

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 12196 - L2 Version 2  
Chandra X-Ray Center

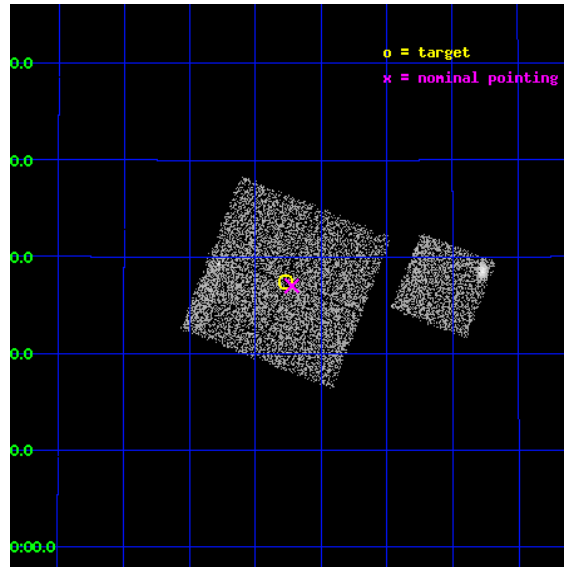
L2 Processing Date : Mar 7 2012

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# 1 Front

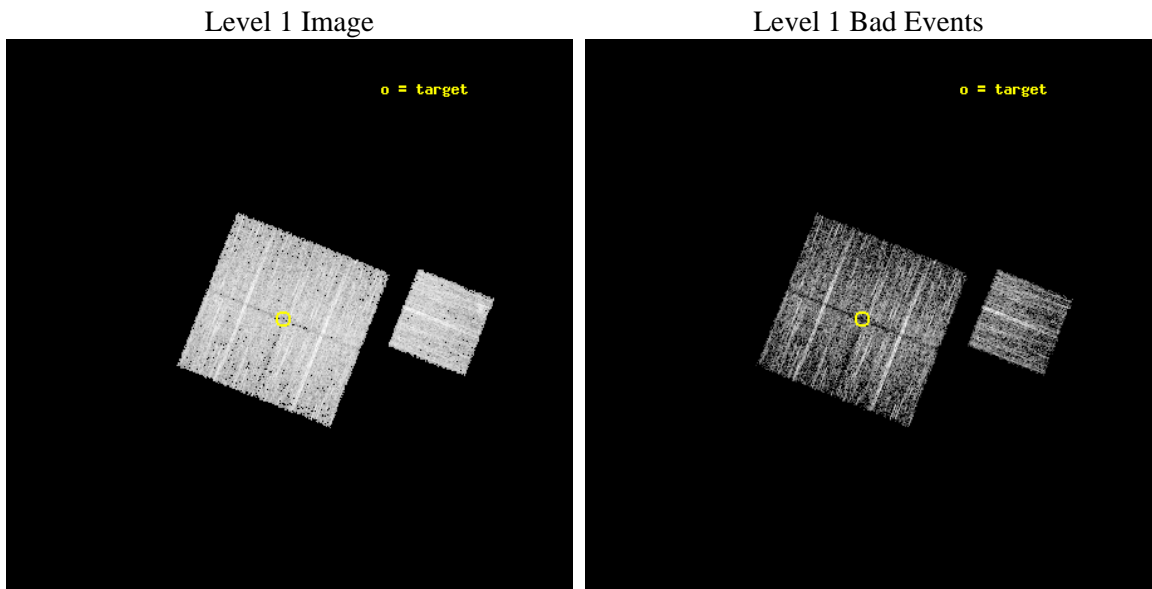
seq_num	800962	Sequence number
obs_id	12196	Observation id
title	The Chandra Cluster Outskirts Snapshot Survey	Proposal title
observer	Prof. Gordon Garmire	Principal investigator
object	A1413_Field4	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	178.56632	Observer's specified target RA [deg]
dec_targ	23.45669	Observer's specified target Dec [deg]
ra_nom	178.5555456487	Nominal RA [deg]
dec_nom	23.450260395416	Nominal Dec [deg]
roll_nom	111.67596694807	Nominal Roll [deg]
revision	2	Processing version of data
ontime	4772.5546734333	Sum of GTIs [s]
livetime	4710.1977331213	Livetime [s]
ontime0	4772.5136235356	Sum of GTIs [s]
ontime1	4772.5546734333	Sum of GTIs [s]
ontime2	4772.5957134366	Sum of GTIs [s]
ontime3	4769.4957432151	Sum of GTIs [s]
ontime6	4772.4725835323	Sum of GTIs [s]
l2events	14914	Number of level 2 events



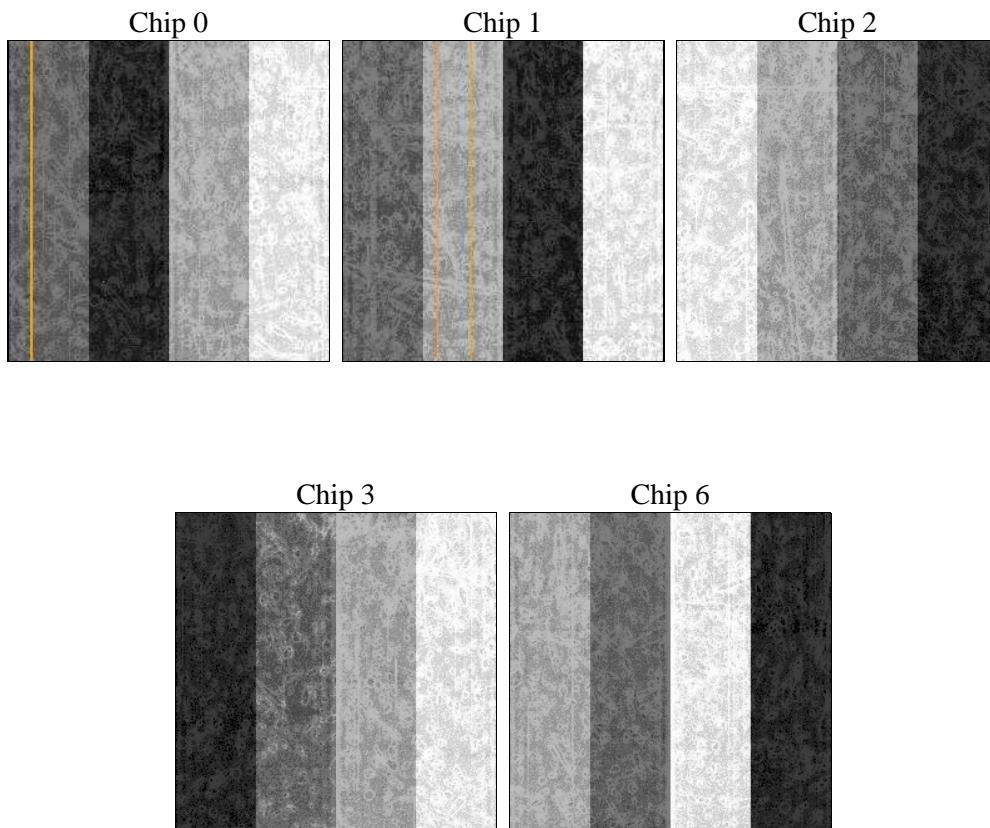
## 2 OBI

### 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	4772.5546734333	Sum of GTIs [s]
caldsver	4.4.8	&#160	ontime0	4772.5136235356	Sum of GTIs [s]
date	2012-03-07T19:49:21	Date and time of file creation	ontime1	4772.5546734333	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	4772.5957134366	Sum of GTIs [s]
			ontime3	4769.4957432151	Sum of GTIs [s]
			ontime6	4772.4725835323	Sum of GTIs [s]
			l1events	139675	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	25138	26550	29538	28315	30134
rejected events	21823	22648	26310	25171	26329
rejected %	86%	85%	89%	88%	87%

