

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 11838 - L2 Version 2  
Chandra X-Ray Center

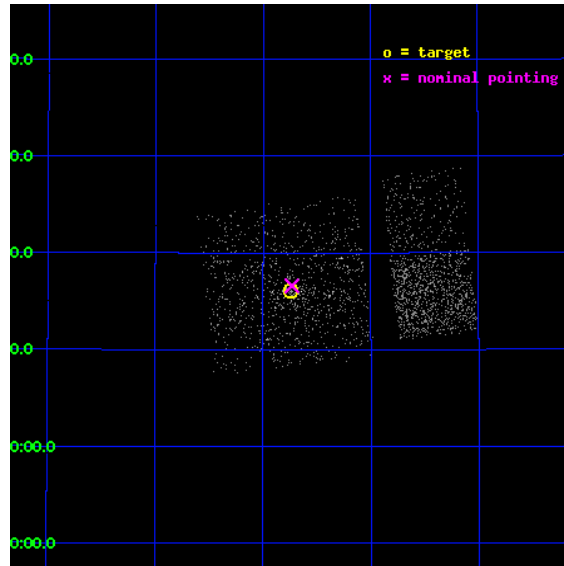
L2 Processing Date : Jun 26 2012

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# 1 Front

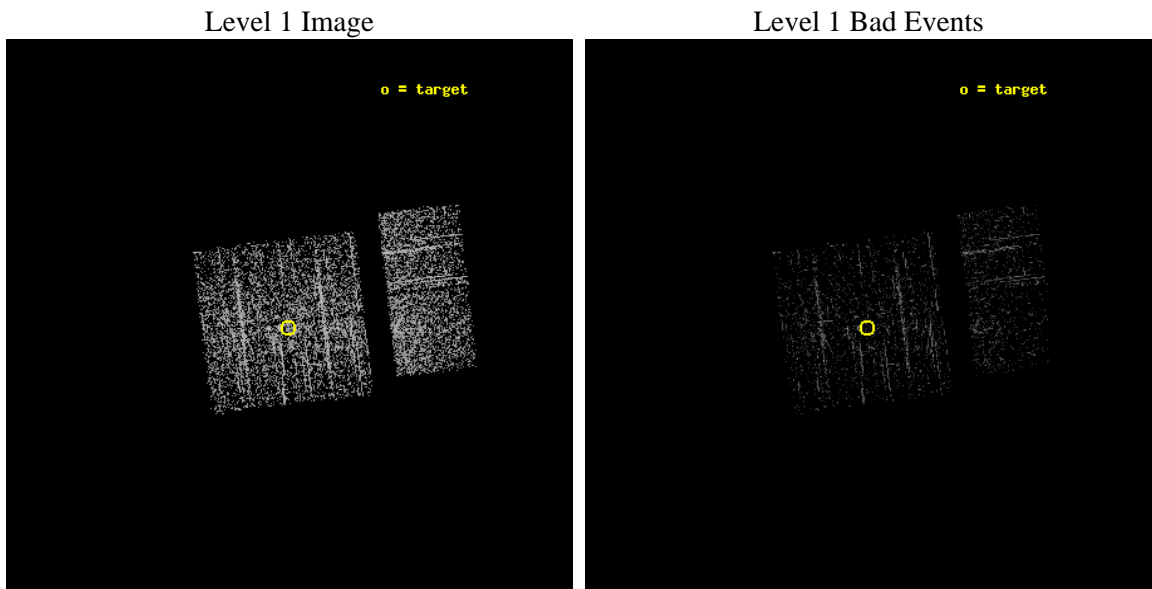
seq_num	600906	Sequence number
obs_id	11838	Observation id
title	Black Hole X-ray Novae in M31	Proposal title
observer	Dr. Stephen Murray	Principal investigator
object	M31	Source name
dtcycle	0	&#160
cycle	P	events are from which exps? P[rimary] S[econdar
ra_targ	10.685	Observer's specified target RA [deg]
dec_targ	41.268972	Observer's specified target Dec [deg]
ra_nom	10.683073223694	Nominal RA [deg]
dec_nom	41.27688180875	Nominal Dec [deg]
roll_nom	83.127528055984	Nominal Roll [deg]
revision	2	Processing version of data
ontime	937.13474524021	Sum of GTIs [s]
livetime	147.52761406535	Livetime [s]
ontime0	937.13472539186	Sum of GTIs [s]
ontime1	937.13472539186	Sum of GTIs [s]
ontime2	937.13472539186	Sum of GTIs [s]
ontime3	937.13474524021	Sum of GTIs [s]
ontime6	937.13472539186	Sum of GTIs [s]
ontime7	937.13472539186	Sum of GTIs [s]
l2events	2570	Number of level 2 events



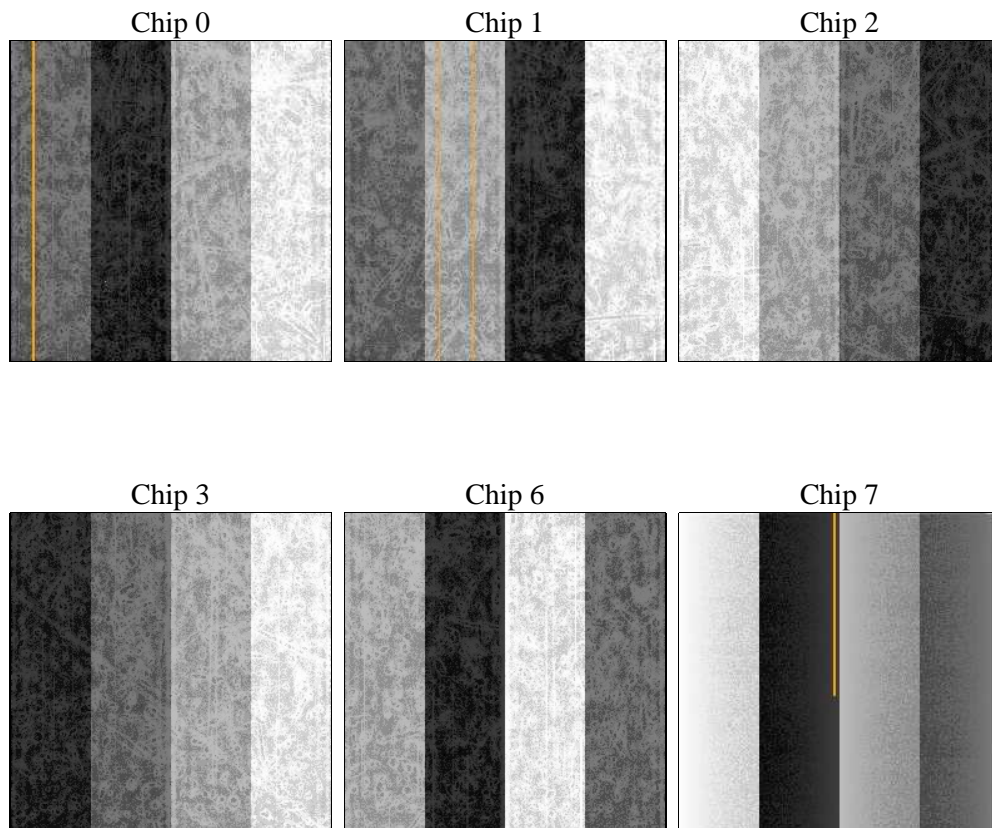
## 2 OBI Primary

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.484000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	937.13474524021	Sum of GTIs [s]
caldsver	4.4.10	&#160	ontime0	937.13472539186	Sum of GTIs [s]
date	2012-06-26T13:41:28	Date and time of file creation	ontime1	937.13472539186	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	937.13472539186	Sum of GTIs [s]
			ontime3	937.13474524021	Sum of GTIs [s]
			ontime6	937.13472539186	Sum of GTIs [s]
			ontime7	937.13472539186	Sum of GTIs [s]
			l1events	21132	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	3051	3502	3434	3975	3724	3446
rejected events	2732	3084	3108	3426	3429	2412
rejected %	89%	88%	90%	86%	92%	69%

