

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 12437 - L2 Version 3  
Chandra X-Ray Center

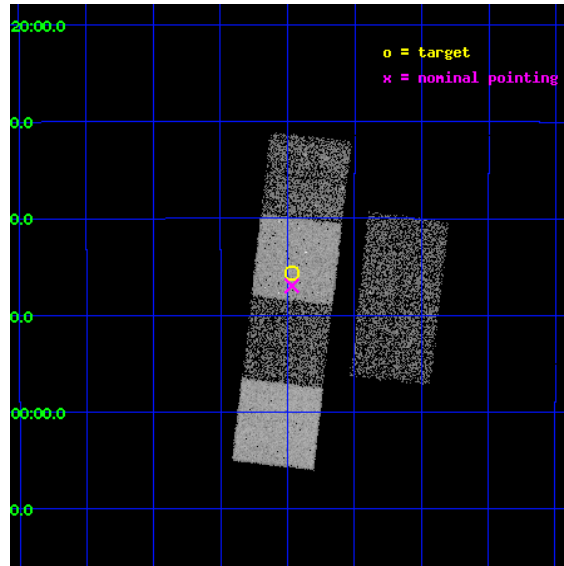
L2 Processing Date : Feb 3 2012

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# 1 Front

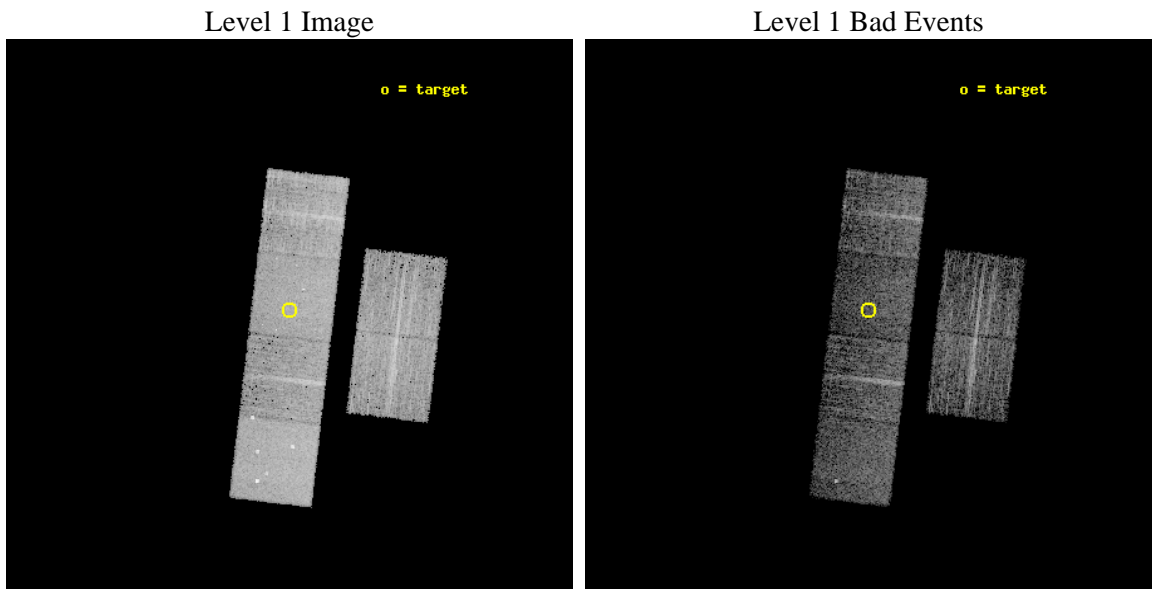
seq_num	401178	Sequence number
obs_id	12437	Observation id
title	Optical Counterpart of the ULX in NGC 247	Proposal title
observer	Prof. Hua Feng	Principal investigator
object	NGC 247 ULX	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	11.740833	Observer's specified target RA [deg]
dec_targ	-20.760444	Observer's specified target Dec [deg]
ra_nom	11.741822190622	Nominal RA [deg]
dec_nom	-20.782852422522	Nominal Dec [deg]
roll_nom	276.70575807148	Nominal Roll [deg]
revision	3	Processing version of data
ontime	5052.4244176745	Sum of GTIs [s]
livetime	4988.4475774932	Livetime [s]
ontime2	5052.4654576778	Sum of GTIs [s]
ontime3	5052.3012976646	Sum of GTIs [s]
ontime5	5052.3833776712	Sum of GTIs [s]
ontime6	5052.3423376679	Sum of GTIs [s]
ontime7	5052.4244176745	Sum of GTIs [s]
ontime8	5052.2602576613	Sum of GTIs [s]
l2events	59159	Number of level 2 events



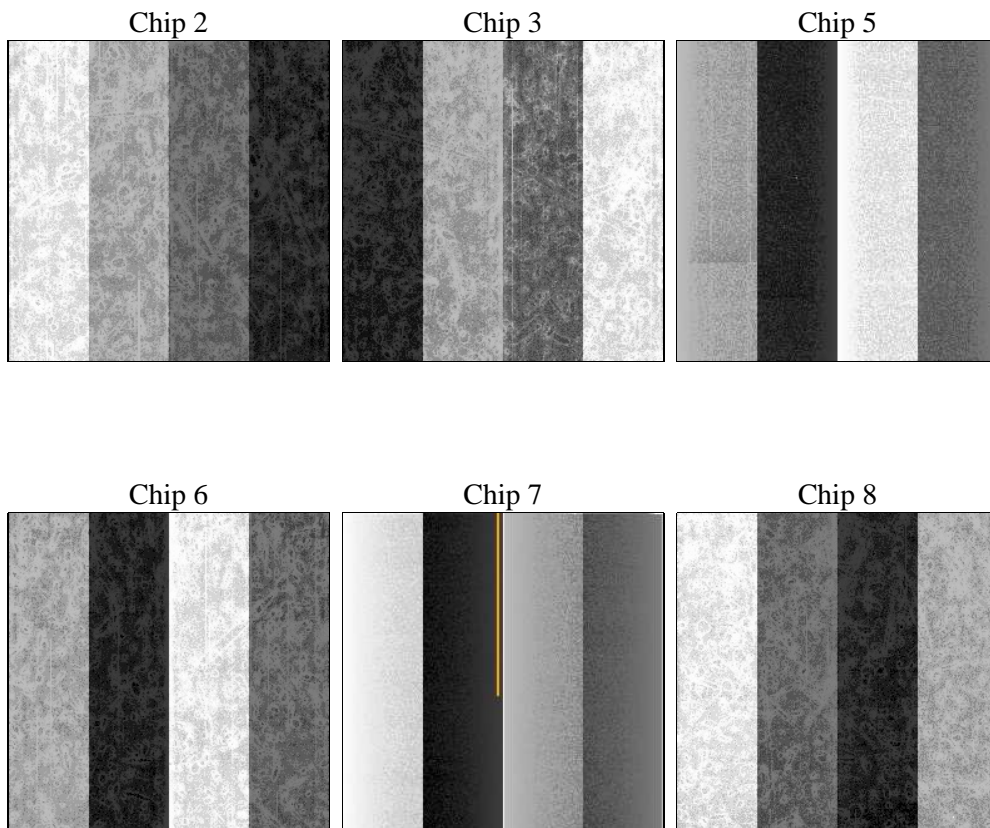
## 2 OBI

### 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	5052.4244176745	Sum of GTIs [s]
caldsver	4.4.7	&#160	ontime2	5052.4654576778	Sum of GTIs [s]
date	2012-02-03T18:34:04	Date and time of file creation	ontime3	5052.3012976646	Sum of GTIs [s]
revision	3	Processing version of data	ontime5	5052.3833776712	Sum of GTIs [s]
			ontime6	5052.3423376679	Sum of GTIs [s]
			ontime7	5052.4244176745	Sum of GTIs [s]
			ontime8	5052.2602576613	Sum of GTIs [s]
			l1events	254104	Number of level 1 events

