

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 12337 - L2 Version 2  
Chandra X-Ray Center

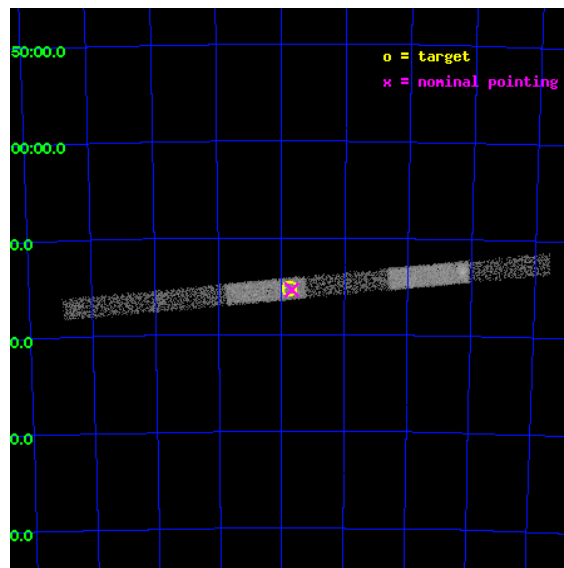
L2 Processing Date : Feb 7 2012

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# 1 Front

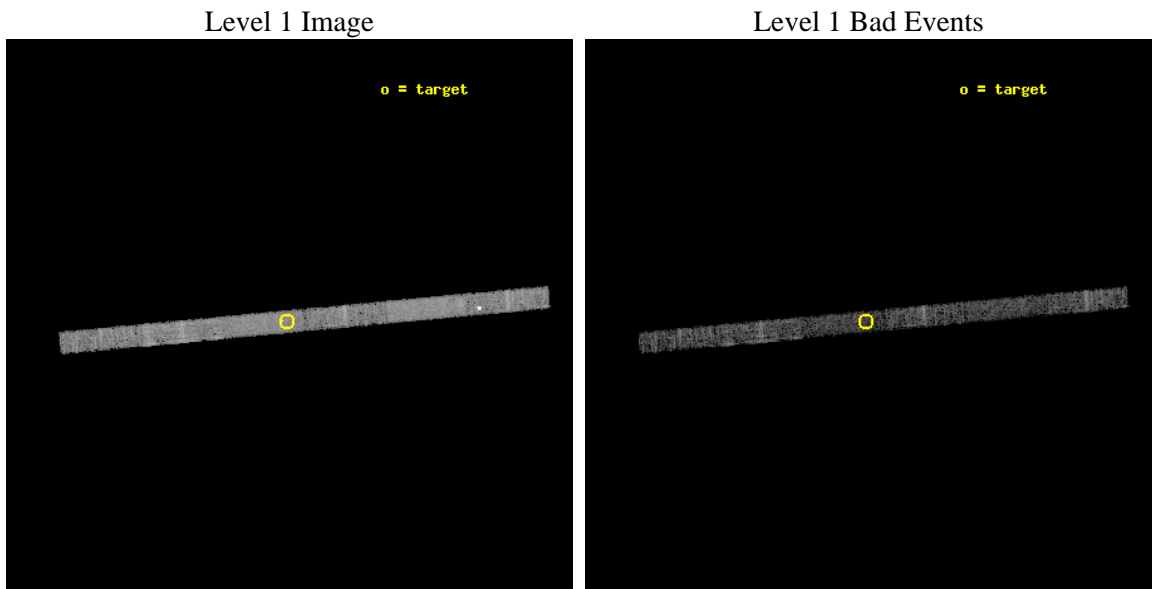
seq_num	200673	Sequence number
obs_id	12337	Observation id
title	Maunder Minimum stars: How frequent are they ?	Proposal title
observer	Prof. Jurgen Schmitt	Principal investigator
object	Gl 19	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	6.4375	Observer's specified target RA [deg]
dec_targ	-77.254167	Observer's specified target Dec [deg]
ra_nom	6.4177310475736	Nominal RA [deg]
dec_nom	-77.256385355307	Nominal Dec [deg]
roll_nom	174.67158853424	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5095.2001104355	Sum of GTIs [s]
livetime	4911.9400910389	Livetime [s]
ontime4	5095.2001104355	Sum of GTIs [s]
ontime5	5095.2001104355	Sum of GTIs [s]
ontime6	5095.2001104355	Sum of GTIs [s]
ontime7	5095.2001104355	Sum of GTIs [s]
ontime8	5095.2001104355	Sum of GTIs [s]
ontime9	5095.2001104355	Sum of GTIs [s]
l2events	15739	Number of level 2 events



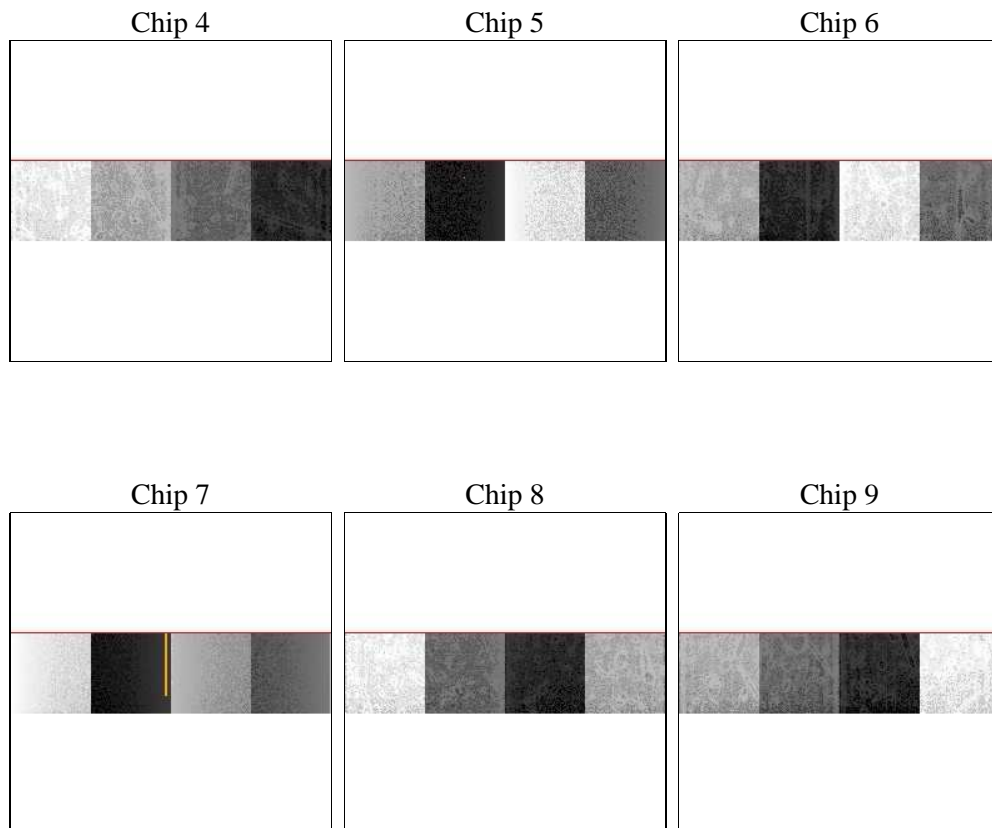
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	5095.2001104355	Sum of GTIs [s]
caldsver	4.4.7	&#160	ontime4	5095.2001104355	Sum of GTIs [s]
date	2012-02-07T13:23:09	Date and time of file creation	ontime5	5095.2001104355	Sum of GTIs [s]
revision	2	Processing version of data	ontime6	5095.2001104355	Sum of GTIs [s]
			ontime7	5095.2001104355	Sum of GTIs [s]
			ontime8	5095.2001104355	Sum of GTIs [s]
			ontime9	5095.2001104355	Sum of GTIs [s]
			l1events	70042	Number of level 1 events

