

# V&V Reference Report

## L2 ASCDS Version : 7.6.10

Observation 3182 - L2 Version 001  
Chandra X-Ray Center

L2 Processing Date : Jan 12 2007

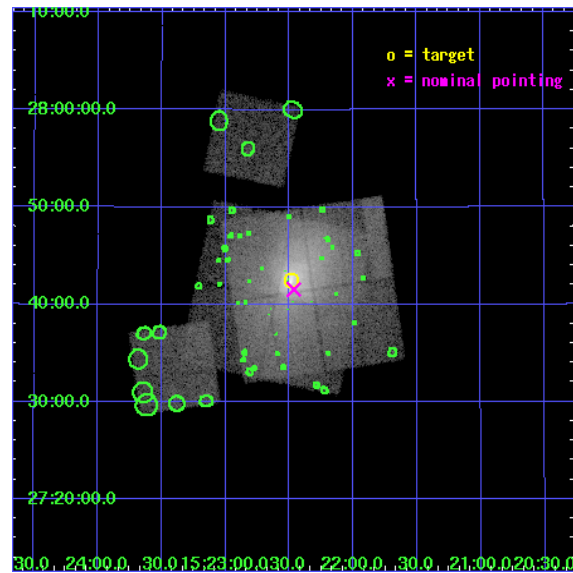
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# 1 Front

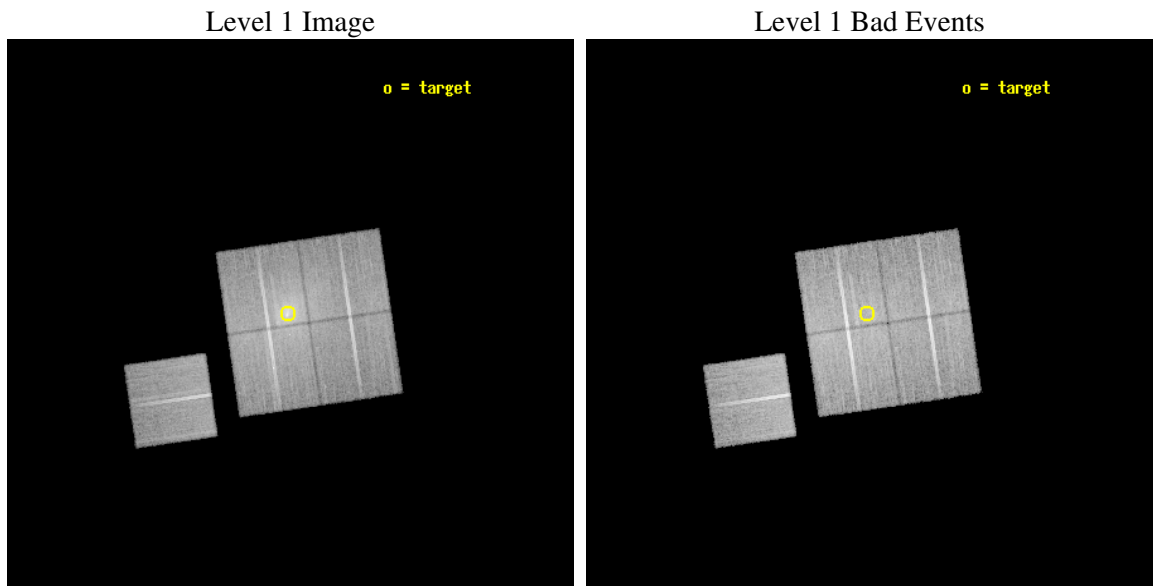
seq_num	800182
obs_id	3182
title	MERGER SHOCKS IN CLUSTERS OF GALAXIES
observer	Dr. Craig Sarazin
object	A2065
dtcycle	0
cycle	P
ra_targ	230.6208
dec_targ	27.7083
ra_nom	230.61611839197
dec_nom	27.692772335534
roll_nom	261.67899113553
revision	4
ontime	50089.758933425
livetime	49435.299357416
ontime0	50086.61795333
ontime1	50086.617983252
ontime2	50092.899903685
ontime3	50089.758933425
ontime6	50089.758933425
l2events	291231



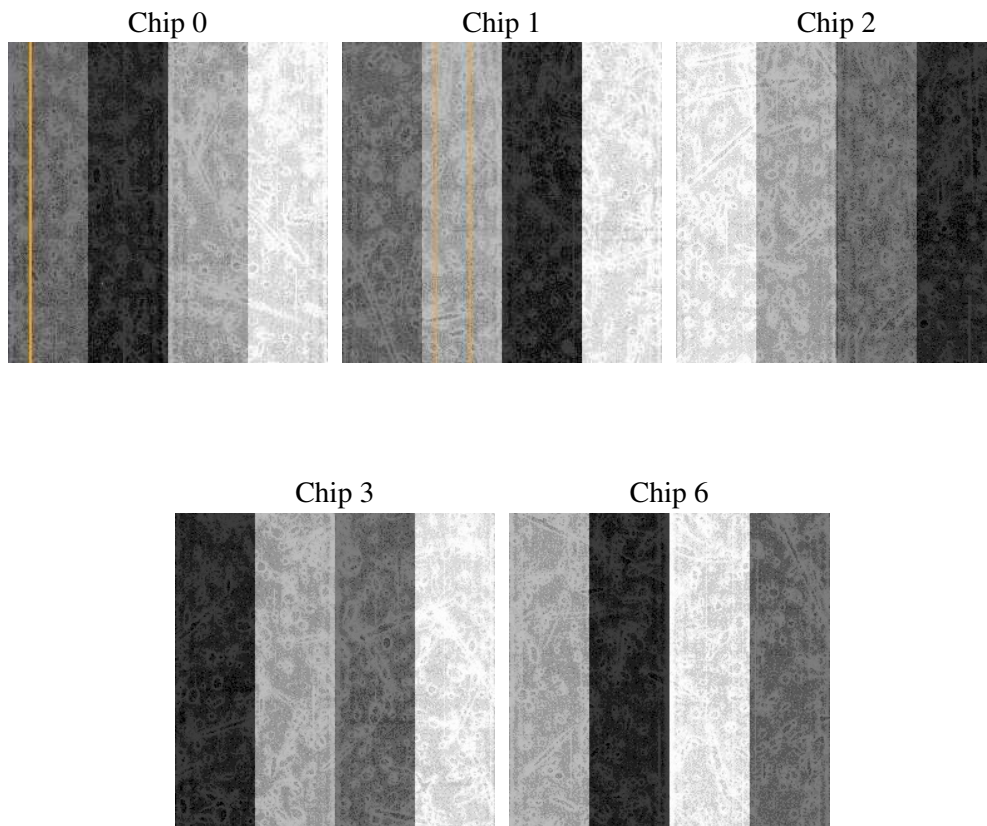
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias





### 2.1.3 Parameters

obi_num	1
ascdsver	7.6.10
caldbver	3.3.0
date	2007-01-12T03:50:52
revision	2

sched_exp_time	50000.000000
ontime	28045.65897581
ontime0	28045.658985853
ontime1	28045.658985853
ontime2	28048.79994607
ontime3	28045.65897581
ontime6	28048.79994607
l1events	946283

### 2.1.4 Events

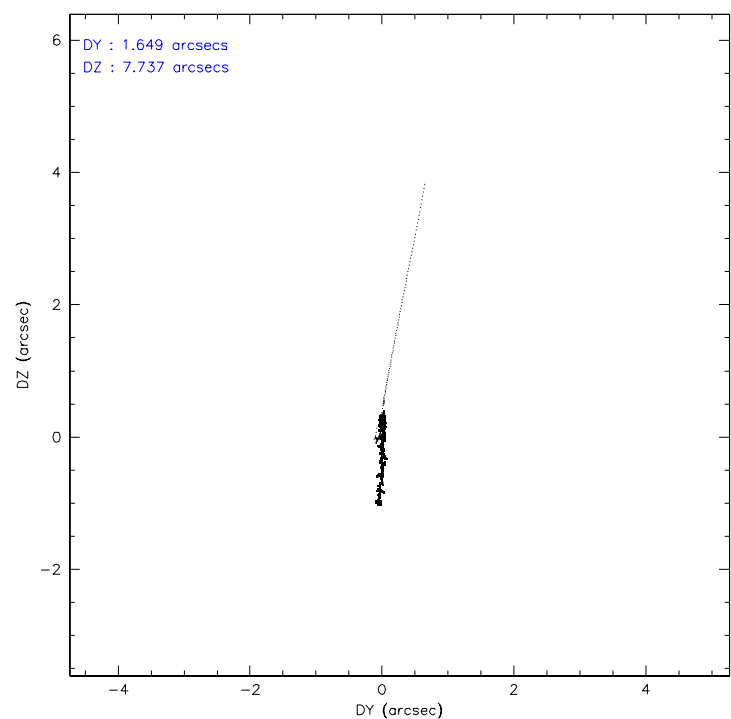
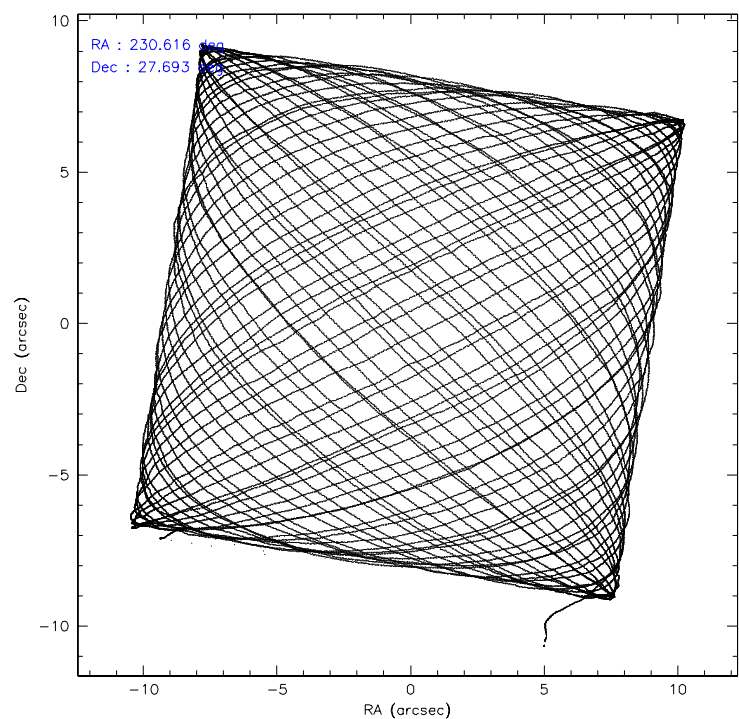
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	159770	179791	205929	225479	175314
rejected events	133906	138516	163104	157060	152979
rejected %	83%	77%	79%	69%	87%

