

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 12822 - L2 Version 3  
Chandra X-Ray Center

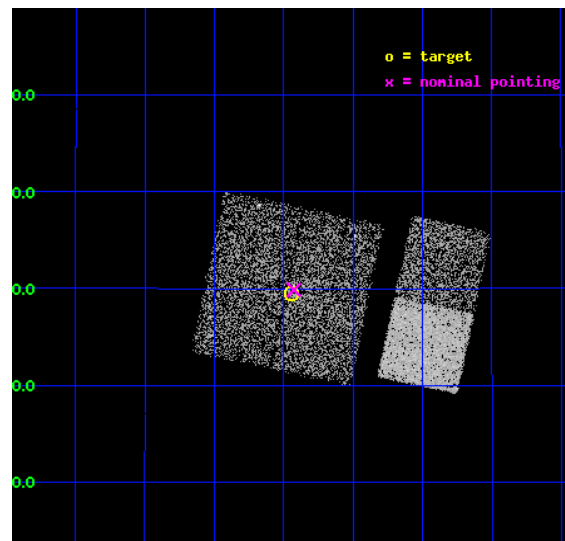
L2 Processing Date : Feb 6 2012

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# 1 Front

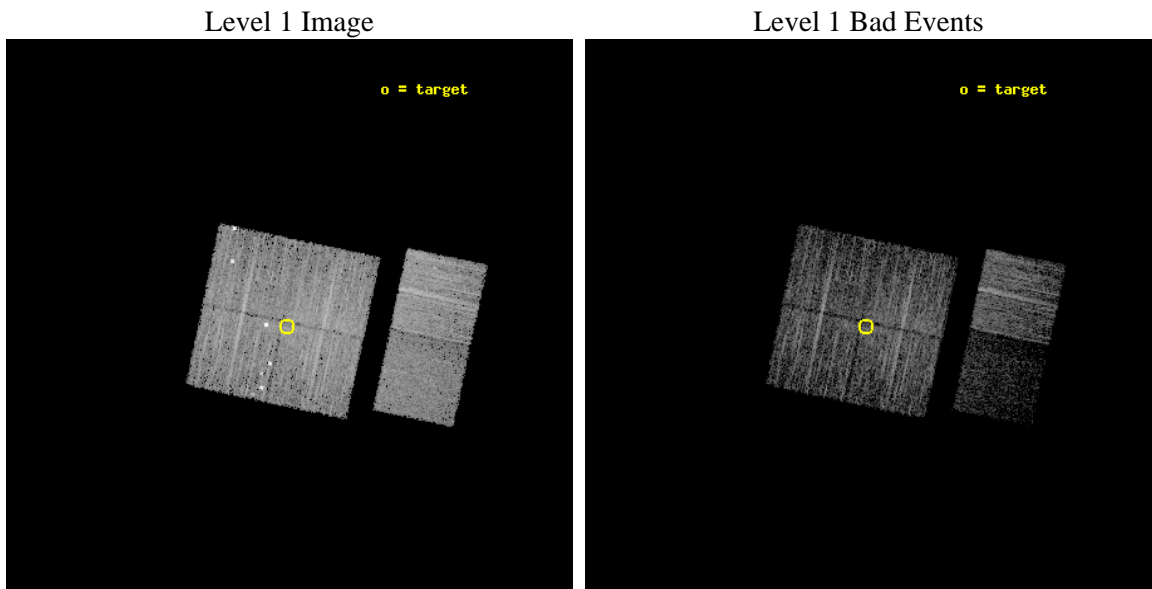
seq_num	702458	Sequence number
obs_id	12822	Observation id
title	A Systematic Chandra Survey of AGN in Major Mergers -- How many Binary AGN are out there?	Proposal title
observer	DR. Kevin Schawinski	Principal investigator
object	GZ_merger_AGN_12	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	208.110833	Observer's specified target RA [deg]
dec_targ	14.490972	Observer's specified target Dec [deg]
ra_nom	208.10667530794	Nominal RA [deg]
dec_nom	14.497930771291	Nominal Dec [deg]
roll_nom	102.01370775564	Nominal Roll [deg]
revision	3	Processing version of data
ontime	4959.8365980983	Sum of GTIs [s]
livetime	4897.0321606381	Livetime [s]
ontime0	4959.7134780884	Sum of GTIs [s]
ontime1	4959.7545180917	Sum of GTIs [s]
ontime2	4959.795558095	Sum of GTIs [s]
ontime3	4959.8365980983	Sum of GTIs [s]
ontime6	4959.9186781049	Sum of GTIs [s]
ontime7	4959.8776381016	Sum of GTIs [s]
l2events	24842	Number of level 2 events



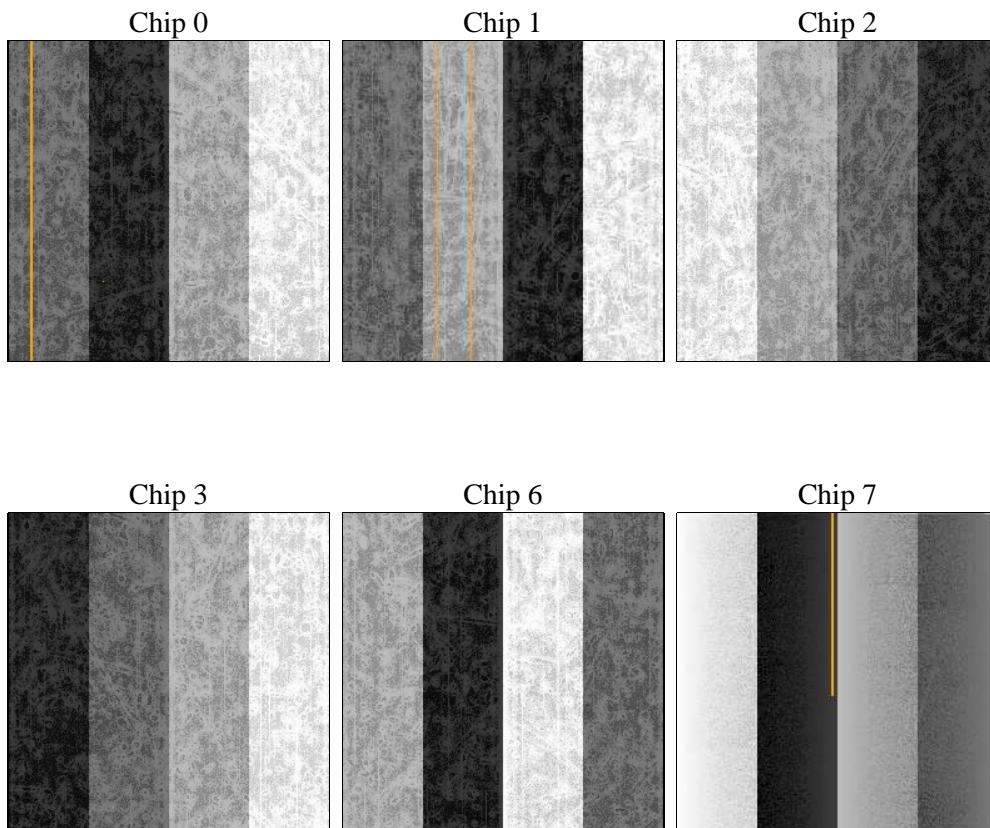
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	1	Obi number	sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	4959.8365980983	Sum of GTIs [s]
caldsver	4.4.7	&#160	ontime0	4959.7134780884	Sum of GTIs [s]
date	2012-02-06T06:22:35	Date and time of file creation	ontime1	4959.7545180917	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	4959.795558095	Sum of GTIs [s]
			ontime3	4959.8365980983	Sum of GTIs [s]
			ontime6	4959.9186781049	Sum of GTIs [s]
			ontime7	4959.8776381016	Sum of GTIs [s]
			l1events	200535	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	32679	37518	36962	33643	37950	21783
rejected events	26069	27910	32963	30623	34031	9402
rejected %	79%	74%	89%	91%	89%	43%

