

# V&V Reference Report

## L2 ASCDS Version : 8.4.4

Observation 8220 - L2 Version 4  
Chandra X-Ray Center

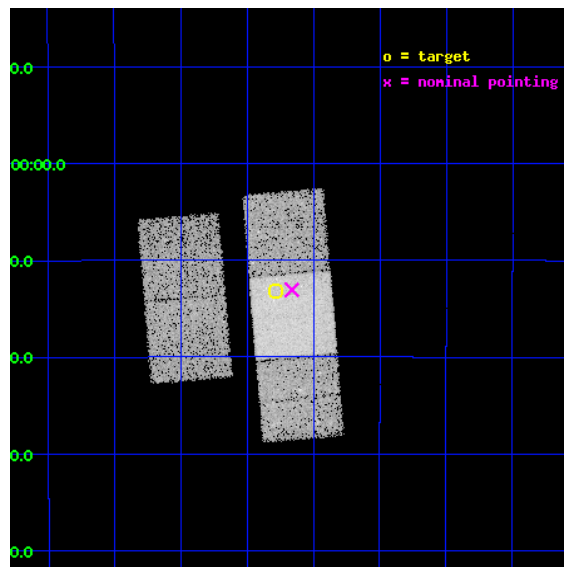
L2 Processing Date : Apr 22 2012

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# 1 Front

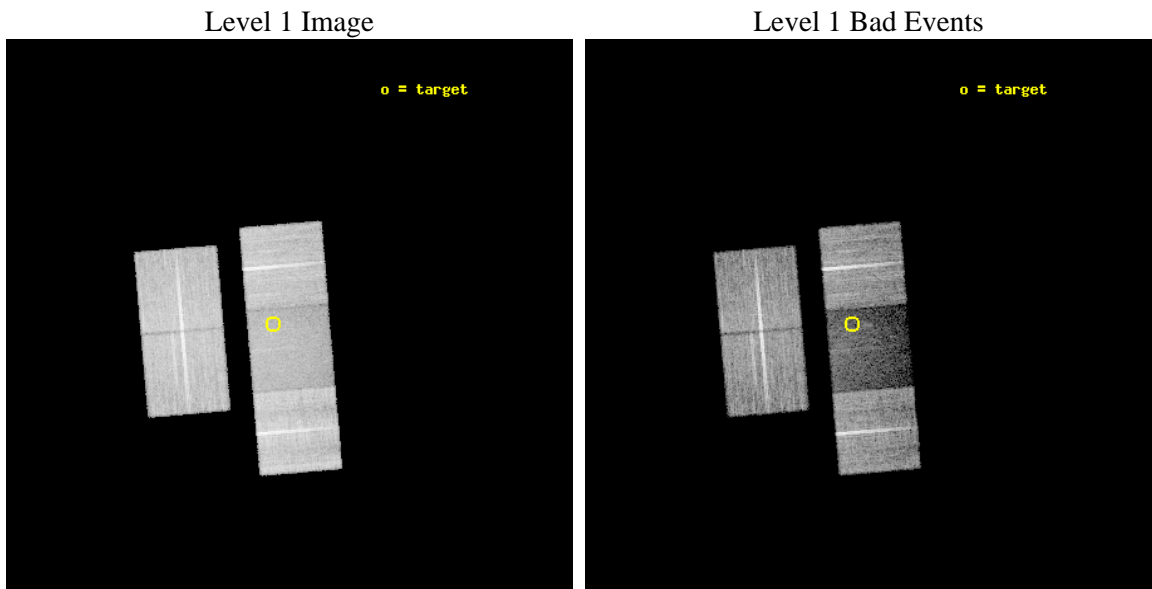
seq_num	100068	Sequence number
obs_id	8220	Observation id
title	X-Ray Observations of Jupiter in Support of the New Horizons Flyby	&#160
observer	Dr. G. Gladstone	Principal investigator
object	Jupiter	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	257.446208	Observer's specified target RA [deg]
dec_targ	-22.219167	Observer's specified target Dec [deg]
ra_nom	257.41574053834	Nominal RA [deg]
dec_nom	-22.21764878575	Nominal Dec [deg]
roll_nom	85.137603916478	Nominal Roll [deg]
revision	4	Processing version of data
ontime	16842.300129533	Sum of GTIs [s]
livetime	16622.243079219	Livetime [s]
ontime2	16836.018139124	Sum of GTIs [s]
ontime3	16839.159169257	Sum of GTIs [s]
ontime6	16842.300129533	Sum of GTIs [s]
ontime7	16842.300129533	Sum of GTIs [s]
ontime8	16842.300129533	Sum of GTIs [s]
l2events	81609	Number of level 2 events



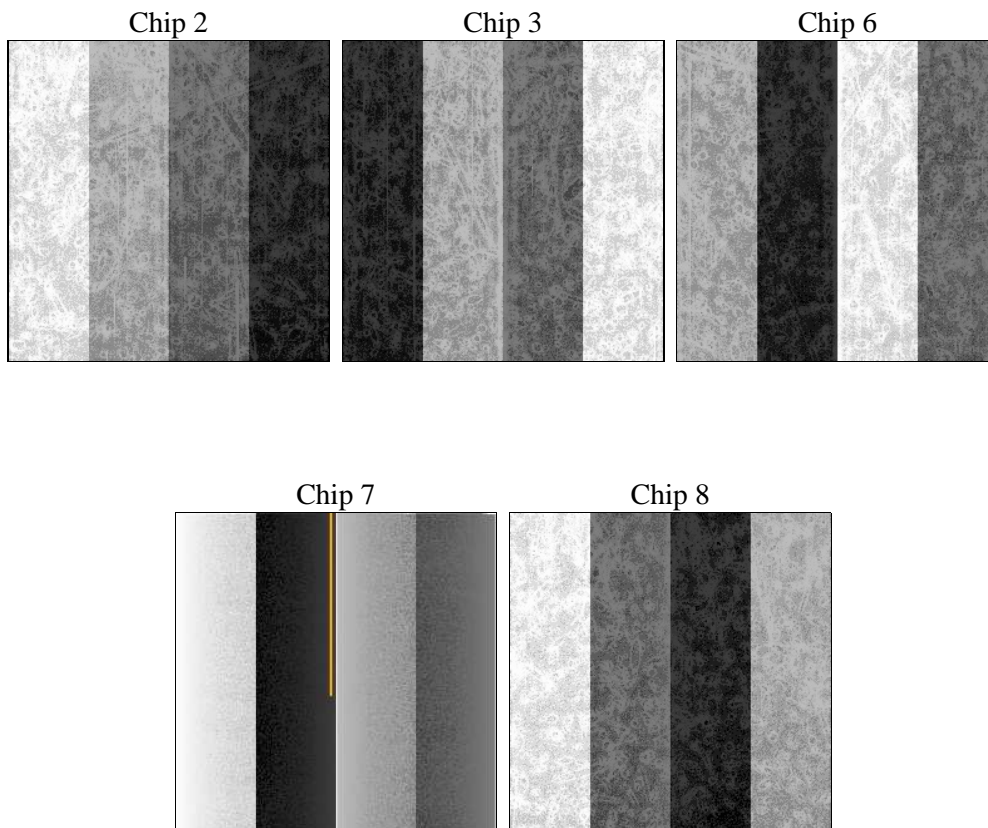
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	16665.000000	[s] Scheduled observation exposure time
ascdsver	8.4.4	Processing system revision	ontime	16842.300129533	Sum of GTIs [s]
caldbver	4.4.9	&#160	ontime2	16836.018139124	Sum of GTIs [s]
date	2012-04-22T13:45:51	Date and time of file creation	ontime3	16839.159169257	Sum of GTIs [s]
revision	4	Processing version of data	ontime6	16842.300129533	Sum of GTIs [s]
			ontime7	16842.300129533	Sum of GTIs [s]
			ontime8	16842.300129533	Sum of GTIs [s]
			l1events	553265	Number of level 1 events

