

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 4680 - L2 Version 3  
Chandra X-Ray Center

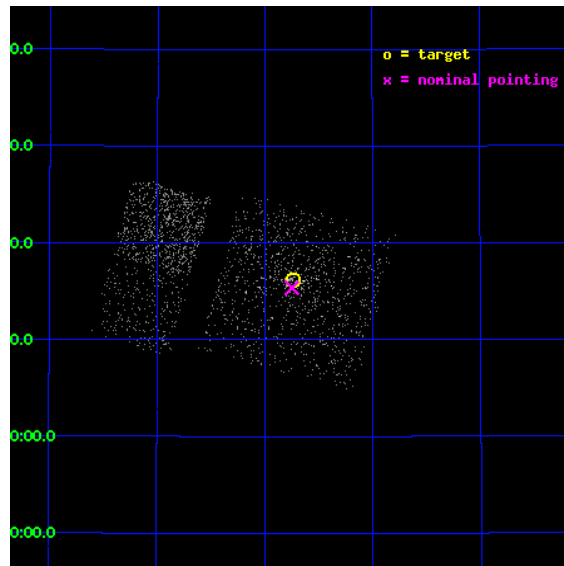
L2 Processing Date : Nov 9 2012

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# 1 Front

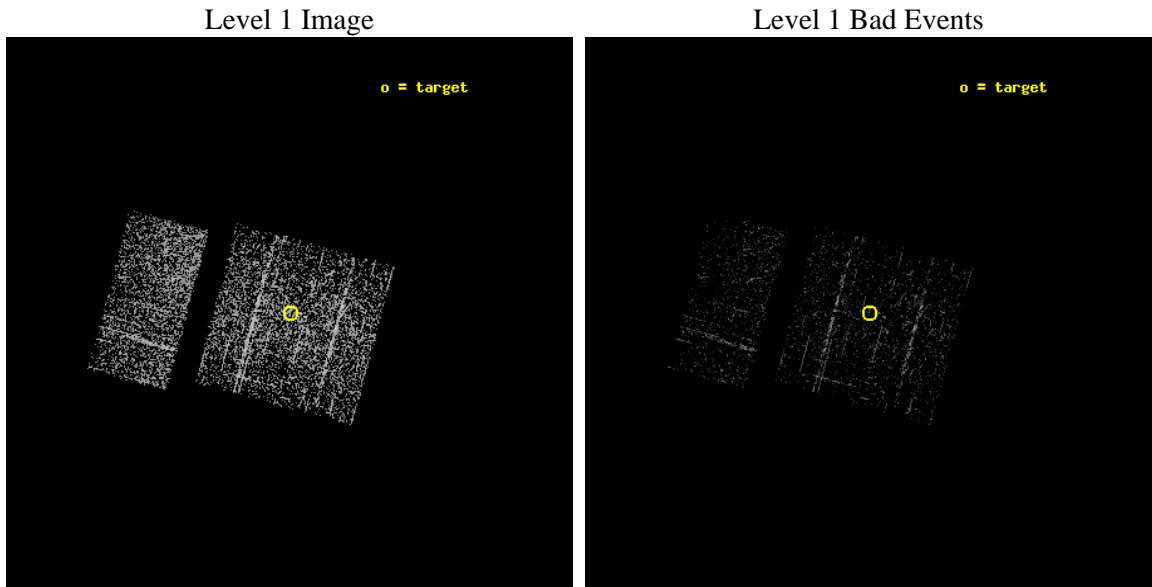
seq_num	600335	Sequence number
obs_id	4680	Observation id
title	Searching for Black Hole X-ray Nova in M31	Proposal title
observer	Dr. Stephen Murray	Principal investigator
object	M31-Center	Source name
dtcycle	0	&#160
cycle	P	events are from which exps? P[primary] S[econdar]
ra_targ	10.685	Observer's specified target RA [deg]
dec_targ	41.268972	Observer's specified target Dec [deg]
ra_nom	10.687125568596	Nominal RA [deg]
dec_nom	41.256223537559	Nominal Dec [deg]
roll_nom	285.12193558456	Nominal Roll [deg]
revision	3	Processing version of data
ontime	991.11034241319	Sum of GTIs [s]
livetime	156.02467503671	Livetime [s]
ontime0	991.11034241319	Sum of GTIs [s]
ontime1	991.11034241319	Sum of GTIs [s]
ontime2	991.11034241319	Sum of GTIs [s]
ontime3	991.11034241319	Sum of GTIs [s]
ontime6	991.11034241319	Sum of GTIs [s]
ontime7	991.11034241319	Sum of GTIs [s]
l2events	2438	Number of level 2 events



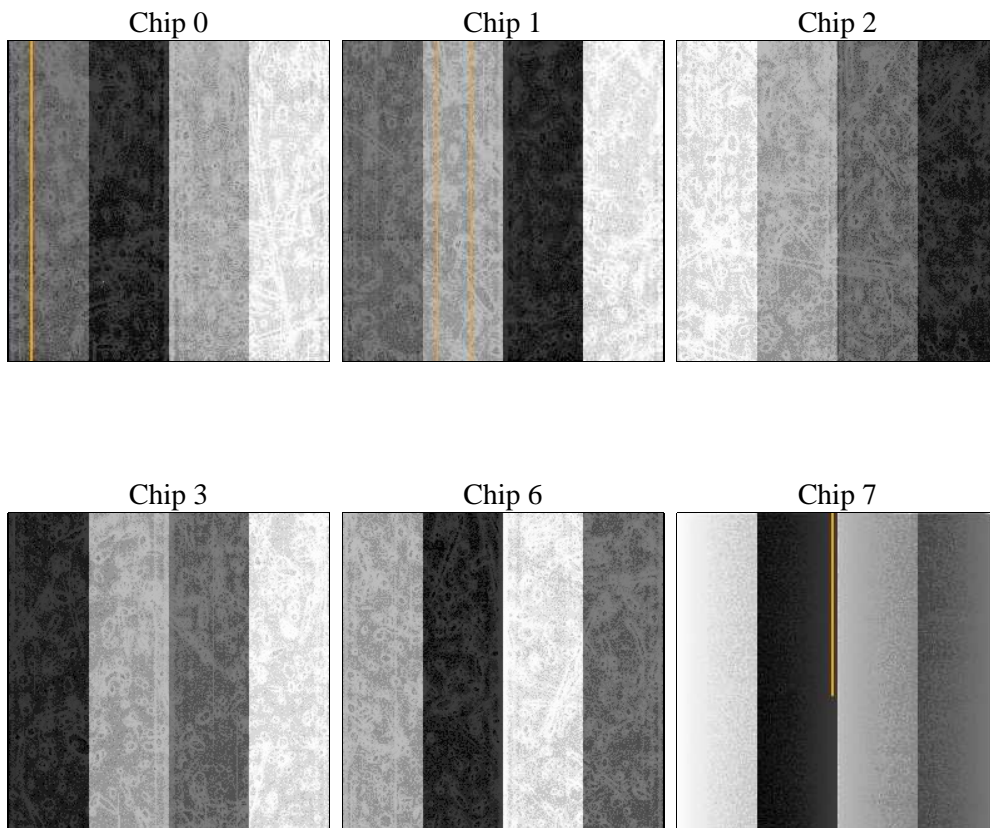
## 2 OBI Primary

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	5200.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	991.11034241319	Sum of GTIs [s]
caldbver	4.5.2	&#160	ontime0	991.11034241319	Sum of GTIs [s]
date	2012-11-09T14:36:47	Date and time of file creation	ontime1	991.11034241319	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	991.11034241319	Sum of GTIs [s]
			ontime3	991.11034241319	Sum of GTIs [s]
			ontime6	991.11034241319	Sum of GTIs [s]
			ontime7	991.11034241319	Sum of GTIs [s]
			l1events	18867	Number of level 1 events

