

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 11864 - L2 Version 3  
Chandra X-Ray Center

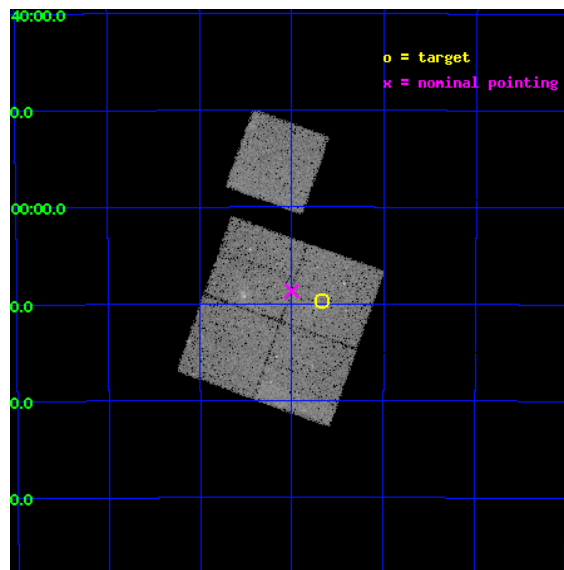
L2 Processing Date : Jul 24 2012

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# 1 Front

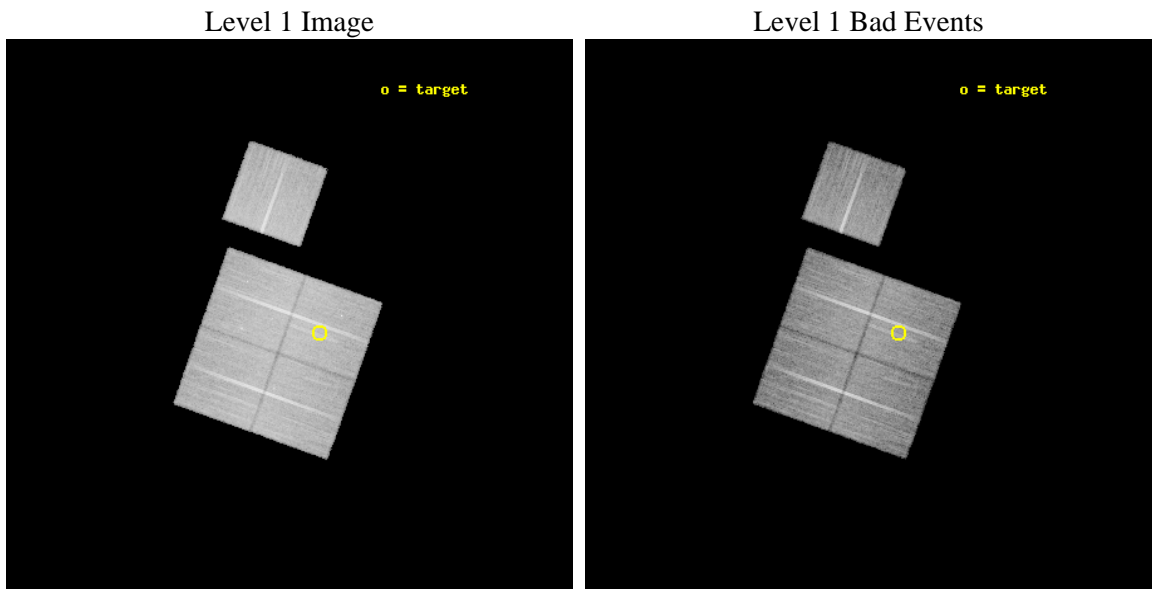
seq_num	800918	Sequence number
obs_id	11864	Observation id
title	Chandra Observations of SZ-selected Galaxy Clusters Detected by the South Pole Telescope	Proposal title
observer	Professor Gordon Garmire	Principal investigator
object	SPT-CL0000-5010	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	359.919167	Observer's specified target RA [deg]
dec_targ	-50.161	Observer's specified target Dec [deg]
ra_nom	0.00010042627574514	Nominal RA [deg]
dec_nom	-50.144513659894	Nominal Dec [deg]
roll_nom	19.687412941303	Nominal Roll [deg]
revision	3	Processing version of data
ontime	19998.059173465	Sum of GTIs [s]
livetime	19736.769808006	Livetime [s]
ontime0	19991.777242601	Sum of GTIs [s]
ontime1	19985.495252132	Sum of GTIs [s]
ontime2	19998.059173465	Sum of GTIs [s]
ontime3	19998.059173465	Sum of GTIs [s]
ontime6	19998.059193432	Sum of GTIs [s]
l2events	77087	Number of level 2 events



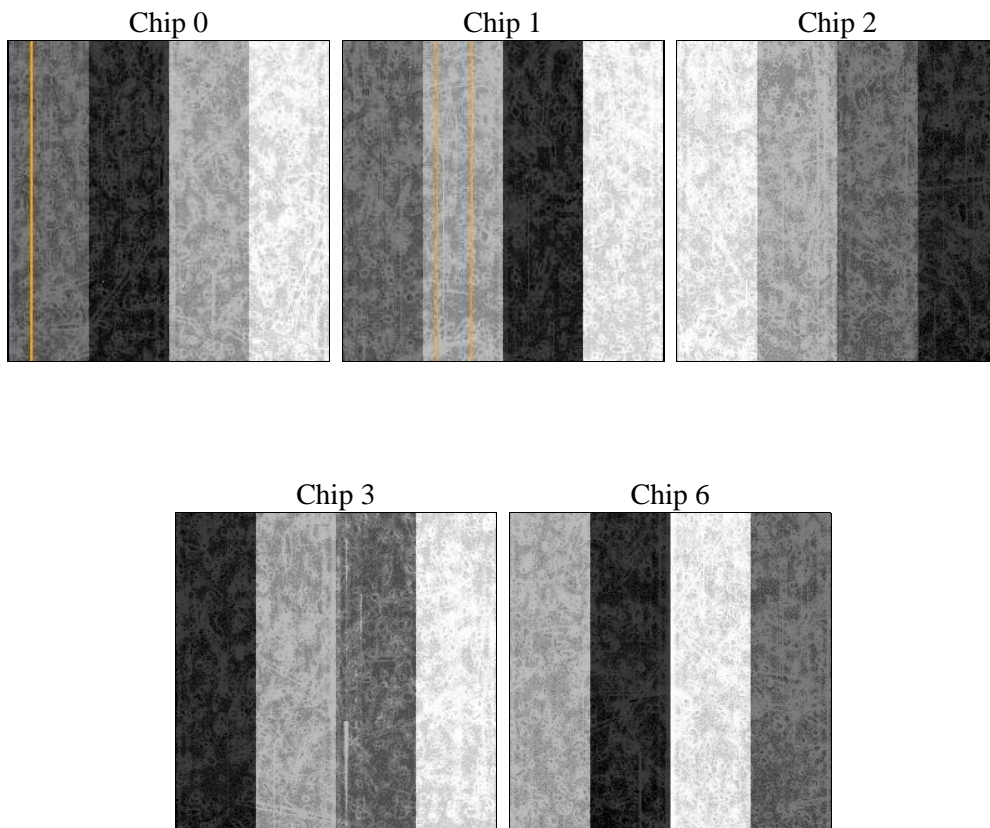
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	19957.863000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	19998.059173465	Sum of GTIs [s]
caldbver	4.5.0	&#160	ontime0	19991.777242601	Sum of GTIs [s]
date	2012-07-24T12:58:12	Date and time of file creation	ontime1	19985.495252132	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	19998.059173465	Sum of GTIs [s]
			ontime3	19998.059173465	Sum of GTIs [s]
			ontime6	19998.059193432	Sum of GTIs [s]
			l1events	861169	Number of level 1 events

