

# V&V Reference Report

## L2 ASCDS Version : 8.4.5

Observation 13004 - L2 Version 3  
Chandra X-Ray Center

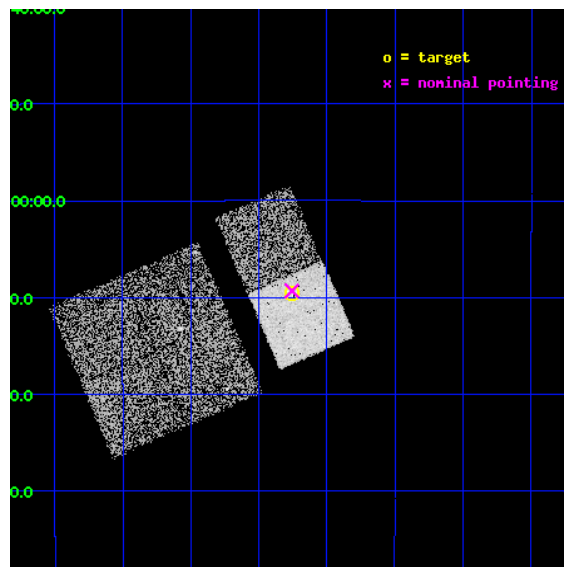
L2 Processing Date : Jul 5 2012

## 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

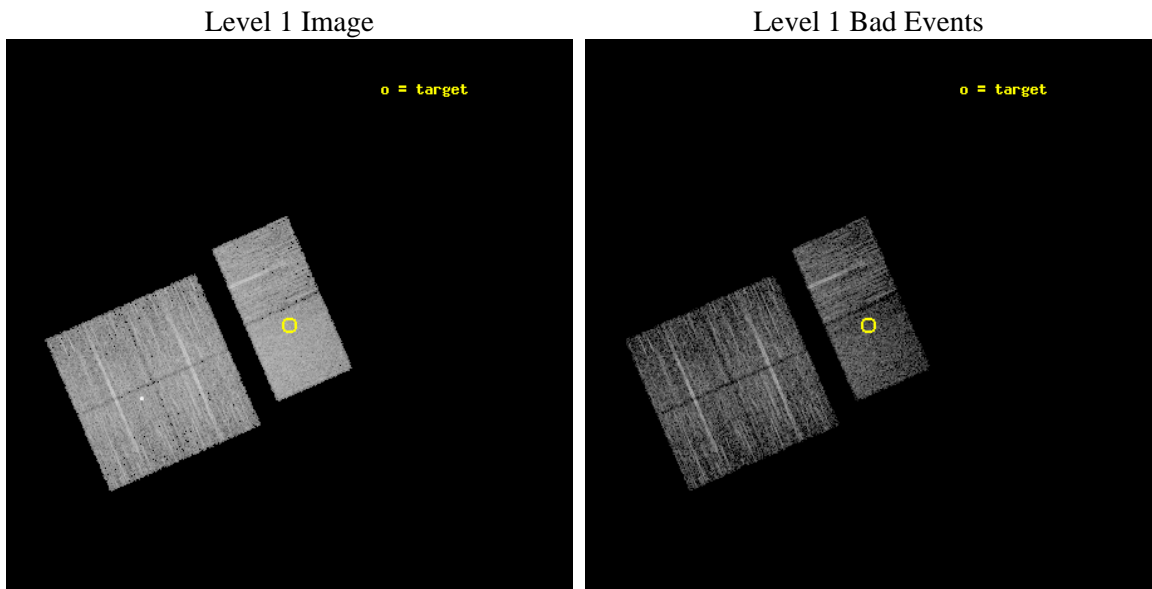
seq_num	600968	Sequence number
obs_id	13004	Observation id
title	The brightest ultraluminous X-ray sources across the sky	Proposal
observer	Dr Jifeng Liu	Principal investigator
object	J050145.6-180937	Source name
dtycycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	75.44	Observer's specified target RA [deg]
dec_targ	-18.160278	Observer's specified target Dec [deg]
ra_nom	75.439214498576	Nominal RA [deg]
dec_nom	-18.155406956807	Nominal Dec [deg]
roll_nom	66.460506871551	Nominal Roll [deg]
revision	3	Processing version of data
ontime	4959.7766905427	Sum of GTIs [s]
livetime	4896.9730116681	Livetime [s]
ontime0	4959.817730546	Sum of GTIs [s]
ontime1	4959.6125305295	Sum of GTIs [s]
ontime2	4959.6535705328	Sum of GTIs [s]
ontime3	4959.6946105361	Sum of GTIs [s]
ontime6	4959.7356505394	Sum of GTIs [s]
ontime7	4959.7766905427	Sum of GTIs [s]
l2events	36248	Number of level 2 events



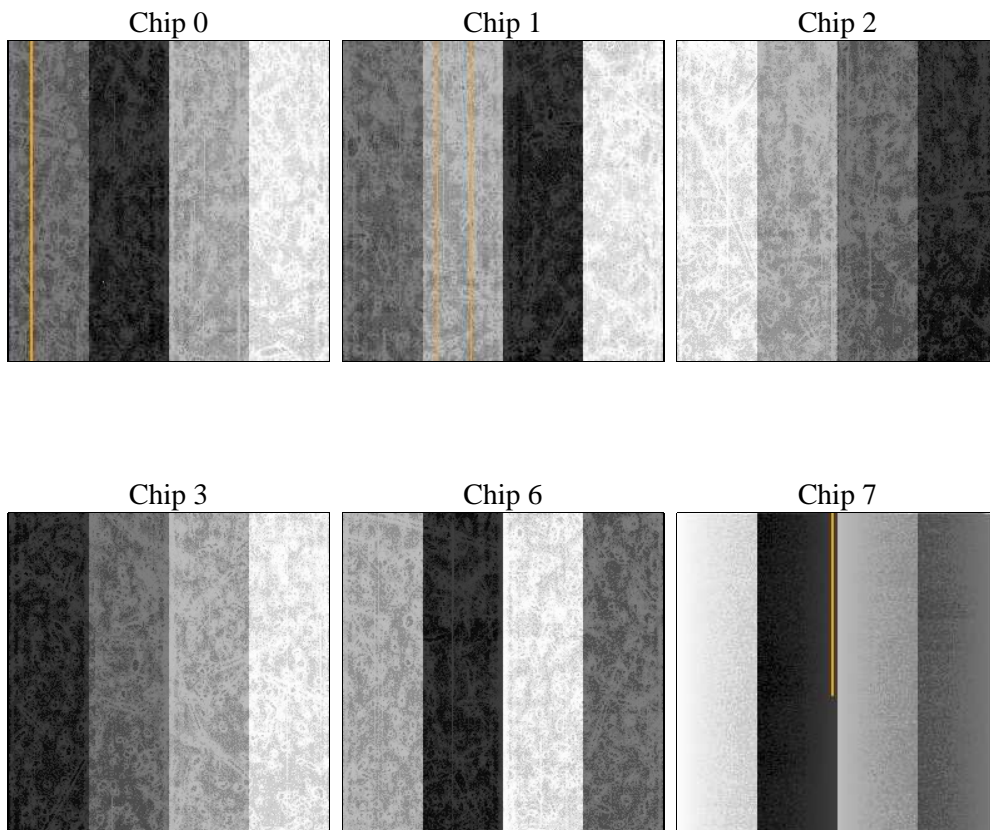
## 2 OBI

### 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	8.4.5	Processing system revision	ontime	4959.7766905427	Sum of GTIs [s]
caldbver	4.5.0	&#160	ontime0	4959.817730546	Sum of GTIs [s]
date	2012-07-05T18:52:05	Date and time of file creation	ontime1	4959.6125305295	Sum of GTIs [s]
revision	3	Processing version of data	ontime2	4959.6535705328	Sum of GTIs [s]
			ontime3	4959.6946105361	Sum of GTIs [s]
			ontime6	4959.7356505394	Sum of GTIs [s]
			ontime7	4959.7766905427	Sum of GTIs [s]
			l1events	219483	Number of level 1 events

