

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 12161 - L2 Version 2  
Chandra X-Ray Center

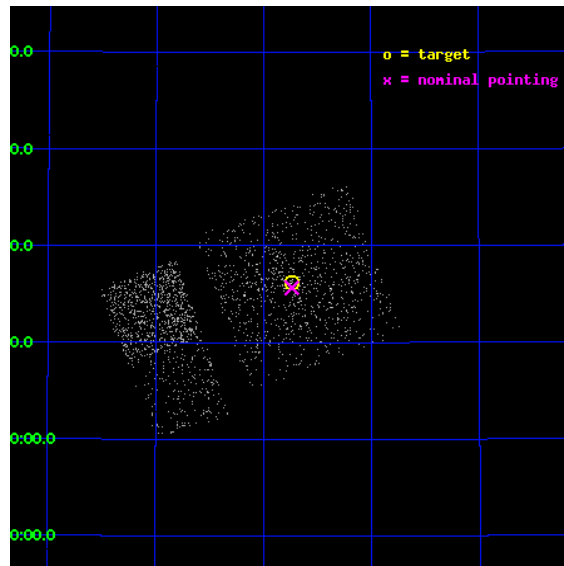
L2 Processing Date : Jul 7 2012

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# 1 Front

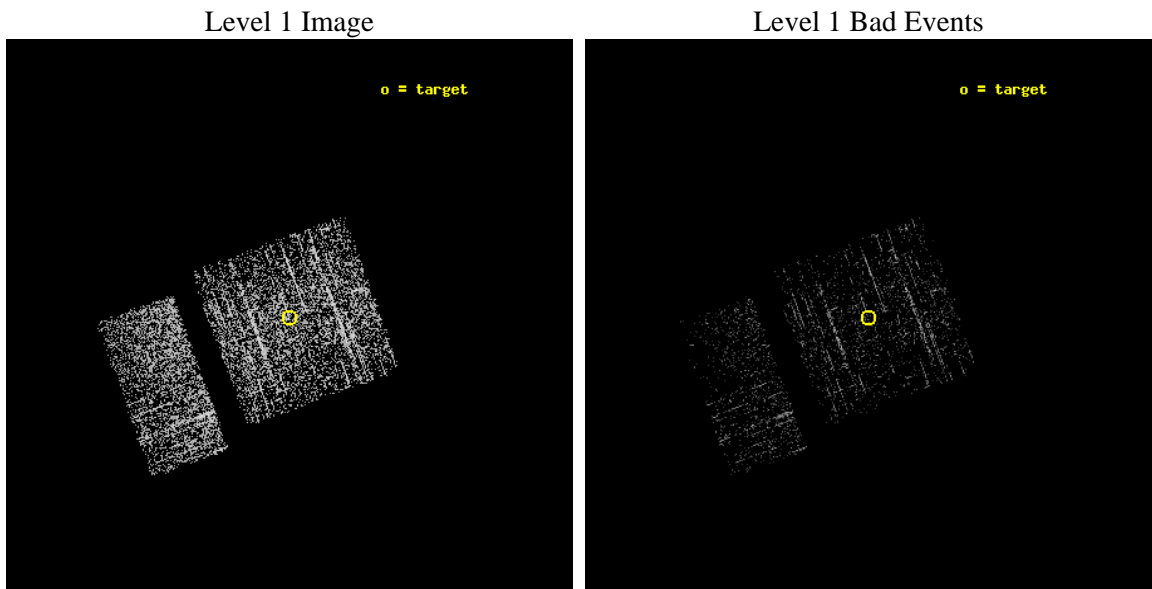
seq_num	600915	Sequence number
obs_id	12161	Observation id
title	Black Hole X-ray Novae in M31	Proposal title
observer	Dr. Stephen Murray	Principal investigator
object	M31	Source name
dtcycle	0	&#160
cycle	P	events are from which exps? P[primary] S[econdar
ra_targ	10.685	Observer's specified target RA [deg]
dec_targ	41.268972	Observer's specified target Dec [deg]
ra_nom	10.684356178395	Nominal RA [deg]
dec_nom	41.260838848022	Nominal Dec [deg]
roll_nom	249.80477318874	Nominal Roll [deg]
revision	2	Processing version of data
ontime	941.33074212074	Sum of GTIs [s]
livetime	148.18816518839	Livetime [s]
ontime0	941.33073210716	Sum of GTIs [s]
ontime1	941.33073222637	Sum of GTIs [s]
ontime2	941.33073210716	Sum of GTIs [s]
ontime3	941.33074212074	Sum of GTIs [s]
ontime6	941.33074212074	Sum of GTIs [s]
ontime7	941.33073210716	Sum of GTIs [s]
l2events	2313	Number of level 2 events



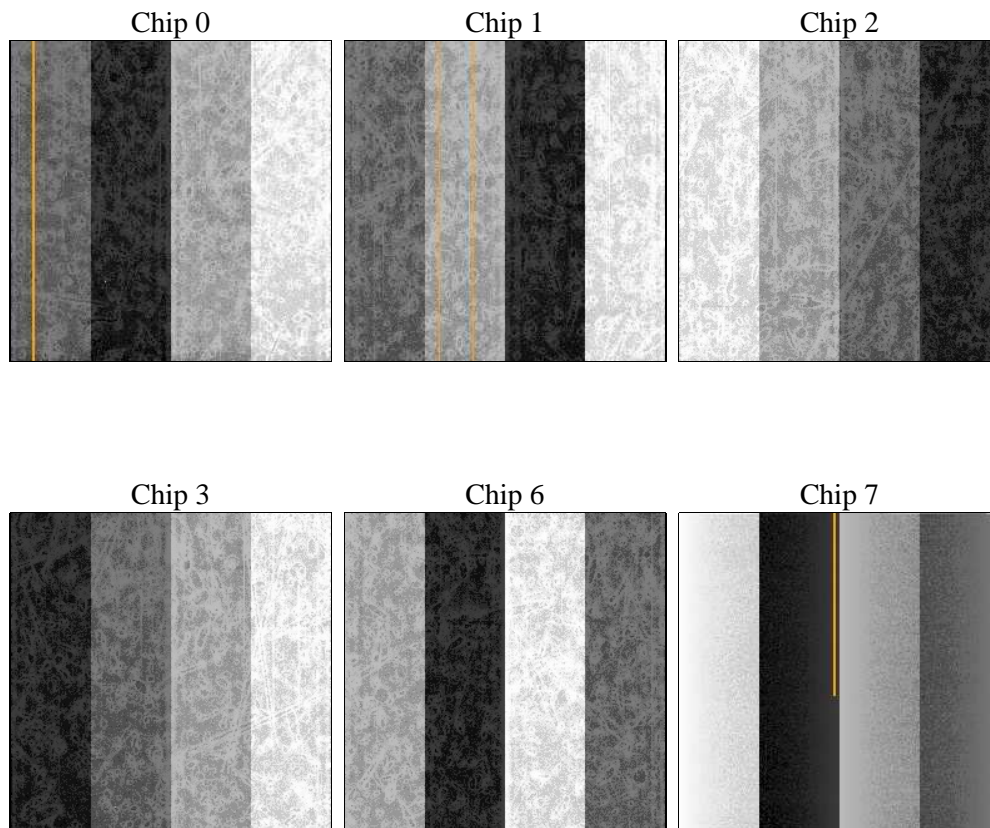
## 2 OBI Primary

### 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	941.33074212074	Sum of GTIs [s]
caldbver	4.5.0	&#160	ontime0	941.33073210716	Sum of GTIs [s]
date	2012-07-07T02:53:00	Date and time of file creation	ontime1	941.33073222637	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	941.33073210716	Sum of GTIs [s]
			ontime3	941.33074212074	Sum of GTIs [s]
			ontime6	941.33074212074	Sum of GTIs [s]
			ontime7	941.33073210716	Sum of GTIs [s]
			l1events	18819	Number of level 1 events

