

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 12838 - L2 Version 2  
Chandra X-Ray Center

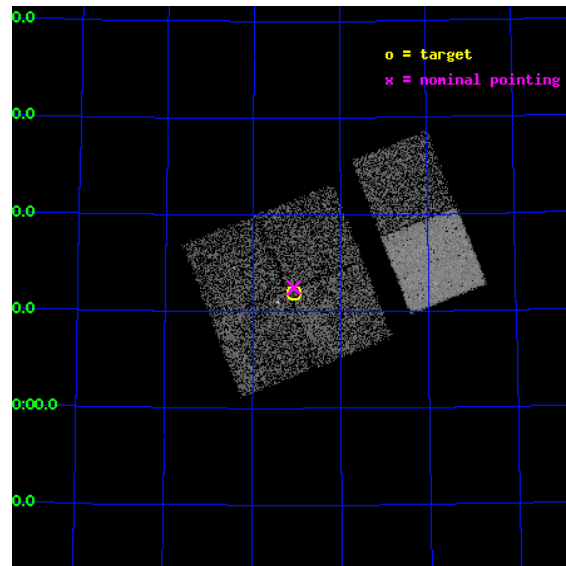
L2 Processing Date : Feb 5 2012

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# 1 Front

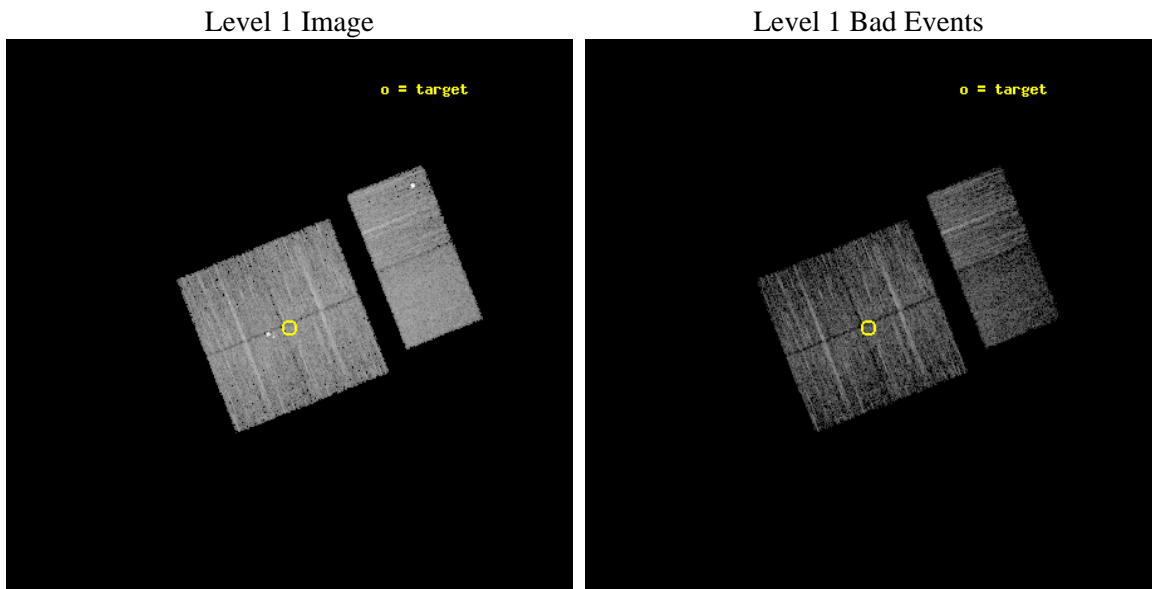
seq_num	702471	Sequence number
obs_id	12838	Observation id
title	Chandra observations of the faintest hard X-ray sources in the SIX survey	Proposal title
observer	Dr Eugenio Bottacini	Principal investigator
object	SIX-4	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	281.265	Observer's specified target RA [deg]
dec_targ	72.199806	Observer's specified target Dec [deg]
ra_nom	281.2671349362	Nominal RA [deg]
dec_nom	72.207820737335	Nominal Dec [deg]
roll_nom	68.448396279083	Nominal Roll [deg]
revision	2	Processing version of data
ontime	4753.9591395855	Sum of GTIs [s]
livetime	4693.7616464695	Livetime [s]
ontime0	4757.0769898891	Sum of GTIs [s]
ontime1	4757.1180298924	Sum of GTIs [s]
ontime2	4757.1590698957	Sum of GTIs [s]
ontime3	4753.9591395855	Sum of GTIs [s]
ontime6	4754.0412195325	Sum of GTIs [s]
ontime7	4757.2411499023	Sum of GTIs [s]
l2events	36662	Number of level 2 events



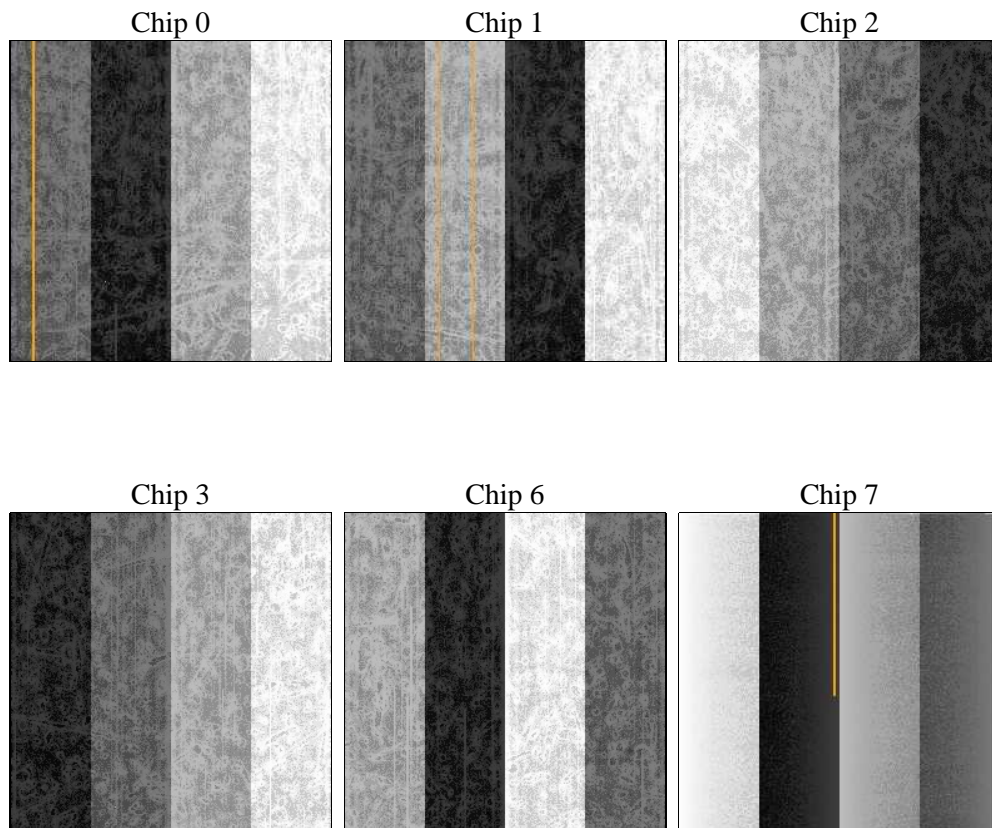
## 2 OBI

### 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	4753.9591395855	Sum of GTIs [s]
caldsver	4.4.7	&#160	ontime0	4757.0769898891	Sum of GTIs [s]
date	2012-02-05T16:14:45	Date and time of file creation	ontime1	4757.1180298924	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	4757.1590698957	Sum of GTIs [s]
			ontime3	4753.9591395855	Sum of GTIs [s]
			ontime6	4754.0412195325	Sum of GTIs [s]
			ontime7	4757.2411499023	Sum of GTIs [s]
			l1events	227149	Number of level 1 events