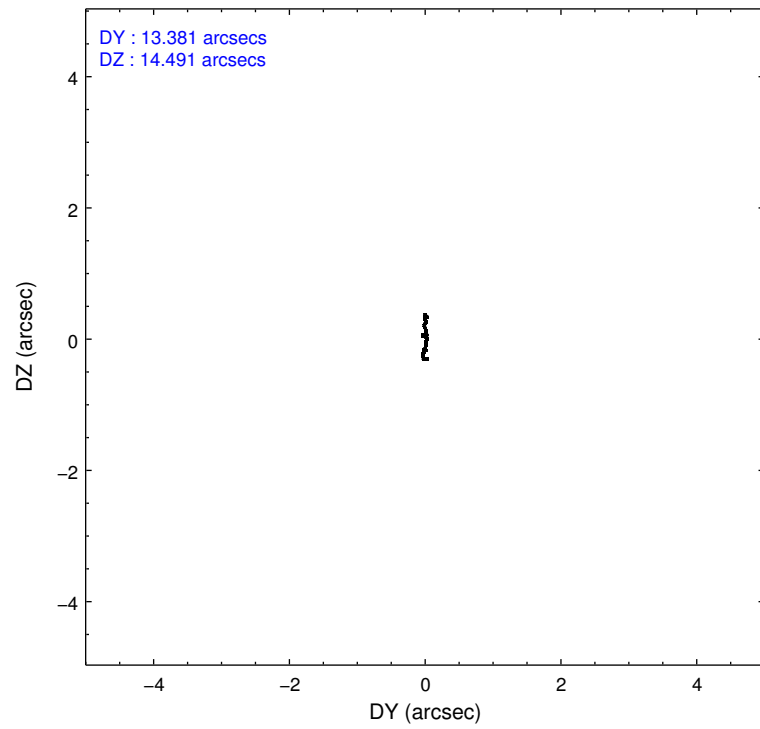
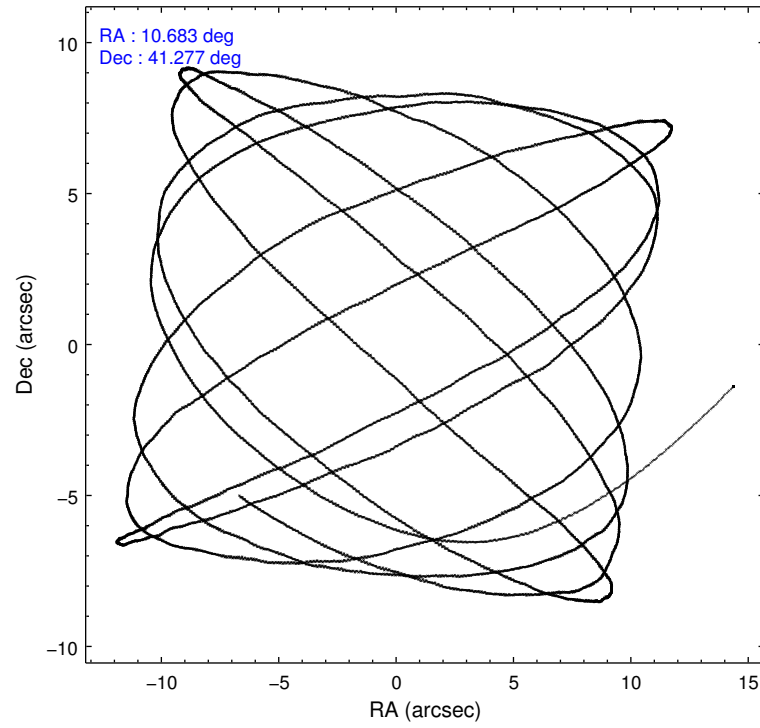
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
grade 0 events	112	171	126	301	70	106
	3%	4%	3%	7%	1%	3%
grade 1 events	1	3	1	6	1	6
	0%	0%	0%	0%	0%	0%
grade 2 events	72	103	83	110	79	207
	2%	2%	2%	2%	2%	6%
grade 3 events	40	43	31	44	40	100
	1%	1%	0%	1%	1%	2%
grade 4 events	30	35	39	41	39	97
	0%	0%	1%	1%	1%	2%
grade 5 events	126	125	105	132	144	316
	4%	3%	3%	3%	3%	9%
grade 6 events	67	68	48	61	71	531
	2%	1%	1%	1%	1%	15%
grade 7 events	2603	2954	3001	3280	3280	2083
	85%	84%	87%	82%	88%	60%

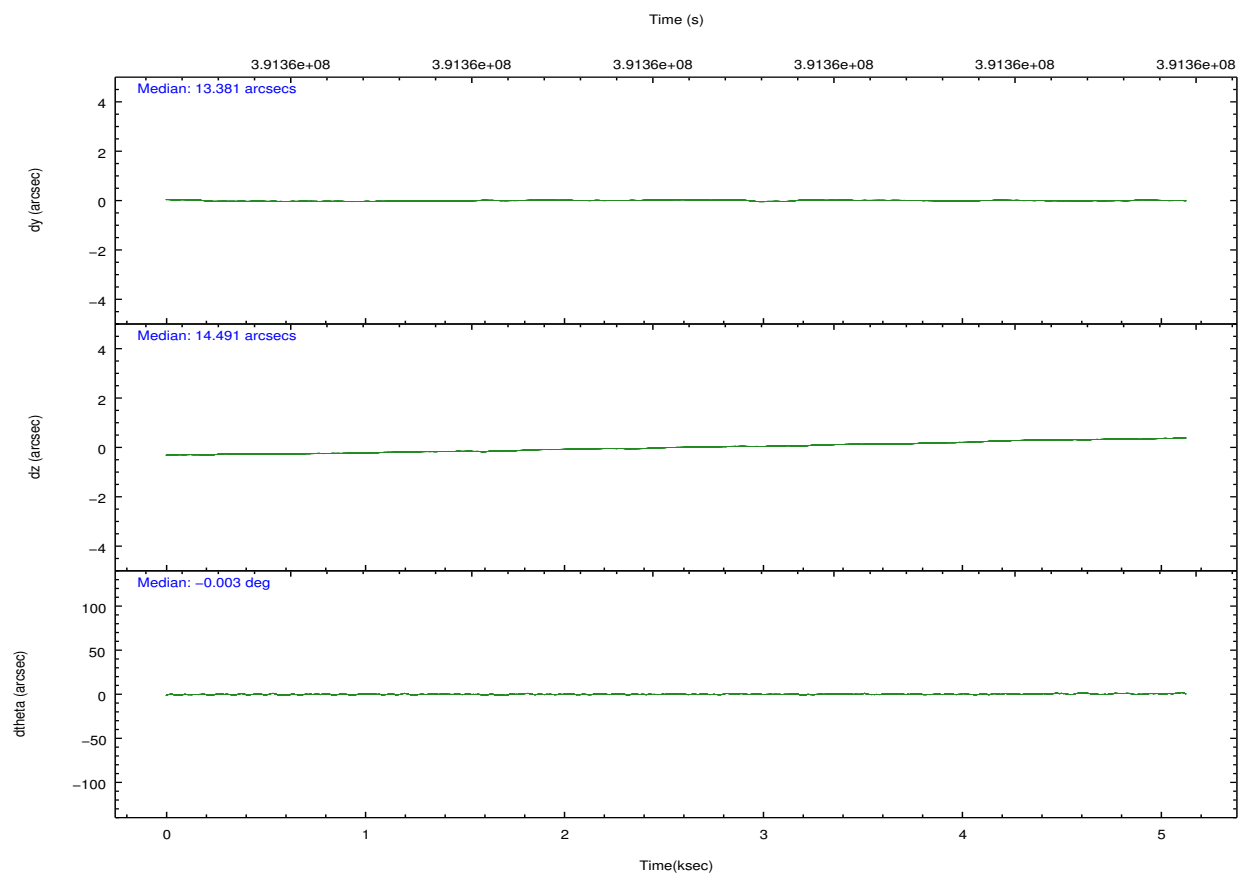
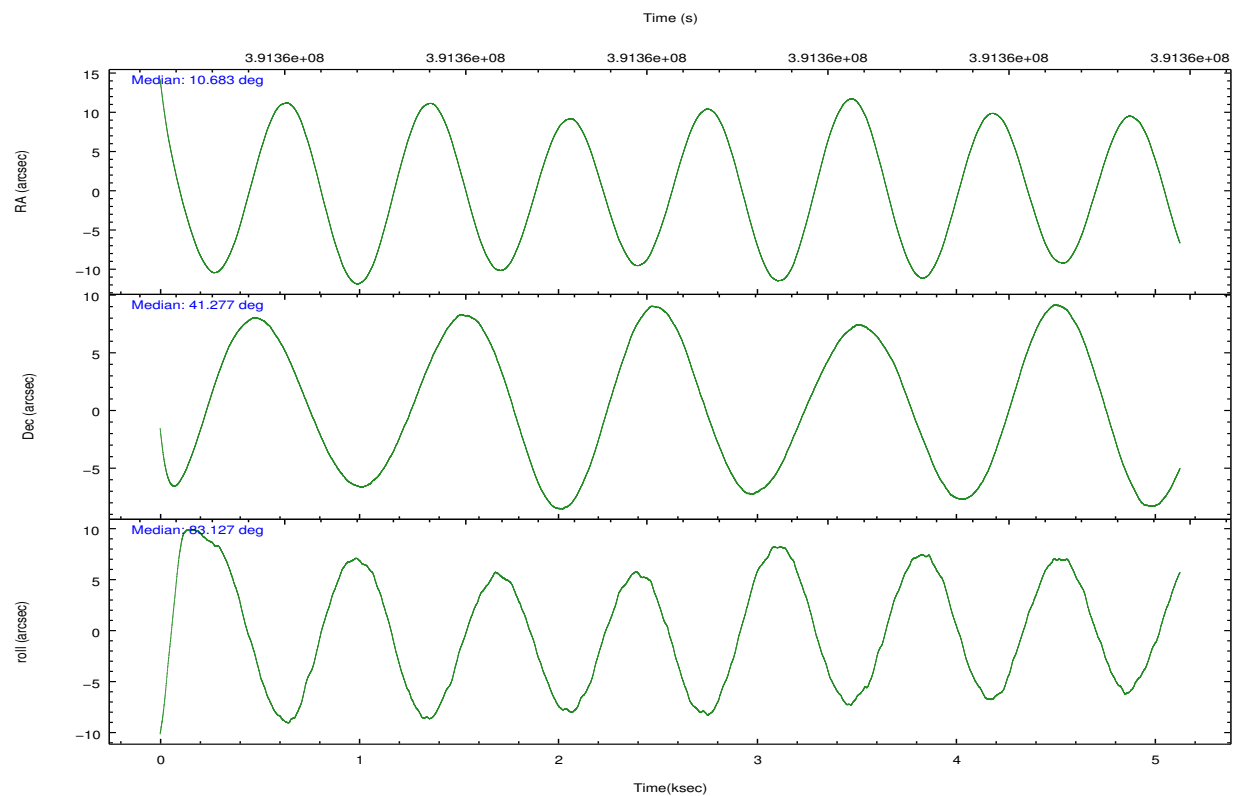


