

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 10719 - L2 Version 2  
Chandra X-Ray Center

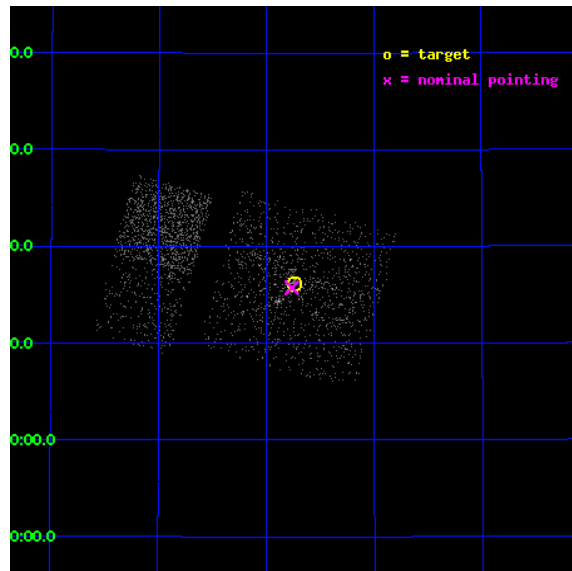
L2 Processing Date : Jun 18 2012

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI Primary</b>	<b>3</b>
2.1	OBI . . . . .	3
2.1.1	Images . . . . .	3
2.1.2	Bias . . . . .	3
2.1.3	Parameters . . . . .	4
2.1.4	Events . . . . .	4
2.2	Compared Parameters . . . . .	5
2.3	Aspect . . . . .	6
2.4	Star Slots . . . . .	9
2.4.1	Slot 3 . . . . .	9
2.4.2	Slot 4 . . . . .	10
2.4.3	Slot 5 . . . . .	11
2.4.4	Slot 6 . . . . .	12
2.4.5	Slot 7 . . . . .	13
2.5	FID Slots . . . . .	14
2.5.1	Slot 0 . . . . .	14
2.5.2	Slot 1 . . . . .	15
2.5.3	Slot 2 . . . . .	16
<b>3</b>	<b>OBI Secondary</b>	<b>17</b>
3.1	OBI . . . . .	17
3.1.1	Images . . . . .	17
3.1.2	Bias . . . . .	17
3.1.3	Parameters . . . . .	18
3.1.4	Events . . . . .	18
<b>A</b>	<b>Summary</b>	<b>19</b>
A.1	Status . . . . .	19
A.2	Comments . . . . .	19

# 1 Front

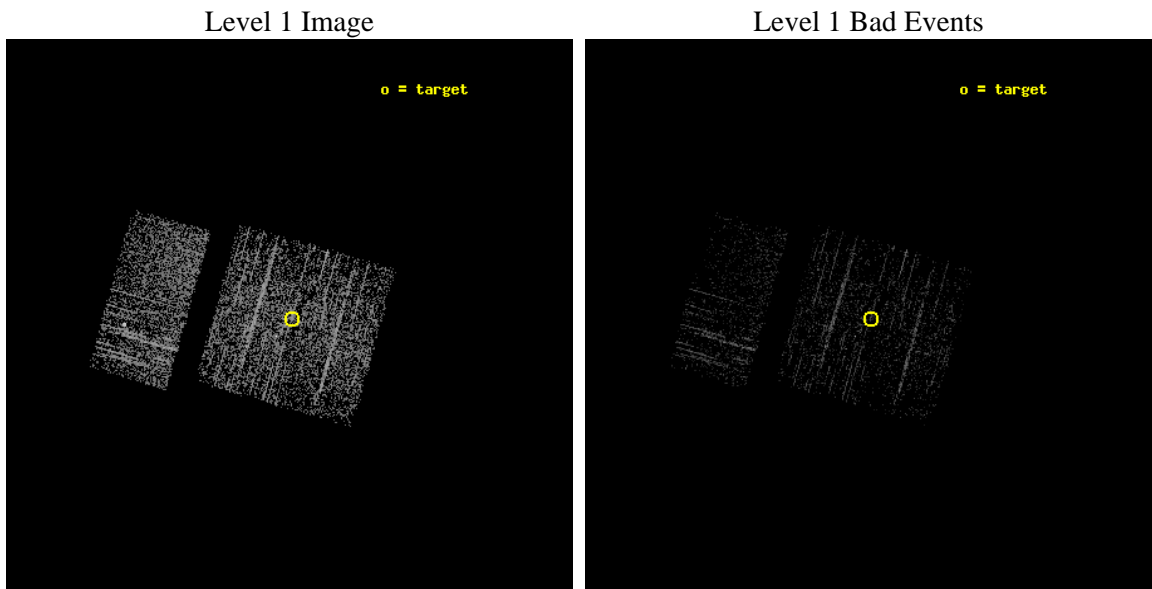
seq_num	600769	Sequence number
obs_id	10719	Observation id
title	Black Hole X-ray Novae in M31	Proposal title
observer	Dr. Stephen Murray	Principal investigator
object	M31	Source name
dtcycle	0	&#160
cycle	P	events are from which exps? P[primary] S[econdar
ra_targ	10.685	Observer's specified target RA [deg]
dec_targ	41.268972	Observer's specified target Dec [deg]
ra_nom	10.690825704969	Nominal RA [deg]
dec_nom	41.262302149133	Nominal Dec [deg]
roll_nom	285.7357882898	Nominal Roll [deg]
revision	2	Processing version of data
ontime	971.87193548679	Sum of GTIs [s]
livetime	152.99608572585	Livetime [s]
ontime0	971.87193536758	Sum of GTIs [s]
ontime1	971.87193542719	Sum of GTIs [s]
ontime2	971.87193536758	Sum of GTIs [s]
ontime3	971.87193548679	Sum of GTIs [s]
ontime6	971.87193542719	Sum of GTIs [s]
ontime7	971.87193548679	Sum of GTIs [s]
l2events	3262	Number of level 2 events



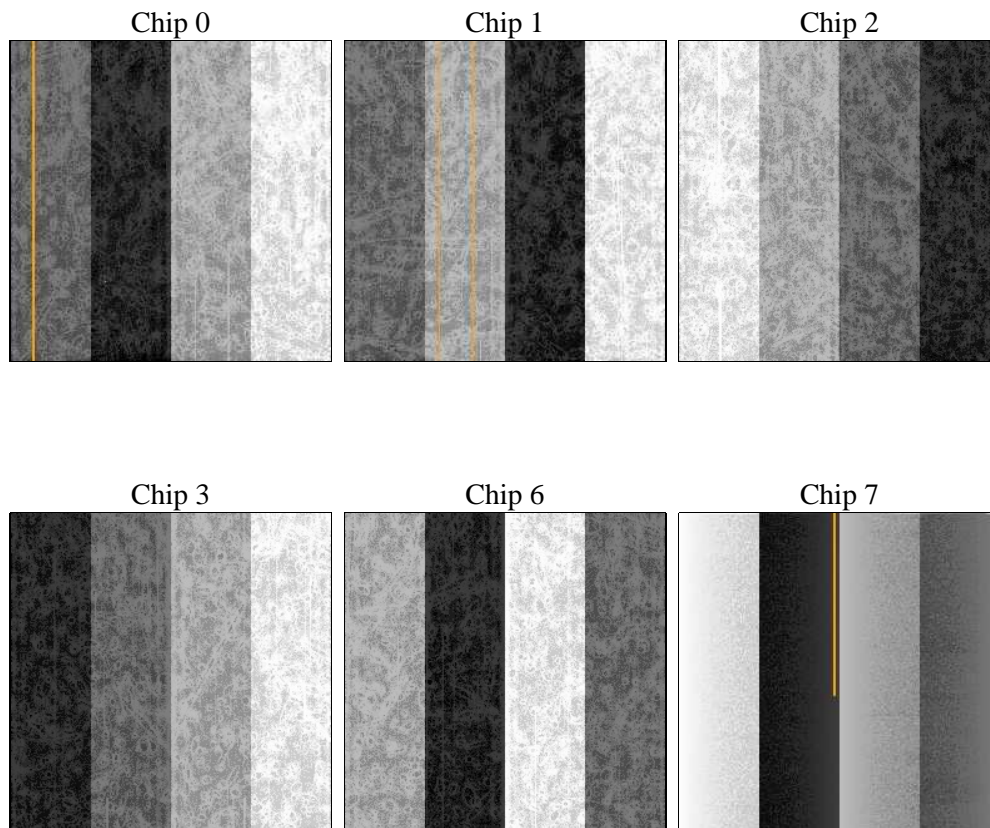
## 2 OBI Primary

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5178.040000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	971.87193548679	Sum of GTIs [s]
caldsver	4.4.10	&#160	ontime0	971.87193536758	Sum of GTIs [s]
date	2012-06-18T19:05:14	Date and time of file creation	ontime1	971.87193542719	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	971.87193536758	Sum of GTIs [s]
			ontime3	971.87193548679	Sum of GTIs [s]
			ontime6	971.87193542719	Sum of GTIs [s]
			ontime7	971.87193548679	Sum of GTIs [s]
			l1events	25836	Number of level 1 events

