

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 13592 - L2 Version 1  
Chandra X-Ray Center

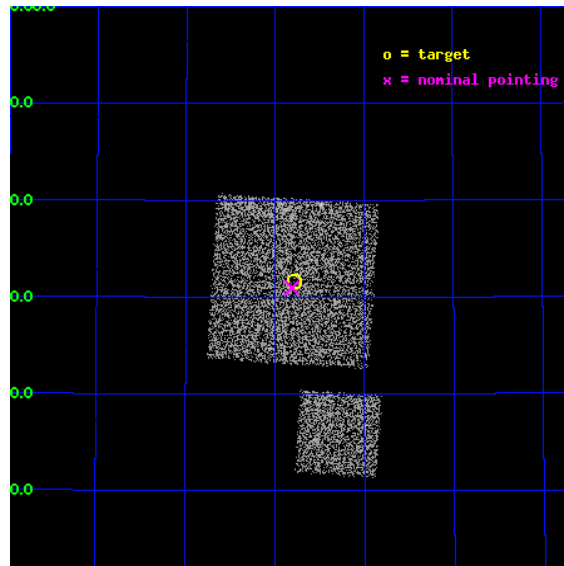
L2 Processing Date : Feb 9 2012

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# 1 Front

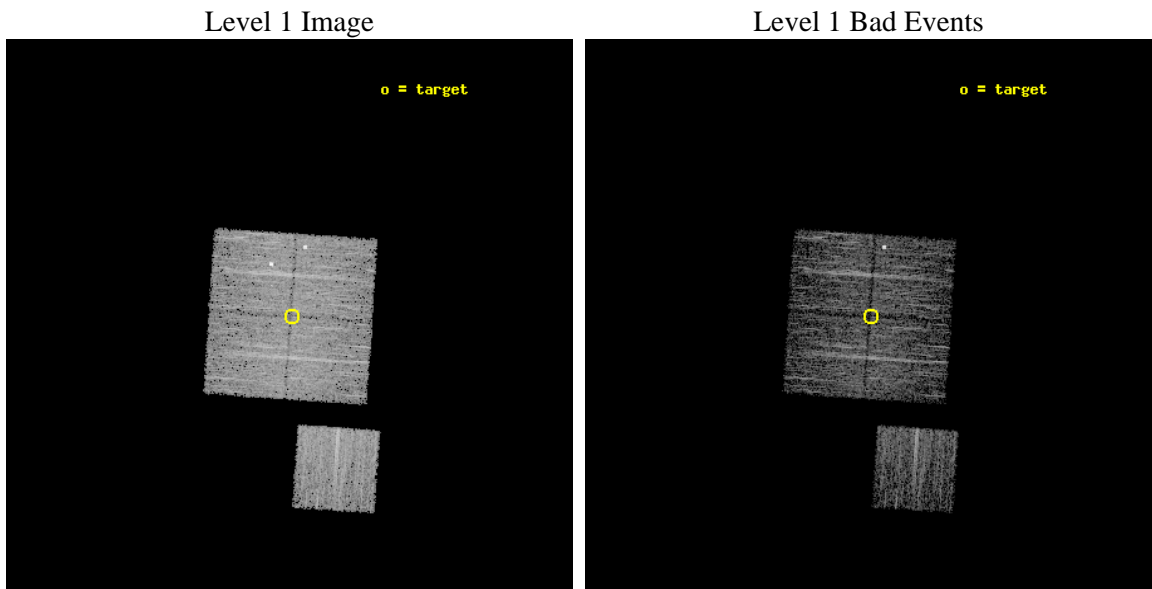
seq_num	801153	Sequence number
obs_id	13592	Observation id
title	To The Outer Limits of Clusters with Chandra and Suzaku	Proposal t
observer	Dr. Eric Miller	Principal investigator
object	A773	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	139.69695	Observer's specified target RA [deg]
dec_targ	51.526736	Observer's specified target Dec [deg]
ra_nom	139.70253120077	Nominal RA [deg]
dec_nom	51.51619290329	Nominal Dec [deg]
roll_nom	183.88728591952	Nominal Roll [deg]
revision	1	Processing version of data
ontime	5080.4878304005	Sum of GTIs [s]
livetime	5014.1075166956	Livetime [s]
ontime0	5080.4467903972	Sum of GTIs [s]
ontime1	5080.4878304005	Sum of GTIs [s]
ontime2	5080.5288704038	Sum of GTIs [s]
ontime3	5080.5699104071	Sum of GTIs [s]
ontime6	5080.4057503939	Sum of GTIs [s]
l2events	15551	Number of level 2 events



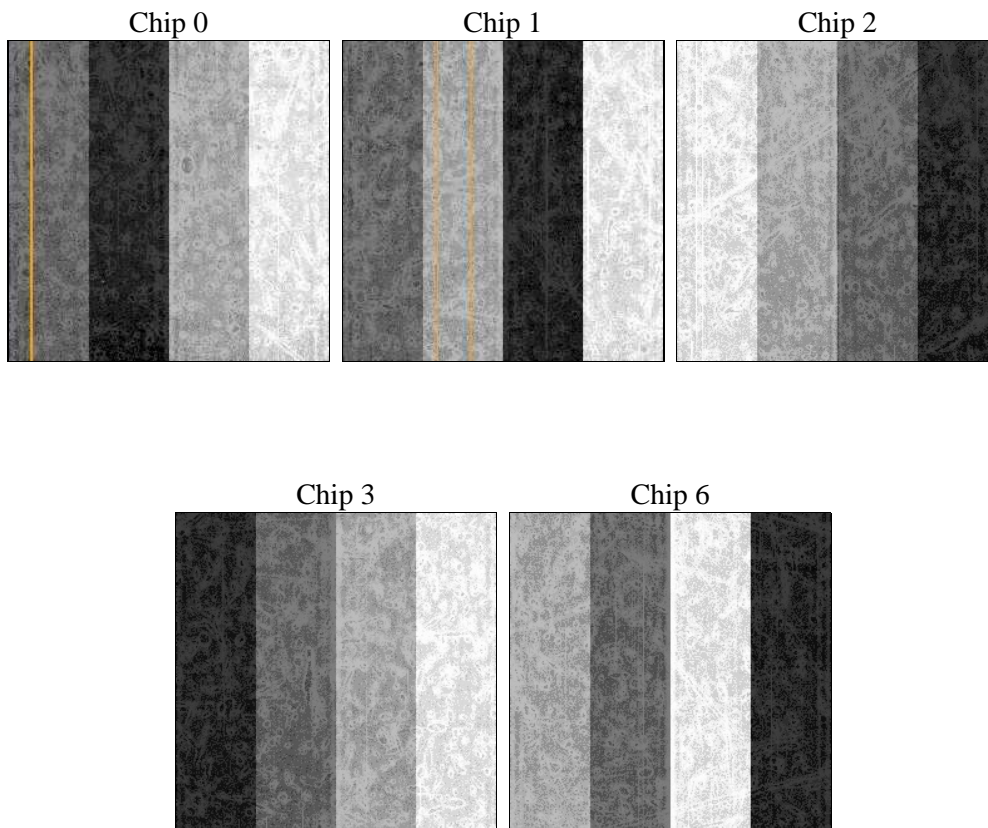
## 2 OBI

### 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	5080.4878304005	Sum of GTIs [s]
caldsver	4.4.7	&#160	ontime0	5080.4467903972	Sum of GTIs [s]
date	2012-02-10T01:13:35	Date and time of file creation	ontime1	5080.4878304005	Sum of GTIs [s]
revision	1	Processing version of data	ontime2	5080.5288704038	Sum of GTIs [s]
			ontime3	5080.5699104071	Sum of GTIs [s]
			ontime6	5080.4057503939	Sum of GTIs [s]
			l1events	157138	Number of level 1 events

