

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 12251 - L2 Version 3  
Chandra X-Ray Center

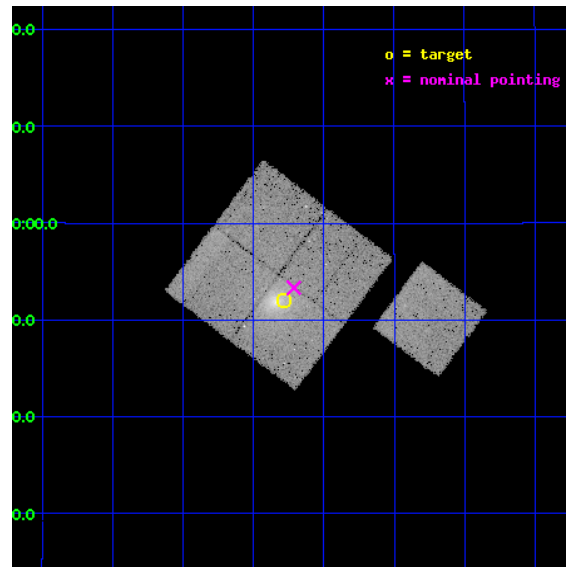
L2 Processing Date : Jul 2 2012

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# 1 Front

seq_num	800971	Sequence number
obs_id	12251	Observation id
title	Extending X-ray and Sunyaev-Zel'dovich effect calibrations to low mass galaxy clusters	Proposal title
observer	Dr Ben Maughan	Principal investigator
object	Z15	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	1.572083	Observer's specified target RA [deg]
dec_targ	10.868	Observer's specified target Dec [deg]
ra_nom	1.5532303752817	Nominal RA [deg]
dec_nom	10.888759469323	Nominal Dec [deg]
roll_nom	126.93020609849	Nominal Roll [deg]
revision	3	Processing version of data
ontime	27044.359197676	Sum of GTIs [s]
livetime	26691.004734991	Livetime [s]
ontime0	27047.50020802	Sum of GTIs [s]
ontime1	27047.50020802	Sum of GTIs [s]
ontime2	27047.50020802	Sum of GTIs [s]
ontime3	27044.359197676	Sum of GTIs [s]
ontime6	27044.359187782	Sum of GTIs [s]
l2events	106456	Number of level 2 events

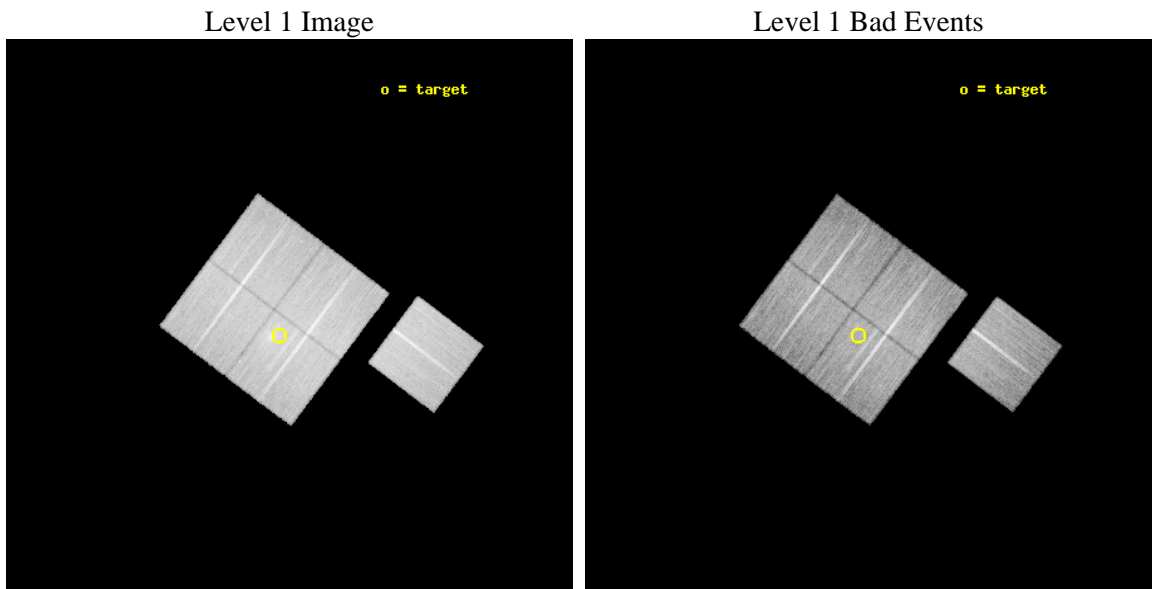




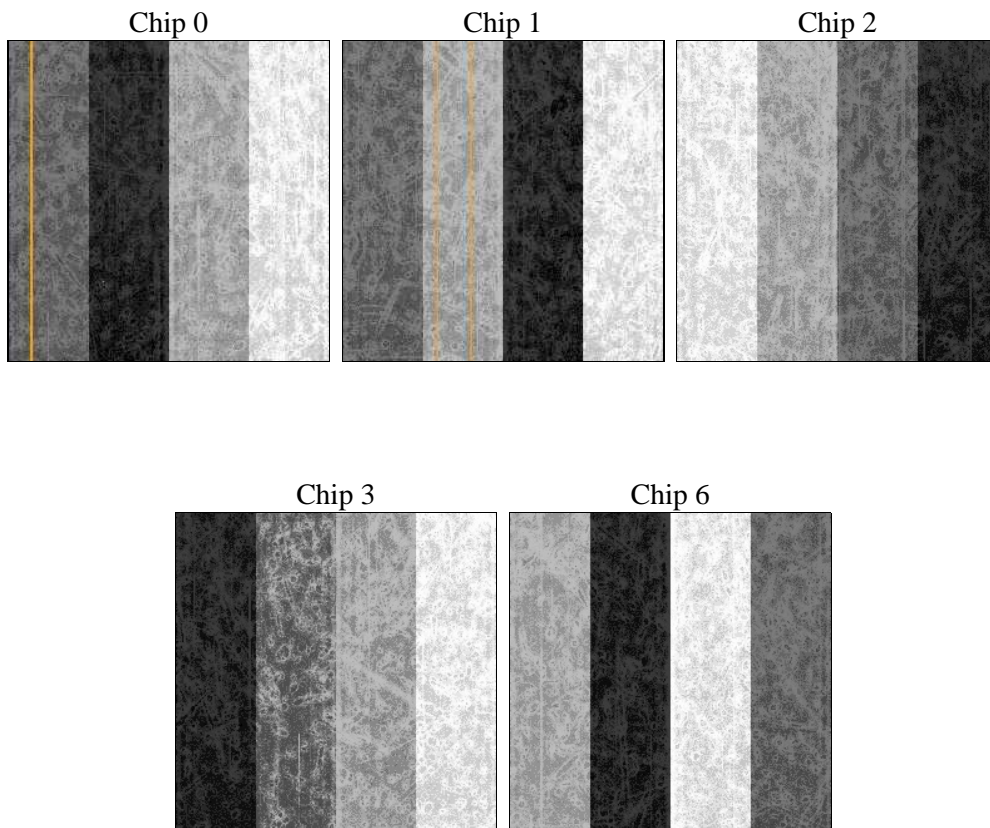
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	27000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.5	Processing system revision	ontime	27044.359197676	Sum of GTIs [s]
caldsver	4.5.0	&#160	ontime0	27047.50020802	Sum of GTIs [s]
date	2012-07-02T12:48:08	Date and time of file creation	ontime1	27047.50020802	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	27047.50020802	Sum of GTIs [s]
			ontime3	27044.359197676	Sum of GTIs [s]
			ontime6	27044.359187782	Sum of GTIs [s]
			l1events	997209	Number of level 1 events