### 2.1.4 Events

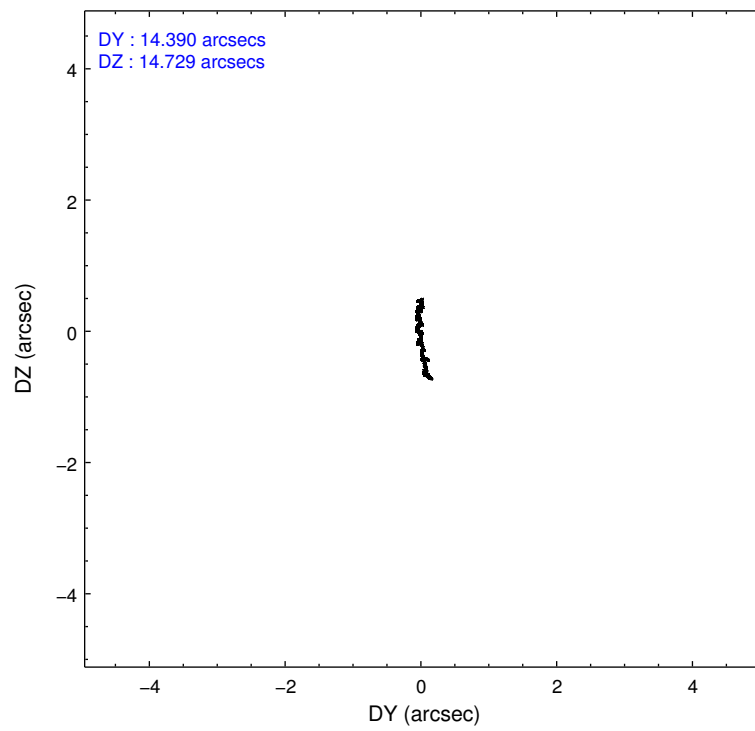
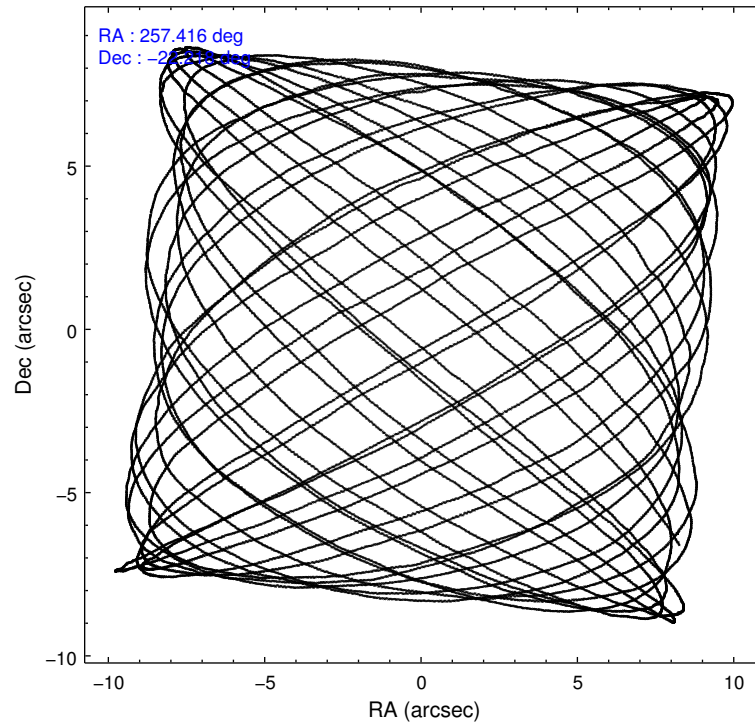
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	117784	116328	115430	69553	134170
rejected events	106242	104947	102449	29993	97654
rejected %	90%	90%	88%	43%	72%