### 2.1.4 Events

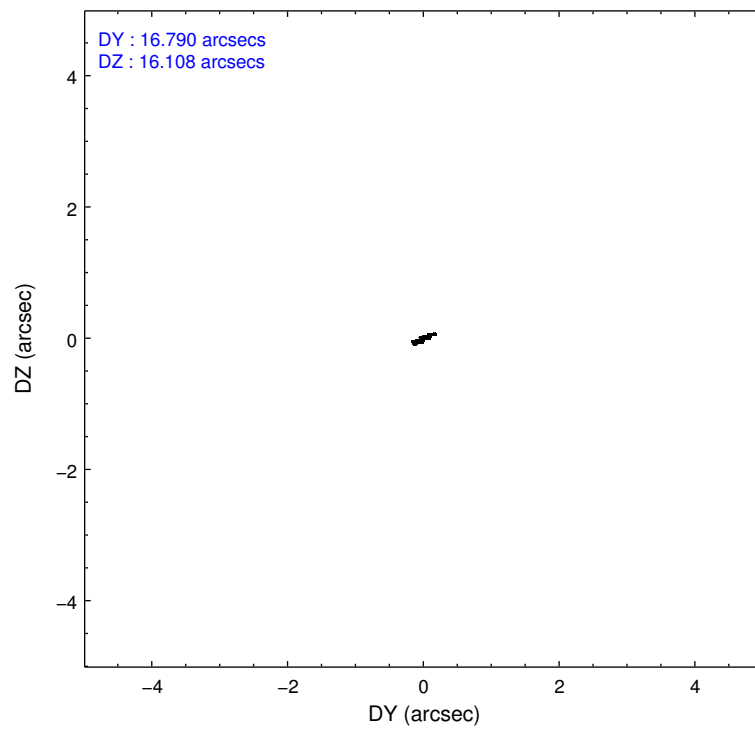
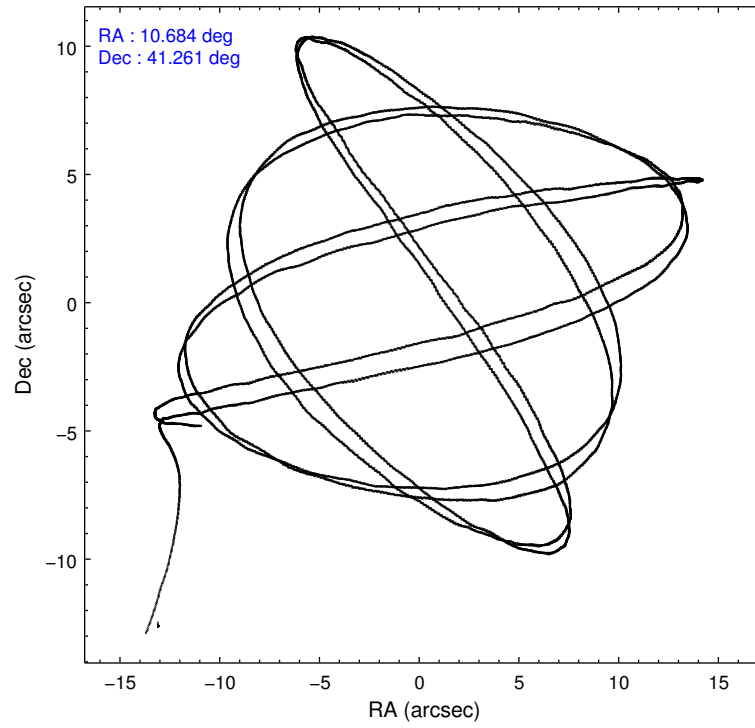
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	3153	3285	2955	3119	3289	3018
rejected events	2790	2968	2642	2680	3034	2079
rejected %	88%	90%	89%	85%	92%	68%

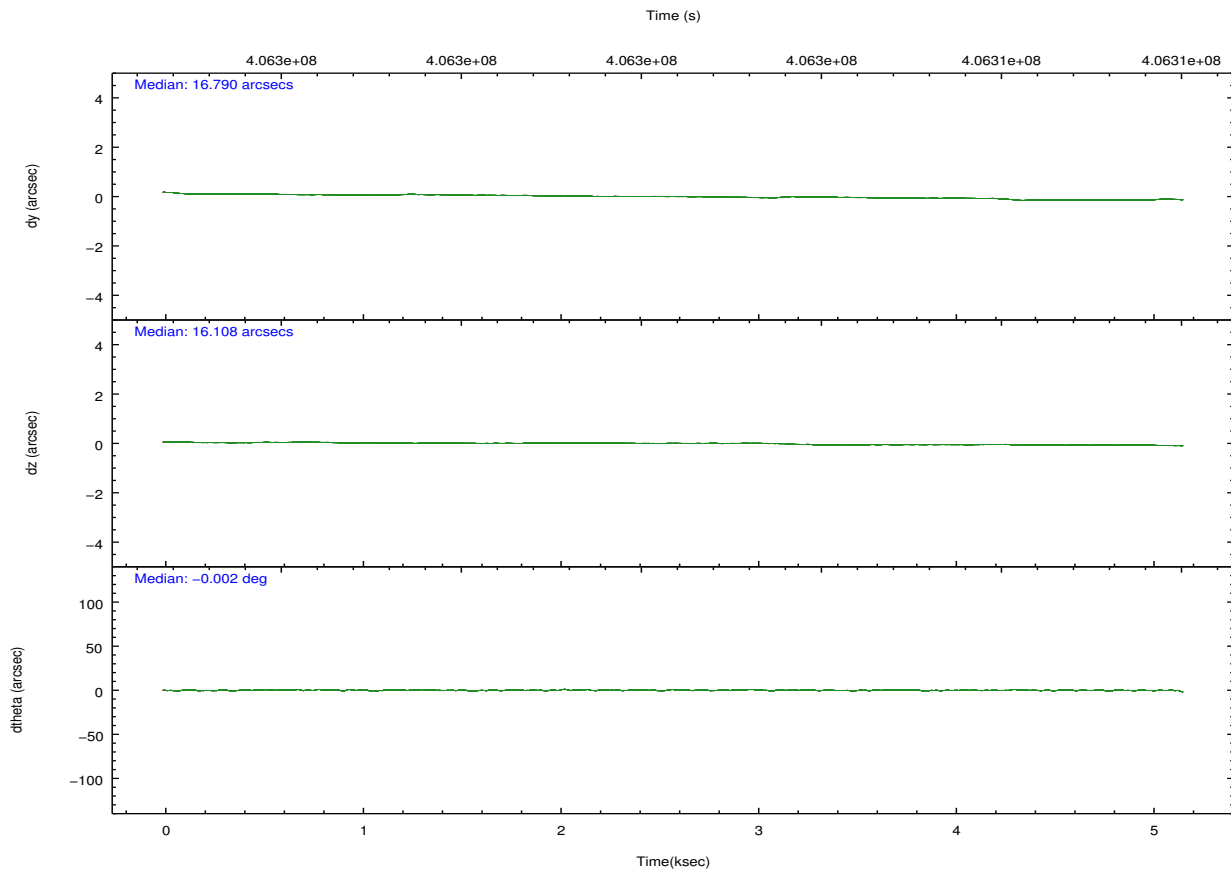
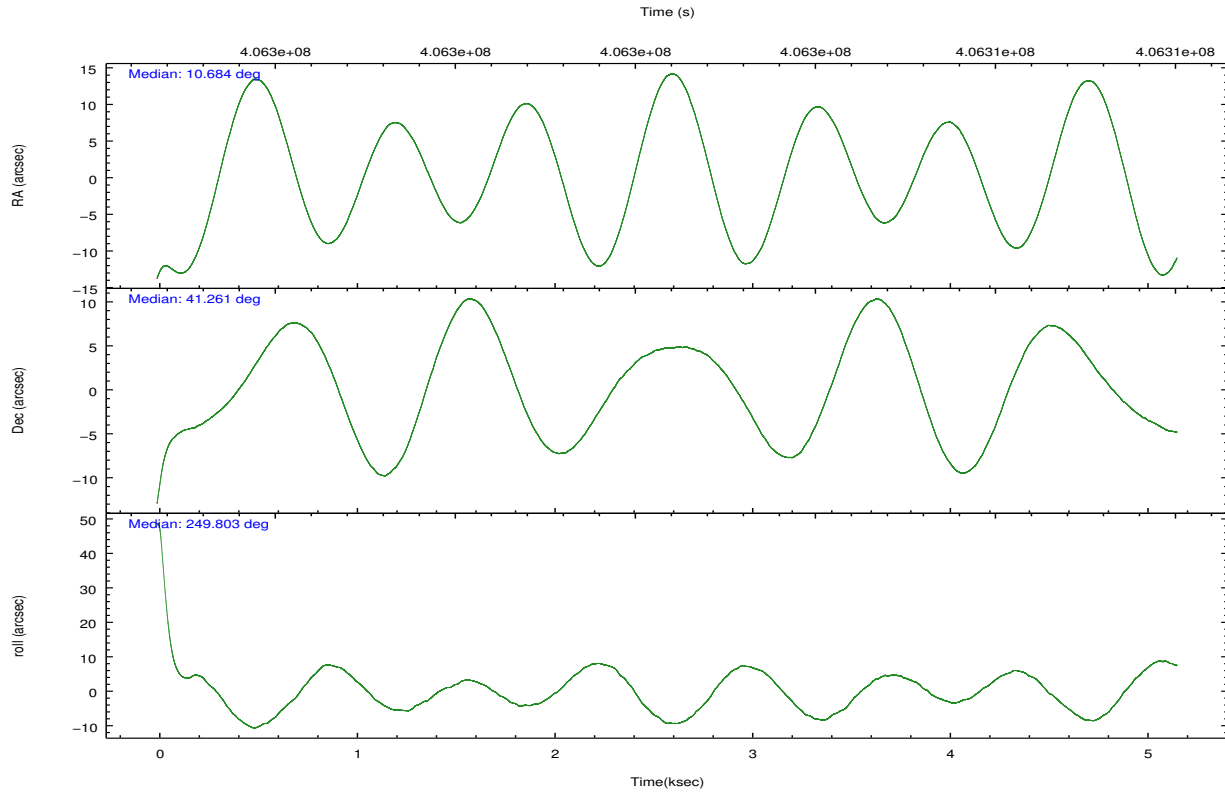
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
grade 0 events	144	107	105	218	70	71
	4%	3%	3%	6%	2%	2%
grade 1 events	0	2	2	0	0	4
	0%	0%	0%	0%	0%	0%
grade 2 events	75	71	88	84	64	213
	2%	2%	2%	2%	1%	7%
grade 3 events	49	38	26	47	35	77
	1%	1%	0%	1%	1%	2%
grade 4 events	38	45	34	28	19	92
	1%	1%	1%	0%	0%	3%
grade 5 events	101	117	116	118	140	269
	3%	3%	3%	3%	4%	8%
grade 6 events	58	59	63	62	70	497
	1%	1%	2%	1%	2%	16%
grade 7 events	2688	2846	2521	2562	2891	1795
	85%	86%	85%	82%	87%	59%

