

# V&V Reference Report

## L2 ASCDS Version : 10

Observation 15326 - L2 Version 2  
Chandra X-Ray Center

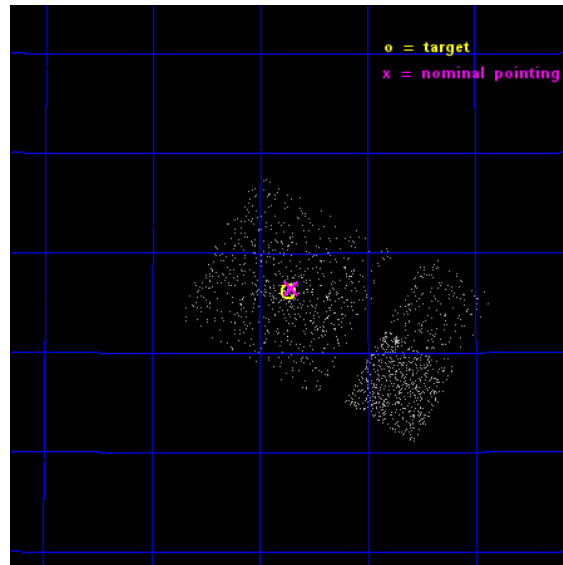
L2 Processing Date : Dec 4 2014

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# 1 Front

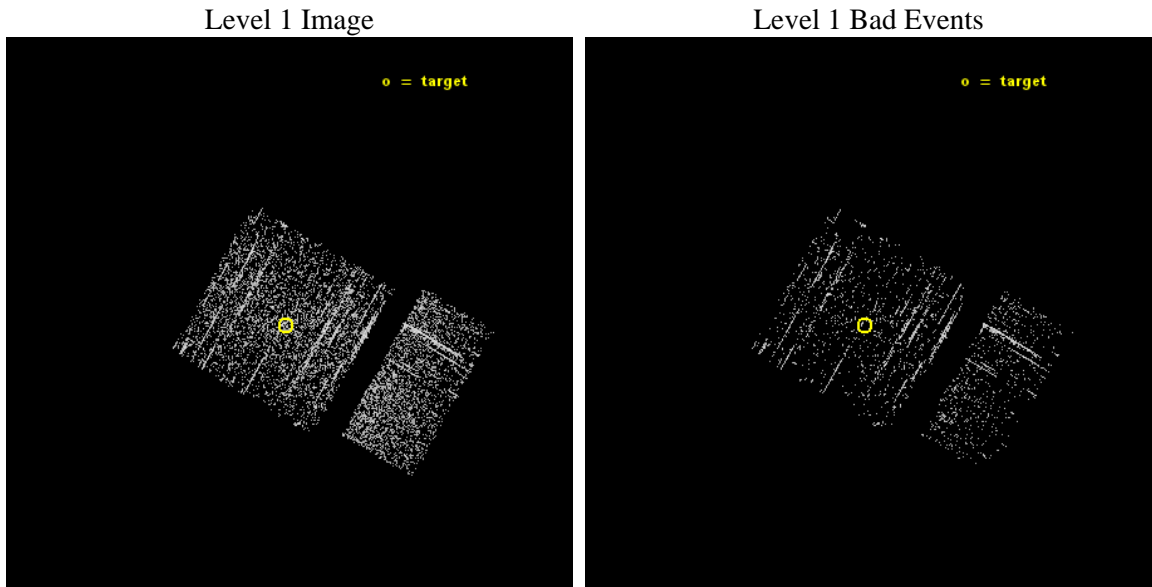
seq_num	601082	Sequence number
obs_id	15326	Observation id
title	Monitoring M31 for BHXNe	Proposal title
observer	Dr Stephen Murray	Principal investigator
object	M31 BHXN	Source name
dtcycle	0	&#160
cycle	P	events are from which exps? P[rimary] S[econdar]
ra_targ	10.685	Observer's specified target RA [deg]
dec_targ	41.268972	Observer's specified target Dec [deg]
ra_nom	10.677086334577	Nominal RA [deg]
dec_nom	41.274391675819	Nominal Dec [deg]
roll_nom	119.93840895645	Nominal Roll [deg]
revision	2	Processing version of data
ontime	922.16940897703	Sum of GTIs [s]
liveltime	145.17170915007	Livetime [s]
ontime0	922.16940897703	Sum of GTIs [s]
ontime1	922.16940897703	Sum of GTIs [s]
ontime2	922.16940897703	Sum of GTIs [s]
ontime3	922.16940897703	Sum of GTIs [s]
ontime6	922.16940897703	Sum of GTIs [s]
ontime7	922.16940897703	Sum of GTIs [s]
l2events	1864	Number of level 2 events



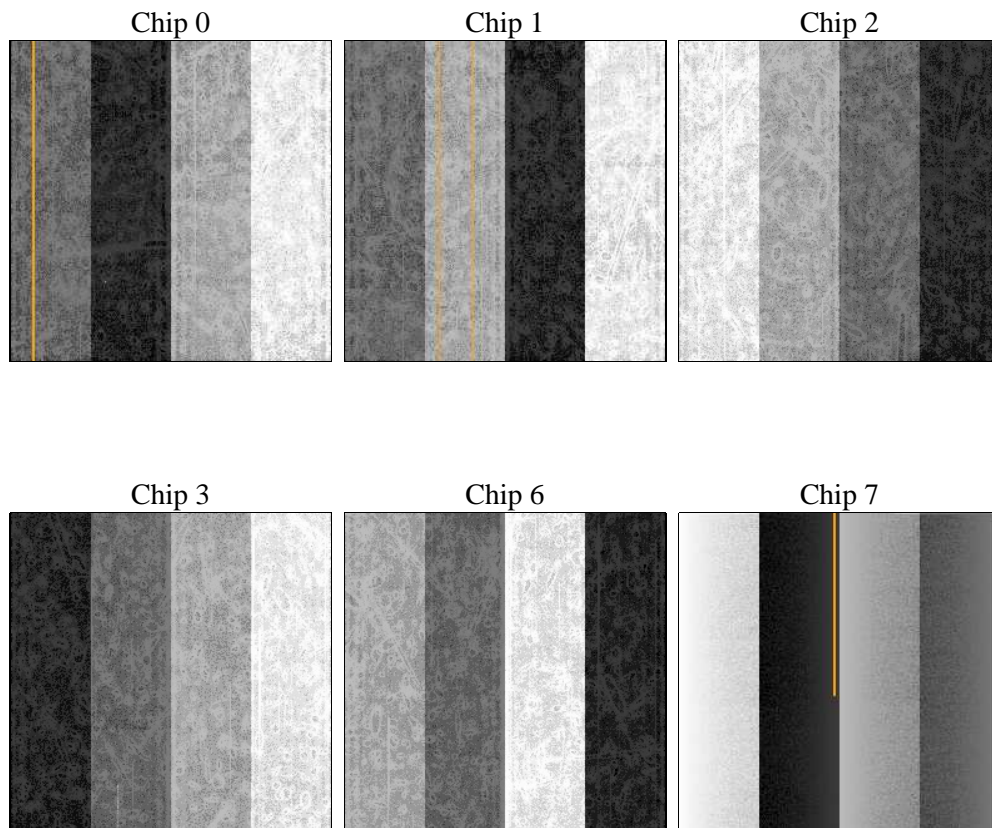
## 2 OBI Primary

### 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	10.3	Processing system revision	ontime	922.16940897703	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	922.16940897703	Sum of GTIs [s]
date	2014-12-04T19:02:13	Date and time of file creation	ontime1	922.16940897703	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	922.16940897703	Sum of GTIs [s]
			ontime3	922.16940897703	Sum of GTIs [s]
			ontime6	922.16940897703	Sum of GTIs [s]
			ontime7	922.16940897703	Sum of GTIs [s]
			l1events	13957	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	2025	2021	2829	2157	2623	2302
rejected events	1794	1712	2523	1827	2429	1589
rejected %	88%	84%	89%	84%	92%	69%

