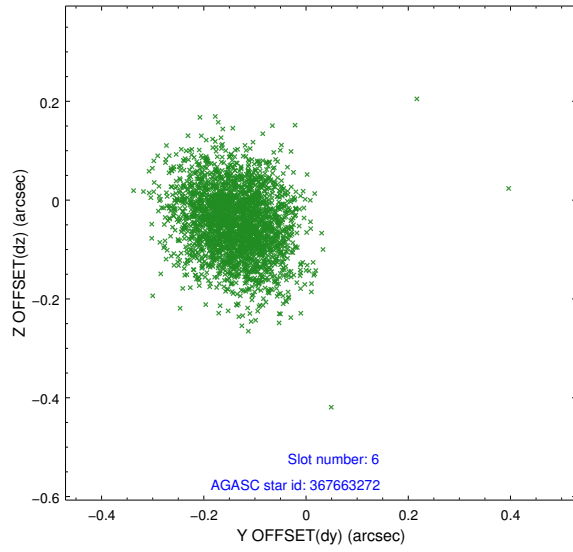
## 2.4.2 Slot 4



### 2.4.3 Slot 5

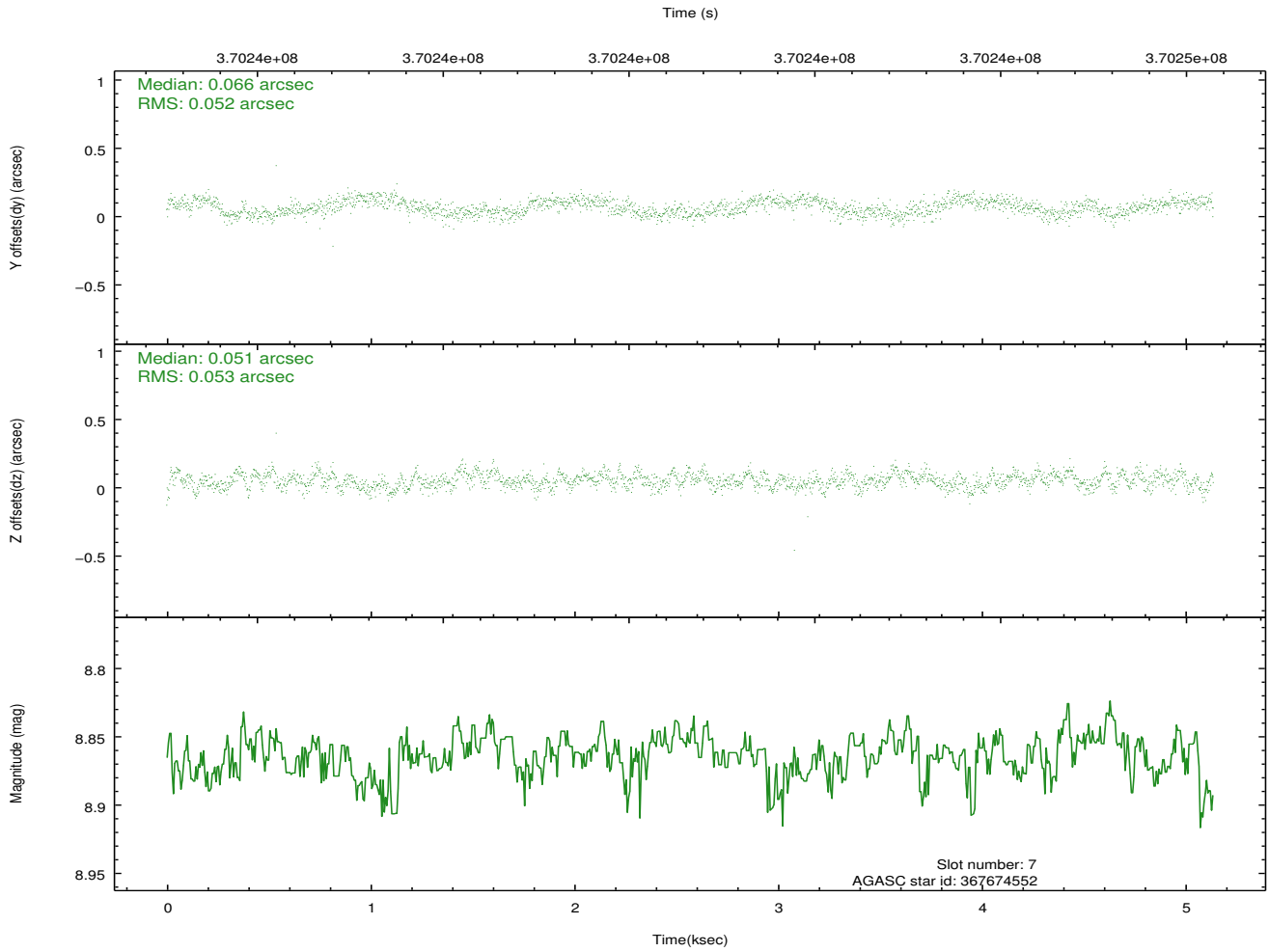
