

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 12172 - L2 Version 2  
Chandra X-Ray Center

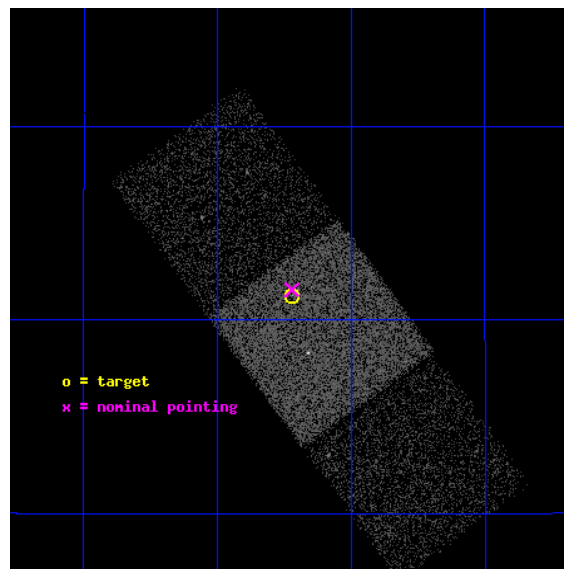
L2 Processing Date : Feb 2 2012

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# 1 Front

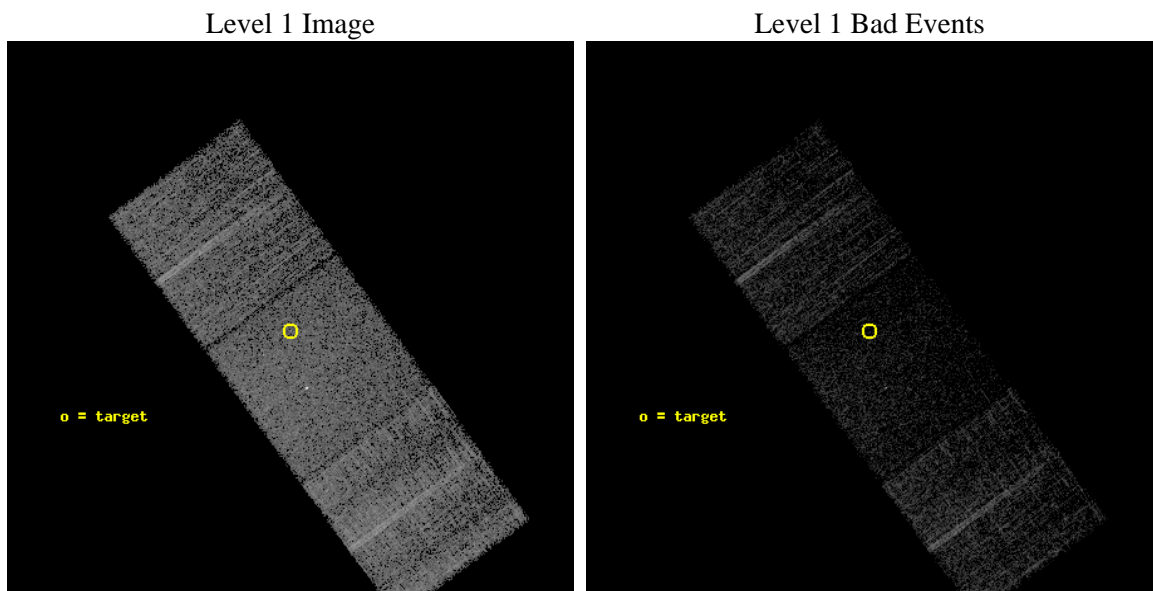
seq_num	702336	Sequence number
obs_id	12172	Observation id
title	Remarkable High-Redshift Quasars from the Sloan Digital Sky Survey	&#160
observer	Prof. Gordon Garmire	Principal investigator
object	SDSS J1659+2101	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	254.805	Observer's specified target RA [deg]
dec_targ	21.021056	Observer's specified target Dec [deg]
ra_nom	254.80546973344	Nominal RA [deg]
dec_nom	21.025914442497	Nominal Dec [deg]
roll_nom	53.767651647698	Nominal Roll [deg]
revision	2	Processing version of data
ontime	6559.3002865911	Sum of GTIs [s]
livetime	6473.5981994601	Livetime [s]
ontime6	6559.2592465878	Sum of GTIs [s]
ontime7	6559.3002865911	Sum of GTIs [s]
ontime8	6559.2182065845	Sum of GTIs [s]
l2events	31874	Number of level 2 events



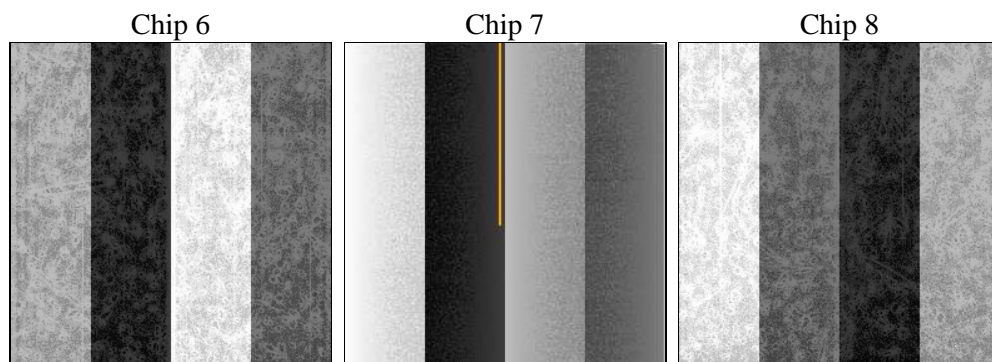
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	6500.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	6559.3002865911	Sum of GTIs [s]
caldbver	4.4.7	&#160	ontime6	6559.2592465878	Sum of GTIs [s]
date	2012-02-02T22:28:10	Date and time of file creation	ontime7	6559.3002865911	Sum of GTIs [s]
revision	2	Processing version of data	ontime8	6559.2182065845	Sum of GTIs [s]
			l1events	148805	Number of level 1 events

### 2.1.4 Events

	ccd 6	ccd 7	ccd 8
level 1 events	43749	47374	57682
rejected events	38779	23687	42255
rejected %	88%	50%	73%