### 2.1.4 Events

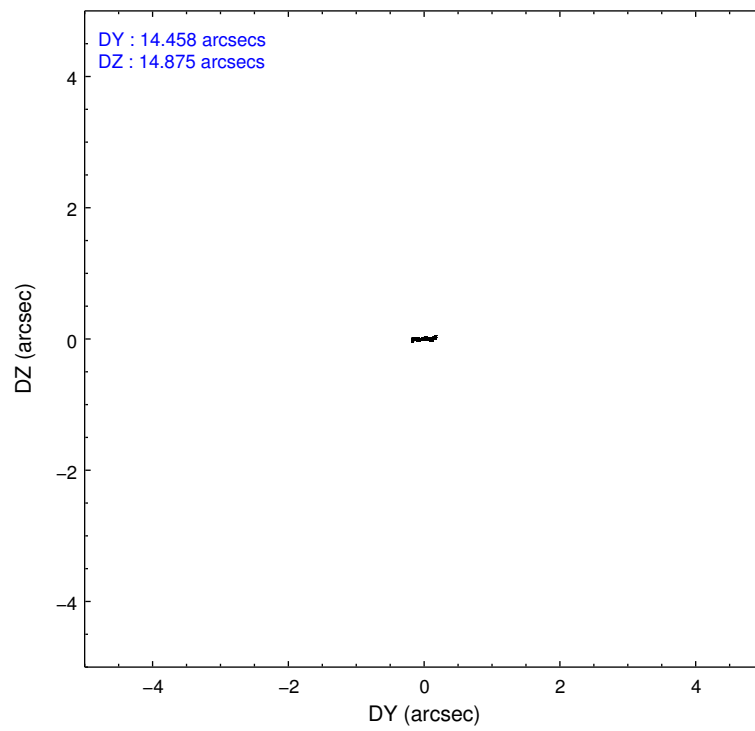
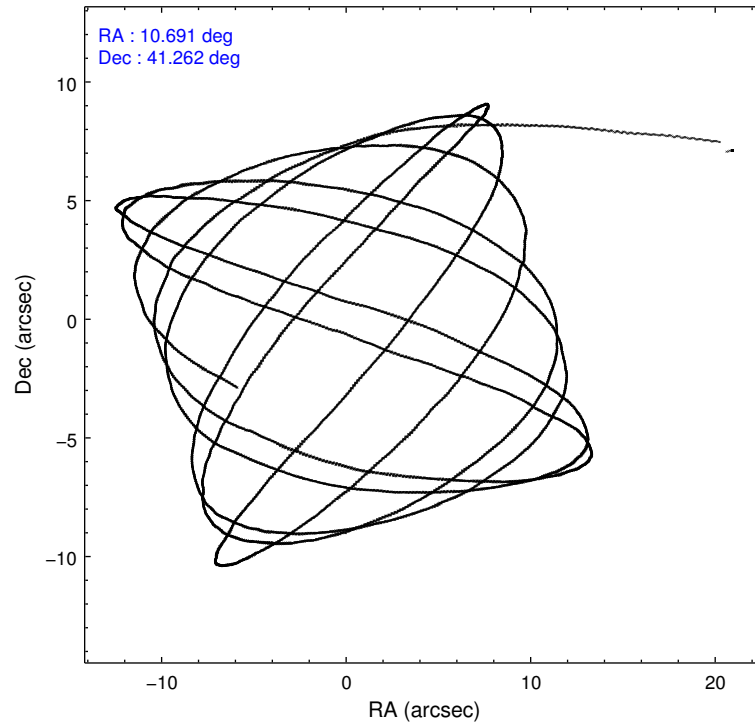
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	3670	4088	4954	4329	5070	3725
rejected events	3260	3557	4274	3837	4436	2473
rejected %	88%	87%	86%	88%	87%	66%

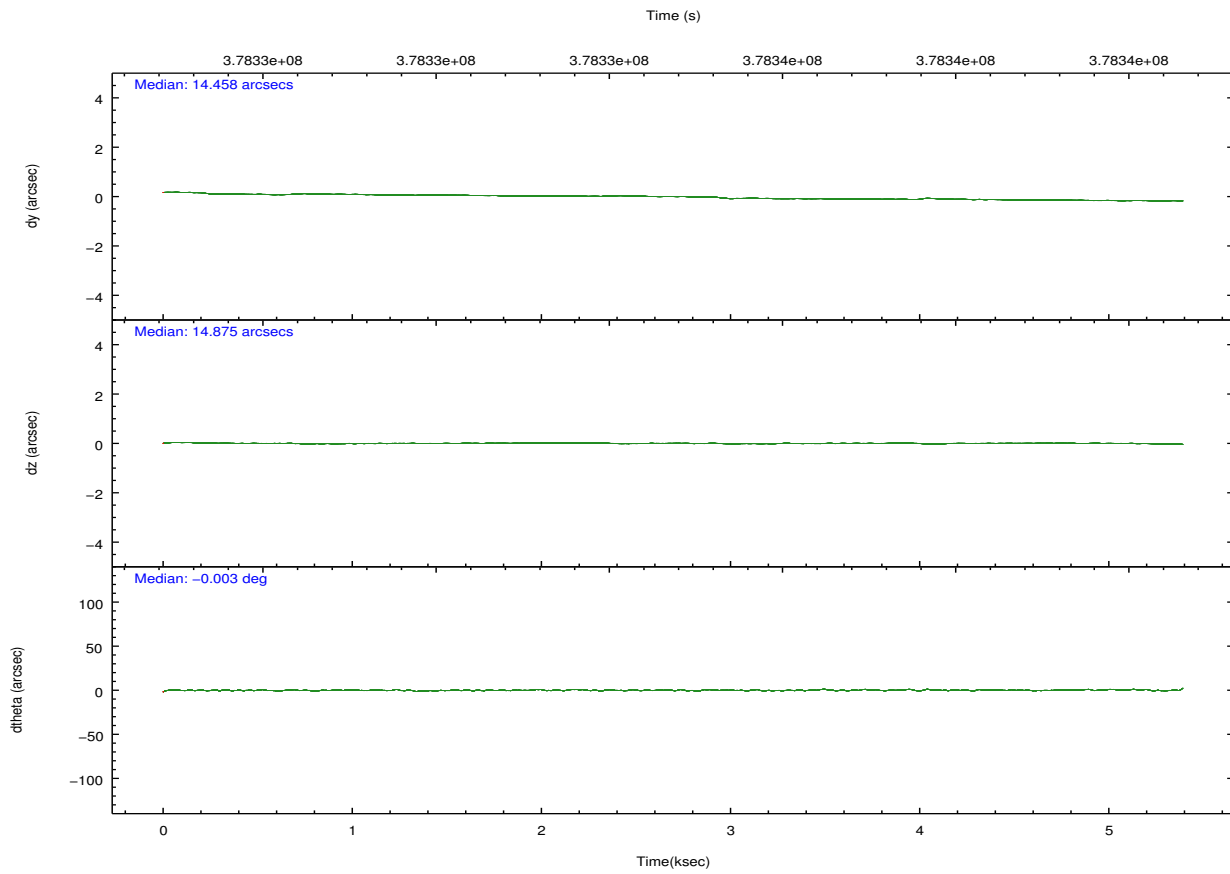
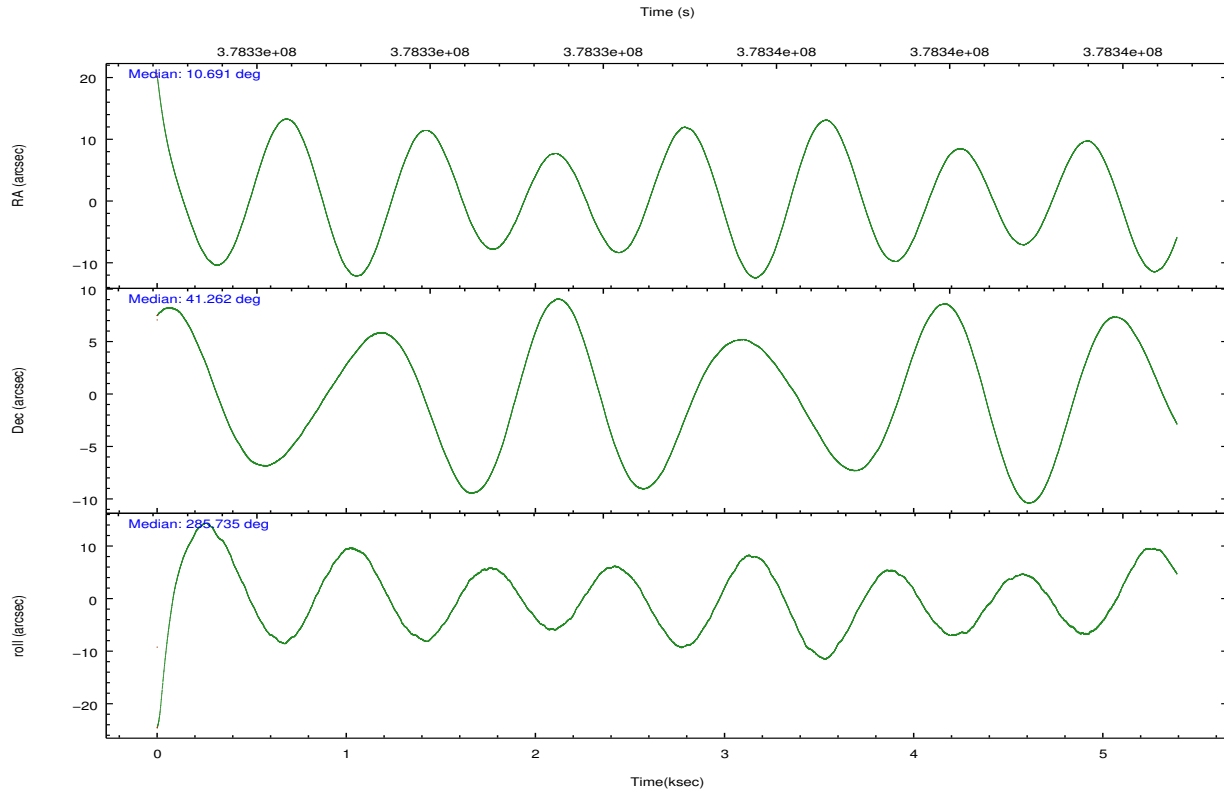
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
grade 0 events	154	229	378	224	354	115
	4%	5%	7%	5%	6%	3%
grade 1 events	1	4	24	4	3	6
	0%	0%	0%	0%	0%	0%
grade 2 events	102	114	104	103	92	302
	2%	2%	2%	2%	1%	8%
grade 3 events	51	68	63	47	54	122
	1%	1%	1%	1%	1%	3%
grade 4 events	47	53	66	47	61	117
	1%	1%	1%	1%	1%	3%
grade 5 events	120	136	116	139	150	342
	3%	3%	2%	3%	2%	9%
grade 6 events	56	71	72	75	79	616
	1%	1%	1%	1%	1%	16%
grade 7 events	3139	3413	4131	3690	4277	2105
	85%	83%	83%	85%	84%	56%