### 2.1.4 Events

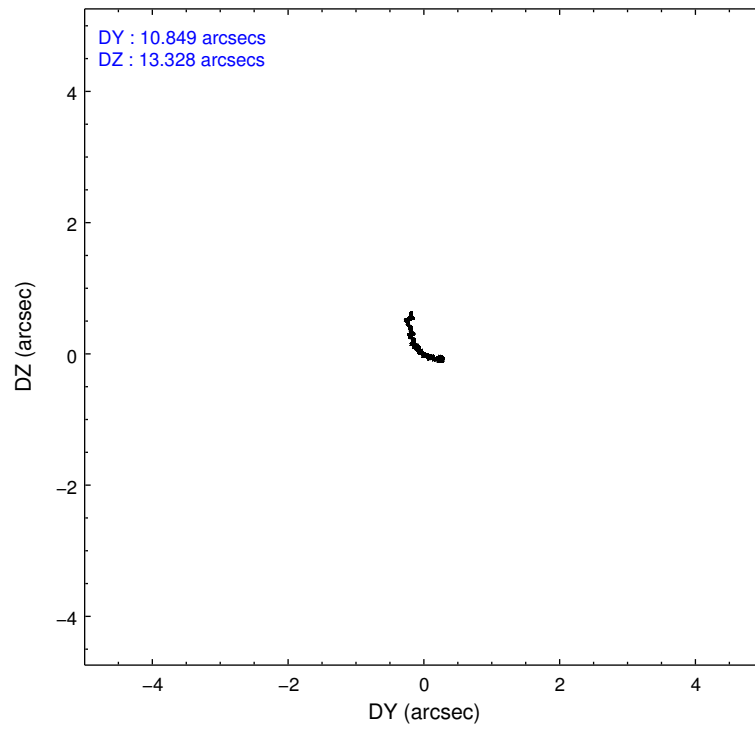
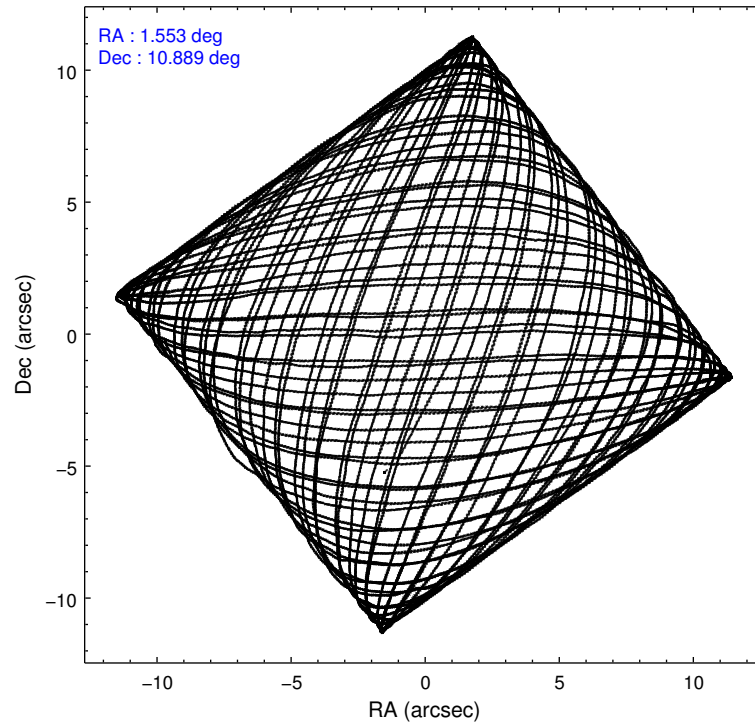
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	184370	191699	208763	213801	198576
rejected events	162300	166170	186700	180839	176536
rejected %	88%	86%	89%	84%	88%

