

# V&V Reference Report

## L2 ASCDS Version : 8.5

Observation 4501 - L2 Version 4  
Chandra X-Ray Center

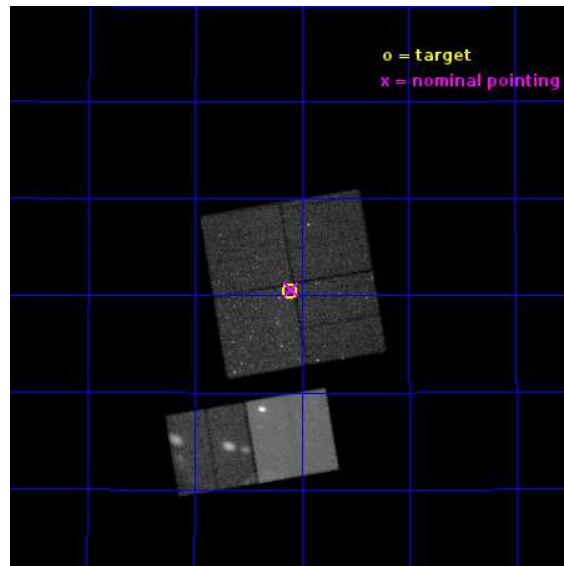
L2 Processing Date : Dec 6 2012

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# 1 Front

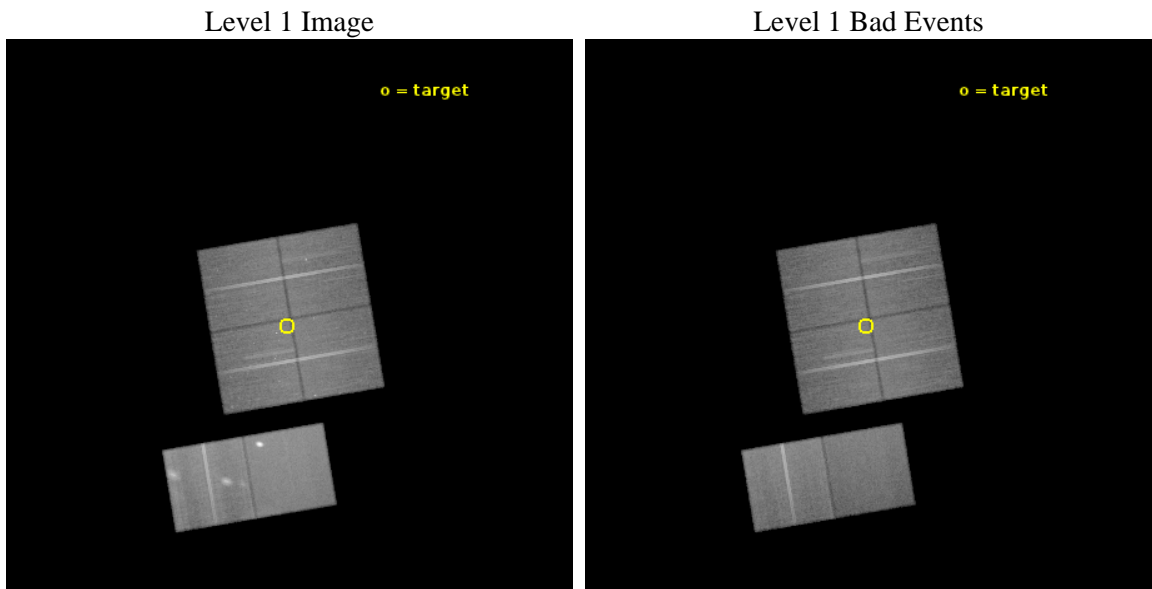
seq_num	200270	Sequence number
obs_id	4501	Observation id
title	Cosmic Ray Acceleration and Non-thermal X-rays in Cyg OB2	Proposal
observer	Dr. Yousaf Butt	Principal investigator
object	Cygnus OB2 North West	Source name
dtycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	308.029167	Observer's specified target RA [deg]
dec_targ	41.508333	Observer's specified target Dec [deg]
ra_nom	308.02393894509	Nominal RA [deg]
dec_nom	41.510833718609	Nominal Dec [deg]
roll_nom	170.39919732961	Nominal Roll [deg]
revision	4	Processing version of data
ontime	49353.517925292	Sum of GTIs [s]
liveltime	48728.573964201	Livetime [s]
ontime0	49356.758945376	Sum of GTIs [s]
ontime1	49350.276984811	Sum of GTIs [s]
ontime2	49350.276974916	Sum of GTIs [s]
ontime3	49353.517925292	Sum of GTIs [s]
ontime7	49359.99981612	Sum of GTIs [s]
ontime8	49353.517955154	Sum of GTIs [s]
l2events	478133	Number of level 2 events