## 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	10.664553	10.69082570496861	CCD I2 on	Y	Y
[deg] Pointing Dec	41.281312	41.26230214913342	CCD I3 on	Y	Y
[deg] Pointing Roll	285.544484	285.7357882898045	CCD S0 on	N	N
[s] Window start time (MET)	377740866.184000	377740866.184000	CCD S1 on	N	N
[s] Window stop time (MET)	378345606.184000	378345606.184000	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)	378331895.184000	378330875.29348	On-chip summing requested	N	N
Observation start date	2009-12-27T20:10:29	2009-12-27T19:54:35	Subarray requested	NONE	NONE
[s] Observation end time (MET)	378337073.184000	378337308.1938	Alternating exposures requested	Y	Y
Observation end date	2009-12-27T21:36:47	2009-12-27T21:41:48	[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



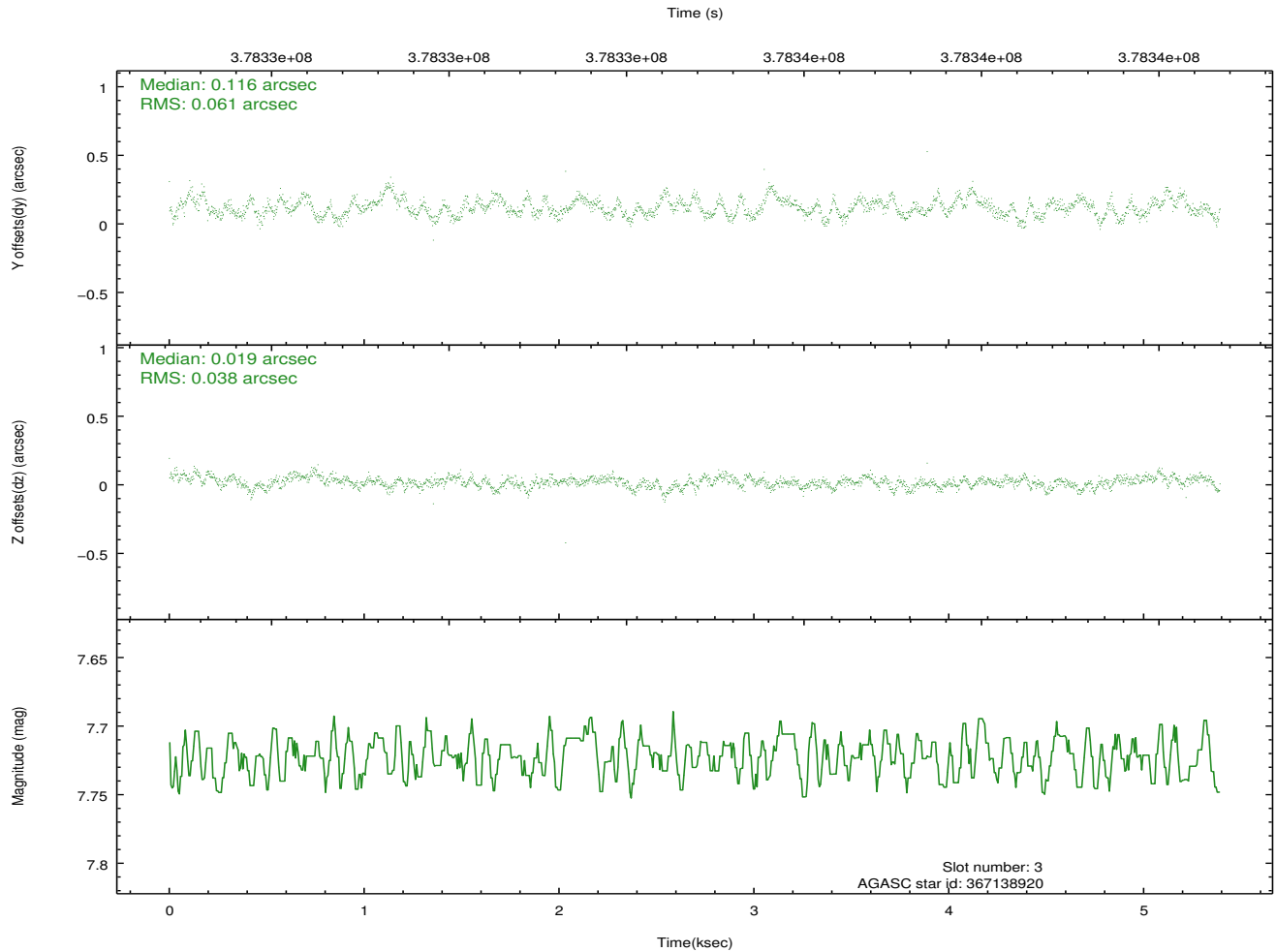
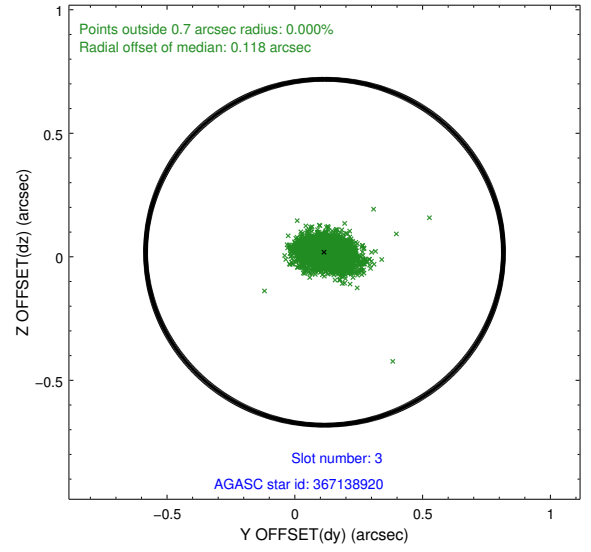
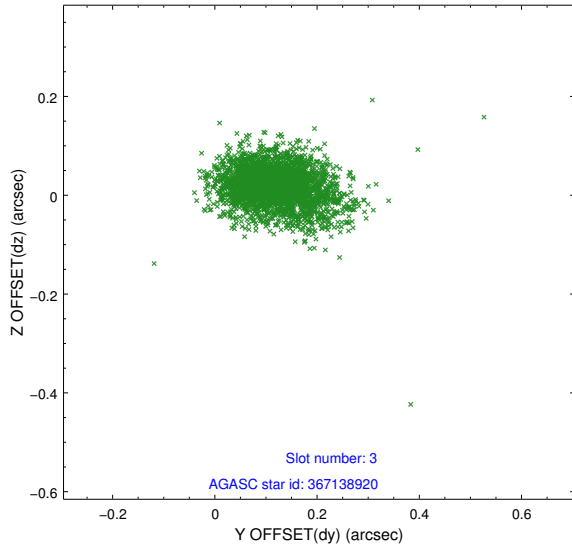