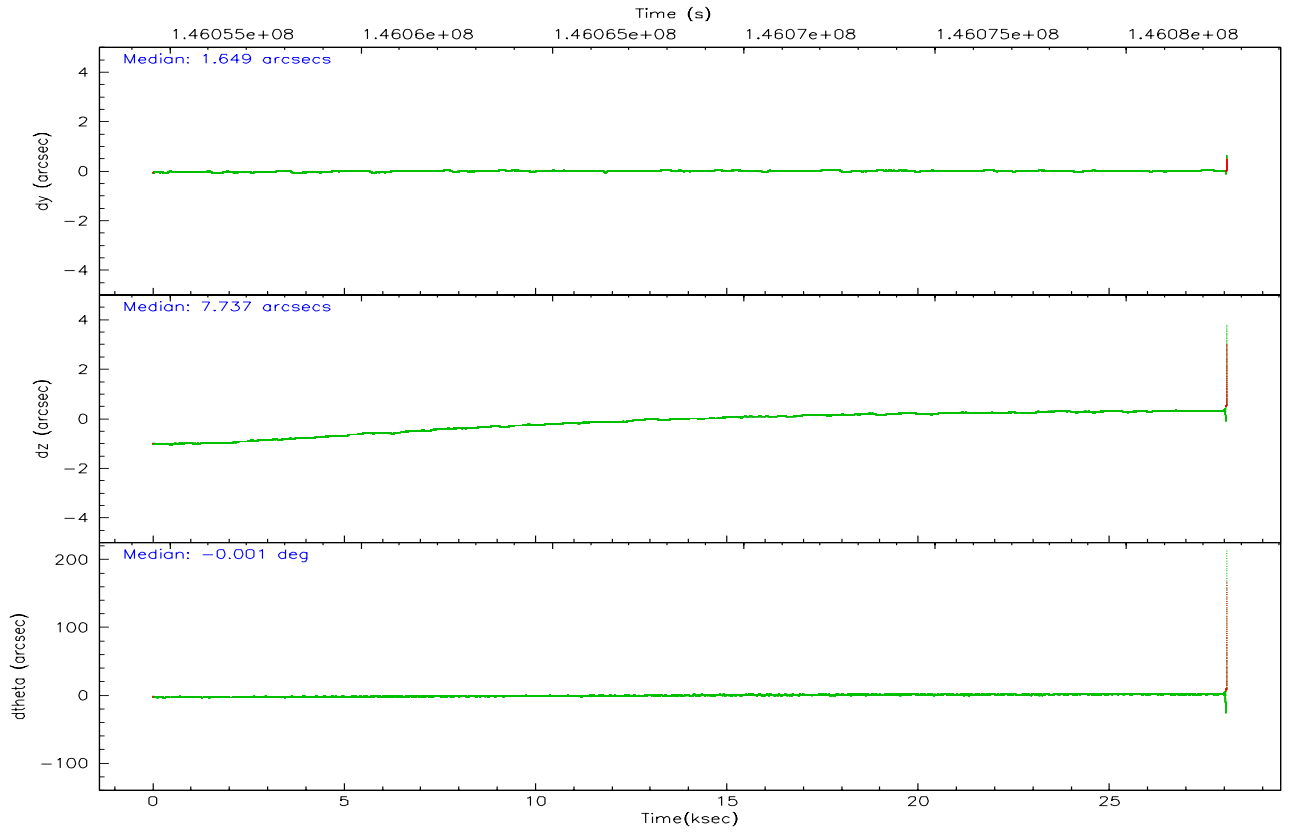
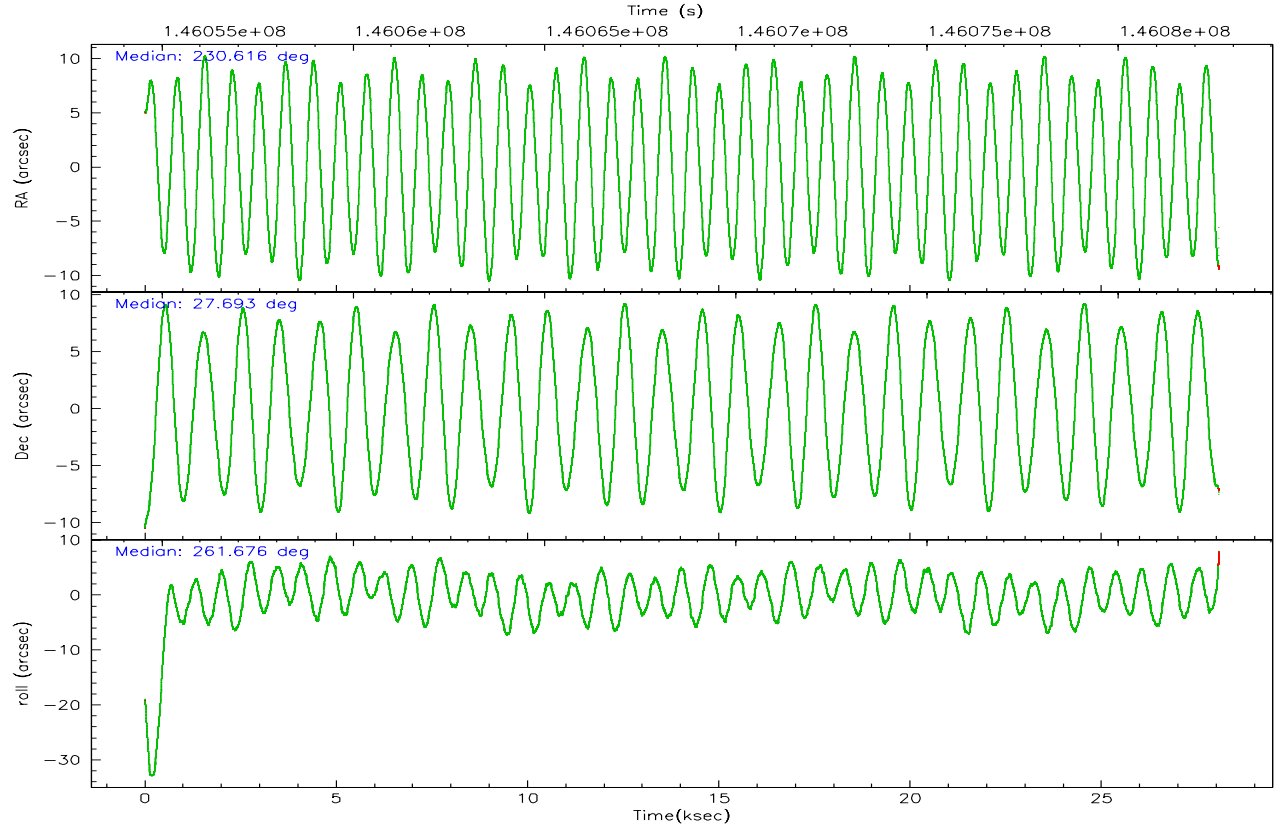
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	13848	24622	27085	49808	10803
	8%	13%	13%	22%	6%
grade 1 events	130	141	197	309	83
	0%	0%	0%	0%	0%
grade 2 events	5159	6962	7048	8242	4679
	3%	3%	3%	3%	2%
grade 3 events	2014	2687	2434	3179	1818
	1%	1%	1%	1%	1%
grade 4 events	1936	2473	2855	3214	1816
	1%	1%	1%	1%	1%
grade 5 events	4955	5277	4859	5711	5545
	3%	2%	2%	2%	3%
grade 6 events	2942	4586	3457	4064	3256
	1%	2%	1%	1%	1%
grade 7 events	128786	133043	157994	150952	147314
	80%	73%	76%	66%	84%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
Detector	ACIS-01236	ACIS-01236	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
Pointing RA	230.604579	230.616118391973	Subarray requested	NONE	NONE
Pointing Dec	27.718204	27.69277233553417	Alternating exposures requested	N	N
Pointing Roll	261.475660	261.6789911355259	Primary exposure time	0.000000	3.1
SIM focus pos (mm)	-0.782348	-0.7809083437167272			
SIM defocus (mm)	0	0.001439871863259334			
SIM translation stage pos (mm)	-229.592463	-229.5846445007452			
SIM translation stage offset (mm)	-4	-4.007808502184531			
Observation start time	146054755.184000	146053762.06852			
Observation start date	2002-08-18T10:44:51	2002-08-18T10:29:22			
Observation end time	146104755.184000	146082656.81971			
Observation end date	2002-08-19T00:38:11	2002-08-18T18:30:56			
Read mode	TIMED	TIMED			