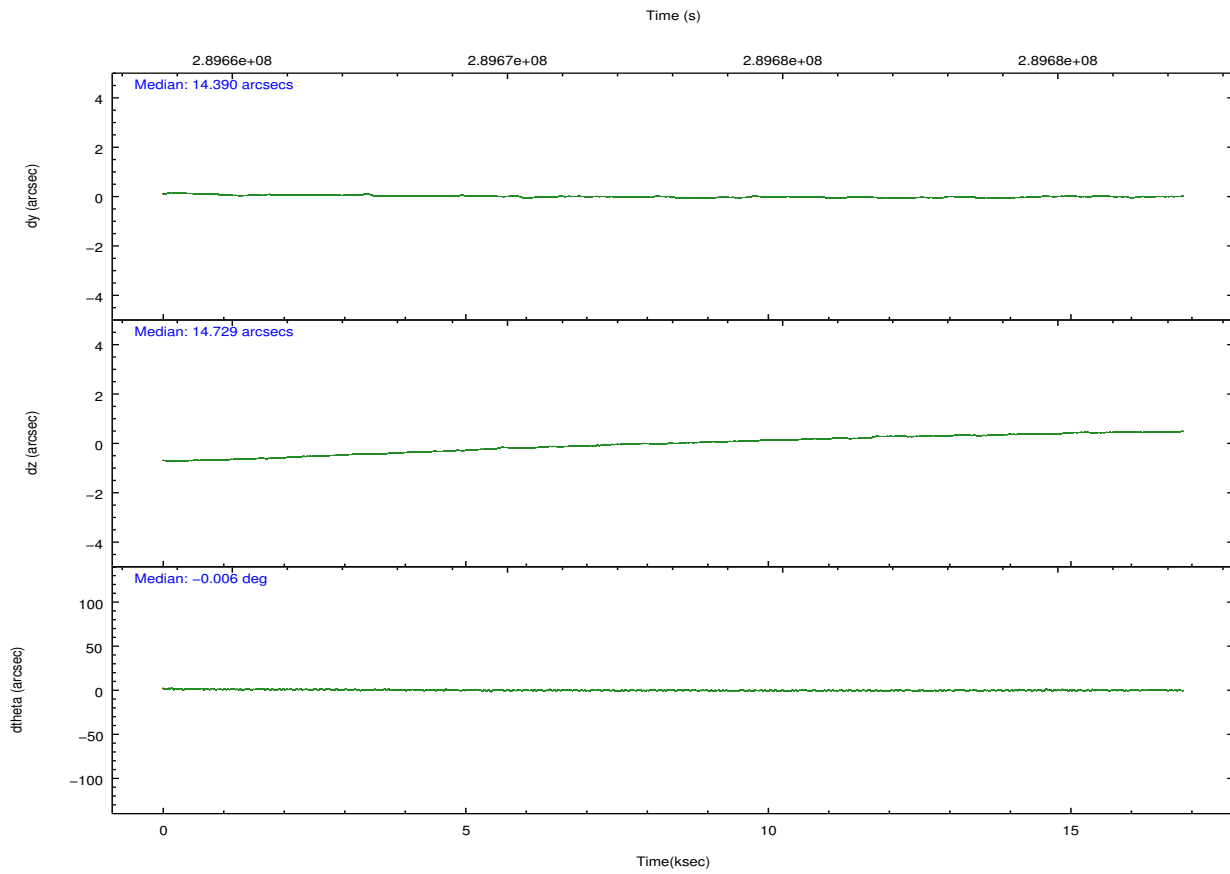
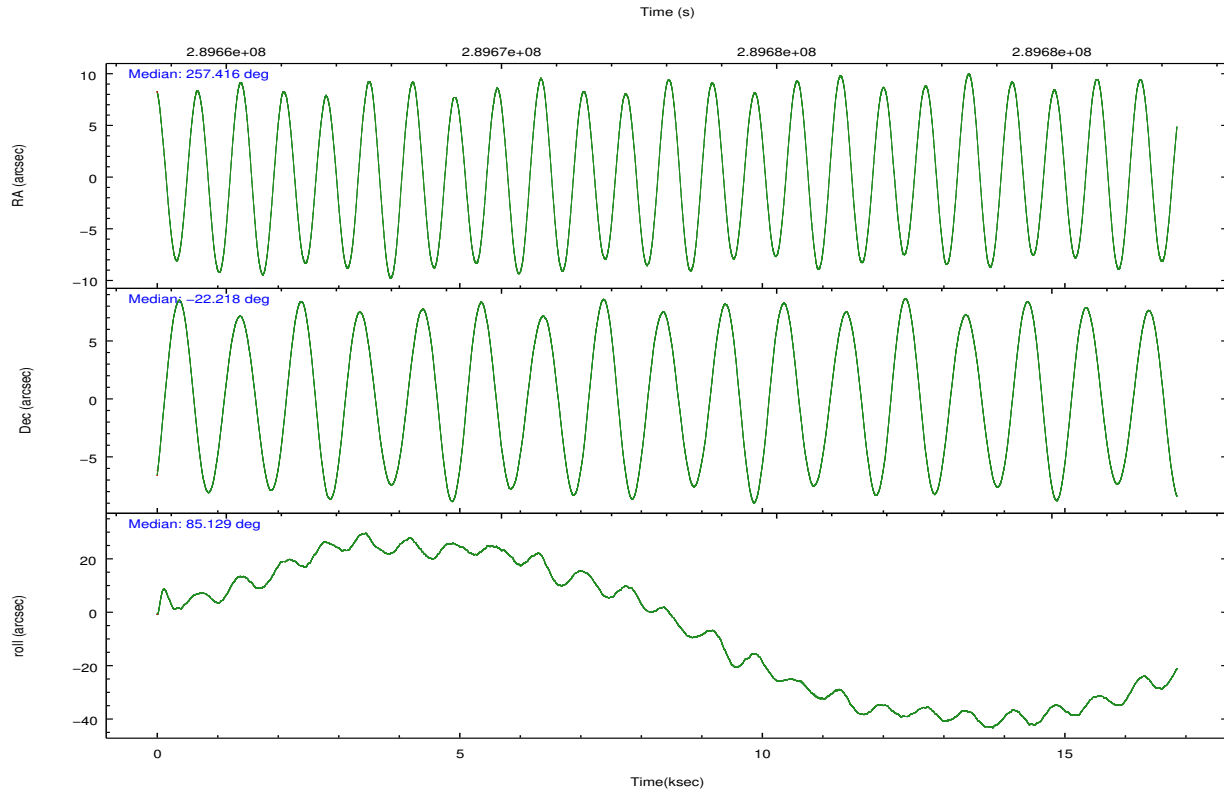
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	5434	5379	6212	4847	11515
	4%	4%	5%	6%	8%
grade 1 events	66	86	69	118	120
	0%	0%	0%	0%	0%
grade 2 events	2475	2295	2575	9395	8458
	2%	1%	2%	13%	6%
grade 3 events	1095	1111	1255	3578	3642
	0%	0%	1%	5%	2%
grade 4 events	1137	1086	1192	3488	3400
	0%	0%	1%	5%	2%
grade 5 events	1733	2336	2230	6584	3822
	1%	2%	1%	9%	2%
grade 6 events	1568	1648	1903	18754	9980
	1%	1%	1%	26%	7%
grade 7 events	104276	102387	99994	22789	93233
	88%	88%	86%	32%	69%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-23678	ACIS-23678	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
[deg] Pointing RA	257.428665	257.4157405383439	Subarray requested	NONE	NONE
[deg] Pointing Dec	-22.242261	-22.21764878575043	Alternating exposures requested	N	N
[deg] Pointing Roll	84.985868	85.13760391647833	[s] Primary exposure time	0.000000	3.1
[s] Window start time (MET)	289632665.184000	289632665.184000			
[s] Window stop time (MET)	289794665.184000	289794665.184000			
[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)	289664762.184000	289664336.77403			
Observation start date	2007-03-07T14:24:57	2007-03-07T14:18:56			
[s] Observation end time (MET)	289681427.184000	289681655.68735			
Observation end date	2007-03-07T19:02:42	2007-03-07T19:07:35			
Read mode	TIMED	TIMED			