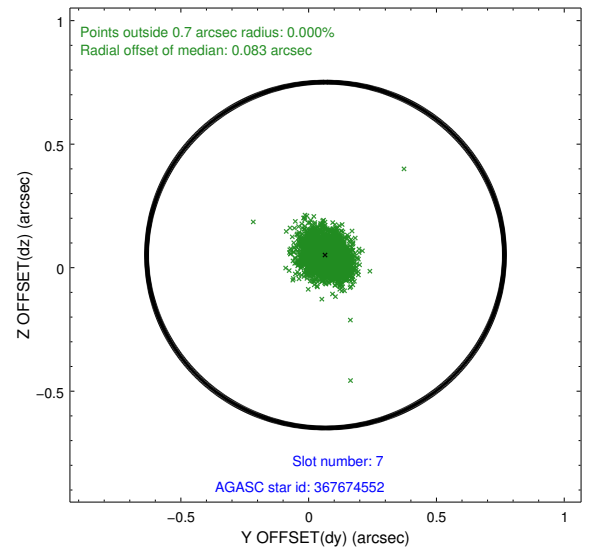
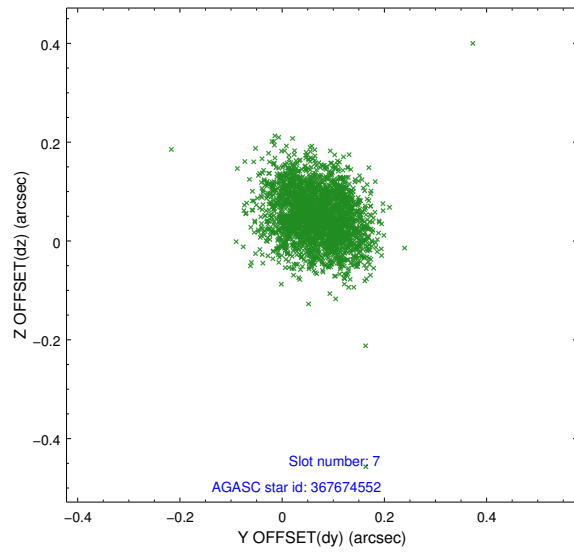