### 2.1.4 Events

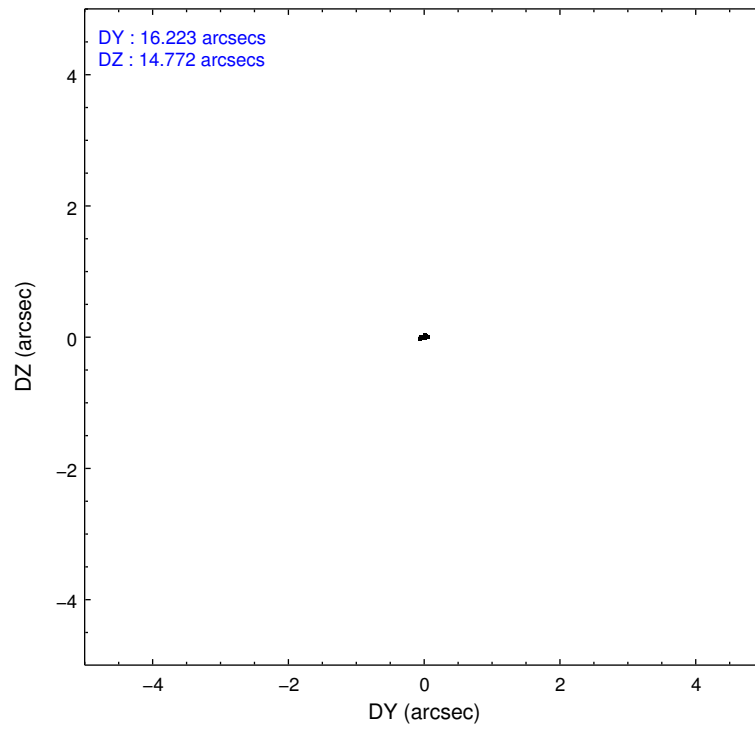
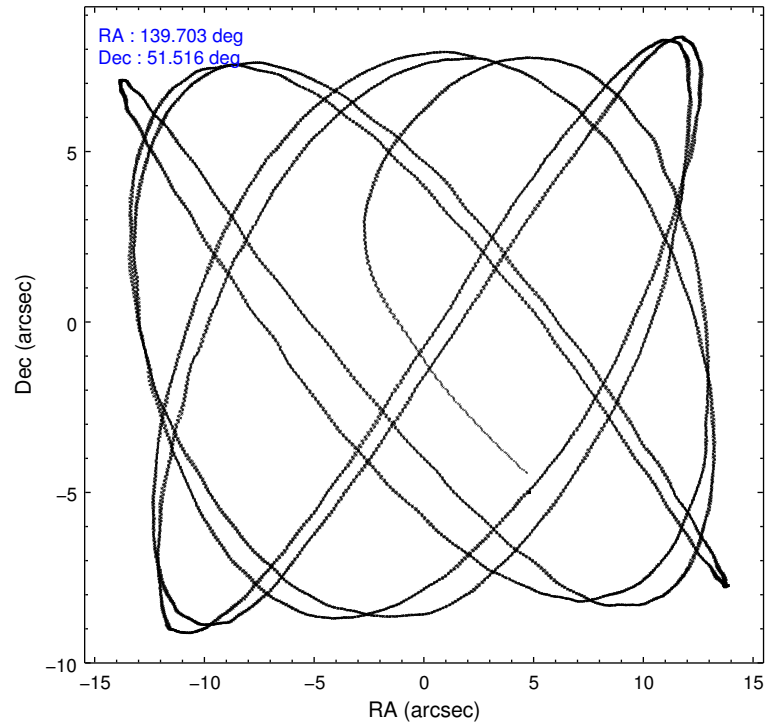
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	31120	33371	31482	30001	31164
rejected events	27440	27669	28003	26637	27498
rejected %	88%	82%	88%	88%	88%

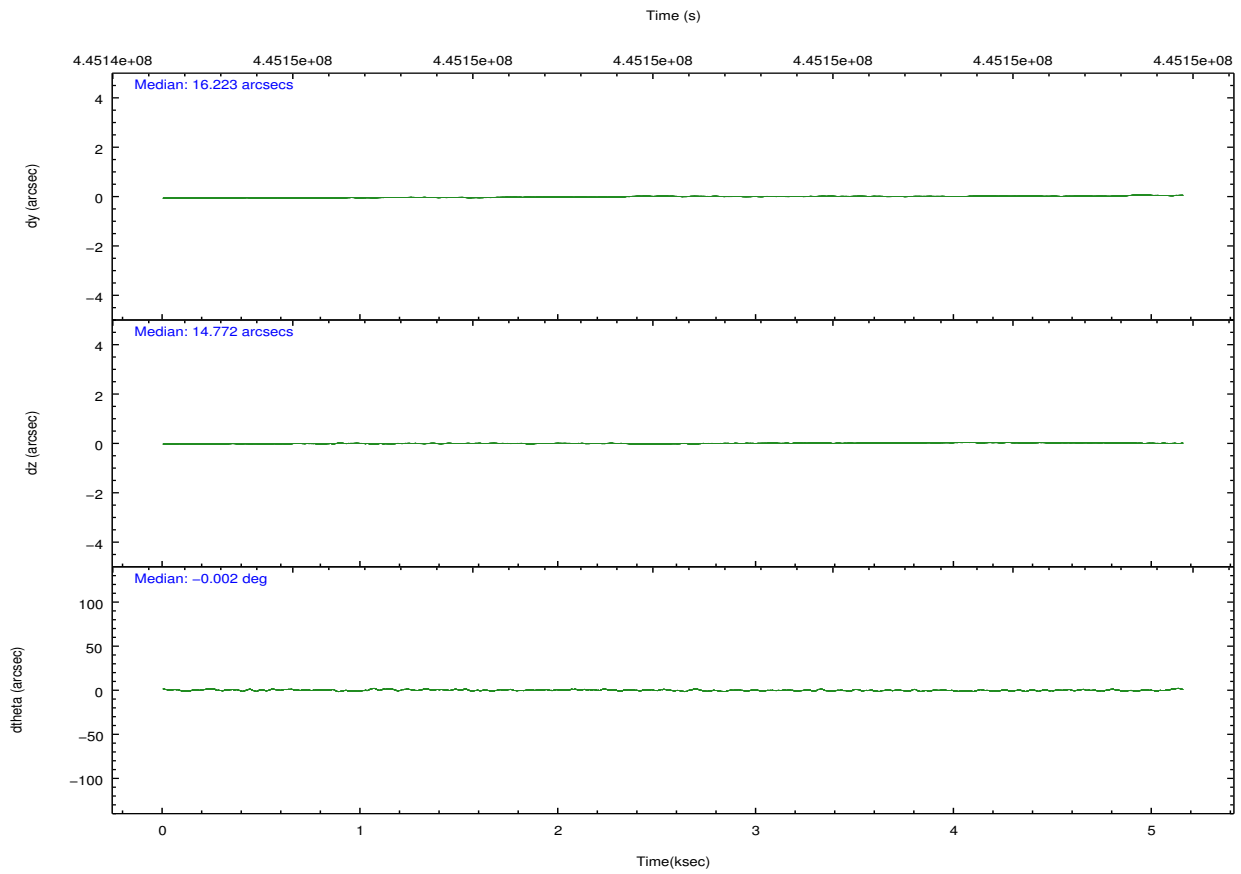
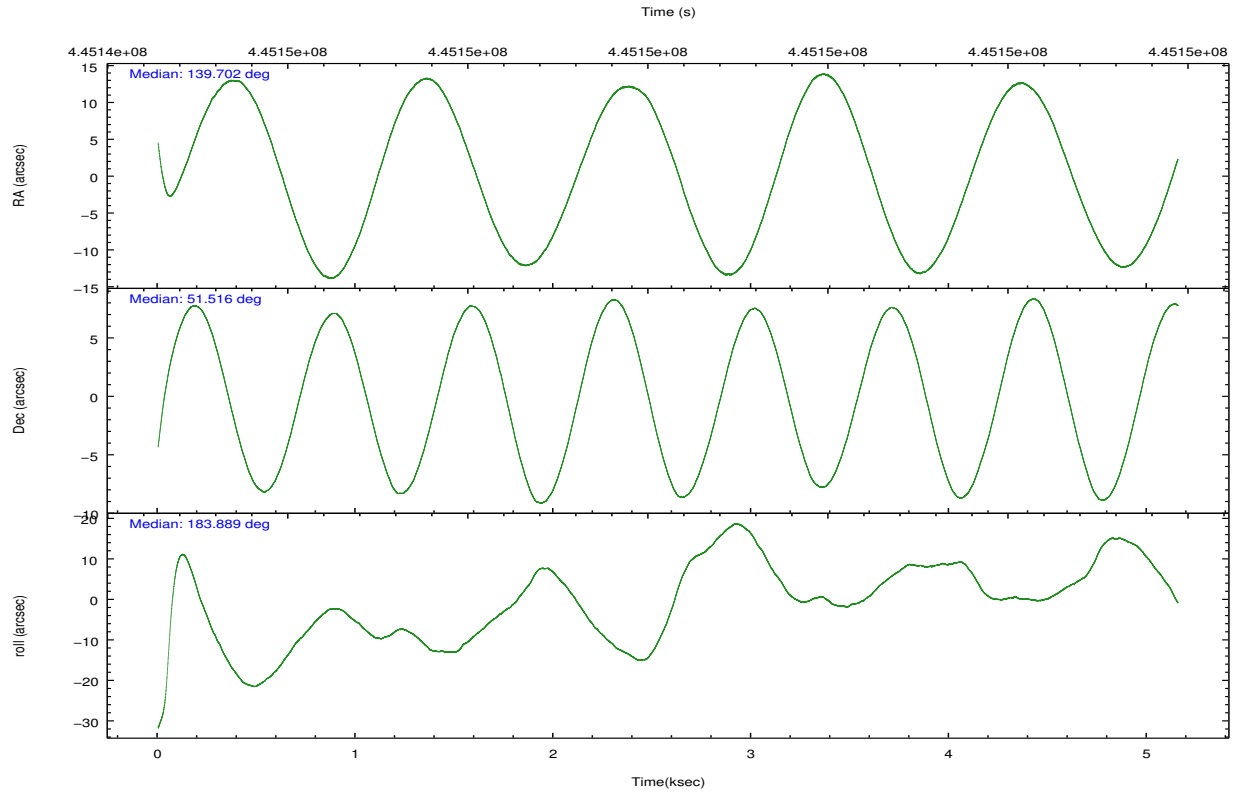
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	1325	3034	1190	1122	1240
	4%	9%	3%	3%	3%
grade 1 events	1022	21	19	17	25
	3%	0%	0%	0%	0%
grade 2 events	882	916	863	785	834
	2%	2%	2%	2%	2%
grade 3 events	359	394	360	430	365
	1%	1%	1%	1%	1%
grade 4 events	382	441	343	390	418
	1%	1%	1%	1%	1%
grade 5 events	1411	1531	1419	1544	1579
	4%	4%	4%	5%	5%
grade 6 events	734	924	729	642	815
	2%	2%	2%	2%	2%
grade 7 events	25005	26110	26559	25071	25888
	80%	78%	84%	83%	83%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-01236	ACIS-01236	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	139.739140	139.7025312007688	CCD I2 on	Y	Y
[deg] Pointing Dec	51.531589	51.51619290329036	CCD I3 on	Y	Y
[deg] Pointing Roll	183.650025	183.8872859195169	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	N	N
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	445145697.184000	445144631.91209	CCD S5 on	N	N
Observation start date	2012-02-09T03:33:51	2012-02-09T03:17:11	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	445150697.184000	445151739.77497	On-chip summing requested	N	N
Observation end date	2012-02-09T04:57:11	2012-02-09T05:15:39	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



