

# V&V Reference Report

## L2 ASCDS Version : 10.1.1

Observation 15789 - L2 Version 2  
Chandra X-Ray Center

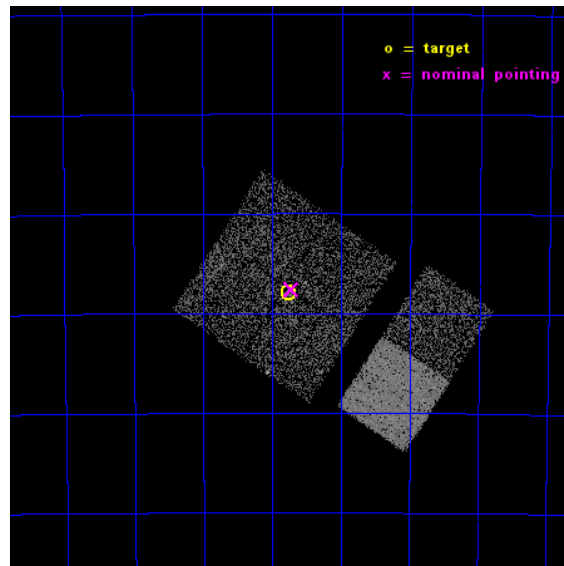
L2 Processing Date : Dec 8 2014

## 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

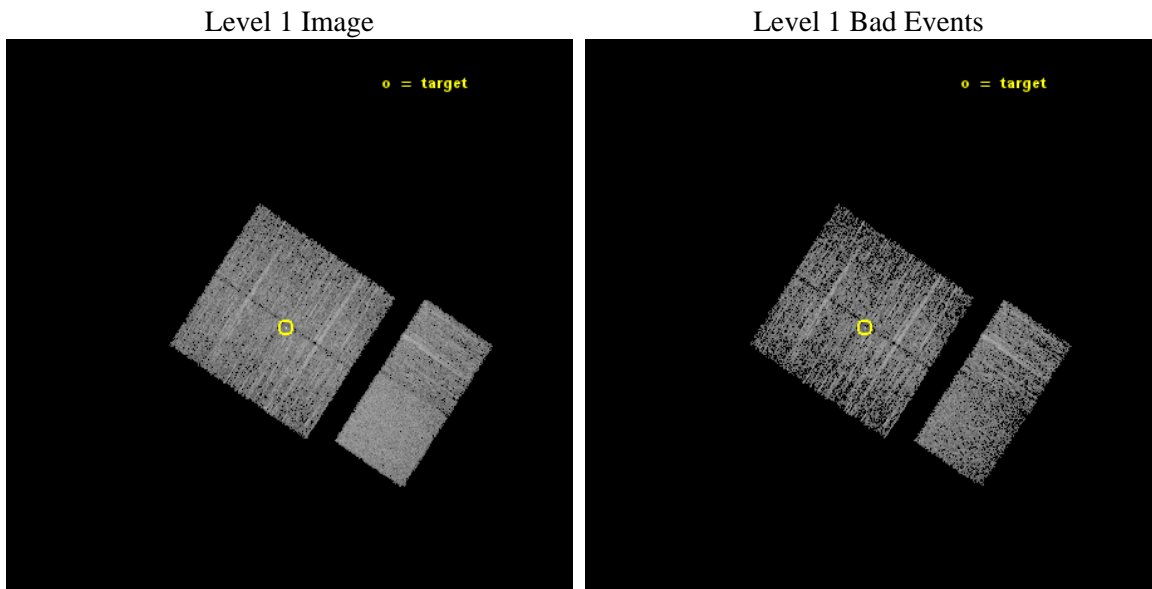
seq_num	401586	Sequence number
obs_id	15789	Observation id
title	The Nature of INTEGRAL Sources in the Galactic Plane	Proposal titl
observer	Dr. John Tomsick	Principal investigator
object	IGR J14091-6108	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	212.19308	Observer's specified target RA [deg]
dec_targ	-61.13208	Observer's specified target Dec [deg]
ra_nom	212.18006523701	Nominal RA [deg]
dec_nom	-61.126940172768	Nominal Dec [deg]
roll_nom	123.56093580563	Nominal Roll [deg]
revision	2	Processing version of data
ontime	4972.5566375256	Sum of GTIs [s]
livetime	4909.5911312671	Livetime [s]
ontime0	4972.4335175157	Sum of GTIs [s]
ontime1	4972.474557519	Sum of GTIs [s]
ontime2	4972.5155975223	Sum of GTIs [s]
ontime3	4972.5566375256	Sum of GTIs [s]
ontime6	4972.6387175322	Sum of GTIs [s]
ontime7	4972.5976775289	Sum of GTIs [s]
l2events	26989	Number of level 2 events



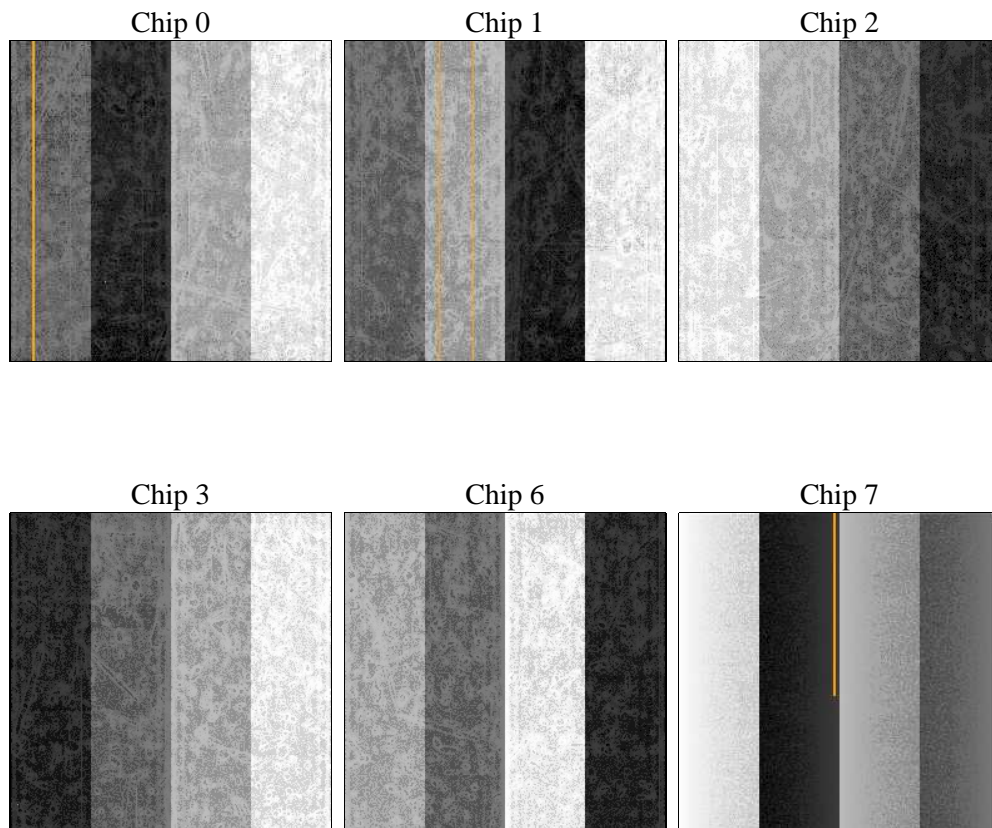
## 2 OBI

### 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	10.3.1	Processing system revision	ontime	4972.5566375256	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	4972.4335175157	Sum of GTIs [s]
date	2014-12-08T07:41:18	Date and time of file creation	ontime1	4972.474557519	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	4972.5155975223	Sum of GTIs [s]
			ontime3	4972.5566375256	Sum of GTIs [s]
			ontime6	4972.6387175322	Sum of GTIs [s]
			ontime7	4972.5976775289	Sum of GTIs [s]
			l1events	145288	Number of level 1 events