### 2.1.4 Events

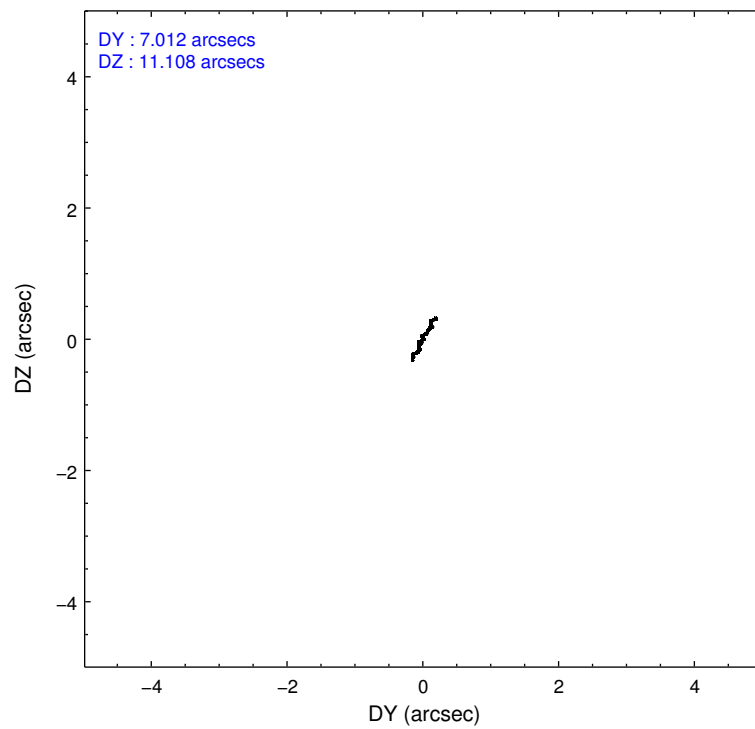
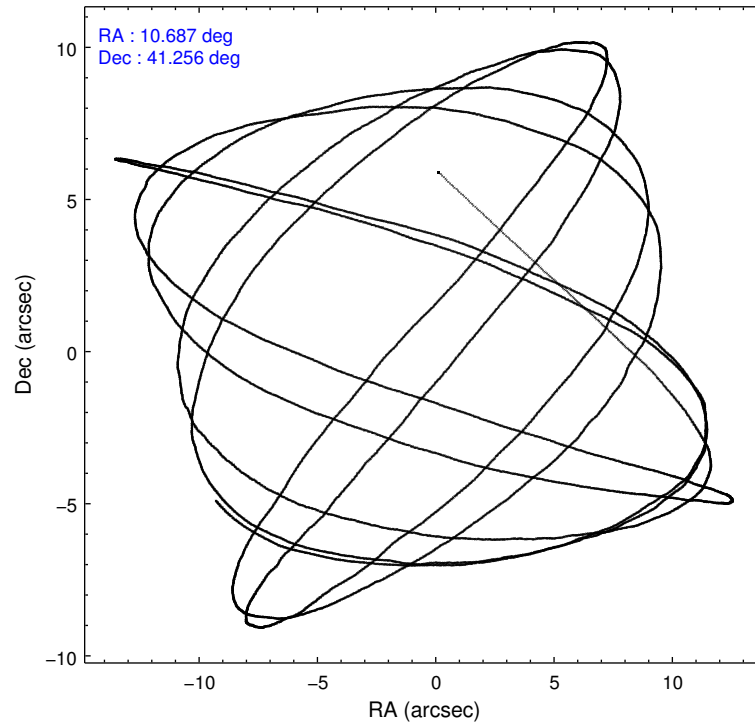
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	3097	3278	3323	2960	3009	3200
rejected events	2755	2769	2972	2514	2737	2361
rejected %	88%	84%	89%	84%	90%	73%

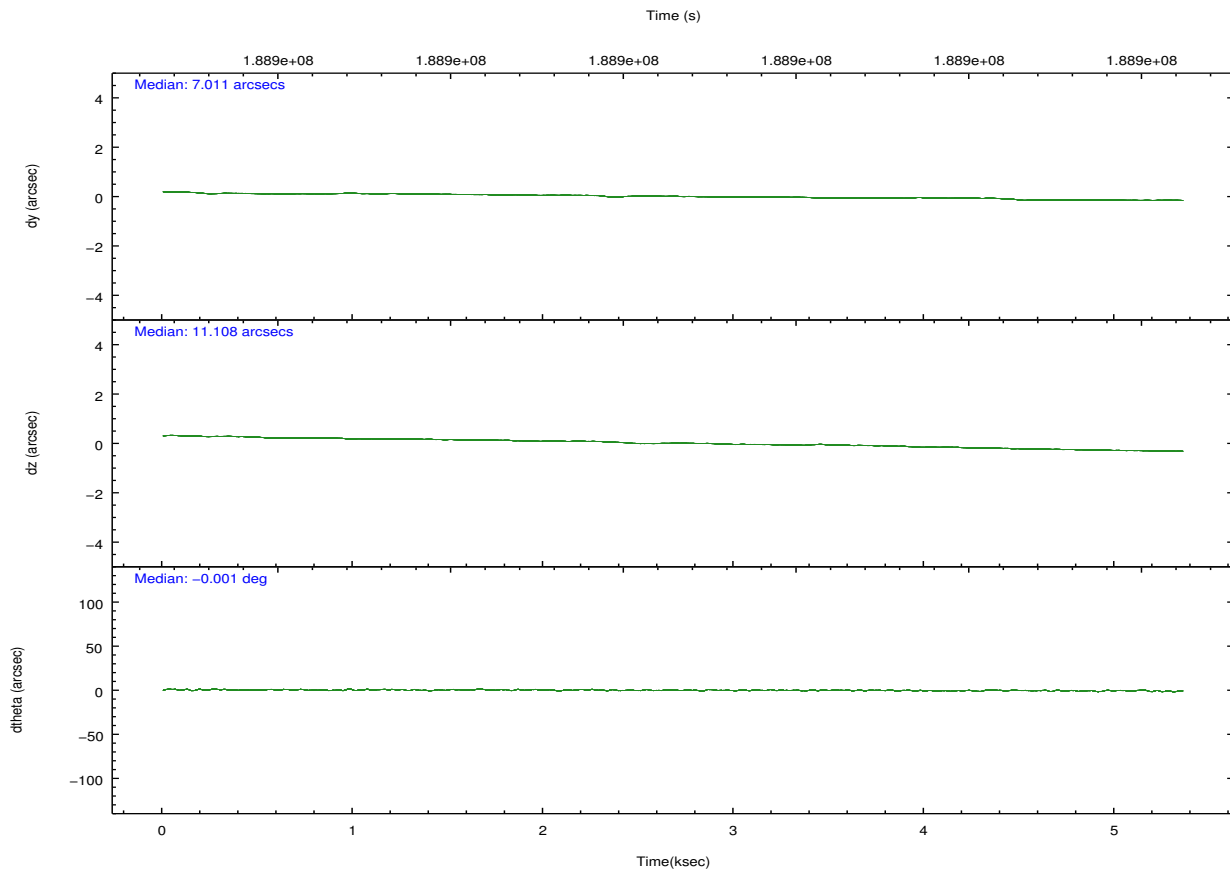
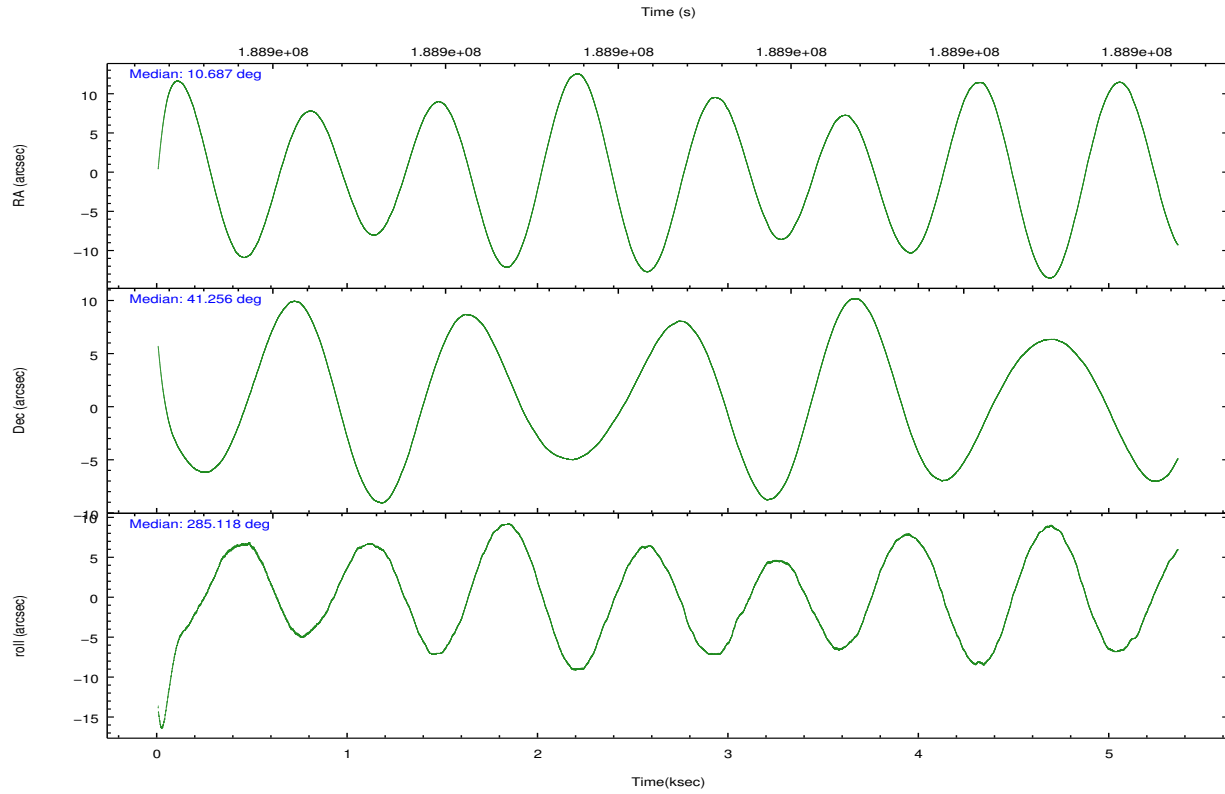
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
grade 0 events	151	263	160	255	67	76
	4%	8%	4%	8%	2%	2%
grade 1 events	0	3	2	1	1	2
	0%	0%	0%	0%	0%	0%
grade 2 events	63	88	63	72	75	198
	2%	2%	1%	2%	2%	6%
grade 3 events	43	40	36	35	32	68
	1%	1%	1%	1%	1%	2%
grade 4 events	40	47	35	41	39	65
	1%	1%	1%	1%	1%	2%
grade 5 events	90	109	107	92	119	261
	2%	3%	3%	3%	3%	8%
grade 6 events	47	75	57	53	60	437
	1%	2%	1%	1%	1%	13%
grade 7 events	2663	2653	2863	2411	2616	2093
	85%	80%	86%	81%	86%	65%