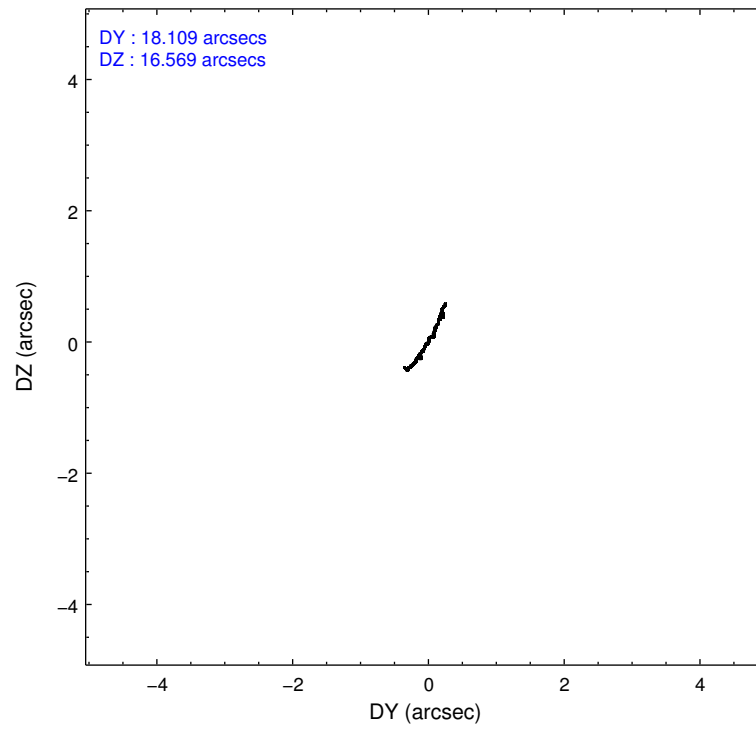
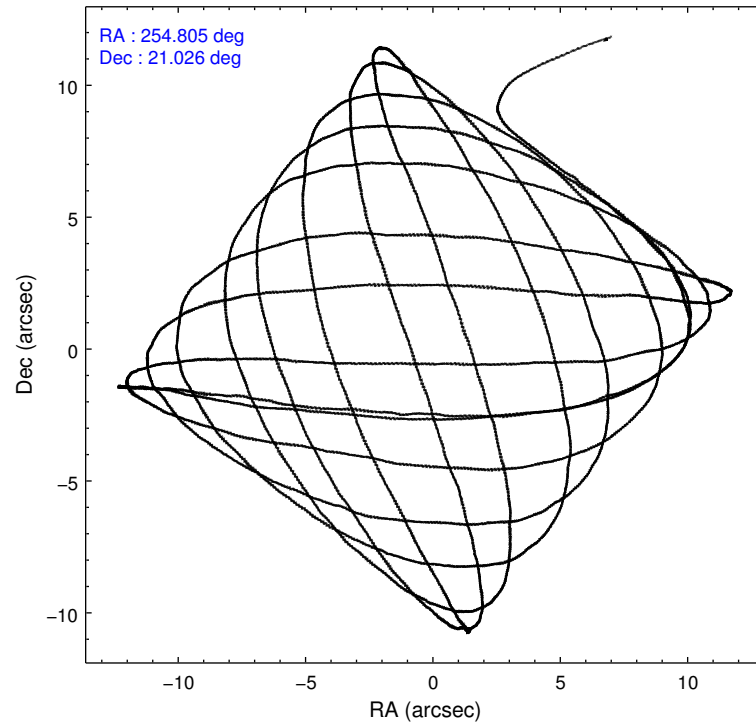
	ccd 6	ccd 7	ccd 8
grade 0 events	1861	2718	4249
	4%	5%	7%
grade 1 events	26	88	45
	0%	0%	0%
grade 2 events	1061	5070	3713
	2%	10%	6%
grade 3 events	487	2237	1658
	1%	4%	2%
grade 4 events	523	2140	1573
	1%	4%	2%
grade 5 events	1652	4963	2574
	3%	10%	4%
grade 6 events	1041	11547	4283
	2%	24%	7%
grade 7 events	37098	18611	39587
	84%	39%	68%

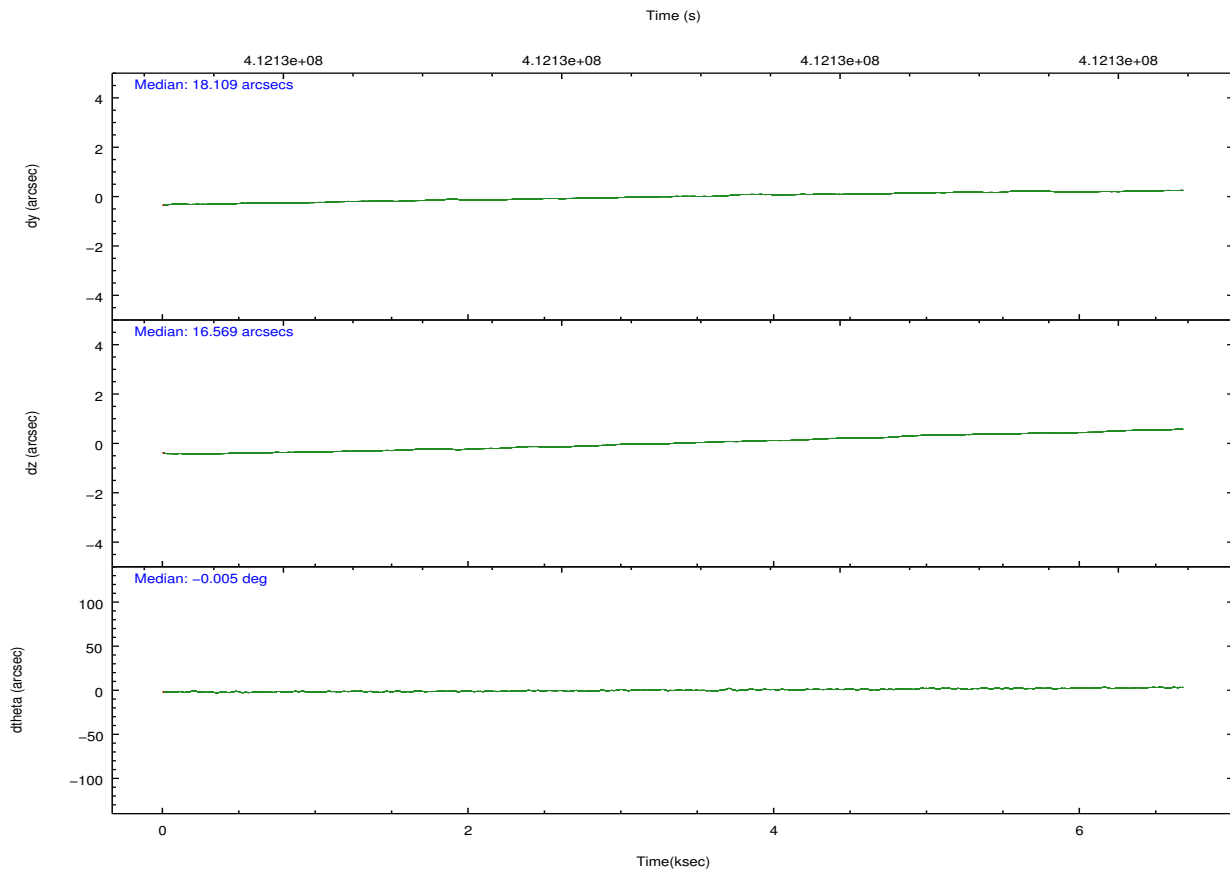
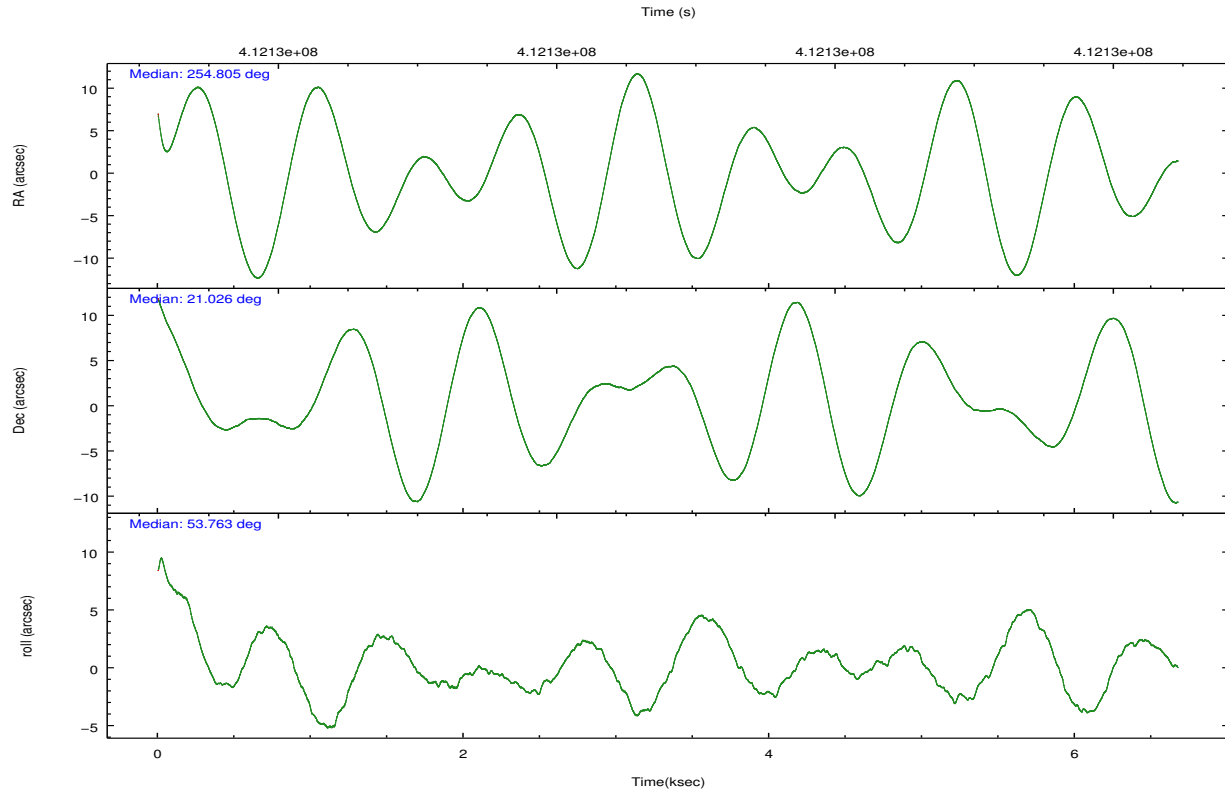