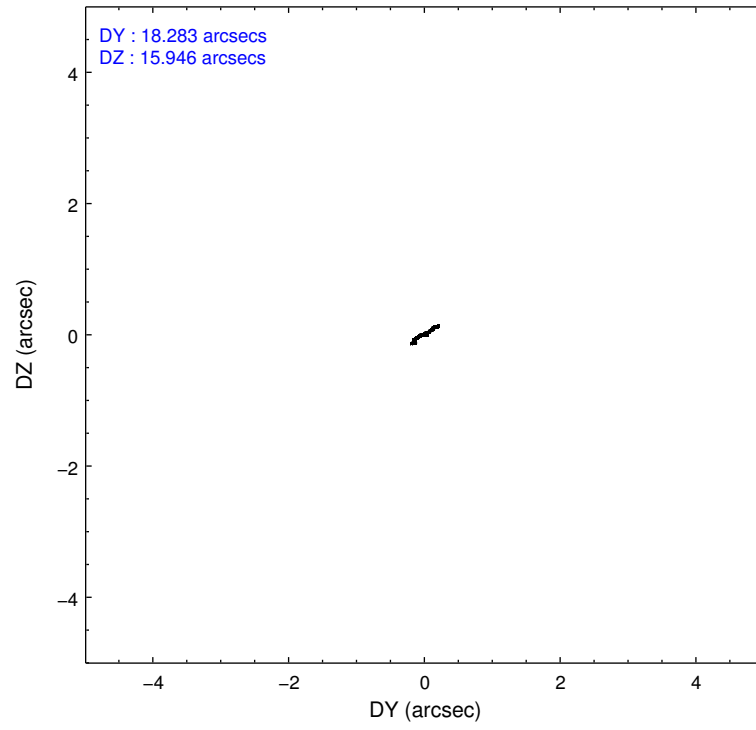
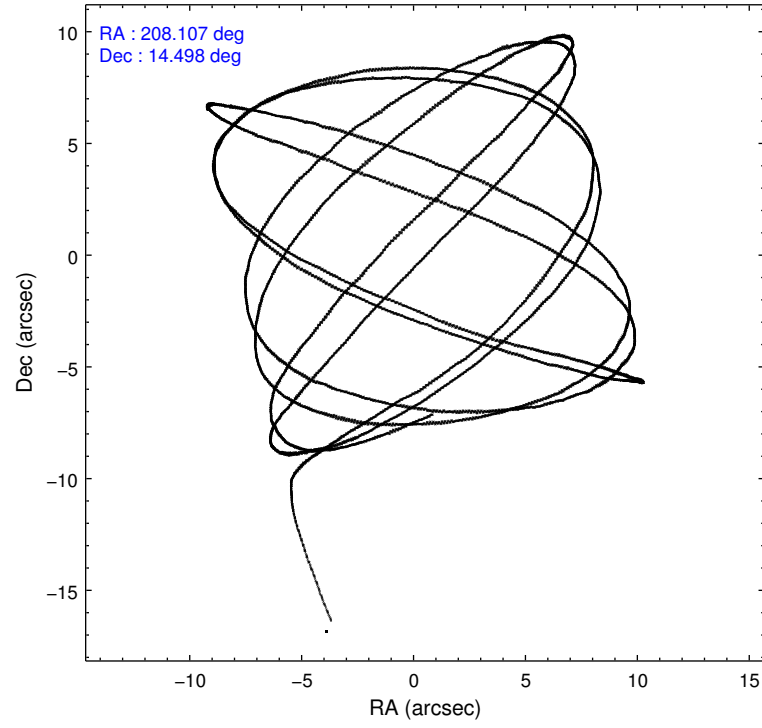
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
grade 0 events	4554	3308	1788	1356	1784	1678
	13%	8%	4%	4%	4%	7%
grade 1 events	46	34	28	26	24	56
	0%	0%	0%	0%	0%	0%
grade 2 events	1069	5126	1099	722	1026	3193
	3%	13%	2%	2%	2%	14%
grade 3 events	287	310	270	266	264	1185
	0%	0%	0%	0%	0%	5%
grade 4 events	264	332	360	290	295	1194
	0%	0%	0%	0%	0%	5%
grade 5 events	622	734	566	684	730	2178
	1%	1%	1%	2%	1%	9%
grade 6 events	451	542	492	387	557	5156
	1%	1%	1%	1%	1%	23%
grade 7 events	25386	27132	32359	29912	33270	7143
	77%	72%	87%	88%	87%	32%

