

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 12508 - L2 Version 3  
Chandra X-Ray Center

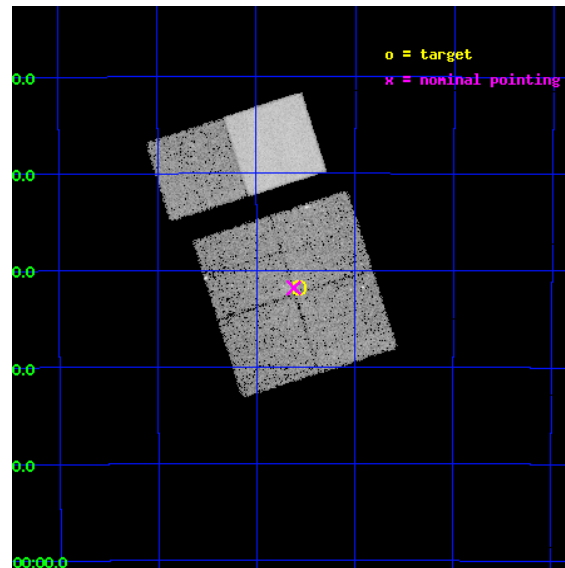
L2 Processing Date : Feb 11 2012

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# 1 Front

seq_num	401249	Sequence number
obs_id	12508	Observation id
title	Census of the Normal Spiral Arm Region	Proposal title
observer	Dr. John Tomsick	Principal investigator
object	Norma Region	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	250.143234	Observer's specified target RA [deg]
dec_targ	-46.530534	Observer's specified target Dec [deg]
ra_nom	250.15501121334	Nominal RA [deg]
dec_nom	-46.530604204321	Nominal Dec [deg]
roll_nom	342.21723219687	Nominal Roll [deg]
revision	3	Processing version of data
ontime	18755.199930191	Sum of GTIs [s]
livetime	18517.710295649	Livetime [s]
ontime0	18755.199930191	Sum of GTIs [s]
ontime1	18755.199930191	Sum of GTIs [s]
ontime2	18751.958880007	Sum of GTIs [s]
ontime3	18755.199930191	Sum of GTIs [s]
ontime6	18751.958879828	Sum of GTIs [s]
ontime7	18755.199930191	Sum of GTIs [s]
l2events	136127	Number of level 2 events

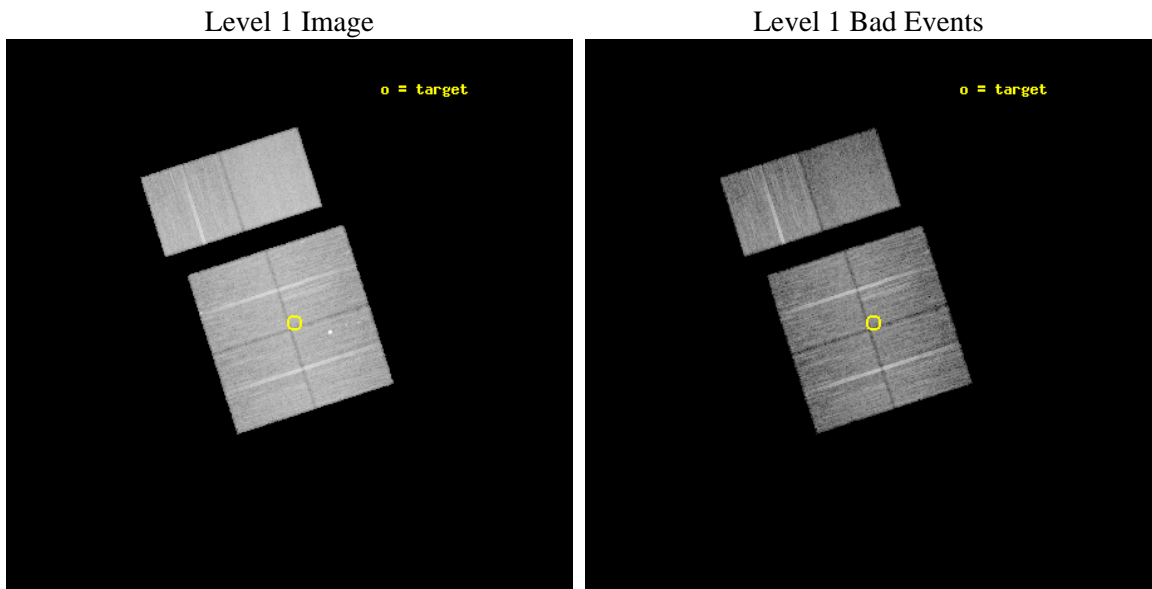




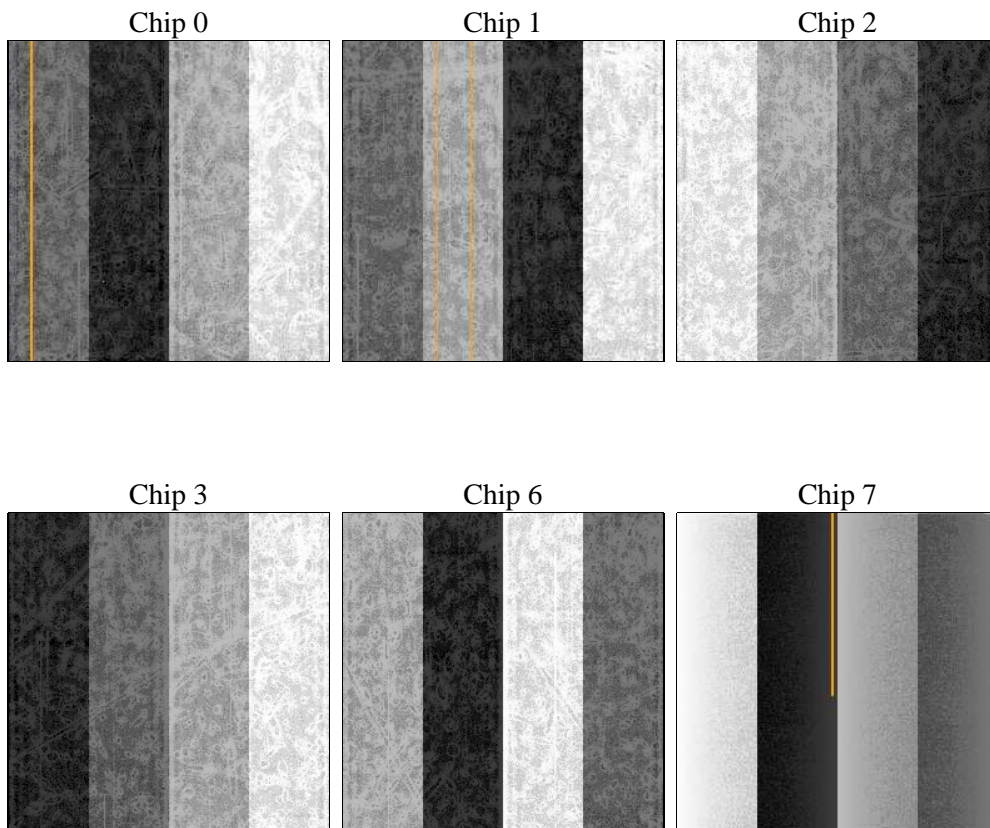
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	19000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	18755.199930191	Sum of GTIs [s]
caldsver	4.4.7	&#160	ontime0	18755.199930191	Sum of GTIs [s]
date	2012-02-11T17:18:17	Date and time of file creation	ontime1	18755.199930191	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	18751.958880007	Sum of GTIs [s]
			ontime3	18755.199930191	Sum of GTIs [s]
			ontime6	18751.958879828	Sum of GTIs [s]
			ontime7	18755.199930191	Sum of GTIs [s]
			l1events	743071	Number of level 1 events