### 2.1.4 Events

	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
level 1 events	14189	13300	9261	11359	13104	8829
rejected events	9446	6569	8184	5795	9778	7737
rejected %	66%	49%	88%	51%	74%	87%

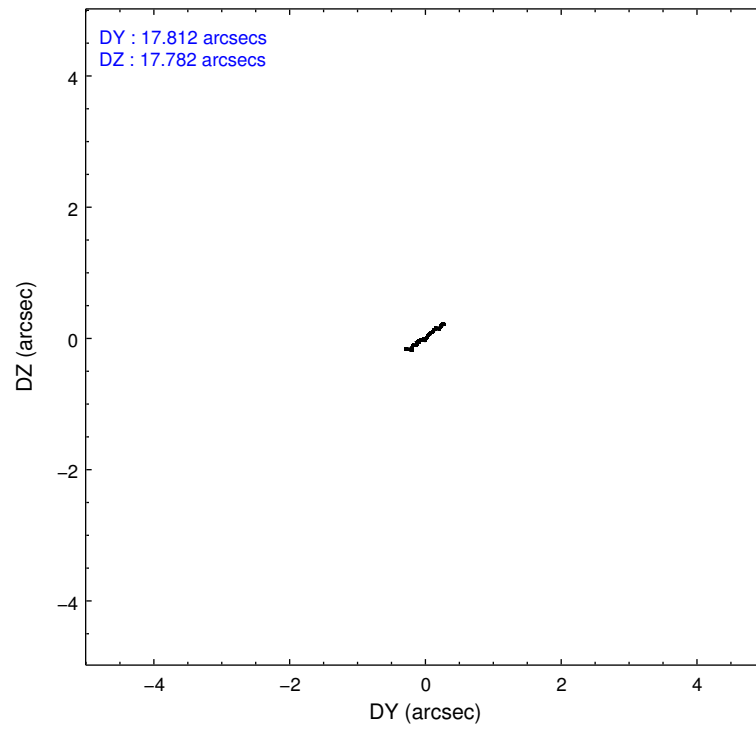
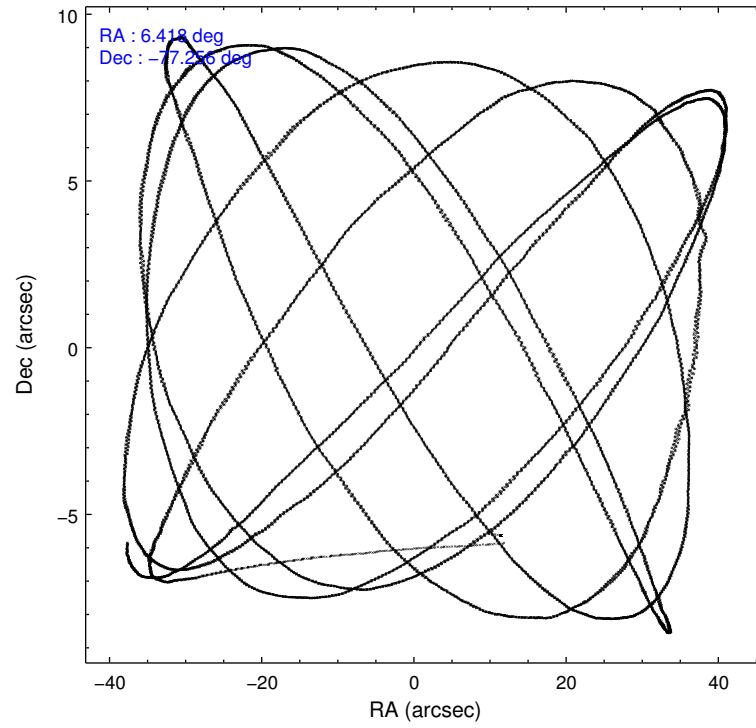
	ccd 4	ccd 5	ccd 6	ccd 7	ccd 8	ccd 9
grade 0 events	3944	721	368	740	900	347
	27%	5%	3%	6%	6%	3%
grade 1 events	21	34	2	19	7	3
	0%	0%	0%	0%	0%	0%
grade 2 events	285	2000	206	1204	743	183
	2%	15%	2%	10%	5%	2%
grade 3 events	178	386	145	576	372	167
	1%	2%	1%	5%	2%	1%
grade 4 events	156	393	144	580	350	163
	1%	2%	1%	5%	2%	1%
grade 5 events	422	1154	363	1108	525	384
	2%	8%	3%	9%	4%	4%
grade 6 events	181	3232	214	2467	961	232
	1%	24%	2%	21%	7%	2%
grade 7 events	9002	5380	7819	4665	9246	7350
	63%	40%	84%	41%	70%	83%