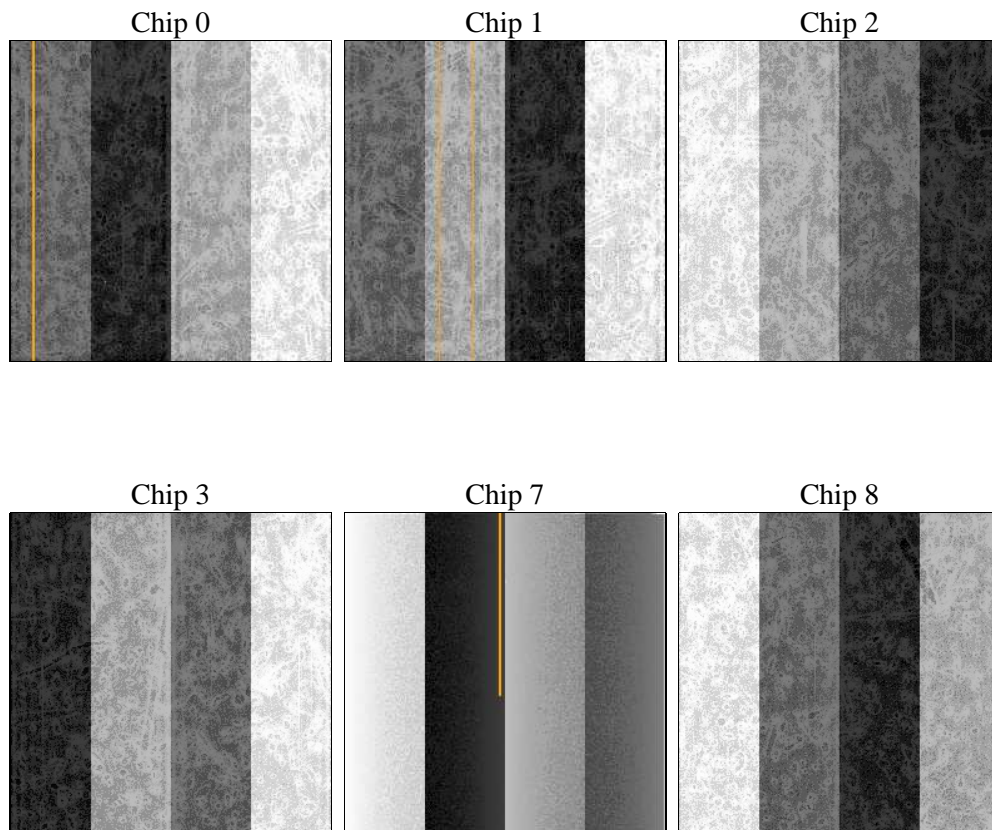
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	49232.000000	[s] Scheduled observation exposure time
ascdsver	8.5	Processing system revision	ontime	49353.517925292	Sum of GTIs [s]
caldbver	4.5.4	&#160	ontime0	49356.758945376	Sum of GTIs [s]
date	2012-12-06T11:07:19	Date and time of file creation	ontime1	49350.276984811	Sum of GTIs [s]
revision	4	Processing version of data	ontime2	49350.276974916	Sum of GTIs [s]
			ontime3	49353.517925292	Sum of GTIs [s]
			ontime7	49359.99981612	Sum of GTIs [s]
			ontime8	49353.517955154	Sum of GTIs [s]
			l1events	2427230	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 7	ccd 8		ccd 0	ccd 1	ccd 2	ccd 3	ccd 7	ccd 8
level 1 events	330800	339141	358792	367251	518055	513191	grade 0 events	21127	21364	23359	29085	27047	62717
rejected events	284059	289460	311291	311951	284022	375284		6%	6%	6%	7%	5%	12%
rejected %	85%	85%	86%	84%	54%	73%	grade 1 events	231	170	215	263	502	516
								0%	0%	0%	0%	0%	0%
							grade 2 events	9532	10301	8974	9545	48858	25450
								2%	3%	2%	2%	9%	4%
							grade 3 events	4423	4591	4155	4528	21639	11948
								1%	1%	1%	1%	4%	2%
							grade 4 events	4077	4498	4123	4501	21631	11436
								1%	1%	1%	1%	4%	2%
							grade 5 events	14321	15084	13814	16021	46008	22390
								4%	4%	3%	4%	8%	4%
							grade 6 events	7584	8928	6891	7647	114871	26373
								2%	2%	1%	2%	22%	5%
							grade 7 events	269505	274205	297261	295661	237499	352361
								81%	80%	82%	80%	45%	68%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-012378	ACIS-012378	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	308.058177	308.0239389450886	Subarray requested	NONE	NONE
[deg] Pointing Dec	41.520471	41.51083371860867	Alternating exposures requested	N	N
[deg] Pointing Roll	170.167811	170.3991973296149	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.782348	-0.7809083437167272			
[mm] SIM defocus	0	0.001439871863259334			
[mm] SIM translation stage pos	-233.592463	-233.5874344608287			
[mm] SIM translation stage offset	0	-0.005018542100998502			
[s] Observation start time (MET)	206590917.184000	206589873.10828			
Observation start date	2004-07-19T02:20:53	2004-07-19T02:04:33			
[s] Observation end time (MET)	206640149.184000	206641053.41055			
Observation end date	2004-07-19T16:01:25	2004-07-19T16:17:33			
Read mode	TIMED	TIMED			

## 2.3 Aspect

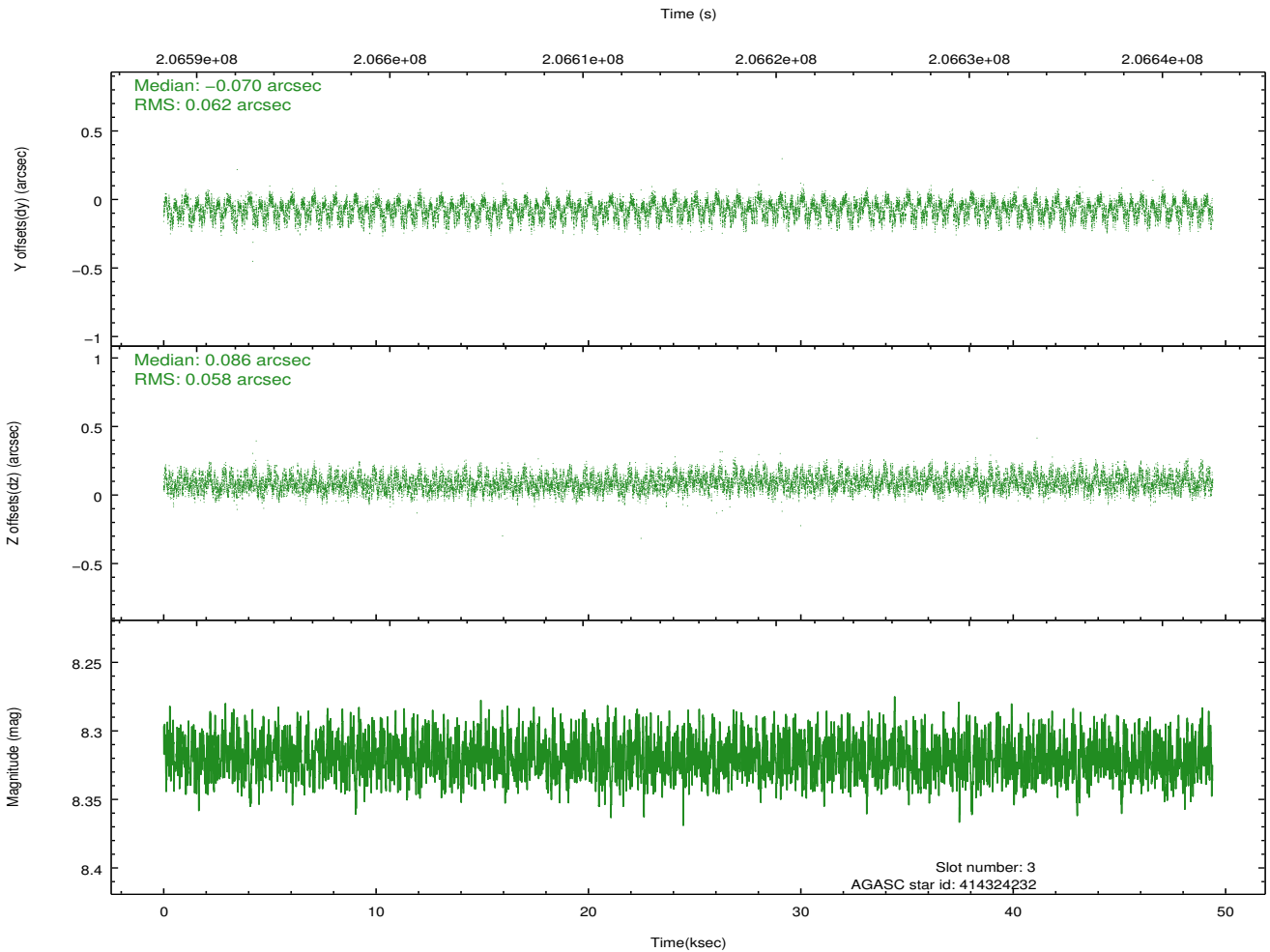
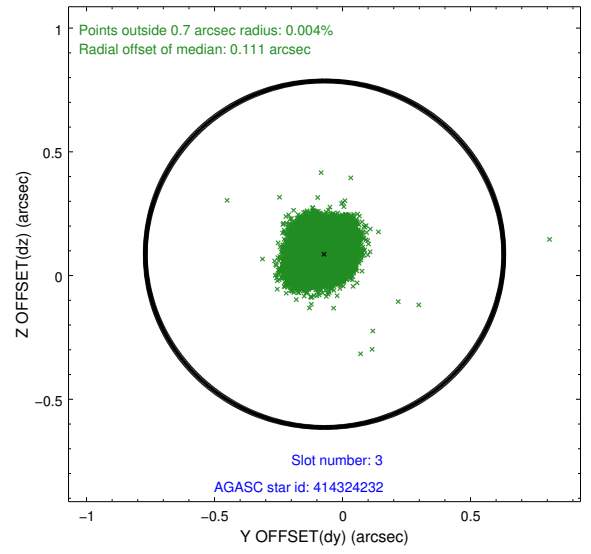
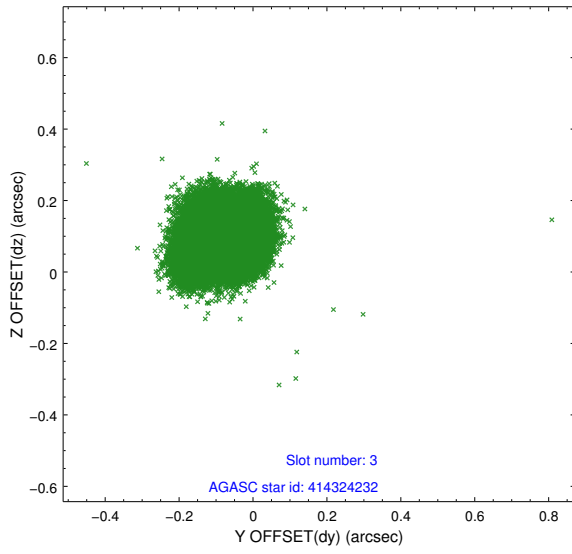


