

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 13150 - L2 Version 2  
Chandra X-Ray Center

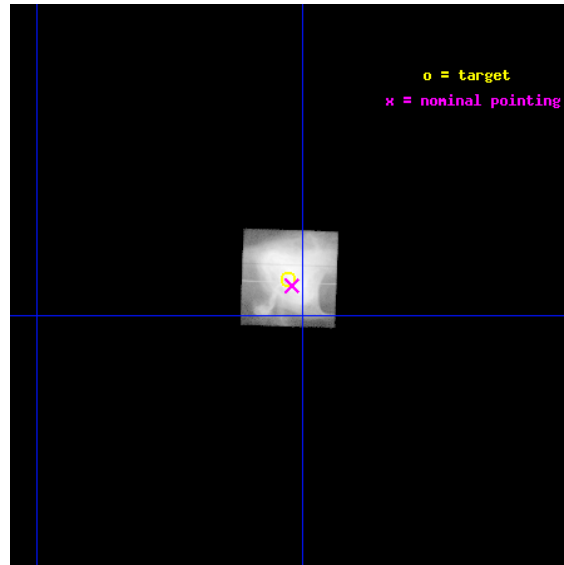
L2 Processing Date : Feb 8 2012

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# 1 Front

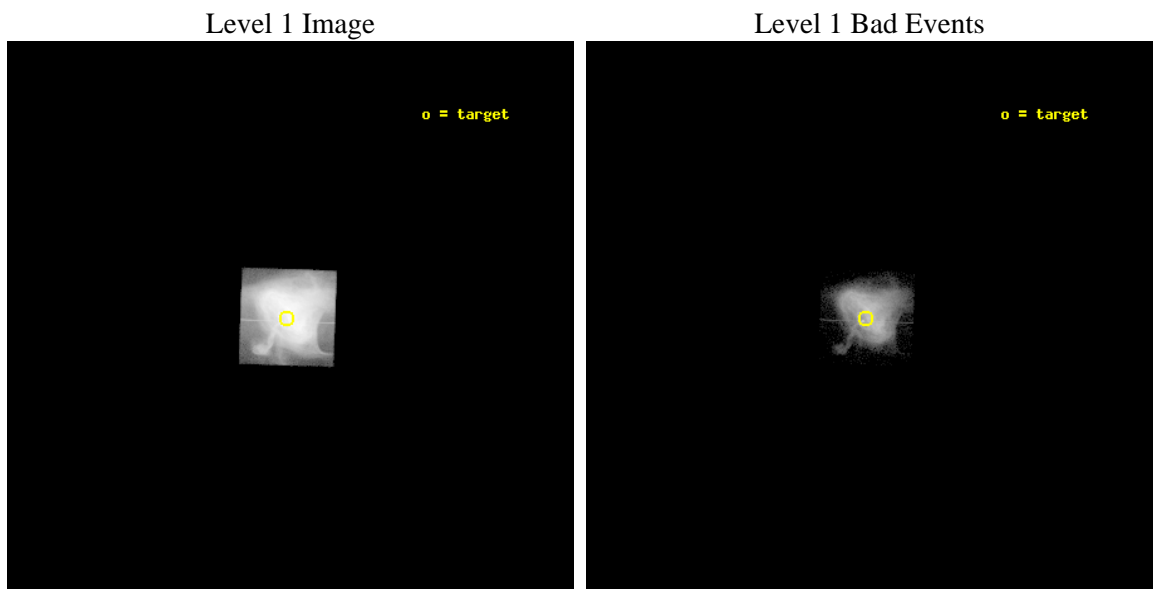
seq_num	501536	Sequence number
obs_id	13150	Observation id
title	Study of spatial structure associated with a gamma-ray enhancement of the Crab	Proposal title
observer	Dr. Martin Weisskopf	Principal investigator
object	Crab Nebula	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	83.631667	Observer's specified target RA [deg]
dec_targ	22.015667	Observer's specified target Dec [deg]
ra_nom	83.630019469339	Nominal RA [deg]
dec_nom	22.012837095527	Nominal Dec [deg]
roll_nom	272.01905578128	Nominal Roll [deg]
revision	2	Processing version of data
ontime	6974.6178812981	Sum of GTIs [s]
livetime	1219.2109011814	Livetime [s]
ontime7	6974.6178812981	Sum of GTIs [s]
l2events	3501056	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	6974.6178812981	Sum of GTIs [s]
caldsver	4.4.7	&#160	ontime7	6974.6178812981	Sum of GTIs [s]
date	2012-02-08T05:01:44	Date and time of file creation	l1events	3891057	Number of level 1 events
revision	2	Processing version of data			

### 2.1.3 Events

	<b>ccd 7</b>
level 1 events	3891057
rejected events	339252
rejected %	8%

	<b>ccd 7</b>
grade 0 events	783752
	20%
grade 1 events	43752
	1%
grade 2 events	948855
	24%
grade 3 events	406976
	10%
grade 4 events	399550
	10%
grade 5 events	124799
	3%
grade 6 events	1013866
	26%
grade 7 events	169507
	4%

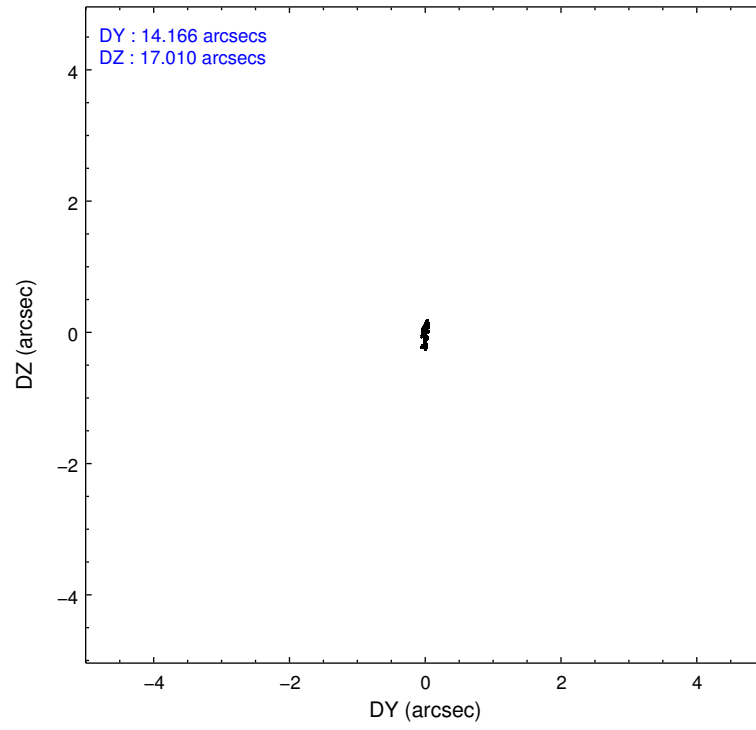
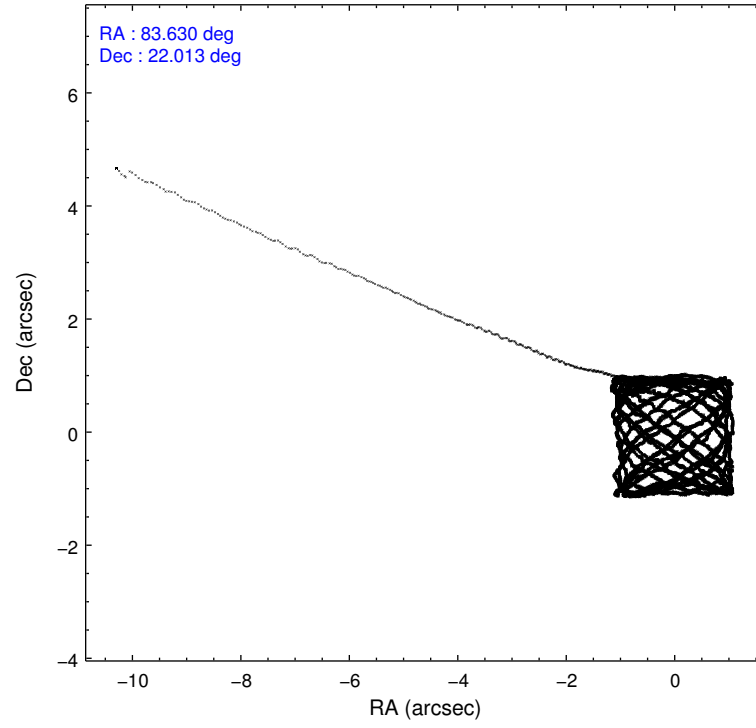