### 2.1.4 Events

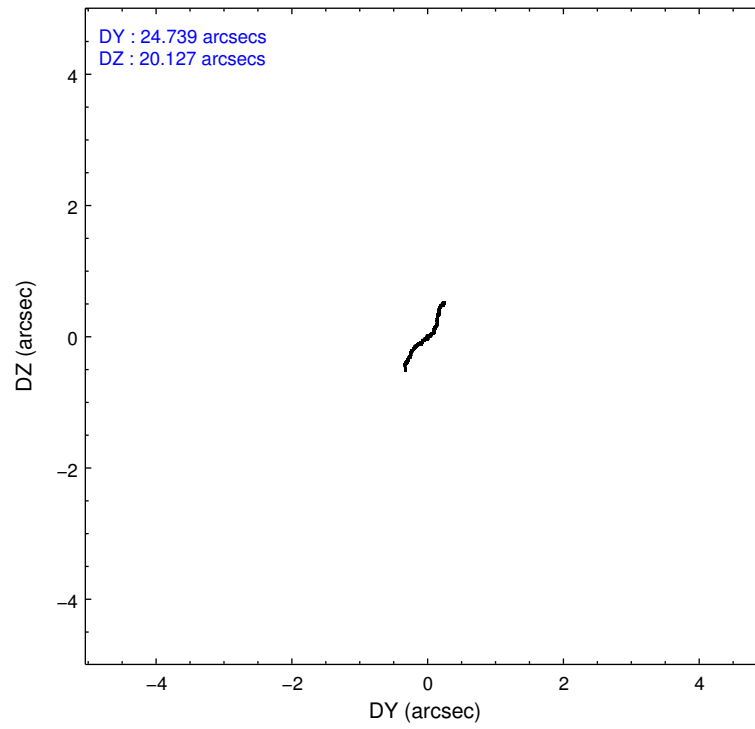
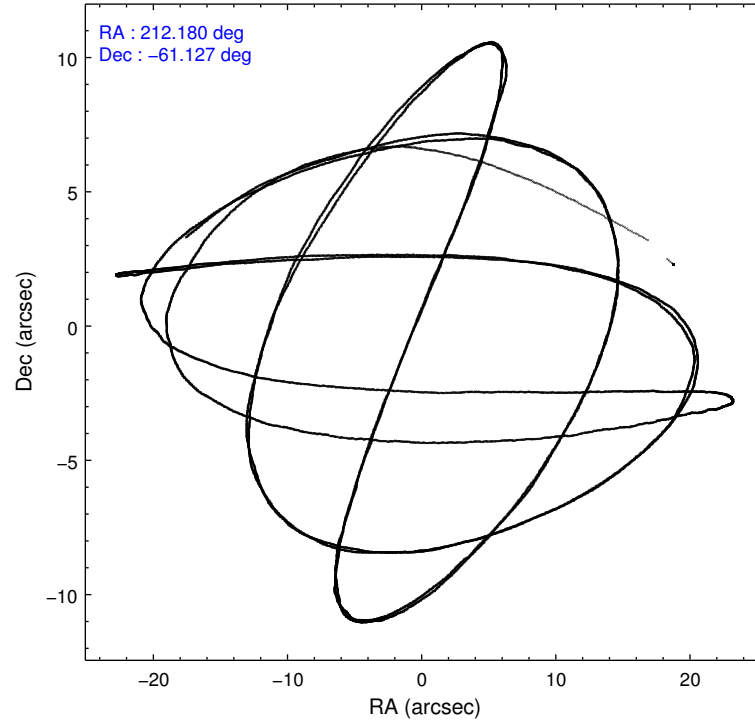
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	19821	21360	23985	23687	24582	31853	grade 0 events	1124	1202	1171	1446	1052	1249
rejected events	16751	18122	21085	20259	21581	17849		5%	5%	4%	6%	4%	3%
rejected %	84%	84%	87%	85%	87%	56%	grade 1 events	12	11	11	34	10	41
								0%	0%	0%	0%	0%	0%
							grade 2 events	722	741	652	701	669	2882
								3%	3%	2%	2%	2%	9%
							grade 3 events	293	320	255	319	303	1208
								1%	1%	1%	1%	1%	3%
							grade 4 events	295	288	287	315	294	1164
								1%	1%	1%	1%	1%	3%
							grade 5 events	1080	1222	1067	1306	1280	3334
								5%	5%	4%	5%	5%	10%
							grade 6 events	643	693	539	652	687	7512
								3%	3%	2%	2%	2%	23%
							grade 7 events	15652	16883	20003	18914	20287	14463
								78%	79%	83%	79%	82%	45%