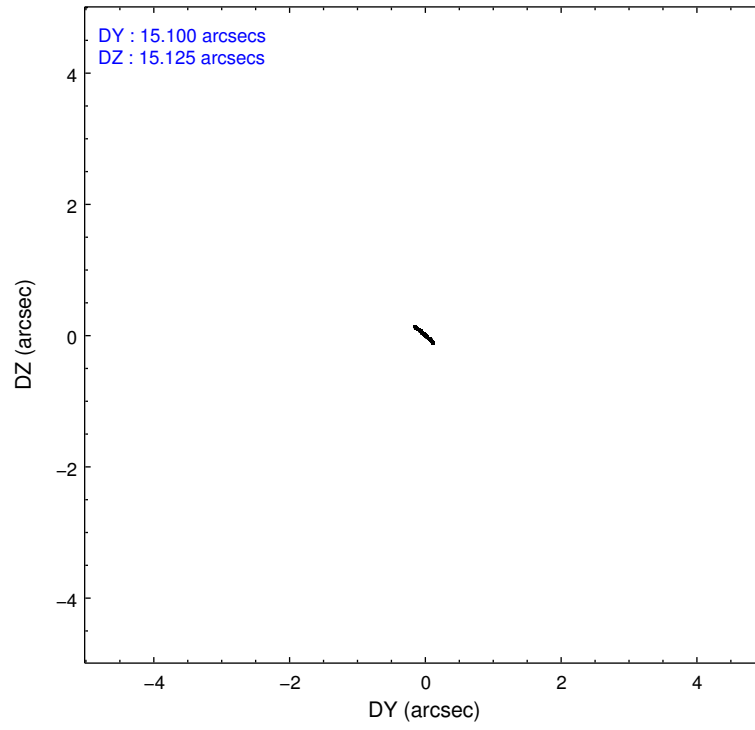
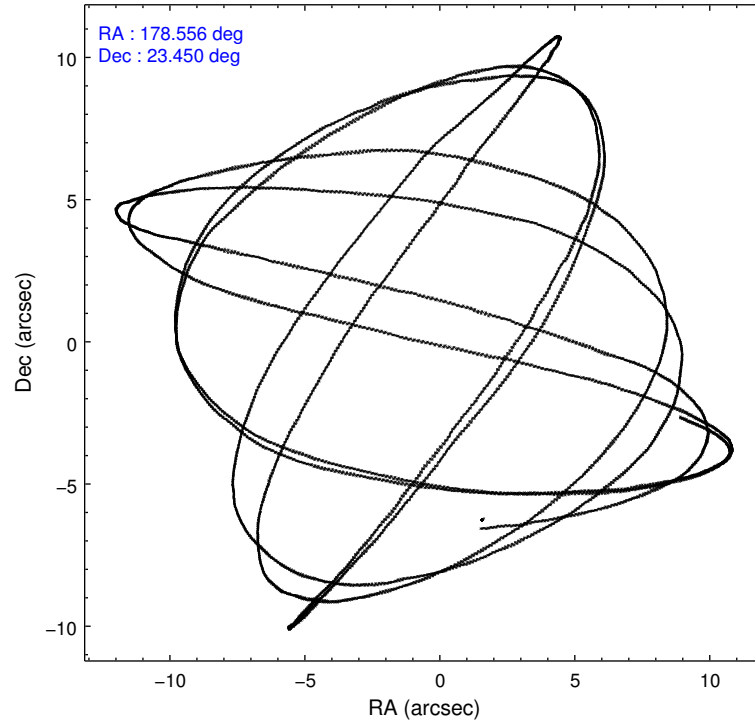
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	1174	1415	1129	1131	1528
	4%	5%	3%	3%	5%
grade 1 events	12	11	16	17	20
	0%	0%	0%	0%	0%
grade 2 events	772	903	769	688	805
	3%	3%	2%	2%	2%
grade 3 events	350	363	378	361	348
	1%	1%	1%	1%	1%
grade 4 events	323	403	341	340	362
	1%	1%	1%	1%	1%
grade 5 events	1294	1332	1254	1419	1318
	5%	5%	4%	5%	4%
grade 6 events	701	824	615	629	767
	2%	3%	2%	2%	2%
grade 7 events	20512	21299	25036	23730	24986
	81%	80%	84%	83%	82%

