

# V&V Reference Report

## L2 ASCDS Version : 10.1.1

Observation 16042 - L2 Version 2  
Chandra X-Ray Center

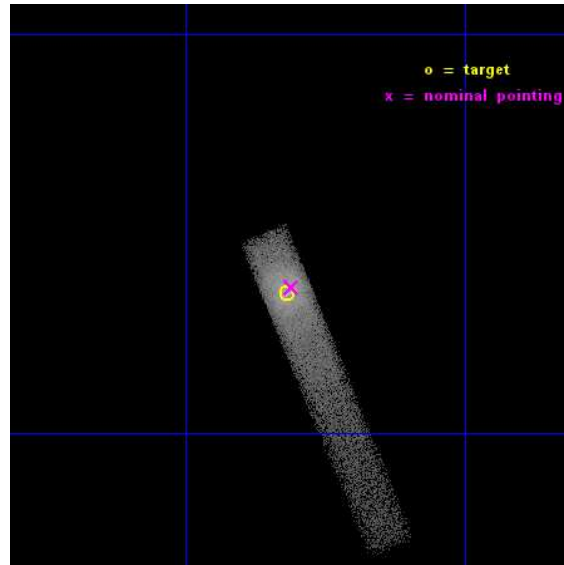
L2 Processing Date : Dec 8 2014

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# 1 Front

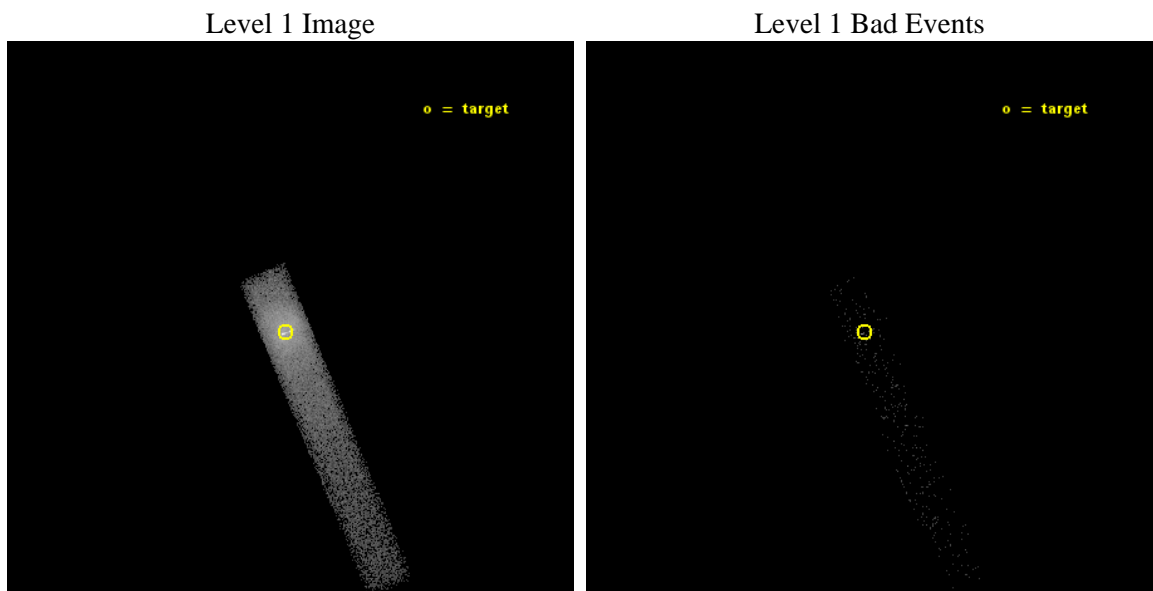
seq_num	702936	Sequence number
obs_id	16042	Observation id
title	Keeping Tabs on the Unique Jet in M87 During Cycle 15	Proposal tit
observer	Dr. Daniel Harris	Principal investigator
object	M87	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	187.704167	Observer's specified target RA [deg]
dec_targ	12.391667	Observer's specified target Dec [deg]
ra_nom	187.70249582048	Nominal RA [deg]
dec_nom	12.394195866158	Nominal Dec [deg]
roll_nom	66.810314748067	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5098.7444263101	Sum of GTIs [s]
livetime	4624.2920608653	Livetime [s]
ontime7	5098.7444263101	Sum of GTIs [s]
l2events	39142	Number of level 2 events



## 2 OBI

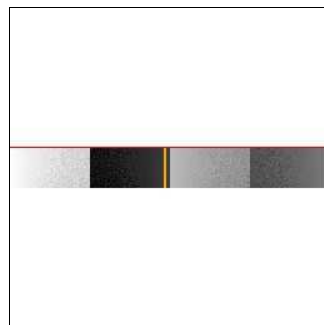
### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias

Chip 7



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	5029.075000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	5098.7444263101	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime7	5098.7444263101	Sum of GTIs [s]
date	2014-12-08T12:09:04	Date and time of file creation	l1events	41988	Number of level 1 events
revision	2	Processing version of data			

### 2.1.4 Events

	<b>ccd 7</b>
level 1 events	41988
rejected events	2517
rejected %	5%

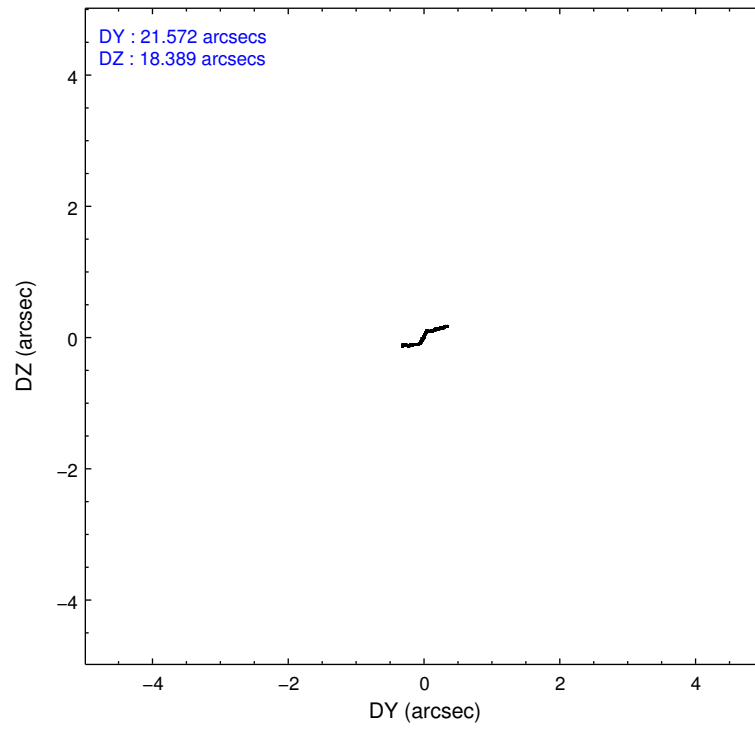
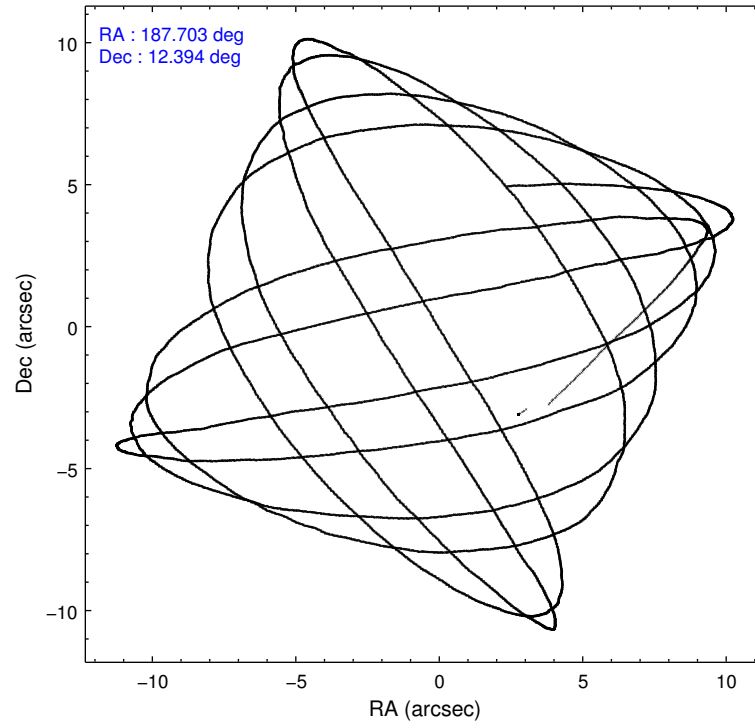
	<b>ccd 7</b>
grade 0 events	11710
	27%
grade 1 events	27
	0%
grade 2 events	10274
	24%
grade 3 events	4733
	11%
grade 4 events	4457
	10%
grade 5 events	656
	1%
grade 6 events	8314
	19%
grade 7 events	1817
	4%