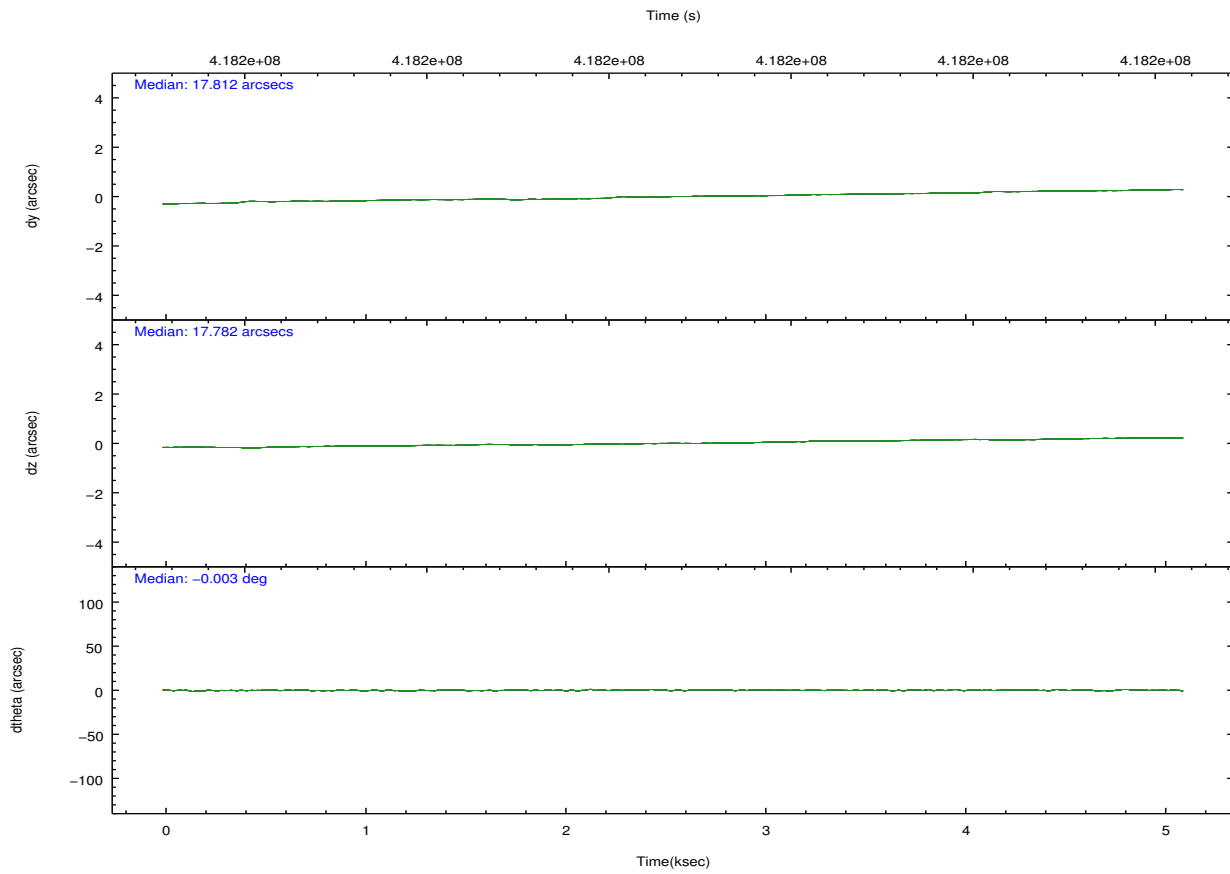
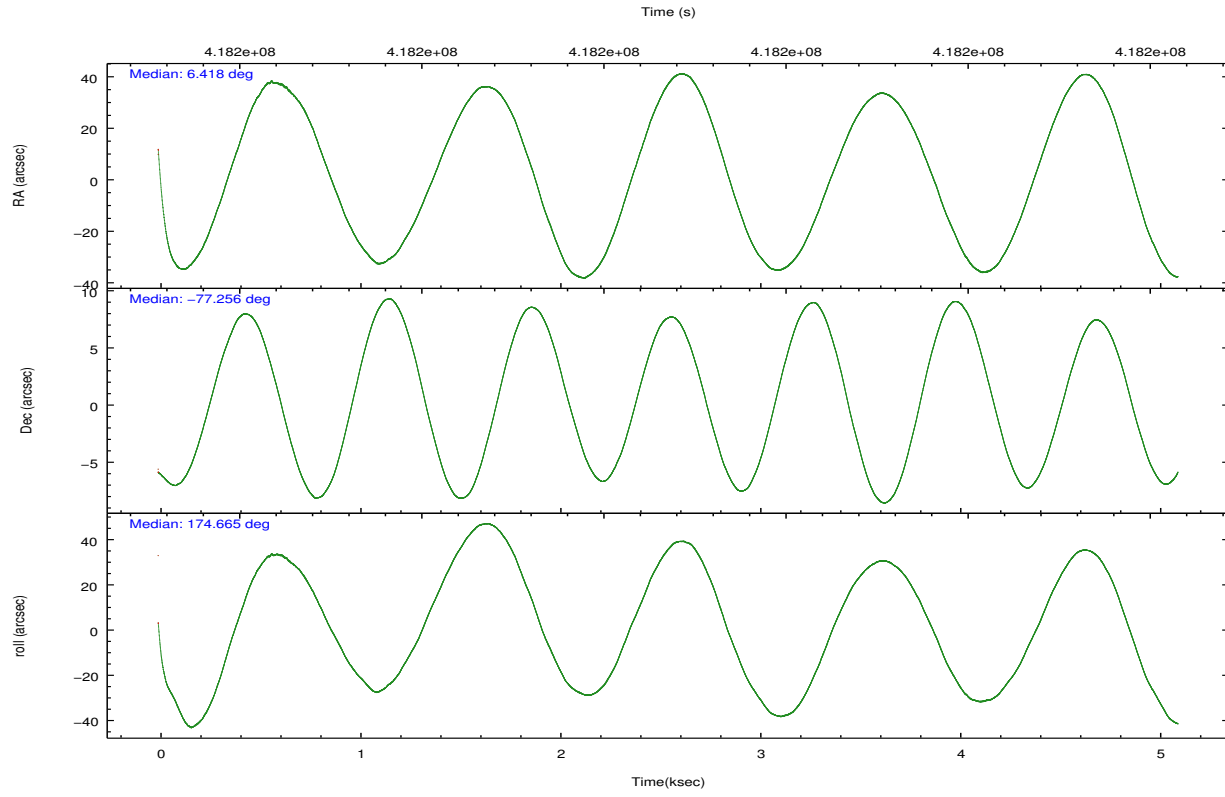


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-456789	ACIS-456789	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	6.529605	6.417731047573568	CCD I2 on	N	N
[deg] Pointing Dec	-77.244525	-77.25638535530734	CCD I3 on	N	N
[deg] Pointing Roll	174.624102	174.6715885342401	CCD S0 on	O2	Y
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	Y	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1425803651734	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.01005778216563158	CCD S4 on	Y	Y
[s] Observation start time (MET)	418195895.184000	418194267.6474	CCD S5 on	O1	Y
Observation start date	2011-04-03T05:30:29	2011-04-03T05:04:27	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	418200895.184000	418201730.67278	On-chip summing requested	N	N
Observation end date	2011-04-03T06:53:49	2011-04-03T07:08:50	Subarray requested	CUSTOM	1/4
Read mode	TIMED	TIMED	Subarray start row	385	385
			Subarray row count	256	256
			Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	1.1