### Slot Statistics

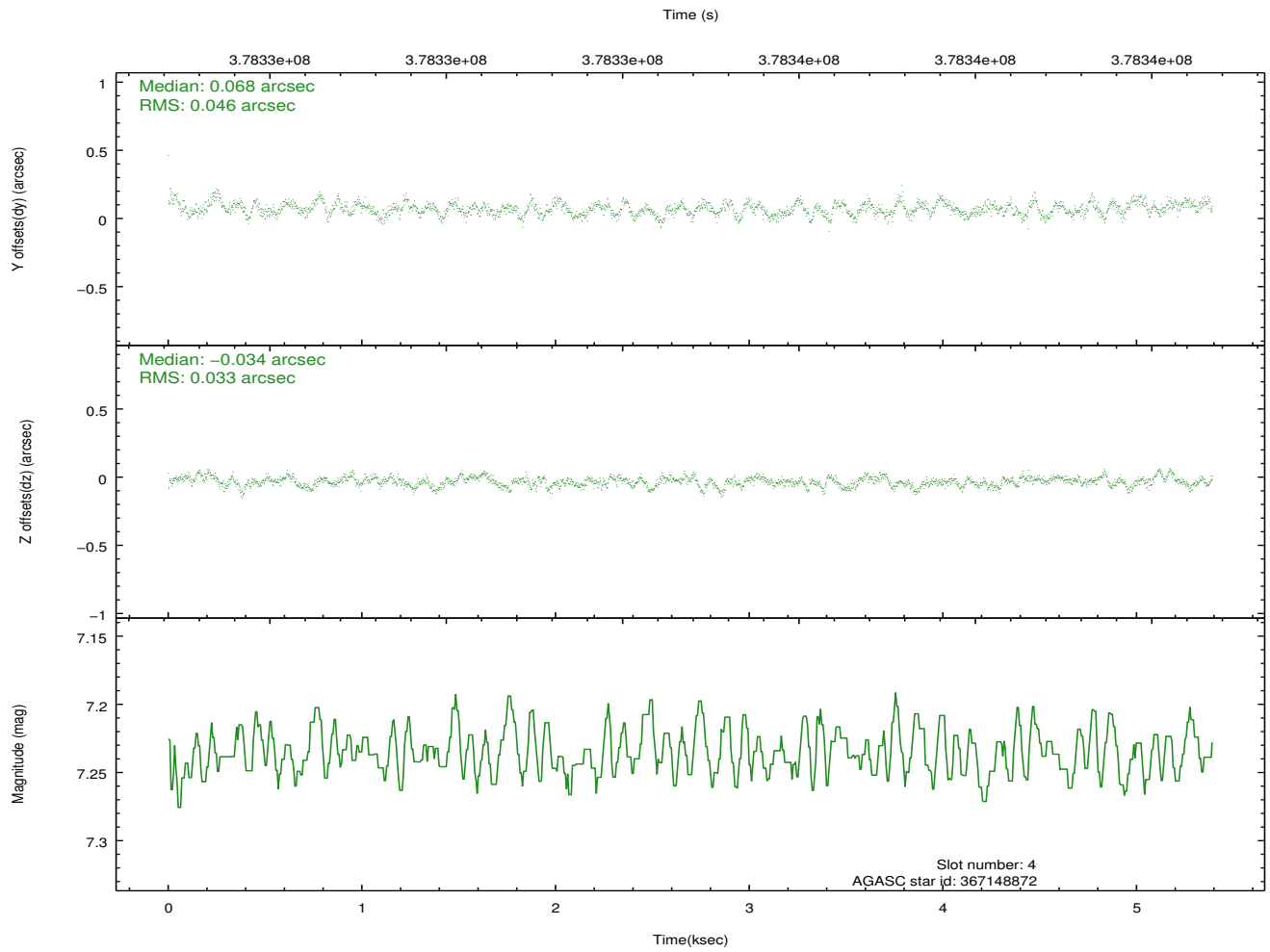
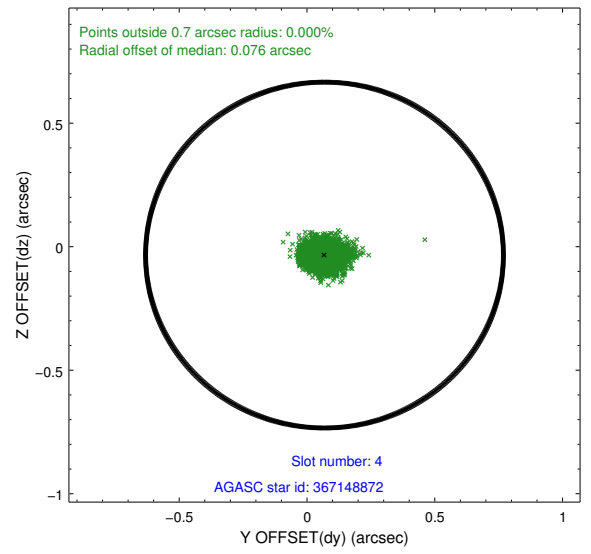
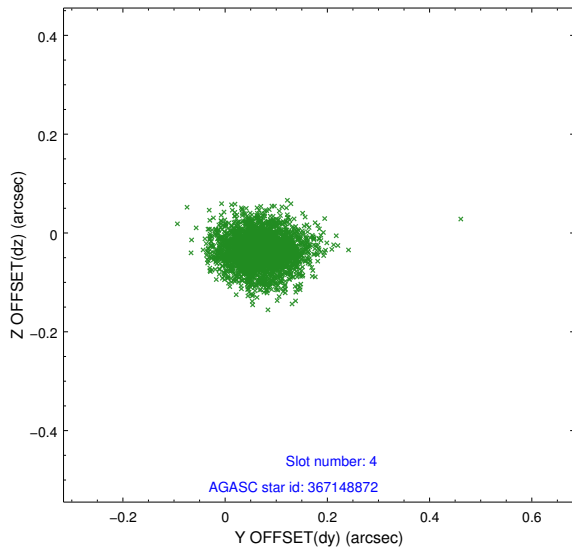
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.10	1316	0.053	-0.031	0.006	0.010	0.000000	0.000000	925.11	-838.49
1	FID	ACIS-I-5	7.09	1316	-0.250	0.044	0.006	0.010	0.000000	0.000000	-1822.72	1058.47
2	FID	ACIS-I-6	7.10	1316	0.105	0.057	0.006	0.010	0.000000	0.000000	389.45	1704.29
3	GUIDE	367138920	7.72	2631	0.116	0.019	0.074	0.125	11.513485	40.808909	2248.94	1776.77
4	GUIDE	367148872	7.24	2630	0.068	-0.034	0.060	0.096	10.505940	40.688258	1942.54	-988.72
5	GUIDE	367657896	9.00	2626	-0.083	0.016	0.100	0.165	11.197765	41.313576	271.36	1421.11
6	GUIDE	367674552	8.85	2628	0.020	0.041	0.087	0.136	11.016238	41.570845	-751.49	1193.14
7	GUIDE	367663272	9.28	2628	-0.123	-0.036	0.081	0.129	10.656279	41.699429	-1455.87	381.56

## 2.4 Star Slots

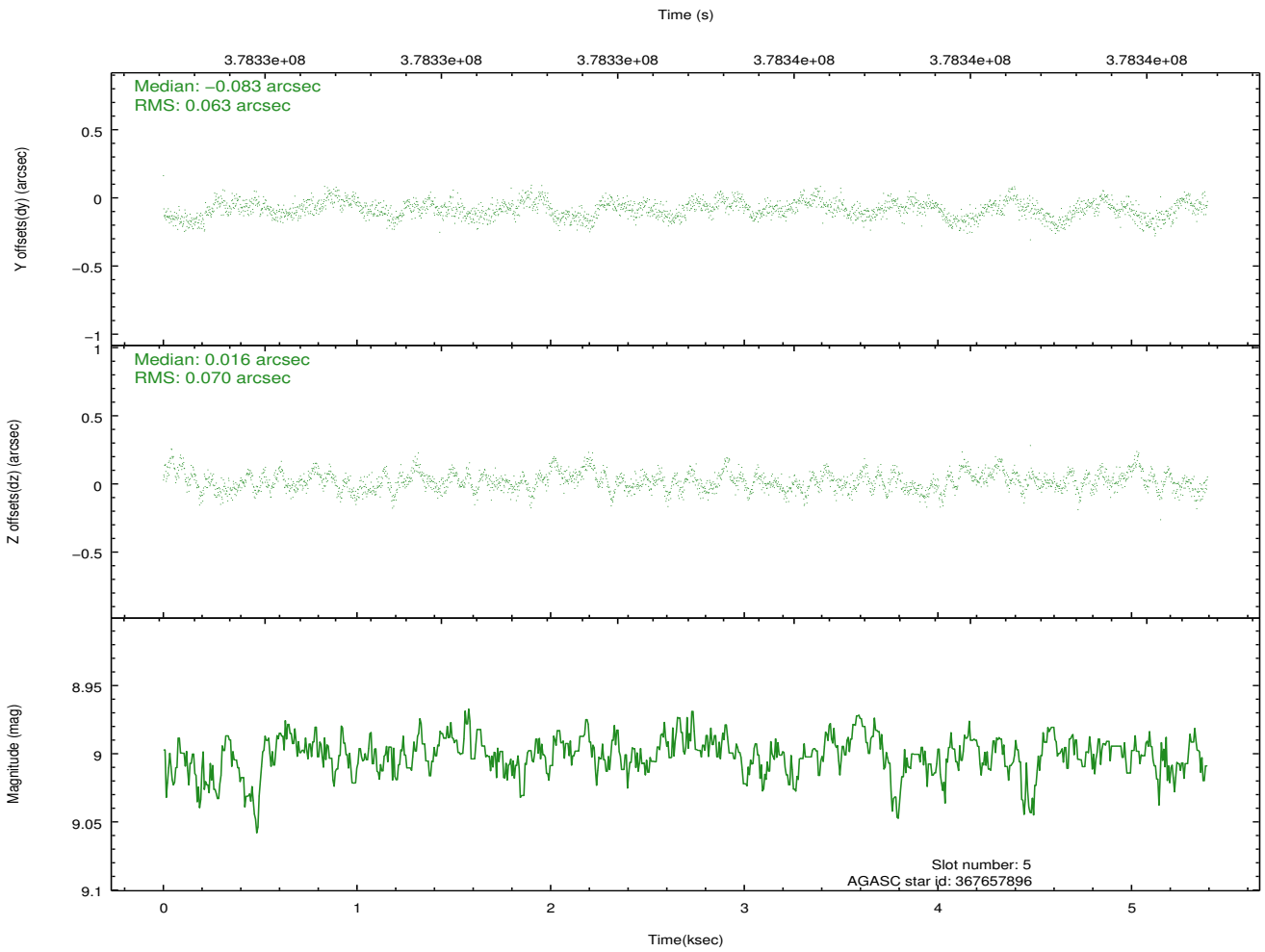
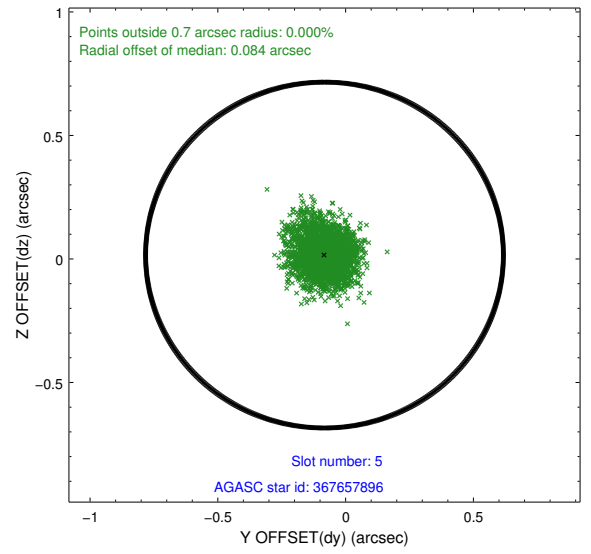
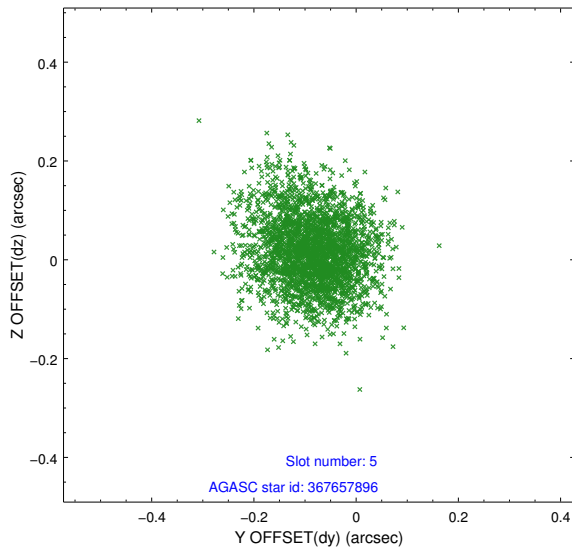
### 2.4.1 Slot 3