### Slot Statistics

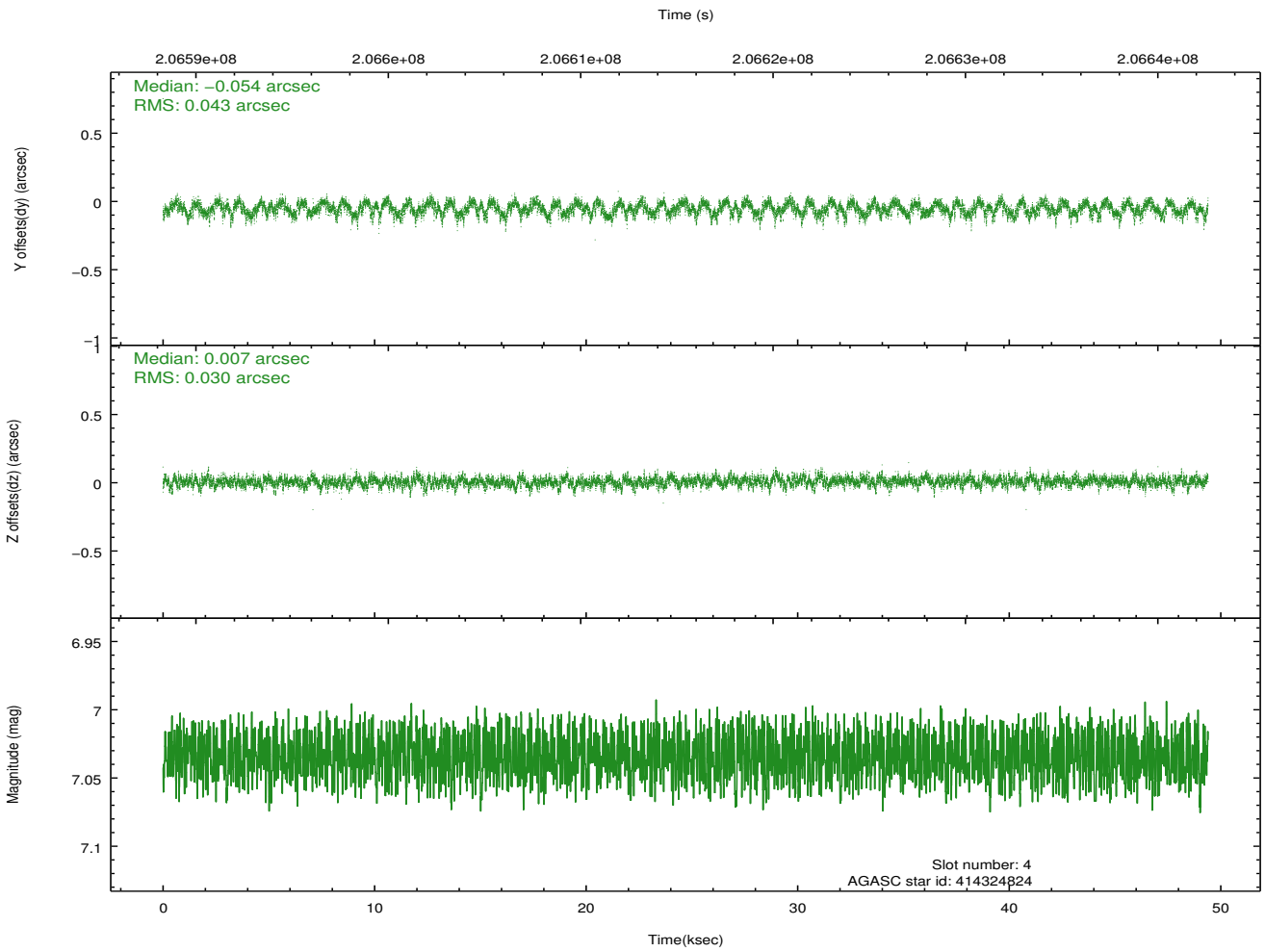
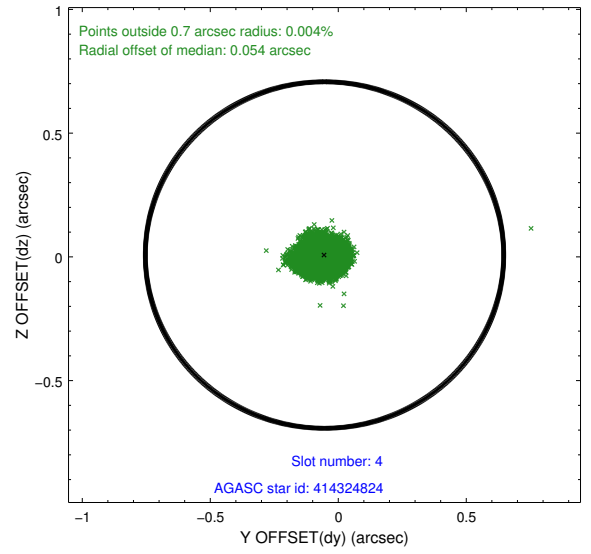
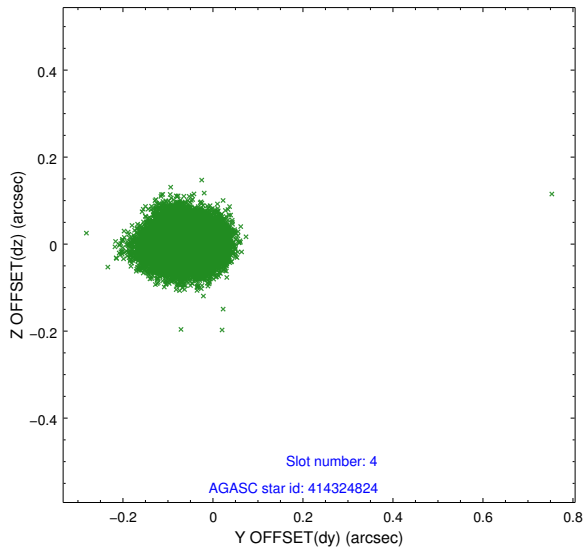
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.24	12049	0.035	0.004	0.012	0.018	0.000000	0.000000	933.56	-832.71
1	FID	ACIS-I-5	7.23	12048	-0.046	0.091	0.020	0.031	0.000000	0.000000	-1814.73	1064.75
2	FID	ACIS-I-6	7.24	12049	-0.078	-0.024	0.014	0.022	0.000000	0.000000	398.89	1709.22
3	GUIDE	414324232	8.32	24087	-0.070	0.086	0.092	0.142	308.637806	41.996627	-1233.96	-1958.76
4	GUIDE	414324824	7.03	24097	-0.054	0.007	0.055	0.088	308.215183	41.898482	-180.71	-1414.83
5	GUIDE	413795864	9.07	24091	-0.015	0.032	0.076	0.126	308.320200	41.030480	-1002.22	1615.59
6	GUIDE	413800040	8.53	24089	-0.037	-0.047	0.069	0.110	308.324931	40.981886	-1045.40	1785.72
7	GUIDE	414189552	9.29	24067	0.172	-0.078	0.153	0.256	307.314504	42.279872	2420.86	-2363.38

