

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 13393 - L2 Version 2  
Chandra X-Ray Center

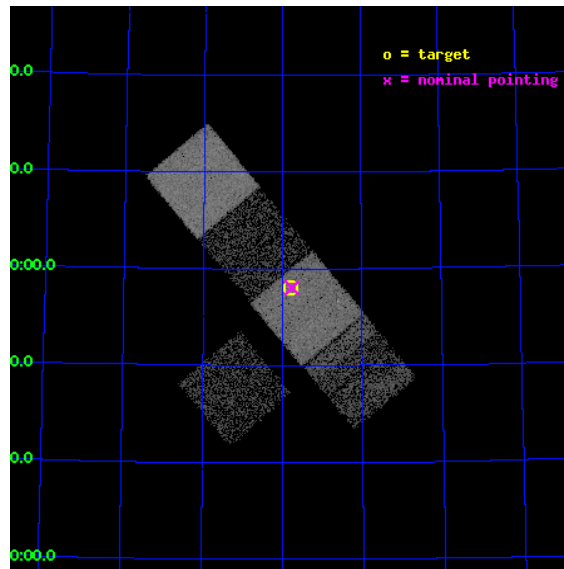
L2 Processing Date : Mar 1 2012

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# 1 Front

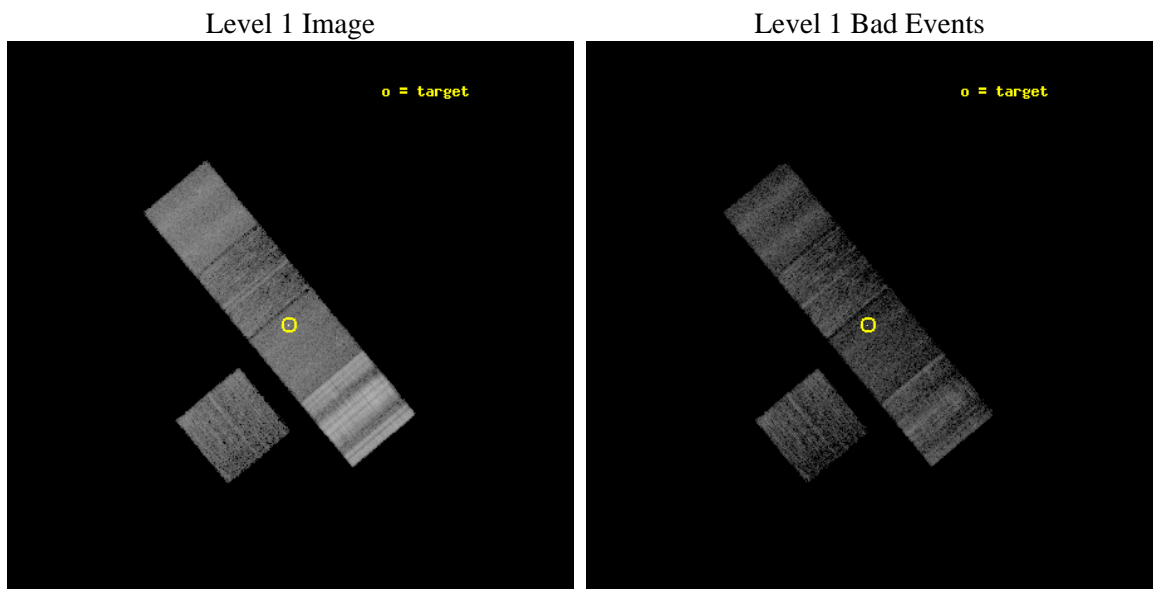
seq_num	801080	Sequence number
obs_id	13393	Observation id
title	4C73.18: Catching a black hole as it transitions from very bright to very dim	Proposal title
observer	Dr Stephen Murray	Principal investigator
object	4C73.18	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	291.952083	Observer's specified target RA [deg]
dec_targ	73.967111	Observer's specified target Dec [deg]
ra_nom	291.94094400479	Nominal RA [deg]
dec_nom	73.967562513025	Nominal Dec [deg]
roll_nom	50.167339649402	Nominal Roll [deg]
revision	2	Processing version of data
ontime	4383.4000337124	Sum of GTIs [s]
livetime	4326.1276852598	Livetime [s]
ontime3	3299.7656752467	Sum of GTIs [s]
ontime5	4383.4000337124	Sum of GTIs [s]
ontime6	3004.5139068961	Sum of GTIs [s]
ontime7	4383.4000337124	Sum of GTIs [s]
ontime8	3422.2632216215	Sum of GTIs [s]
l2events	59275	Number of level 2 events



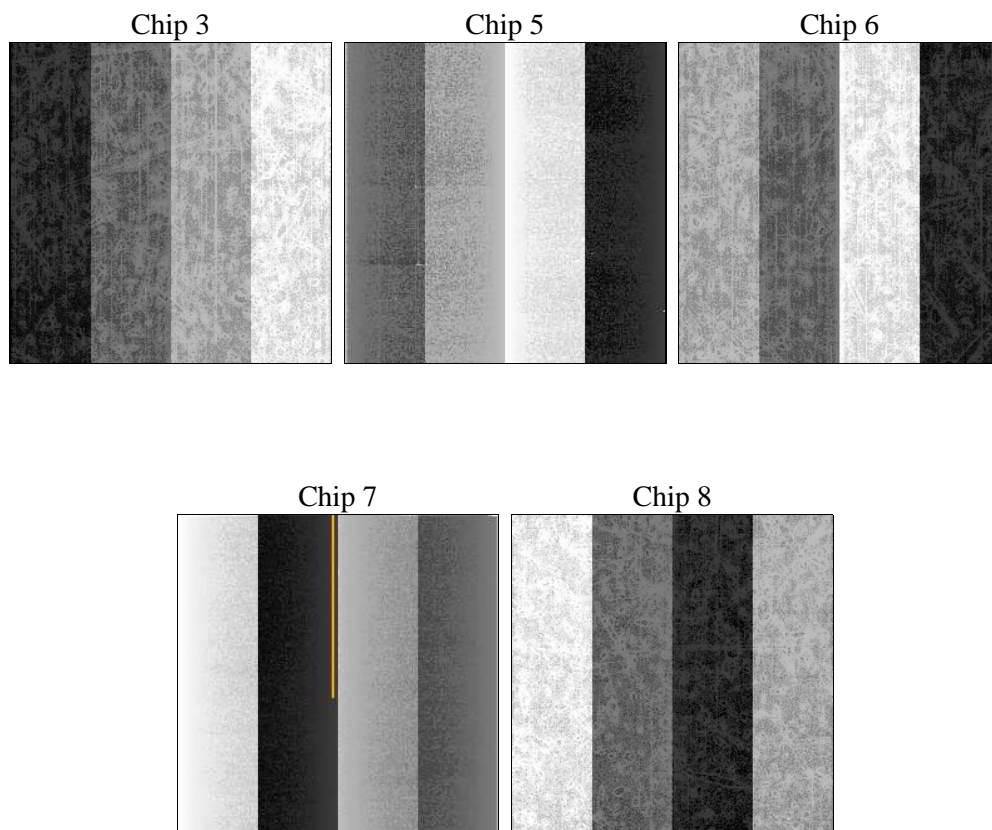
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	20000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	4383.4000337124	Sum of GTIs [s]
caldsver	4.4.8	&#160	ontime3	3299.7656752467	Sum of GTIs [s]
date	2012-03-01T22:36:34	Date and time of file creation	ontime5	4383.4000337124	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	3004.5139068961	Sum of GTIs [s]
			ontime7	4383.4000337124	Sum of GTIs [s]
			ontime8	3422.2632216215	Sum of GTIs [s]
			l1events	324258	Number of level 1 events