## 2.3 Aspect



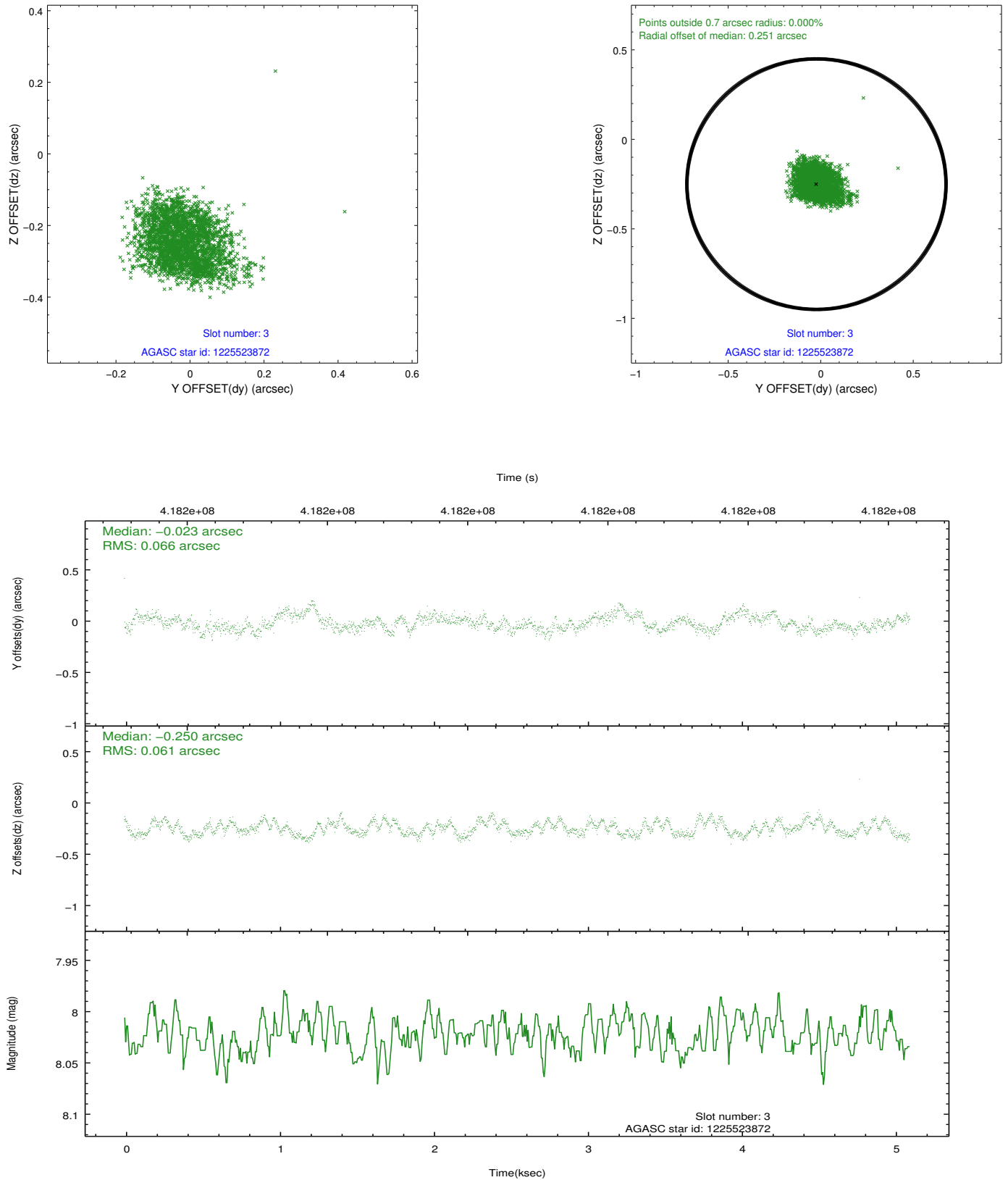


### Slot Statistics

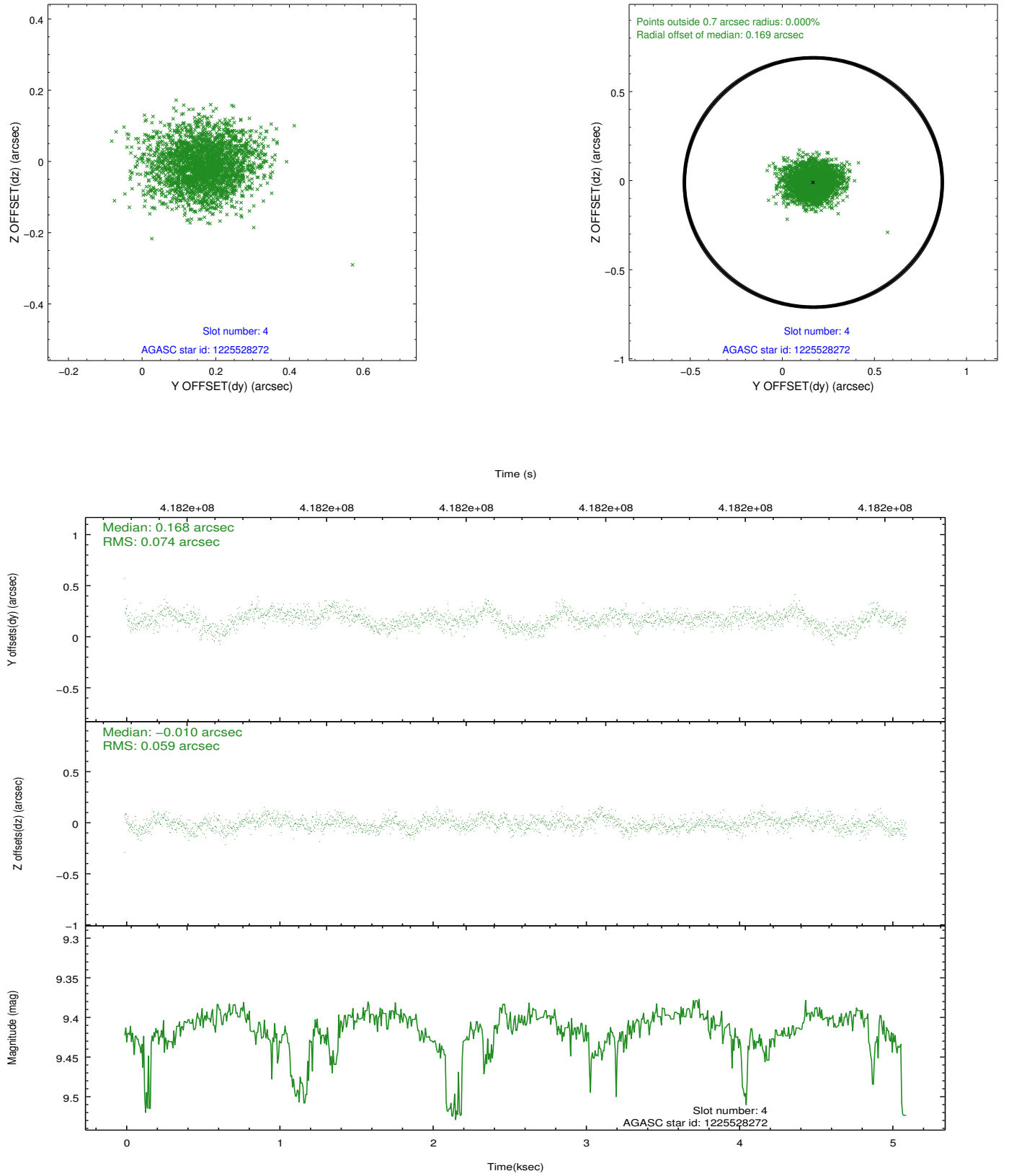
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.90	1245	-0.060	-0.049	0.008	0.013	0.000000	0.000000	-770.95	-1739.23
1	FID	ACIS-S-4	6.98	1245	0.196	0.042	0.010	0.018	0.000000	0.000000	2142.07	168.04
2	FID	ACIS-S-5	7.01	1244	-0.167	0.016	0.010	0.016	0.000000	0.000000	-1822.34	163.13
3	GUIDE	1225523872	8.02	2489	-0.023	-0.250	0.096	0.149	5.070430	-77.222606	1163.41	44.03
4	GUIDE	1225528272	9.41	2485	0.168	-0.010	0.102	0.164	8.545047	-77.627206	-1678.23	1252.09
5	GUIDE	1225531544	9.46	2483	0.110	-0.259	0.125	0.201	7.868190	-77.877755	-1223.00	2186.10
6	GUIDE	1225008152	9.70	2486	-0.196	0.360	0.153	0.243	4.731697	-76.842334	1599.94	-1280.02
7	GUIDE	1225008536	9.65	2476	-0.075	0.164	0.157	0.252	5.391110	-76.798096	1082.47	-1504.11