### 2.1.4 Events

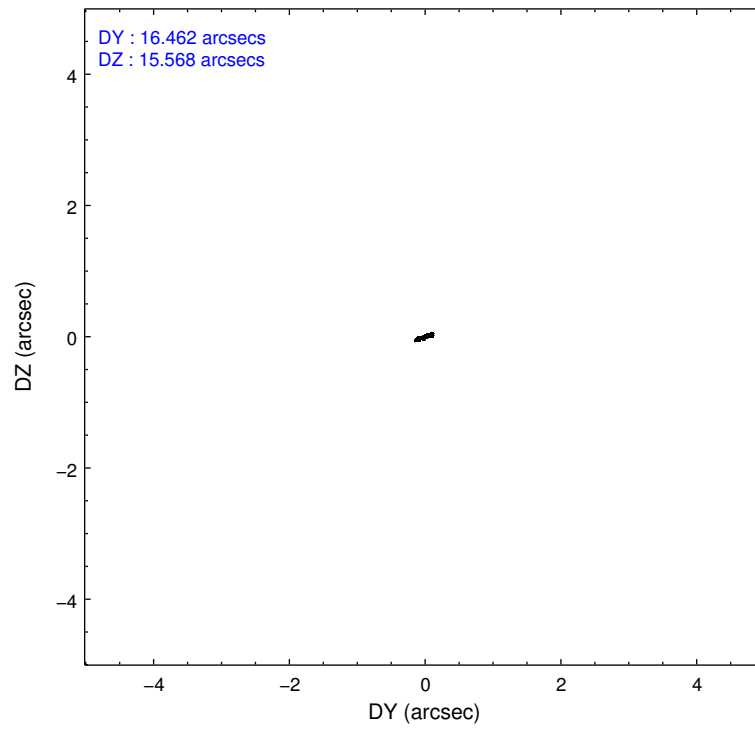
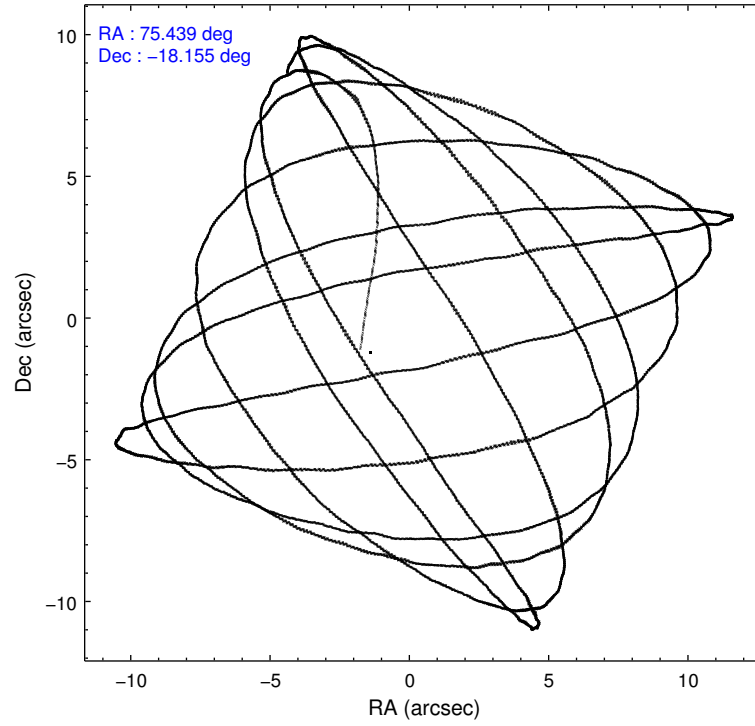
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	32583	34491	35979	35601	36485	44344
rejected events	28704	28854	32194	31924	32397	24040
rejected %	88%	83%	89%	89%	88%	54%