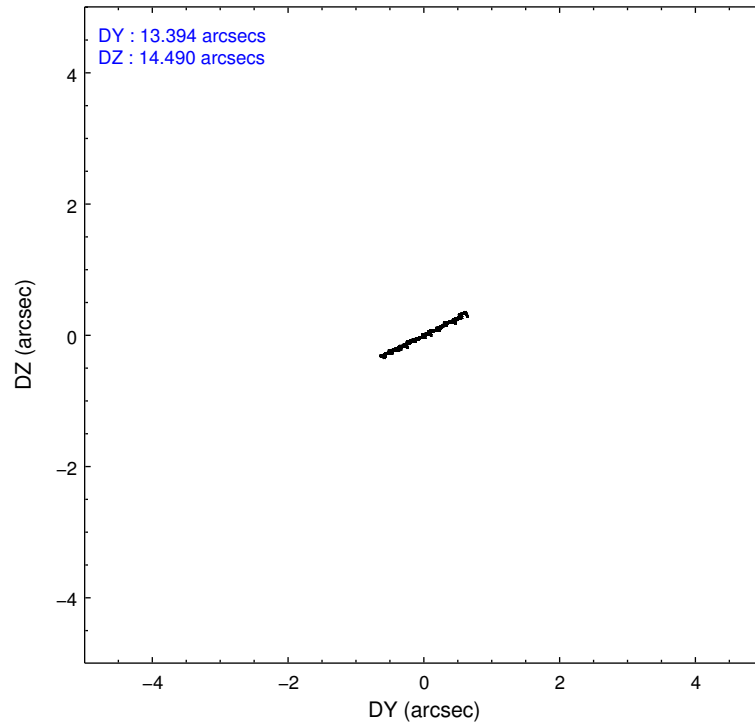
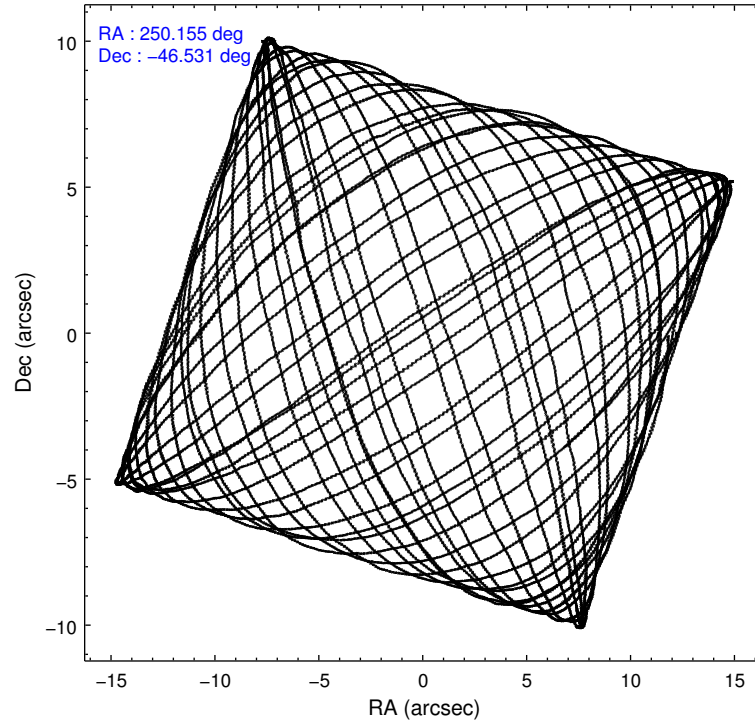
### 2.1.4 Events