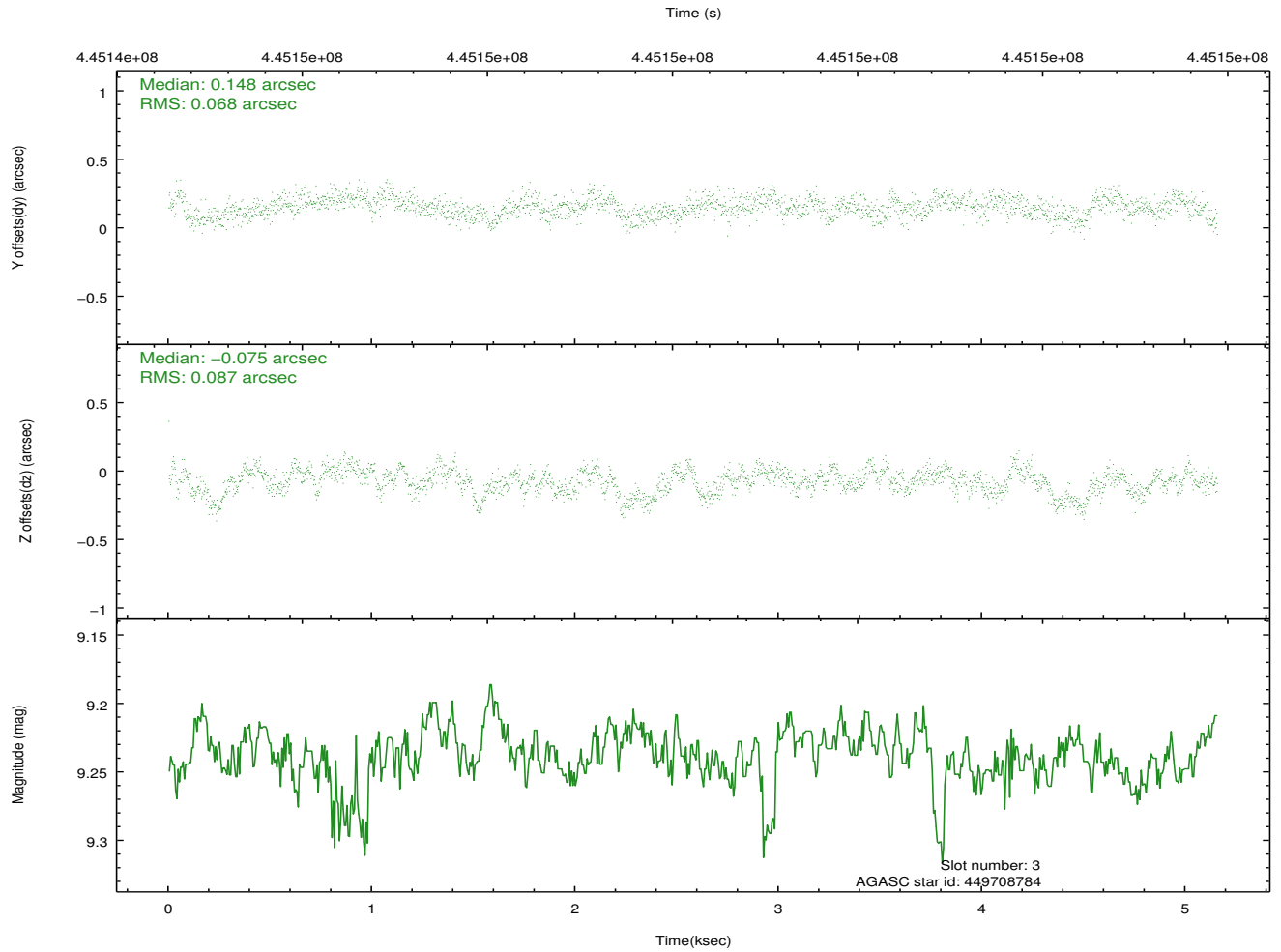
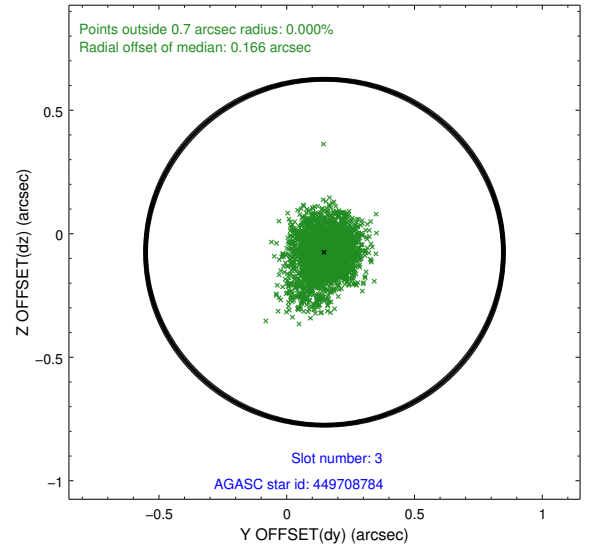
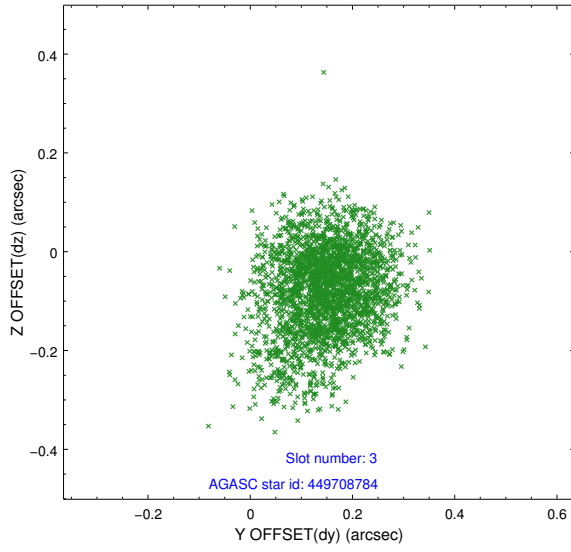


