

# V&V Reference Report

## L2 ASCDS Version : 10.1.1

Observation 15090 - L2 Version 2  
Chandra X-Ray Center

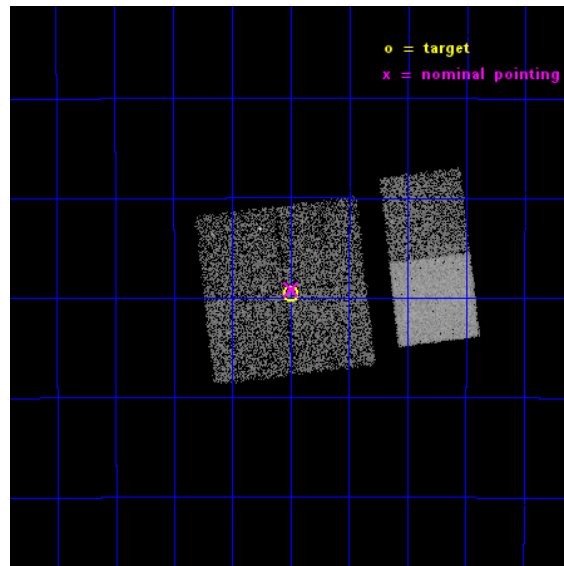
L2 Processing Date : Dec 7 2014

## 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

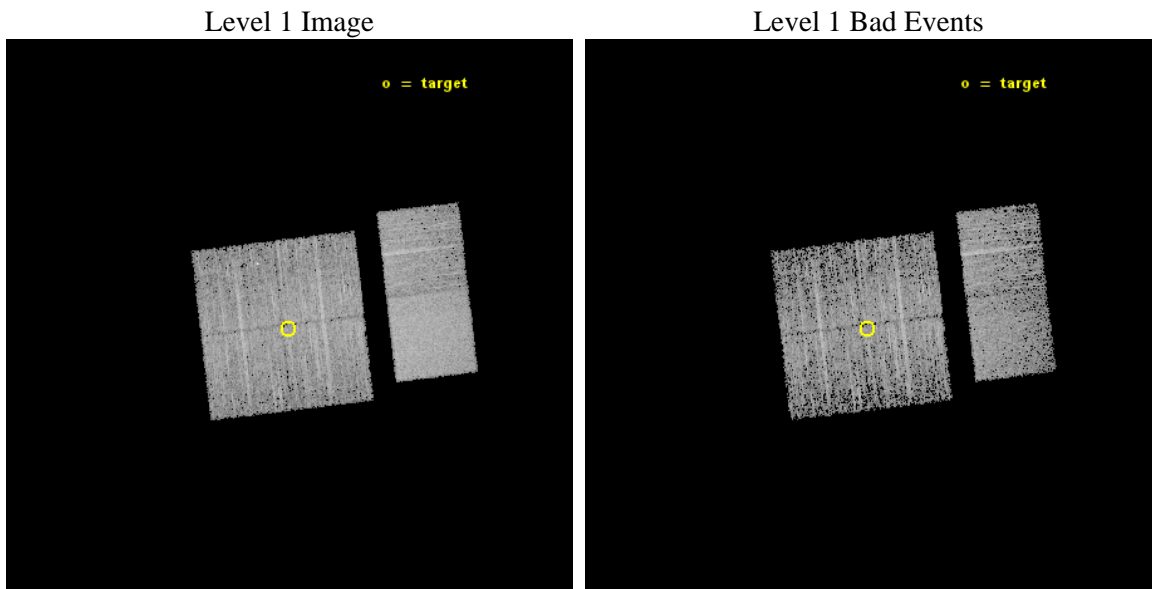
seq_num	801222	Sequence number
obs_id	15090	Observation id
title	Mapping the nearest non-cool core cluster out to R200	Proposal tit
observer	Dr Ka-wah Wong	Principal investigator
object	Antlia E1	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	157.875	Observer's specified target RA [deg]
dec_targ	-35.327694	Observer's specified target Dec [deg]
ra_nom	157.87322203567	Nominal RA [deg]
dec_nom	-35.319773710048	Nominal Dec [deg]
roll_nom	83.207664568201	Nominal Roll [deg]
revision	2	Processing version of data
ontime	6969.5999740958	Sum of GTIs [s]
livetime	6881.3467026345	Livetime [s]
ontime0	6966.3589437604	Sum of GTIs [s]
ontime1	6969.5999740958	Sum of GTIs [s]
ontime2	6969.5999740958	Sum of GTIs [s]
ontime3	6969.5999740958	Sum of GTIs [s]
ontime6	6969.5999740958	Sum of GTIs [s]
ontime7	6969.5999740958	Sum of GTIs [s]
l2events	42851	Number of level 2 events



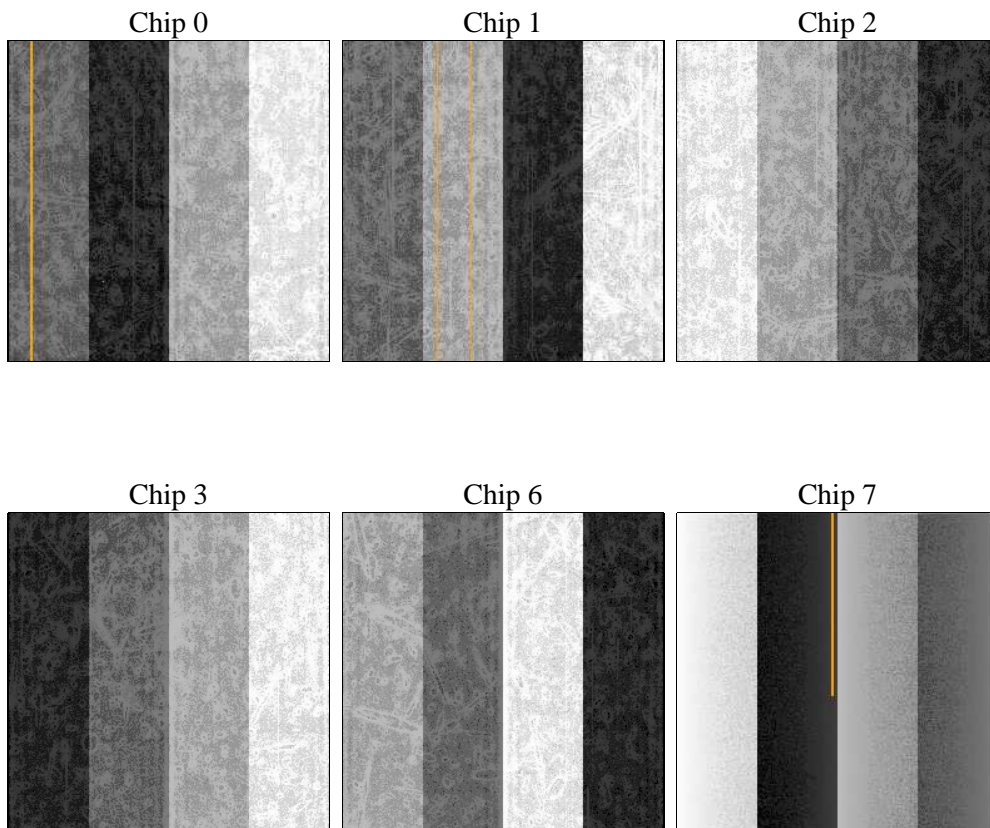
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	7000.000000	[s] Scheduled observation exposure time
ascdsver	10.3.1	Processing system revision	ontime	6969.5999740958	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	6966.3589437604	Sum of GTIs [s]
date	2014-12-08T02:12:34	Date and time of file creation	ontime1	6969.5999740958	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	6969.5999740958	Sum of GTIs [s]
			ontime3	6969.5999740958	Sum of GTIs [s]
			ontime6	6969.5999740958	Sum of GTIs [s]
			ontime7	6969.5999740958	Sum of GTIs [s]
			l1events	212430	Number of level 1 events