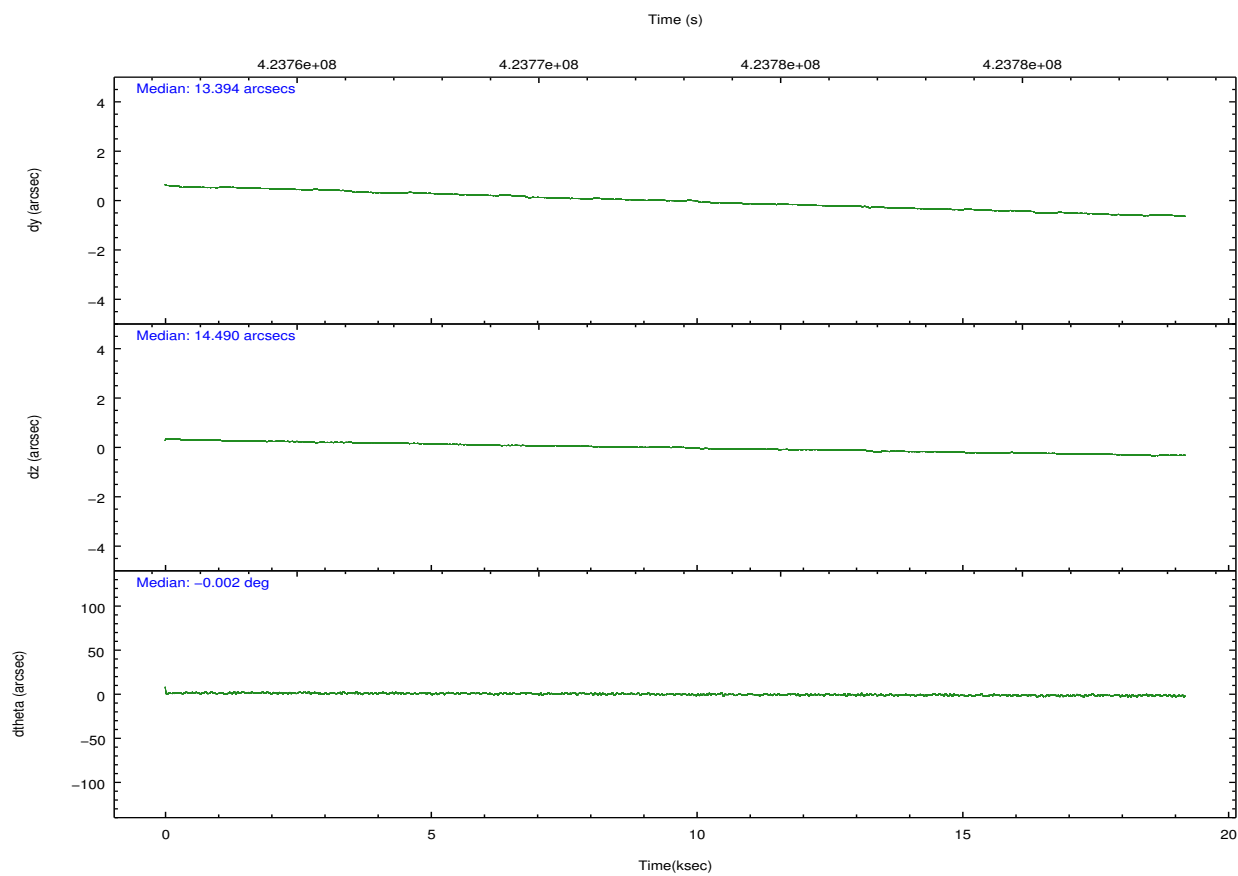
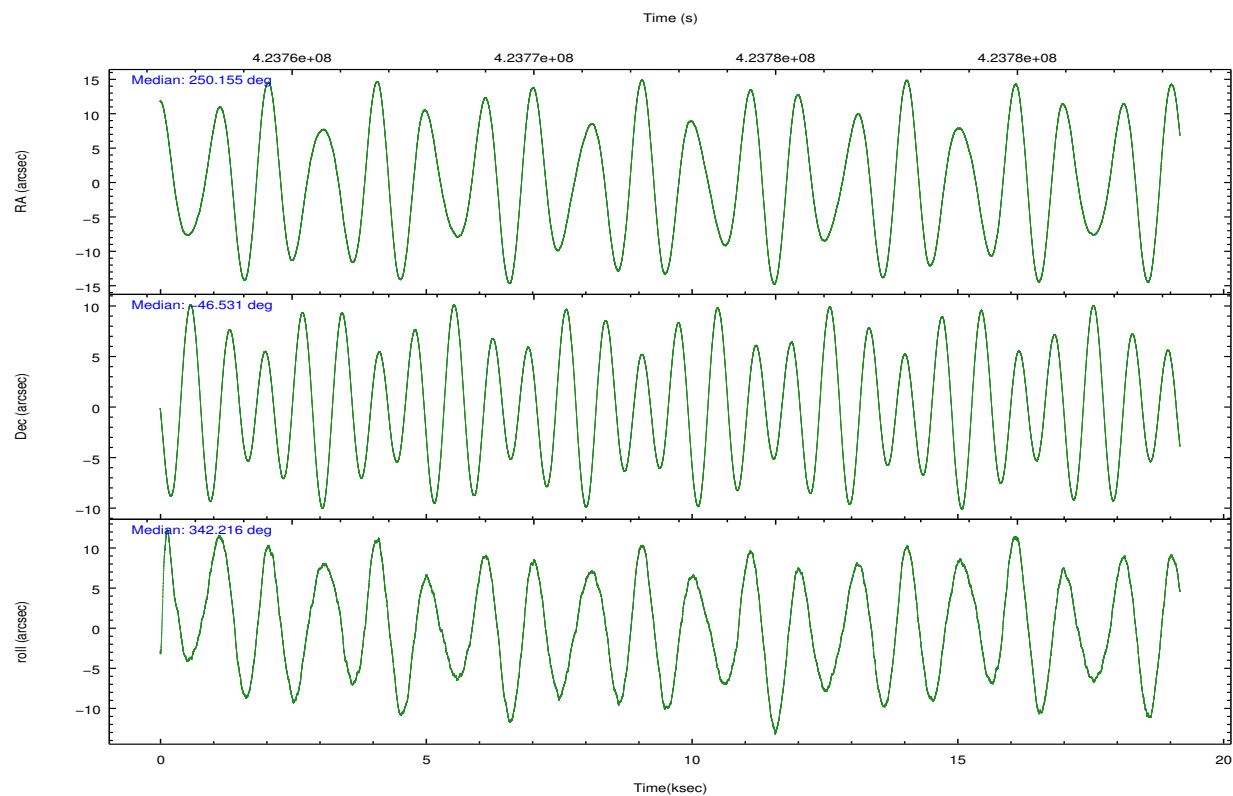
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	111588	115170	118666	117662	126812	153173	grade 0 events	5886	9556	6856	6582	6302	6467
rejected events	96463	95776	102758	102166	110874	83304		5%	8%	5%	5%	4%	4%
rejected %	86%	83%	86%	86%	87%	54%	grade 1 events	76	117	76	94	71	198
								0%	0%	0%	0%	0%	0%
							grade 2 events	3486	3525	3438	3137	3466	14617
								3%	3%	2%	2%	2%	9%
							grade 3 events	1510	1530	1443	1487	1410	6161
								1%	1%	1%	1%	1%	4%
							grade 4 events	1413	1596	1486	1537	1471	6155
								1%	1%	1%	1%	1%	4%
							grade 5 events	4989	5148	4585	5533	5810	15960
								4%	4%	3%	4%	4%	10%
							grade 6 events	2834	3192	2687	2760	3291	36487
								2%	2%	2%	2%	2%	23%
							grade 7 events	91394	90506	98095	96532	104991	67128
								81%	78%	82%	82%	82%	43%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-012367	ACIS-012367	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	250.115939	250.1550112133422	CCD I2 on	Y	Y
[deg] Pointing Dec	-46.536526	-46.53060420432055	CCD I3 on	Y	Y
[deg] Pointing Roll	341.980185	342.2172321968663	CCD S0 on	N	N
[mm] SIM focus pos	-0.782348	-0.7809083437167272	CCD S1 on	N	N
[mm] SIM defocus	0	0.001439871863259334	CCD S2 on	O2	Y
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S3 on	O1	Y
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	423763409.184000	423763033.99905	CCD S5 on	N	N
Observation start date	2011-06-06T16:02:23	2011-06-06T15:57:13	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	423782409.184000	423782543.85006	On-chip summing requested	N	N
Observation end date	2011-06-06T21:19:03	2011-06-06T21:22:23	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