## 2.2 Compared Parameters

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	VFAINT	VFAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	10.697560	10.68307322369367	CCD I2 on	Y	Y
[deg] Pointing Dec	41.251676	41.27688180875041	CCD I3 on	Y	Y
[deg] Pointing Roll	82.909310	83.12752805598399	CCD S0 on	N	N
[s] Window start time (MET)	389059266.184000	389059266.184000	CCD S1 on	N	N
[s] Window stop time (MET)	391651266.184000	391651266.184000	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)	391357690.184000	391356405.80445	On-chip summing requested	N	N
Observation start date	2010-05-27T14:27:04	2010-05-27T14:06:45	Subarray requested	NONE	NONE
[s] Observation end time (MET)	391362691.184000	391362927.87978	Alternating exposures requested	Y	Y
Observation end date	2010-05-27T15:50:25	2010-05-27T15:55:27	[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



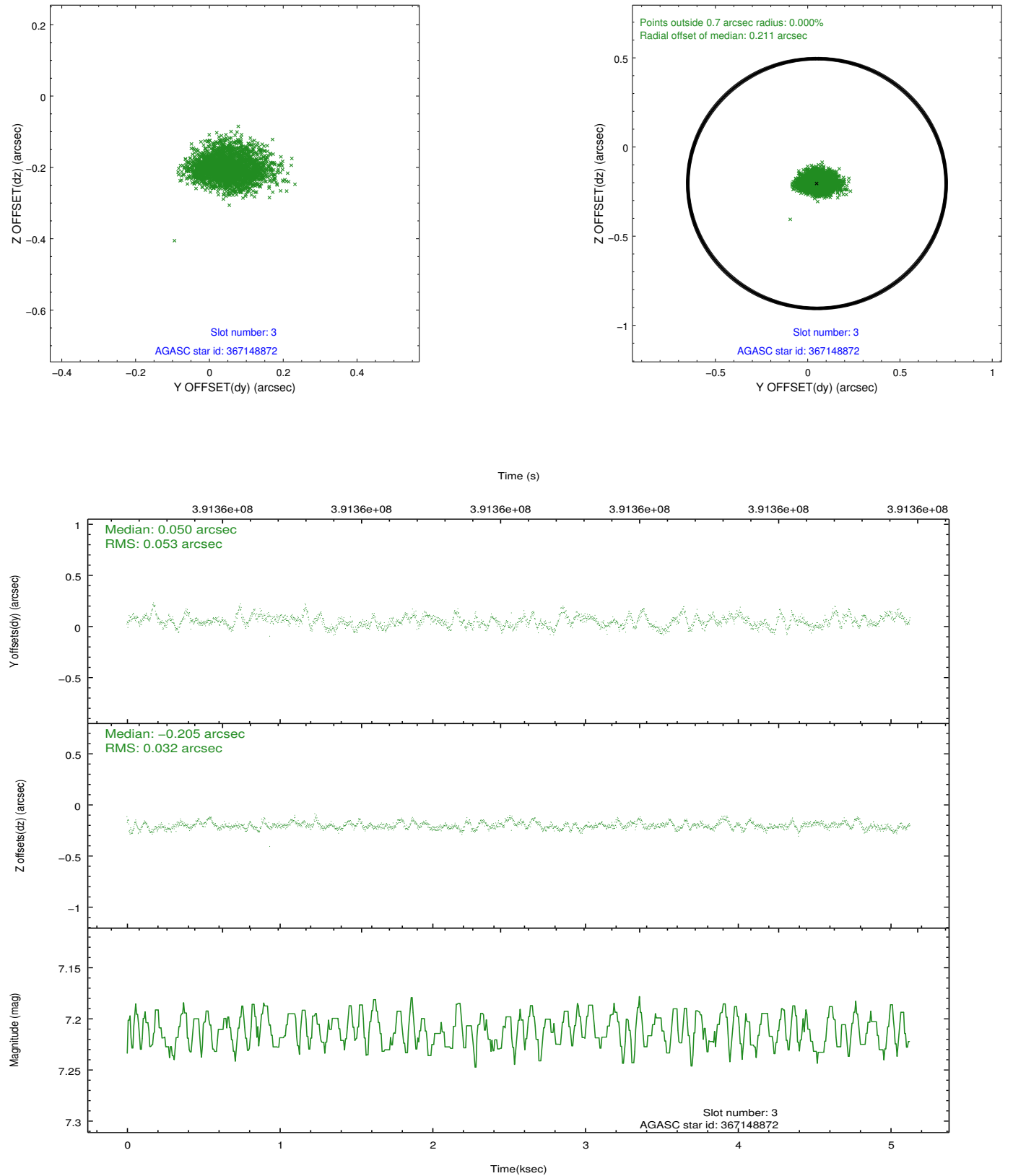


### Slot Statistics

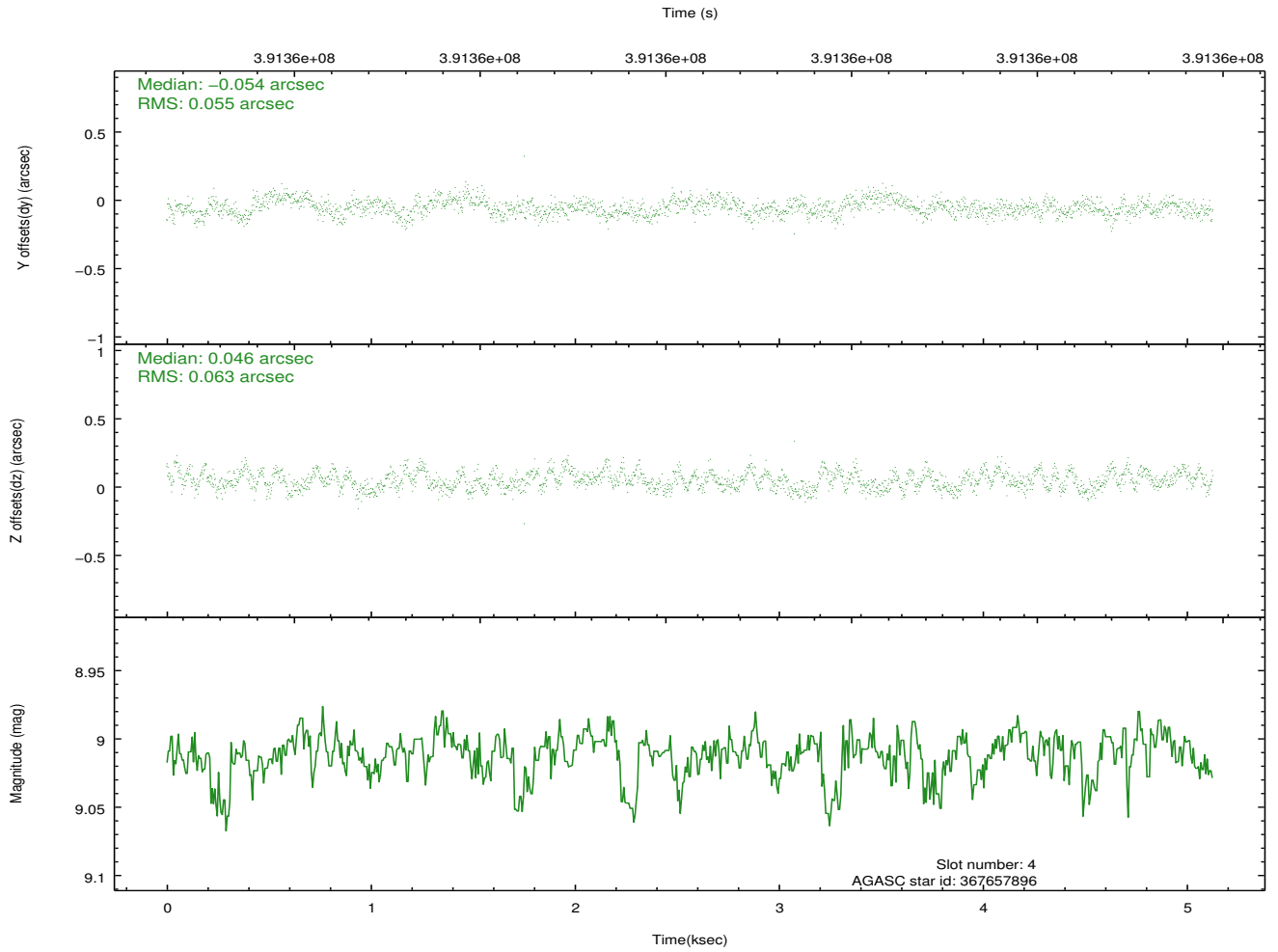
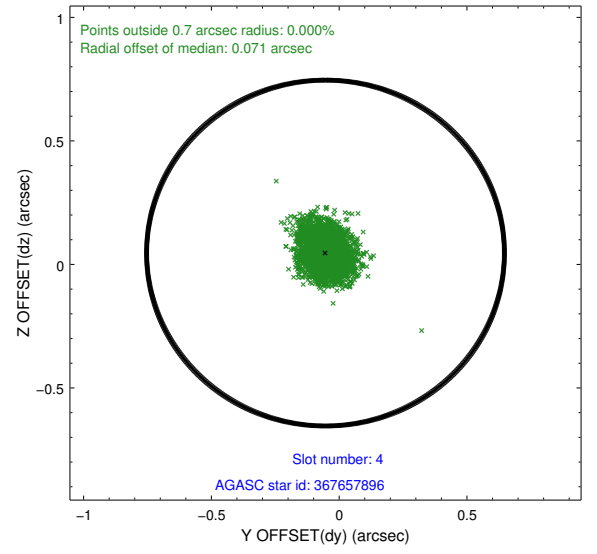
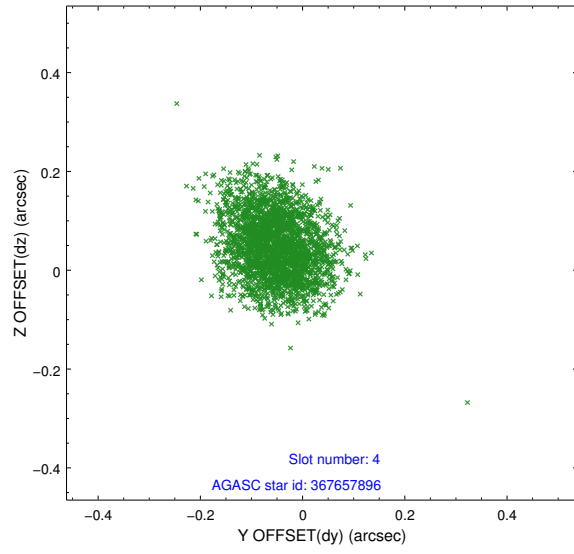
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.11	1251	0.045	-0.016	0.015	0.030	0.000000	0.000000	926.18	-838.08
1	FID	ACIS-I-5	7.10	1251	-0.229	0.044	0.008	0.017	0.000000	0.000000	-1821.57	1058.83
2	FID	ACIS-I-6	7.10	1251	0.093	0.043	0.015	0.027	0.000000	0.000000	390.45	1704.70
3	GUIDE	367148872	7.21	2500	0.050	-0.205	0.066	0.107	10.505940	40.688258	-2076.86	268.88
4	GUIDE	367657896	9.01	2499	-0.054	0.046	0.090	0.140	11.197765	41.313576	391.64	-1313.79
5	GUIDE	367663272	9.28	2498	0.026	-0.167	0.092	0.151	10.656279	41.699429	1586.14	309.46
6	GUIDE	367674552	8.84	2501	-0.053	0.120	0.075	0.121	11.016238	41.570845	1248.79	-709.34
7	GUIDE	367138920	7.73	2499	0.028	0.202	0.057	0.093	11.513485	40.808909	-1296.46	-2402.58

