

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 13152 - L2 Version 2  
Chandra X-Ray Center

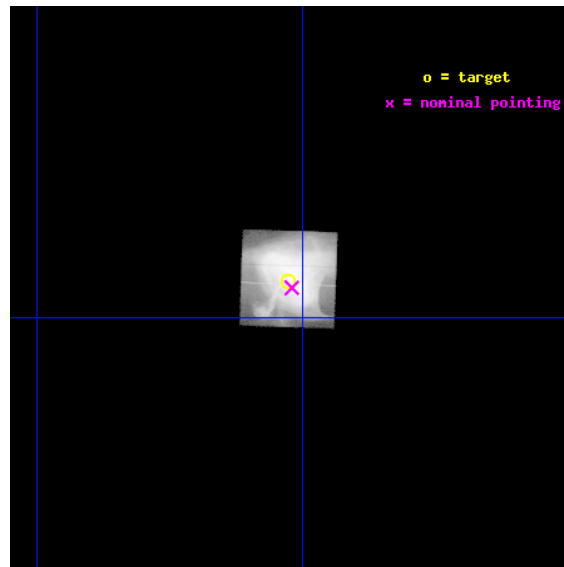
L2 Processing Date : Feb 8 2012

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# 1 Front

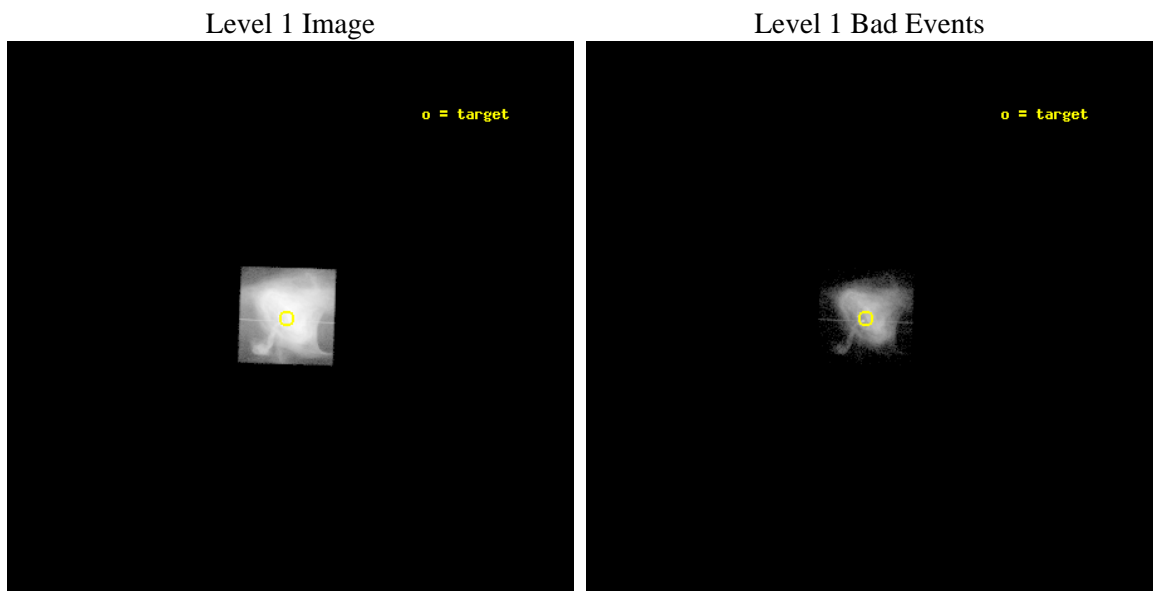
seq_num	501538	Sequence number
obs_id	13152	Observation id
title	Study of spatial structure associated with a gamma-ray enhancement of the Crab	Proposal title
observer	Dr. Martin Weisskopf	Principal investigator
object	Crab Nebula	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.631667	Observer's specified target RA [deg]
dec_targ	22.015667	Observer's specified target Dec [deg]
ra_nom	83.630034946059	Nominal RA [deg]
dec_nom	22.012835815565	Nominal Dec [deg]
roll_nom	271.94485755434	Nominal Roll [deg]
revision	2	Processing version of data
ontime	6936.1961191297	Sum of GTIs [s]
livetime	1211.6472974757	Livetime [s]
ontime7	6936.1961191297	Sum of GTIs [s]
l2events	3501693	Number of level 2 events



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



### 2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	6936.1961191297	Sum of GTIs [s]
caldsver	4.4.7	&#160	ontime7	6936.1961191297	Sum of GTIs [s]
date	2012-02-08T05:21:10	Date and time of file creation	l1events	3891040	Number of level 1 events
revision	2	Processing version of data			

### 2.1.3 Events

	<b>ccd 7</b>
level 1 events	3891040
rejected events	339049
rejected %	8%

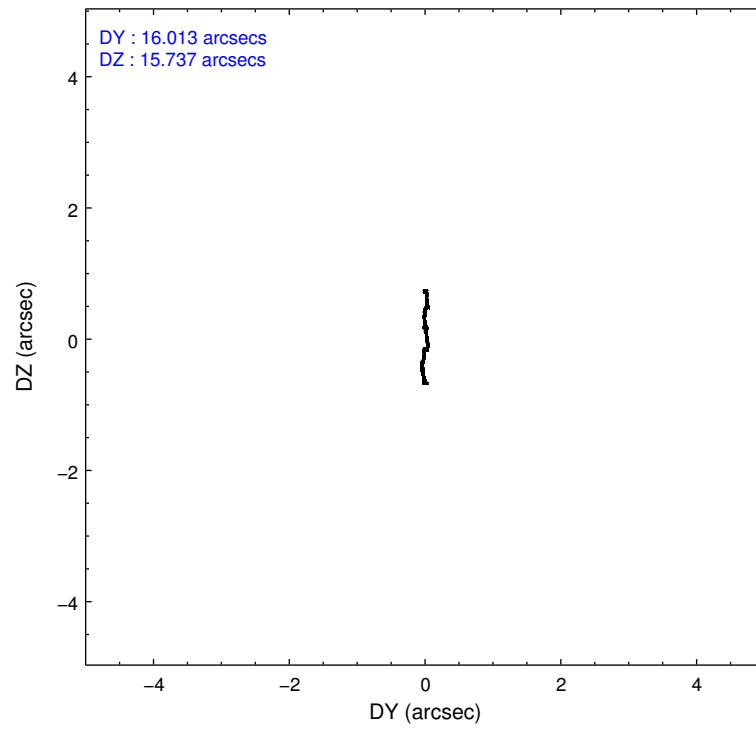
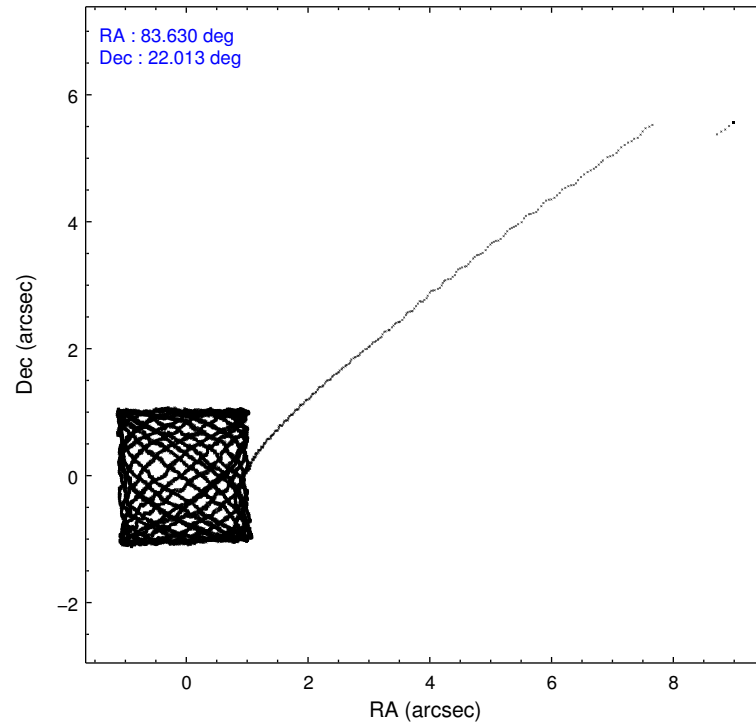
	<b>ccd 7</b>
grade 0 events	791539
	20%
grade 1 events	44646
	1%
grade 2 events	950842
	24%
grade 3 events	406885
	10%
grade 4 events	400108
	10%
grade 5 events	125075
	3%
grade 6 events	1003193
	25%
grade 7 events	168752
	4%

