

# V&V Reference Report

## L2 ASCDS Version : 10.1.1

Observation 15795 - L2 Version 2  
Chandra X-Ray Center

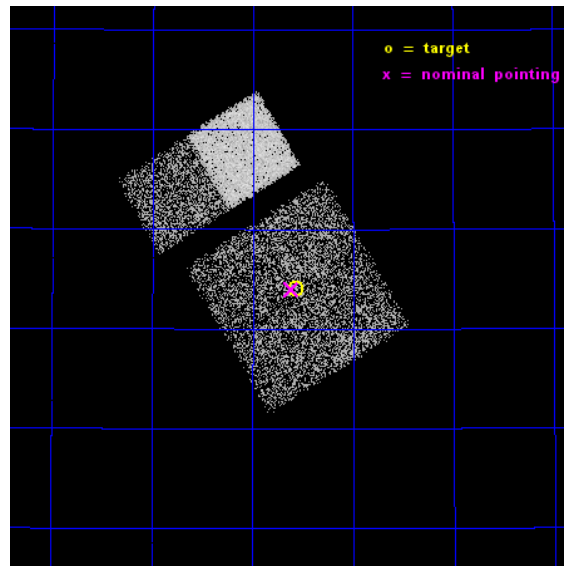
L2 Processing Date : Dec 8 2014

## 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

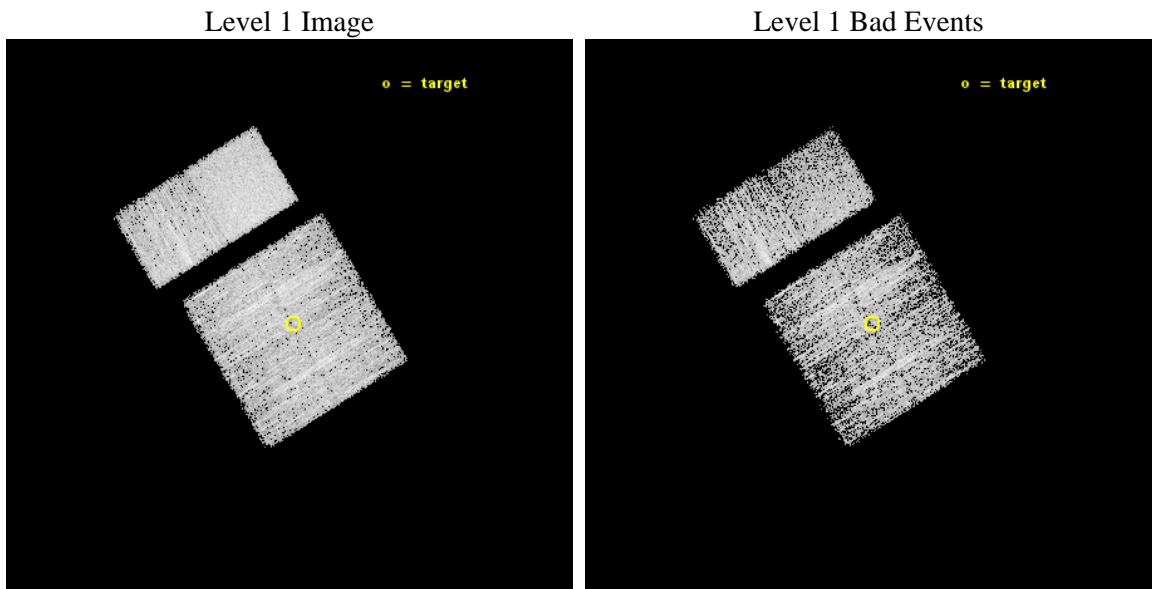
seq_num	401592	Sequence number
obs_id	15795	Observation id
title	The Nature of INTEGRAL Sources in the Galactic Plane	Proposal titl
observer	Dr. John Tomsick	Principal investigator
object	IGR J20107+4534	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	302.642917	Observer's specified target RA [deg]
dec_targ	45.568	Observer's specified target Dec [deg]
ra_nom	302.65344074359	Nominal RA [deg]
dec_nom	45.56622385856	Nominal Dec [deg]
roll_nom	328.75174218372	Nominal Roll [deg]
revision	2	Processing version of data
ontime	4971.9381733537	Sum of GTIs [s]
livetime	4908.9804984609	Livetime [s]
ontime0	4971.8150533438	Sum of GTIs [s]
ontime1	4971.8560933471	Sum of GTIs [s]
ontime2	4971.8971333504	Sum of GTIs [s]
ontime3	4971.9381733537	Sum of GTIs [s]
ontime6	4972.0202533603	Sum of GTIs [s]
ontime7	4971.979213357	Sum of GTIs [s]
l2events	25626	Number of level 2 events