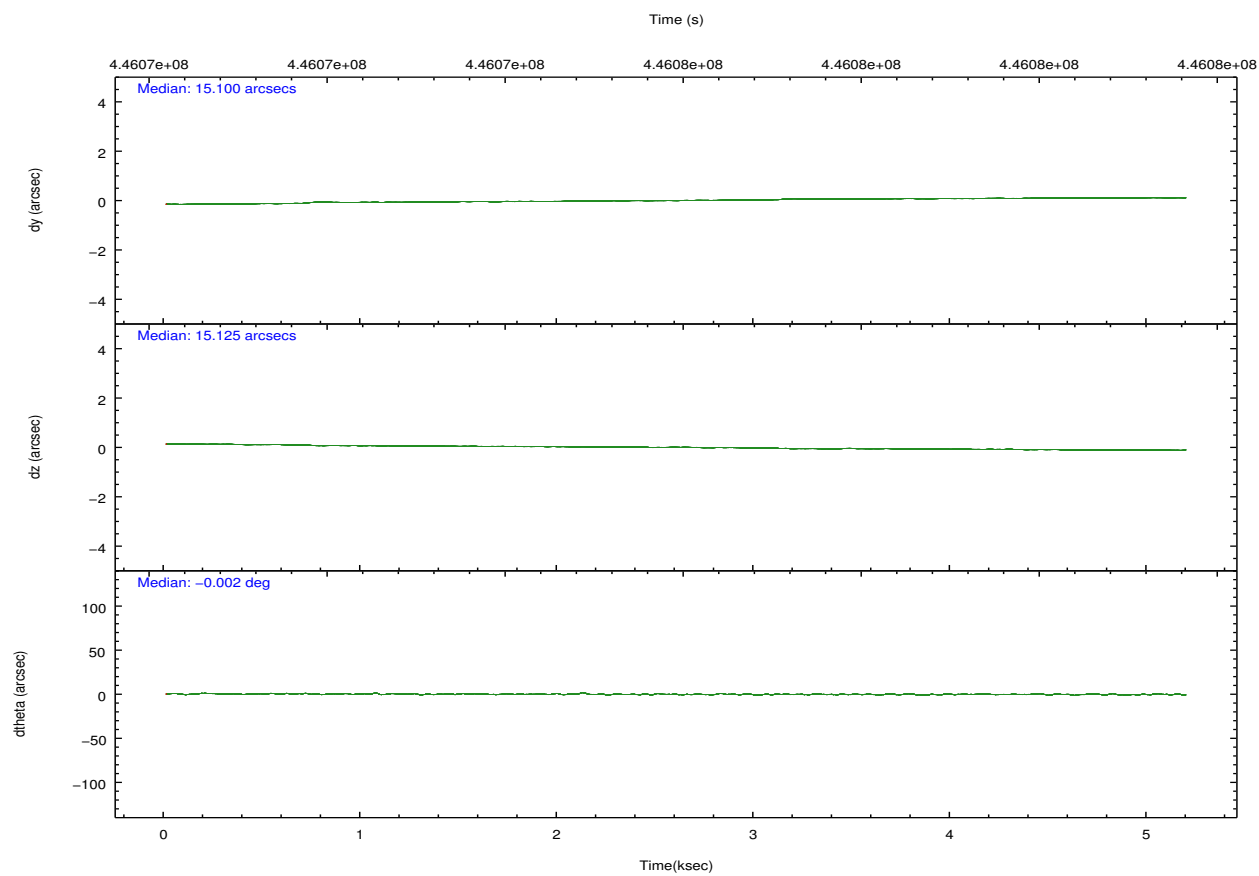
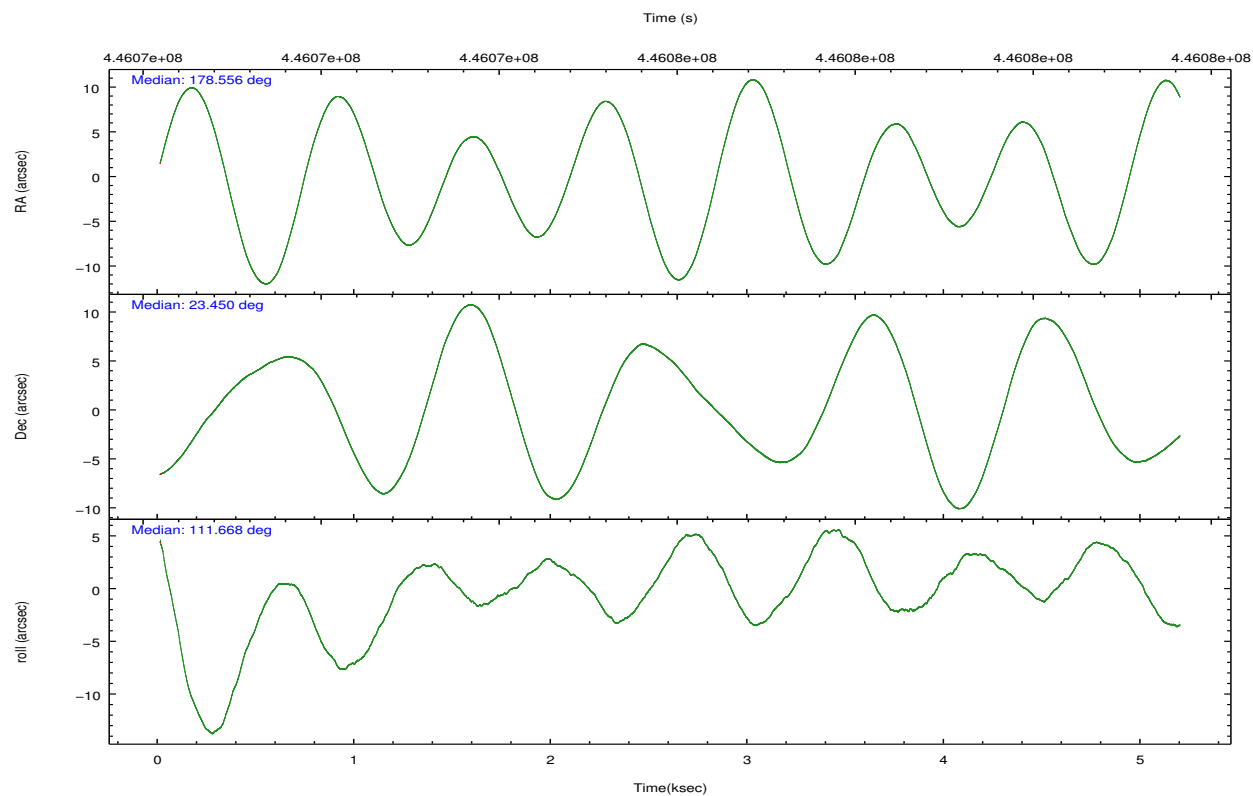


## 2.2 Compared Parameters

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	178.579060	178.5555456487023	CCD I2 on	Y	Y
[deg] Pointing Dec	23.433340	23.45026039541576	CCD I3 on	Y	Y
[deg] Pointing Roll	111.457910	111.6759669480683	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)	446072555.184000	446072179.06128	CCD S5 on	N	N
Observation start date	2012-02-19T21:01:29	2012-02-19T20:56:19	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	446077555.184000	446078588.38662	On-chip summing requested	N	N
Observation end date	2012-02-19T22:24:49	2012-02-19T22:43:08	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



