

# V&V Reference Report

## L2 ASCDS Version : 8.4.3

Observation 12696 - L2 Version 3  
Chandra X-Ray Center

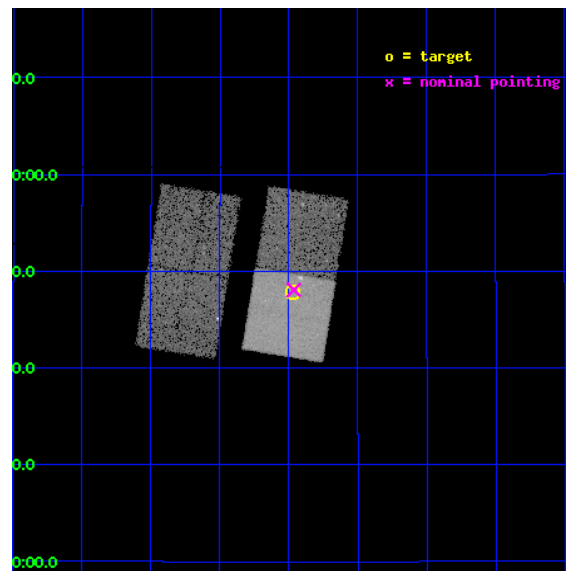
L2 Processing Date : Feb 5 2012

## Contents

<b>1</b>	<b>Front</b>	<b>2</b>
<b>2</b>	<b>OBI</b>	<b>3</b>
2.1	OBI . . . . .	3
2.1.1	Images . . . . .	3
2.1.2	Bias . . . . .	3
2.1.3	Parameters . . . . .	4
2.1.4	Events . . . . .	4
2.2	Compared Parameters . . . . .	5
2.3	Aspect . . . . .	6
2.4	Star Slots . . . . .	9
2.4.1	Slot 3 . . . . .	9
2.4.2	Slot 4 . . . . .	10
2.4.3	Slot 5 . . . . .	11
2.4.4	Slot 6 . . . . .	12
2.4.5	Slot 7 . . . . .	13
2.5	FID Slots . . . . .	14
2.5.1	Slot 0 . . . . .	14
2.5.2	Slot 1 . . . . .	15
2.5.3	Slot 2 . . . . .	16
<b>A</b>	<b>Summary</b>	<b>17</b>
A.1	Status . . . . .	17
A.2	Comments . . . . .	17

# 1 Front

seq_num	501523	Sequence number
obs_id	12696	Observation id
title	The Persistent X-ray Emission from the Type IIL SN 1979C	Proposal
observer	Dr Daniel Patnaude	Principal investigator
object	SN 1979C	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	185.744167	Observer's specified target RA [deg]
dec_targ	15.797694	Observer's specified target Dec [deg]
ra_nom	185.74085988993	Nominal RA [deg]
dec_nom	15.801347200947	Nominal Dec [deg]
roll_nom	99.304526398169	Nominal Roll [deg]
revision	3	Processing version of data
ontime	15049.10348773	Sum of GTIs [s]
livetime	14852.475871674	Livetime [s]
ontime2	15048.98036772	Sum of GTIs [s]
ontime3	15049.021407723	Sum of GTIs [s]
ontime6	15049.062447727	Sum of GTIs [s]
ontime7	15049.10348773	Sum of GTIs [s]
l2events	92179	Number of level 2 events

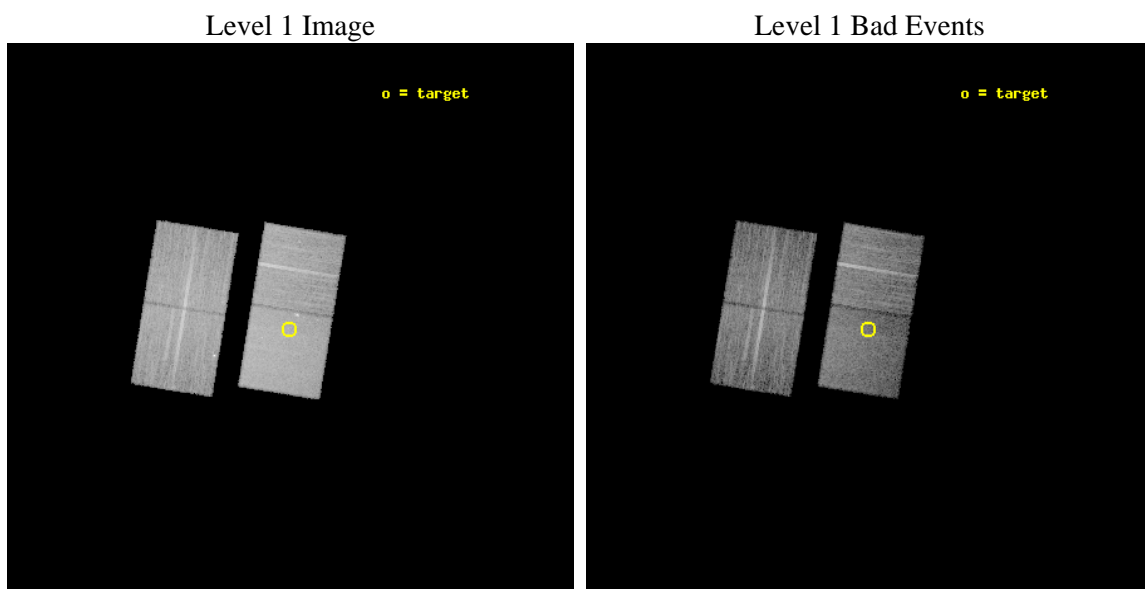




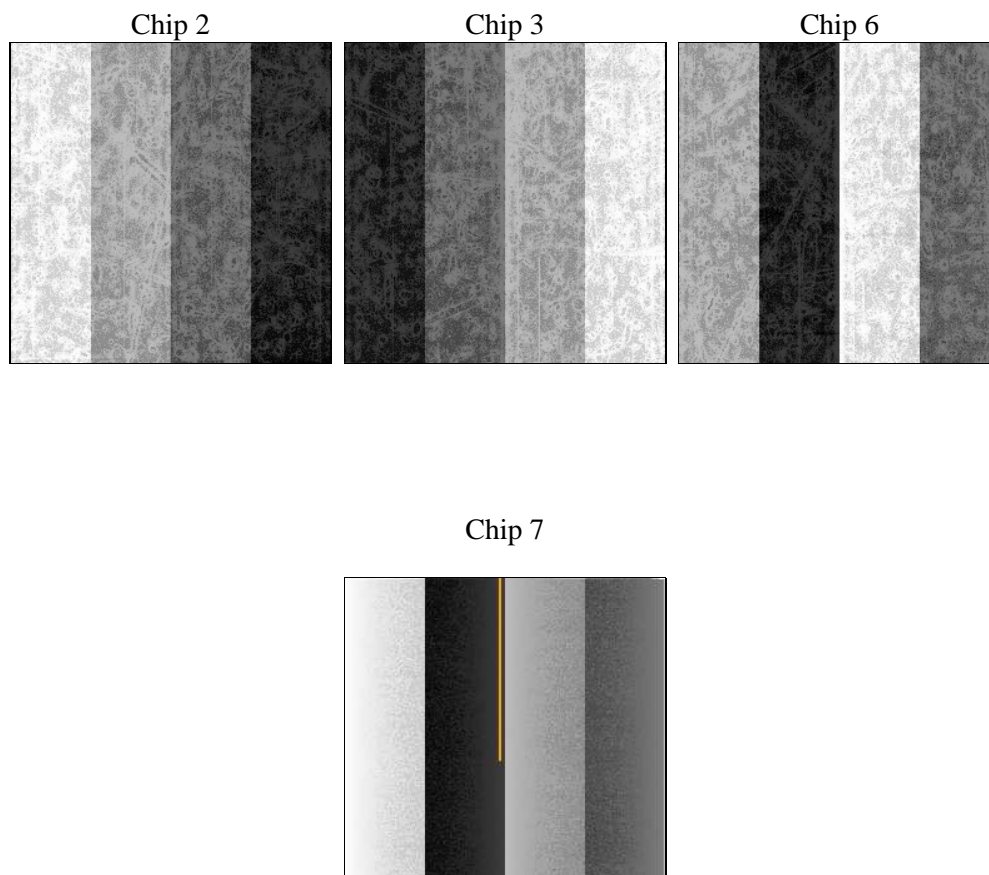
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	15000.000000	[s] Scheduled observation exposure time
ascdsver	8.4.3	Processing system revision	ontime	15049.10348773	Sum of GTIs [s]
caldsver	4.4.7	&#160	ontime2	15048.98036772	Sum of GTIs [s]
date	2012-02-05T17:59:17	Date and time of file creation	ontime3	15049.021407723	Sum of GTIs [s]
revision	3	Processing version of data	ontime6	15049.062447727	Sum of GTIs [s]
			ontime7	15049.10348773	Sum of GTIs [s]
			l1events	462228	Number of level 1 events