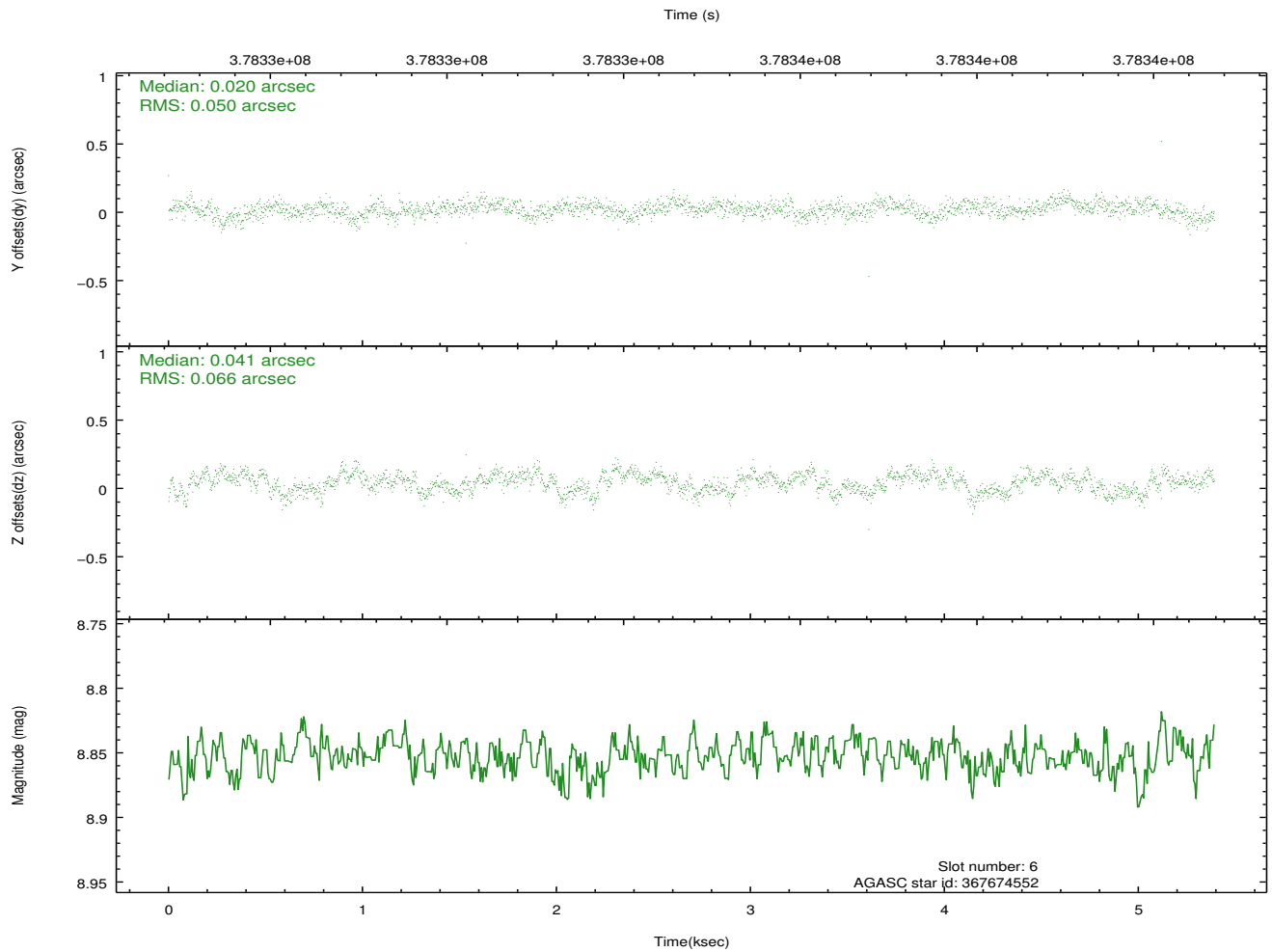
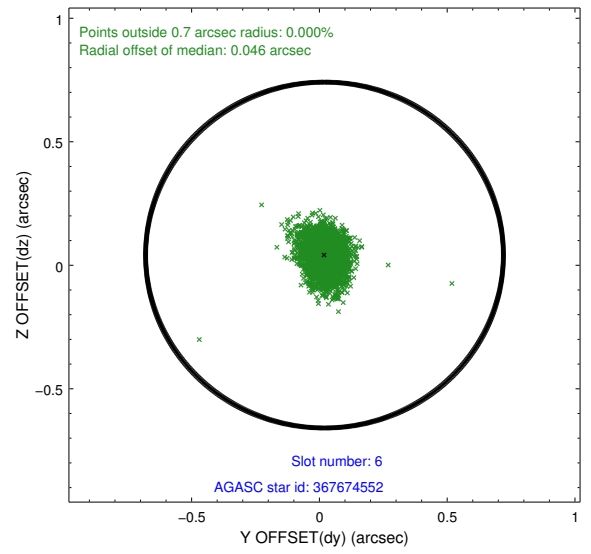
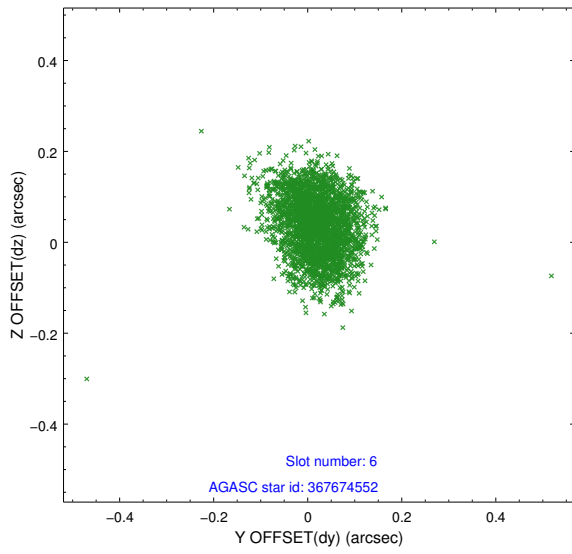
## 2.4.2 Slot 4