## 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	10.678079	10.68435617839457	CCD I2 on	Y	Y
[deg] Pointing Dec	41.287976	41.26083884802171	CCD I3 on	Y	Y
[deg] Pointing Roll	249.600100	249.8047731887371	CCD S0 on	N	N
[mm] SIM focus pos	-0.782348	-0.7809083437167272	CCD S1 on	N	N
[mm] SIM defocus	0	0.001439871863259334	CCD S2 on	O2	Y
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S3 on	O1	Y
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	406301746.184000	406300316.17004	CCD S5 on	N	N
Observation start date	2010-11-16T13:34:40	2010-11-16T13:11:56	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	406306746.184000	406307798.15792	On-chip summing requested	N	N
Observation end date	2010-11-16T14:58:00	2010-11-16T15:16:38	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	Y	Y
			[s] Primary exposure time	0.600000	0.6
			[s] Secondary exposure time	0.000000	3.2
			Duty cycle	5	5

## 2.3 Aspect



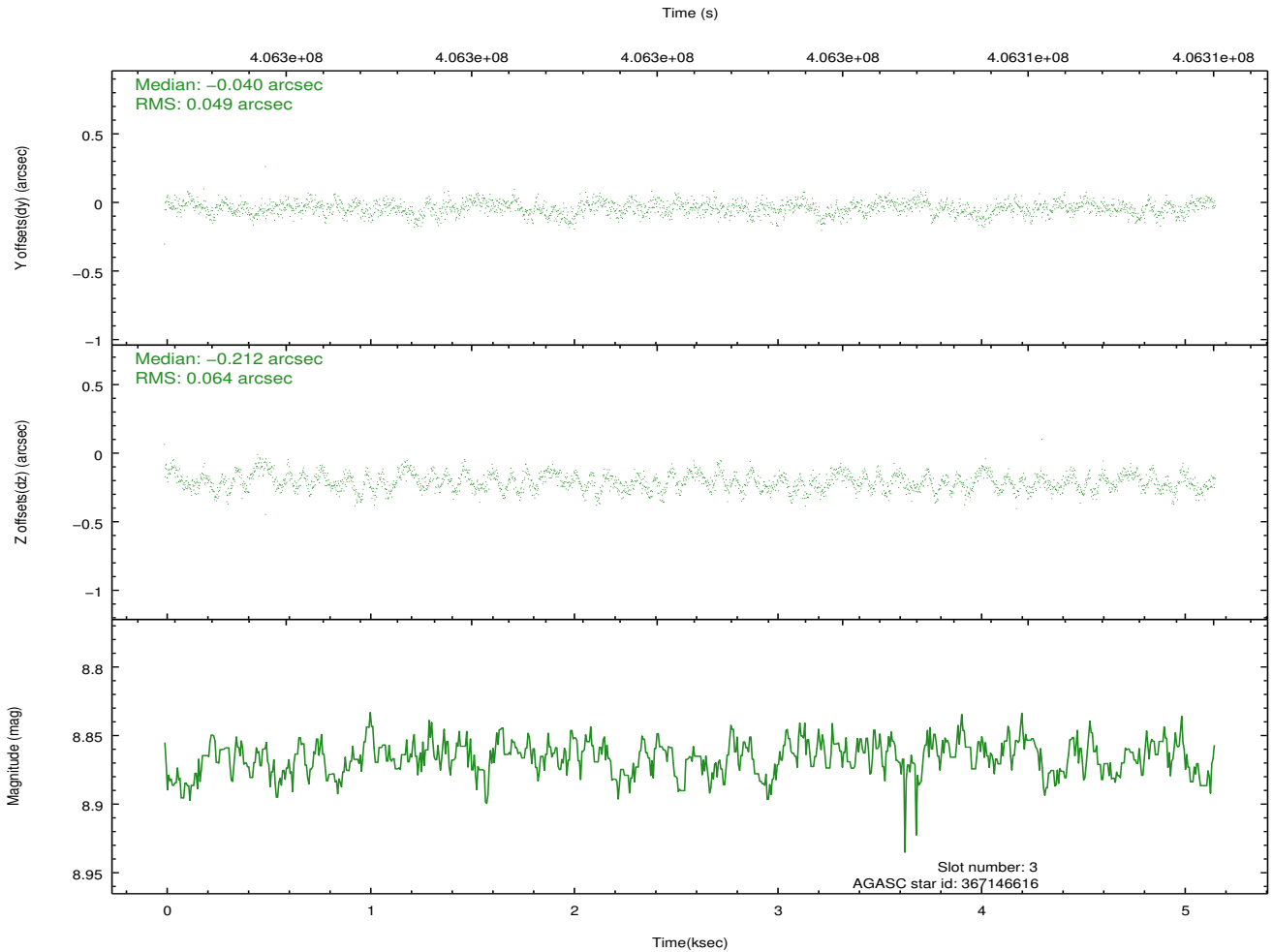
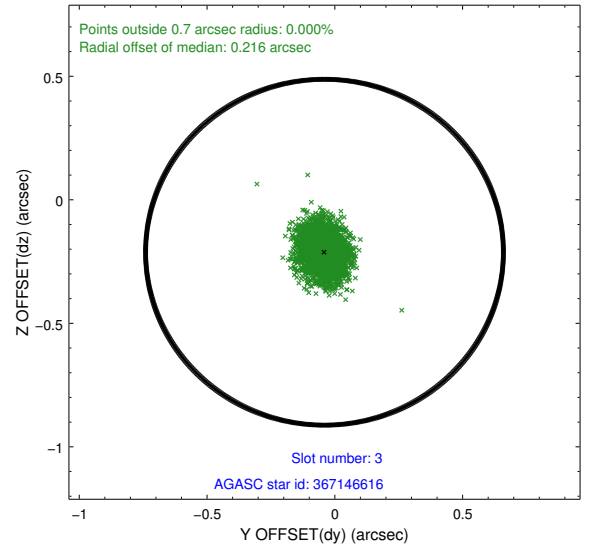
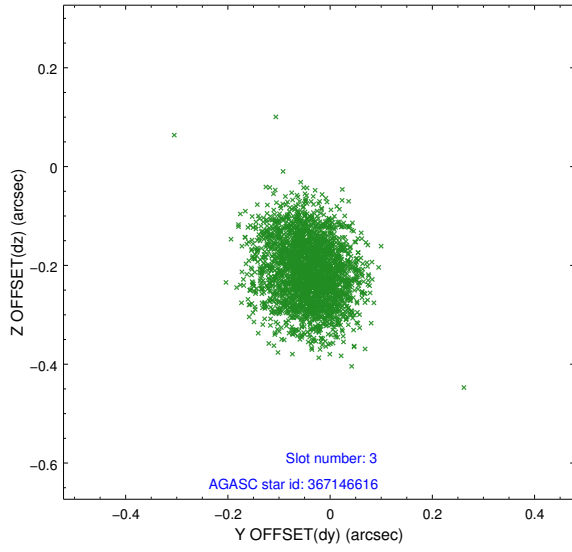


