

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 12963 - L2 Version 2  
Chandra X-Ray Center

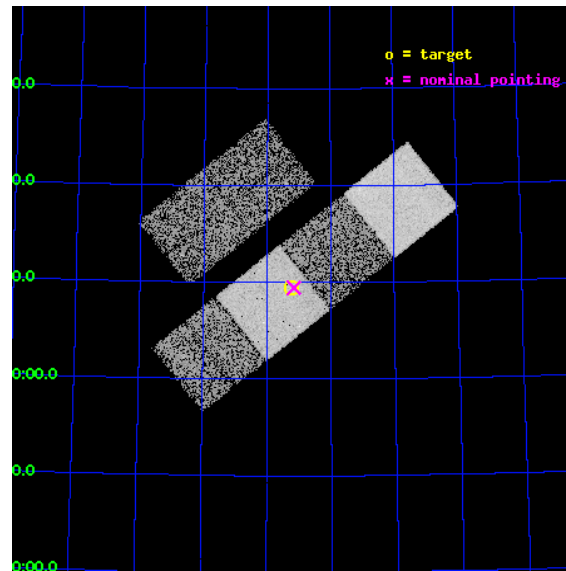
L2 Processing Date : Feb 7 2012

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# 1 Front

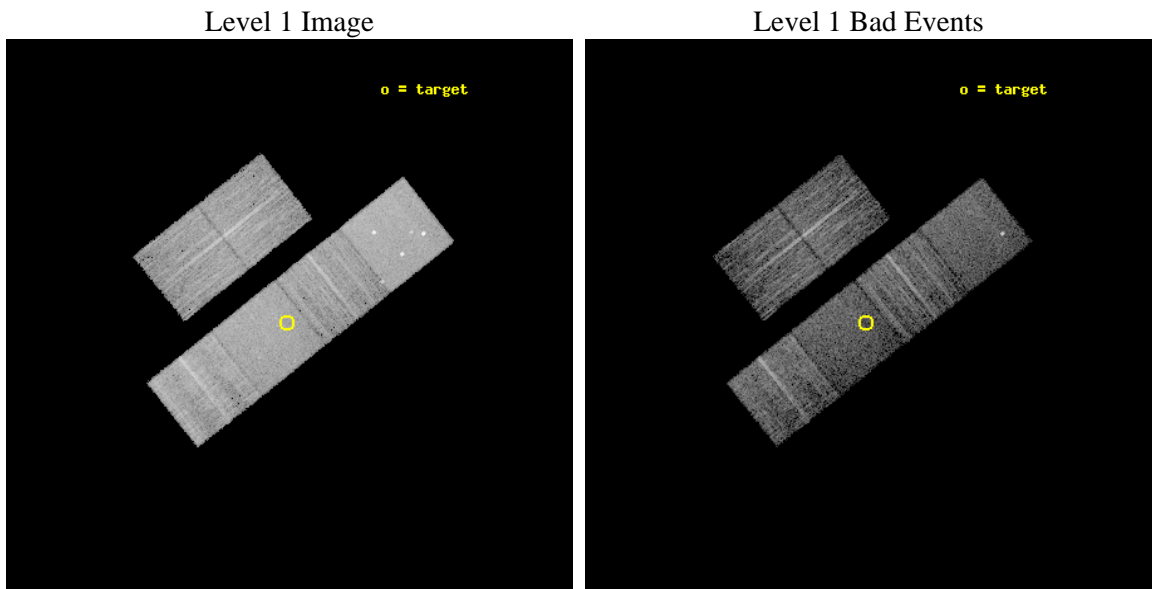
seq_num	600931	Sequence number
obs_id	12963	Observation id
title	X-rays from Isolated Elliptical Galaxies	Proposal title
observer	Dr. DAVID BUOTE	Principal investigator
object	UGC 09874	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	231.812083	Observer's specified target RA [deg]
dec_targ	77.156833	Observer's specified target Dec [deg]
ra_nom	231.79039720114	Nominal RA [deg]
dec_nom	77.157410506099	Nominal Dec [deg]
roll_nom	141.50227571996	Nominal Roll [deg]
revision	2	Processing version of data
ontime	7551.8921484351	Sum of GTIs [s]
livetime	7456.2655428481	Livetime [s]
ontime2	7551.9331884384	Sum of GTIs [s]
ontime3	7551.7690284252	Sum of GTIs [s]
ontime5	7551.8511084318	Sum of GTIs [s]
ontime6	7551.8100684285	Sum of GTIs [s]
ontime7	7551.8921484351	Sum of GTIs [s]
ontime8	7551.7279884219	Sum of GTIs [s]
l2events	78855	Number of level 2 events



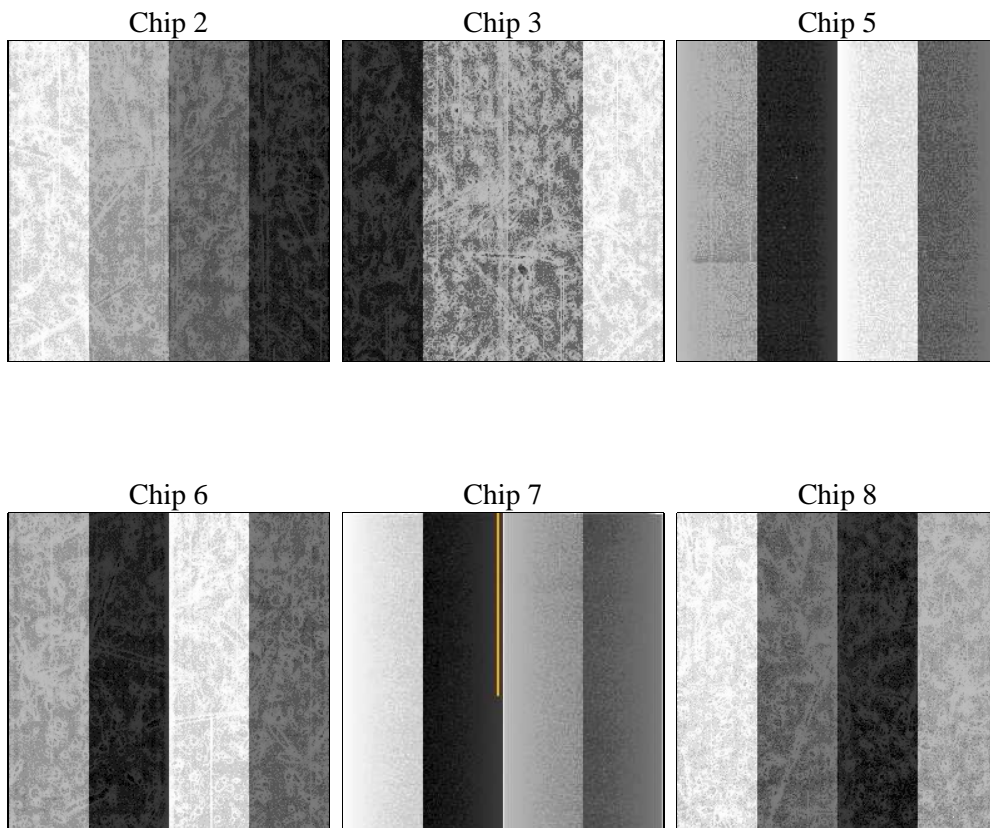
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	7500.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	7551.8921484351	Sum of GTIs [s]
caldbver	4.4.7	&#160	ontime2	7551.9331884384	Sum of GTIs [s]
date	2012-02-07T13:44:41	Date and time of file creation	ontime3	7551.7690284252	Sum of GTIs [s]
revision	2	Processing version of data	ontime5	7551.8511084318	Sum of GTIs [s]
			ontime6	7551.8100684285	Sum of GTIs [s]
			ontime7	7551.8921484351	Sum of GTIs [s]
			ontime8	7551.7279884219	Sum of GTIs [s]
			l1events	345528	Number of level 1 events