### 2.1.4 Events

	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	32543	59843	34606	46814	150452
rejected events	29618	32141	29900	24292	39275
rejected %	91%	53%	86%	51%	26%

	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	1303	2531	2511	2463	40743
	4%	4%	7%	5%	27%
grade 1 events	18	254	31	177	364
	0%	0%	0%	0%	0%
grade 2 events	680	9303	1205	5709	10844
	2%	15%	3%	12%	7%
grade 3 events	267	1929	259	2042	23225
	0%	3%	0%	4%	15%
grade 4 events	239	1820	261	2049	20868
	0%	3%	0%	4%	13%
grade 5 events	937	3943	873	4326	2532
	2%	6%	2%	9%	1%
grade 6 events	445	12237	497	10375	16055
	1%	20%	1%	22%	10%
grade 7 events	28654	27826	28969	19673	35821
	88%	46%	83%	42%	23%

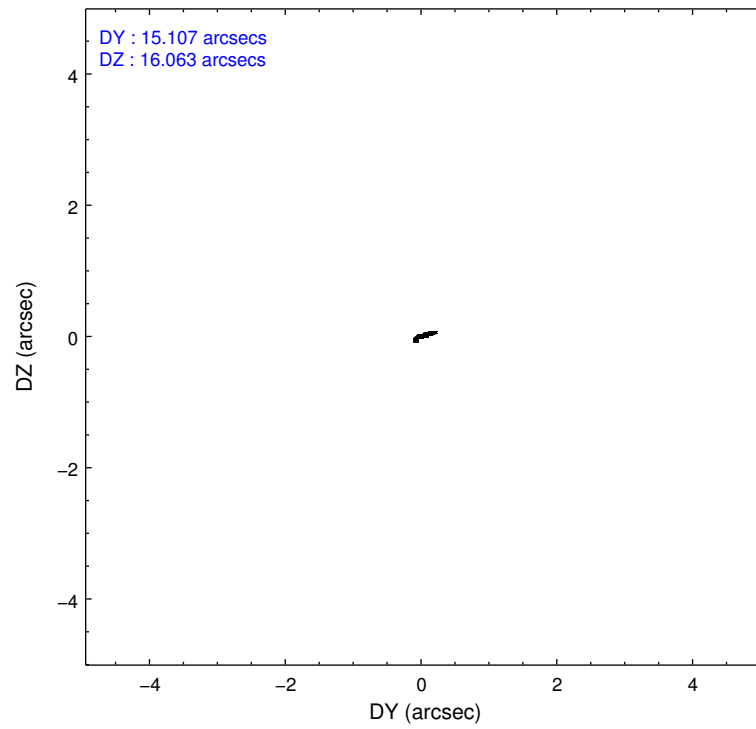
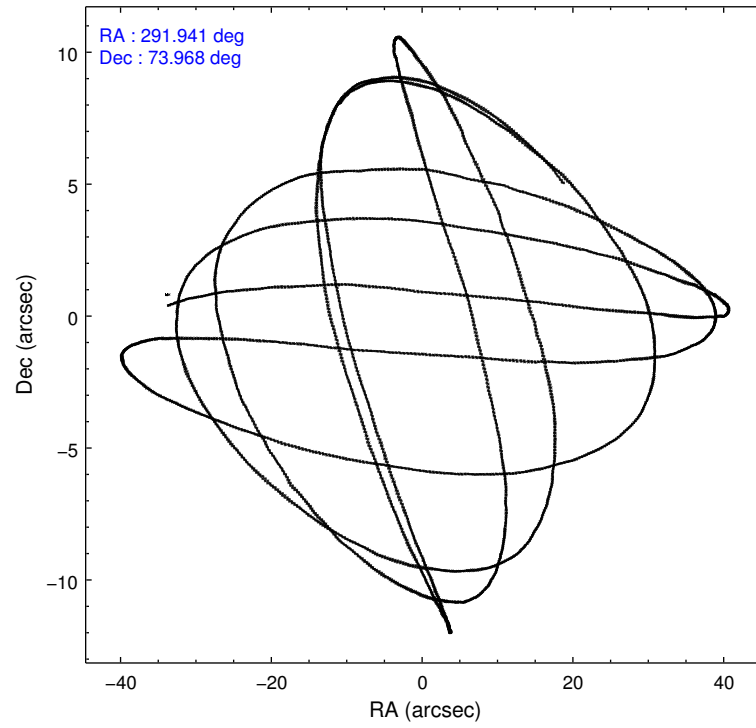