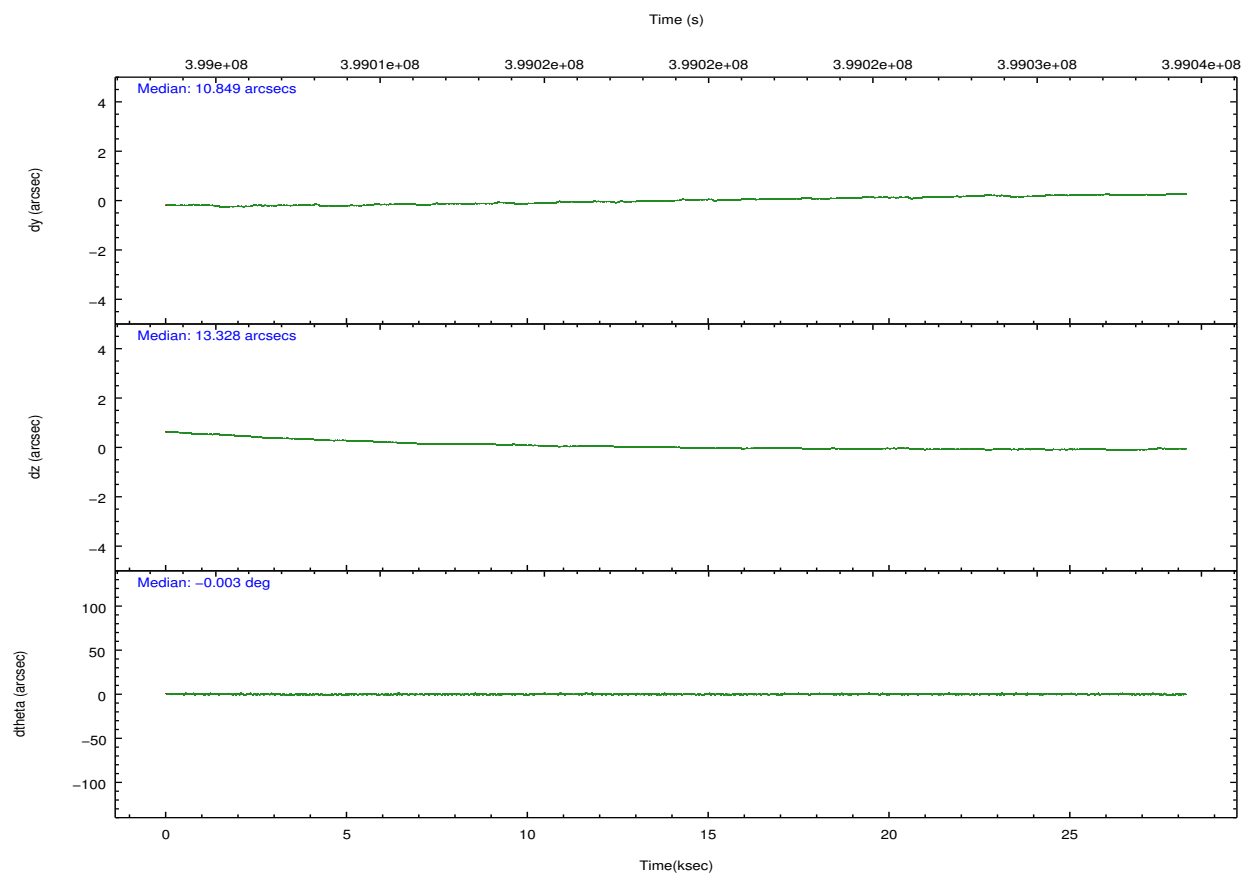
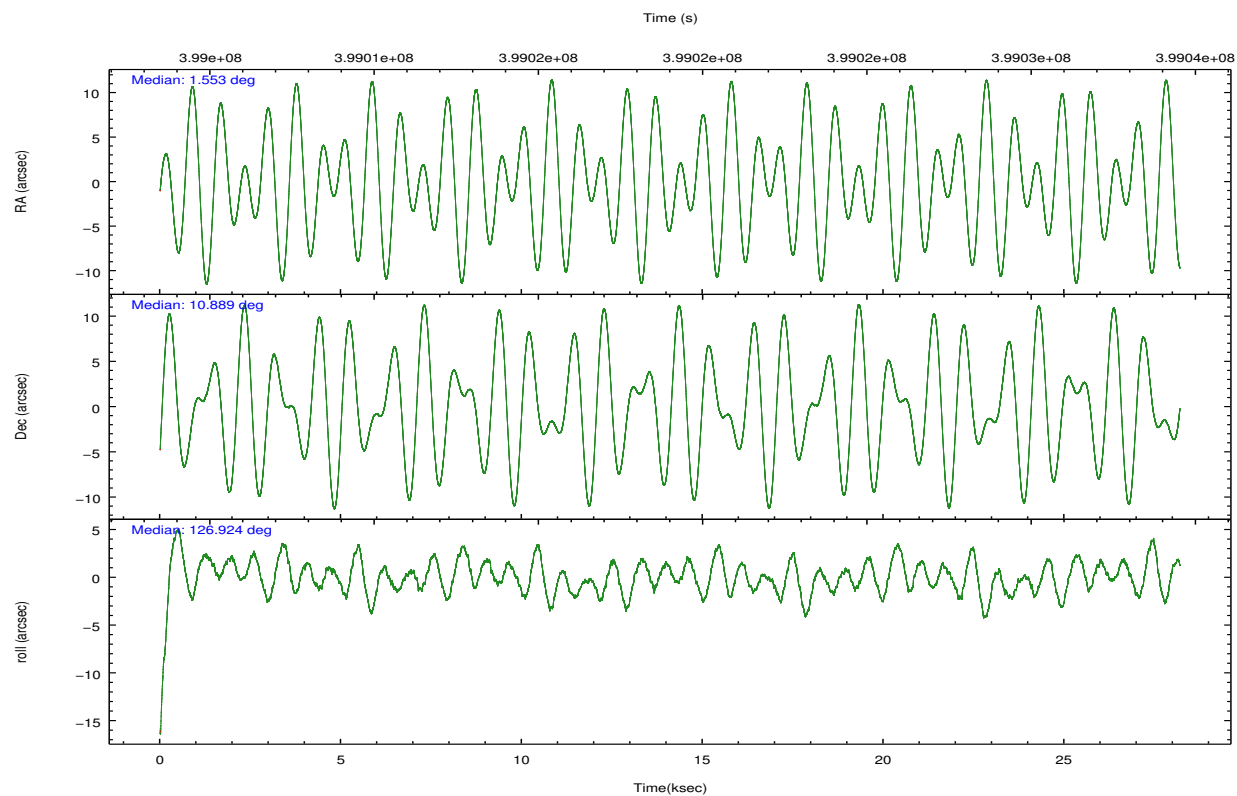
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	7817	9604	8052	17221	7534
	4%	5%	3%	8%	3%
grade 1 events	120	123	126	168	99
	0%	0%	0%	0%	0%
grade 2 events	5442	5876	5496	5919	4865
	2%	3%	2%	2%	2%
grade 3 events	2373	2465	2250	2645	2396
	1%	1%	1%	1%	1%
grade 4 events	2135	2558	2204	2632	2342
	1%	1%	1%	1%	1%
grade 5 events	8106	8598	7748	9242	8870
	4%	4%	3%	4%	4%
grade 6 events	4305	5027	4062	4552	4907
	2%	2%	1%	2%	2%
grade 7 events	154072	157448	178825	171422	167563
	83%	82%	85%	80%	84%

## 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	1.579033	1.553230375281686	Subarray requested	NONE	NONE
[deg] Pointing Dec	10.878086	10.88875946932257	Alternating exposures requested	N	N
[deg] Pointing Roll	126.716641	126.9302060984926	[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	-229.442463	-229.4438428438578			
[mm] SIM translation stage offset	-4.15	-4.148610159071865			
[s] Observation start time (MET)	399006106.184000	399004674.83267			
Observation start date	2010-08-24T03:00:40	2010-08-24T02:37:54			
[s] Observation end time (MET)	399033106.184000	399033678.23415			
Observation end date	2010-08-24T10:30:40	2010-08-24T10:41:18			
Read mode	TIMED	TIMED			