## 2.4.4 Slot 6



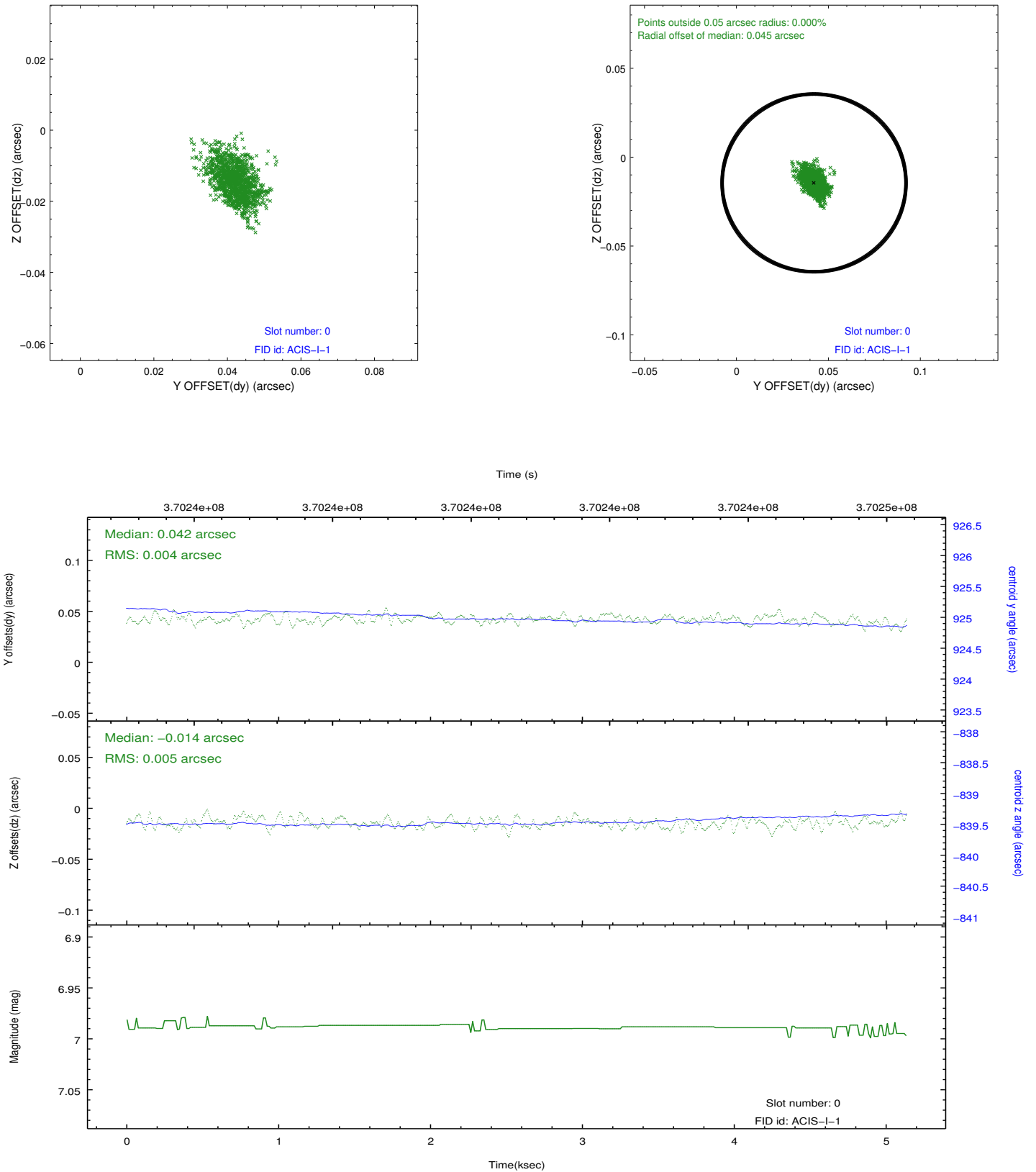


## 2.4.5 Slot 7

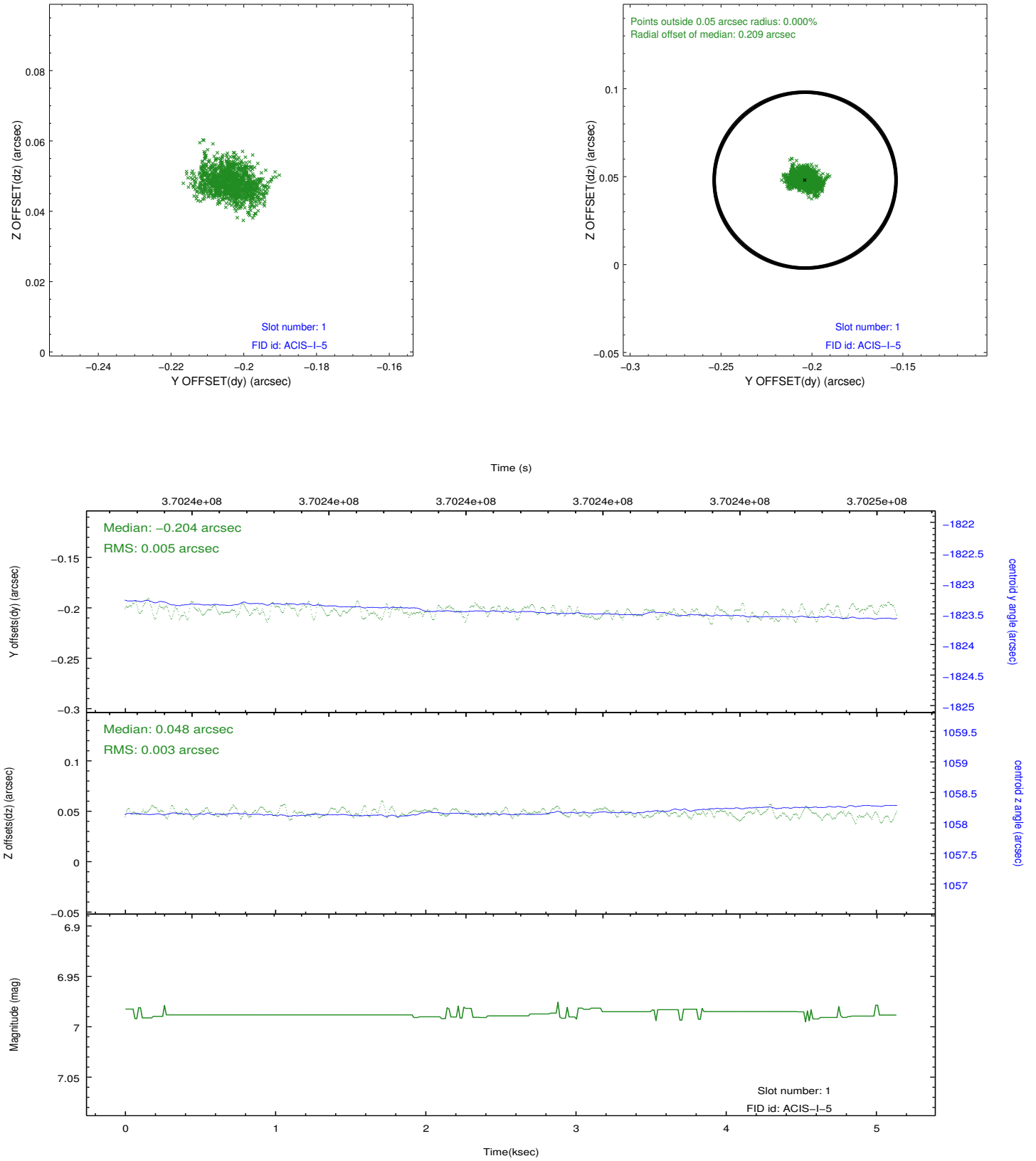


## 2.5 FID Slots

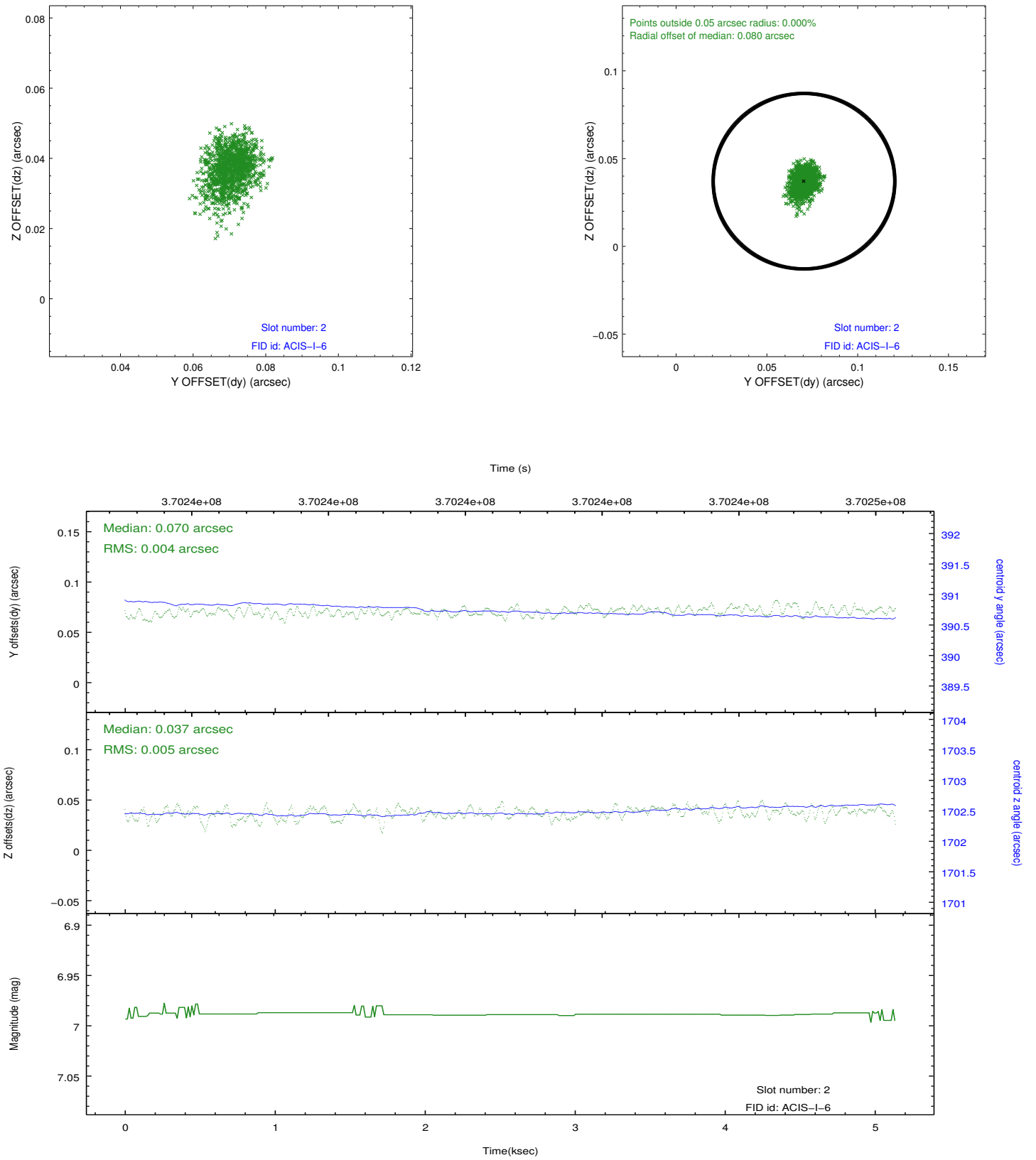
### 2.5.1 Slot 0



## 2.5.2 Slot 1



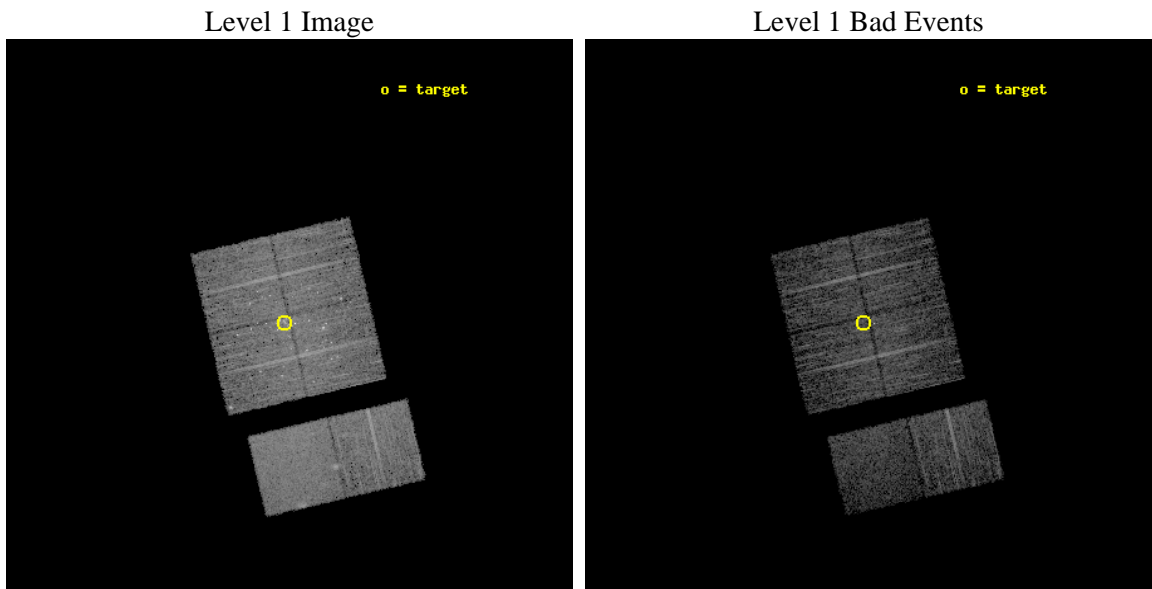
### 2.5.3 Slot 2



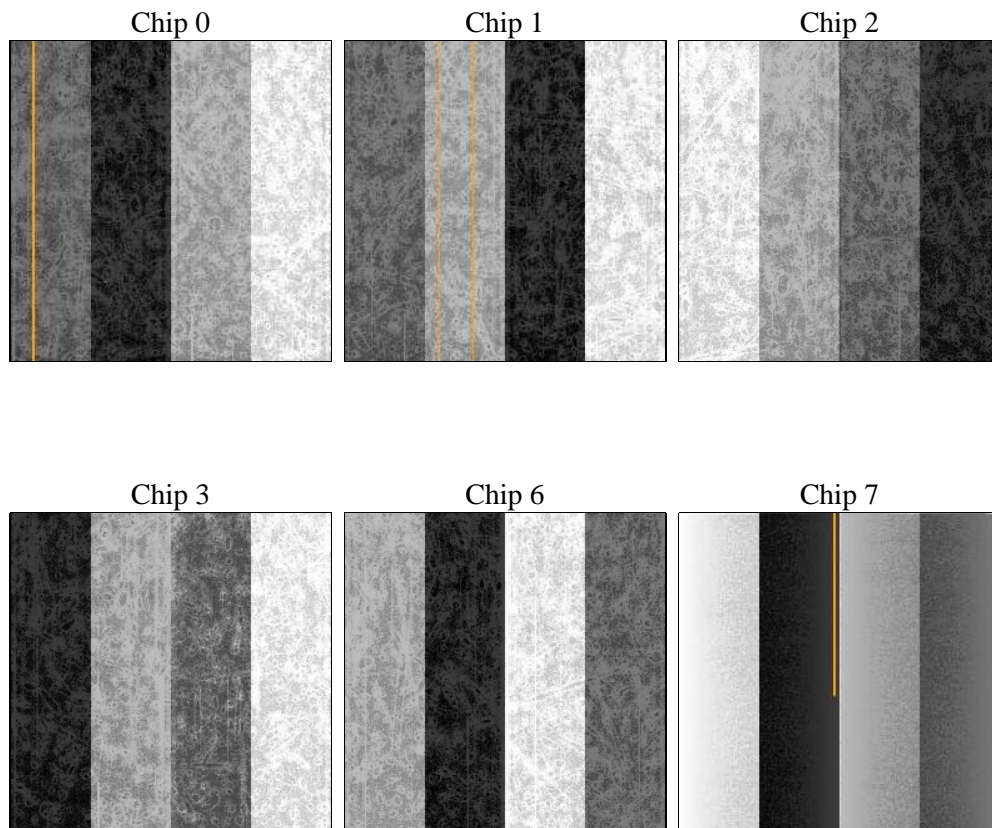
### 3 OBI Secondary

#### 3.1 OBI

##### 3.1.1 Images



##### 3.1.2 Bias



### 3.