## 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	10.661096	10.6871255685964	Subarray requested	NONE	NONE
[deg] Pointing Dec	41.275568	41.2562235375586	Alternating exposures requested	Y	Y
[deg] Pointing Roll	284.930447	285.1219355845644	[s] Primary exposure time	0.600000	0.6
[s] Window start time (MET)	188438464.184000	188438464.184000	[s] Secondary exposure time	0.000000	3.2
[s] Window stop time (MET)	189043264.184000	189043264.184000	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)	188898771.184000	188897728.63036			
Observation start date	2003-12-27T07:51:47	2003-12-27T07:35:28			
[s] Observation end time (MET)	188903971.184000	188905066.60568			
Observation end date	2003-12-27T09:18:27	2003-12-27T09:37:46			
Read mode	TIMED	TIMED			

## 2.3 Aspect



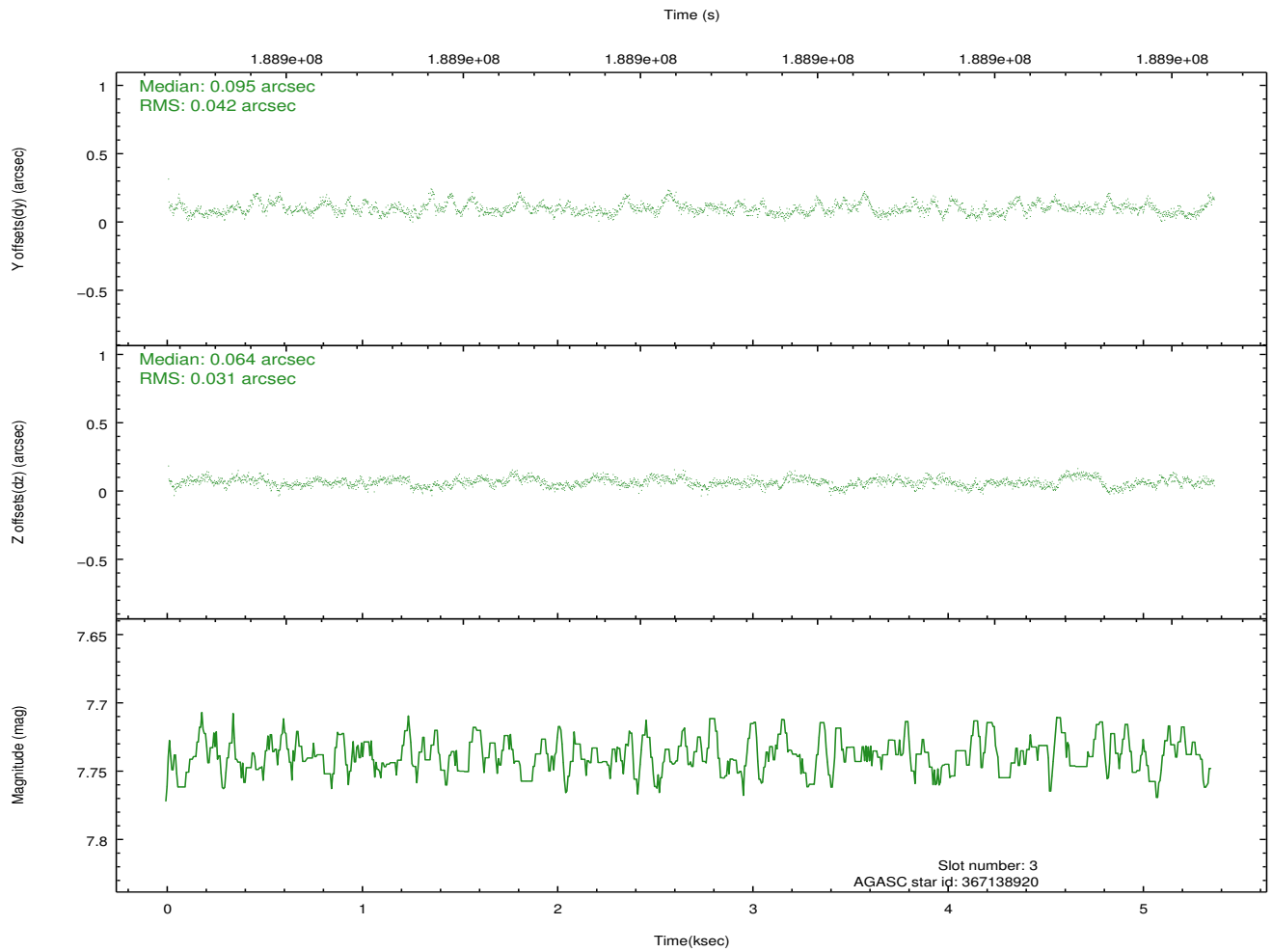
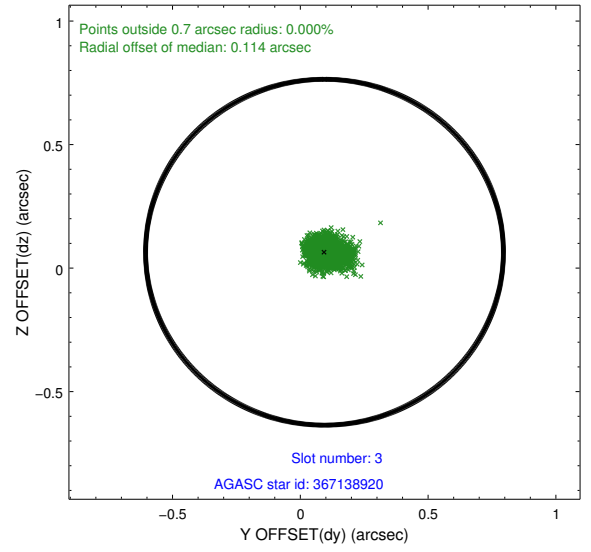
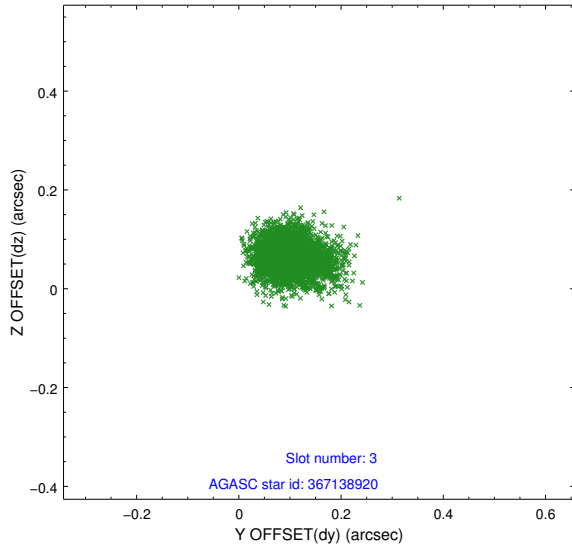