### 2.1.4 Events

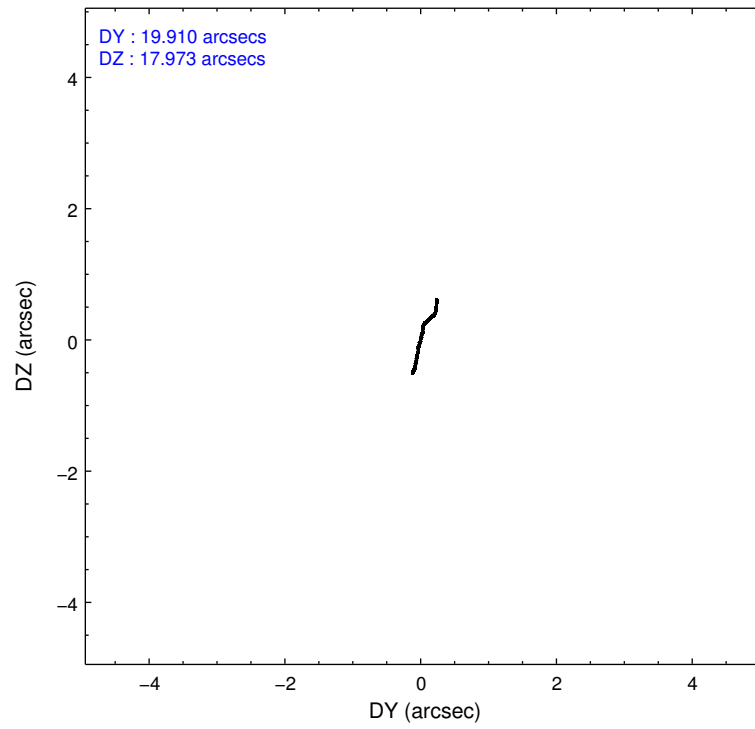
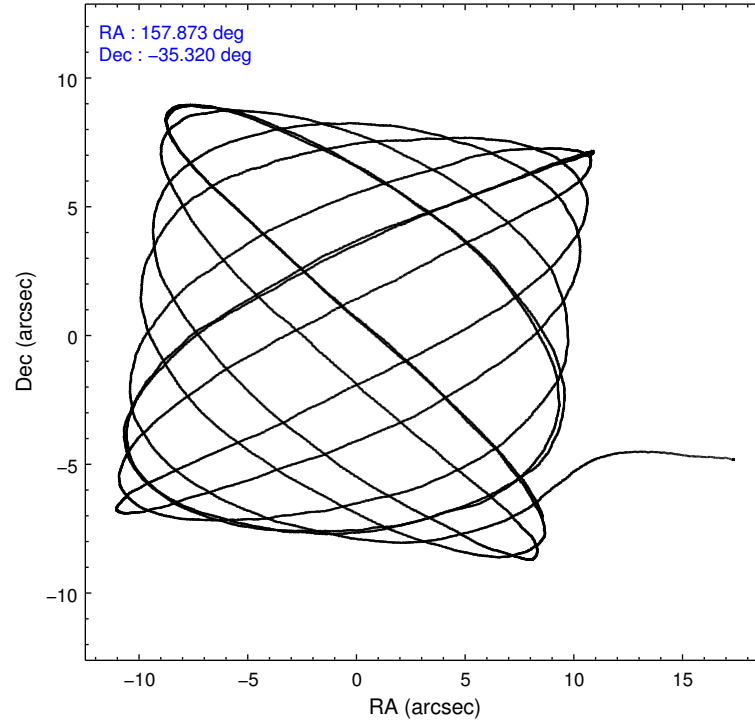
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	29647	30670	34701	33322	34713	49377	grade 0 events	1841	1845	1975	1890	2358	2560
rejected events	25135	25879	30238	28820	29393	26374		6%	6%	5%	5%	6%	5%
rejected %	84%	84%	87%	86%	84%	53%	grade 1 events	17	22	11	28	22	51
								0%	0%	0%	0%	0%	0%
							grade 2 events	1039	1106	987	920	1066	4875
								3%	3%	2%	2%	3%	9%
							grade 3 events	447	416	400	418	409	2003
								1%	1%	1%	1%	1%	4%
							grade 4 events	406	430	387	416	476	2003
								1%	1%	1%	1%	1%	4%
							grade 5 events	1668	1648	1437	1788	1739	4728
								5%	5%	4%	5%	5%	9%
							grade 6 events	783	996	718	860	1012	11573
								2%	3%	2%	2%	2%	23%
							grade 7 events	23446	24207	28786	27002	27631	21584
								79%	78%	82%	81%	79%	43%