## 2.3 Aspect



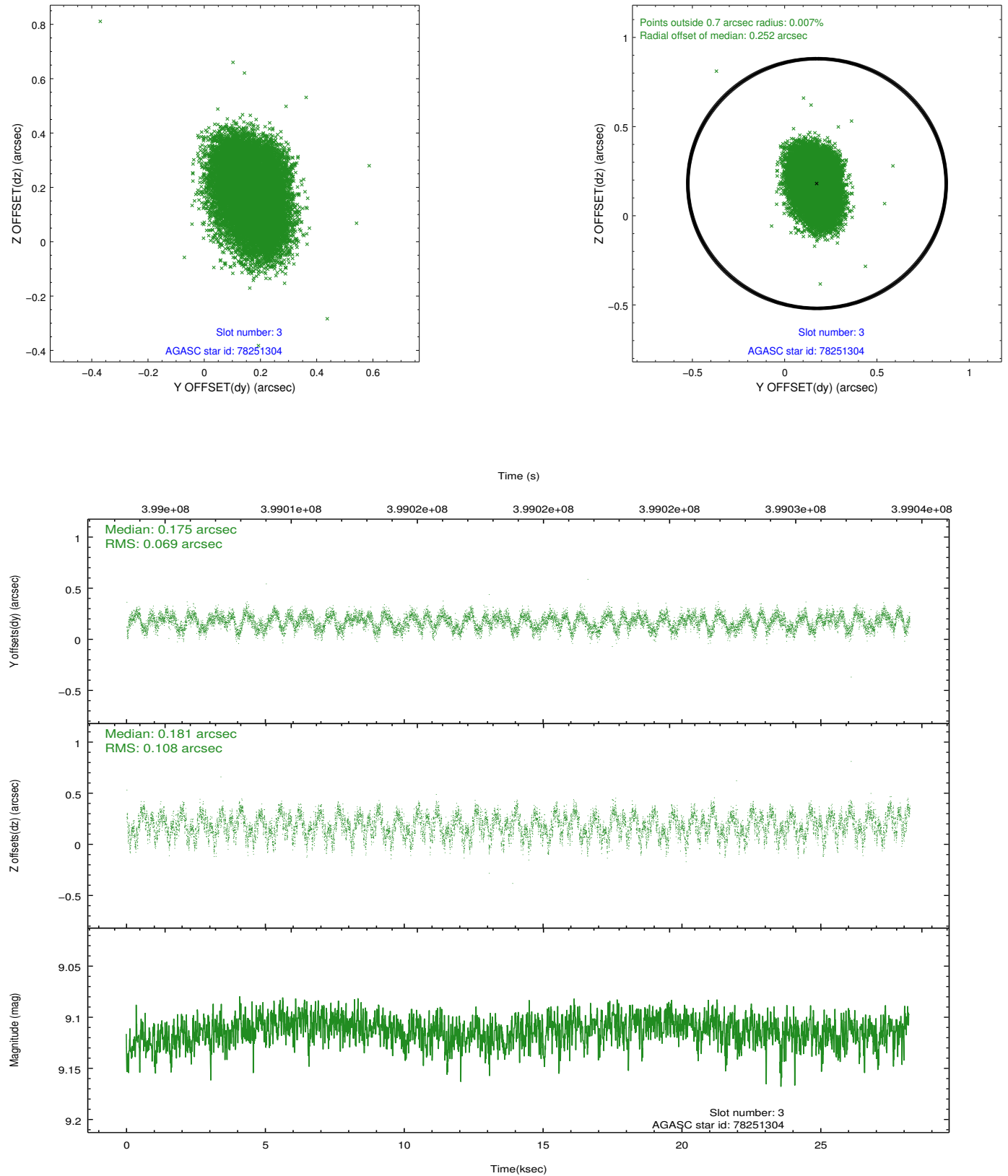


### Slot Statistics

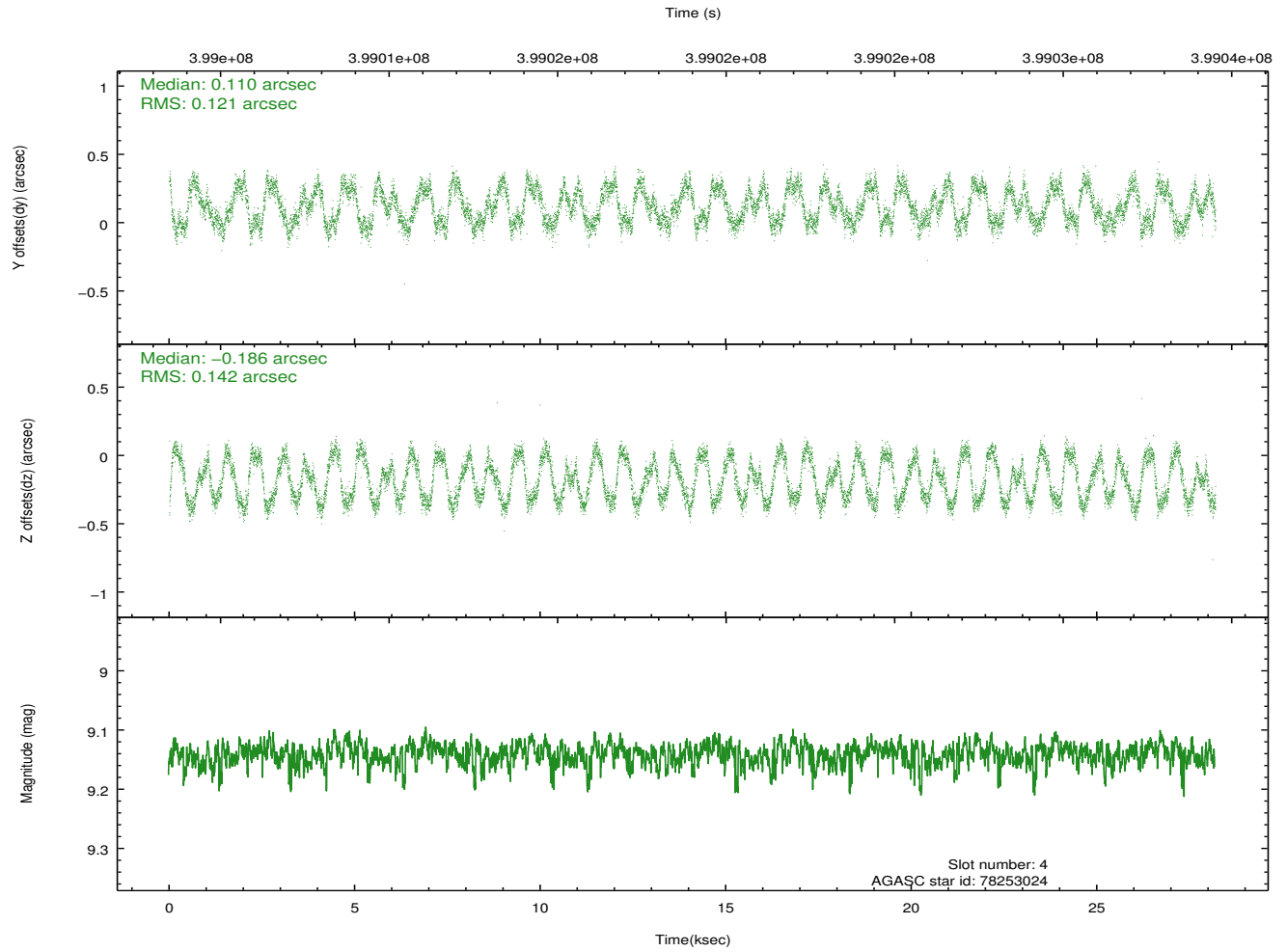
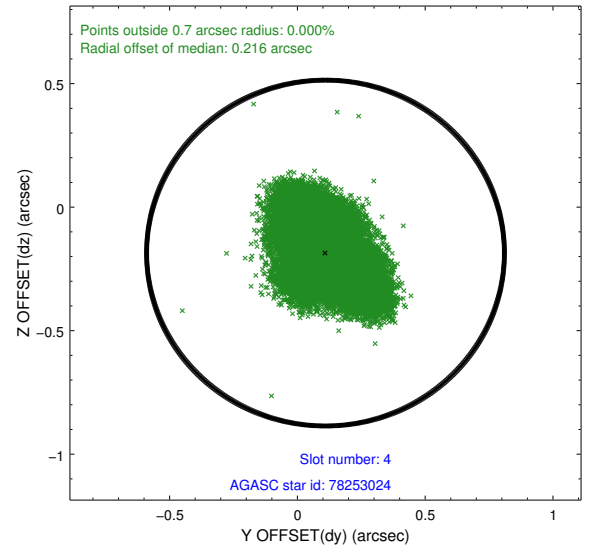
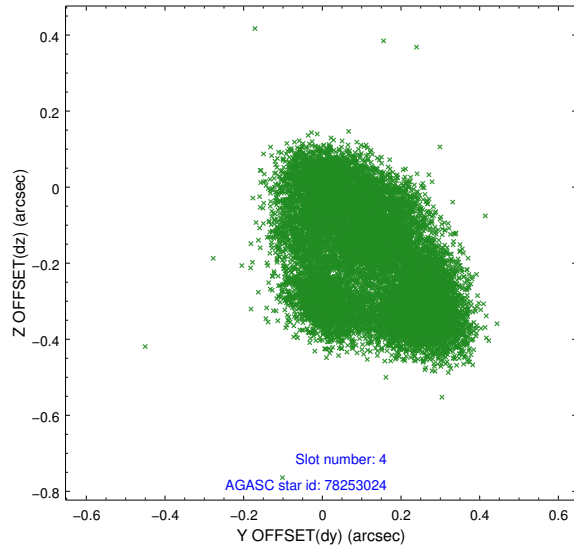
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.06	6878	0.075	-0.002	0.007	0.017	0.000000	0.000000	928.74	-922.07
1	FID	ACIS-I-5	7.05	6878	-0.242	0.079	0.009	0.021	0.000000	0.000000	-1819.67	975.39
2	FID	ACIS-I-6	7.05	6878	0.074	-0.006	0.011	0.020	0.000000	0.000000	394.14	1619.95
3	GUIDE	78251304	9.11	13746	0.175	0.181	0.139	0.217	2.131310	11.171532	-317.27	-2195.92
4	GUIDE	78253024	9.14	13739	0.110	-0.186	0.206	0.284	1.125647	11.124100	1668.17	752.42
5	GUIDE	78258408	9.42	13746	0.038	0.093	0.097	0.153	1.867797	10.634881	-1311.86	-295.70
6	GUIDE	78258512	9.00	13747	-0.118	-0.008	0.100	0.152	1.256268	10.390644	-723.10	1964.96
7	GUIDE	78262256	8.04	13752	-0.206	-0.084	0.066	0.111	1.044830	11.264376	2243.59	679.97