## 2.4 Star Slots

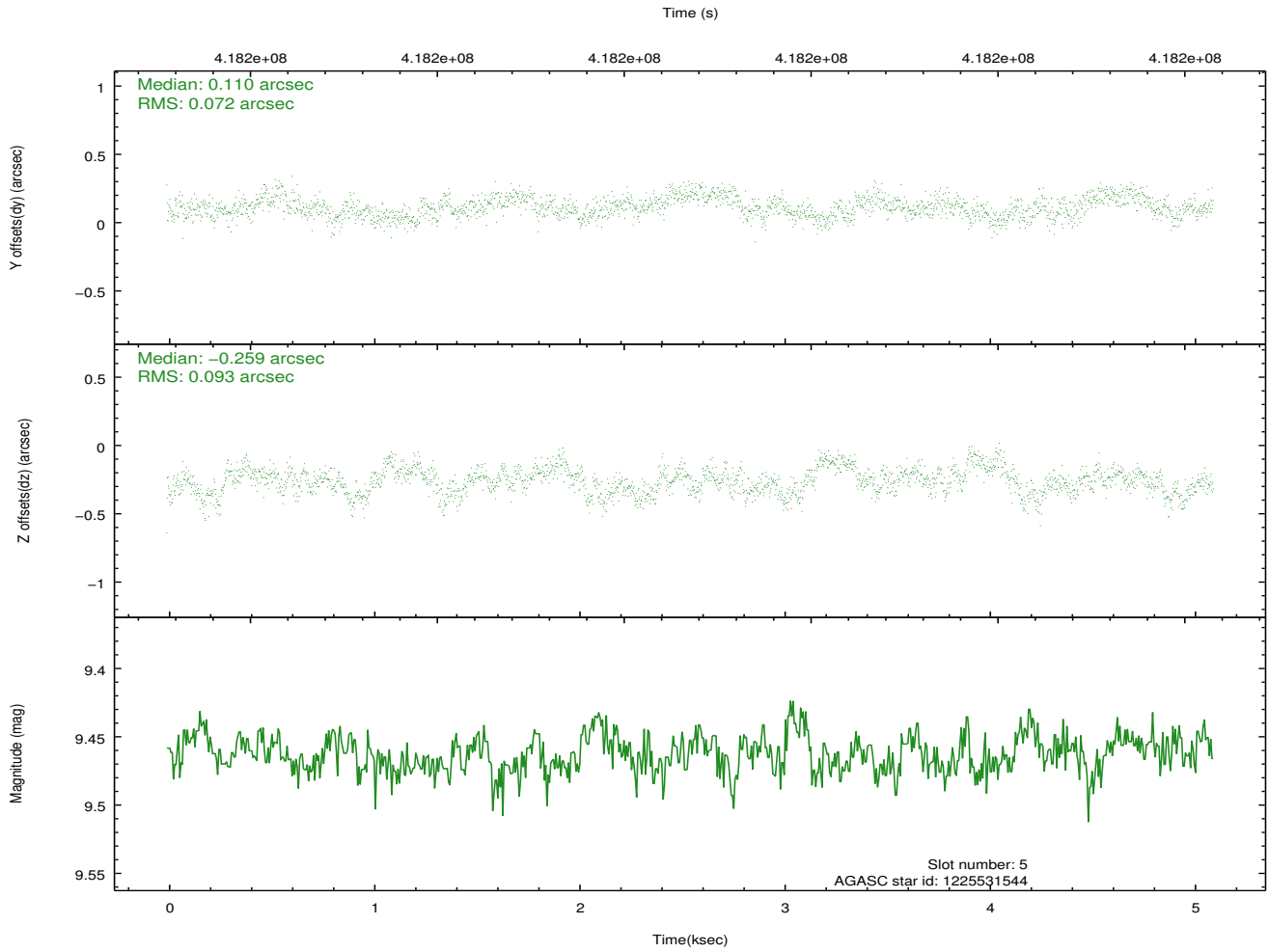
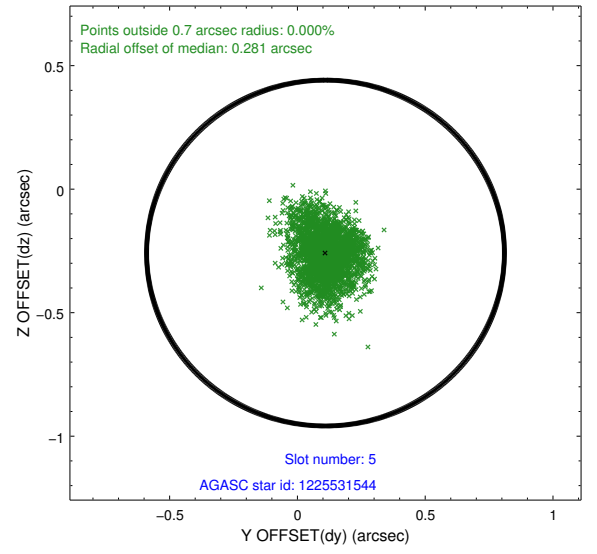
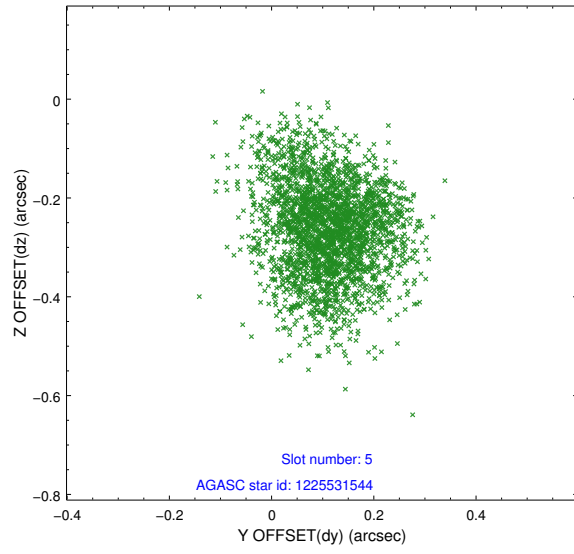
### 2.4.1 Slot 3