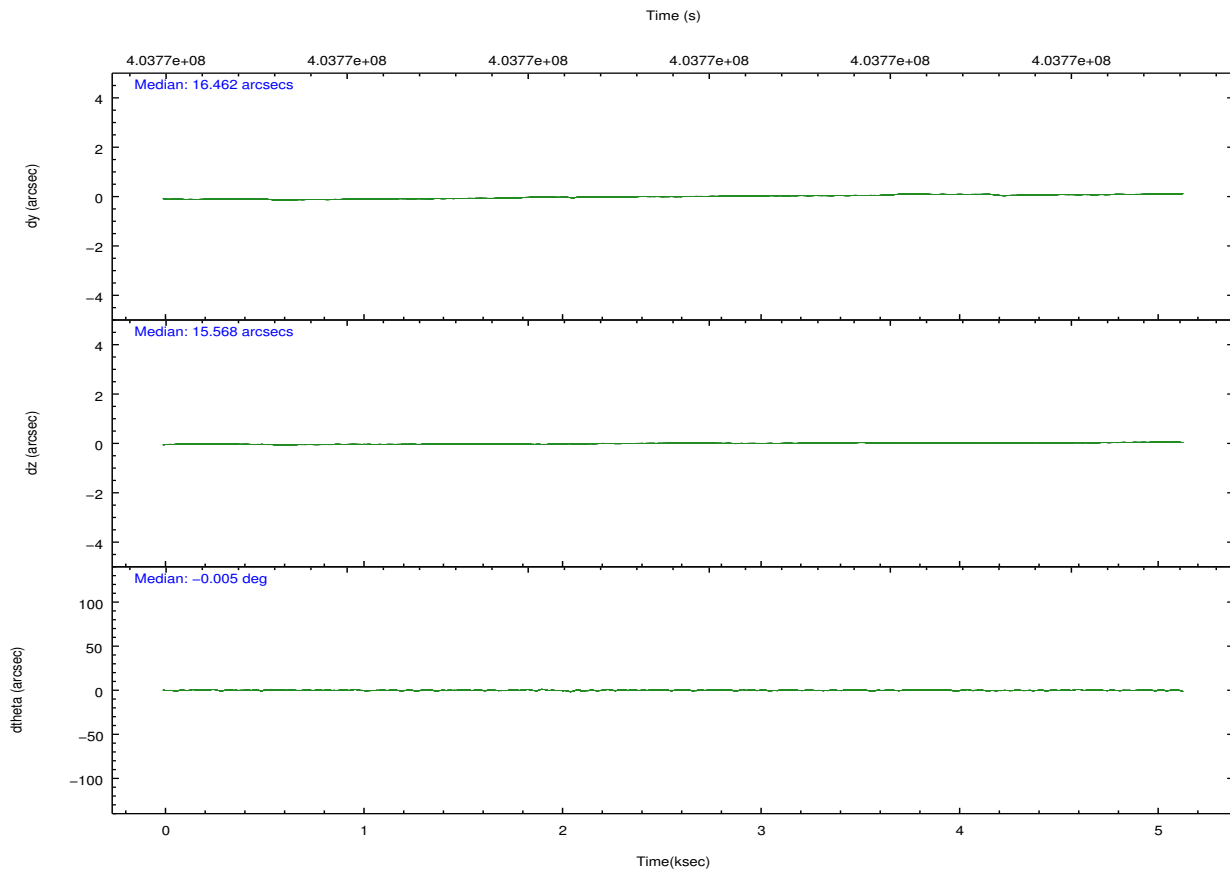
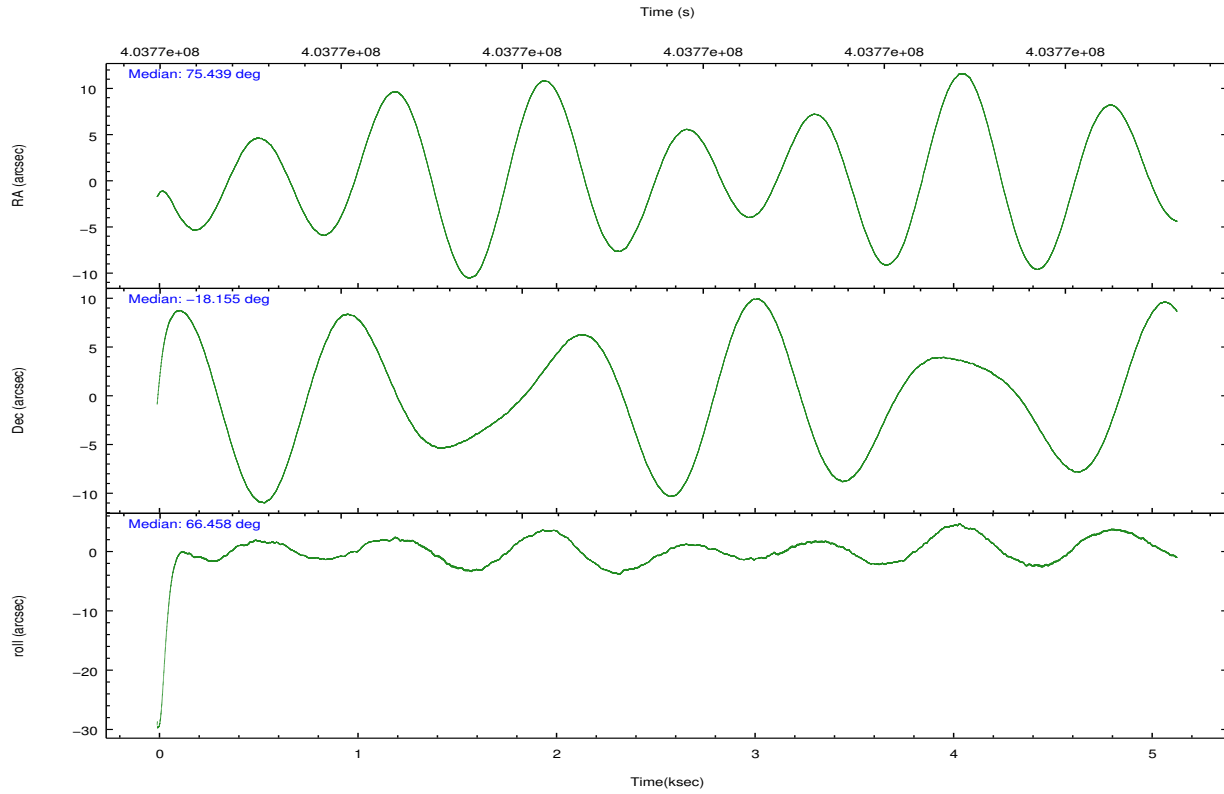
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
grade 0 events	1263	2880	1390	1284	1438	1923
	3%	8%	3%	3%	3%	4%
grade 1 events	20	27	31	29	14	55
	0%	0%	0%	0%	0%	0%
grade 2 events	997	945	888	843	917	4227
	3%	2%	2%	2%	2%	9%
grade 3 events	403	446	401	380	448	1811
	1%	1%	1%	1%	1%	4%
grade 4 events	432	475	399	437	433	1808
	1%	1%	1%	1%	1%	4%
grade 5 events	1487	1509	1334	1623	1660	4580
	4%	4%	3%	4%	4%	10%
grade 6 events	791	895	711	737	857	10557
	2%	2%	1%	2%	2%	23%
grade 7 events	27190	27314	30825	30268	30718	19383
	83%	79%	85%	85%	84%	43%

## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-012367	ACIS-012367	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	75.442905	75.43921449857574	Subarray requested	NONE	NONE
[deg] Pointing Dec	-18.182602	-18.15540695680688	Alternating exposures requested	N	N
[deg] Pointing Roll	66.305103	66.46050687155117	[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	-190.1400660498719			
[mm] SIM translation stage offset	0	0.00754346686406393			
[s] Observation start time (MET)	403766365.184000	403765270.15204			
Observation start date	2010-10-18T05:18:19	2010-10-18T05:01:10			
[s] Observation end time (MET)	403771365.184000	403772214.5274			
Observation end date	2010-10-18T06:41:39	2010-10-18T06:56:54			
Read mode	TIMED	TIMED			