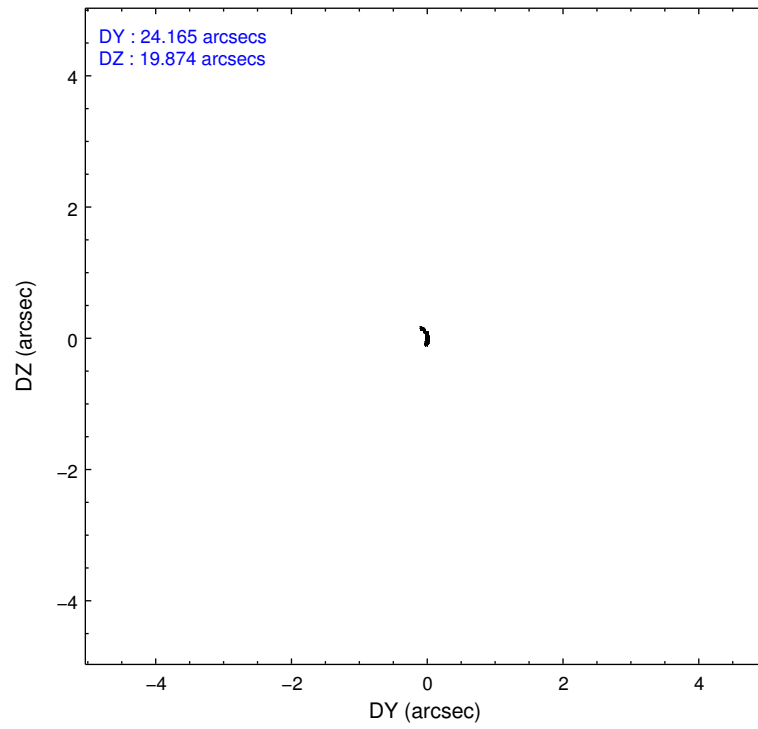
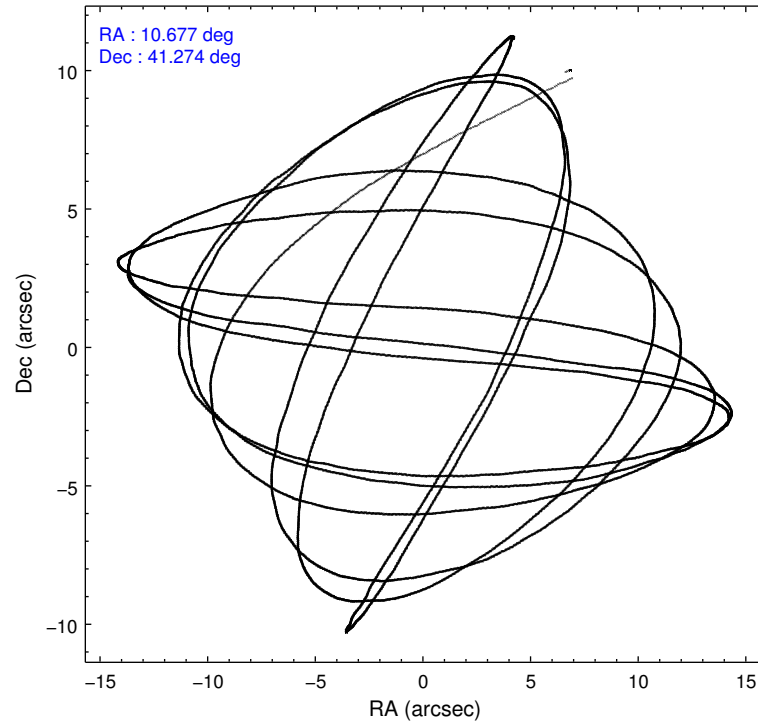
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
grade 0 events	80	144	158	171	49	66
	3%	7%	5%	7%	1%	2%
grade 1 events	0	0	0	1	1	0
	0%	0%	0%	0%	0%	0%
grade 2 events	49	65	63	62	53	149
	2%	3%	2%	2%	2%	6%
grade 3 events	30	35	22	20	23	66
	1%	1%	0%	0%	0%	2%
grade 4 events	25	21	27	30	22	63
	1%	1%	0%	1%	0%	2%
grade 5 events	85	92	73	77	113	198
	4%	4%	2%	3%	4%	8%
grade 6 events	51	47	43	50	47	377
	2%	2%	1%	2%	1%	16%
grade 7 events	1705	1617	2443	1746	2315	1383
	84%	80%	86%	80%	88%	60%

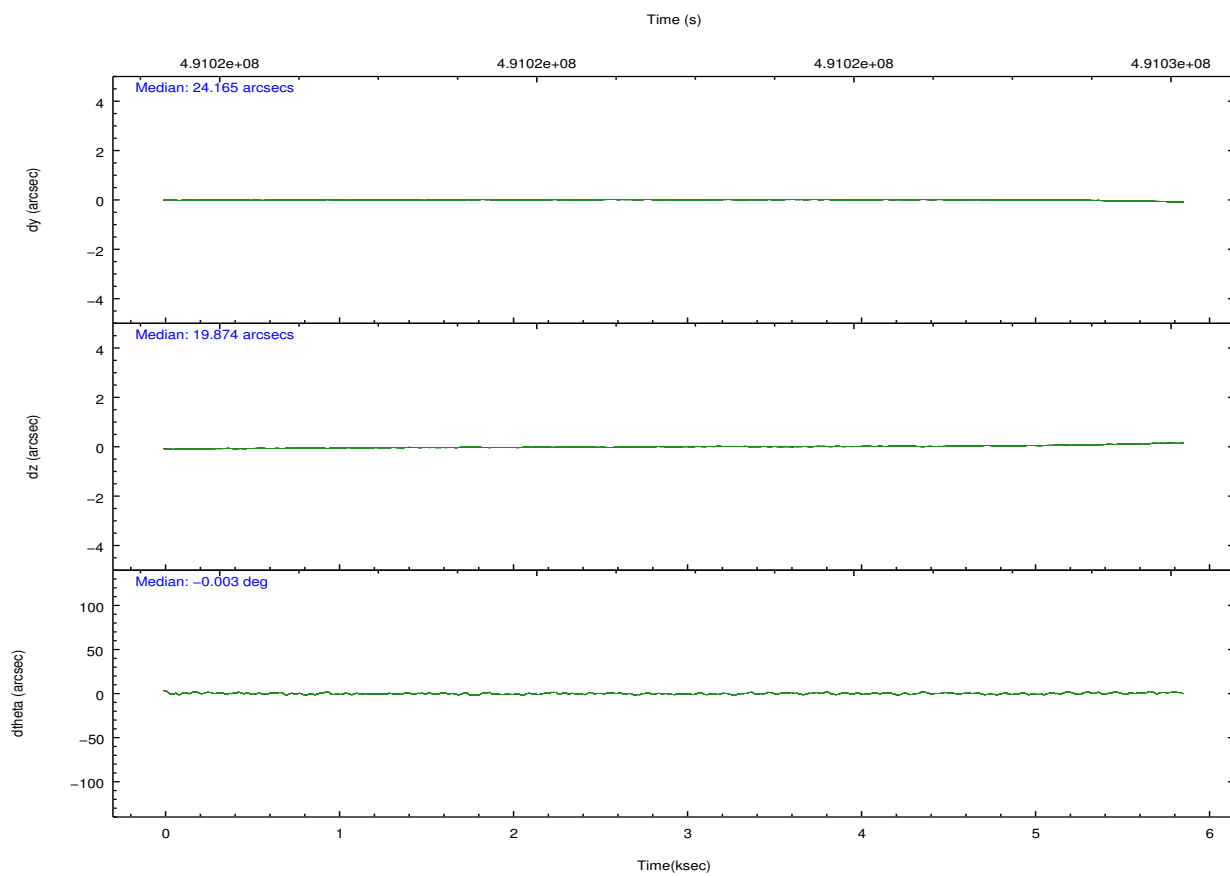
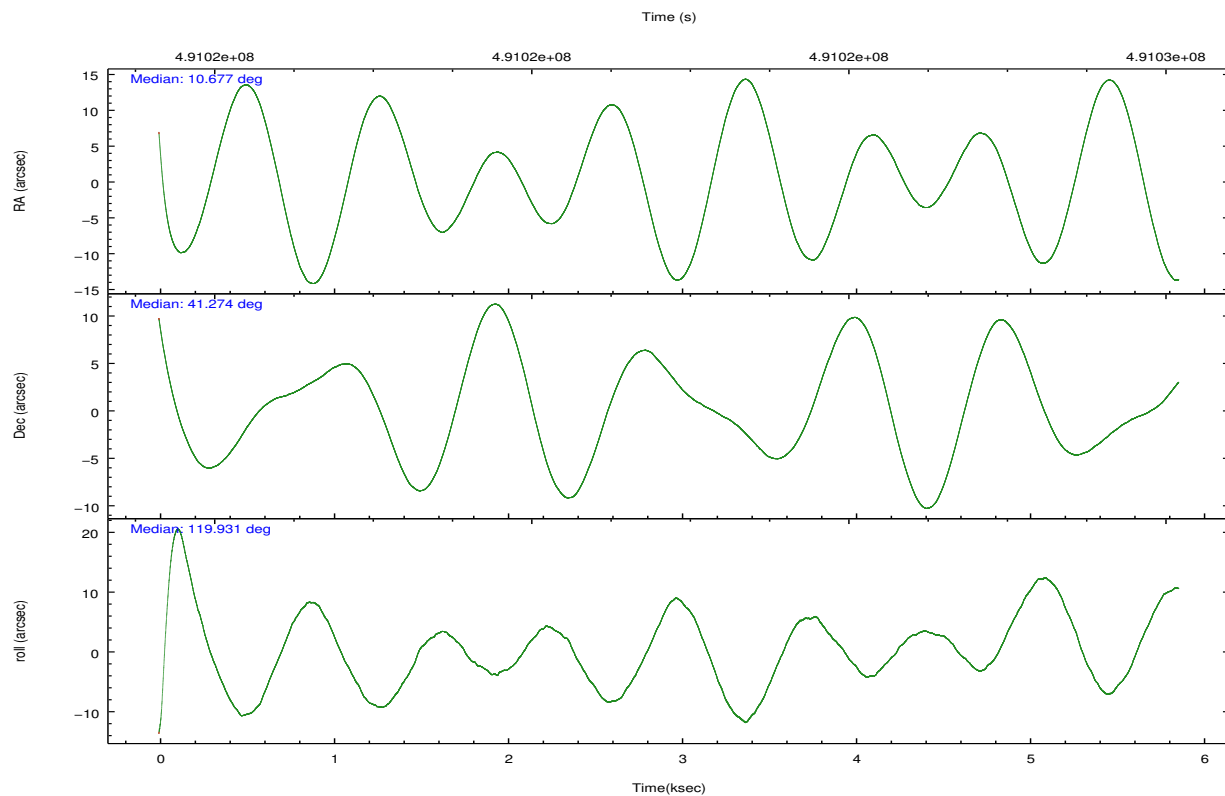