## 2.4 Star Slots

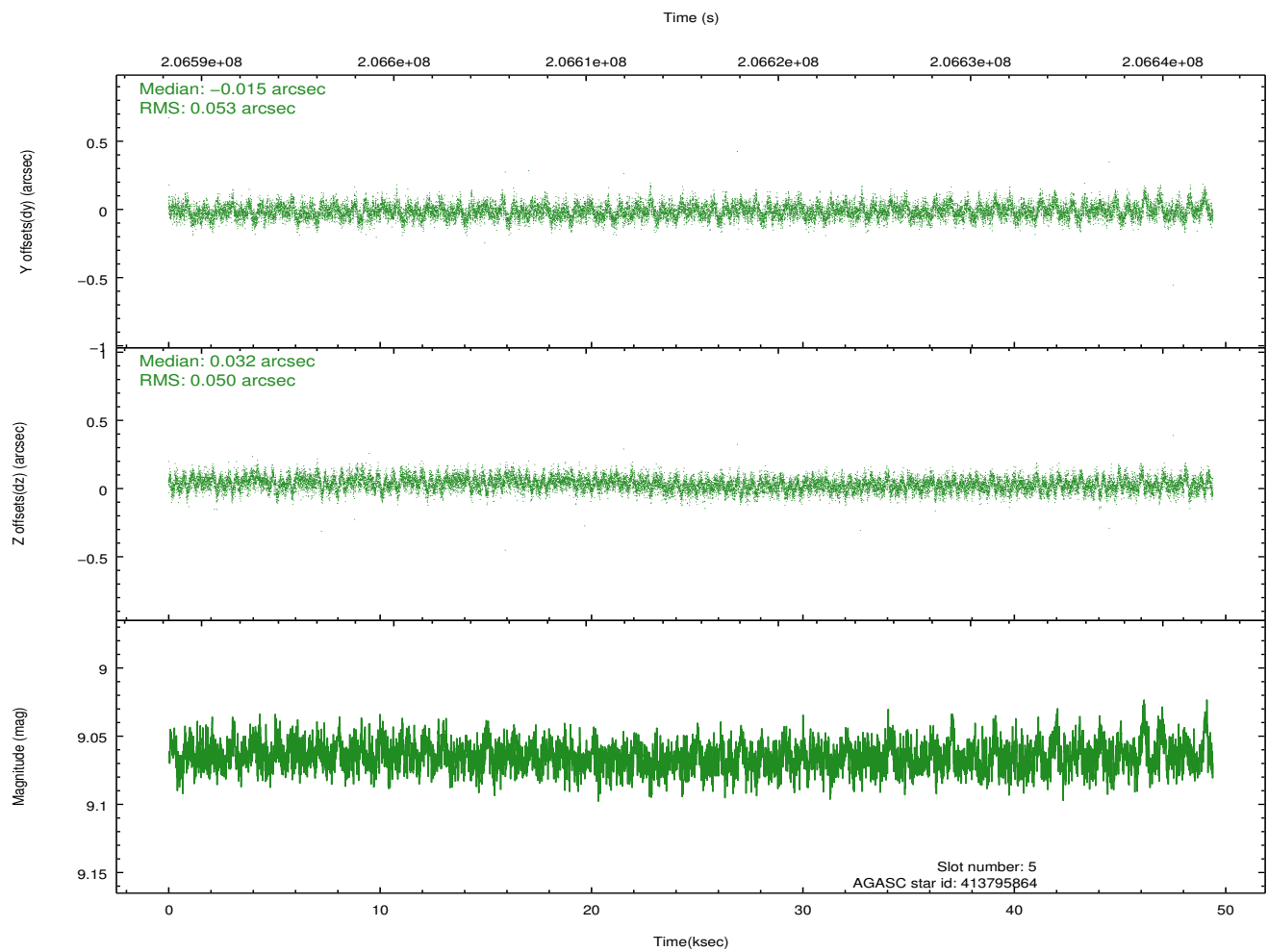
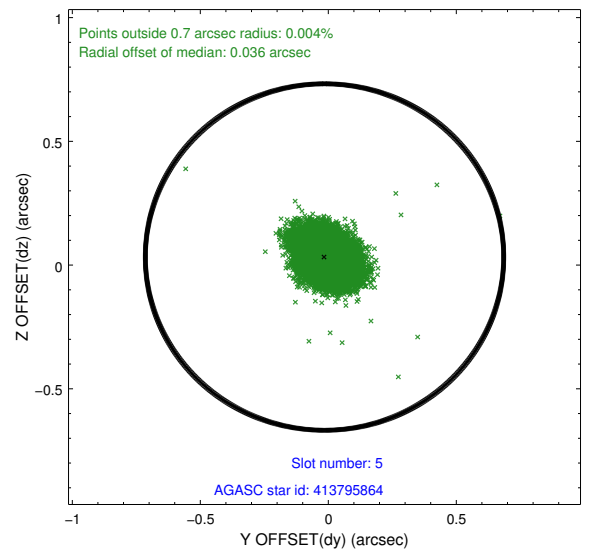
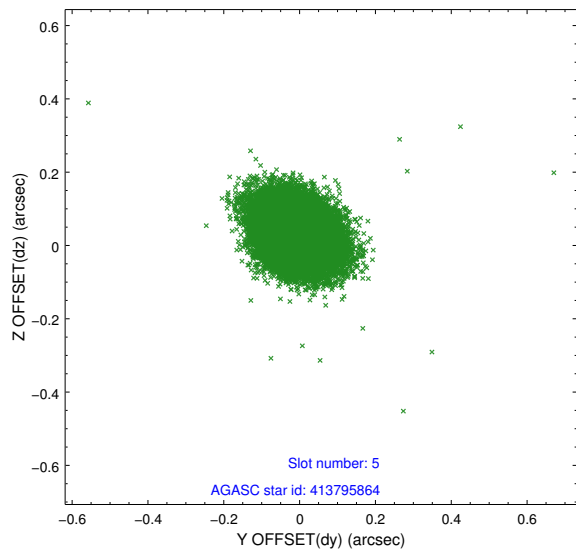
### 2.4.1 Slot 3