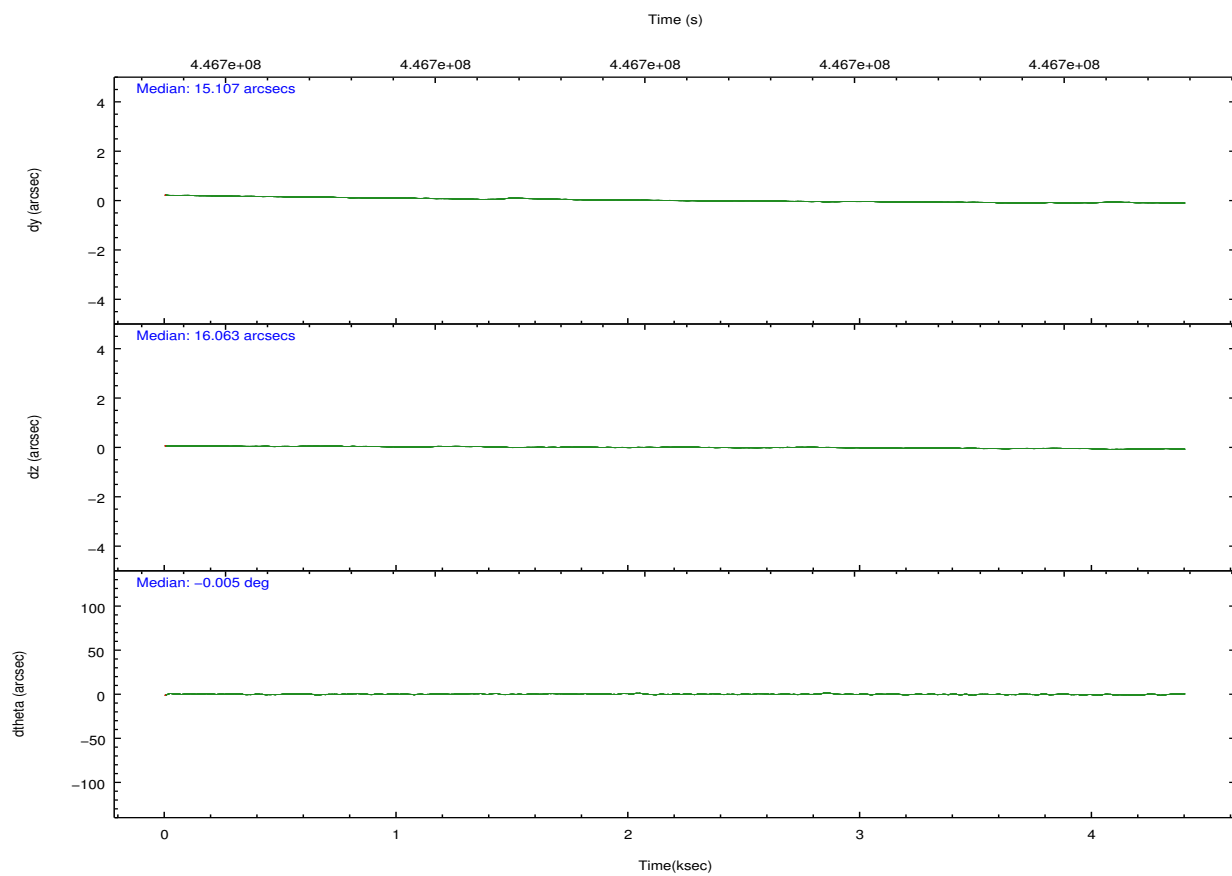
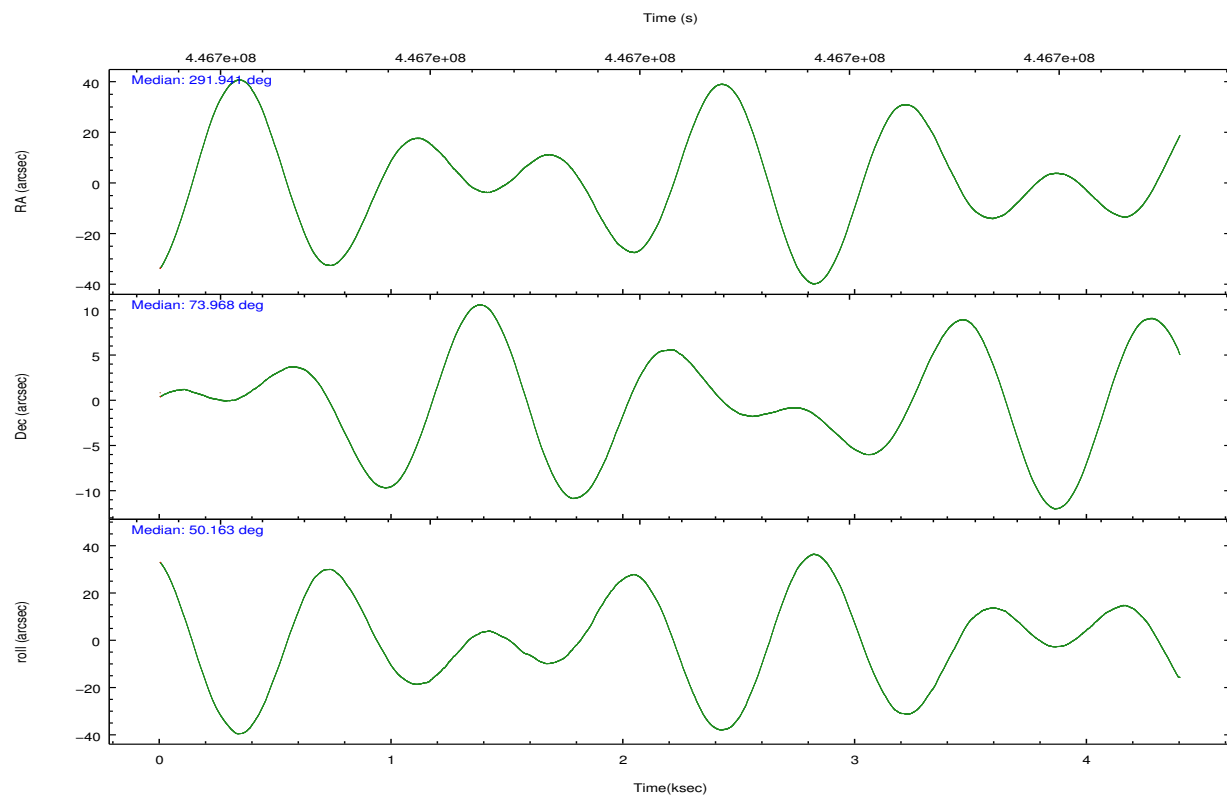
## 2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-35678	ACIS-35678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	291.925443	291.9409440047928
[deg] Pointing Dec	73.940429	73.96756251302517
[deg] Pointing Roll	50.025606	50.16733964940185
[mm] SIM focus pos	-0.6828225247311905	-0.6828225247311905
[mm] SIM defocus	0.001444942264670179	0.001444942264670179
[mm] SIM translation stage pos	-190.1400660498719	-190.1400660498719
[mm] SIM translation stage offset	0.007542945904702947	0.007542945904702947
[s] Observation start time (MET)	446695939.184000	446695939.184
Observation start date	2012-02-27T02:11:13	2012-02-27T02:12:19
[s] Observation end time (MET)	446700341.000000	446700341
Observation end date	2012-02-27T03:25:41	2012-02-27T03:25:41
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	OVERRIDE	OVERRIDE
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	3.1	3.1