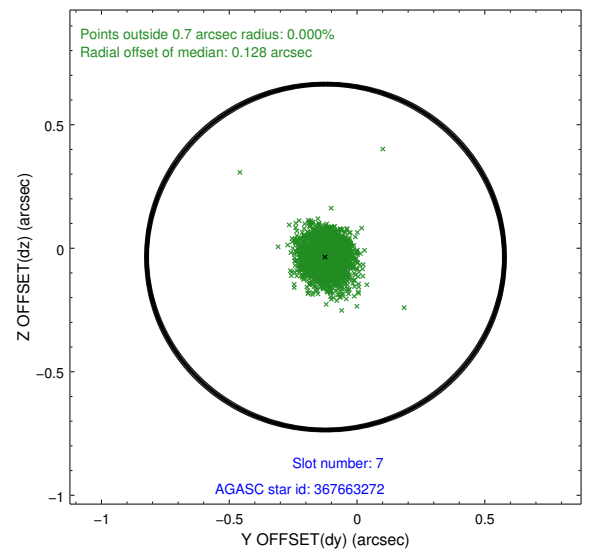
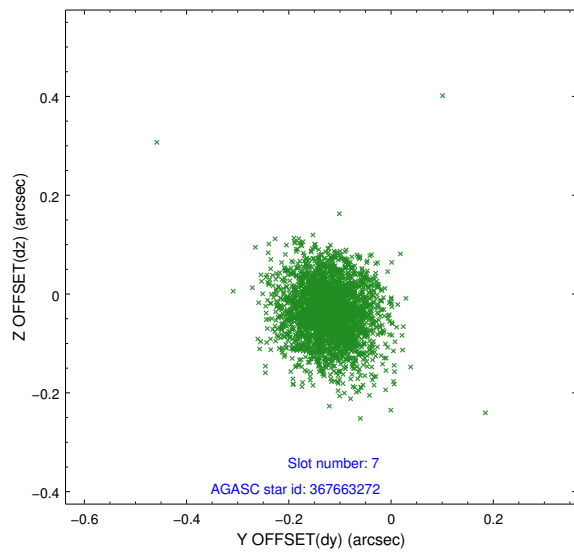
### 2.4.3 Slot 5



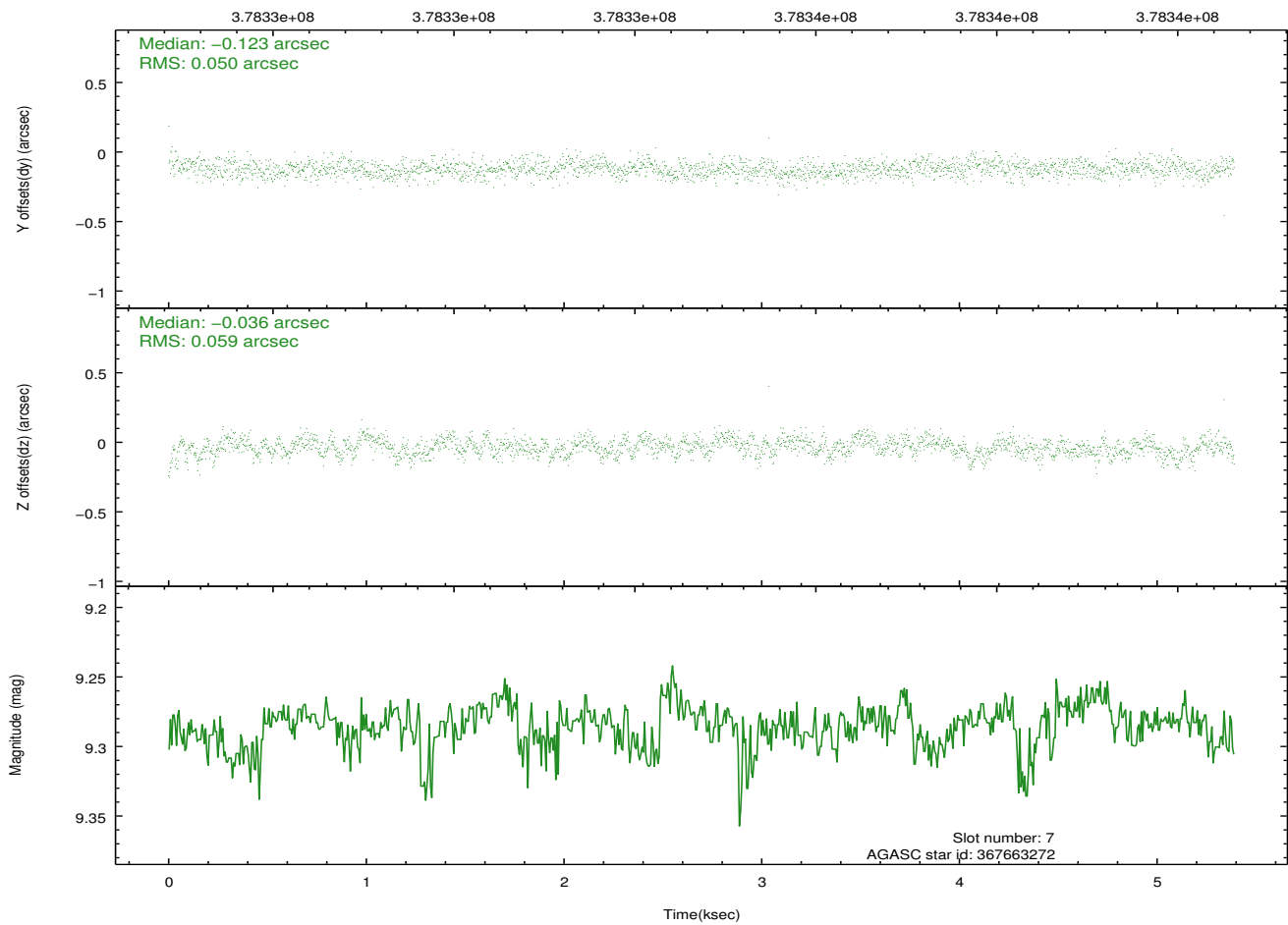
### 2.4.4 Slot 6



## 2.4.5 Slot 7

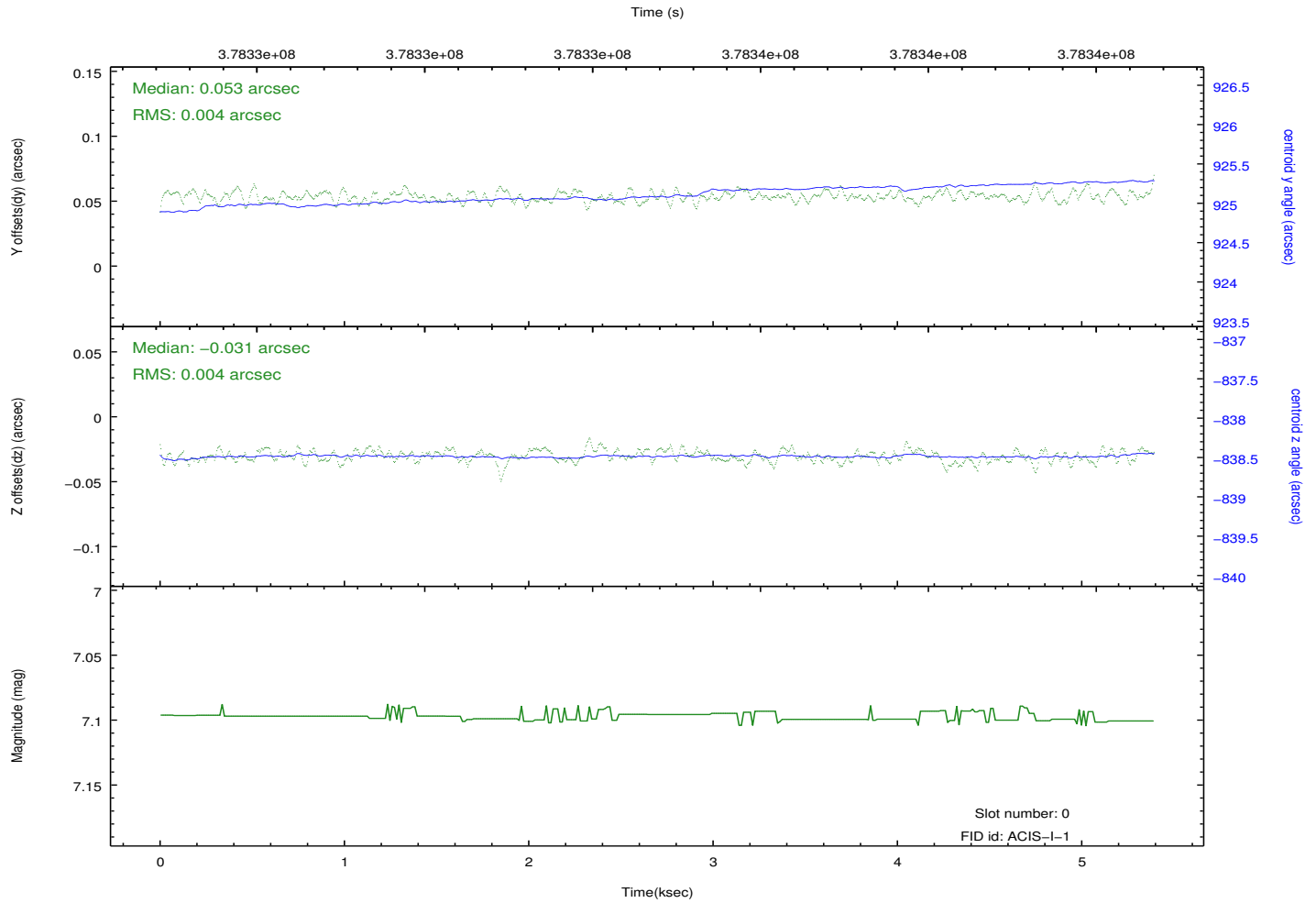
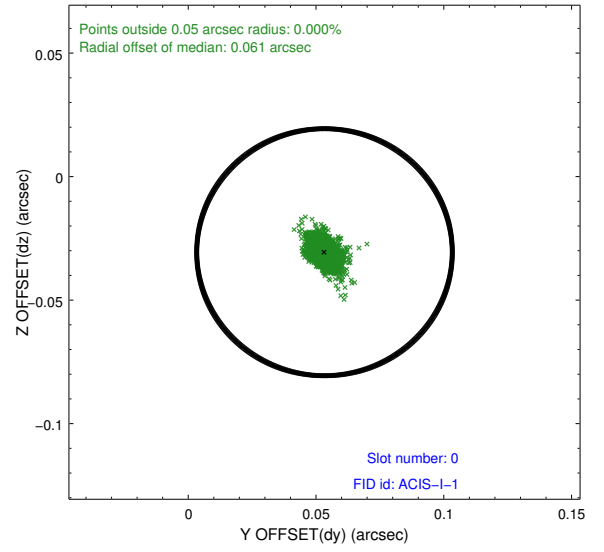
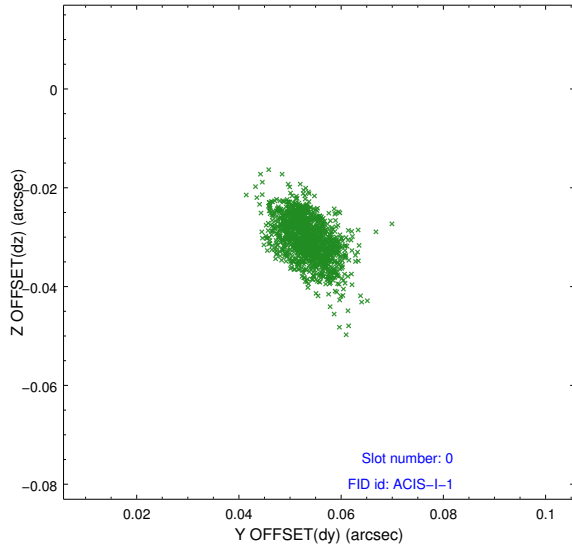


