

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 13301 - L2 Version 1  
Chandra X-Ray Center

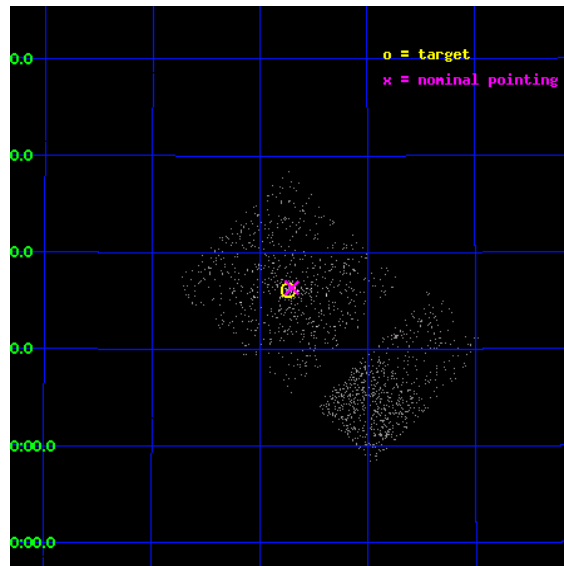
L2 Processing Date : Aug 19 2012

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# 1 Front

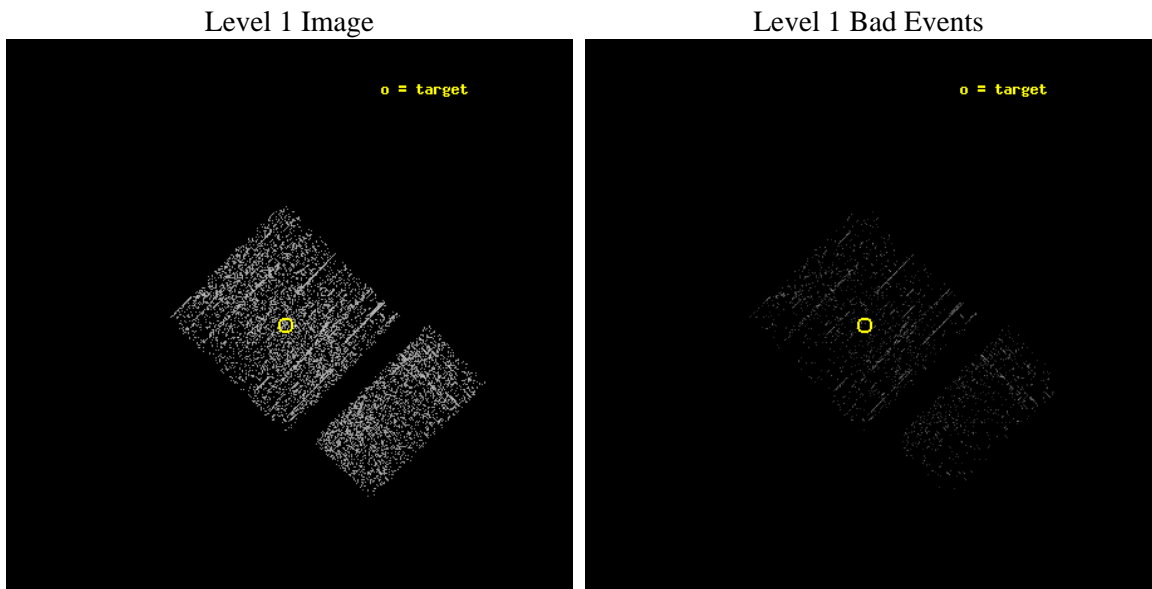
seq_num	600989	Sequence number
obs_id	13301	Observation id
title	Black Hole X-ray Novae in M31	Proposal title
observer	Dr. Stephen Murray	Principal investigator
object	M31	Source name
dtcycle	0	&#160
cycle	P	events are from which exps? P[primary] S[econdar]
ra_targ	10.685	Observer's specified target RA [deg]
dec_targ	41.268972	Observer's specified target Dec [deg]
ra_nom	10.675475771919	Nominal RA [deg]
dec_nom	41.272756330582	Nominal Dec [deg]
roll_nom	134.68059802559	Nominal Roll [deg]
revision	1	Processing version of data
ontime	888.03051584959	Sum of GTIs [s]
livetime	139.797423888	Livetime [s]
ontime0	888.03051584959	Sum of GTIs [s]
ontime1	888.03051584959	Sum of GTIs [s]
ontime2	888.03051584959	Sum of GTIs [s]
ontime3	888.03051584959	Sum of GTIs [s]
ontime6	888.03051584959	Sum of GTIs [s]
ontime7	888.03051584959	Sum of GTIs [s]
l2events	1825	Number of level 2 events



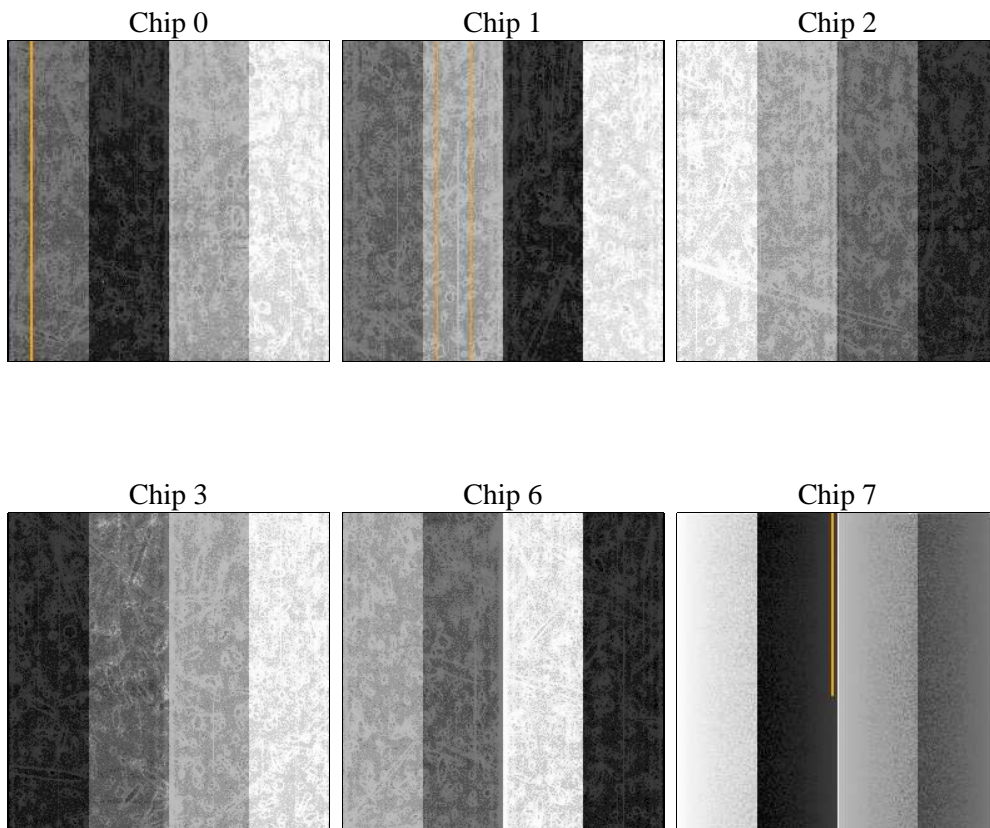
## 2 OBI Primary

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	4816.152000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	888.03051584959	Sum of GTIs [s]
caldsver	4.5.1.1	&#160	ontime0	888.03051584959	Sum of GTIs [s]
date	2012-08-20T01:50:40	Date and time of file creation	ontime1	888.03051584959	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	888.03051584959	Sum of GTIs [s]
			ontime3	888.03051584959	Sum of GTIs [s]
			ontime6	888.03051584959	Sum of GTIs [s]
			ontime7	888.03051584959	Sum of GTIs [s]
			l1events	13029	Number of level 1 events