### 2.3 Aspect



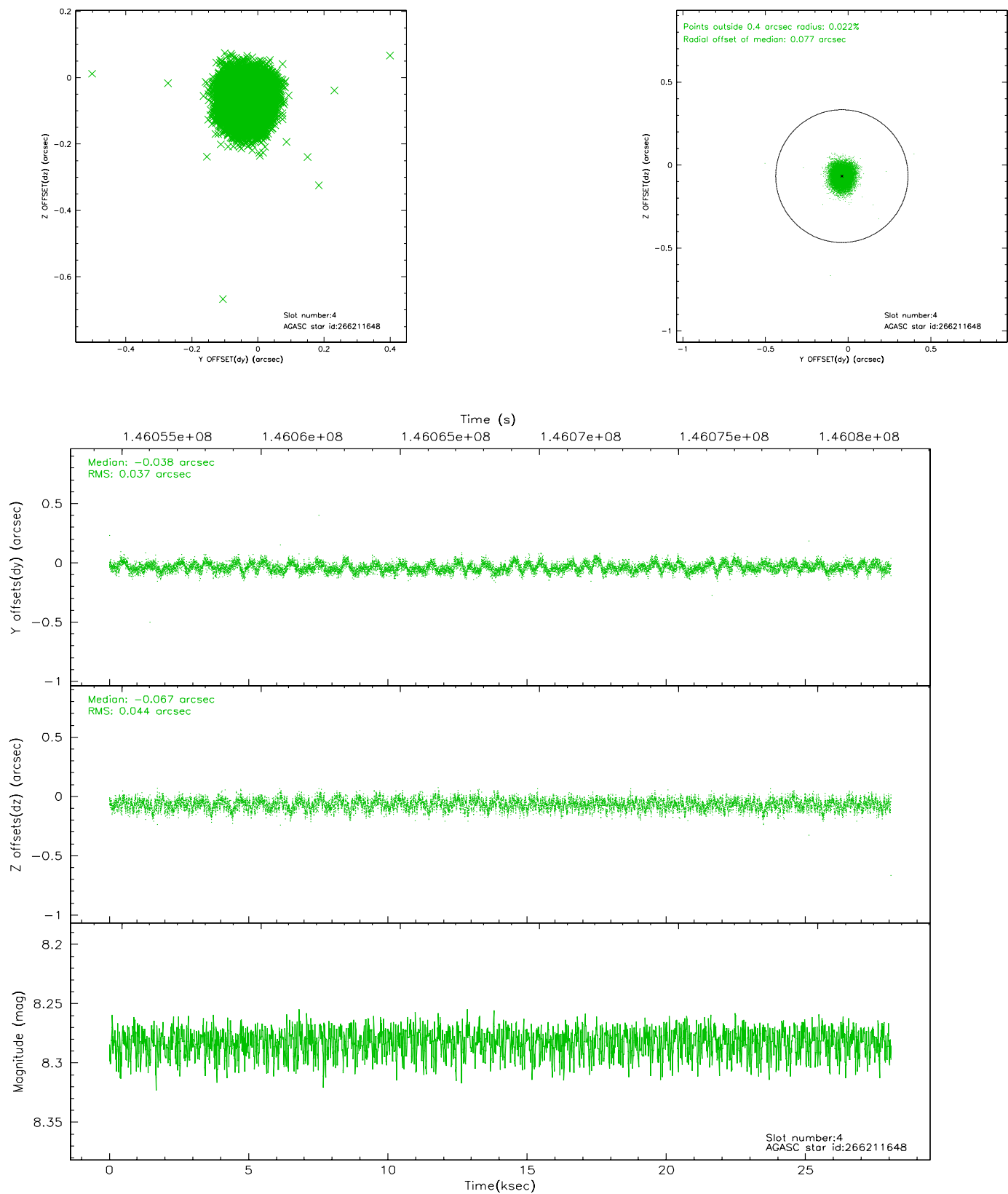


### Slot Statistics

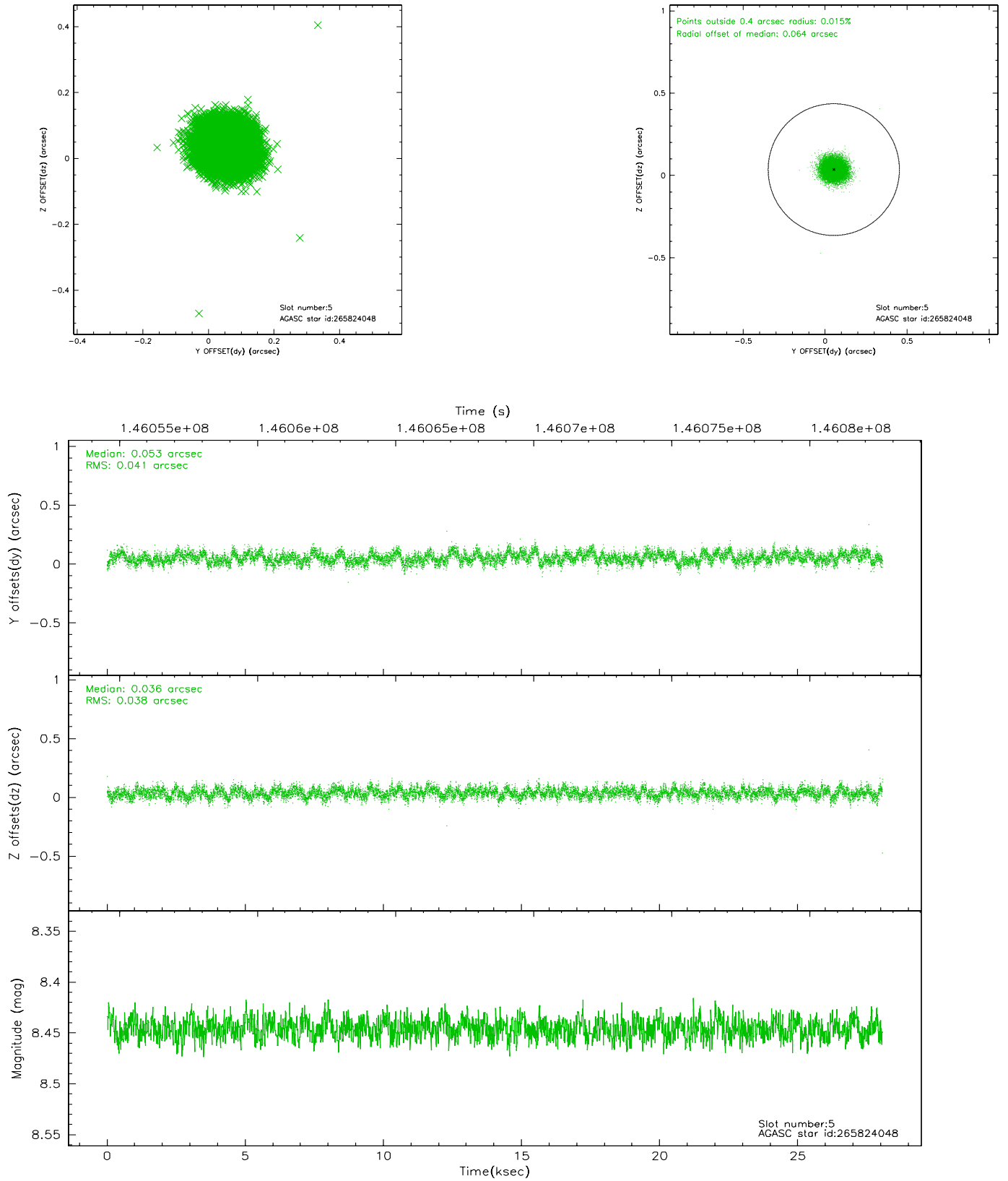
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.24	6841	-0.011	0.055	0.014	0.029	0.000000	0.000000	938.08	-913.18
1	FID	ACIS-I-5	7.24	6847	-0.086	0.038	0.011	0.016	0.000000	0.000000	-1810.03	984.26
2	FID	ACIS-I-6	7.27	6840	0.006	-0.023	0.011	0.019	0.000000	0.000000	403.58	1628.79
3	OMITTED		0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
4	GUIDE	266211648	8.28	13687	-0.038	-0.067	0.062	0.097	230.073423	27.749704	135.32	-1689.83
5	GUIDE	265824048	8.45	13687	0.053	0.036	0.060	0.095	230.460647	27.398792	1205.41	-283.47
6	GUIDE	266216112	8.95	13687	-0.053	0.021	0.088	0.140	230.938866	27.563060	392.96	1138.79
7	GUIDE	266208112	9.64	13680	0.034	0.009	0.111	0.183	231.029660	28.232058	-2031.42	1059.97