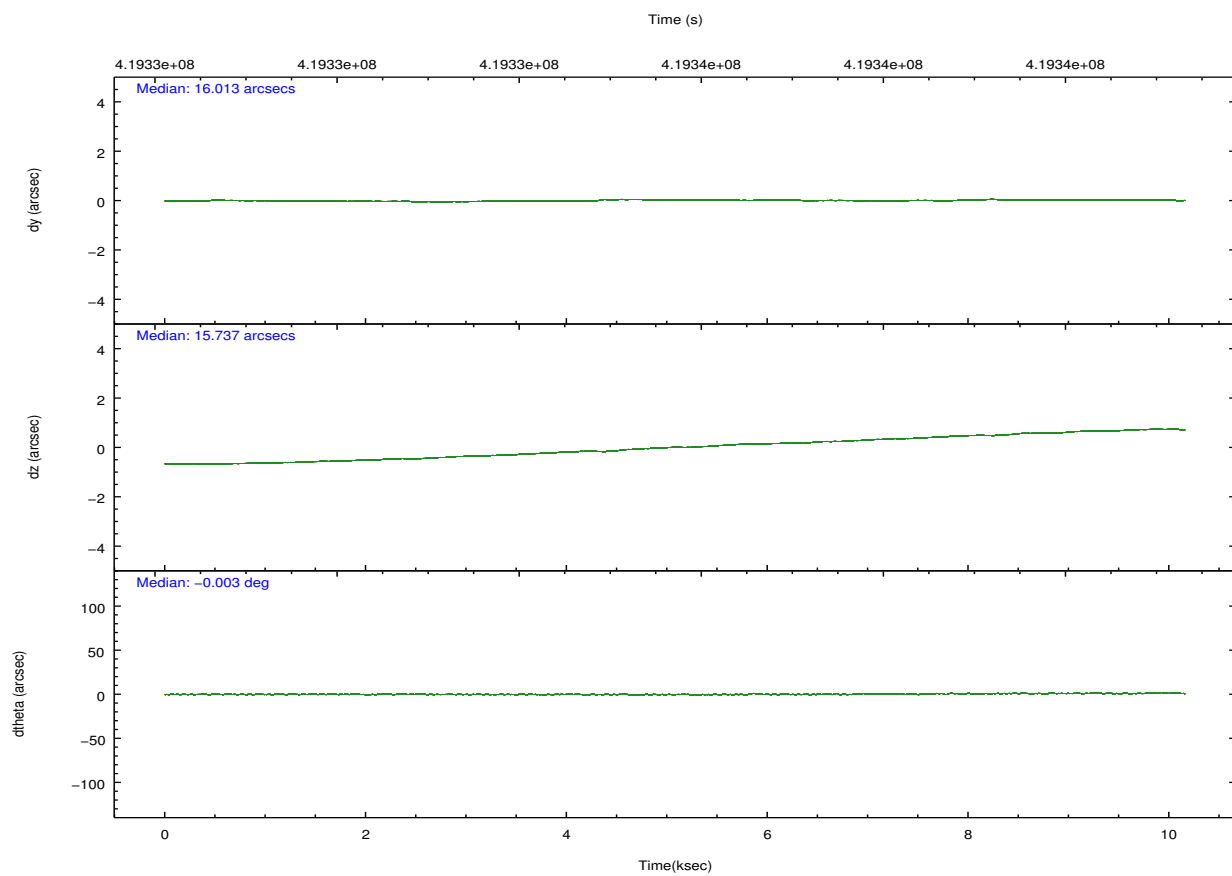
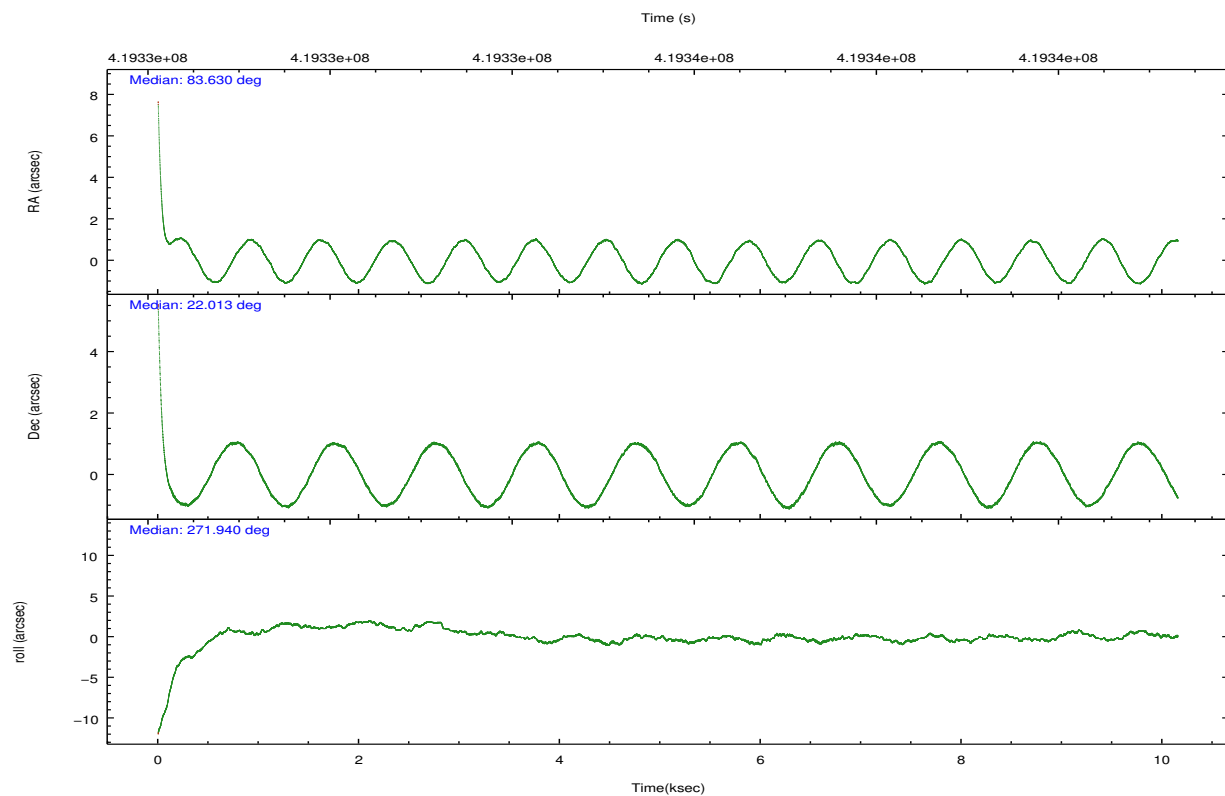