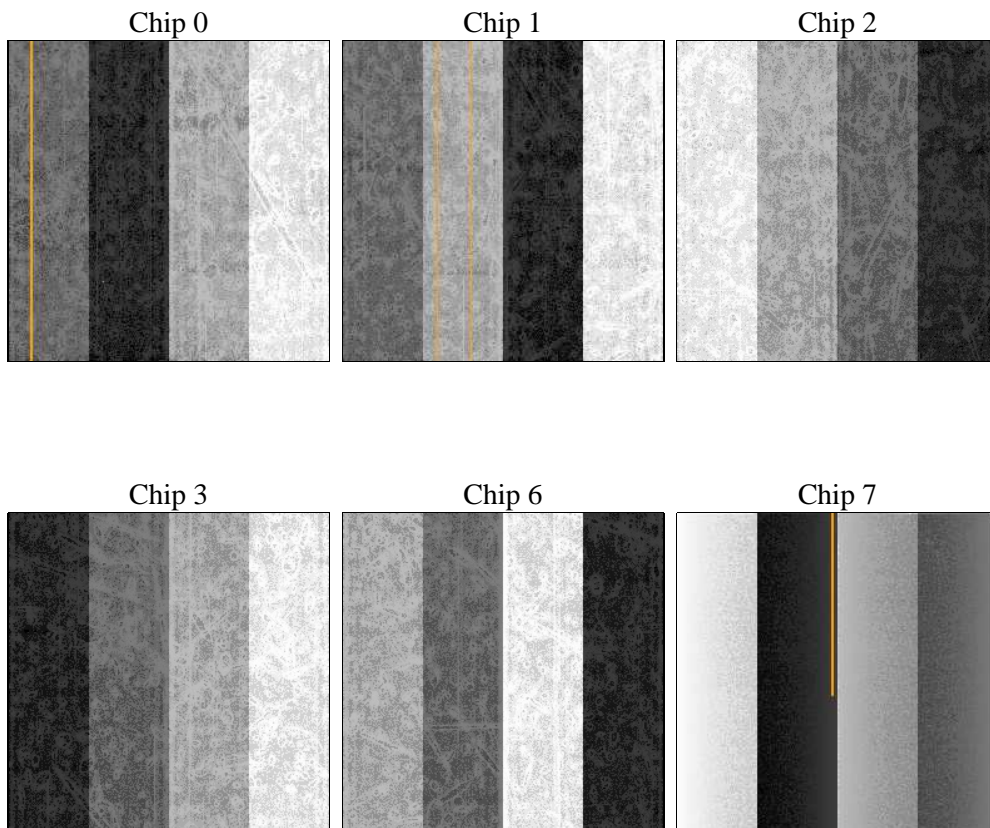
## 2 OBI

### 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	4971.9381733537	Sum of GTIs [s]
caldsver	4.6.4	&#160	ontime0	4971.8150533438	Sum of GTIs [s]
date	2014-12-08T12:14:14	Date and time of file creation	ontime1	4971.8560933471	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	4971.8971333504	Sum of GTIs [s]
			ontime3	4971.9381733537	Sum of GTIs [s]
			ontime6	4972.0202533603	Sum of GTIs [s]
			ontime7	4971.979213357	Sum of GTIs [s]
			l1events	146094	Number of level 1 events