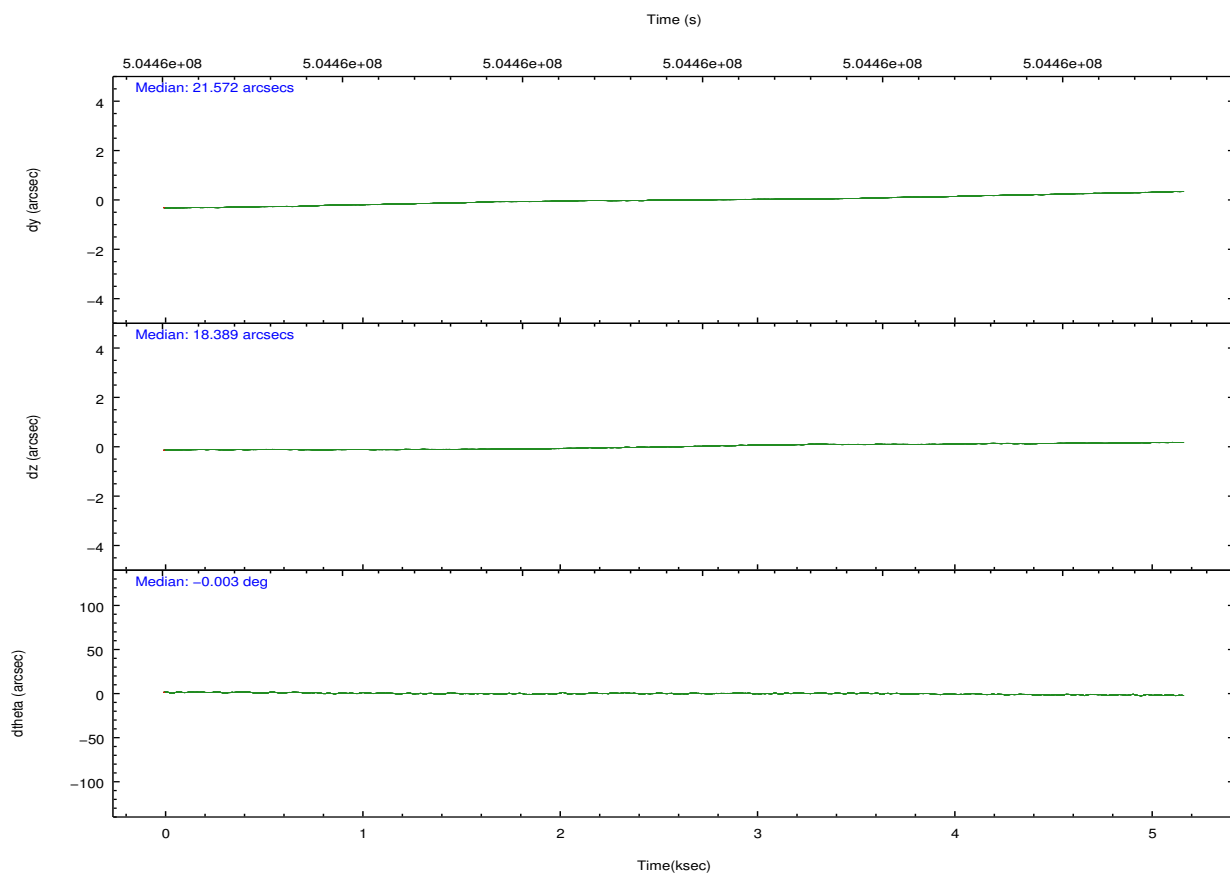
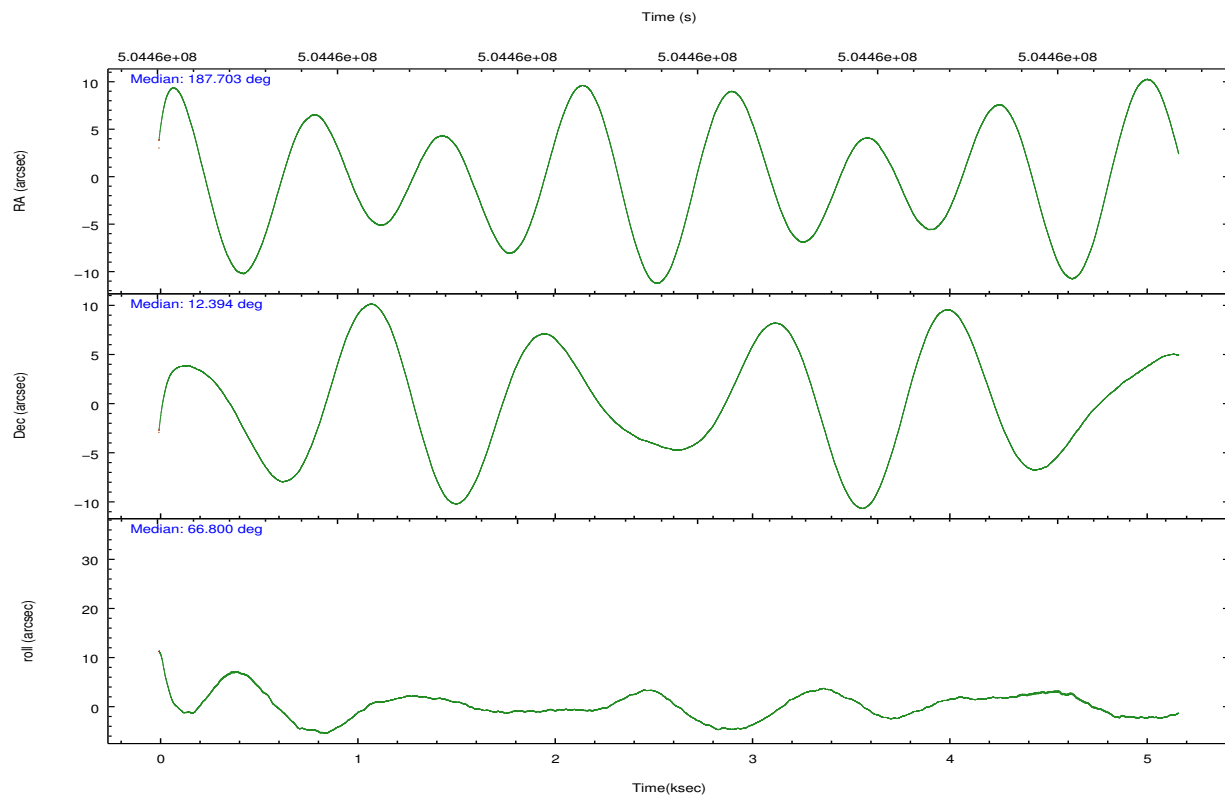