## 2.2 Compared Parameters

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	FAINT	FAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	10.708838	10.67708633457715	CCD I2 on	Y	Y
[deg] Pointing Dec	41.260774	41.27439167581892	CCD I3 on	Y	Y
[deg] Pointing Roll	119.708831	119.9384089564485	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)	491020788.184000	491019120.78367	CCD S5 on	N	N
Observation start date	2013-07-24T02:38:41	2013-07-24T02:12:00	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	491025788.184000	491027012.2591	On-chip summing requested	N	N
Observation end date	2013-07-24T04:02:01	2013-07-24T04:23:32	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



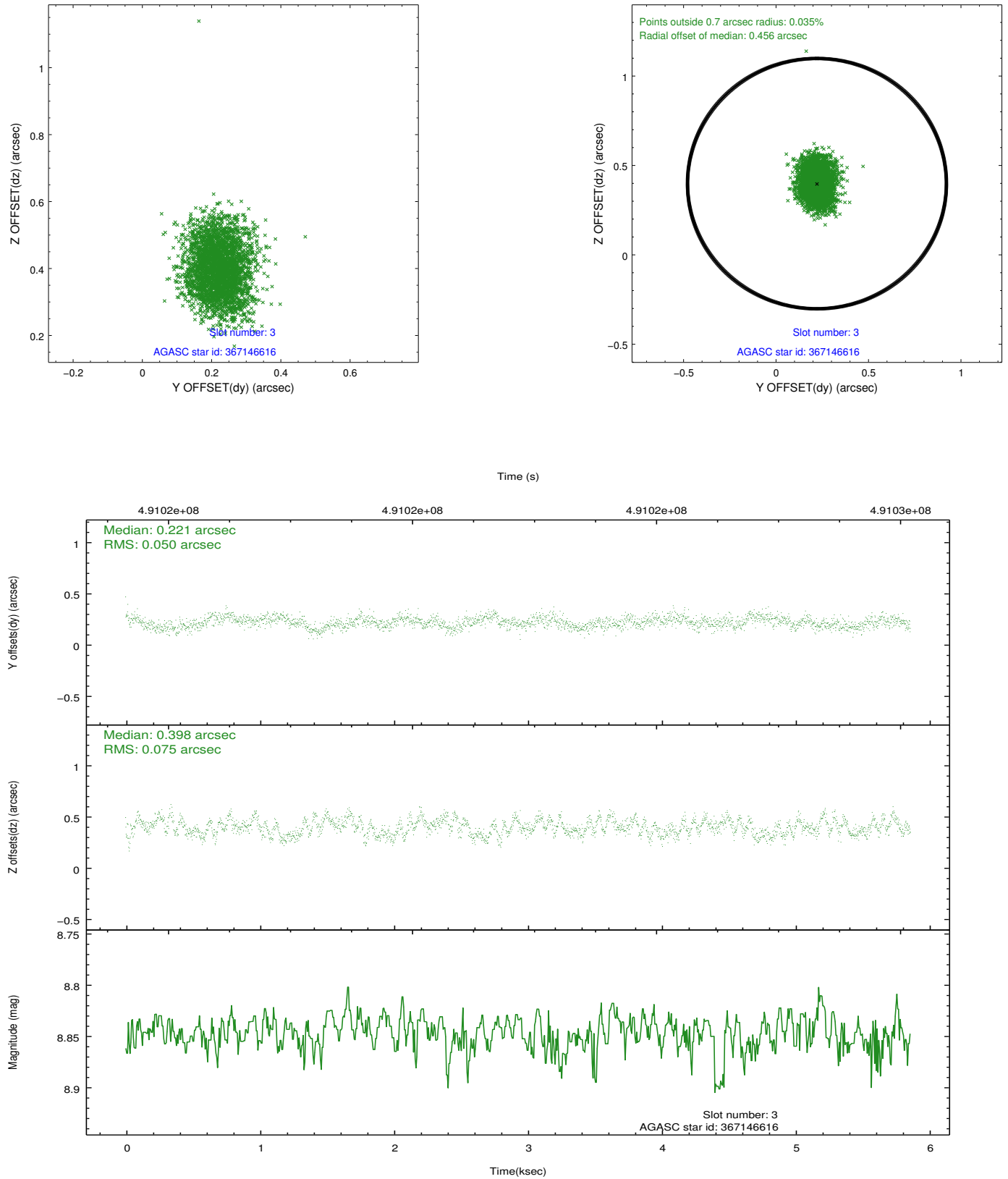


### Slot Statistics

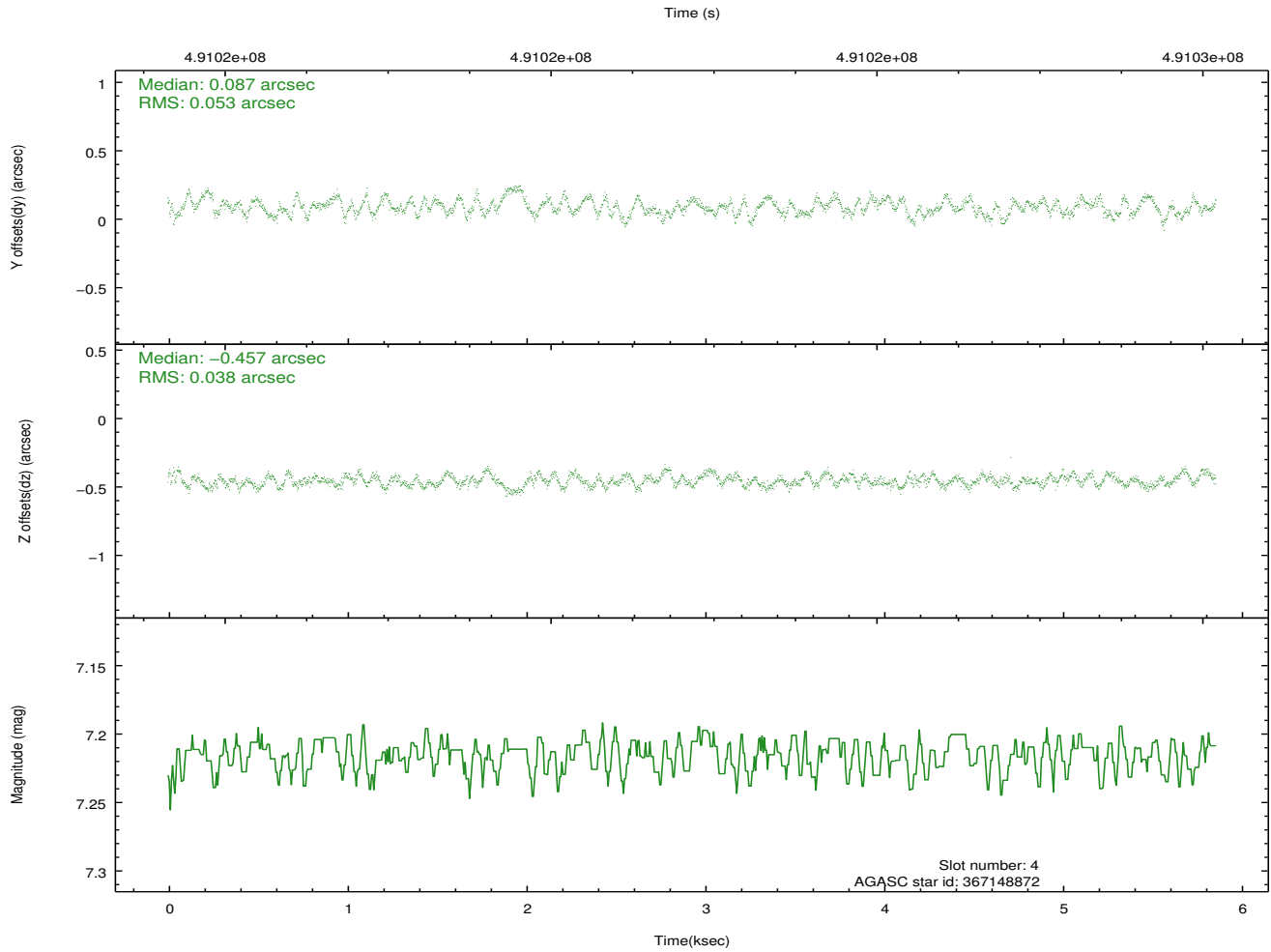
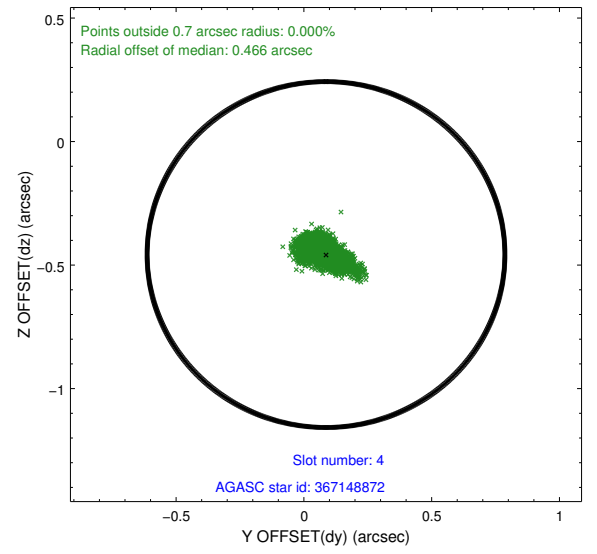
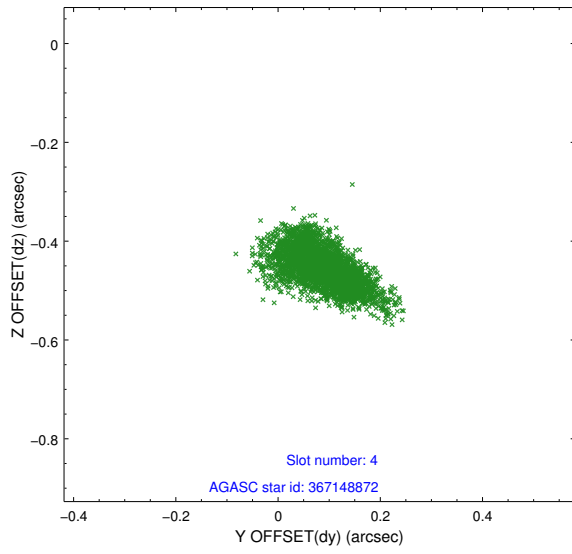