### 2.1.4 Events

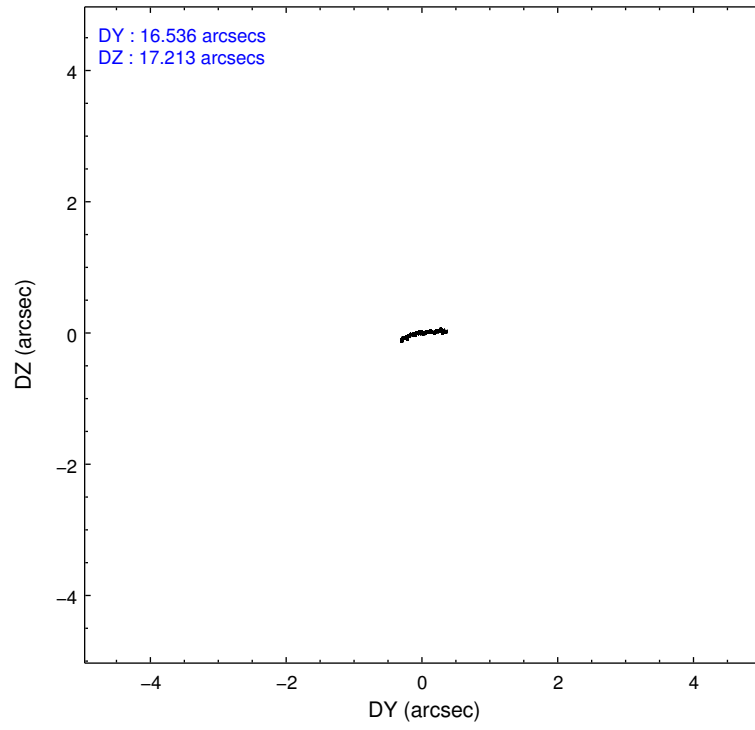
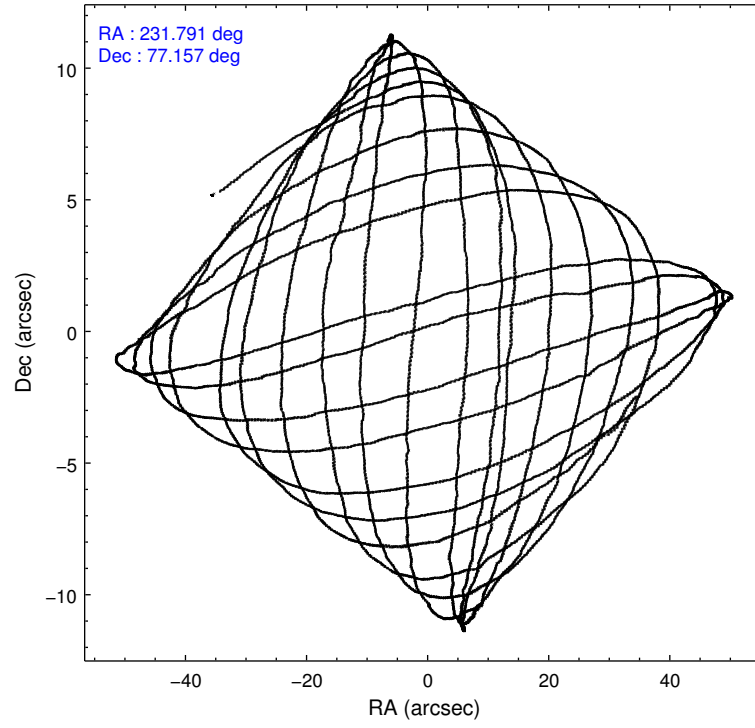
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	49632	47193	76951	49427	59791	62534	grade 0 events	1930	1812	5344	1852	2430	5145
rejected events	44341	42163	38509	43946	32911	44992		3%	3%	6%	3%	4%	8%
rejected %	89%	89%	50%	88%	55%	71%	grade 1 events	25	17	162	22	81	61
								0%	0%	0%	0%	0%	0%
							grade 2 events	1339	1126	11285	1282	5589	3876
								2%	2%	14%	2%	9%	6%
							grade 3 events	498	532	1461	571	2370	2013
								1%	1%	1%	1%	3%	3%
							grade 4 events	547	559	1274	551	2405	1832
								1%	1%	1%	1%	4%	2%
							grade 5 events	1959	2219	5904	2288	6221	3211
								3%	4%	7%	4%	10%	5%
							grade 6 events	984	1006	19113	1229	14104	4690
								1%	2%	24%	2%	23%	7%
							grade 7 events	42350	39922	32408	41632	26591	41706
								85%	84%	42%	84%	44%	66%