### 2.1.4 Events

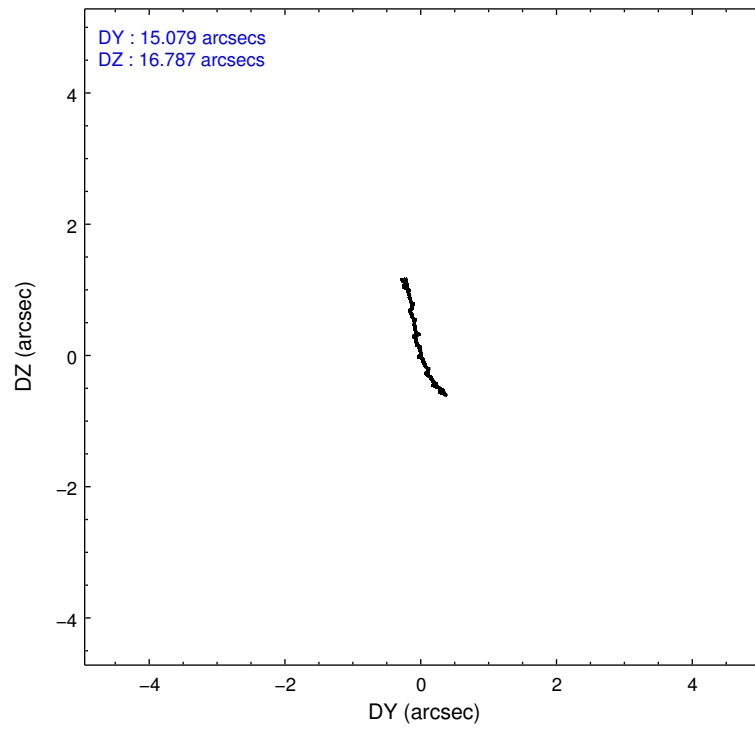
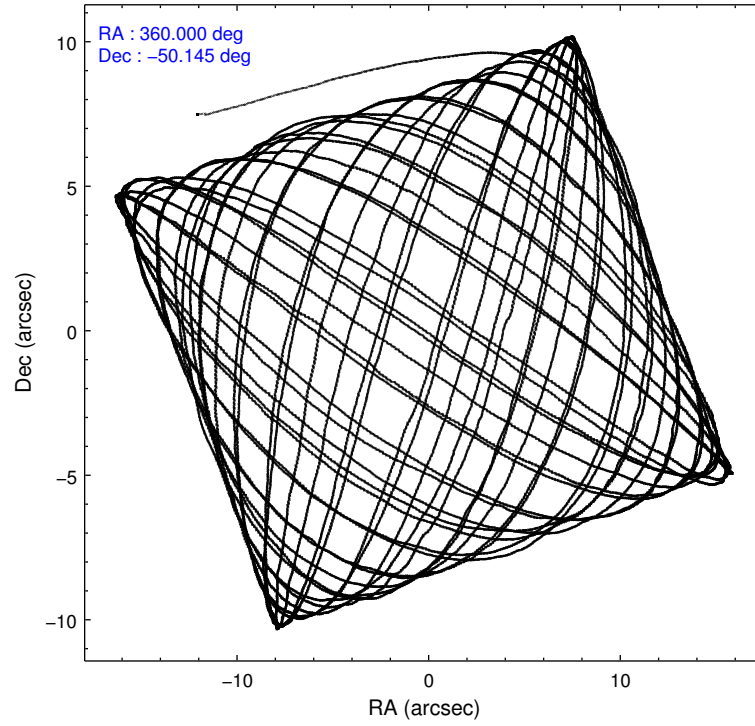
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	165106	160768	184424	174728	176143
rejected events	147070	140790	165675	157140	157790
rejected %	89%	87%	89%	89%	89%

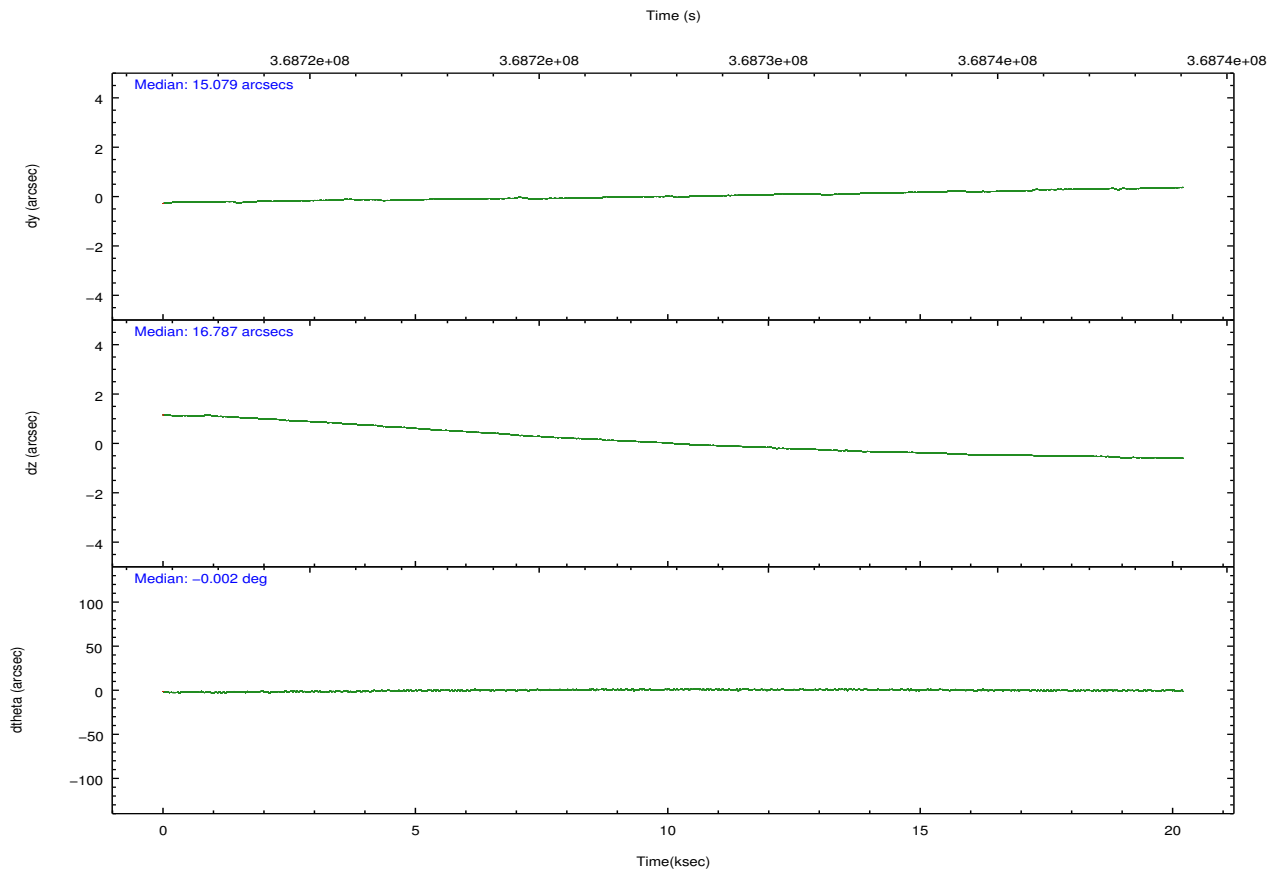
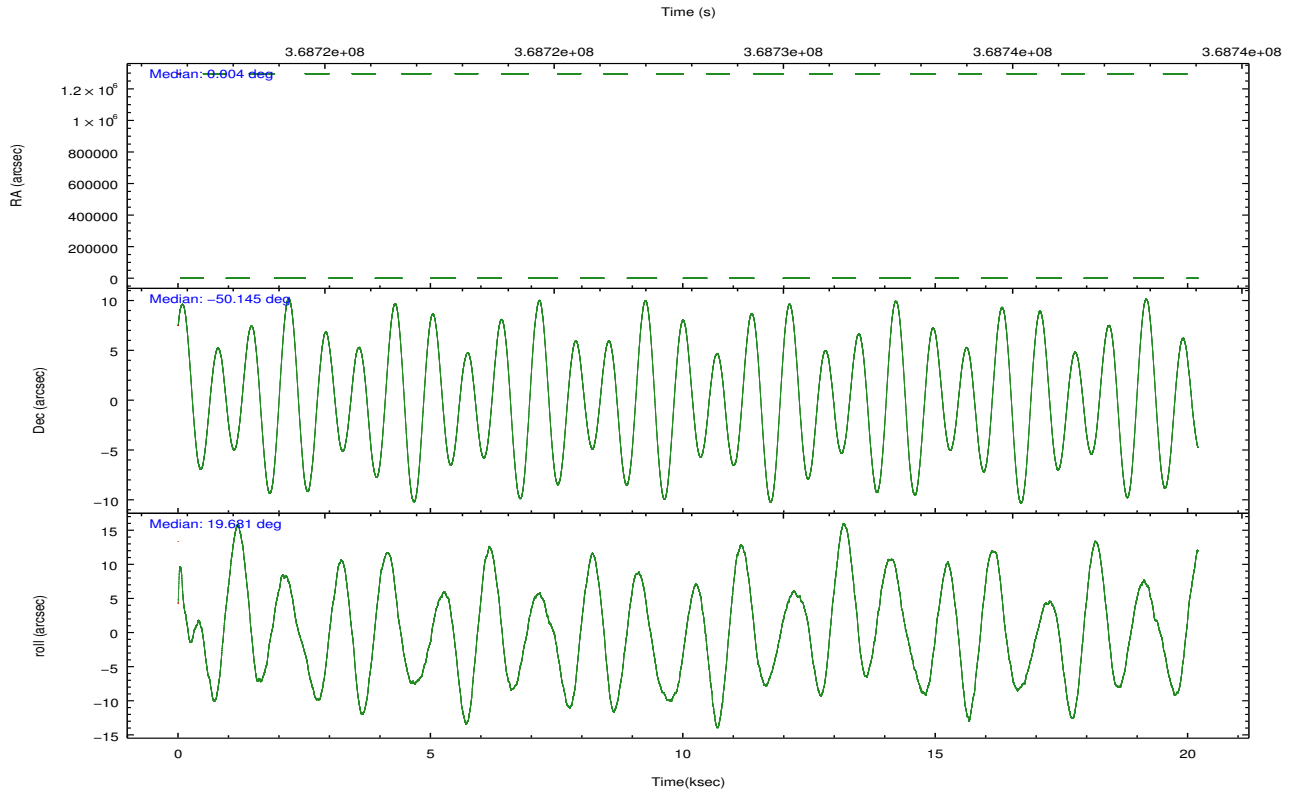
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	6341	7264	7380	6421	6392
	3%	4%	4%	3%	3%
grade 1 events	89	121	112	113	101
	0%	0%	0%	0%	0%
grade 2 events	4407	4568	4460	3771	4135
	2%	2%	2%	2%	2%
grade 3 events	1979	2091	1835	1962	1942
	1%	1%	0%	1%	1%
grade 4 events	1796	2053	1837	1896	1876
	1%	1%	0%	1%	1%
grade 5 events	6464	6899	5886	7260	7291
	3%	4%	3%	4%	4%
grade 6 events	3514	4005	3243	3542	4009
	2%	2%	1%	2%	2%
grade 7 events	140516	133767	159671	149763	150397
	85%	83%	86%	85%	85%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-01236	ACIS-01236	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	359.972447	0.0001004262757451357	Subarray requested	NONE	NONE
[deg] Pointing Dec	-50.165566	-50.1445136598936	Alternating exposures requested	N	N
[deg] Pointing Roll	19.457487	19.68741294130269	[s] Primary exposure time	0.000000	3.1
[mm] SIM focus pos	-0.782348	-0.7809083437167272			
[mm] SIM defocus	0	0.001439871863259334			
[mm] SIM translation stage pos	-225.840463	-225.8433433320239			
[mm] SIM translation stage offset	-7.752	-7.749109670905796			
[s] Observation start time (MET)	368718070.184000	368716967.77175			
Observation start date	2009-09-07T13:40:04	2009-09-07T13:22:47			
[s] Observation end time (MET)	368738028.184000	368738257.53532			
Observation end date	2009-09-07T19:12:42	2009-09-07T19:17:37			
Read mode	TIMED	TIMED			