### 2.1.4 Events

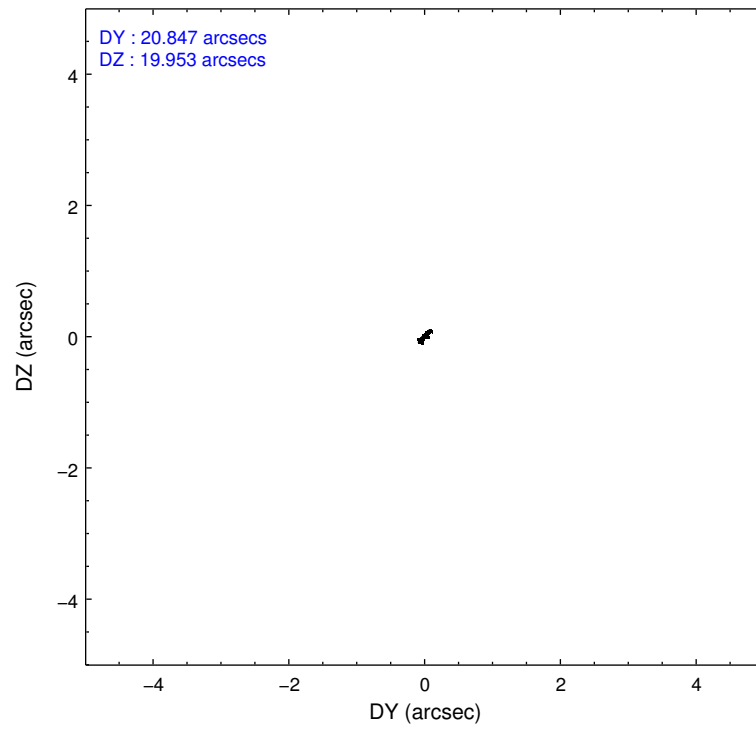
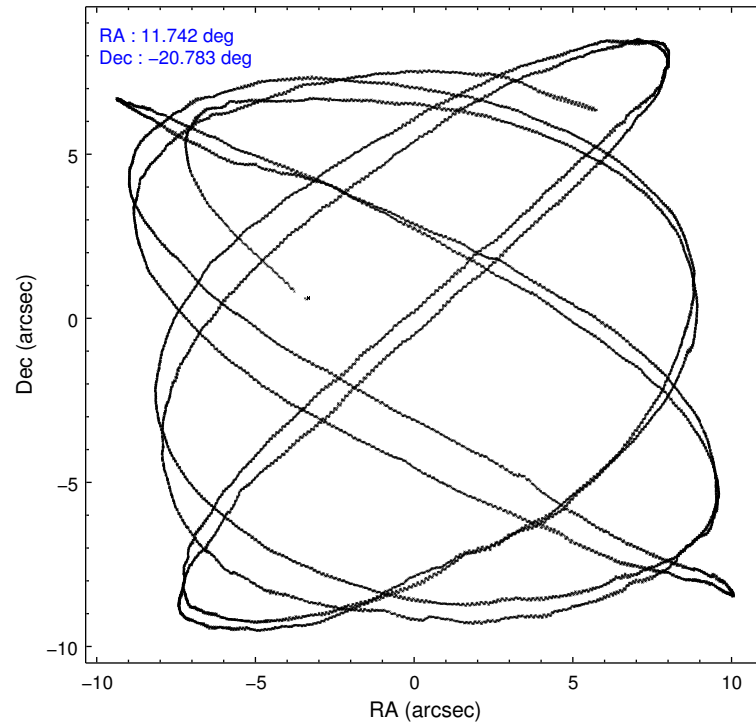
	ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8		ccd 2	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	36714	34161	56118	34745	44762	47604	grade 0 events	1382	1280	3316	1384	1941	3899
rejected events	32812	30562	27875	30715	24433	34783		3%	3%	5%	3%	4%	8%
rejected %	89%	89%	49%	88%	54%	73%	grade 1 events	19	12	124	23	49	46
								0%	0%	0%	0%	0%	0%
							grade 2 events	987	819	8490	808	4189	2990
								2%	2%	15%	2%	9%	6%
							grade 3 events	413	392	1123	479	1840	1318
								1%	1%	2%	1%	4%	2%
							grade 4 events	412	397	1002	411	1813	1197
								1%	1%	1%	1%	4%	2%
							grade 5 events	1461	1670	4267	1673	4749	2291
								3%	4%	7%	4%	10%	4%
							grade 6 events	710	712	14334	948	10561	3423
								1%	2%	25%	2%	23%	7%
							grade 7 events	31330	28879	23462	29019	19620	32440
								85%	84%	41%	83%	43%	68%