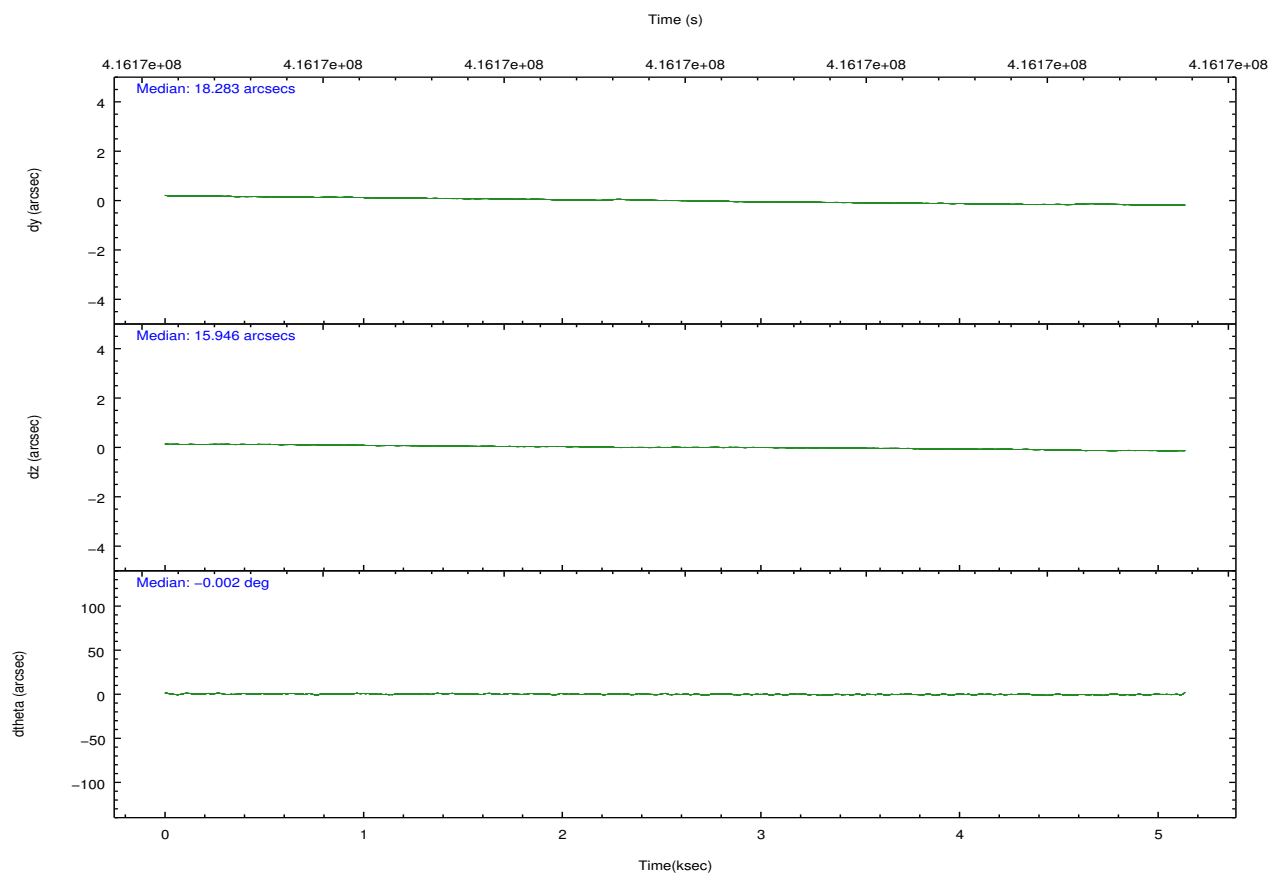
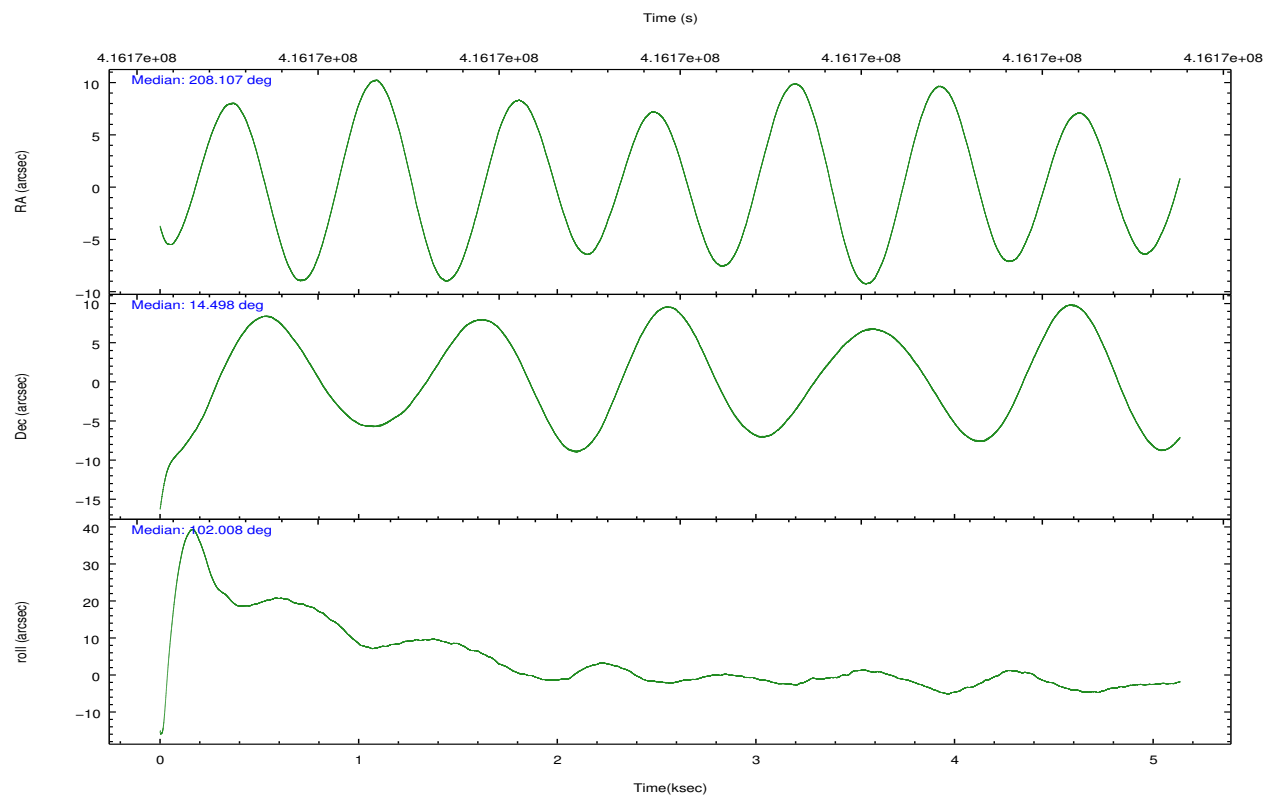


## 2.2 Compared Parameters

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	FAINT	FAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	208.125843	208.1066753079425	CCD I2 on	Y	Y
[deg] Pointing Dec	14.477662	14.49793077129084	CCD I3 on	Y	Y
[deg] Pointing Roll	101.800373	102.0137077556358	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	O1	Y
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S3 on	O2	Y
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	416168518.184000	416167027.66737	CCD S5 on	N	N
Observation start date	2011-03-10T18:20:52	2011-03-10T17:57:07	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	416173518.184000	416173950.00523	On-chip summing requested	N	N
Observation end date	2011-03-10T19:44:12	2011-03-10T19:52:30	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