## 2.3 Aspect





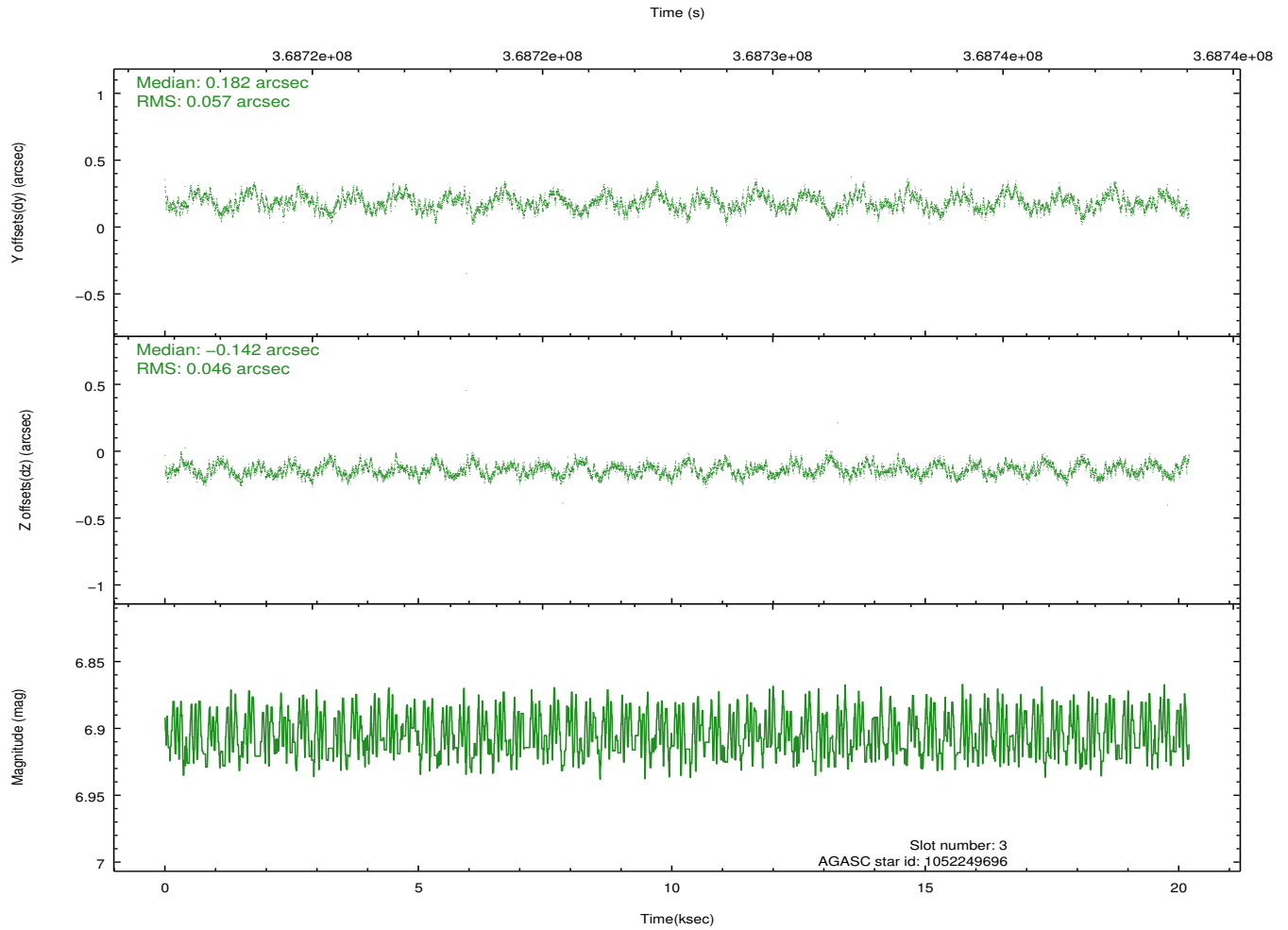
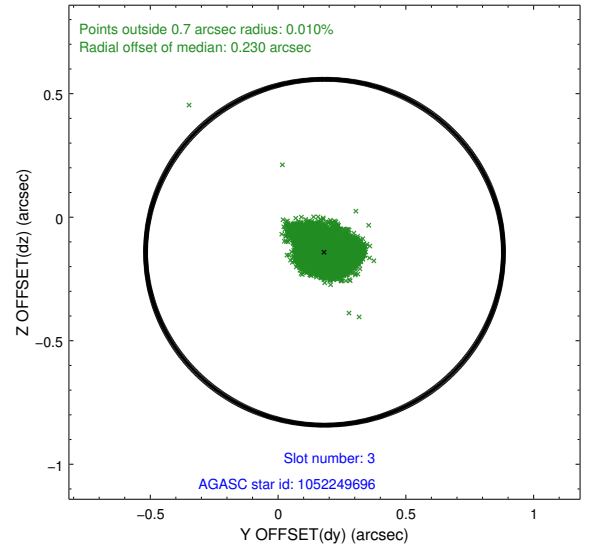
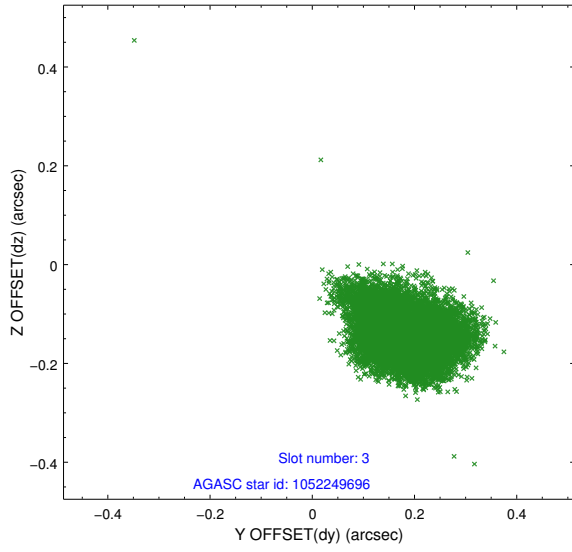
### Slot Statistics

slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.00	4928	0.151	-0.098	0.018	0.030	0.000000	0.000000	924.35	-999.73
1	FID	ACIS-I-5	6.98	4927	-0.296	0.126	0.008	0.015	0.000000	0.000000	-1824.10	897.86
2	FID	ACIS-I-6	7.01	4926	0.053	0.041	0.017	0.024	0.000000	0.000000	389.60	1542.49
3	GUIDE	1052249696	6.91	9849	0.182	-0.142	0.078	0.123	0.223276	-50.446456	205.49	-1145.74
4	GUIDE	1108871768	9.30	9811	-0.143	-0.044	0.102	0.163	359.910349	-49.832519	262.89	1178.55
5	GUIDE	1109269560	8.97	9847	-0.046	0.211	0.098	0.155	359.604150	-50.909062	-1679.75	-2247.30
6	GUIDE	1109269904	8.42	9850	-0.021	-0.117	0.072	0.115	359.567113	-50.130971	-840.60	425.89
7	GUIDE	1052247432	8.75	9853	0.027	0.096	0.087	0.139	0.036415	-50.866976	-703.24	-2428.76

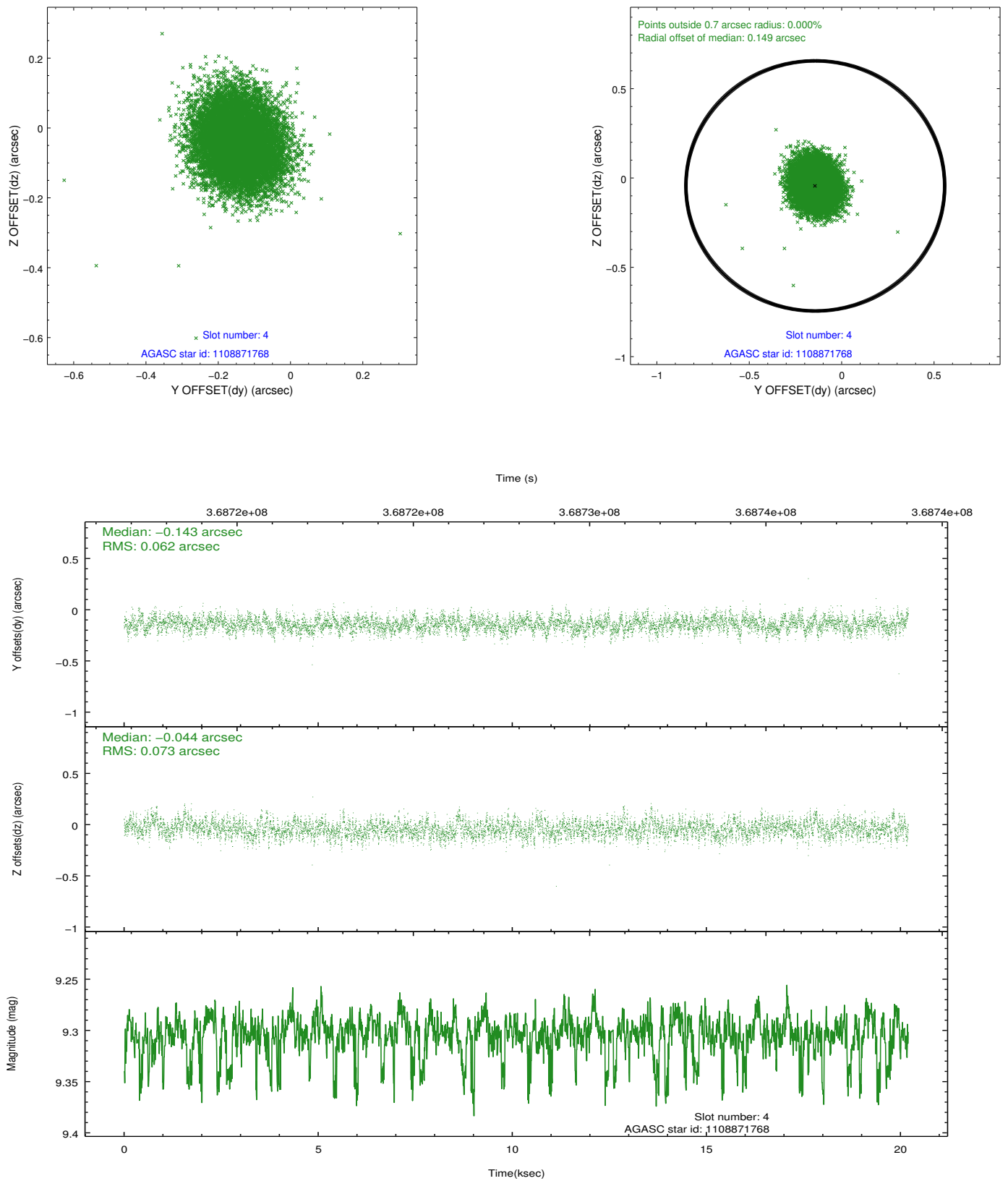
∞

## 2.4 Star Slots

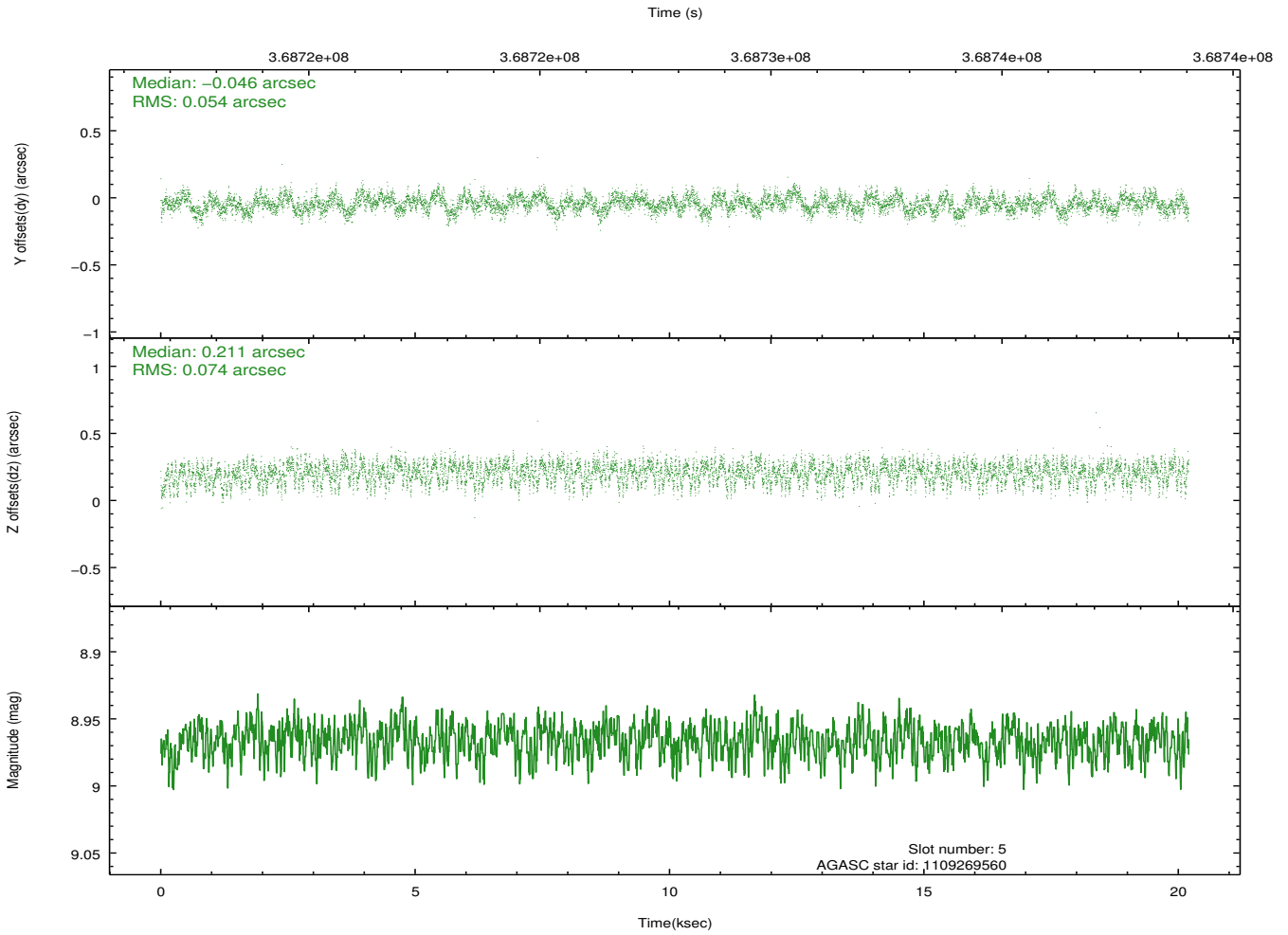
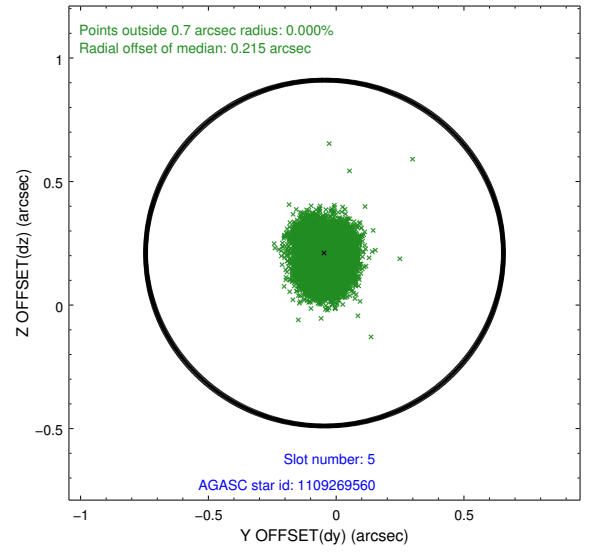
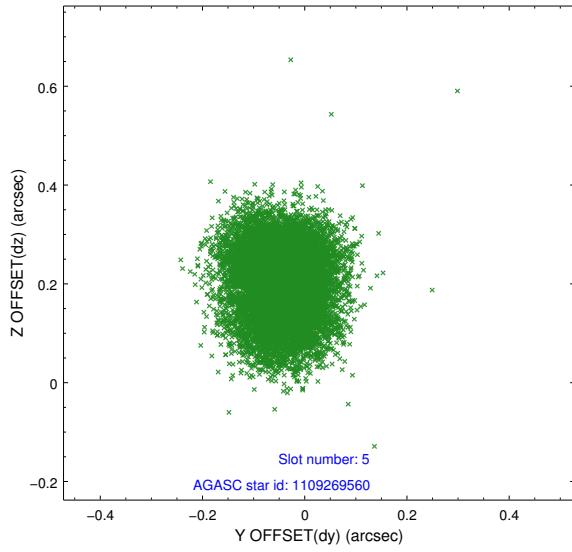
### 2.4.1 Slot 3



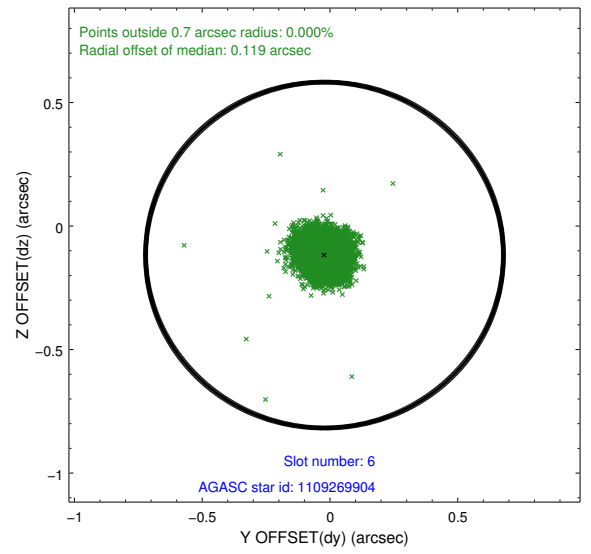
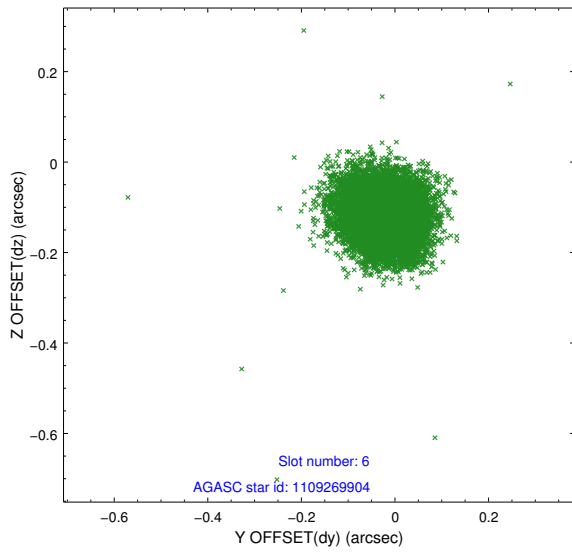
## 2.4.2 Slot 4