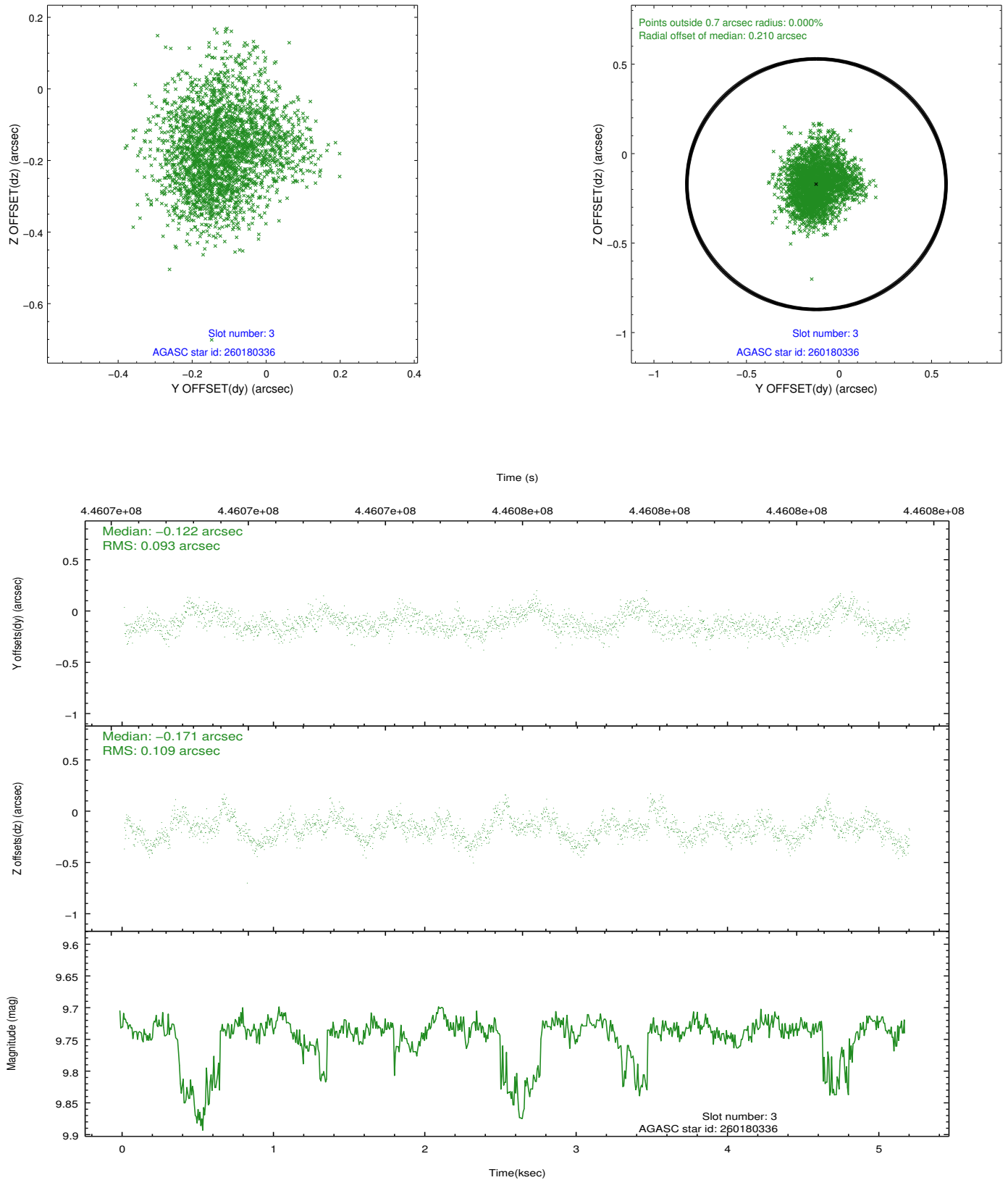


### Slot Statistics

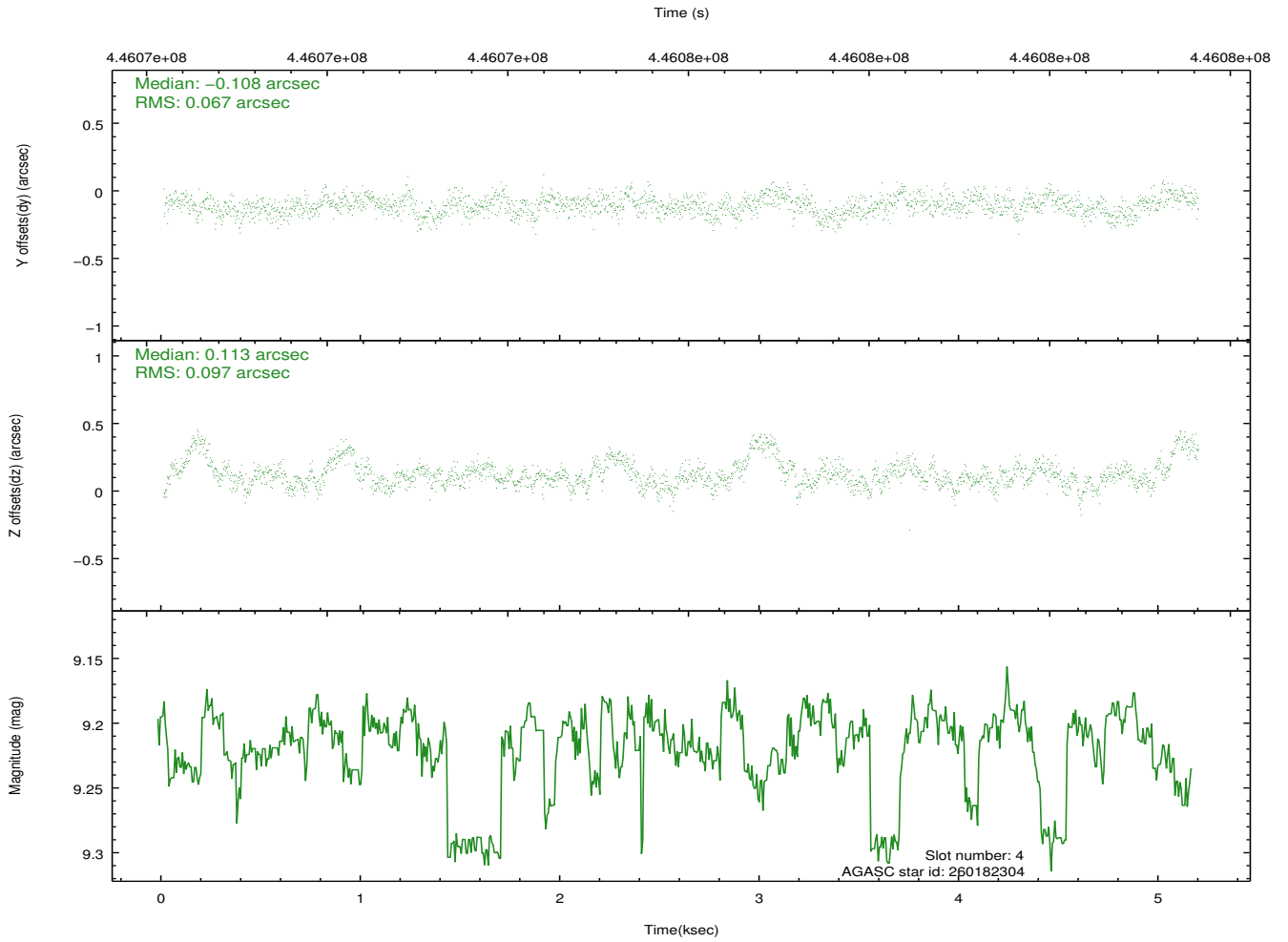
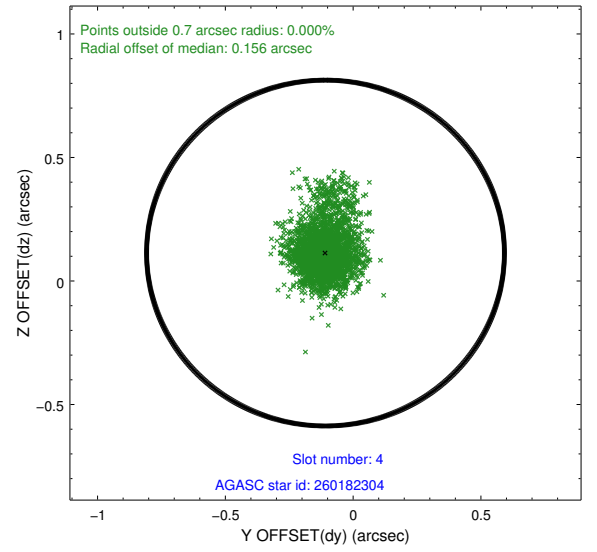
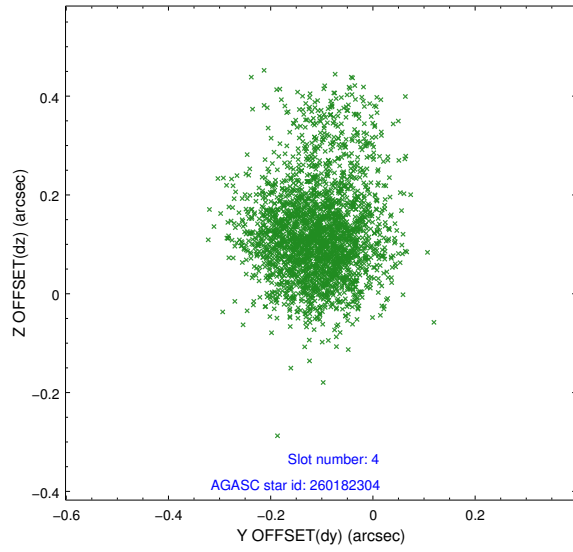
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.04	1266	0.035	-0.004	0.007	0.013	0.000000	0.000000	924.40	-838.72
1	FID	ACIS-I-5	7.03	1266	-0.221	0.038	0.006	0.009	0.000000	0.000000	-1823.34	1058.20
2	FID	ACIS-I-6	7.03	1266	0.095	0.037	0.007	0.011	0.000000	0.000000	388.71	1704.04
3	GUIDE	260180336	9.74	2524	-0.122	-0.171	0.155	0.242	178.222989	23.655513	1175.03	800.83
4	GUIDE	260182304	9.22	2522	-0.108	0.113	0.116	0.227	178.643100	23.810976	1188.11	-693.79
5	GUIDE	260186296	9.58	2529	0.068	0.162	0.149	0.254	179.246996	23.604894	-225.12	-2277.67
6	GUIDE	260188952	9.50	2519	0.034	0.018	0.150	0.240	178.359974	22.948174	-1358.57	1315.13
7	GUIDE	260189672	9.12	2529	0.124	-0.134	0.106	0.170	178.136603	22.711623	-1879.05	2318.05