## 2.3 Aspect





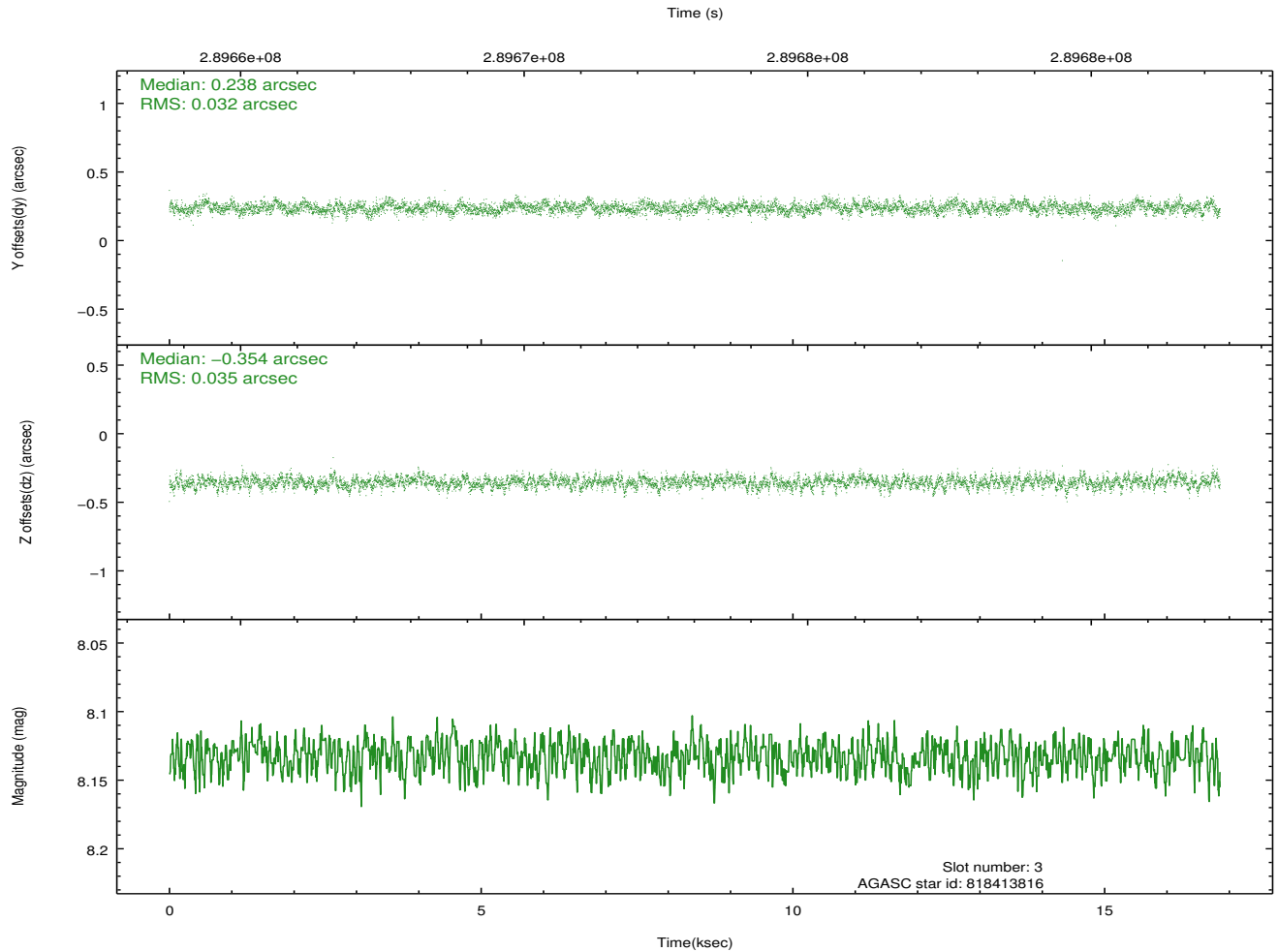
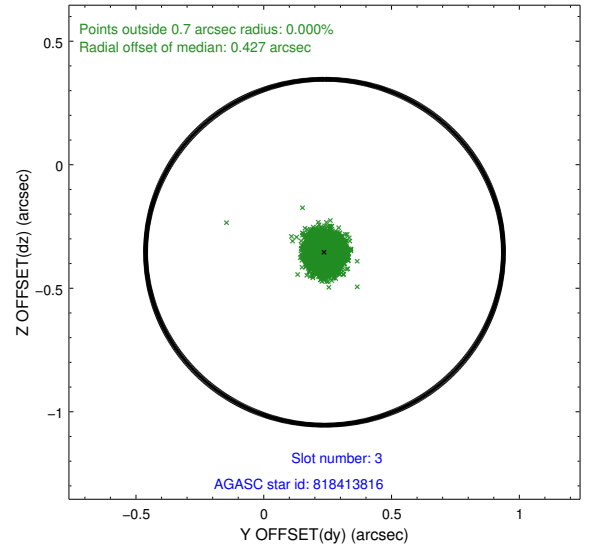
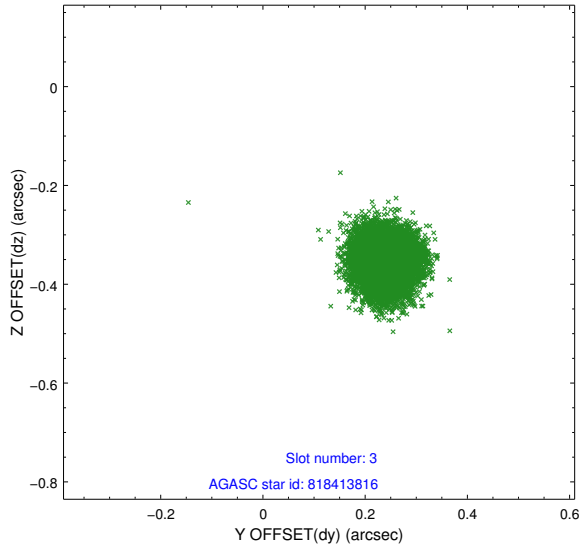
### Slot Statistics

slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	7.18	4111	0.072	-0.050	0.017	0.025	0.000000	0.000000	928.76	-1731.69
1	FID	ACIS-S-5	7.23	4111	-0.169	0.033	0.008	0.013	0.000000	0.000000	-1820.34	165.69
2	FID	ACIS-S-6	7.34	4111	0.076	0.030	0.021	0.031	0.000000	0.000000	394.05	809.93
3	GUIDE	818413816	8.13	8220	0.238	-0.354	0.050	0.081	256.942894	-22.495300	-1051.48	1529.34
4	GUIDE	818414712	8.42	8217	-0.044	0.181	0.062	0.100	257.882517	-22.166495	402.03	-1483.12
5	OMITTED		0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00
6	GUIDE	818417176	9.14	8212	-0.126	0.081	0.084	0.137	257.856345	-21.897386	1360.06	-1314.52
7	GUIDE	818544920	8.61	8213	-0.068	0.095	0.073	0.120	258.015076	-21.791117	1785.58	-1810.23

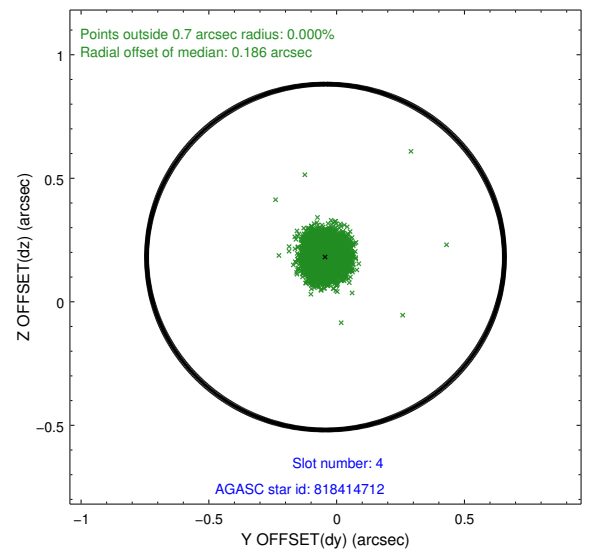
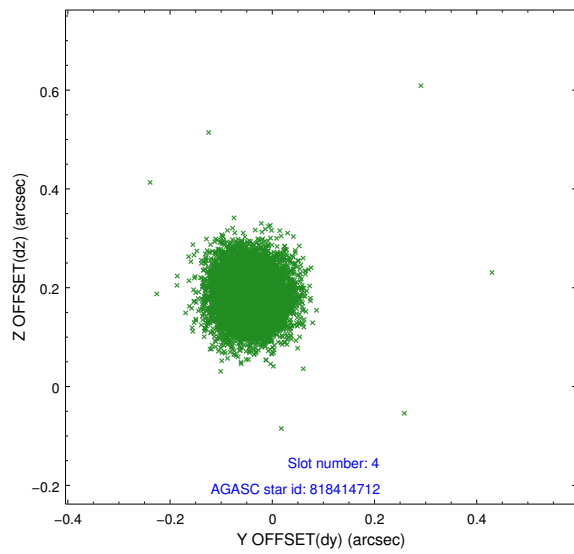
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## 2.4 Star Slots