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-2	6.96	1430	-0.261	-0.151	0.006	0.011	0.000000	0.000000	-779.38	-850.12
1	FID		ACIS-I-4	6.99	1430	0.170	0.164	0.007	0.013	0.000000	0.000000	2134.62	1055.88
2	FID		ACIS-I-6	7.06	1430	-0.008	0.050	0.010	0.016	0.000000	0.000000	382.22	1699.09
3	GUIDE	used	367146616	8.85	2856	0.221	0.398	0.095	0.153	11.418645	41.190163	-1165.91	-1547.78
4	GUIDE	used	367148872	7.22	2860	0.087	-0.457	0.070	0.115	10.505940	40.688258	-1515.62	1501.65
5	GUIDE	used	367657896	9.04	2831	0.152	0.108	0.117	0.182	11.197765	41.313576	-486.45	-1243.69
6	GUIDE	used	367663272	9.29	2857	-0.225	-0.113	0.102	0.162	10.656279	41.699429	1442.07	-659.06
7	GUIDE	used	367674552	8.84	2859	-0.235	0.069	0.100	0.161	11.016238	41.570845	561.39	-1273.16

## 2.4 Star Slots

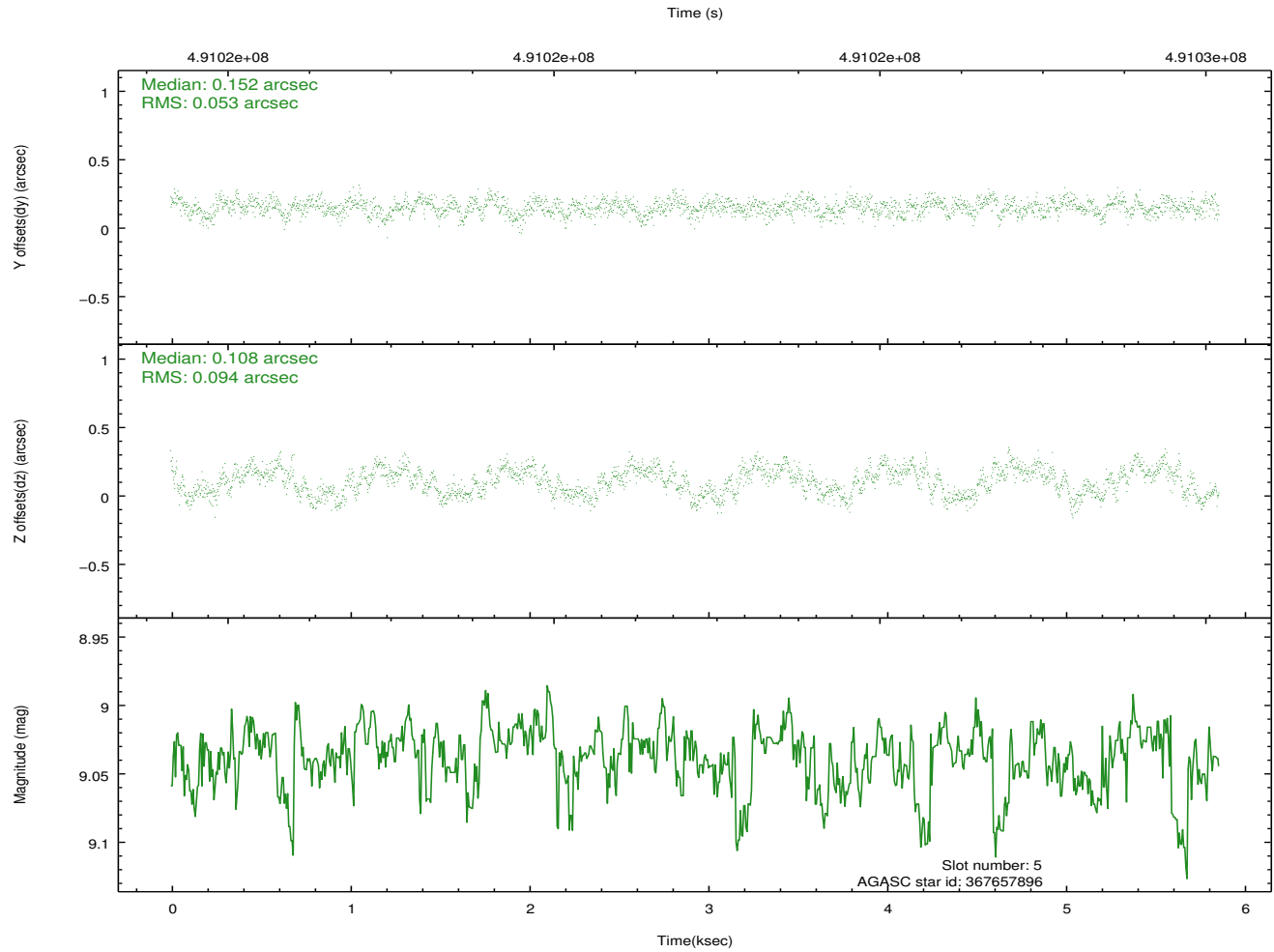
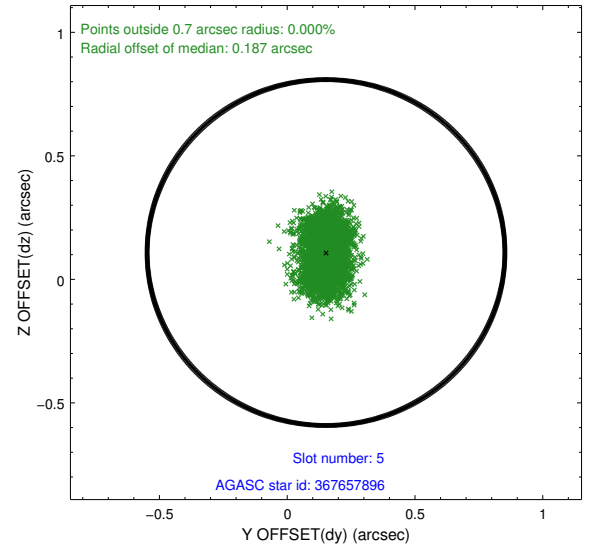
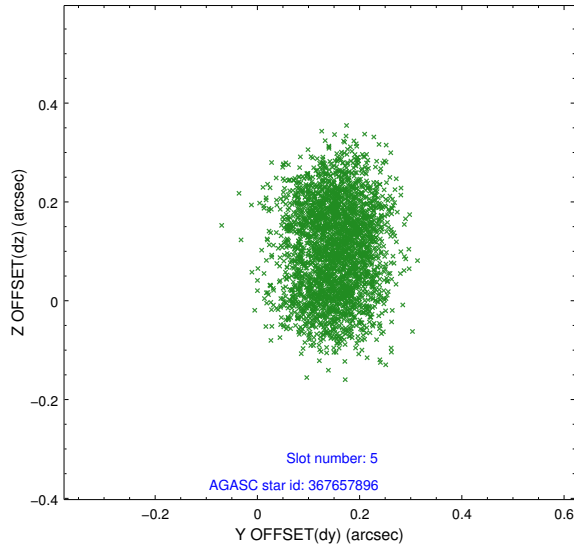
### 2.4.1 Slot 3