## 2.4 Star Slots

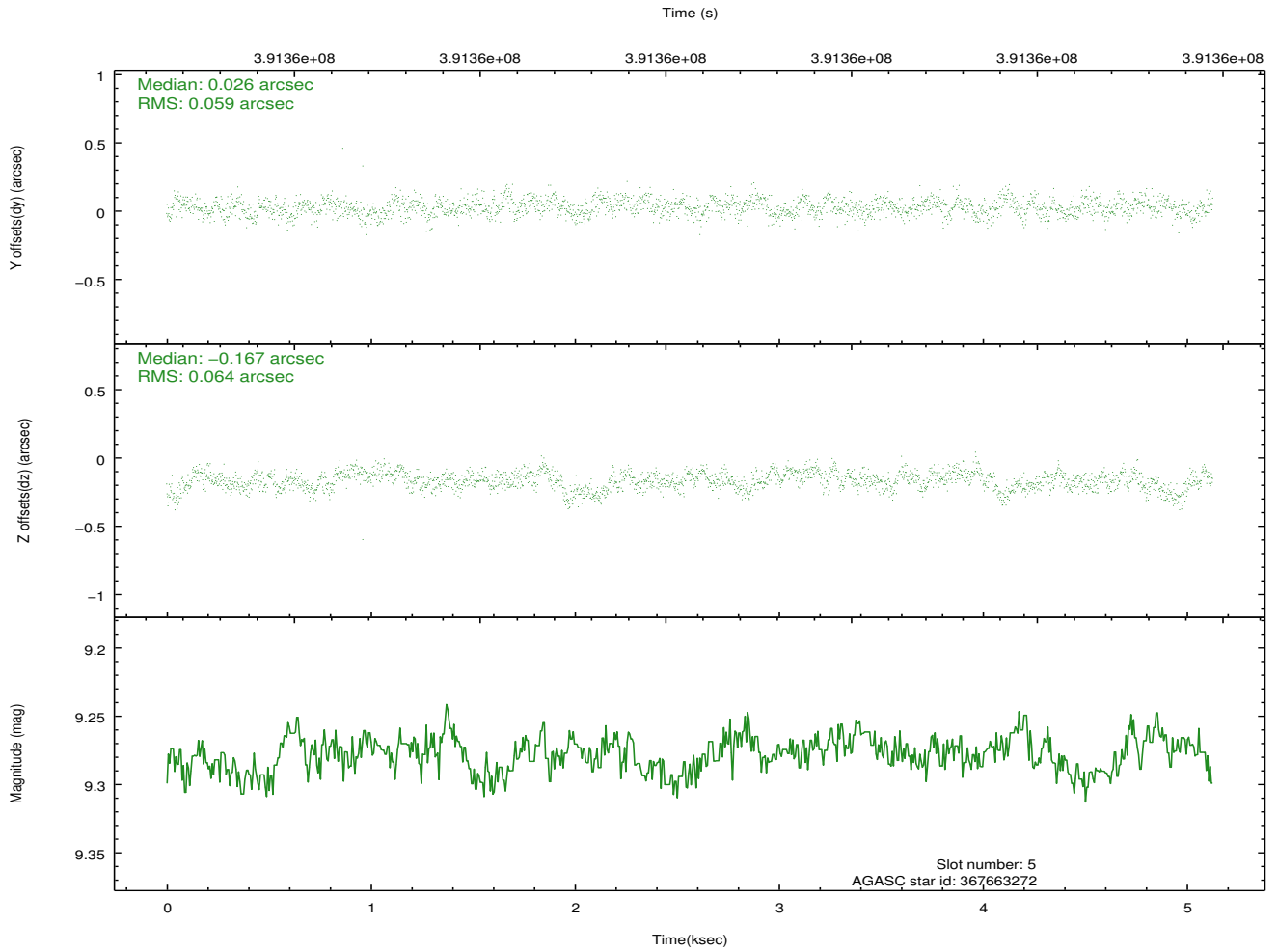
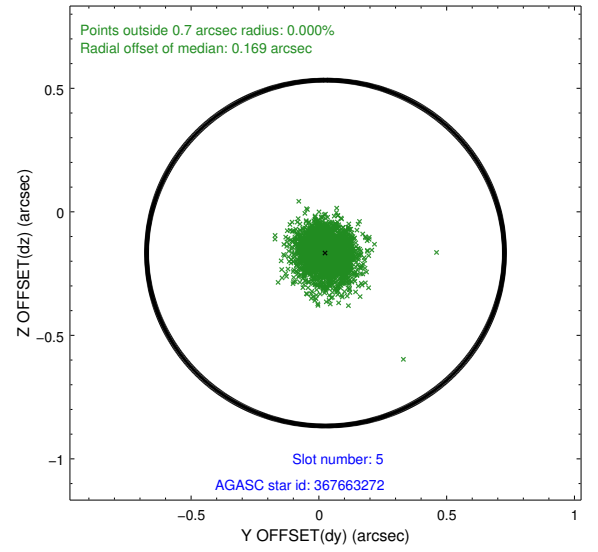
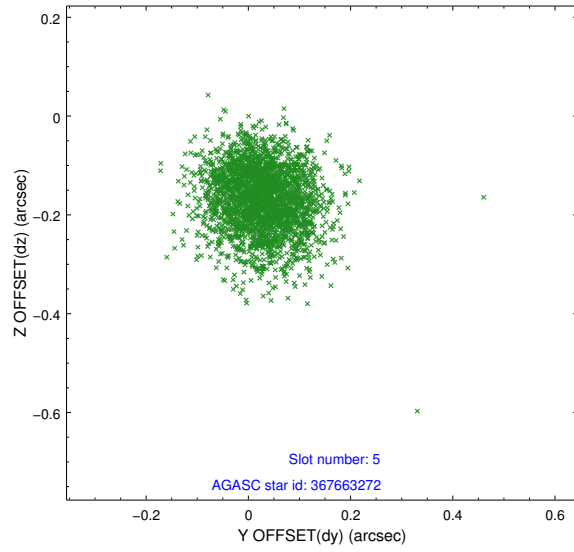