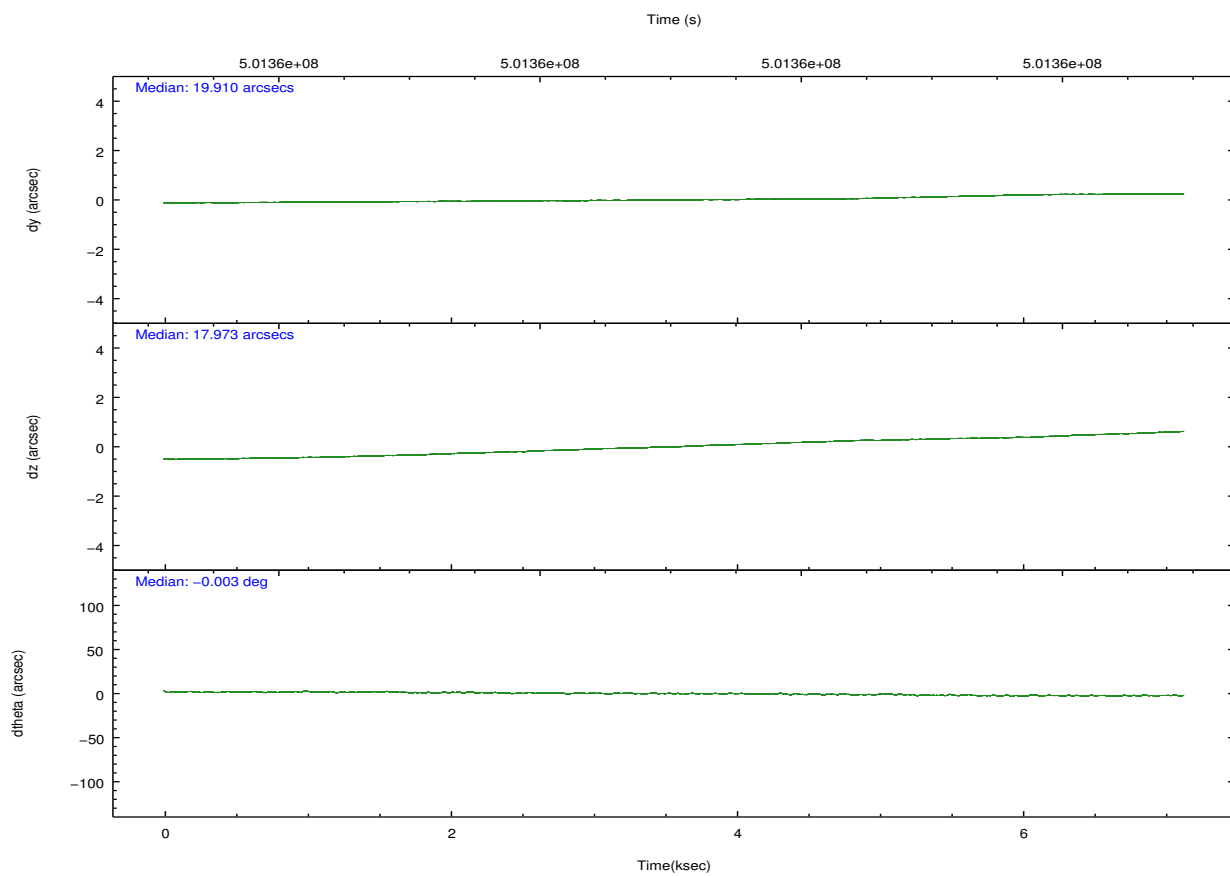
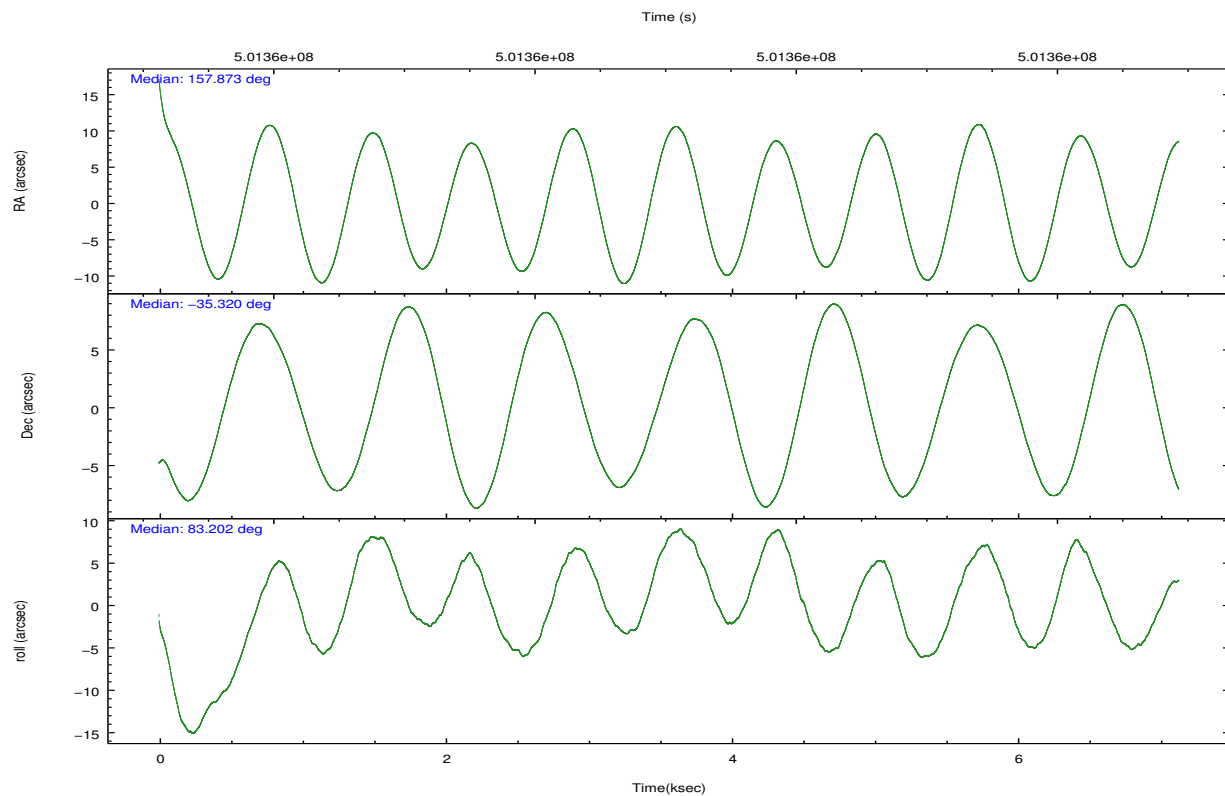


## 2.2 Compared Parameters

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	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	157.886607	157.8732220356746	CCD I2 on	Y	Y
[deg] Pointing Dec	-35.344977	-35.31977371004811	CCD I3 on	Y	Y
[deg] Pointing Roll	83.006715	83.2076645682013	CCD S0 on	N	N
[mm] SIM focus pos	-0.782348	-0.7809083437167272	CCD S1 on	N	N
[mm] SIM defocus	0	0.001439871863259334	CCD S2 on	O1	Y
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S3 on	O2	Y
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	501357591.184000	501356429.31092	CCD S5 on	N	N
Observation start date	2013-11-20T17:58:44	2013-11-20T17:40:29	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	501364591.184000	501365472.37391	On-chip summing requested	N	N
Observation end date	2013-11-20T19:55:24	2013-11-20T20:11:12	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