## 2.4 Star Slots

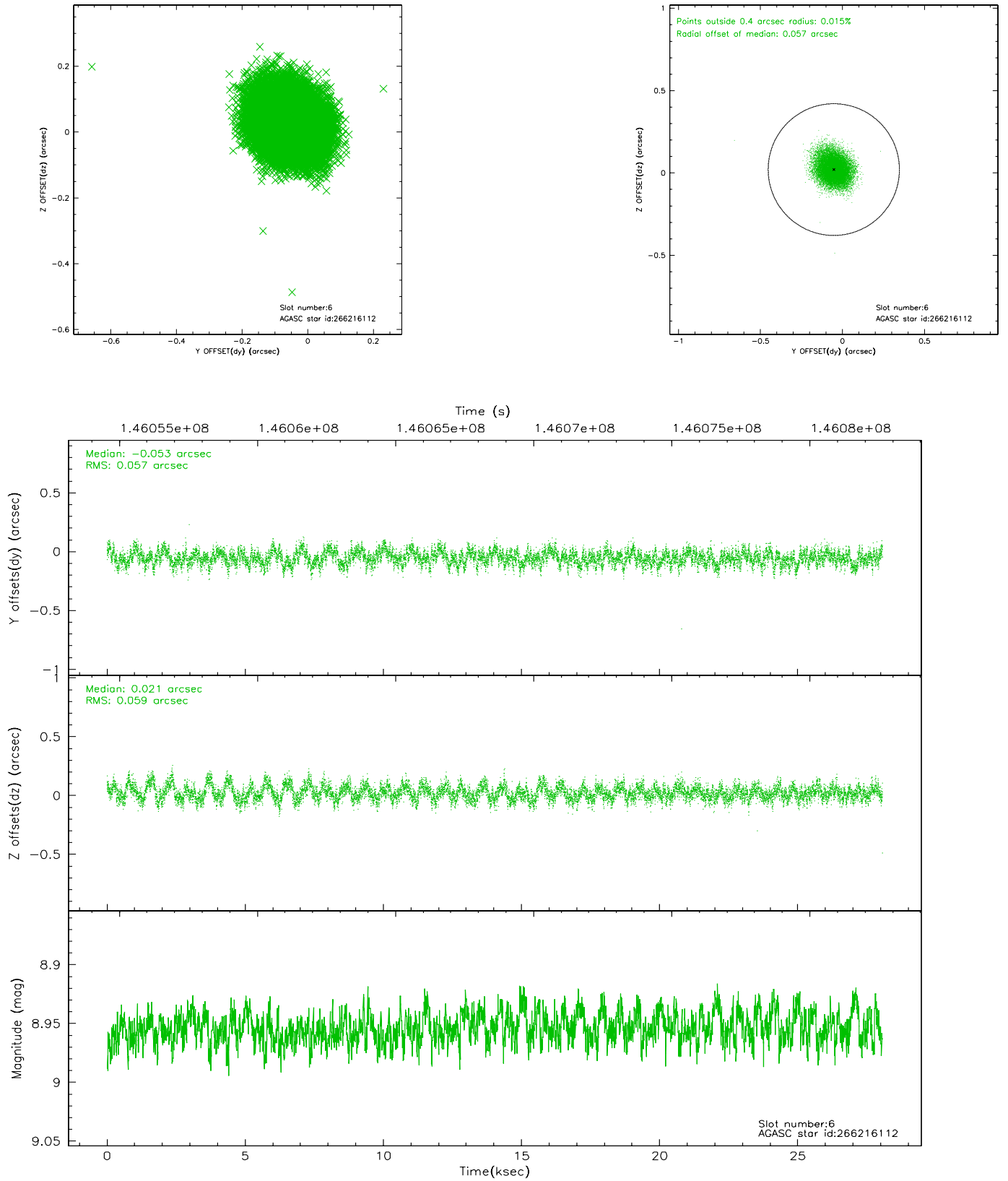
### 2.4.1 Slot 4



## 2.4.2 Slot 5

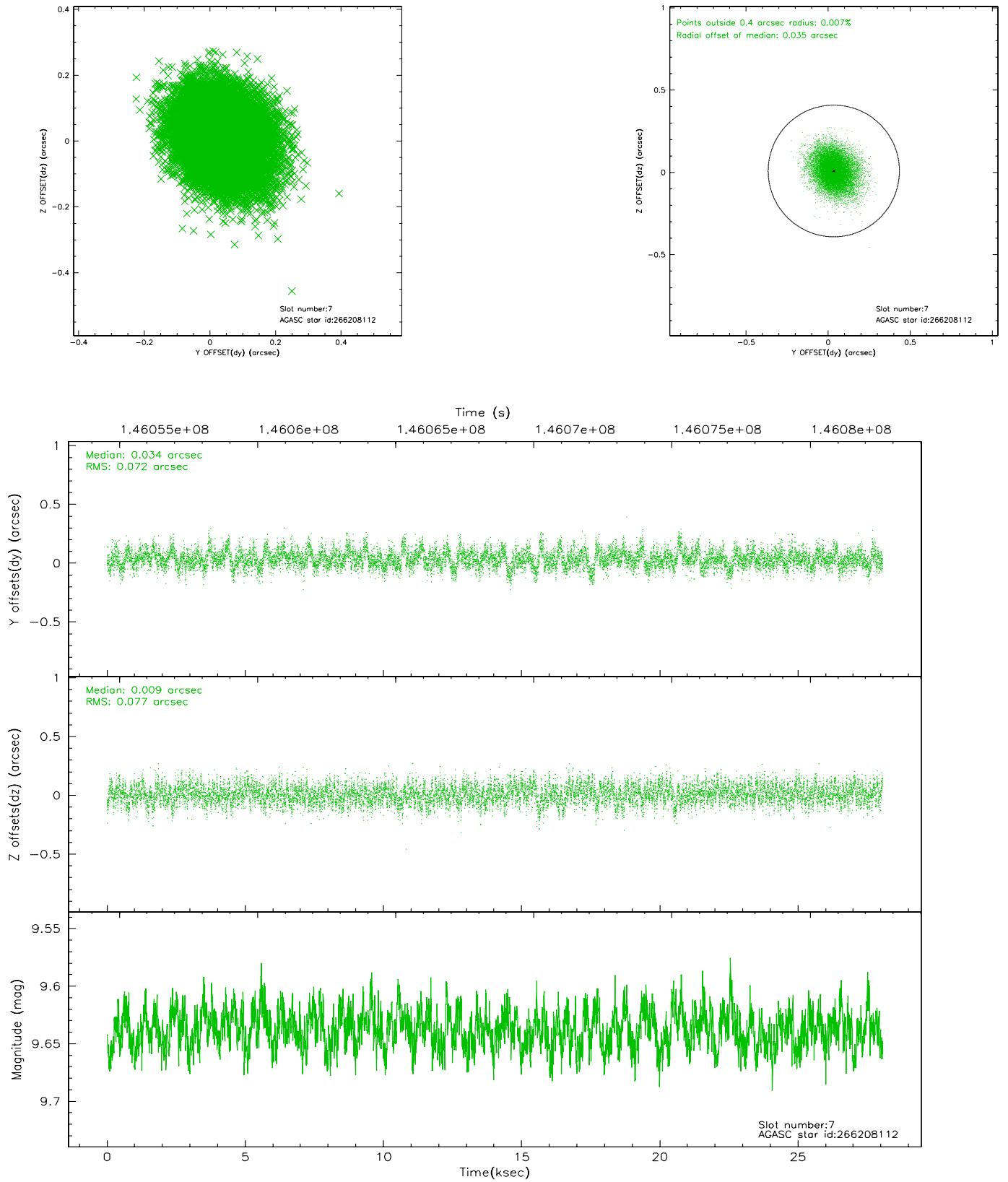


### 2.4.3 Slot 6



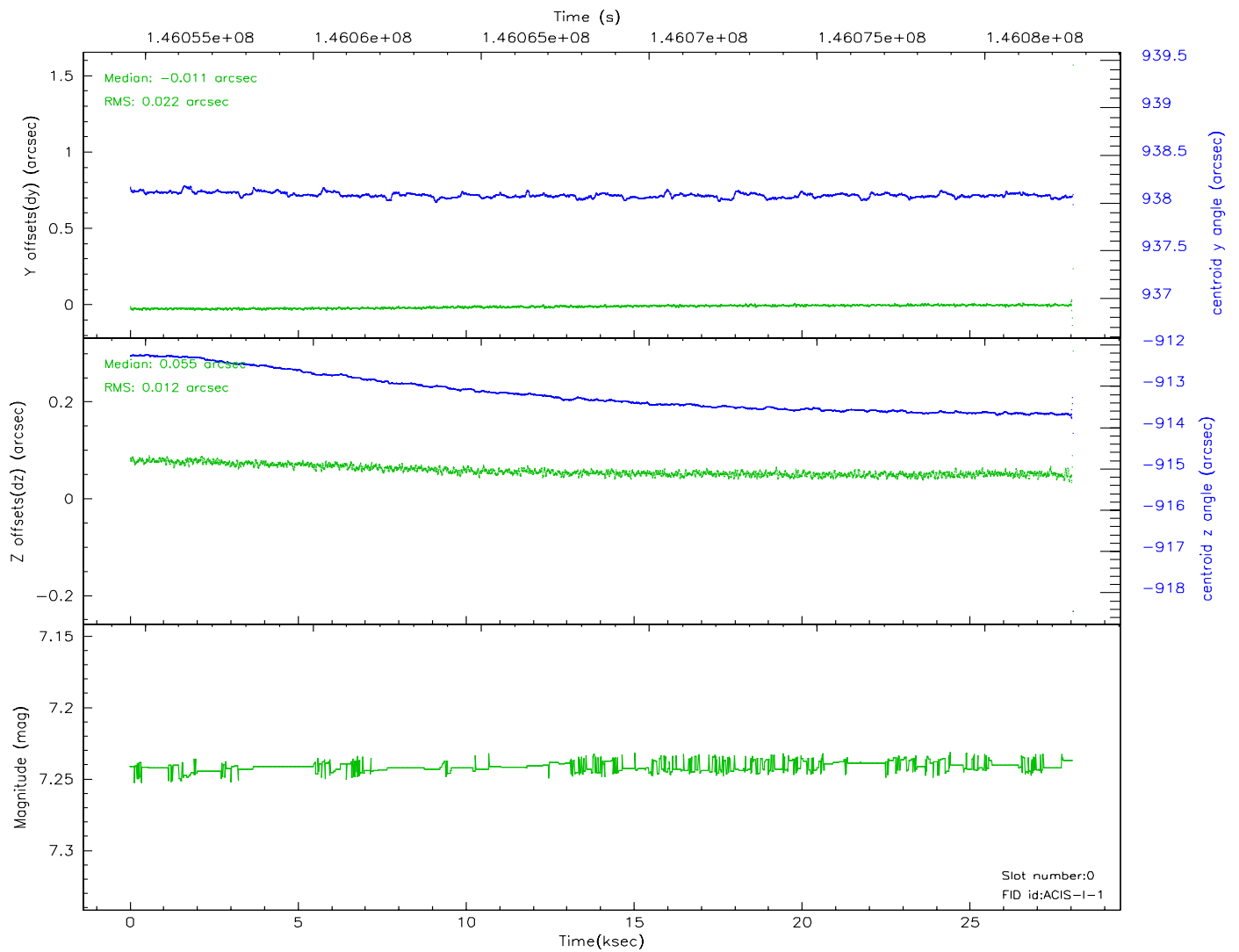
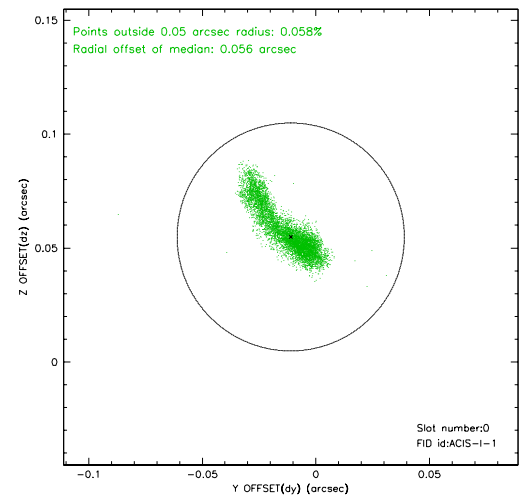
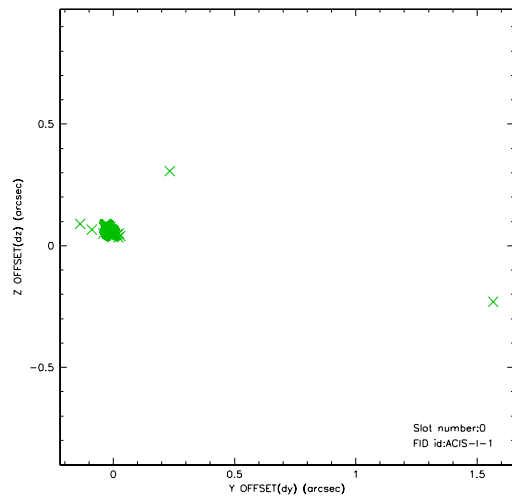