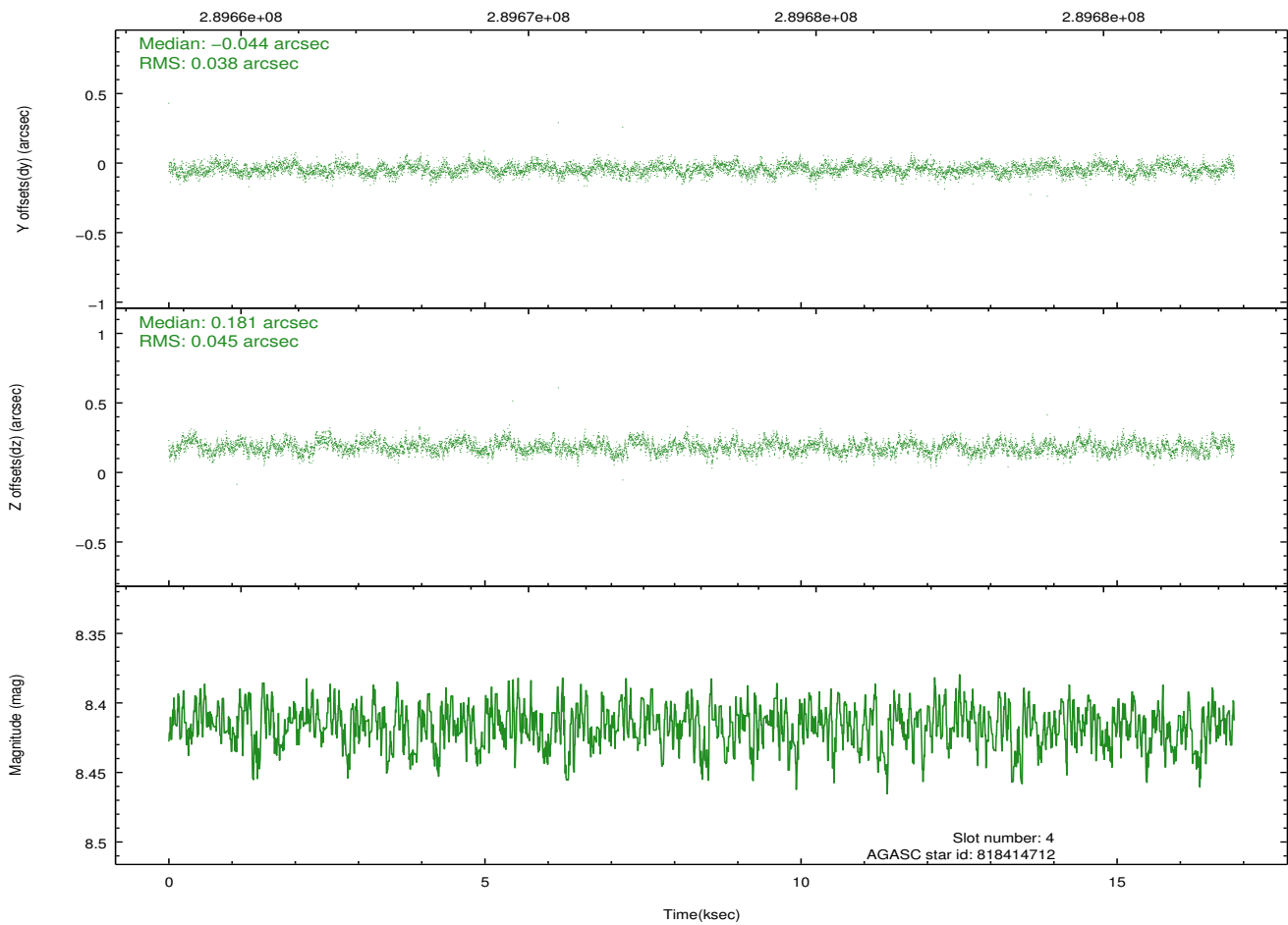
### 2.4.1 Slot 3



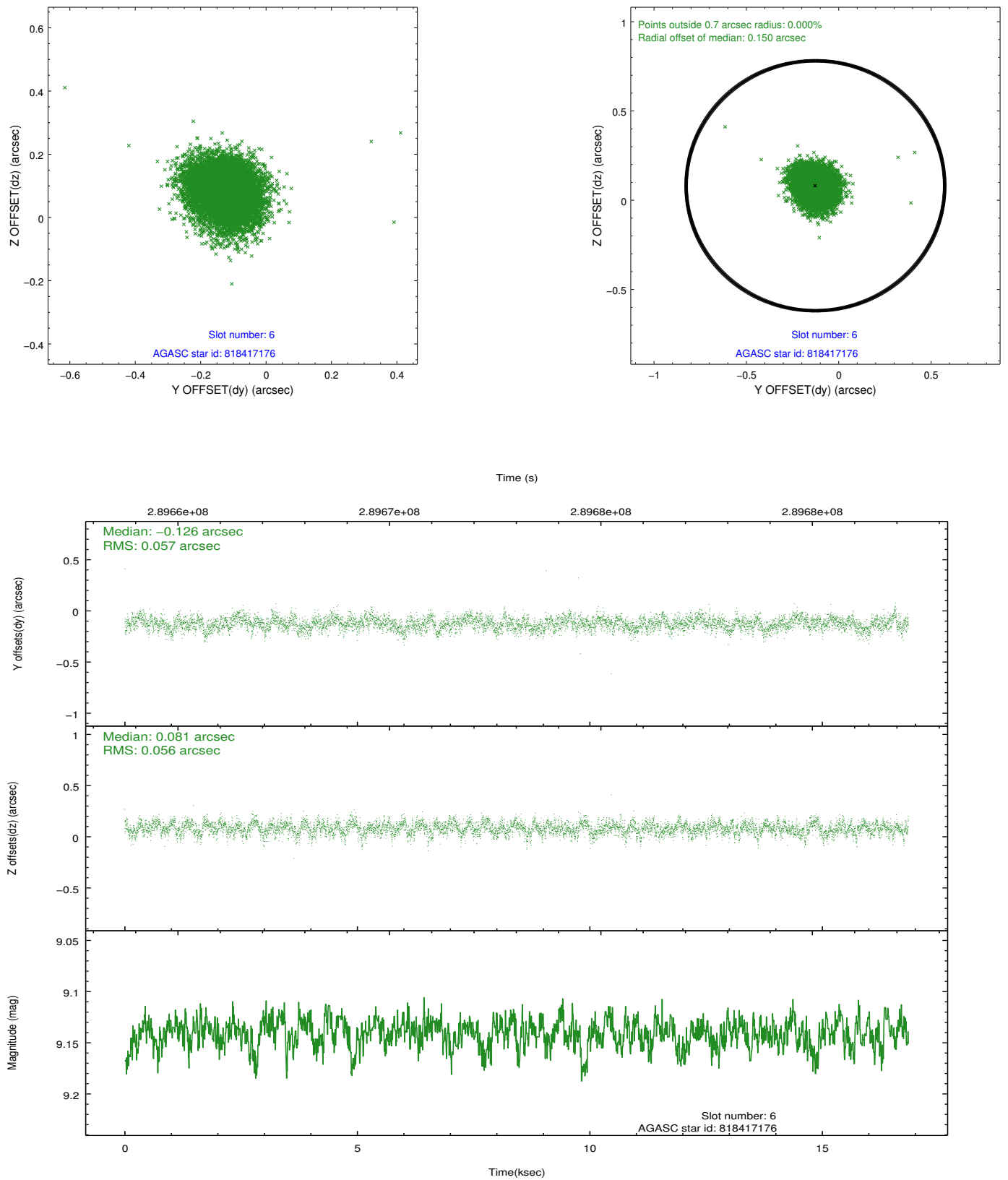