## 2.3 Aspect



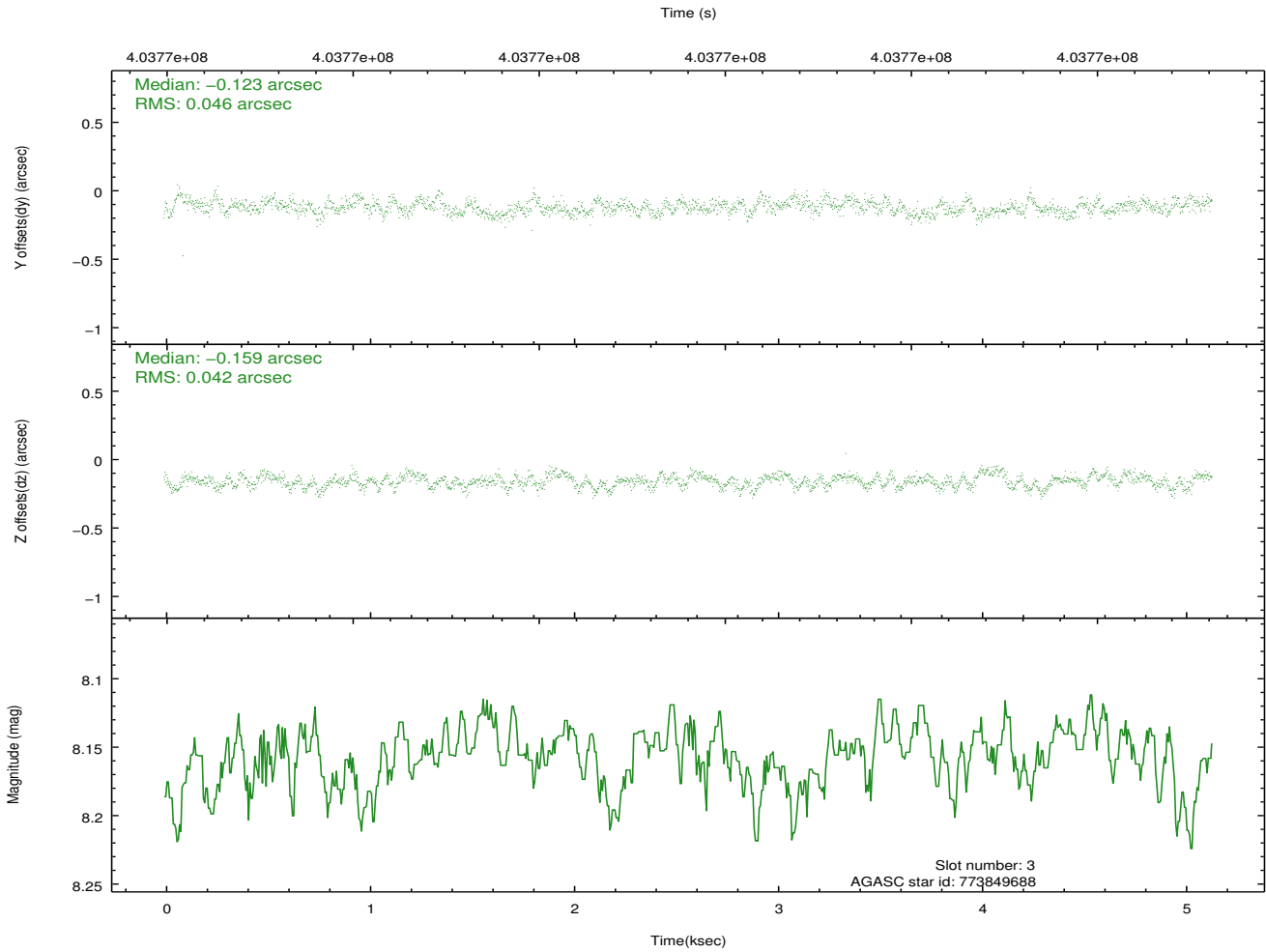
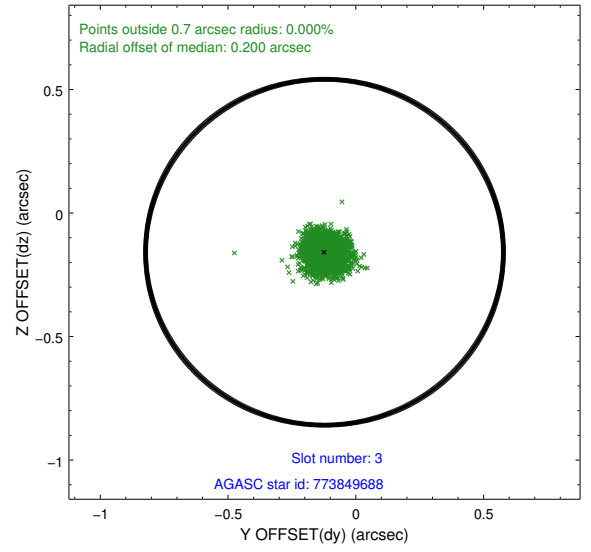
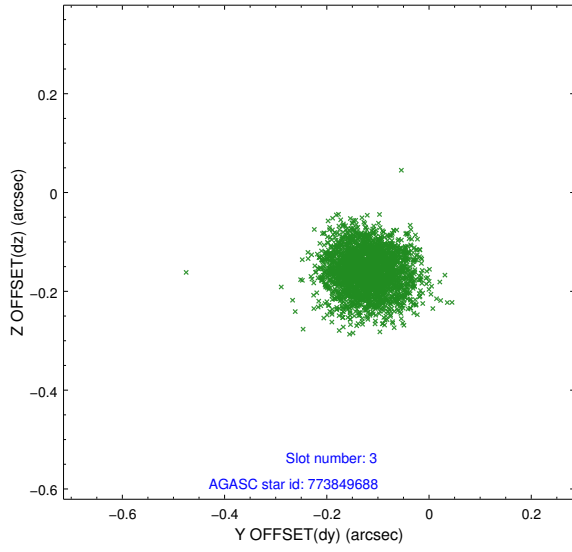


### Slot Statistics

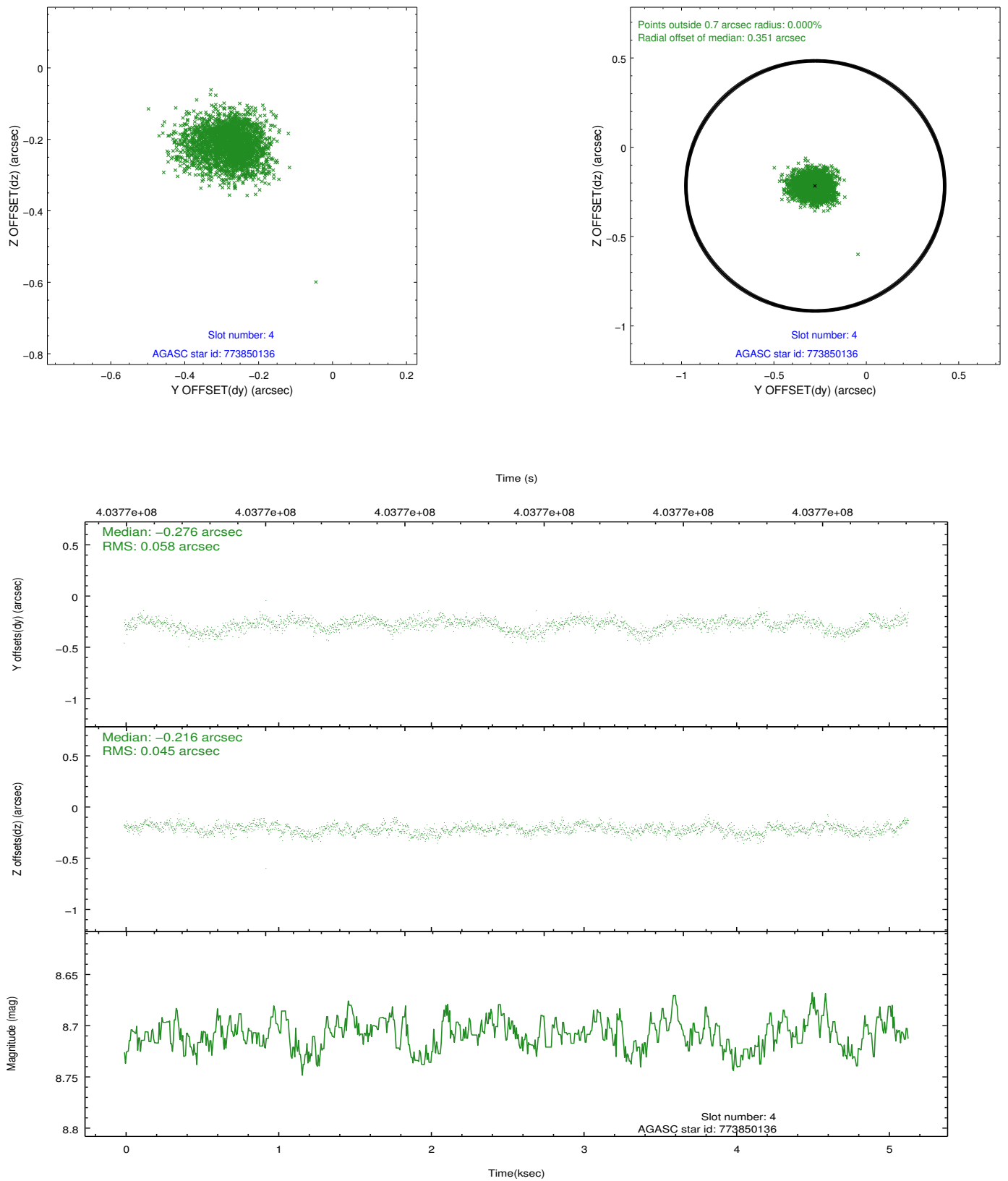
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	6.95	1253	-0.100	-0.016	0.007	0.011	0.000000	0.000000	-769.54	-1736.98
1	FID	ACIS-S-4	7.03	1253	0.190	0.053	0.006	0.010	0.000000	0.000000	2143.46	170.38
2	FID	ACIS-S-5	7.06	1253	-0.121	-0.027	0.006	0.011	0.000000	0.000000	-1820.92	165.27
3	GUIDE	773849688	8.16	2507	-0.123	-0.159	0.067	0.105	75.328770	-17.557793	1901.57	1262.31
4	GUIDE	773850136	8.71	2505	-0.276	-0.216	0.077	0.127	75.182851	-17.585117	1610.86	1681.60
5	GUIDE	773856992	9.14	2506	0.222	0.193	0.089	0.143	75.627515	-18.473950	-706.64	-998.41
6	GUIDE	773857240	9.22	2506	0.021	0.165	0.099	0.155	75.880402	-18.202121	535.38	-1399.60
7	GUIDE	773859120	7.55	2504	0.160	0.016	0.059	0.094	74.938941	-18.656471	-2254.73	886.76