### Slot Statistics

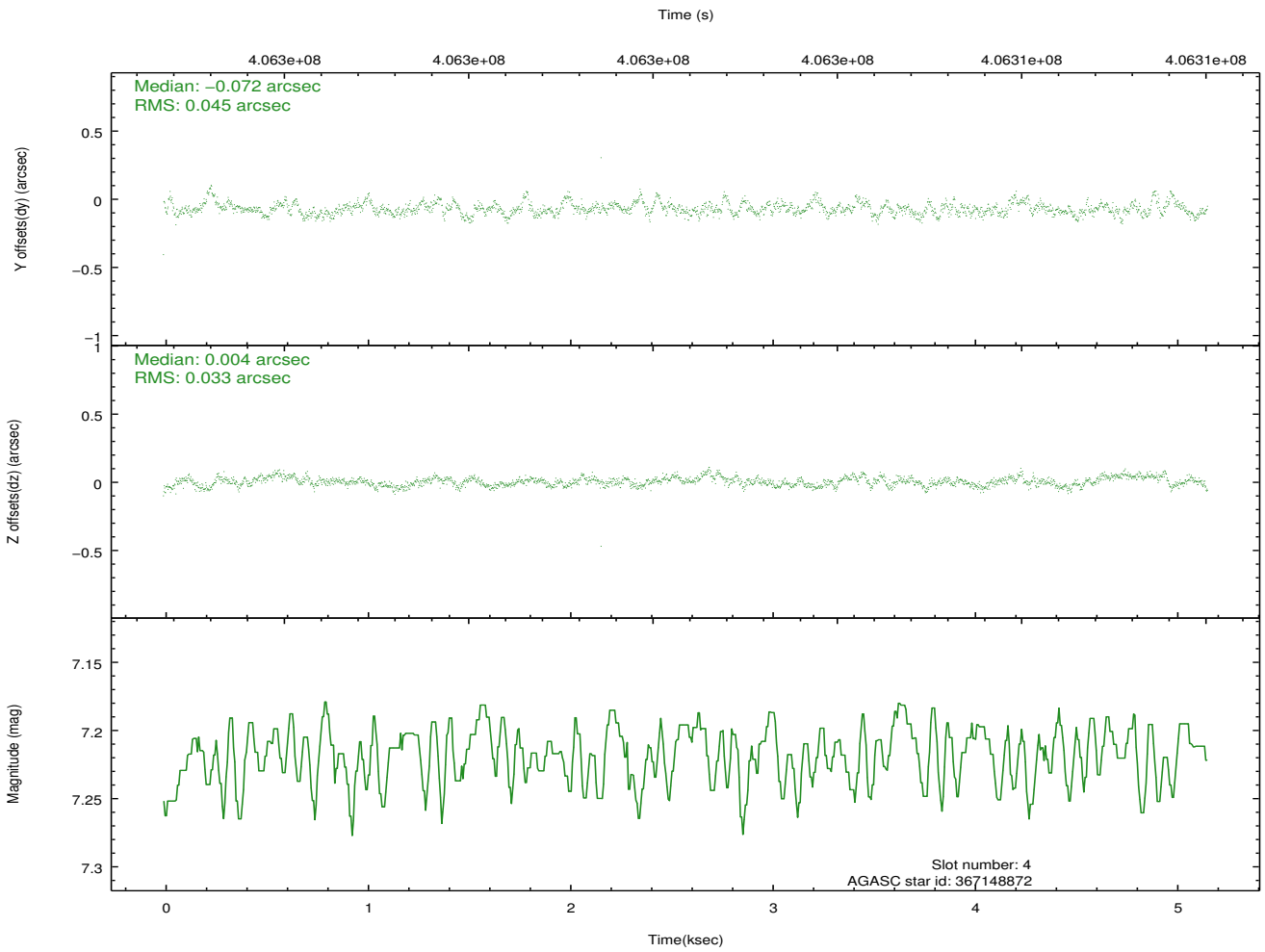
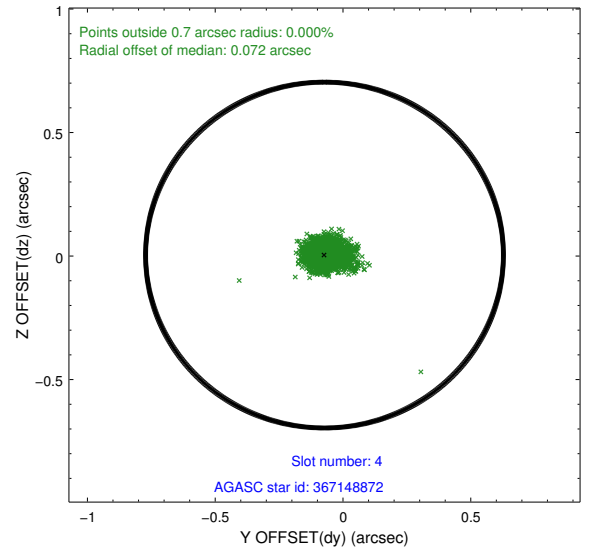
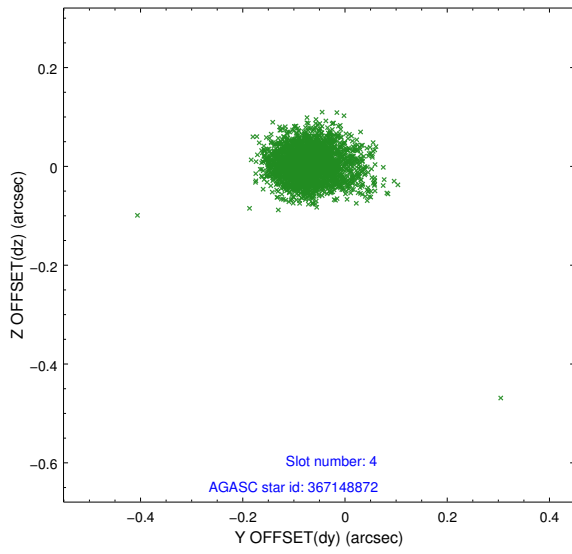
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.03	1259	0.044	-0.026	0.007	0.013	0.000000	0.000000	922.67	-839.75
1	FID	ACIS-I-5	7.02	1259	-0.215	0.044	0.007	0.013	0.000000	0.000000	-1825.05	1057.23
2	FID	ACIS-I-6	7.04	1259	0.080	0.053	0.007	0.011	0.000000	0.000000	386.97	1703.06
3	GUIDE	367146616	8.87	2515	-0.040	-0.212	0.086	0.135	11.418645	41.190163	-377.55	2000.29
4	GUIDE	367148872	7.22	2517	-0.072	0.004	0.057	0.096	10.505940	40.688258	2187.27	313.30
5	GUIDE	367657896	9.01	2516	-0.009	0.085	0.094	0.145	11.197765	41.313576	-579.46	1284.02
6	GUIDE	367663272	9.28	2517	0.074	0.213	0.094	0.153	10.656279	41.699429	-1367.48	-570.91
7	GUIDE	367674552	8.85	2514	0.047	-0.087	0.077	0.126	11.016238	41.570845	-1274.18	498.21