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-678	ACIS-678	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	254.802635	254.8054697334372	Subarray requested	NONE	NONE
[deg] Pointing Dec	20.998669	21.02591444249665	Alternating exposures requested	N	N
[deg] Pointing Roll	53.612036	53.76765164769804	[s] Primary exposure time	0.000000	3.1
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1425803651734			
[mm] SIM translation stage offset	0	0.01005778216563158			
[s] Observation start time (MET)	412127635.184000	412126816.22074			
Observation start date	2011-01-22T23:52:49	2011-01-22T23:40:16			
[s] Observation end time (MET)	412134135.184000	412134687.70865			
Observation end date	2011-01-23T01:41:09	2011-01-23T01:51:27			
Read mode	TIMED	TIMED			

## 2.3 Aspect



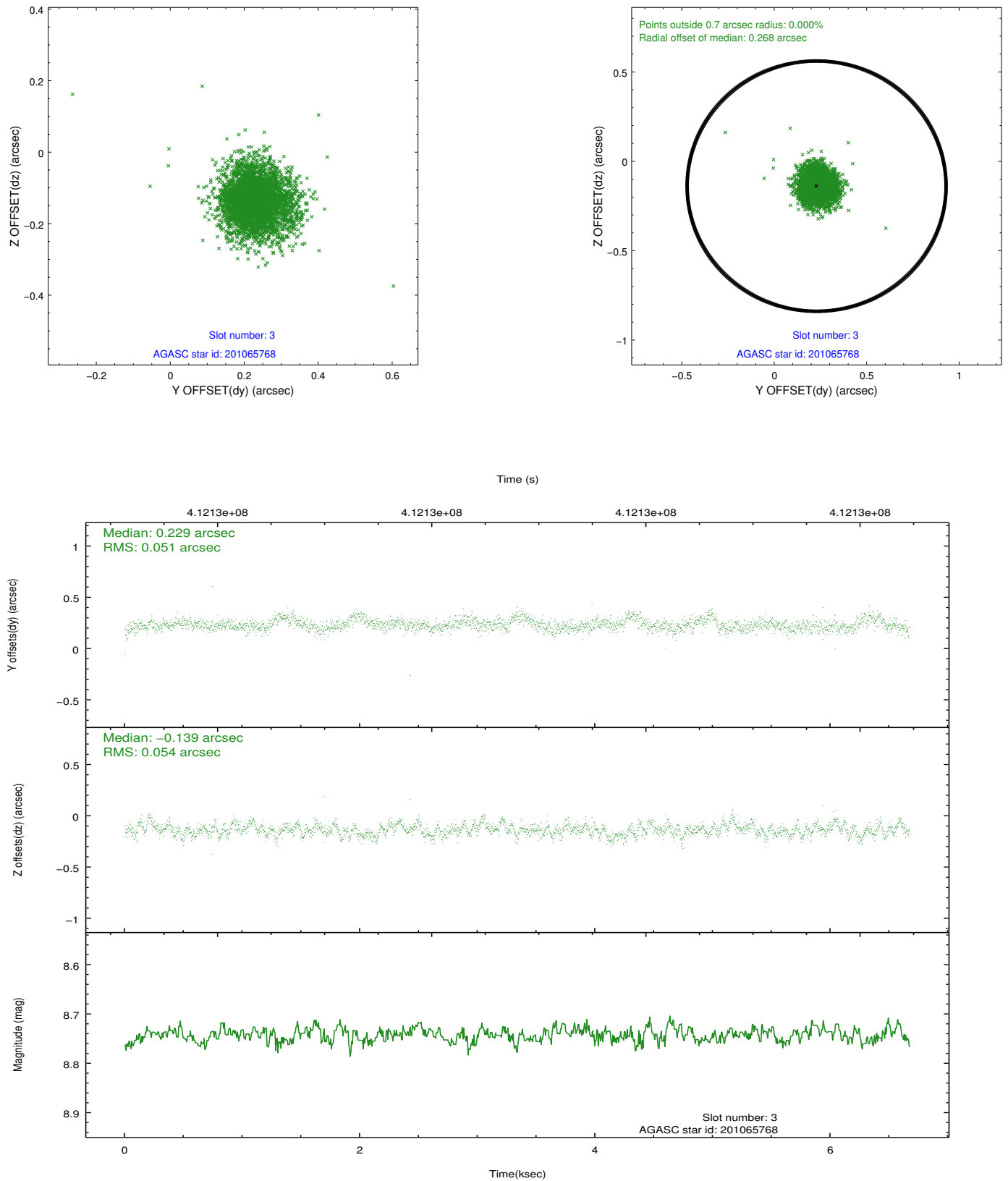


### Slot Statistics

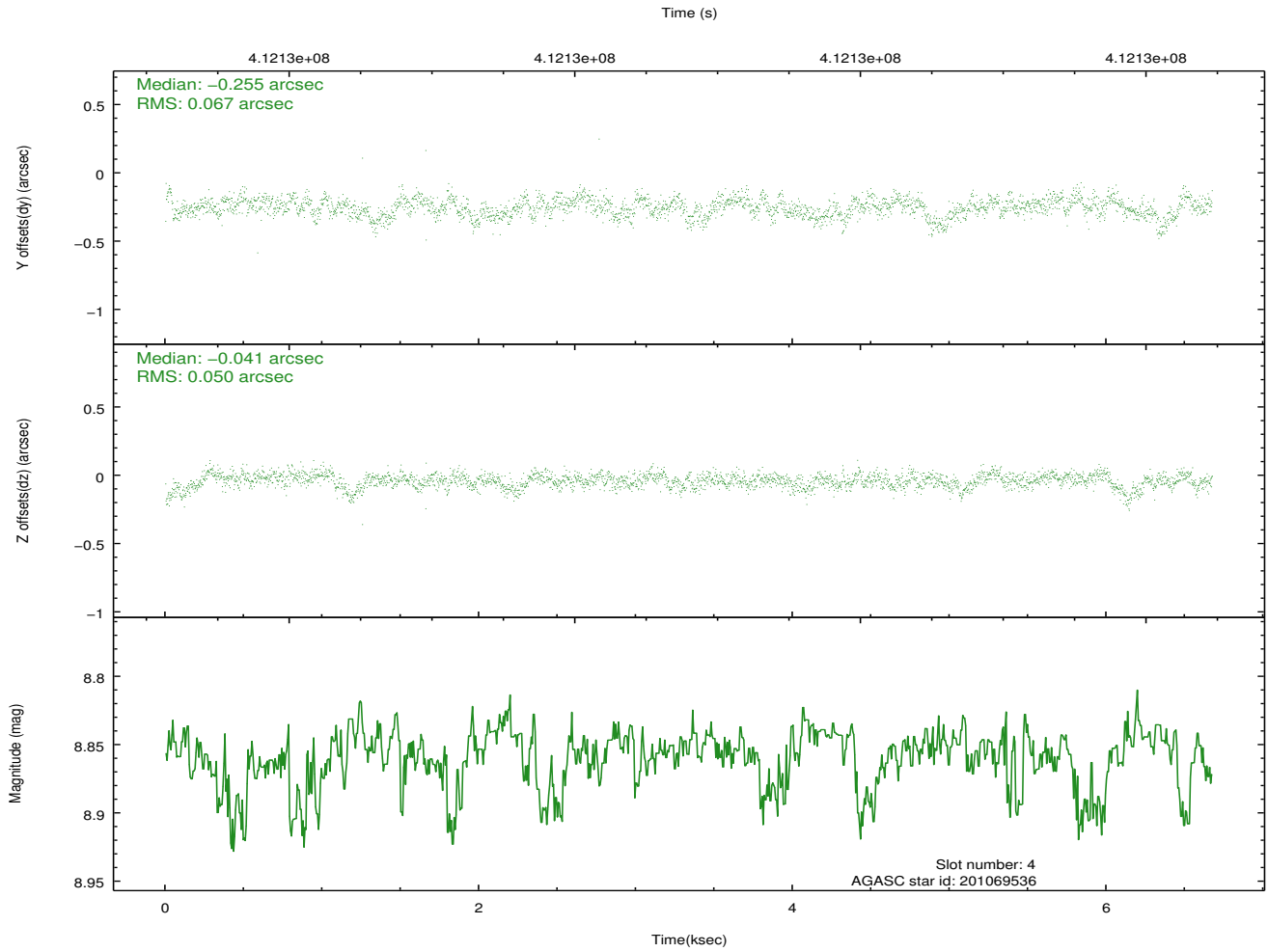
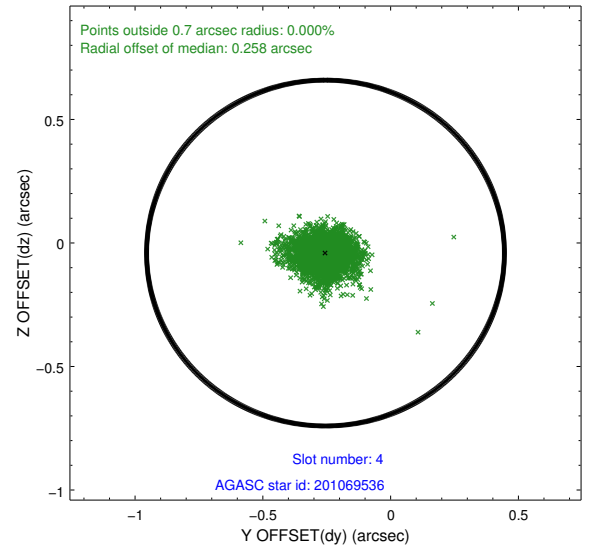
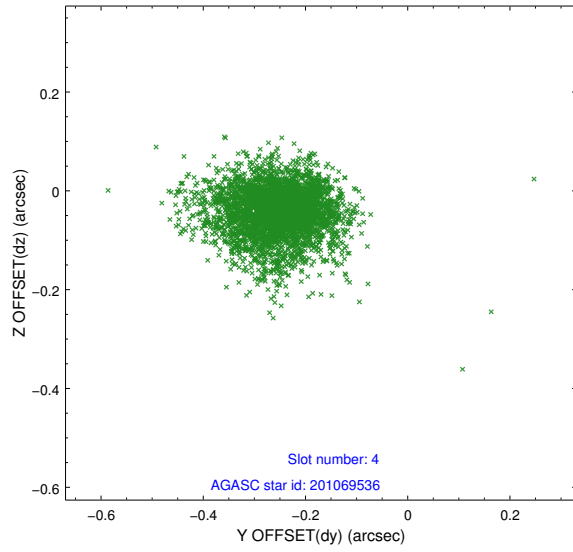
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.94	1628	-0.013	-0.024	0.012	0.018	0.000000	0.000000	-771.14	-1738.00
1	FID	ACIS-S-5	7.06	1628	-0.073	-0.005	0.016	0.023	0.000000	0.000000	-1824.74	163.08
2	FID	ACIS-S-6	7.15	1628	0.060	0.037	0.007	0.011	0.000000	0.000000	389.56	808.04
3	GUIDE	201065768	8.74	3256	0.229	-0.139	0.078	0.128	254.520078	20.664744	-1531.78	53.30
4	GUIDE	201069536	8.86	3253	-0.255	-0.041	0.087	0.144	255.591576	21.225628	2233.26	-1642.45
5	GUIDE	201073792	8.07	3256	0.105	-0.007	0.074	0.119	254.400816	21.020871	-734.48	1135.02
6	GUIDE	201070296	7.50	3255	-0.082	0.101	0.065	0.103	255.280068	21.497197	2394.98	-220.98
7	GUIDE	201069896	9.04	3254	0.001	0.088	0.082	0.133	255.425238	21.391012	2379.46	-839.19