### 2.1.4 Events

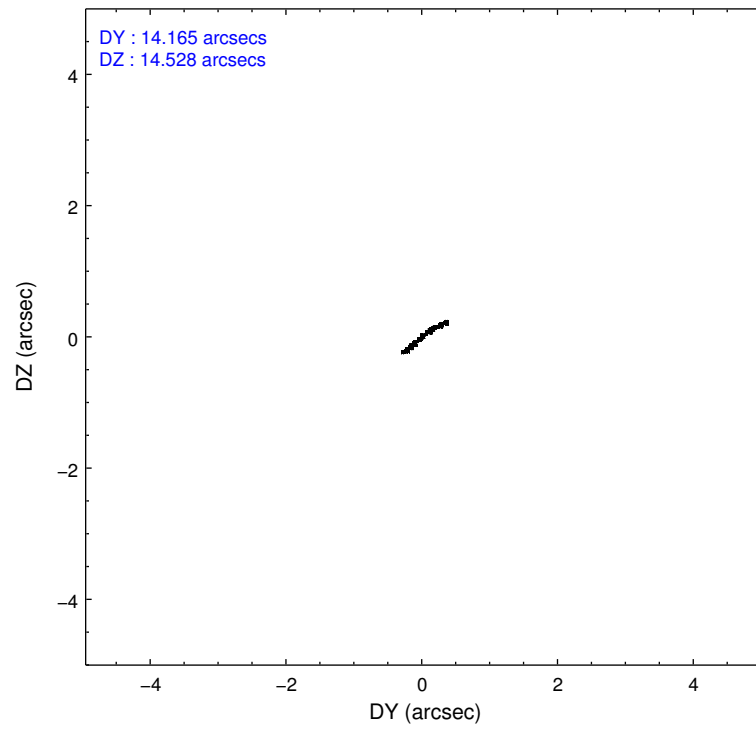
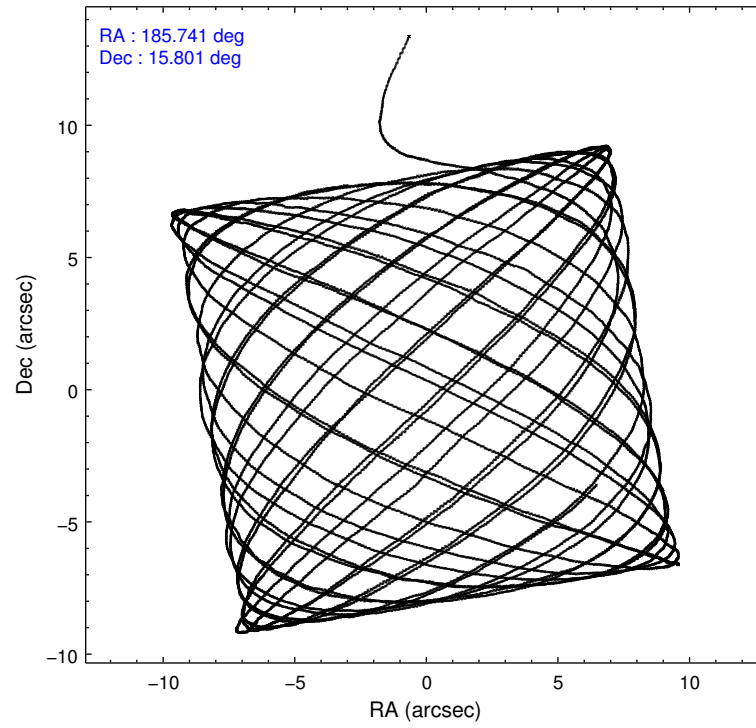
	<b>ccd 2</b>	<b>ccd 3</b>	<b>ccd 6</b>	<b>ccd 7</b>
level 1 events	107399	106462	111452	136915
rejected events	95677	94708	98730	74463
rejected %	89%	88%	88%	54%