## 2.4 Star Slots

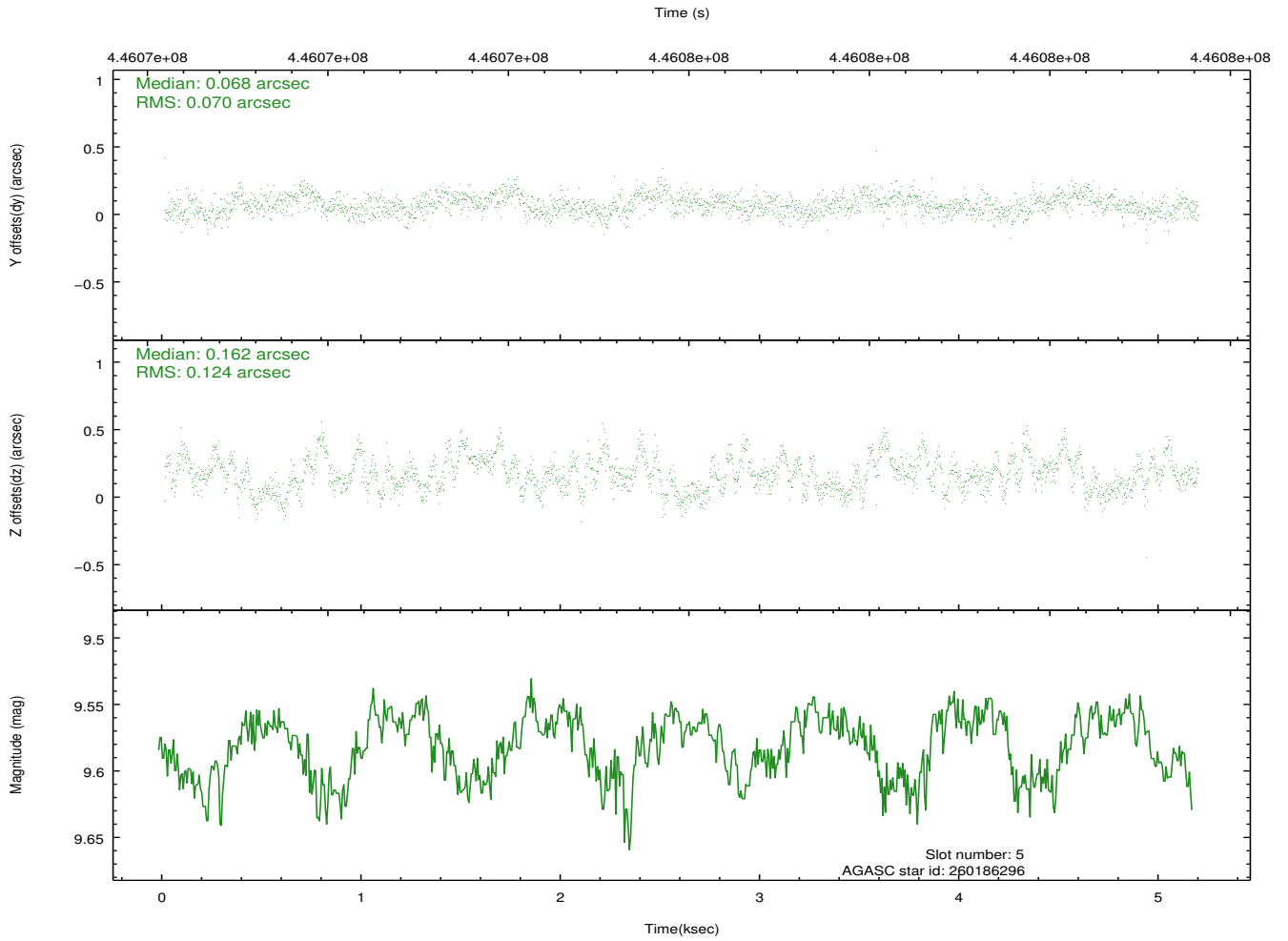
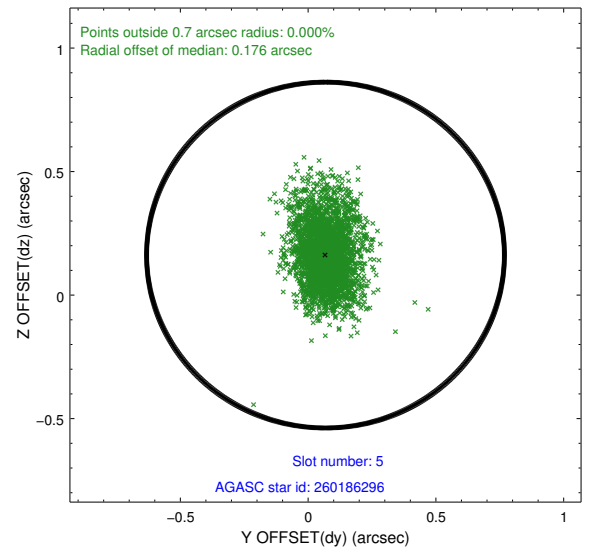
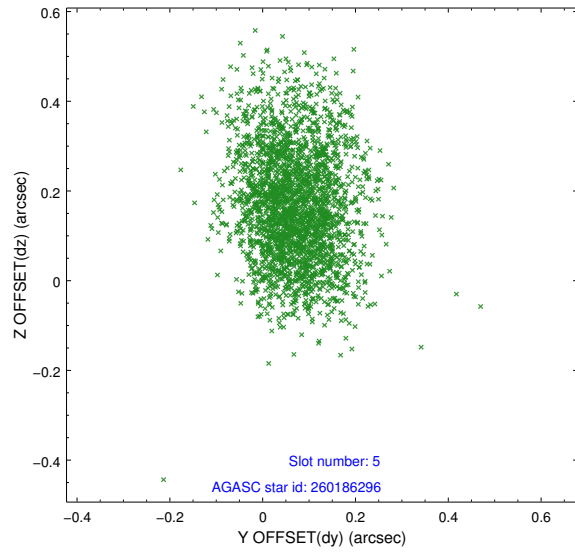
### 2.4.1 Slot 3