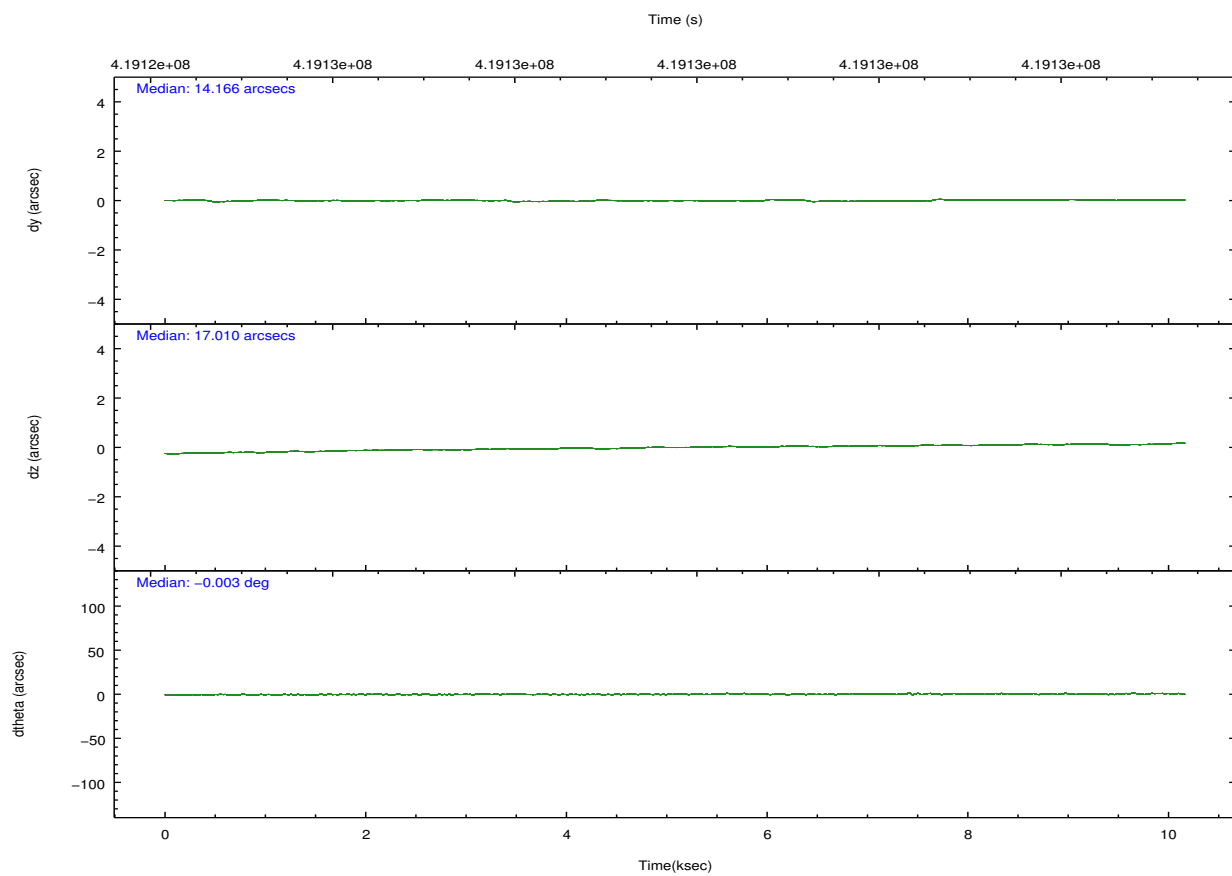
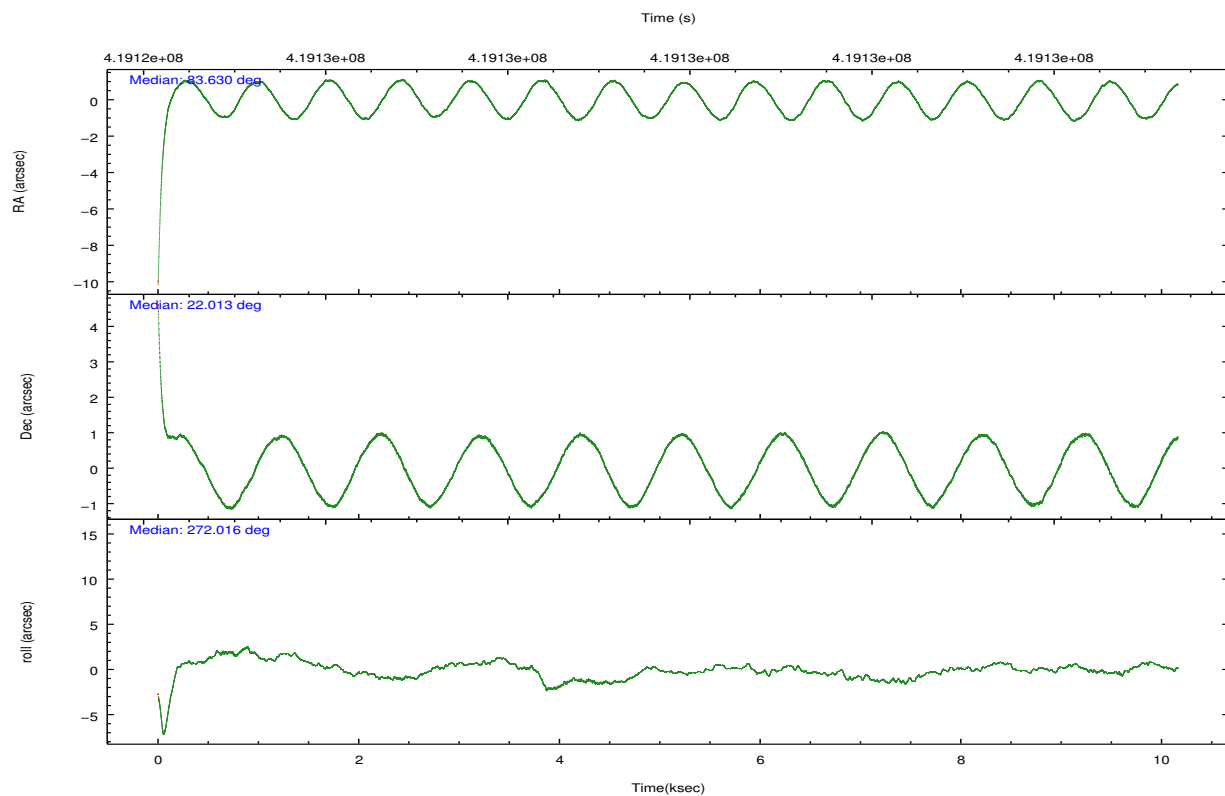
## 2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-7	ACIS-7
Grating	NONE	NONE
Data mode	GRADED	GRADED
Observation mode	POINTING	POINTING
[deg] Pointing RA	83.614058	83.63001946933875
[deg] Pointing Dec	22.035811	22.01283709552719
[deg] Pointing Roll	271.868420	272.0190557812781
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-183.116523	-183.1226120432179
[mm] SIM translation stage offset	-7.016	-7.009910539789871
[s] Observation start time (MET)	419124835.184000	419123729.4956
Observation start date	2011-04-13T23:32:49	2011-04-13T23:15:29
[s] Observation end time (MET)	419134835.184000	419135701.49622
Observation end date	2011-04-14T02:19:29	2011-04-14T02:35:01
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	CUSTOM	CUSTOM
Subarray start row	45	45
Subarray row count	300	300
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	0.2