### Slot Statistics

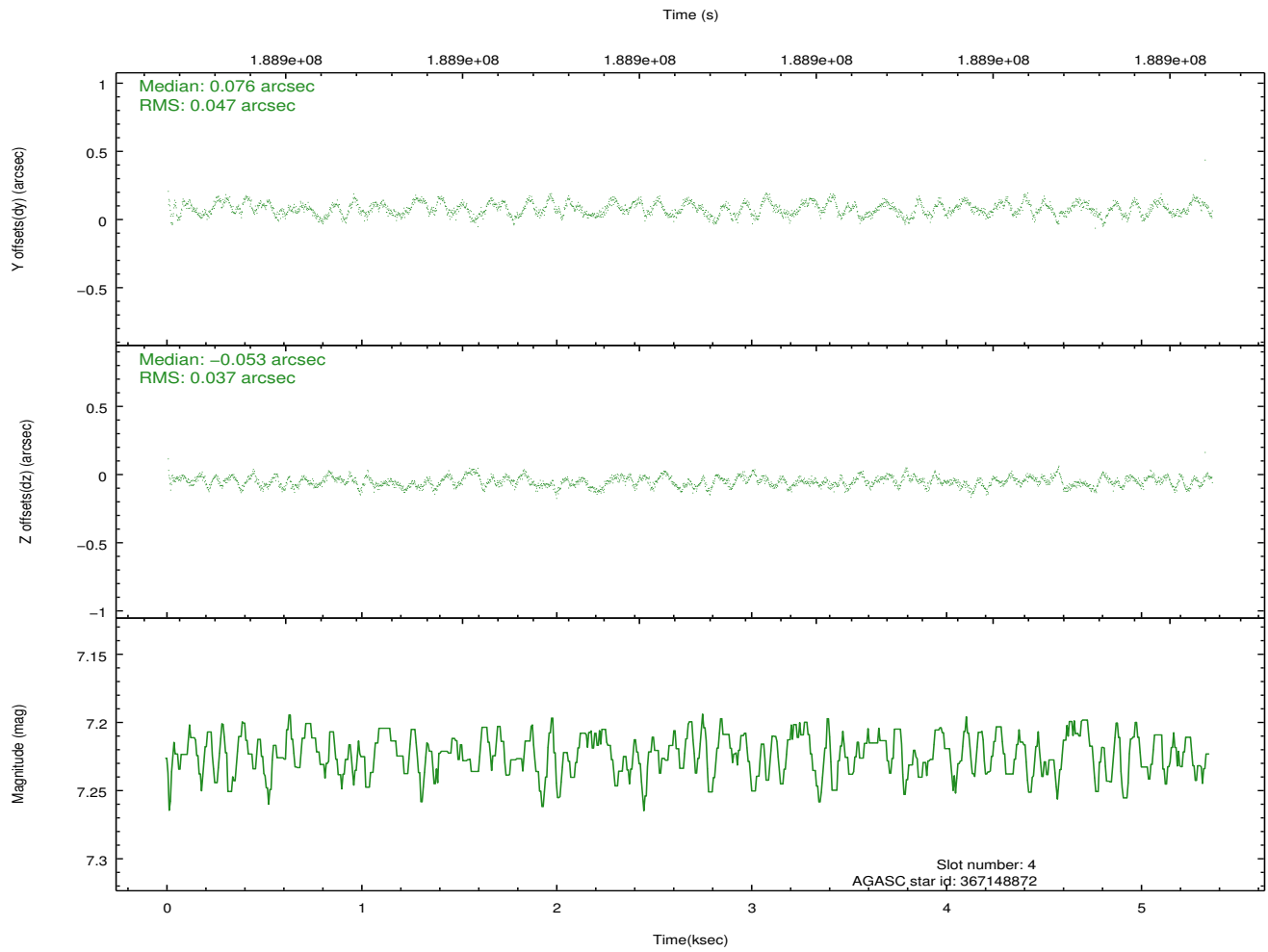
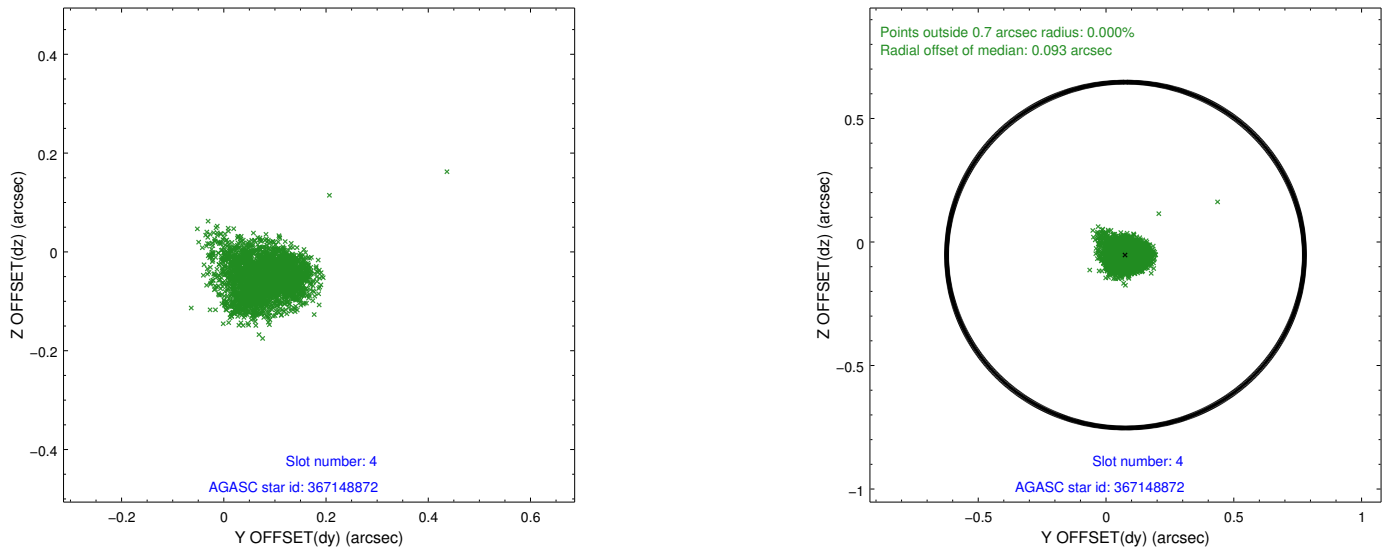
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.24	1307	0.026	-0.008	0.009	0.016	0.000000	0.000000	932.67	-834.64
1	FID	ACIS-I-5	7.23	1307	-0.136	0.050	0.008	0.013	0.000000	0.000000	-1814.93	1062.40
2	FID	ACIS-I-6	7.25	1307	0.020	0.028	0.008	0.012	0.000000	0.000000	397.04	1708.11
3	GUIDE	367138920	7.74	2614	0.095	0.064	0.054	0.092	11.513485	40.808909	2210.89	1814.74
4	GUIDE	367148872	7.22	2614	0.076	-0.053	0.064	0.096	10.505940	40.688258	1934.53	-953.36
5	GUIDE	367658664	9.61	2612	-0.047	-0.010	0.082	0.133	10.374070	41.369746	-528.03	-662.08
6	GUIDE	367663272	9.28	2612	-0.107	-0.036	0.076	0.124	10.656279	41.699429	-1478.13	379.80
7	GUIDE	367674552	8.85	2612	-0.023	0.035	0.066	0.106	11.016238	41.570845	-783.33	1198.67

## 2.4 Star Slots

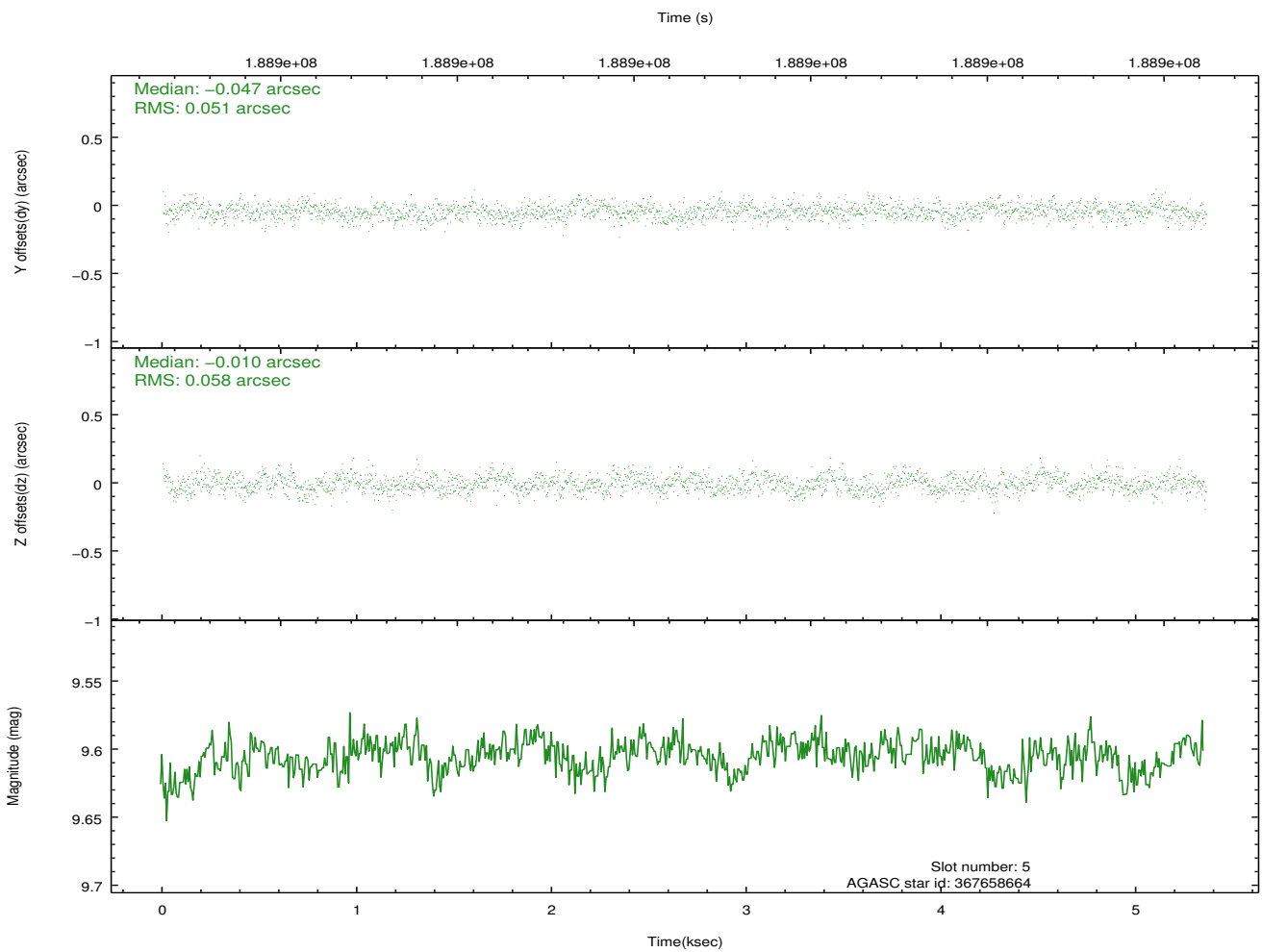
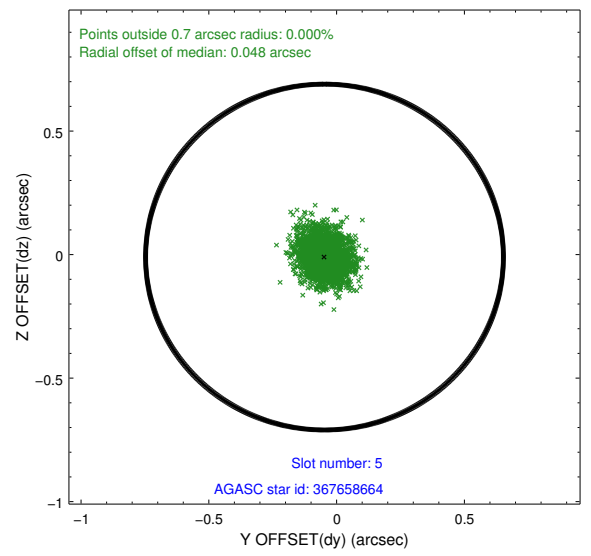
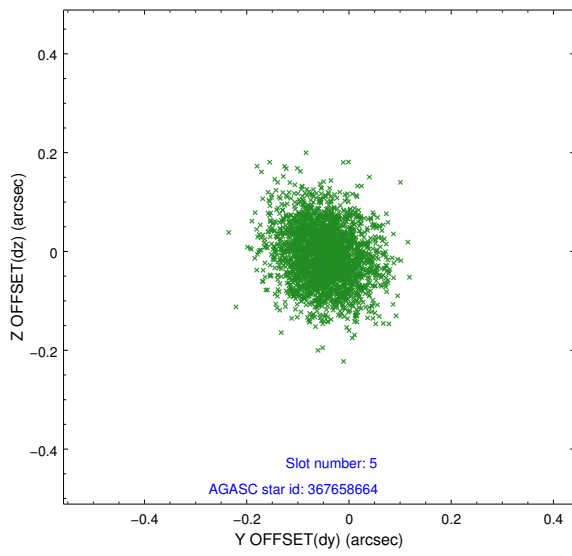
### 2.4.1 Slot 3