## 2.4.4 Slot 7

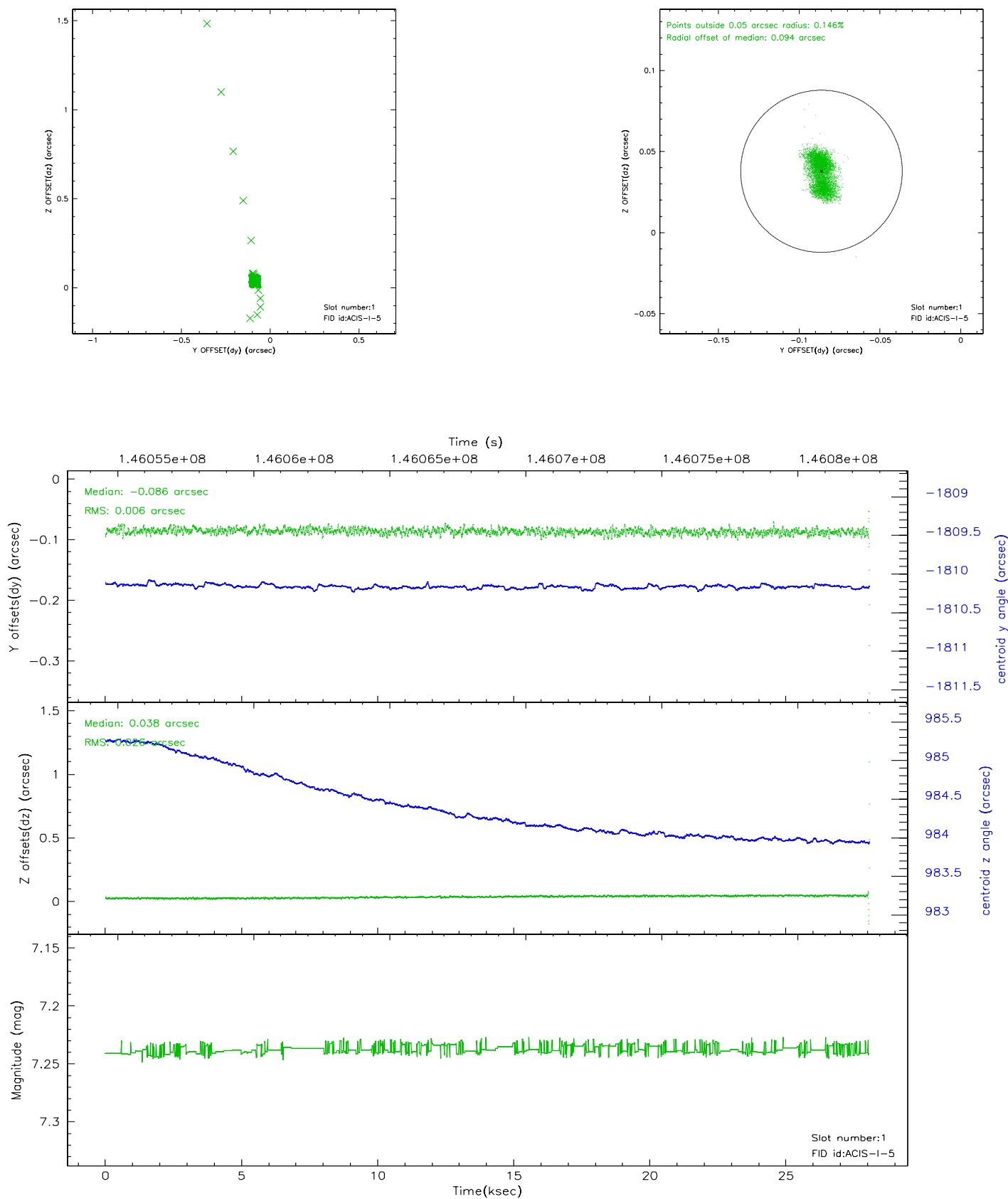


## 2.5 FID Slots

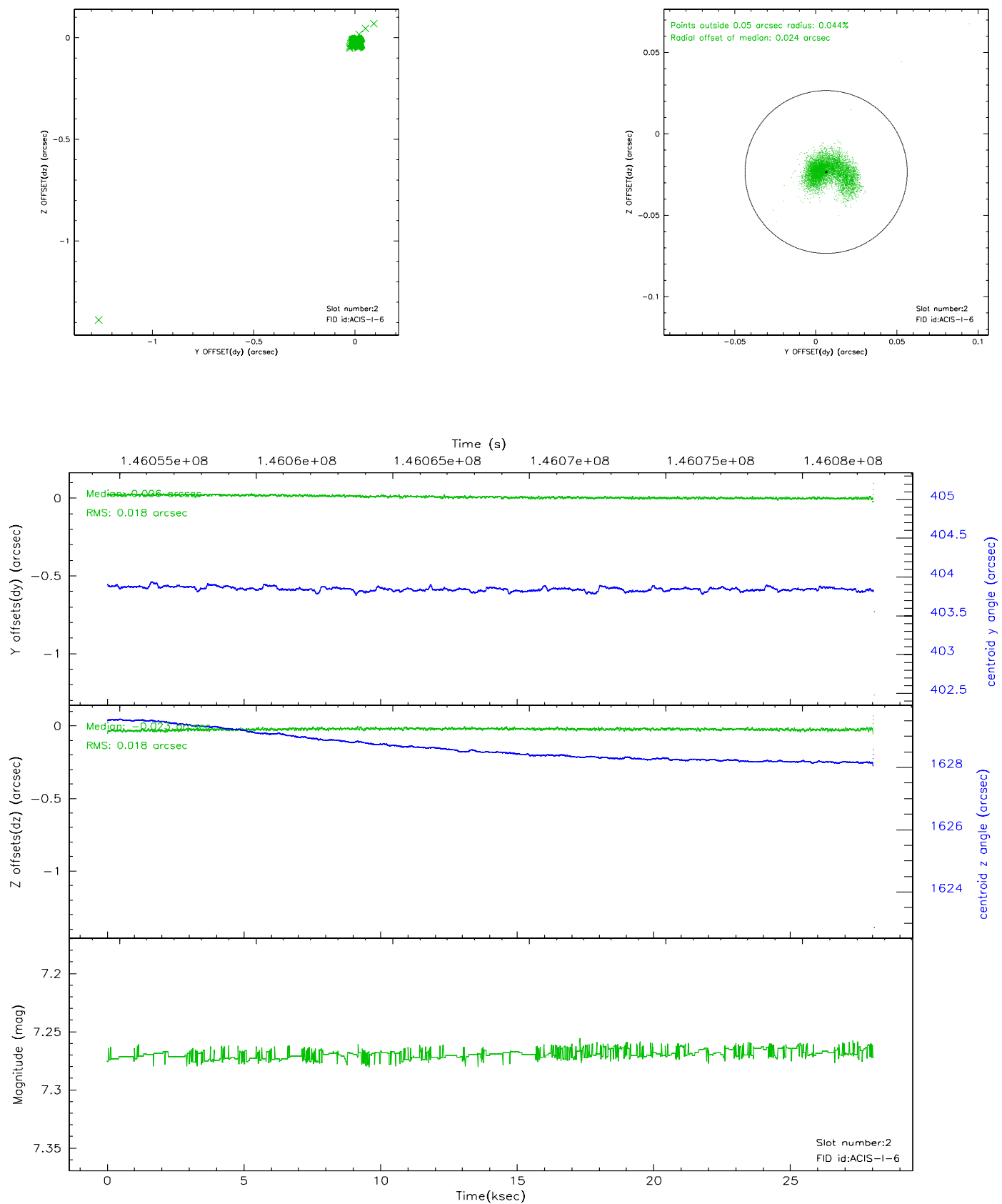
### 2.5.1 Slot 0



2.5.2 Slot 1



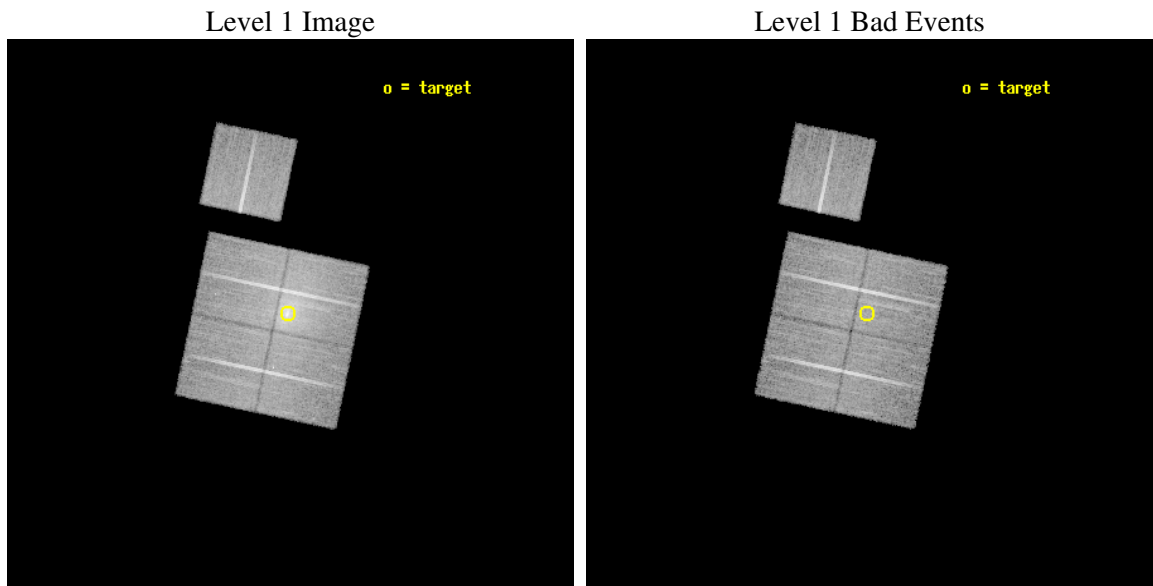
### 2.5.3 Slot 2



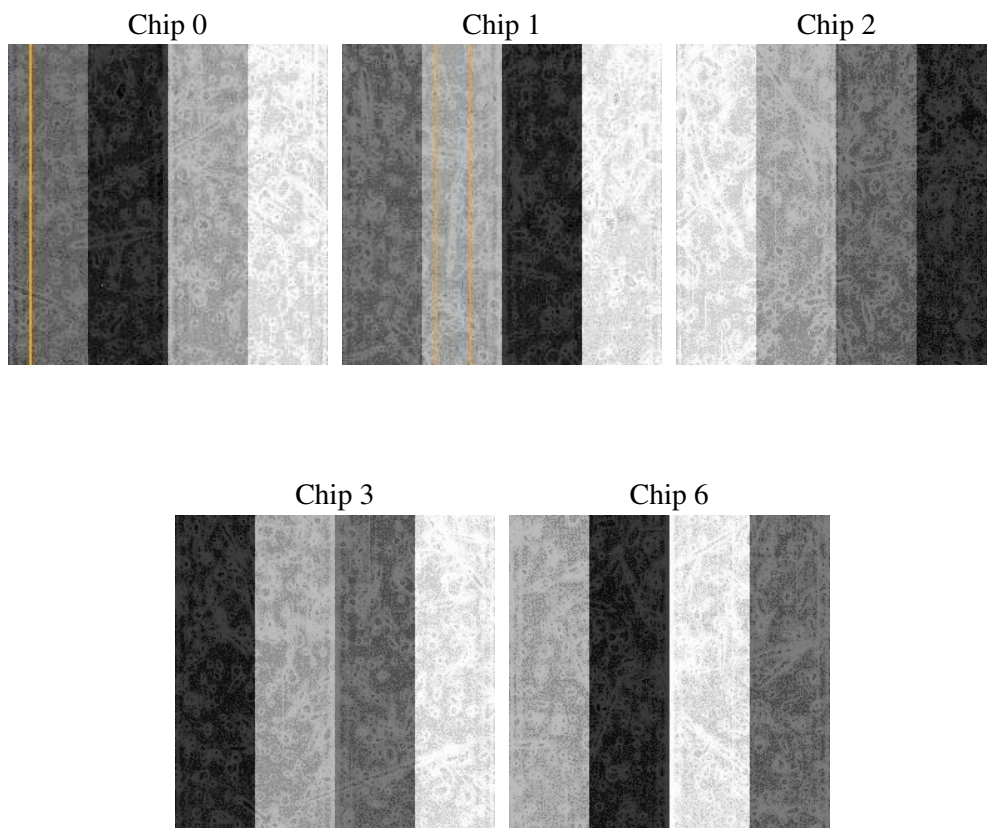
## 3 OBI

### 3.1 OBI

#### 3.1.1 Images



#### 3.1.2 Bias



### 3.1.3 Parameters

obi_num	2
ascdsver	7.6.10
caldsver	3.3.0
date	2007-01-11T21:45:33
revision	3

sched_exp_time	21955.000000
ontime	22044.099957615
ontime0	22040.958967477
ontime1	22040.958997399
ontime2	22044.099957615
ontime3	22044.099957615
ontime6	22040.958987355
llevents	655142

### 3.1.4 Events

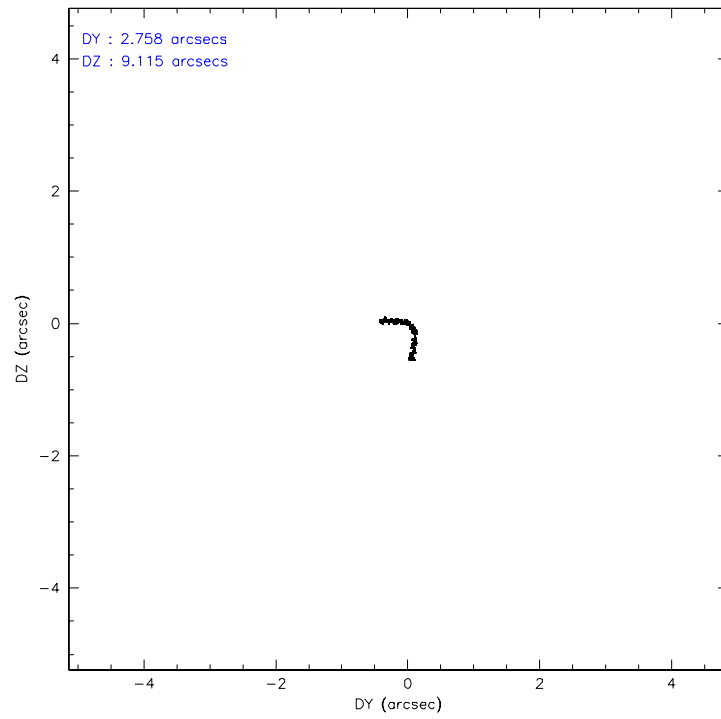
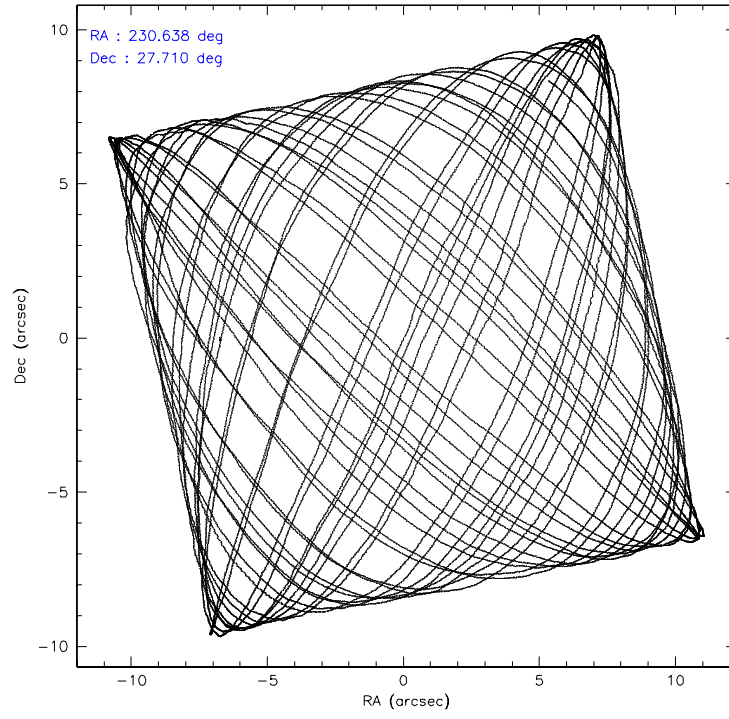
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
level 1 events	117860	120137	133548	167416	116181
rejected events	101489	97777	111823	106904	104006
rejected %	86%	81%	83%	63%	89%

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6
grade 0 events	7935	12348	12625	44987	4528
	6%	10%	9%	26%	3%
grade 1 events	64	84	91	250	42
	0%	0%	0%	0%	0%
grade 2 events	3154	3650	3545	6961	2513
	2%	3%	2%	4%	2%
grade 3 events	1559	1786	1622	2736	1359
	1%	1%	1%	1%	1%
grade 4 events	1428	1823	1602	2649	1344
	1%	1%	1%	1%	1%
grade 5 events	4006	4241	3792	4558	4373
	3%	3%	2%	2%	3%
grade 6 events	2300	2765	2336	3195	2435
	1%	2%	1%	1%	2%
grade 7 events	97414	93440	107935	102080	99587
	82%	77%	80%	60%	85%