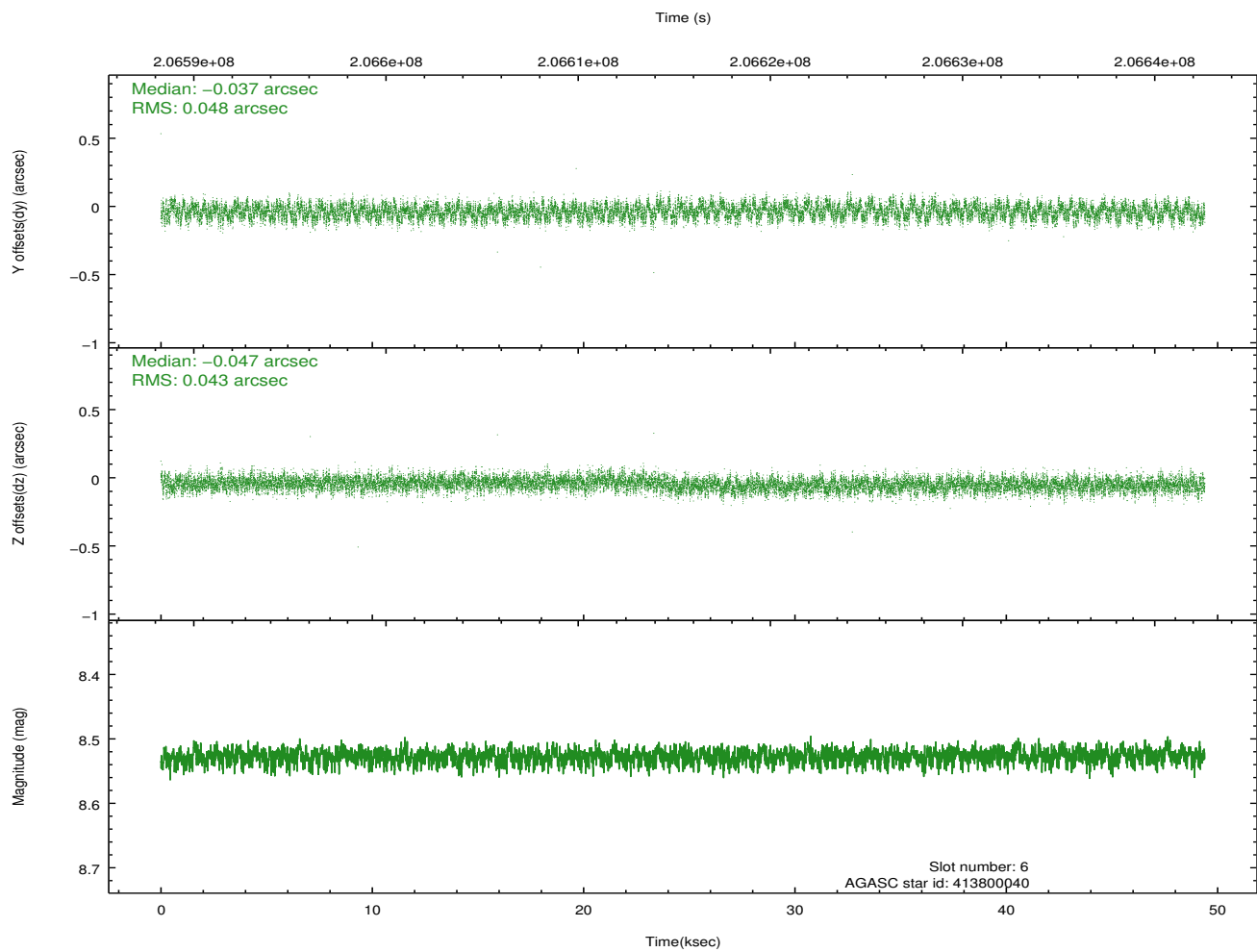
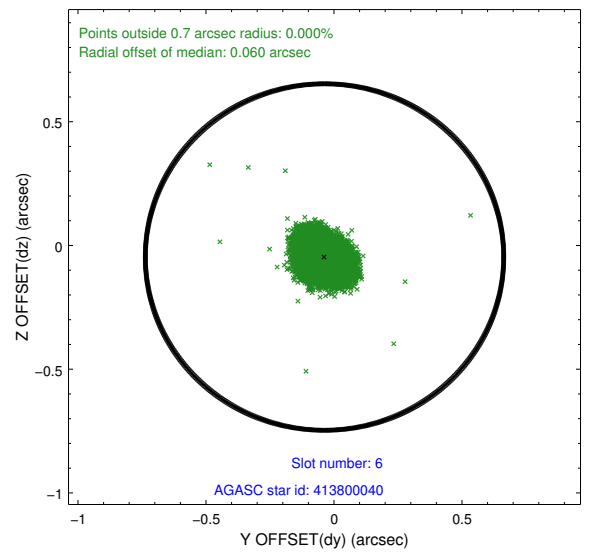
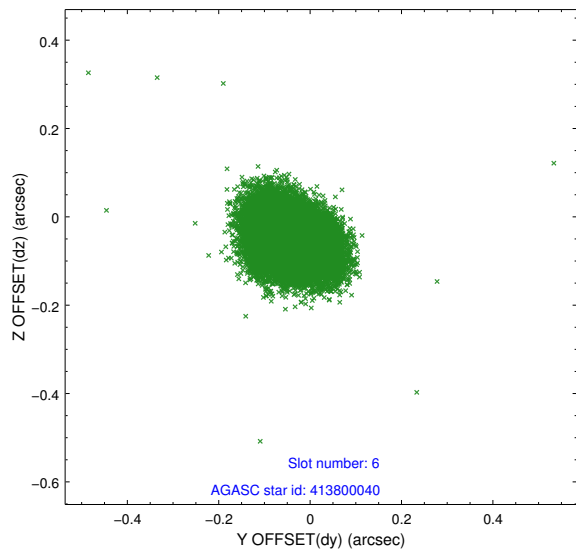
## 2.4.2 Slot 4