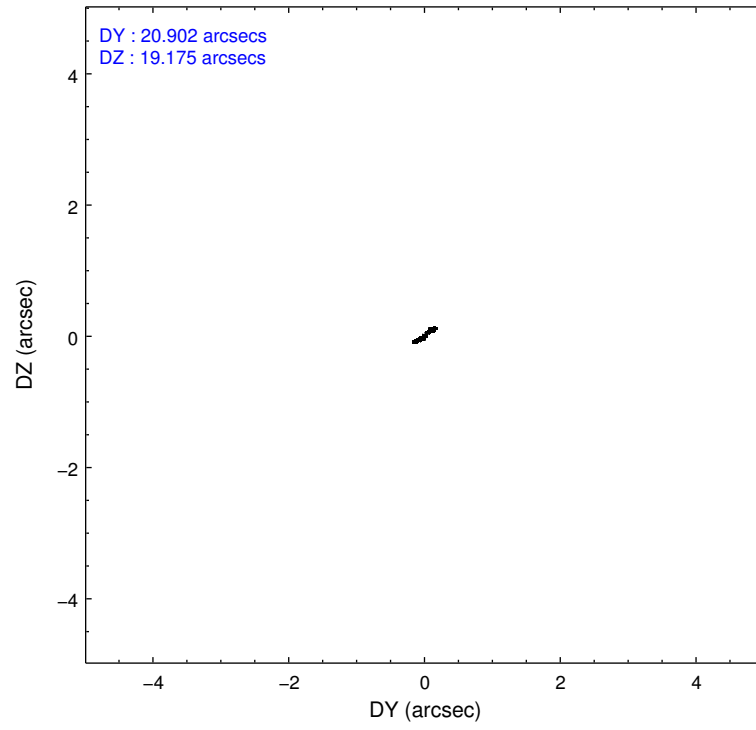
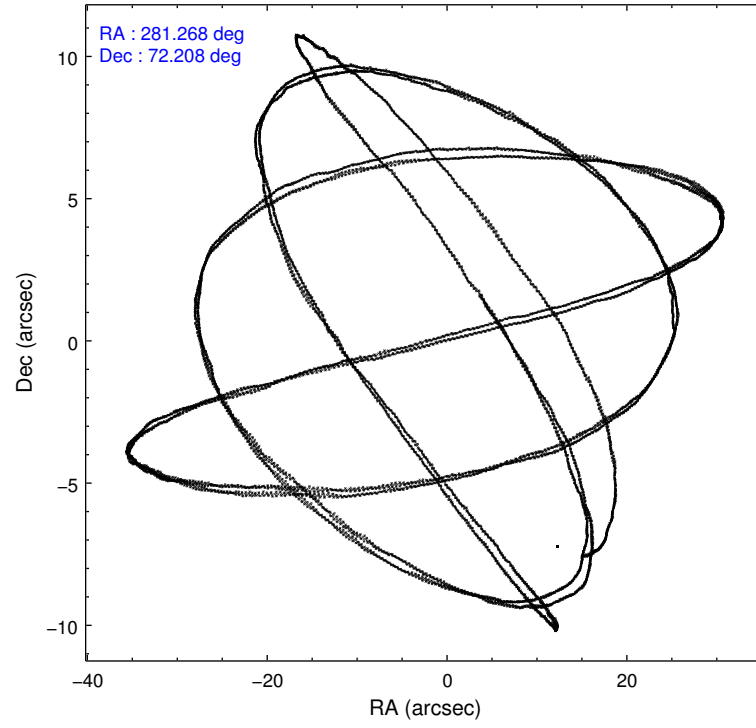
### 2.1.4 Events