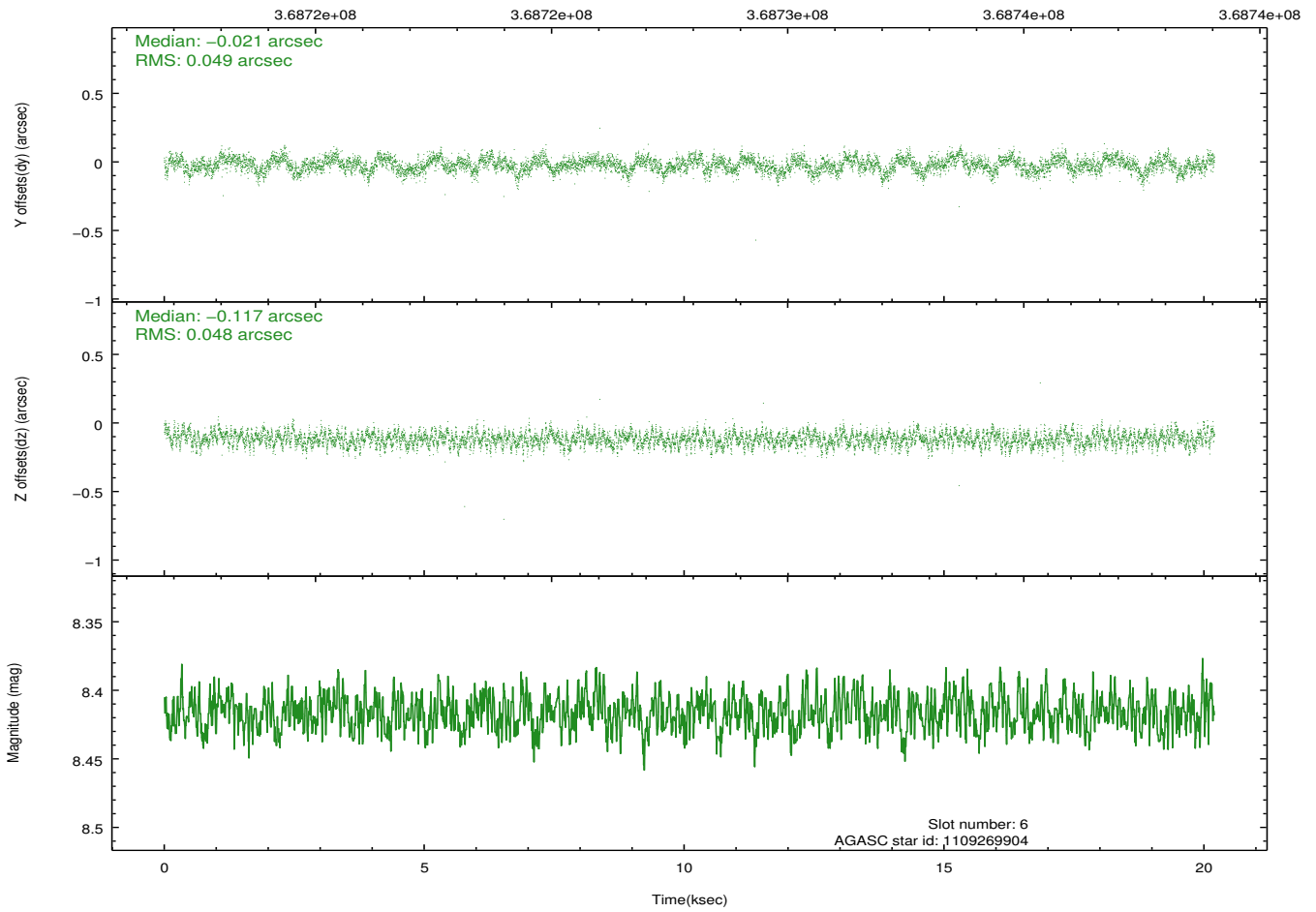
### 2.4.3 Slot 5



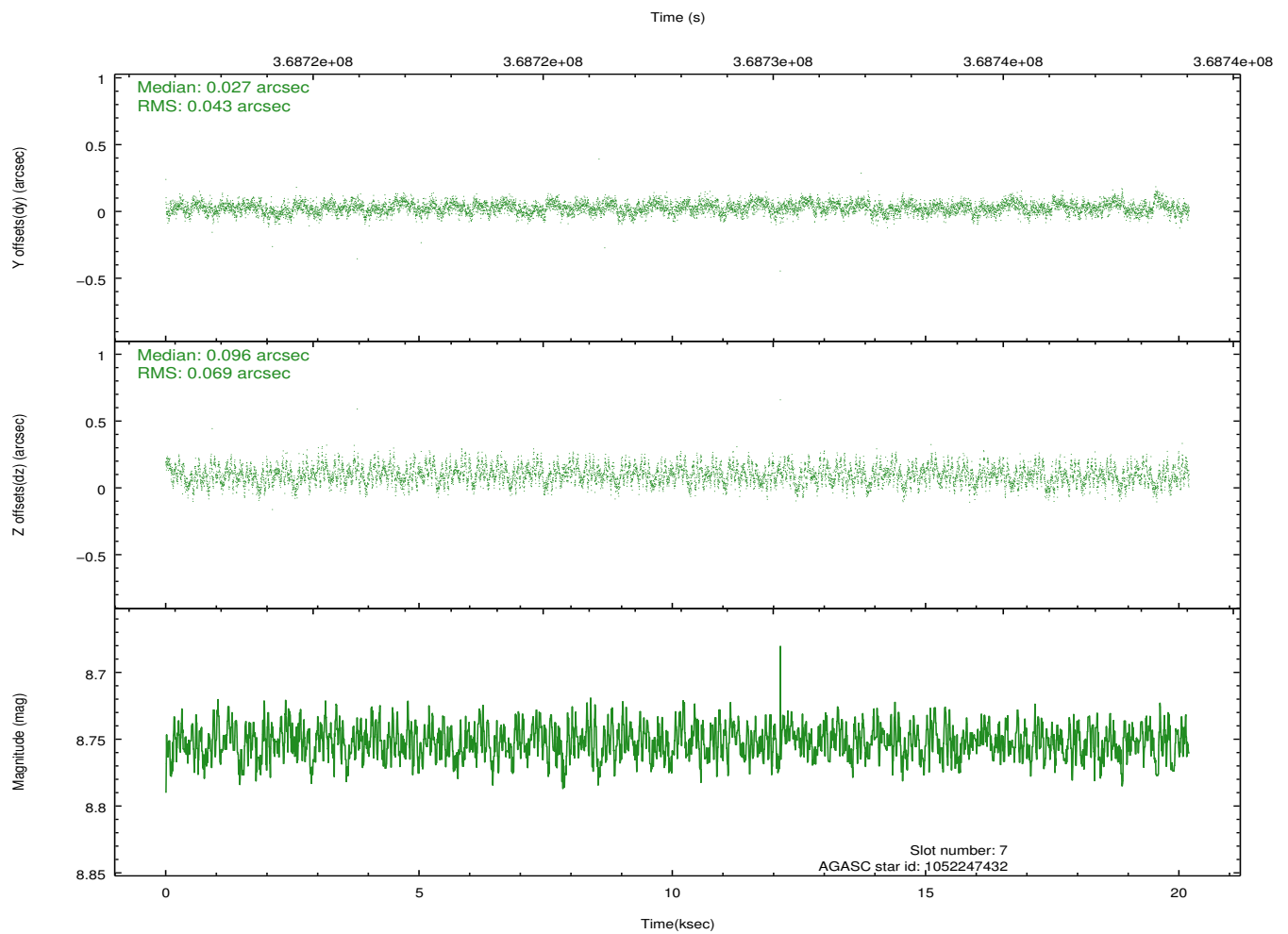
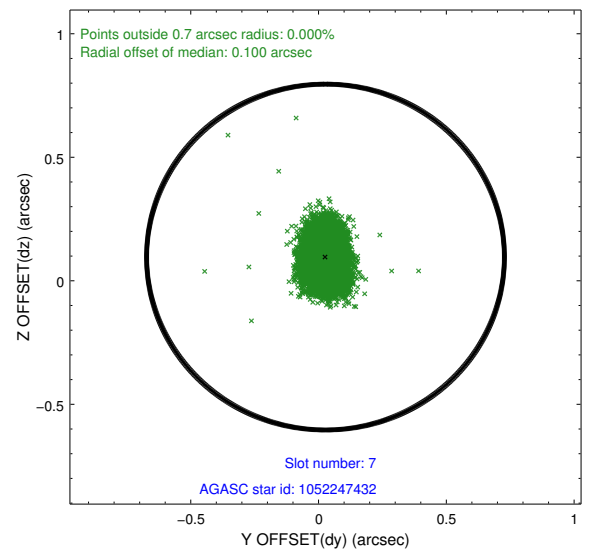
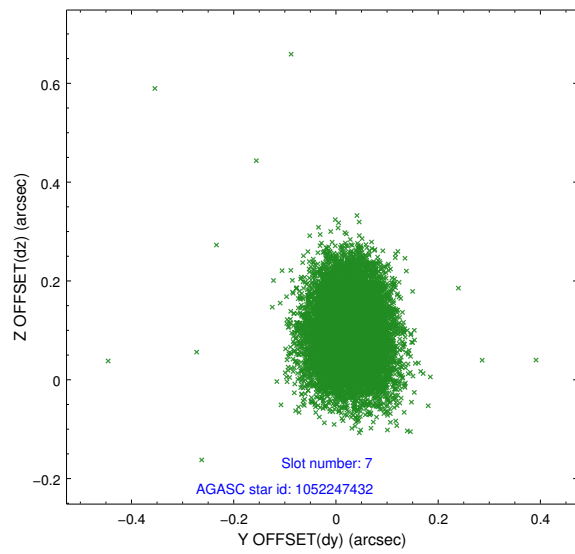
## 2.4.4 Slot 6