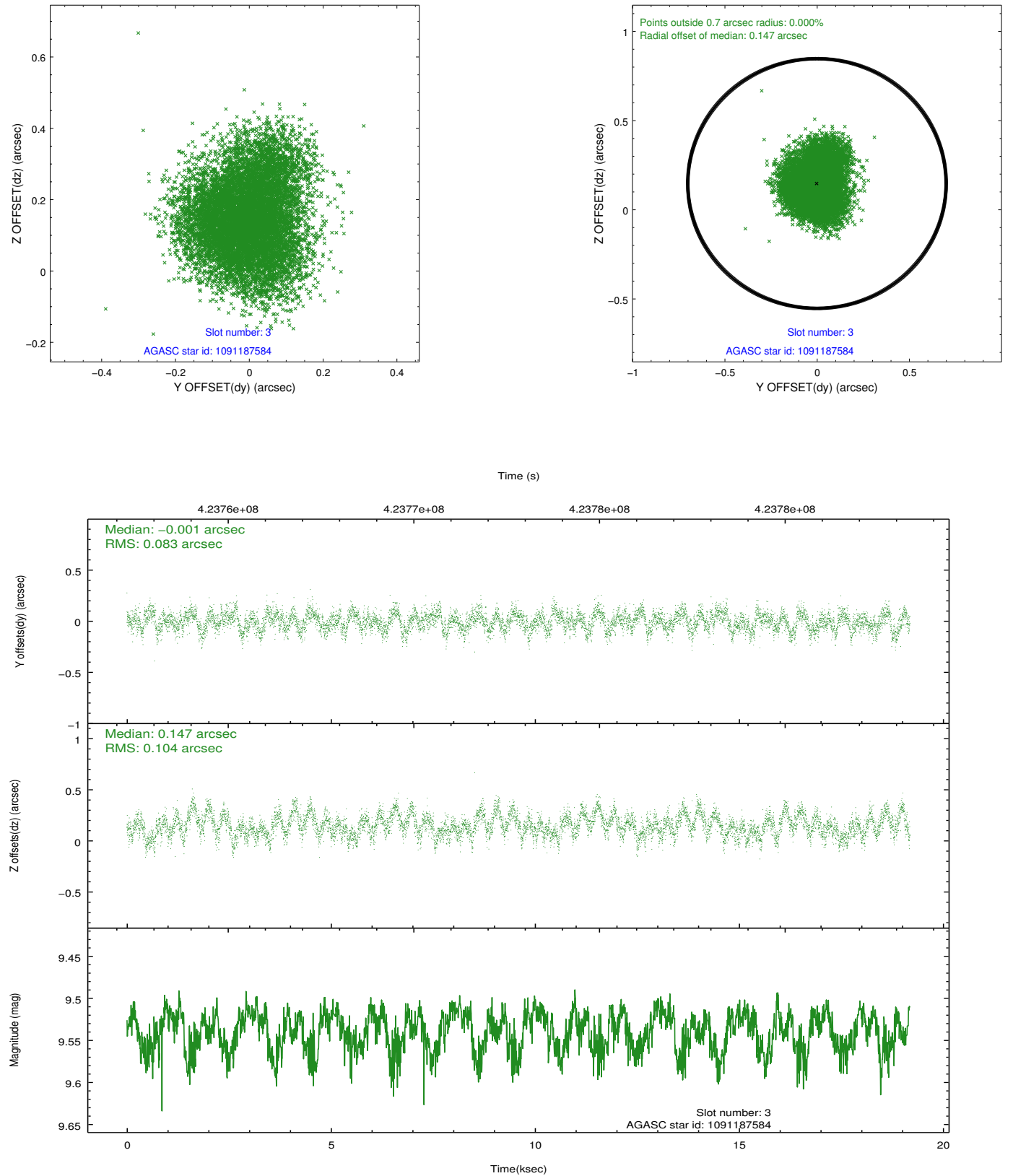


### Slot Statistics

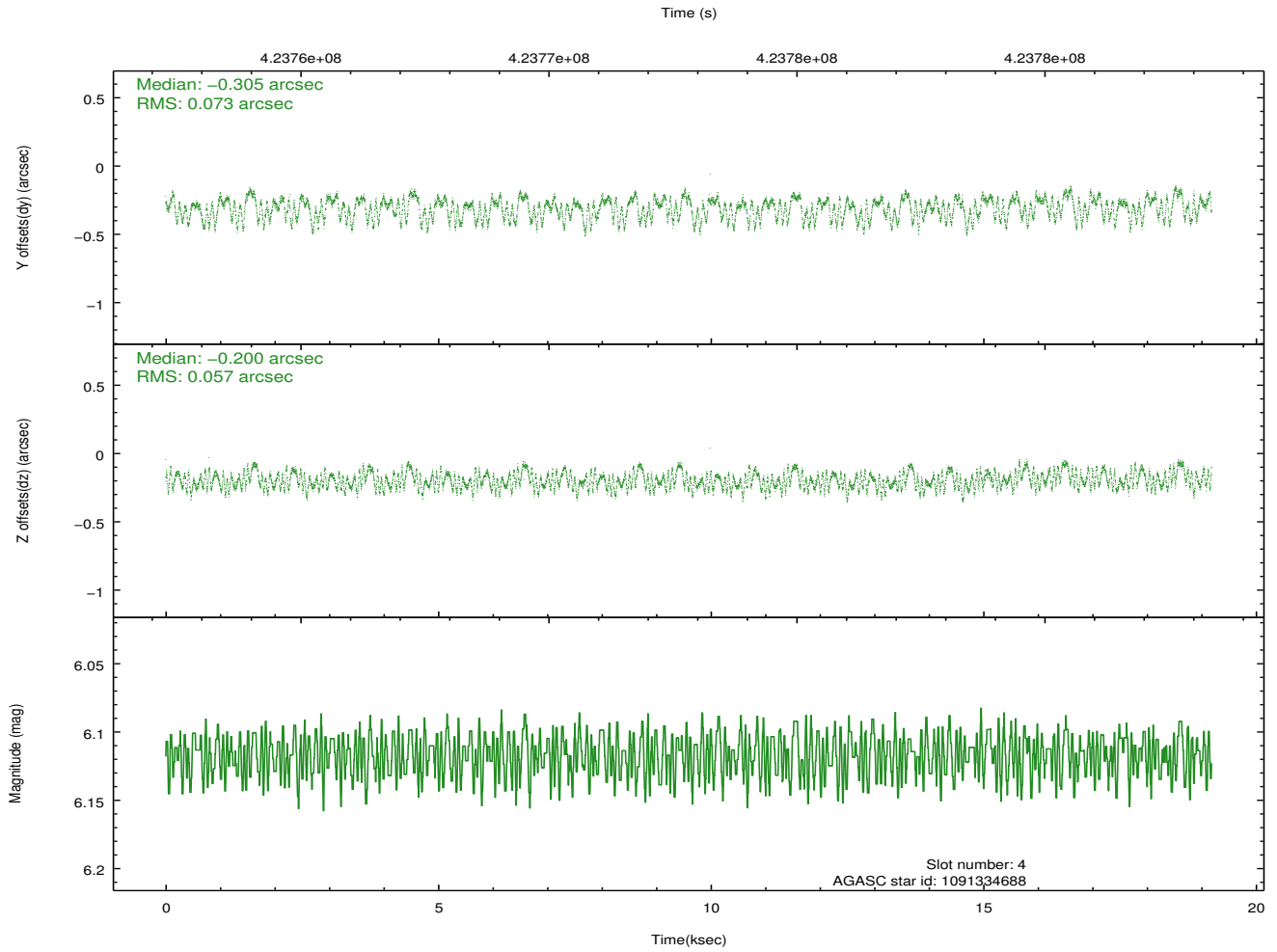
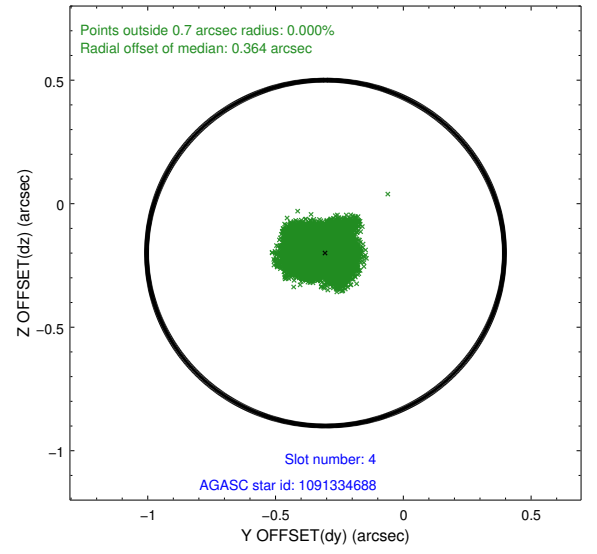
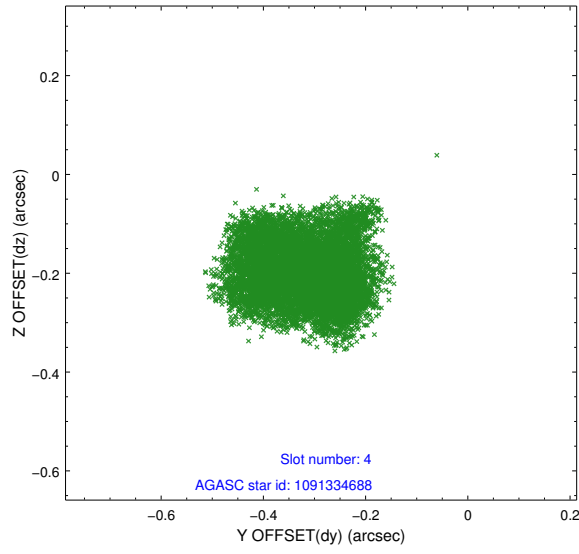
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.12	4680	0.013	0.054	0.012	0.019	0.000000	0.000000	926.14	-838.02
1	FID	ACIS-I-2	7.03	4679	-0.112	-0.048	0.010	0.016	0.000000	0.000000	-767.97	-844.65
2	FID	ACIS-I-6	7.11	4679	0.008	0.061	0.012	0.022	0.000000	0.000000	391.70	1703.71
3	GUIDE	1091187584	9.54	9352	-0.001	0.147	0.143	0.227	249.154381	-46.614366	-2169.55	-1015.77
4	GUIDE	1091334688	6.12	9360	-0.305	-0.200	0.102	0.154	250.764858	-46.070295	1023.67	2090.94
5	GUIDE	1091341680	8.43	9358	0.027	-0.164	0.102	0.153	251.240217	-46.114317	2204.37	2294.63
6	GUIDE	1091703920	9.70	9340	0.241	0.143	0.170	0.264	249.858992	-46.910499	-183.44	-1476.28
7	GUIDE	1091195232	10.33	9345	0.060	0.059	0.216	0.366	249.089128	-46.765574	-2147.41	-1583.25