### 2.1.4 Events

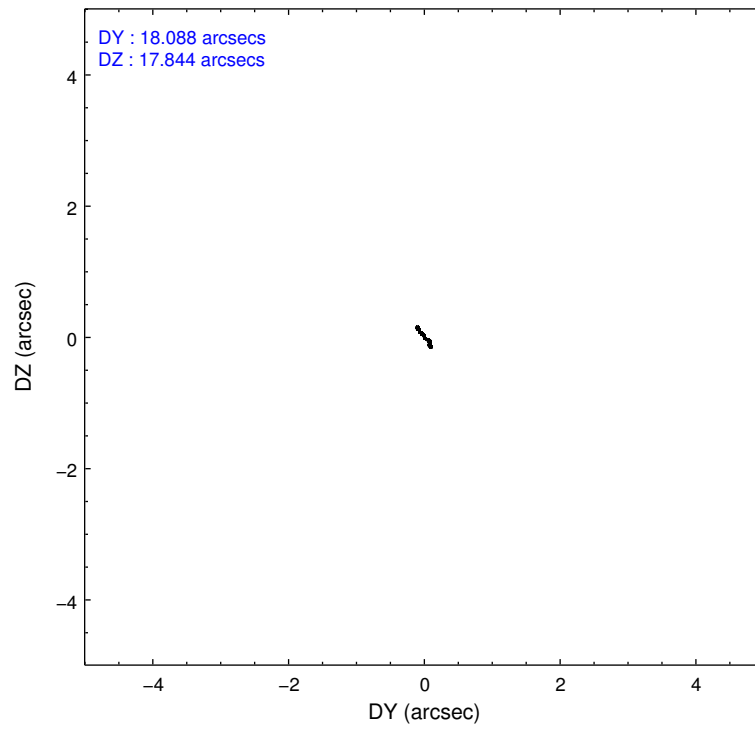
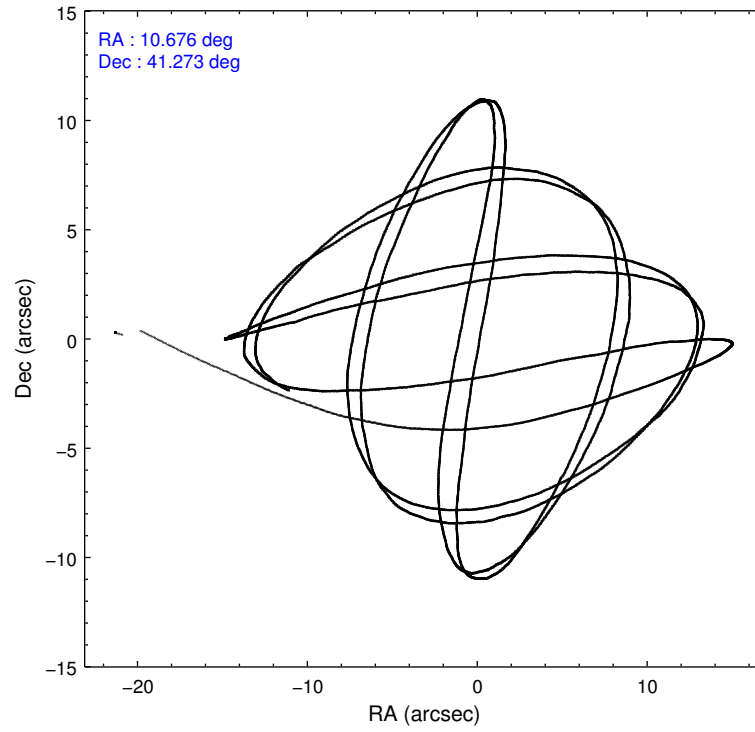
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	2024	2053	2421	2201	2229	2101
rejected events	1783	1741	2042	1899	2030	1455
rejected %	88%	84%	84%	86%	91%	69%

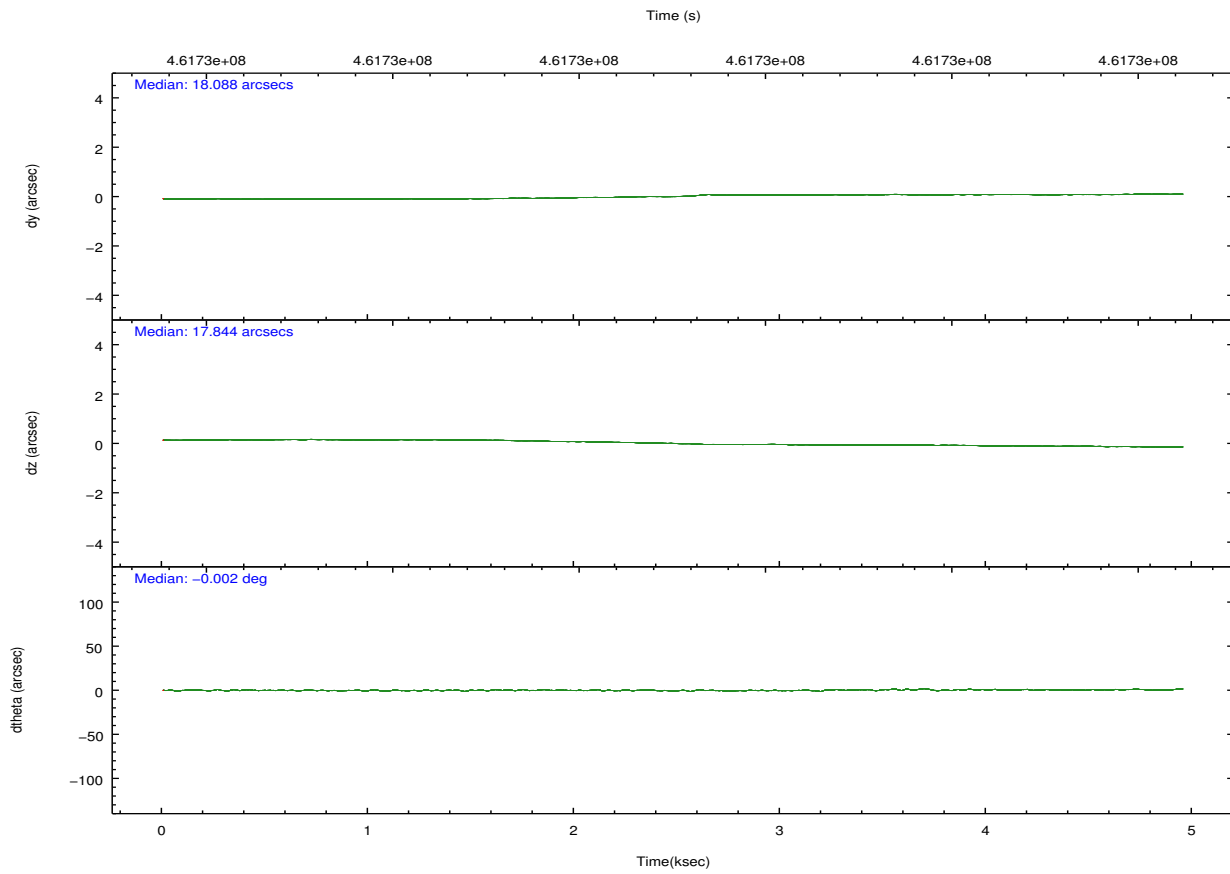
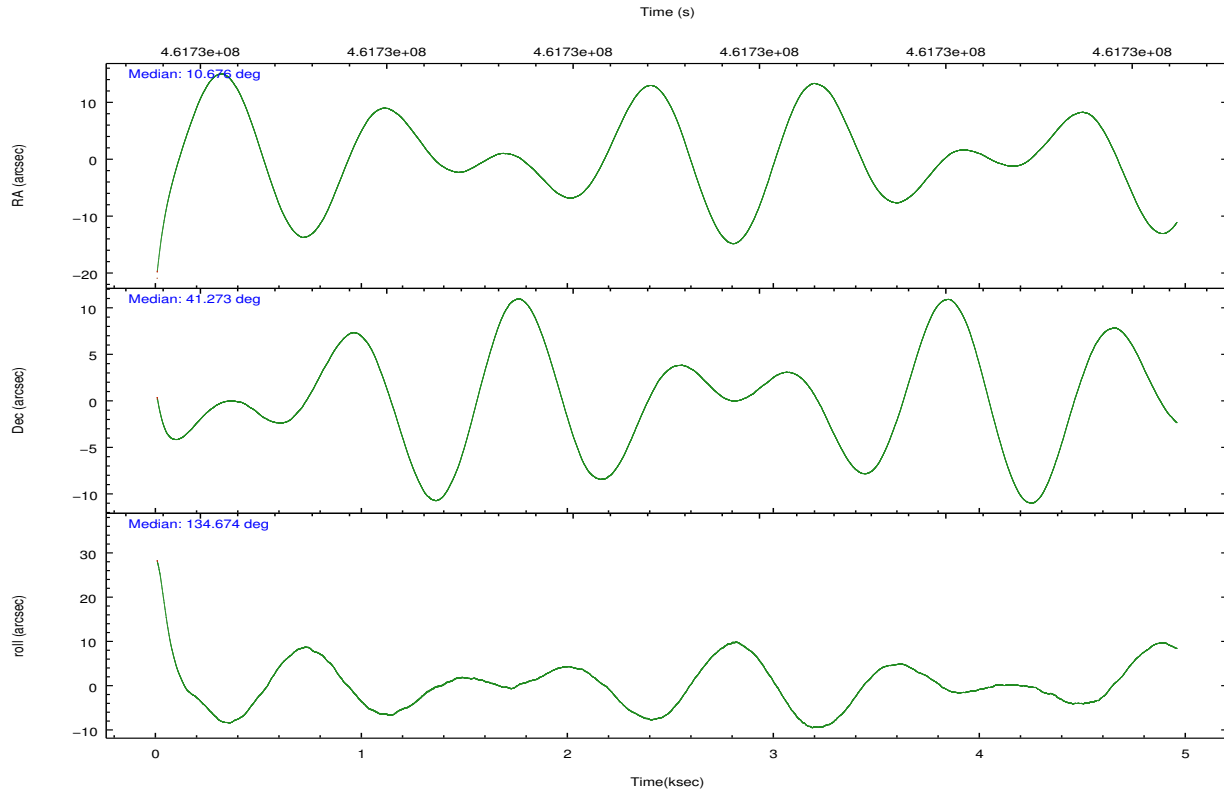
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
grade 0 events	94	138	191	135	56	58
	4%	6%	7%	6%	2%	2%
grade 1 events	0	4	5	0	1	4
	0%	0%	0%	0%	0%	0%
grade 2 events	35	66	73	68	50	149
	1%	3%	3%	3%	2%	7%
grade 3 events	32	31	37	29	20	63
	1%	1%	1%	1%	0%	2%
grade 4 events	27	41	38	29	30	62
	1%	1%	1%	1%	1%	2%
grade 5 events	78	85	81	104	123	177
	3%	4%	3%	4%	5%	8%
grade 6 events	55	46	44	43	45	319
	2%	2%	1%	1%	2%	15%
grade 7 events	1703	1642	1952	1793	1904	1269
	84%	79%	80%	81%	85%	60%