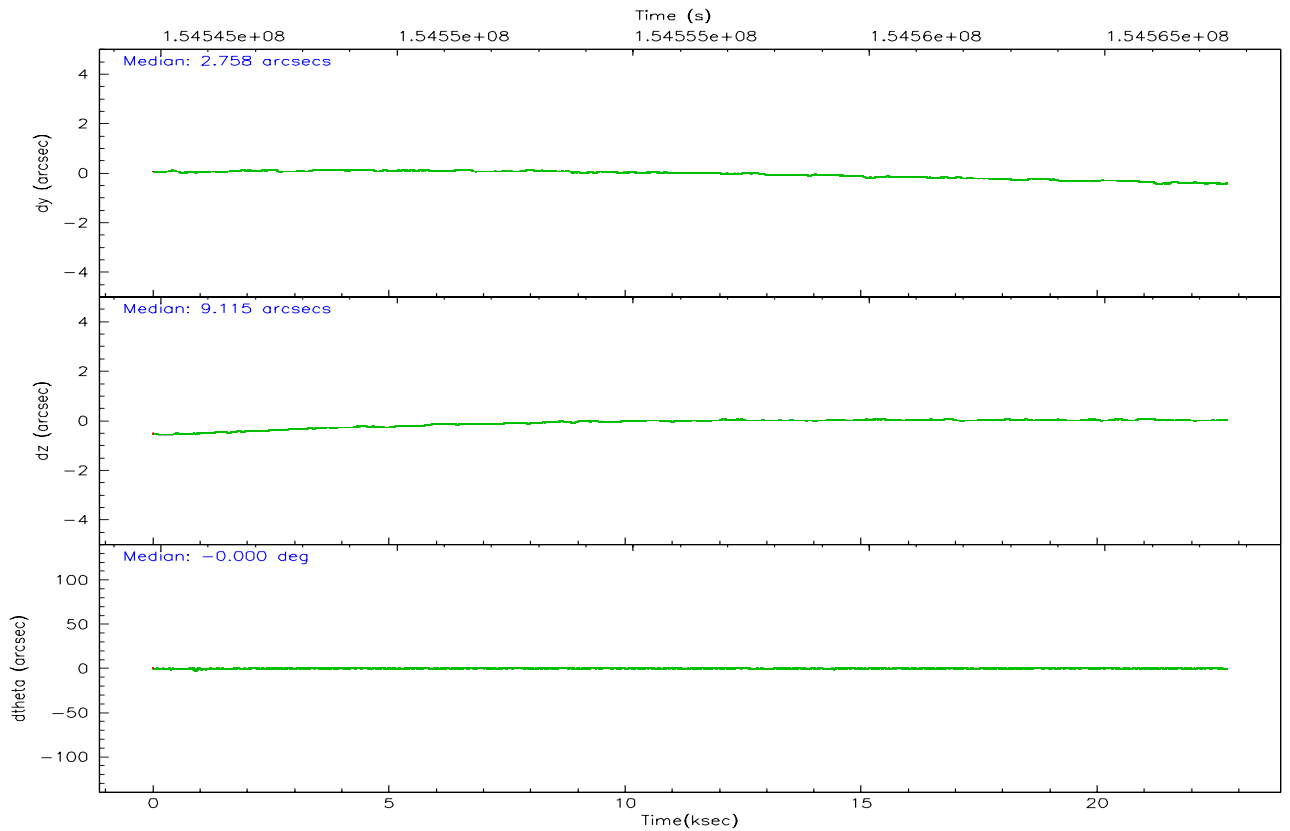
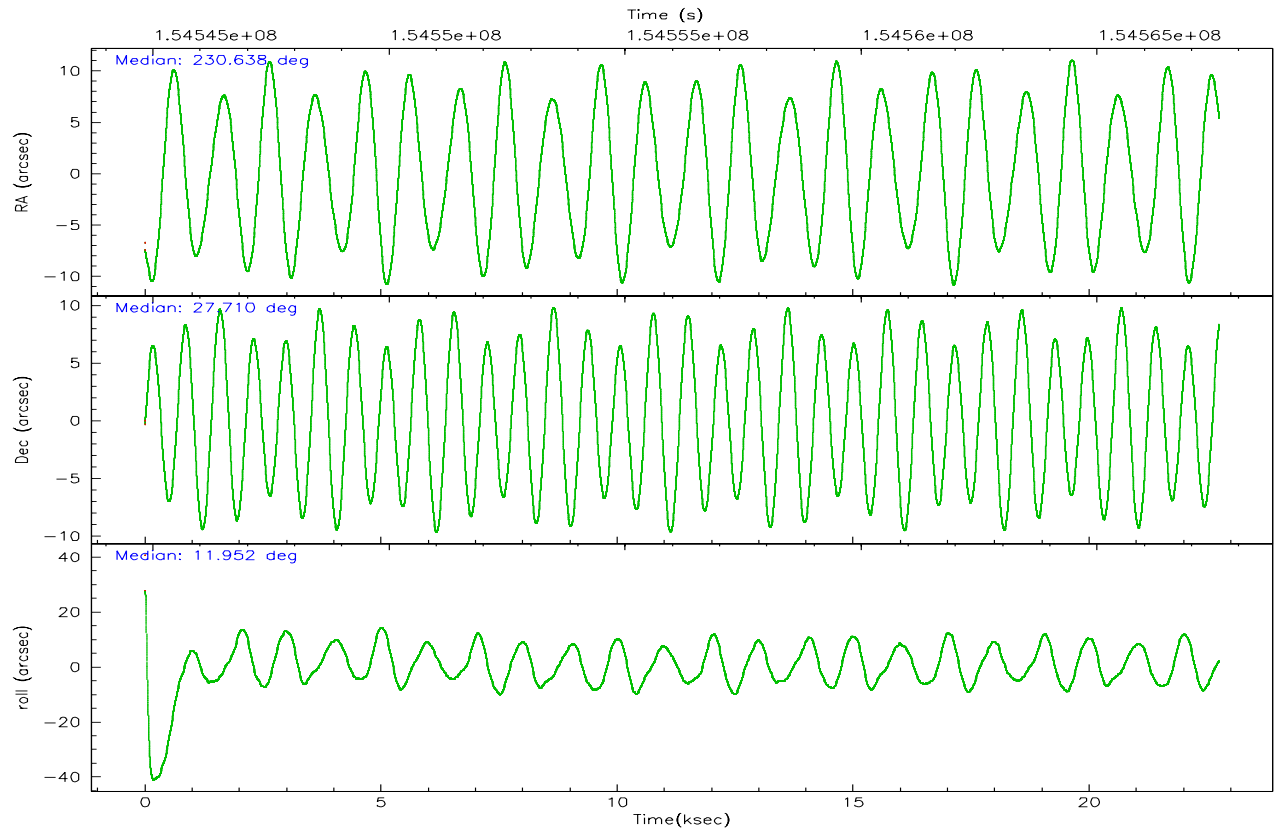
### 3.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	6	6
Detector	ACIS-01236	ACIS-01236	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
Pointing RA	230.615929	230.6388568511035	Subarray requested	NONE	NONE
Pointing Dec	27.691398	27.70978932003551	Alternating exposures requested	N	N
Pointing Roll	11.764262	11.96232574271645	Primary exposure time	0.000000	3.1
SIM focus pos (mm)	-0.782348	-0.7809083437167272			
SIM defocus (mm)	0	0.001439871863259334			
SIM translation stage pos (mm)	-229.592463	-229.5846445007452			
SIM translation stage offset (mm)	-4	-4.007808502184531			
Observation start time	154545632.184000	154544365.29534			
Observation start date	2002-11-24T17:19:28	2002-11-24T16:59:25			
Observation end time	154567587.184000	154568371.82134			
Observation end date	2002-11-24T23:25:23	2002-11-24T23:39:31			
Read mode	TIMED	TIMED			

### 3.3 Aspect





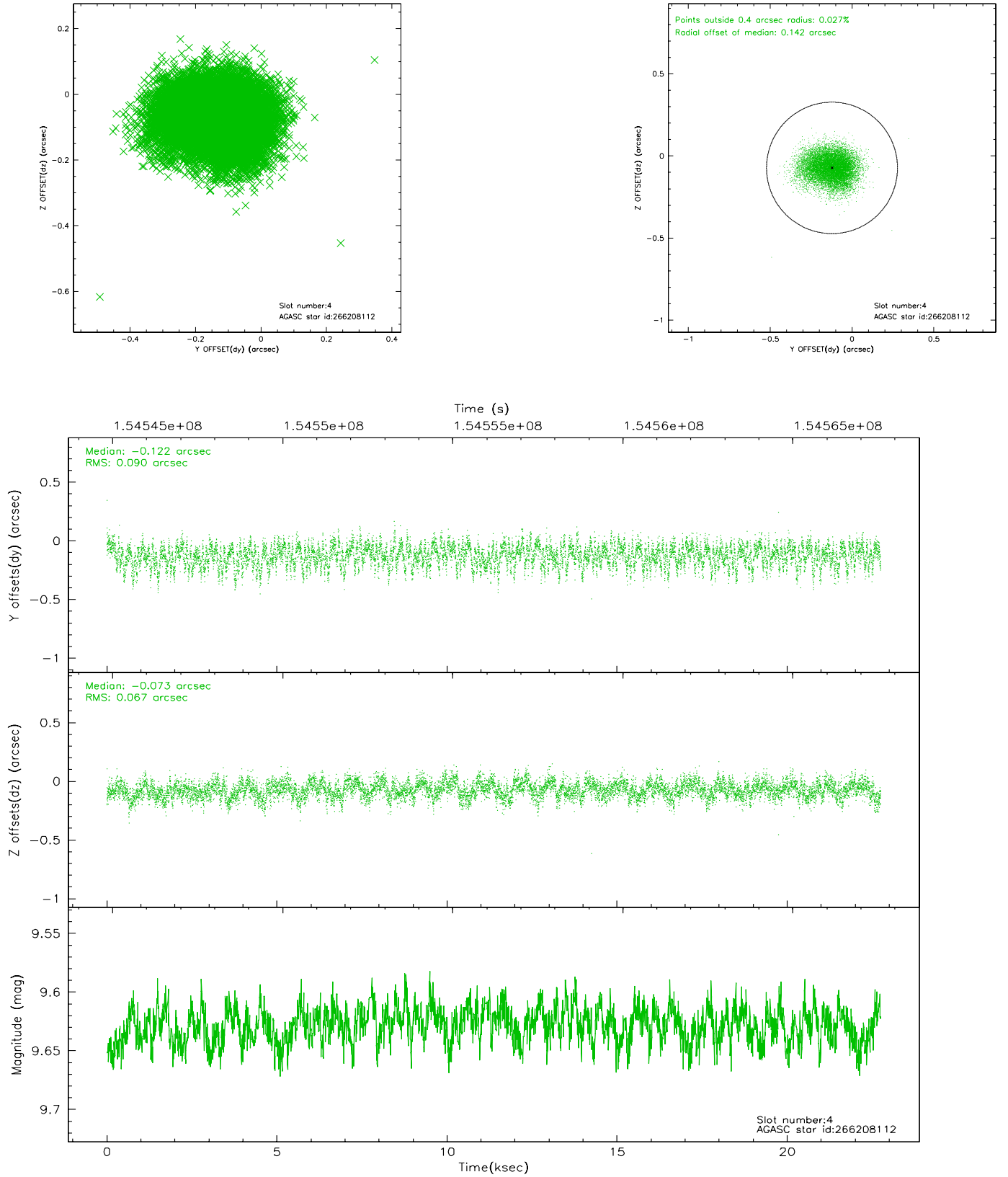


### Slot Statistics

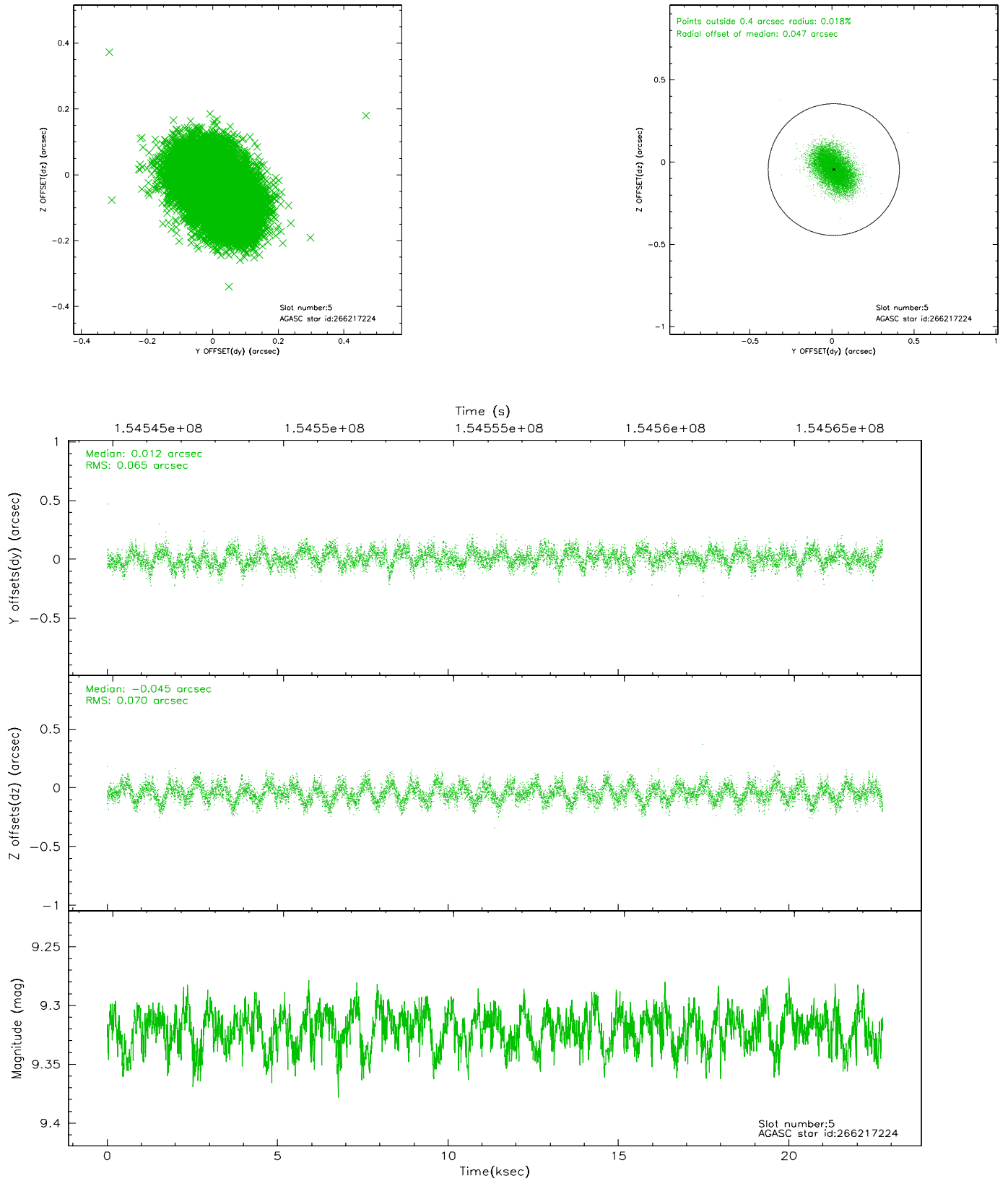
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-I-1	7.24	6841	-0.011	0.055	0.014	0.029	0.000000	0.000000	938.08	-913.18
1	FID	ACIS-I-5	7.24	6847	-0.086	0.038	0.011	0.016	0.000000	0.000000	-1810.03	984.26
2	FID	ACIS-I-6	7.27	6840	0.006	-0.023	0.011	0.019	0.000000	0.000000	403.58	1628.79
3	OMITTED		0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
4	GUIDE	266211648	8.28	13687	-0.038	-0.067	0.062	0.097	230.073423	27.749704	135.32	-1689.83
5	GUIDE	265824048	8.45	13687	0.053	0.036	0.060	0.095	230.460647	27.398792	1205.41	-283.47
6	GUIDE	266216112	8.95	13687	-0.053	0.021	0.088	0.140	230.938866	27.563060	392.96	1138.79
7	GUIDE	266208112	9.64	13680	0.034	0.009	0.111	0.183	231.029660	28.232058	-2031.42	1059.97