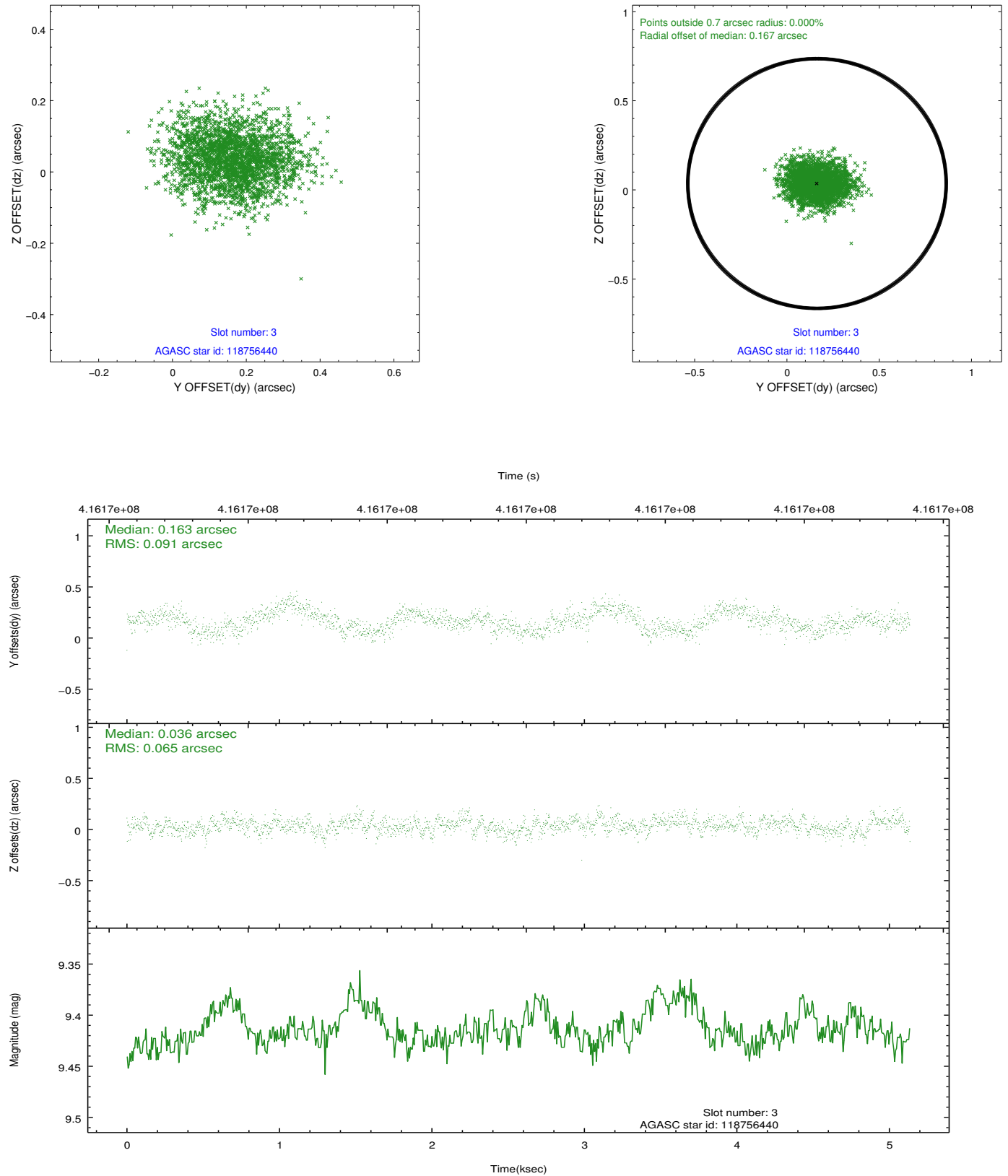


### Slot Statistics

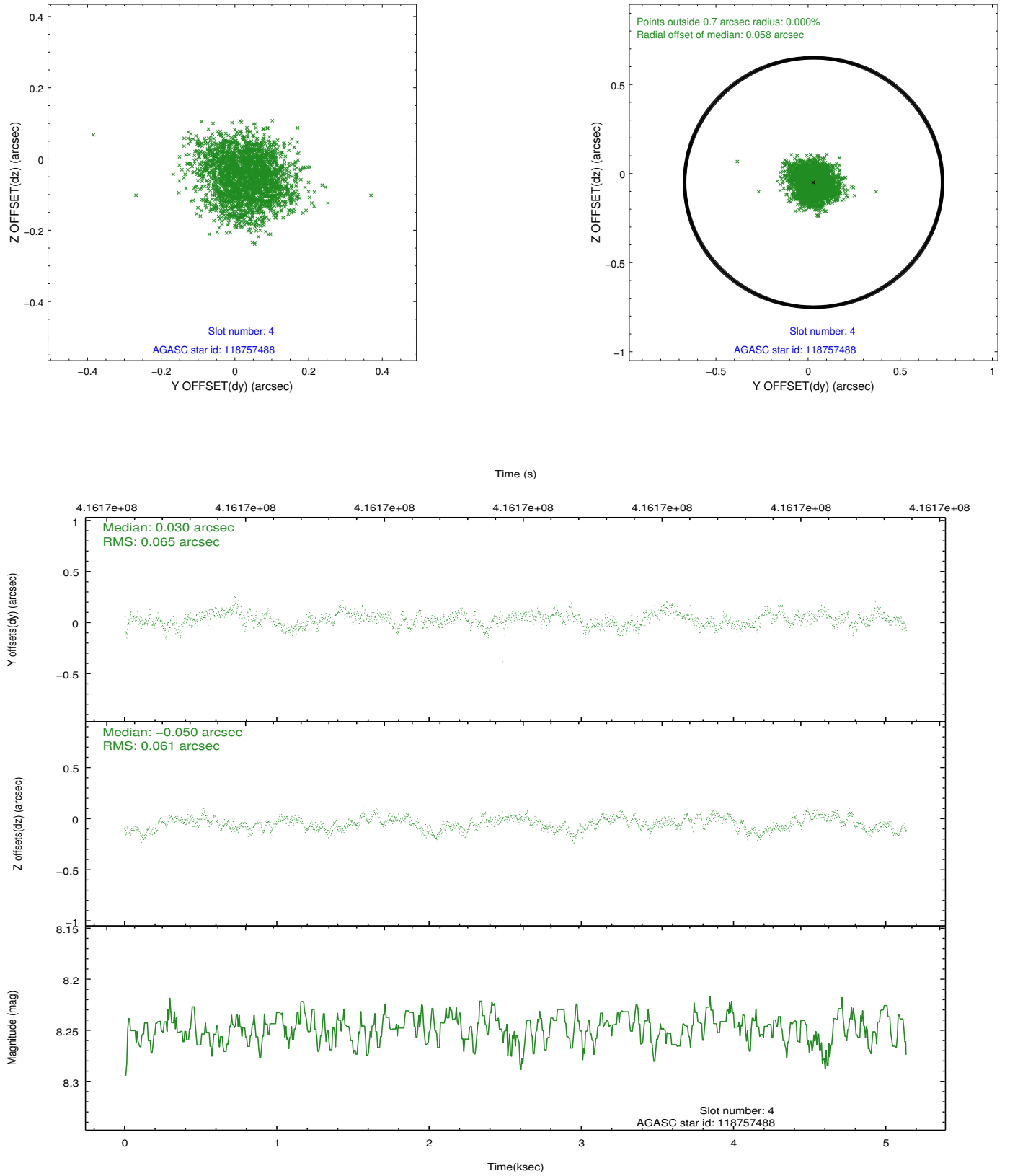
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.05	1253	0.041	-0.016	0.009	0.015	0.000000	0.000000	921.14	-839.58
1	FID	ACIS-I-5	7.03	1253	-0.235	0.037	0.008	0.014	0.000000	0.000000	-1826.61	1057.36
2	FID	ACIS-I-6	7.06	1253	0.103	0.049	0.006	0.010	0.000000	0.000000	385.44	1703.22
3	GUIDE	118756440	9.41	2505	0.163	0.036	0.120	0.188	207.948586	14.056464	-1356.89	915.84
4	GUIDE	118757488	8.25	2506	0.030	-0.050	0.095	0.148	207.988448	14.023799	-1502.34	804.01
5	GUIDE	118758456	9.75	2491	-0.054	-0.107	0.130	0.220	207.755113	14.632518	810.24	1149.33
6	GUIDE	118758568	10.05	2481	-0.037	0.303	0.201	0.314	208.465617	14.824750	982.98	-1412.40
7	GUIDE	118759760	9.42	2499	-0.110	-0.176	0.117	0.186	207.524222	14.806191	1589.50	1806.65