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-7	ACIS-7	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	187.706117	187.7024958204847	Subarray requested	CUSTOM	1/8
[deg] Pointing Dec	12.367065	12.39419586615798	Subarray start row	449	449
[deg] Pointing Roll	66.652890	66.81031474806748	Subarray row count	128	128
[s] Window start time (MET)	502243267.184000	502243267.184000	Alternating exposures requested	N	N
[s] Window stop time (MET)	504835267.184000	504835267.184000	[s] Primary exposure time	0.000000	0.4
[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)	504459395.184000	504458116.89354			
Observation start date	2013-12-26T15:35:28	2013-12-26T15:15:16			
[s] Observation end time (MET)	504464425.184000	504464650.2439			
Observation end date	2013-12-26T16:59:18	2013-12-26T17:04:10			
Read mode	TIMED	TIMED			

## 2.3 Aspect



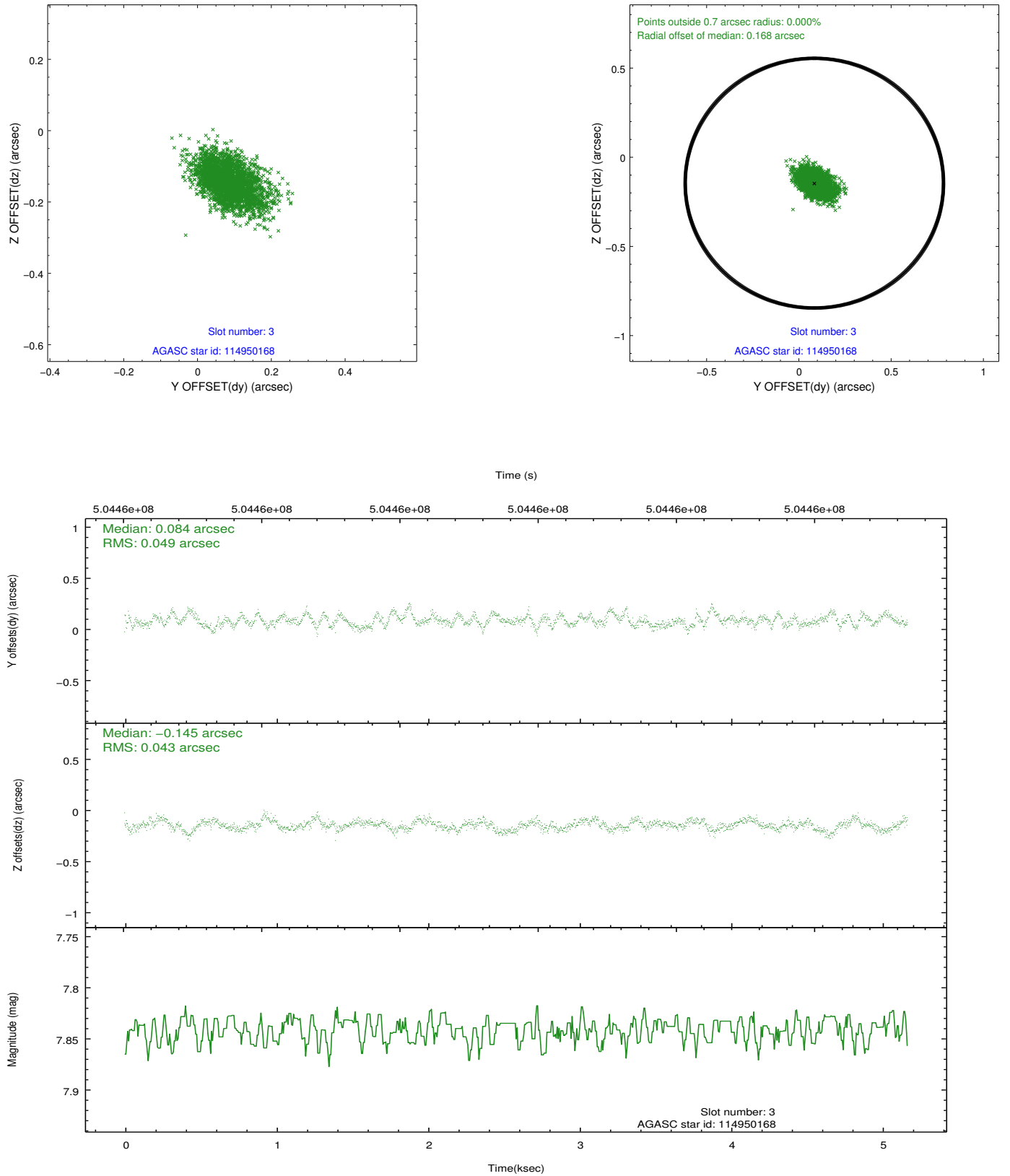


### Slot Statistics

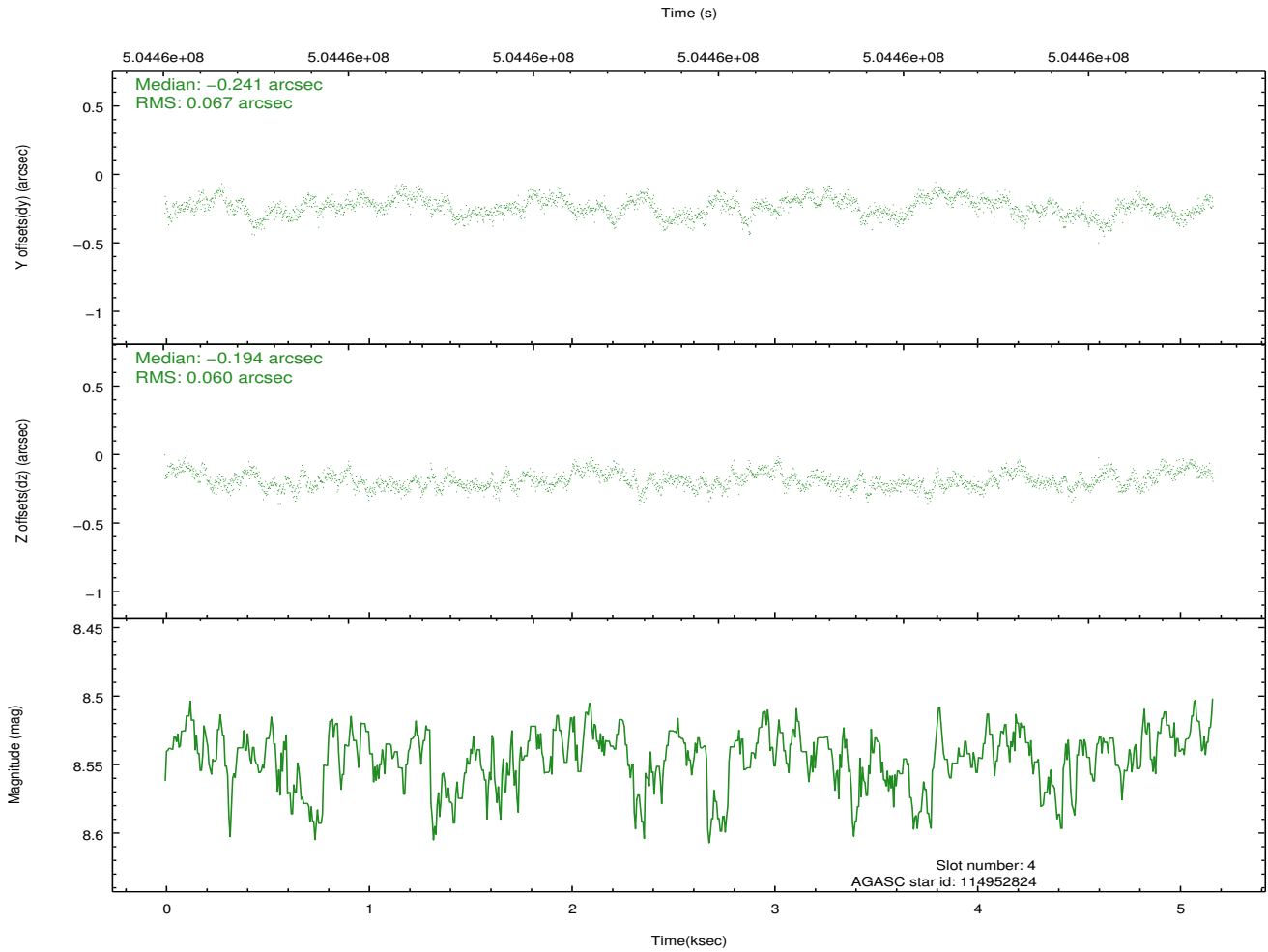
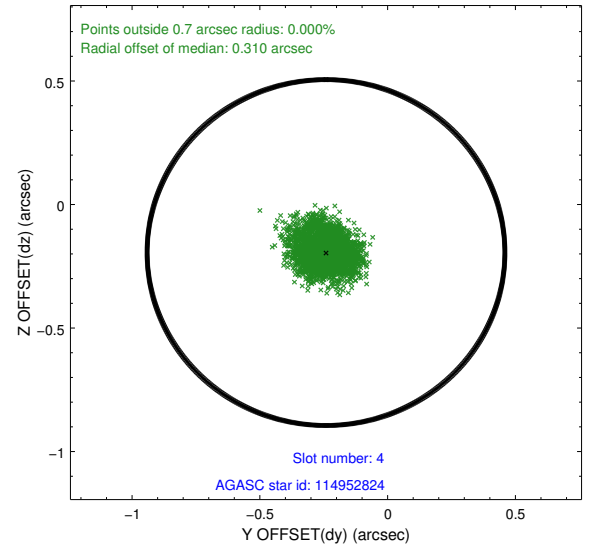
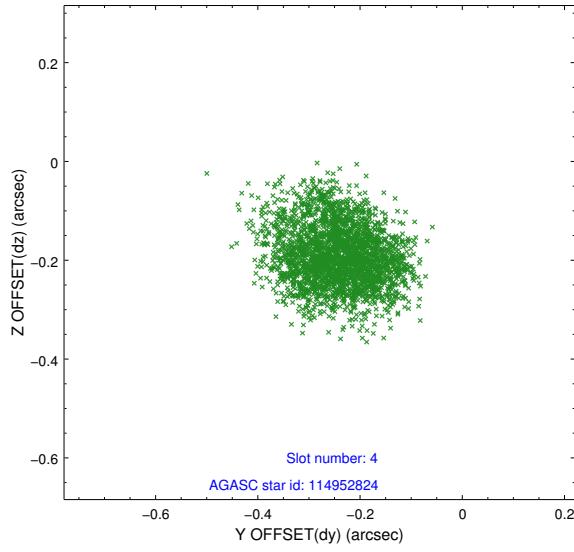
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	7.00	1261	-0.100	-0.048	0.007	0.011	0.000000	0.000000	-774.83	-1739.91
1	FID		ACIS-S-4	7.09	1261	0.231	0.061	0.006	0.011	0.000000	0.000000	2138.26	167.44
2	FID		ACIS-S-5	7.12	1261	-0.162	-0.004	0.007	0.011	0.000000	0.000000	-1826.22	162.42
3	GUIDE	used	114950168	7.84	2522	0.084	-0.145	0.067	0.117	187.143398	12.117441	-1608.55	1463.23
4	GUIDE	used	114952824	8.54	2522	-0.241	-0.194	0.097	0.150	187.703904	12.486727	391.20	179.40
5	GUIDE	used	114955056	8.31	2521	-0.104	0.966	0.099	0.152	187.914001	12.127854	-500.27	-1011.19
6	GUIDE	used	114957008	8.23	2521	0.137	-0.214	0.092	0.144	186.894794	12.099160	-2014.38	2241.99
7	GUIDE	used	114954440	9.17	2520	0.120	-0.415	0.113	0.180	186.915066	12.219118	-1589.22	2345.46