### Slot Statistics

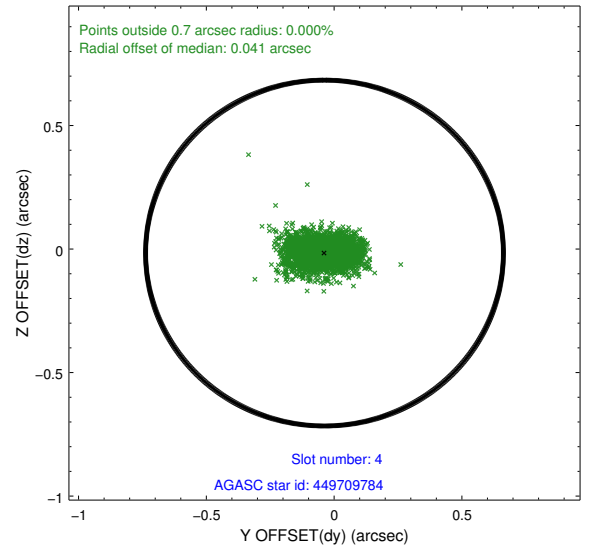
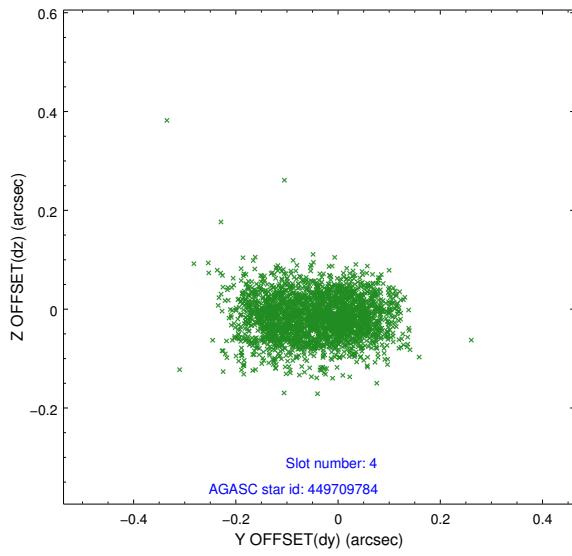
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.10	1258	0.001	0.070	0.008	0.014	0.000000	0.000000	923.22	-838.29
1	FID	ACIS-I-2	7.01	1258	-0.126	-0.097	0.008	0.014	0.000000	0.000000	-770.35	-845.49
2	FID	ACIS-I-6	7.11	1258	0.034	0.094	0.008	0.014	0.000000	0.000000	388.35	1702.95
3	GUIDE	449708784	9.24	2510	0.148	-0.075	0.116	0.194	139.281247	51.322176	1076.75	683.78
4	GUIDE	449709784	8.20	2516	-0.038	-0.016	0.097	0.155	140.618555	51.014409	-1869.49	1973.66
5	GUIDE	449709864	7.84	2516	-0.191	-0.124	0.085	0.126	139.601682	51.402076	336.79	446.27
6	GUIDE	449712184	9.39	2479	0.032	0.031	0.175	0.258	138.777153	51.162194	2251.32	1175.10
7	GUIDE	449712984	8.76	2515	0.053	0.182	0.077	0.121	139.803051	51.633381	-164.95	-355.77