## 2.4 Star Slots

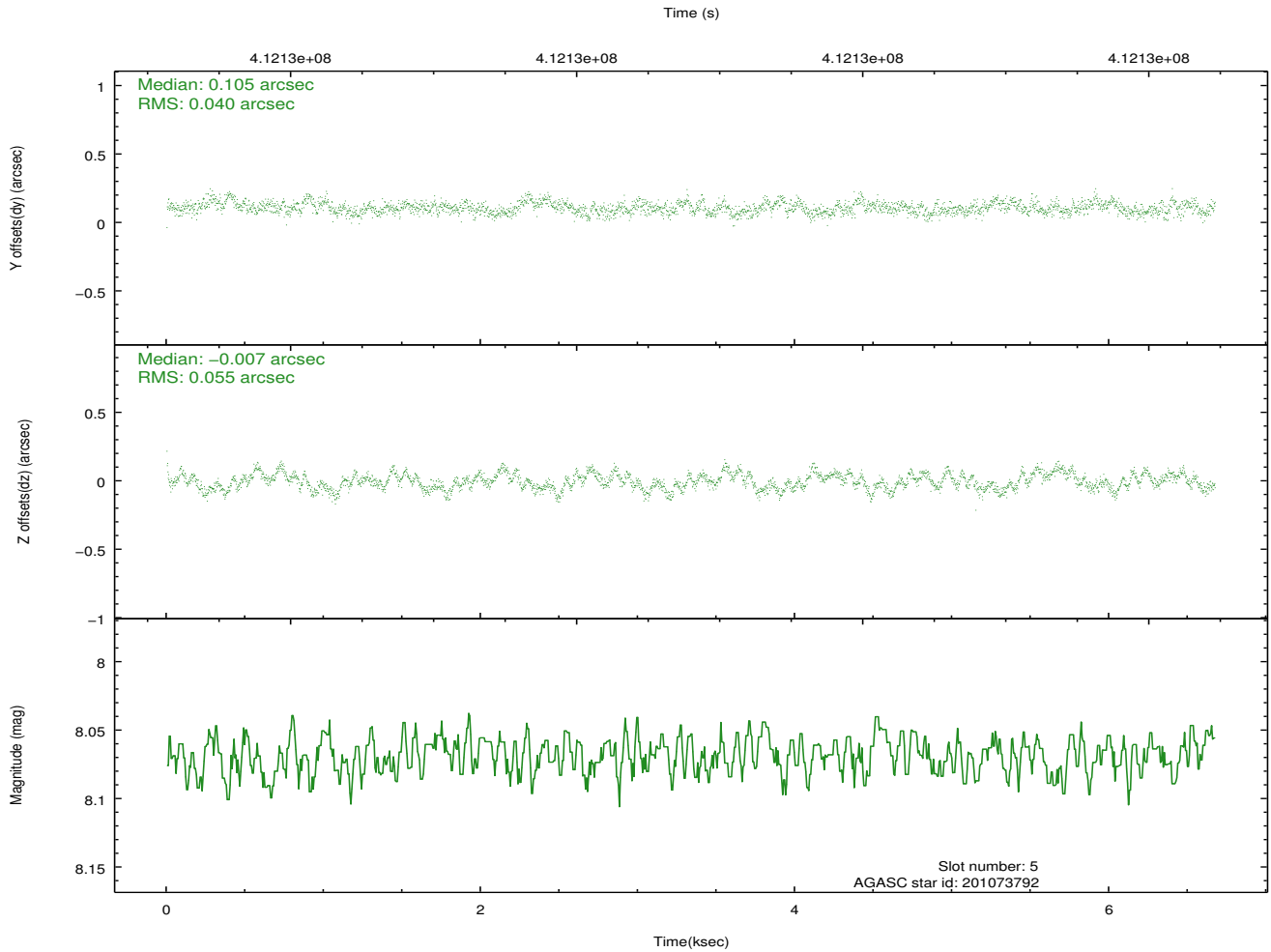
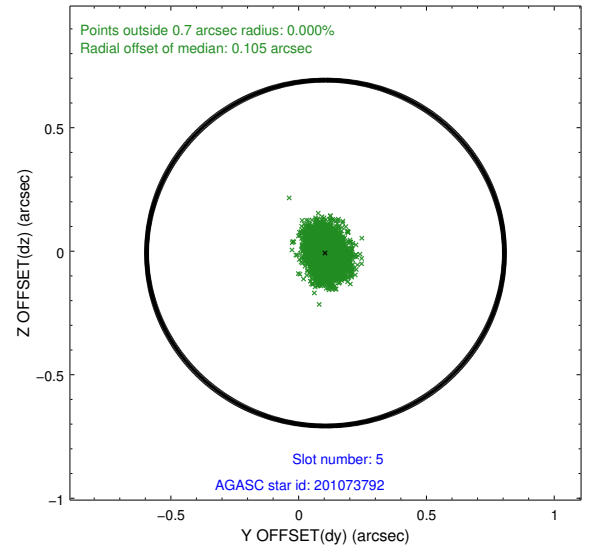
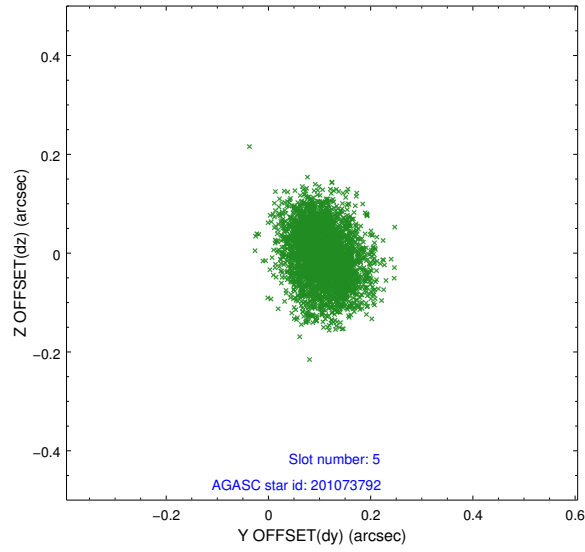
### 2.4.1 Slot 3