## 2.4 Star Slots

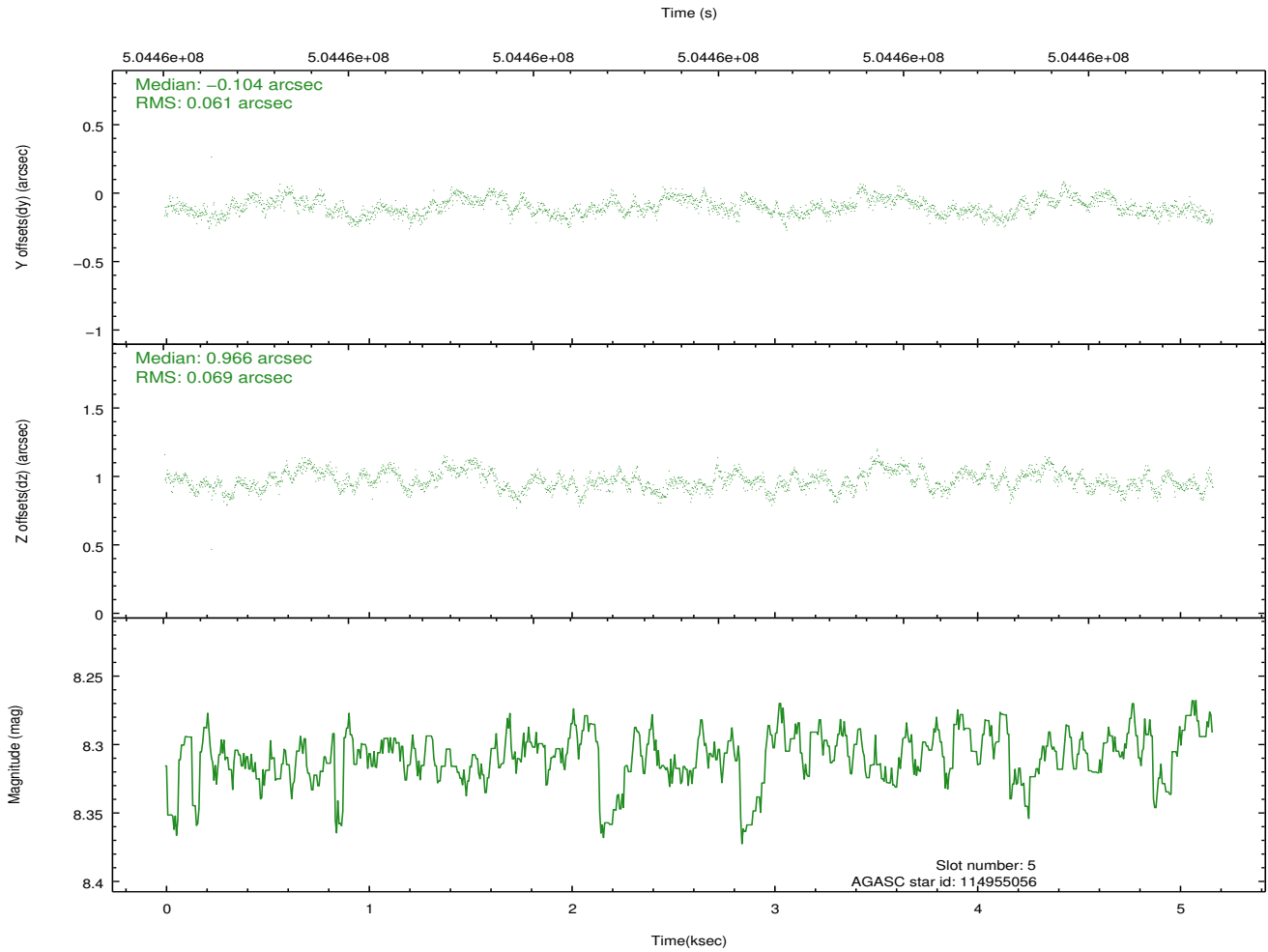
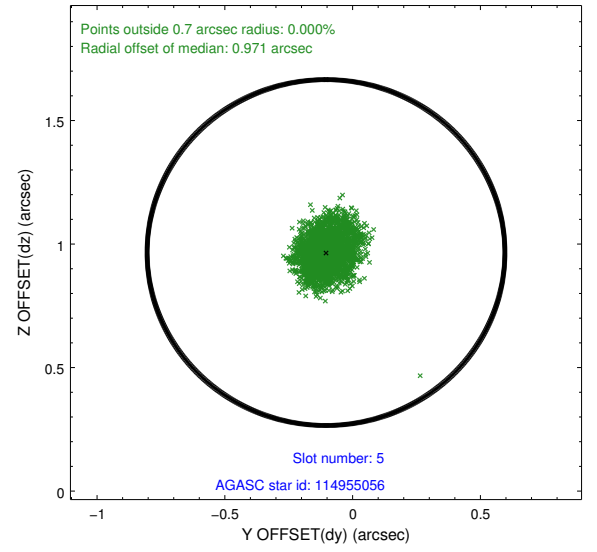
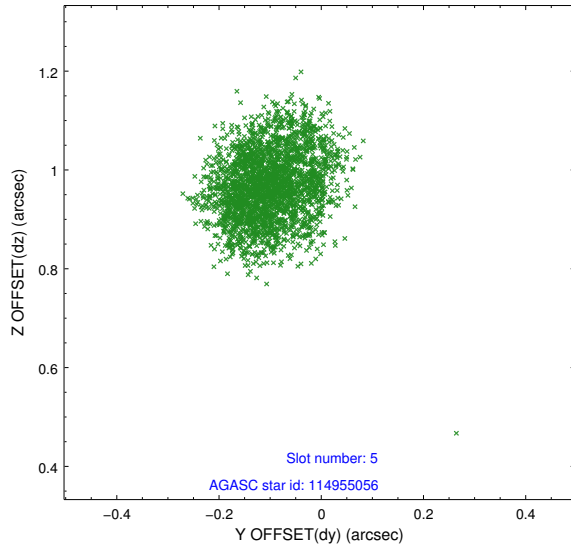