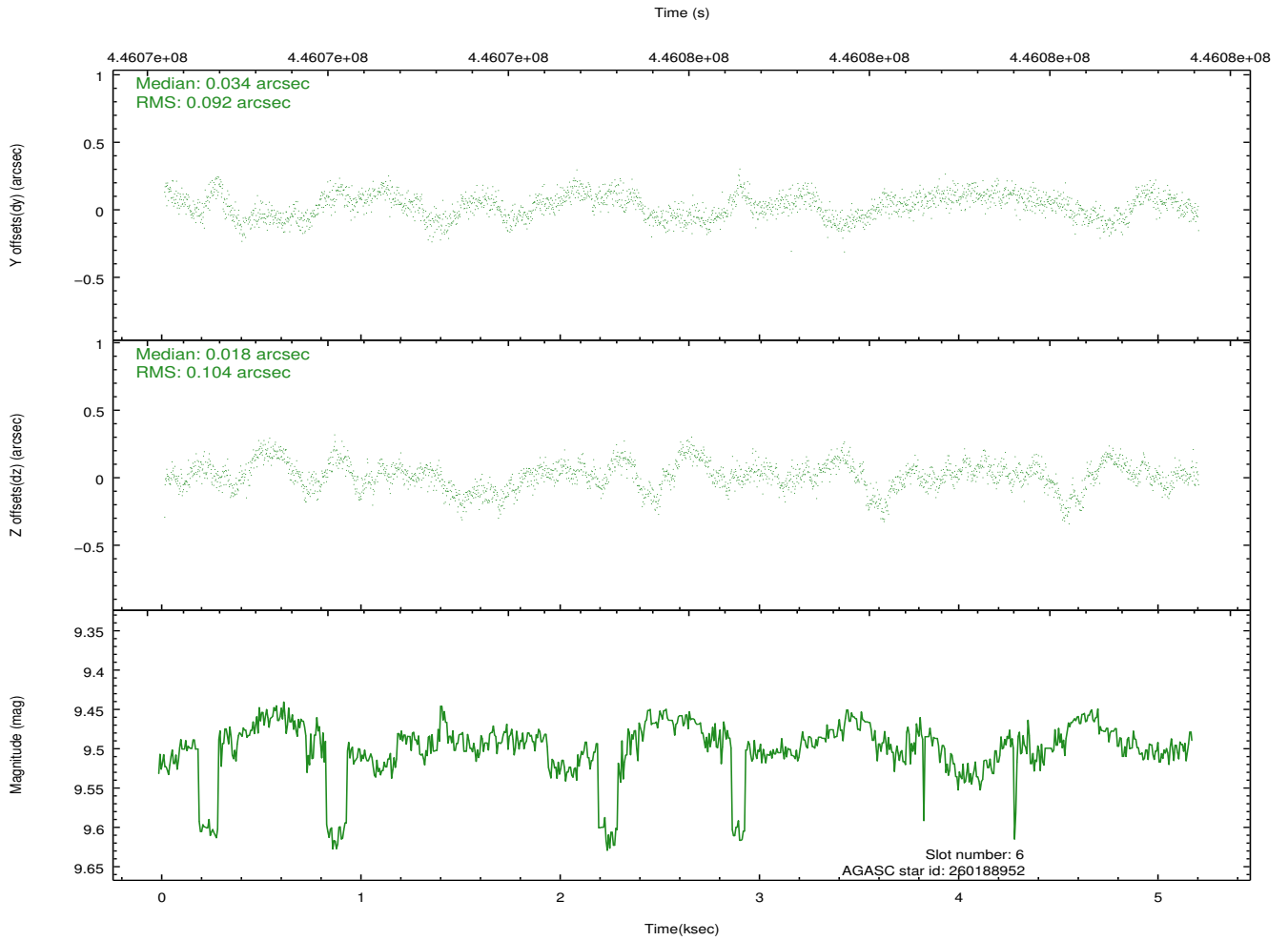
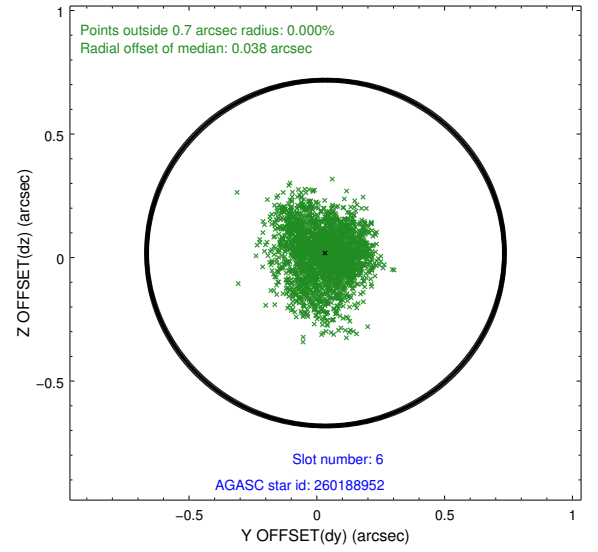
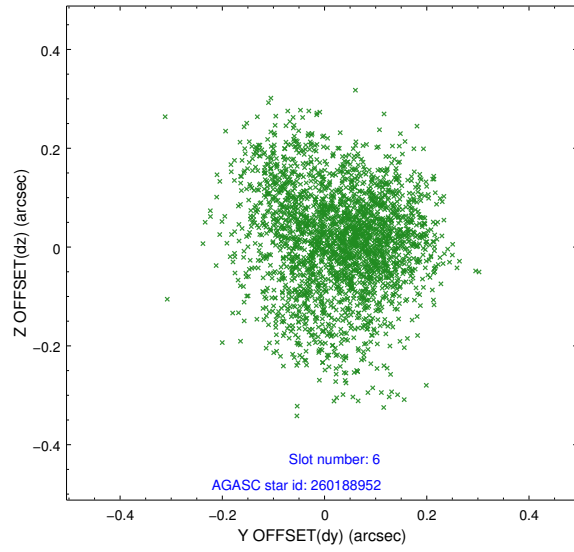
## 2.4.2 Slot 4