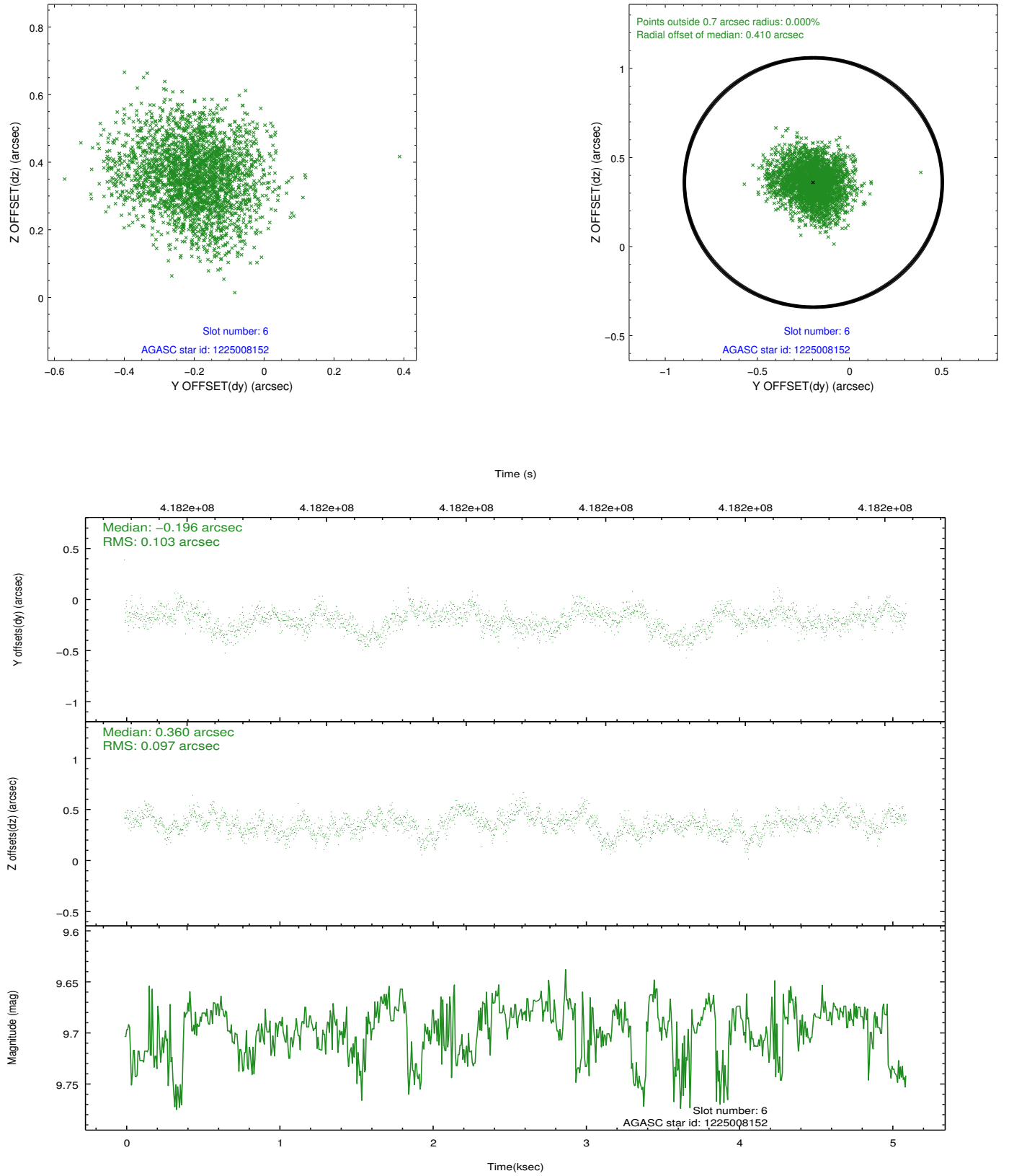
## 2.4.2 Slot 4



### 2.4.3 Slot 5

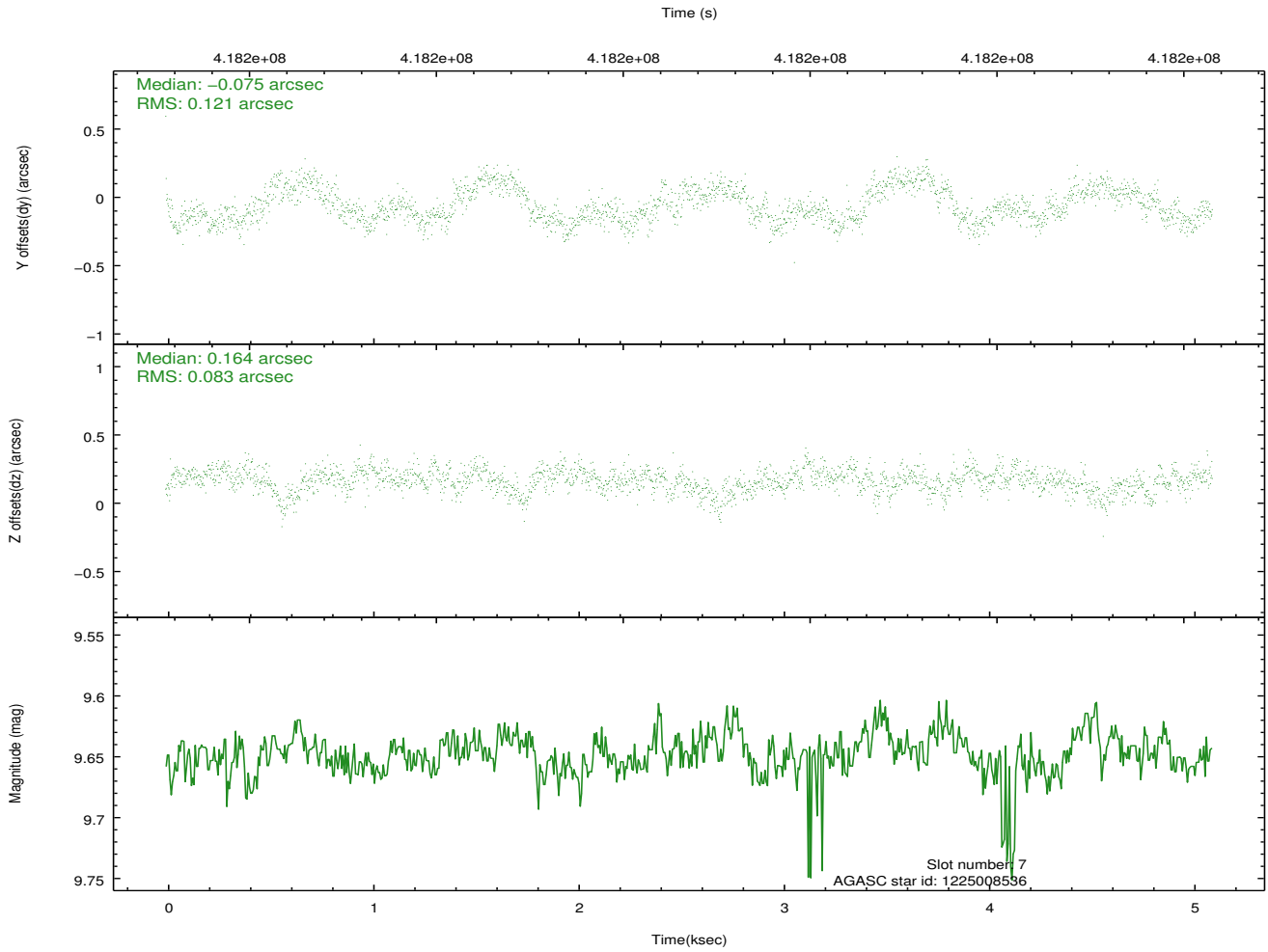
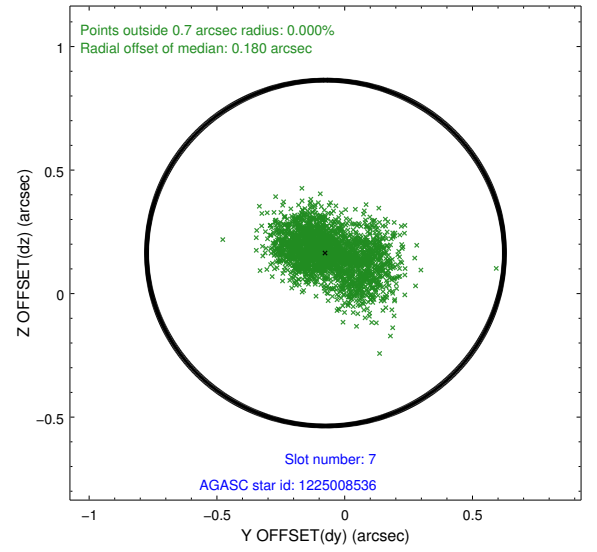
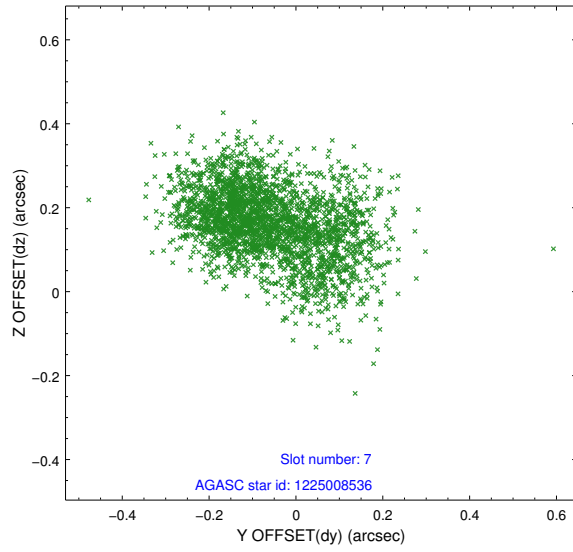