### 2.1.4 Events

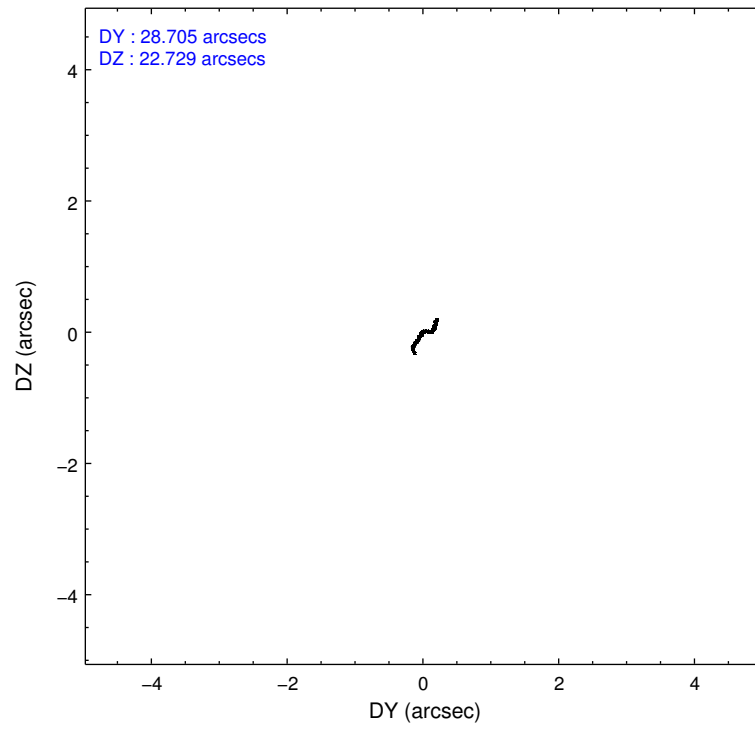
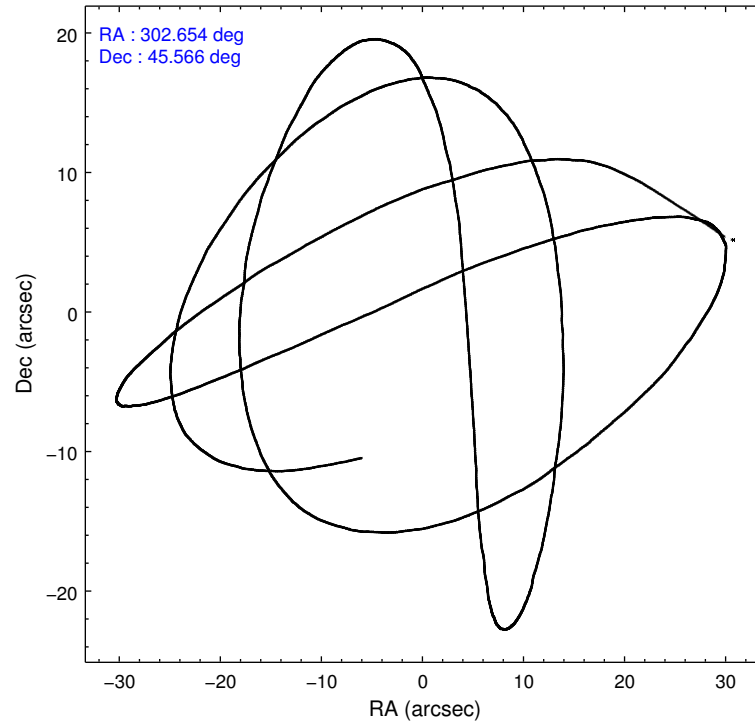
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7		ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	20944	21704	24328	21968	25075	32075	grade 0 events	1024	990	1078	942	964	1212
rejected events	18094	18699	21460	19296	22176	18148		4%	4%	4%	4%	3%	3%
rejected %	86%	86%	88%	87%	88%	56%	grade 1 events	7	6	7	17	12	28
								0%	0%	0%	0%	0%	0%
							grade 2 events	675	752	660	603	653	2925
								3%	3%	2%	2%	2%	9%
							grade 3 events	325	258	302	280	304	1170
								1%	1%	1%	1%	1%	3%
							grade 4 events	307	307	279	276	290	1155
								1%	1%	1%	1%	1%	3%
							grade 5 events	1093	1139	1034	1195	1337	3352
								5%	5%	4%	5%	5%	10%
							grade 6 events	522	705	551	576	689	7481
								2%	3%	2%	2%	2%	23%
							grade 7 events	16991	17547	20417	18079	20826	14752
								81%	80%	83%	82%	83%	45%