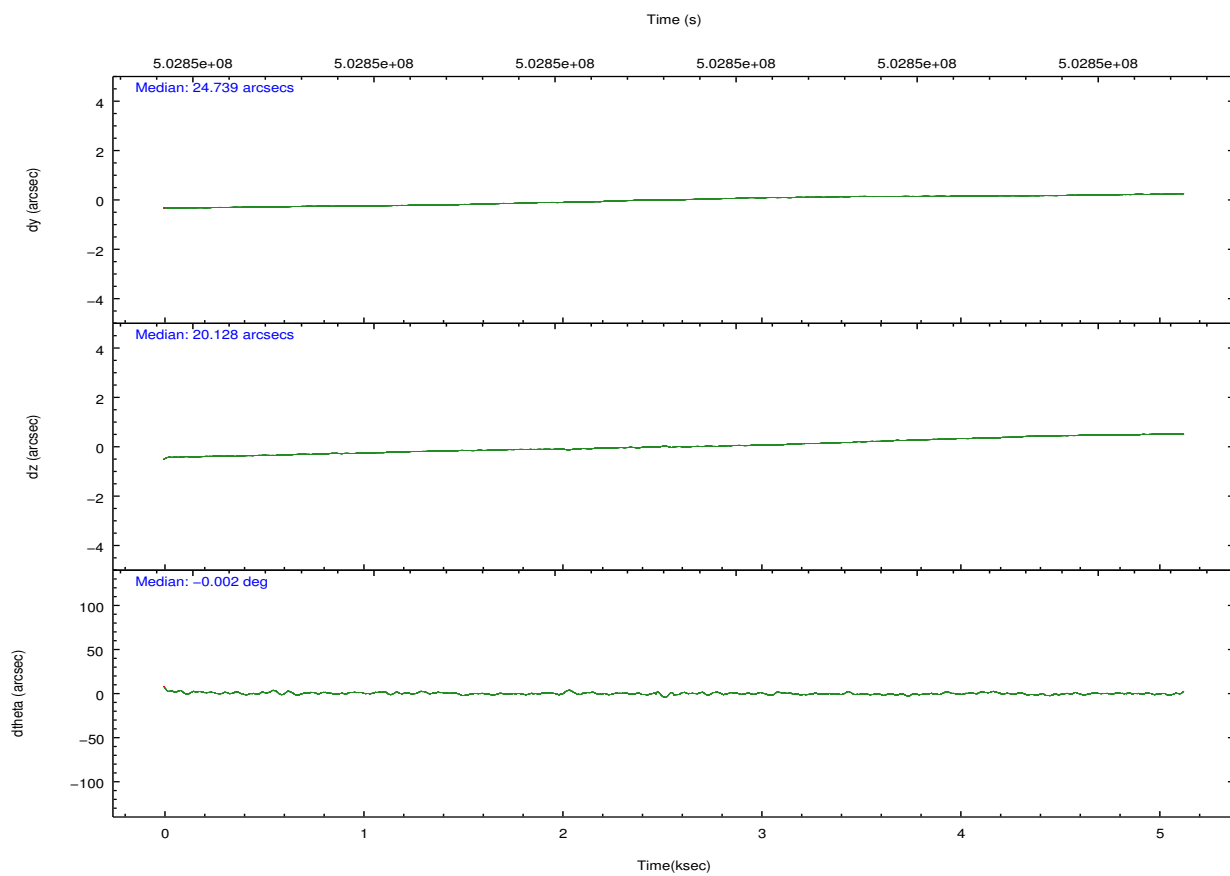
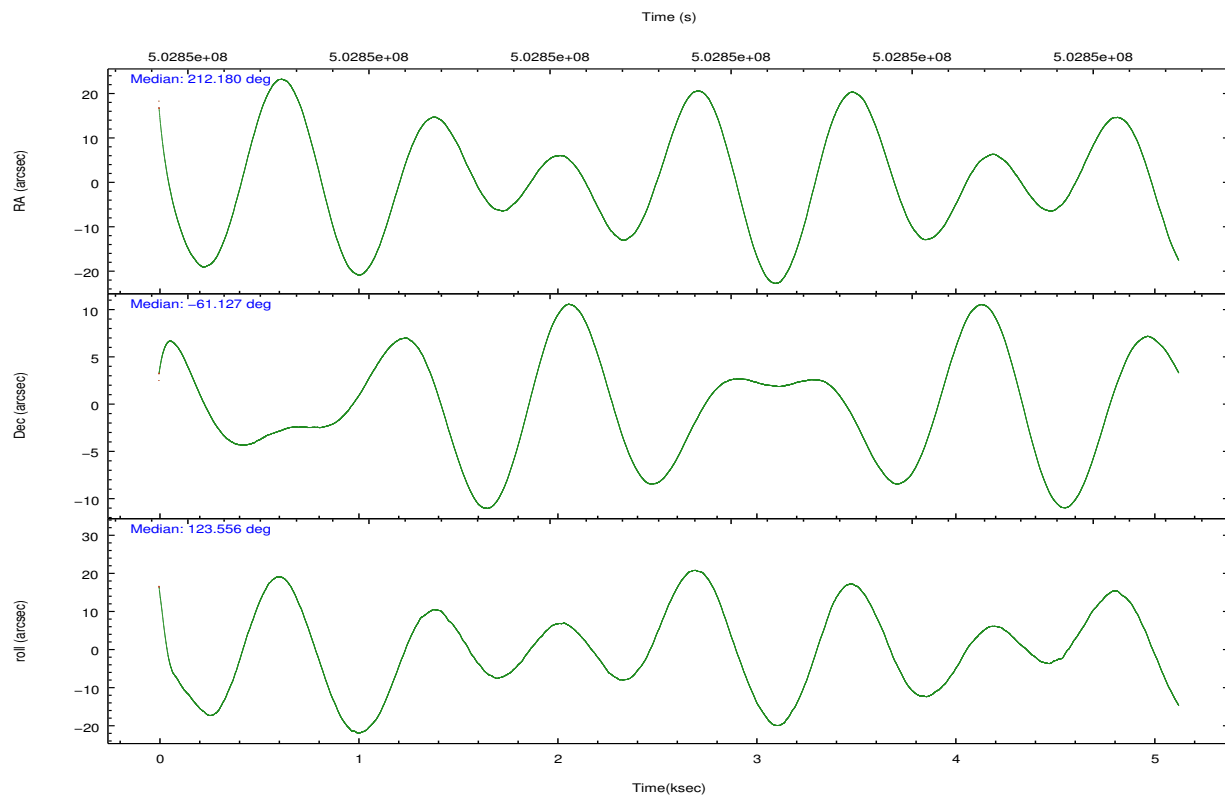


## 2.2 Compared Parameters

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	VFAINT	VFAINT	CCD I0 on	Y	Y
Observation mode	POINTING	POINTING	CCD I1 on	Y	Y
[deg] Pointing RA	212.231213	212.1800652370104	CCD I2 on	Y	Y
[deg] Pointing Dec	-61.139112	-61.12694017276768	CCD I3 on	Y	Y
[deg] Pointing Roll	123.397044	123.560935805634	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)	502848217.184000	502846989.51761	CCD S5 on	N	N
Observation start date	2013-12-08T00:02:30	2013-12-07T23:43:09	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	502853217.184000	502853985.65549	On-chip summing requested	N	N
Observation end date	2013-12-08T01:25:50	2013-12-08T01:39:45	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