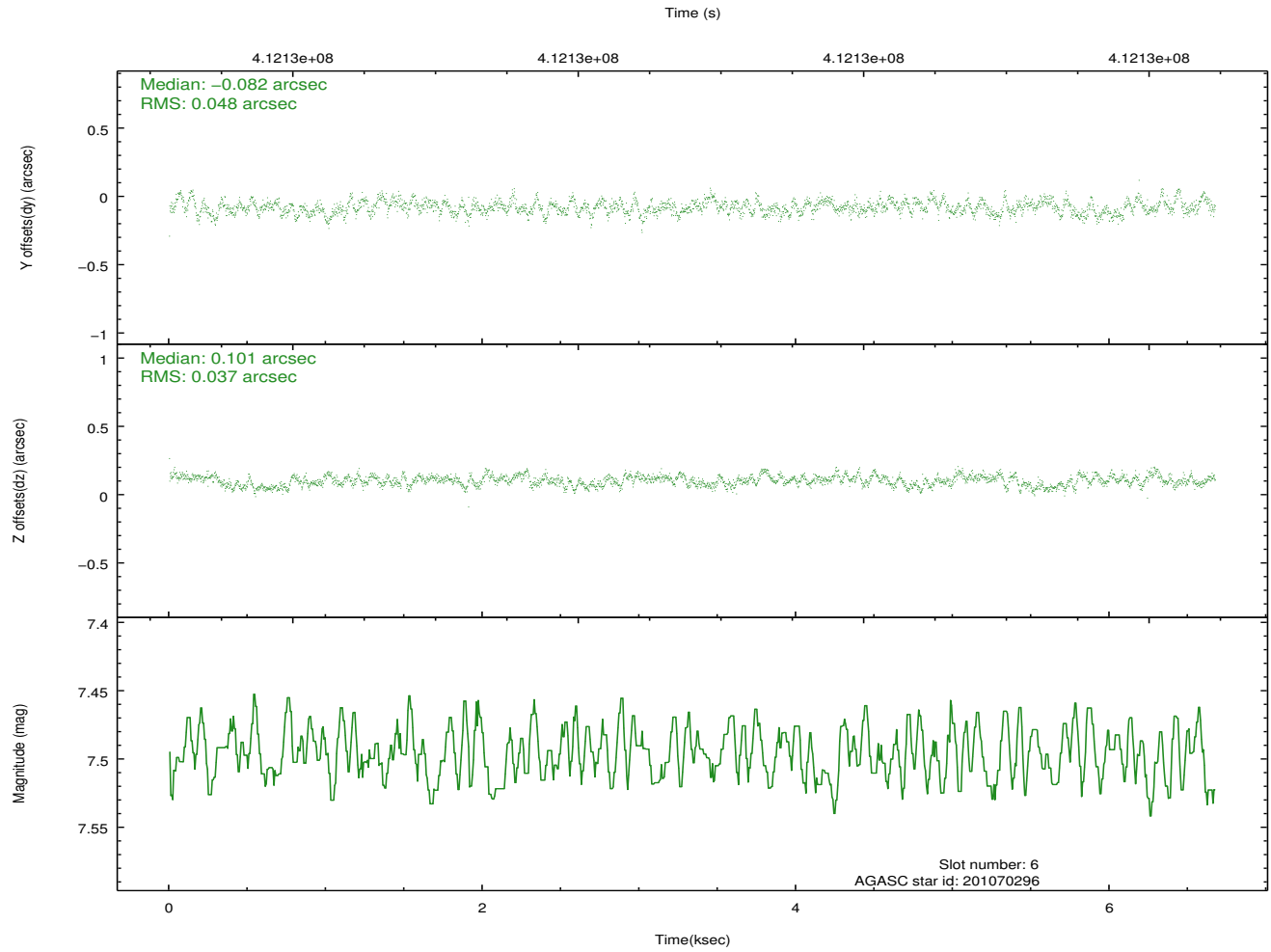
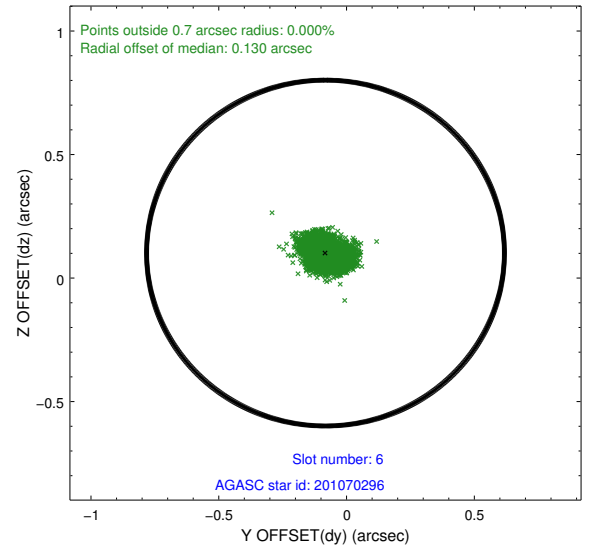
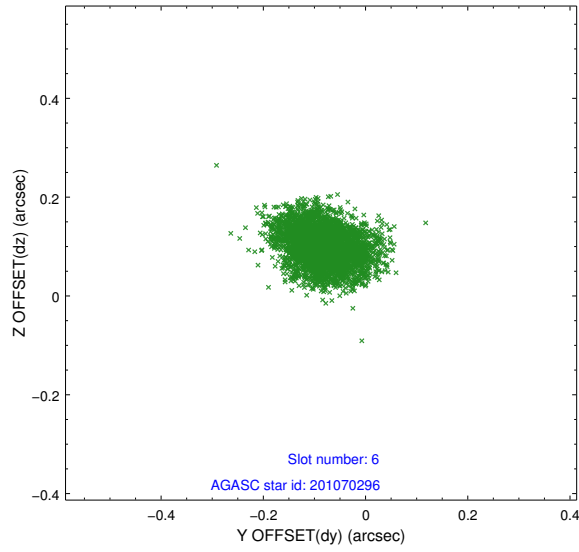