## 2.4 Star Slots

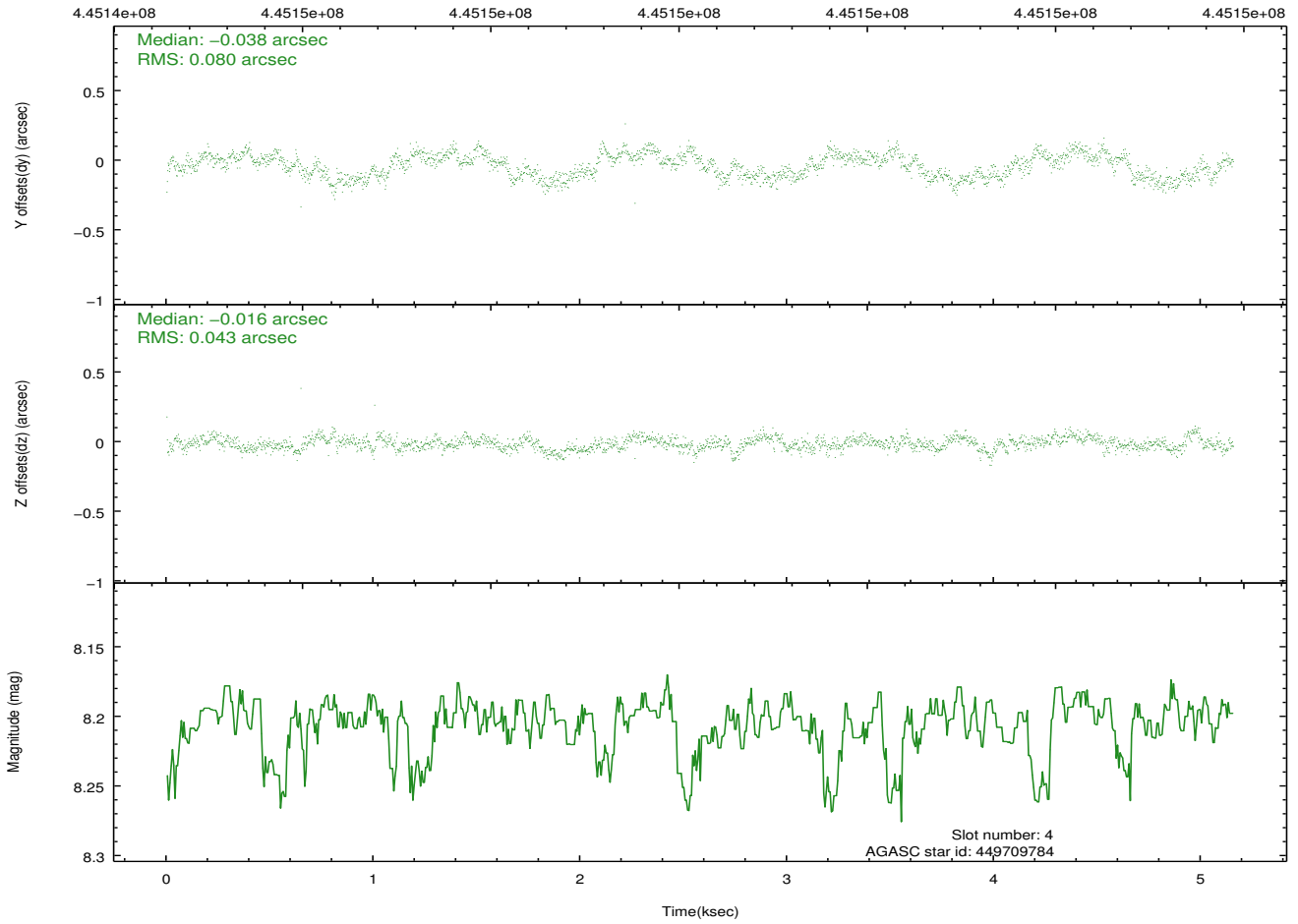
### 2.4.1 Slot 3



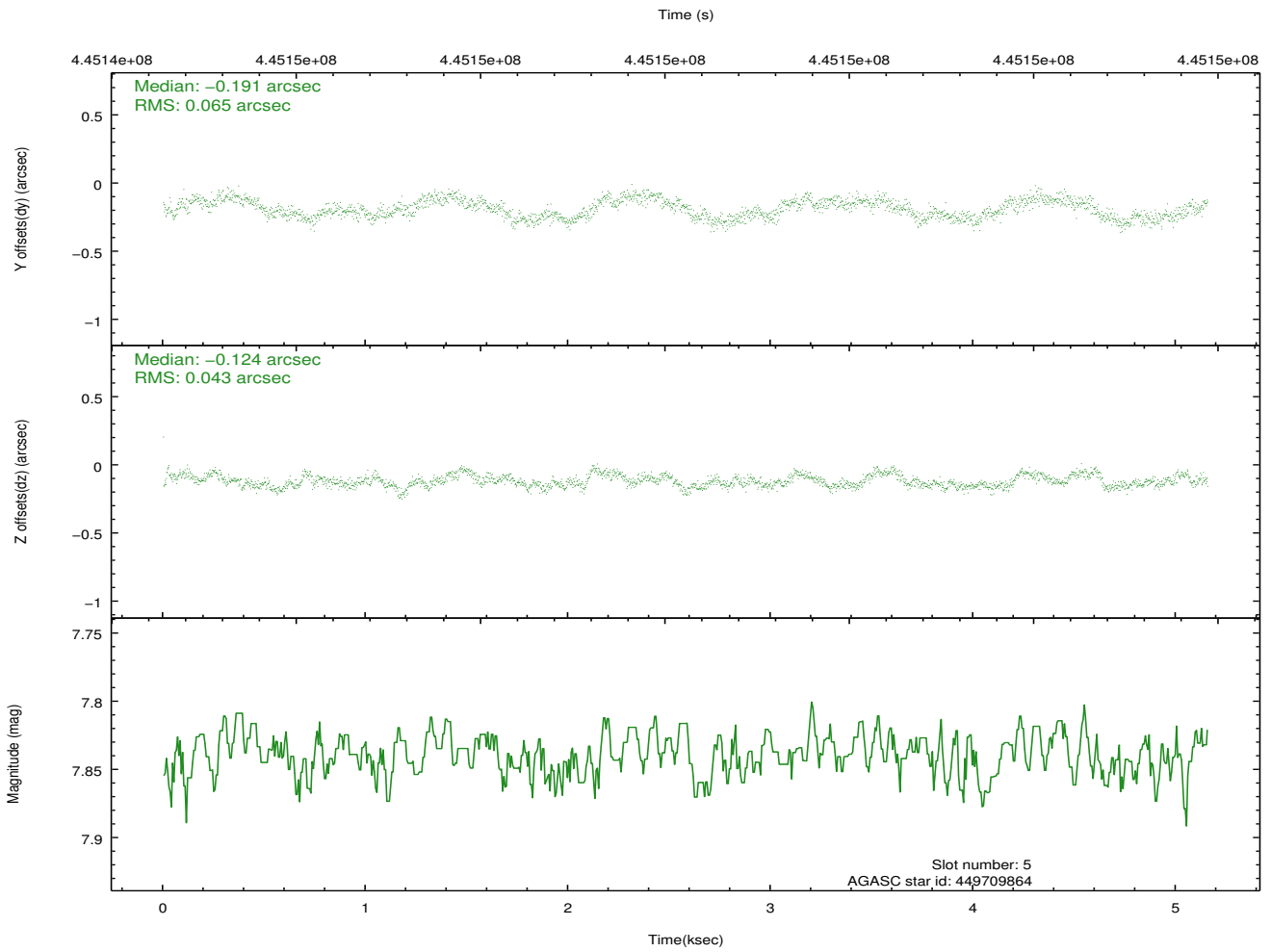
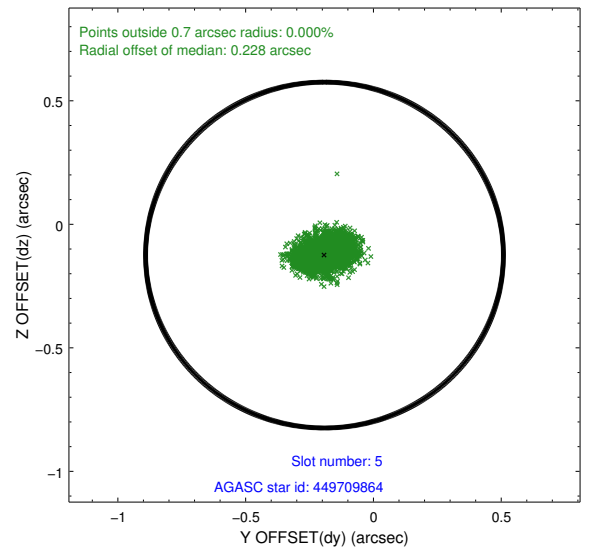
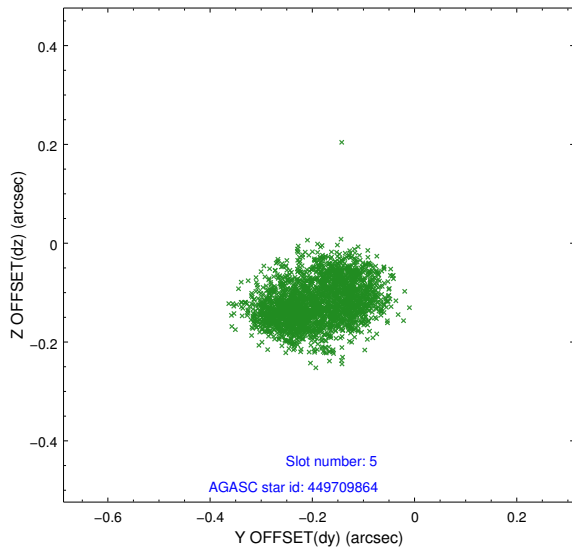
## 2.4.2 Slot 4



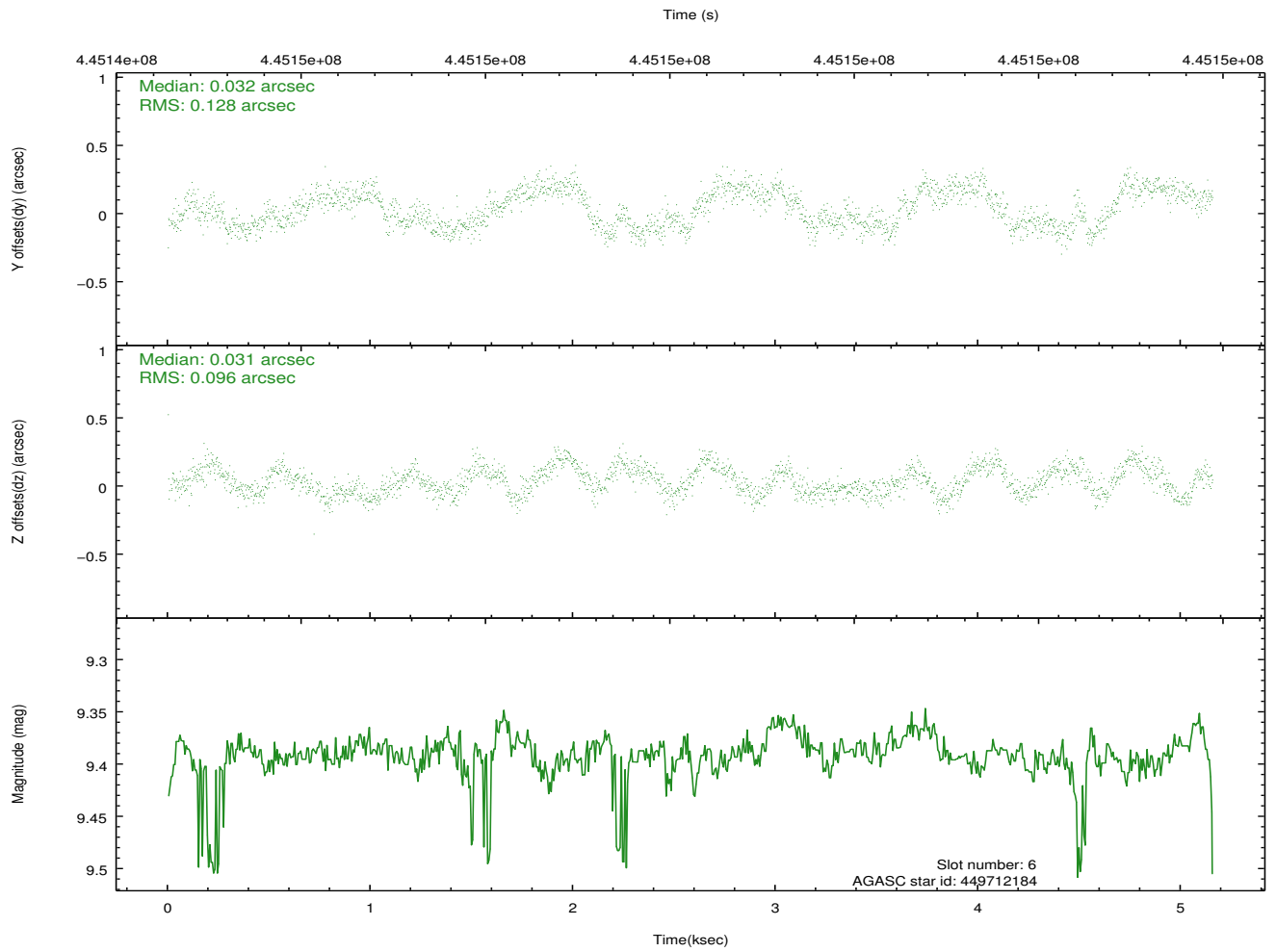
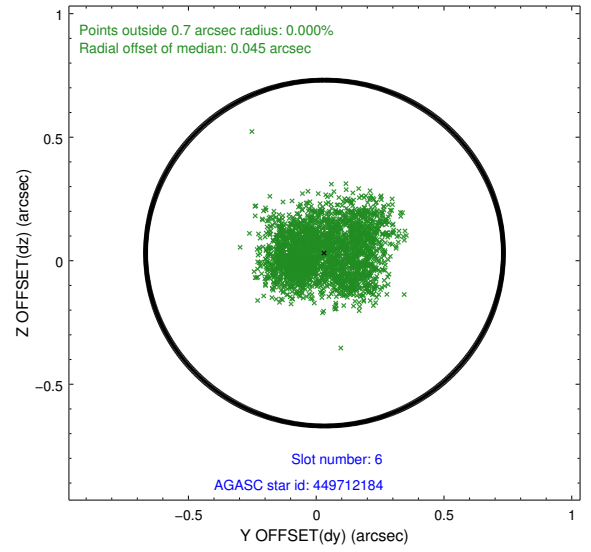
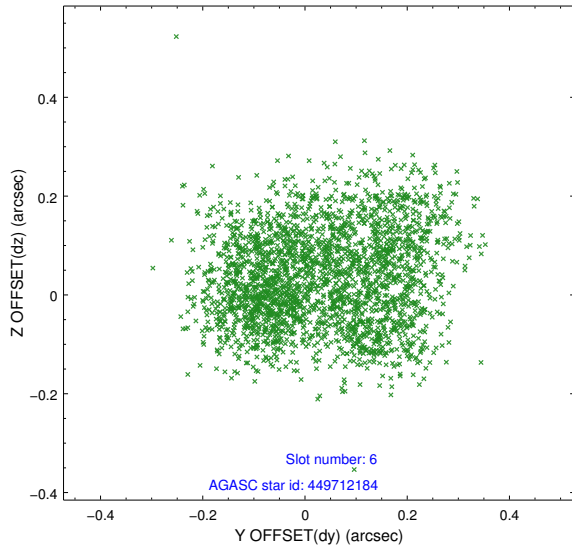
Time (s)