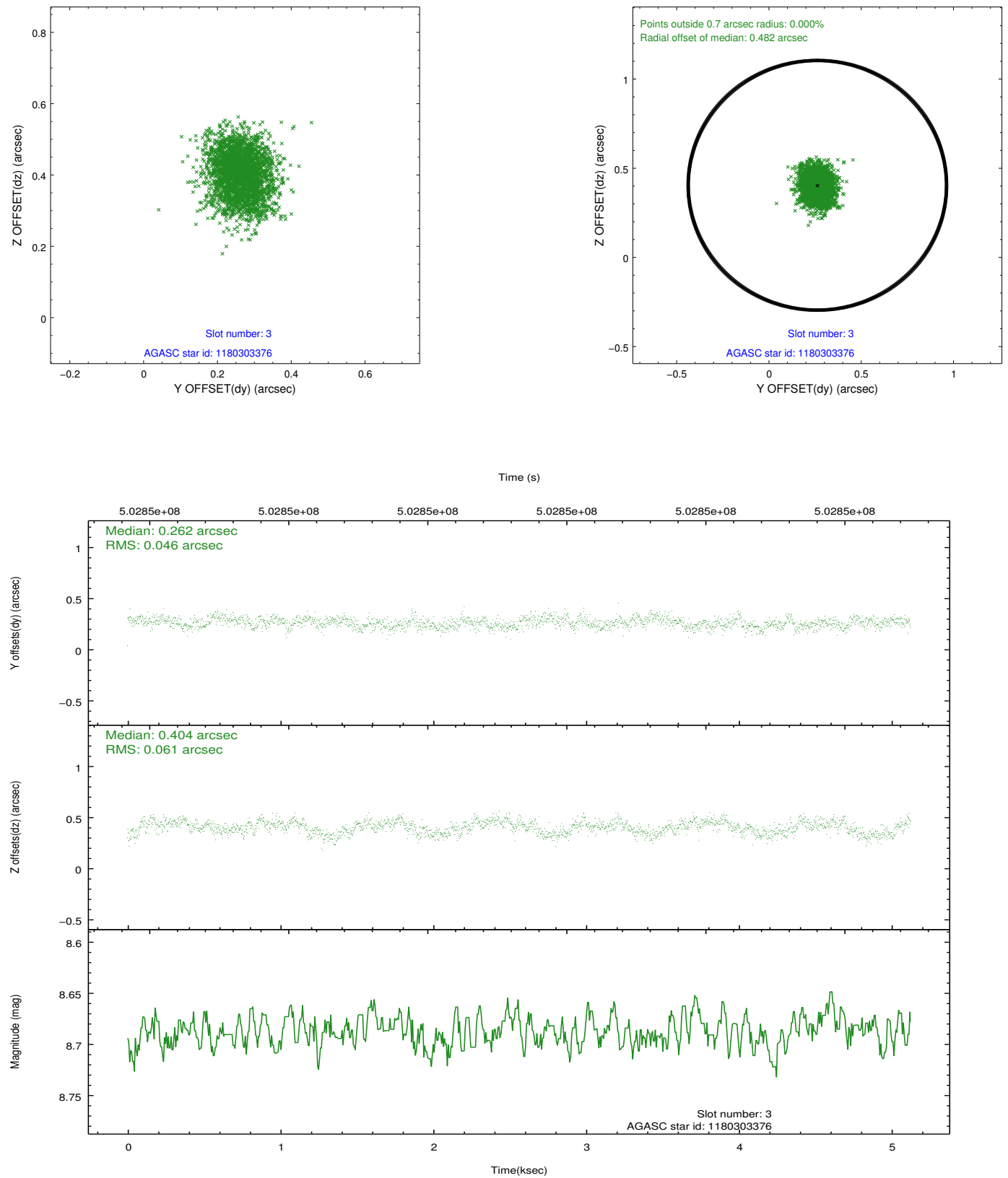


### Slot Statistics

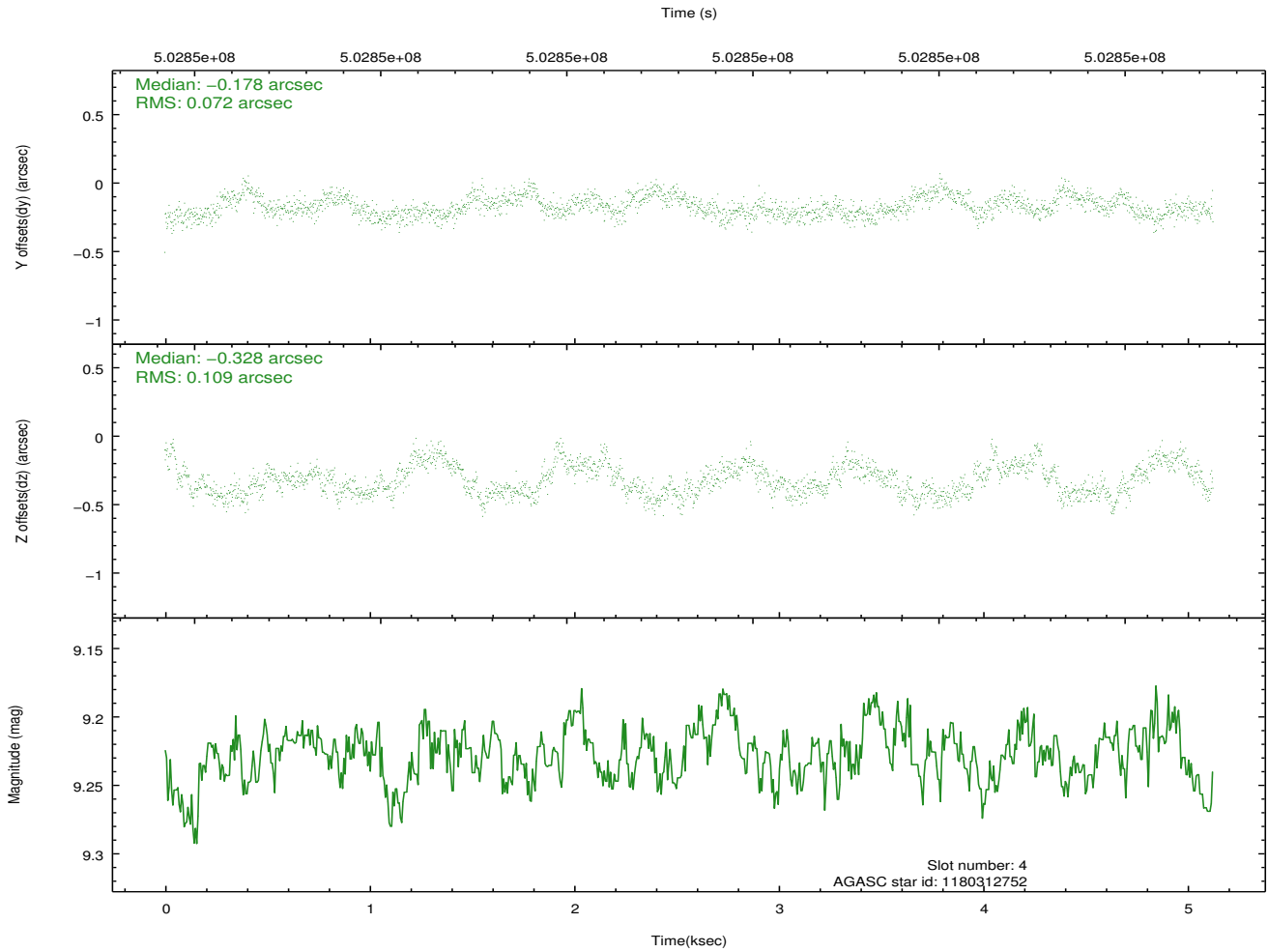
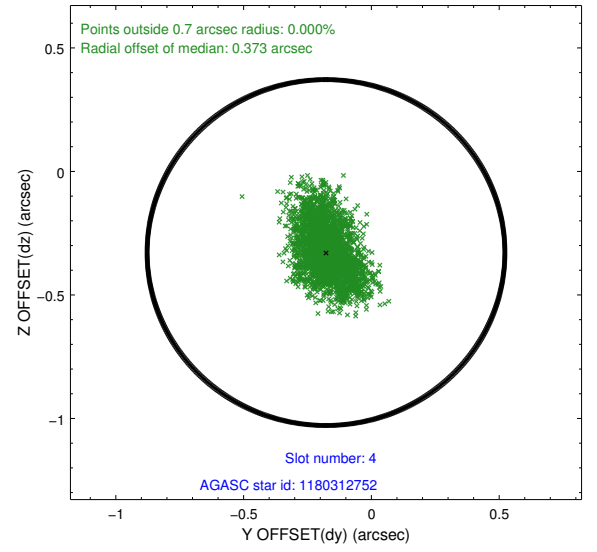
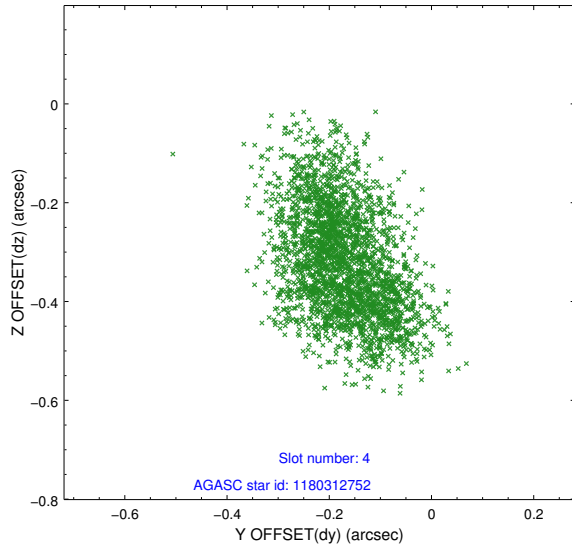
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-1	7.16	1251	-0.030	0.046	0.018	0.030	0.000000	0.000000	914.45	-843.85
1	FID		ACIS-I-2	7.06	1251	-0.268	-0.142	0.010	0.016	0.000000	0.000000	-779.24	-851.07
2	FID		ACIS-I-4	7.13	1251	0.200	0.164	0.010	0.016	0.000000	0.000000	2134.02	1055.47
3	GUIDE	used	1180303376	8.69	2500	0.262	0.404	0.082	0.130	213.435748	-61.467916	-2143.62	-1066.72
4	GUIDE	used	1180312752	9.23	2499	-0.178	-0.328	0.138	0.227	211.133321	-61.111012	1121.20	1546.78
5	GUIDE	used	1180320592	8.84	2500	-0.039	-0.274	0.073	0.116	211.984318	-61.689247	-1421.58	1442.93
6	GUIDE	used	1180327624	8.37	2501	-0.010	0.053	0.081	0.132	212.433759	-60.581806	1477.05	-1401.83
7	GUIDE	used	1180327800	8.26	2498	-0.042	0.139	0.091	0.149	212.001530	-60.775476	1315.39	-383.27