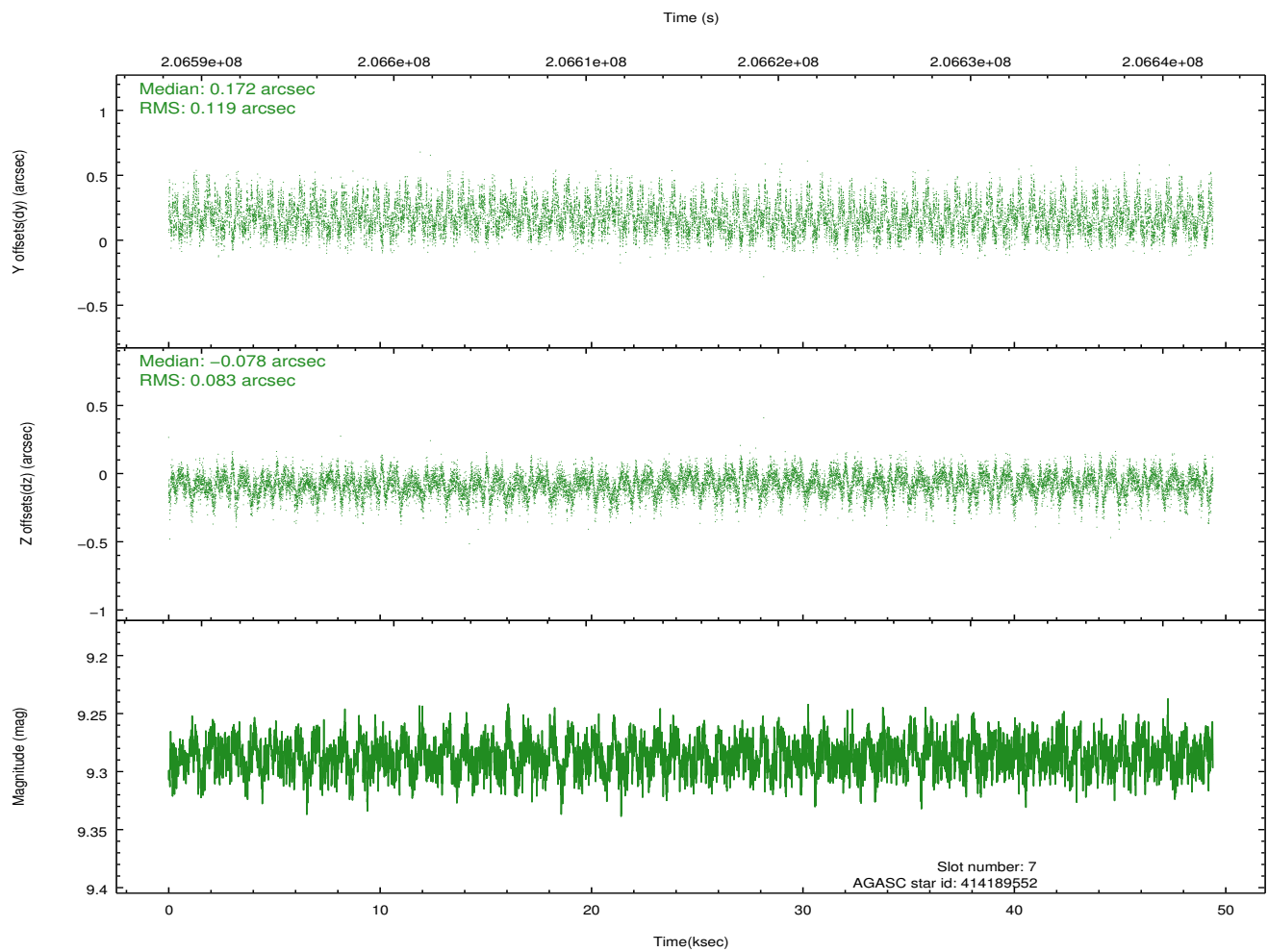
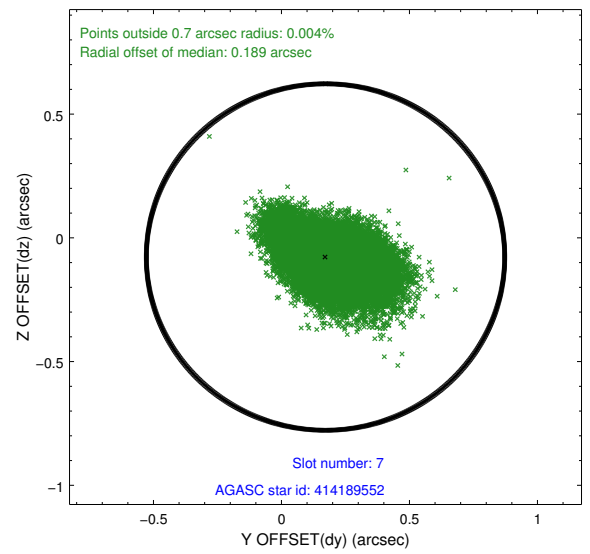
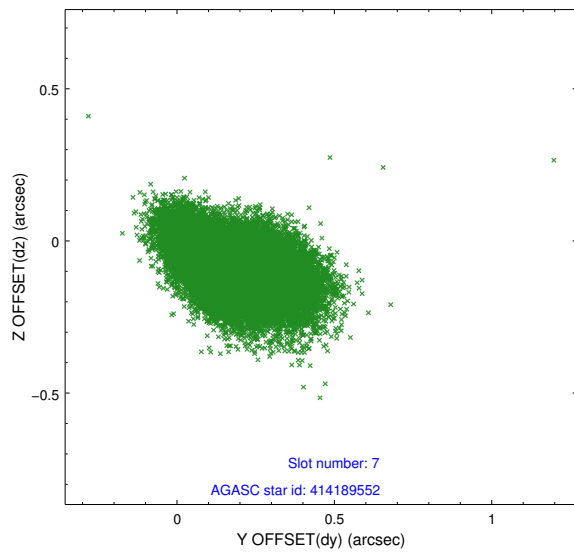
### 2.4.3 Slot 5