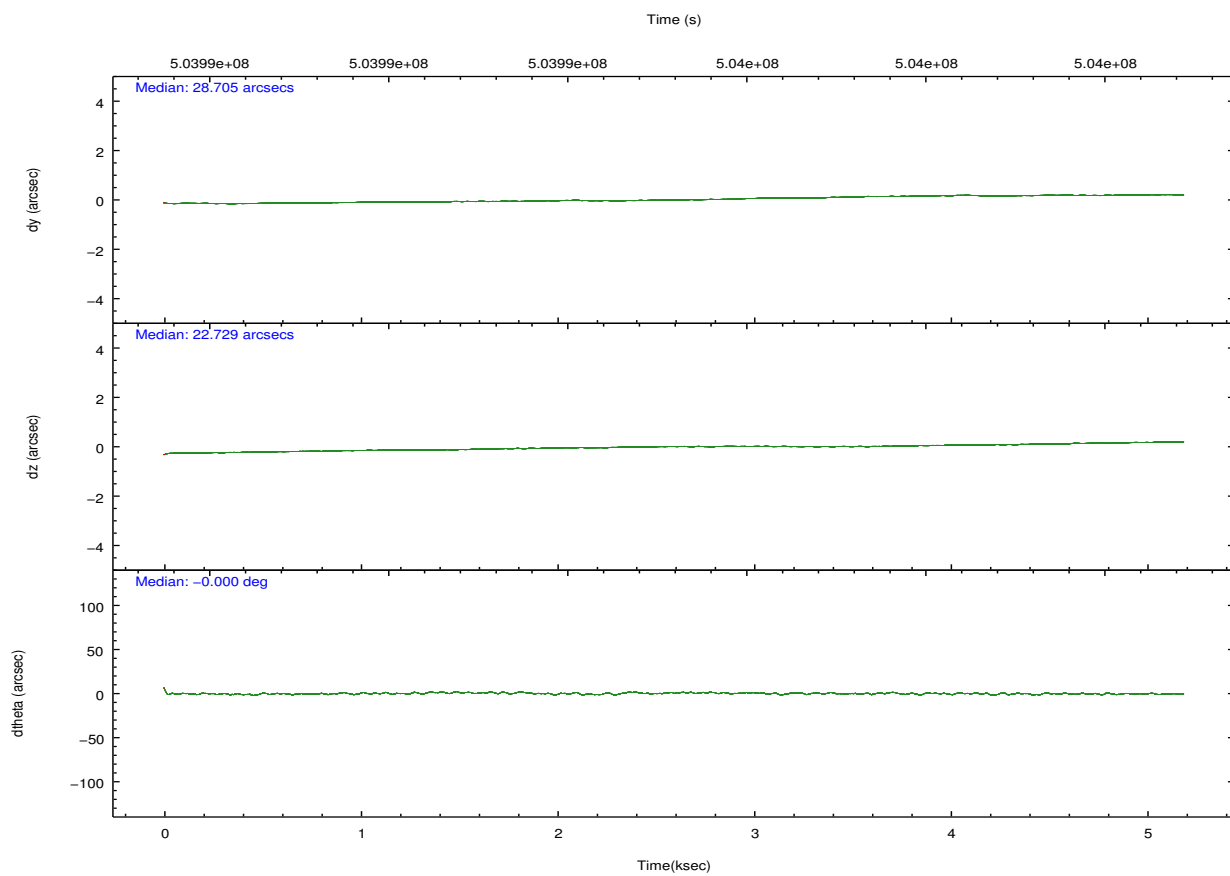