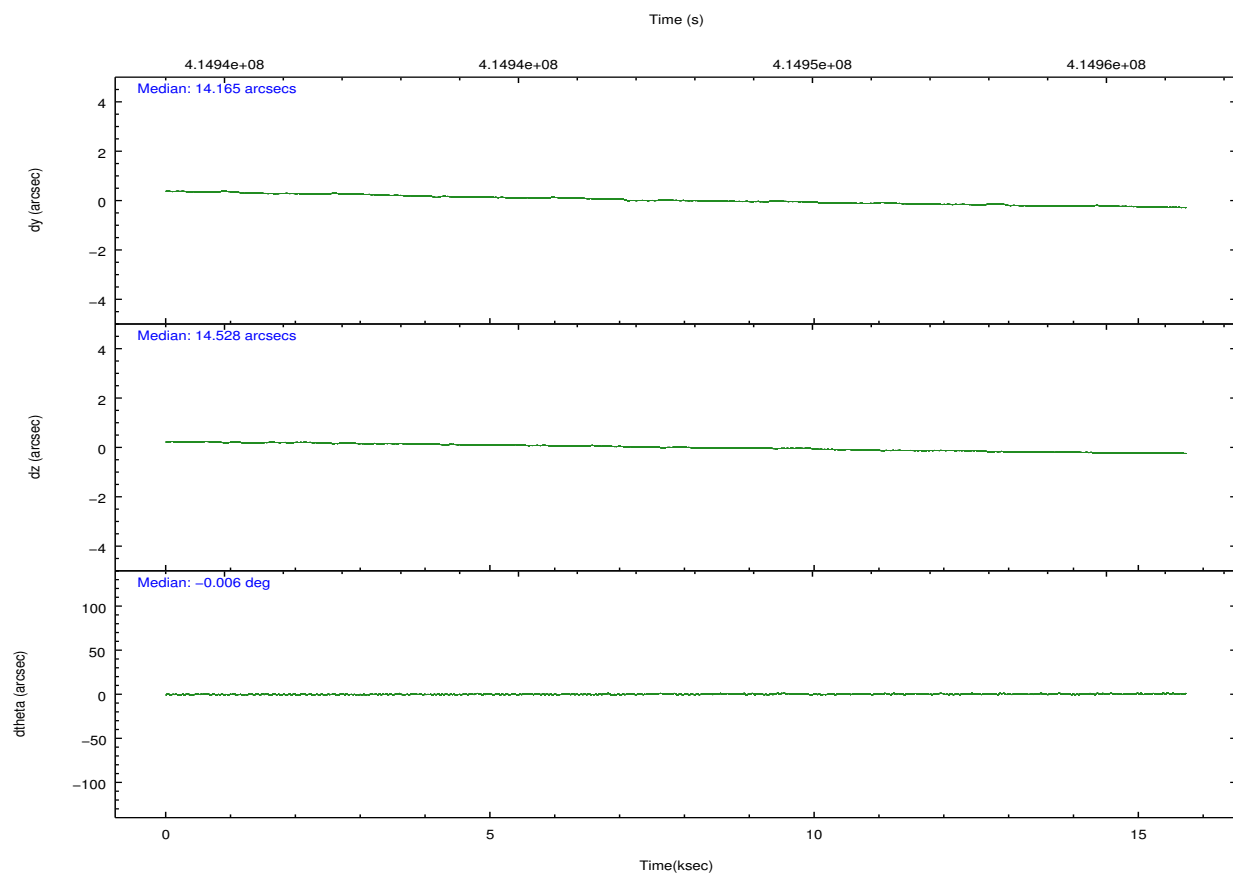
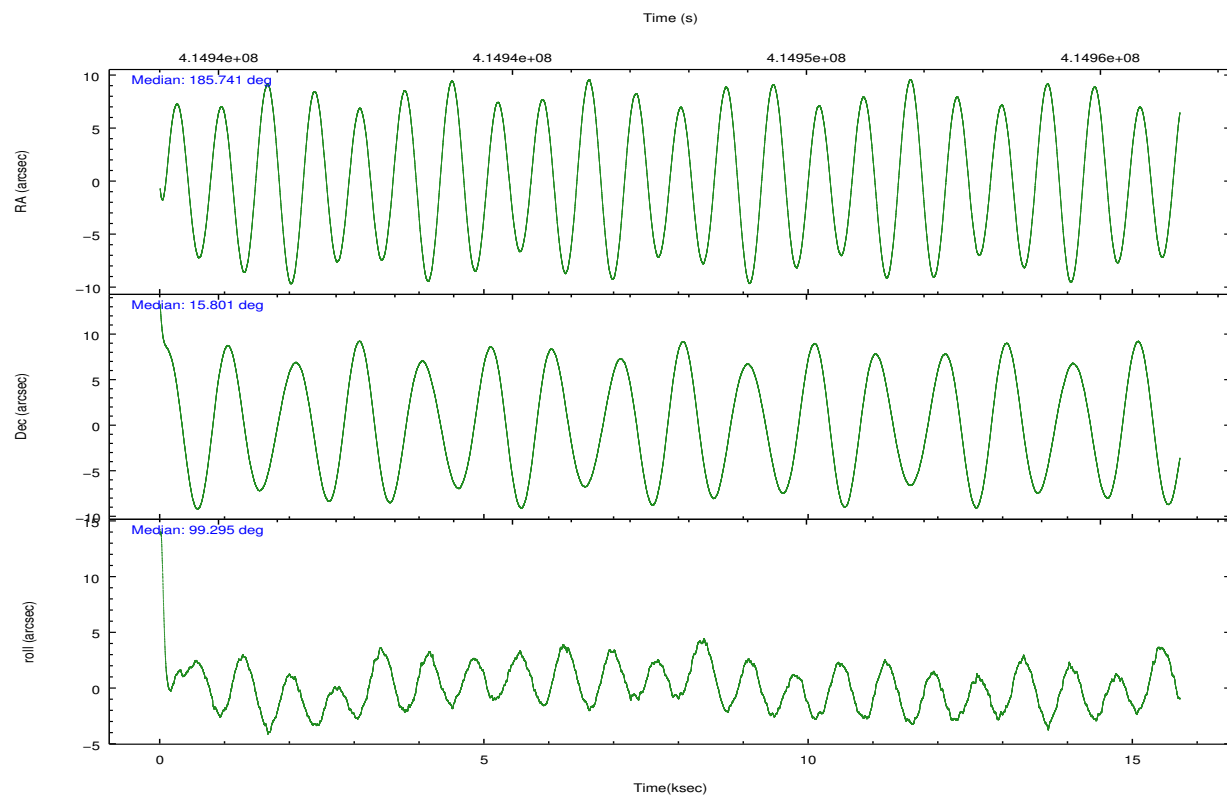
	<b>ccd 2</b>	<b>ccd 3</b>	<b>ccd 6</b>	<b>ccd 7</b>
grade 0 events	4291	4431	4541	6160
	3%	4%	4%	4%
grade 1 events	53	58	66	160
	0%	0%	0%	0%
grade 2 events	2762	2564	2819	13005
	2%	2%	2%	9%
grade 3 events	1201	1234	1324	5586
	1%	1%	1%	4%
grade 4 events	1204	1254	1298	5473
	1%	1%	1%	3%
grade 5 events	4244	5041	4936	14011
	3%	4%	4%	10%
grade 6 events	2276	2276	2753	32254
	2%	2%	2%	23%
grade 7 events	91368	89604	93715	60266
	85%	84%	84%	44%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-2367	ACIS-2367	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	185.759154	185.740859889932	Subarray requested	NONE	NONE
[deg] Pointing Dec	15.780434	15.80134720094708	Alternating exposures requested	N	N
[deg] Pointing Roll	99.142907	99.30452639816885	[s] Primary exposure time	0.000000	3.1
[mm] SIM focus pos	-0.684267	-0.6828225247311905			
[mm] SIM defocus	0	0.001444936568705701			
[mm] SIM translation stage pos	-190.132523	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
[s] Observation start time (MET)	414940543.184000	414939156.01628			
Observation start date	2011-02-24T13:14:37	2011-02-24T12:52:36			
[s] Observation end time (MET)	414955543.184000	414955872.74214			
Observation end date	2011-02-24T17:24:37	2011-02-24T17:31:12			
Read mode	TIMED	TIMED			