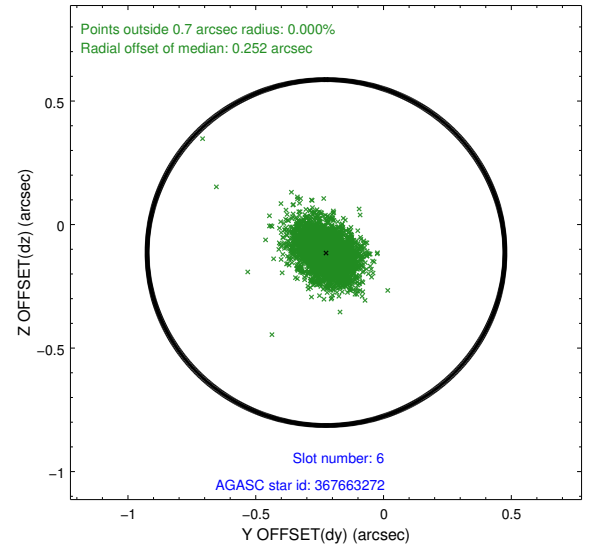
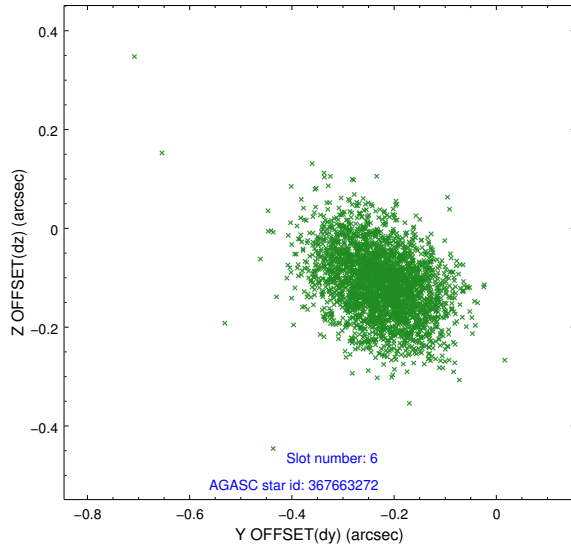
## 2.4.2 Slot 4