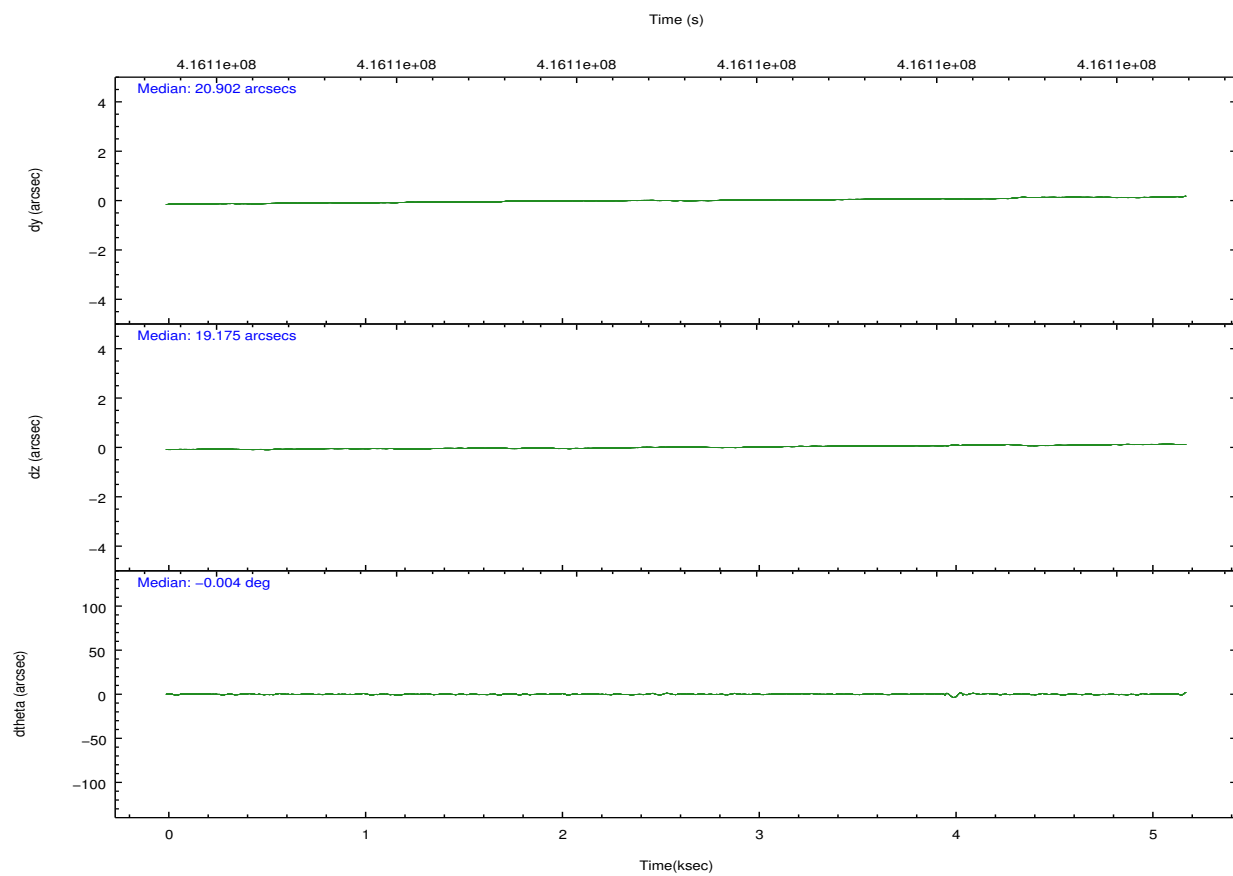
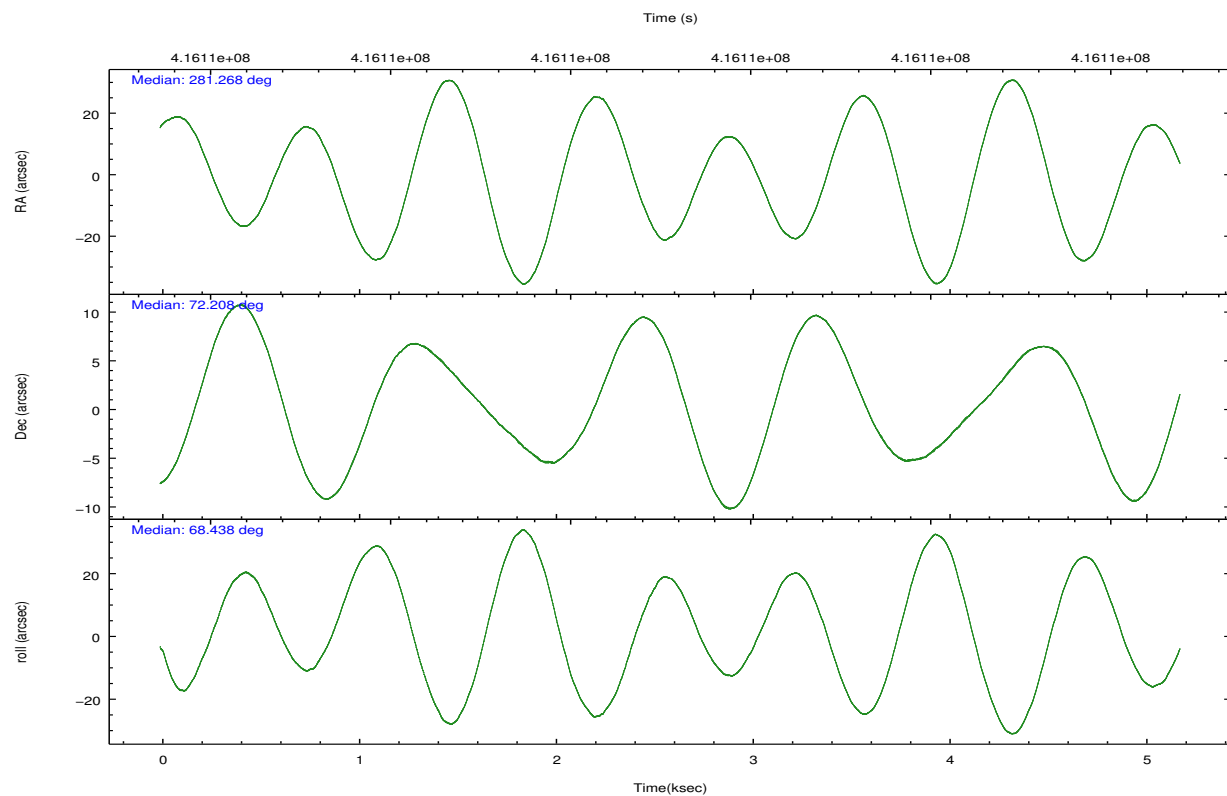
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	31532	35831	38320	36272	42602	42592	grade 0 events	1578	2021	1664	1939	4387	1799
rejected events	27382	29439	34000	31900	35559	23346		5%	5%	4%	5%	10%	4%
rejected %	86%	82%	88%	87%	83%	54%	grade 1 events	23	31	18	32	42	56
								0%	0%	0%	0%	0%	0%
							grade 2 events	1076	2560	1117	891	971	4099
								3%	7%	2%	2%	2%	9%
							grade 3 events	389	433	392	387	382	1705
								1%	1%	1%	1%	0%	4%
							grade 4 events	396	435	402	398	404	1670
								1%	1%	1%	1%	0%	3%
							grade 5 events	1401	1511	1381	1510	1607	4437
								4%	4%	3%	4%	3%	10%
							grade 6 events	713	949	749	759	899	9973
								2%	2%	1%	2%	2%	23%
							grade 7 events	25956	27891	32597	30356	33910	18853
								82%	77%	85%	83%	79%	44%

## 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	281.280507	281.2671349362023	CCD I2 on	Y	Y
[deg] Pointing Dec	72.180670	72.20782073733466	CCD I3 on	Y	Y
[deg] Pointing Roll	68.226982	68.4483962790832	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)	416107145.184000	416106617.75174	CCD S5 on	N	N
Observation start date	2011-03-10T01:17:59	2011-03-10T01:10:17	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	416112145.184000	416112841.55206	On-chip summing requested	N	N
Observation end date	2011-03-10T02:41:19	2011-03-10T02:54:01	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