## 2.3 Aspect



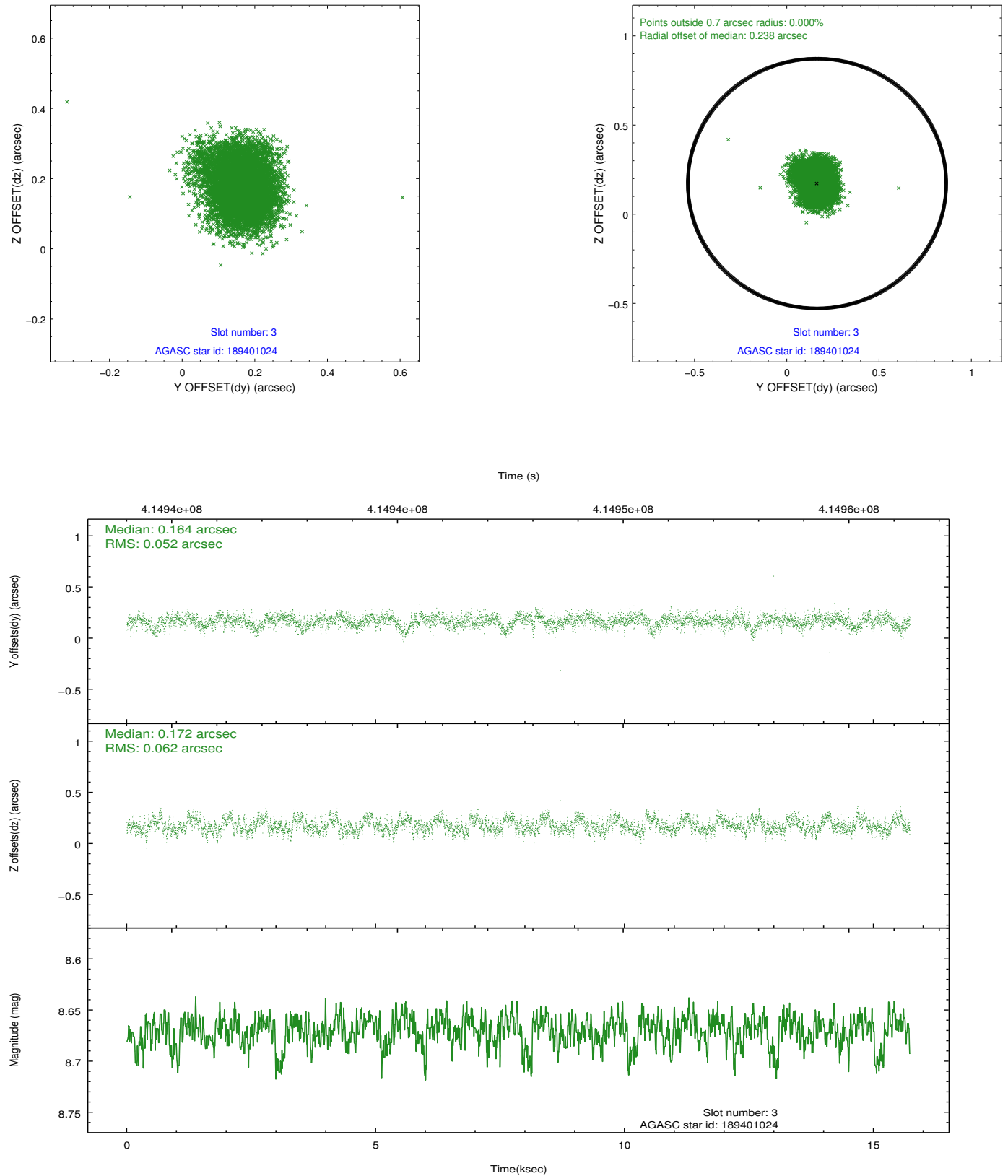


### Slot Statistics

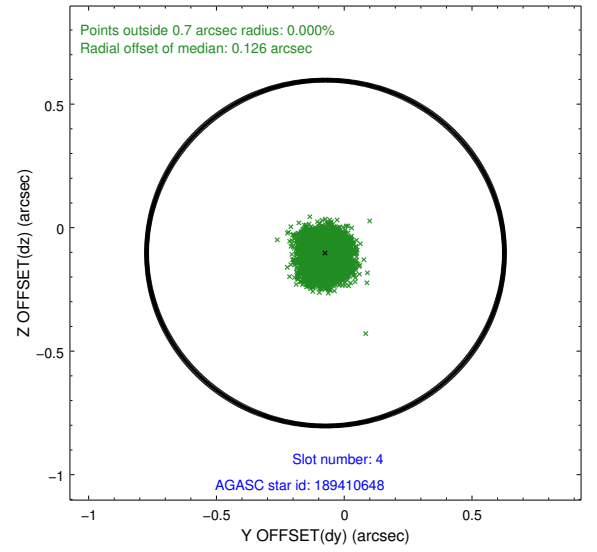
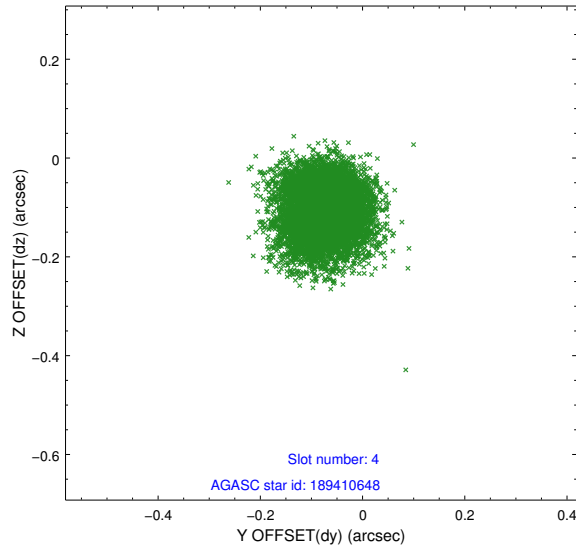
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-1	6.98	3835	0.059	-0.021	0.009	0.017	0.000000	0.000000	928.98	-1731.54
1	FID	ACIS-S-5	7.02	3836	-0.170	0.027	0.008	0.013	0.000000	0.000000	-1820.11	165.75
2	FID	ACIS-S-6	7.14	3834	0.089	0.005	0.011	0.019	0.000000	0.000000	394.23	810.03
3	GUIDE	189401024	8.67	7670	0.164	0.172	0.086	0.139	185.977630	15.617765	-697.56	-654.46
4	GUIDE	189410648	8.13	7670	-0.073	-0.103	0.070	0.112	185.747145	16.243433	1652.14	-223.61
5	GUIDE	189411792	7.92	7672	-0.057	0.216	0.063	0.102	186.226855	16.194788	1218.39	-1832.98
6	GUIDE	189413016	8.14	7669	-0.147	0.035	0.066	0.104	186.364497	16.171398	1060.67	-2290.17
7	GUIDE	189403680	8.86	7668	0.113	-0.320	0.083	0.135	185.171503	15.144043	-1934.80	2378.95