### 2.4.1 Slot 3



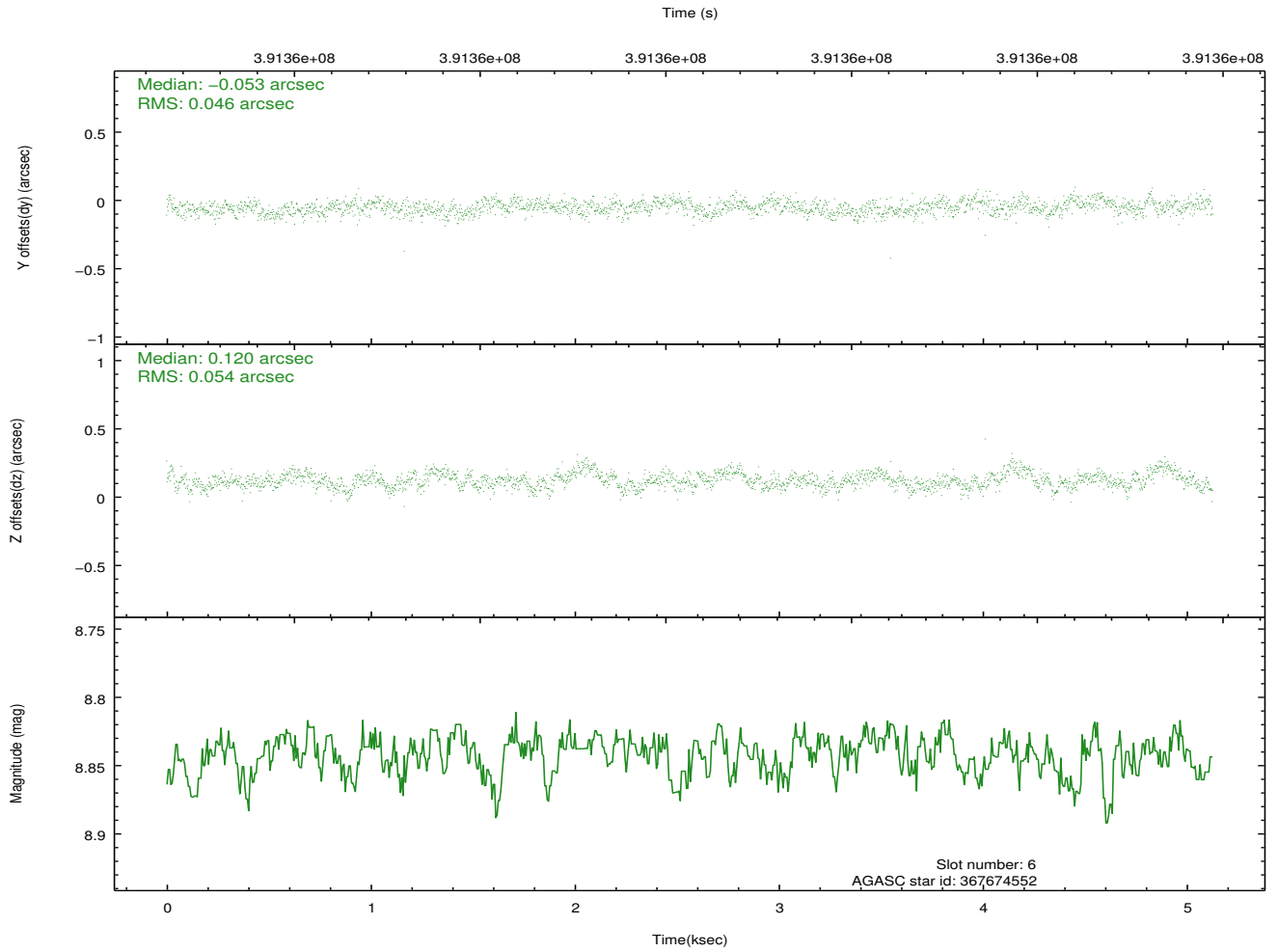
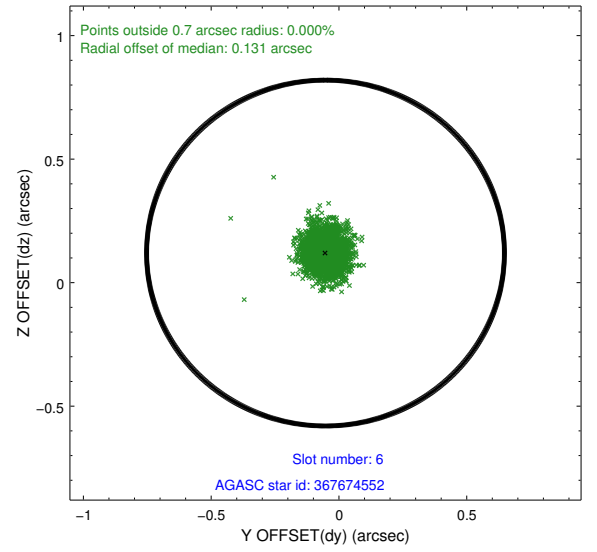
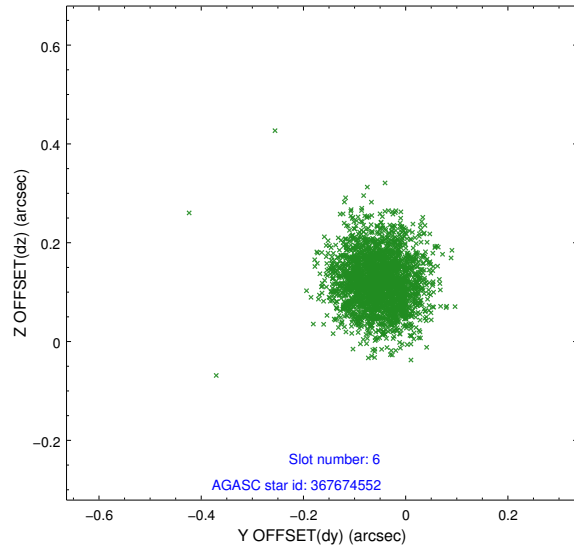
## 2.4.2 Slot 4