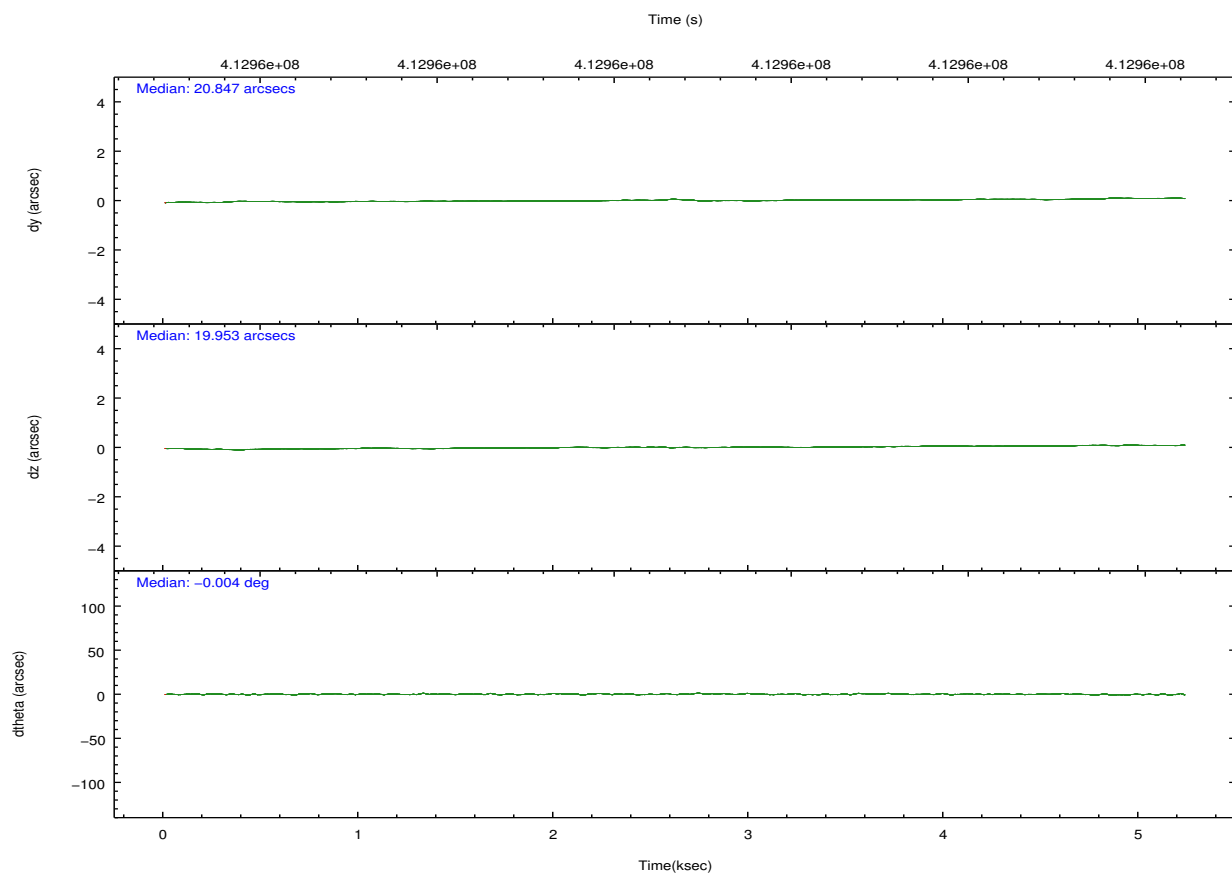
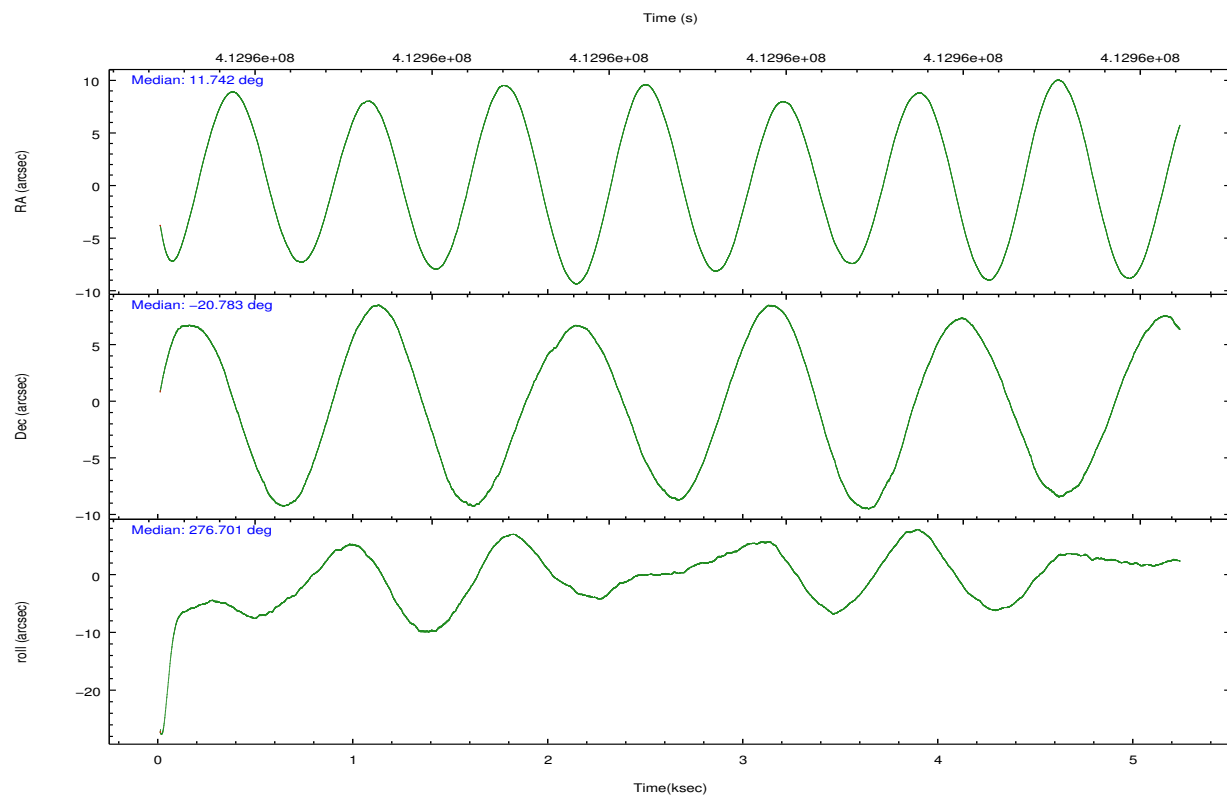


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-235678	ACIS-235678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	FAINT	FAINT	Number of optional ACIS chips dropped	0	0
Observation mode	POINTING	POINTING	On-chip summing requested	N	N
[deg] Pointing RA	11.724064	11.74182219062165	Subarray requested	NONE	NONE
[deg] Pointing Dec	-20.761244	-20.78285242252214	Alternating exposures requested	N	N
[deg] Pointing Roll	276.542890	276.7057580714816	[s] Primary exposure time	0.000000	3.2
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1425803651734			
[mm] SIM translation stage offset	0	0.01005778216563158			
[s] Observation start time (MET)	412958963.184000	412957935.46374			
Observation start date	2011-02-01T14:48:17	2011-02-01T14:32:15			
[s] Observation end time (MET)	412963963.184000	412965271.90162			
Observation end date	2011-02-01T16:11:37	2011-02-01T16:34:31			
Read mode	TIMED	TIMED			