## 2.4 Star Slots

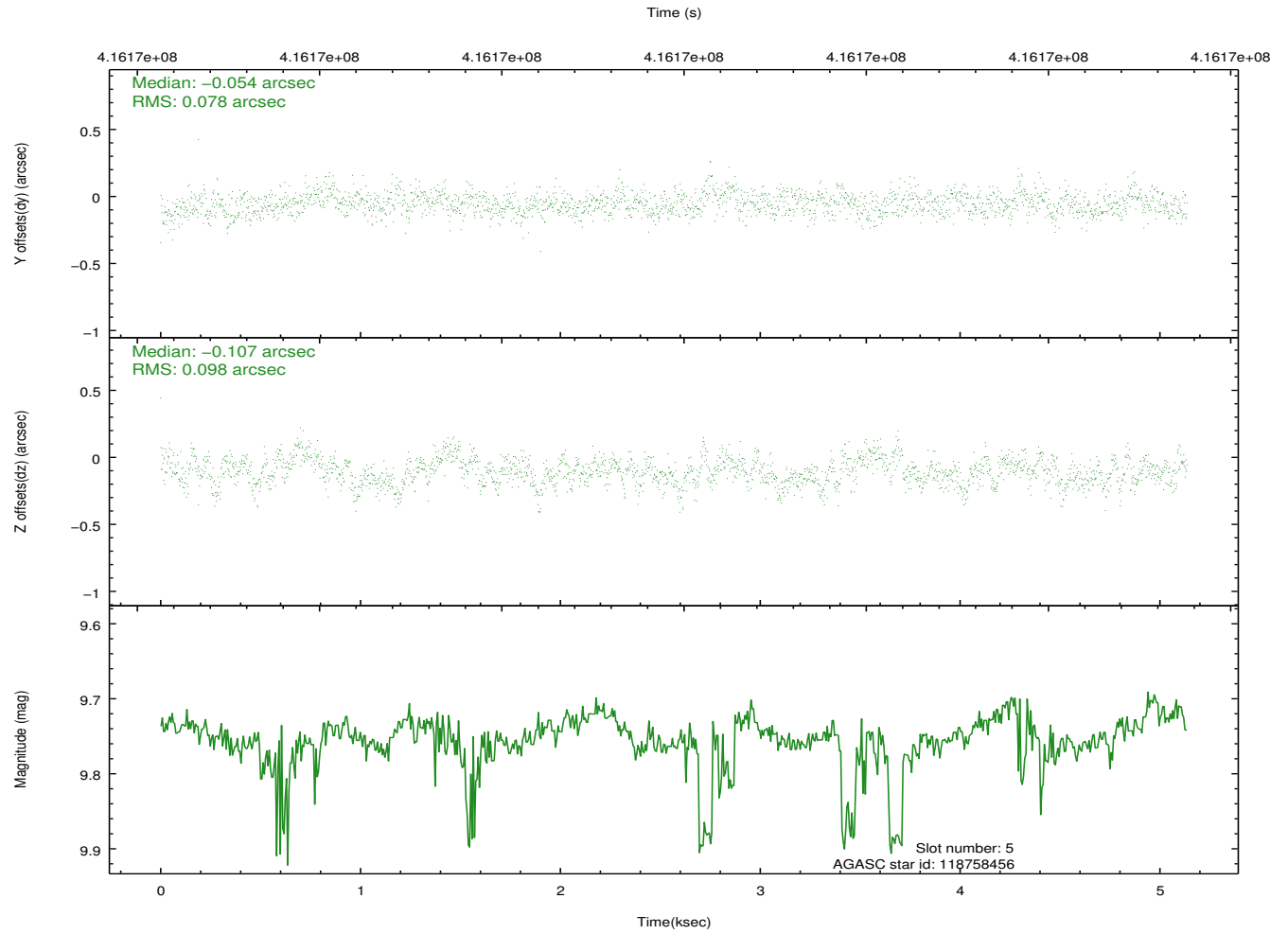
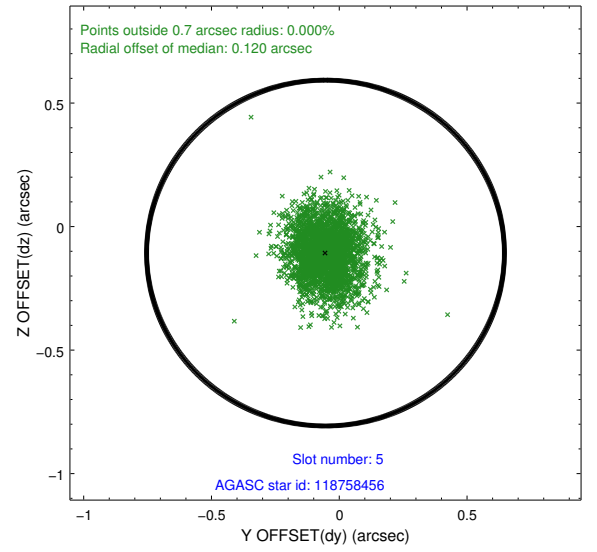
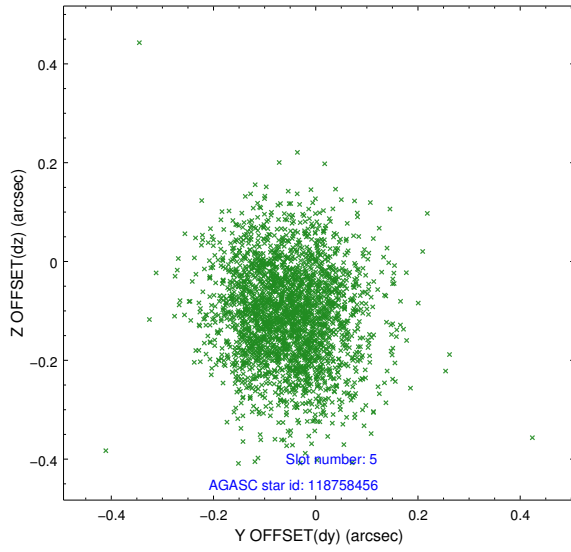
### 2.4.1 Slot 3