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-7	ACIS-7	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	GRADED	GRADED	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	83.614075	83.63003494605869	Subarray requested	CUSTOM	CUSTOM
[deg] Pointing Dec	22.035831	22.01283581556455	Subarray start row	65	65
[deg] Pointing Roll	271.794226	271.9448575543446	Subarray row count	300	300
[mm] SIM focus pos	-0.684267	-0.6828225247311905	Alternating exposures requested	N	N
[mm] SIM defocus	0	0.001444936568705701	[s] Primary exposure time	0.000000	0.2
[mm] SIM translation stage pos	-183.596523	-183.6053605811175			
[mm] SIM translation stage offset	-6.536	-6.52716200189036			
[s] Observation start time (MET)	419330784.184000	419329671.48129			
Observation start date	2011-04-16T08:45:18	2011-04-16T08:27:51			
[s] Observation end time (MET)	419340784.184000	419341771.60692			
Observation end date	2011-04-16T11:31:58	2011-04-16T11:49:31			
Read mode	TIMED	TIMED			

## 2.3 Aspect



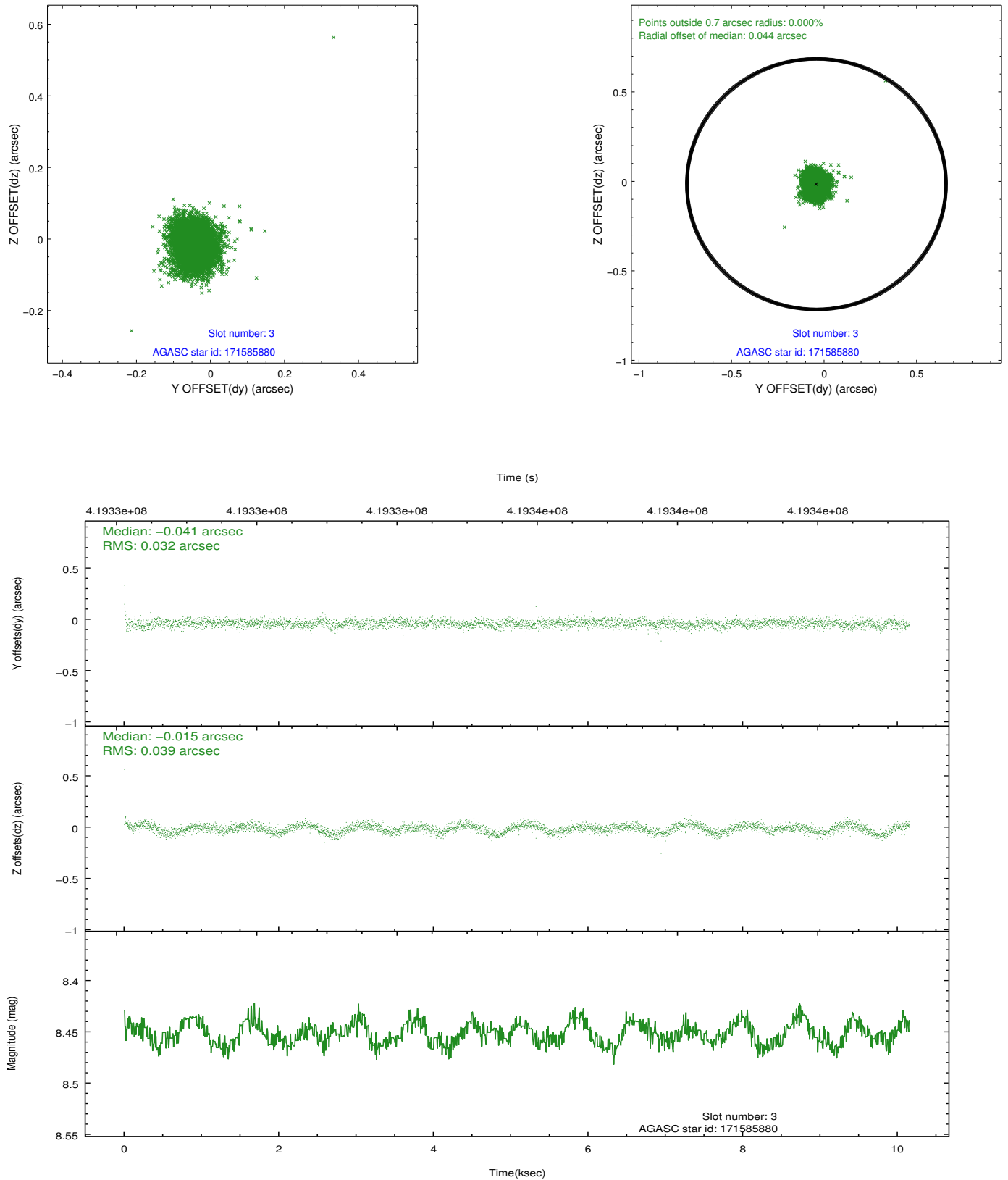


### Slot Statistics

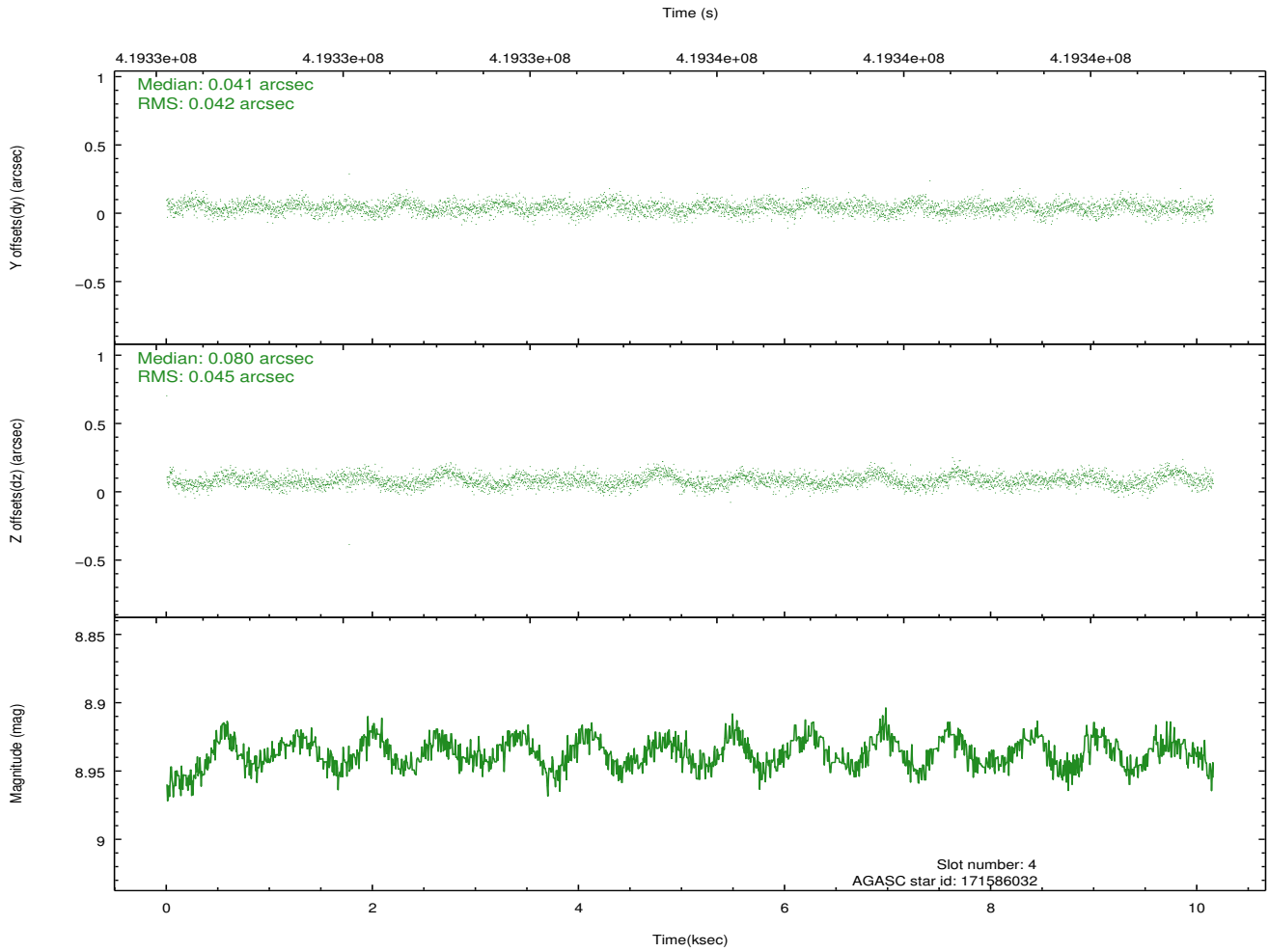
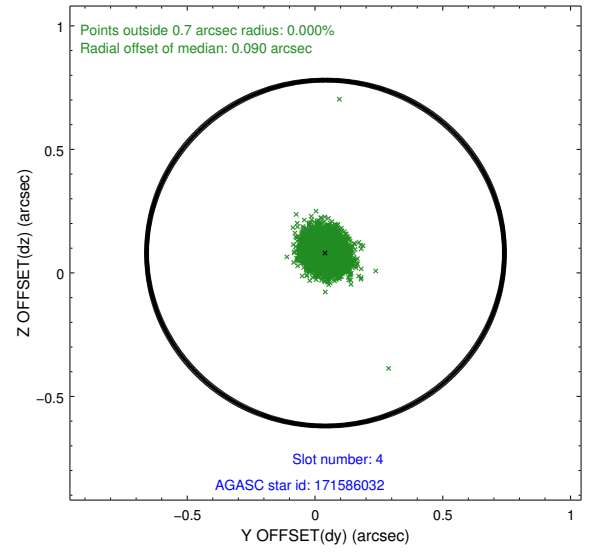
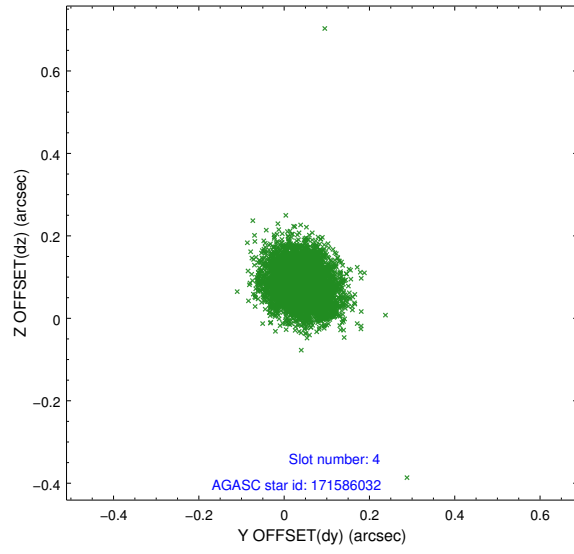
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.98	2478	-0.114	-0.058	0.018	0.036	0.000000	0.000000	-768.69	-1871.70
1	FID	ACIS-S-4	7.07	2477	0.197	0.071	0.008	0.014	0.000000	0.000000	2144.69	36.28
2	FID	ACIS-S-5	7.11	2477	-0.115	-0.005	0.016	0.029	0.000000	0.000000	-1820.84	30.52
3	GUIDE	171585880	8.45	4953	-0.041	-0.015	0.052	0.086	83.676260	22.176319	-498.71	223.17
4	GUIDE	171586032	8.94	4954	0.041	0.080	0.064	0.103	83.950197	22.083225	-136.40	1126.41
5	GUIDE	171721904	9.24	4950	0.110	0.146	0.082	0.133	84.272676	22.116922	-227.45	2205.25
6	GUIDE	243941560	8.30	4953	-0.283	-0.098	0.086	0.120	83.733264	22.568598	-1904.54	456.33
7	GUIDE	171597832	9.22	4949	0.174	-0.113	0.075	0.126	83.183230	21.366702	2360.81	-1518.82