## 2.3 Aspect



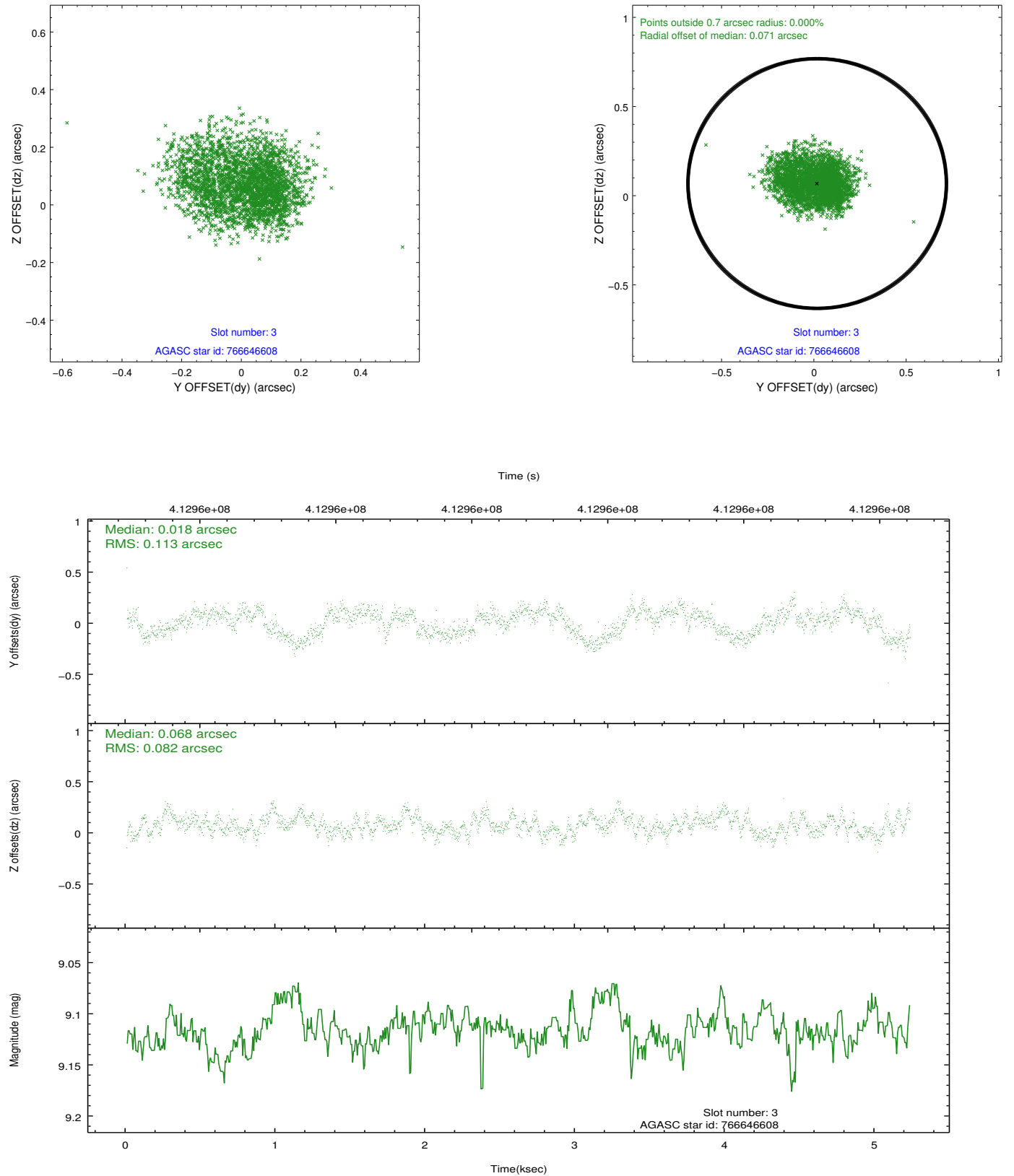


Slot Statistics

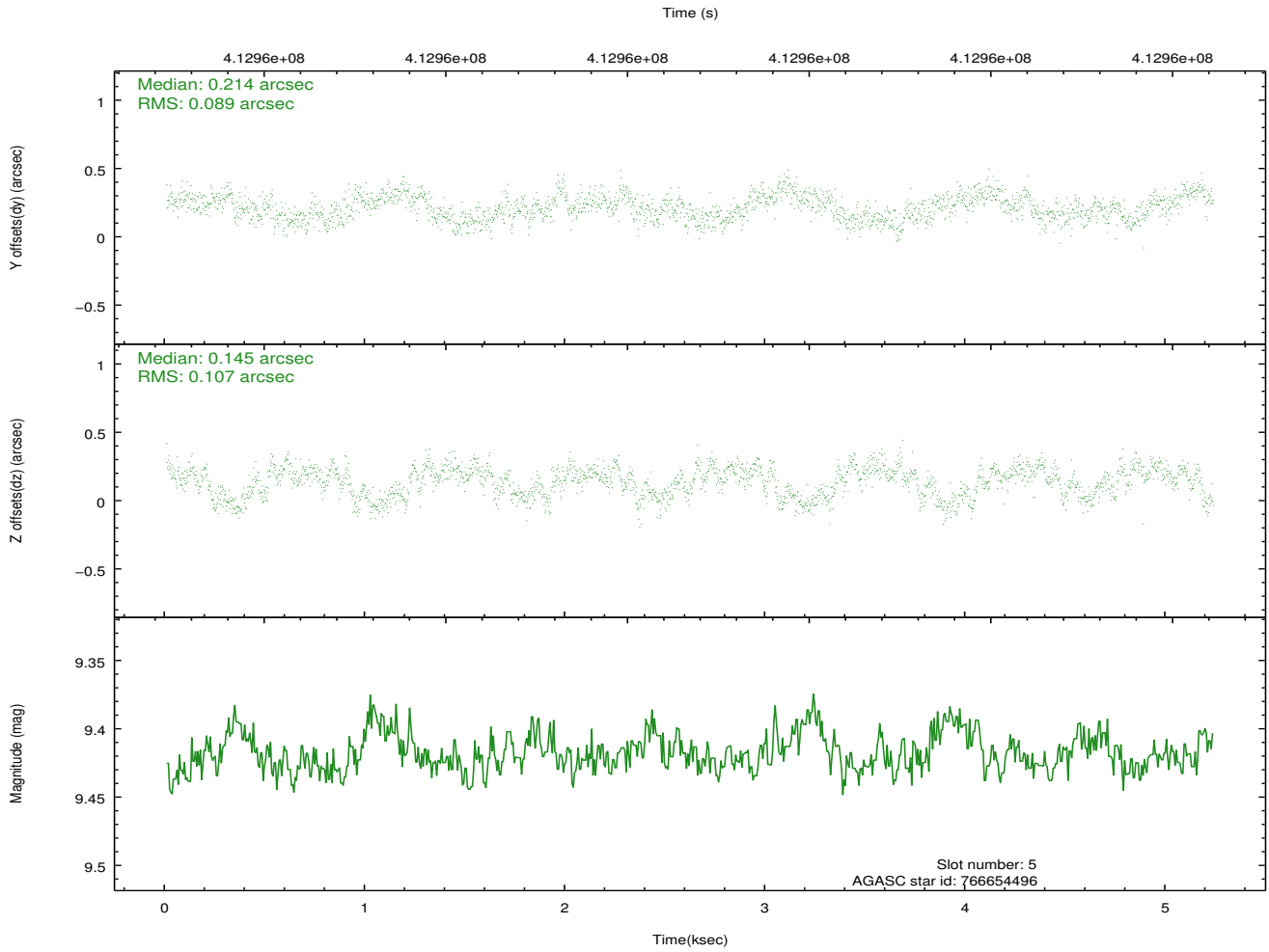
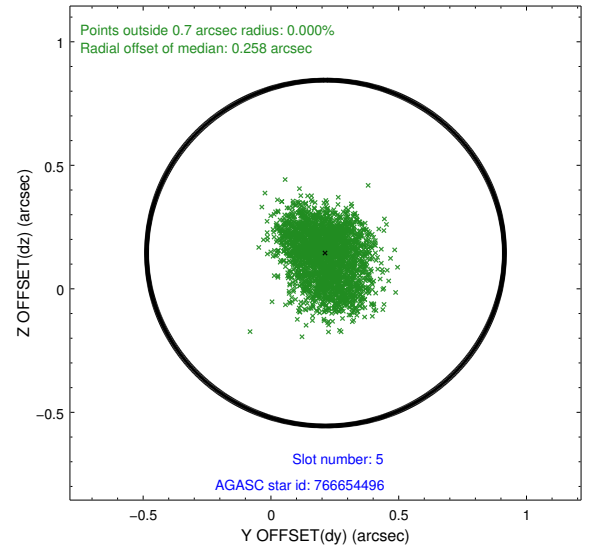
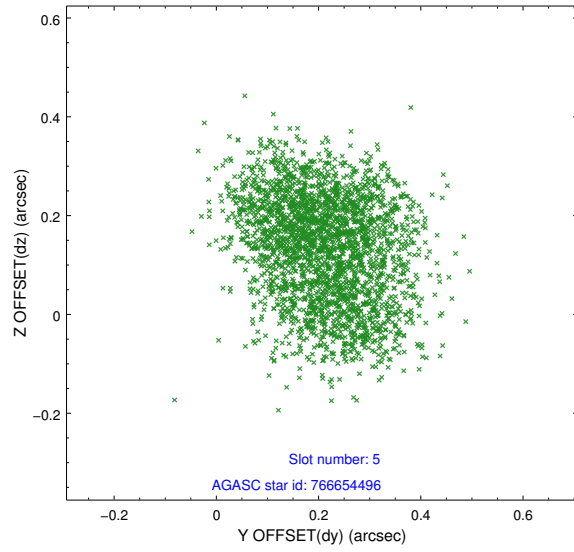
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.89	1276	-0.102	-0.013	0.006	0.011	0.000000	0.000000	-774.08	-1741.43
1	FID	ACIS-S-4	6.97	1276	0.186	0.053	0.006	0.010	0.000000	0.000000	2138.95	165.92
2	FID	ACIS-S-5	7.00	1276	-0.115	-0.031	0.006	0.010	0.000000	0.000000	-1825.46	160.82
3	GUIDE	766646608	9.12	2548	0.018	0.068	0.150	0.232	11.216160	-20.336771	-1709.69	-1529.38
4	OMITTED		0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
5	GUIDE	766654496	9.42	2551	0.214	0.145	0.152	0.232	11.545095	-20.663870	-416.08	-560.66
6	GUIDE	766787896	8.36	2551	-0.046	-0.079	0.089	0.142	12.427982	-21.128884	1589.84	2197.11
7	GUIDE	766786680	6.96	2551	-0.164	-0.124	0.087	0.141	12.275890	-21.151146	1610.17	1681.26