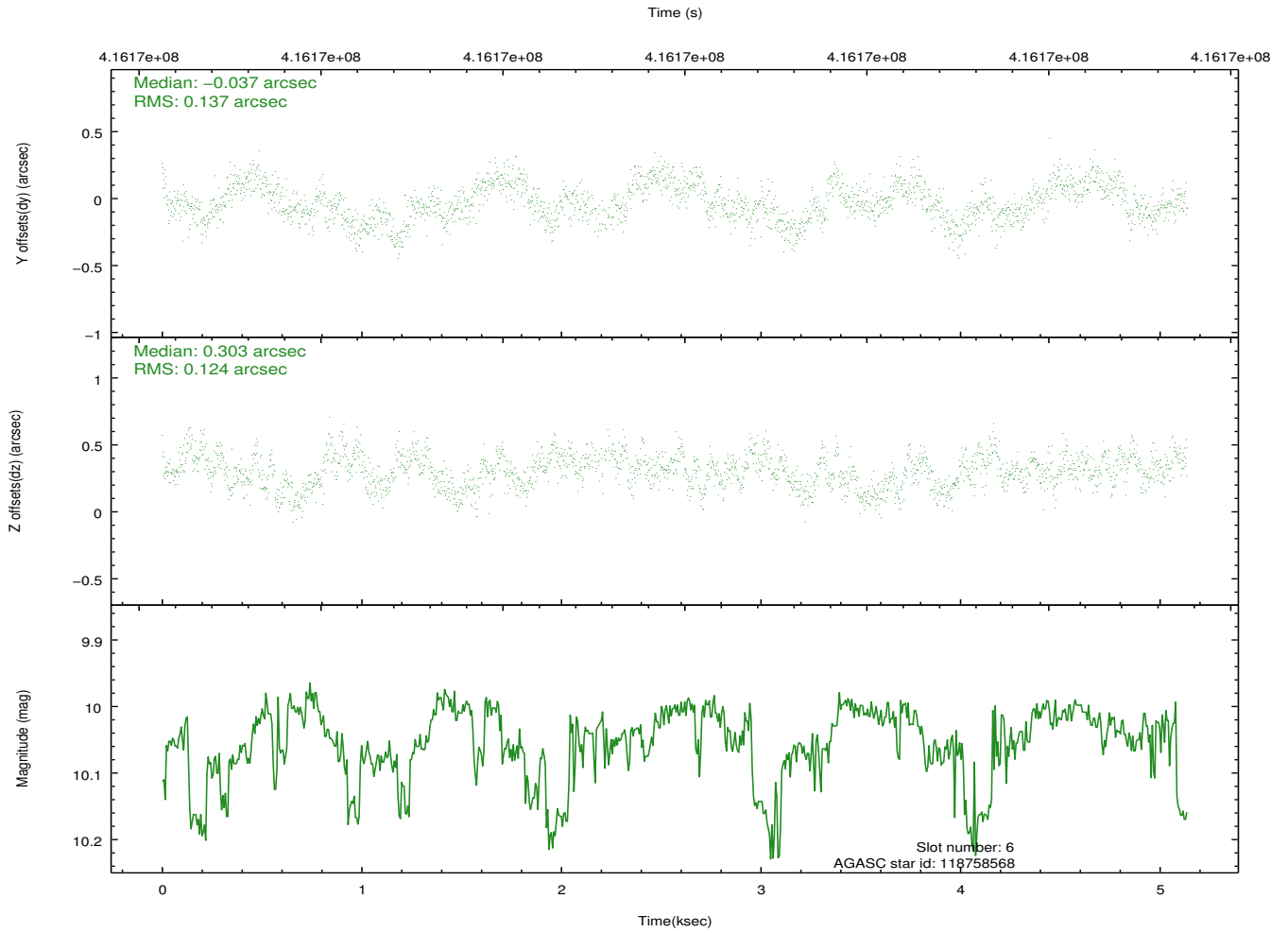
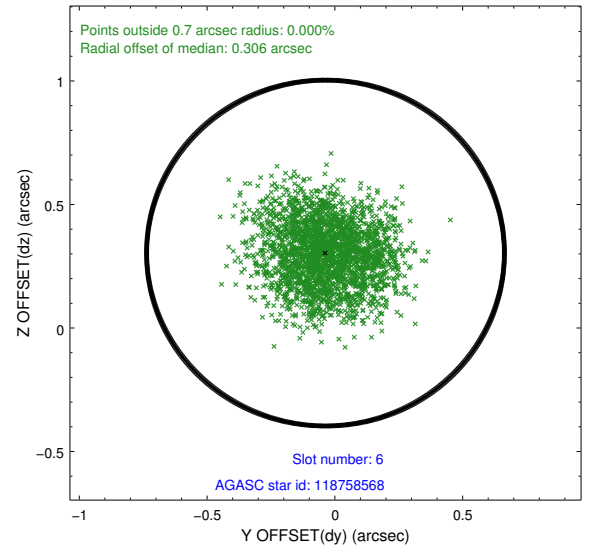
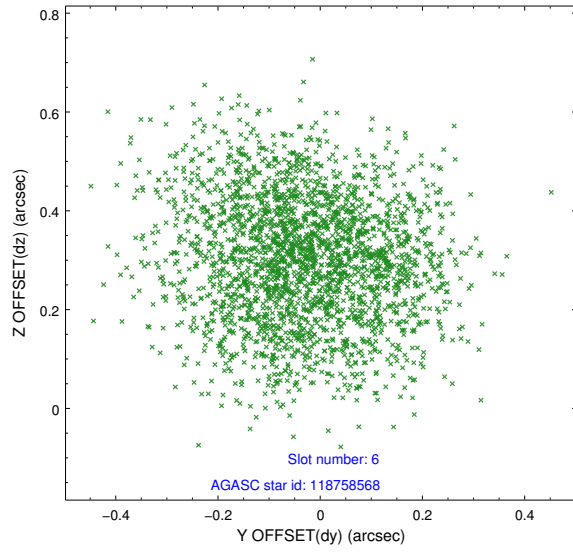
## 2.4.2 Slot 4



### 2.4.3 Slot 5

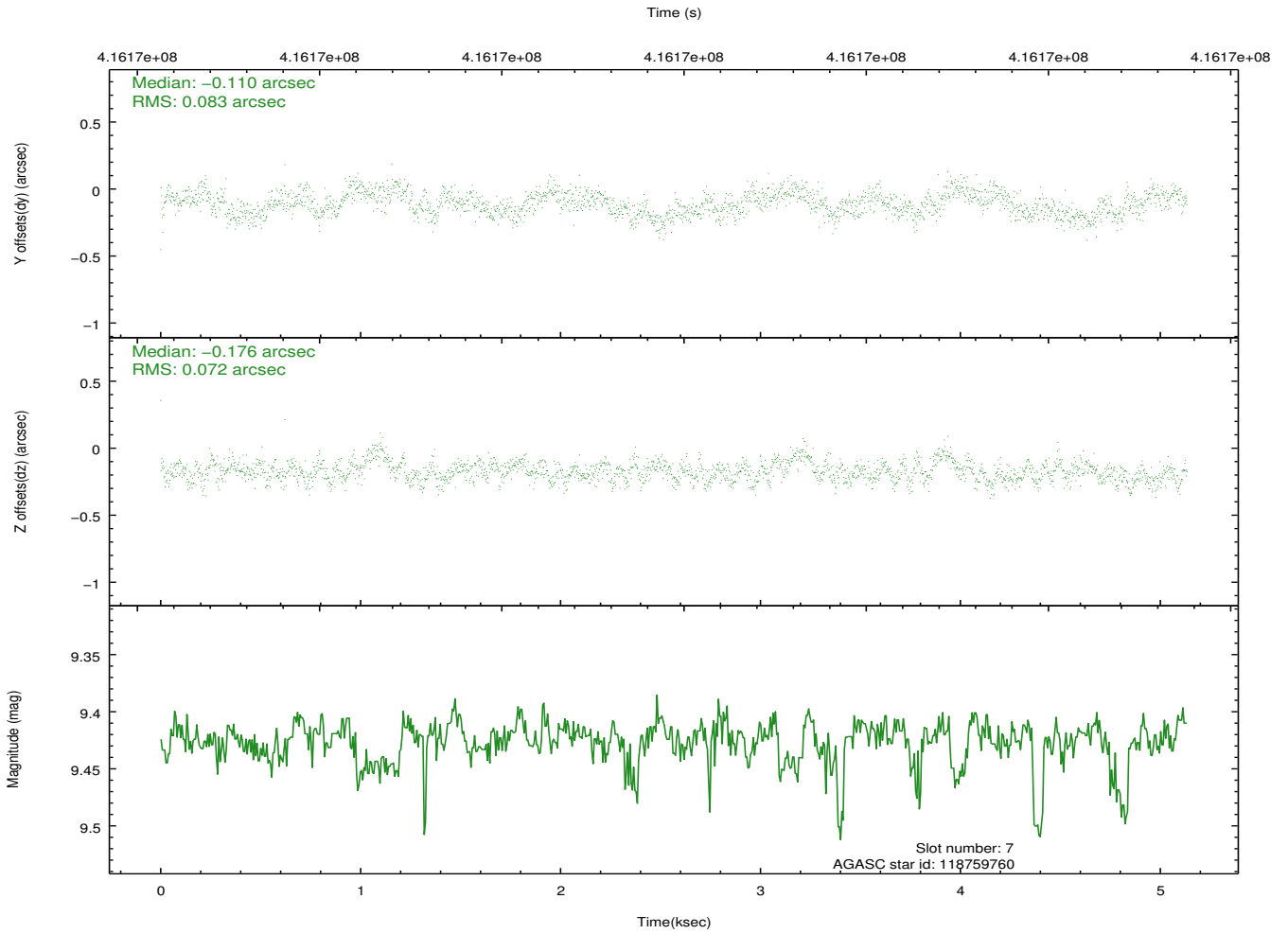
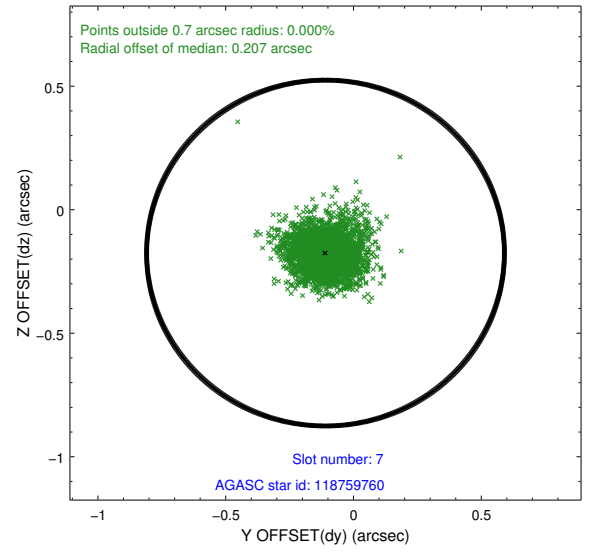
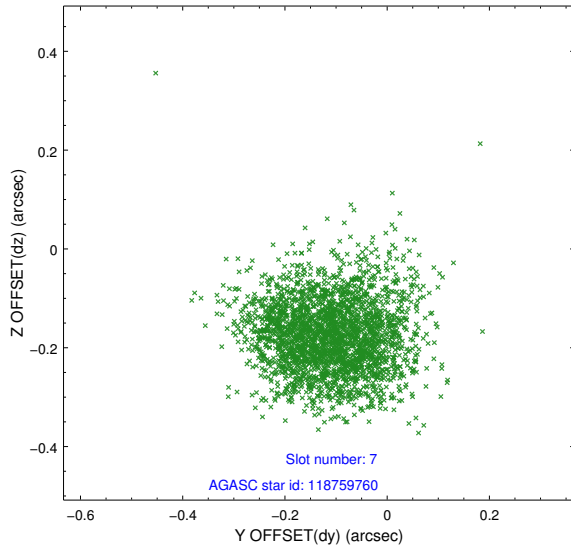