## 2.4 Star Slots

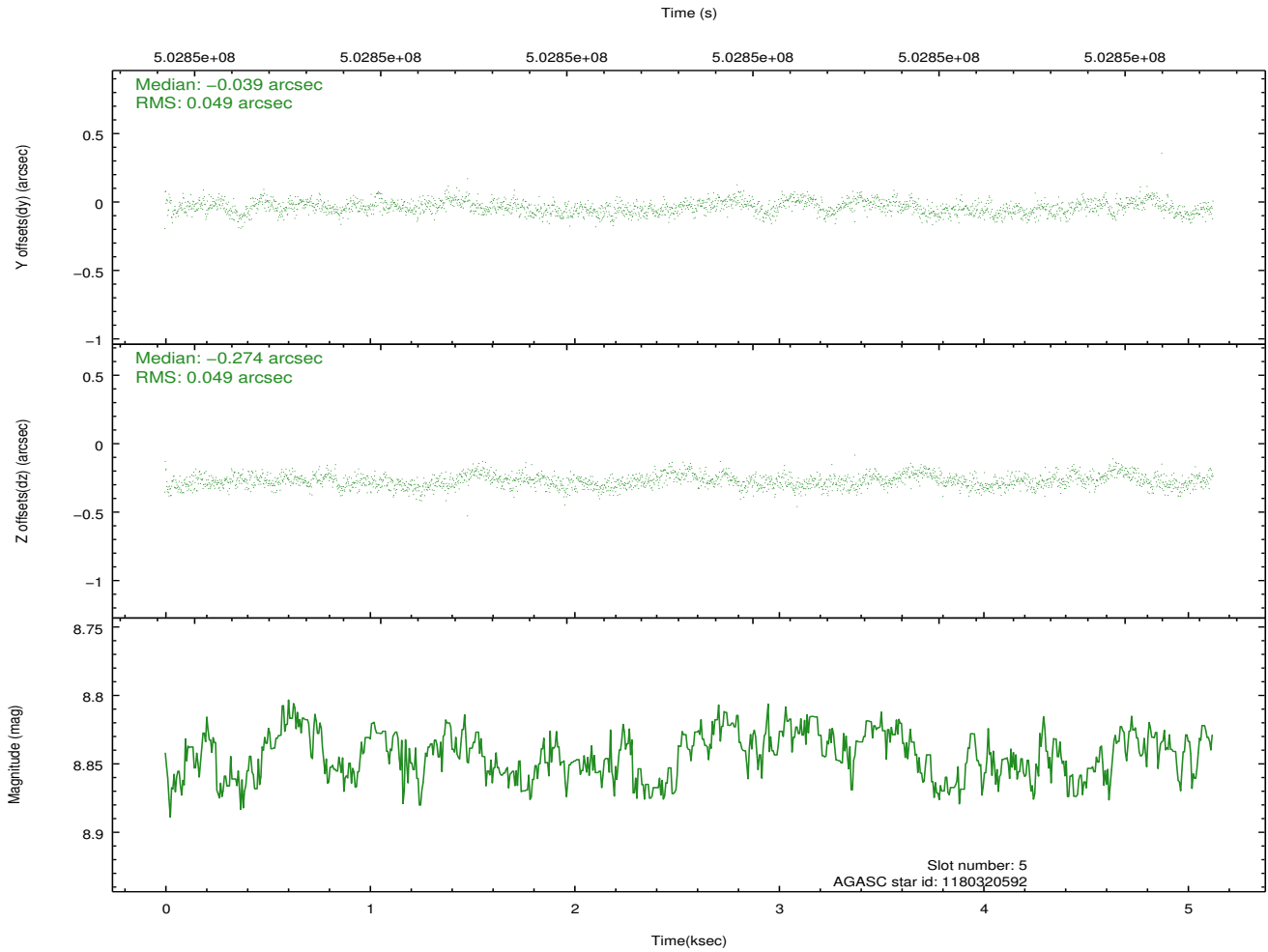
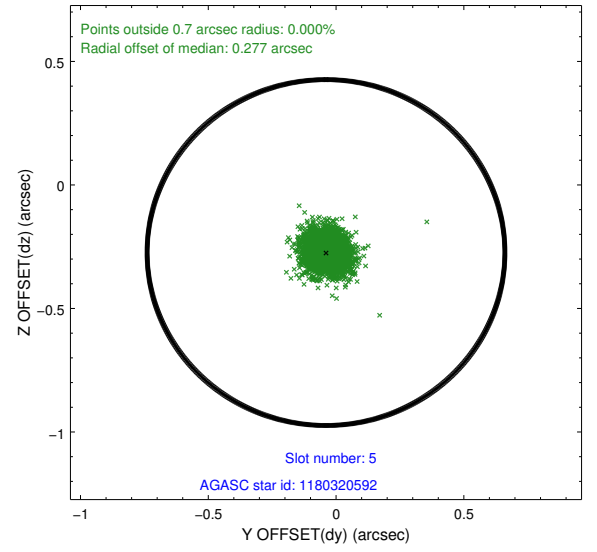
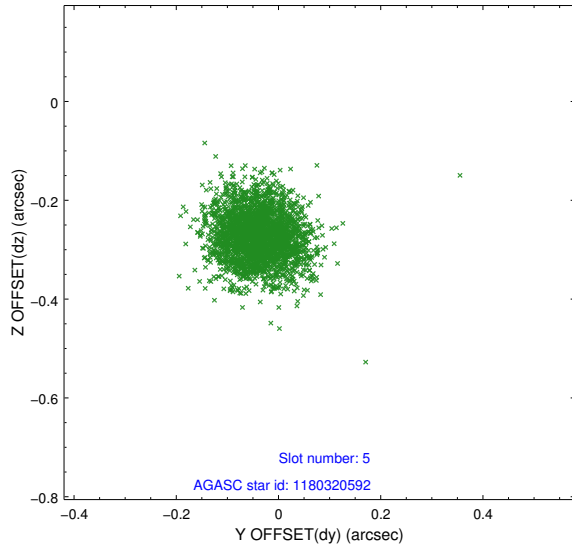
### 2.4.1 Slot 3