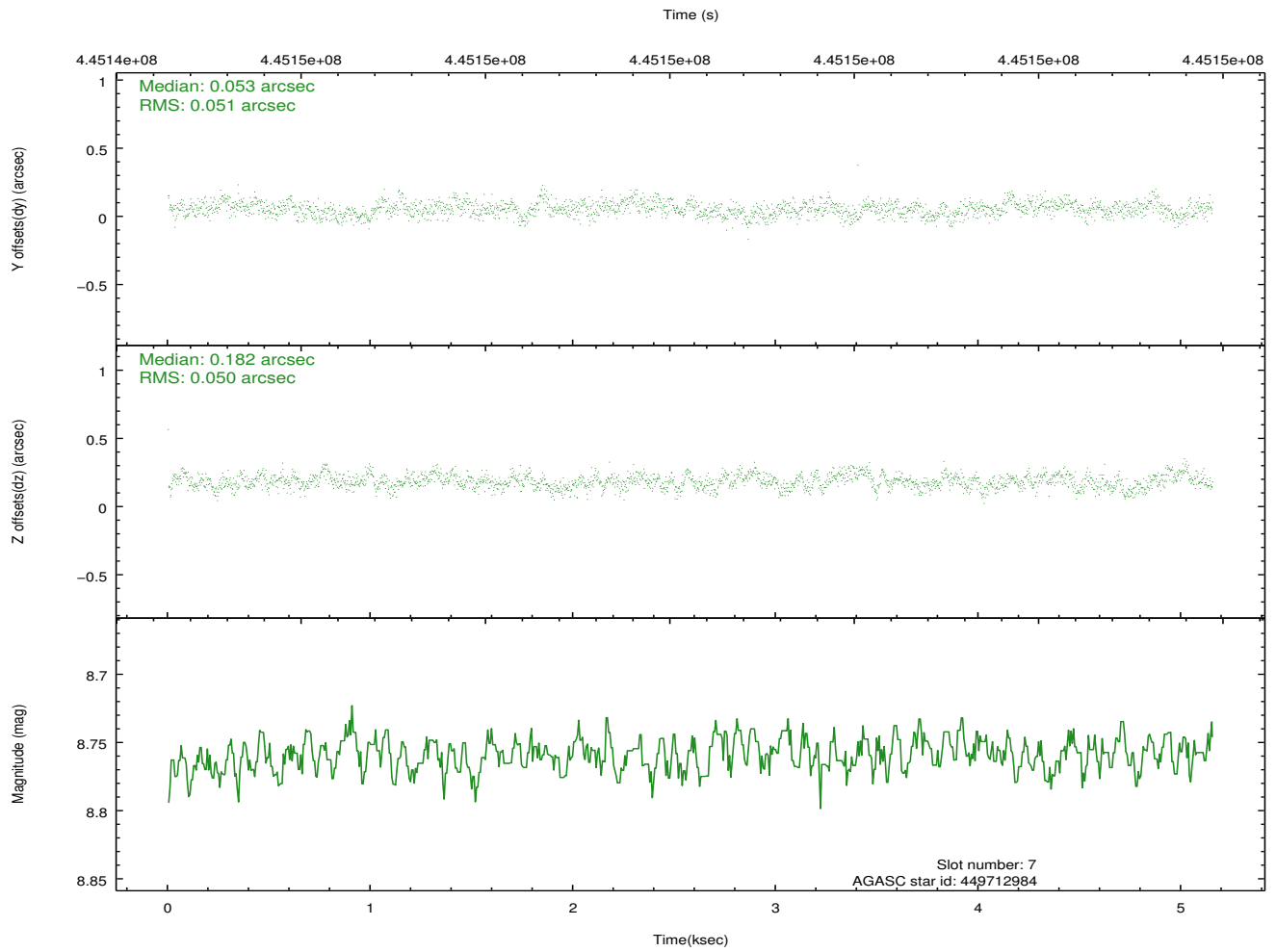
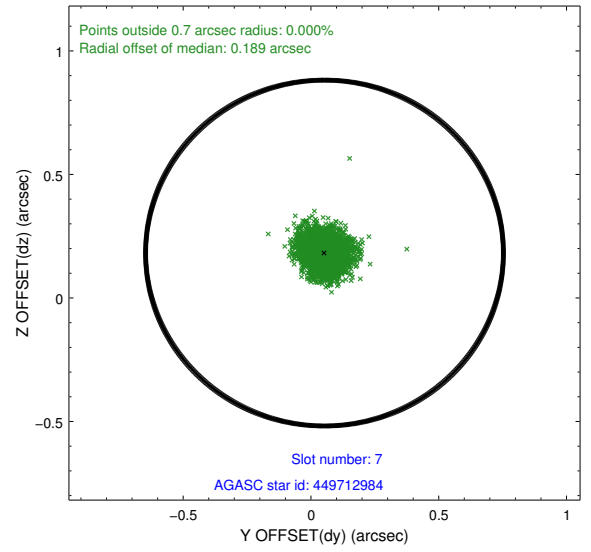
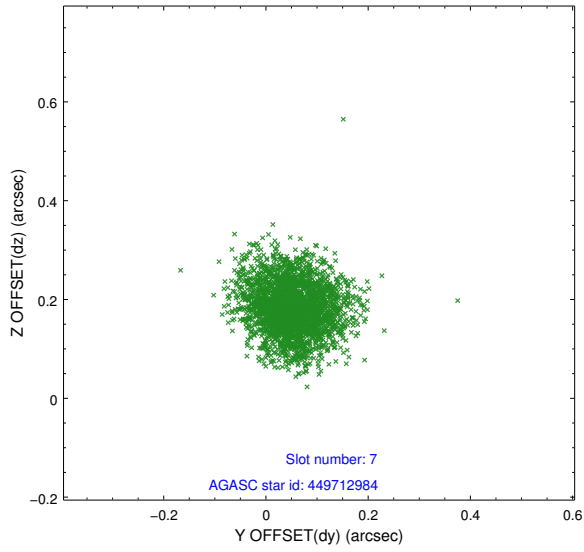
### 2.4.3 Slot 5