## 2.4 Star Slots

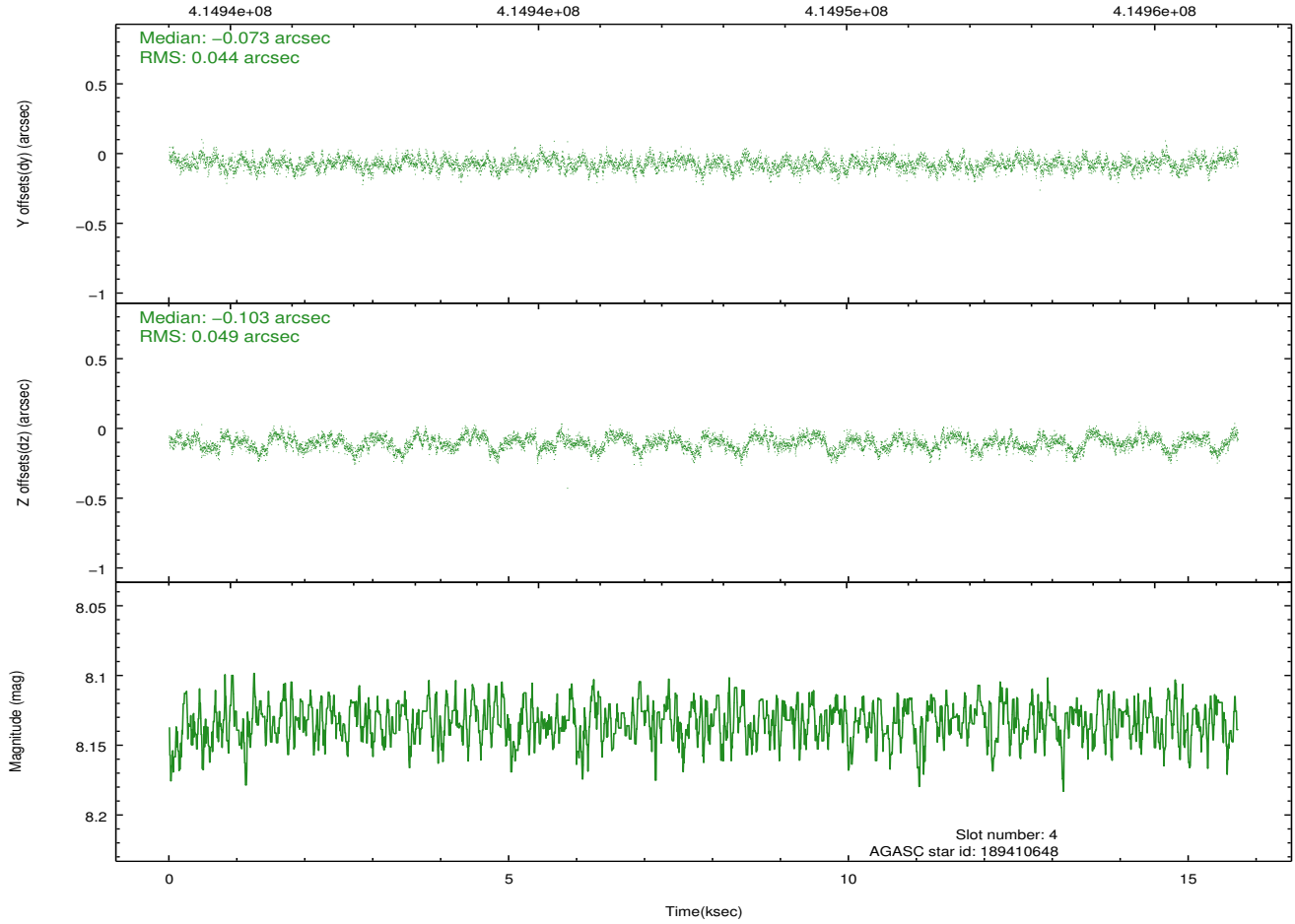
### 2.4.1 Slot 3



## 2.4.2 Slot 4

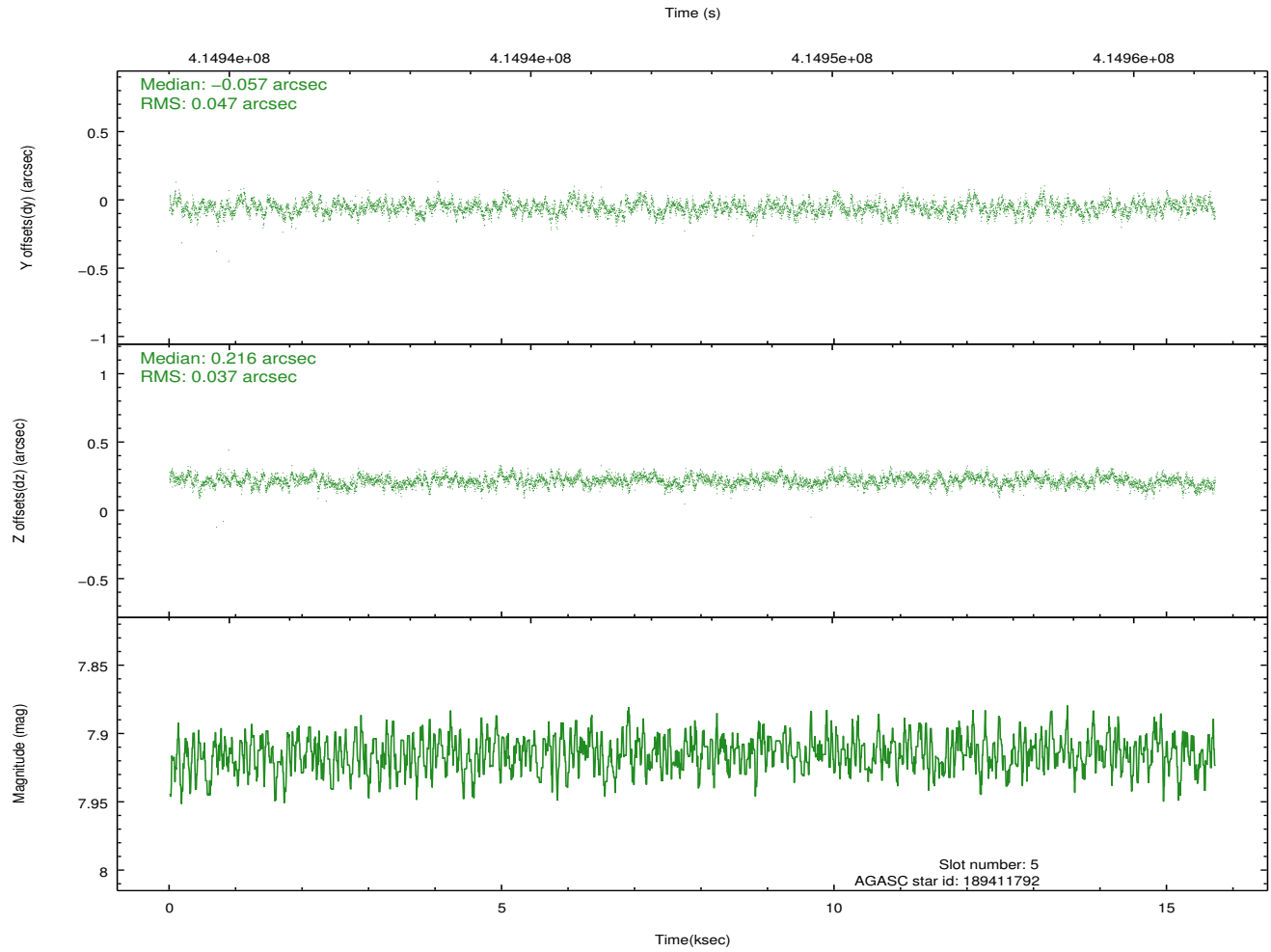
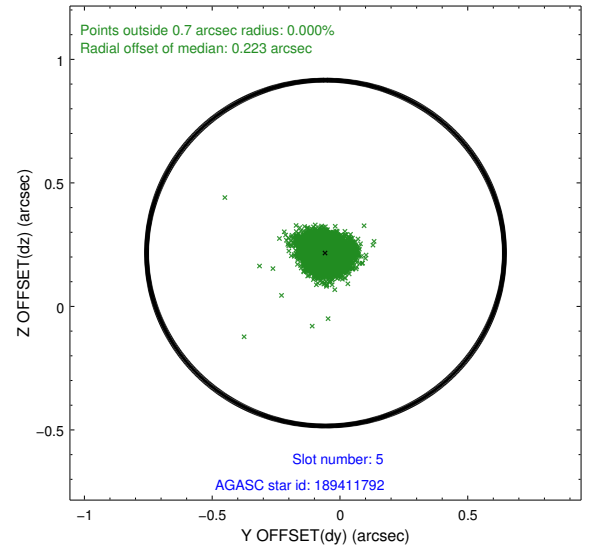
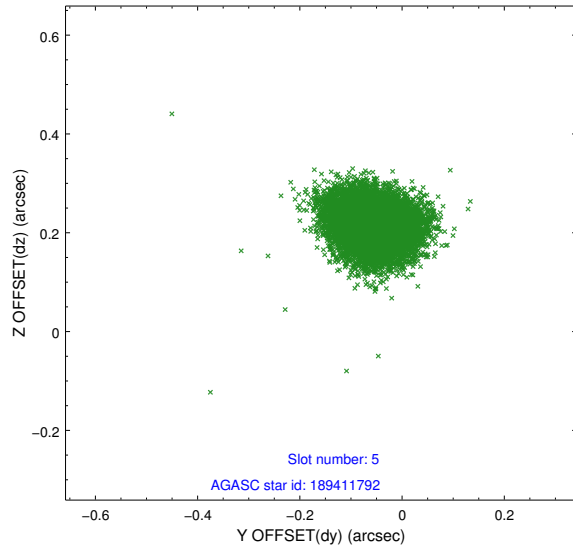


Time (s)