### 2.4.3 Slot 5

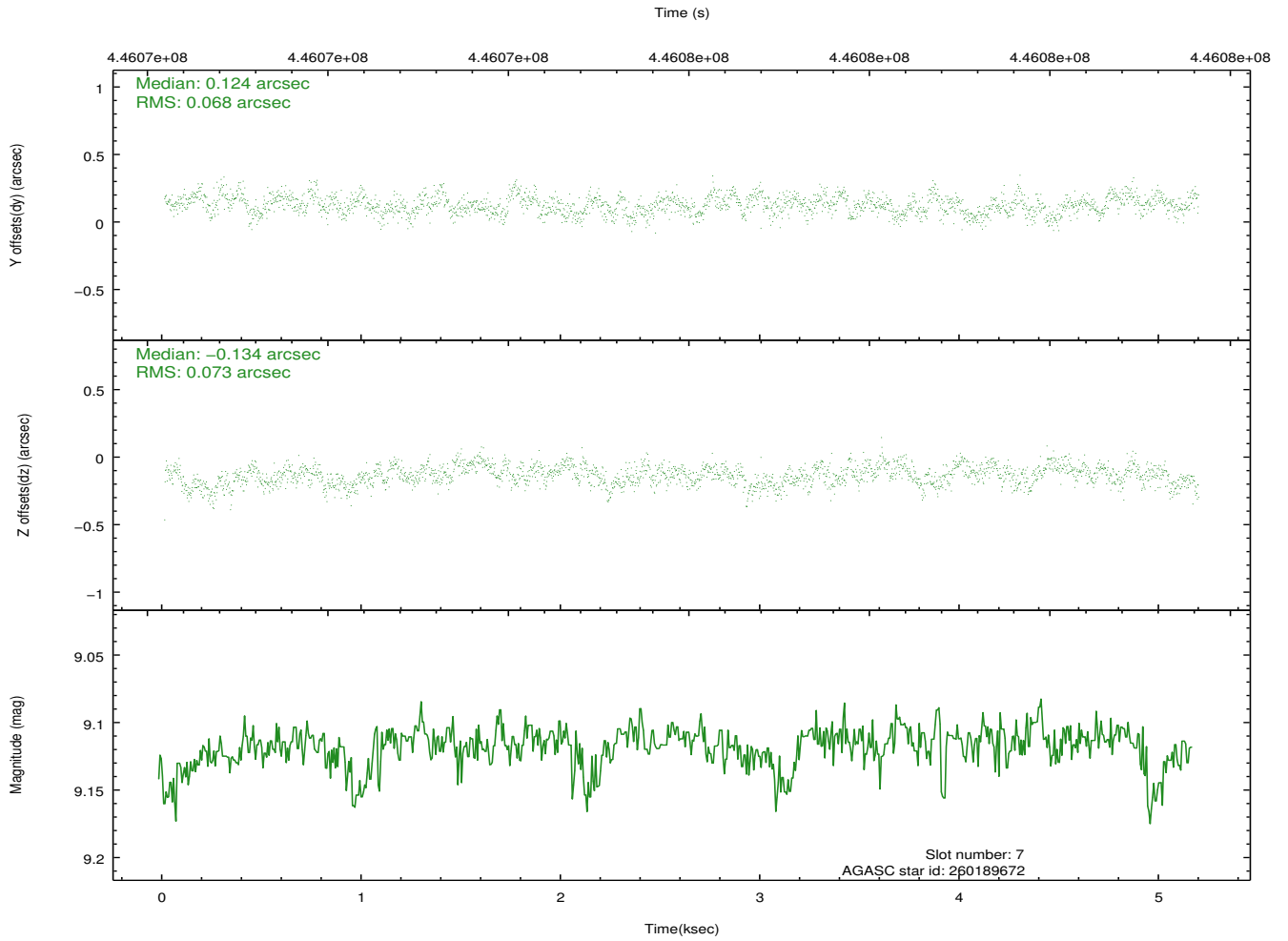
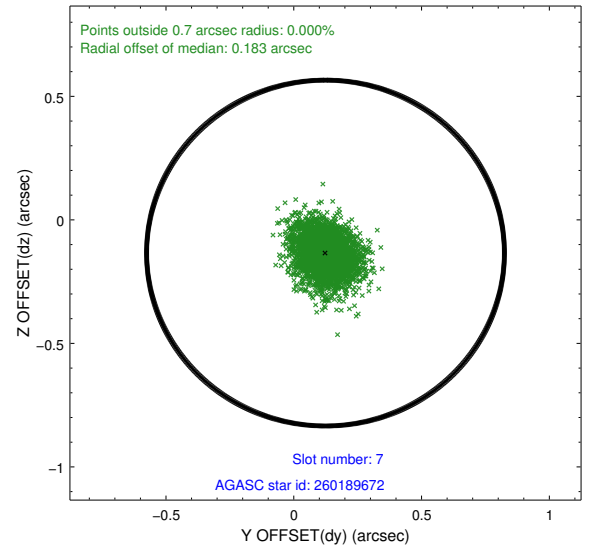
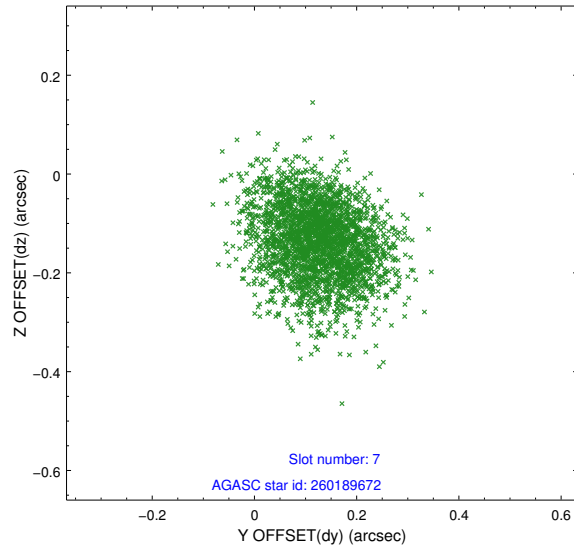