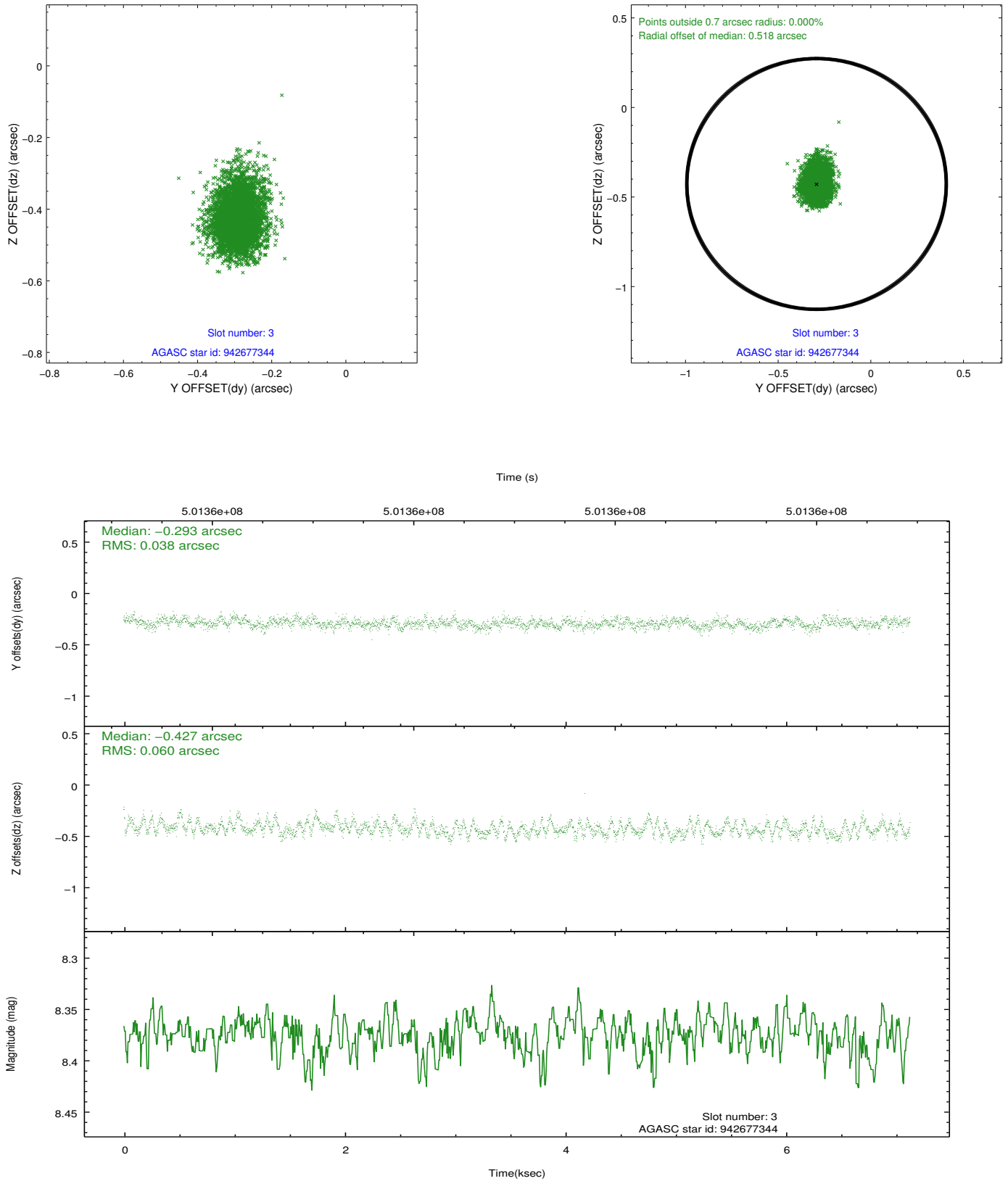


### Slot Statistics

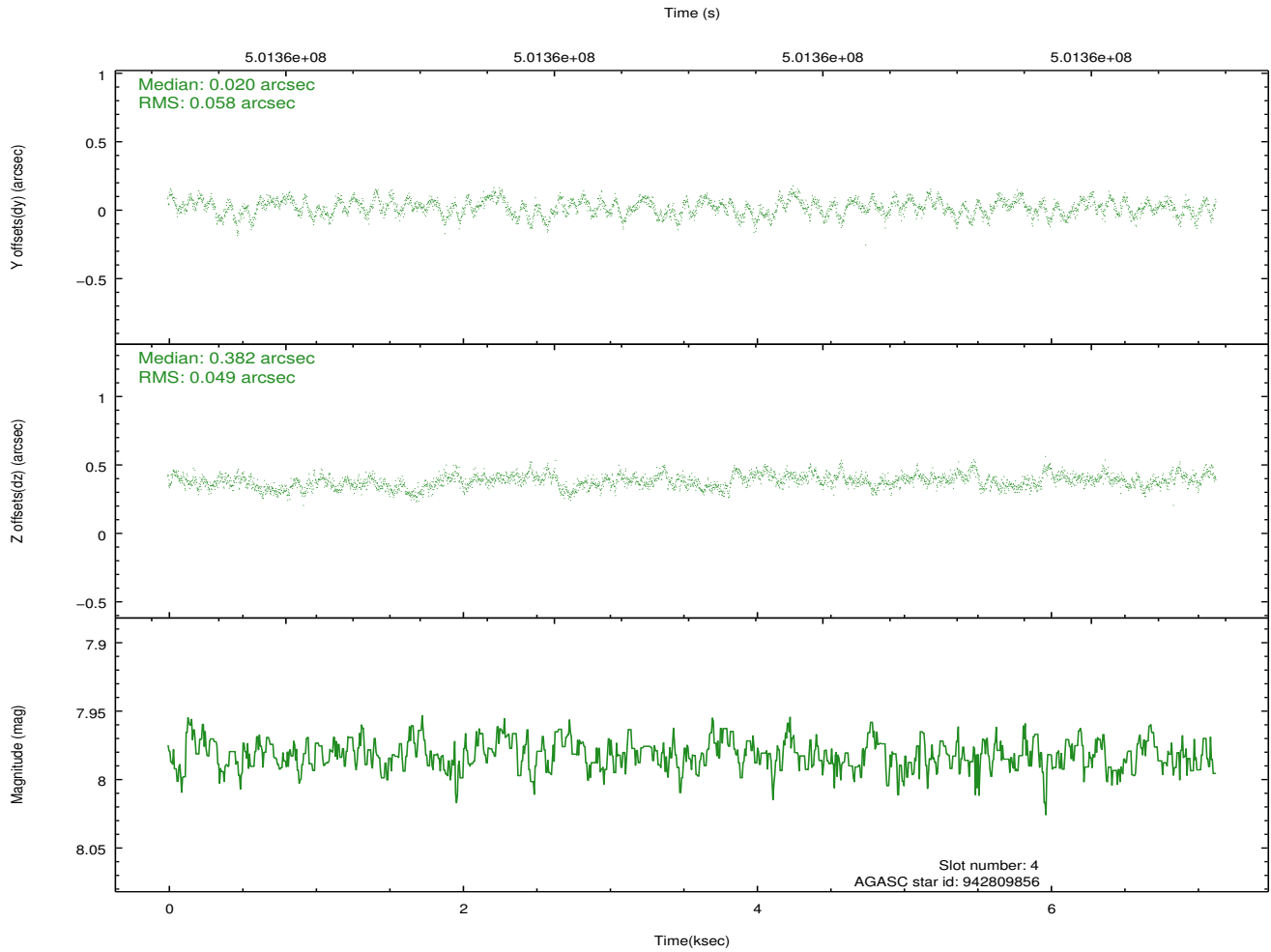
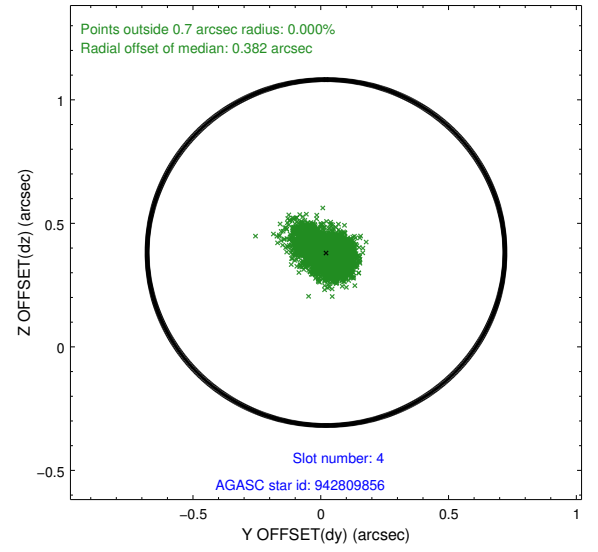
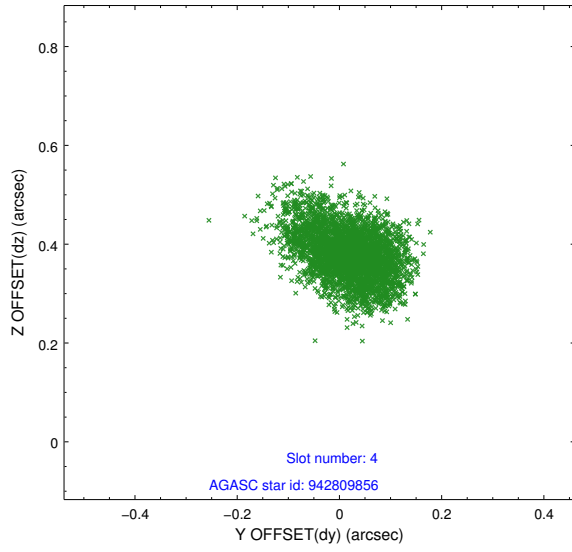
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.16	1739	0.064	0.017	0.026	0.048	0.000000	0.000000	919.46	-841.63
1	FID		ACIS-I-5	7.15	1739	-0.286	0.056	0.015	0.024	0.000000	0.000000	-1828.58	1055.46
2	FID		ACIS-I-6	7.16	1739	0.130	-0.001	0.014	0.028	0.000000	0.000000	384.15	1700.86
3	GUIDE	used	942677344	8.37	3478	-0.293	-0.427	0.075	0.124	157.329823	-35.022569	947.39	1770.04
4	GUIDE	used	942809856	7.98	3479	0.020	0.382	0.081	0.131	158.721337	-35.085088	1219.09	-2326.07
5	GUIDE	used	942811440	7.06	3479	-0.190	-0.397	0.067	0.114	157.875674	-35.128343	769.61	126.49
6	GUIDE	used	943339192	9.24	3476	0.411	0.480	0.105	0.167	158.241251	-35.818886	-1568.13	-1234.89
7	GUIDE	used	942683176	9.07	3475	0.054	-0.047	0.102	0.177	157.300600	-35.314780	-106.98	1721.08