## 2.4 Star Slots

### 2.4.1 Slot 3

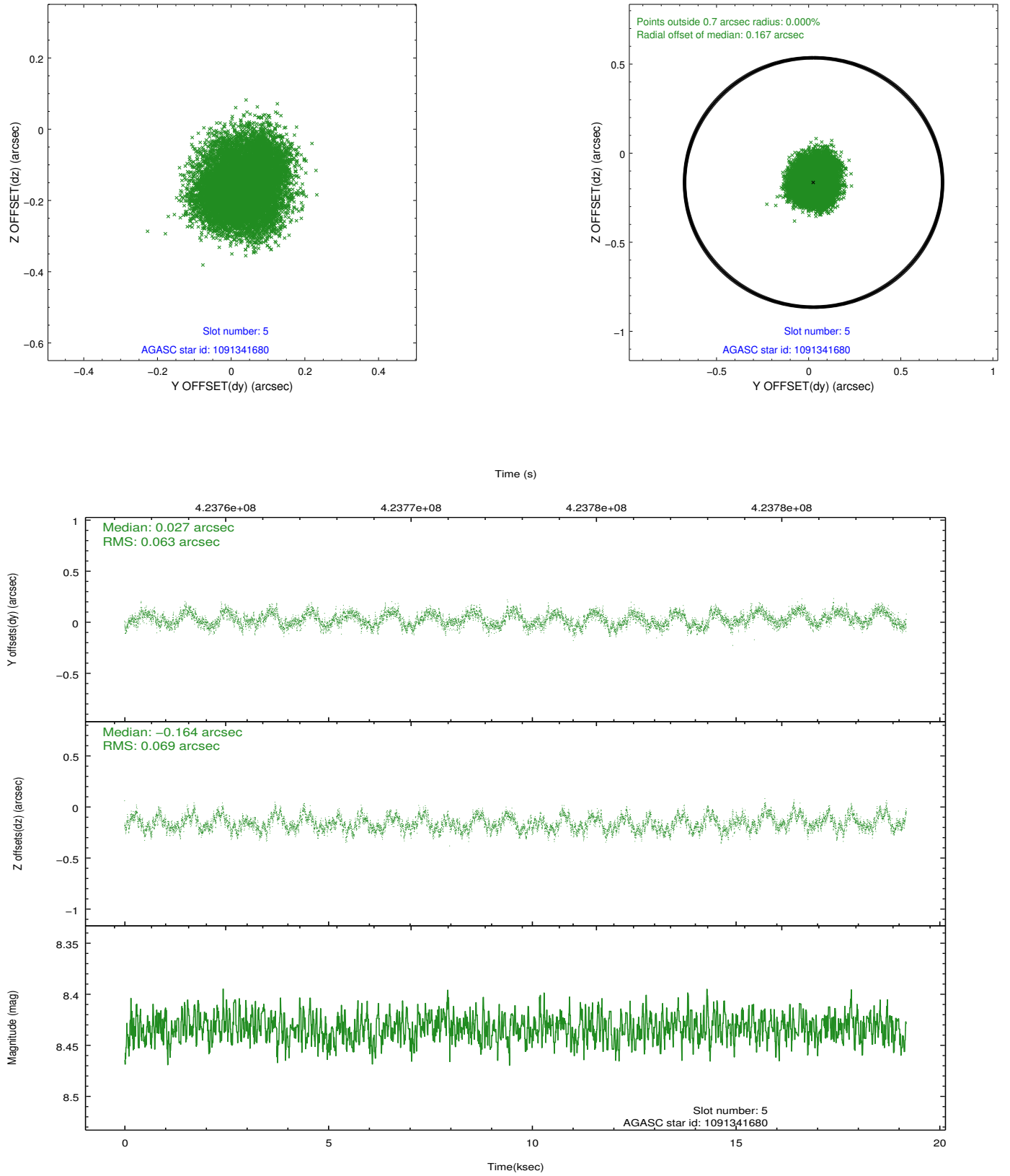


## 2.4.2 Slot 4

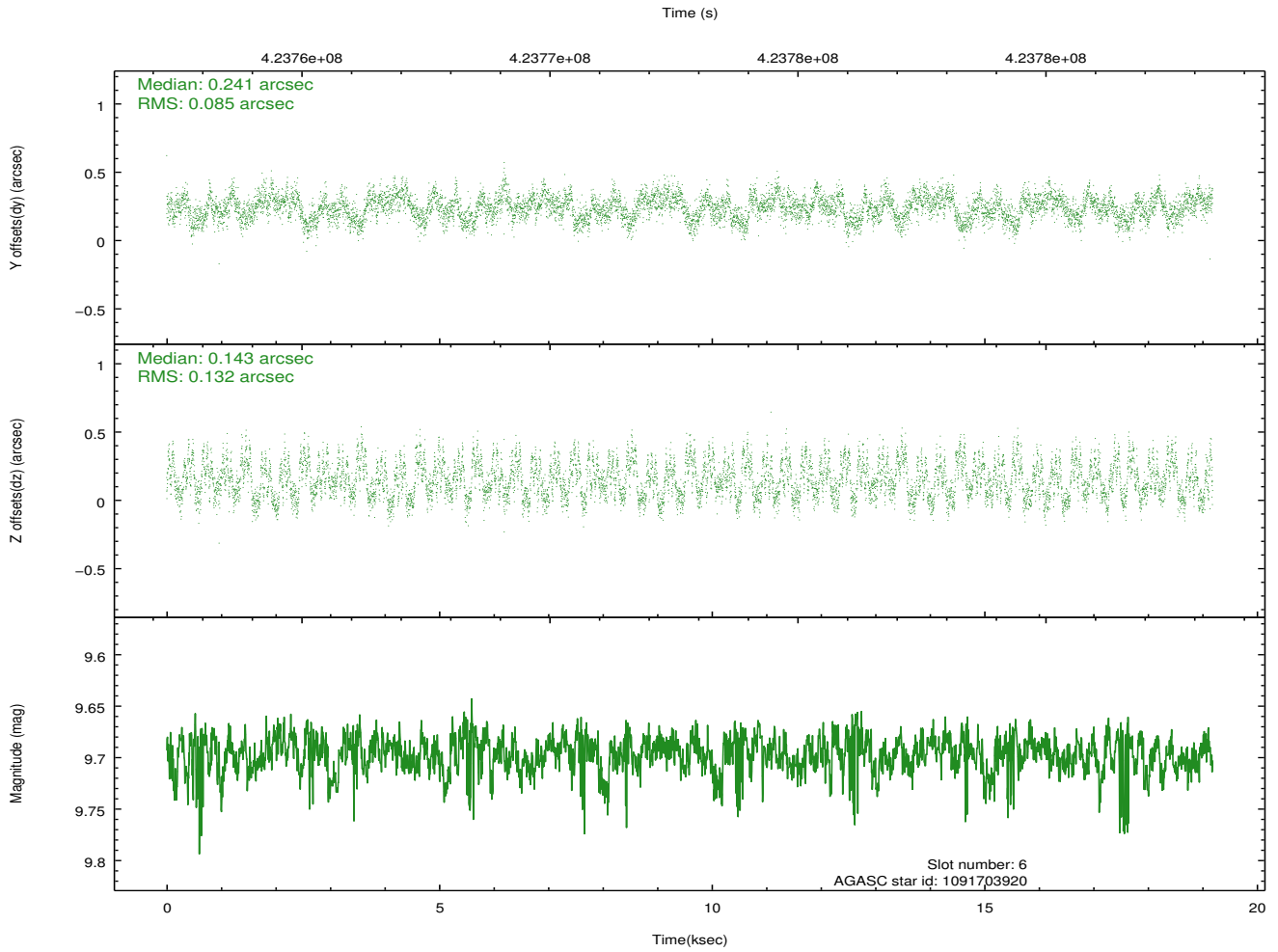
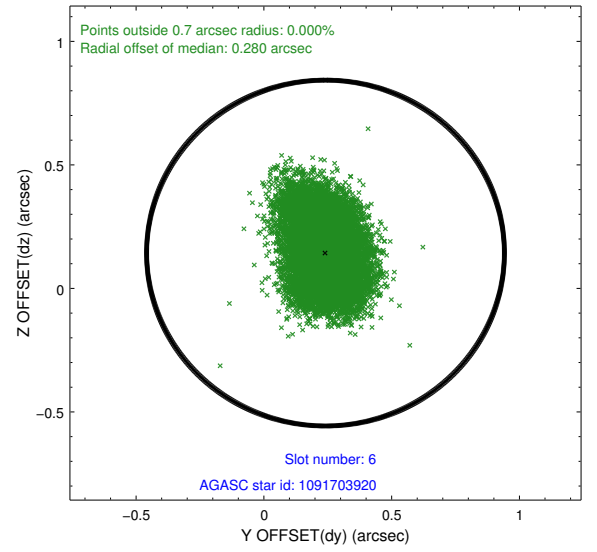