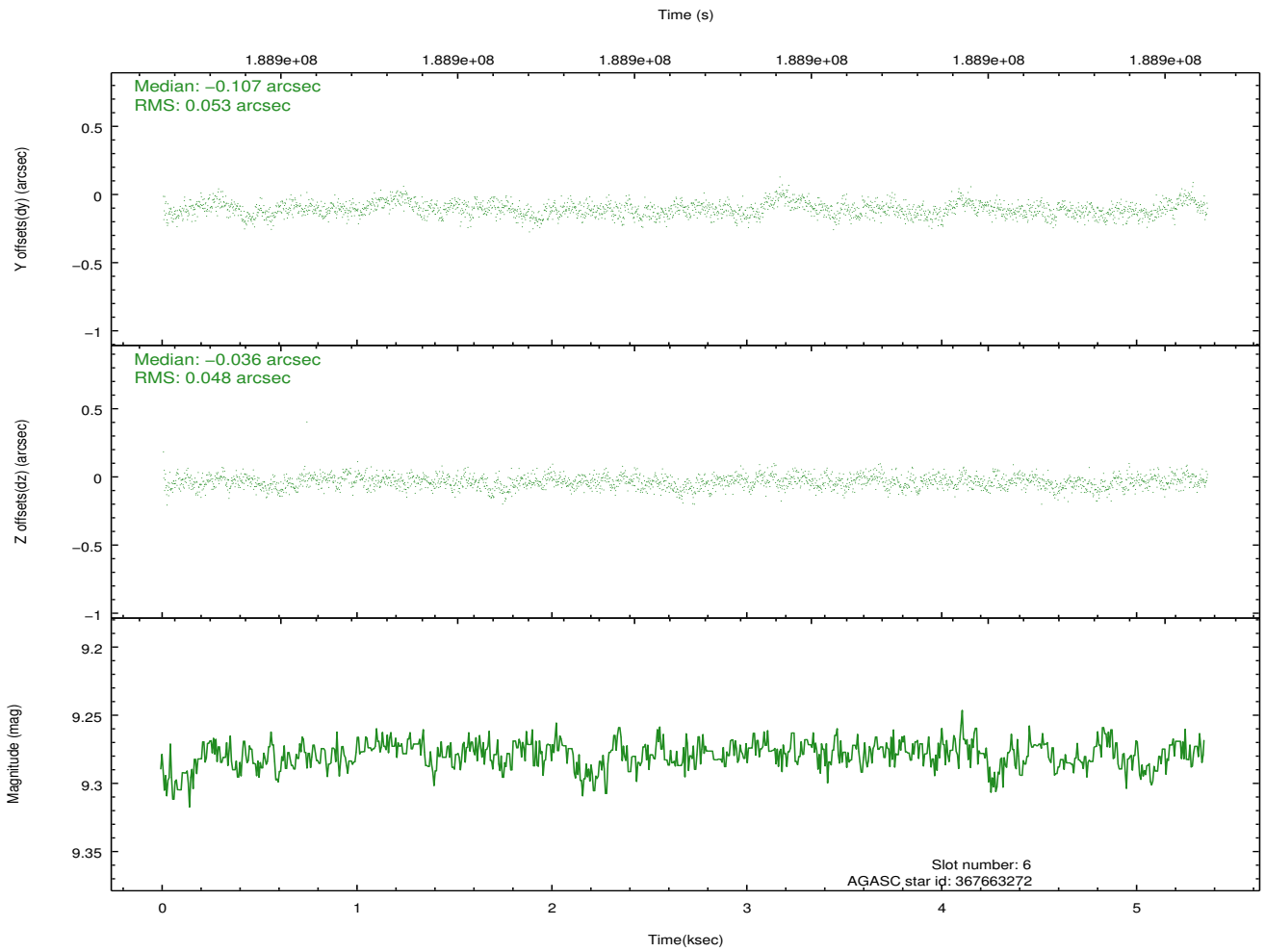
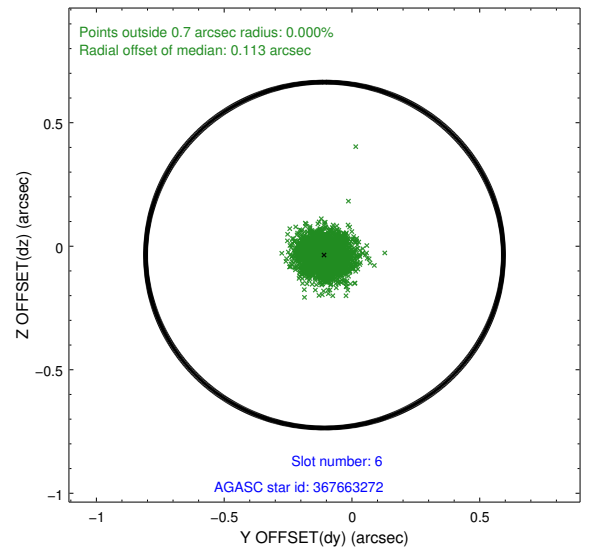
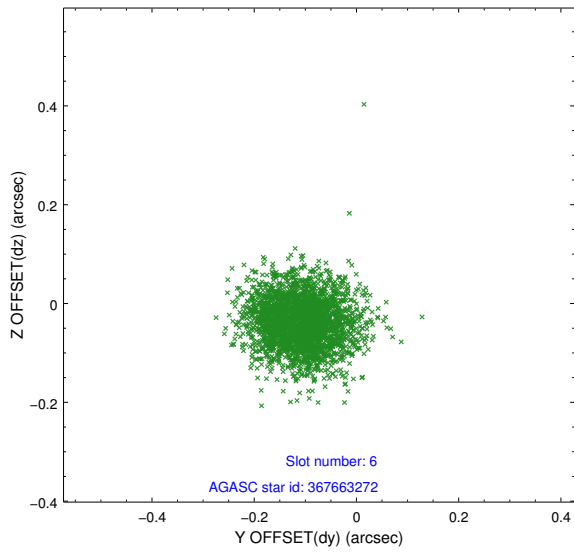
## 2.4.2 Slot 4