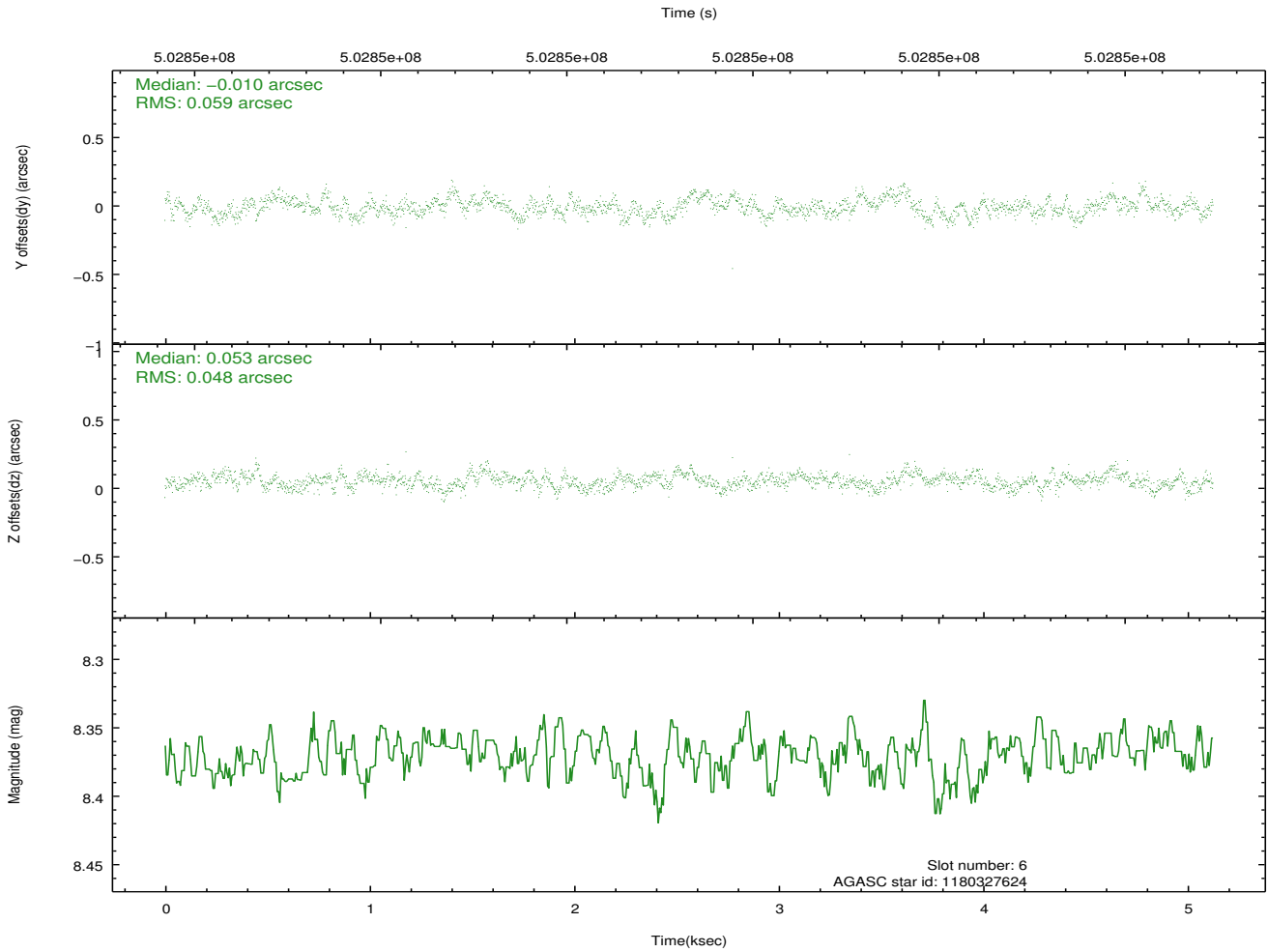
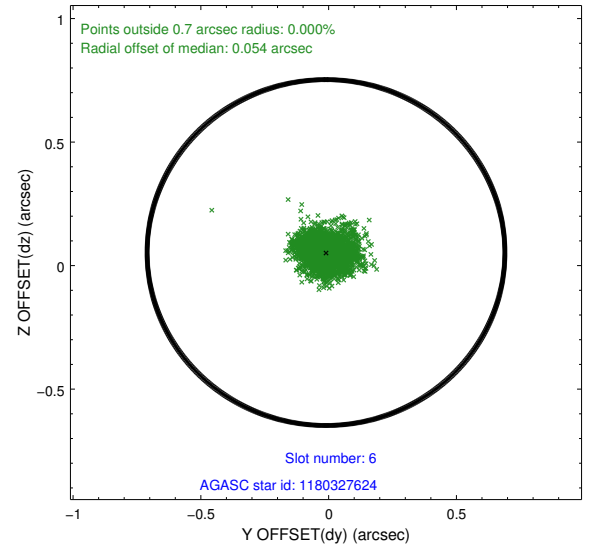
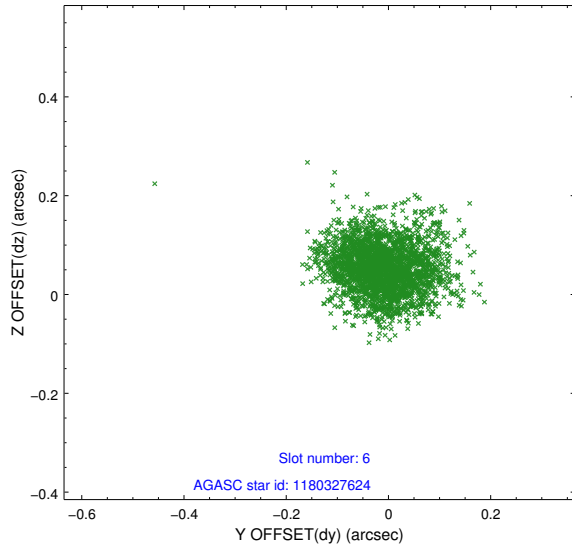
## 2.4.2 Slot 4