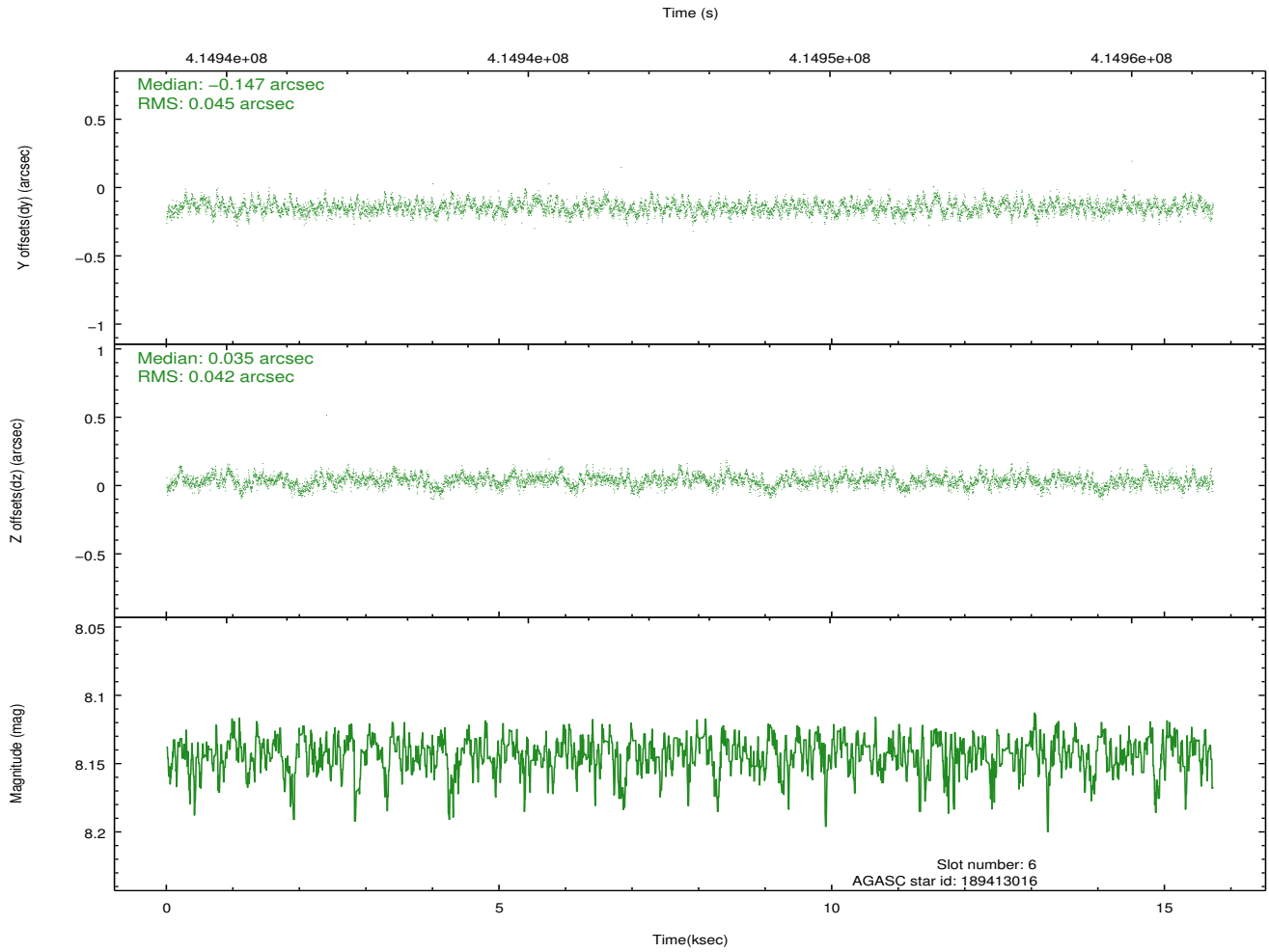
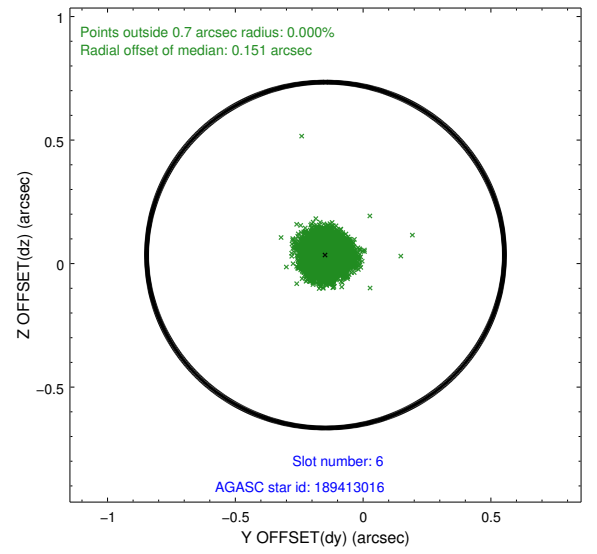
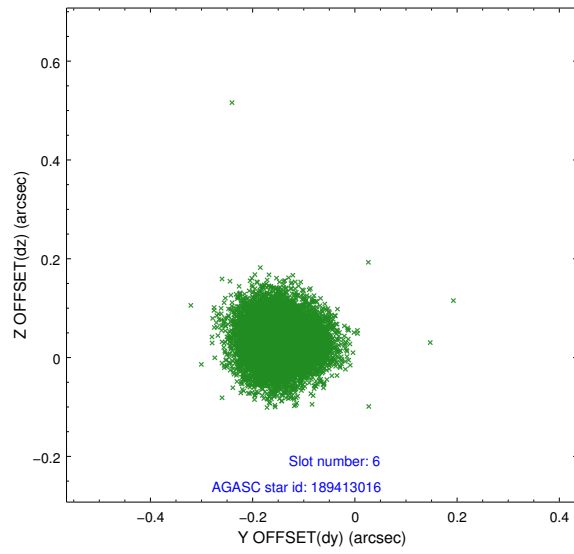