## 2.4 Star Slots

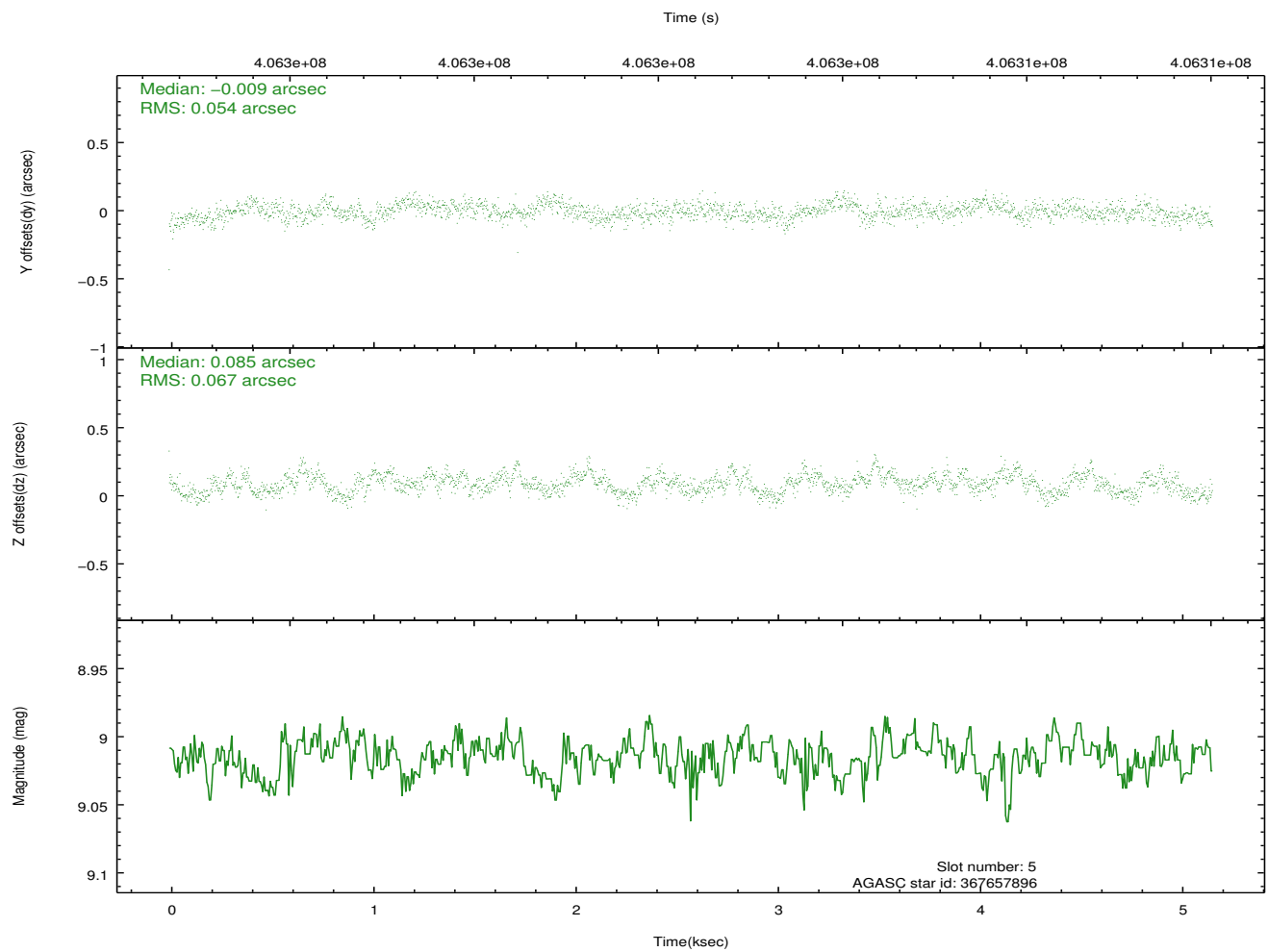
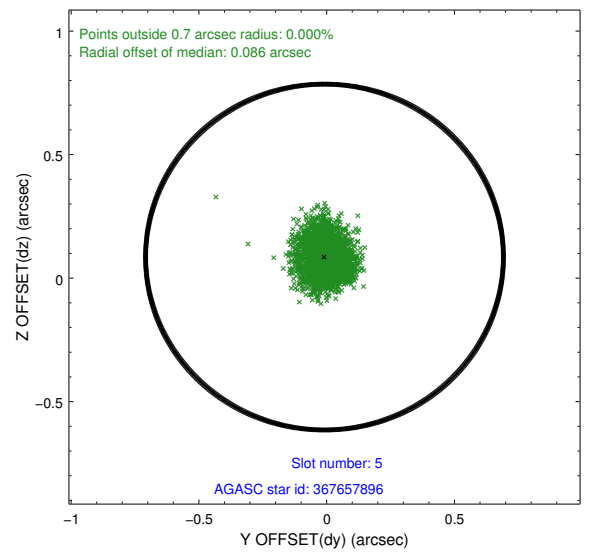
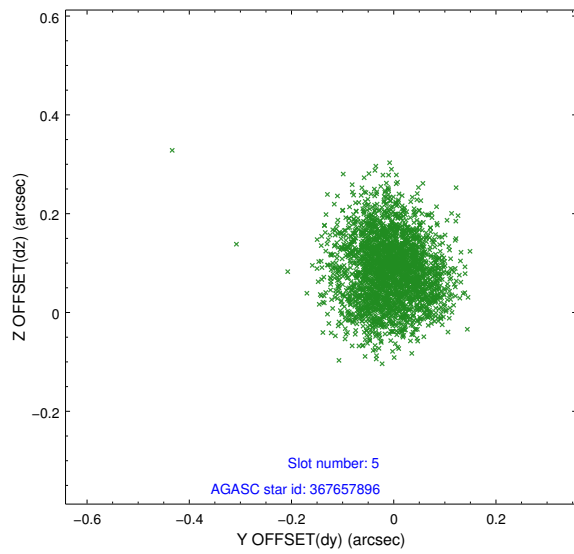
### 2.4.1 Slot 3



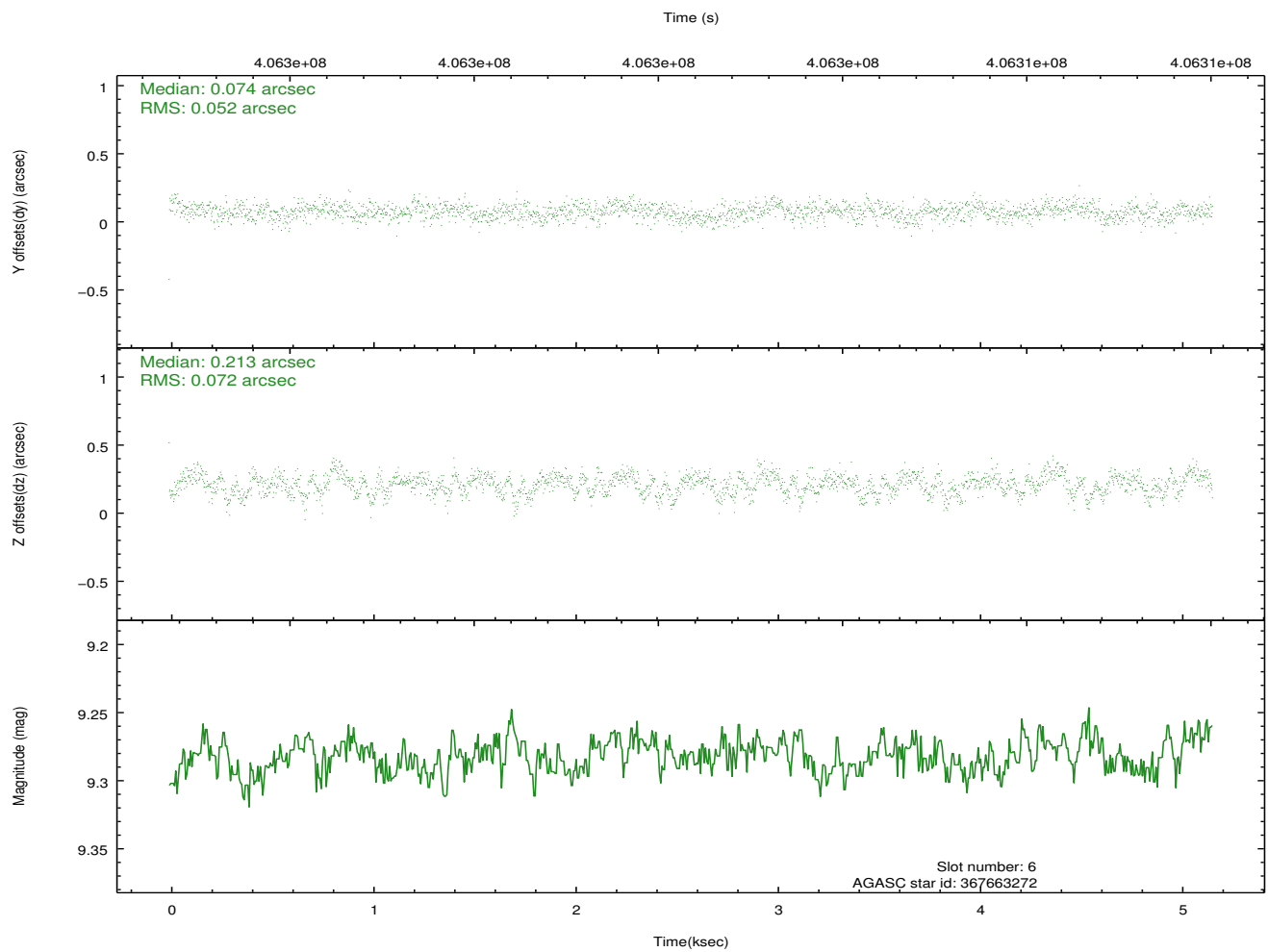
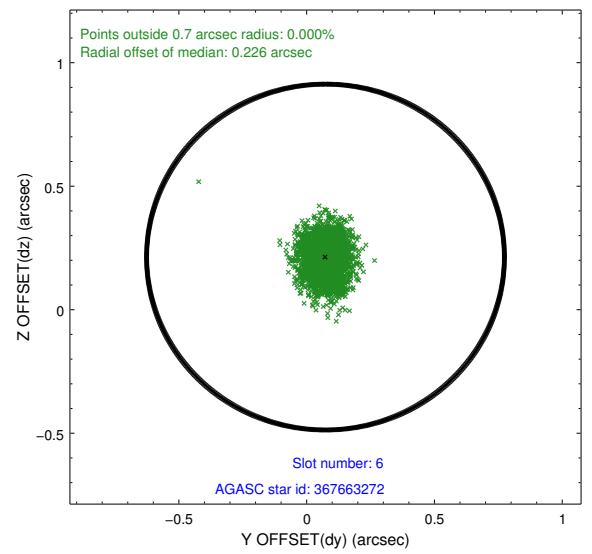
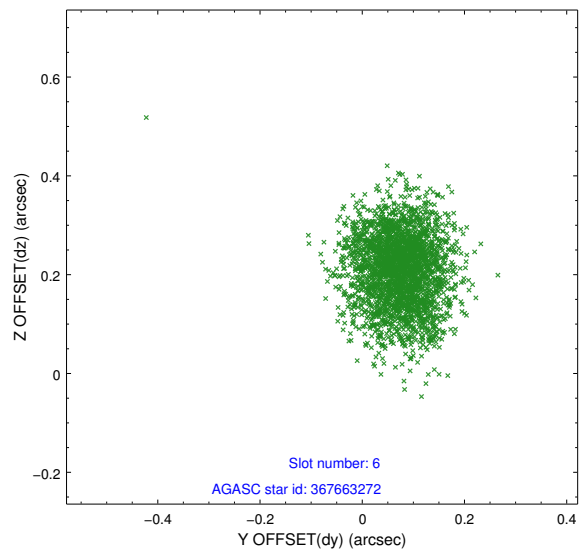
## 2.4.2 Slot 4