## 2.4.2 Slot 4



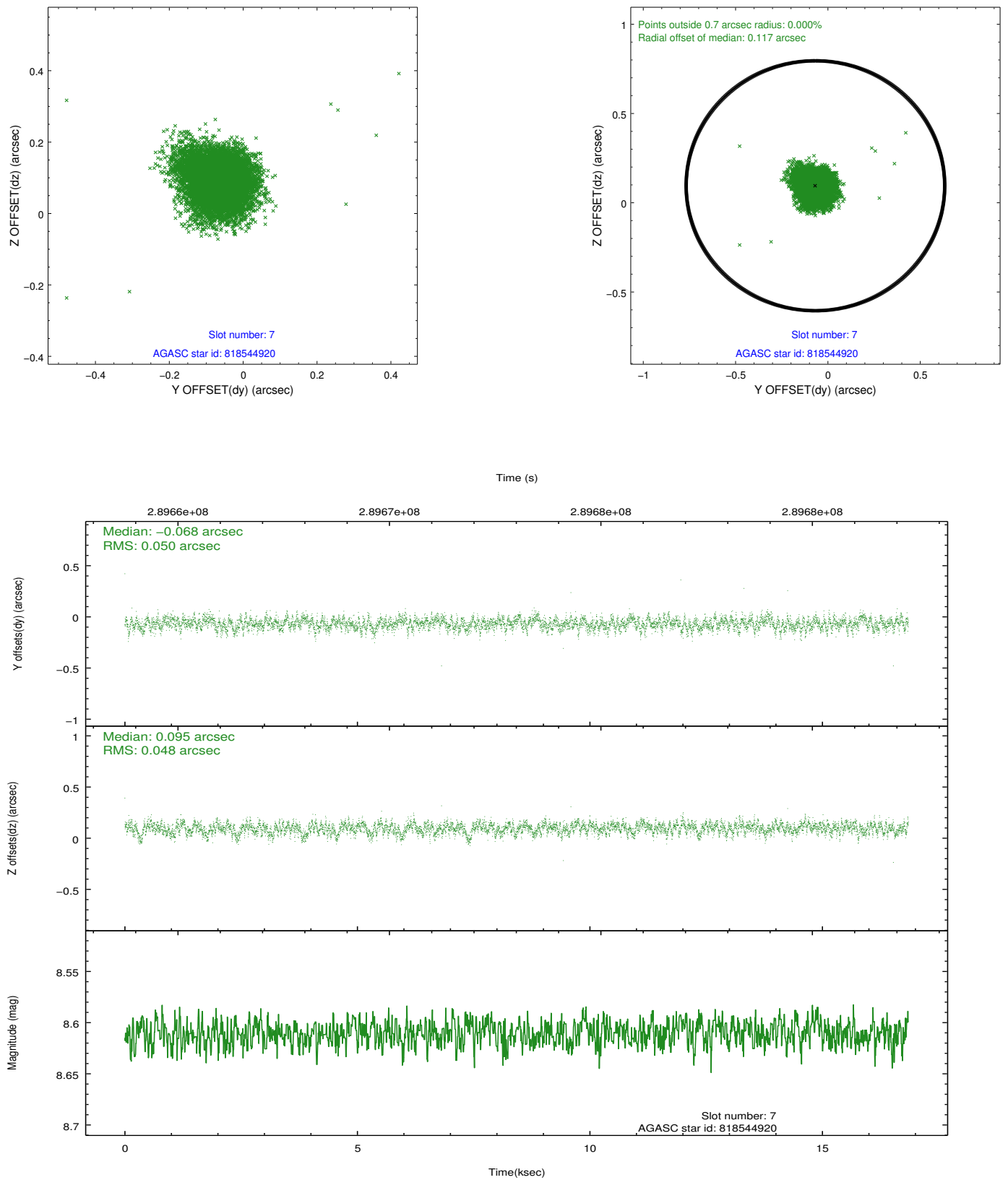
Time (s)