### 2.4.1 Slot 3



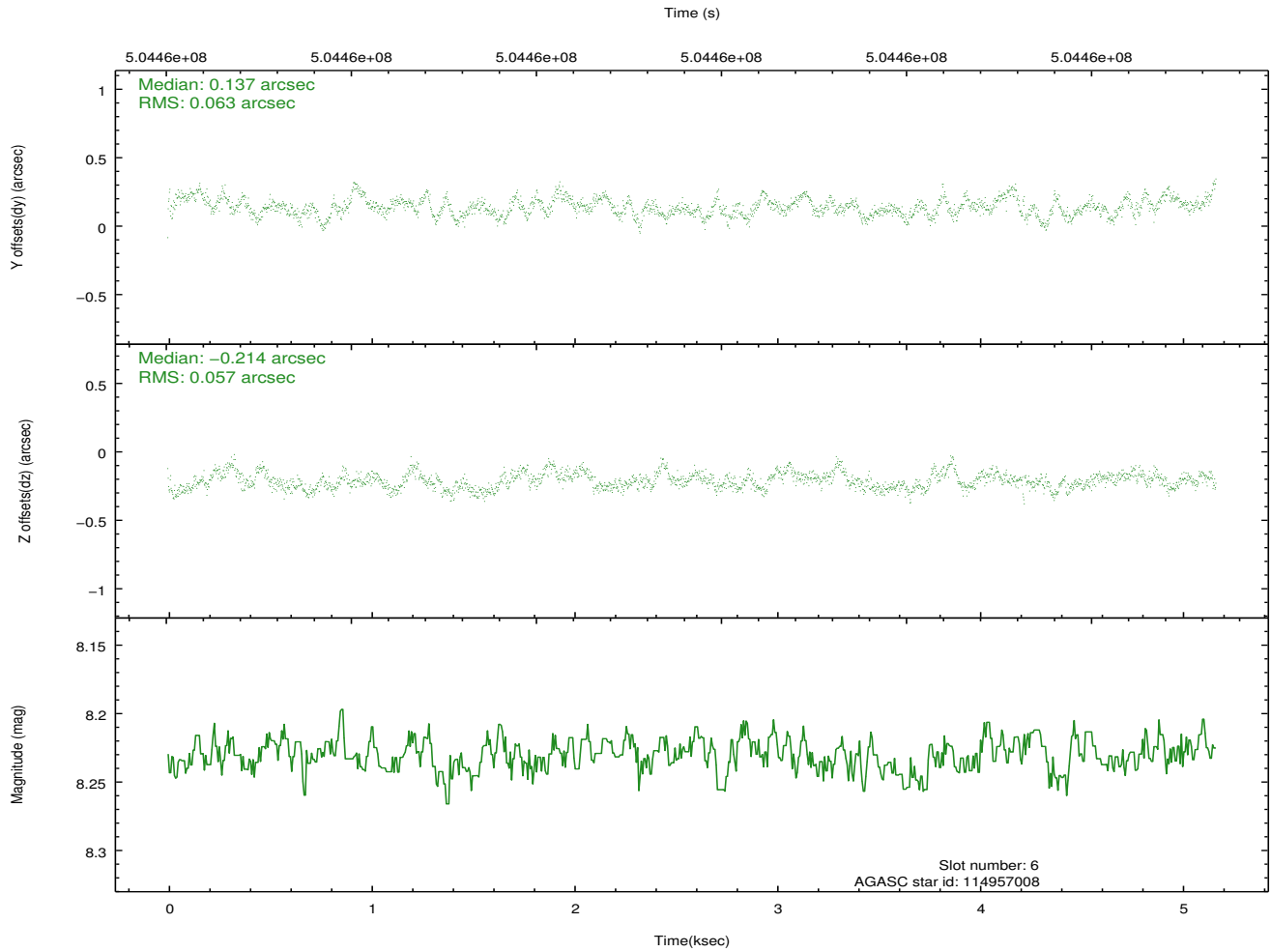
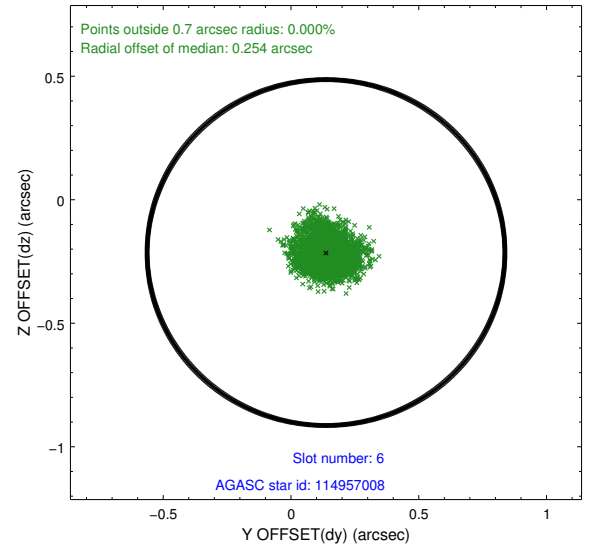
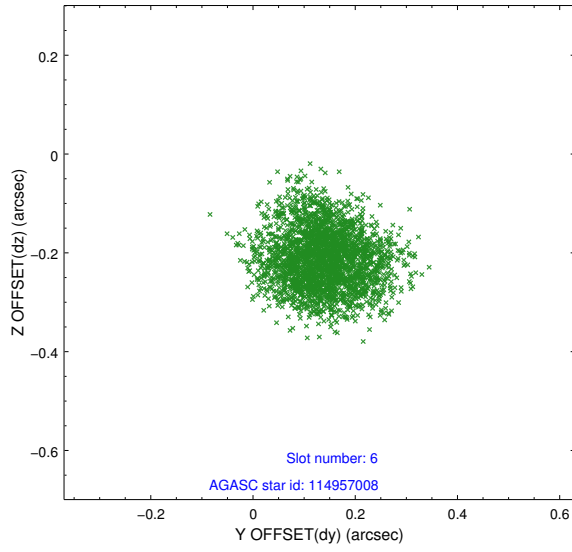
## 2.4.2 Slot 4