## 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	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	10.710820	10.67547577191878	CCD I2 on	Y	Y
[deg] Pointing Dec	41.265605	41.27275633058213	CCD I3 on	Y	Y
[deg] Pointing Roll	134.448567	134.6805980255904	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	O1	Y
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S3 on	O2	Y
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	461729168.184000	461727777.74024	CCD S5 on	N	N
Observation start date	2012-08-19T02:05:01	2012-08-19T01:42:57	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	461733984.184000	461734220.37808	On-chip summing requested	N	N
Observation end date	2012-08-19T03:25:17	2012-08-19T03:30:20	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



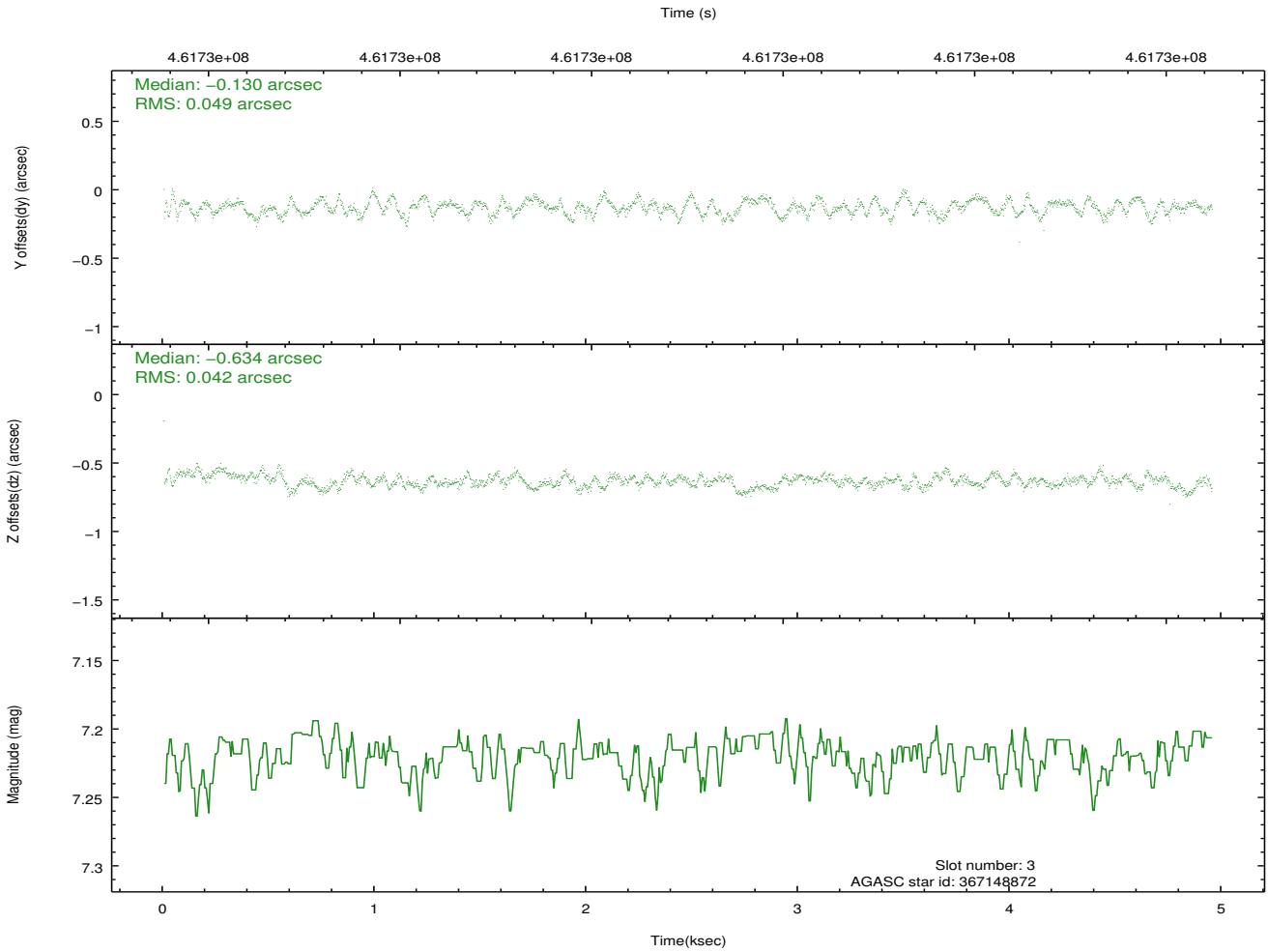
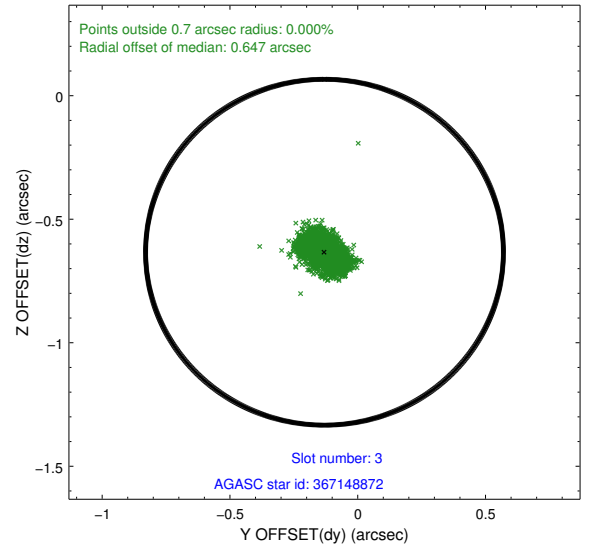
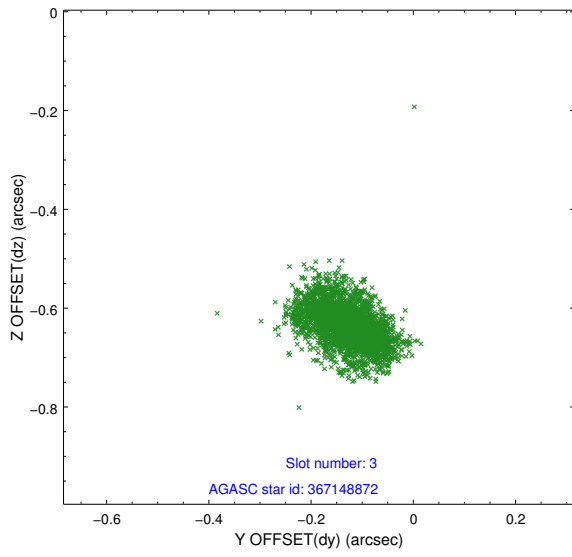