## 2.4 Star Slots

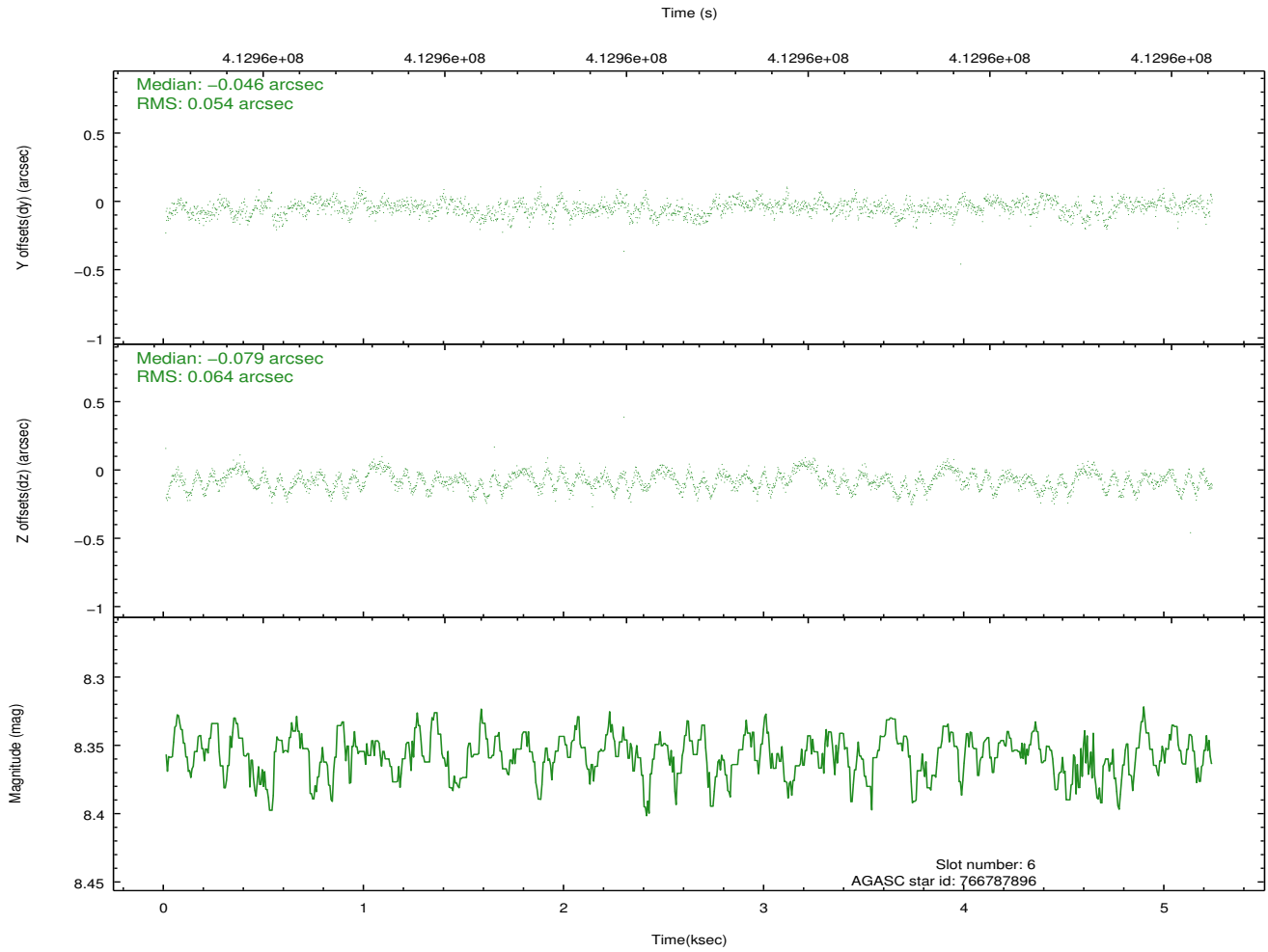
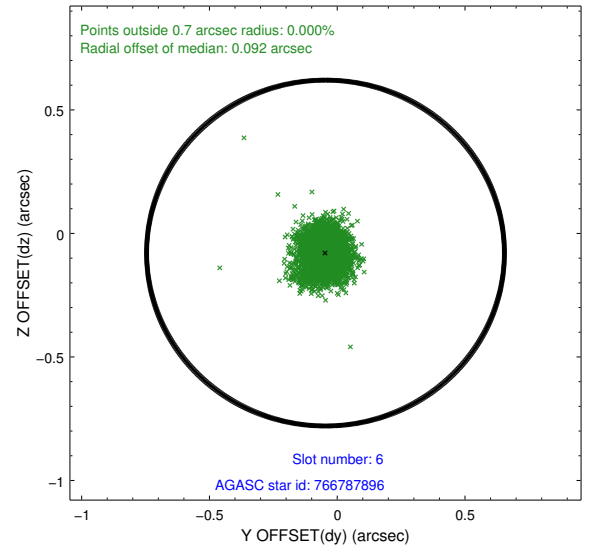
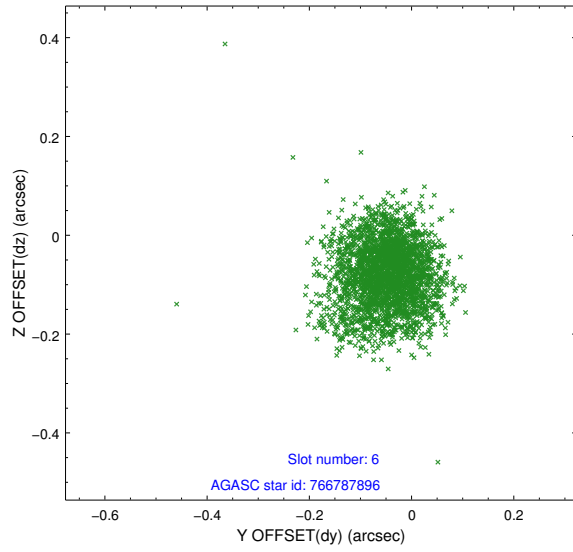
### 2.4.1 Slot 3