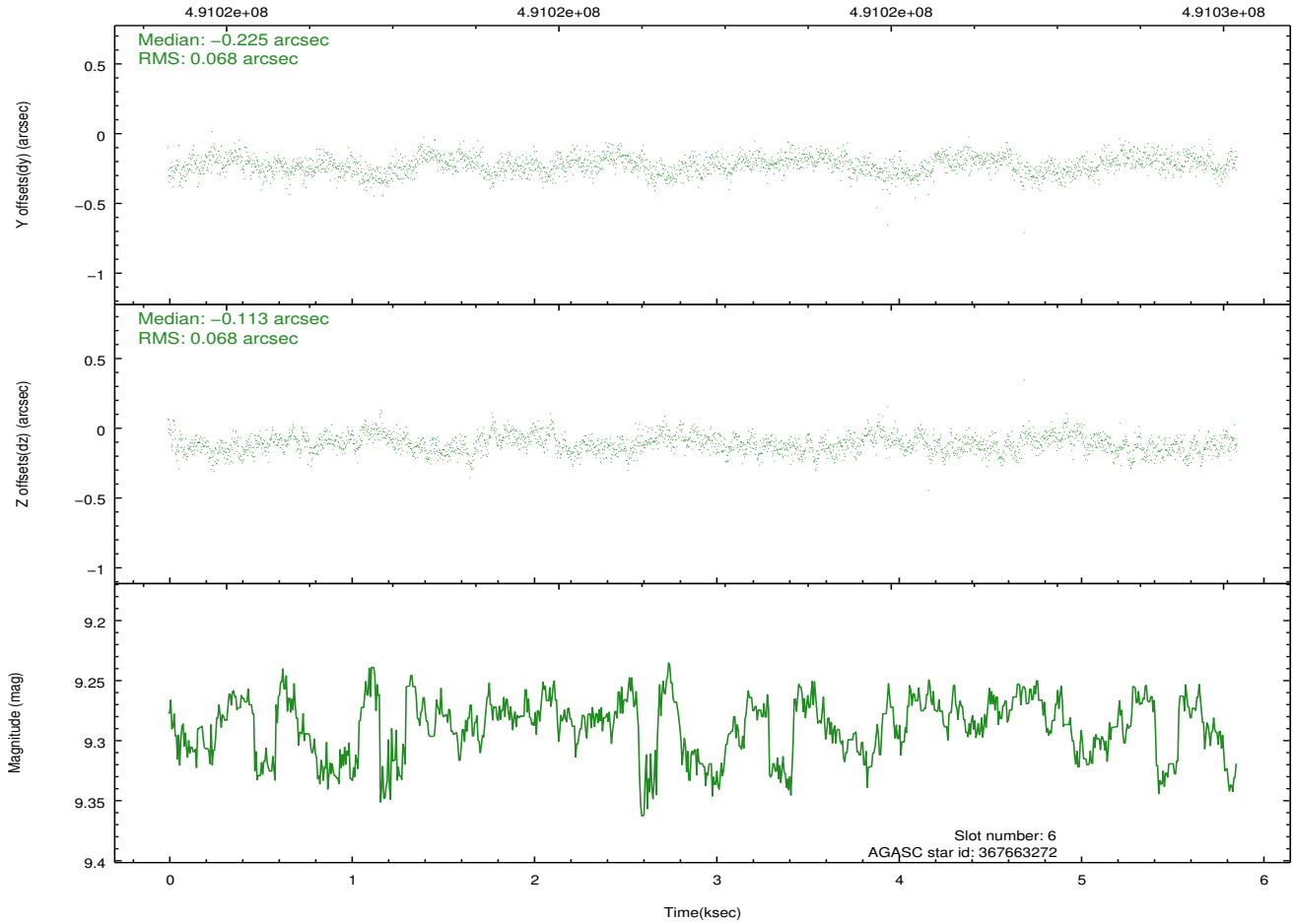
### 2.4.3 Slot 5



## 2.4.4 Slot 6

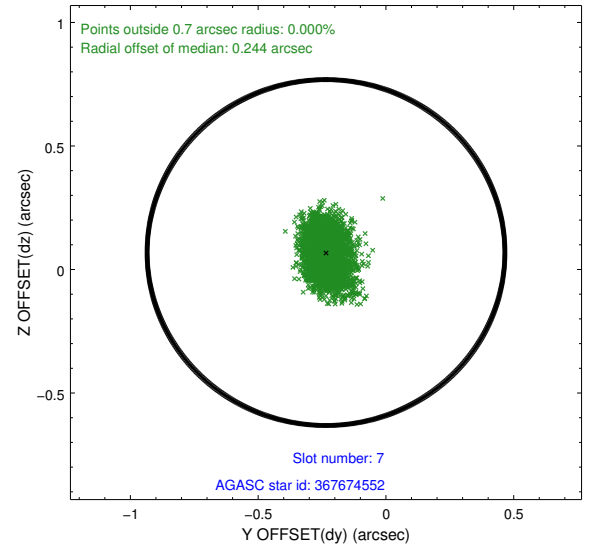
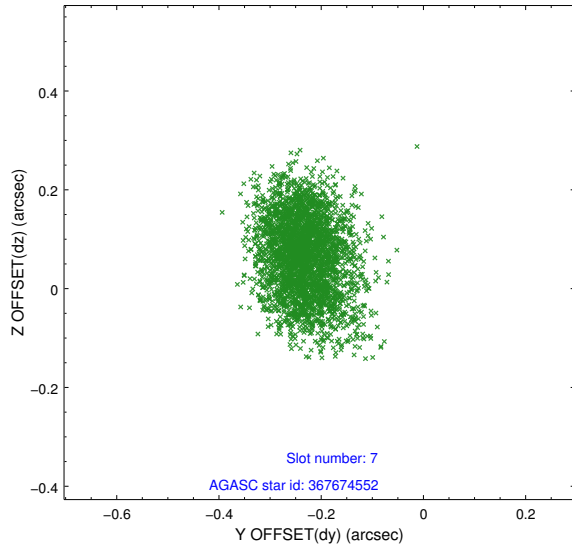


Time (s)

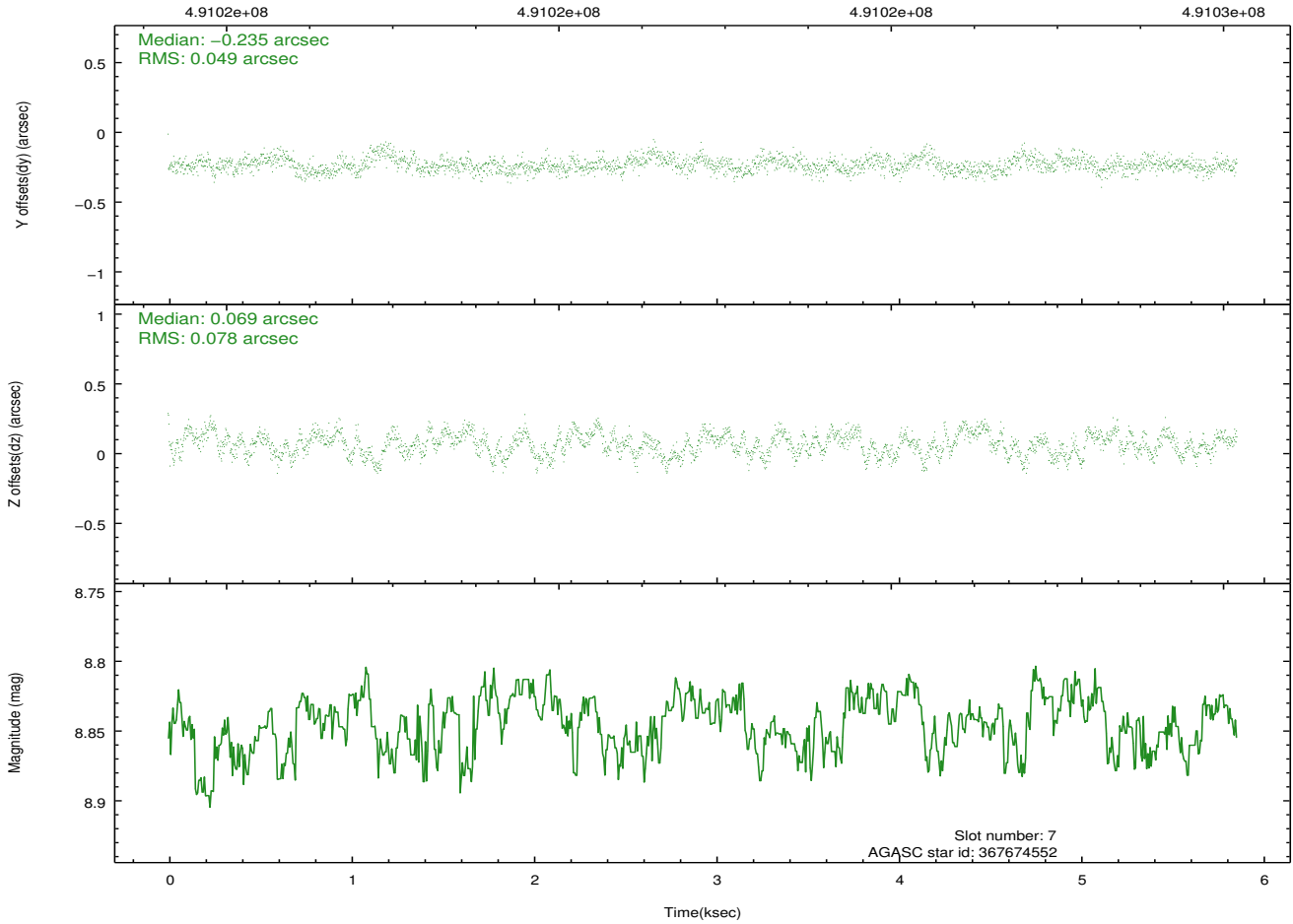




## 2.4.5 Slot 7

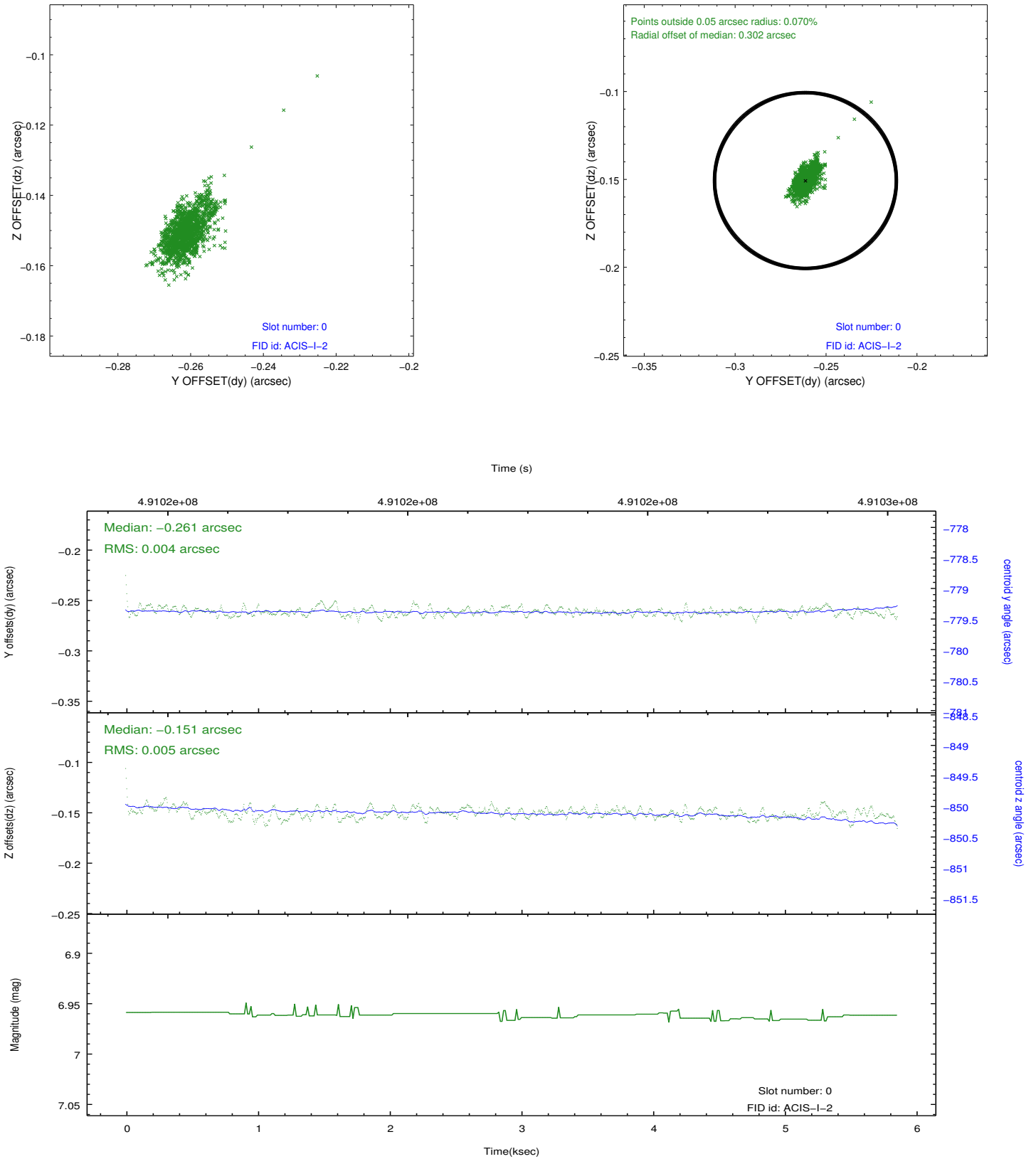


Time (s)