### 2.4.3 Slot 5

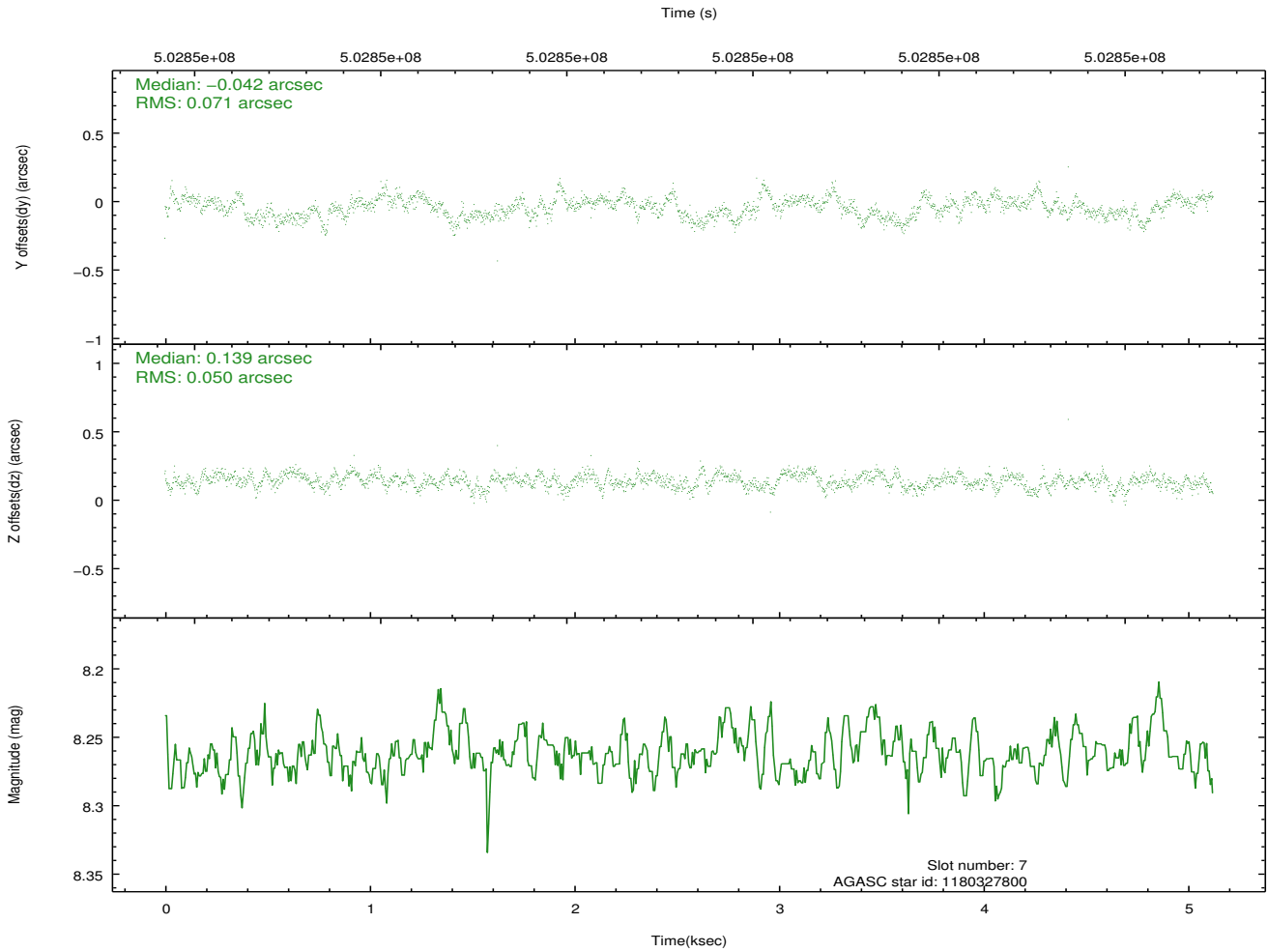
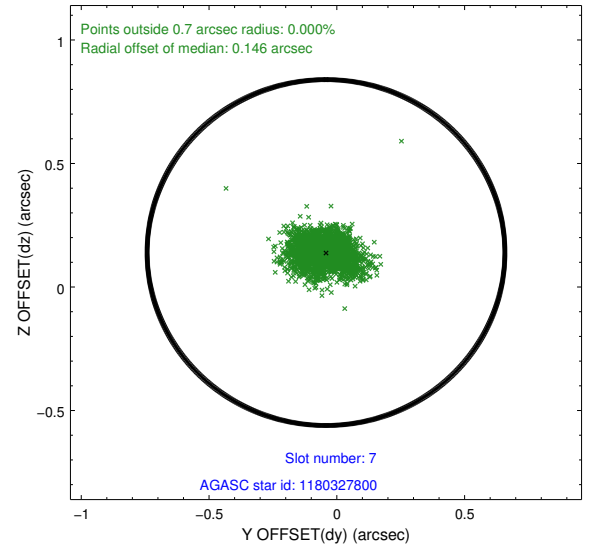
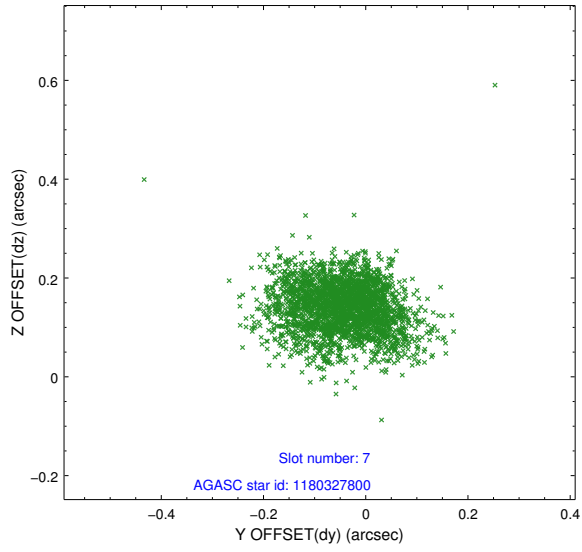