### Slot Statistics

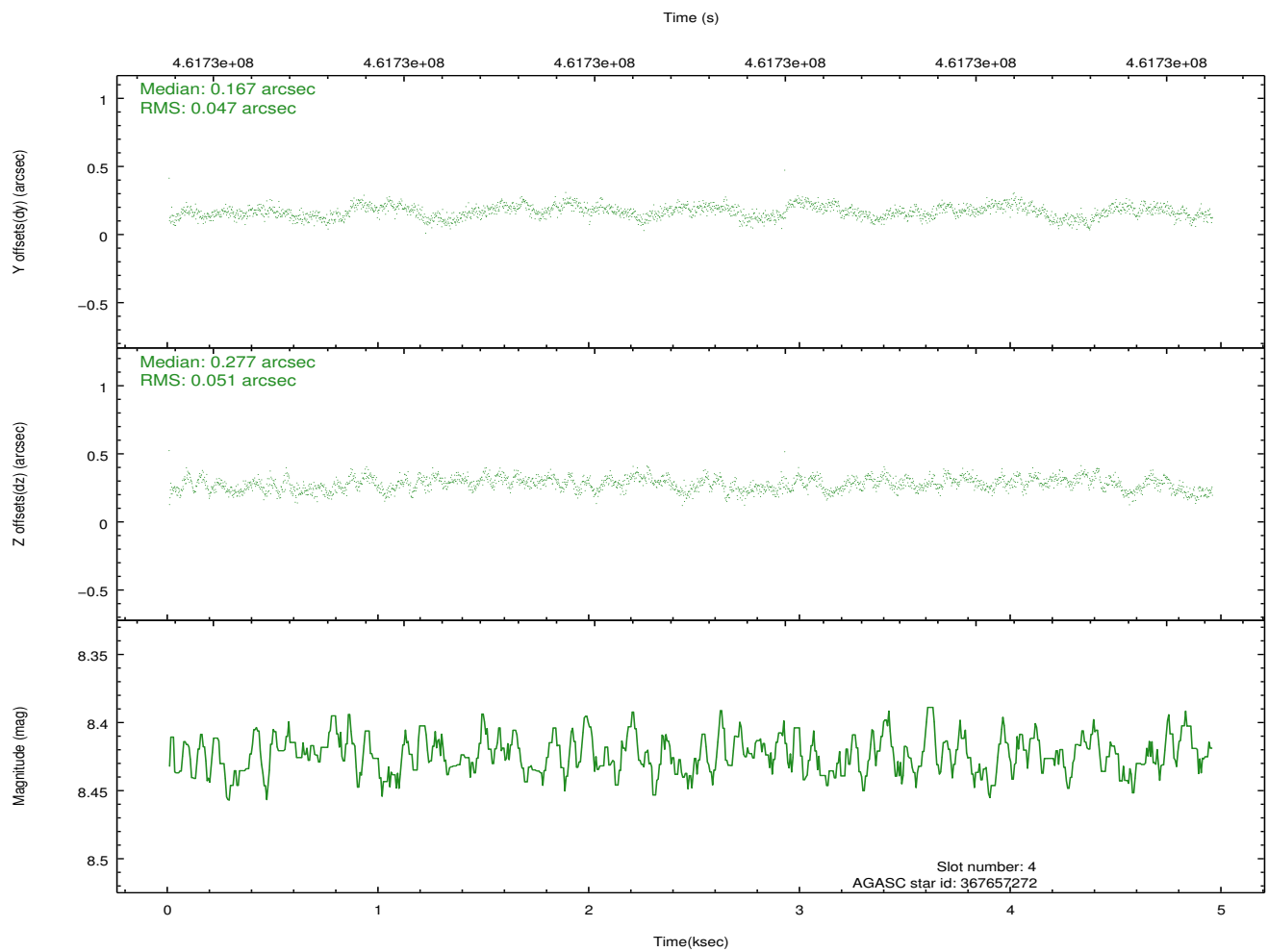
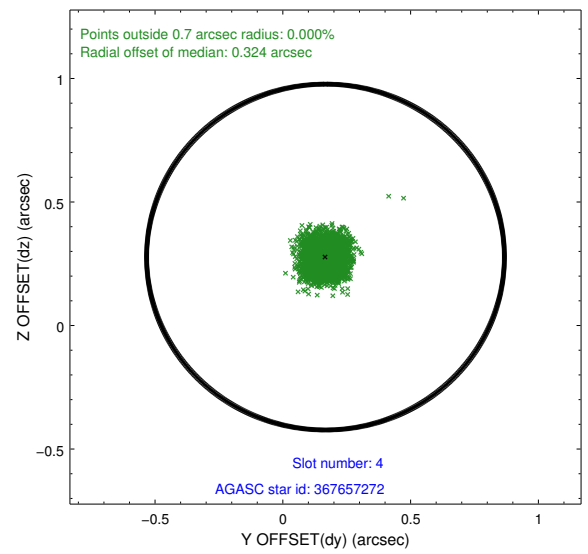
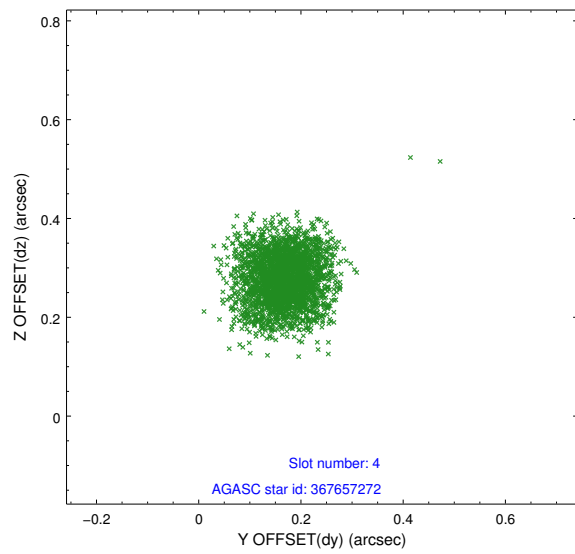
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.06	1208	0.040	0.037	0.011	0.018	0.000000	0.000000	921.33	-841.49
1	FID	ACIS-I-5	7.05	1206	-0.227	0.052	0.007	0.014	0.000000	0.000000	-1826.38	1055.37
2	FID	ACIS-I-6	7.06	1207	0.096	-0.019	0.008	0.012	0.000000	0.000000	385.57	1701.22
3	GUIDE	367148872	7.22	2415	-0.130	-0.634	0.070	0.108	10.505940	40.688258	-1092.17	1854.47
4	GUIDE	367657272	8.42	2416	0.167	0.277	0.074	0.115	11.834471	41.298907	-2028.27	-2266.14
5	GUIDE	367663272	9.28	2411	-0.143	-0.066	0.105	0.168	10.656279	41.699429	1217.40	-988.57
6	GUIDE	367674552	8.84	2414	-0.066	0.036	0.090	0.143	11.016238	41.570845	210.16	-1357.85
7	GUIDE	367657368	8.65	2407	0.176	0.389	0.071	0.116	11.928227	41.287266	-2233.15	-2421.86

## 2.4 Star Slots

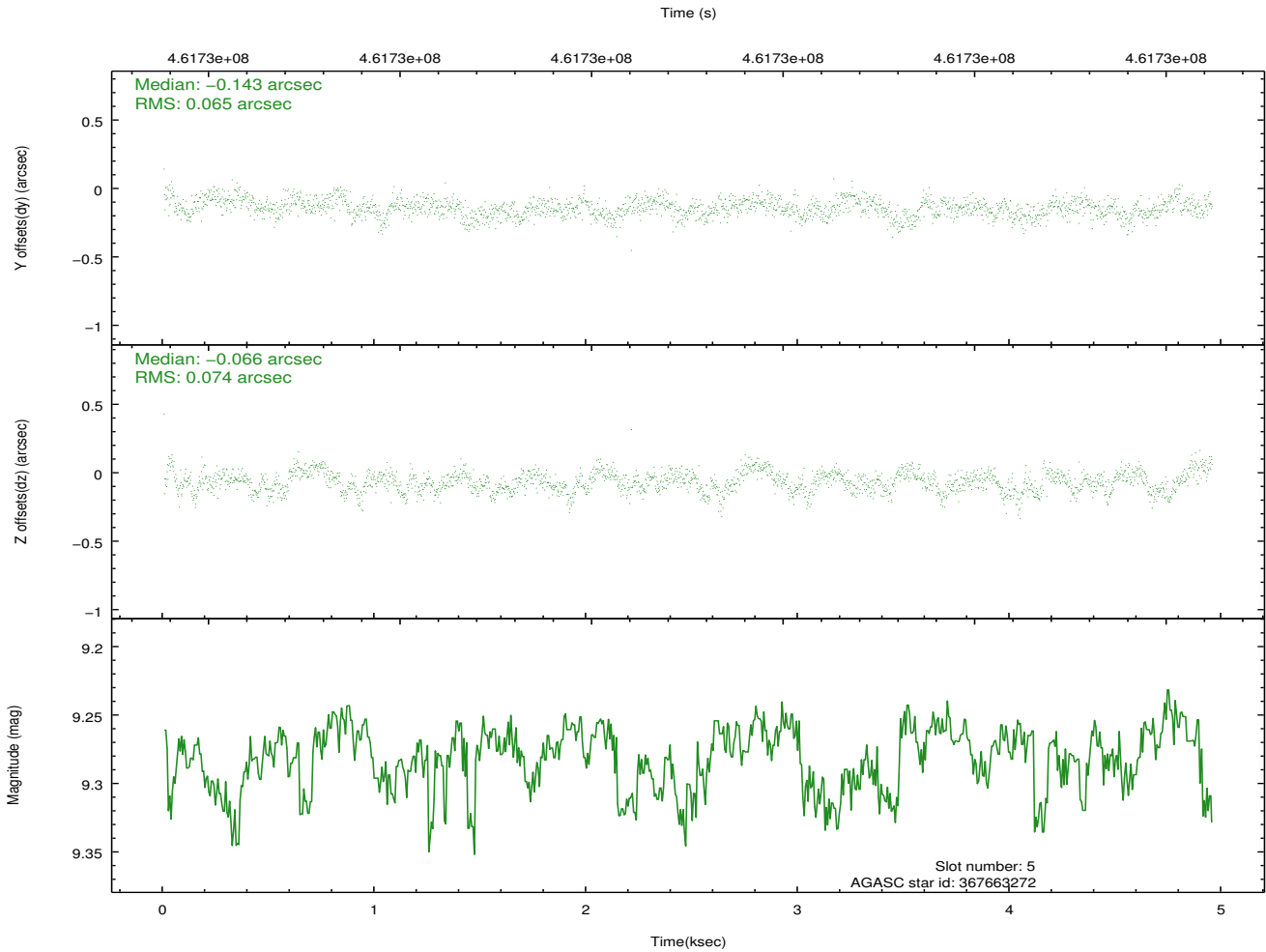
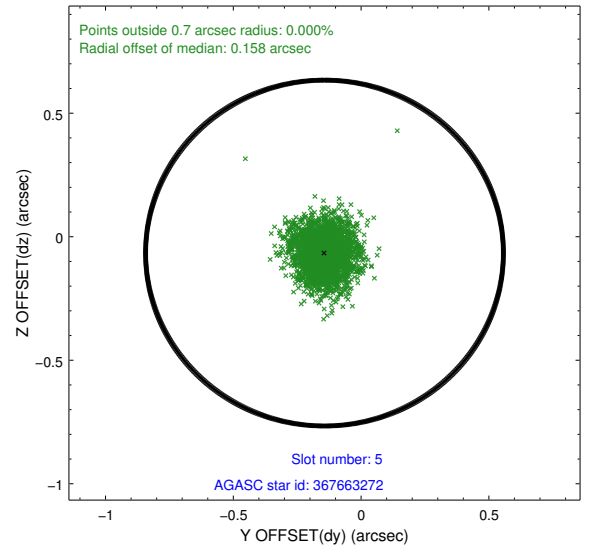
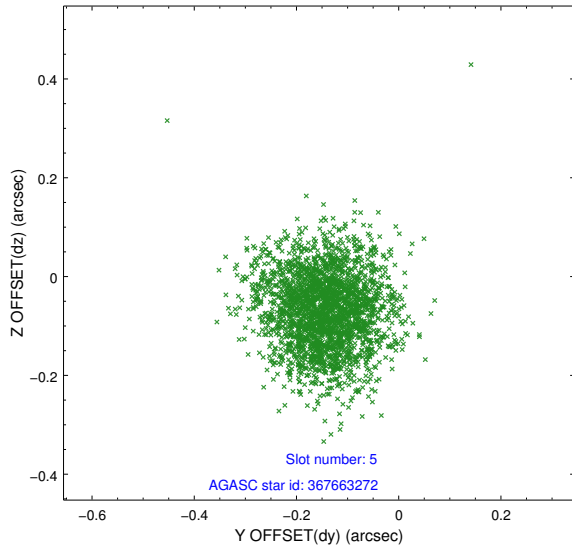
### 2.4.1 Slot 3