## 2.4 Star Slots

### 2.4.1 Slot 3

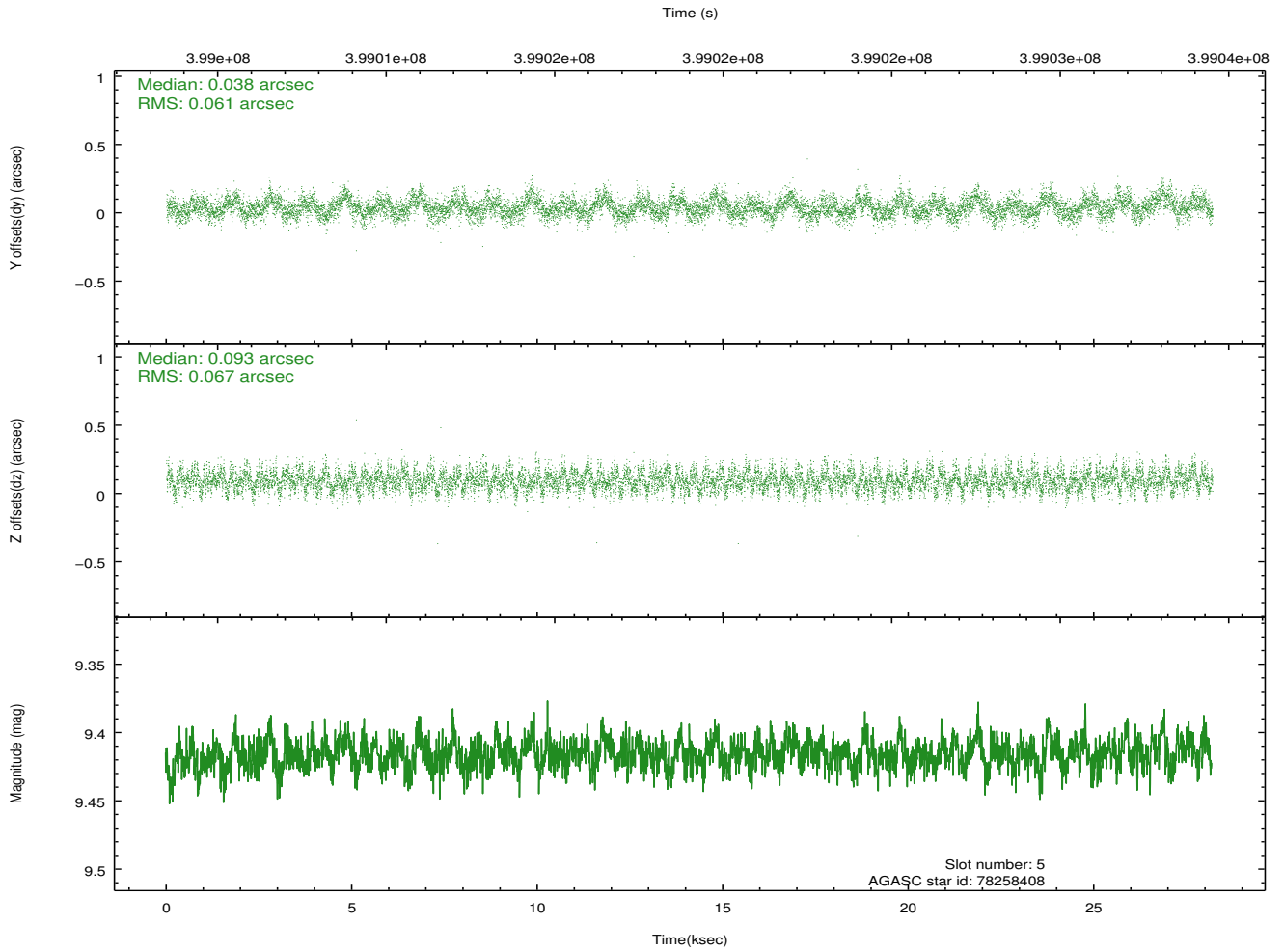
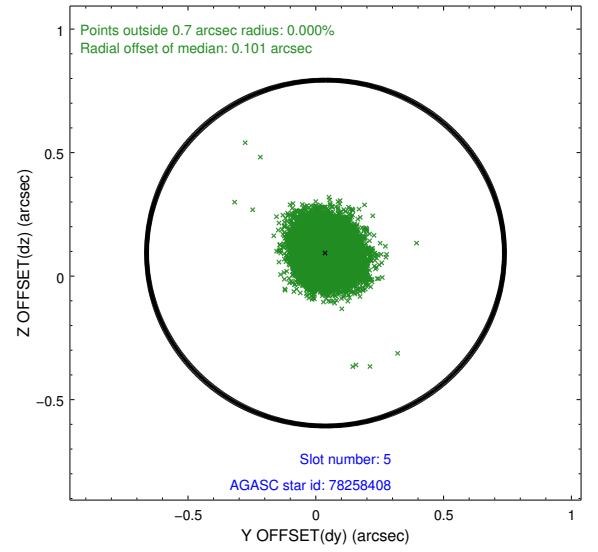
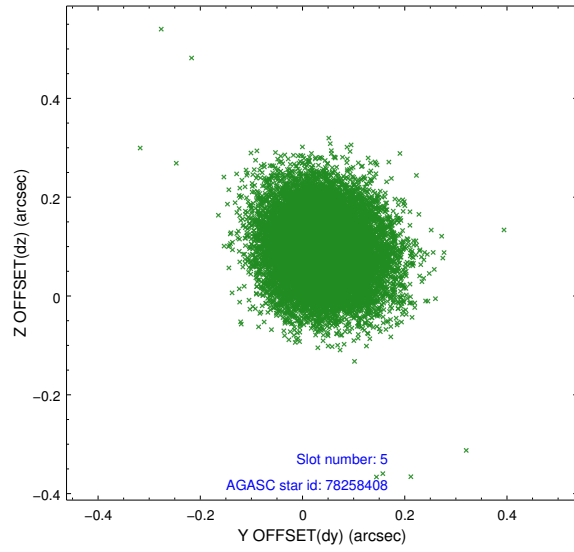