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	4159.1108611226	Sum of GTIs [s]
caldsver	4.4.10	&#160	ontime0	4159.1108905077	Sum of GTIs [s]
date	2012-06-13T19:44:29	Date and time of file creation	ontime1	4159.1113784313	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	4159.110702157	Sum of GTIs [s]
			ontime3	4159.1108611226	Sum of GTIs [s]
			ontime6	4159.1108114719	Sum of GTIs [s]
			ontime7	4159.11064291	Sum of GTIs [s]
			l1events	238443	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	36257	37566	42840	40561	37466	43753	grade 0 events	2188	3100	4616	5151	1707	2148
rejected events	31543	31494	34926	32176	33203	23492		6%	8%	10%	12%	4%	4%
rejected %	86%	83%	81%	79%	88%	53%	grade 1 events	30	36	191	79	20	54
								0%	0%	0%	0%	0%	0%
							grade 2 events	1004	1199	1467	1328	939	4272
								2%	3%	3%	3%	2%	9%
							grade 3 events	431	479	572	563	410	2028
								1%	1%	1%	1%	1%	4%
							grade 4 events	428	515	571	567	413	1880
								1%	1%	1%	1%	1%	4%
							grade 5 events	1303	1539	1363	1553	1550	4474
								3%	4%	3%	3%	4%	10%
							grade 6 events	765	921	828	919	879	10309
								2%	2%	1%	2%	2%	23%
							grade 7 events	30108	29777	33232	30401	31548	18588
								83%	79%	77%	74%	84%	42%

## A Summary

### A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.06.18
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.13097083008284

### A.2 Comments

Window constraint satisfied.