## 2.4 Star Slots

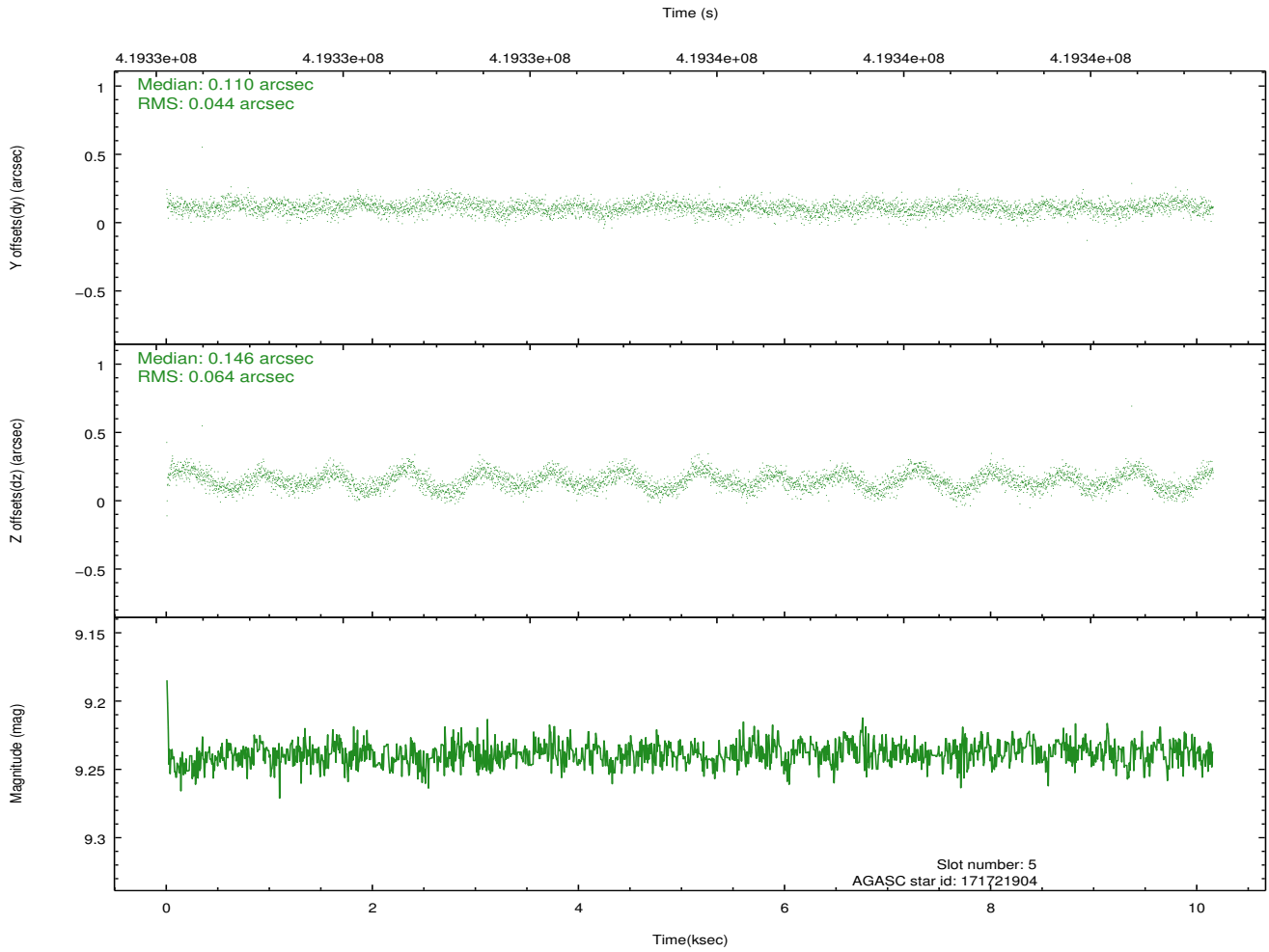
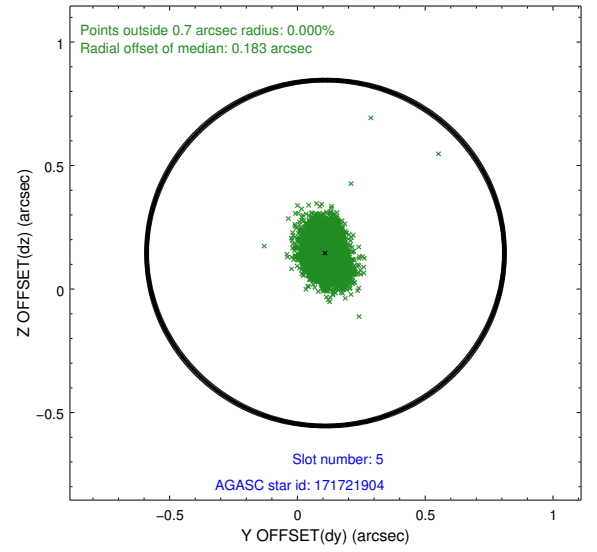
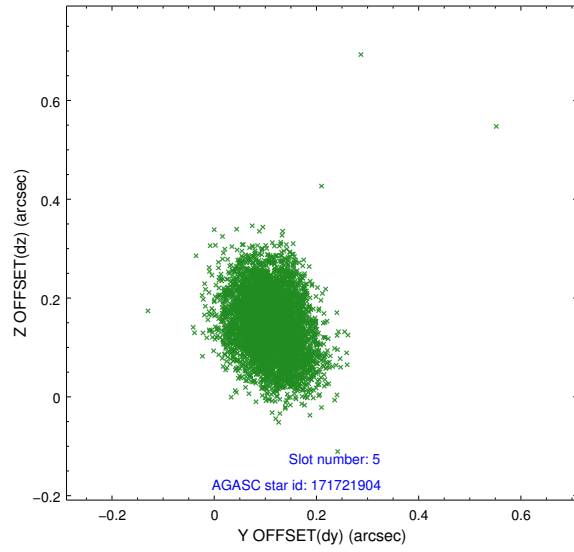
### 2.4.1 Slot 3