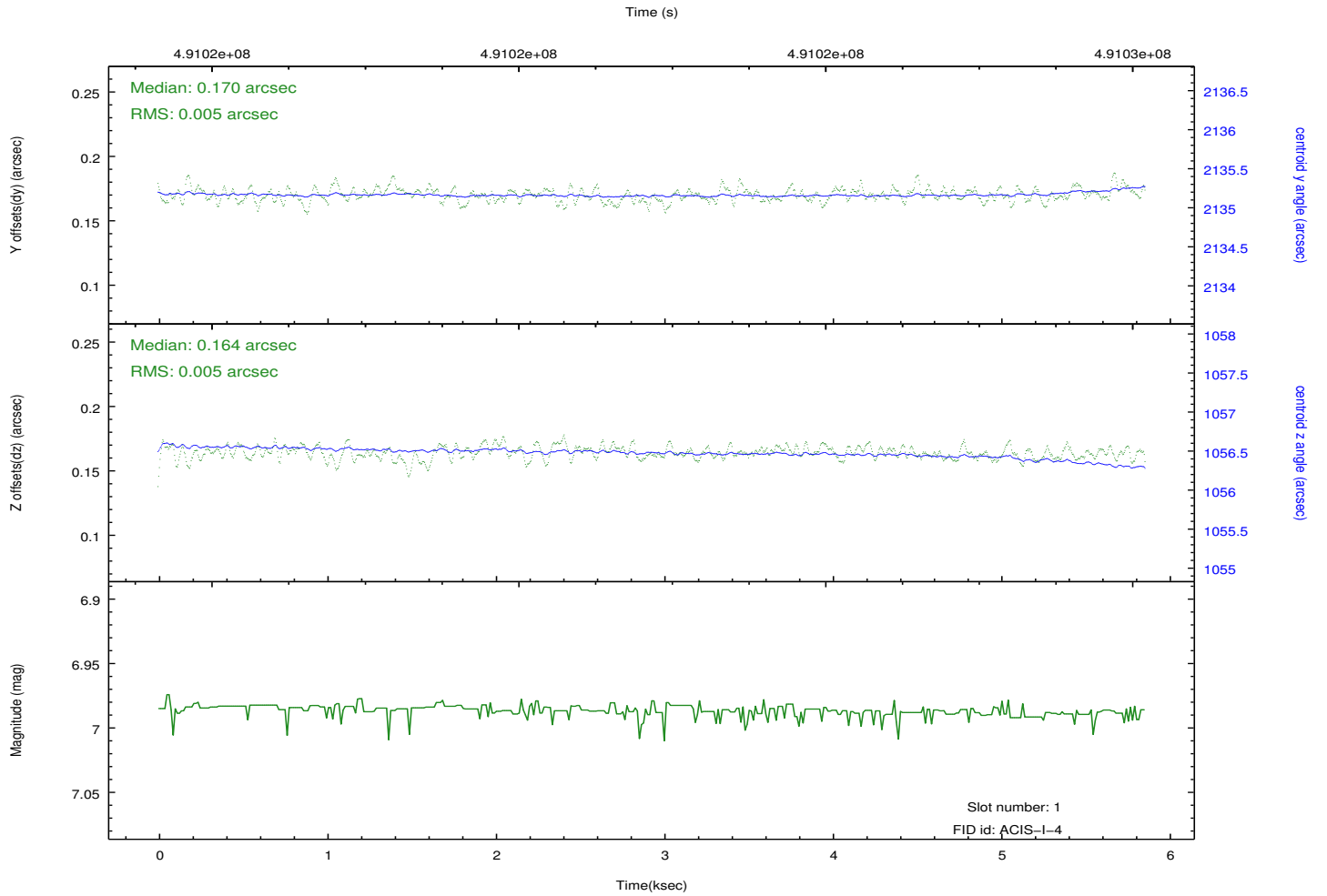
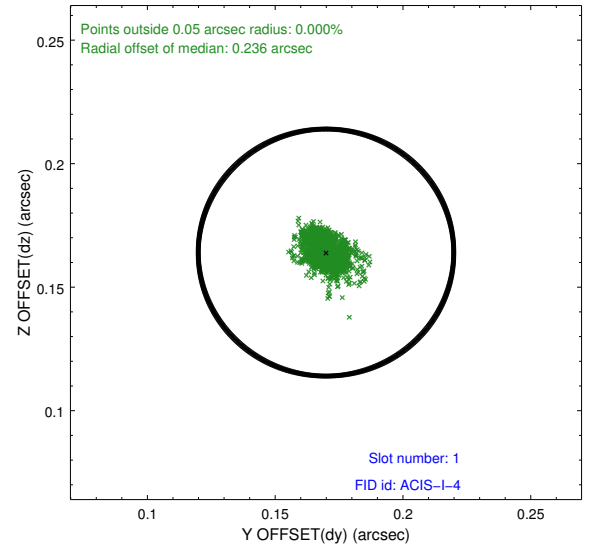
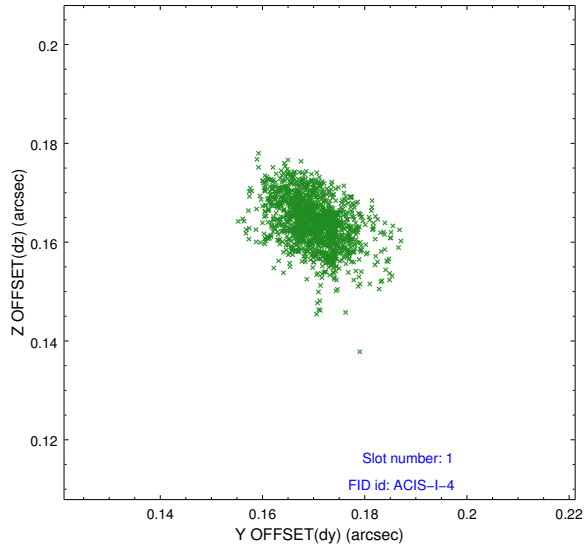