## 2.4 Star Slots

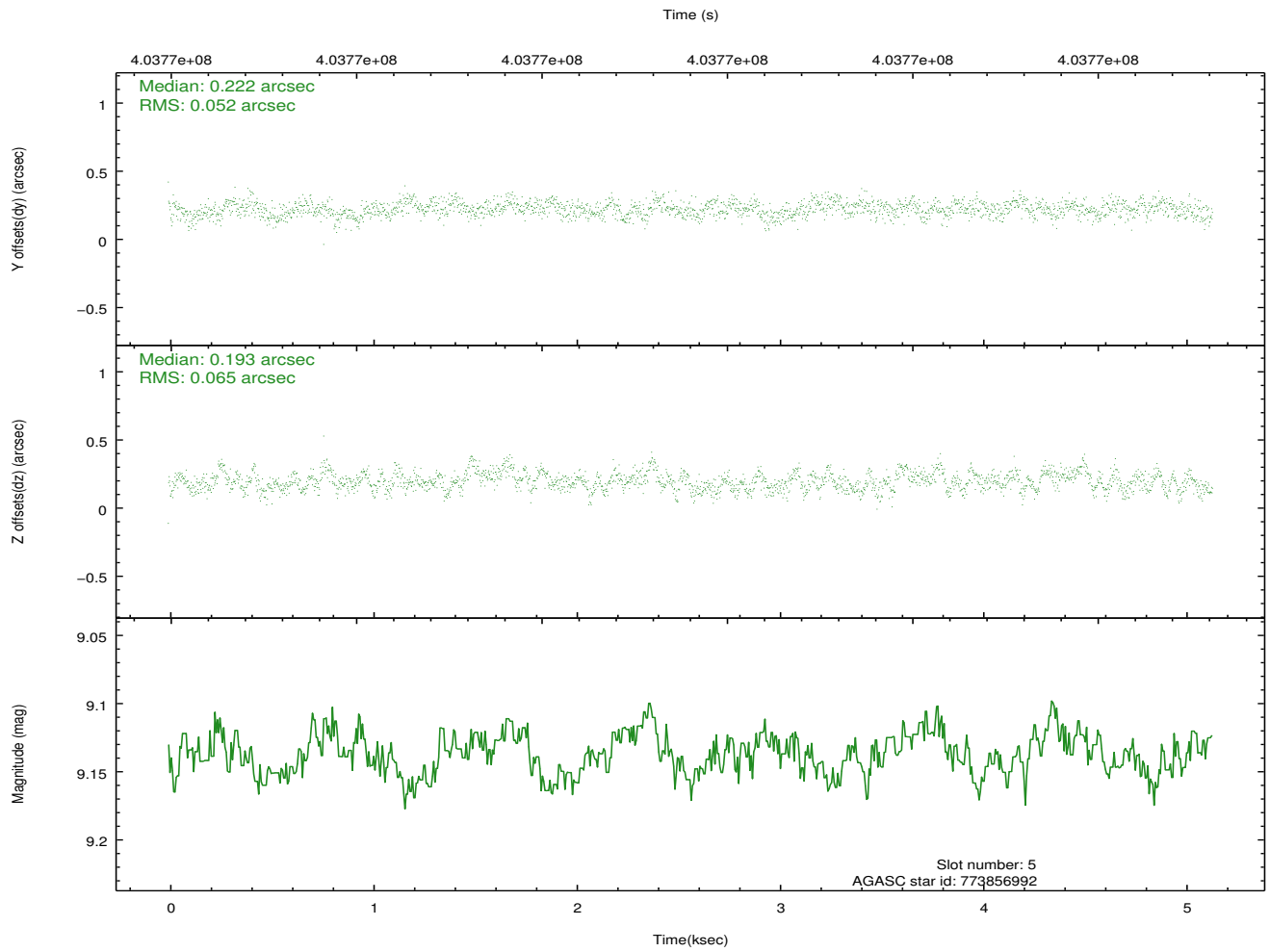
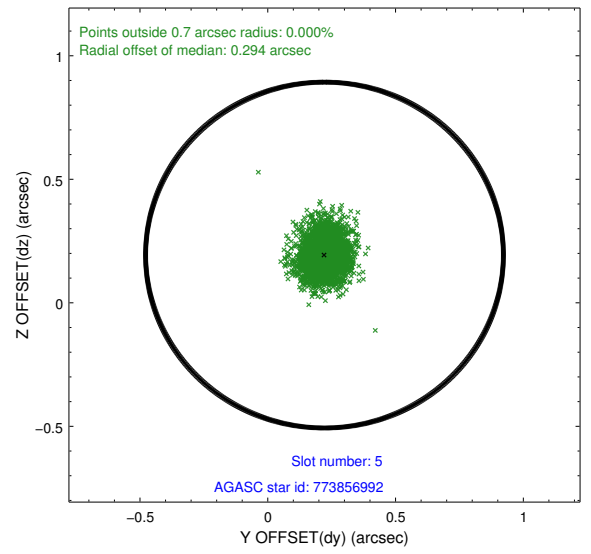
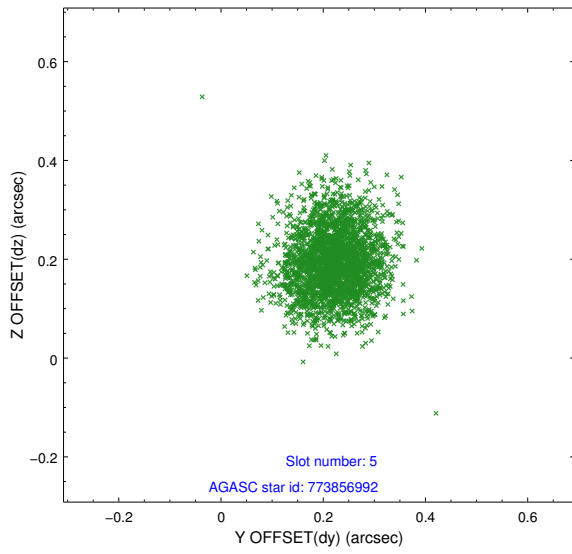
### 2.4.1 Slot 3