## 2.3 Aspect



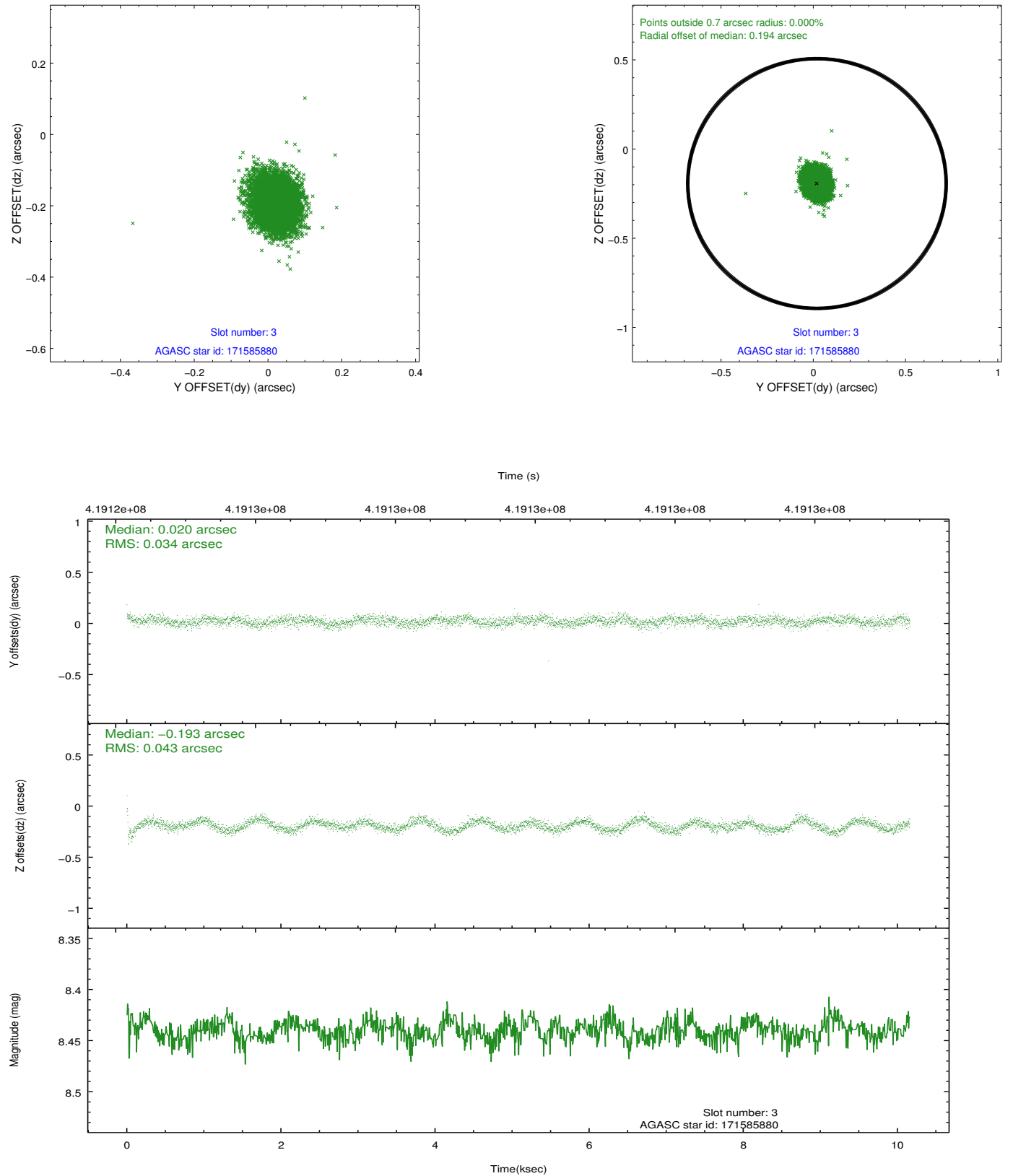


### Slot Statistics

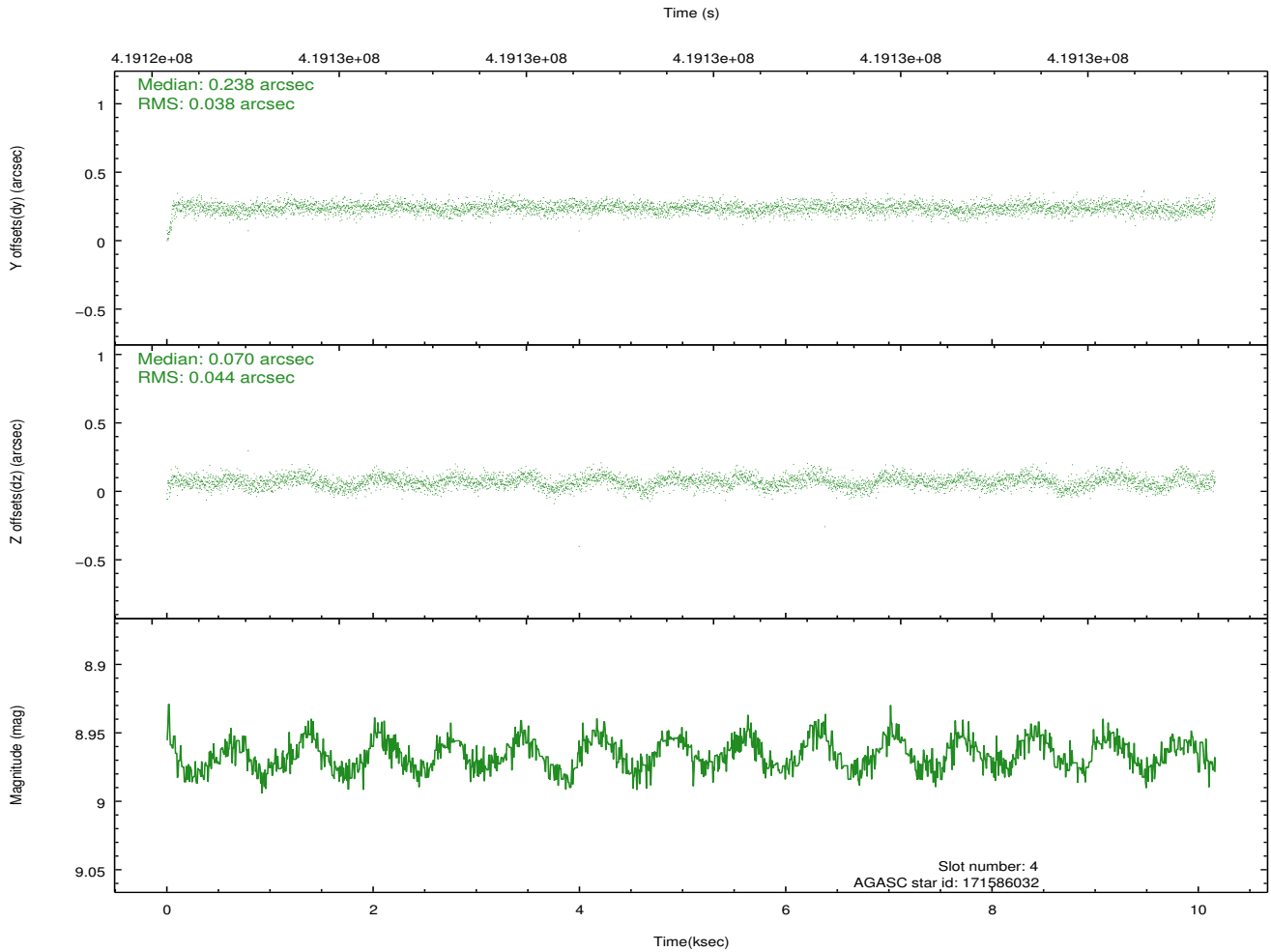
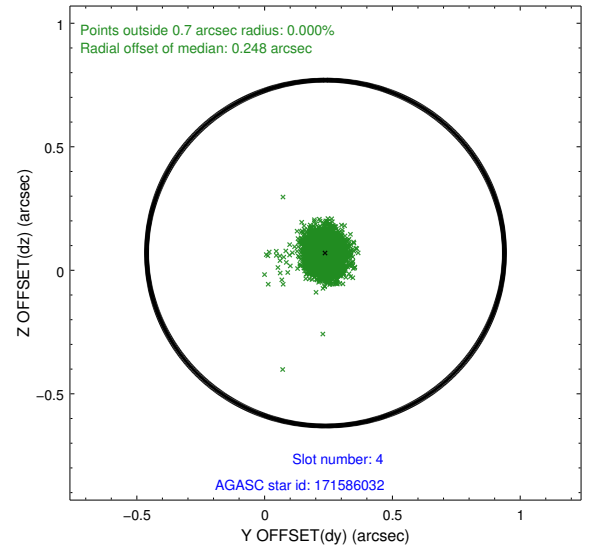
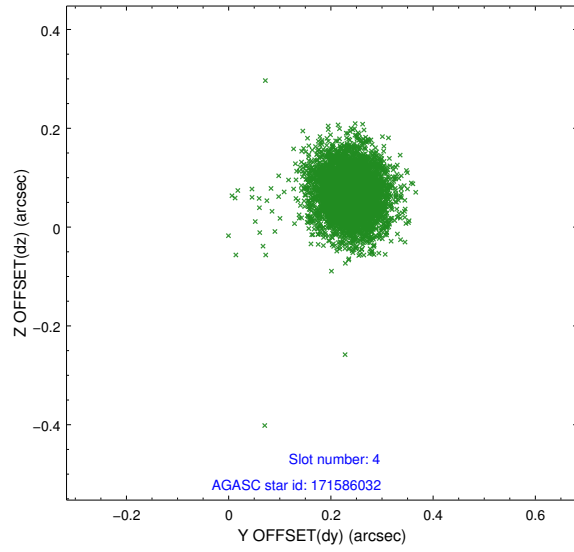
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.89	2479	-0.087	-0.123	0.007	0.012	0.000000	0.000000	-766.72	-1882.98
1	FID	ACIS-S-4	6.96	2479	0.189	0.075	0.005	0.010	0.000000	0.000000	2146.61	25.05
2	FID	ACIS-S-5	7.02	2479	-0.133	0.056	0.007	0.012	0.000000	0.000000	-1818.92	19.34
3	GUIDE	171585880	8.44	4957	0.020	-0.193	0.058	0.092	83.676260	22.176319	-498.49	223.80
4	GUIDE	171586032	8.97	4954	0.238	0.070	0.060	0.100	83.950197	22.083225	-134.85	1126.71
5	GUIDE	171721904	9.22	4954	-0.032	0.037	0.087	0.139	84.272676	22.116922	-224.81	2205.58
6	GUIDE	243941560	8.34	4957	-0.274	0.066	0.051	0.089	83.733264	22.568598	-1904.06	459.15
7	GUIDE	171597832	9.25	4924	0.049	0.022	0.114	0.177	83.183230	21.366702	2358.55	-1521.66