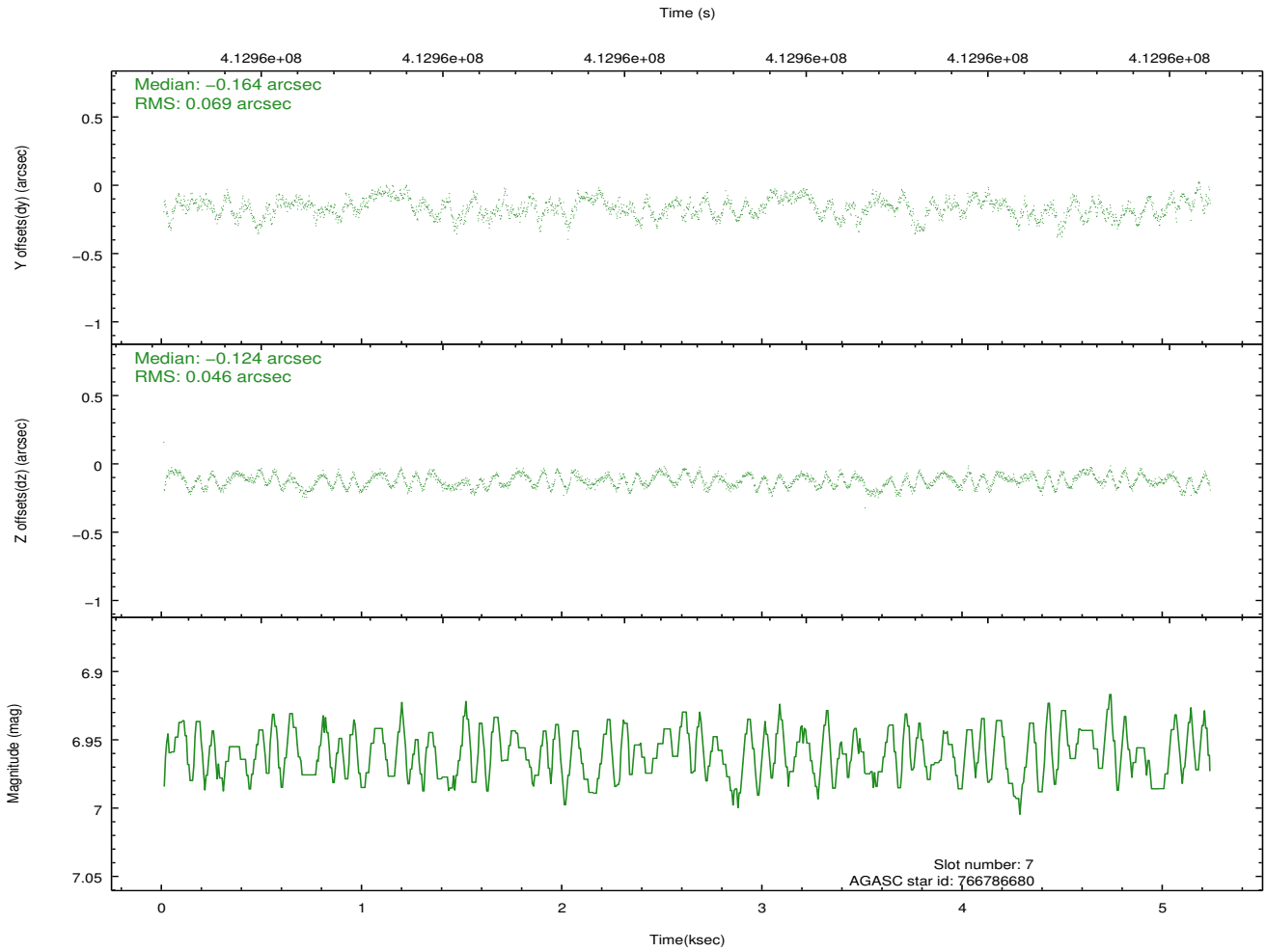
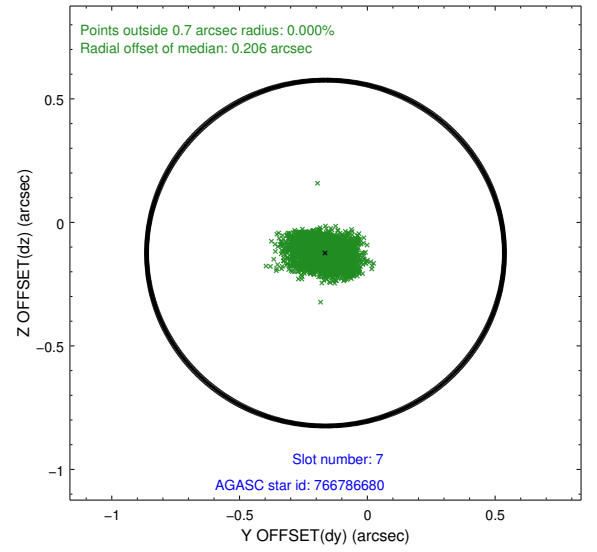
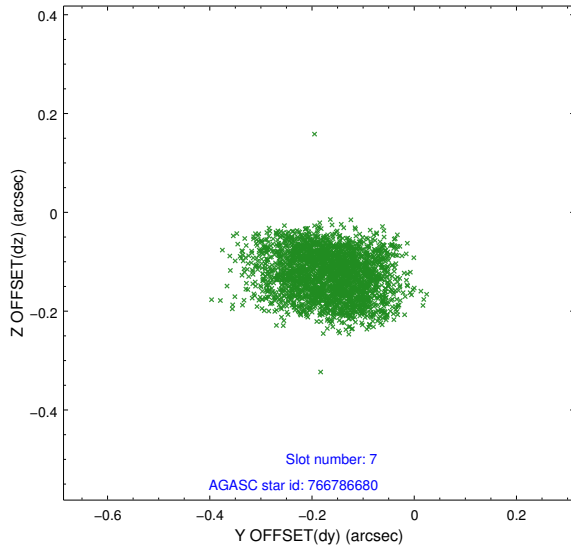
## 2.4.2 Slot 5