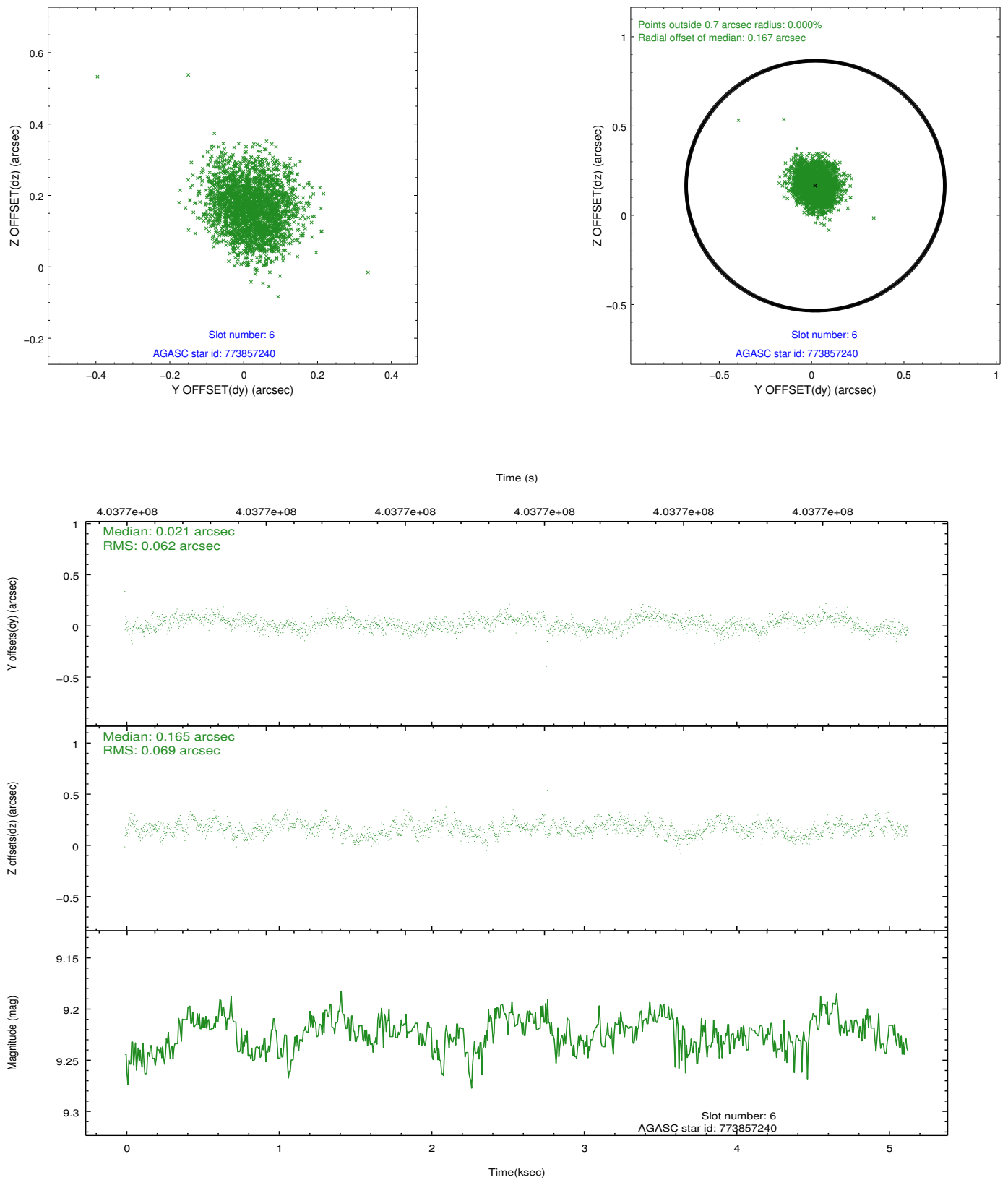
## 2.4.2 Slot 4



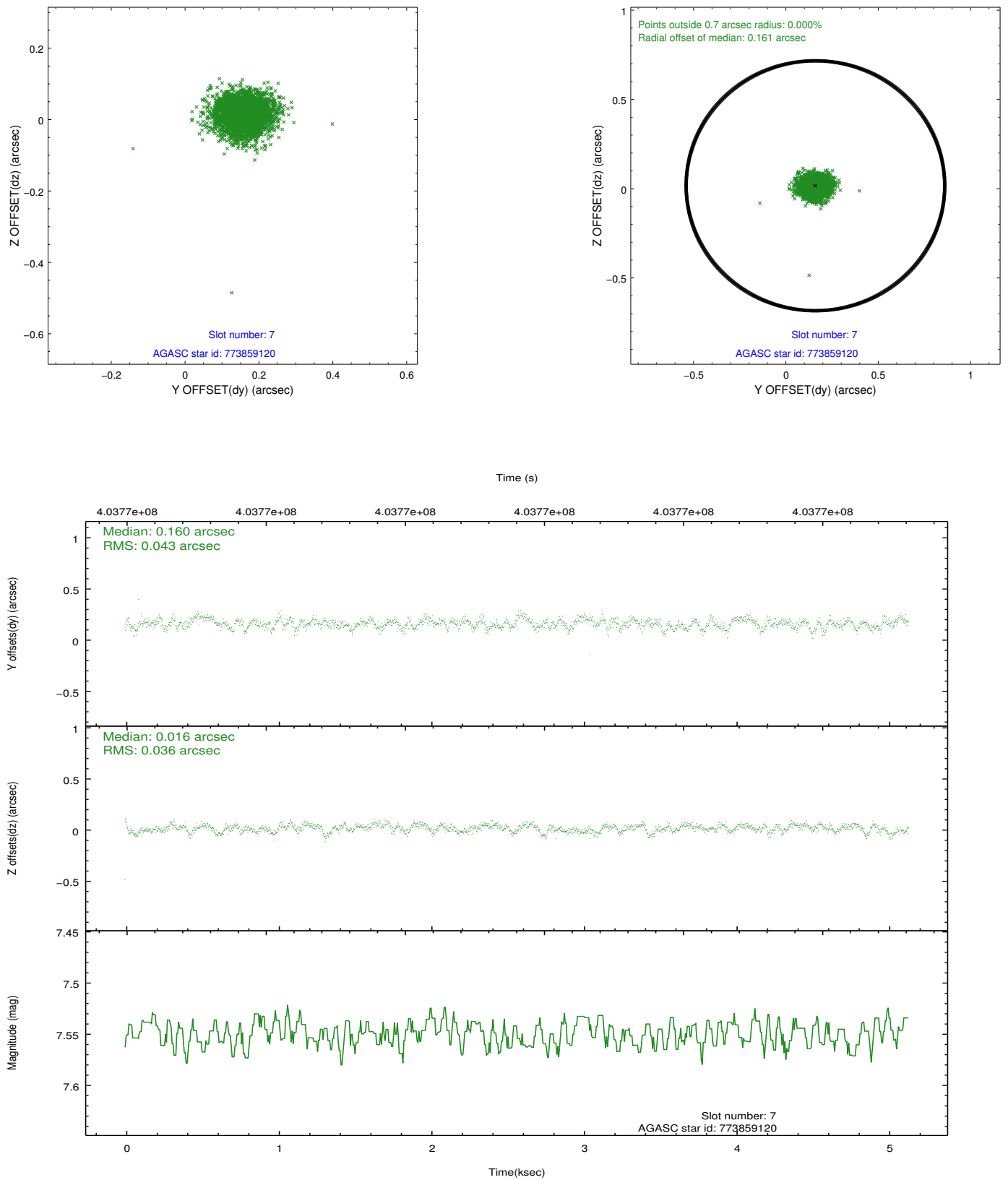
### 2.4.3 Slot 5



## 2.4.4 Slot 6

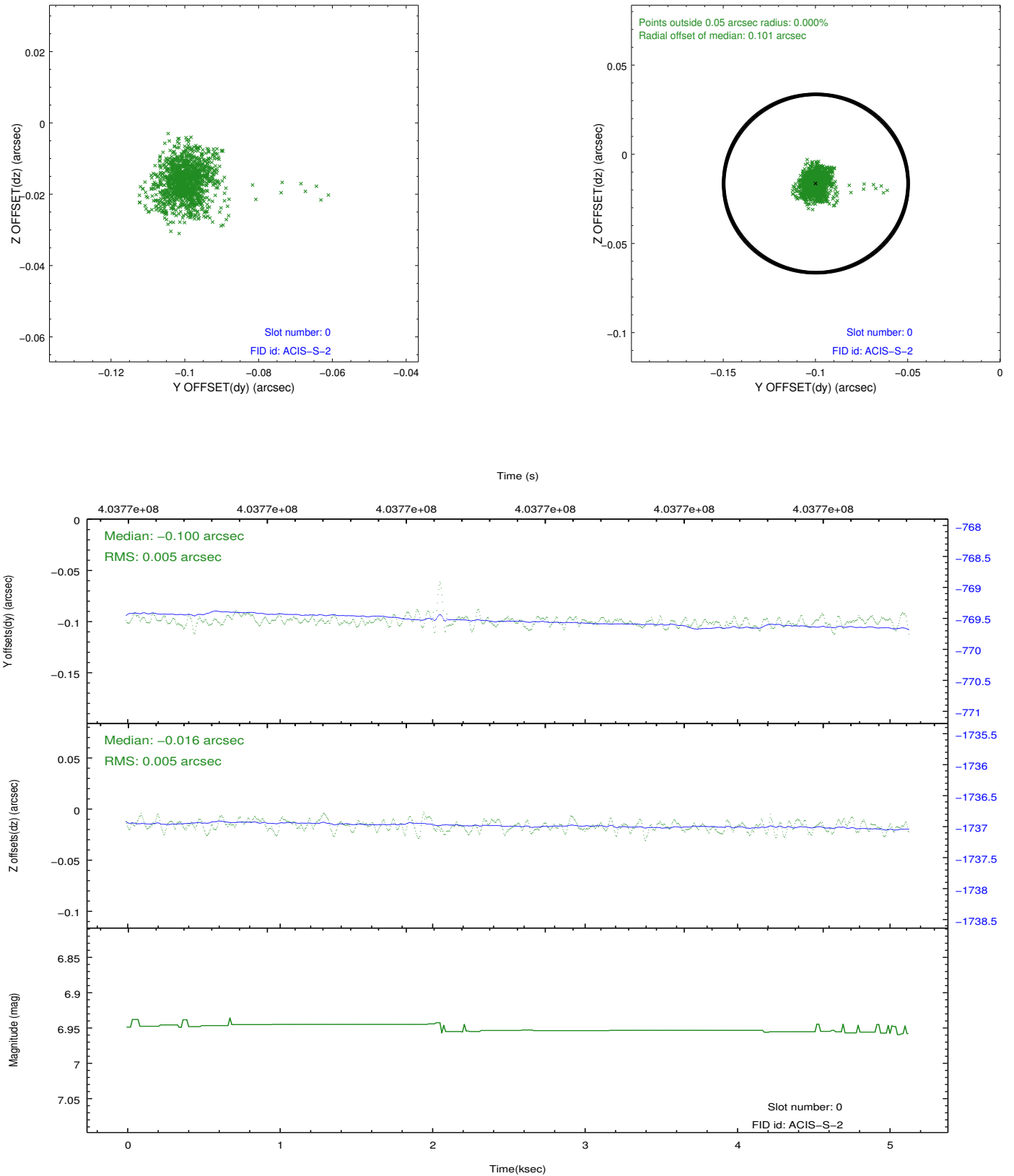