### 2.4.3 Slot 6

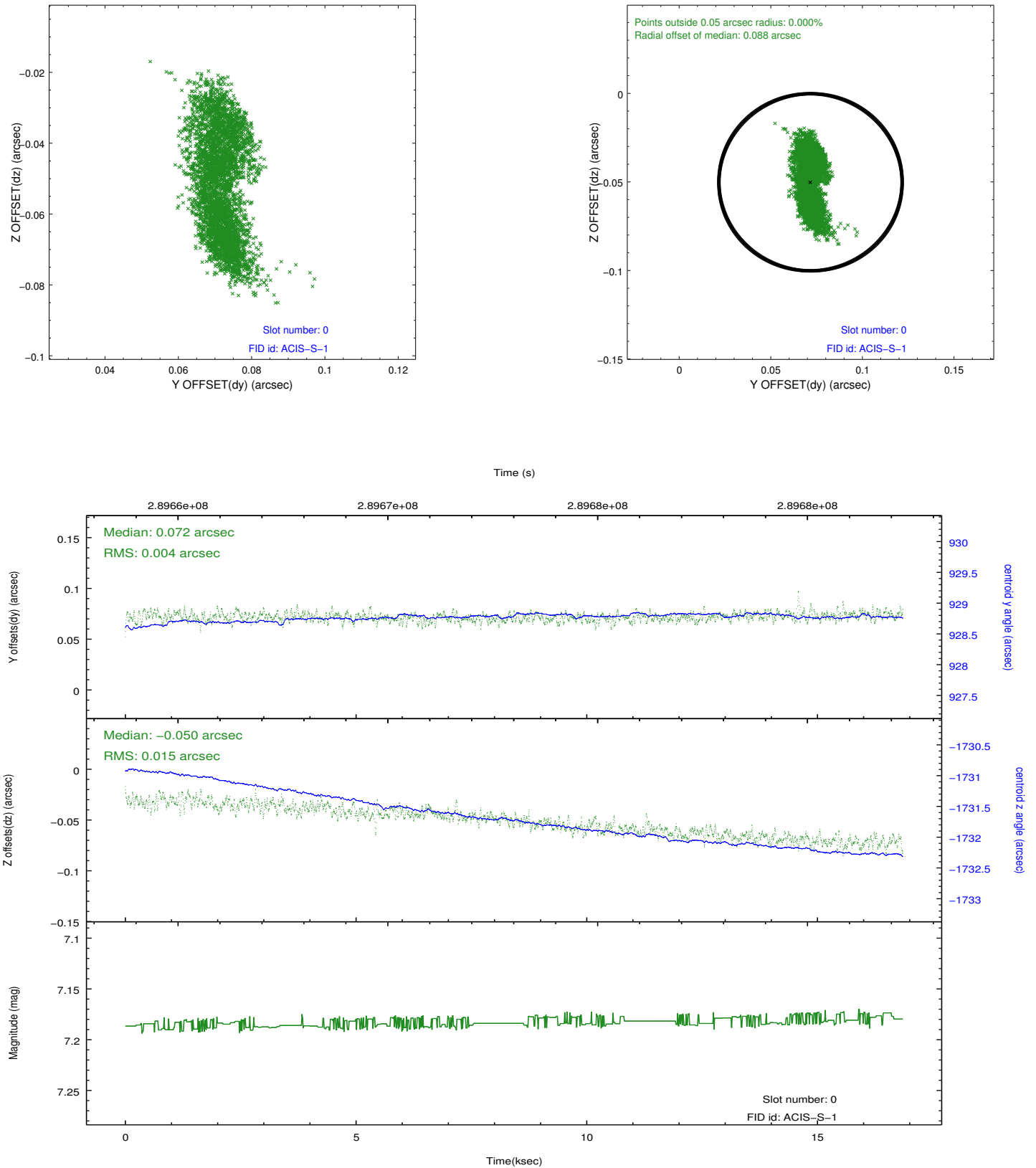


## 2.4.4 Slot 7

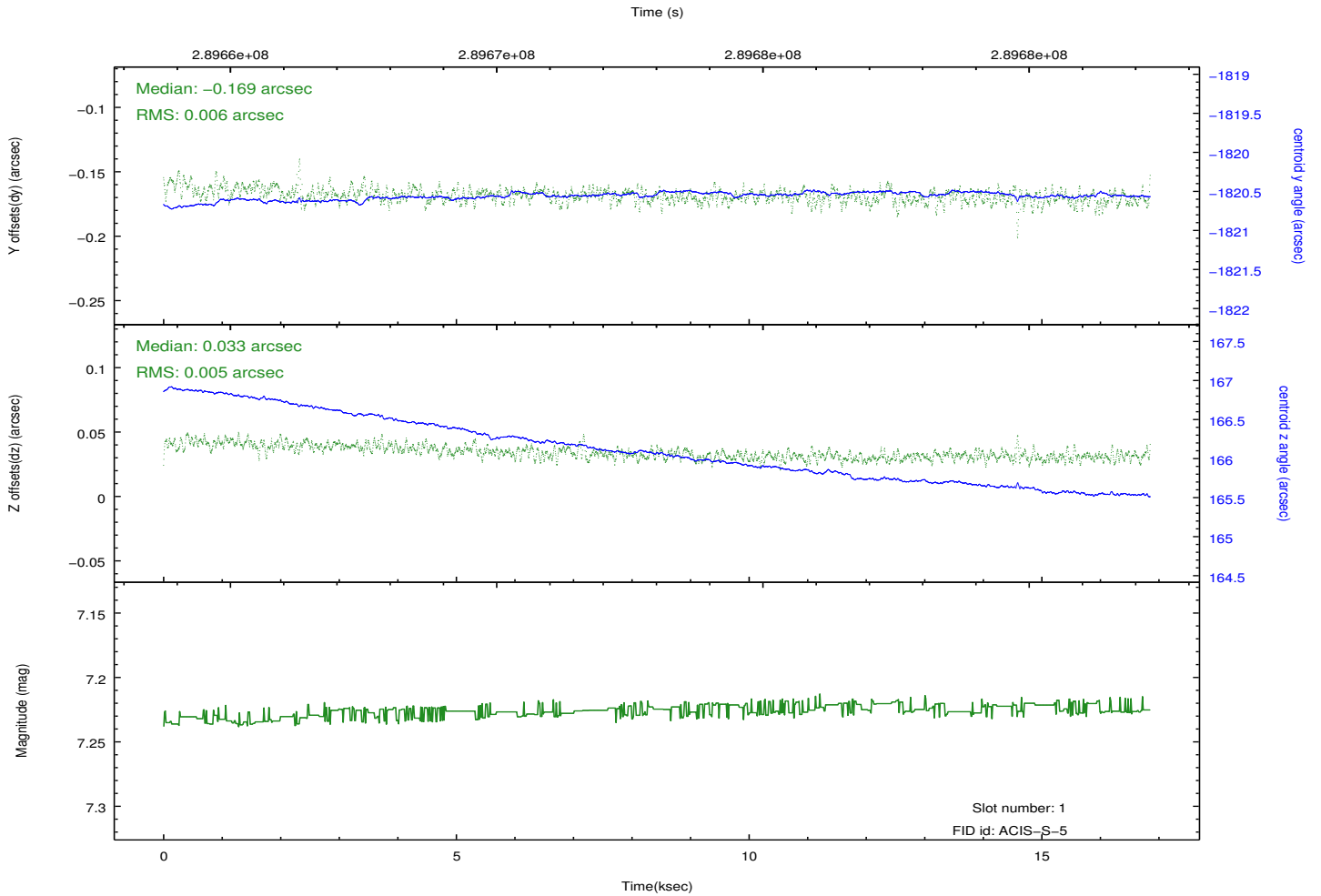
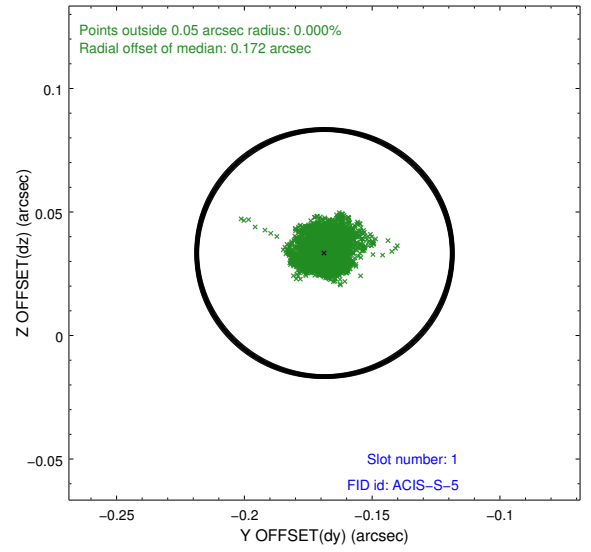
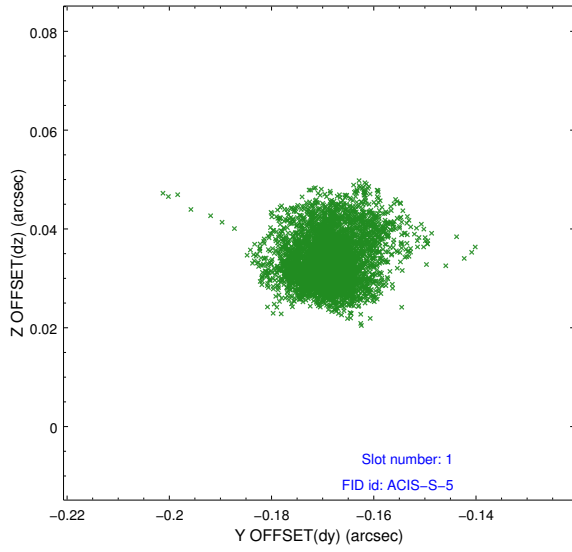