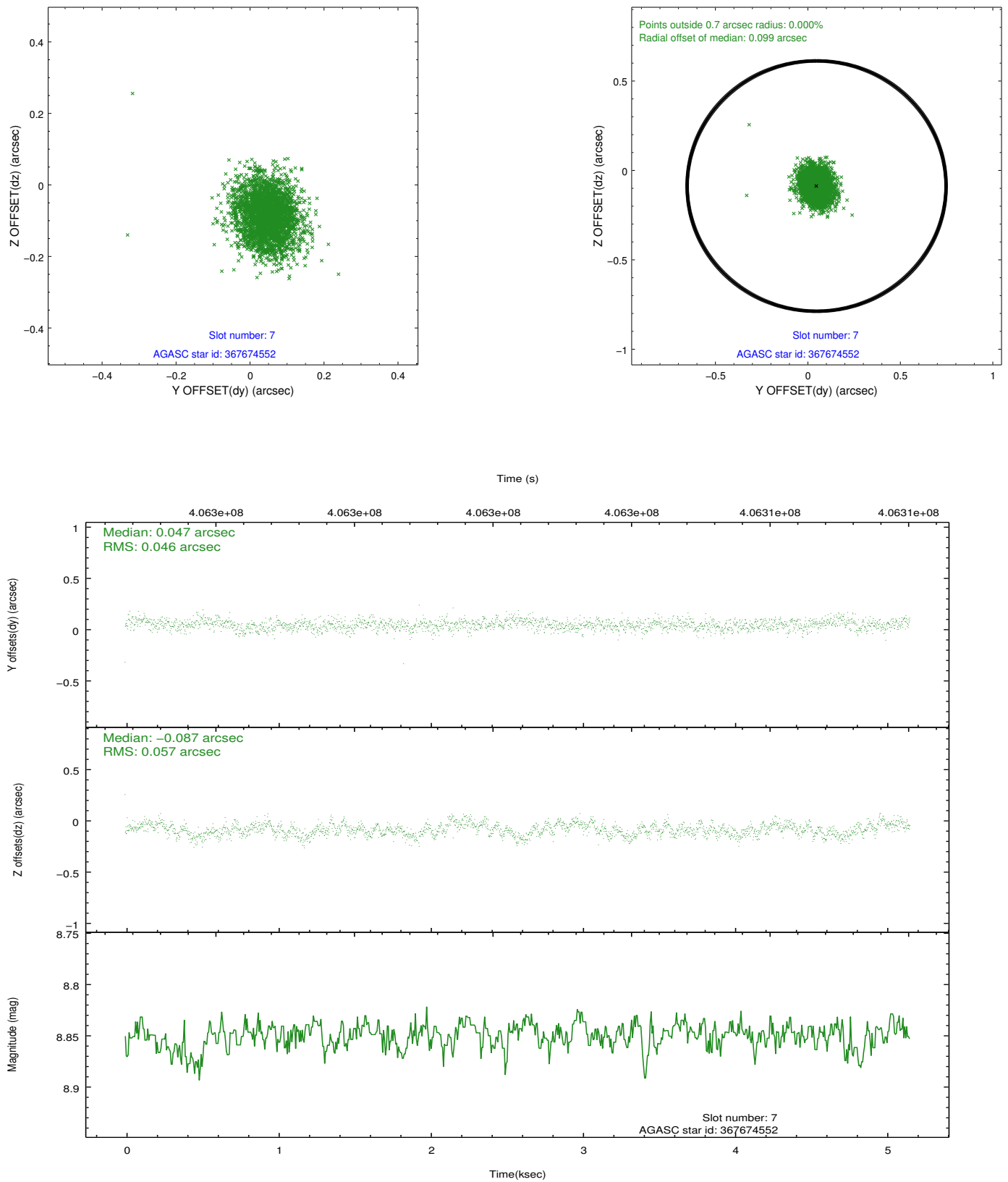
### 2.4.3 Slot 5



## 2.4.4 Slot 6

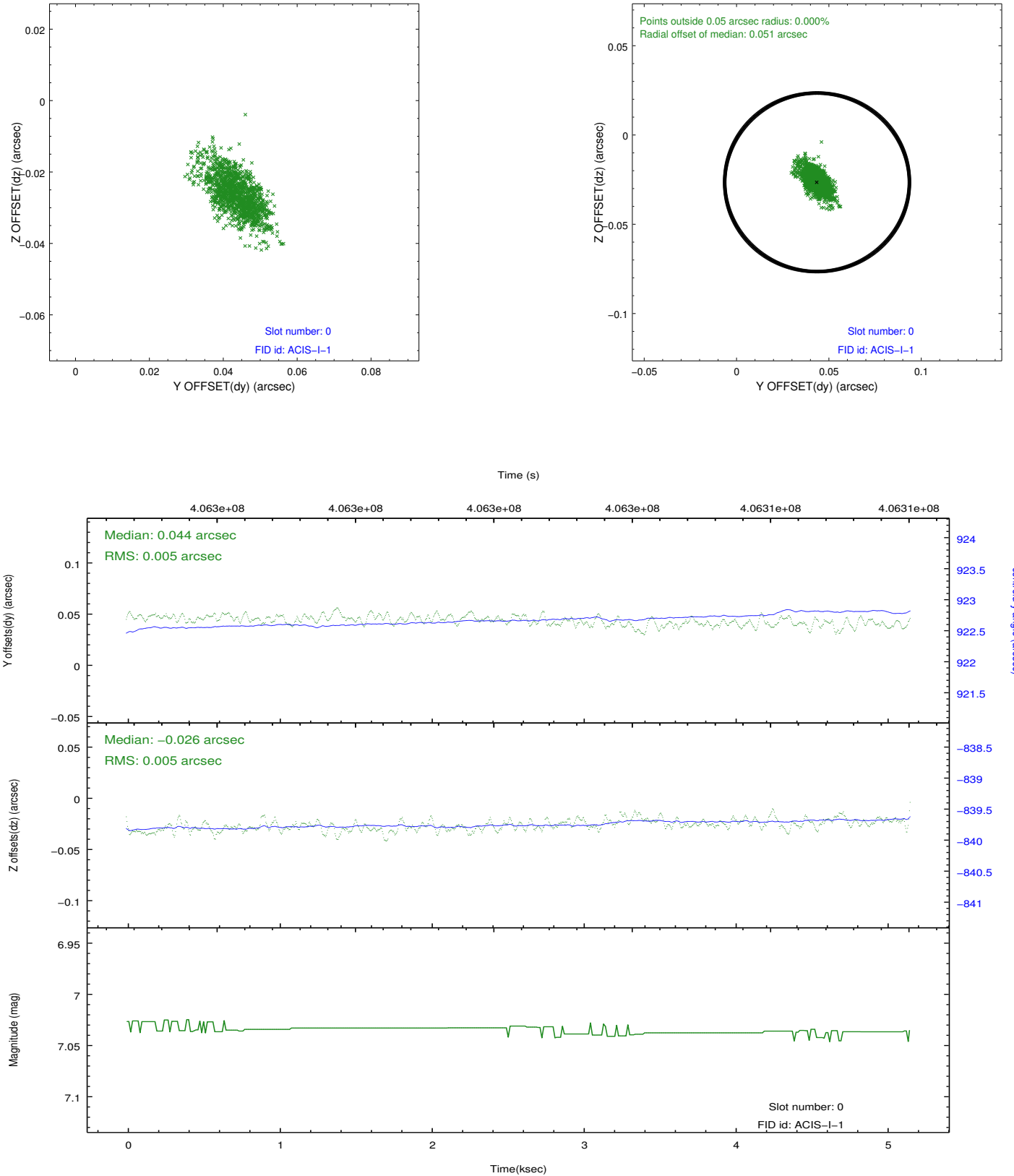


## 2.4.5 Slot 7

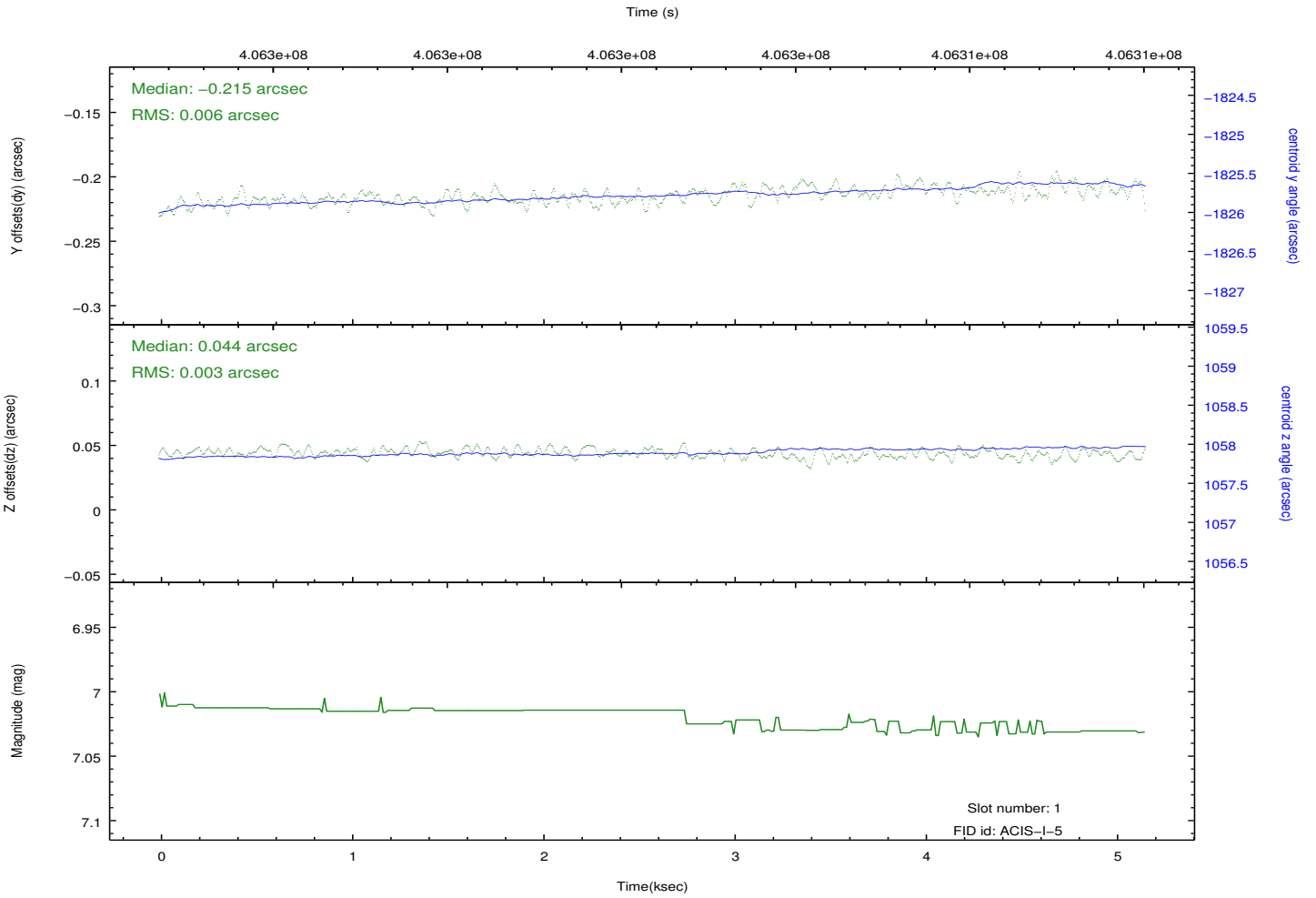
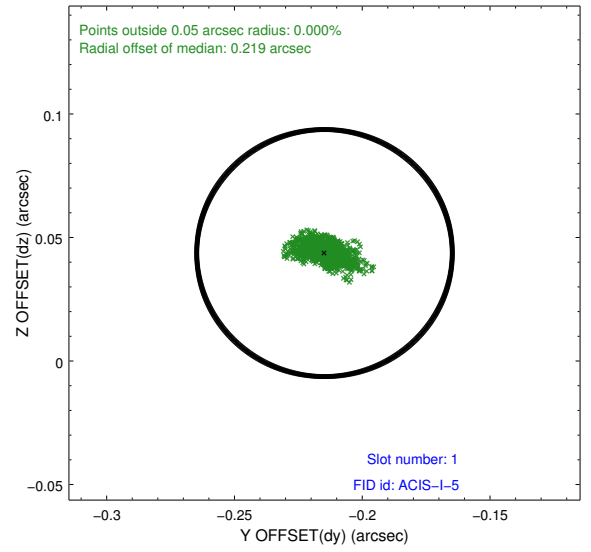