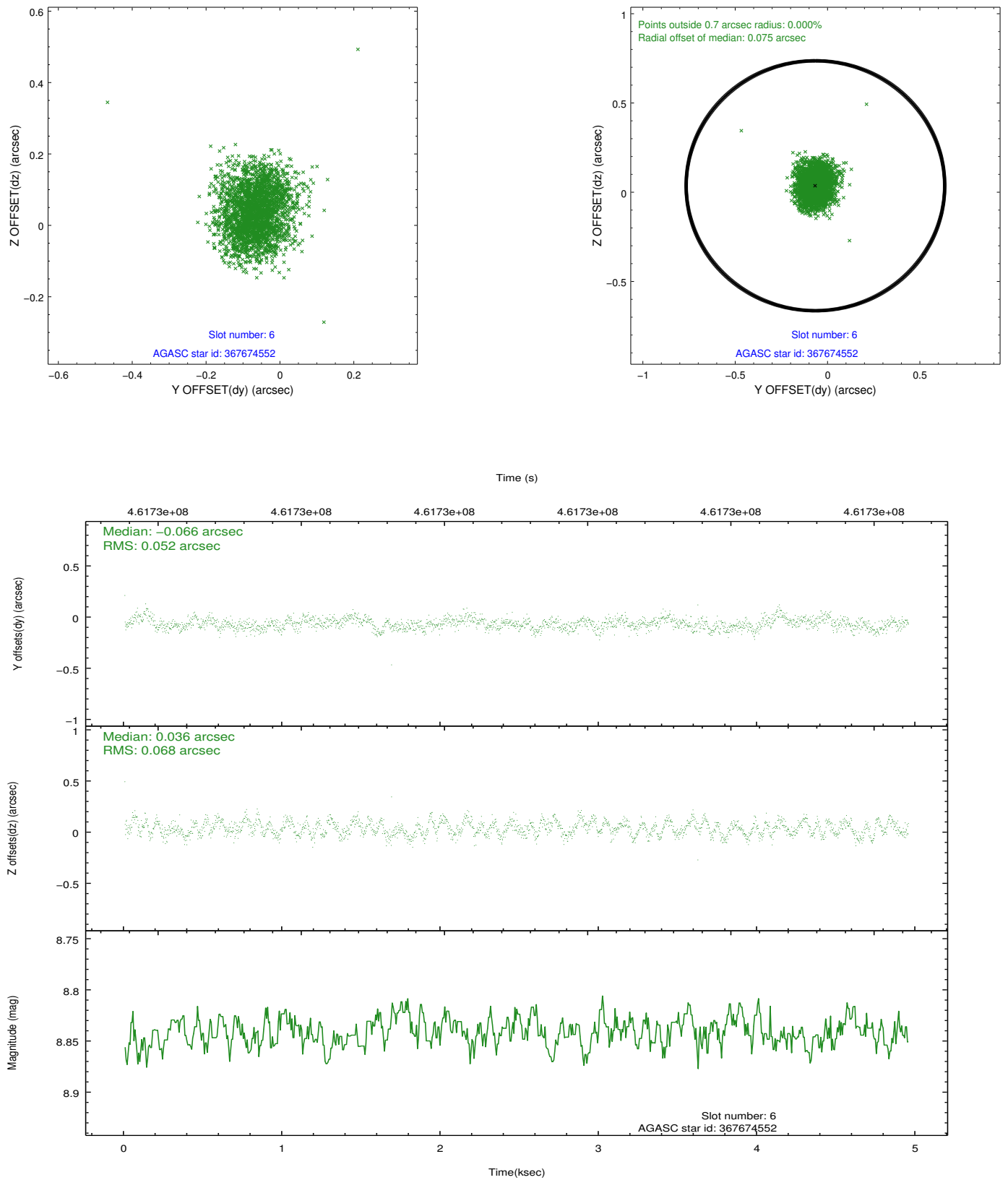
## 2.4.2 Slot 4



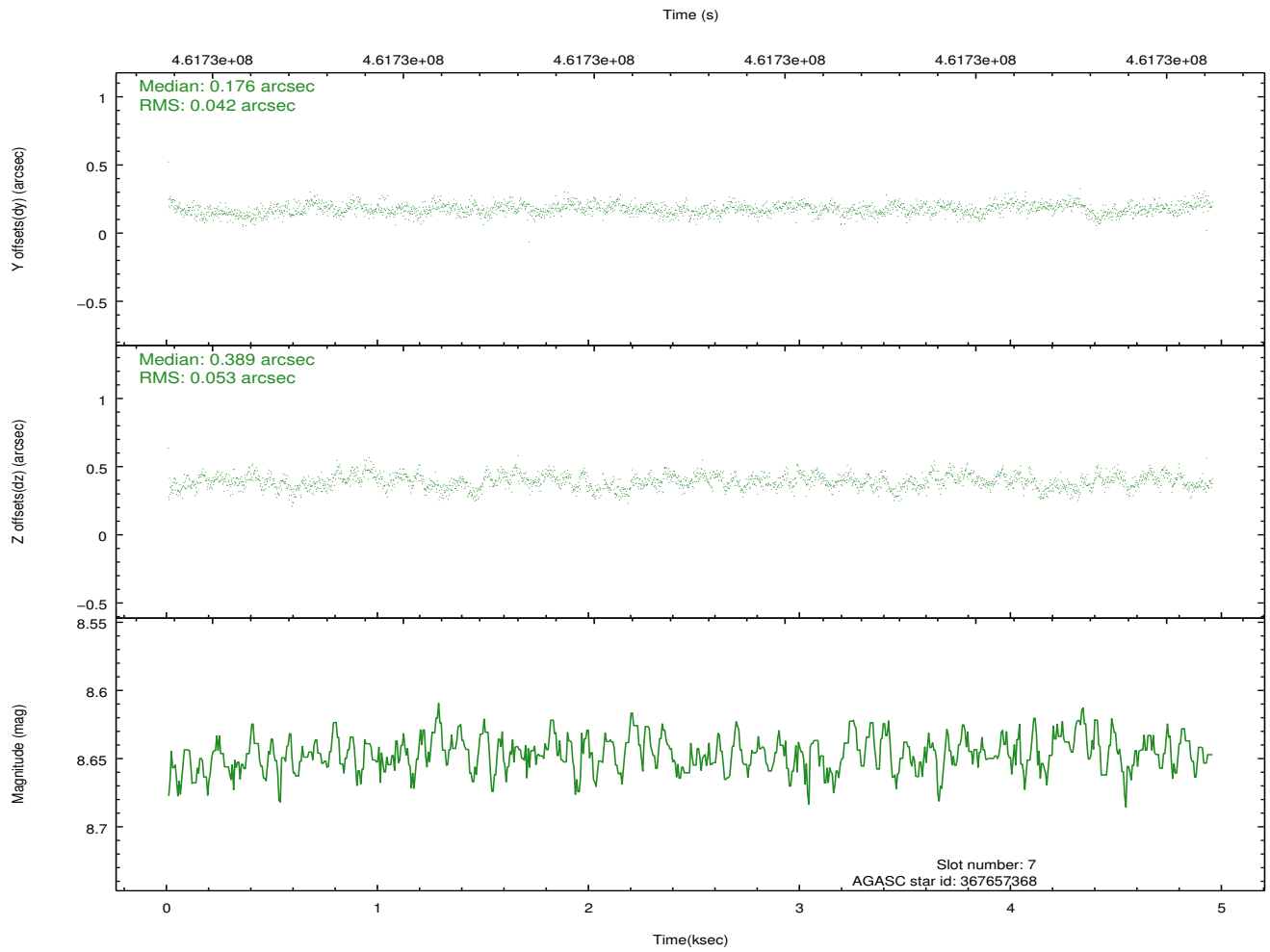
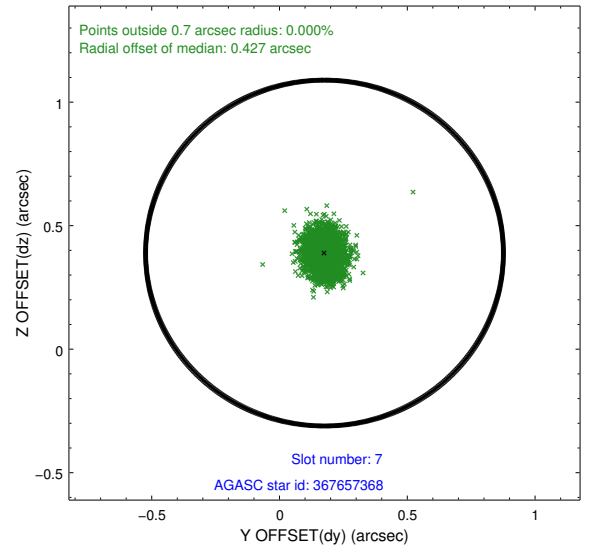
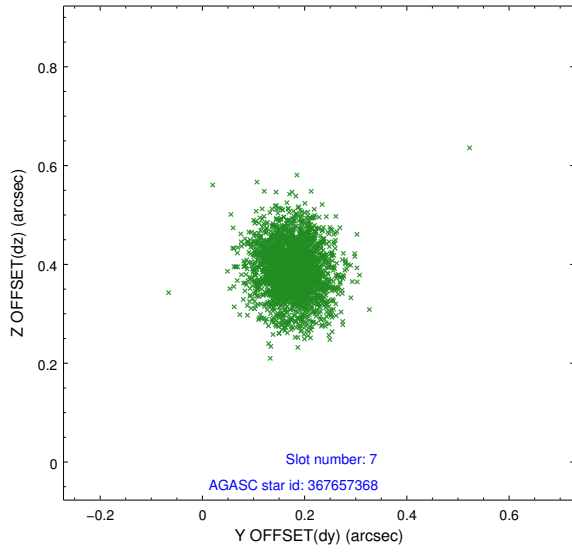
### 2.4.3 Slot 5