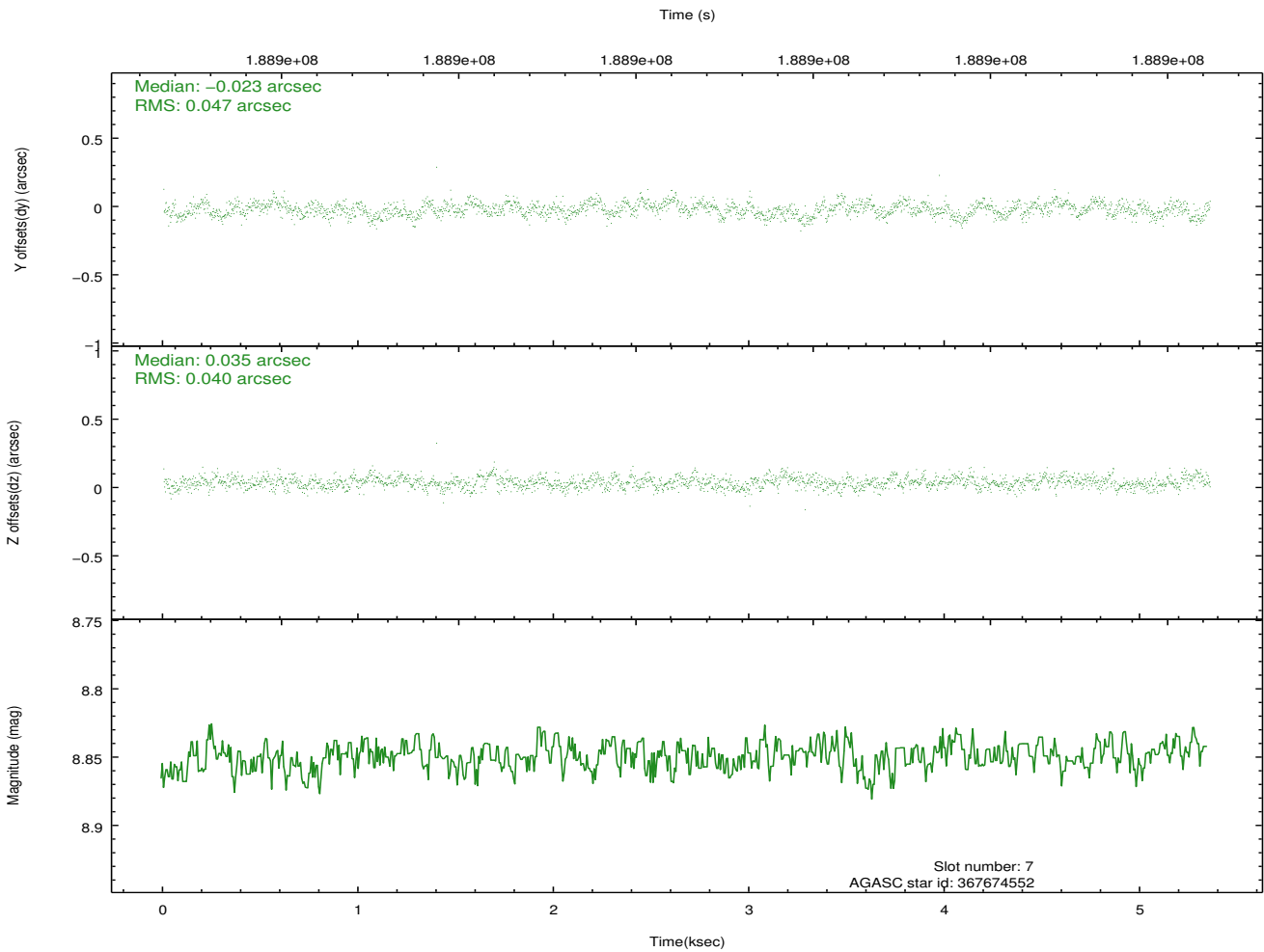
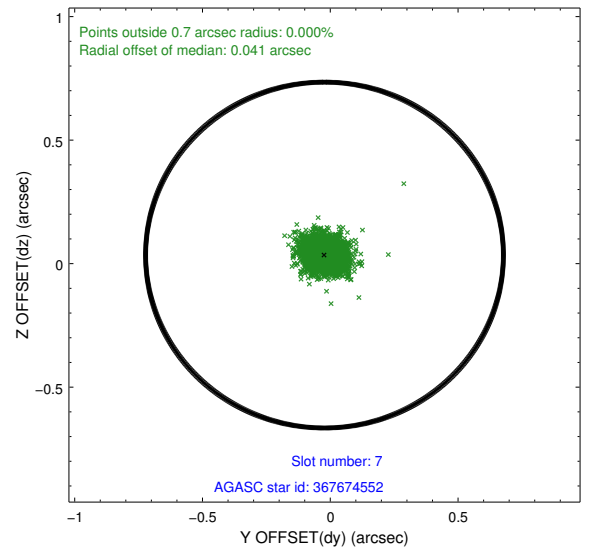
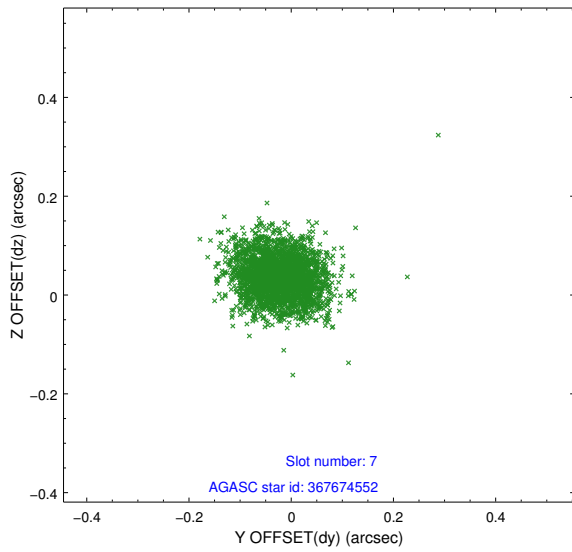
### 2.4.3 Slot 5