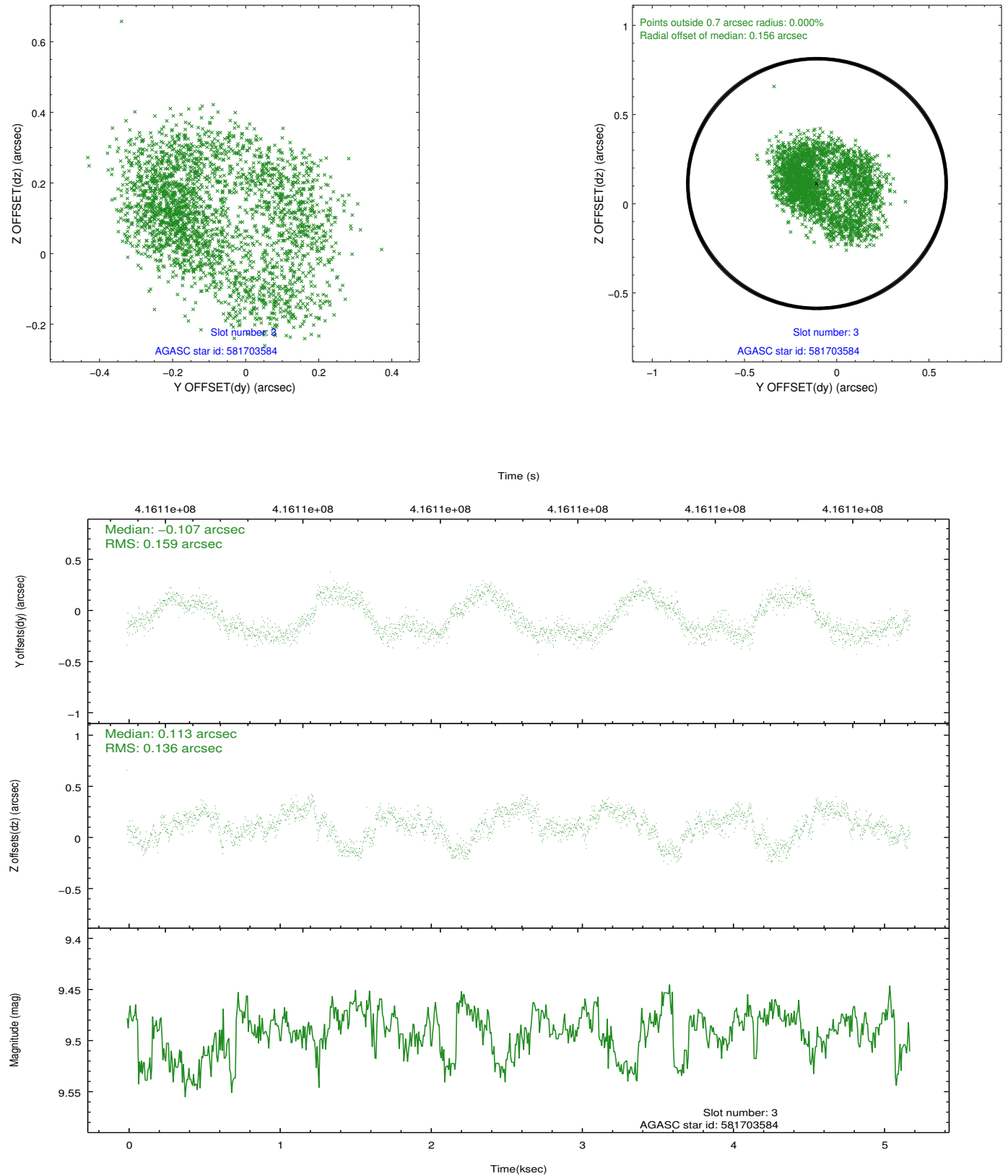


### Slot Statistics

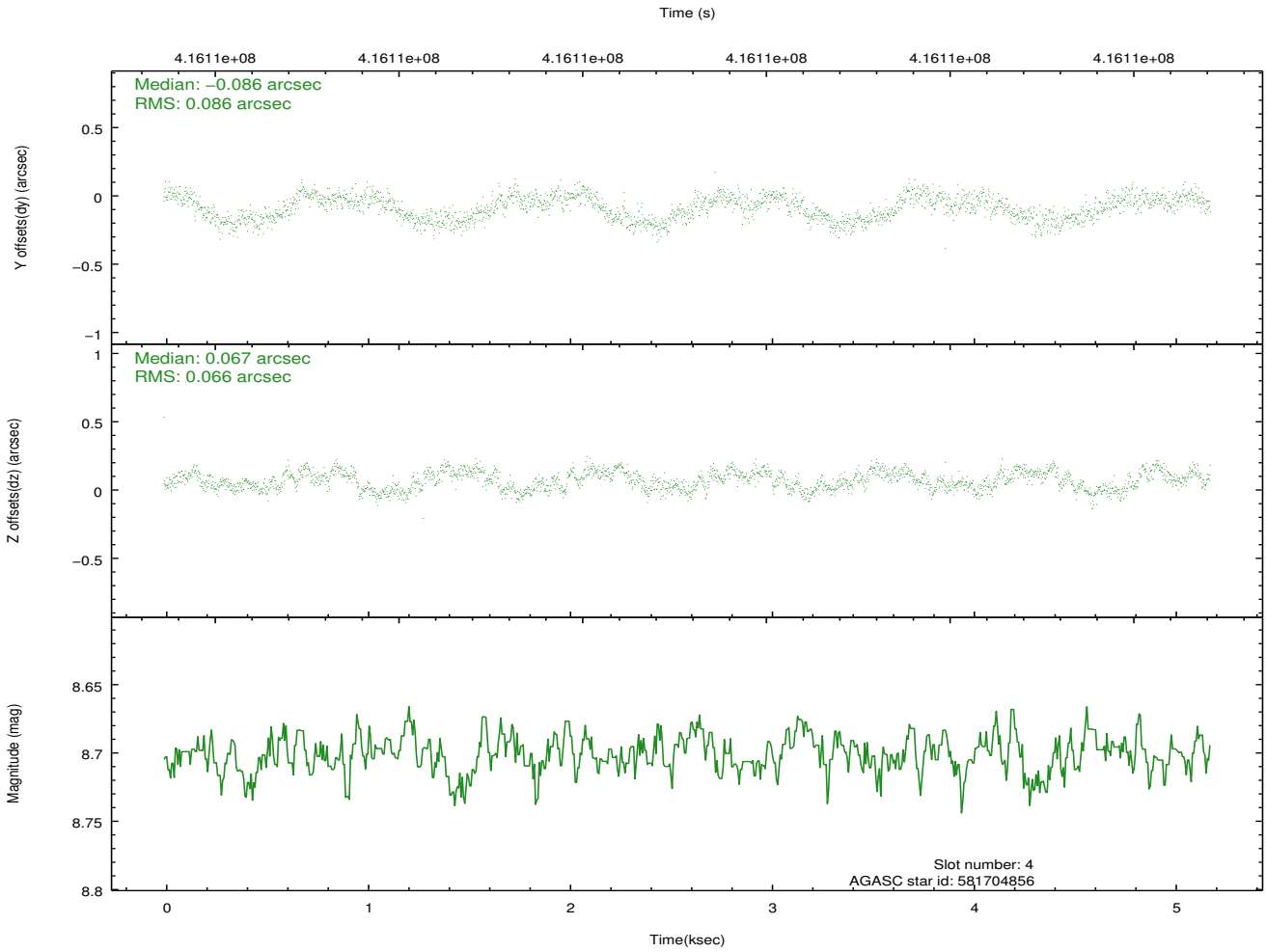
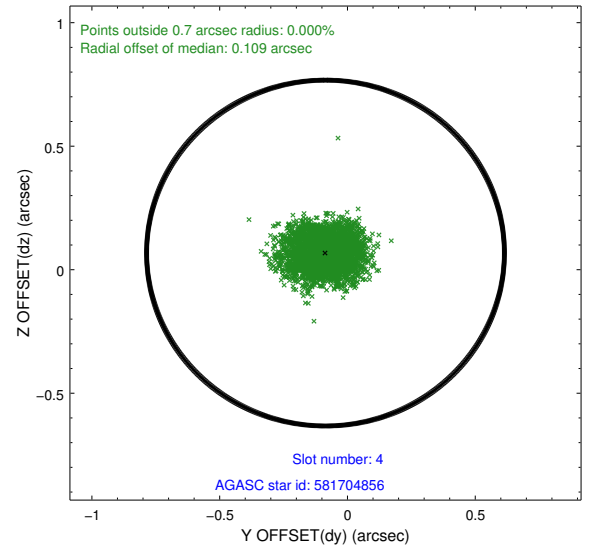
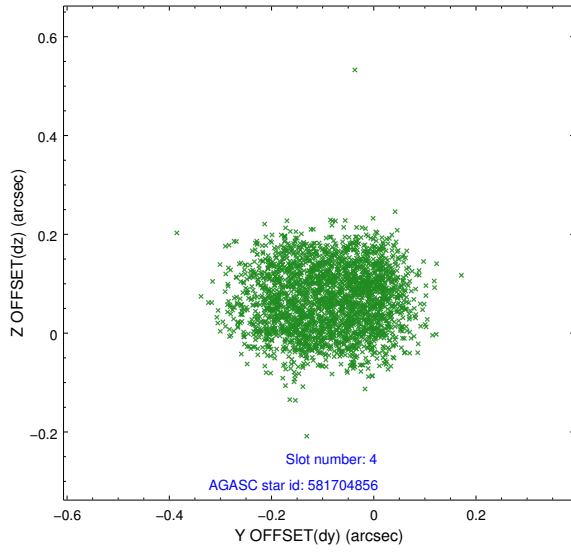
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.03	1264	0.020	0.040	0.007	0.012	0.000000	0.000000	918.44	-842.82
1	FID	ACIS-I-5	7.02	1264	-0.227	0.030	0.006	0.010	0.000000	0.000000	-1829.33	1053.98
2	FID	ACIS-I-6	7.04	1264	0.115	0.001	0.007	0.011	0.000000	0.000000	382.72	1699.85
3	GUIDE	581703584	9.49	2527	-0.107	0.113	0.227	0.344	280.009518	72.112161	-735.48	1219.60
4	GUIDE	581704856	8.70	2529	-0.086	0.067	0.117	0.175	280.589328	71.653088	-2050.37	25.27
5	GUIDE	581705072	8.67	2526	0.004	-0.186	0.116	0.207	279.243935	72.267009	-504.91	2203.19
6	GUIDE	581829408	8.92	2528	0.149	0.128	0.107	0.177	282.591864	71.961012	-176.79	-1643.20
7	GUIDE	581835488	9.86	2526	0.021	-0.115	0.177	0.309	284.115917	72.491899	2247.15	-2407.98