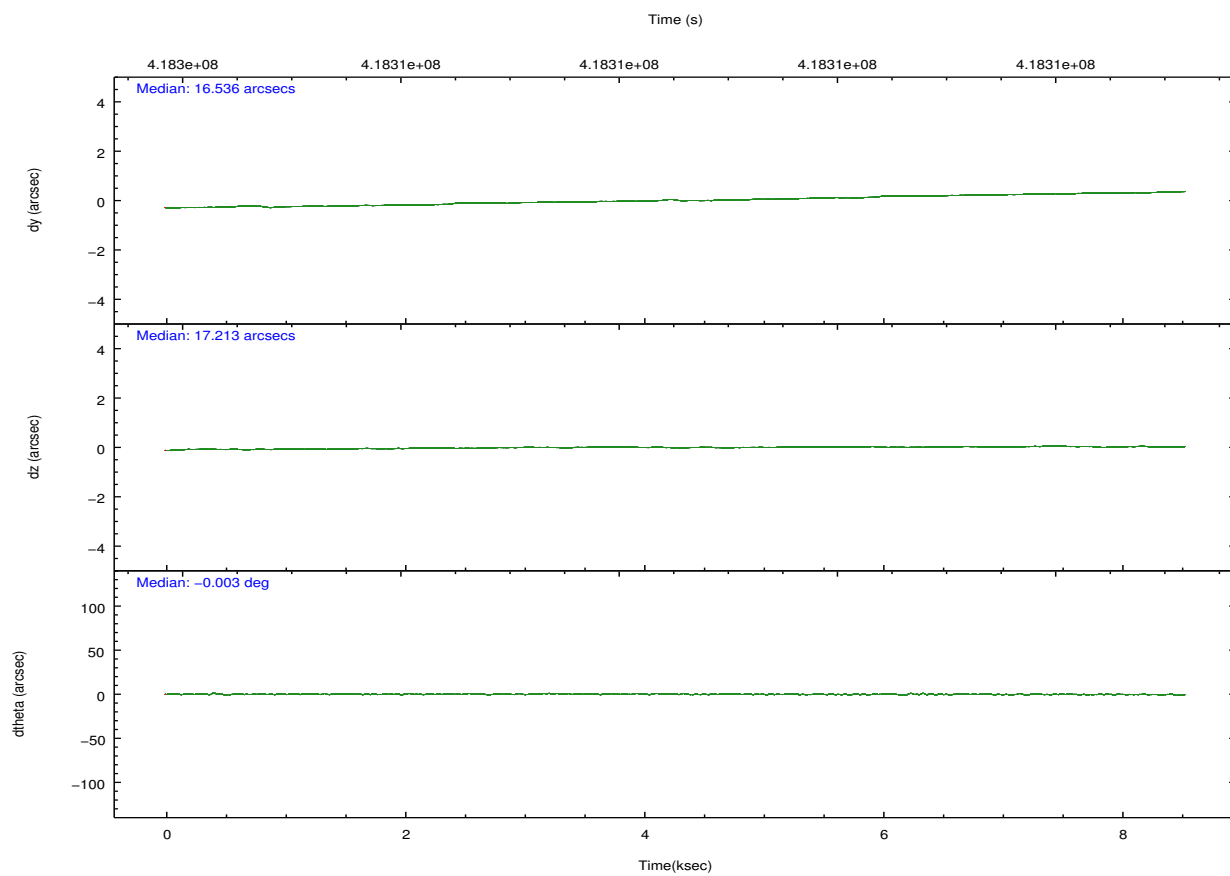
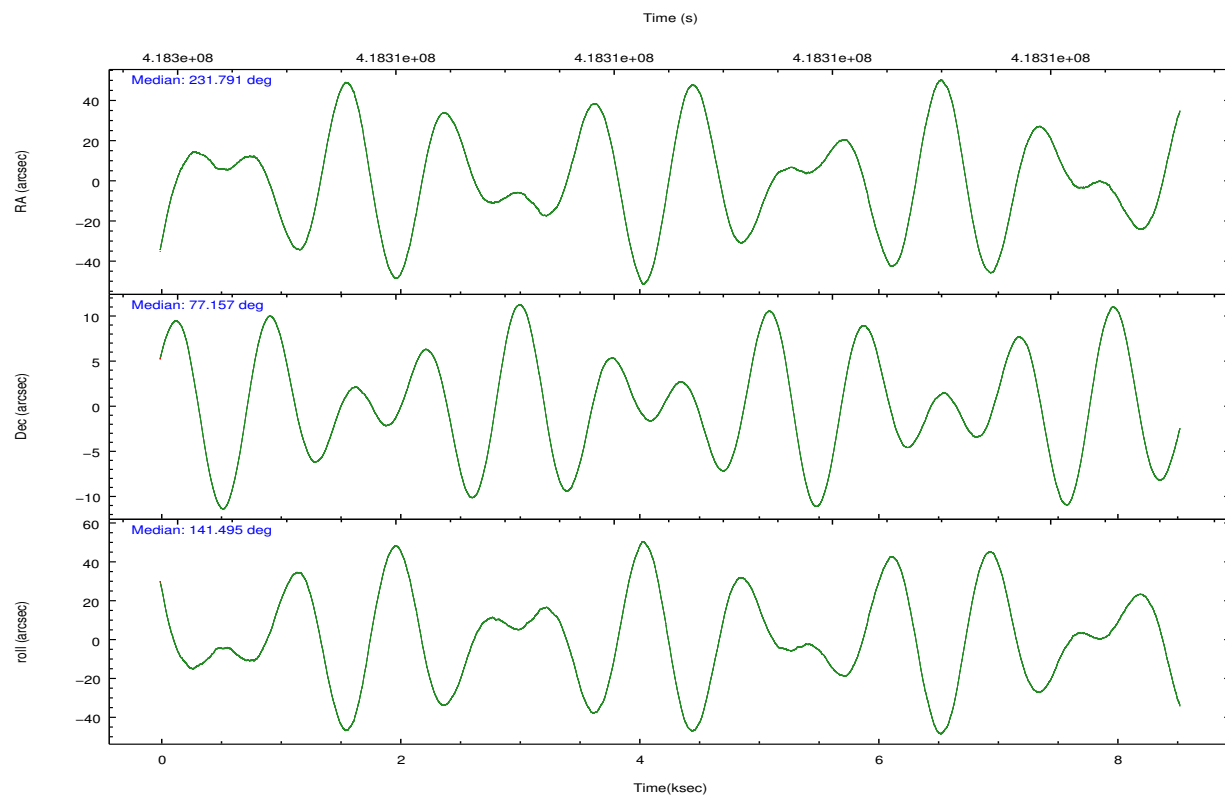


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	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	231.912291	231.7903972011356	CCD I2 on	O2	Y
[deg] Pointing Dec	77.153698	77.15741050609884	CCD I3 on	Y	Y
[deg] Pointing Roll	141.226809	141.5022757199596	CCD S0 on	N	N
[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	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	O1	Y
[s] Observation start time (MET)	418305276.184000	418303846.30308	CCD S5 on	N	N
Observation start date	2011-04-04T11:53:30	2011-04-04T11:30:46	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	418312776.184000	418313563.30358	On-chip summing requested	N	N
Observation end date	2011-04-04T13:58:30	2011-04-04T14:12:43	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