## 2.5 FID Slots

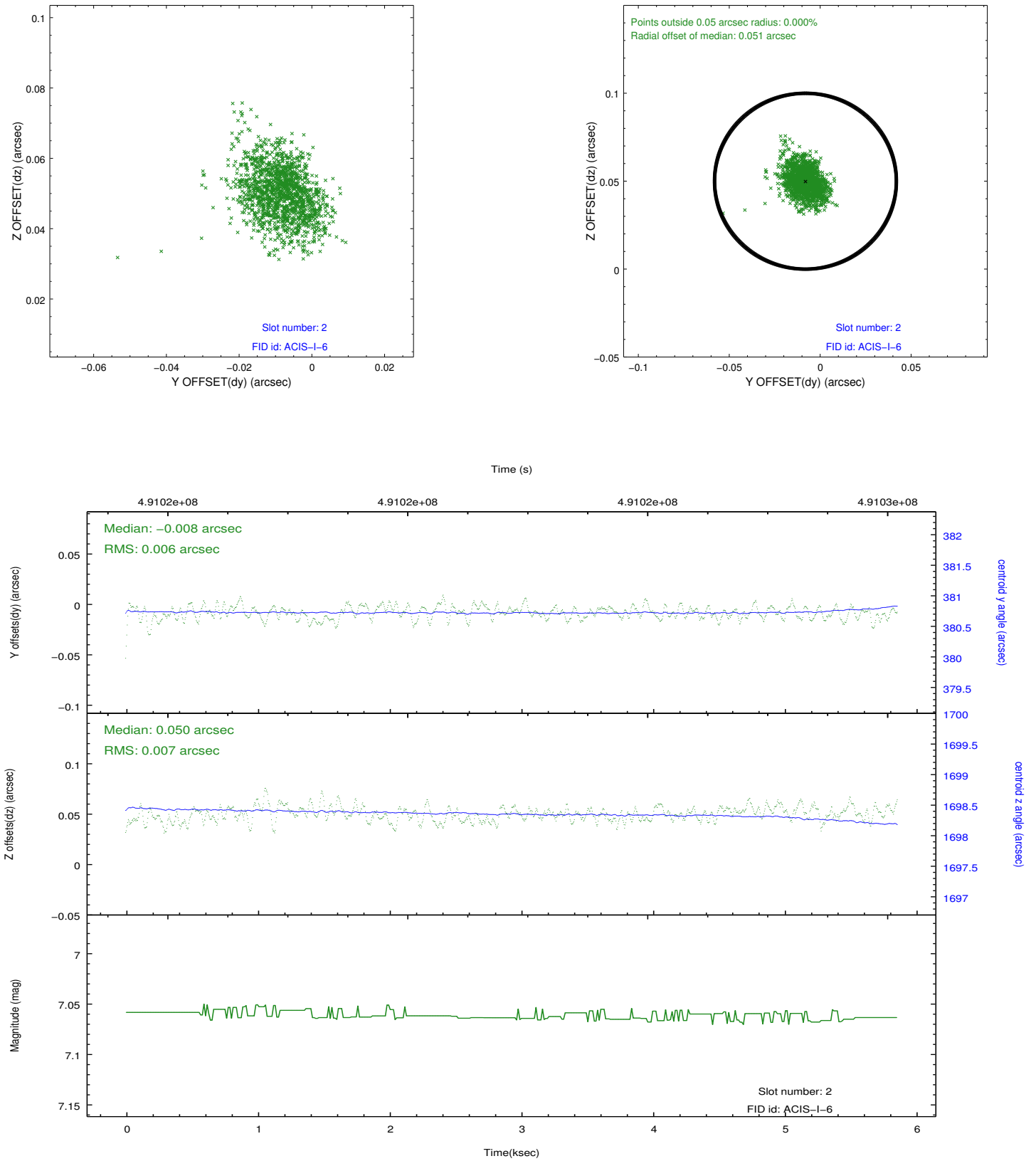
### 2.5.1 Slot 0



## 2.5.2 Slot 1



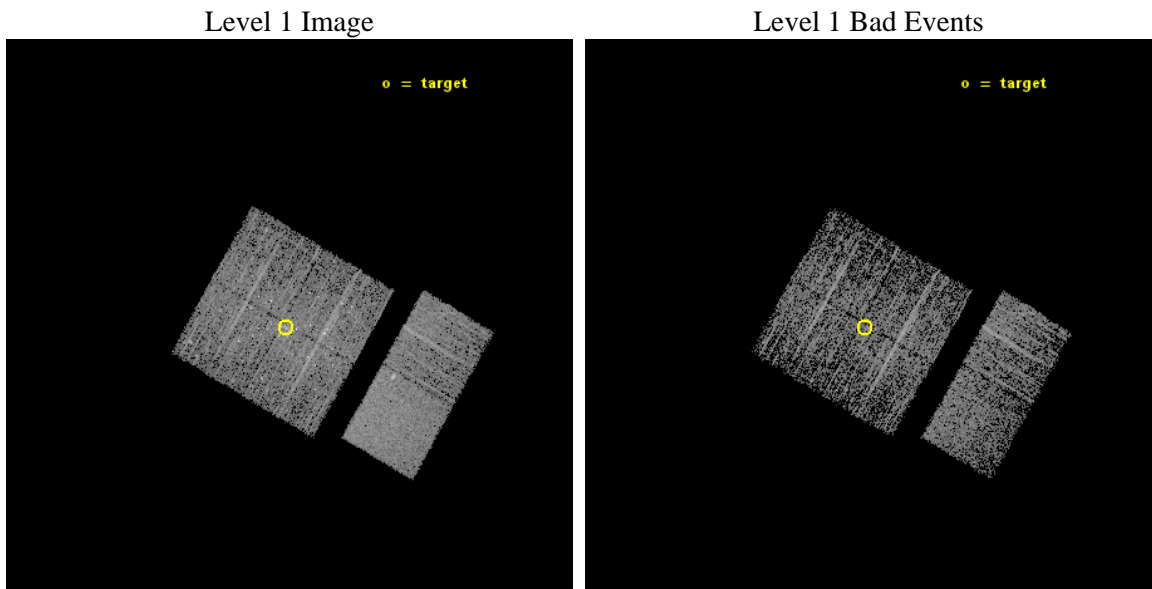
### 2.5.3 Slot 2



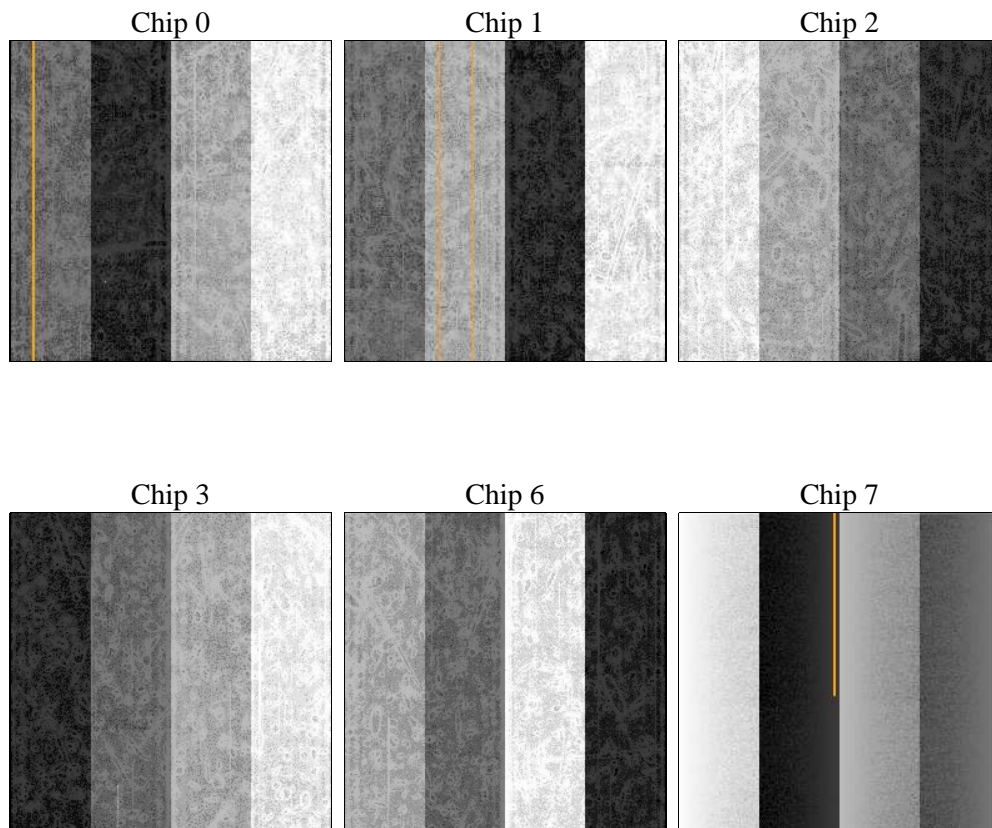
### 3 OBI Secondary

#### 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	10.3	Processing system revision	ontime	3957.6381883621	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	3957.6381685734	Sum of GTIs [s]
date	2014-12-04T19:04:46	Date and time of file creation	ontime1	3957.6380790472	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	3957.6382282972	Sum of GTIs [s]
			ontime3	3957.6381883621	Sum of GTIs [s]
			ontime6	3957.6381291151	Sum of GTIs [s]
			ontime7	3957.6381192803	Sum of GTIs [s]
			l1events	128509	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	18248	19709	21572	21565	20056	27359	grade 0 events	1769	2621	3148	3620	864	1162
rejected events	14691	15000	16275	15910	17650	15231		9%	13%	14%	16%	4%	4%
rejected %	80%	76%	75%	73%	88%	55%	grade 1 events	22	19	98	49	8	35
								0%	0%	0%	0%	0%	0%
							grade 2 events	701	823	878	855	534	2604
								3%	4%	4%	3%	2%	9%
							grade 3 events	311	299	373	310	240	1025
								1%	1%	1%	1%	1%	3%
							grade 4 events	258	352	354	322	248	1028
								1%	1%	1%	1%	1%	3%
							grade 5 events	905	972	907	1064	1065	2752
								4%	4%	4%	4%	5%	10%
							grade 6 events	523	620	546	552	521	6322
								2%	3%	2%	2%	2%	23%
							grade 7 events	13759	14003	15268	14793	16576	12431
								75%	71%	70%	68%	82%	45%

# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2014.12.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.87980759733913

## A.2 Comments

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.