## 2.3 Aspect



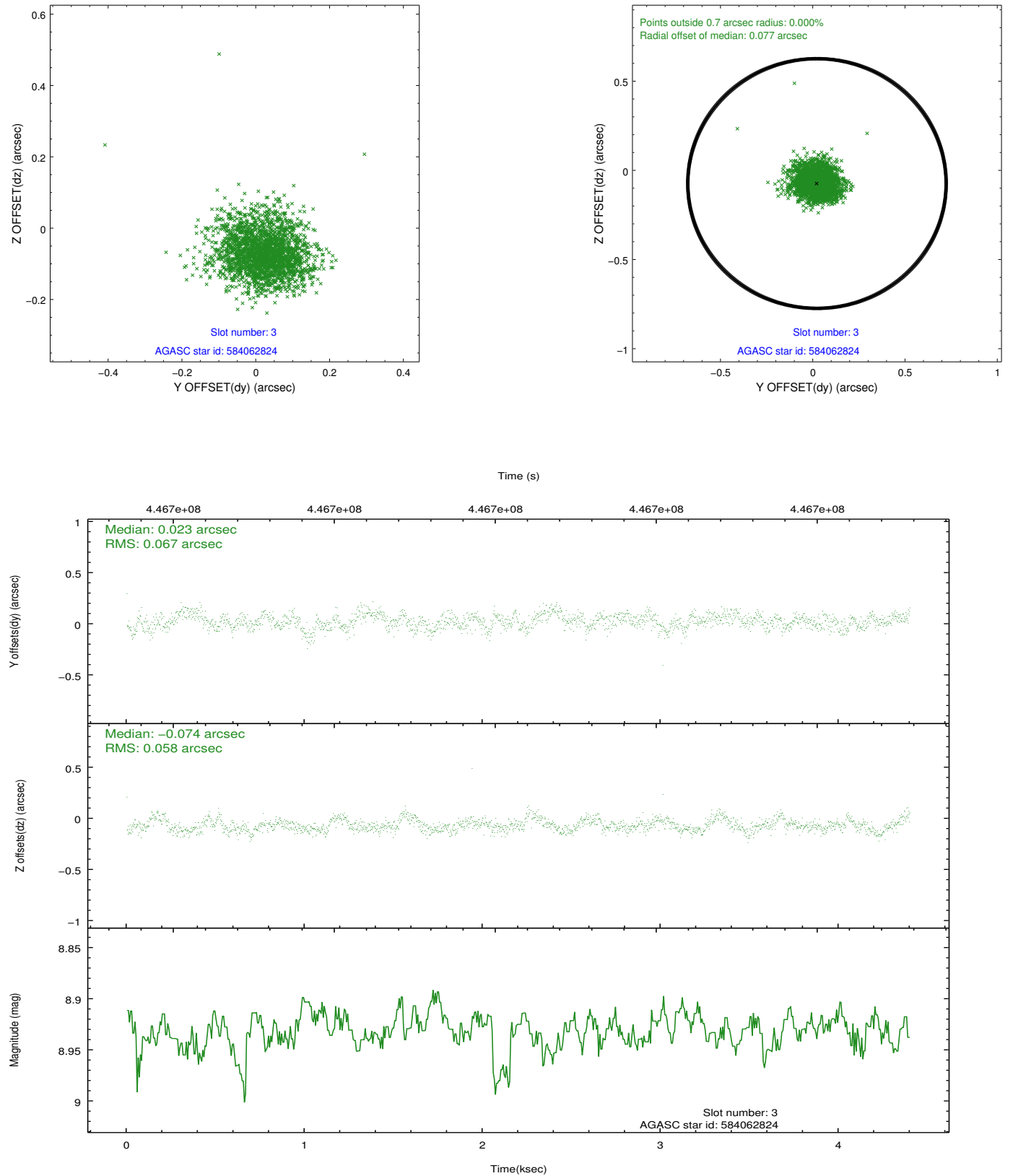


### Slot Statistics

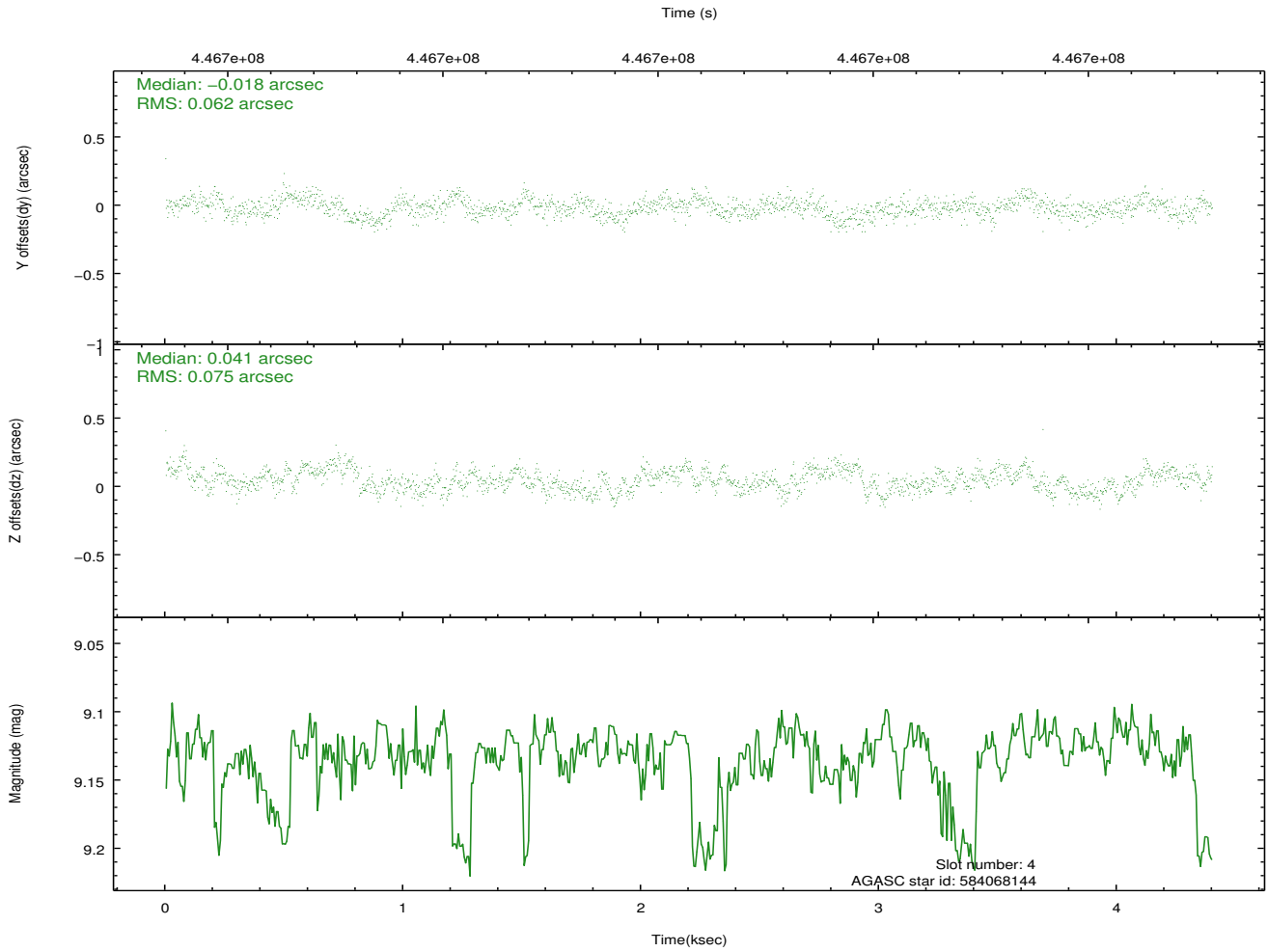
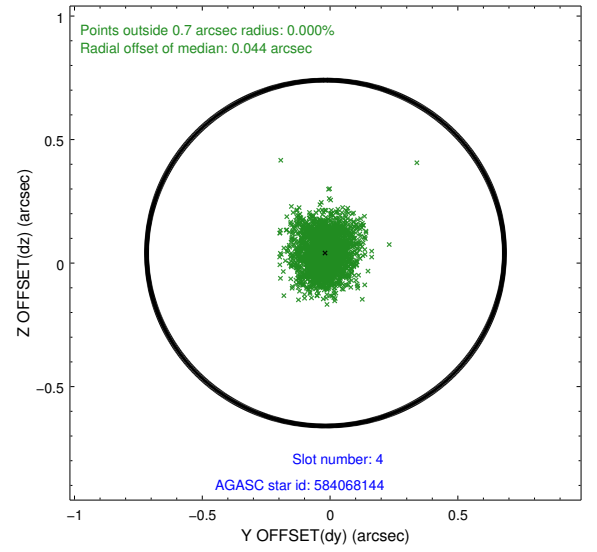
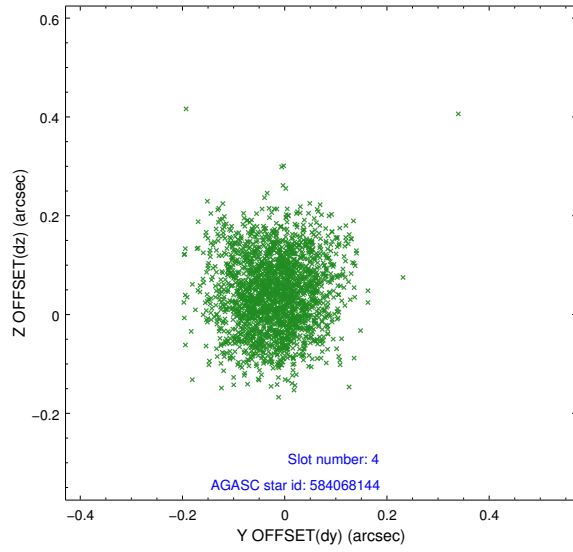
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.00	1074	0.030	-0.069	0.009	0.017	0.000000	0.000000	927.95	-1733.18
1	FID	ACIS-S-4	7.01	1074	0.166	0.037	0.009	0.018	0.000000	0.000000	2146.27	169.63
2	FID	ACIS-S-5	7.04	1074	-0.225	0.044	0.011	0.026	0.000000	0.000000	-1819.37	164.84
3	GUIDE	584062824	8.93	2138	0.023	-0.074	0.093	0.149	293.526941	74.298987	2007.56	-352.62
4	GUIDE	584068144	9.13	2138	-0.018	0.041	0.105	0.167	293.270586	73.654716	99.71	-1695.40
5	GUIDE	584070872	9.39	2137	0.168	0.078	0.129	0.211	292.547035	73.360860	-1183.75	-1829.31
6	GUIDE	584058424	8.56	2144	0.039	-0.044	0.109	0.186	288.753861	73.829347	-2284.31	2232.14
7	GUIDE	584073696	6.86	2146	-0.212	-0.009	0.072	0.119	293.792631	74.377476	2389.21	-356.70