## 2.4 Star Slots

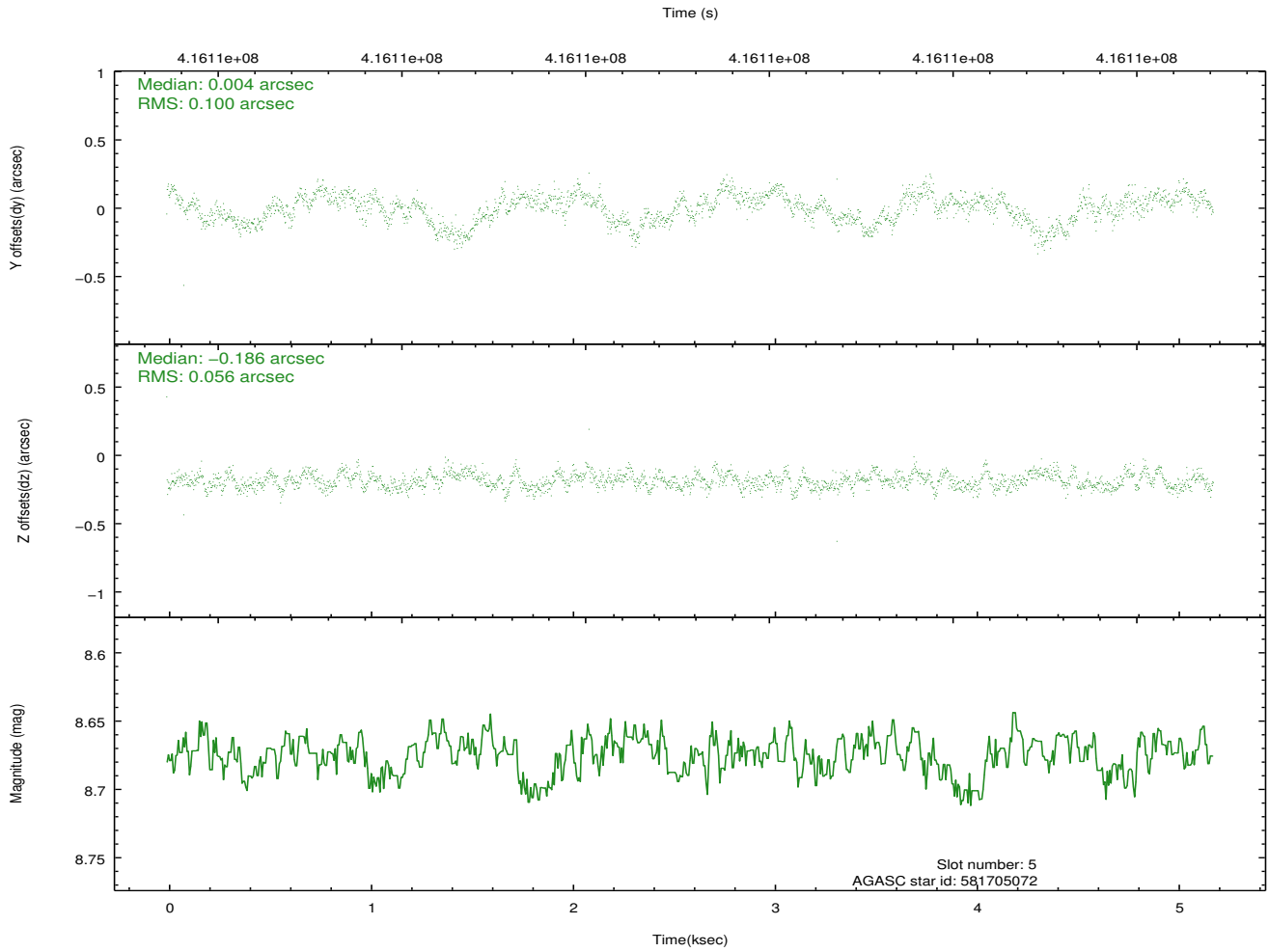
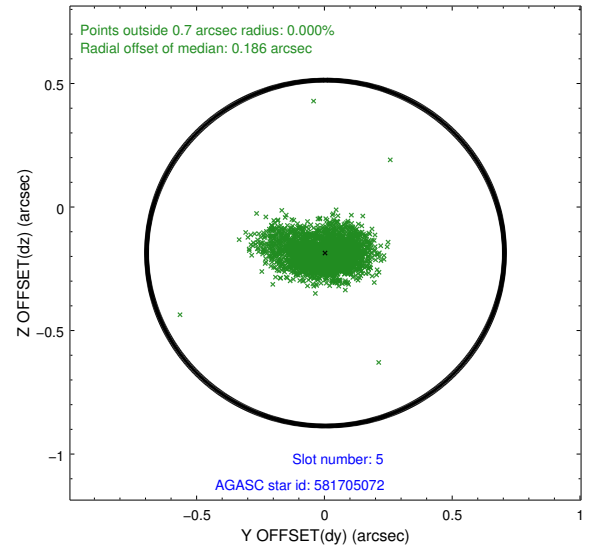
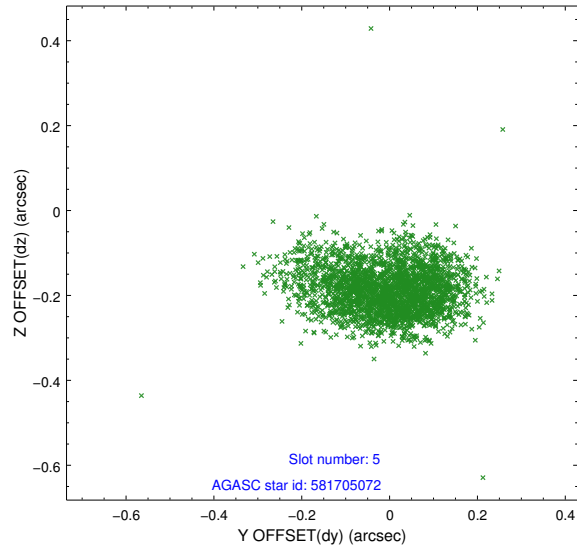
### 2.4.1 Slot 3