## 2.4.4 Slot 6

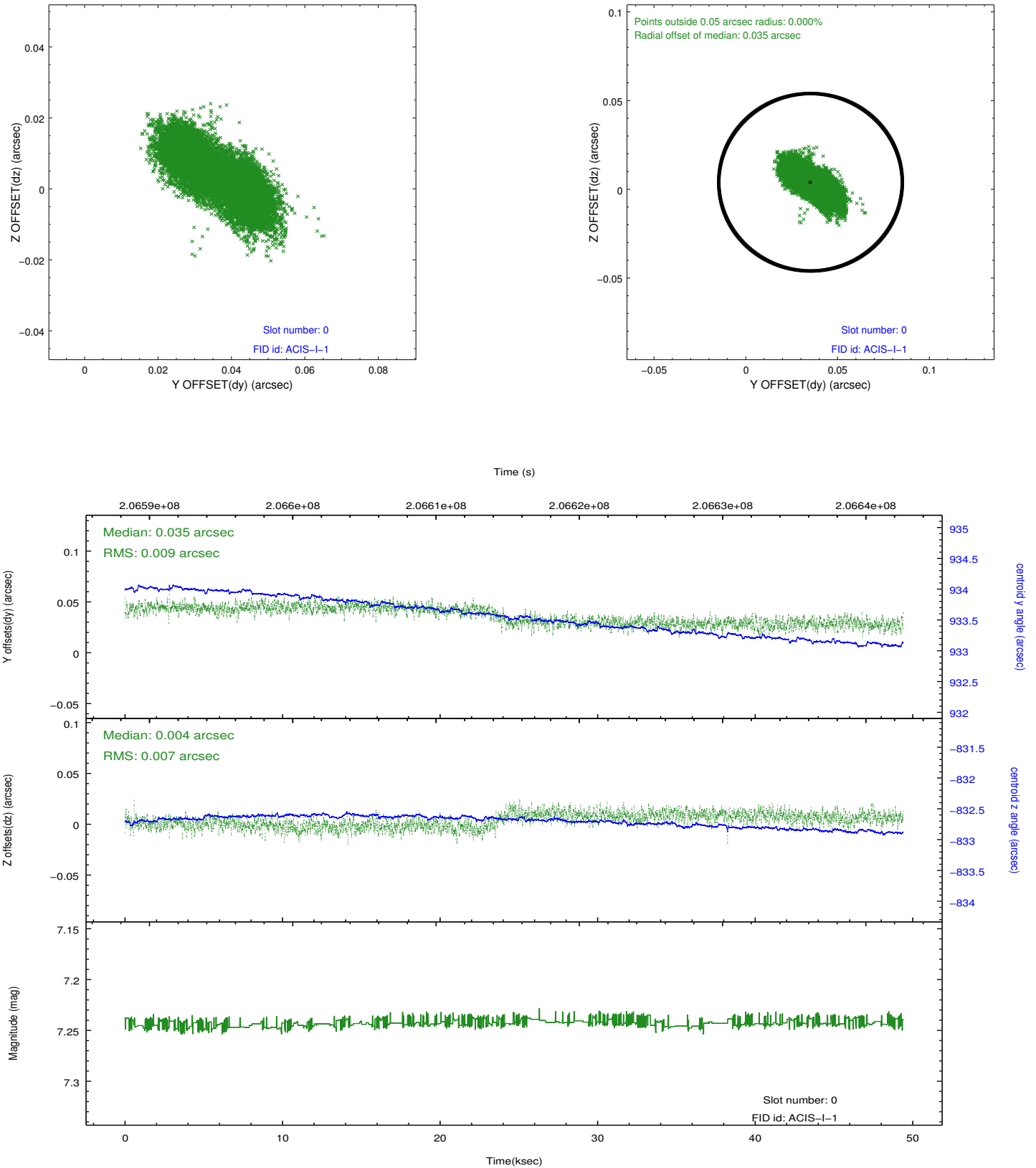


## 2.4.5 Slot 7

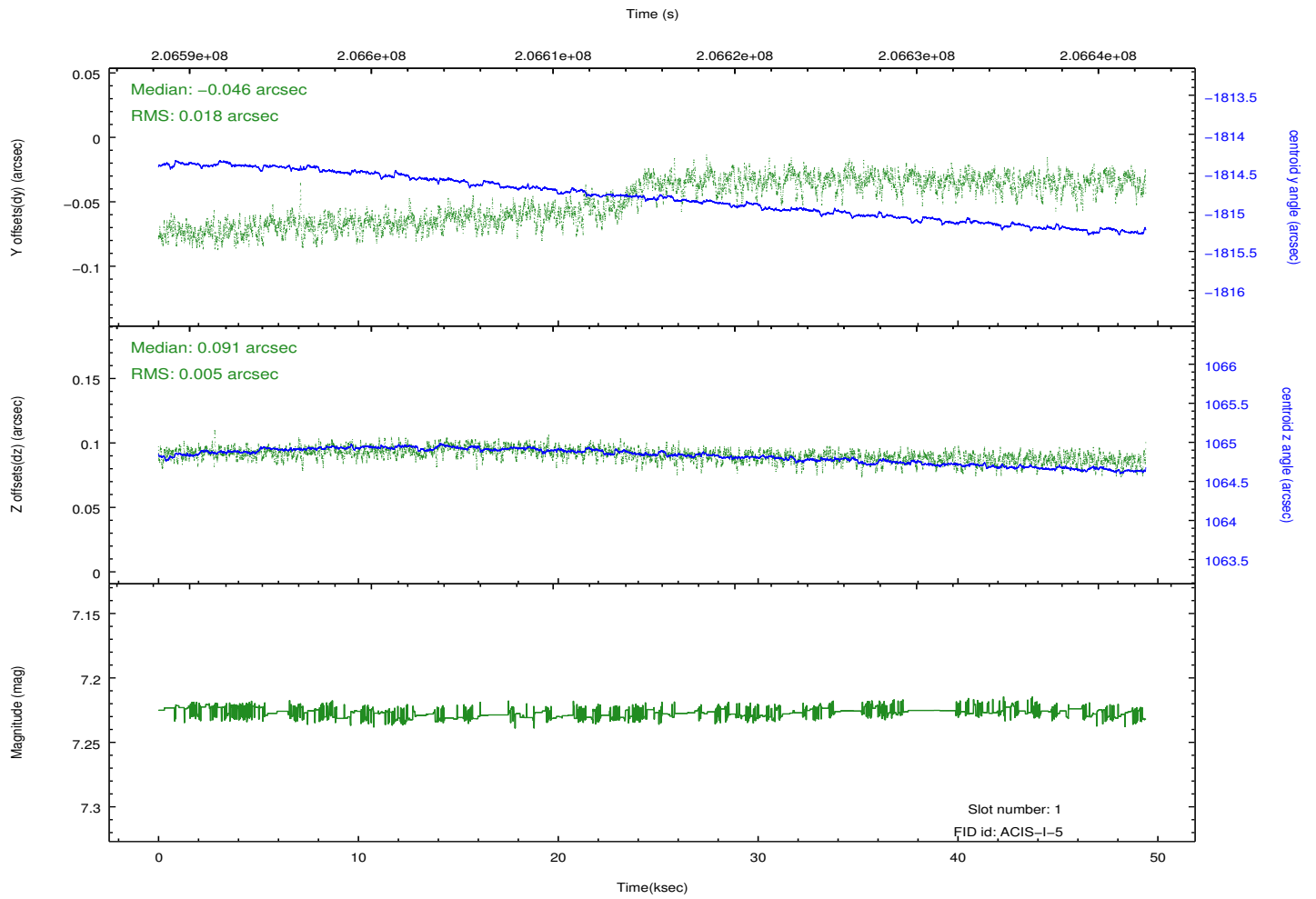
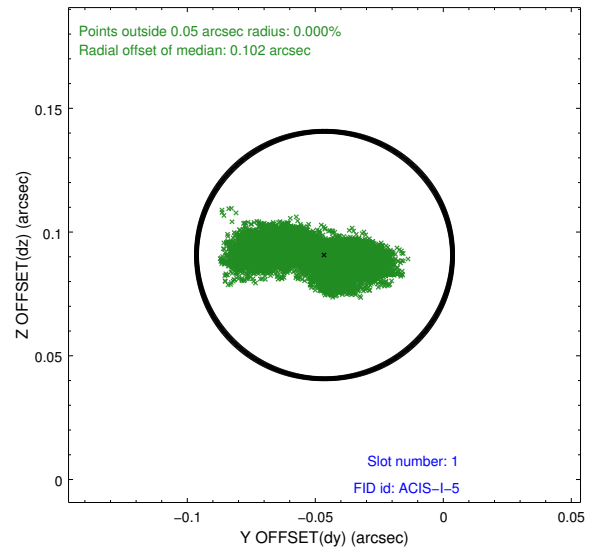
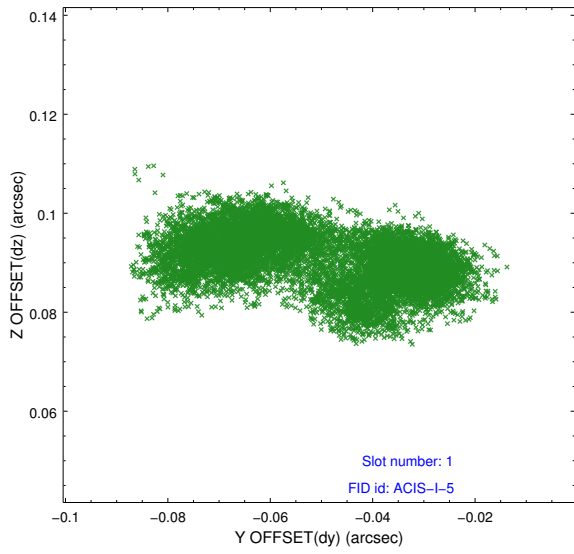