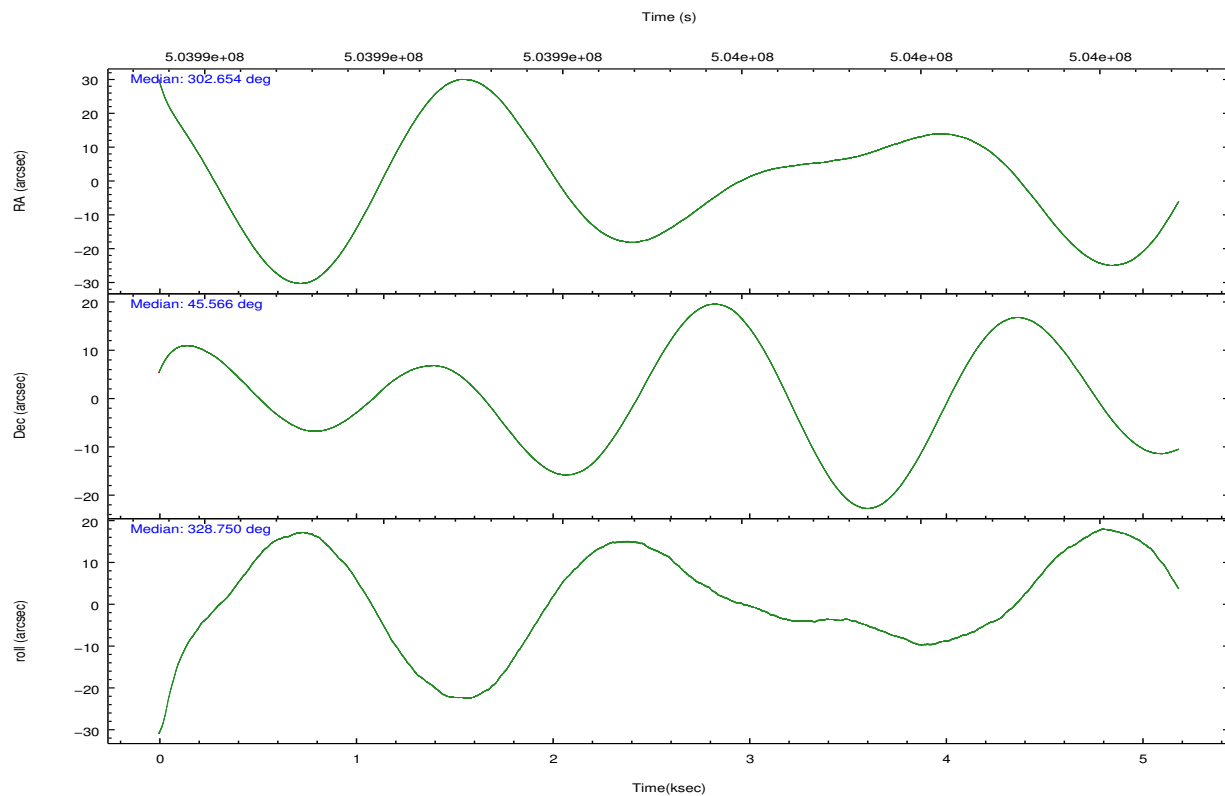