### 2.4.4 Slot 6

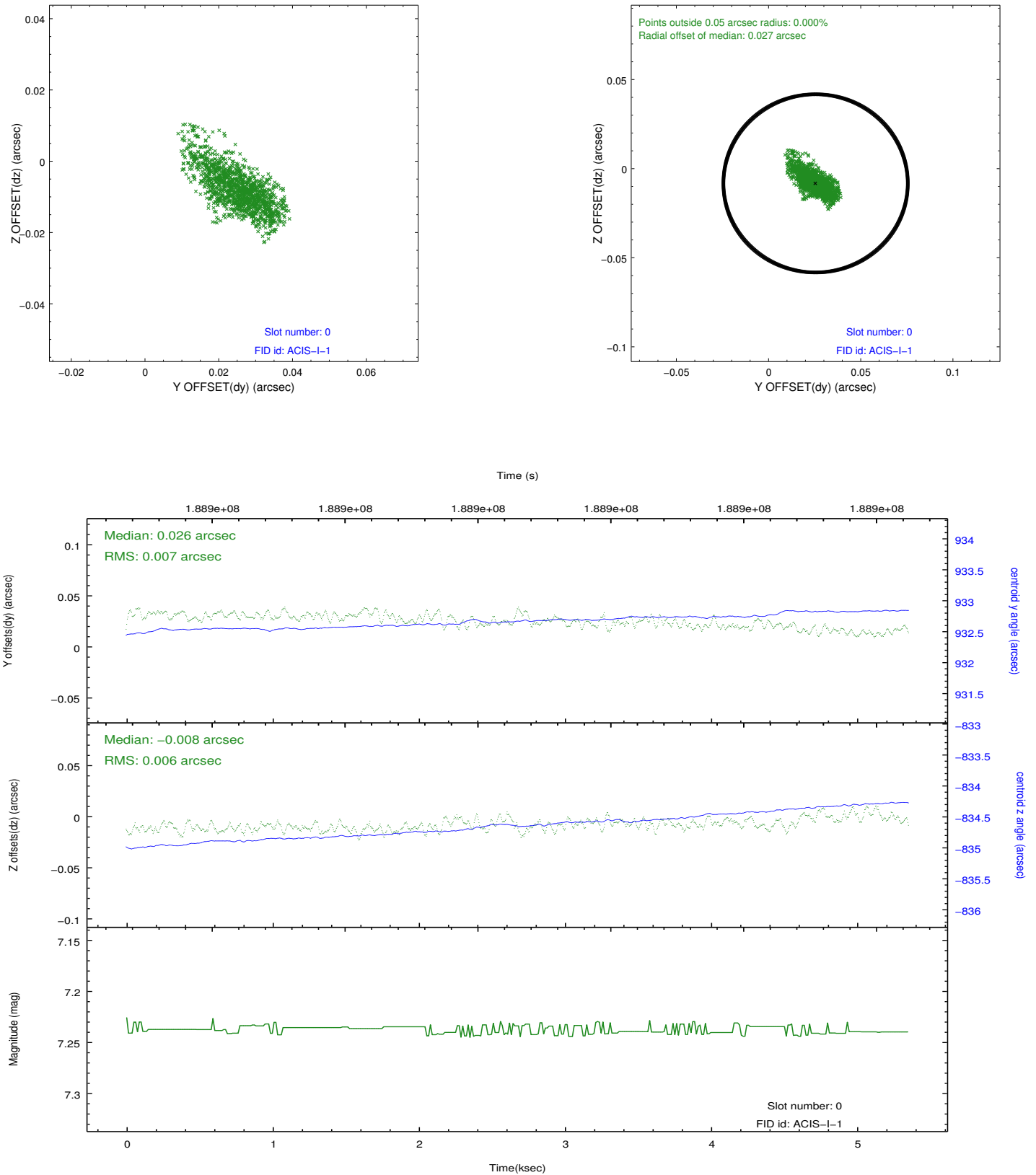


### 2.4.5 Slot 7

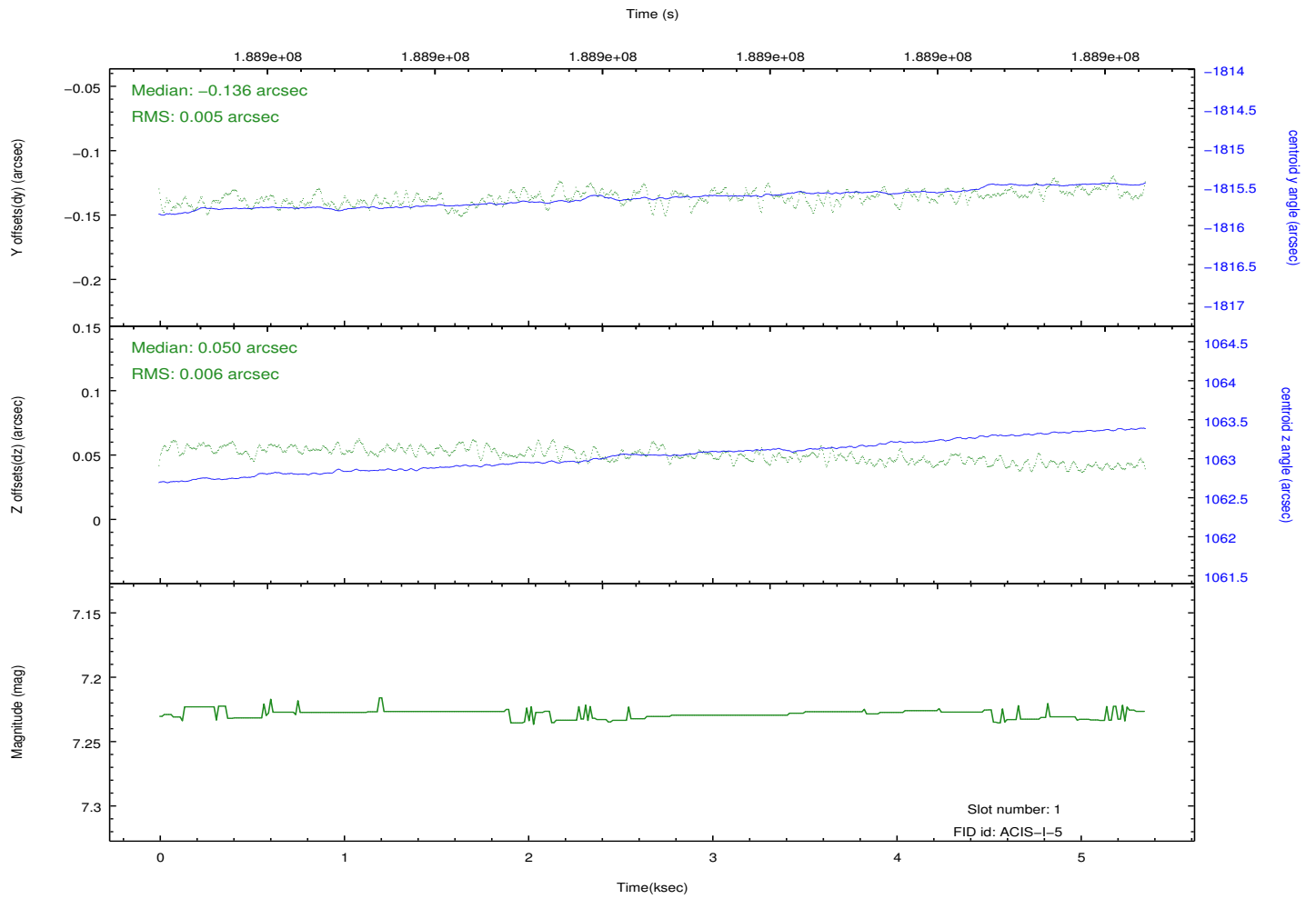
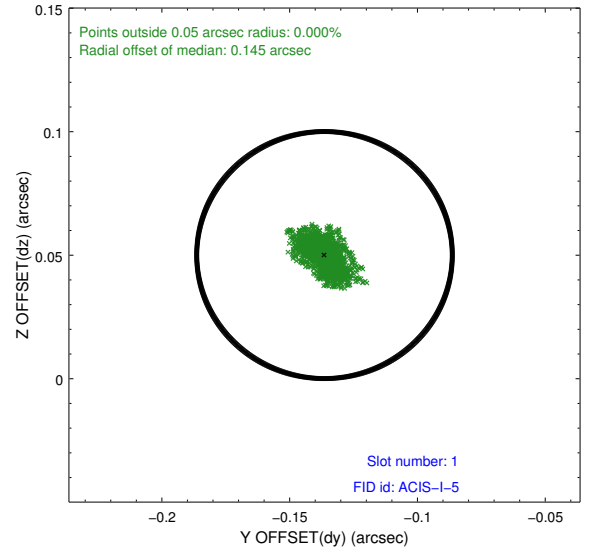
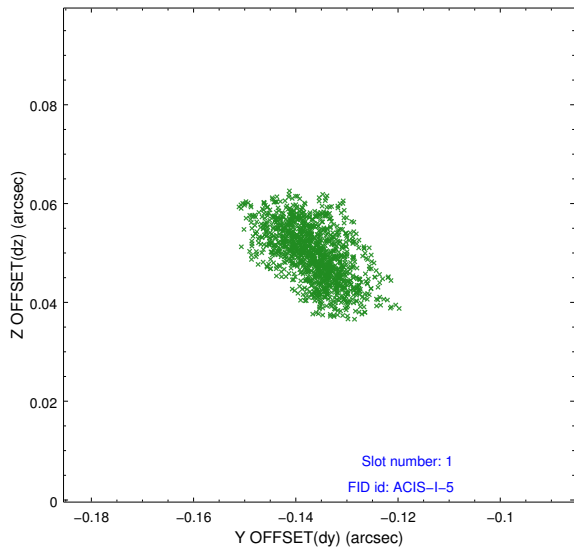


## 2.5 FID Slots

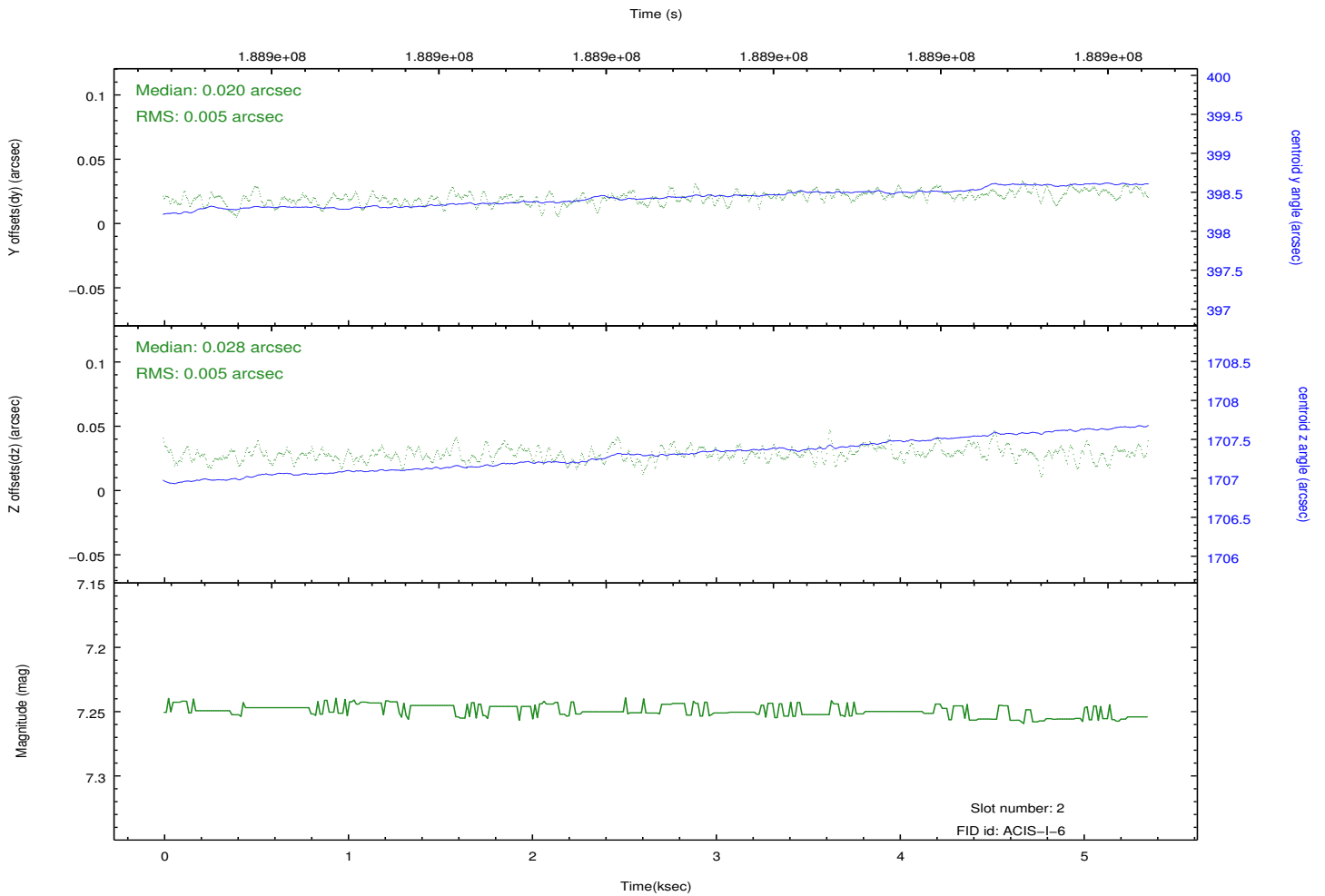
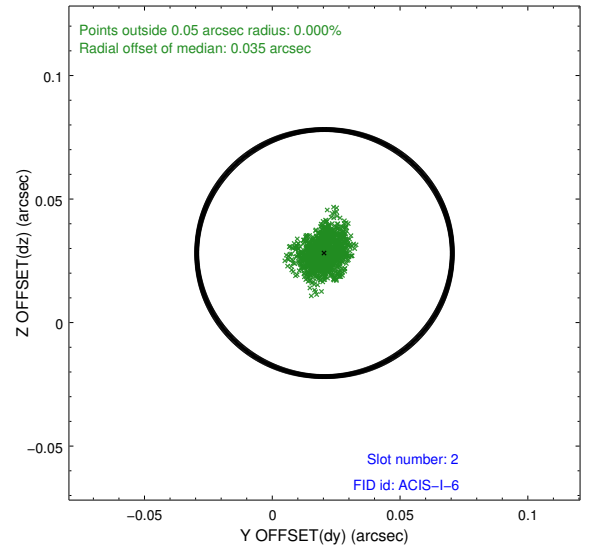
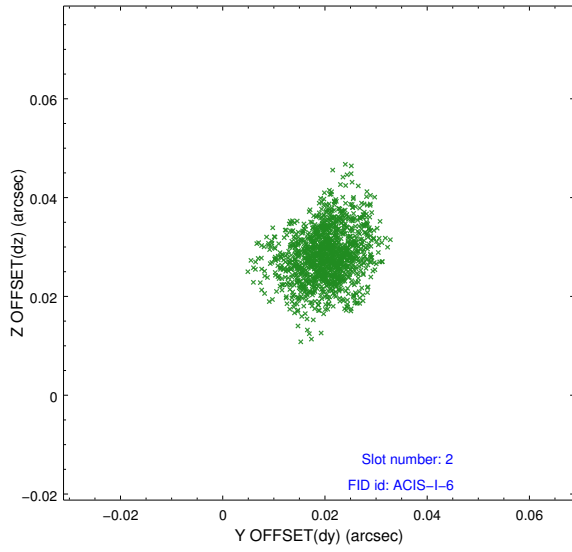
### 2.5.1 Slot 0