### 2.4.3 Slot 5

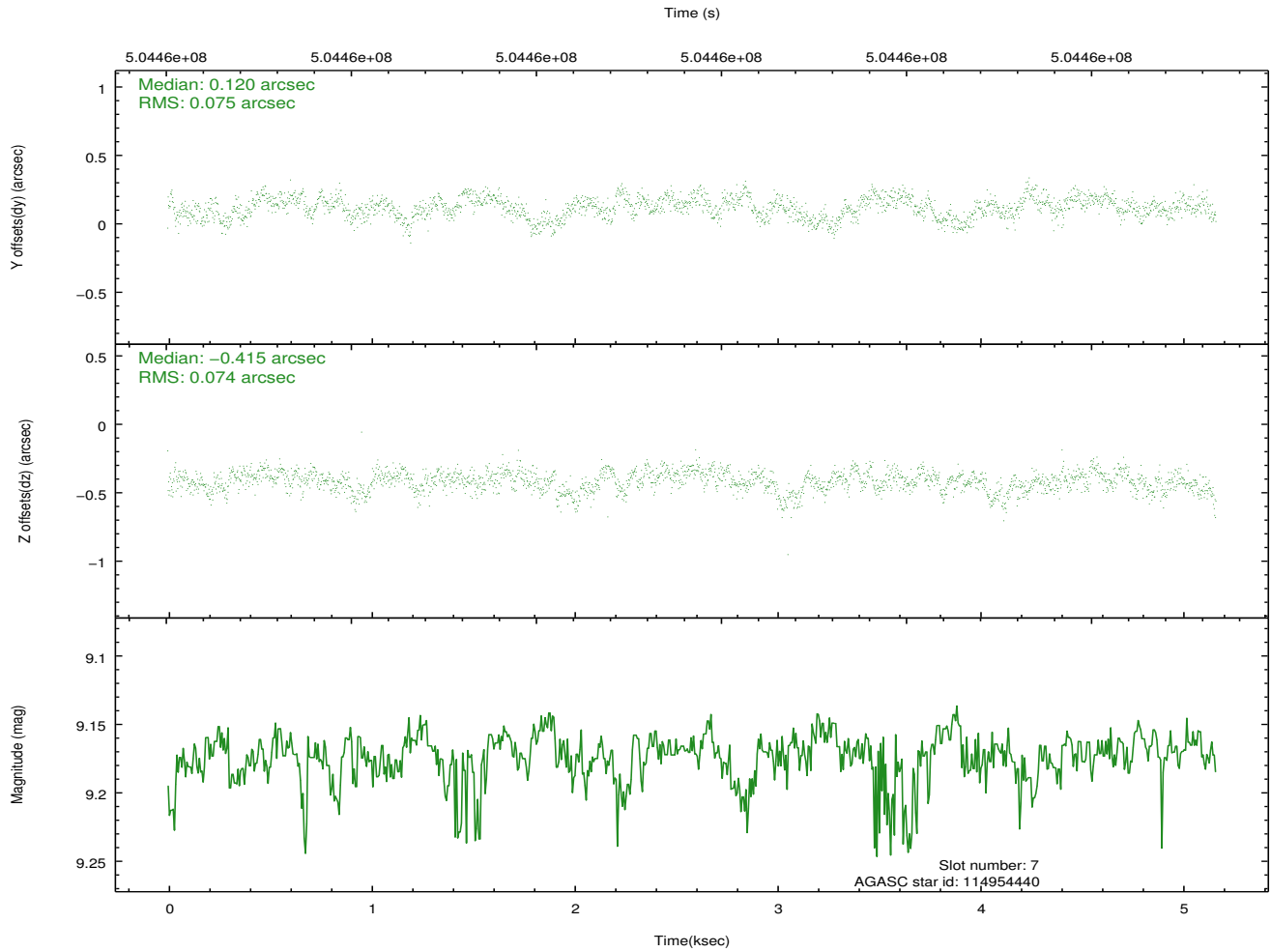
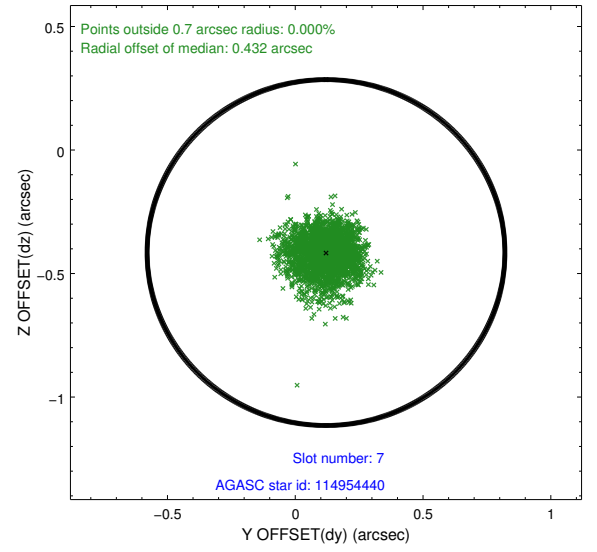
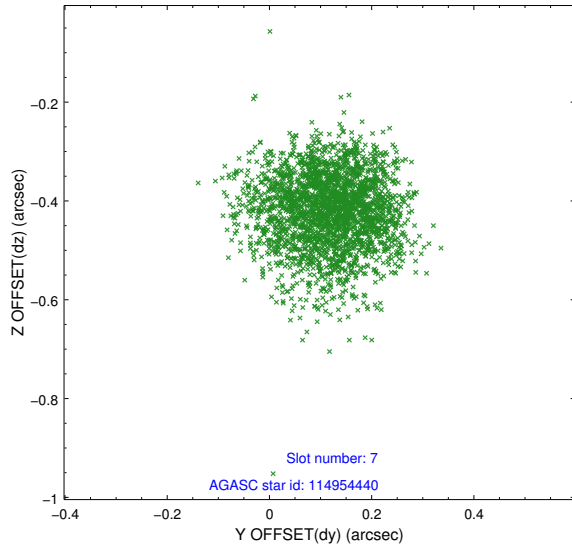