## 2.4.2 Slot 4



### 2.4.3 Slot 5

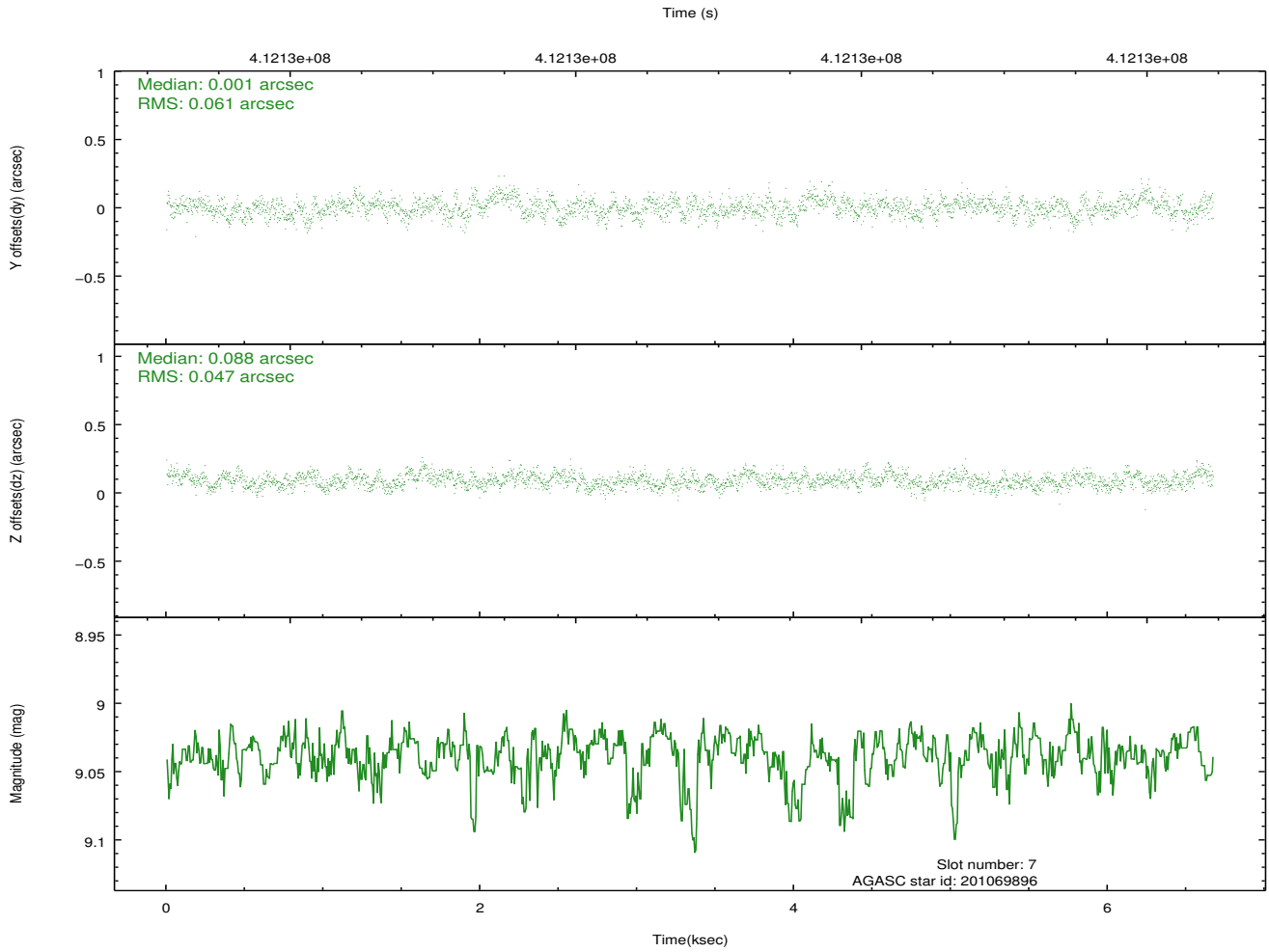
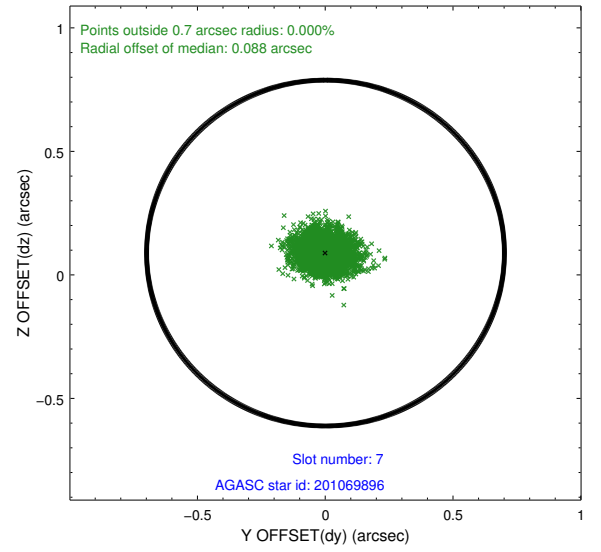
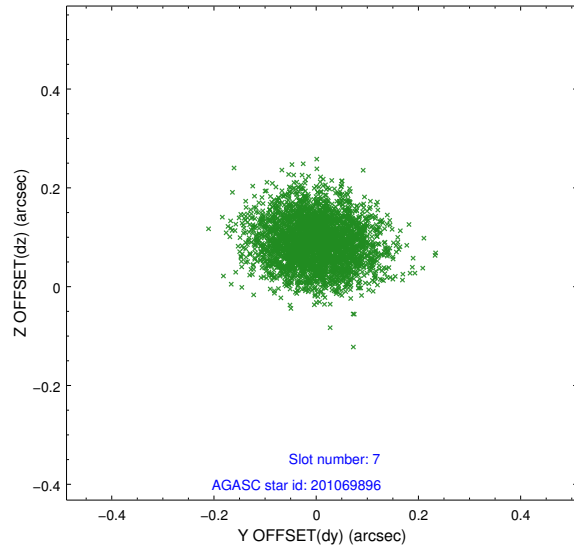