Time (s)

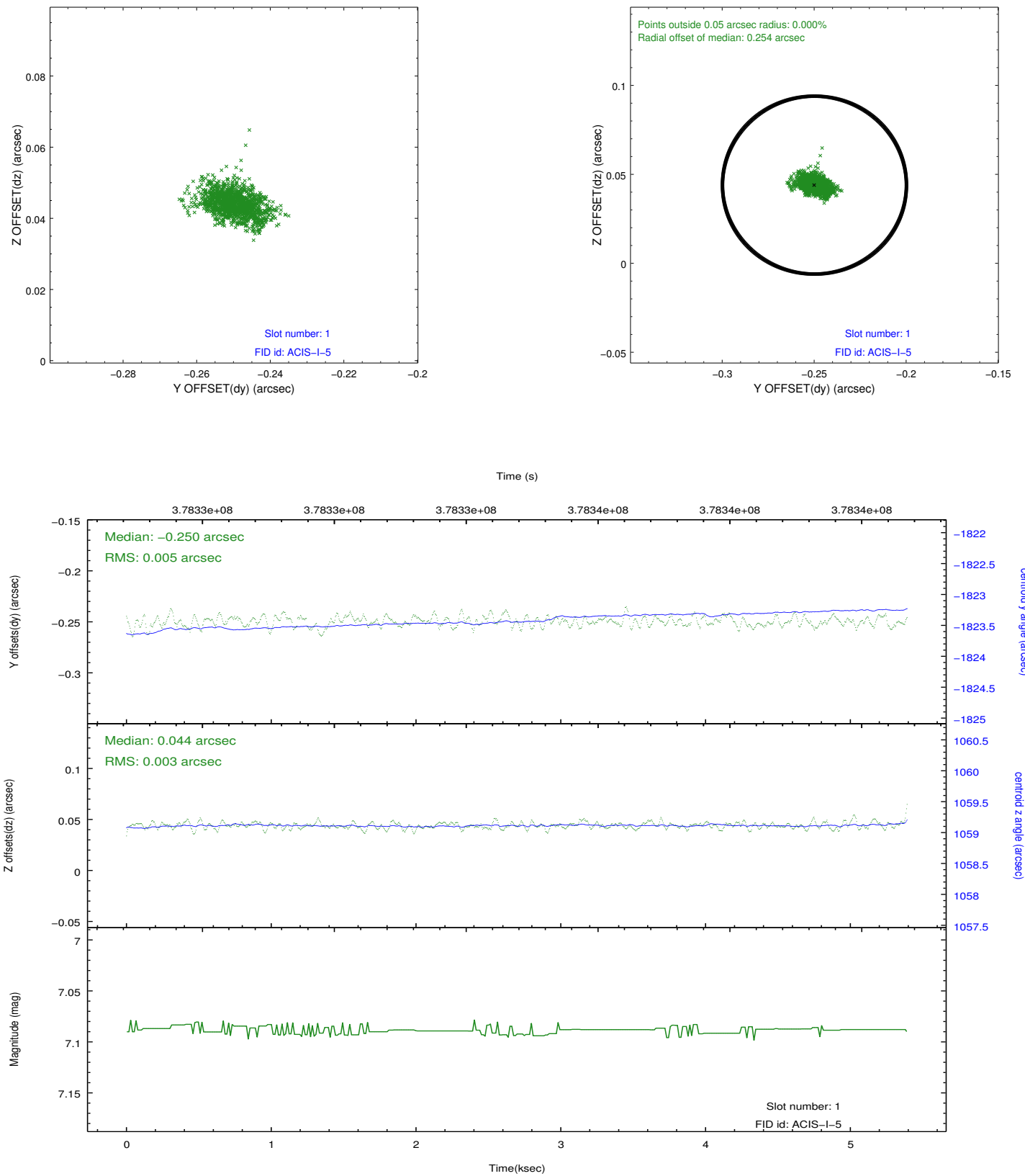


## 2.5 FID Slots

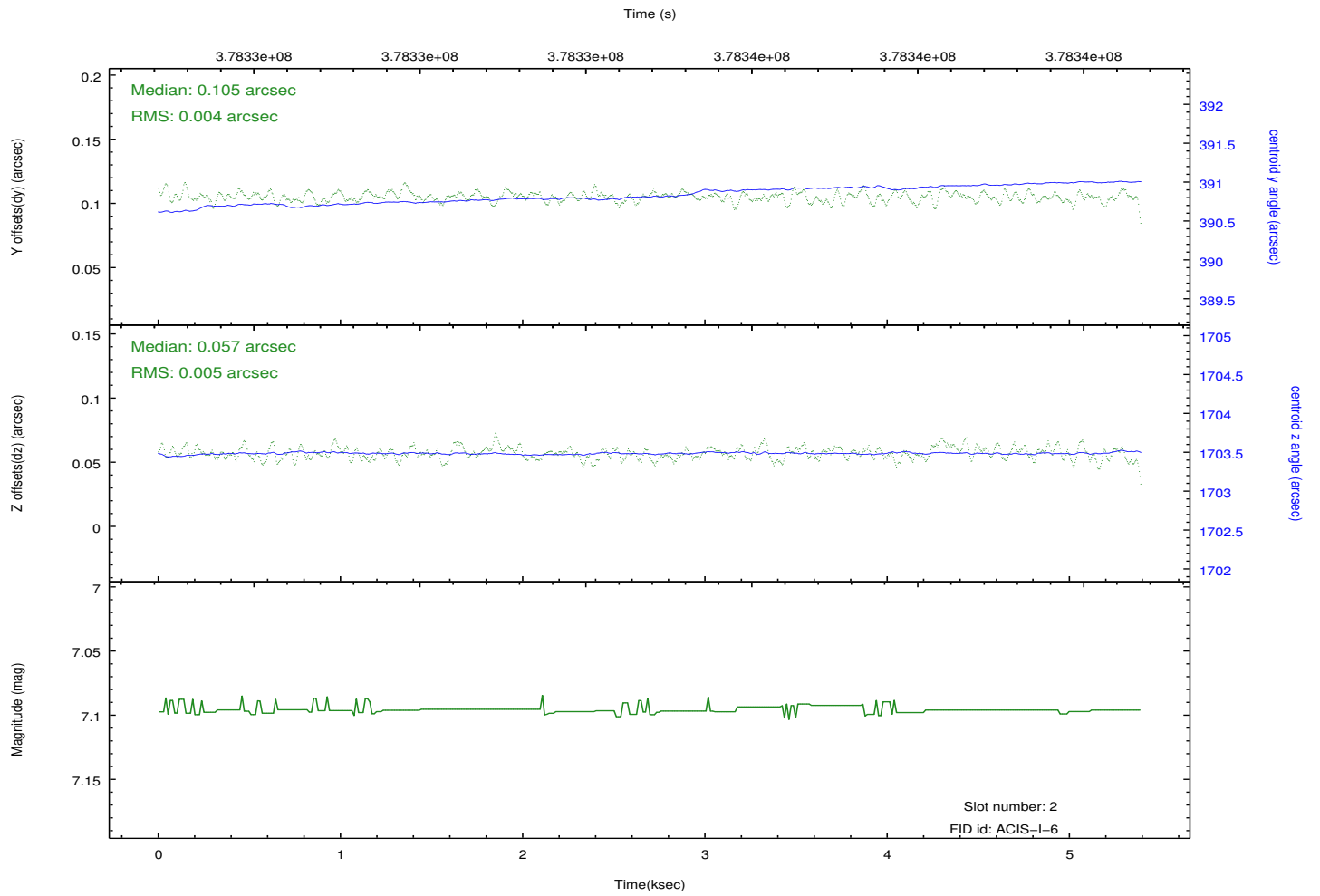
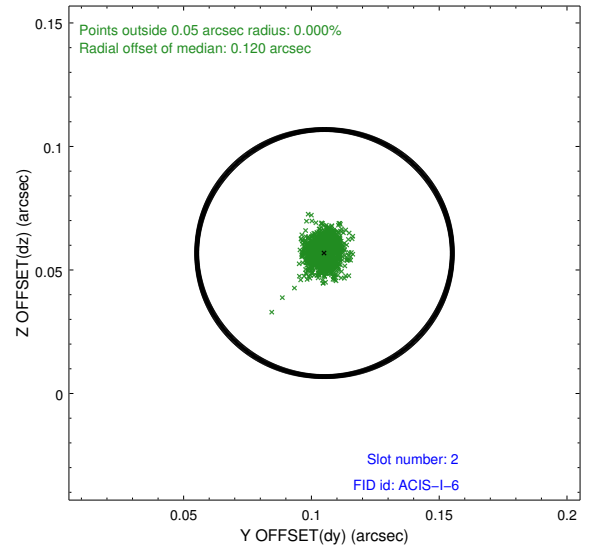
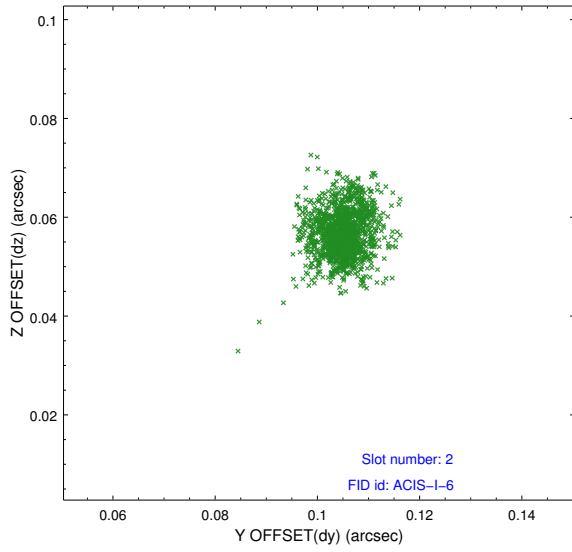
### 2.5.1 Slot 0