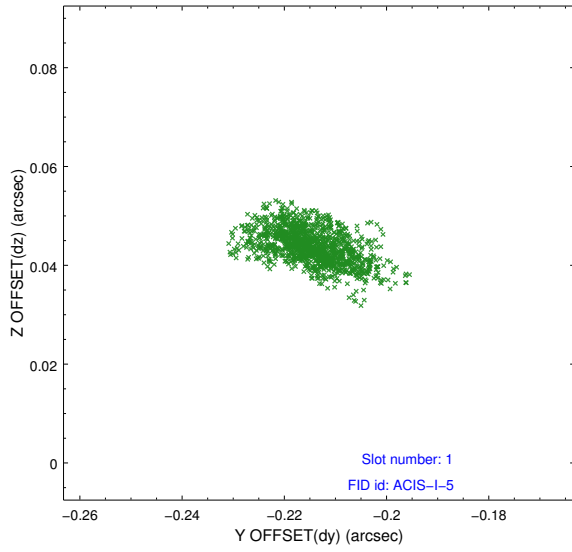


## 2.5 FID Slots

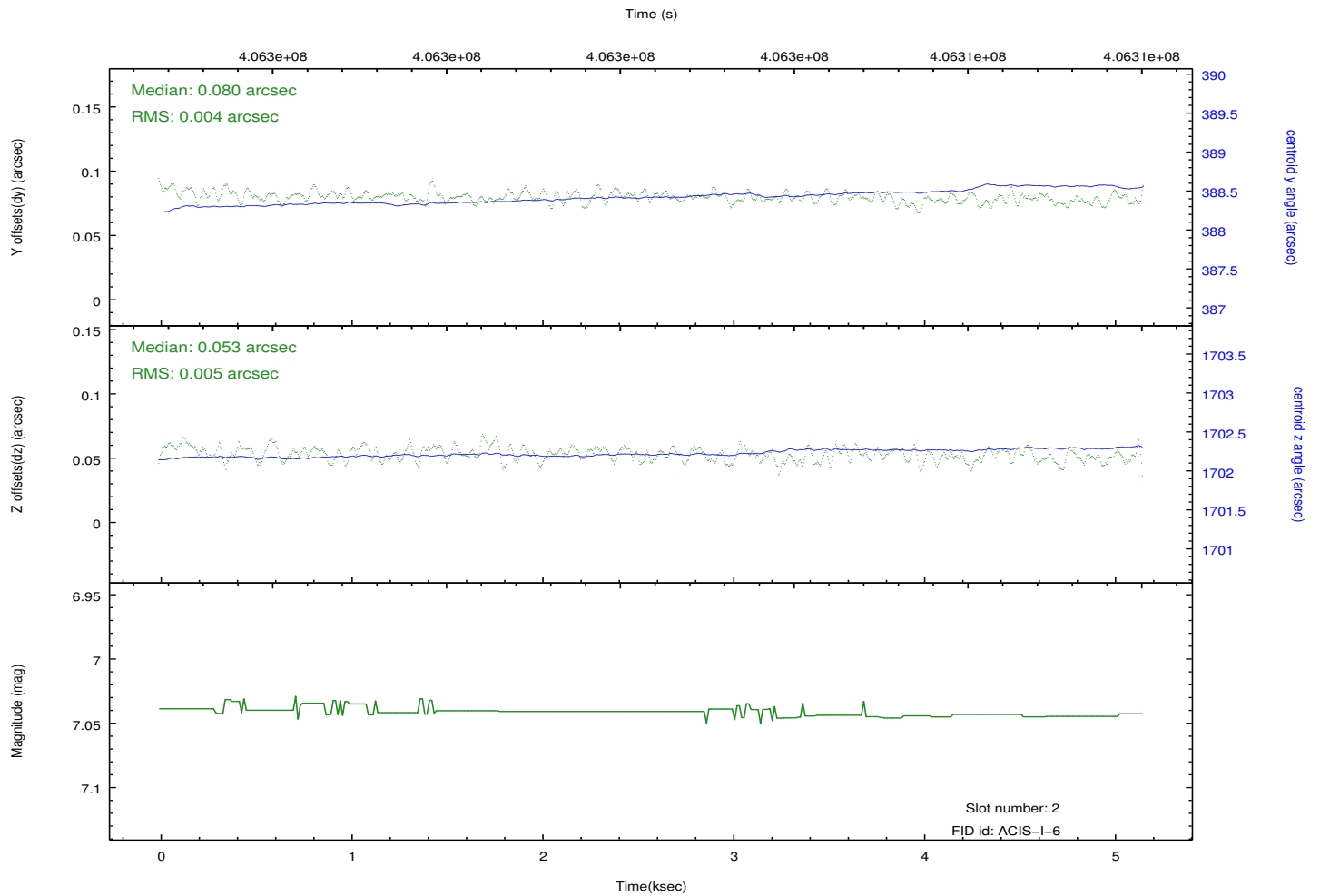
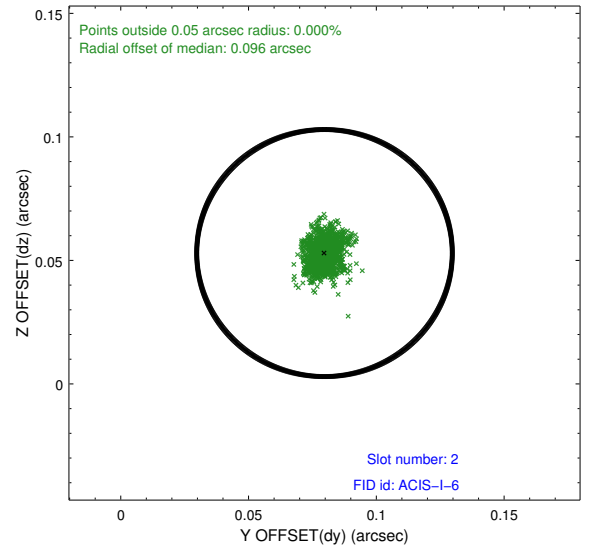
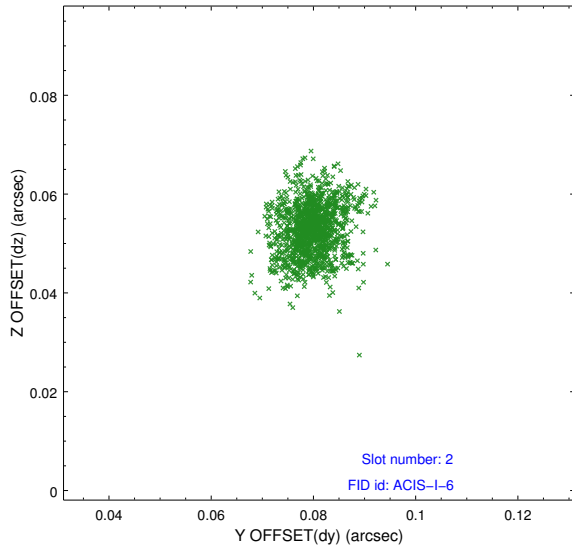
### 2.5.1 Slot 0