## 2.4 Star Slots

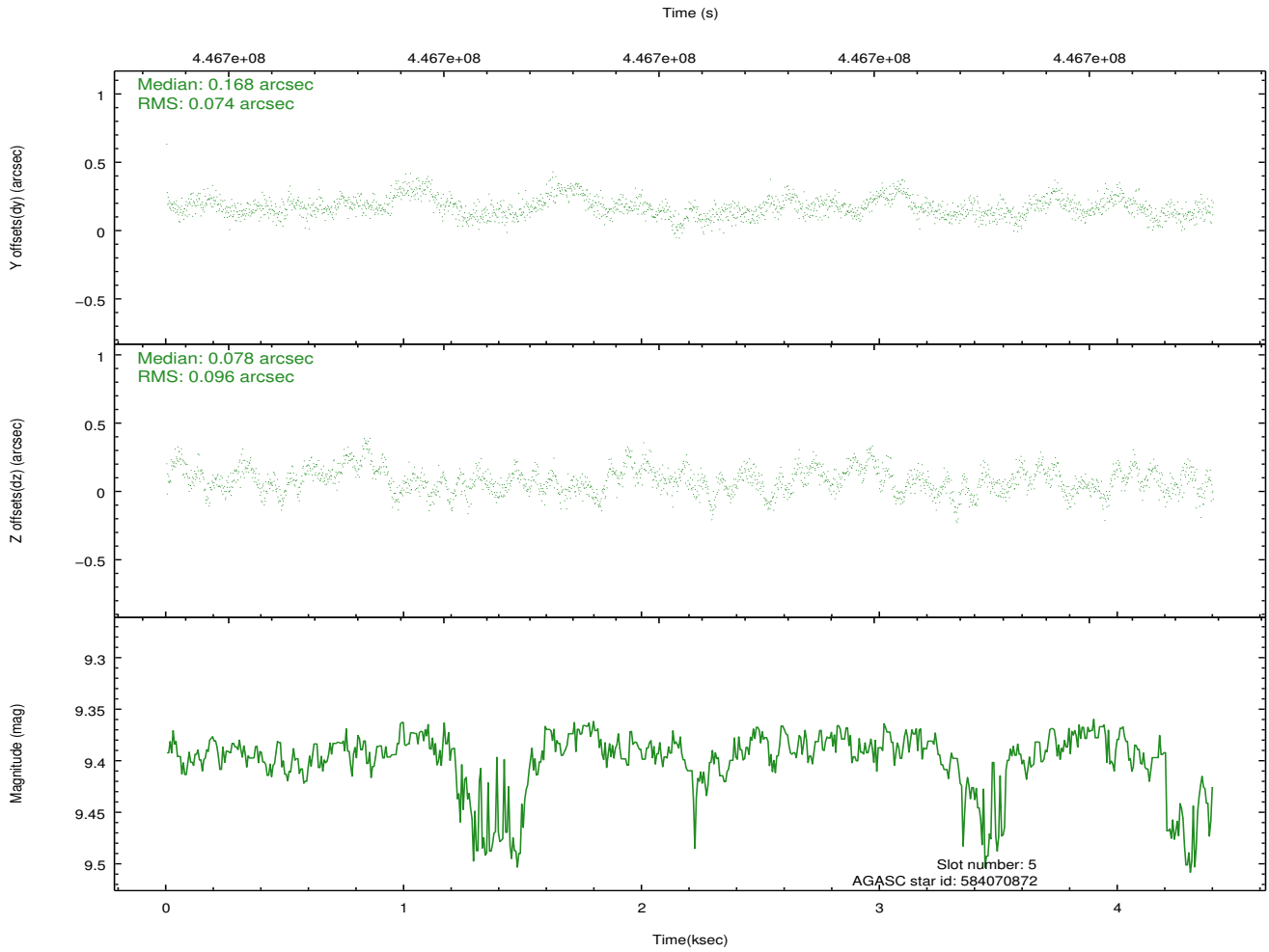
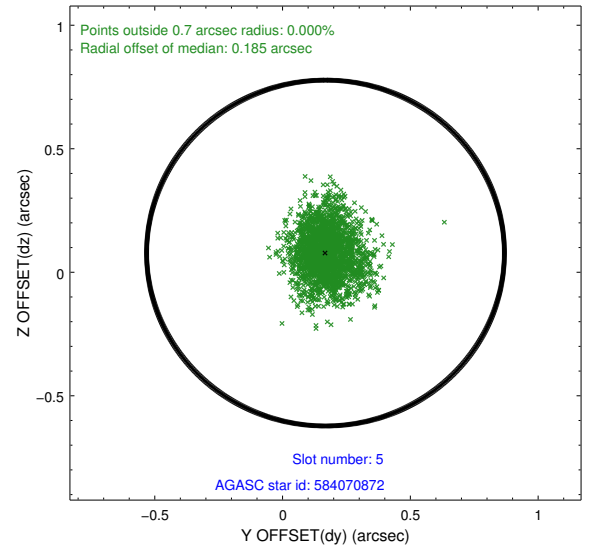
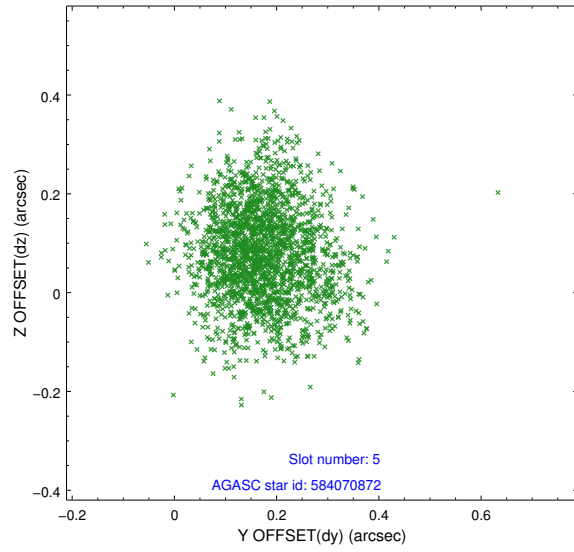
### 2.4.1 Slot 3