## 2.4.2 Slot 4

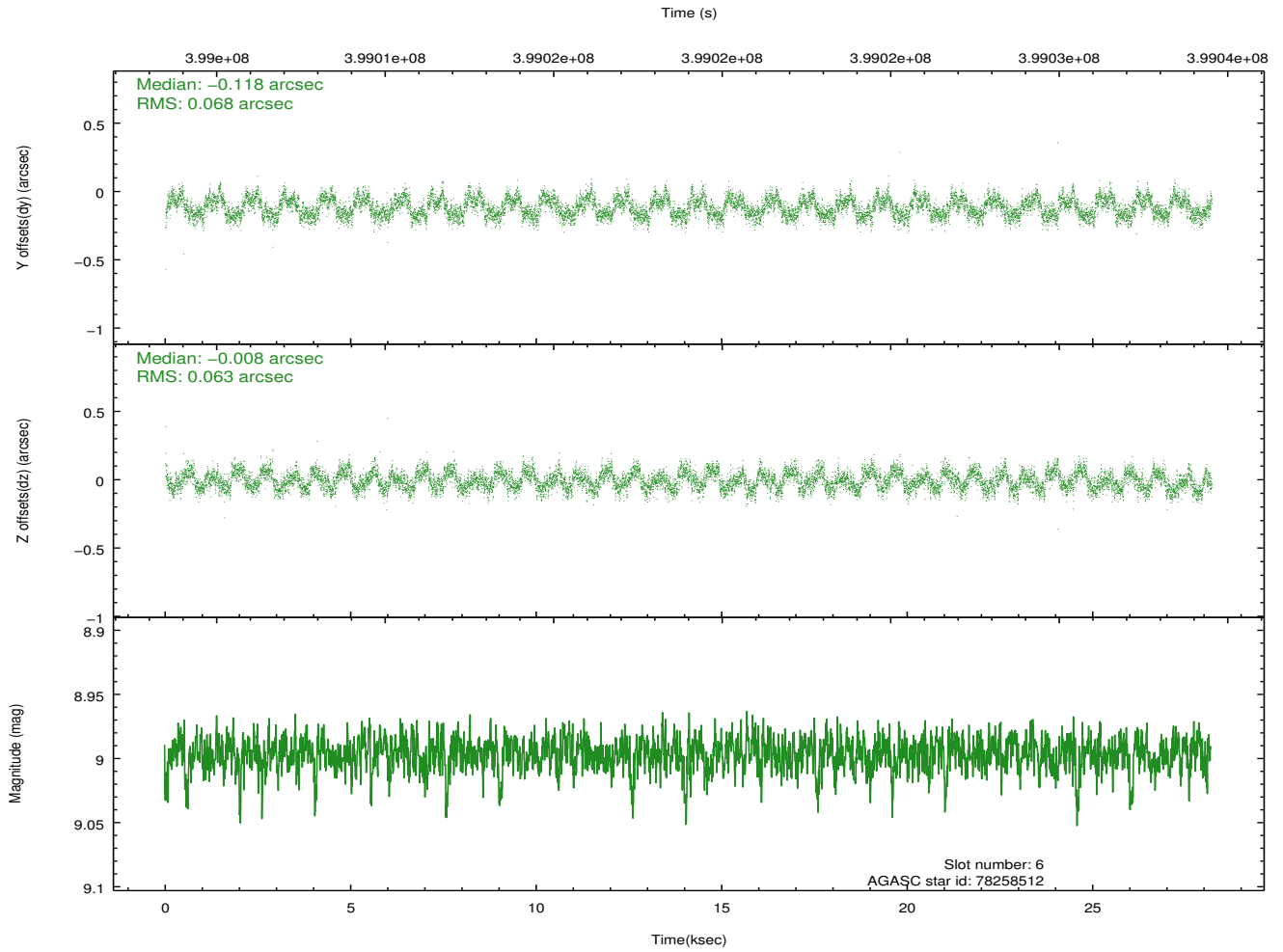
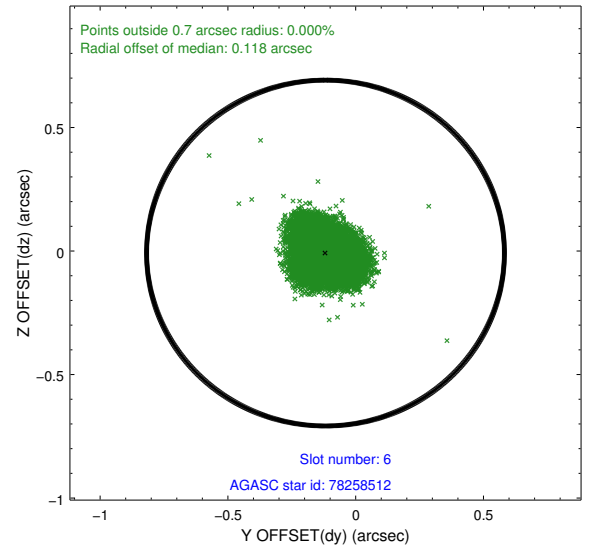
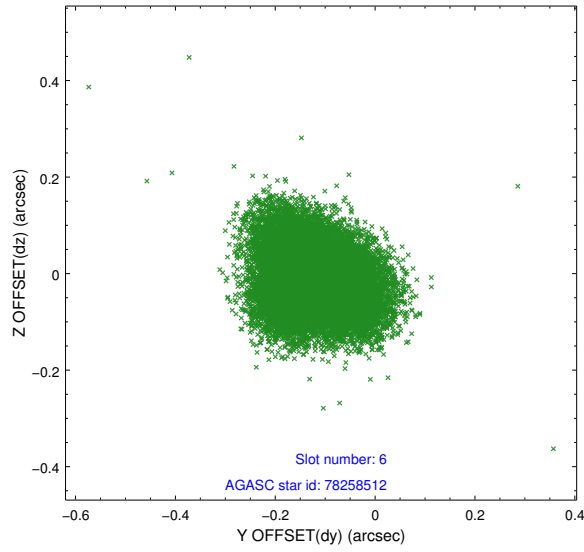