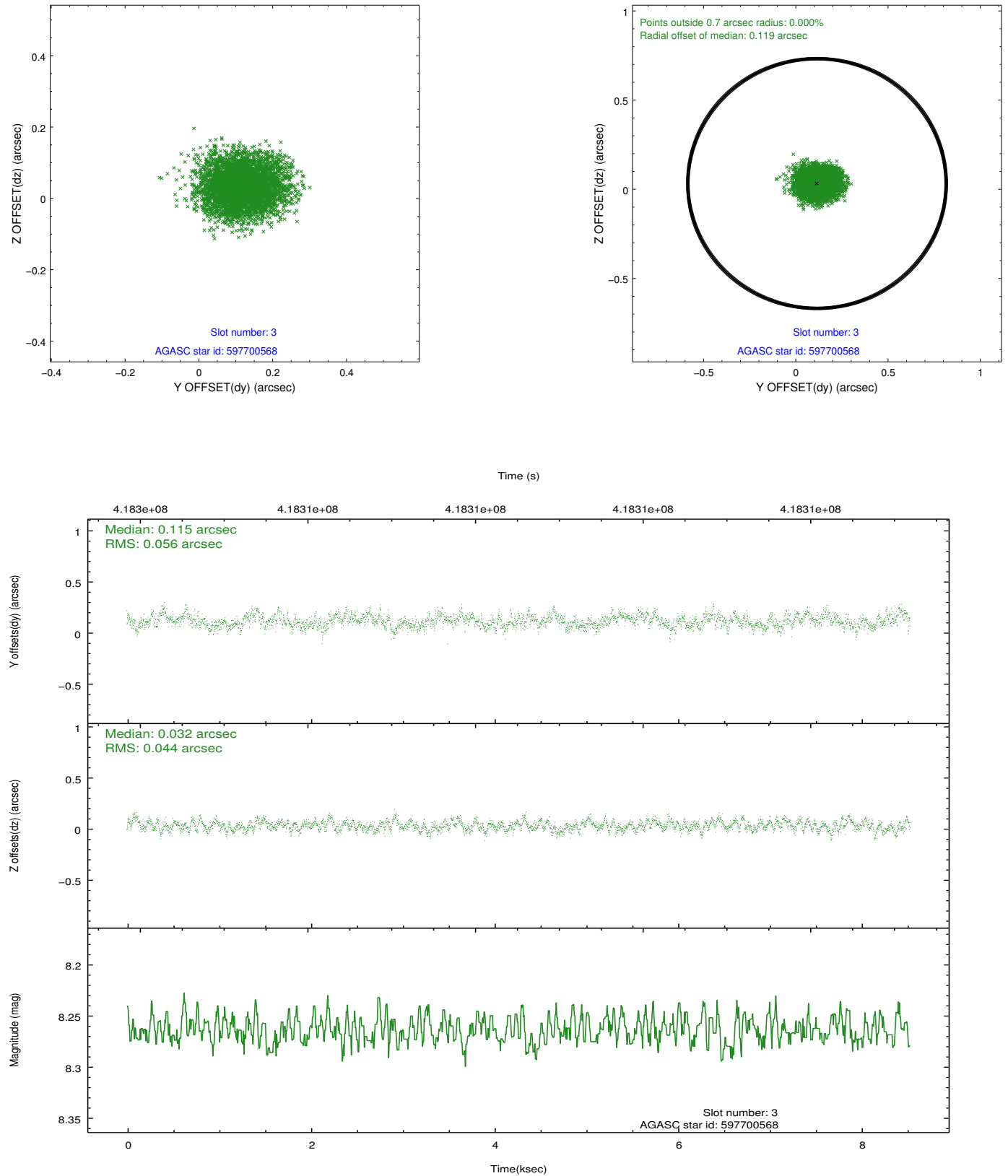


### Slot Statistics

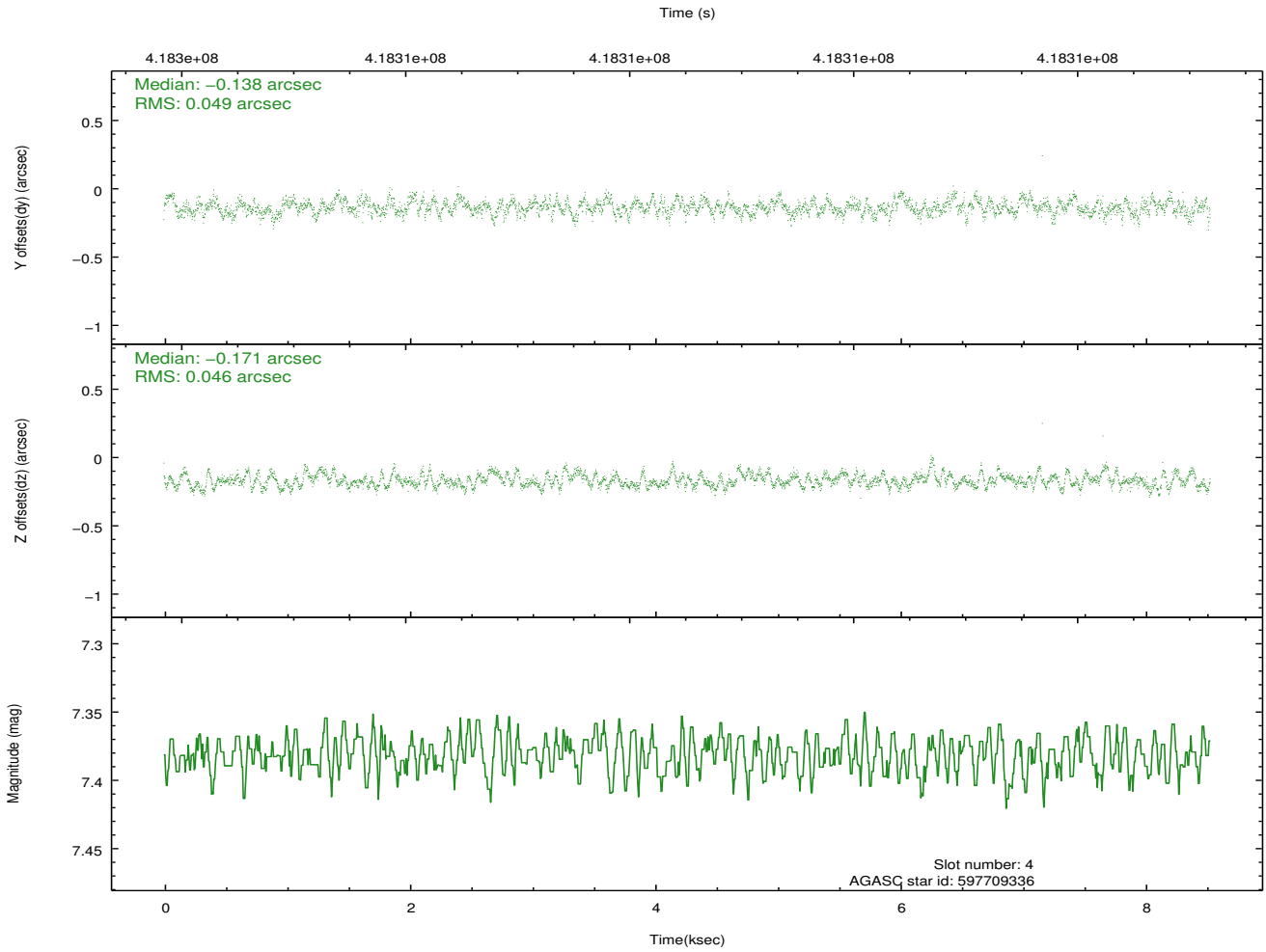
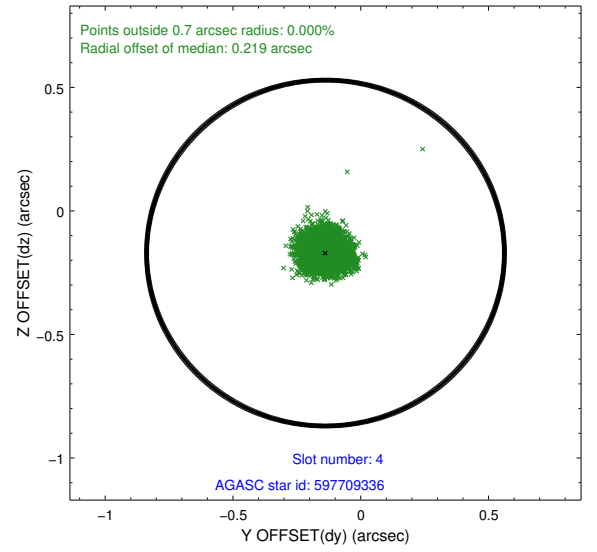
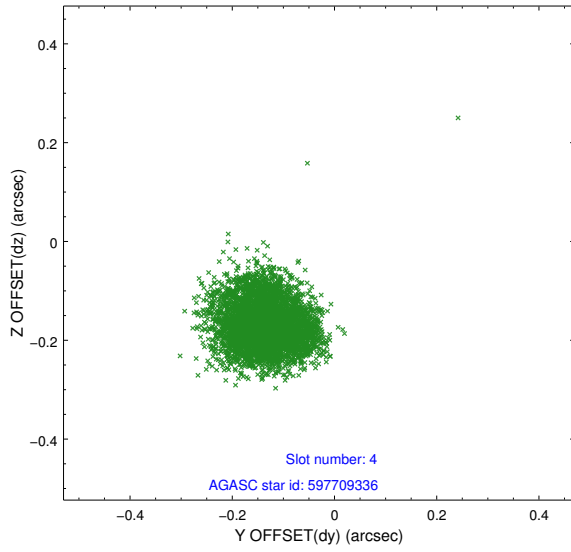
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.89	2082	-0.070	-0.039	0.008	0.013	0.000000	0.000000	-769.67	-1738.66
1	FID	ACIS-S-4	6.99	2082	0.177	0.044	0.006	0.011	0.000000	0.000000	2143.60	169.17
2	FID	ACIS-S-5	7.01	2082	-0.138	0.003	0.009	0.014	0.000000	0.000000	-1821.71	163.62
3	GUIDE	597700568	8.26	4162	0.115	0.032	0.076	0.124	233.817115	76.842860	-1901.30	-124.59
4	GUIDE	597709336	7.38	4162	-0.138	-0.171	0.072	0.111	230.551750	76.640466	-266.93	2139.39
5	GUIDE	598082016	9.35	4156	0.061	-0.066	0.103	0.179	229.444640	77.512668	2331.86	164.52
6	GUIDE	597689840	8.42	4162	-0.069	0.099	0.082	0.131	235.908939	77.216294	-2270.25	-2252.90
7	GUIDE	598081600	9.01	4162	0.028	0.100	0.092	0.153	230.228654	77.754346	2367.65	-895.21