## 2.5 FID Slots

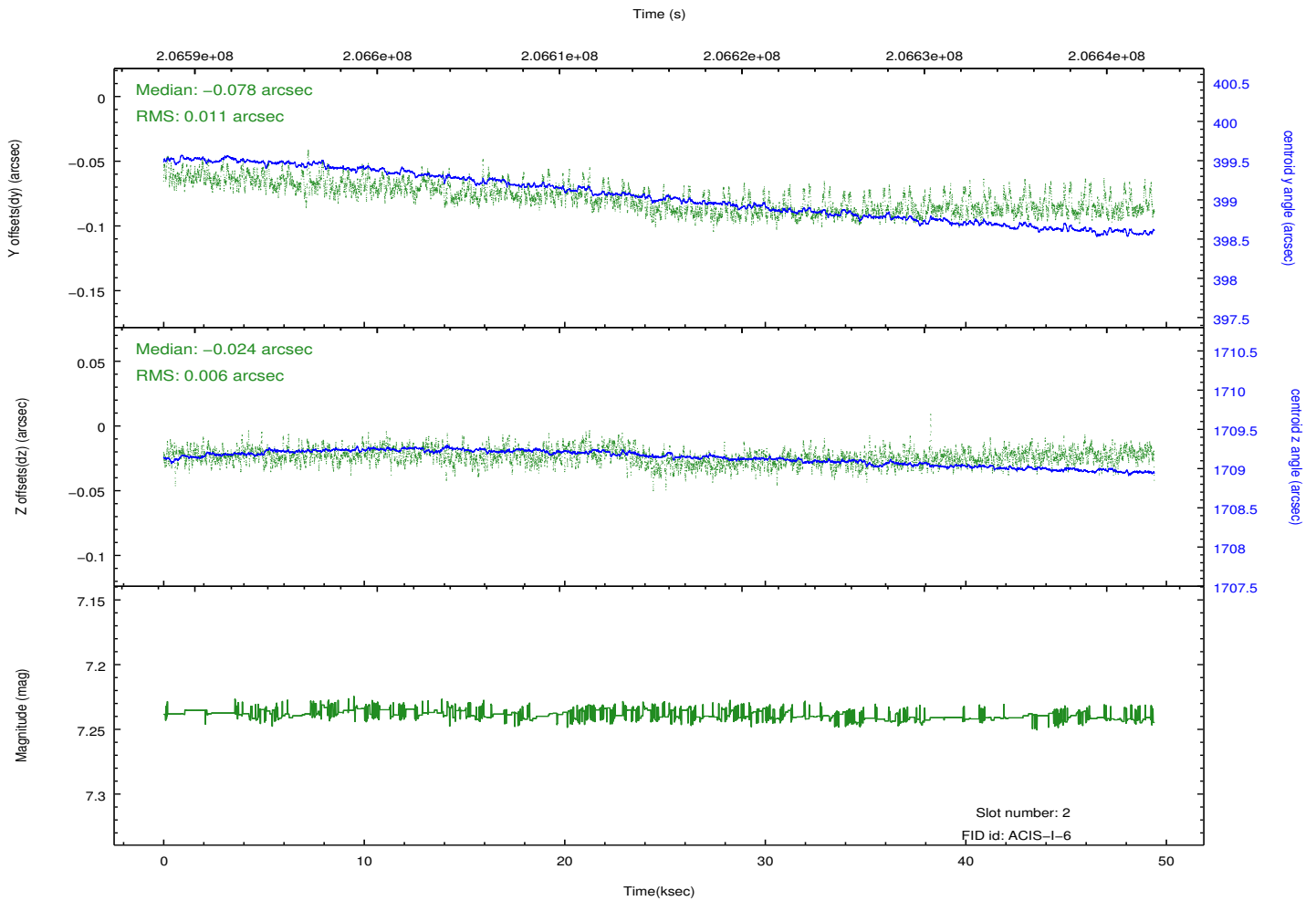
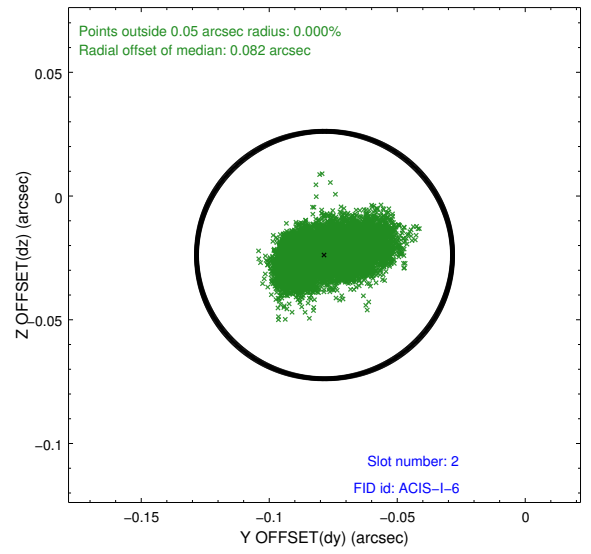
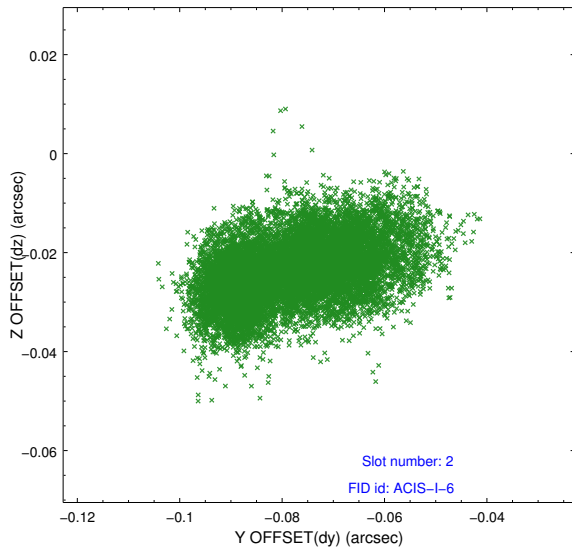
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.12.20
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	49.353

## A.2 Comments

Roll preference not met.