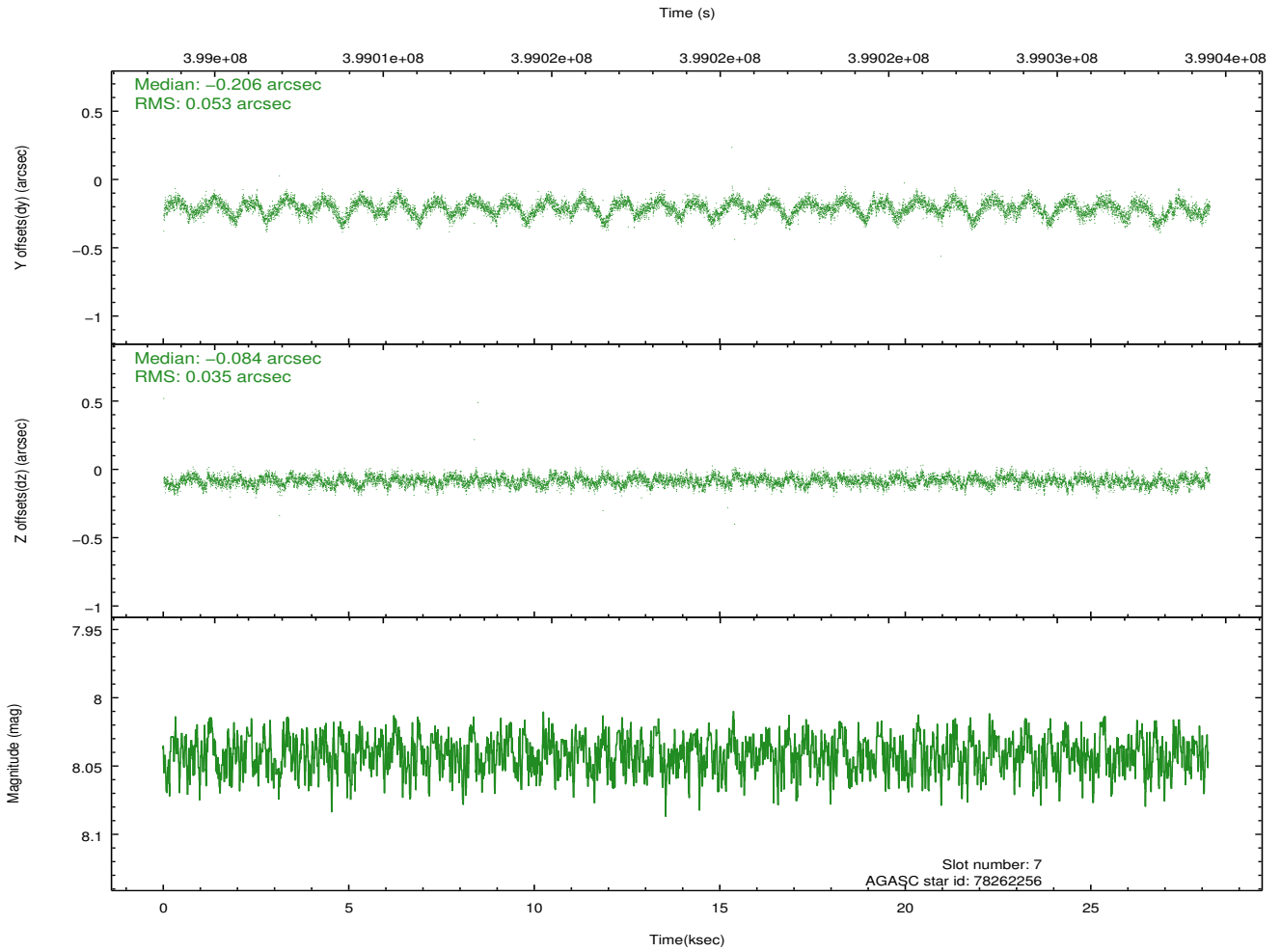
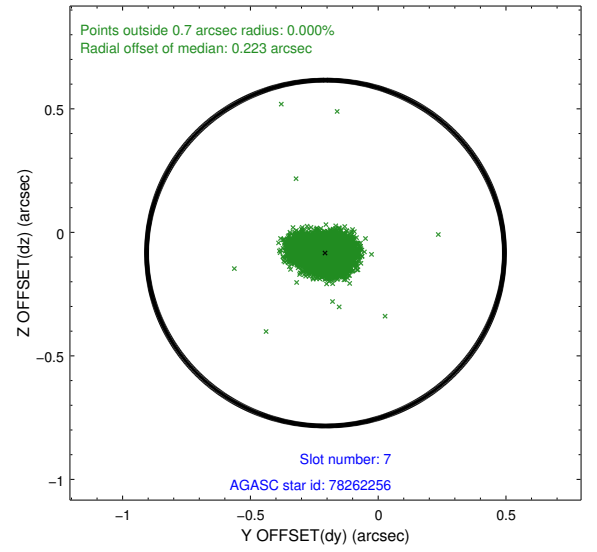
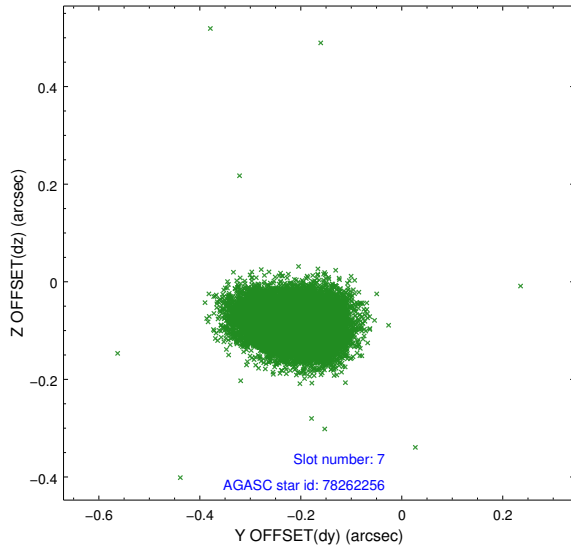
### 2.4.3 Slot 5