## 2.4 Star Slots

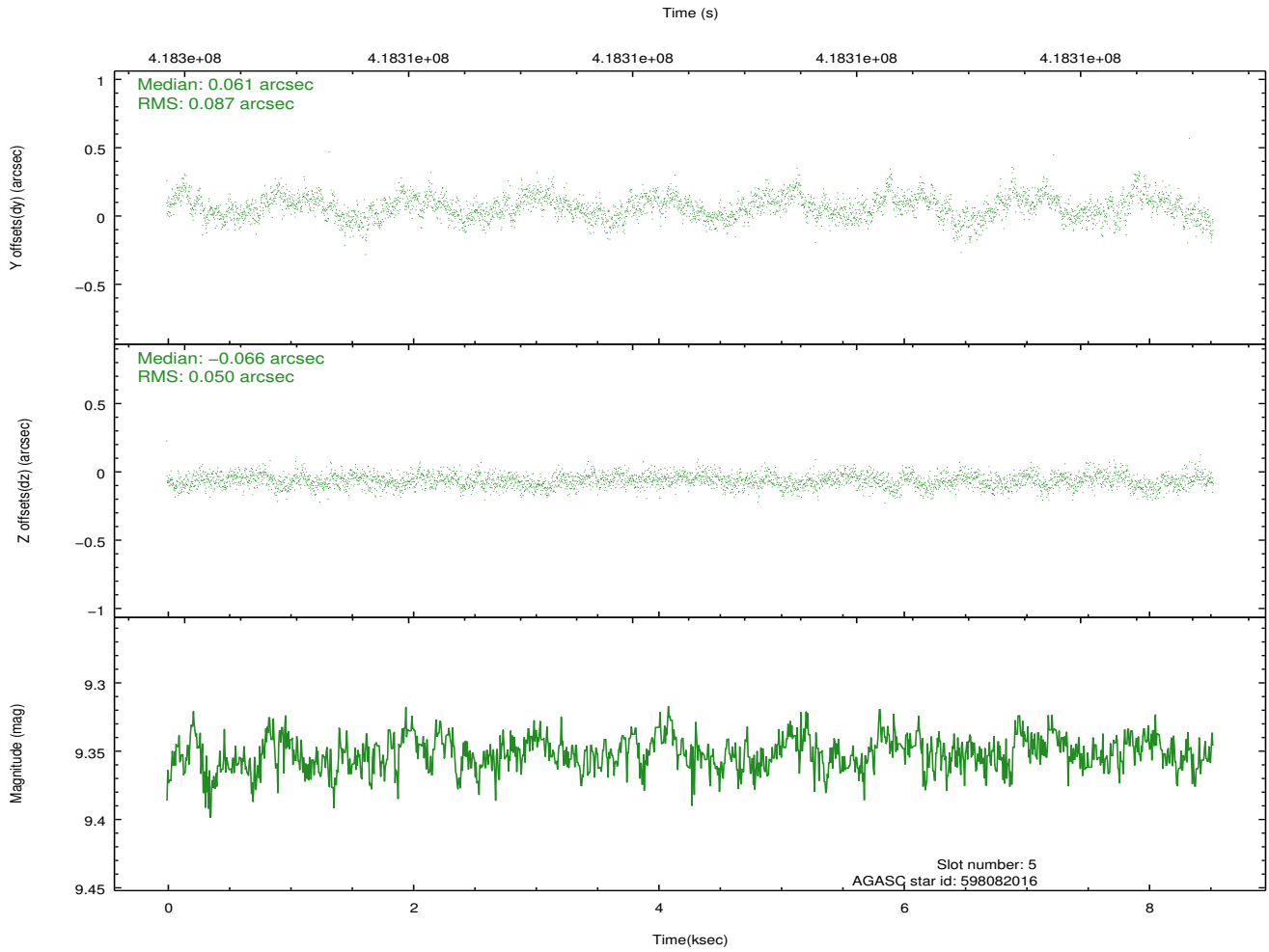
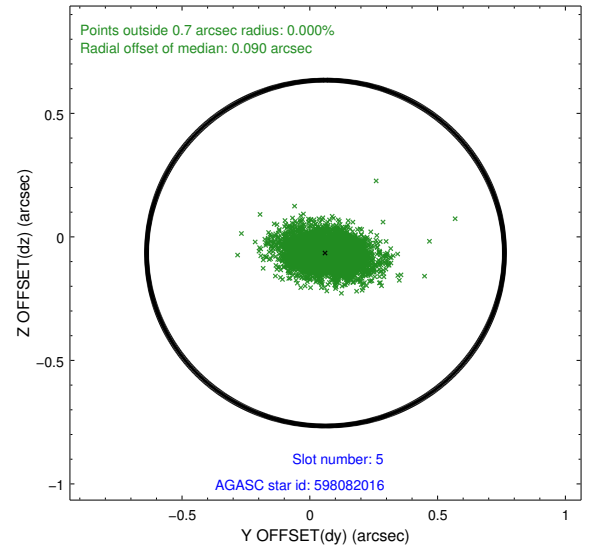
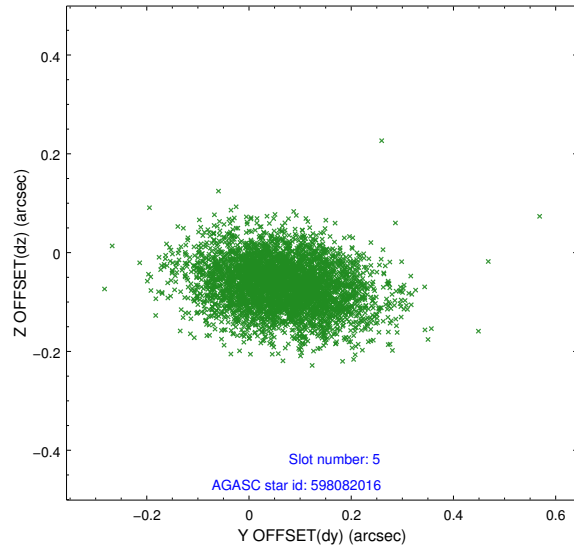
### 2.4.1 Slot 3