## 2.4.4 Slot 6



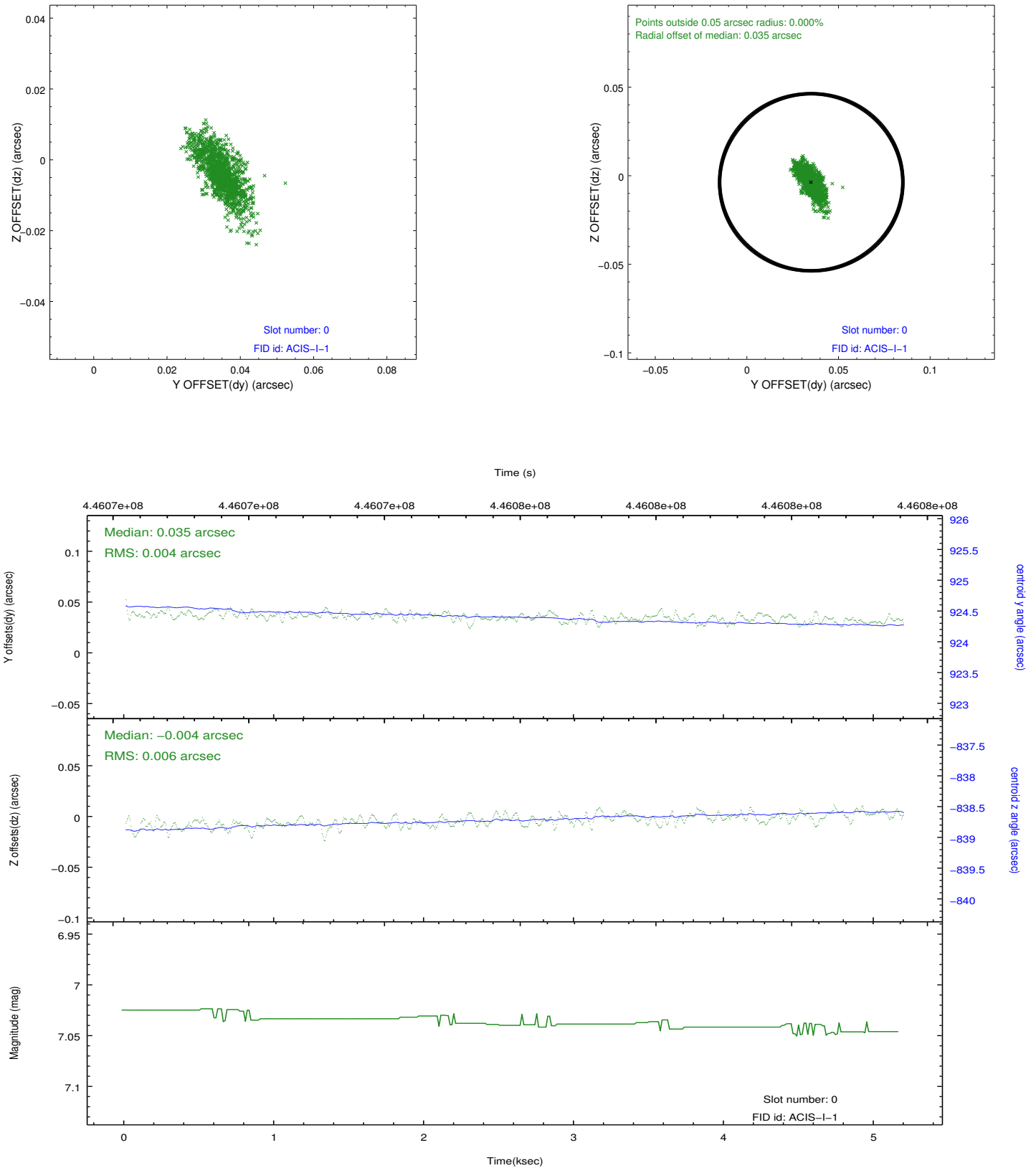


## 2.4.5 Slot 7

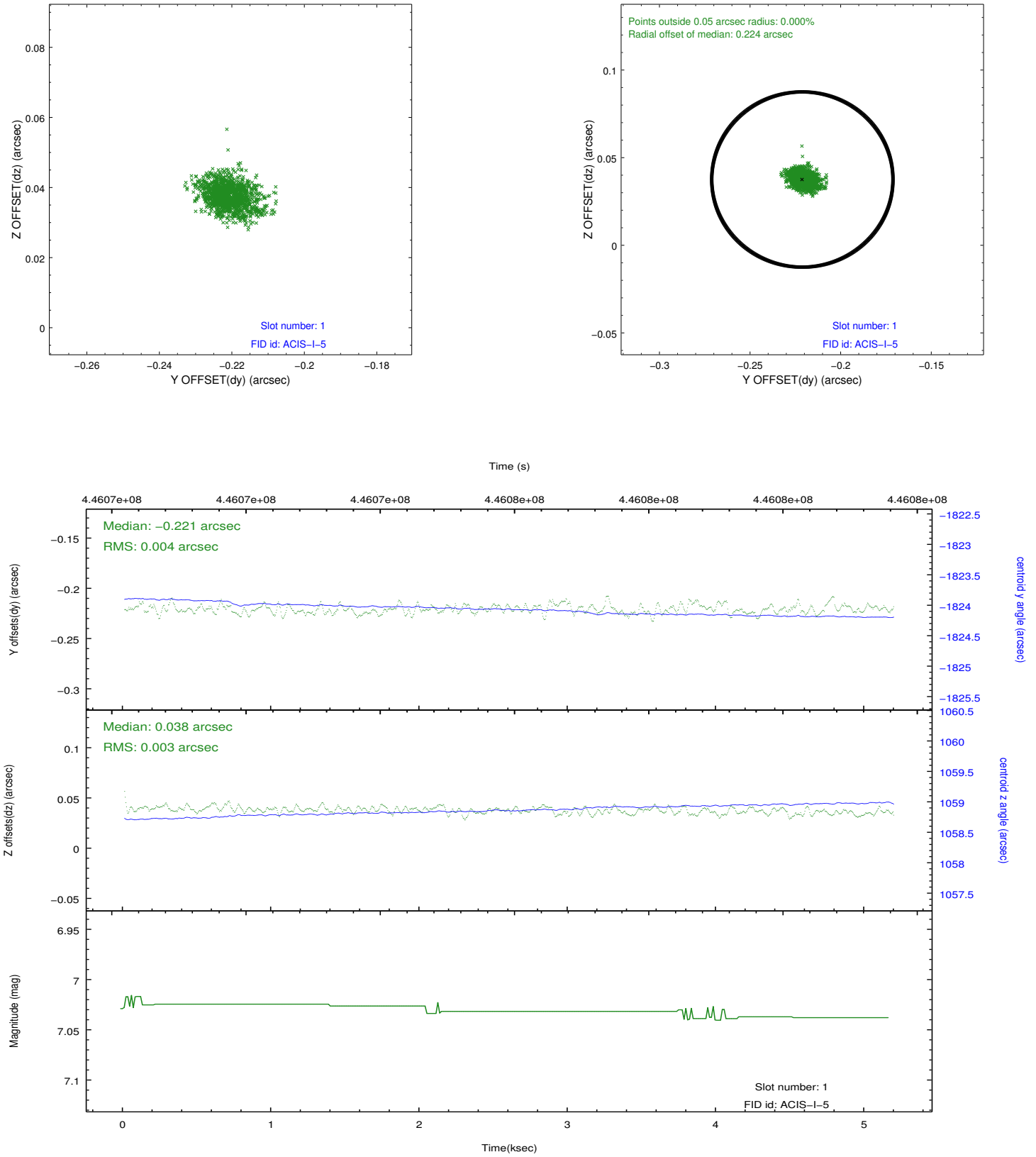


## 2.5 FID Slots

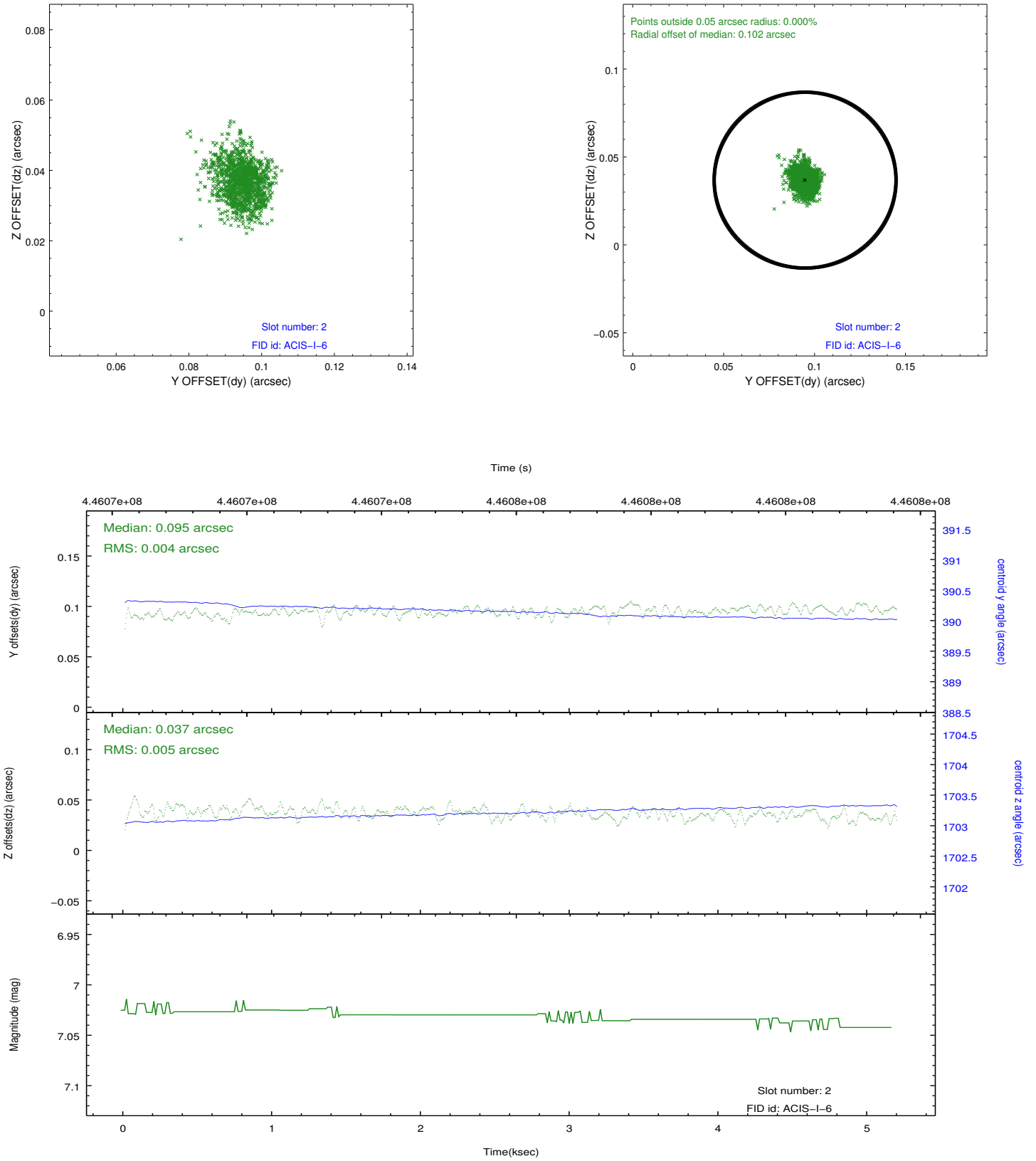
### 2.5.1 Slot 0



## 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)	2012.03.08
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.7725546734333

## A.2 Comments

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 ( $\sim 20$  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:  
(178.63723,23.32963), (178.63943,23.33044), (178.58335,23.46005), (178.58115,23.45924)