## 2.4.4 Slot 6

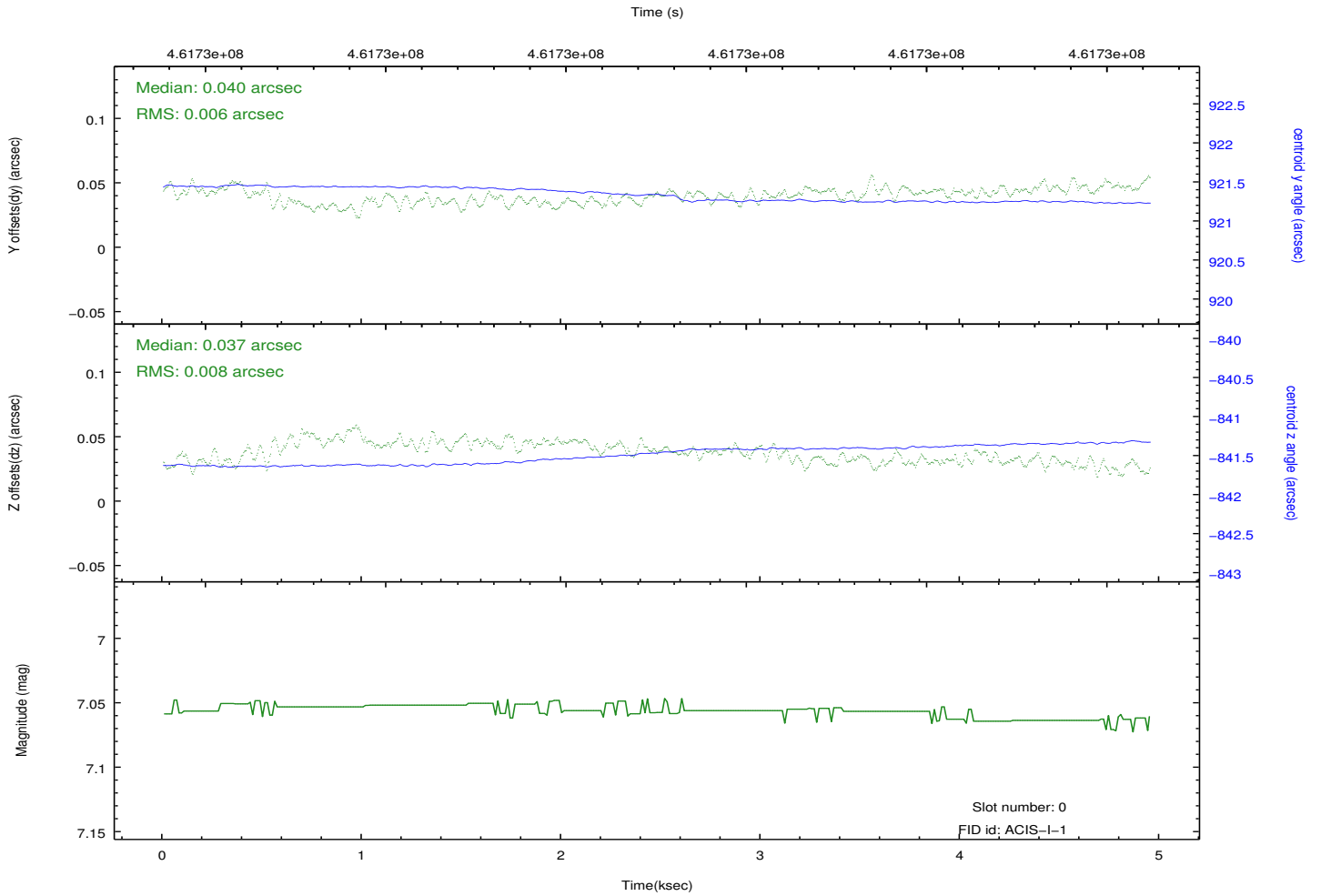
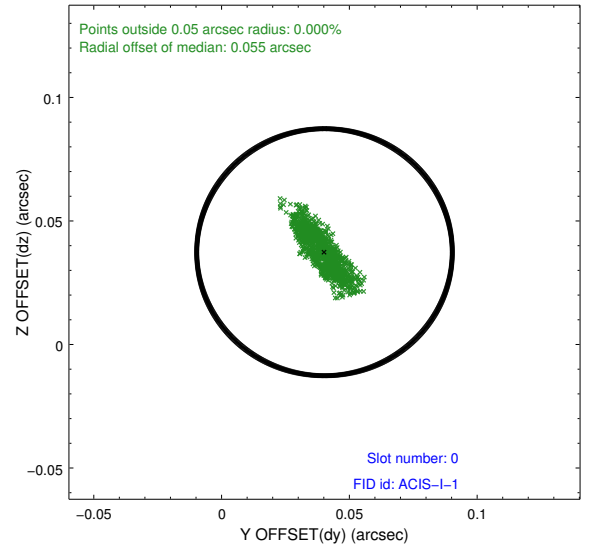
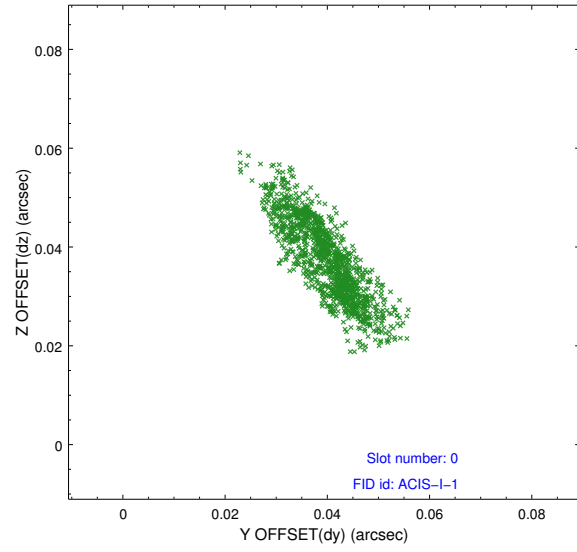