## 2.4.4 Slot 6



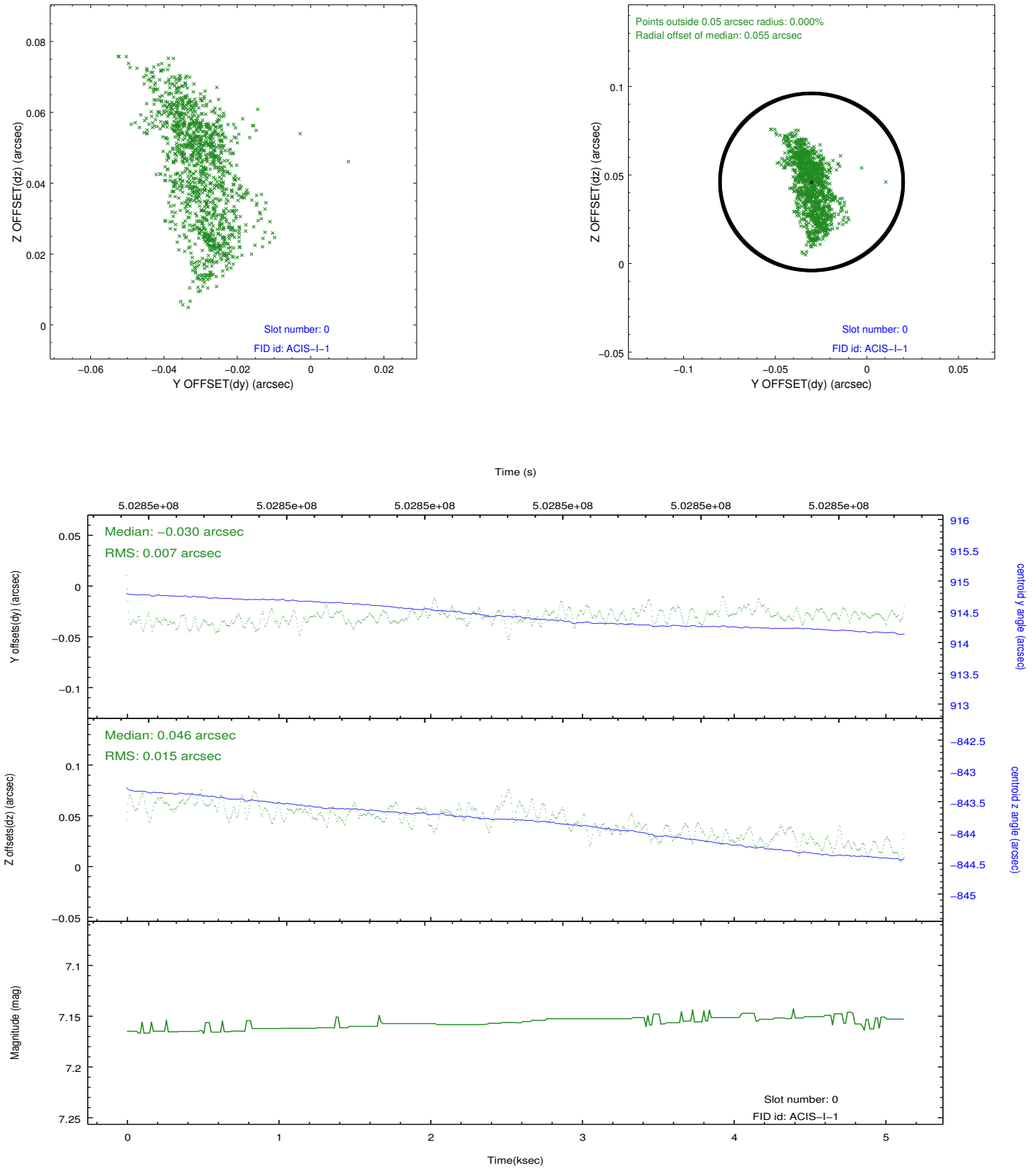


## 2.4.5 Slot 7

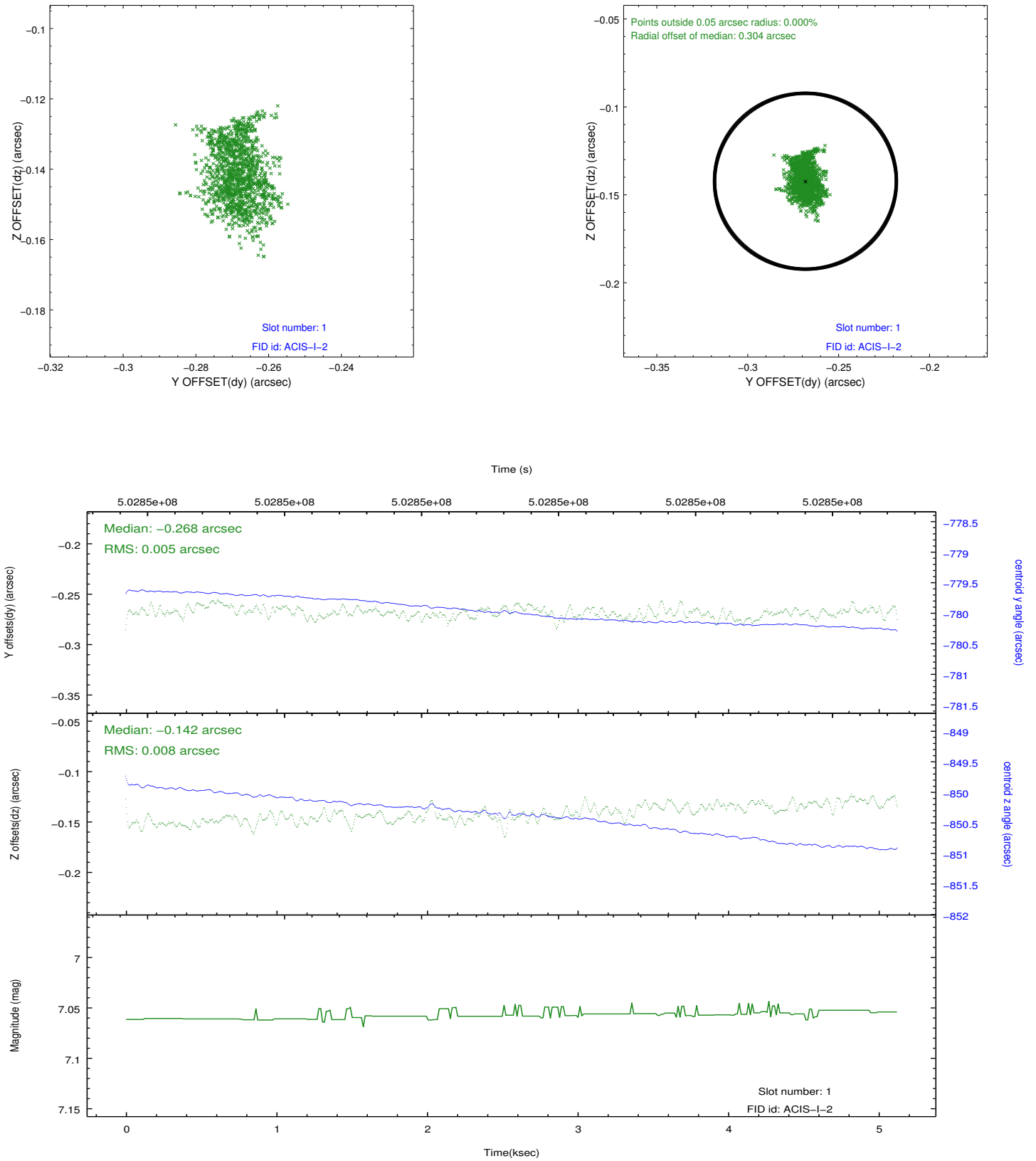


## 2.5 FID Slots

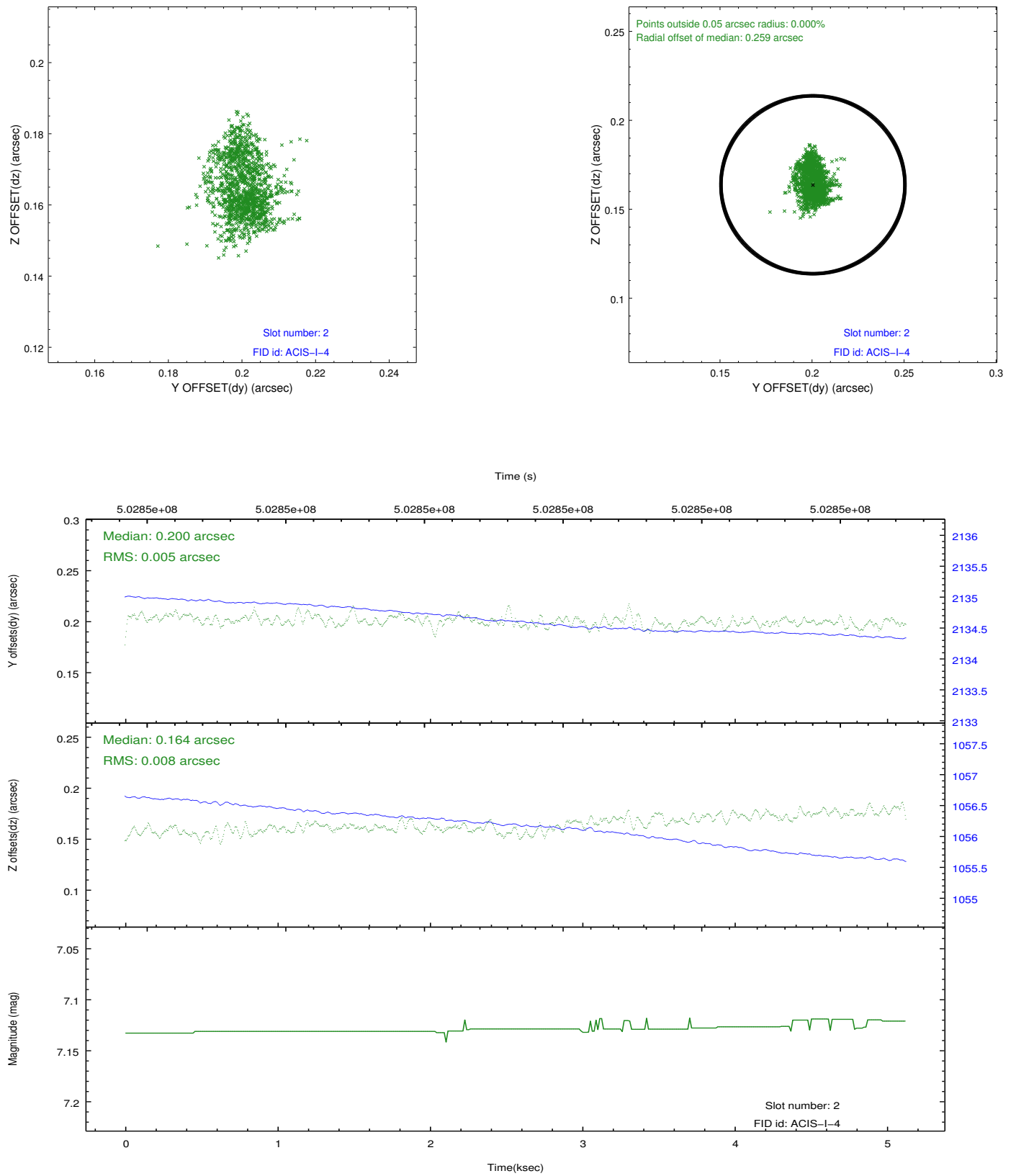
### 2.5.1 Slot 0



## 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)	2014.12.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.9725566375256

## 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.