## 2.4.4 Slot 6

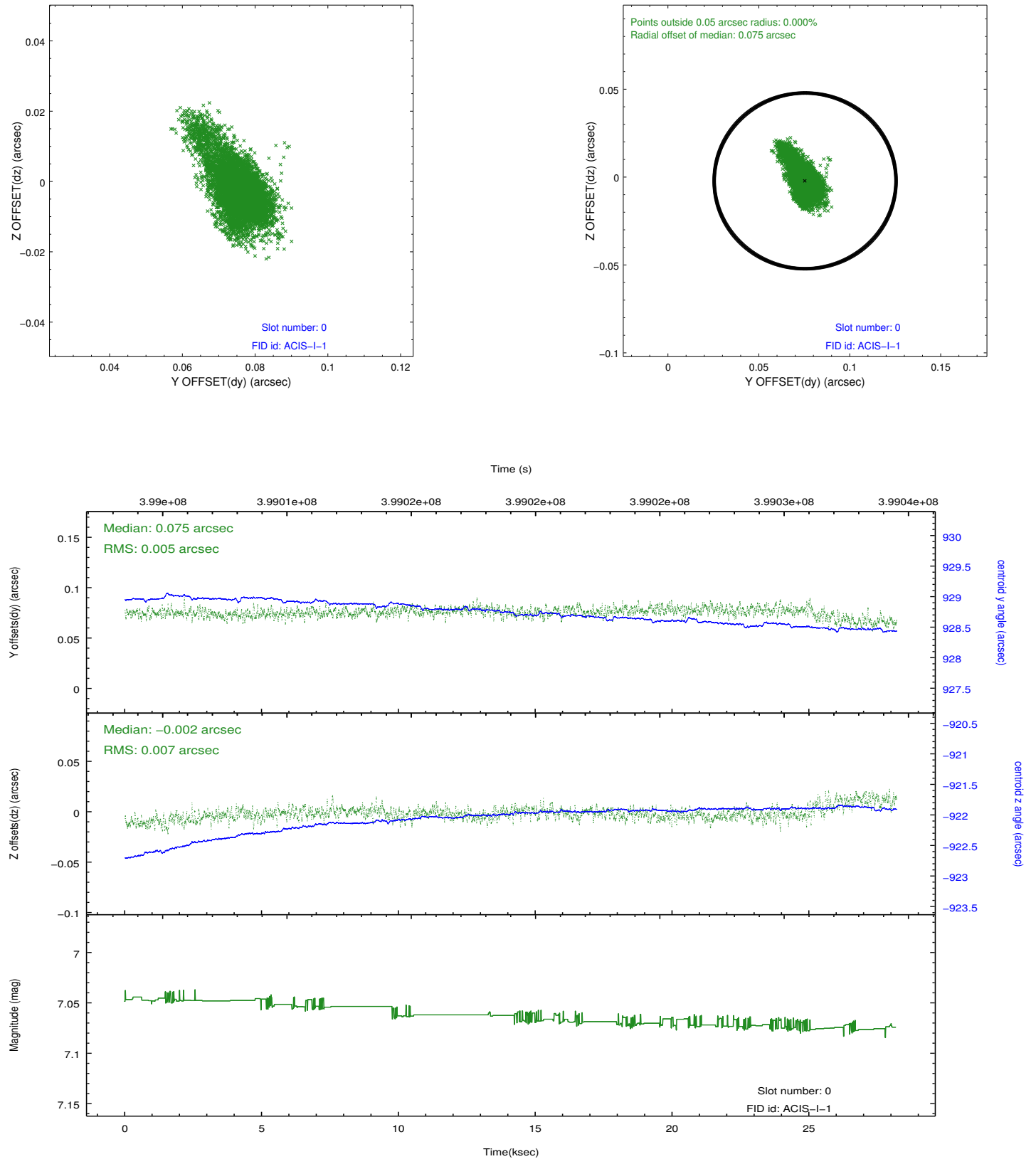


## 2.4.5 Slot 7

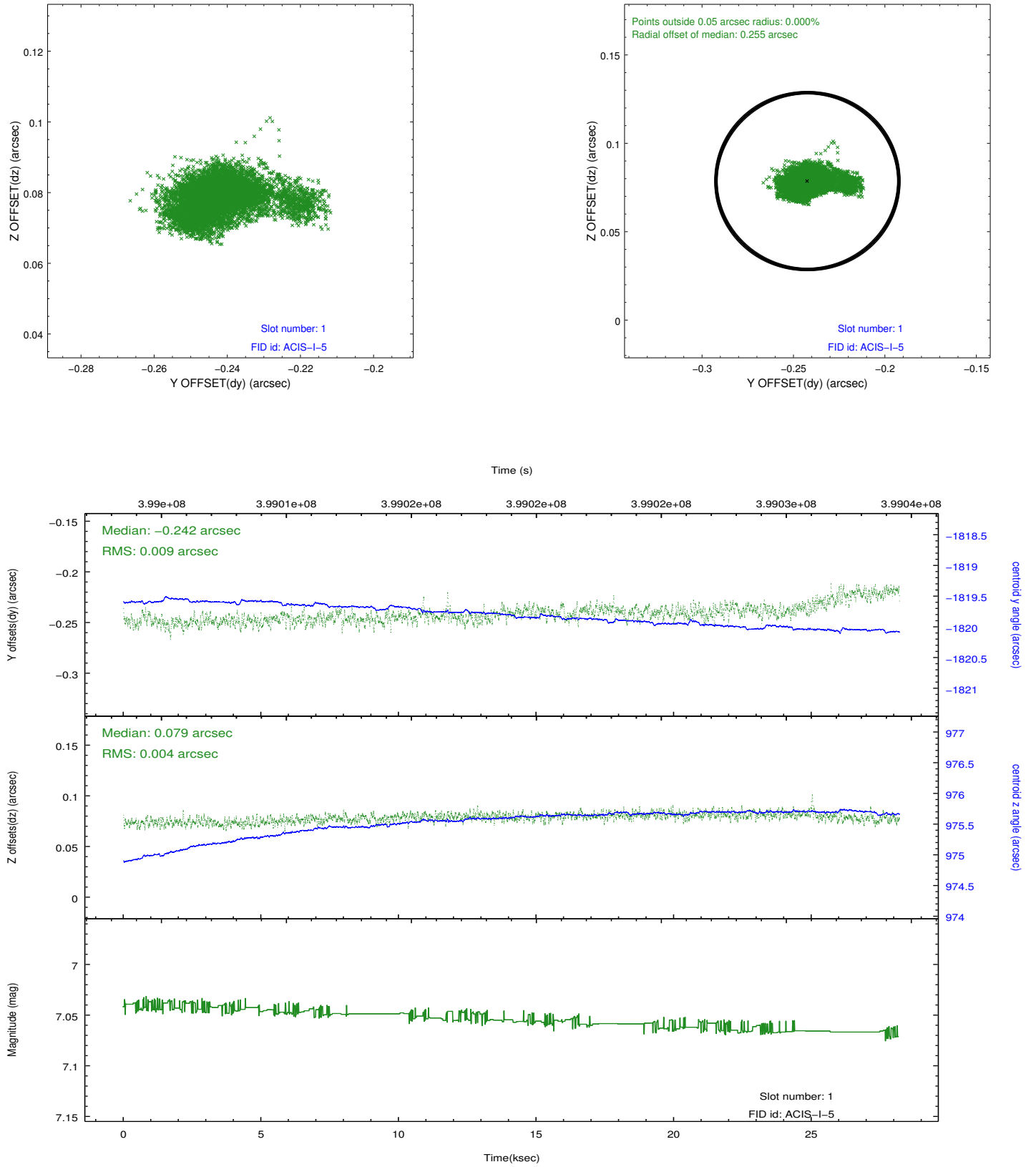


## 2.5 FID Slots

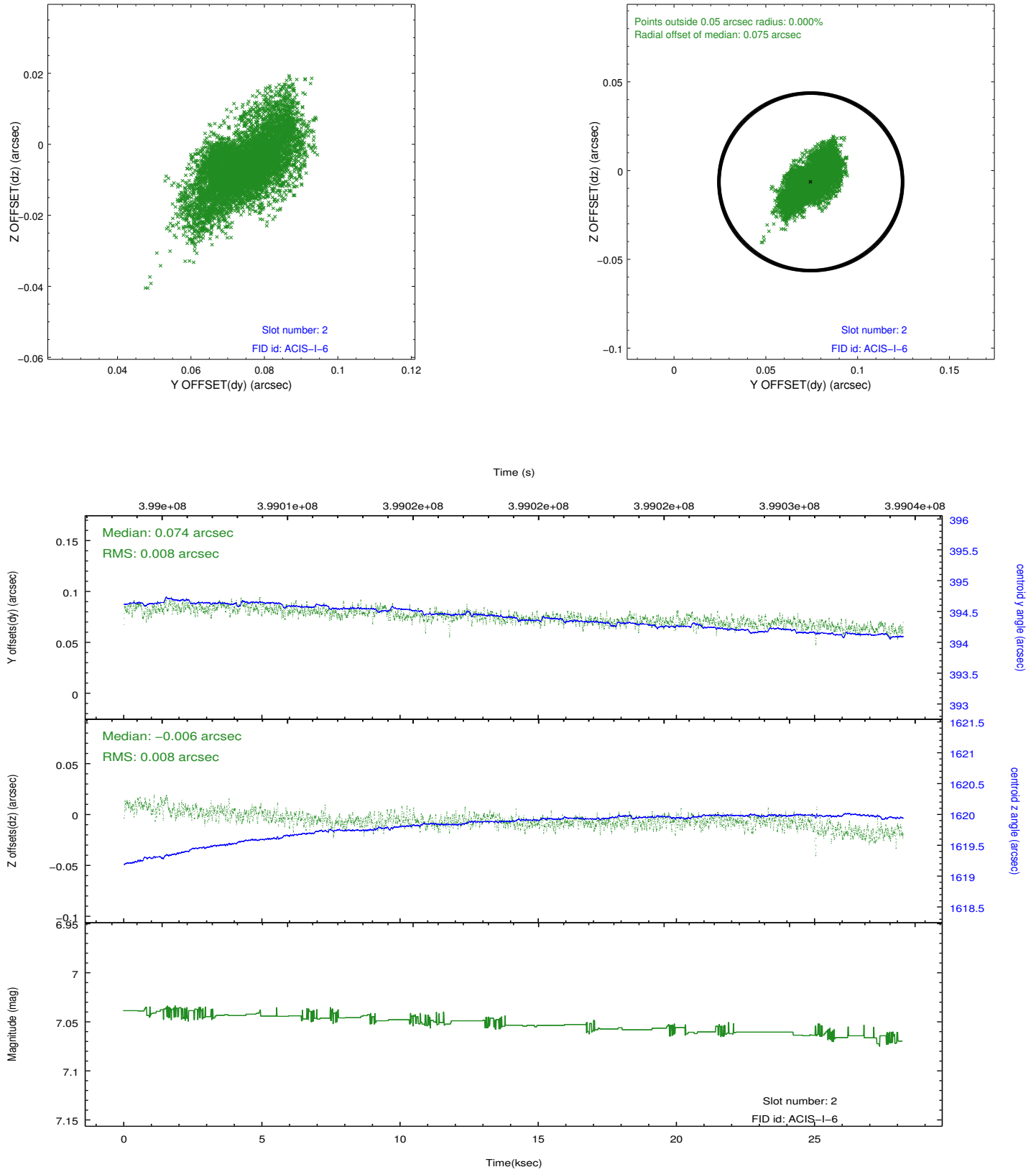
### 2.5.1 Slot 0



## 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)	2012.07.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	27.044359197676

## A.2 Comments

A spatial region of the original bias map for CCD = 0 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 = 0 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:  
(1.55986,10.97571),(1.55786,10.97424),(1.59548,10.92509),(1.59748,10.92656)