## 2.4.5 Slot 7

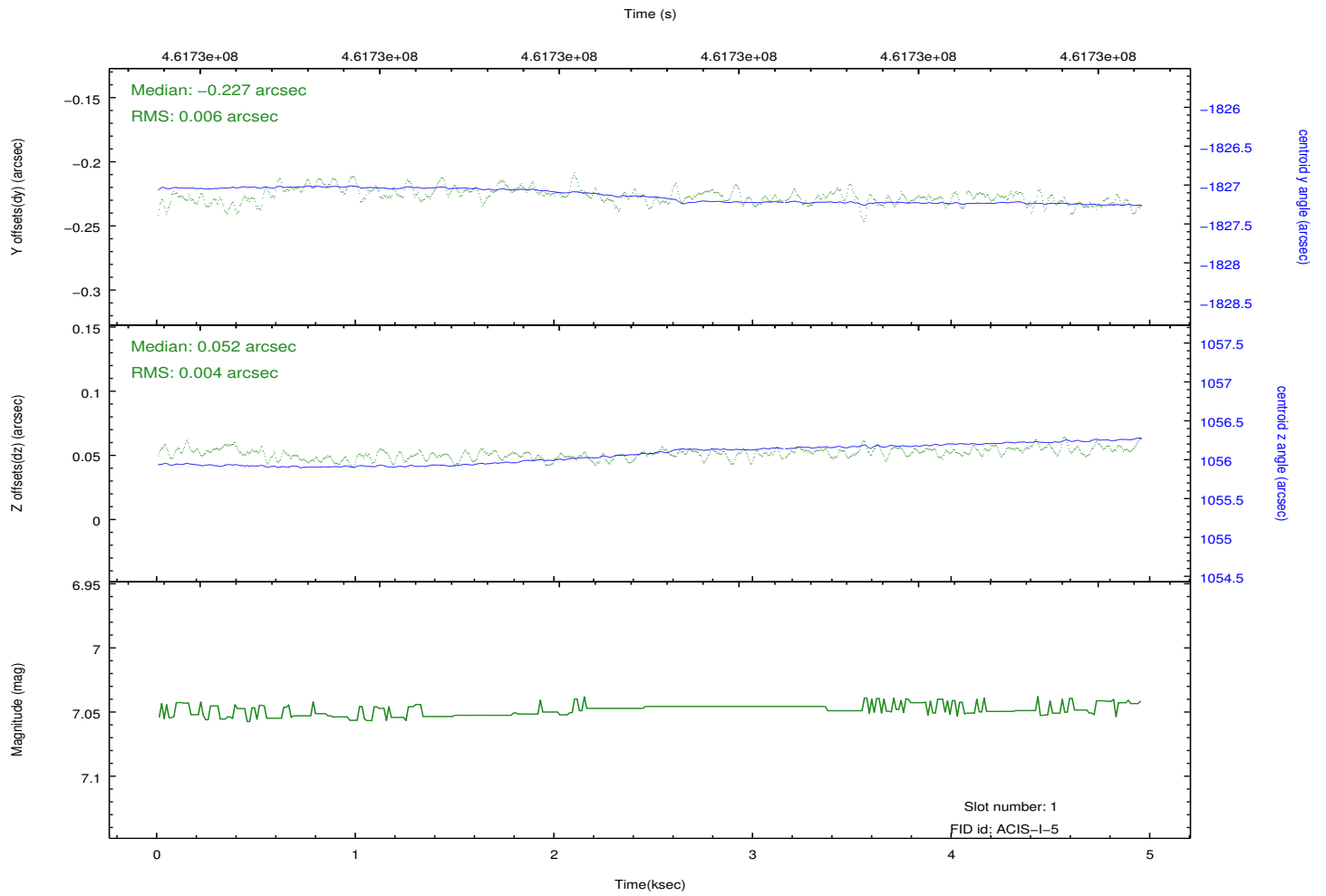
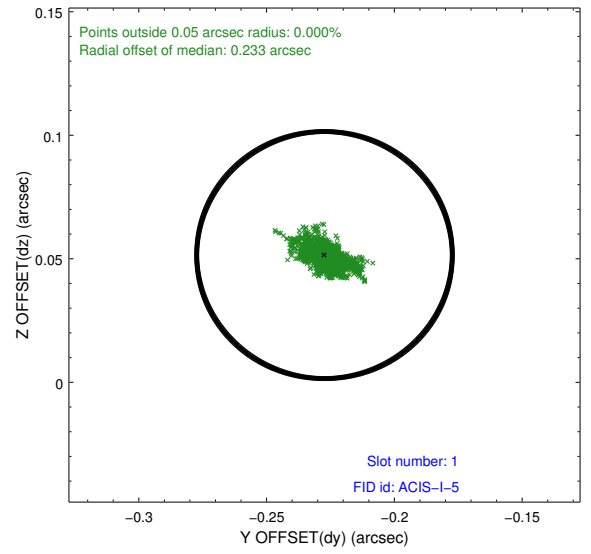
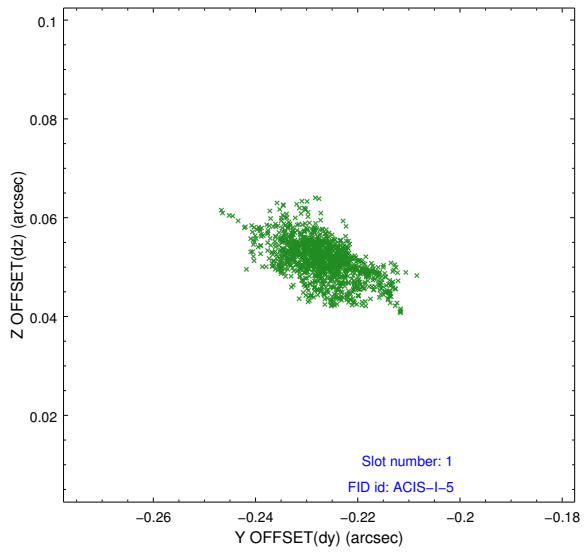


## 2.5 FID Slots

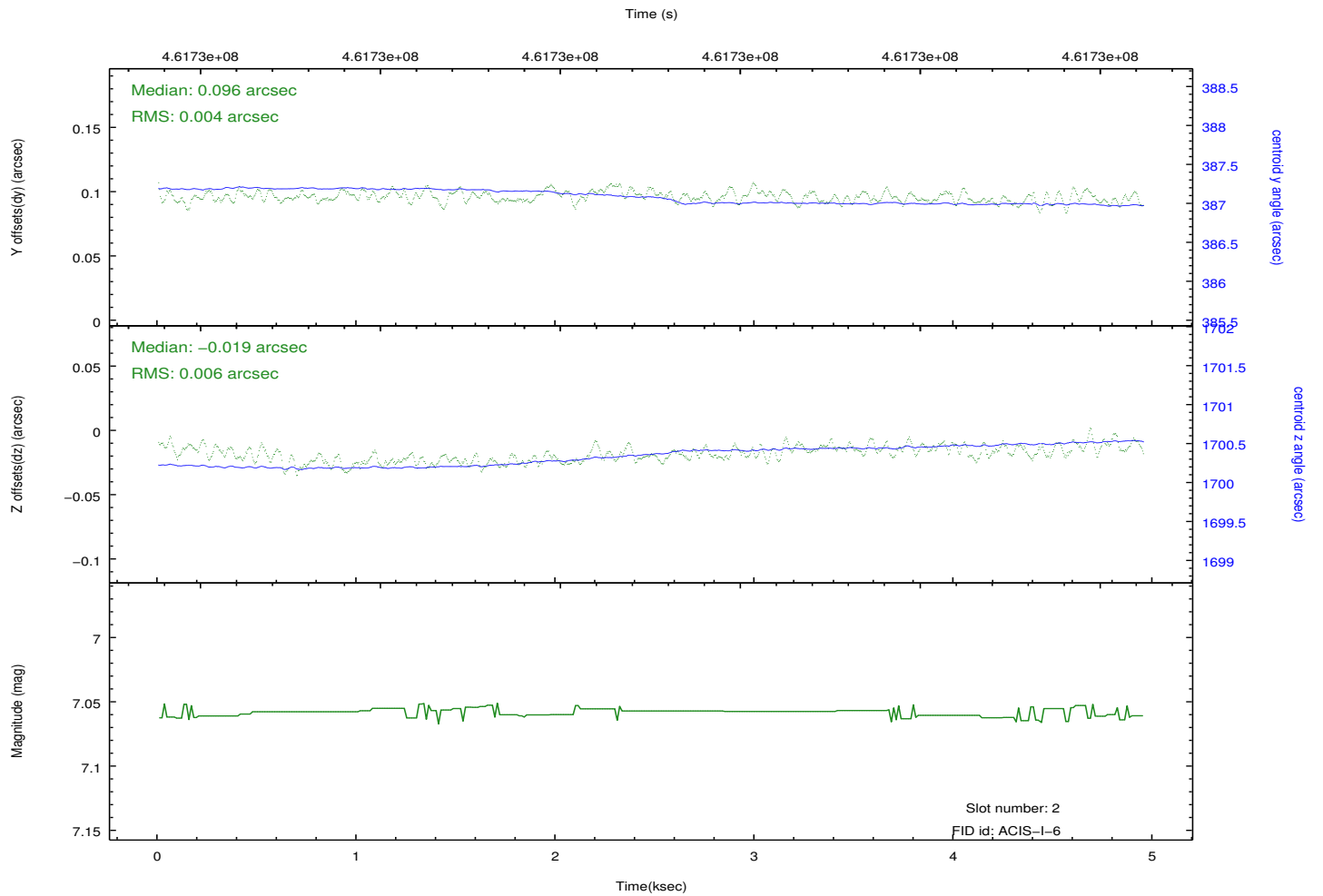
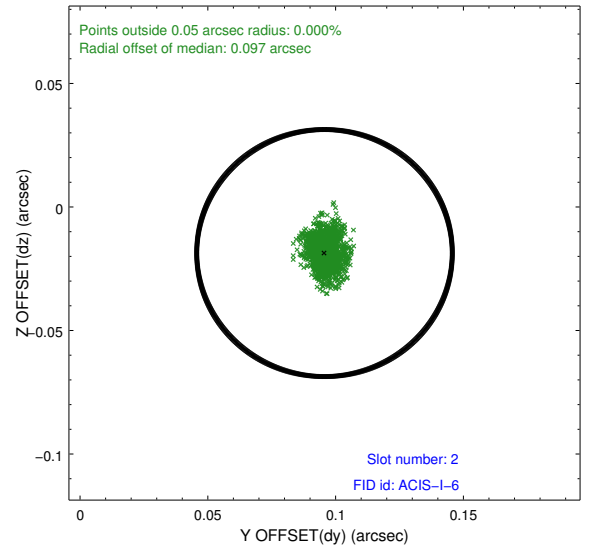
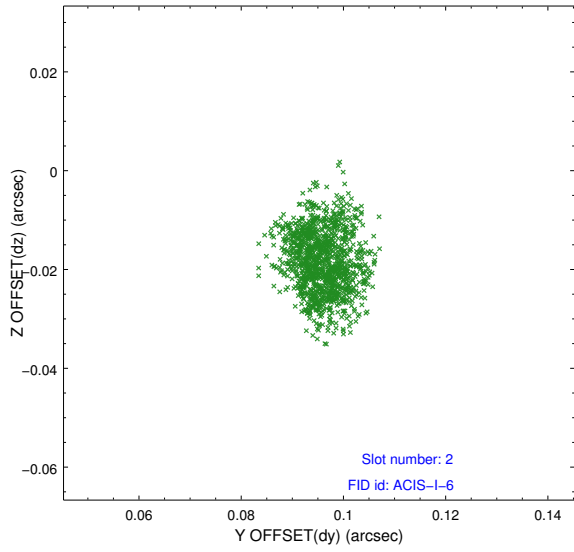
### 2.5.1 Slot 0