## 2.5 FID Slots

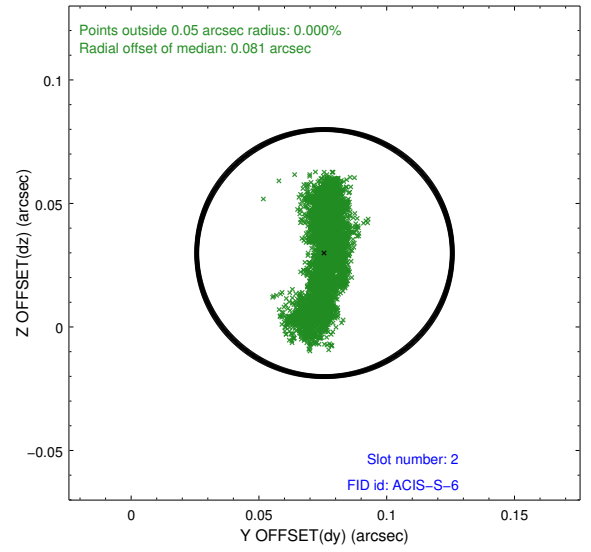
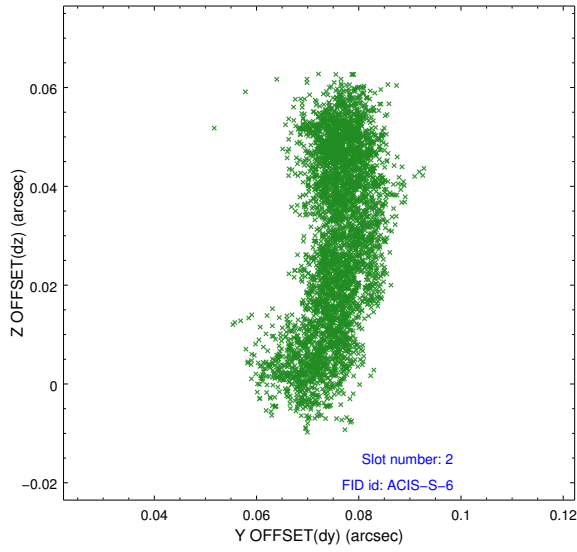
### 2.5.1 Slot 0



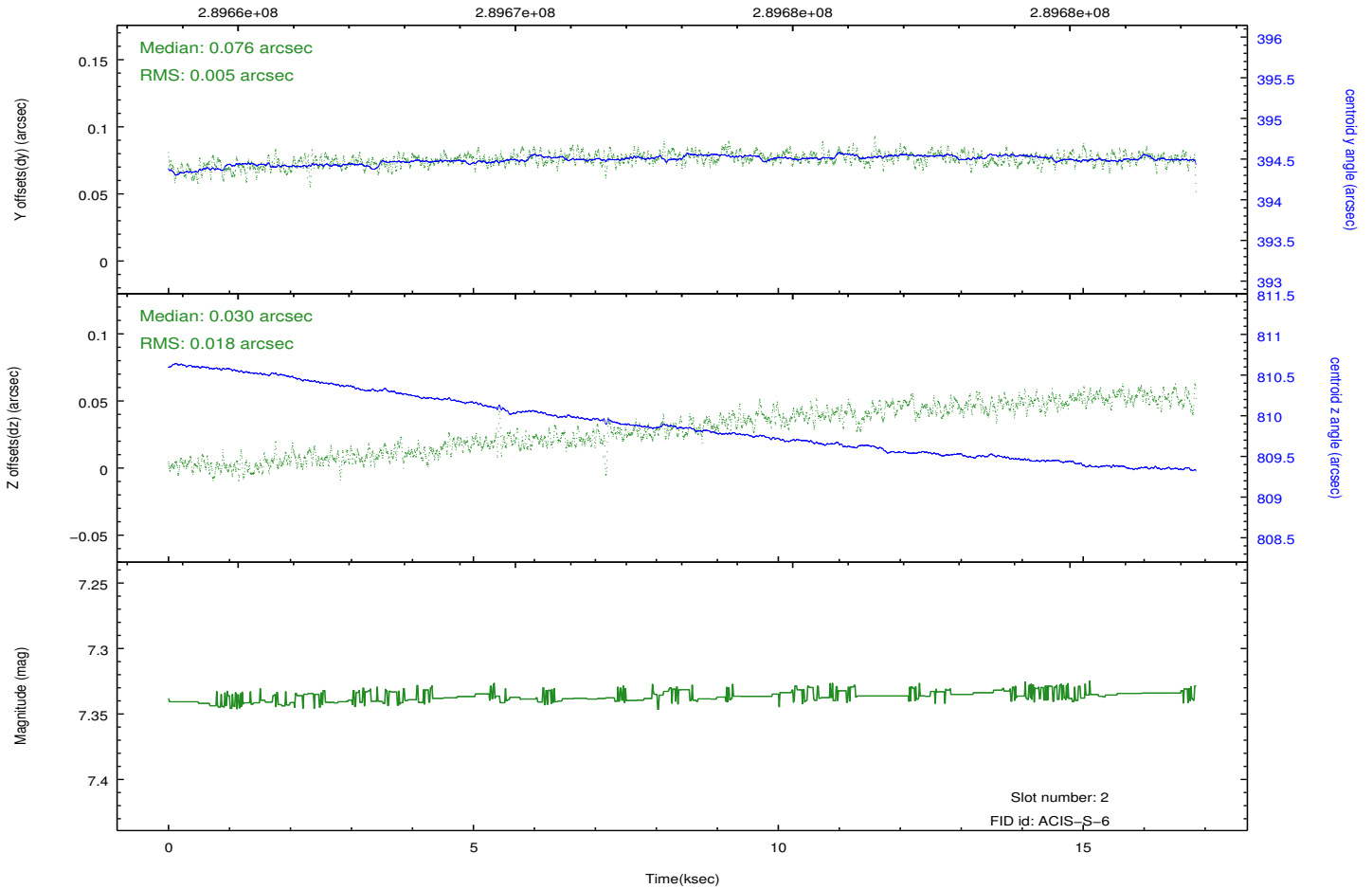
## 2.5.2 Slot 1



### 2.5.3 Slot 2



Time (s)



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.04.23
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	16.8423001

## A.2 Comments

The guide star in slot 5 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this guide star from the solution.

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Joint Proposal: XMM. Window constraint met.

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The scheduled ACA attitudes and observation intervals for the two Jupiter observations, 08220 and 08218 in the schedule MAR0507A, put the planet's center at 0.11 and 0.09 arcsec, respectively, from the OR-specified offset locations at the midpoint time of each observation interval, which is acceptable. This assumes the original SI-to-ACA offsets of 69.6 arcsec along Y and 56.4 arcsec along Z (with the same sign convention as the OR offsets). Note that I only check pointing and observation interval to verify the OFLS scheduling of the Solar System target. Also note that 08220 is observed before 08218. The astrometric coordinates of Jupiter as seen by Chandra at the midpoint times are RA = 257.418088 and DEC = -22.222006 deg for 08220, and RA = 257.541666 and DEC = -22.232556 deg for 08218 as computed by JPL/Horizons with a predicted Chandra ephemeris.