## 2.4.4 Slot 6

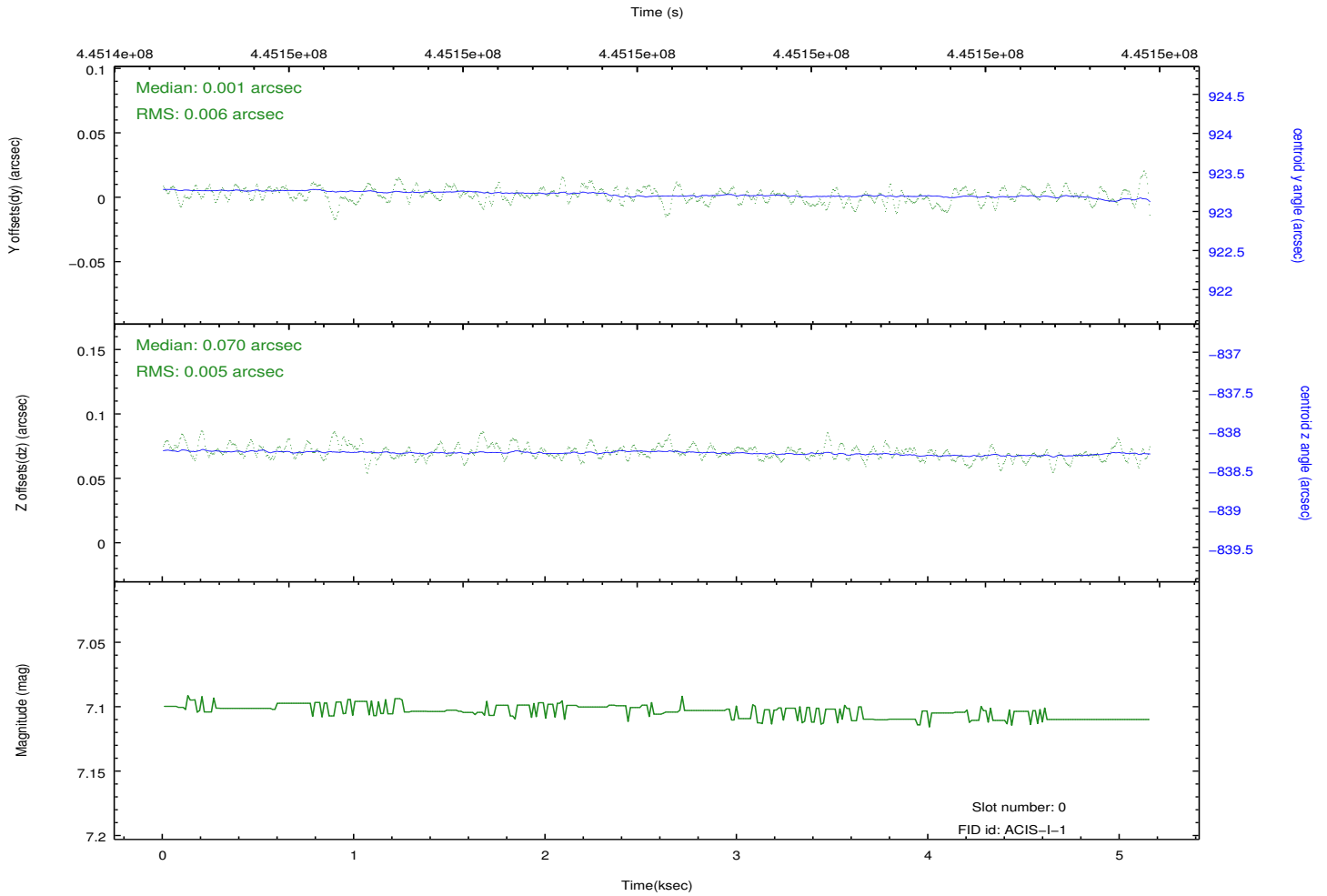
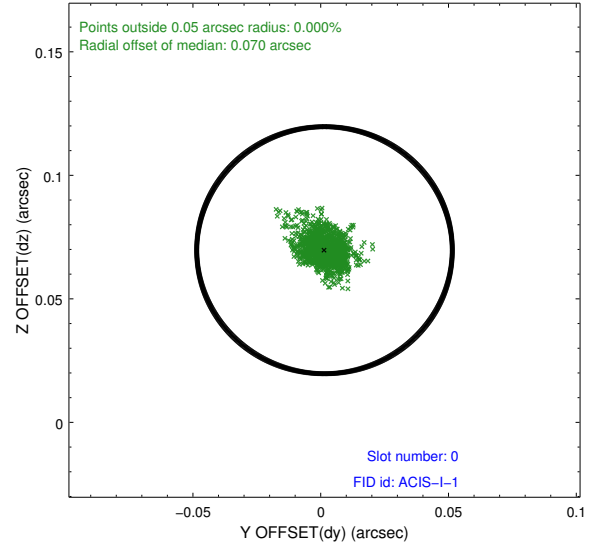
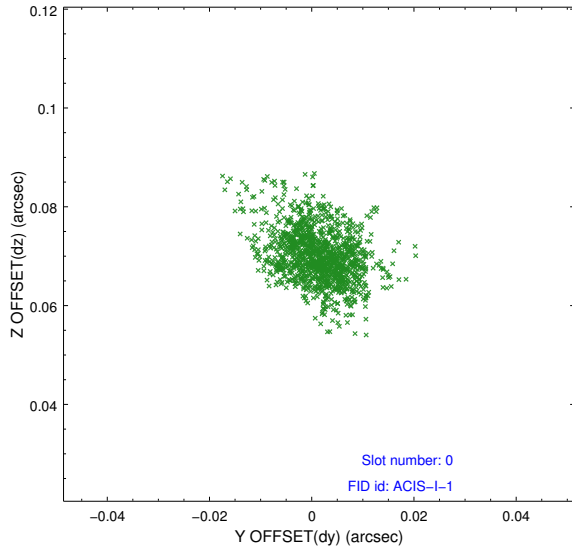


### 2.4.5 Slot 7

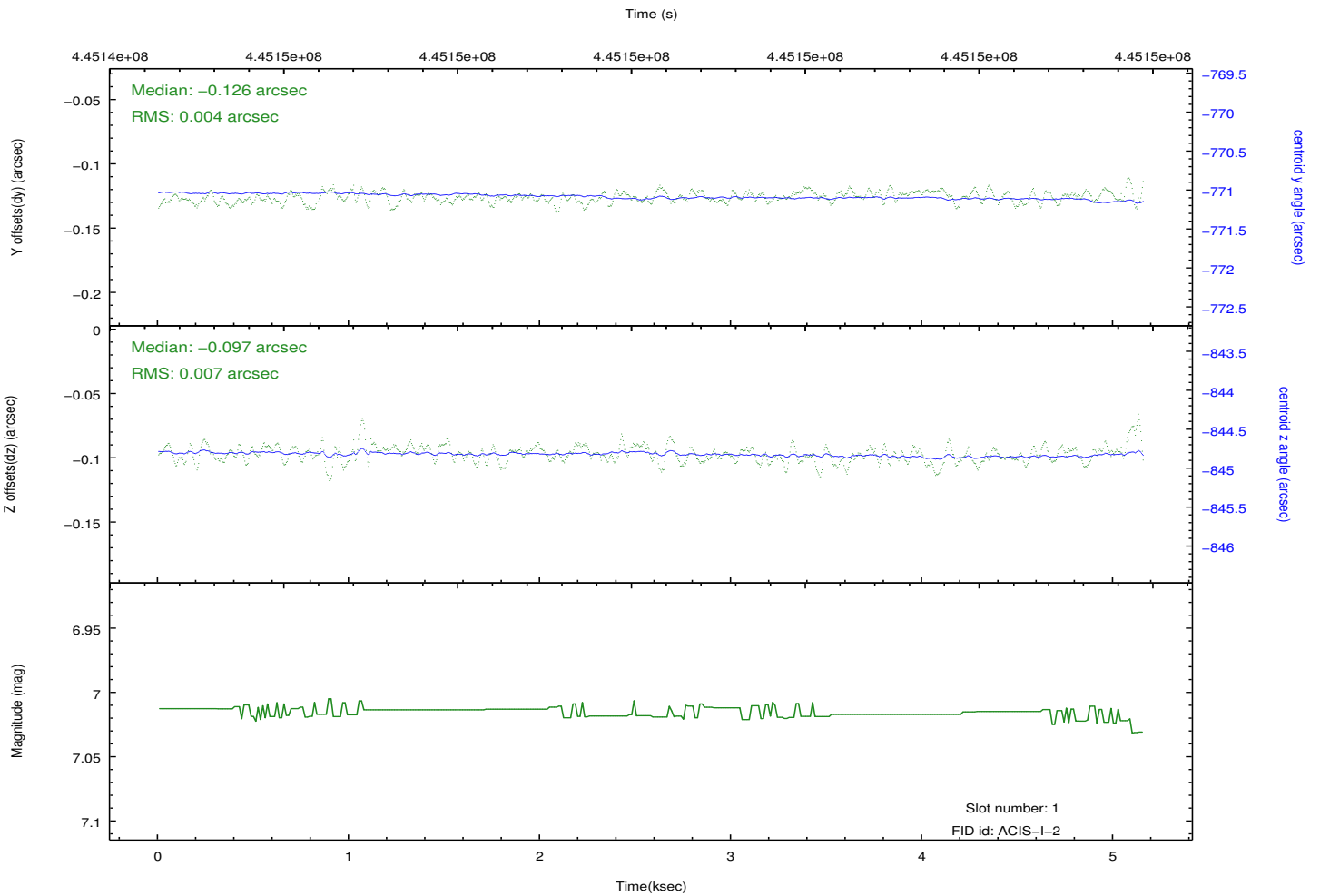
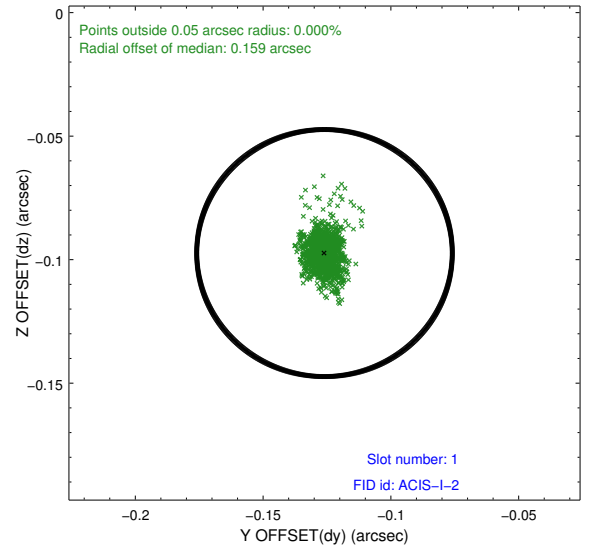
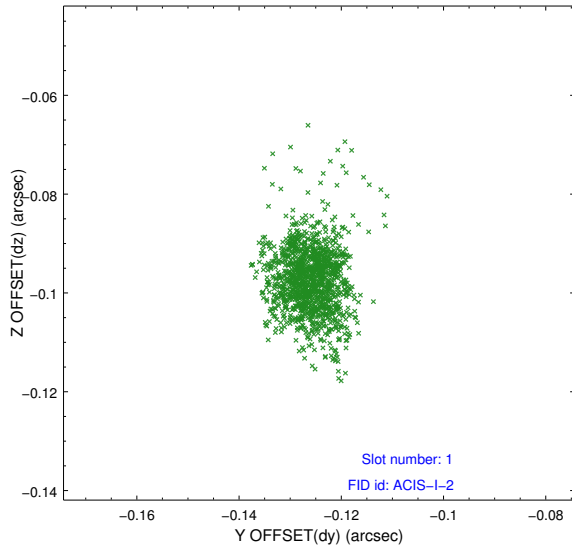