### 2.4.3 Slot 5

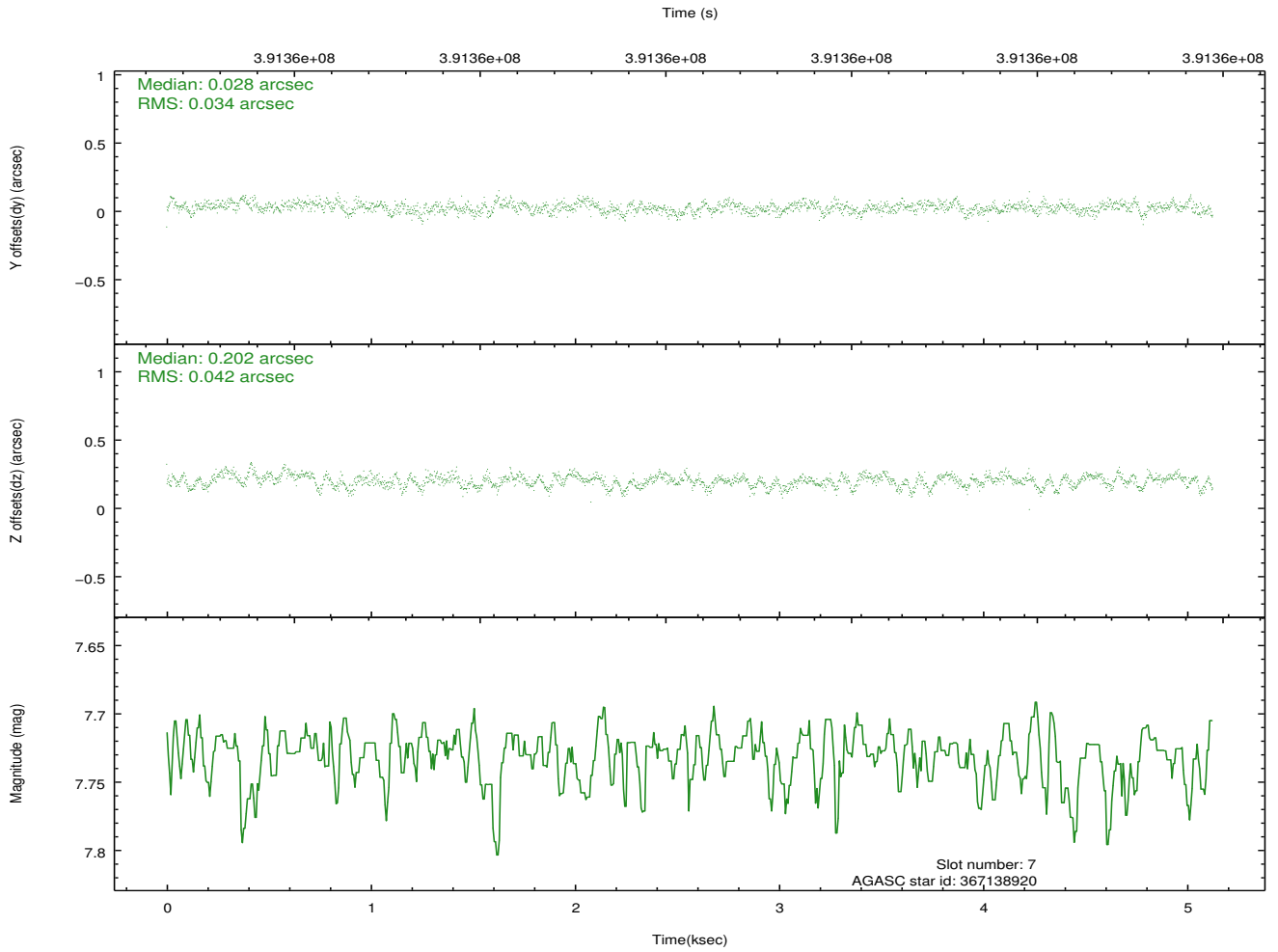
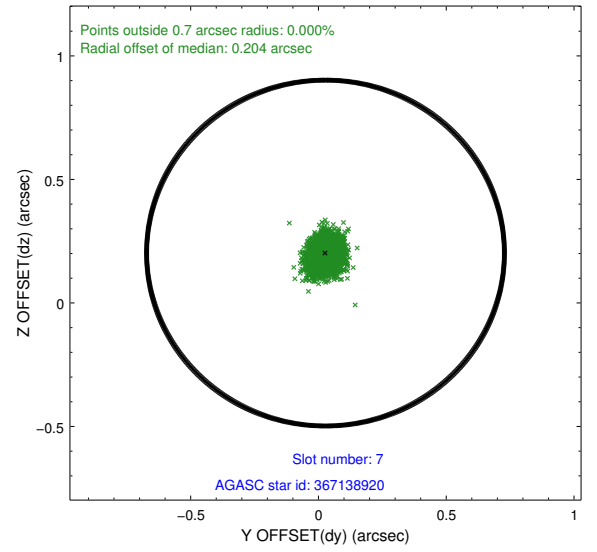
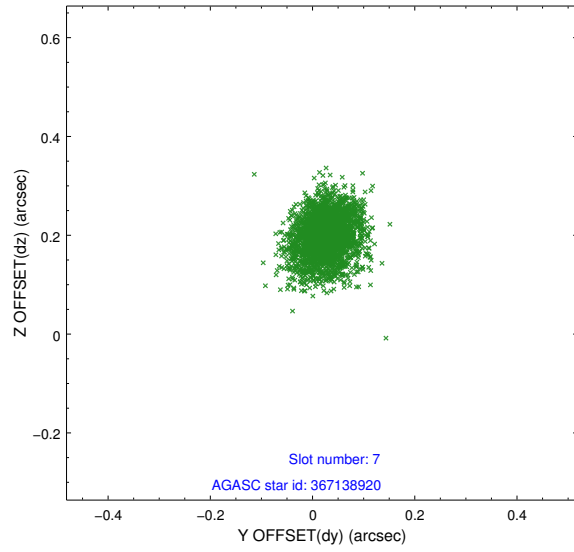