## 2.4 Star Slots

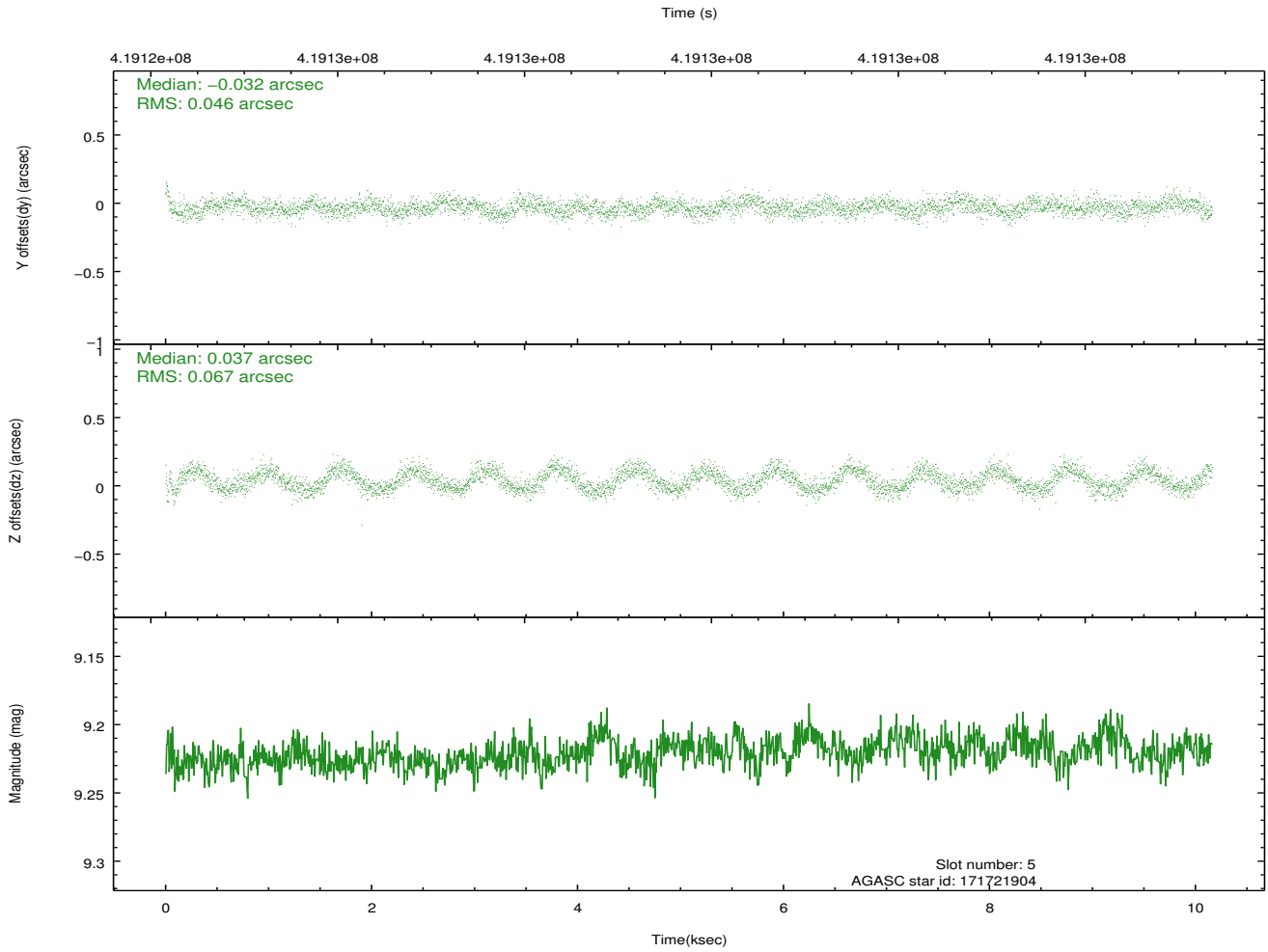
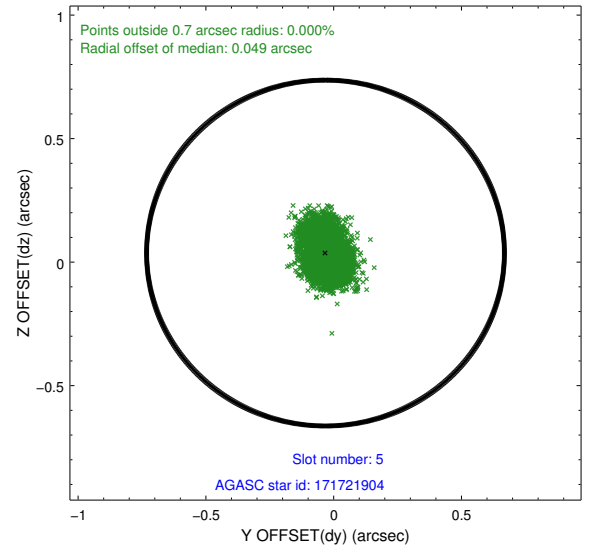
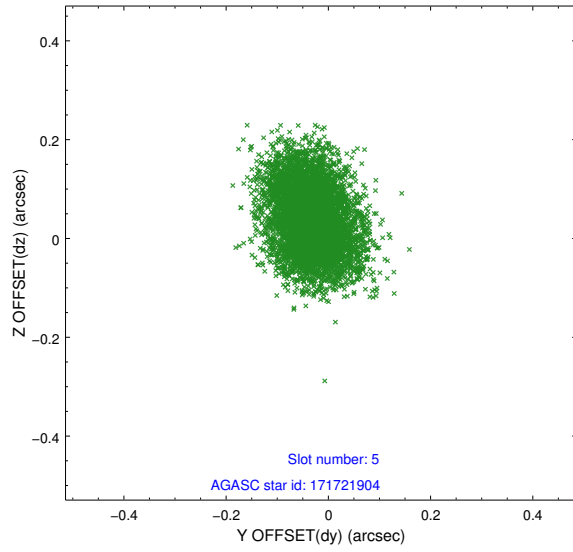
### 2.4.1 Slot 3