### 2.4.3 Slot 6



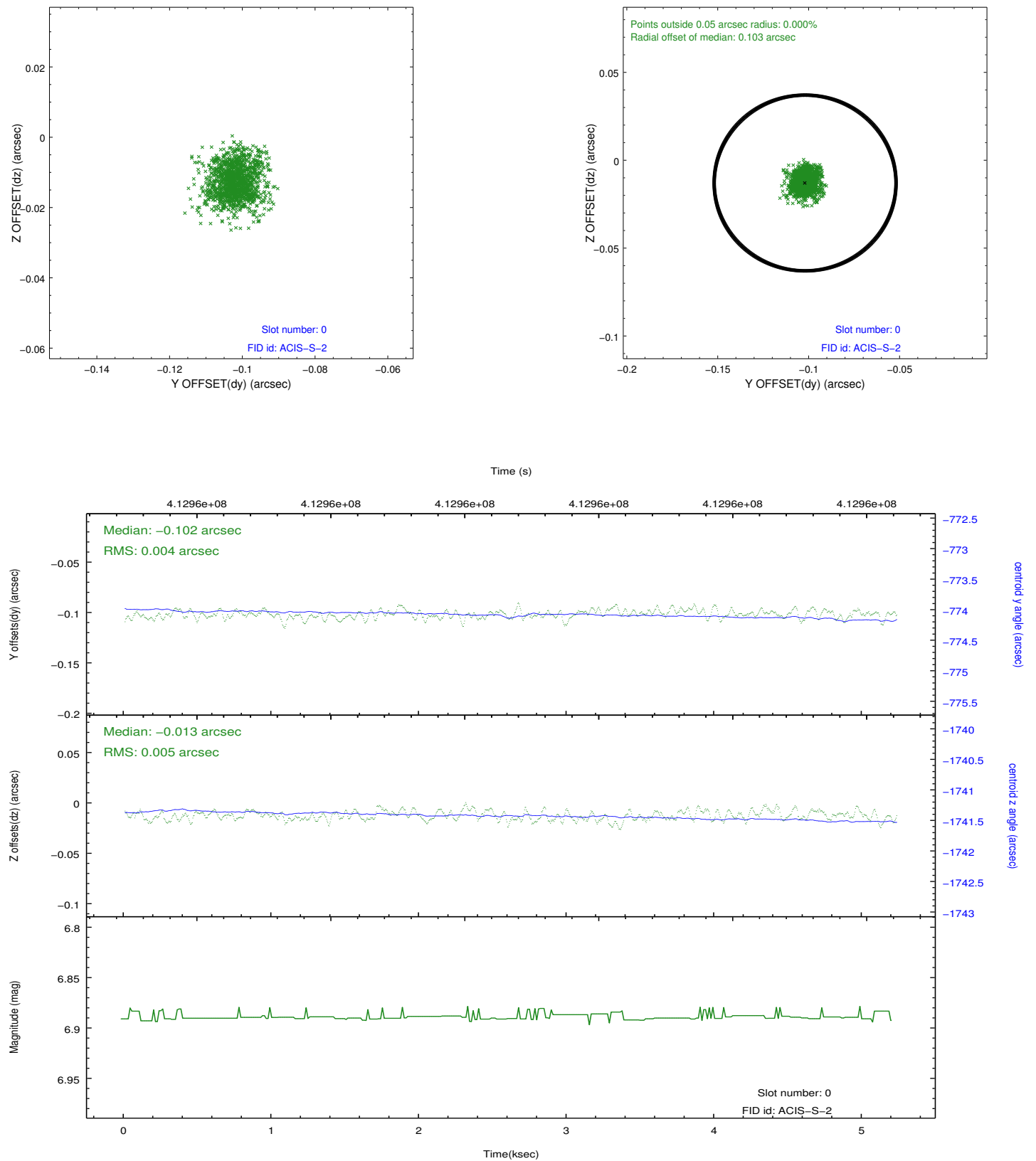
## 2.4.4 Slot 7



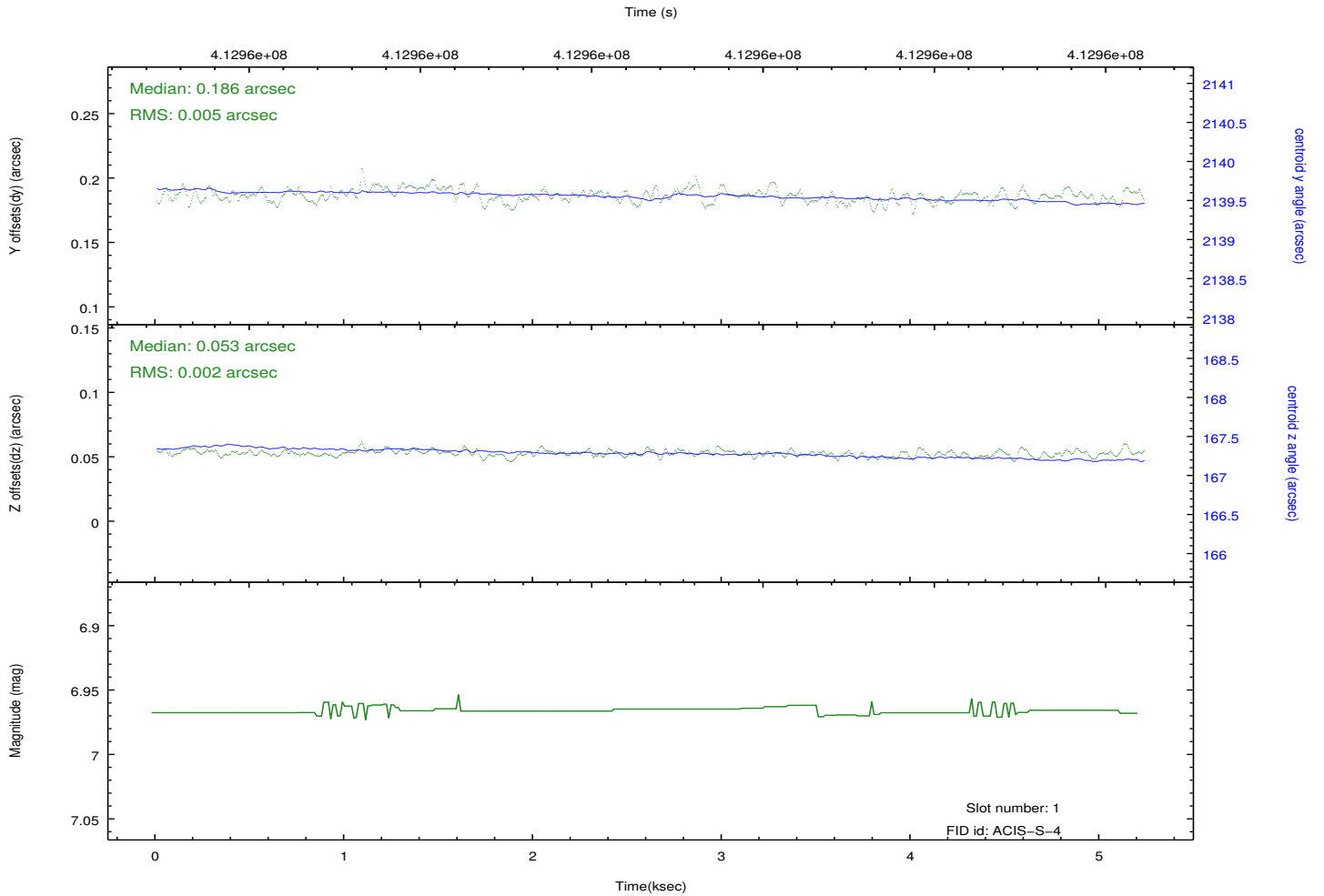
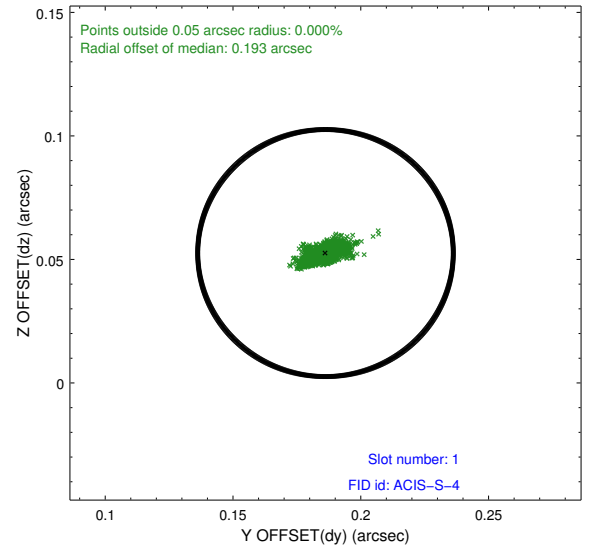
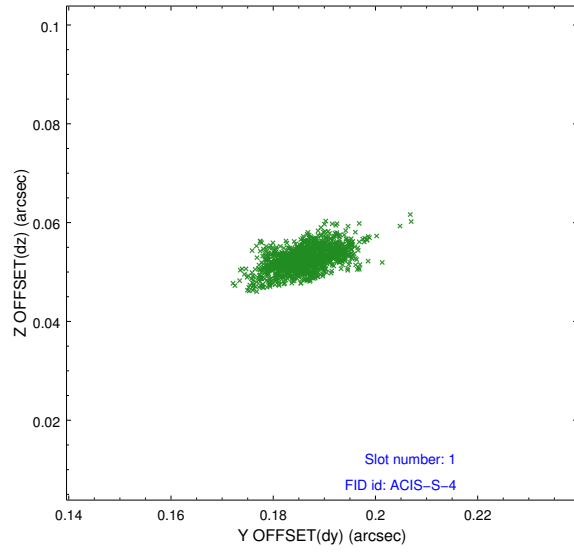


## 2.5 FID Slots

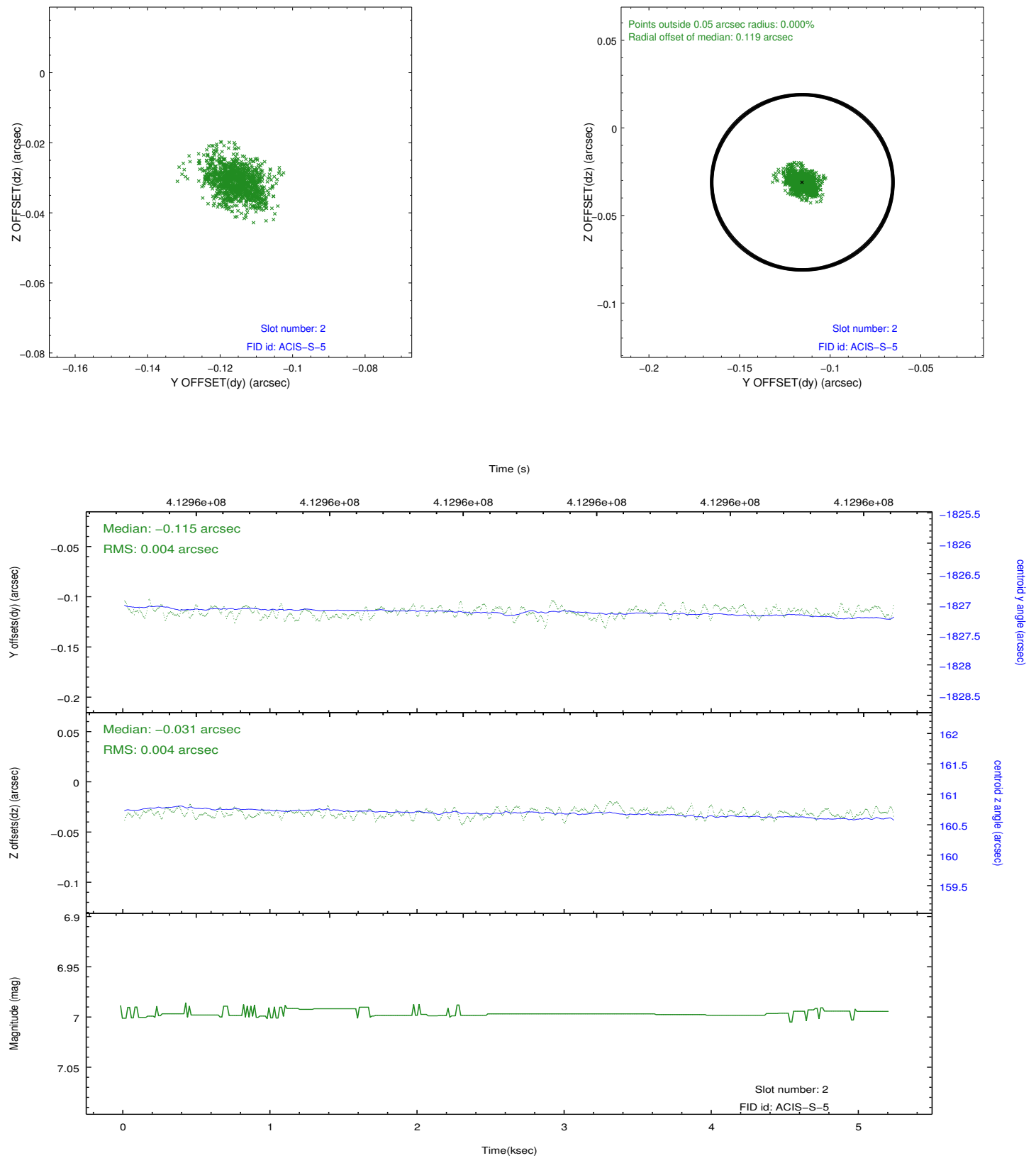
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.02.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.0524244150519

## 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.

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The guide star in slot 4 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.

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Joint Proposal: HST