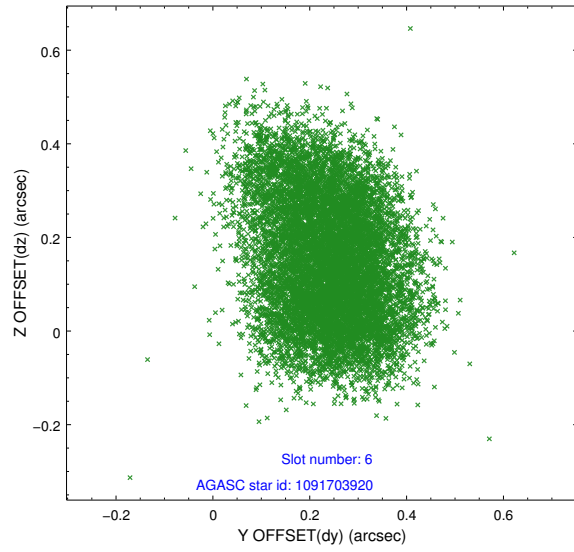




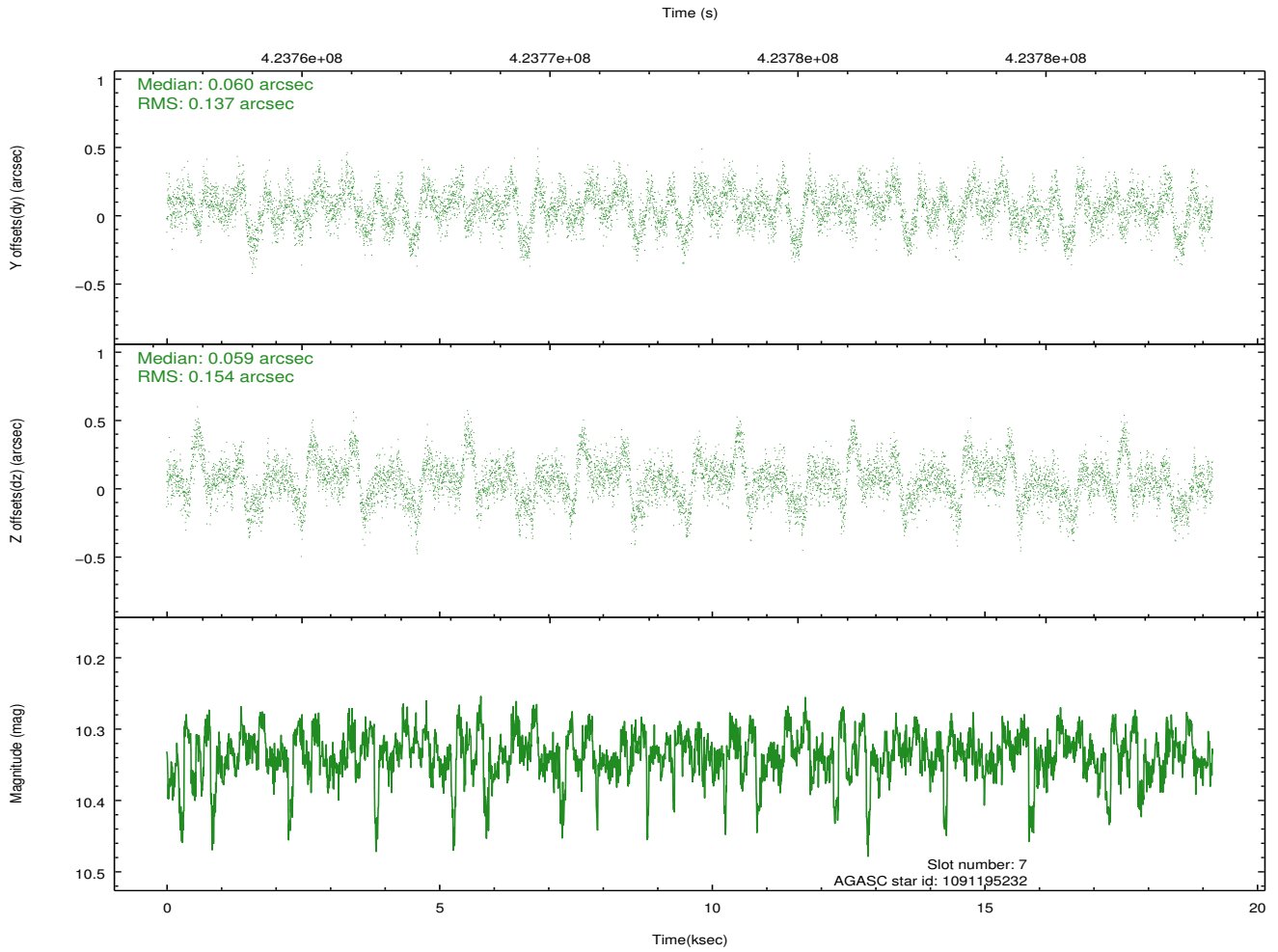
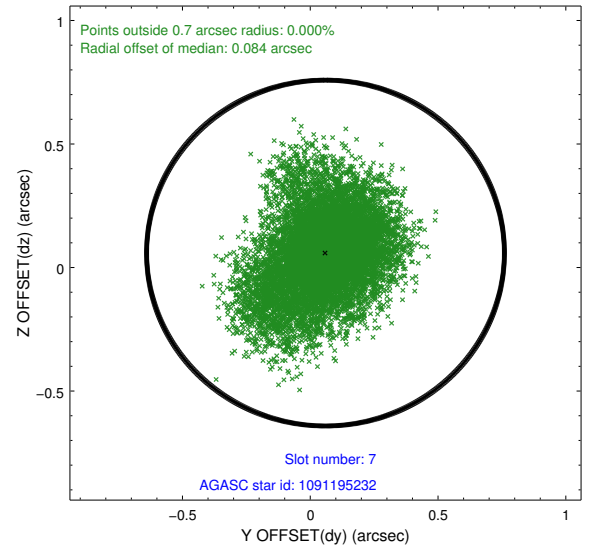
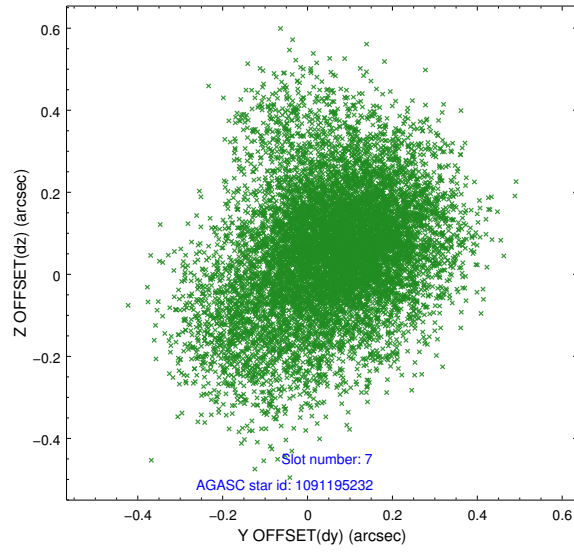
### 2.4.3 Slot 5