## 3.4 Star Slots

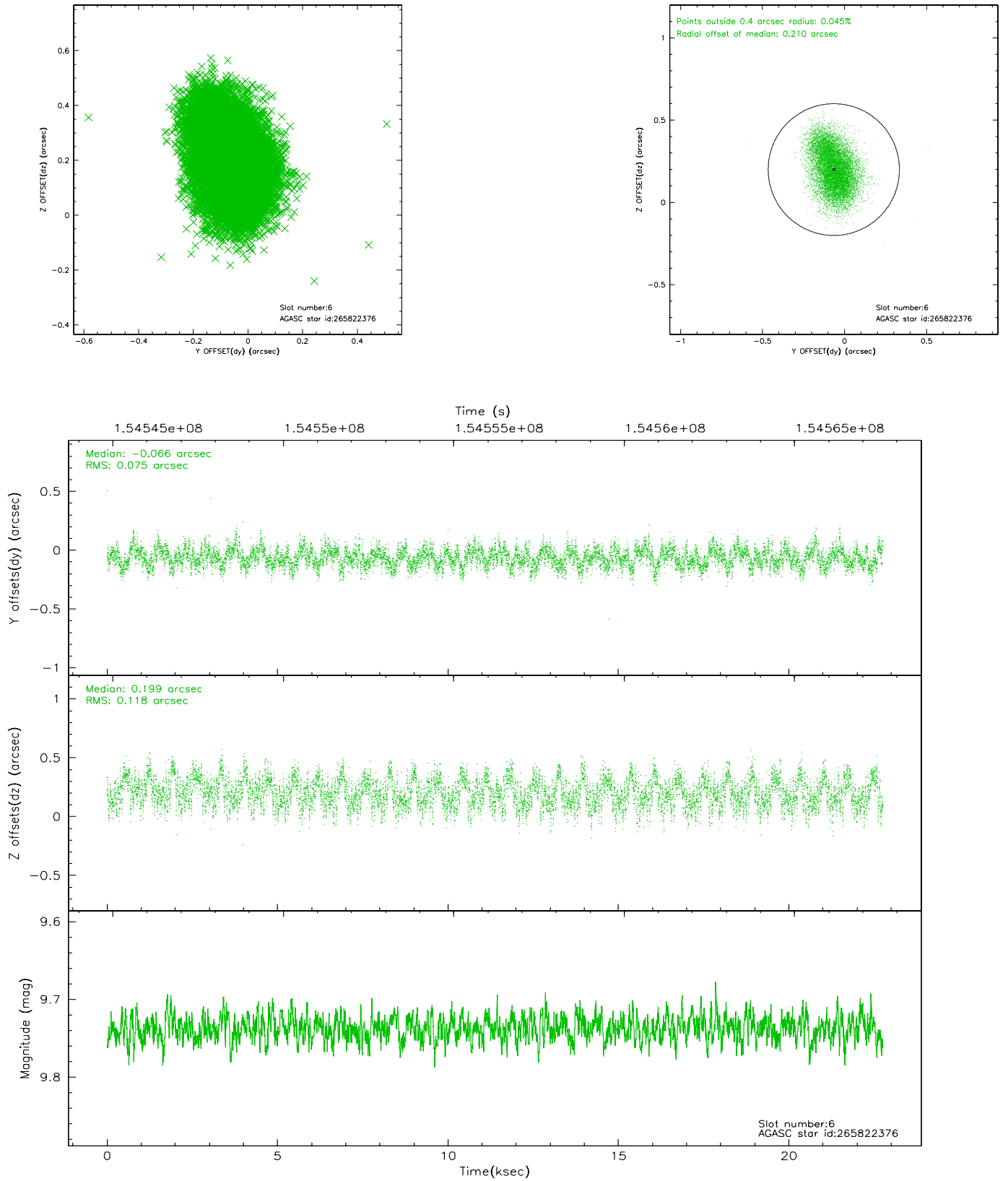
### 3.4.1 Slot 4



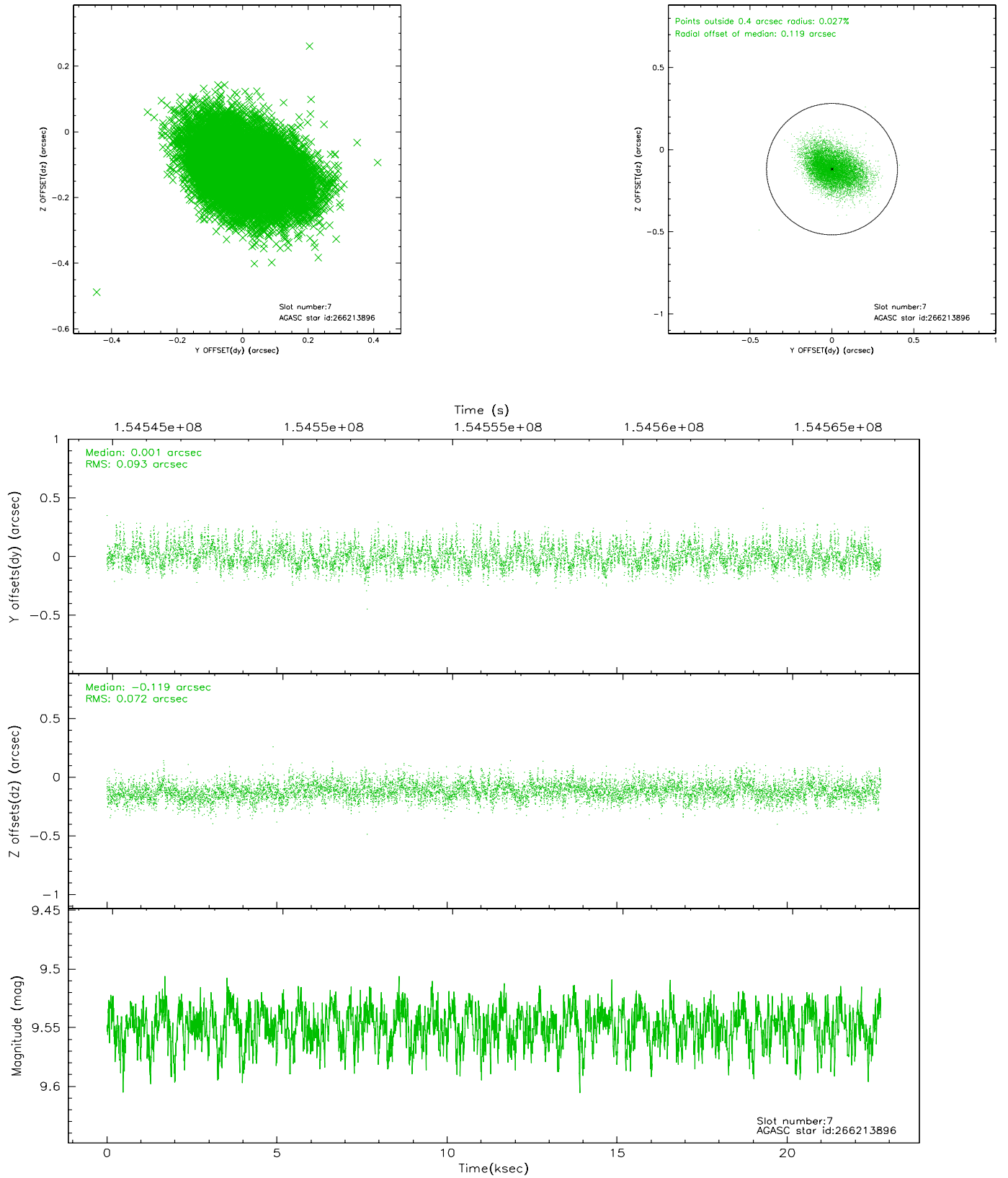
### 3.4.2 Slot 5



### 3.4.3 Slot 6

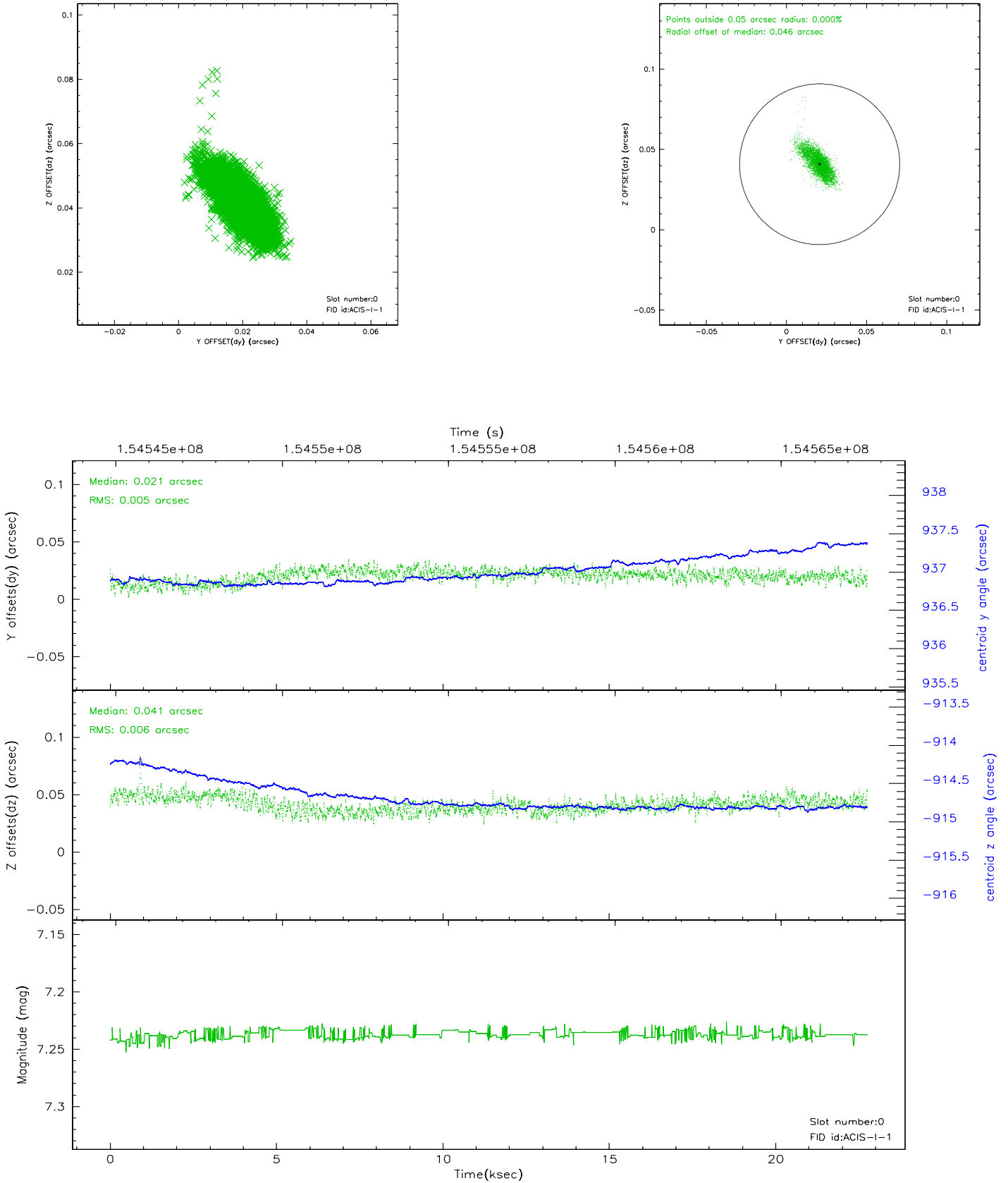


### 3.4.4 Slot 7

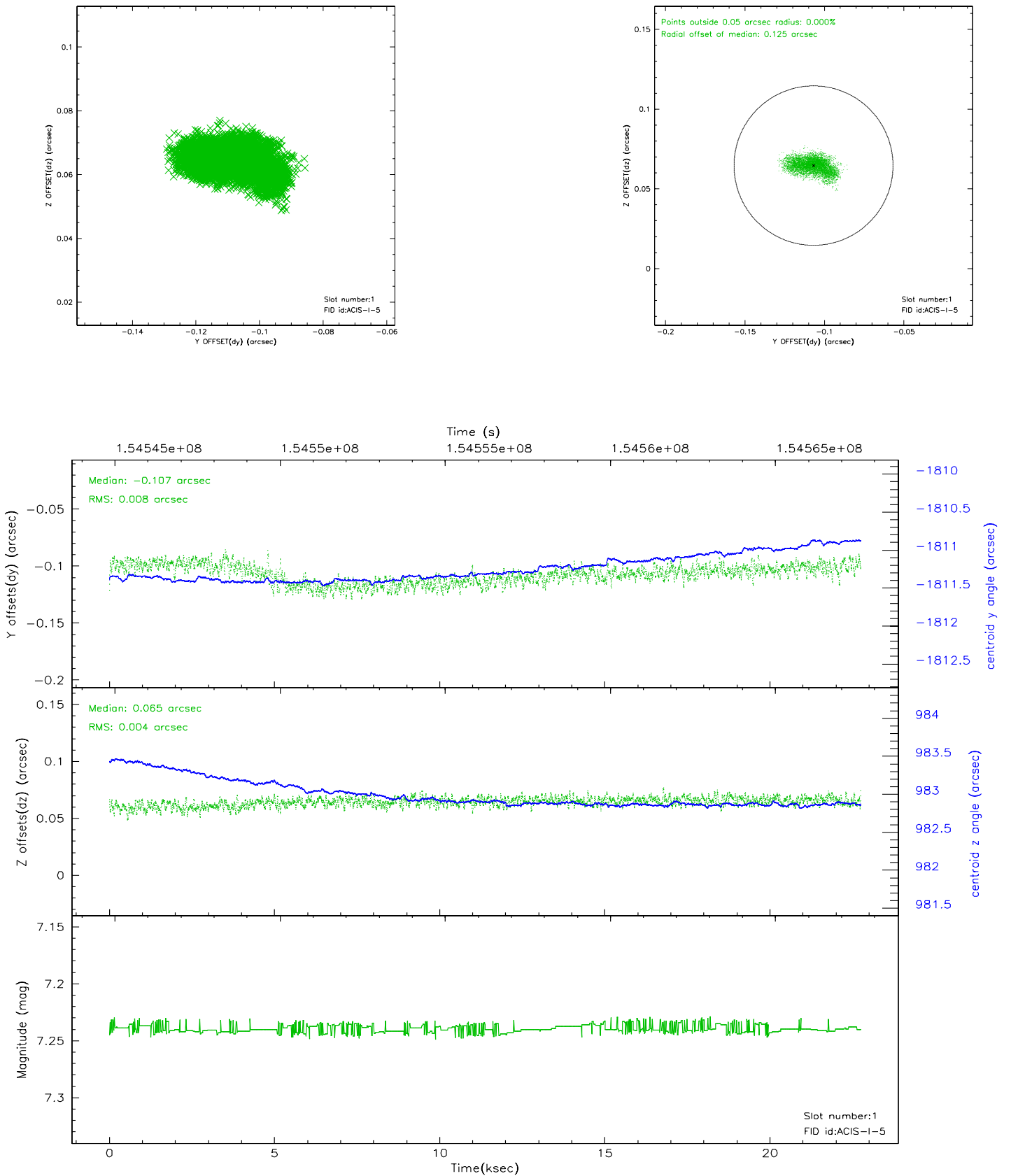


## 3.5 FID Slots

### 3.5.1 Slot 0

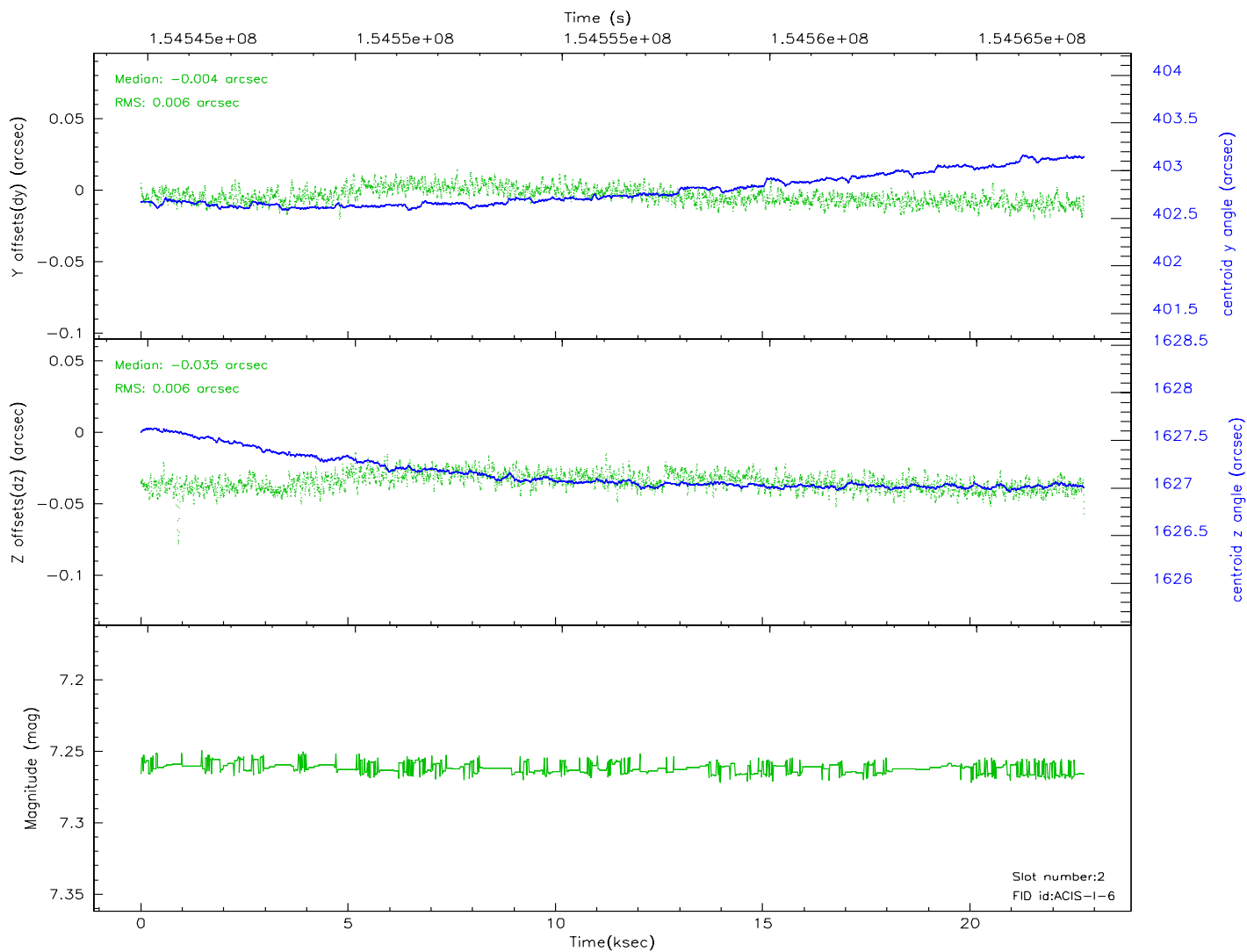
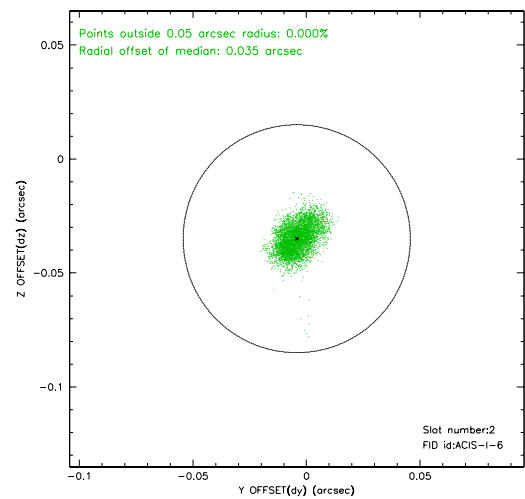
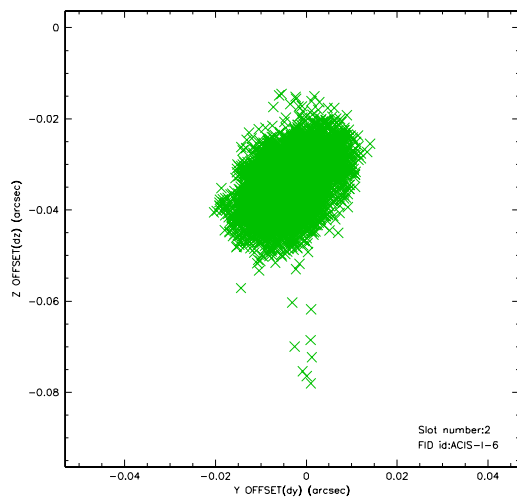


### 3.5.2 Slot 1

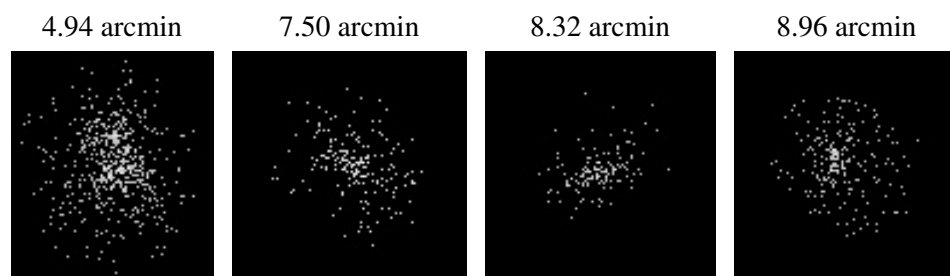




### 3.5.3 Slot 2



## 4 Point Sources



# A Summary

## A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2007.05.14
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	50.092

## A.2 Comments

Obi=1 of this observation was interrupted by safing of the science instruments onboard Chandra due to high solar radiation environment. The observation was interrupted on 8/18/03 at 1830 GMT approx.. In this version of the software, a few seconds of data are inadvertently included at the end of the observation after the spacecraft and its components began to move.

Also, for obi=1 only, the guide star in slot 3 was removed from the aspect solution due to poor data quality. The aspect solution is not expected to be degraded by removing one guide star from the solution. Note that the guide star in slot 3 WAS used in the aspect solution for obi=2, although the plot does not appear in the V&V report.