## 2.4.5 Slot 7

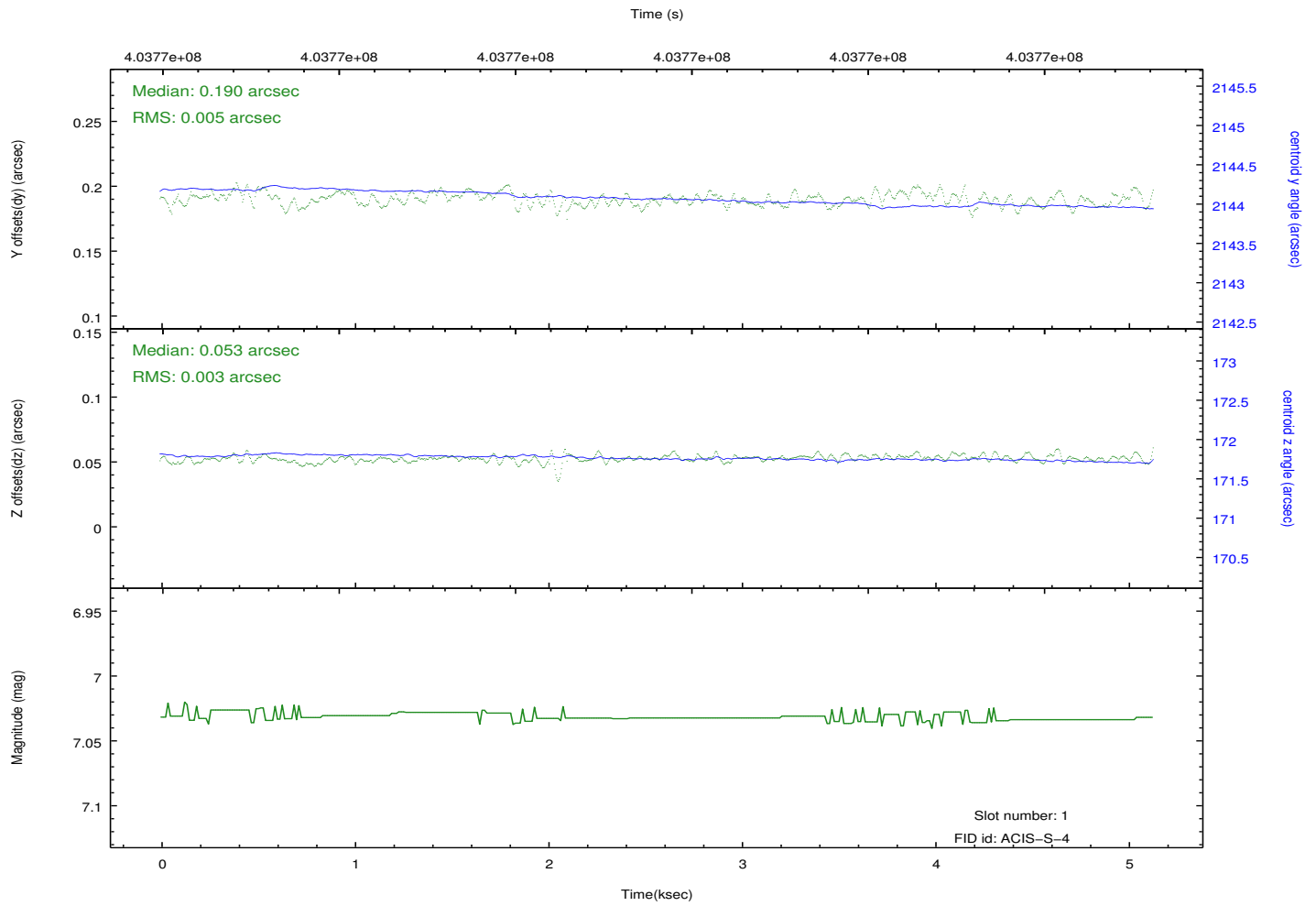
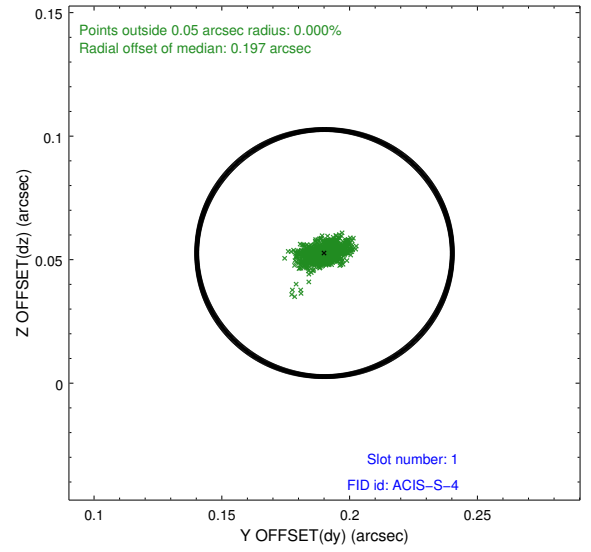
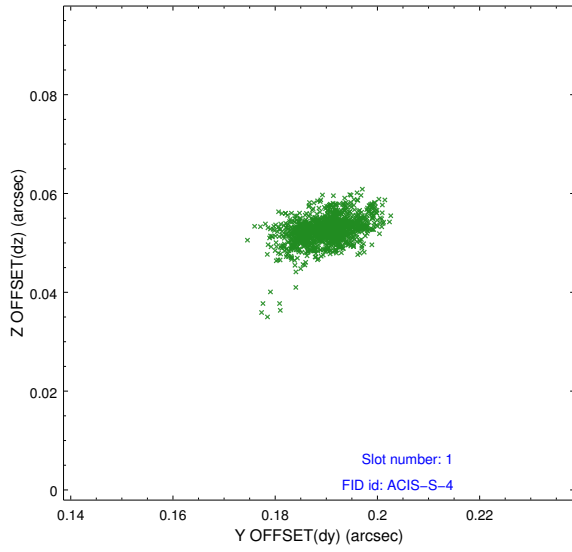