## 2.4 Star Slots

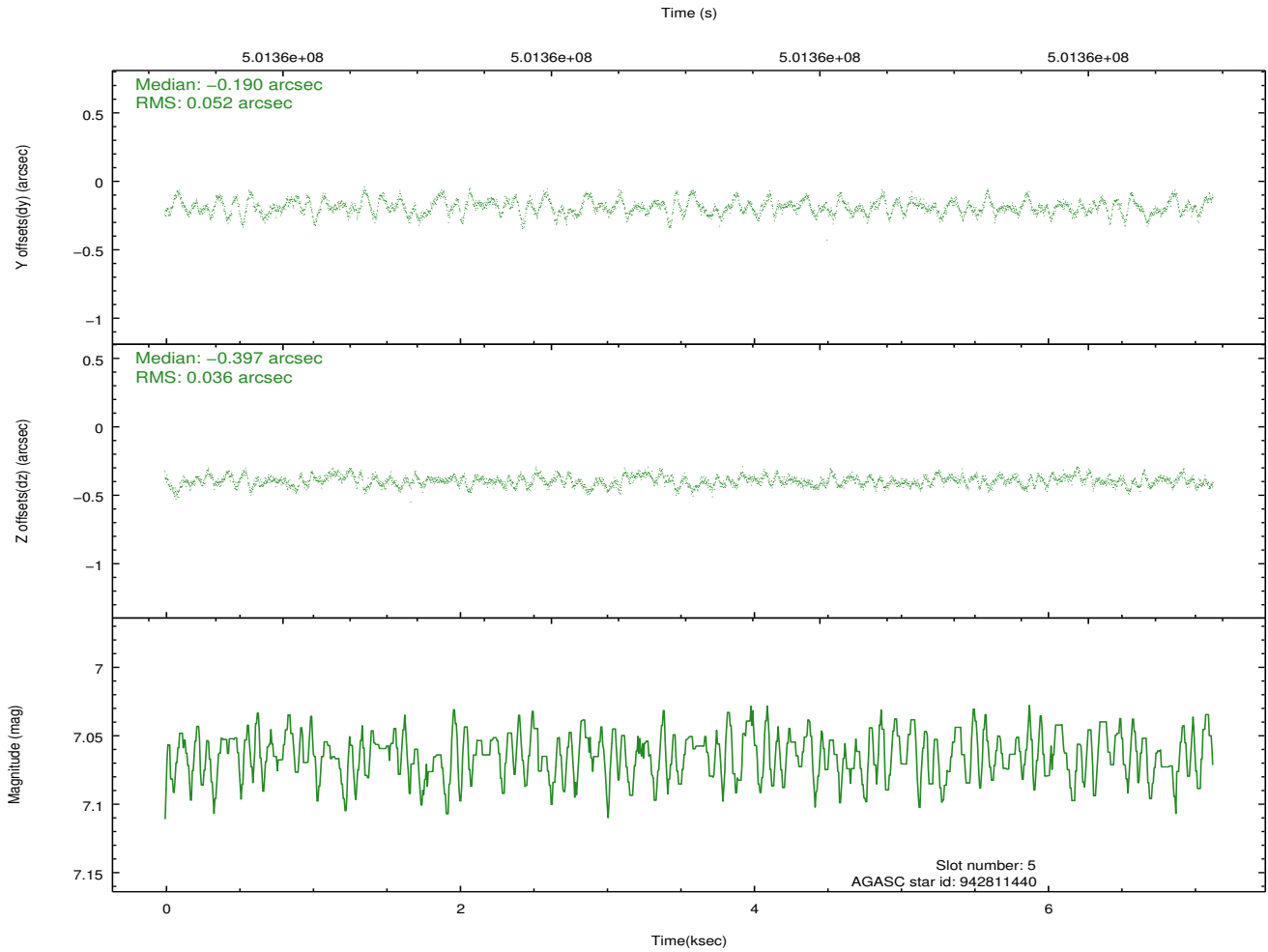
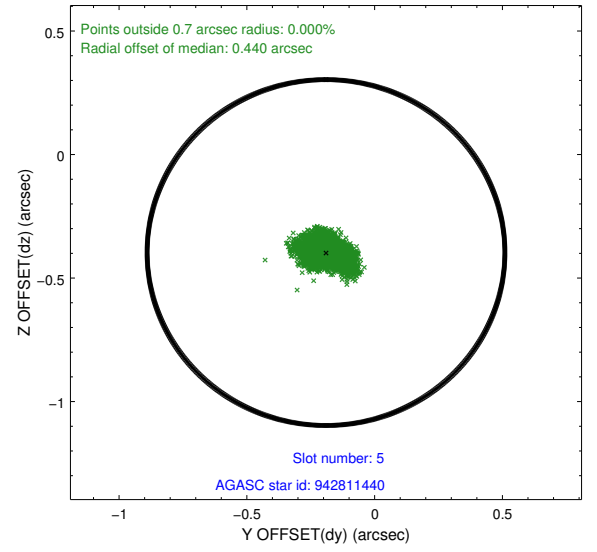
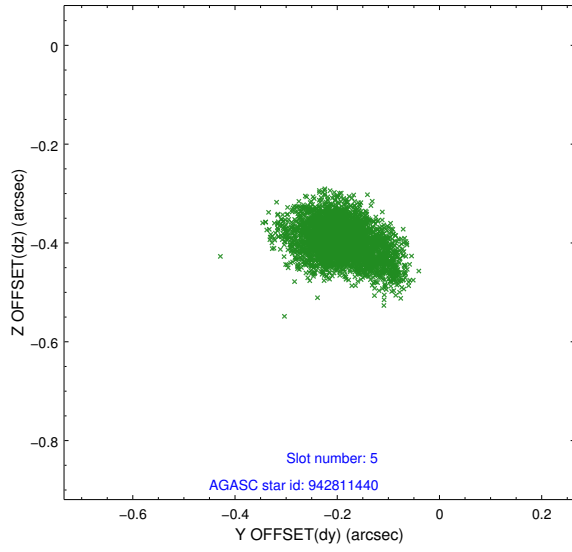
### 2.4.1 Slot 3