## 2.4.4 Slot 6



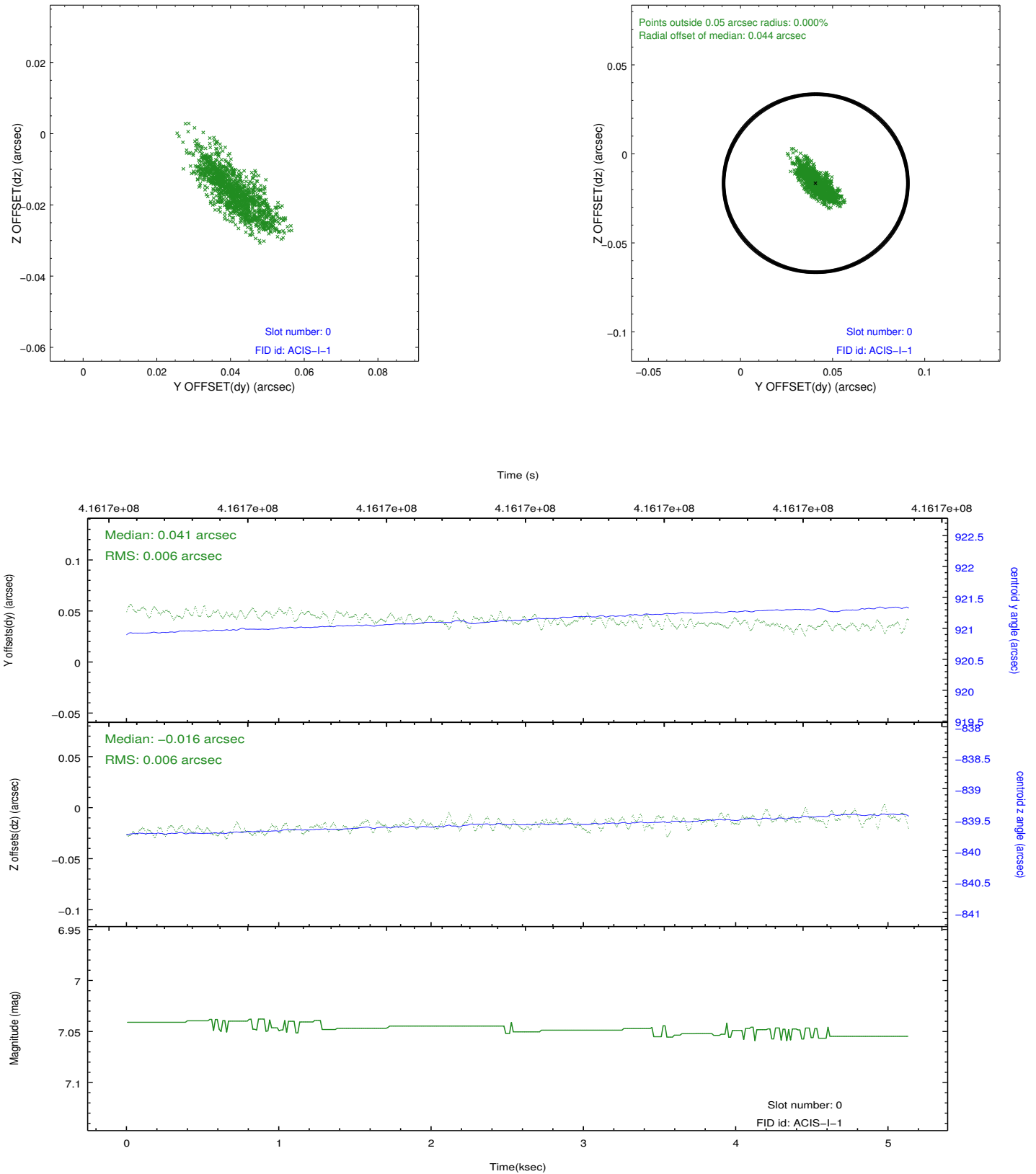


## 2.4.5 Slot 7

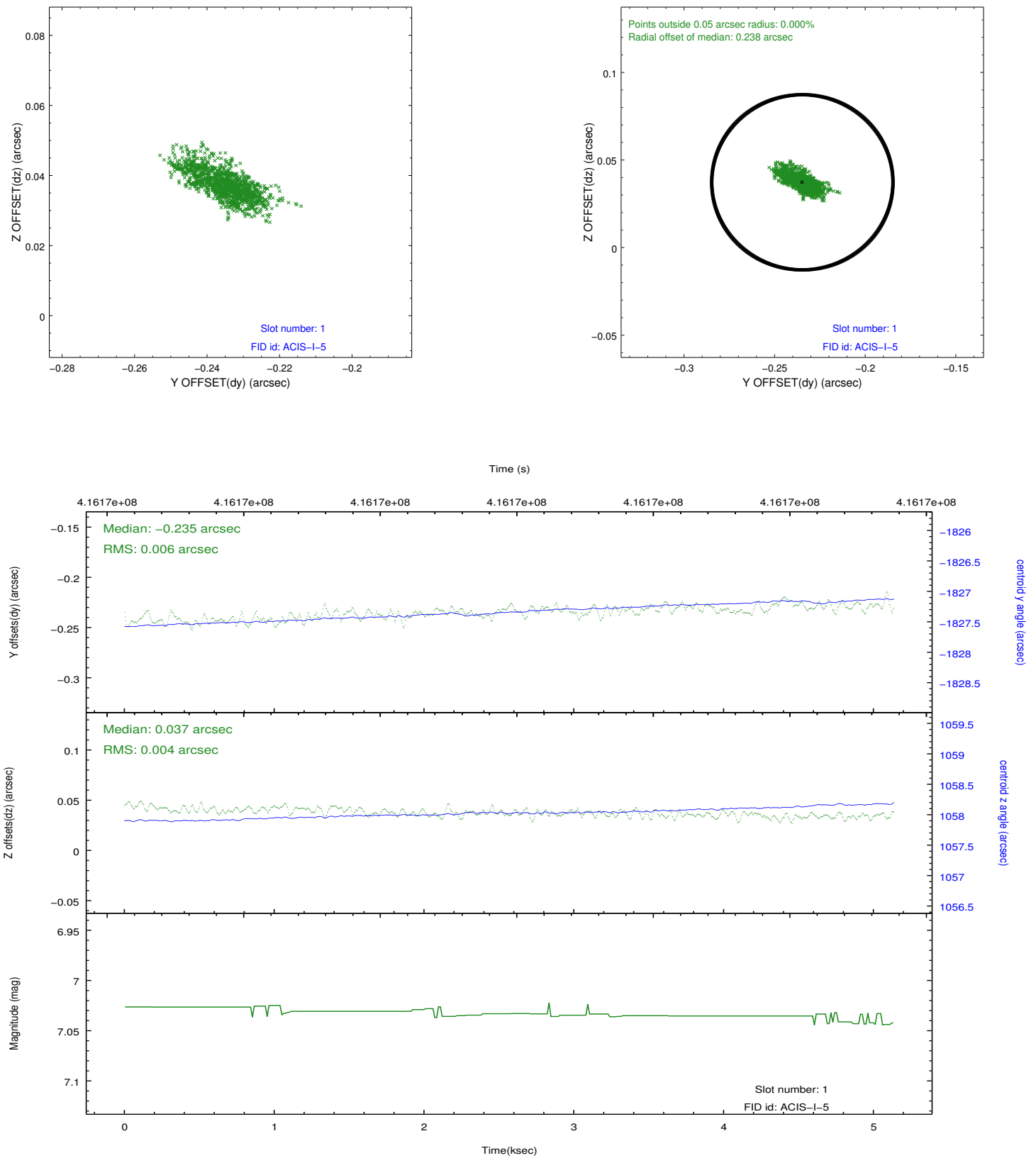


## 2.5 FID Slots

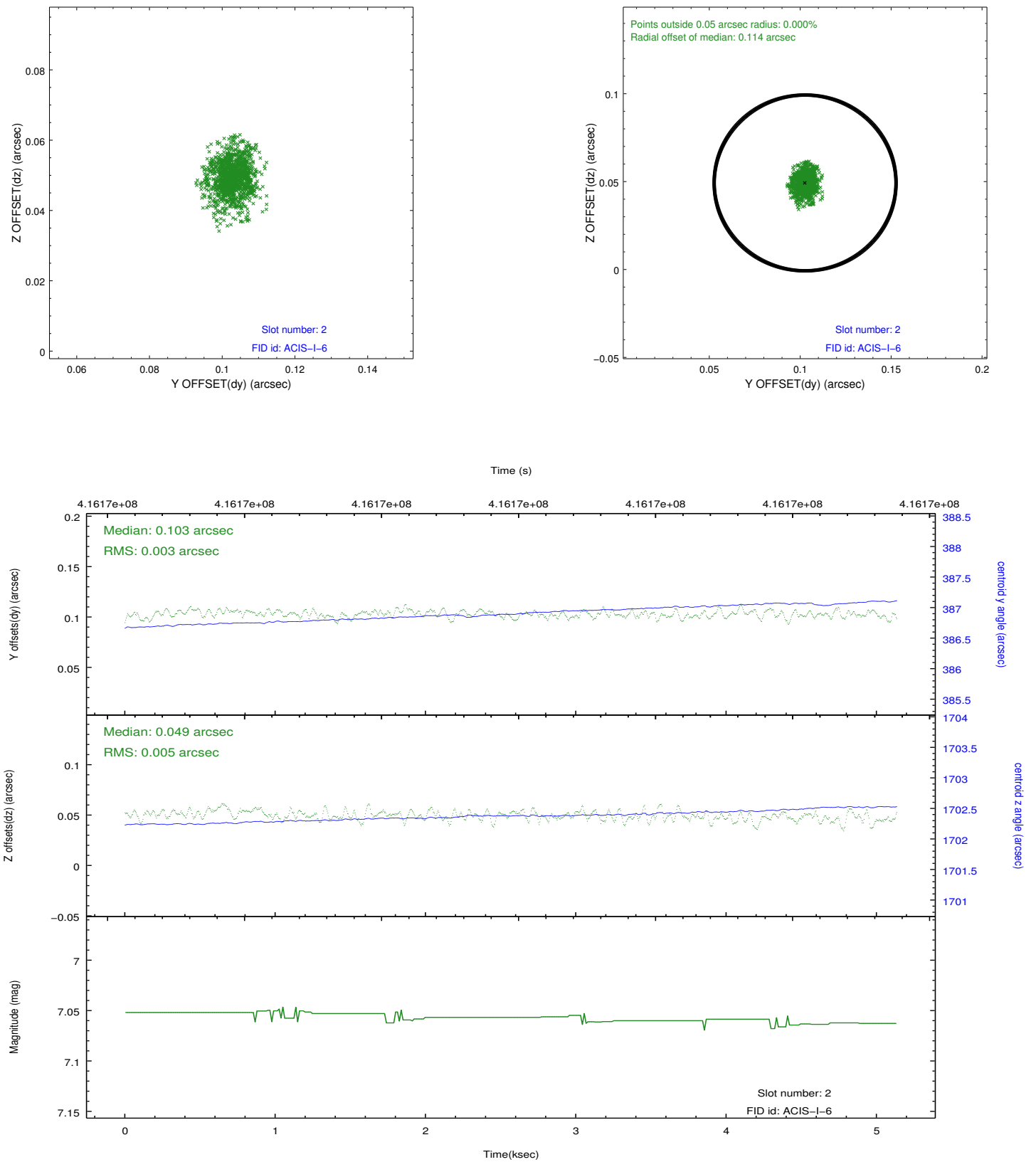
### 2.5.1 Slot 0



## 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	4.9598365982175

## 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.

=====

A spatial region of the original bias map for CCD = 1 suffered from anomalously high data values. Pixels in the event data that were bias-corrected by one of the original affected bias pixels may have an apparent energy shift. While the change in energy is expected to be small (~20 eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 1 has been reconstructed for this processing to remove this anomaly using scaled data from a comparable bias map from another observation. The pixels affected by the anomaly are bounded by sky coords:  
(208.16855,14.39195), (208.17378,14.39304), (208.15241,14.49038), (208.14662,14.49183)