## 2.5 FID Slots

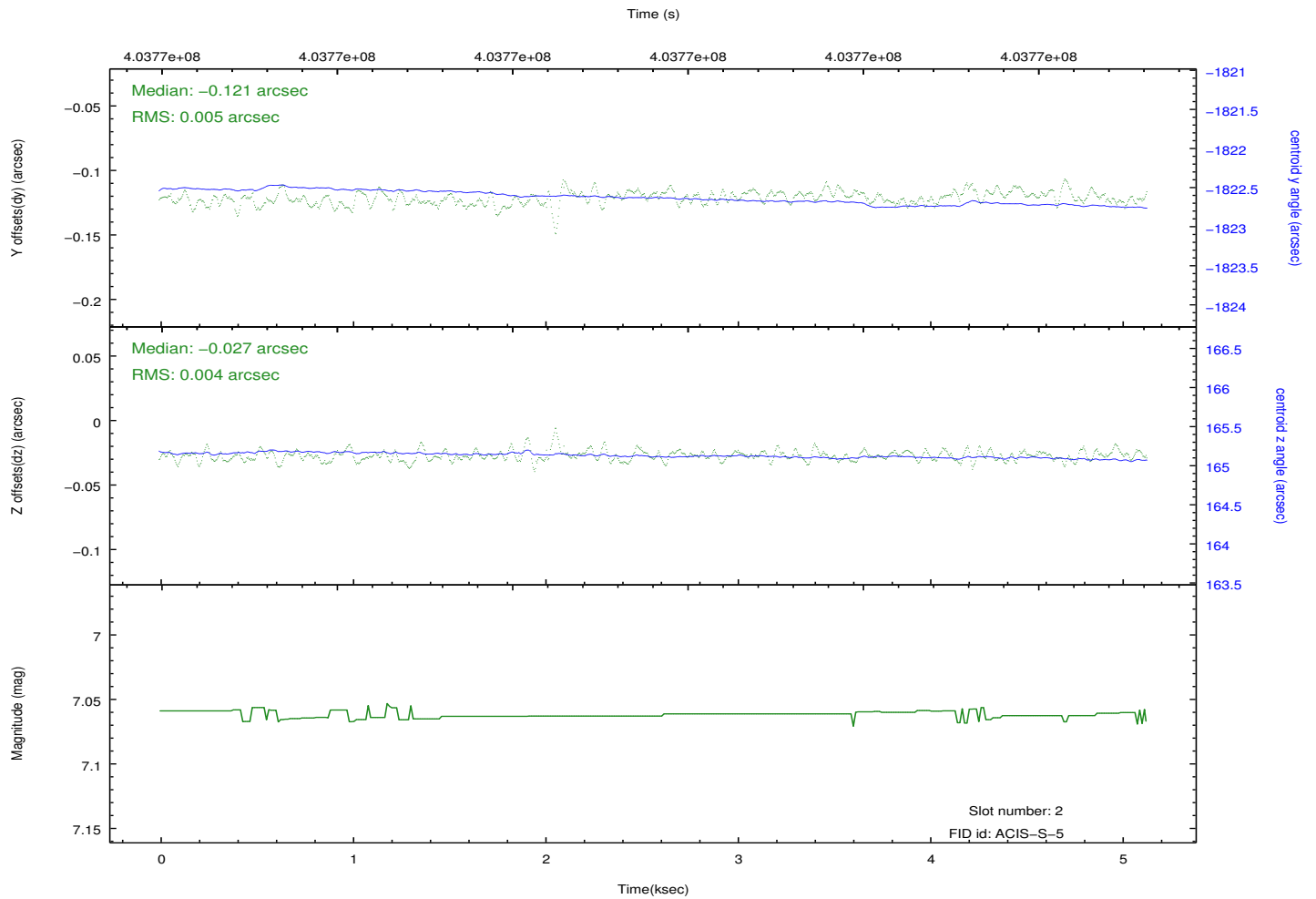
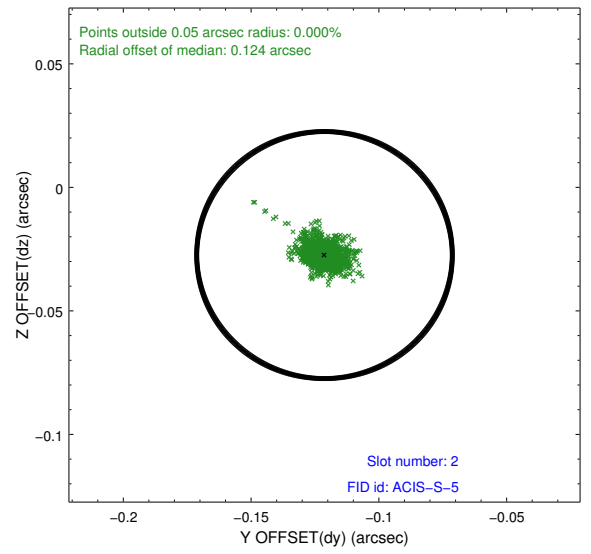
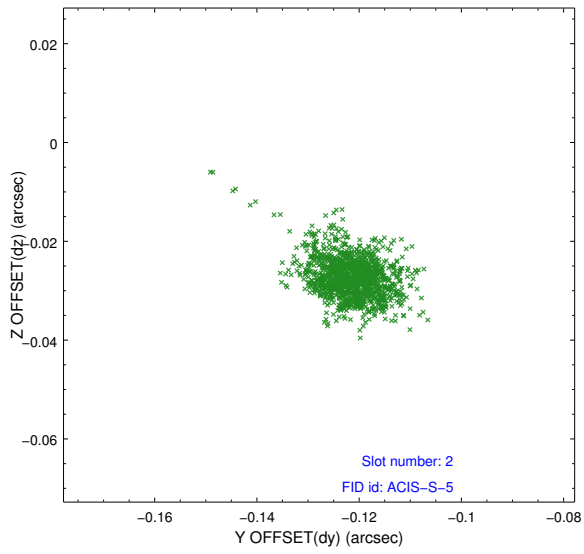
### 2.5.1 Slot 0



## 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)	2012.07.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.9597766875625

## A.2 Comments

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 ( $\sim 20$  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:  
(75.52598, -18.34387), (75.53046, -18.34573), (75.56801, -18.26370), (75.56548, -18.25760)