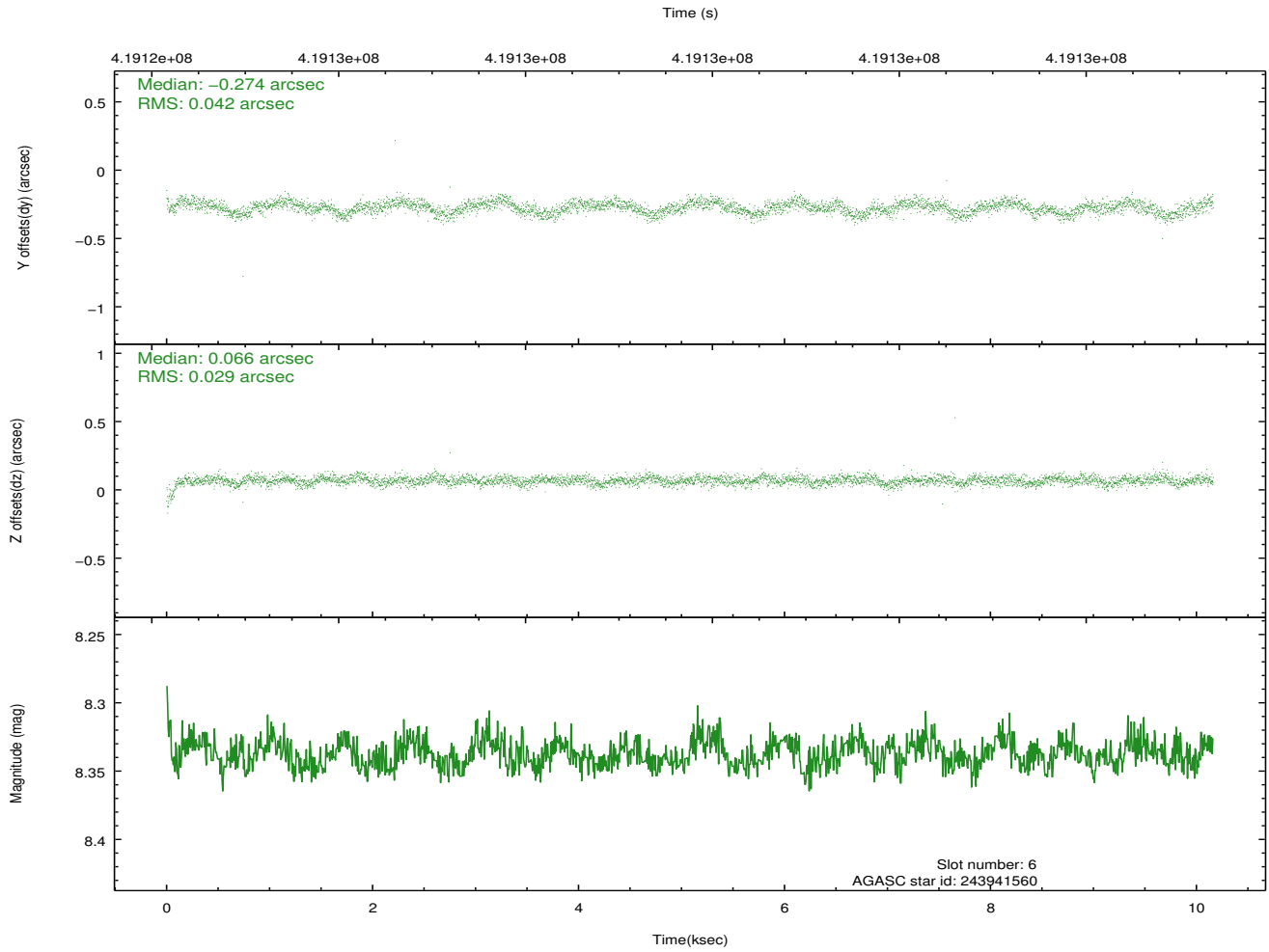
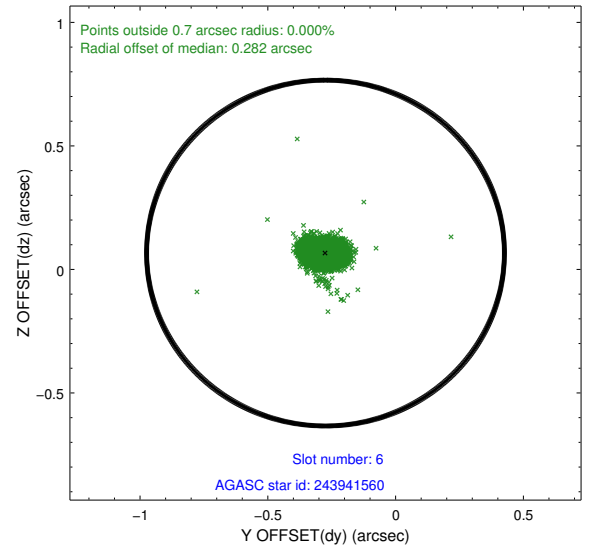
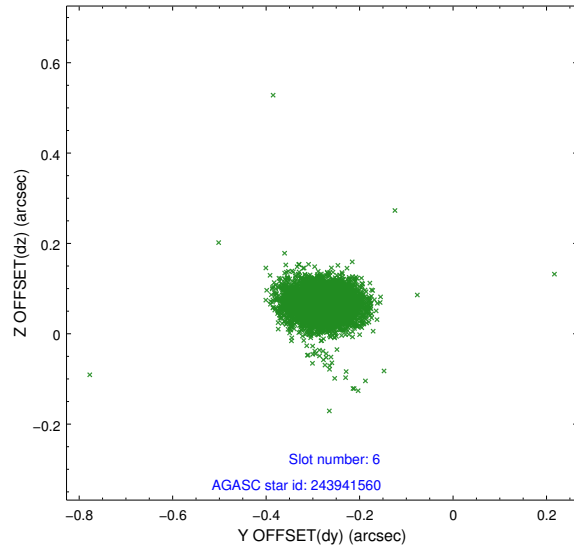