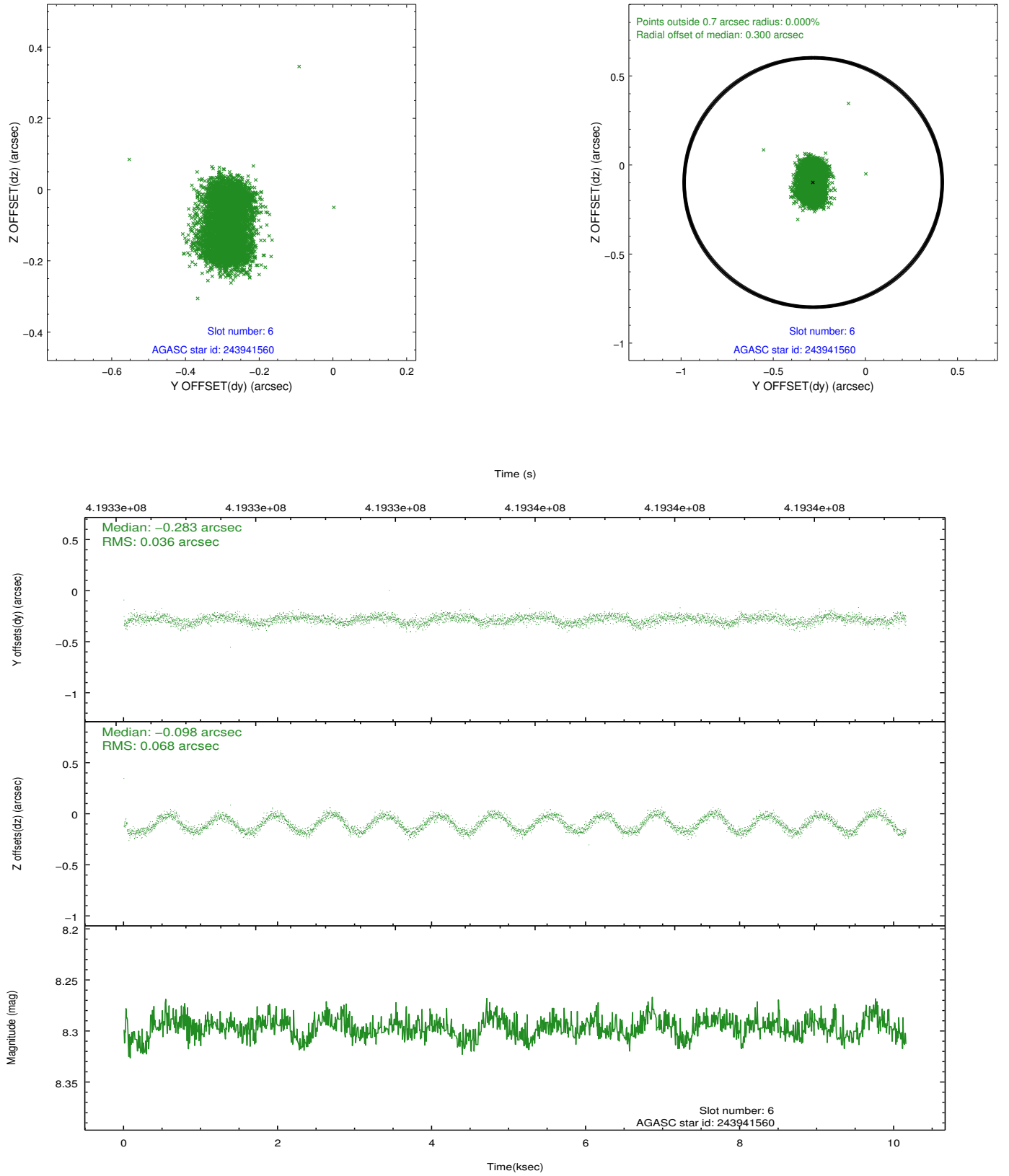
## 2.4.2 Slot 4



### 2.4.3 Slot 5

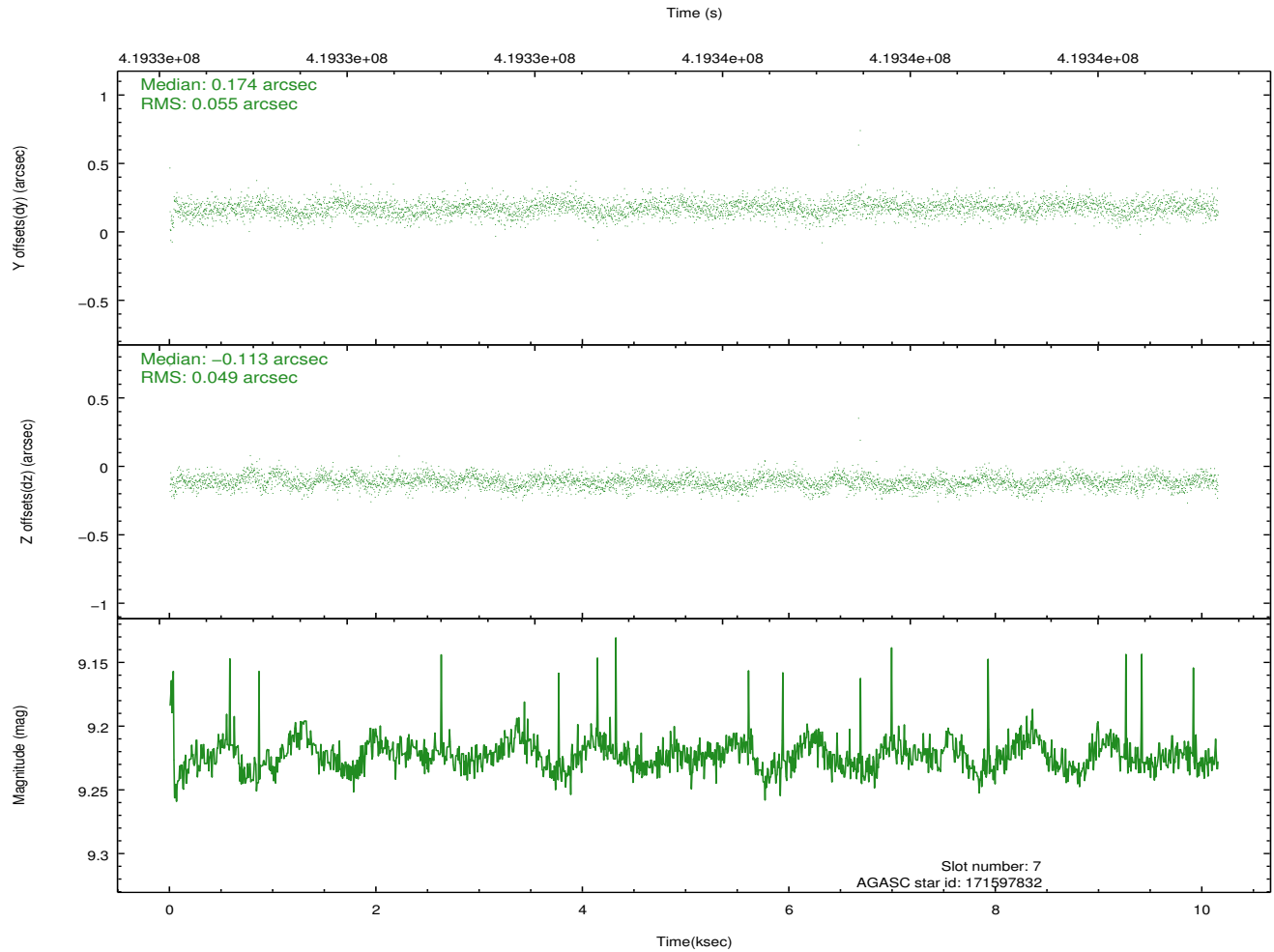
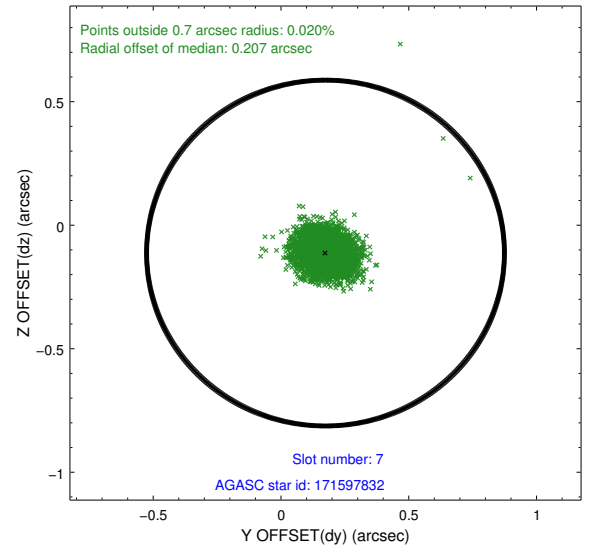
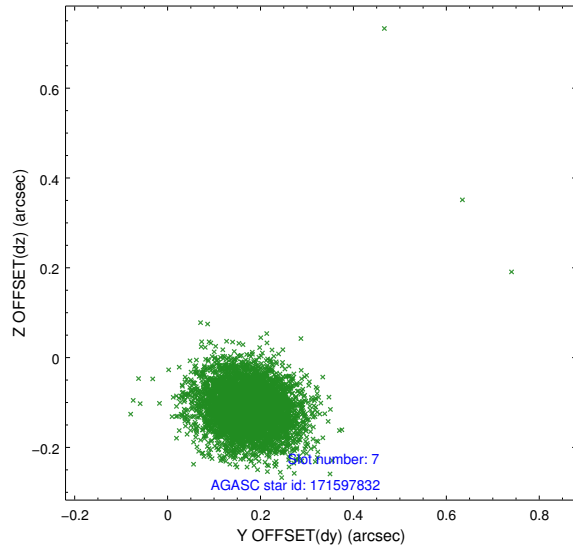