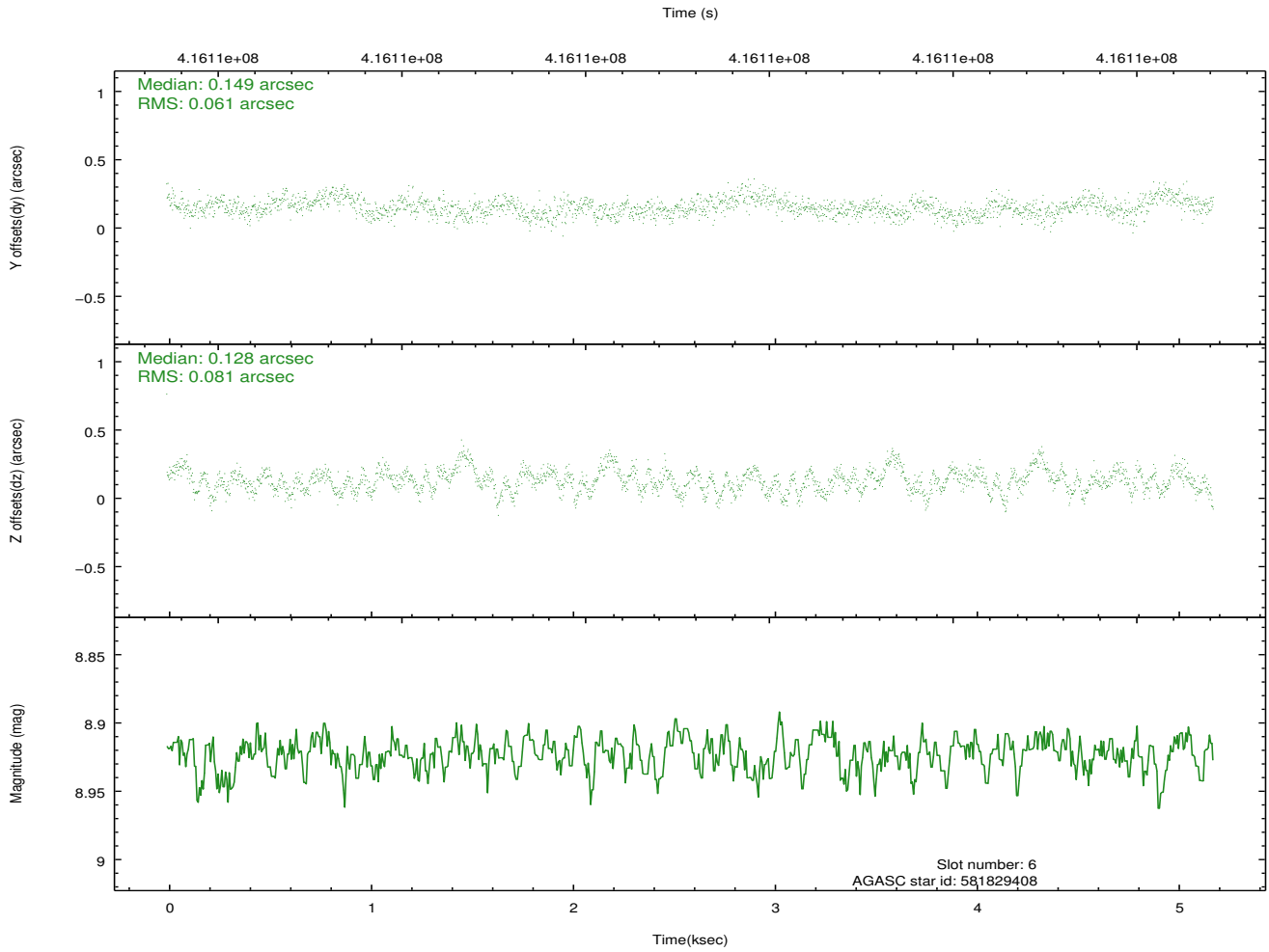
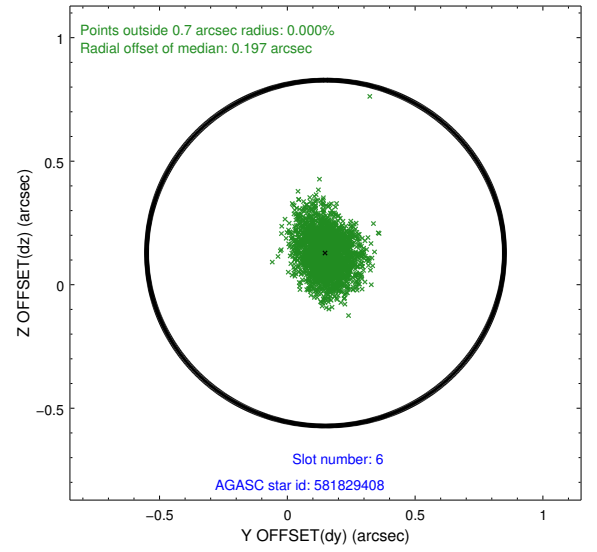
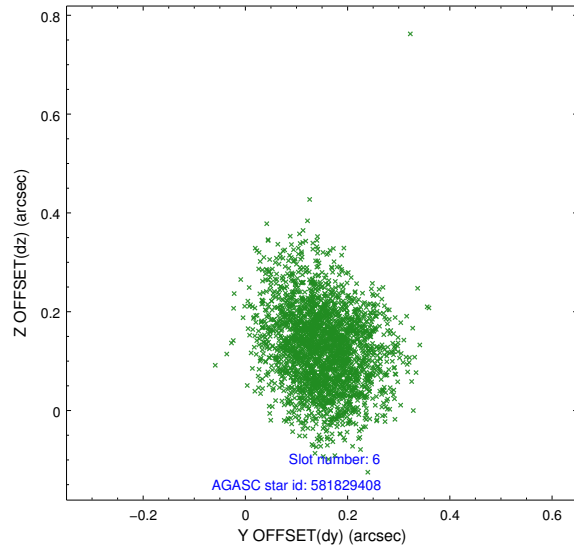
## 2.4.2 Slot 4