## 2.5 FID Slots

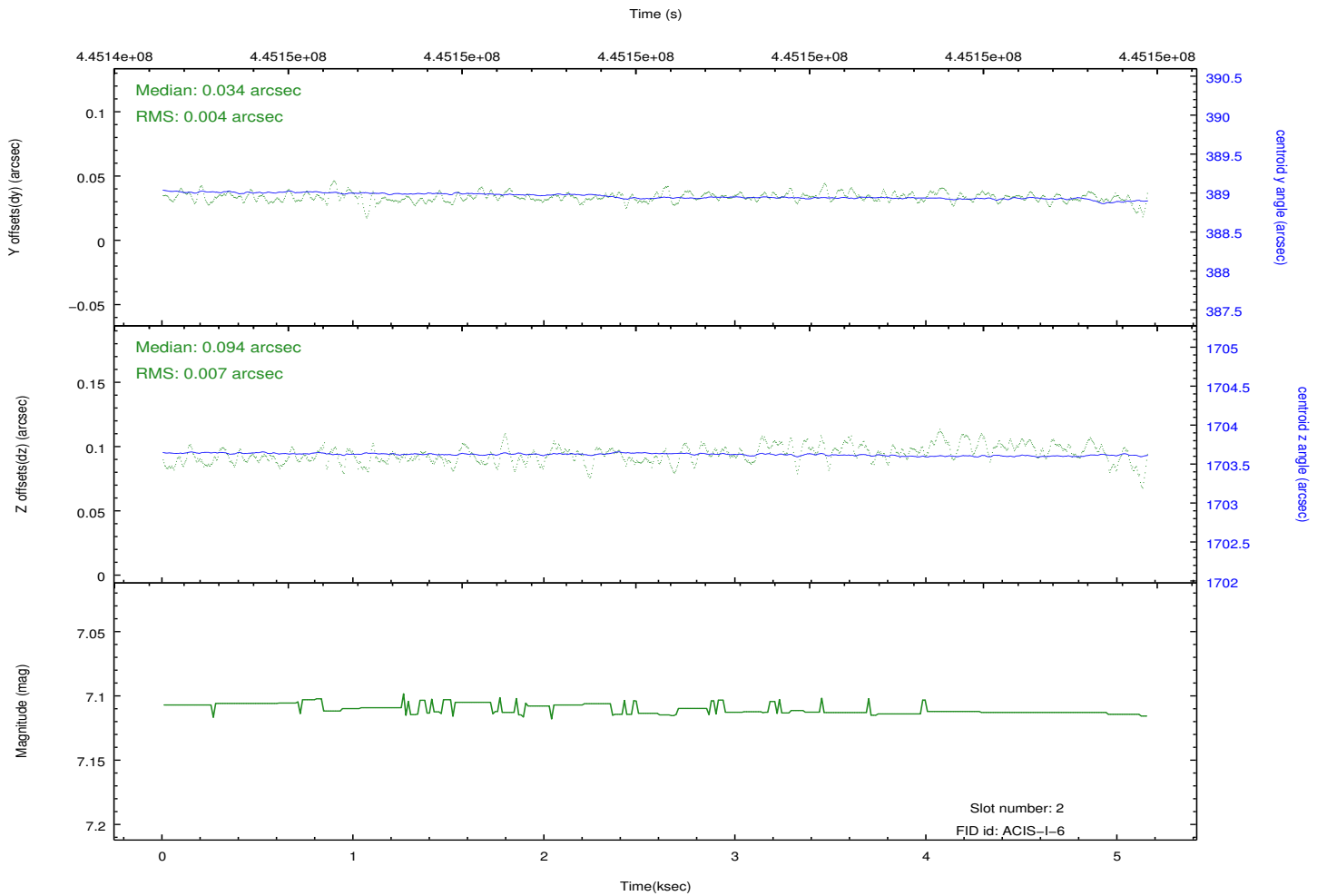
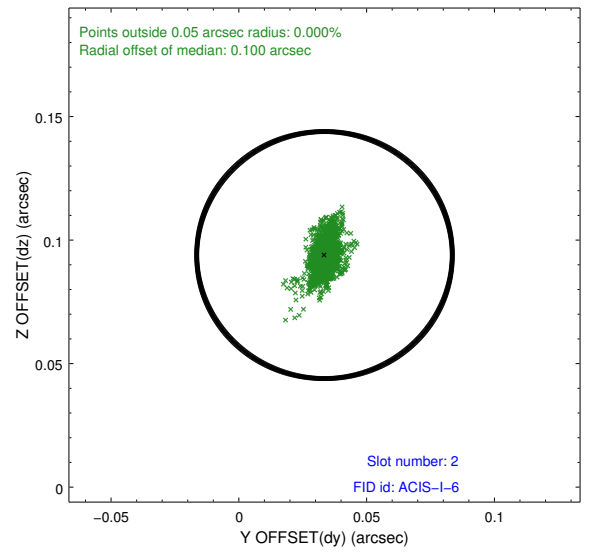
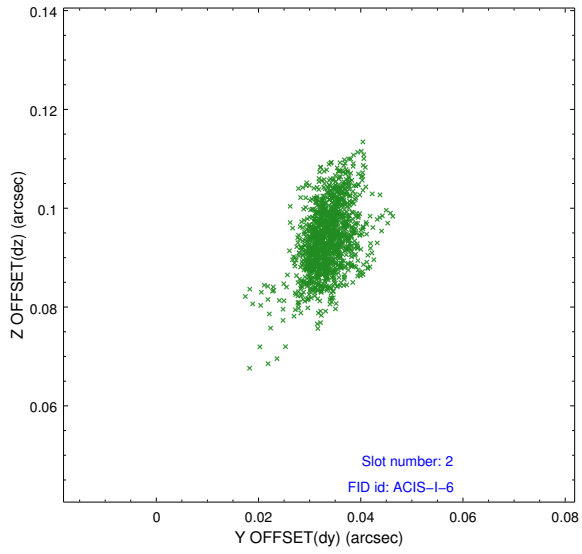
### 2.5.1 Slot 0



## 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)	2012.02.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.0804878304005

## 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.