## 2.4.4 Slot 6



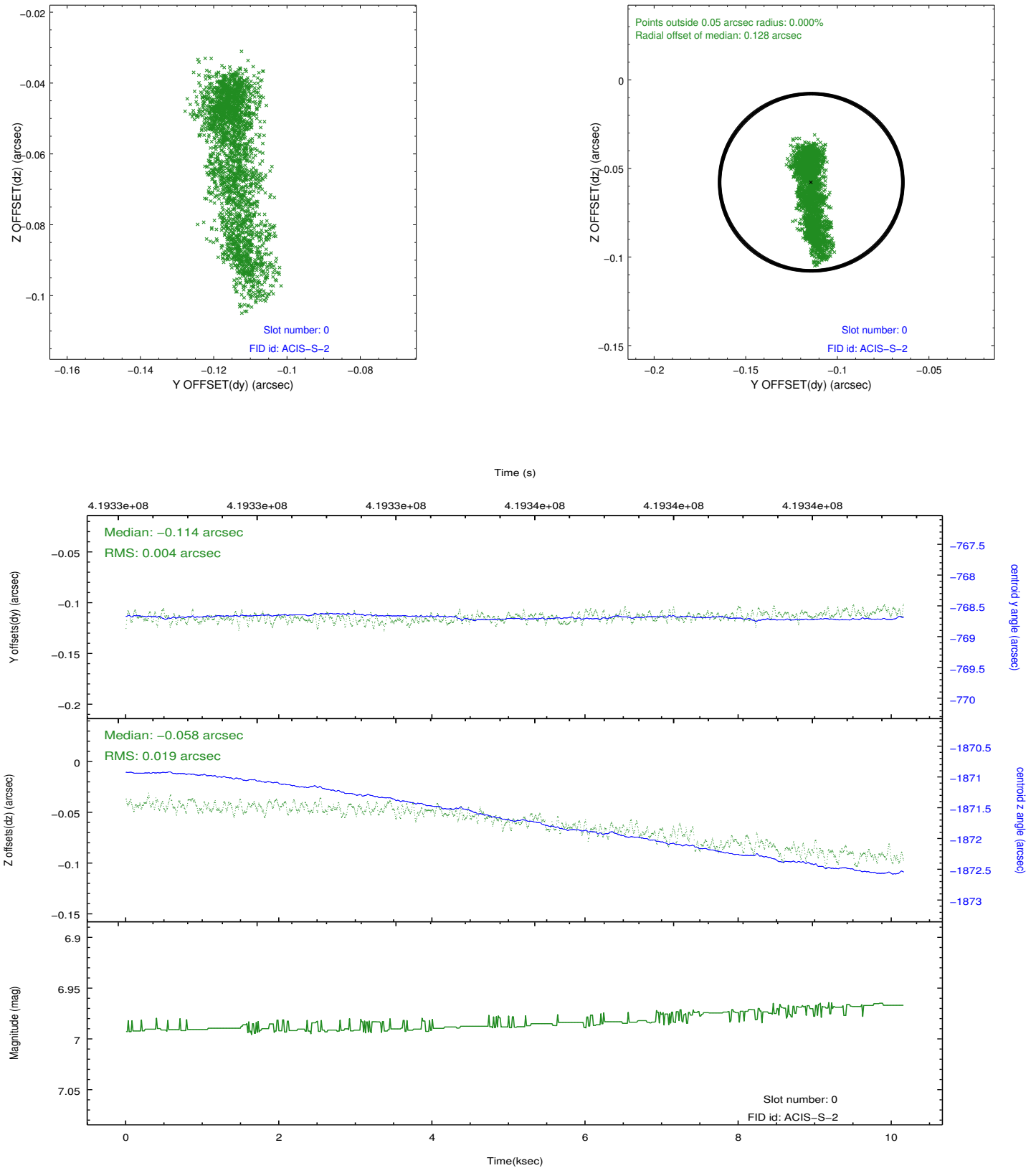


## 2.4.5 Slot 7

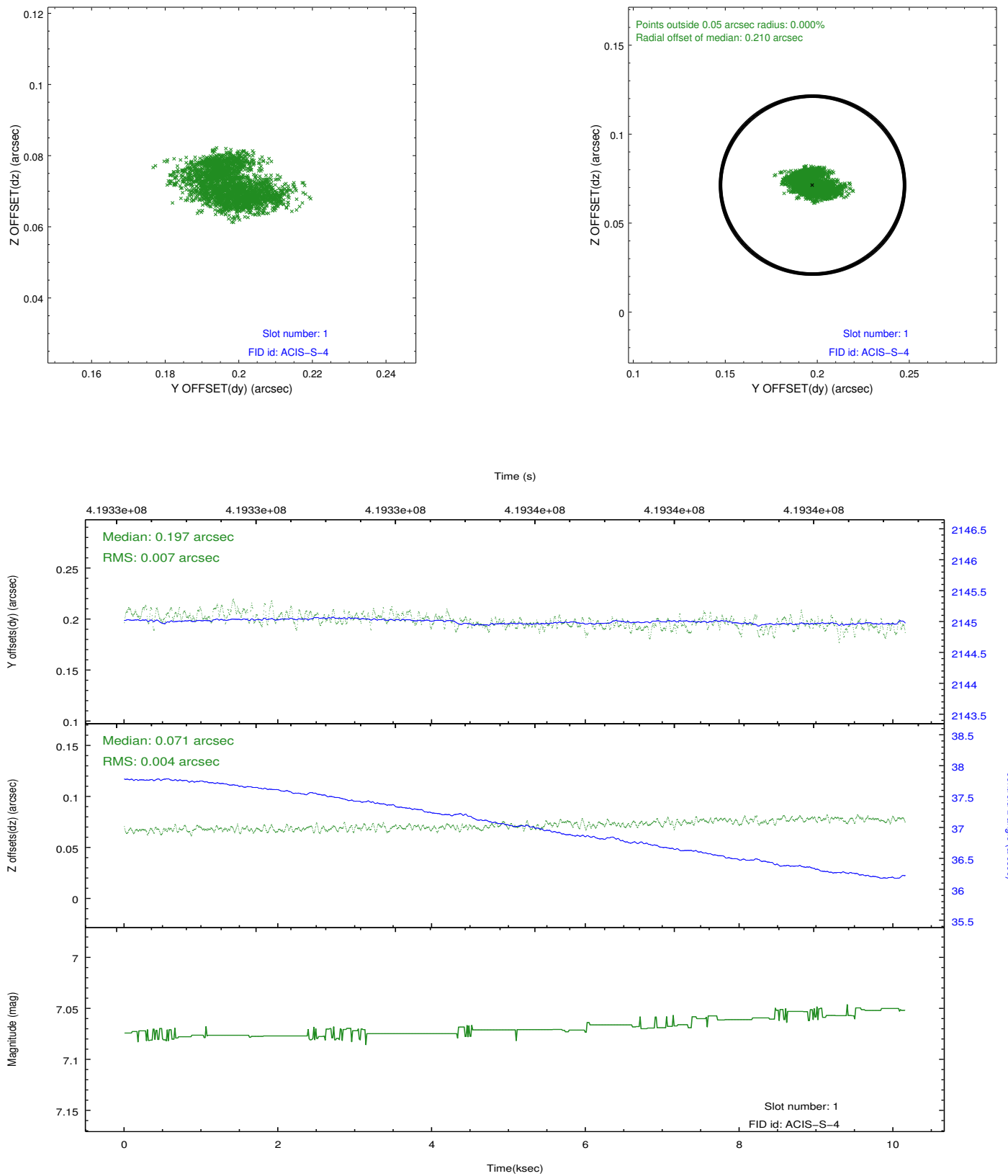


## 2.5 FID Slots

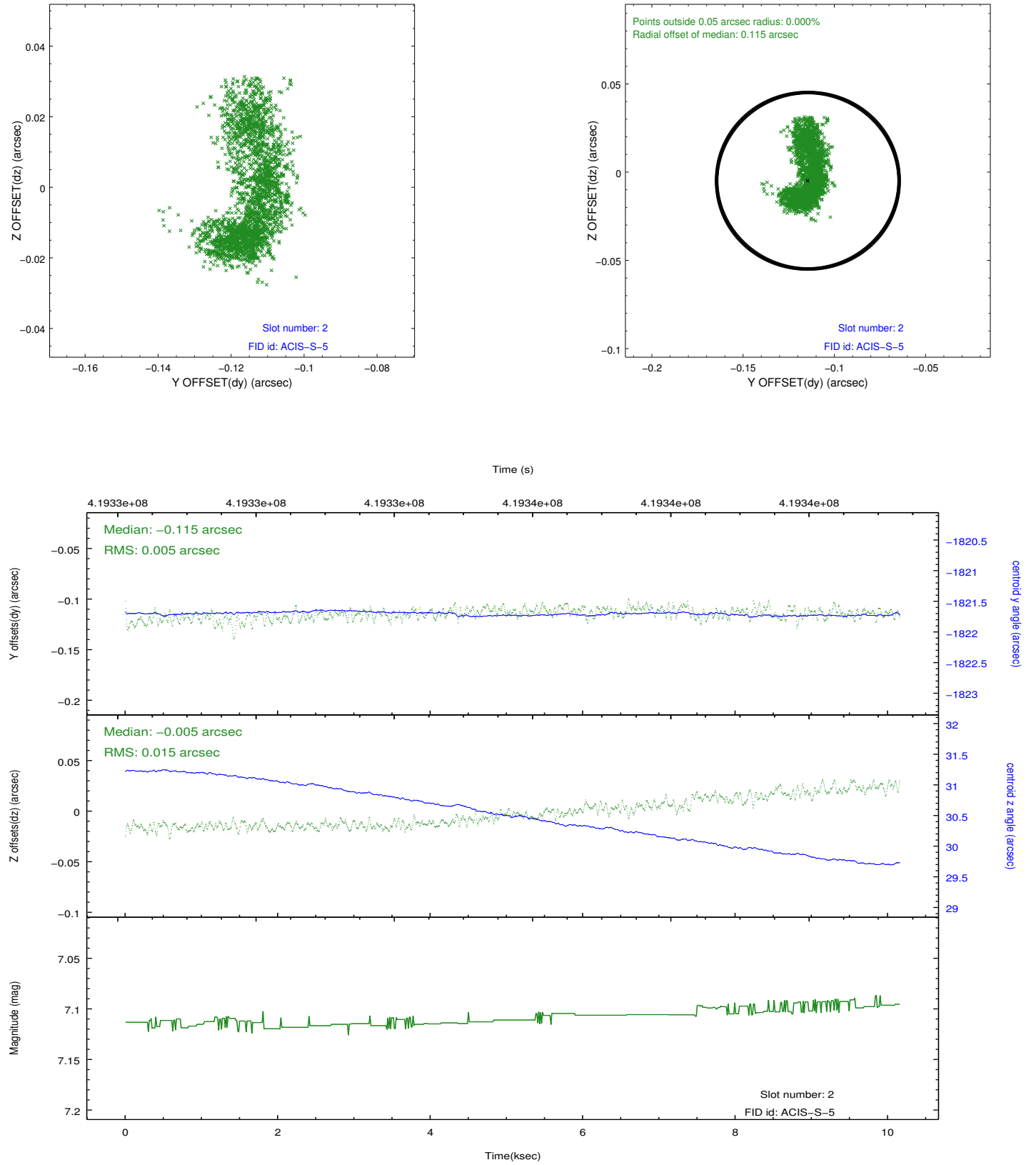
### 2.5.1 Slot 0



## 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)	2012.02.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10

## A.2 Comments

Spacecraft dither disabled. Charge time is less than ONTIME because of telemetry saturation, which is expected for this target. Charge time has been

set to the original scheduled exposure time.

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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.