## 2.5.2 Slot 1



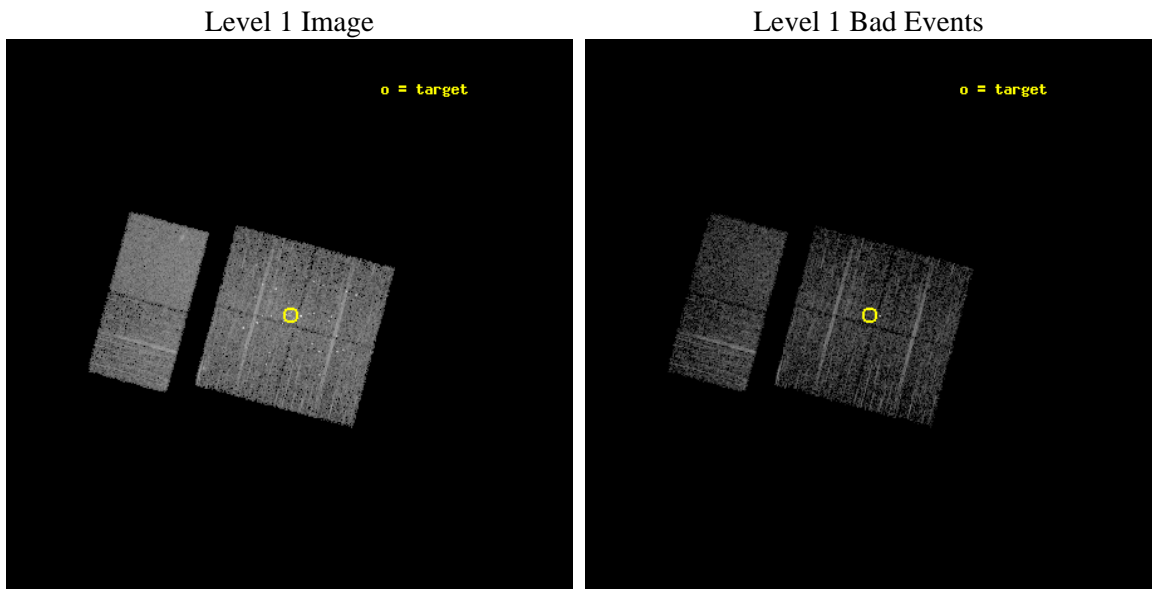
### 2.5.3 Slot 2



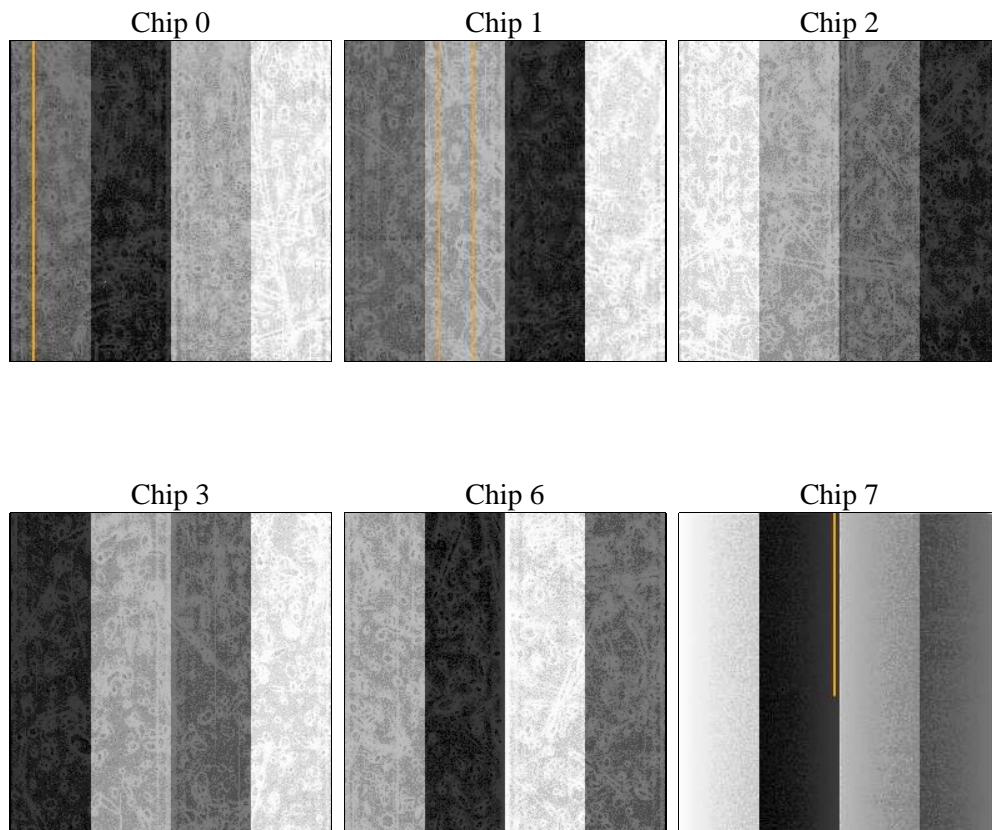
### 3 OBI Secondary

#### 3.1 OBI

##### 3.1.1 Images



##### 3.1.2 Bias



### 3.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	5200.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	4249.0457156003	Sum of GTIs [s]
caldbver	4.5.2	&#160	ontime0	4249.0456655622	Sum of GTIs [s]
date	2012-11-09T14:38:31	Date and time of file creation	ontime1	4249.0457456708	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	4249.0456953347	Sum of GTIs [s]
			ontime3	4249.0457156003	Sum of GTIs [s]
			ontime6	4249.0457752347	Sum of GTIs [s]
			ontime7	4249.0456755161	Sum of GTIs [s]
			l1events	177241	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	25940	27768	28508	30081	28022	36922	grade 0 events	2793	4273	3066	5148	1414	1517
rejected events	20976	20533	23303	22466	24595	21321		10%	15%	10%	17%	5%	4%
rejected %	80%	73%	81%	74%	87%	57%	grade 1 events	29	173	34	58	12	31
								0%	0%	0%	0%	0%	0%
							grade 2 events	852	1154	857	1006	739	3130
								3%	4%	3%	3%	2%	8%
							grade 3 events	372	499	349	431	291	1463
								1%	1%	1%	1%	1%	3%
							grade 4 events	336	496	364	386	286	1395
								1%	1%	1%	1%	1%	3%
							grade 5 events	1059	1245	1053	1204	1324	3481
								4%	4%	3%	4%	4%	9%
							grade 6 events	616	823	578	661	700	8114
								2%	2%	2%	2%	2%	21%
							grade 7 events	19883	19105	22207	21187	23256	17791
								76%	68%	77%	70%	82%	48%

# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.12.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.242

## A.2 Comments

Window constraint met. On day 356 at about 00:30, the OBA heater stuck in the 'on' position. This situation affected obsid 4901 and all subsequent observations to this point. The result of this anomaly could be a displacement of the target on the chip in the z direction. The displacement will be small because everything is still within spec, but the target may be spatially displaced, have a different point spread function, or trail across the chip.