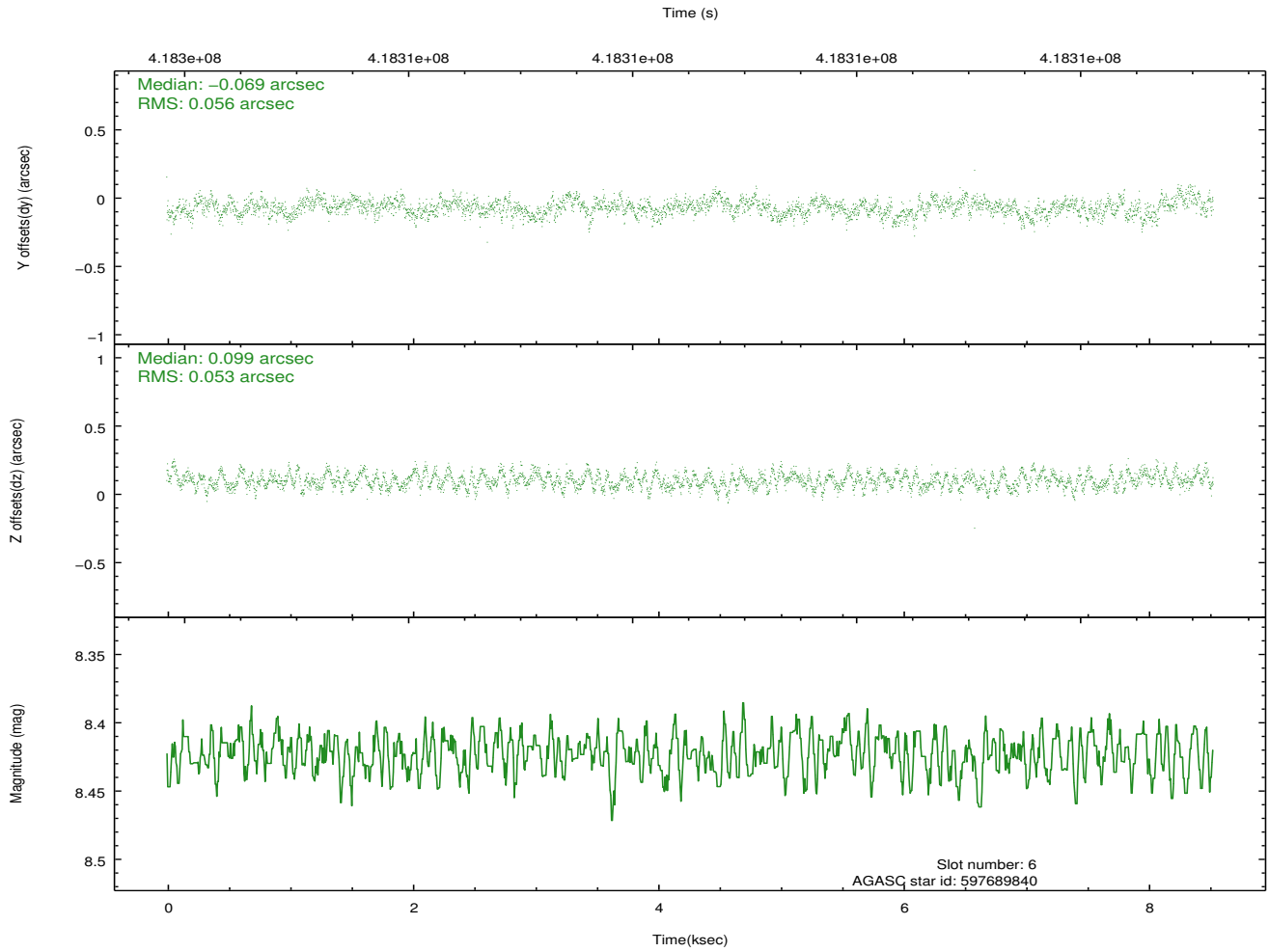
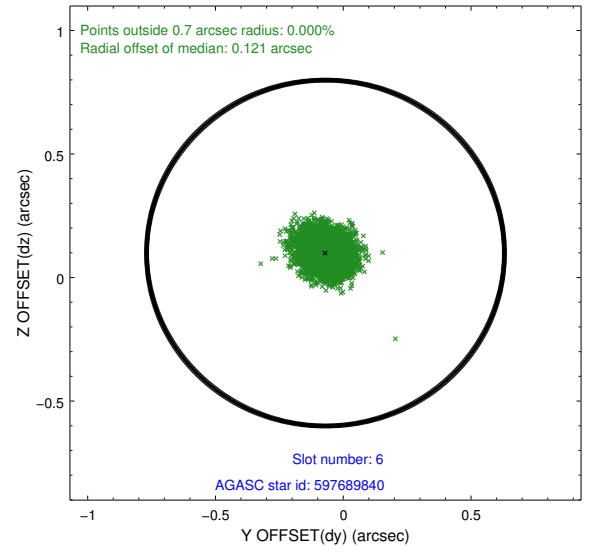
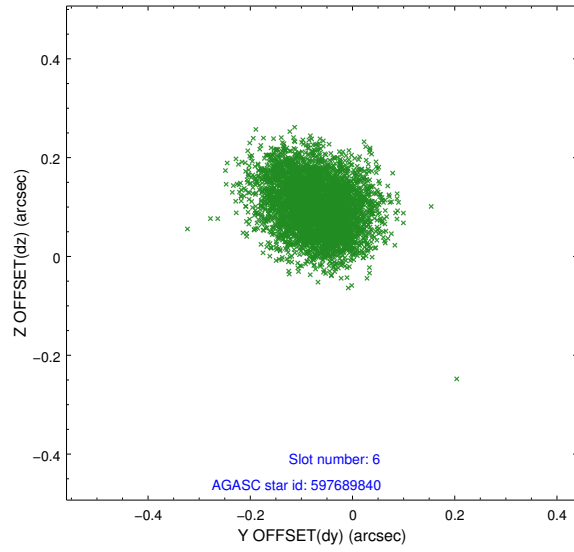
## 2.4.2 Slot 4