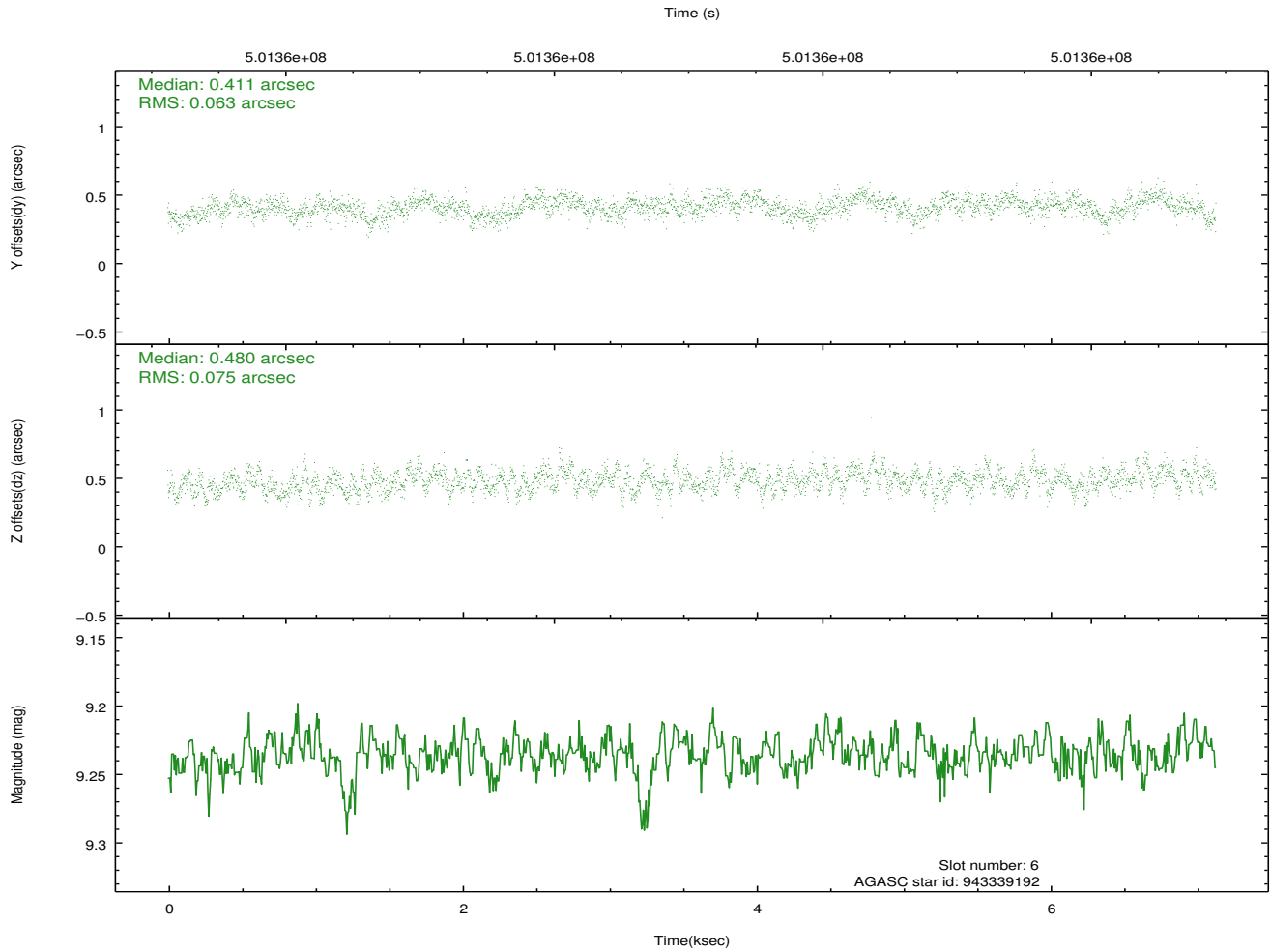
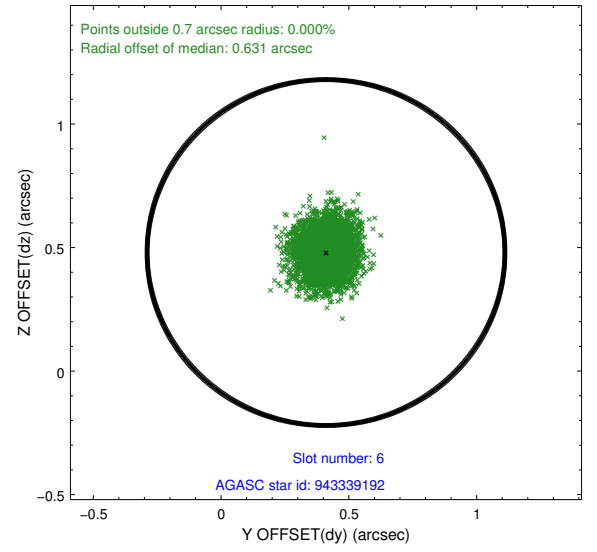
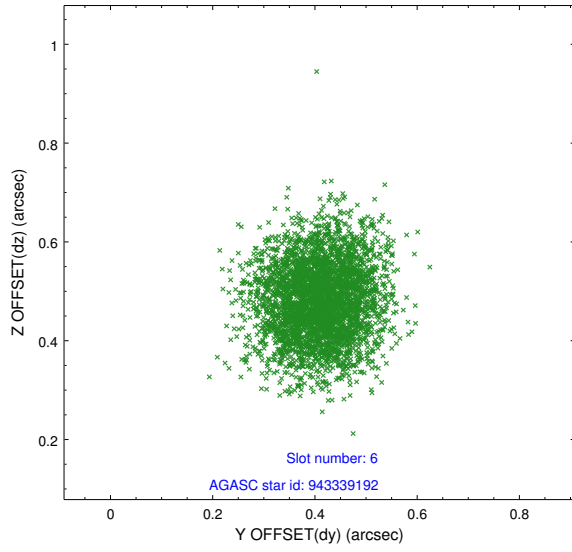
## 2.4.2 Slot 4



### 2.4.3 Slot 5

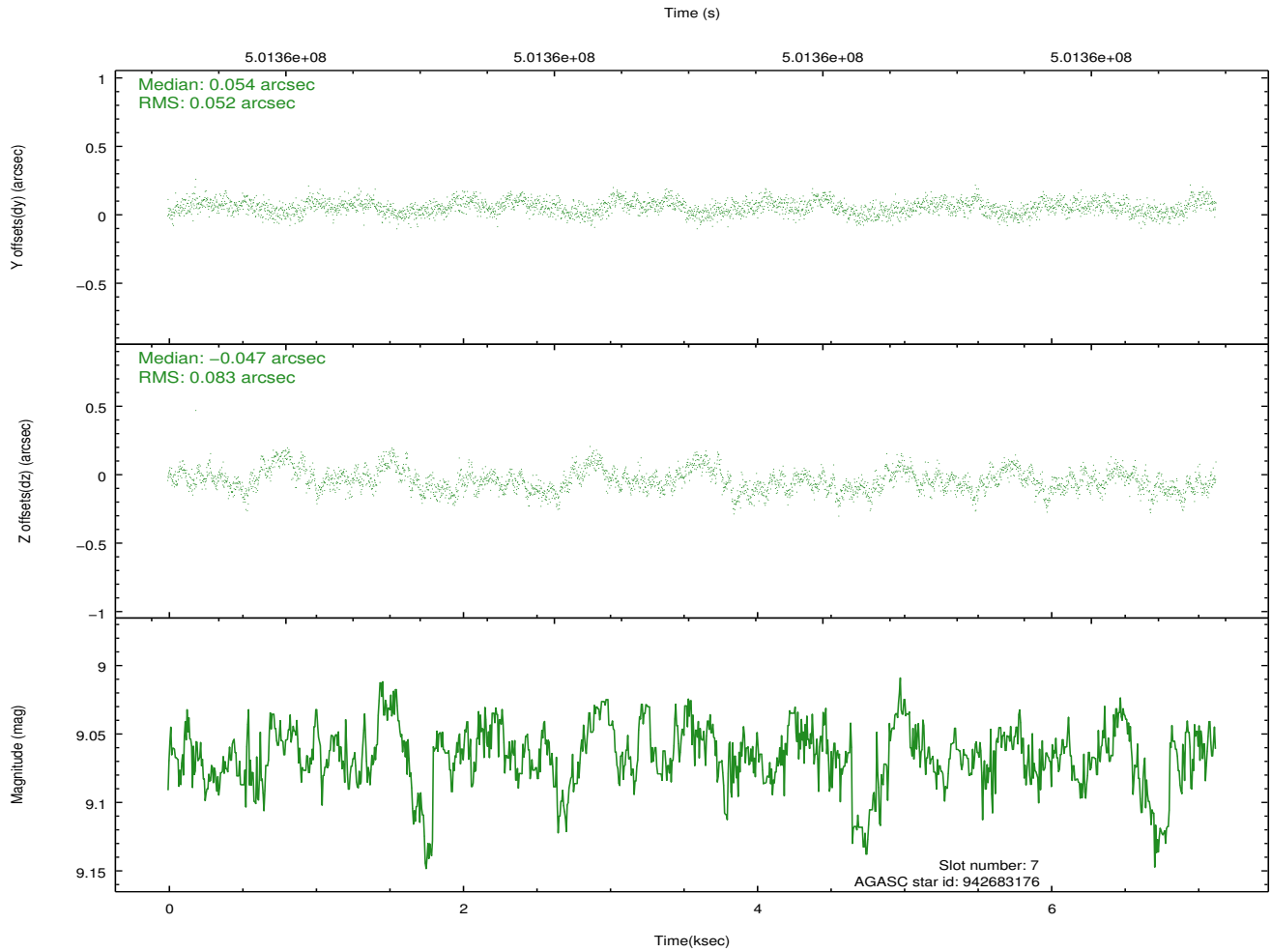
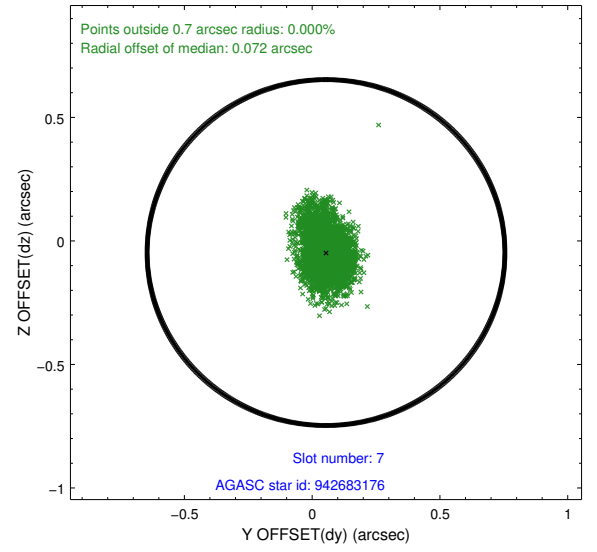
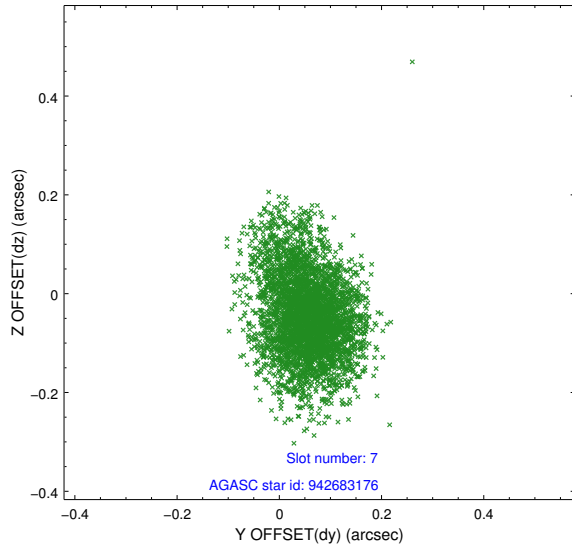