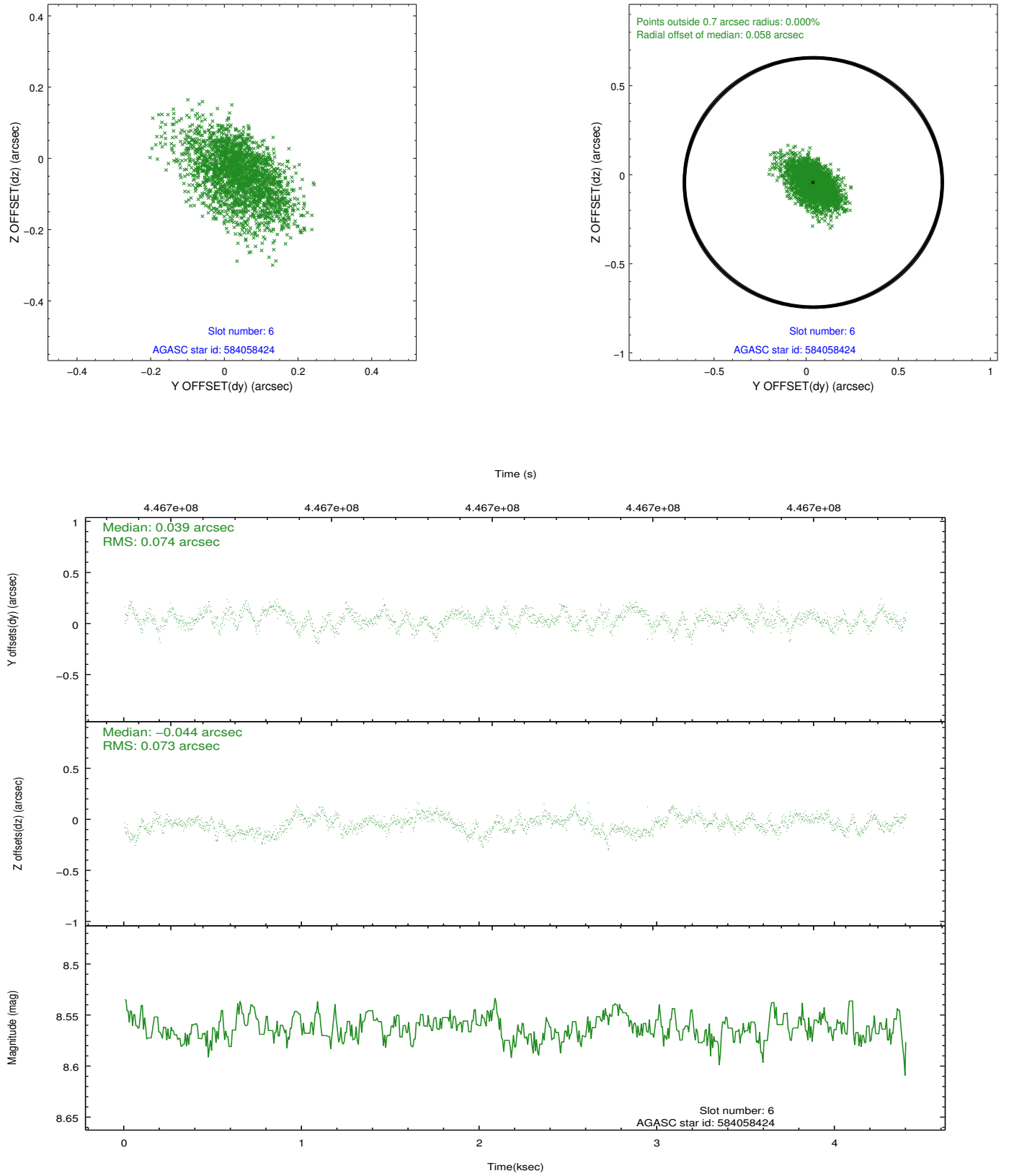
## 2.4.2 Slot 4



### 2.4.3 Slot 5

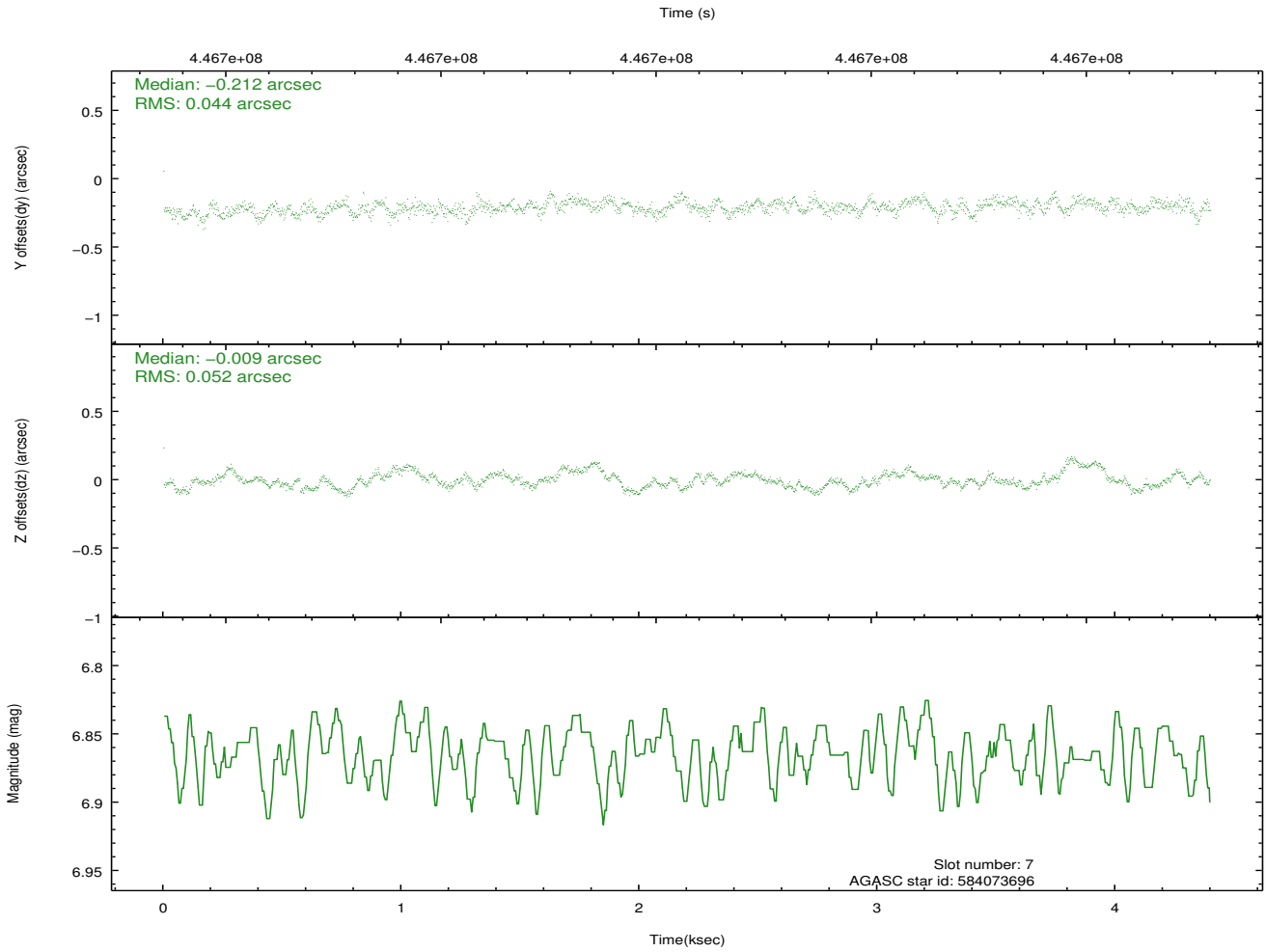
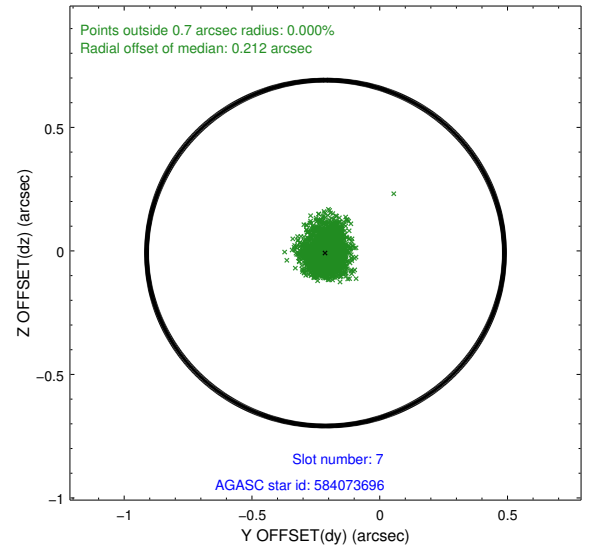
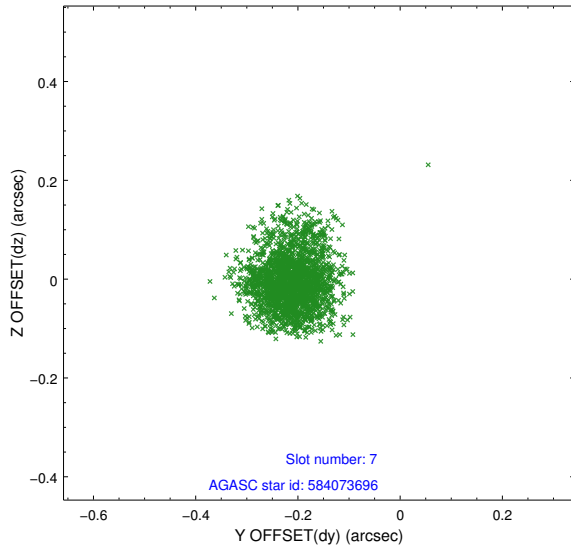