## 2.4.4 Slot 6



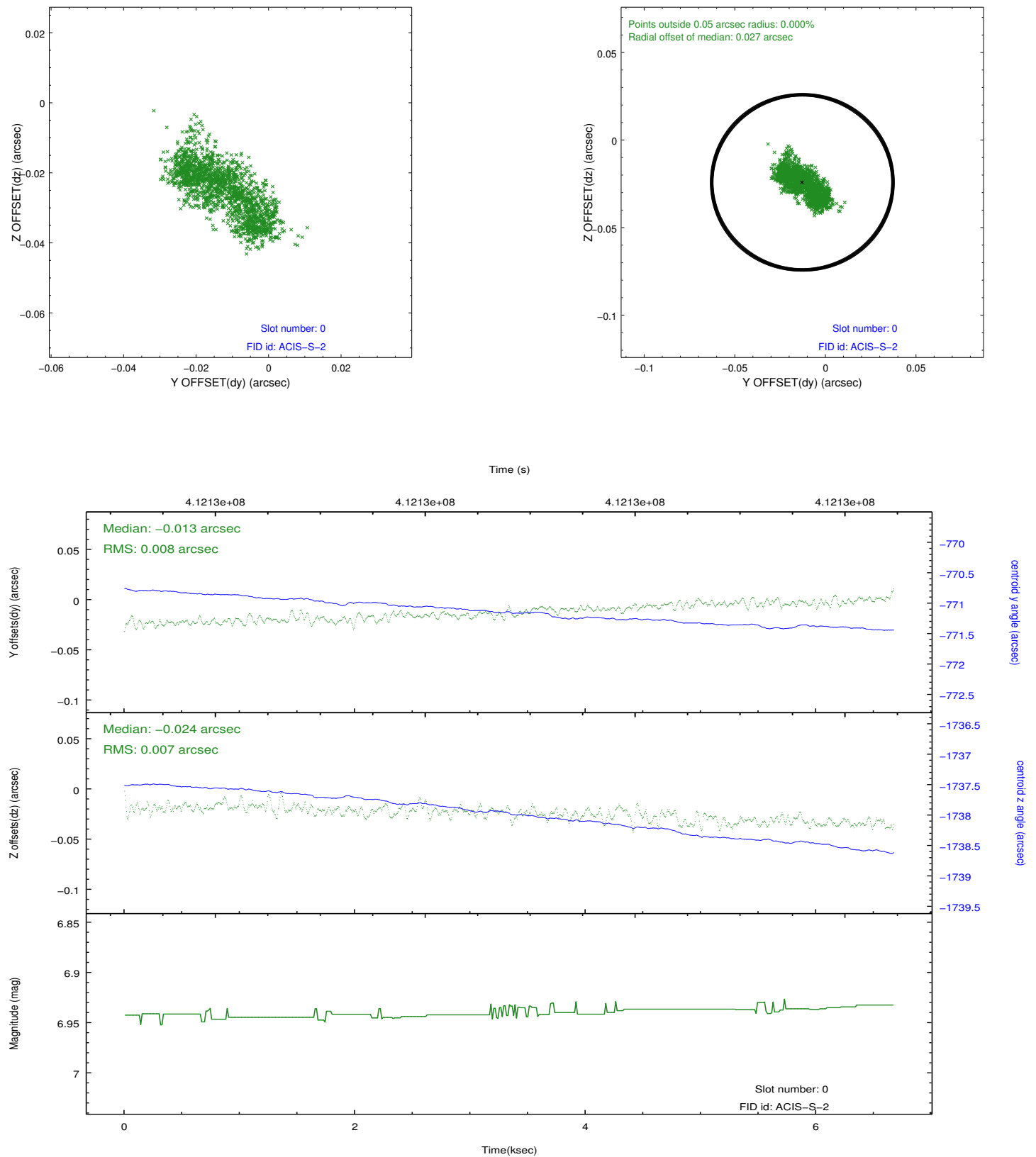


## 2.4.5 Slot 7

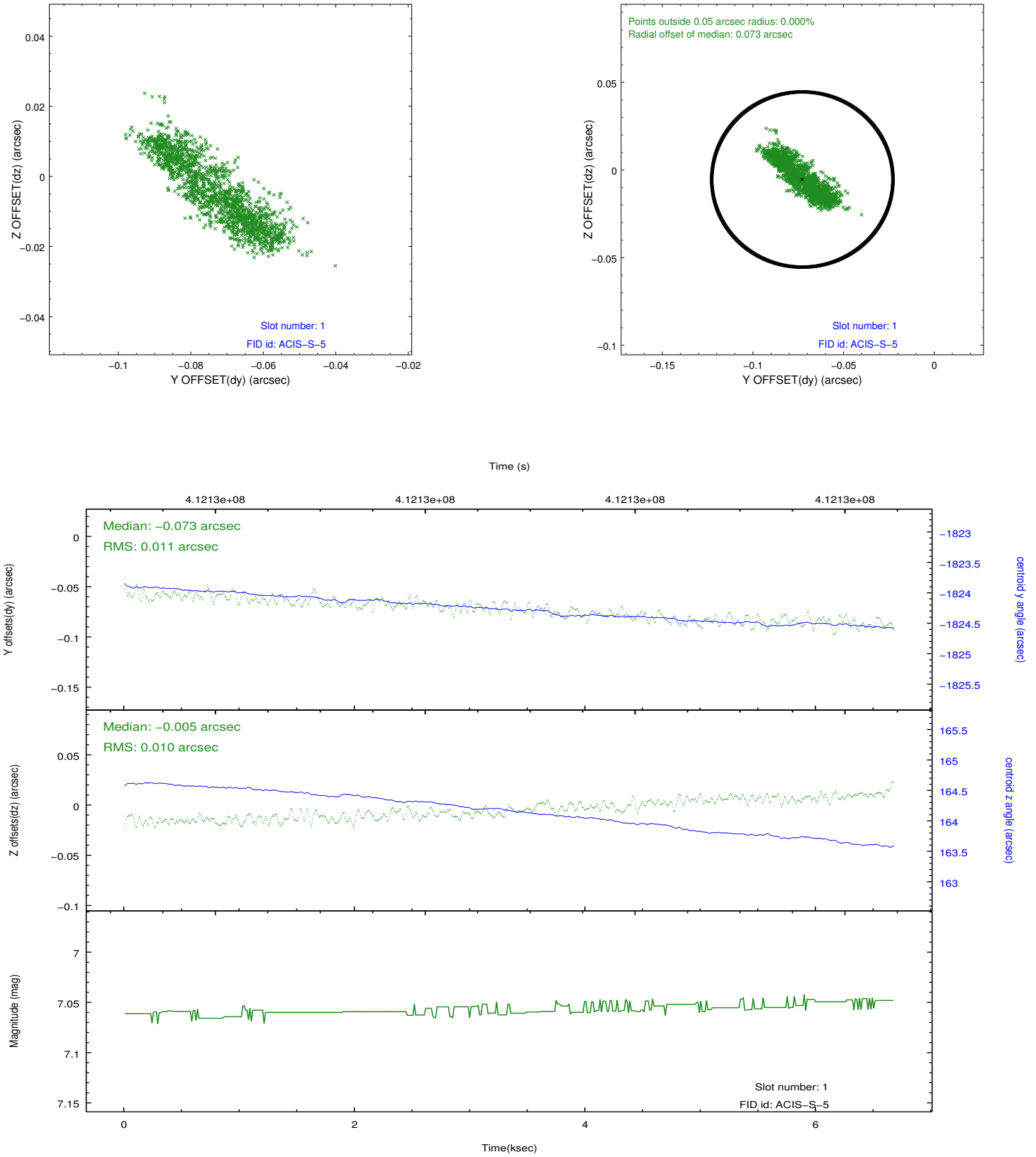


## 2.5 FID Slots

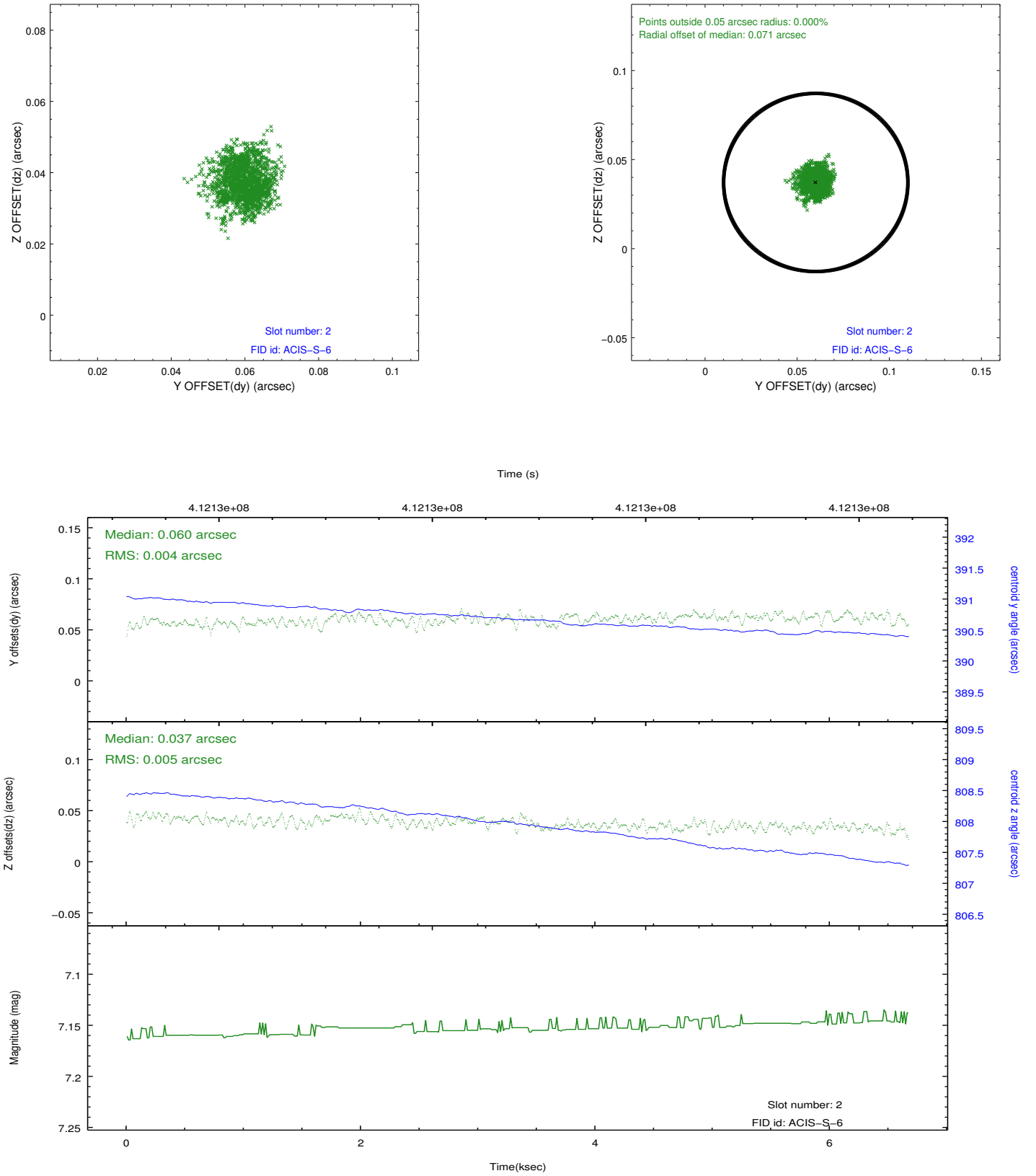
### 2.5.1 Slot 0



## 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)	2012.02.03
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	6.5593002843261

## A.2 Comments

The data for this observation have been processed using the 'EDSER' sub-pixel event-repositioning algorithm of Li et al. (2004, ApJ, 610, 1204). Small-scale features should become sharper for sources near the aim point. The improvement will be less noticeable for off-axis sources where the size of the point-spread function is comparable to or larger than the size of an ACIS pixel. To take full advantage of the improvement, images should be binned on spatial scales smaller than the size of an ACIS pixel. Note that, at present, the point-spread function has not been calibrated for data to which the EDSER algorithm has been applied. If dither was disabled for the observation, then the algorithm can introduce artificial aliasing effects on spatial scales smaller than a pixel. If you would prefer to use no sub-pixel adjustment or to apply a coordinate randomization, then use `acis_process_events` to reprocess the data with the parameter `pix_adj=NONE` or `RANDOMIZE`, respectively.