## 2.4.4 Slot 6



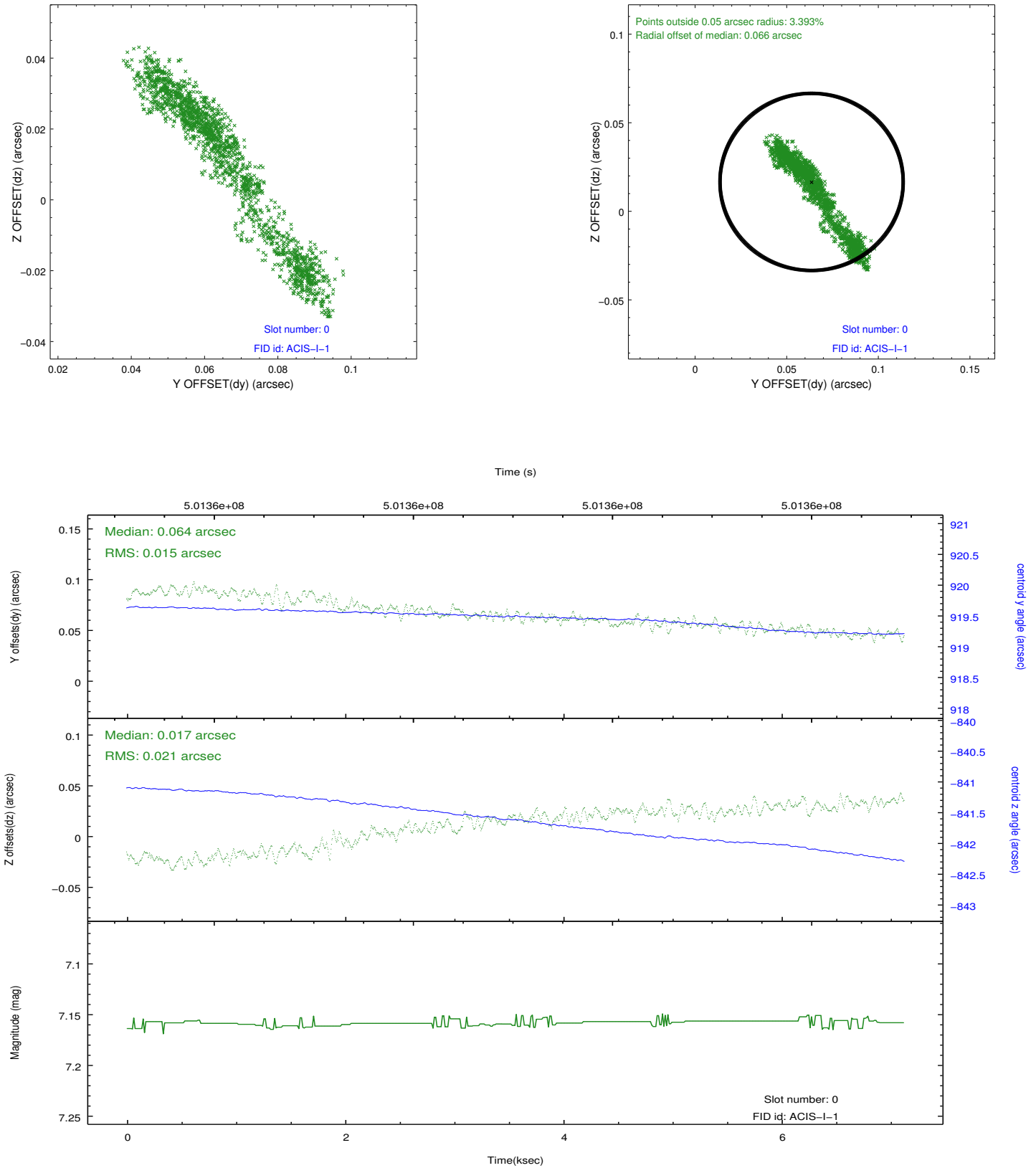


## 2.4.5 Slot 7

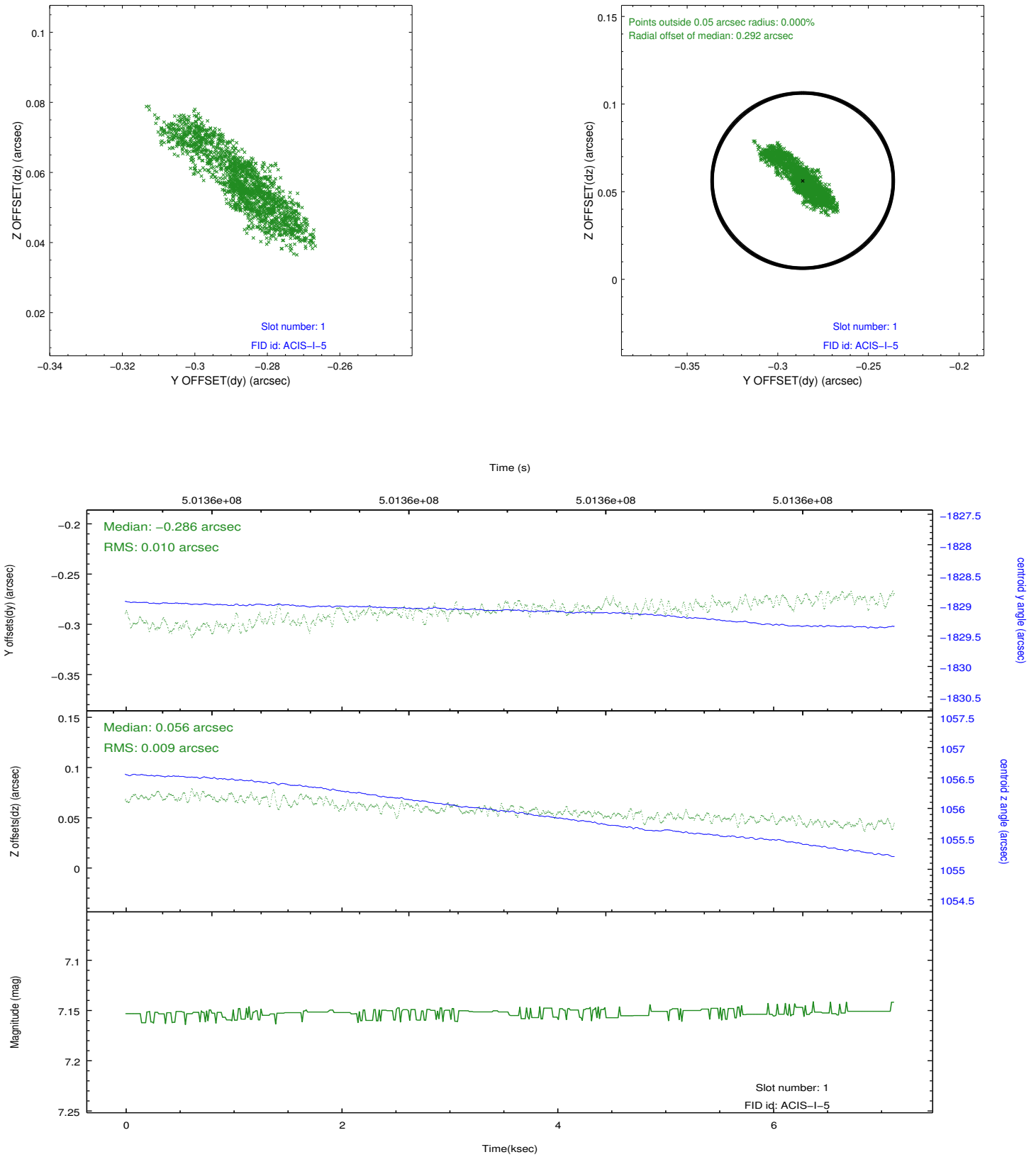


## 2.5 FID Slots

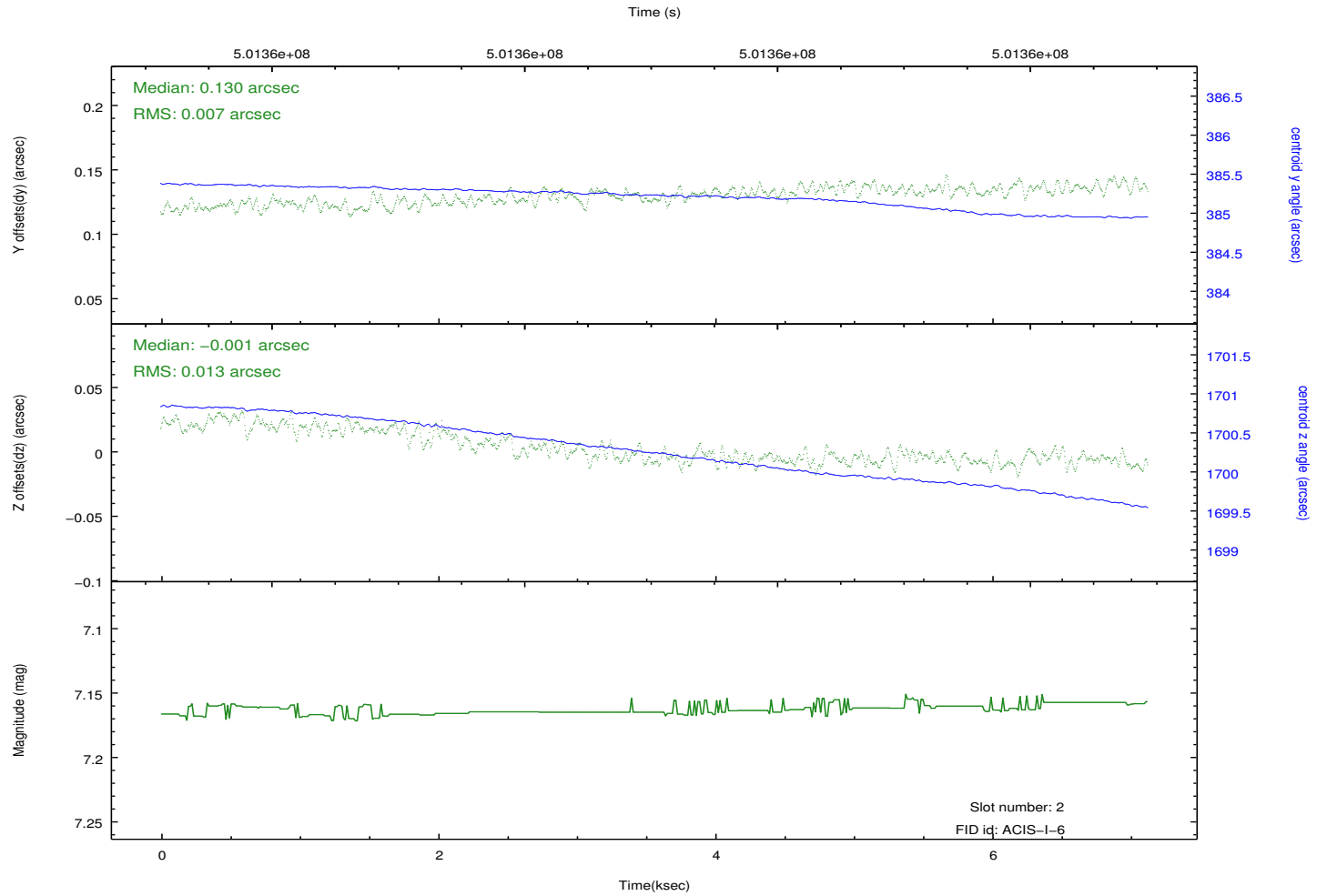
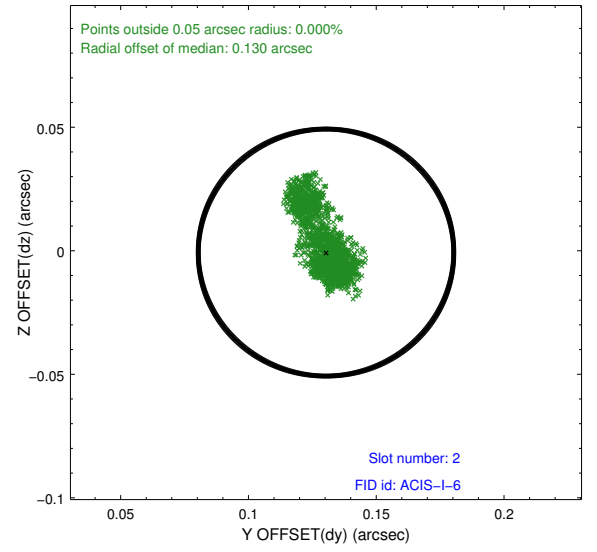
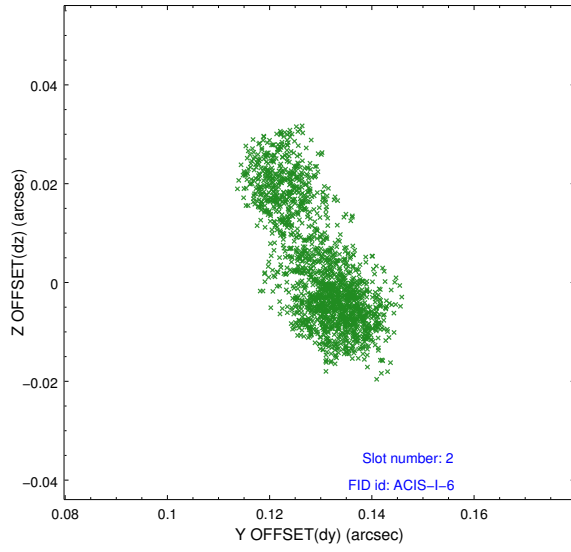
### 2.5.1 Slot 0



## 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)	2014.12.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	6.9695999740958

## A.2 Comments

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.