## 2.4.4 Slot 6

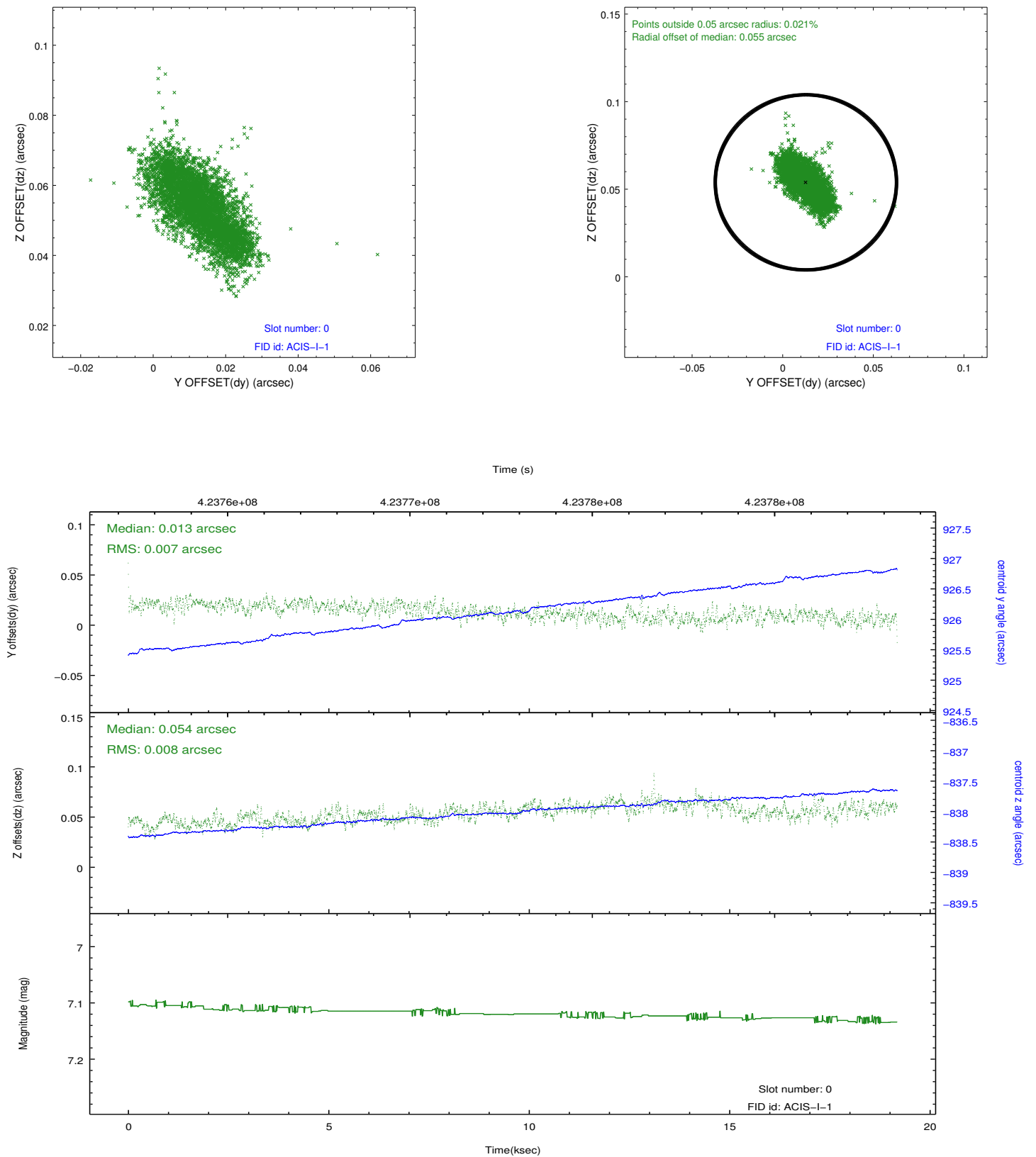


## 2.4.5 Slot 7

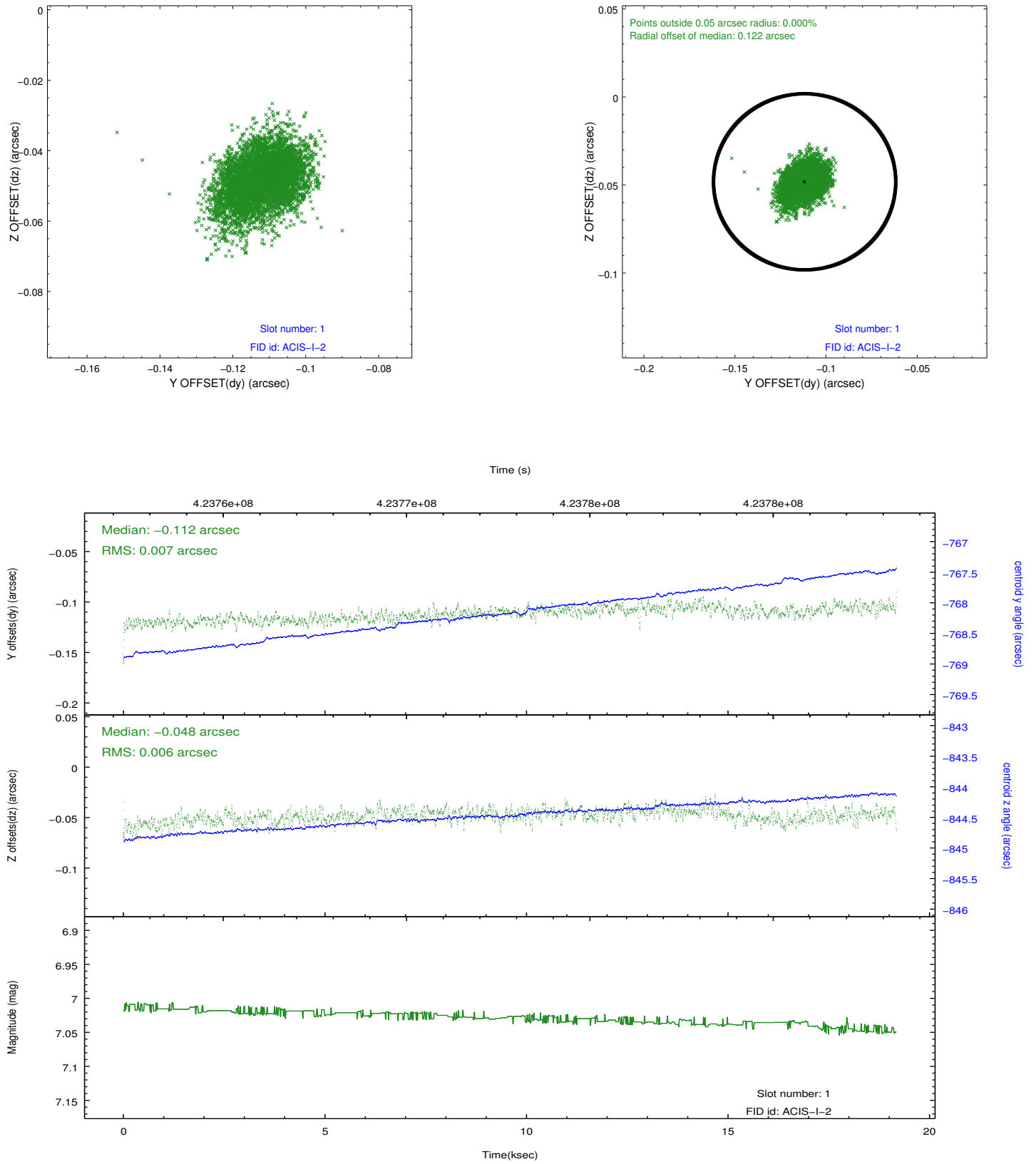


## 2.5 FID Slots

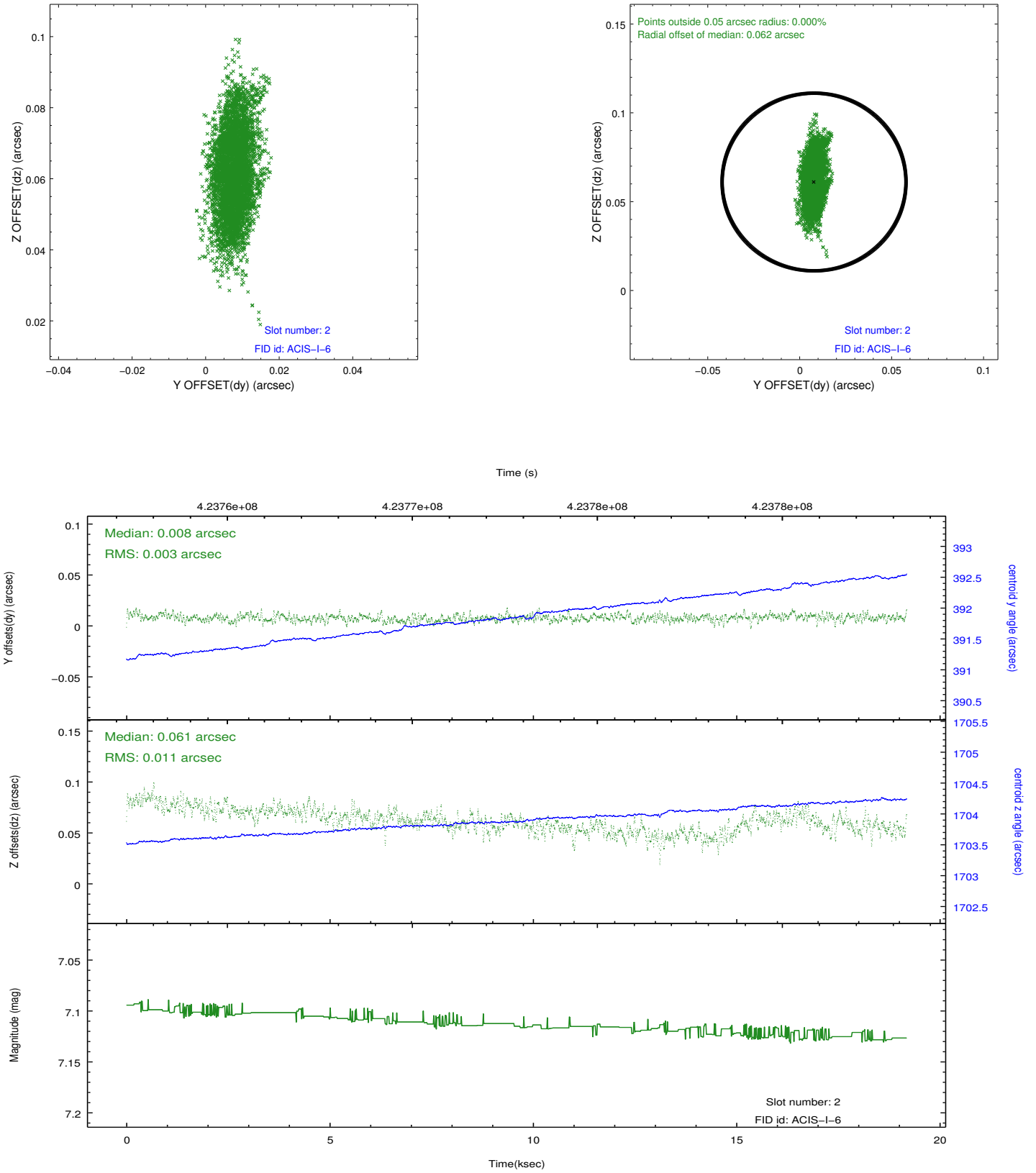
### 2.5.1 Slot 0



## 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)	2012.02.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	18.755199930191

## A.2 Comments

Joint proposal with NOAO.

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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.