### 2.4.3 Slot 5

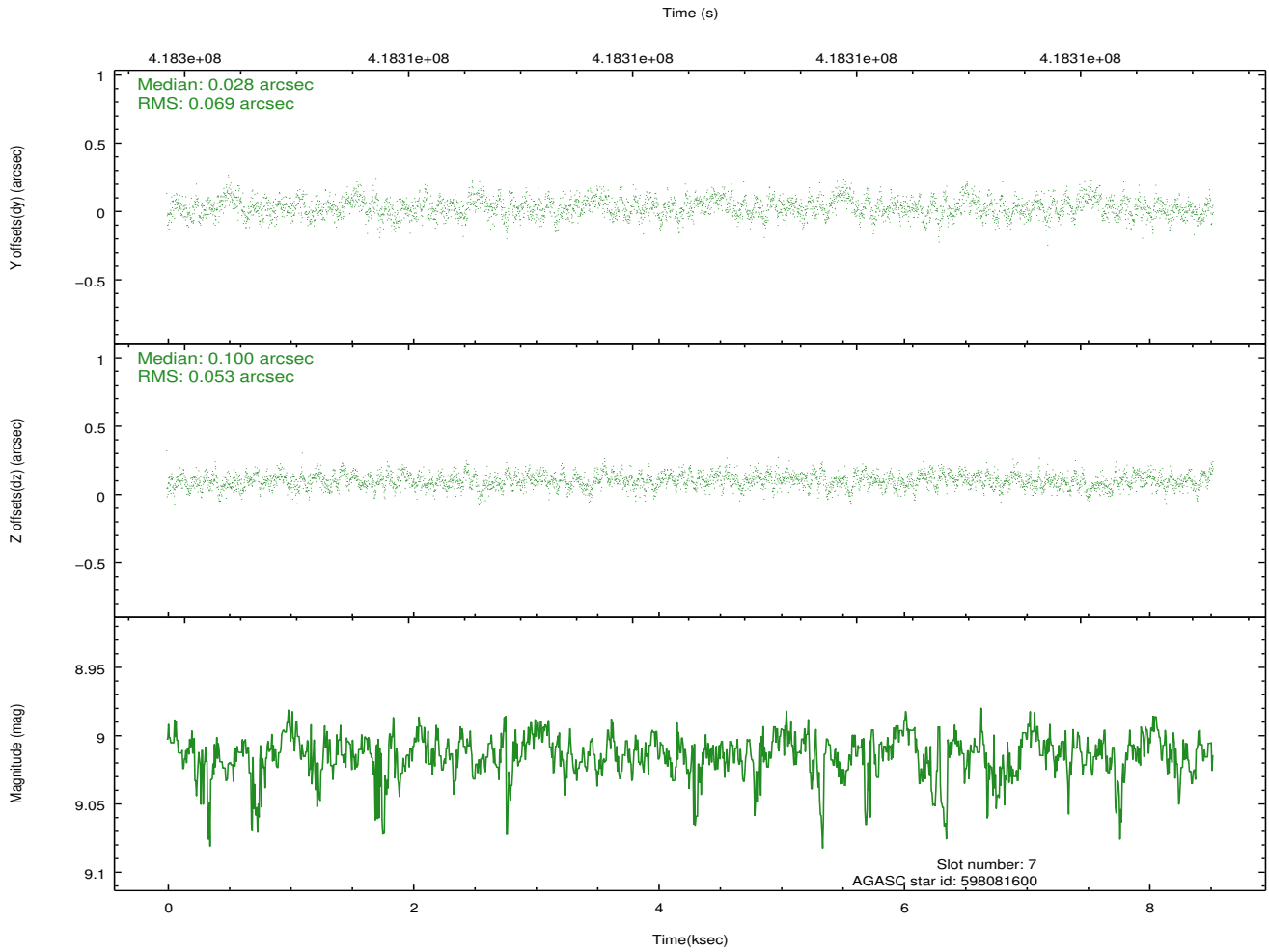
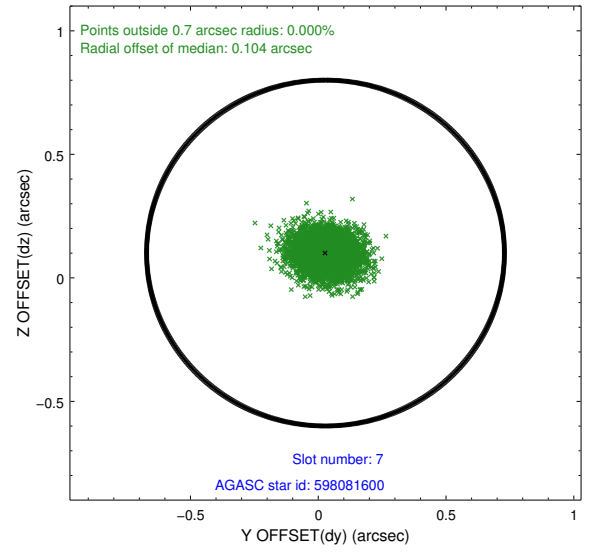
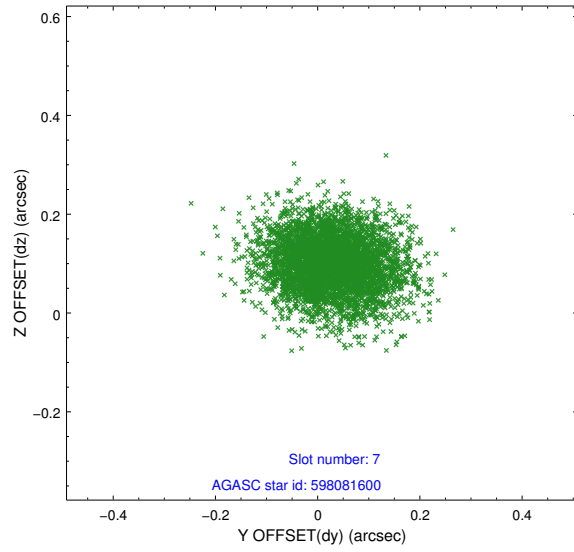