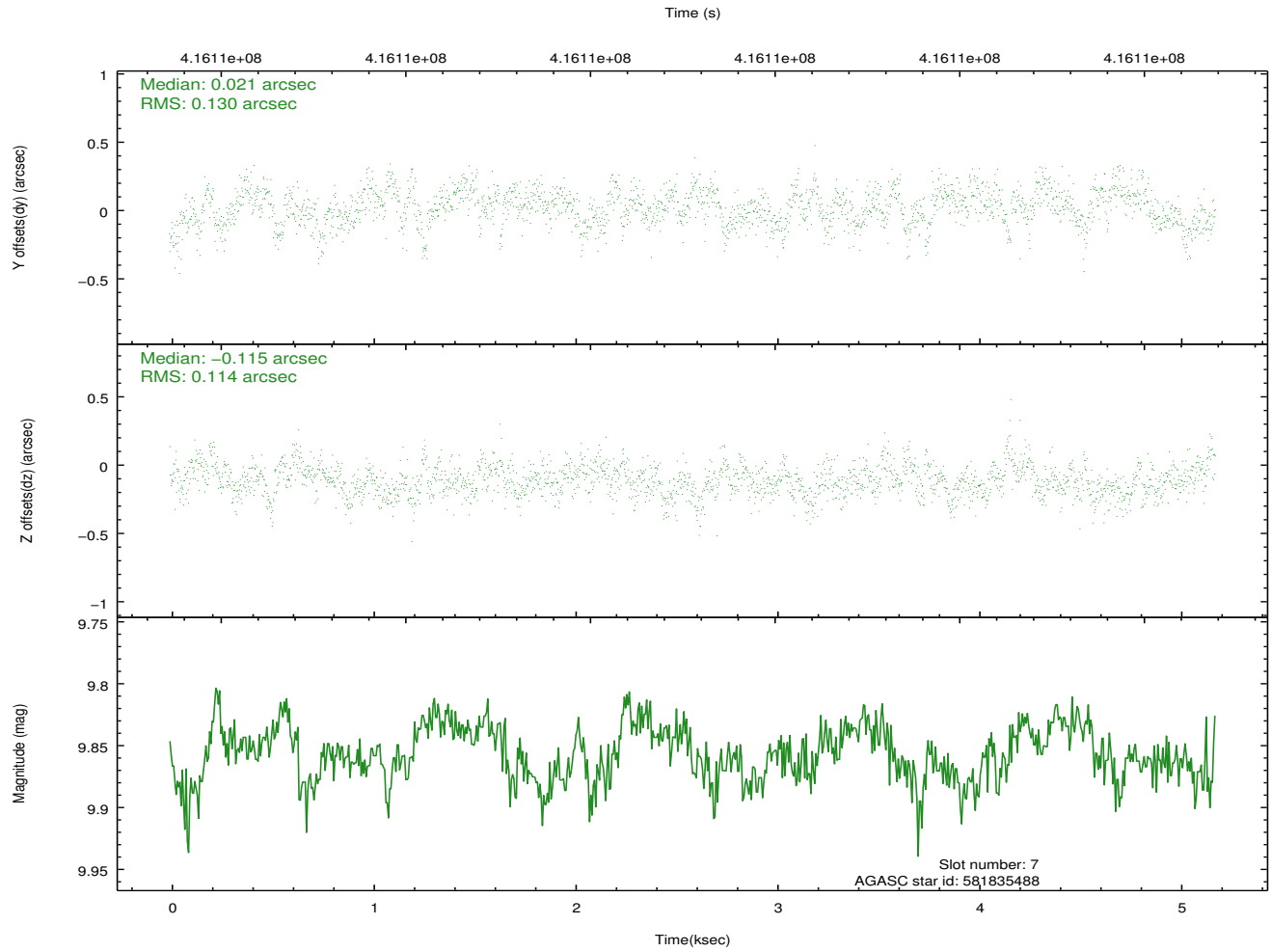
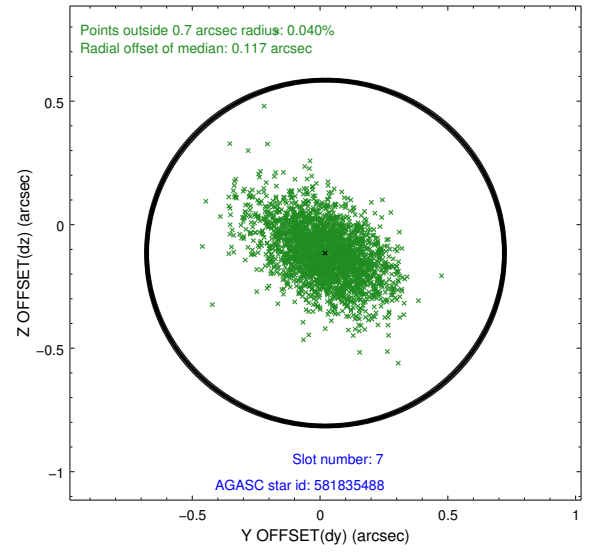
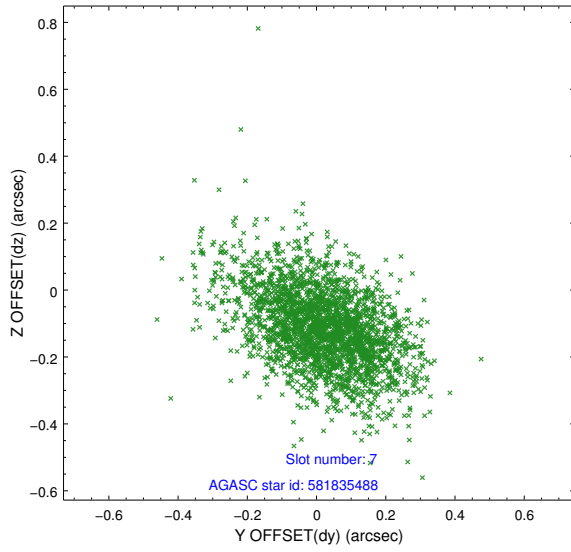
### 2.4.3 Slot 5