## 2.4.4 Slot 6



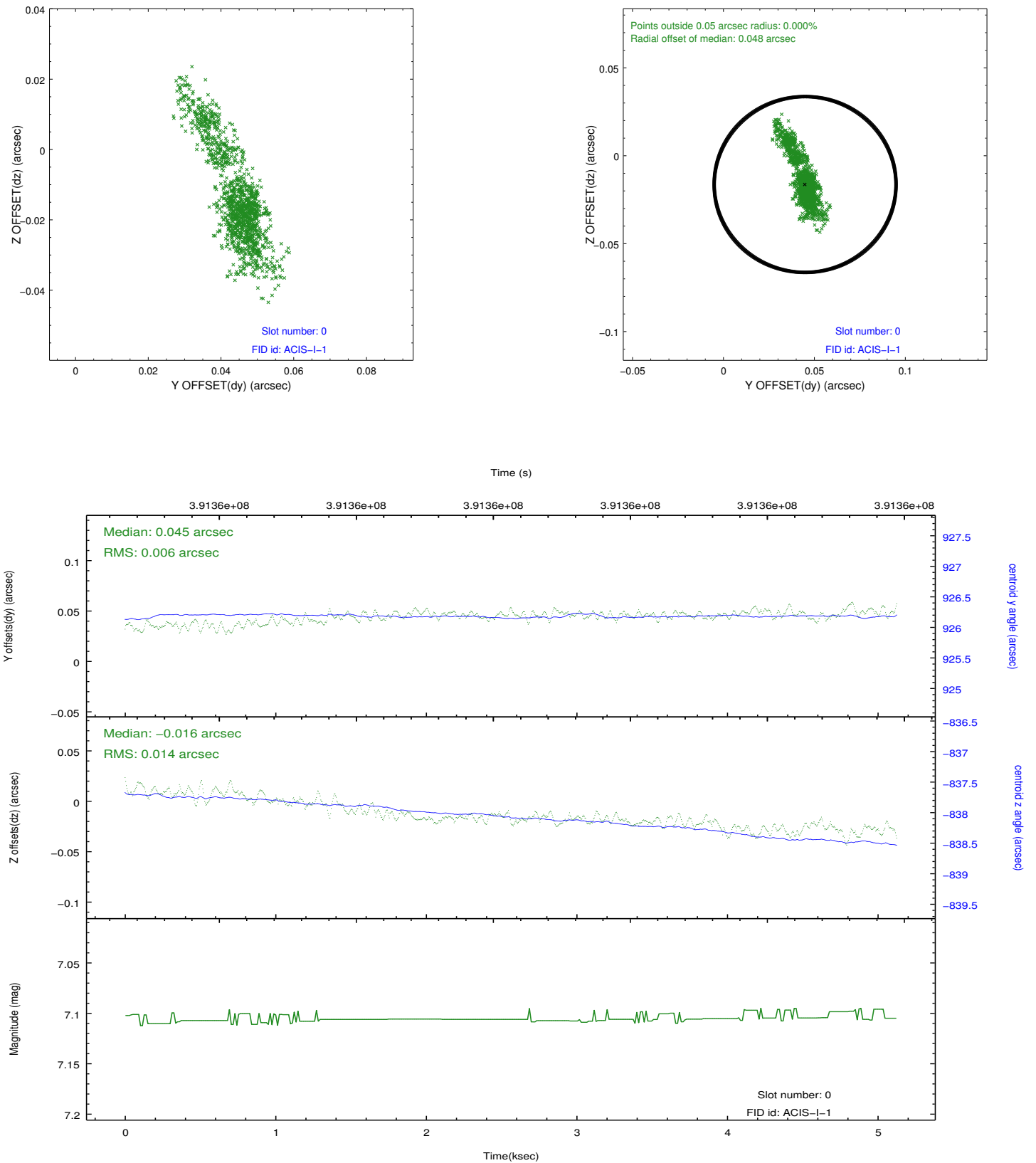


## 2.4.5 Slot 7

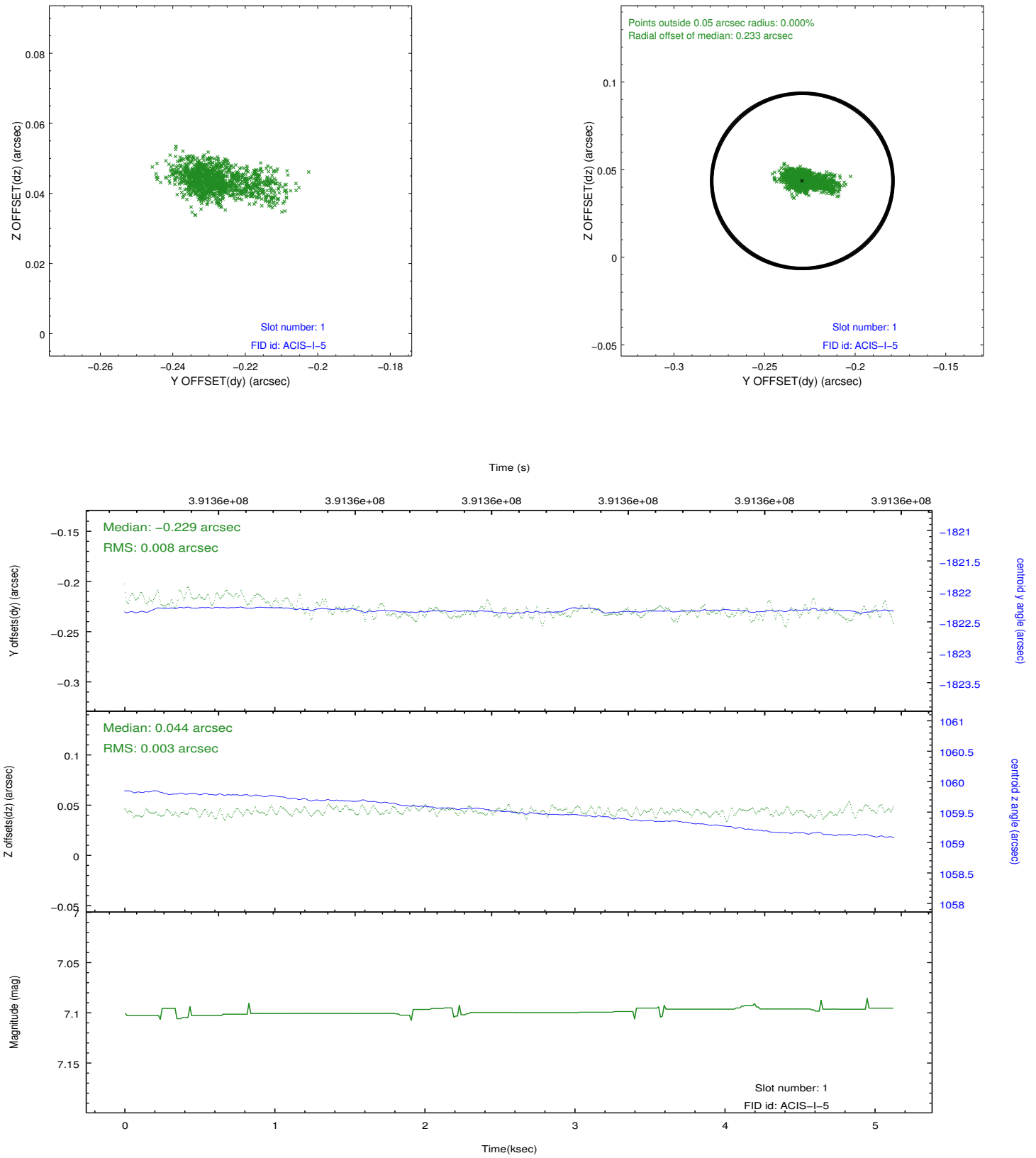


## 2.5 FID Slots

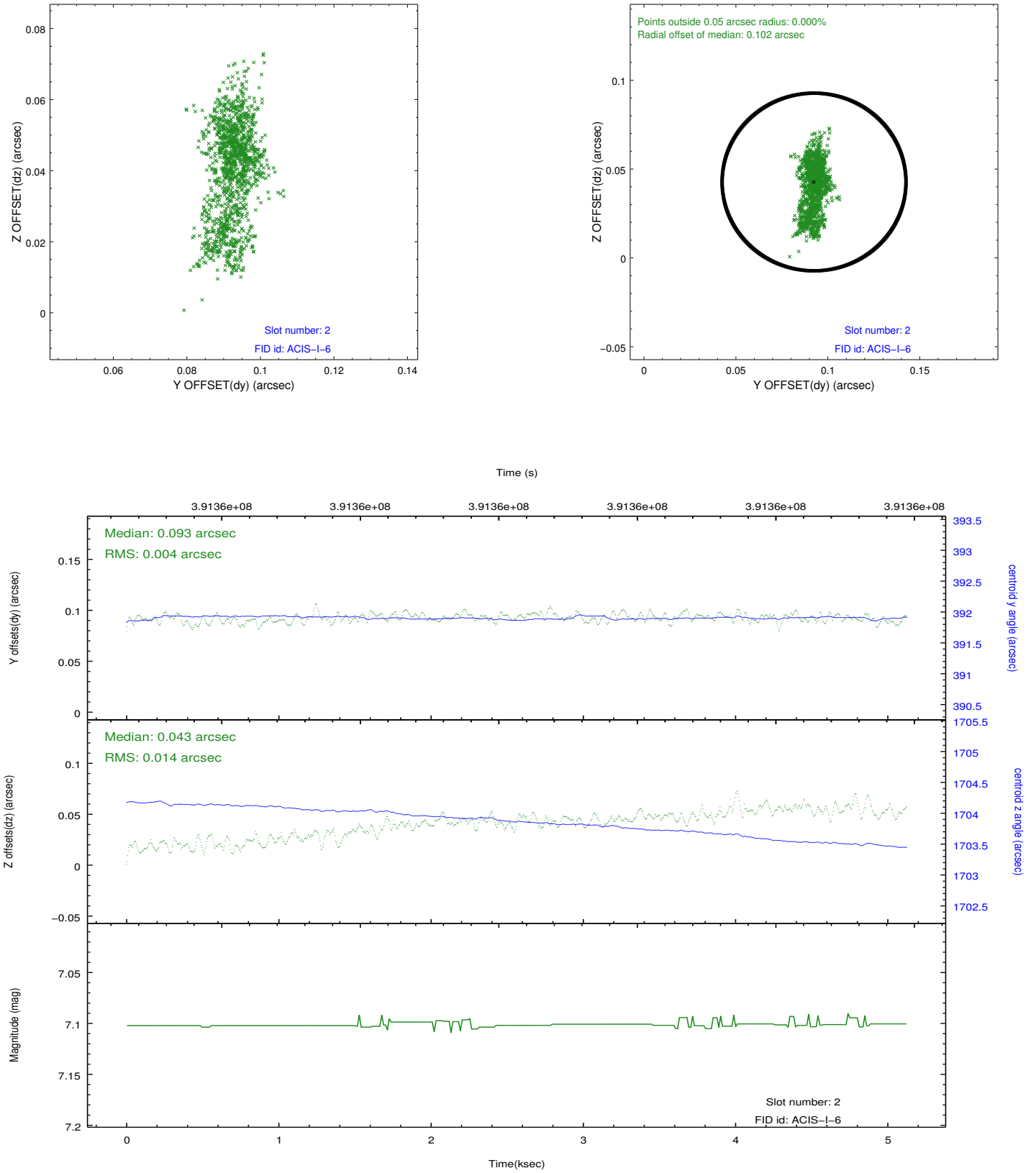
### 2.5.1 Slot 0



## 2.5.2 Slot 1



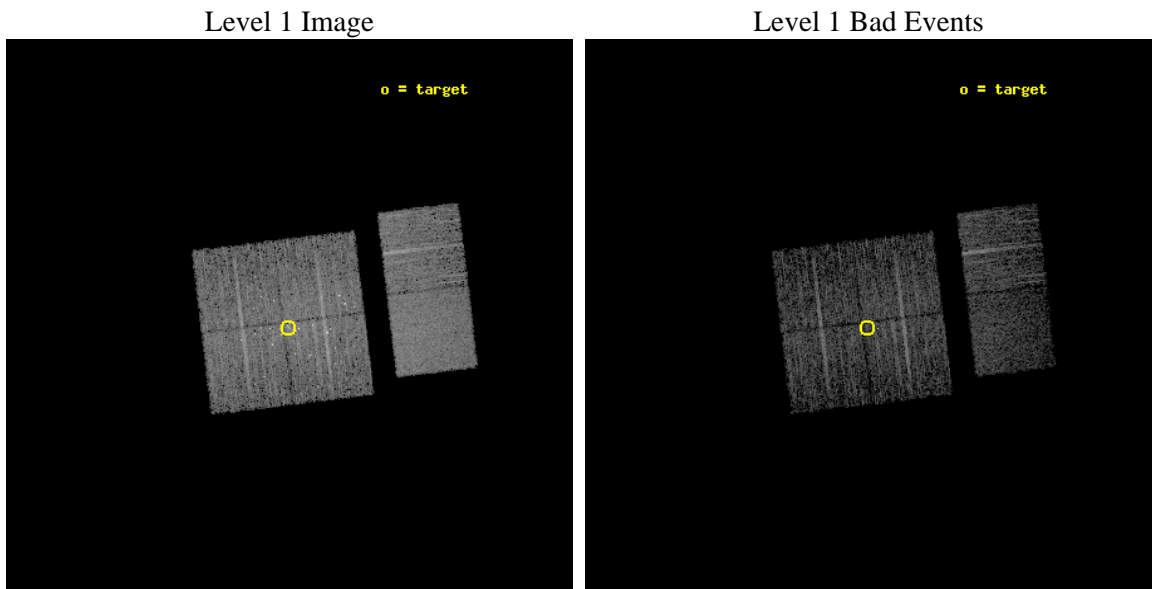
### 2.5.3 Slot 2



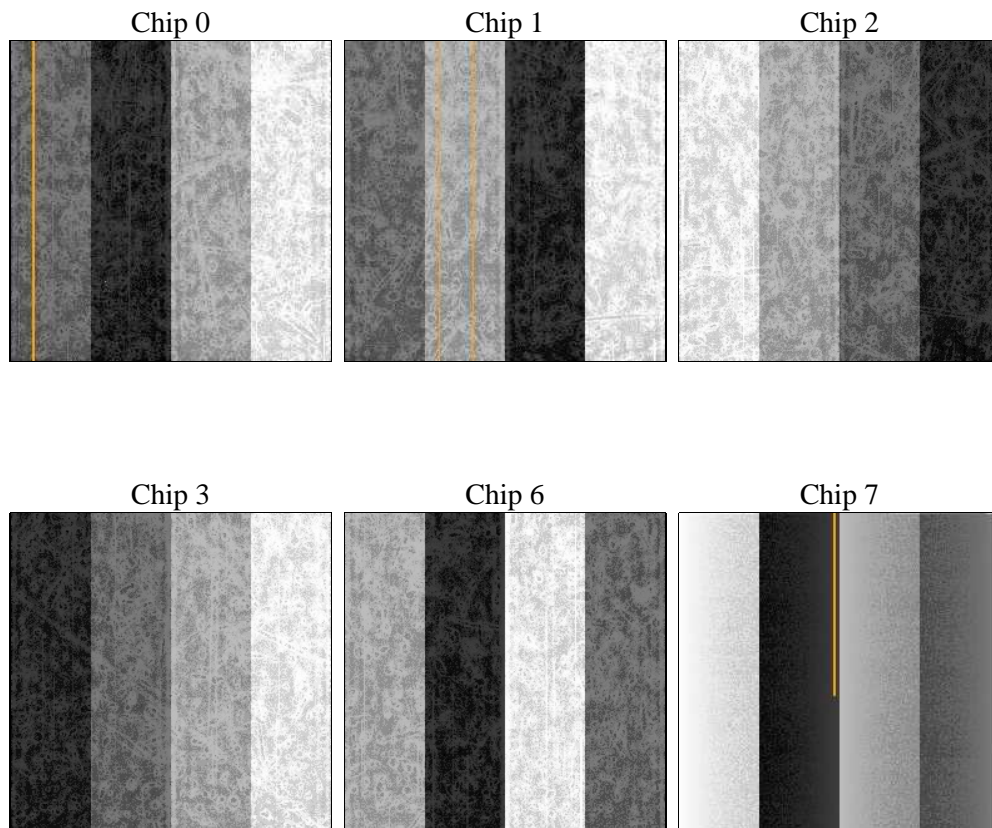
## 3 OBI Secondary

### 3.1 OBI

#### 3.1.1 Images



#### 3.1.2 Bias



### 3.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.484000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	4019.1879342794	Sum of GTIs [s]
caldbver	4.4.10	&#160	ontime0	4019.1878672838	Sum of GTIs [s]
date	2012-06-26T13:42:48	Date and time of file creation	ontime1	4019.1878359914	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	4019.1877664328	Sum of GTIs [s]
			ontime3	4019.1879342794	Sum of GTIs [s]
			ontime6	4019.1877676845	Sum of GTIs [s]
			ontime7	4019.1877576113	Sum of GTIs [s]
			l1events	196693	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	28773	31179	32472	36407	30861	37001	grade 0 events	2334	3502	2414	5398	1245	1554
rejected events	24024	24798	27740	27808	27408	20125		8%	11%	7%	14%	4%	4%
rejected %	83%	79%	85%	76%	88%	54%	grade 1 events	34	63	29	204	15	43
								0%	0%	0%	0%	0%	0%
							grade 2 events	905	1114	944	1331	768	3512
								3%	3%	2%	3%	2%	9%
							grade 3 events	404	494	414	495	356	1432
								1%	1%	1%	1%	1%	3%
							grade 4 events	390	433	373	535	352	1532
								1%	1%	1%	1%	1%	4%
							grade 5 events	1235	1317	1138	1506	1430	3928
								4%	4%	3%	4%	4%	10%
							grade 6 events	725	844	589	842	737	8861
								2%	2%	1%	2%	2%	23%
							grade 7 events	22746	23412	26571	26096	25958	16139
								79%	75%	81%	71%	84%	43%

## A Summary

### A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.07.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.95632267946001

### A.2 Comments

Window constraint met.