## 2.4.4 Slot 6



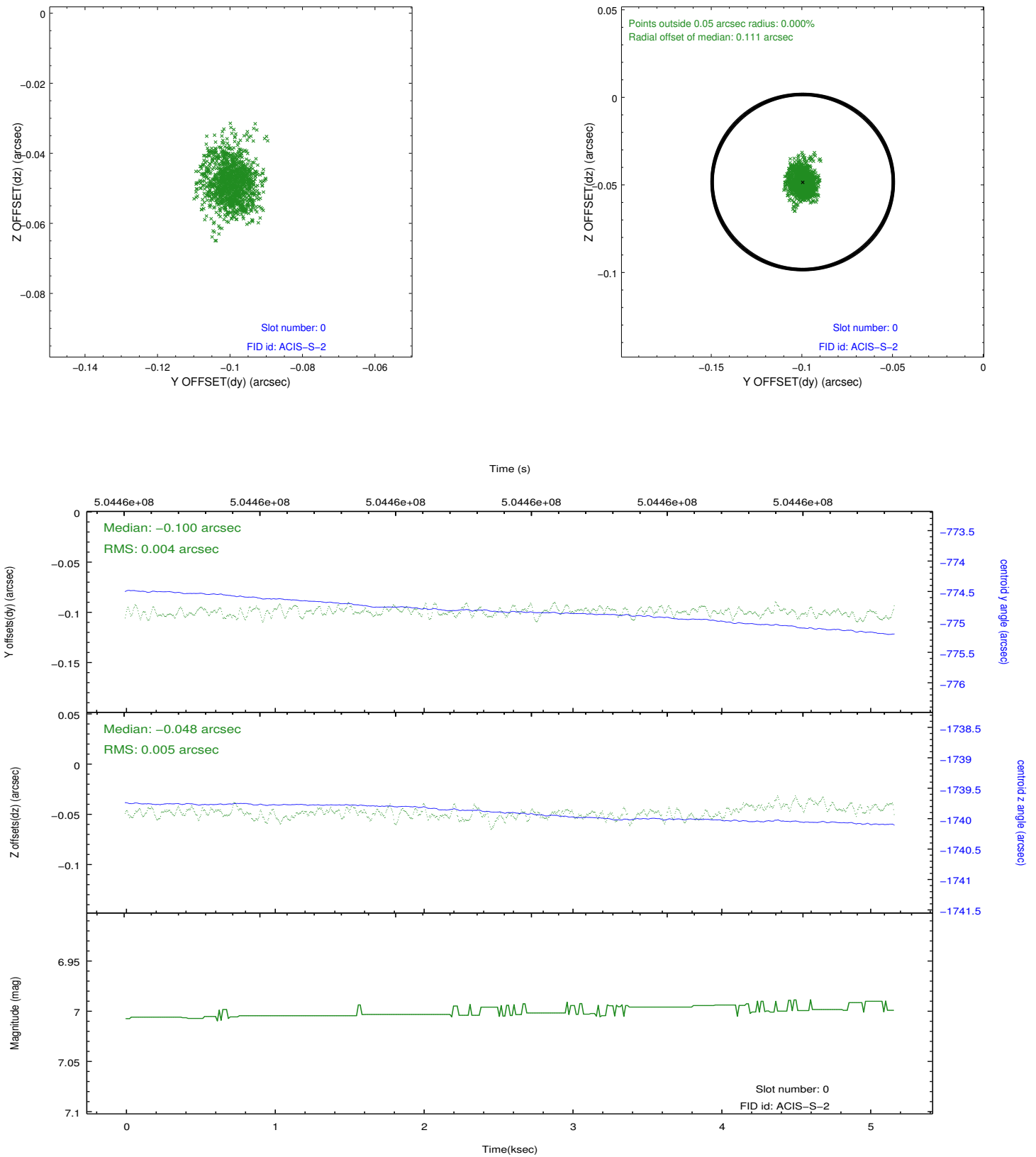


## 2.4.5 Slot 7

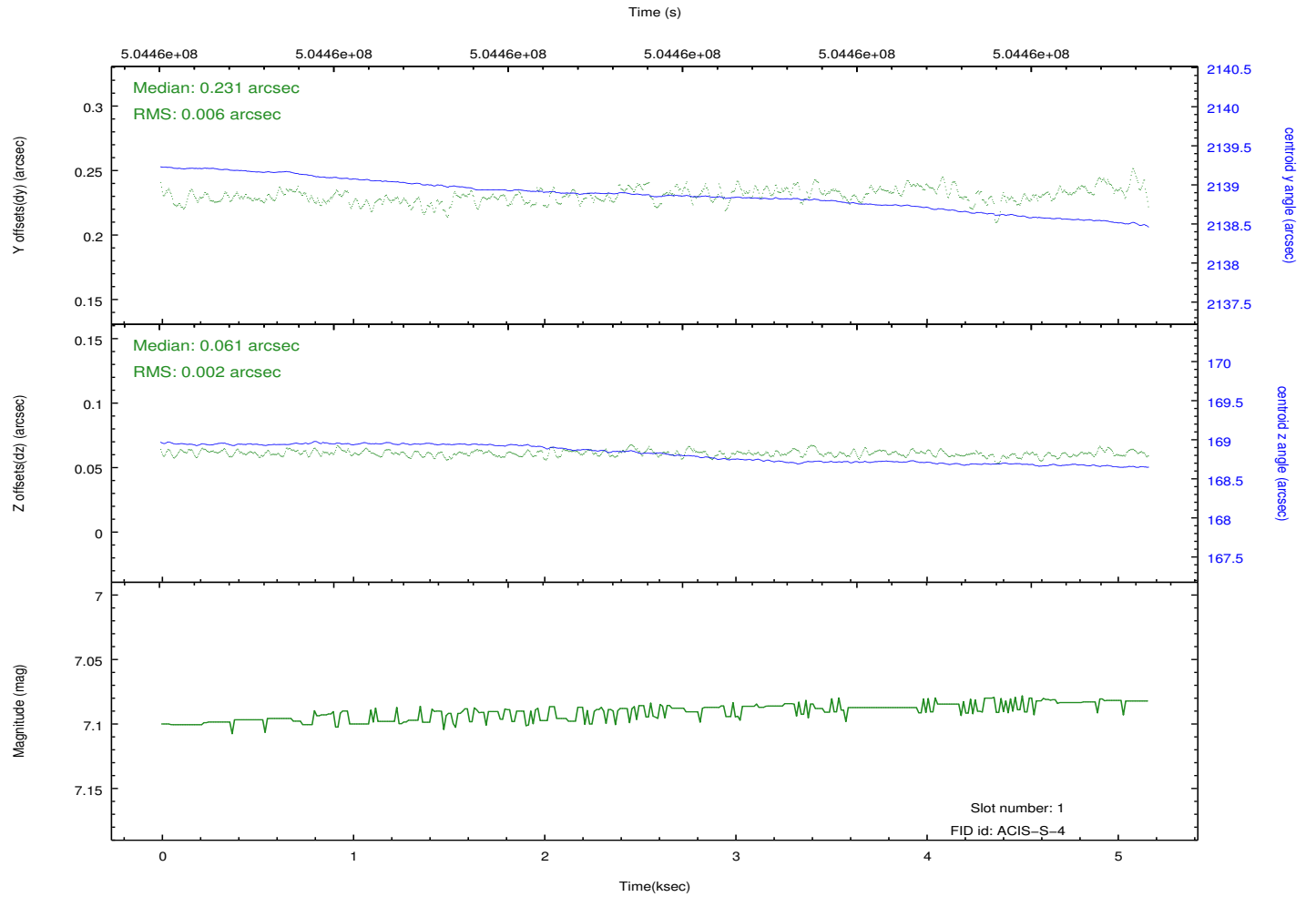
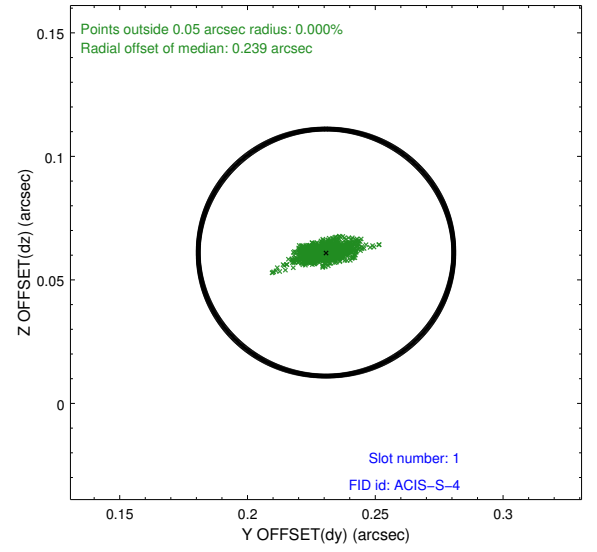
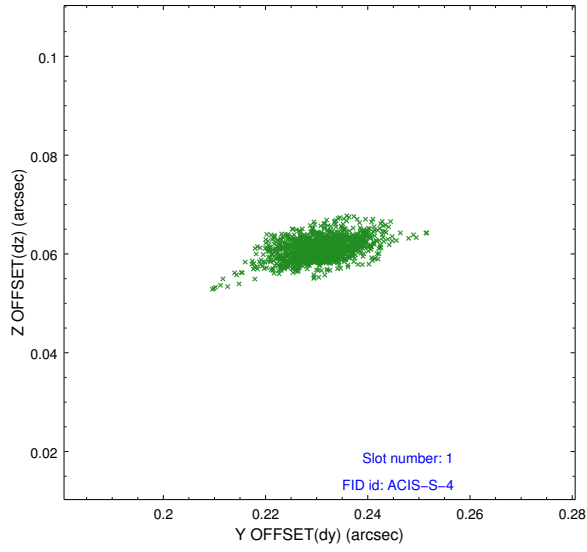


## 2.5 FID Slots

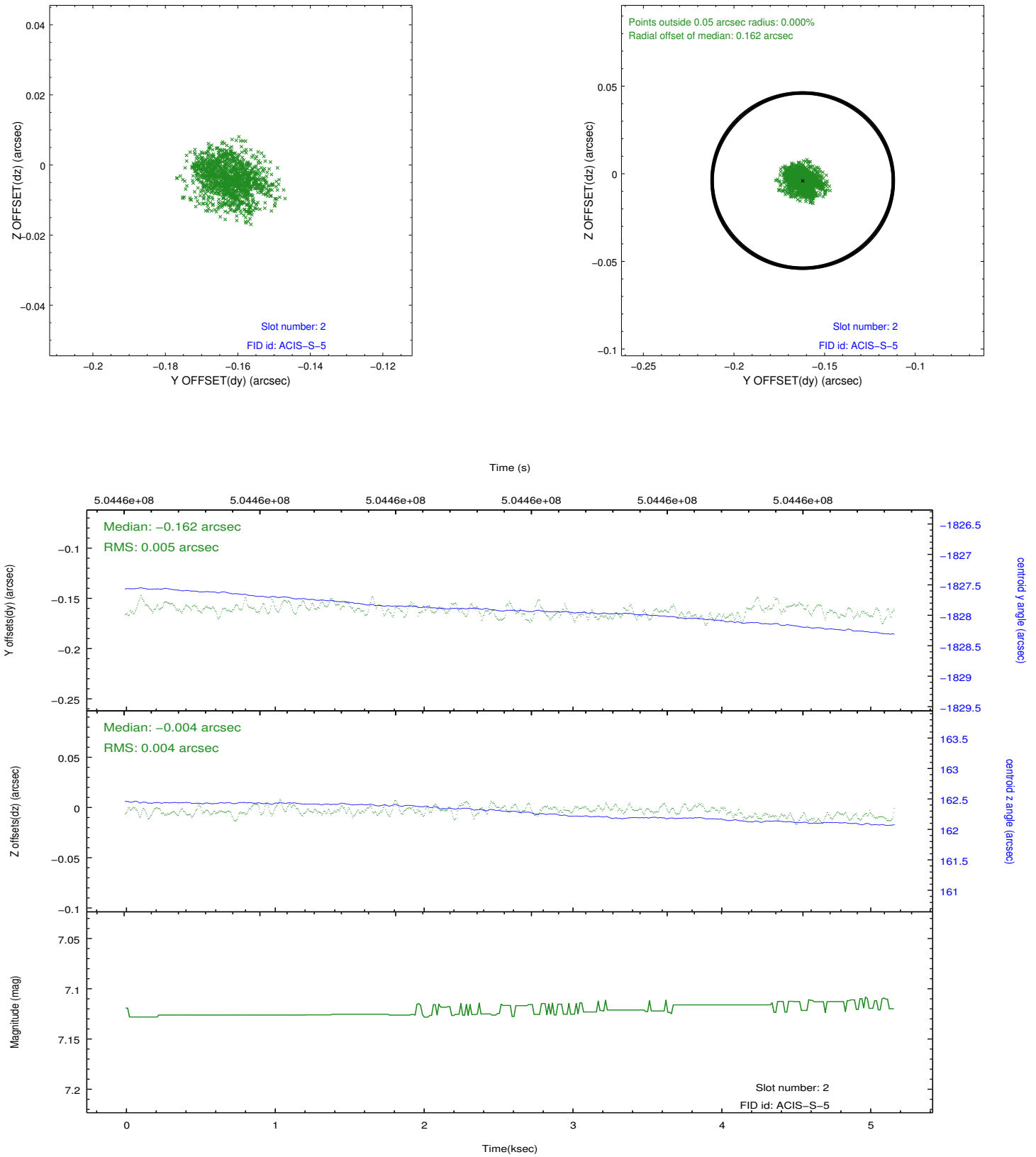
### 2.5.1 Slot 0



## 2.5.2 Slot 1



### 2.5.3 Slot 2



# A Summary

## A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2014.12.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.0987444263101

## A.2 Comments

Window preference met.

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.