Time (s)

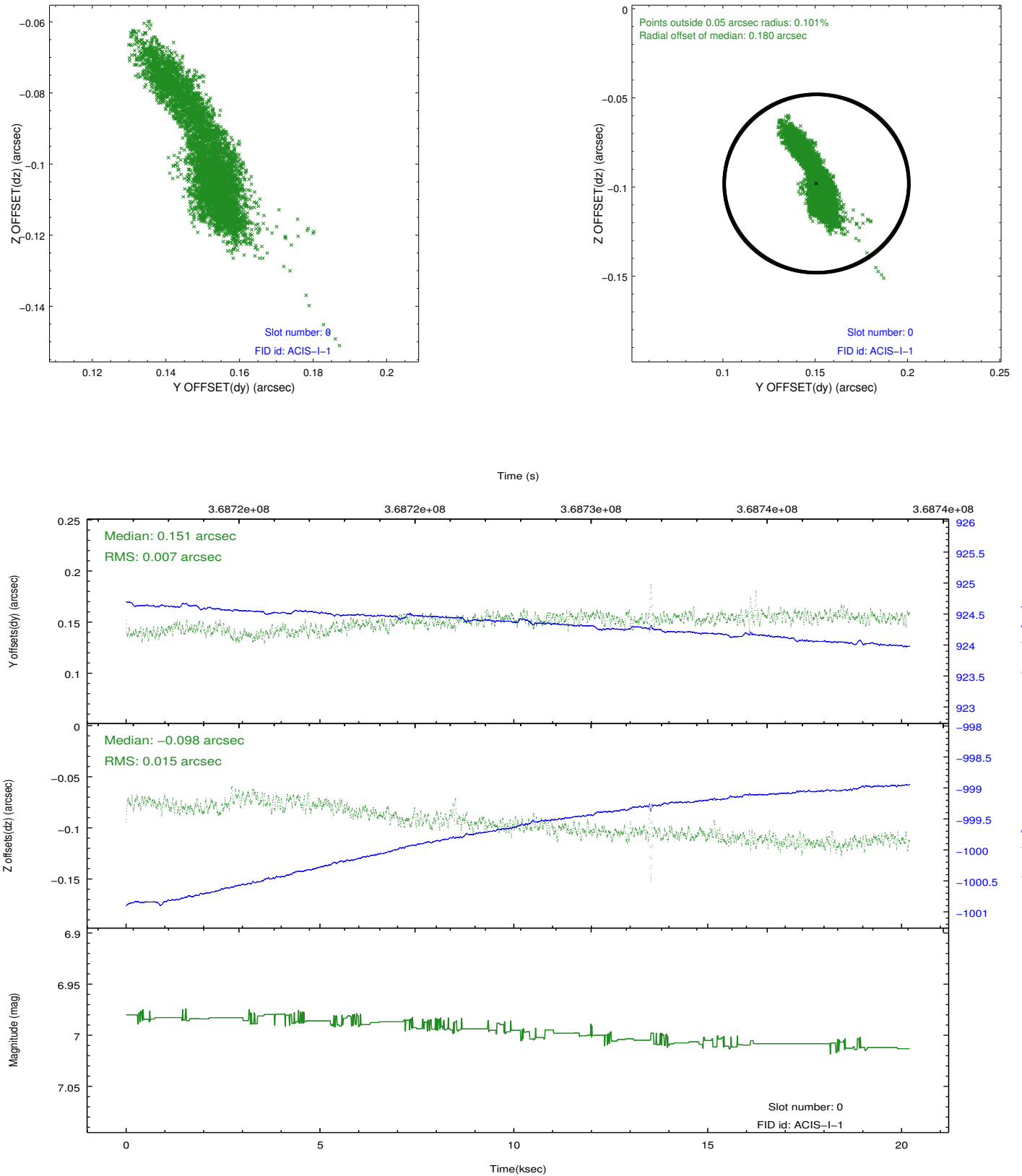


## 2.4.5 Slot 7

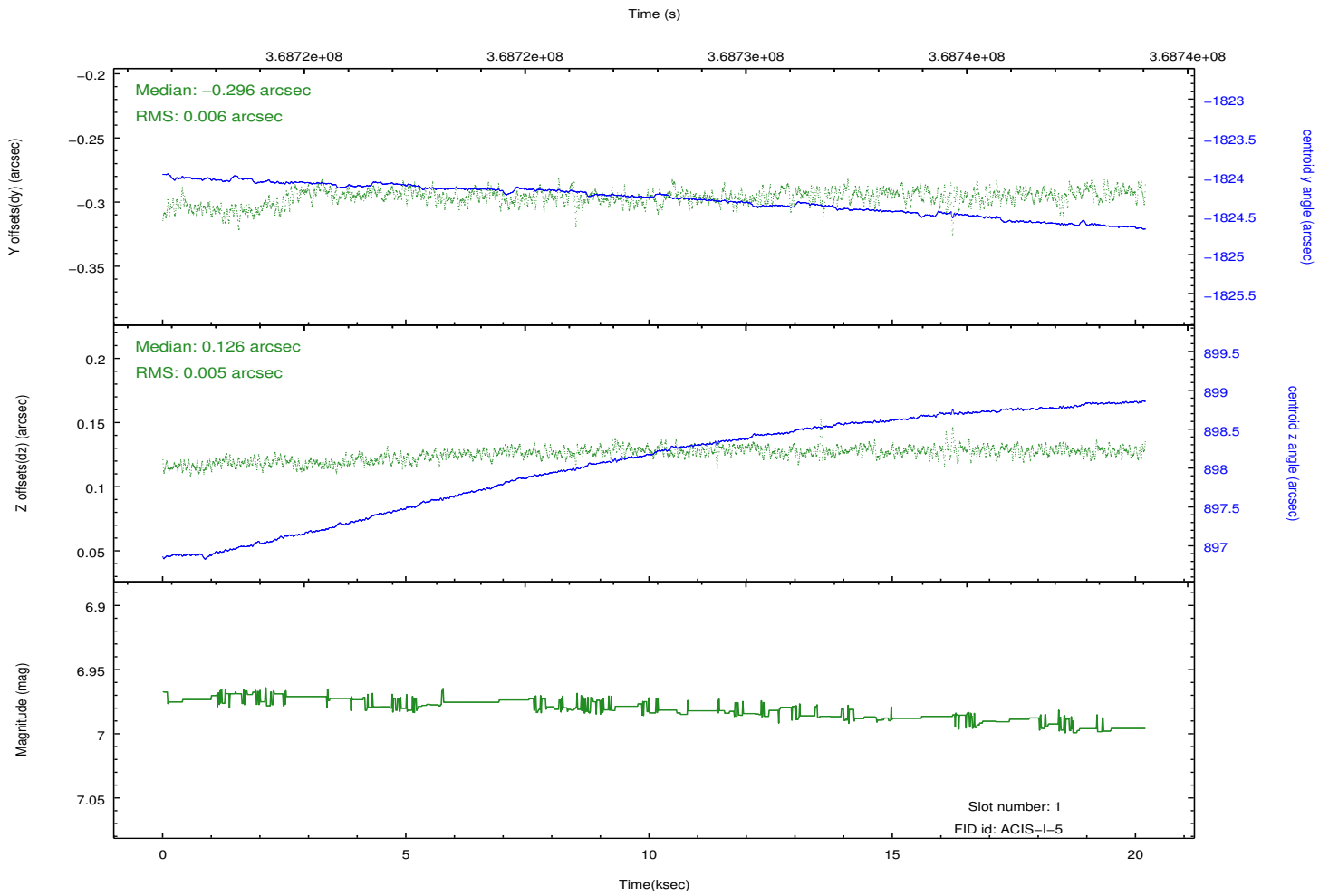
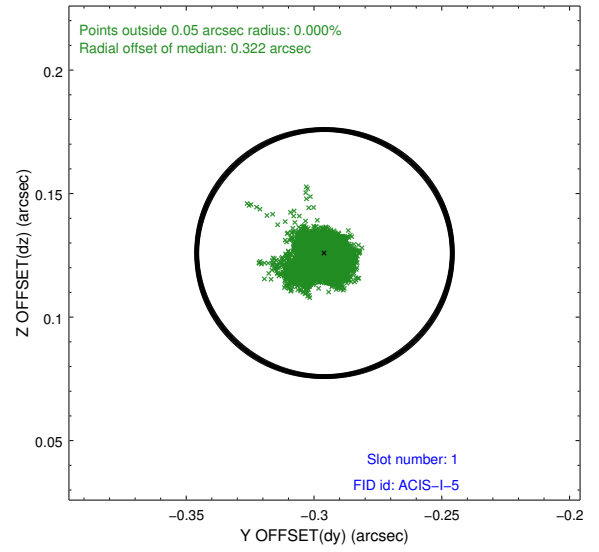
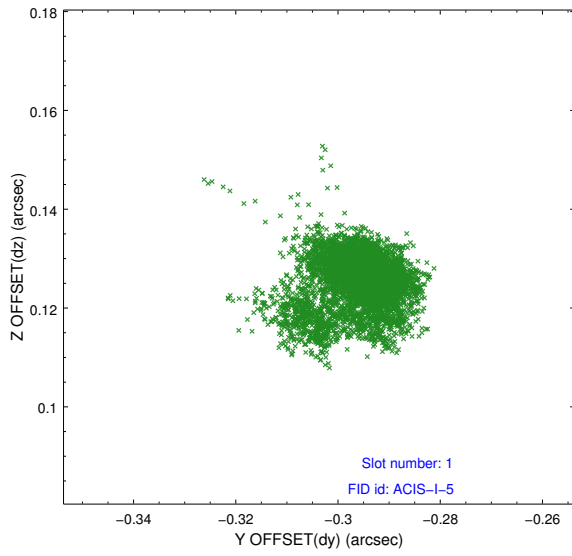