## 2.4.4 Slot 6



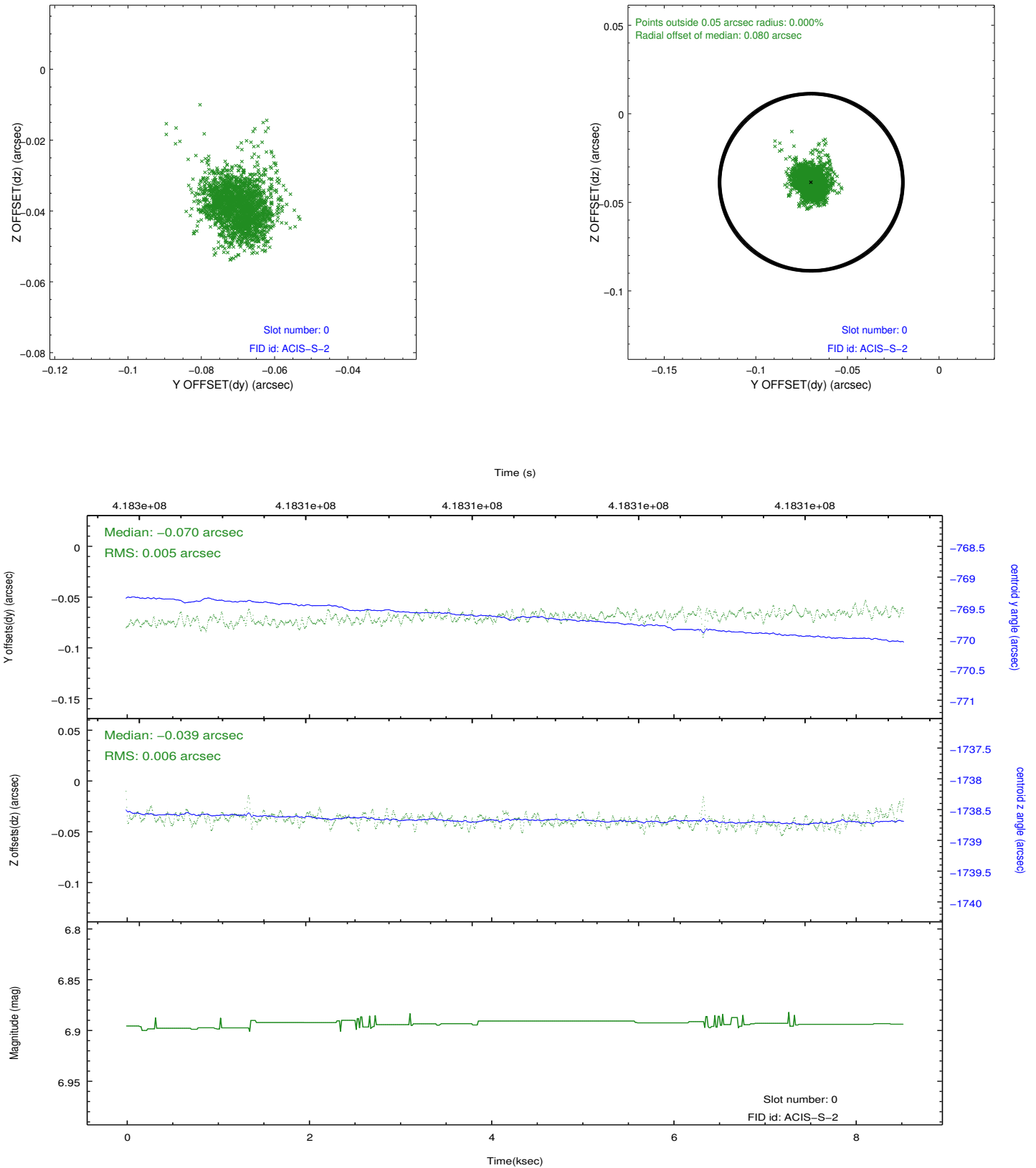


## 2.4.5 Slot 7

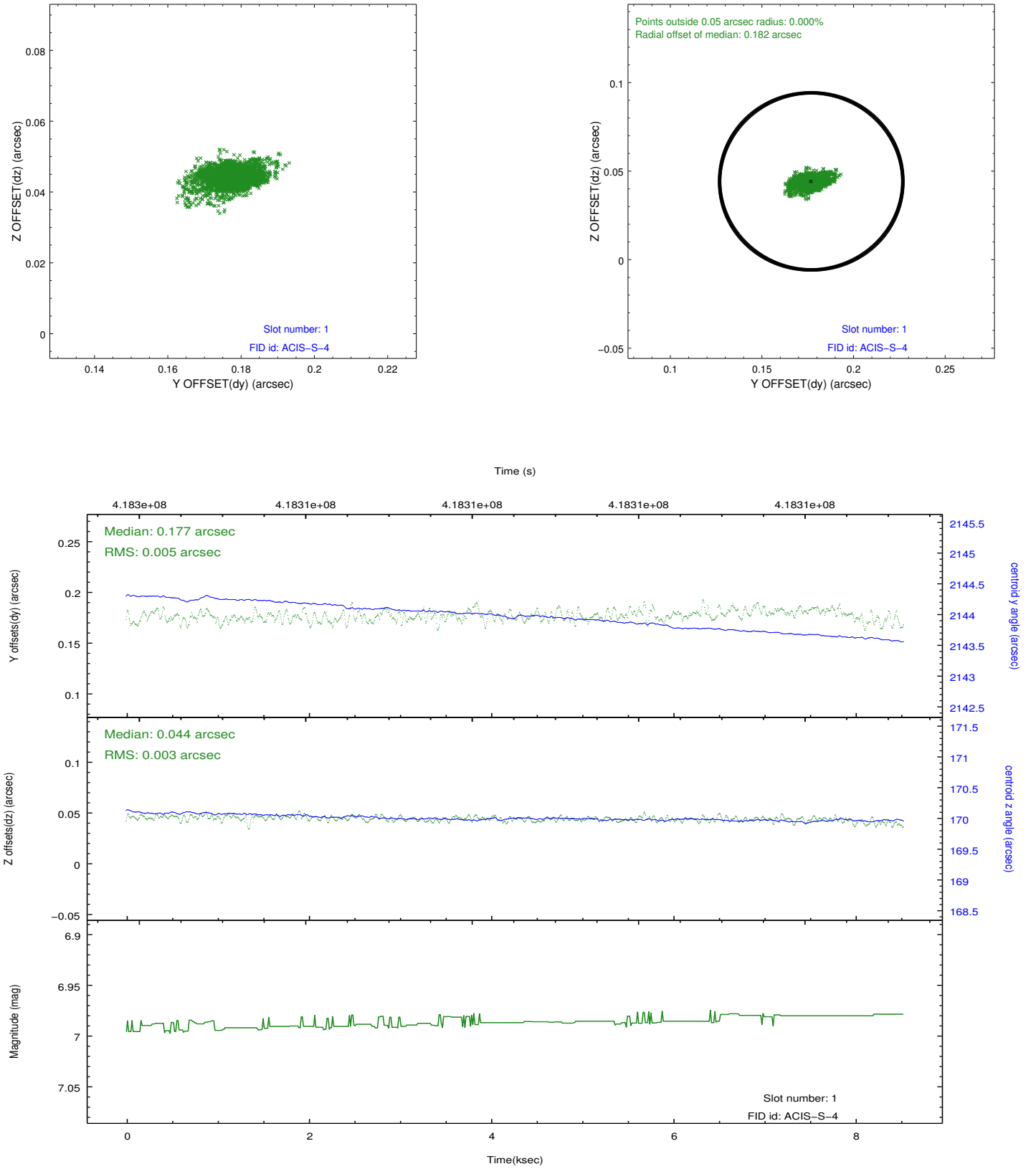


## 2.5 FID Slots

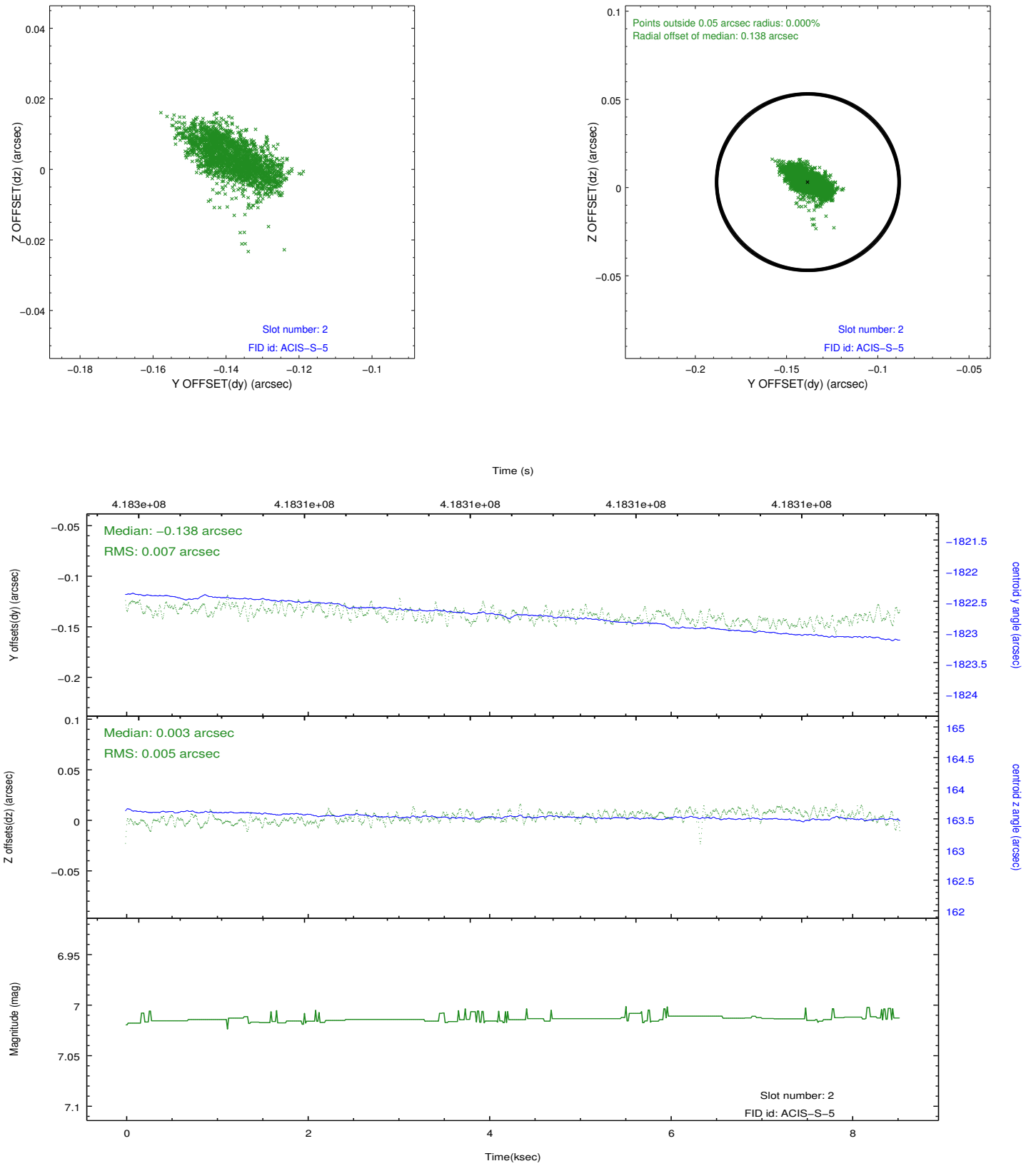
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2012.02.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	7.5518921410441

## 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.