## 2.4.2 Slot 4



### 2.4.3 Slot 5

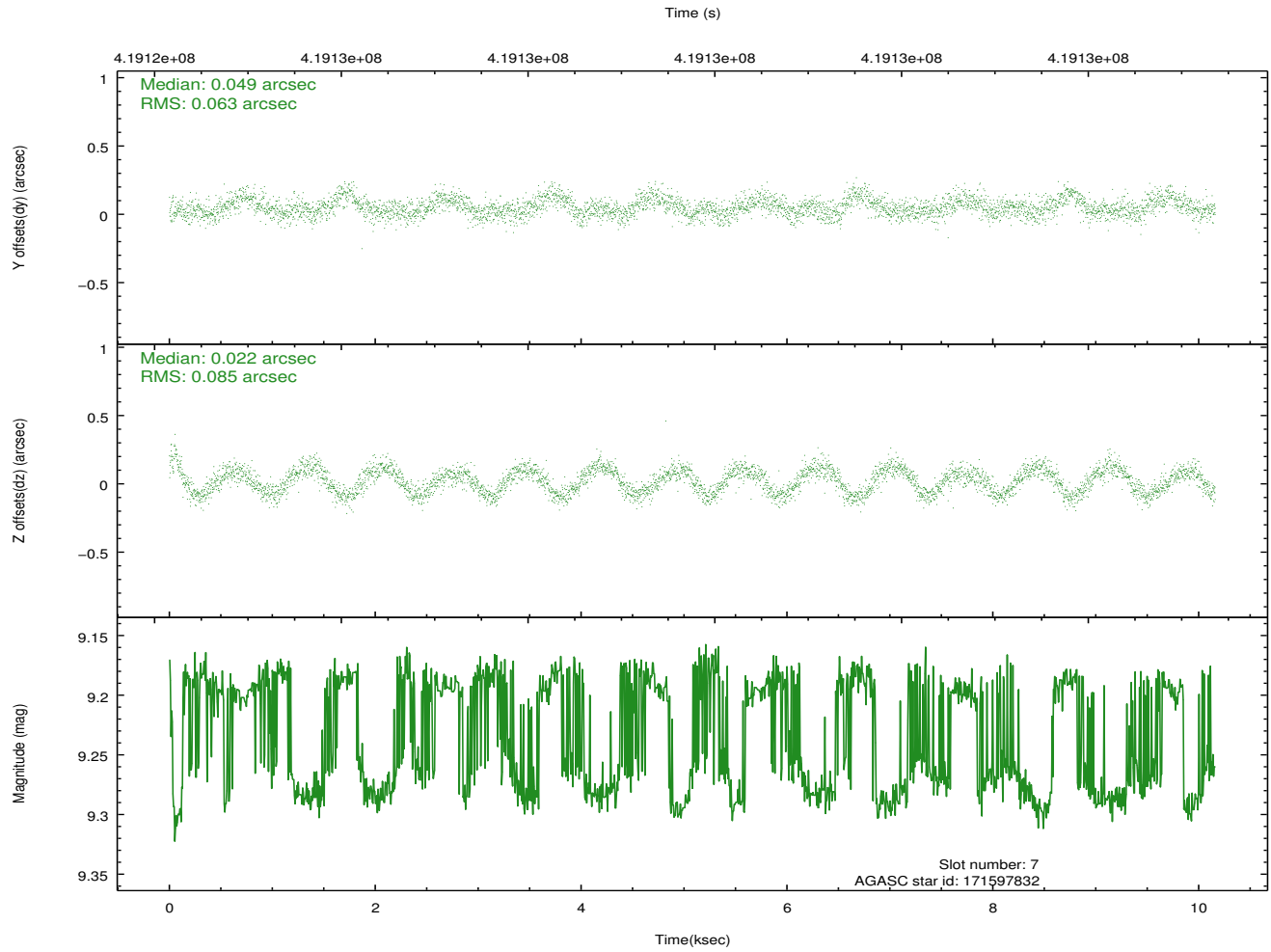
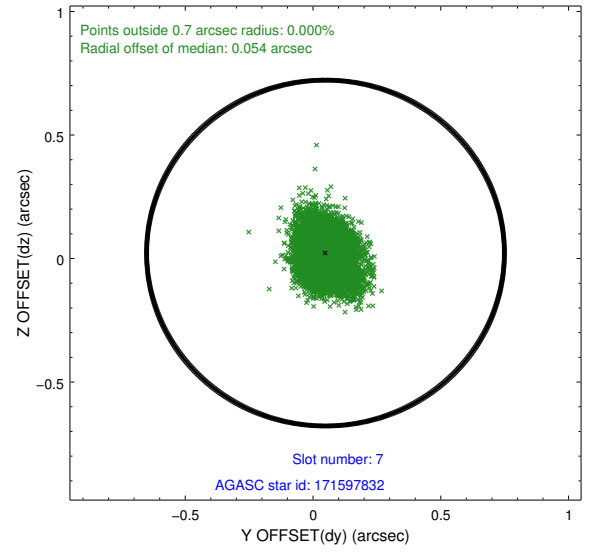
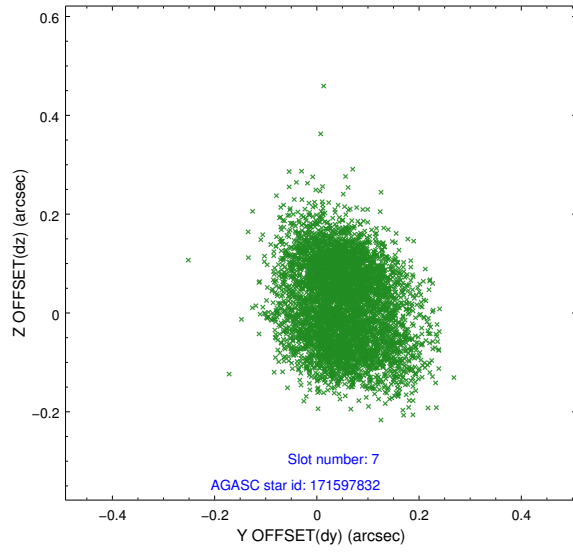