## 2.5 FID Slots

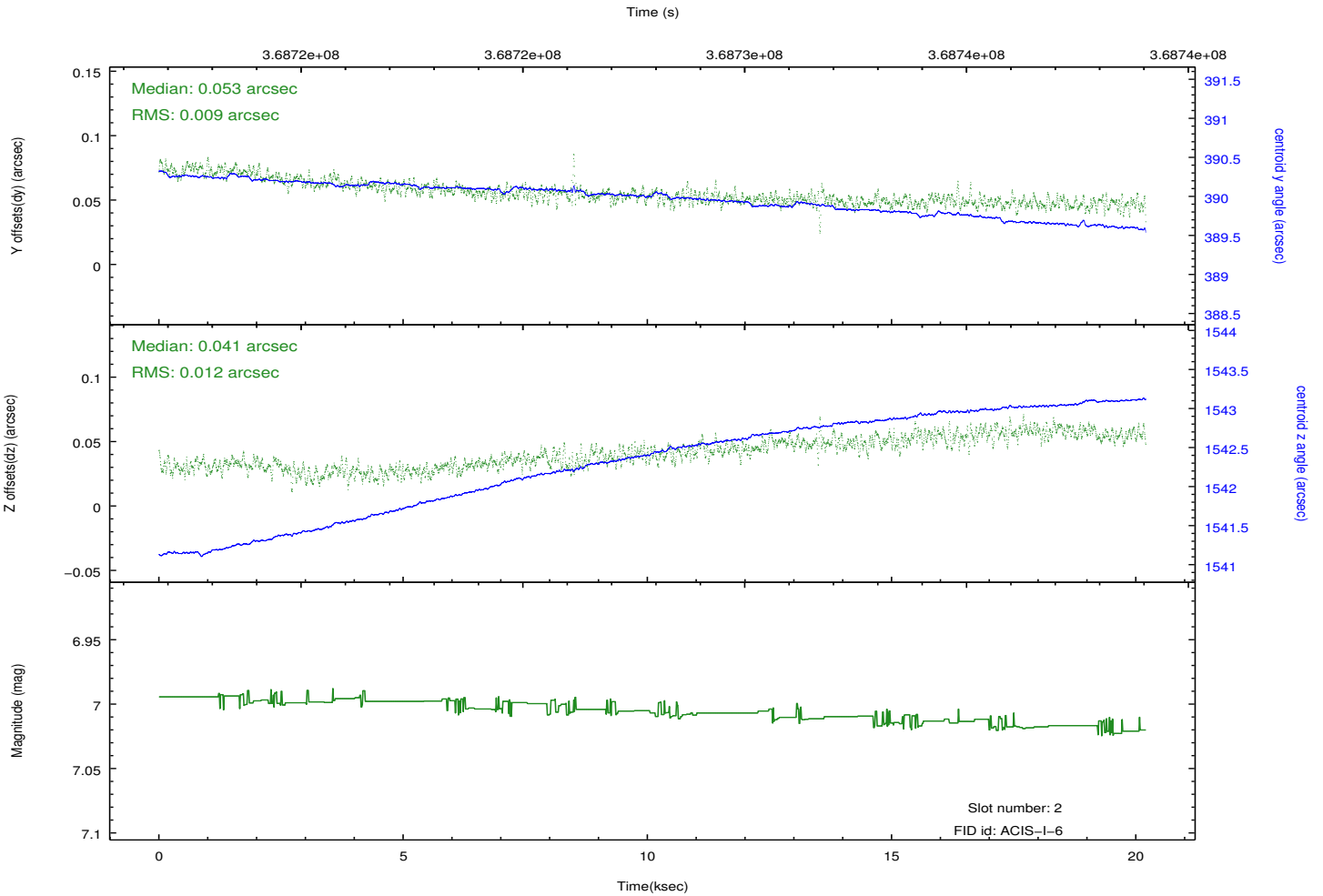
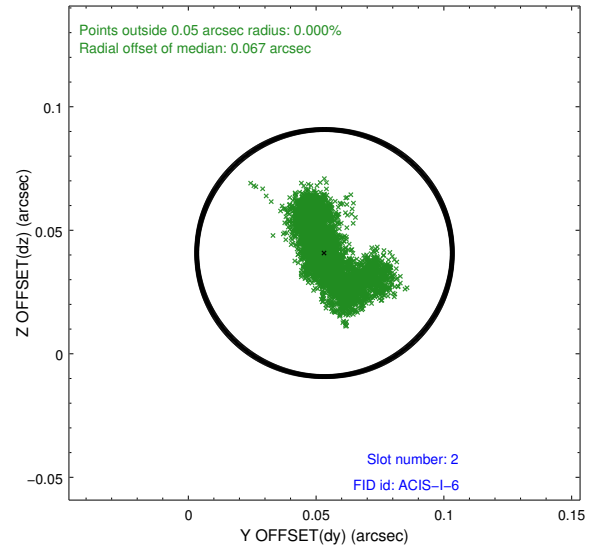
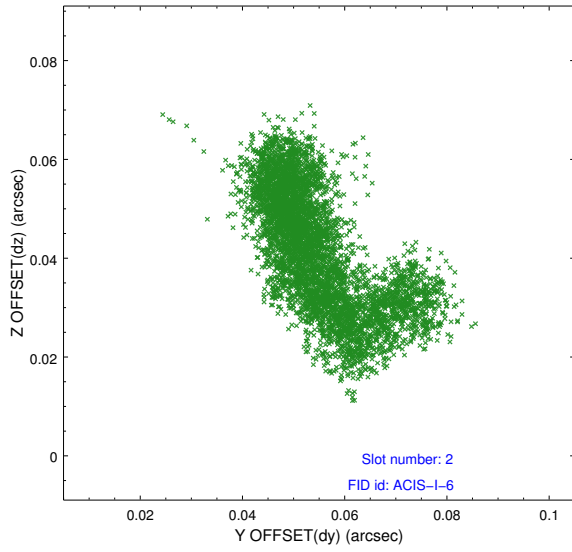
### 2.5.1 Slot 0



## 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)	2012.07.25
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	19.998059173465

## A.2 Comments

A spatial region of the original bias map for CCD = 1 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small ( $\sim 20$  eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 1 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords:  
(359.89445, -50.37021), (359.89756, -50.37573), (359.96057, -50.36138), (359.95746, -50.35586)