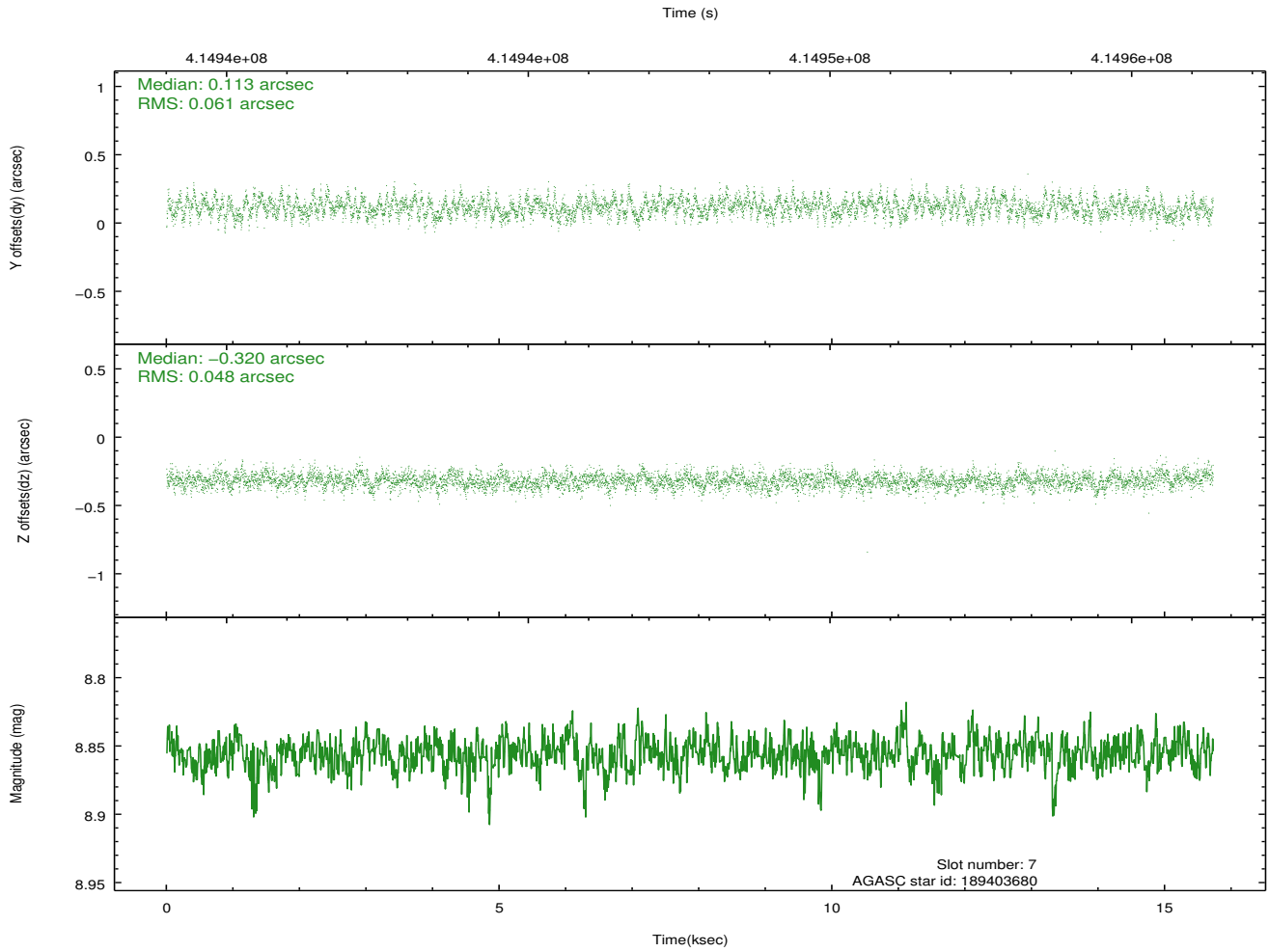
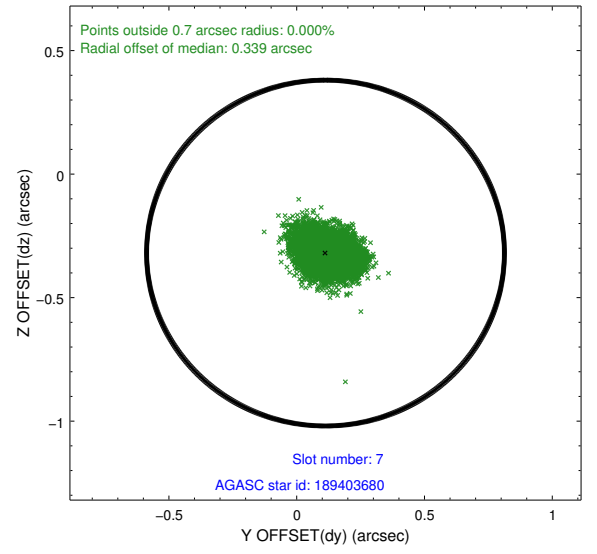
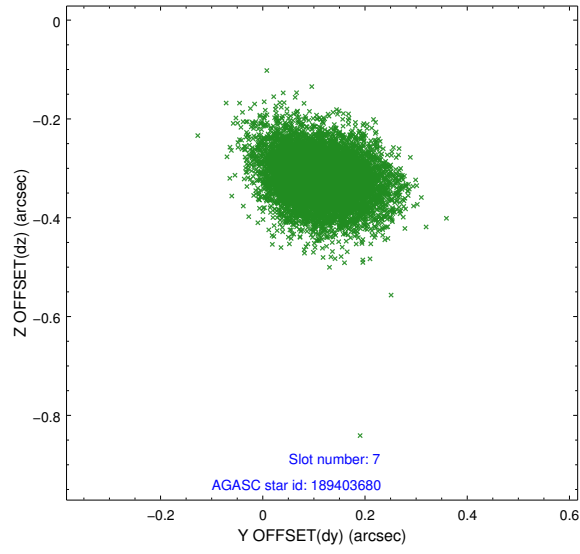
### 2.4.3 Slot 5