## 2.4.4 Slot 6



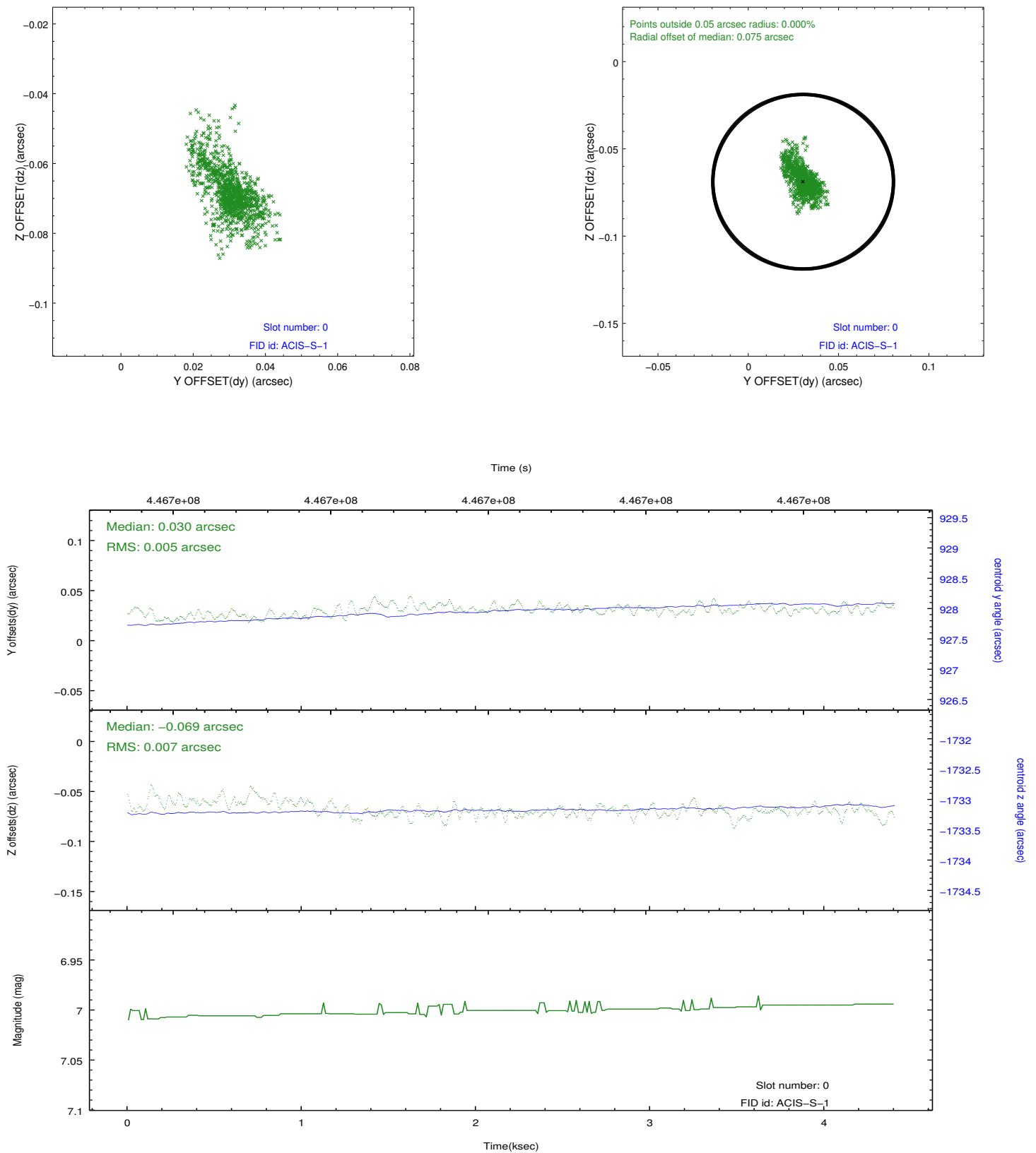


## 2.4.5 Slot 7

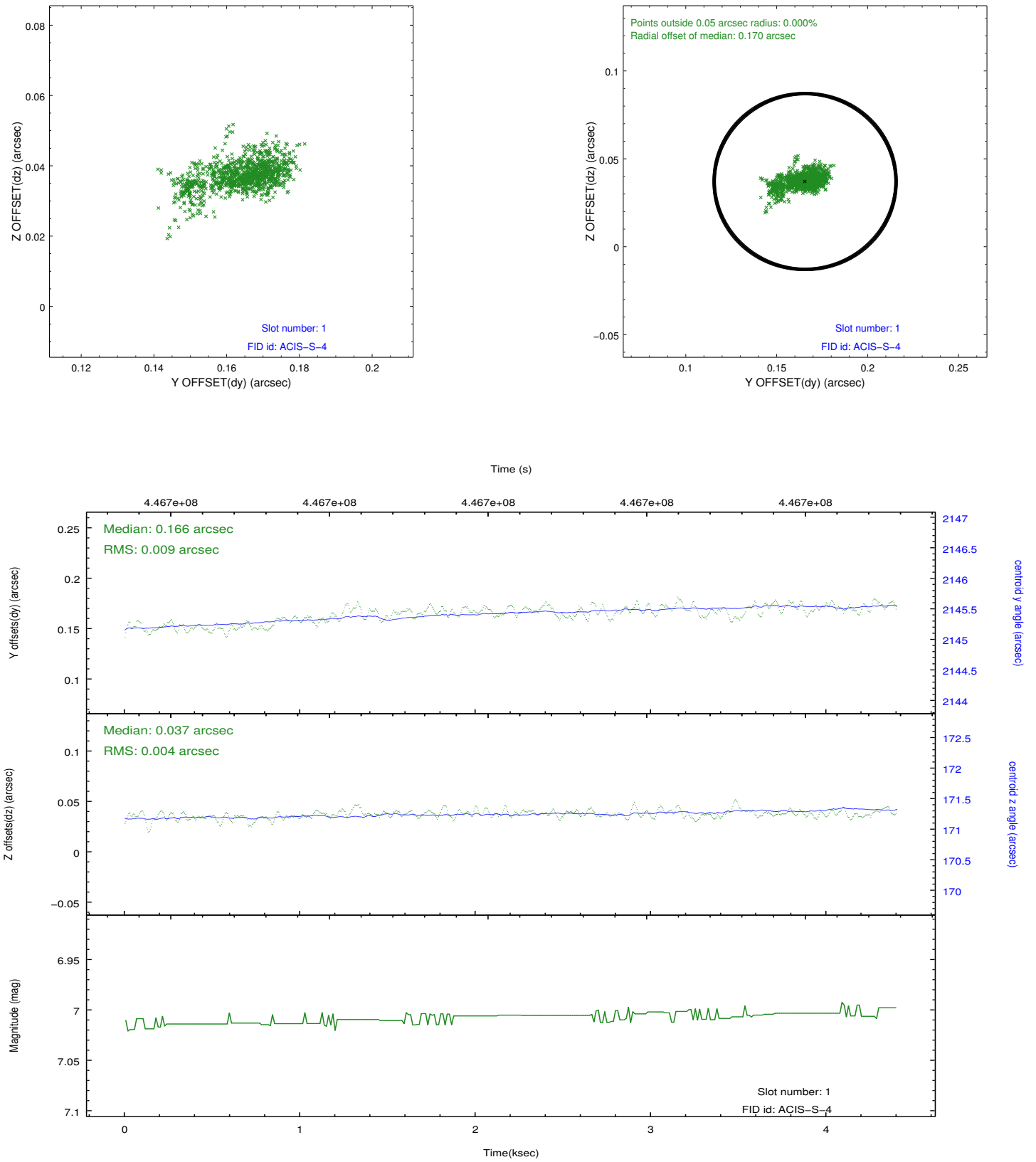


## 2.5 FID Slots

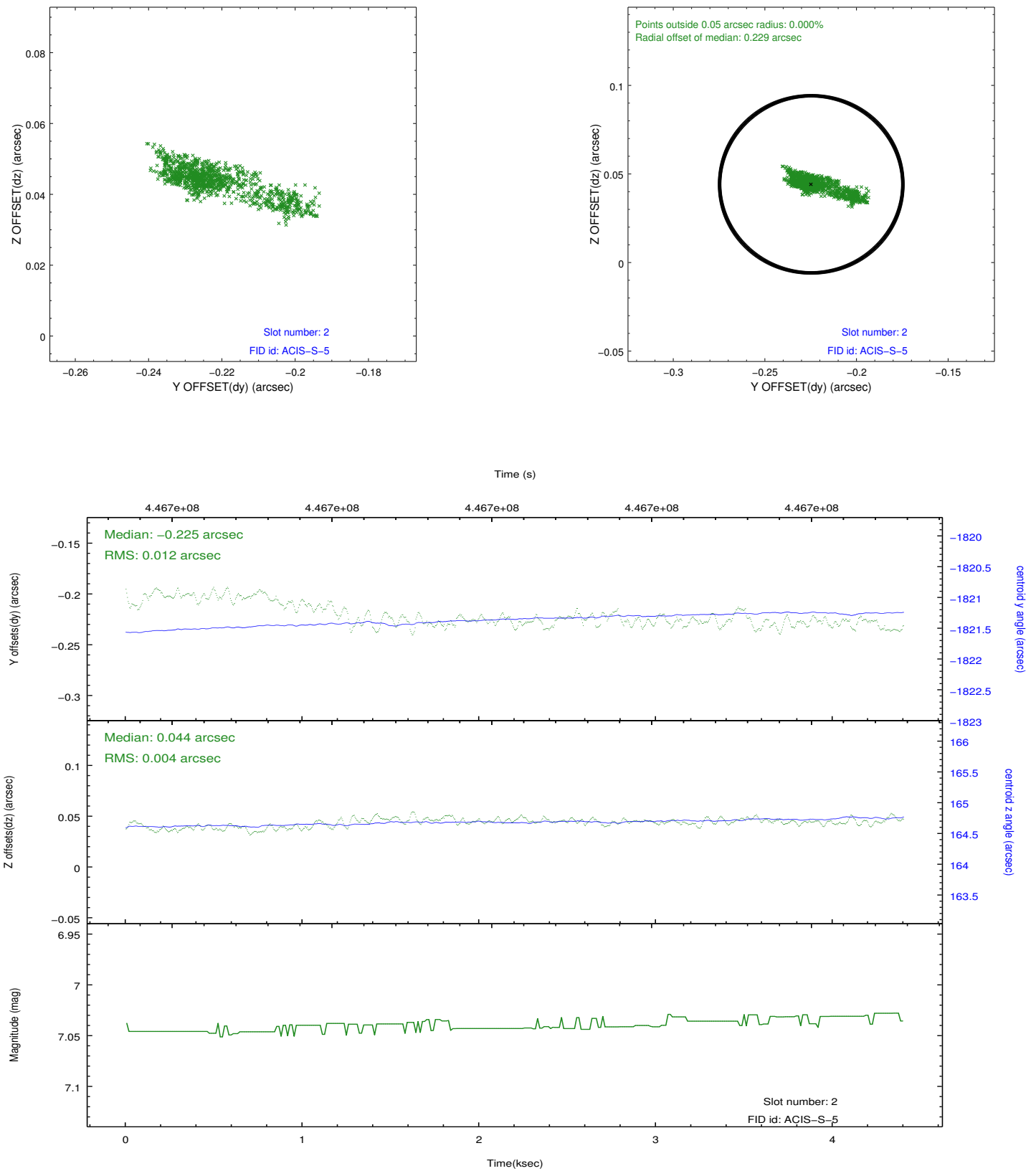
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2012.03.02
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.3834000337124

## A.2 Comments

This observation was taken during a high radiation spacecraft environment.

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ONTIME for the various CCD's varies significantly. CCD\_S4 generated large numbers of 'events', and CCD\_I3 and CCD\_S2 somewhat less, due perhaps to the high radiation background (although the bias maps look normal). The sum total of events from the 5 chips was more than the observer had expected and it saturated downlink telemetry. Luckily, no CCD\_S3 or CCD\_S1 exposures were dropped. The charge time is based on CCD\_S3, the chip with the target.

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This observation was terminated with a safing of the instruments due to a high radiation environment.