## 2.4.4 Slot 6



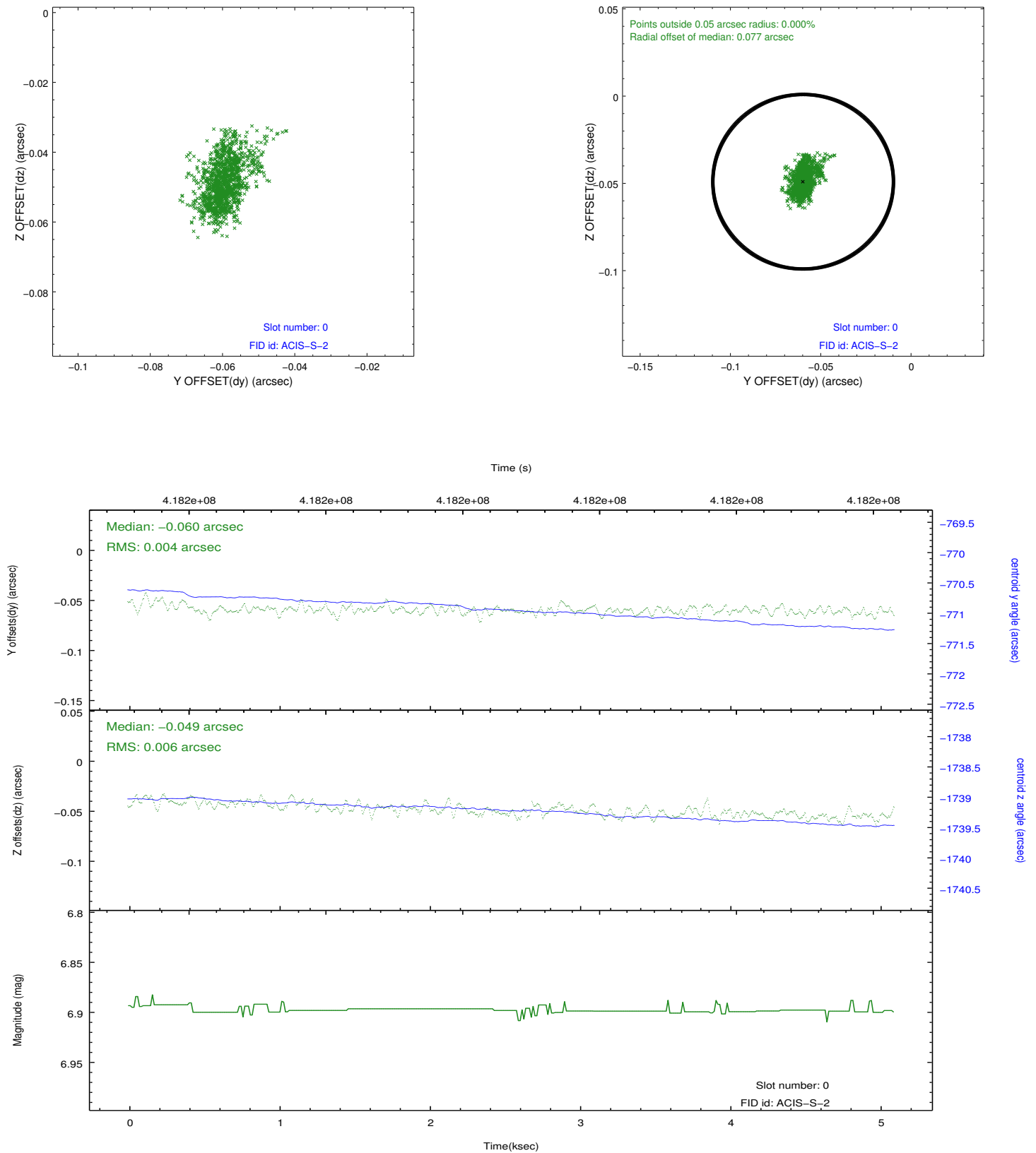


### 2.4.5 Slot 7

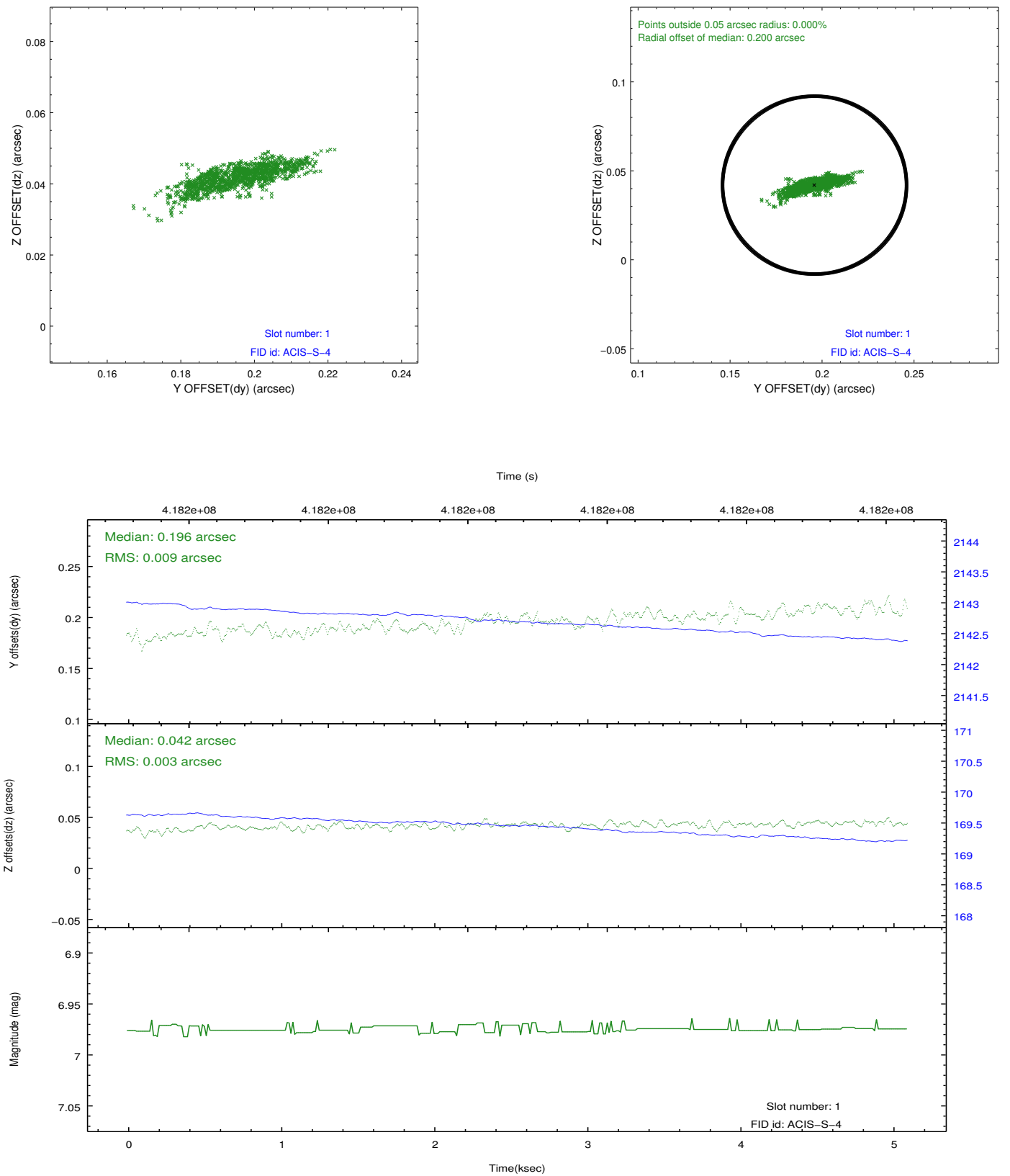


## 2.5 FID Slots

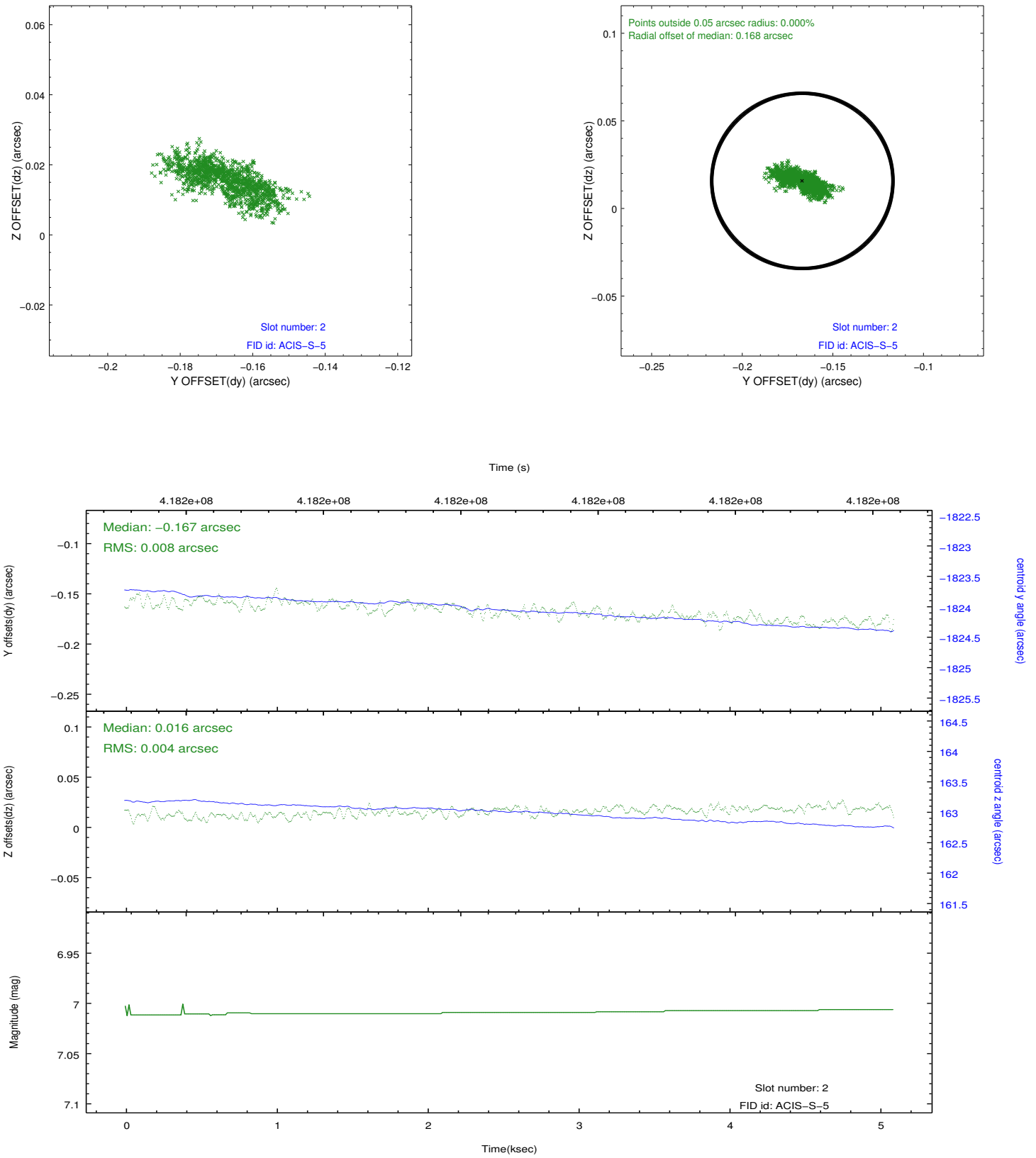
### 2.5.1 Slot 0



## 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)	2012.02.09
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.0952001104355

## 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.