## 2.4.4 Slot 6

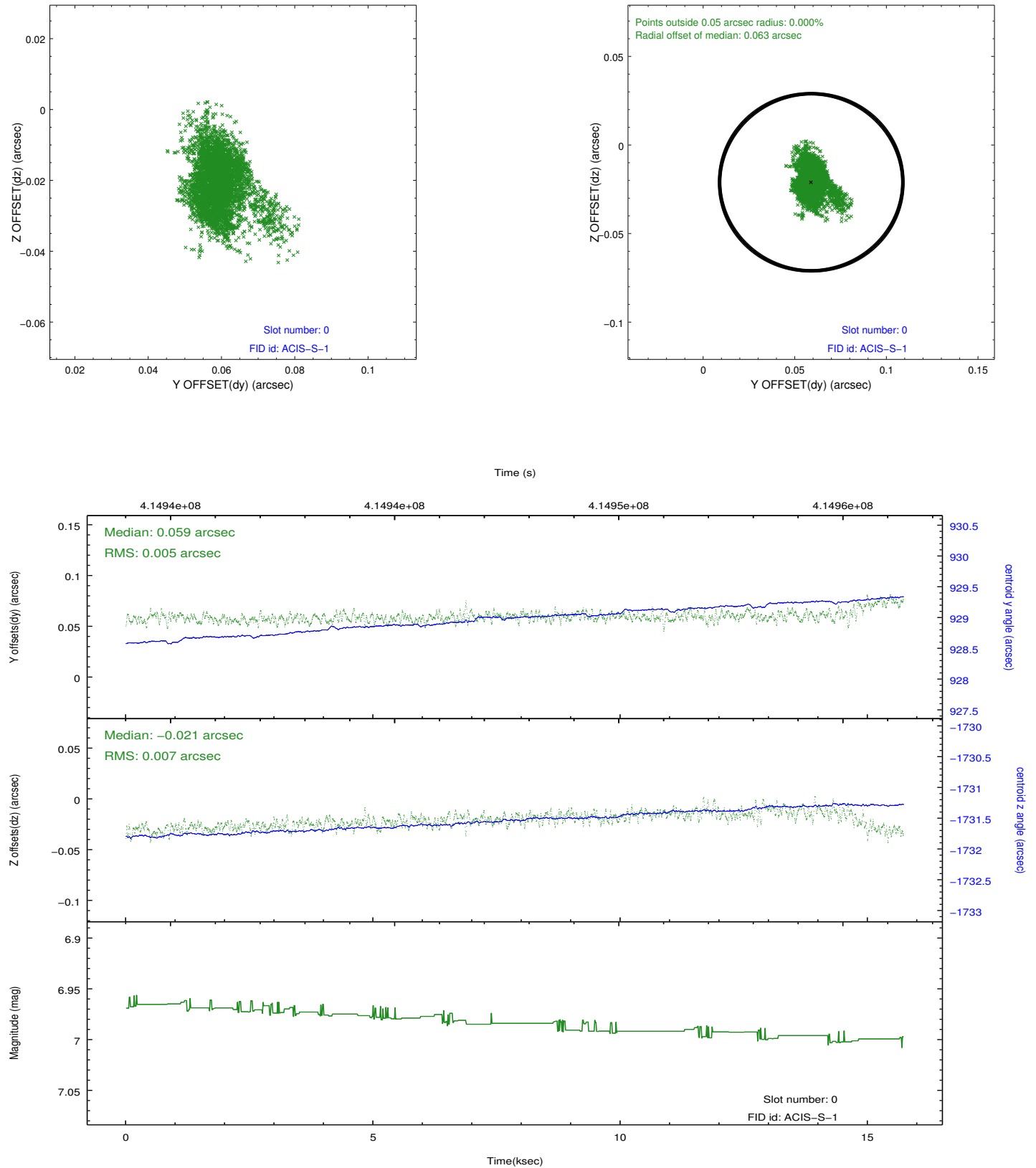


## 2.4.5 Slot 7

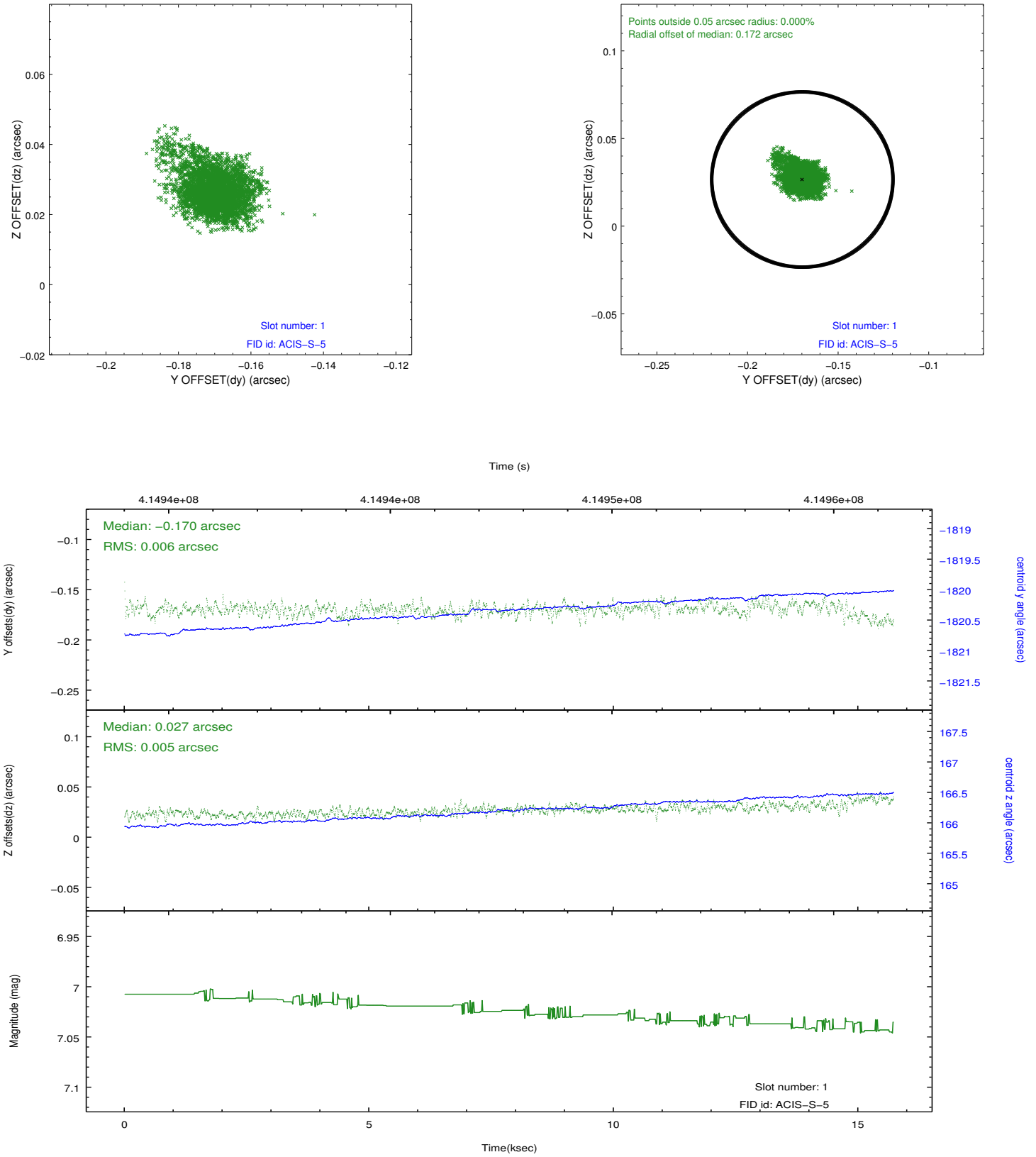


## 2.5 FID Slots

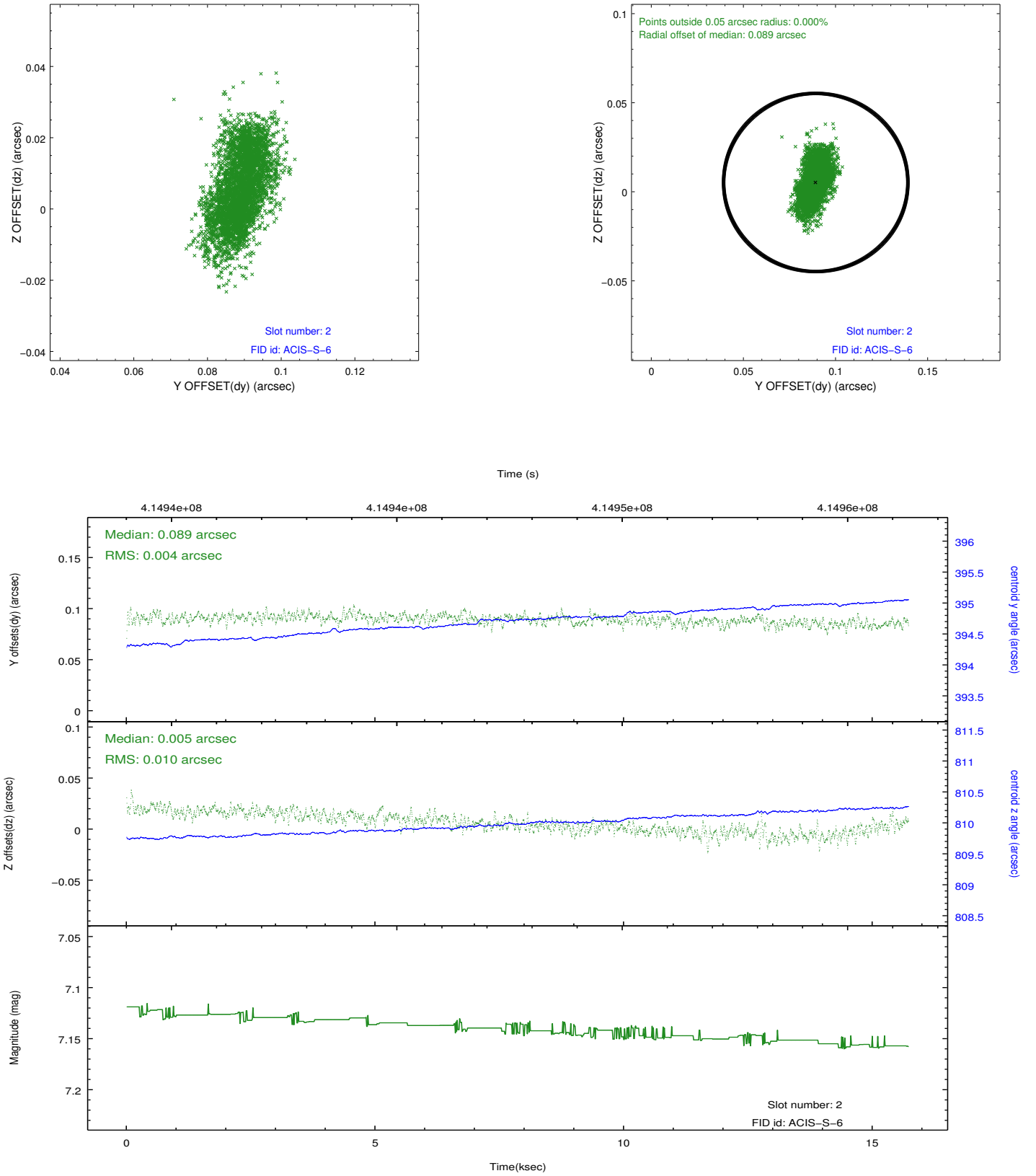
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2012.02.10
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	15.049103485107

## 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.

=====

A spatial region of the original bias map for CCD = 3 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 (~20 eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 3 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:  
(185.96003,15.69460),(185.96352,15.69514),(185.94854,15.78354),(185.94448,15.78636)