## 2.5.2 Slot 1



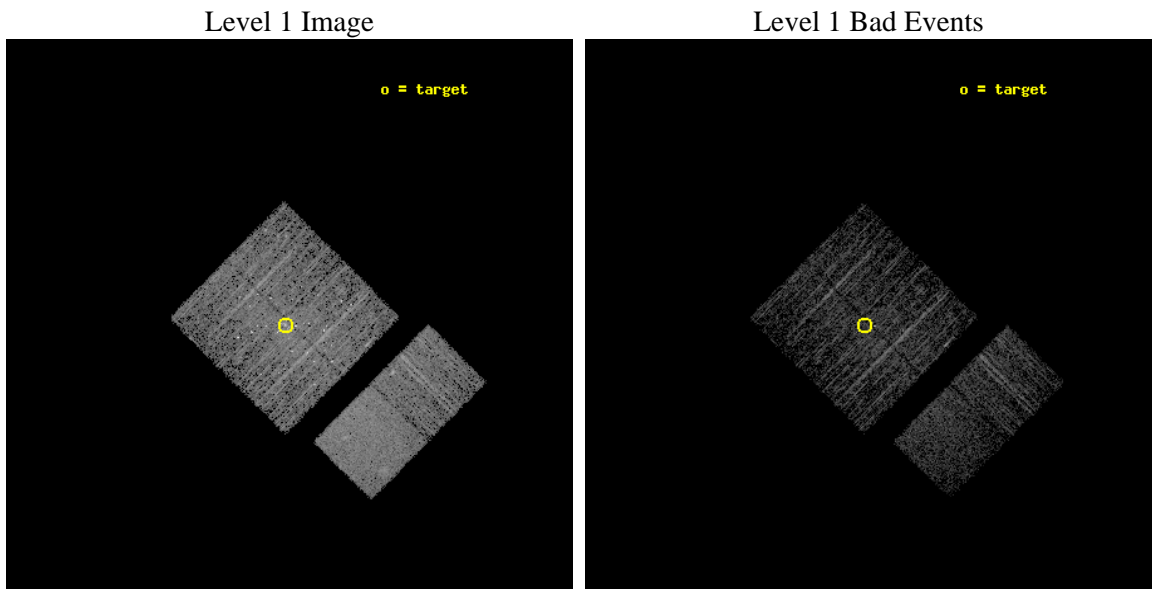
### 2.5.3 Slot 2



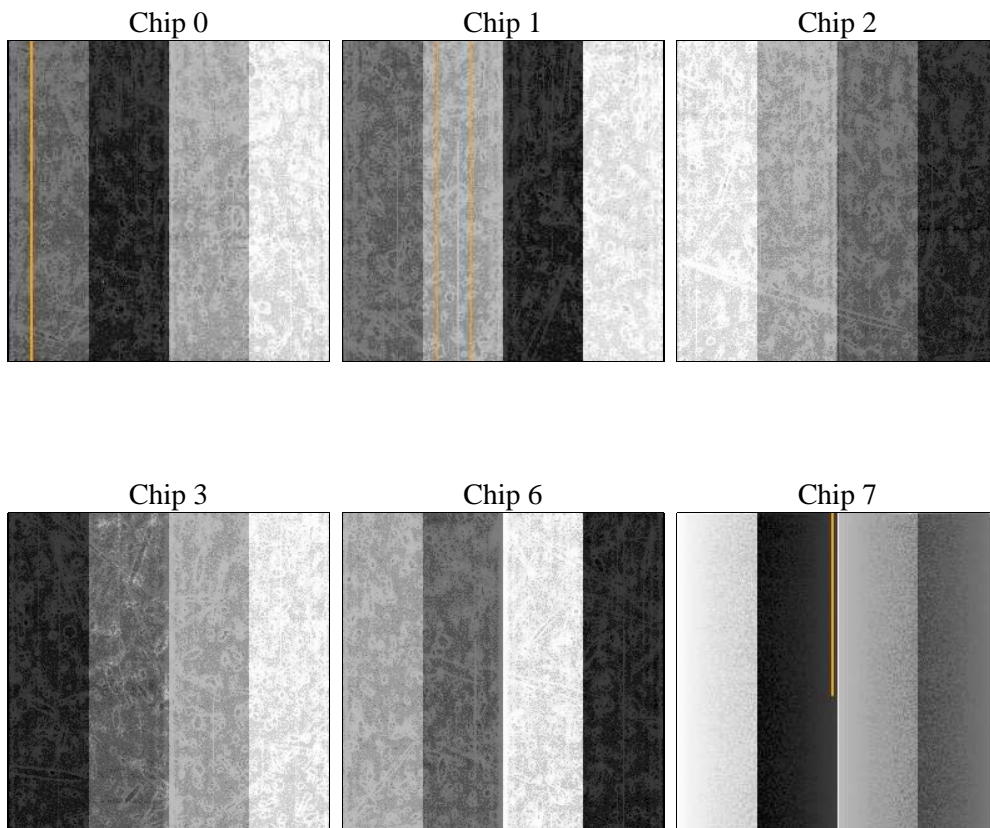
# 3 OBI Secondary

## 3.1 OBI

### 3.1.1 Images



### 3.1.2 Bias



### 3.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	4816.152000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	3811.3453761339	Sum of GTIs [s]
caldbver	4.5.1.1	&#160	ontime0	3811.3456342816	Sum of GTIs [s]
date	2012-08-20T01:50:54	Date and time of file creation	ontime1	3811.3453756571	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	3811.3454754949	Sum of GTIs [s]
			ontime3	3811.3453761339	Sum of GTIs [s]
			ontime6	3811.3455250263	Sum of GTIs [s]
			ontime7	3811.3454655409	Sum of GTIs [s]
			l1events	130241	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	18246	20039	23638	22616	19406	26296	grade 0 events	1720	2958	3492	3433	1033	1096
rejected events	14896	15048	17804	17165	16779	14574		9%	14%	14%	15%	5%	4%
rejected %	81%	75%	75%	75%	86%	55%	grade 1 events	17	24	147	40	8	34
								0%	0%	0%	0%	0%	0%
							grade 2 events	623	818	1056	777	542	2465
								3%	4%	4%	3%	2%	9%
							grade 3 events	244	326	355	332	250	1007
								1%	1%	1%	1%	1%	3%
							grade 4 events	261	311	355	341	240	1044
								1%	1%	1%	1%	1%	3%
							grade 5 events	893	981	945	1026	1060	2662
								4%	4%	3%	4%	5%	10%
							grade 6 events	507	587	582	578	572	6132
								2%	2%	2%	2%	2%	23%
							grade 7 events	13981	14034	16706	16089	15701	11856
								76%	70%	70%	71%	80%	45%

## A Summary

### A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.08.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.69937589198349

### A.2 Comments