## 2.4.4 Slot 6

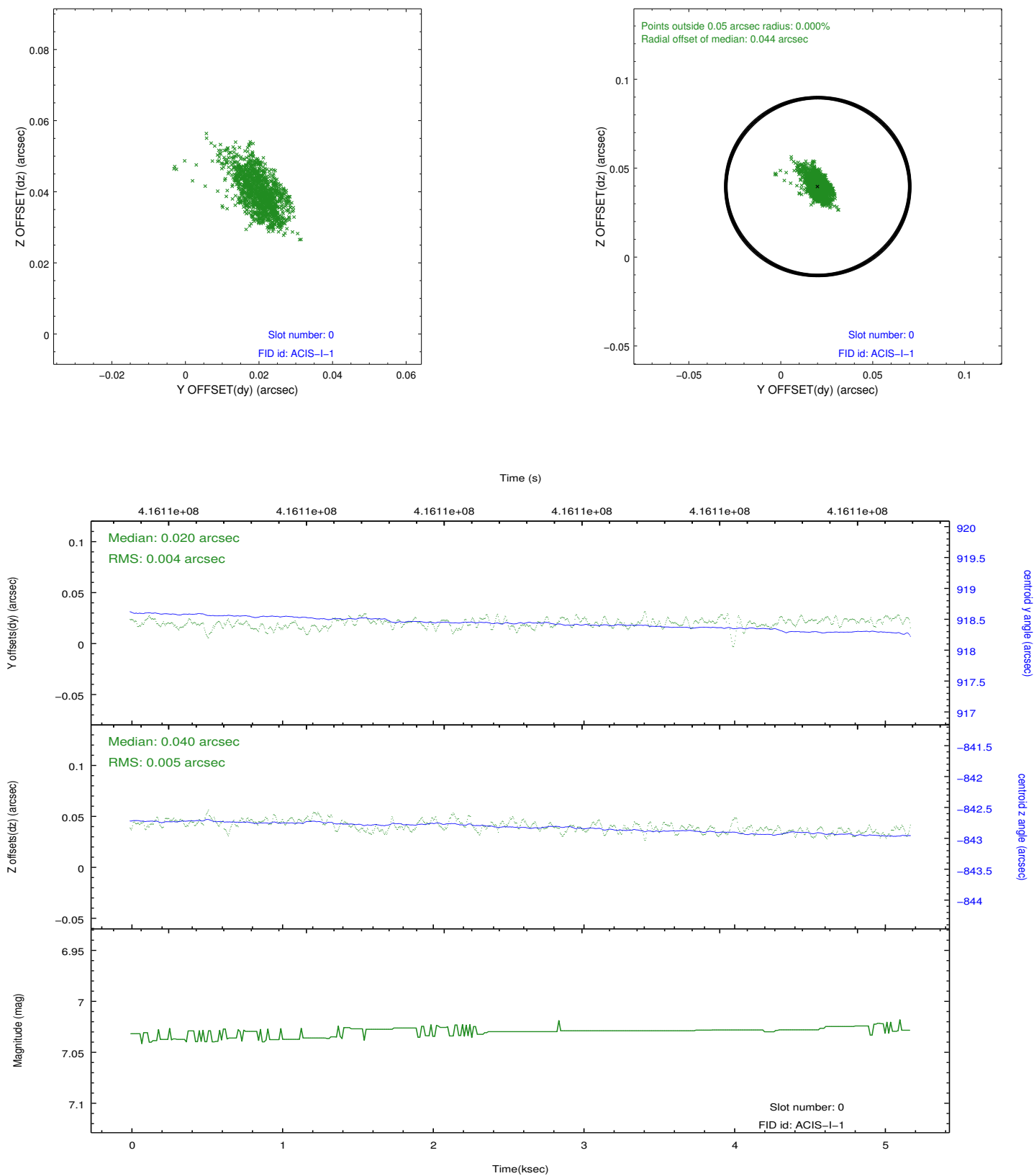


## 2.4.5 Slot 7

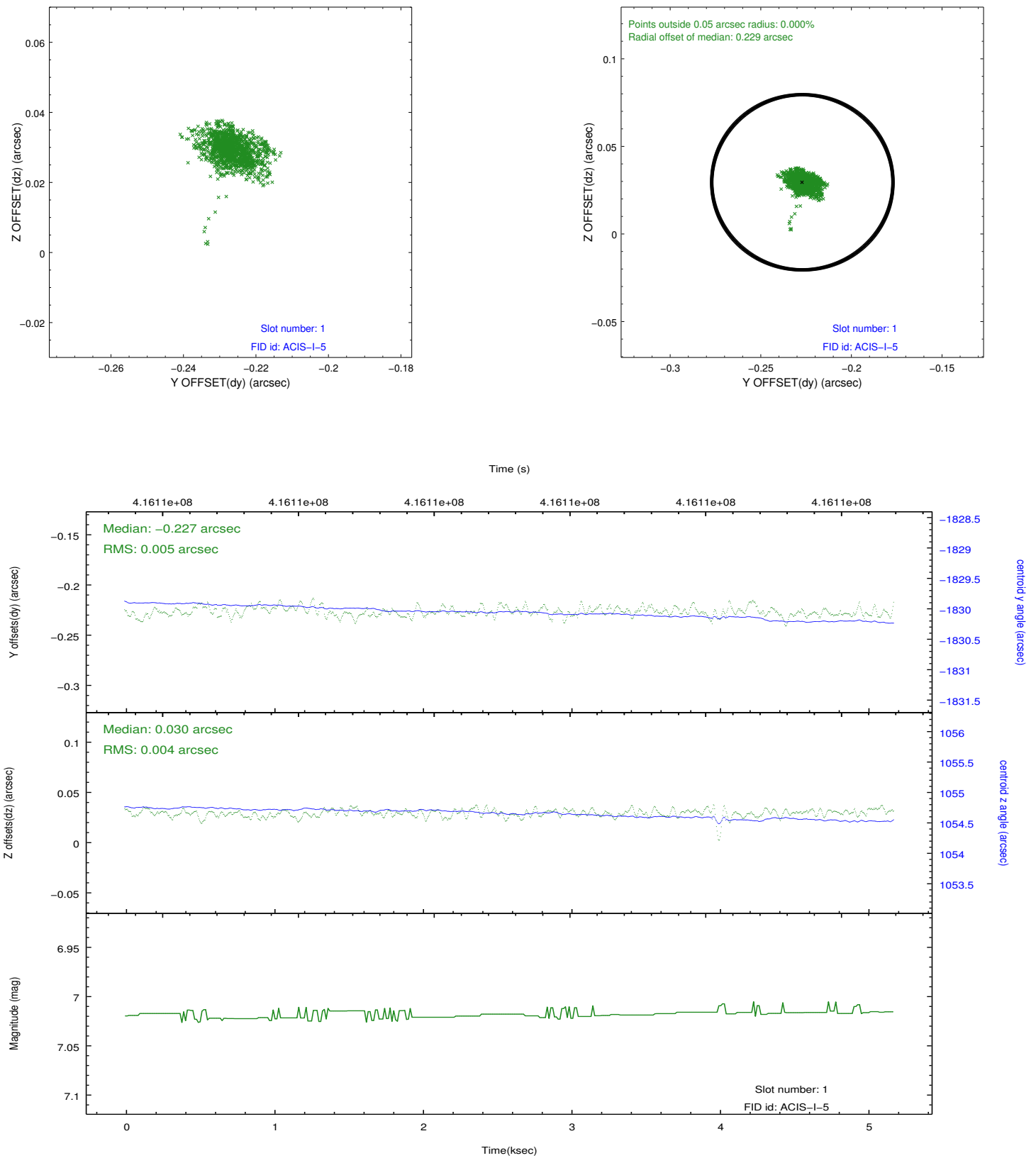


## 2.5 FID Slots

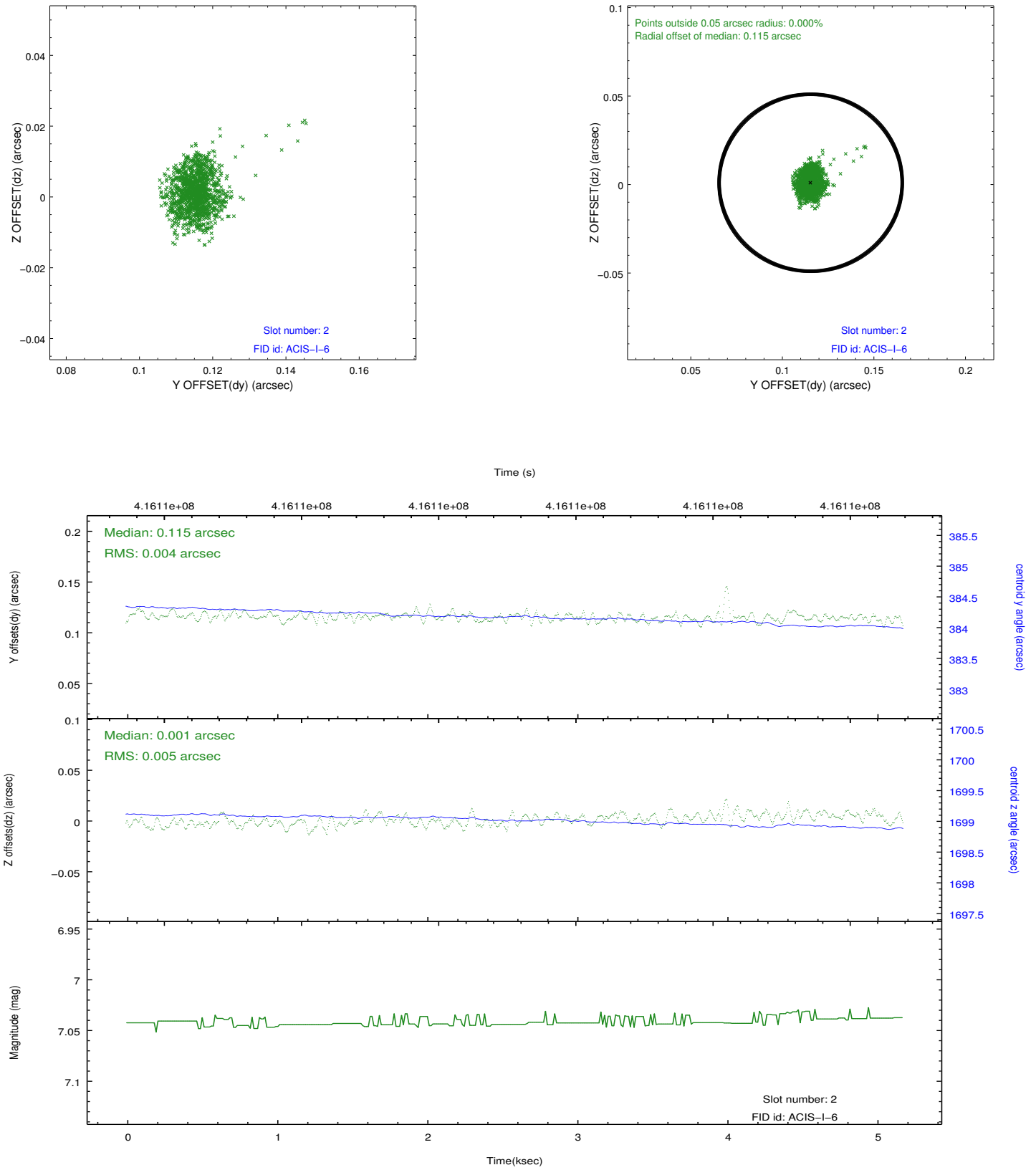
### 2.5.1 Slot 0



## 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)	2012.02.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.7539591420293

## 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.