## 2.5.2 Slot 1



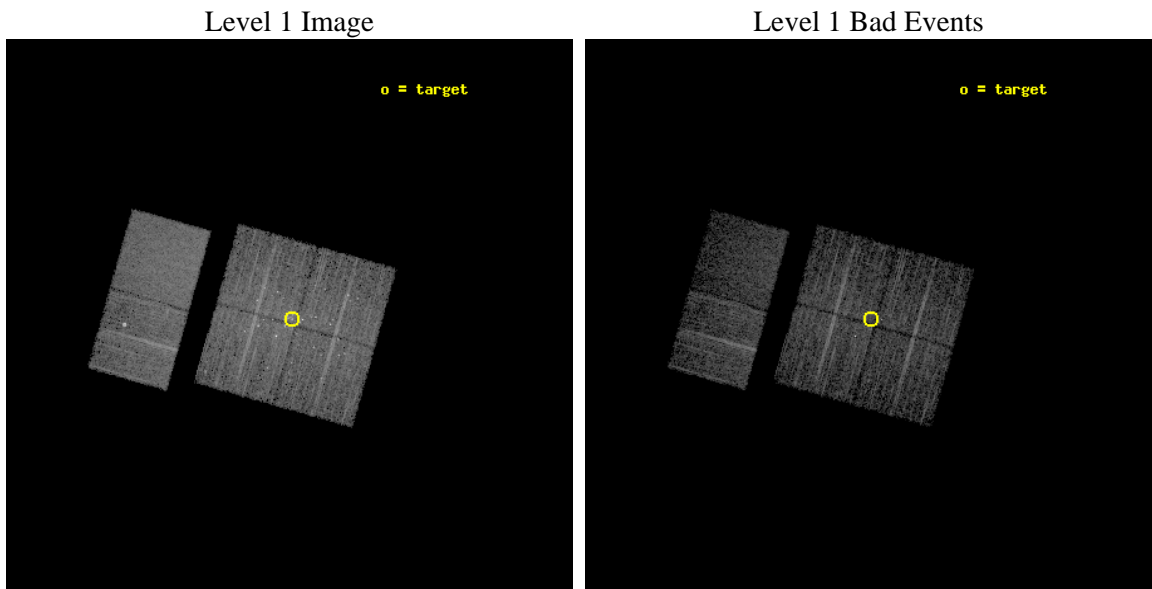
### 2.5.3 Slot 2



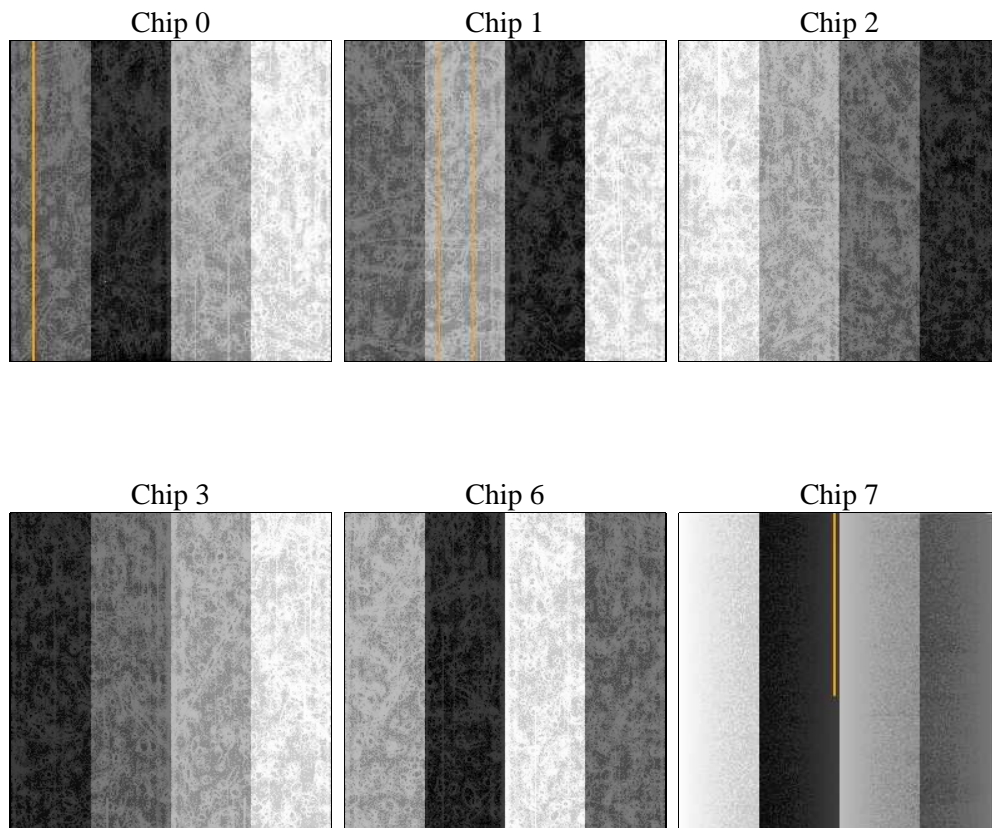
# 3 OBI Secondary

## 3.1 OBI

### 3.1.1 Images



### 3.1.2 Bias



### 3.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5178.040000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	4154.8913108706	Sum of GTIs [s]
caldbver	4.4.10	&#160	ontime0	4154.8912091851	Sum of GTIs [s]
date	2012-06-18T19:06:41	Date and time of file creation	ontime1	4154.8912394643	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	4151.650259912	Sum of GTIs [s]
			ontime3	4154.8913108706	Sum of GTIs [s]
			ontime6	4154.8912087083	Sum of GTIs [s]
			ontime7	4154.8912635446	Sum of GTIs [s]
			l1events	237295	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	34362	38606	43807	38737	38703	43080	grade 0 events	3177	4576	4633	4183	3130	1866
rejected events	28292	30313	35613	31653	32888	23111		9%	11%	10%	10%	8%	4%
rejected %	82%	78%	81%	81%	84%	53%	grade 1 events	37	118	290	67	26	51
								0%	0%	0%	0%	0%	0%
							grade 2 events	1150	1530	1397	1120	937	4086
								3%	3%	3%	2%	2%	9%
							grade 3 events	478	622	585	498	458	1738
								1%	1%	1%	1%	1%	4%
							grade 4 events	461	574	553	499	442	1781
								1%	1%	1%	1%	1%	4%
							grade 5 events	1388	1501	1637	1506	1584	4346
								4%	3%	3%	3%	4%	10%
							grade 6 events	816	1006	1034	791	865	10535
								2%	2%	2%	2%	2%	24%
							grade 7 events	26855	28679	33678	30073	31261	18677
								78%	74%	76%	77%	80%	43%

# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2012.06.22
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.12676324605939

## A.2 Comments

Window preference met.