## 2.4.4 Slot 6



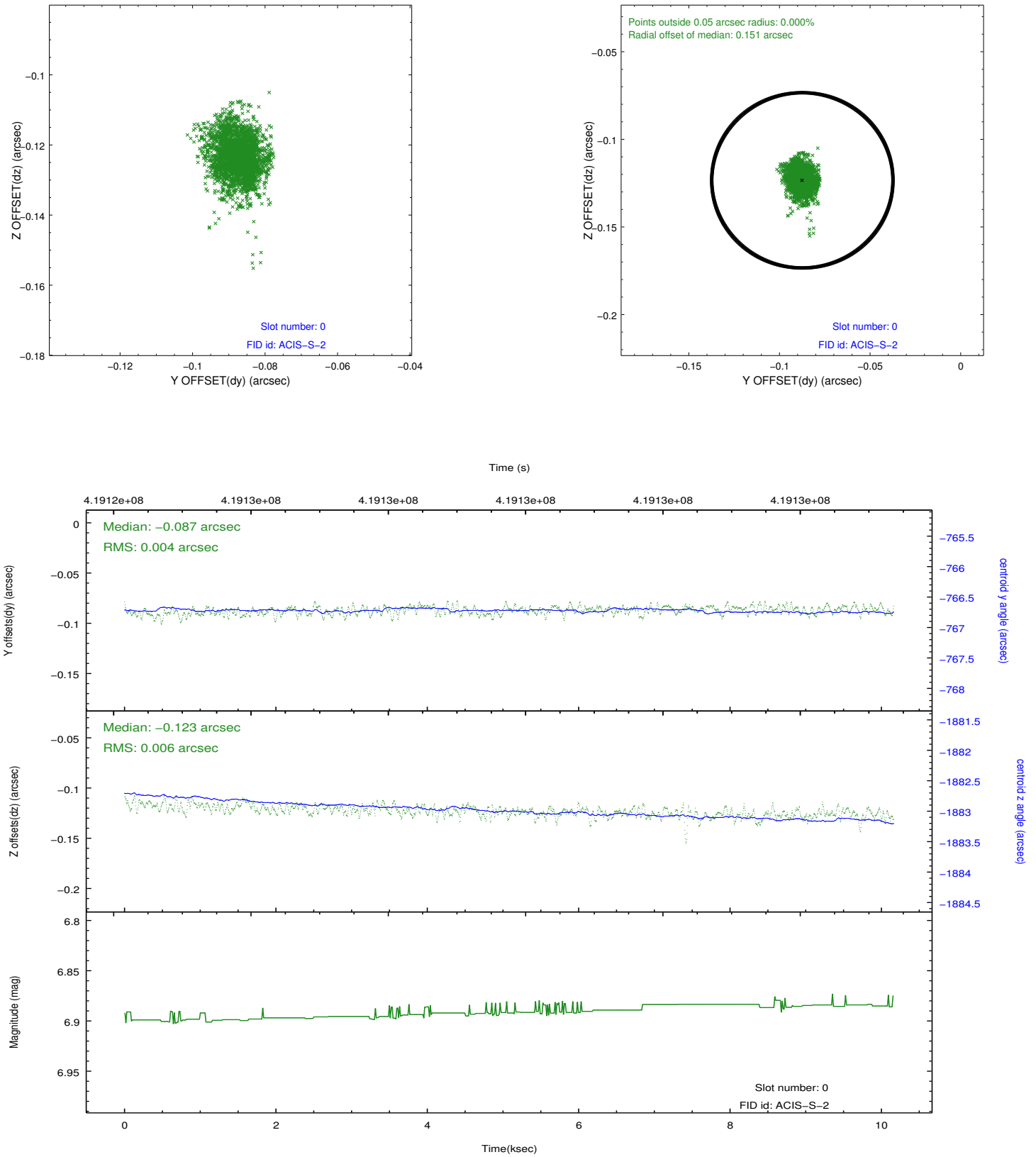


## 2.4.5 Slot 7

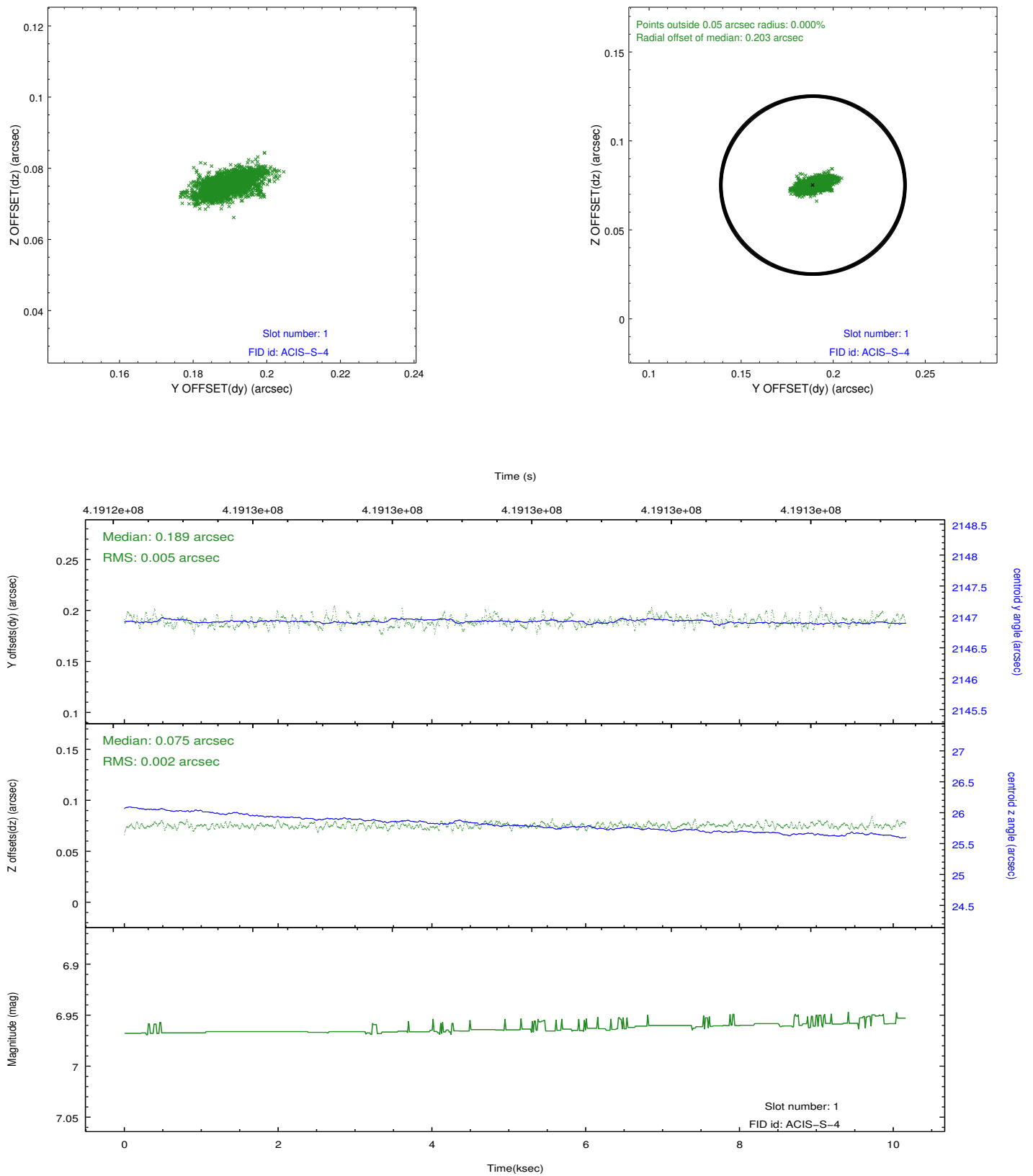


## 2.5 FID Slots

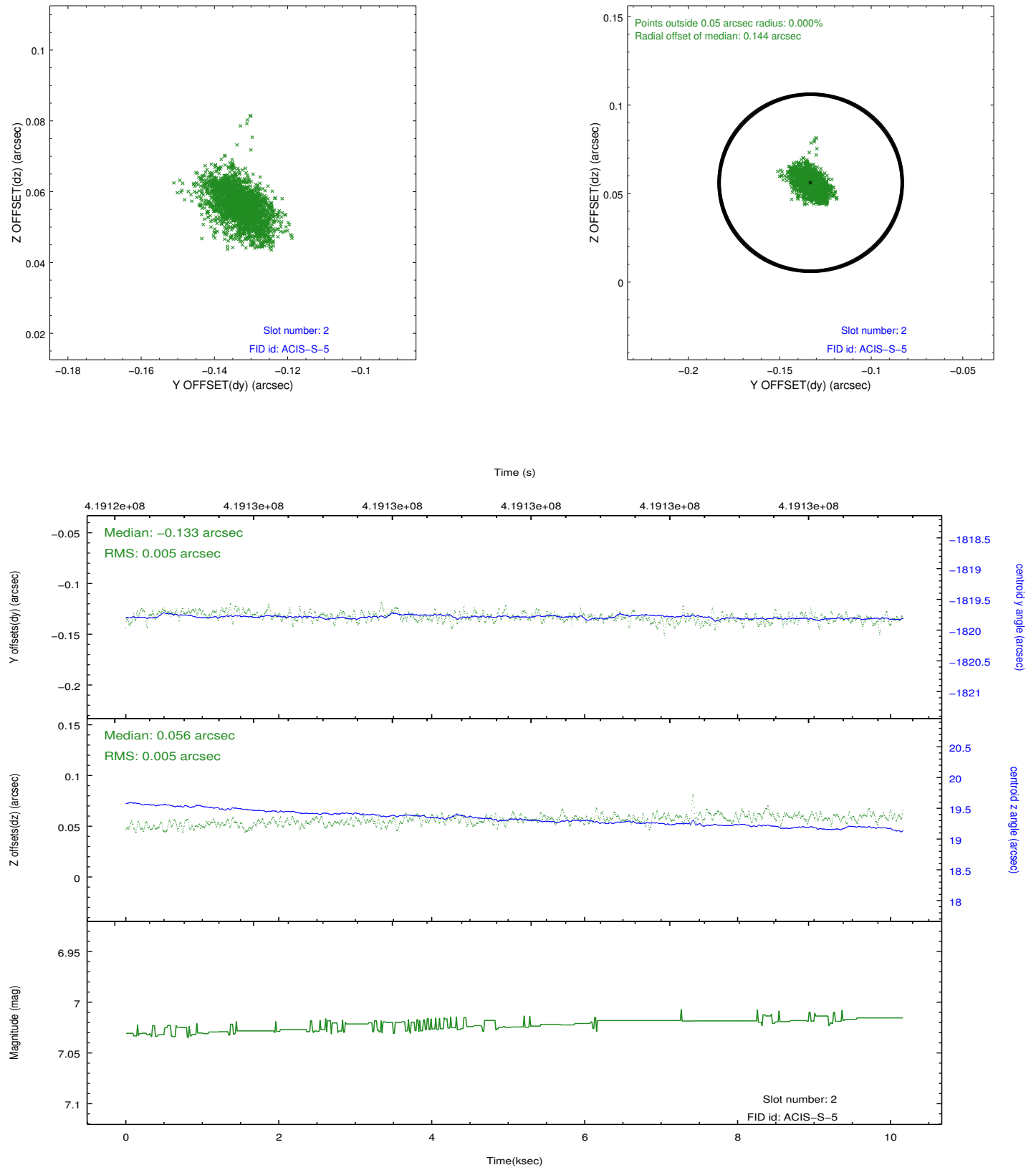
### 2.5.1 Slot 0



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

## A.2 Comments

ONTIME of 6974.6178812981 seconds is less than 85% of expected scheduled time of 10000 seconds. This is due to telemetry saturation, since the source is so bright. Charge time was adjusted to the elapsed time of 10ksec.

=====

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.