## 2.5.2 Slot 1



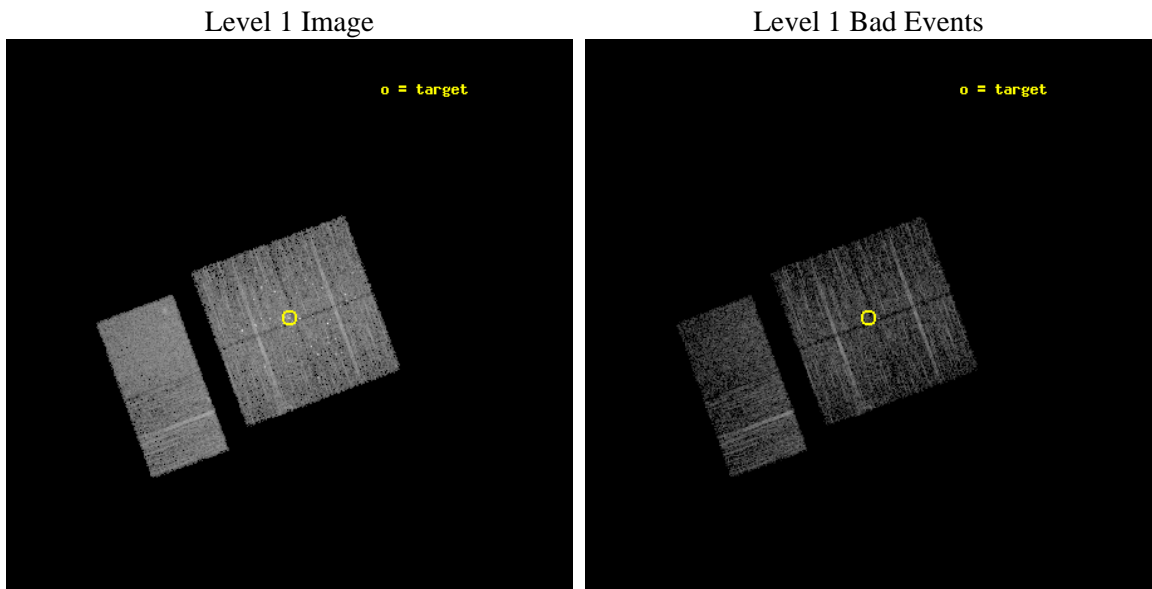
### 2.5.3 Slot 2



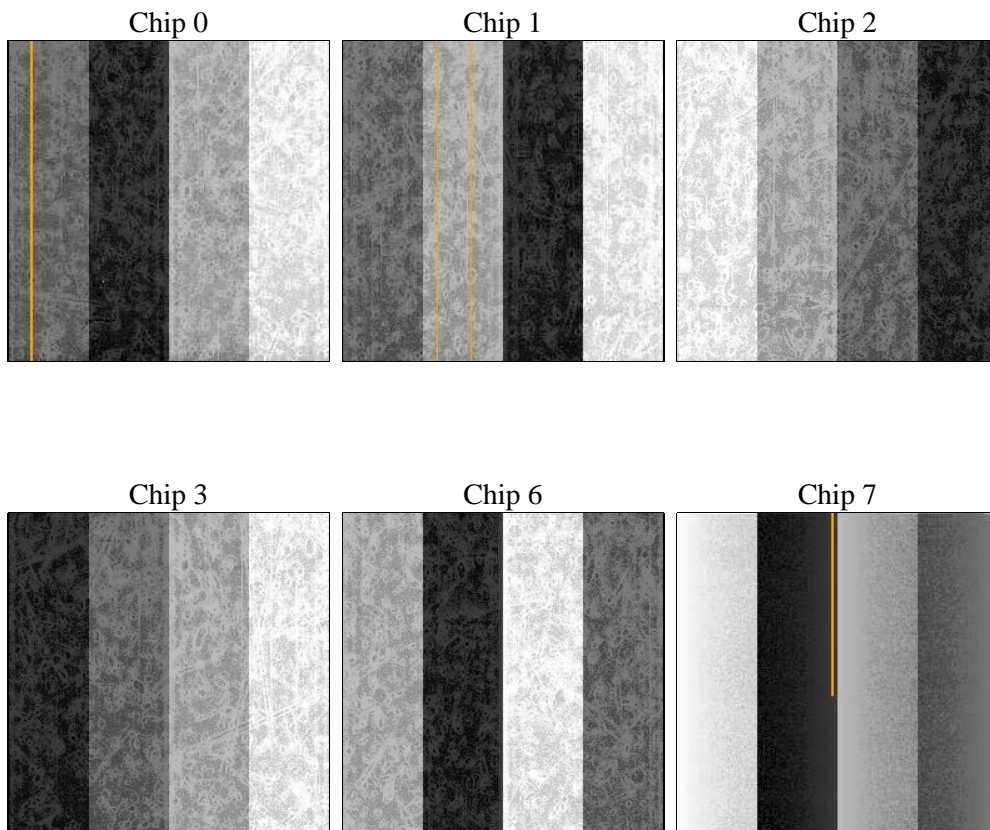
# 3 OBI Secondary

## 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	4022.7881456017	Sum of GTIs [s]
caldbver	4.5.0	&#160	ontime0	4022.7881546617	Sum of GTIs [s]
date	2012-07-07T02:51:49	Date and time of file creation	ontime1	4022.7882544398	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	4019.5471253395	Sum of GTIs [s]
			ontime3	4022.7881456017	Sum of GTIs [s]
			ontime6	4022.7881454229	Sum of GTIs [s]
			ontime7	4022.7880862951	Sum of GTIs [s]
			l1events	182074	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	28733	27073	29499	31904	29732	35133	grade 0 events	3314	2558	2097	4702	1196	1435
rejected events	22810	21996	25253	24555	26513	19275		11%	9%	7%	14%	4%	4%
rejected %	79%	81%	85%	76%	89%	54%	grade 1 events	72	51	21	73	9	41
								0%	0%	0%	0%	0%	0%
							grade 2 events	1135	978	833	1058	707	3275
								3%	3%	2%	3%	2%	9%
							grade 3 events	423	388	336	430	353	1364
								1%	1%	1%	1%	1%	3%
							grade 4 events	410	398	353	463	317	1371
								1%	1%	1%	1%	1%	3%
							grade 5 events	1203	1209	1203	1372	1357	3639
								4%	4%	4%	4%	4%	10%
							grade 6 events	644	759	631	699	649	8423
								2%	2%	2%	2%	2%	23%
							grade 7 events	21532	20732	24025	23107	25144	15585
								74%	76%	81%	72%	84%	44%

# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.07.16
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.96411888700724

## A.2 Comments