## 2.2 Compared Parameters

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	302.614850	302.6534407435881	CCD I2 on	Y	Y
[deg] Pointing Dec	45.566529	45.56622385855997	CCD I3 on	Y	Y
[deg] Pointing Roll	328.570628	328.7517421837217	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)	503992182.184000	503990629.74286	CCD S5 on	N	N
Observation start date	2013-12-21T05:48:35	2013-12-21T05:23:49	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	503997182.184000	503998061.50576	On-chip summing requested	N	N
Observation end date	2013-12-21T07:11:55	2013-12-21T07:27:41	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.2

## 2.3 Aspect



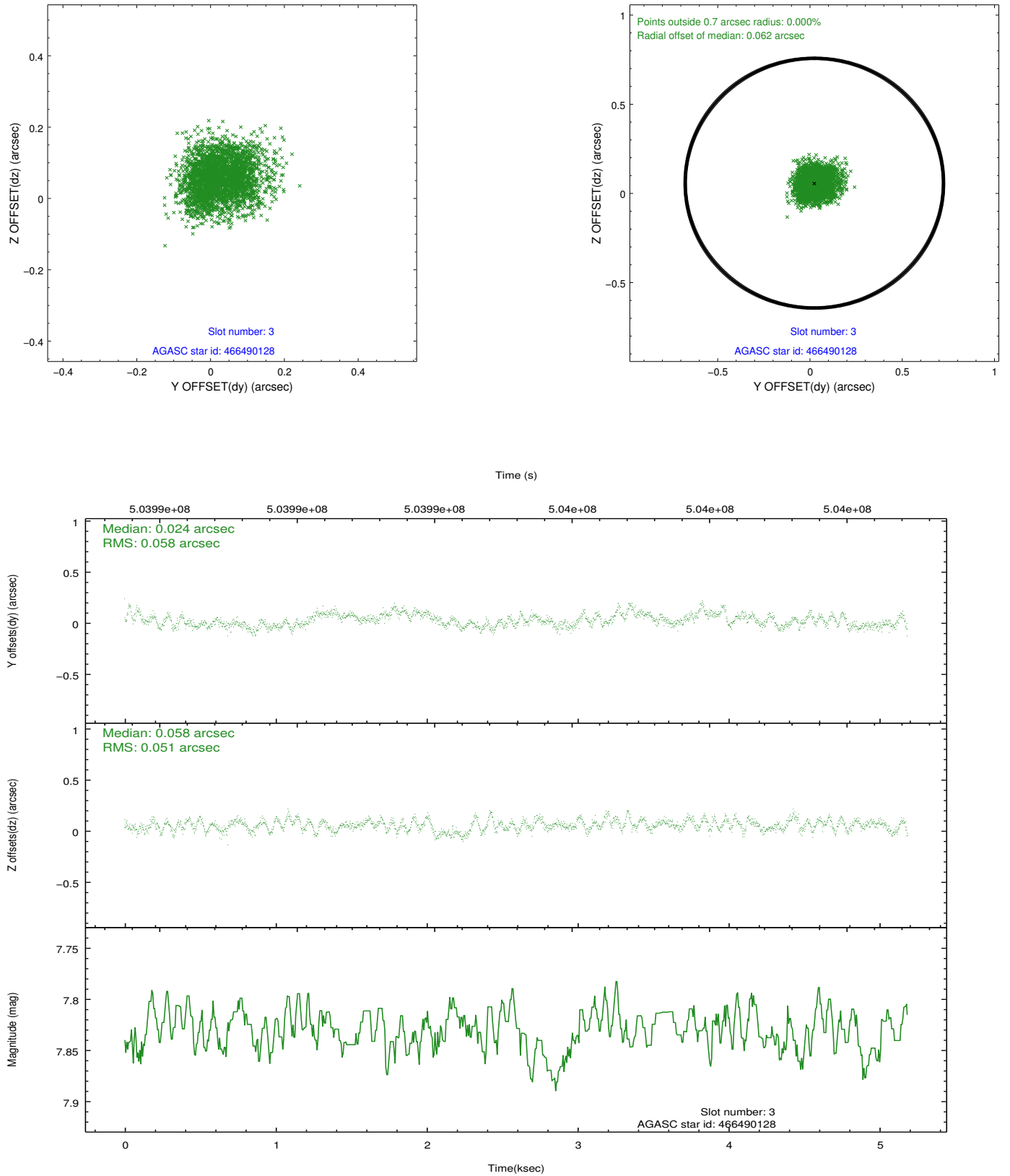


### Slot Statistics

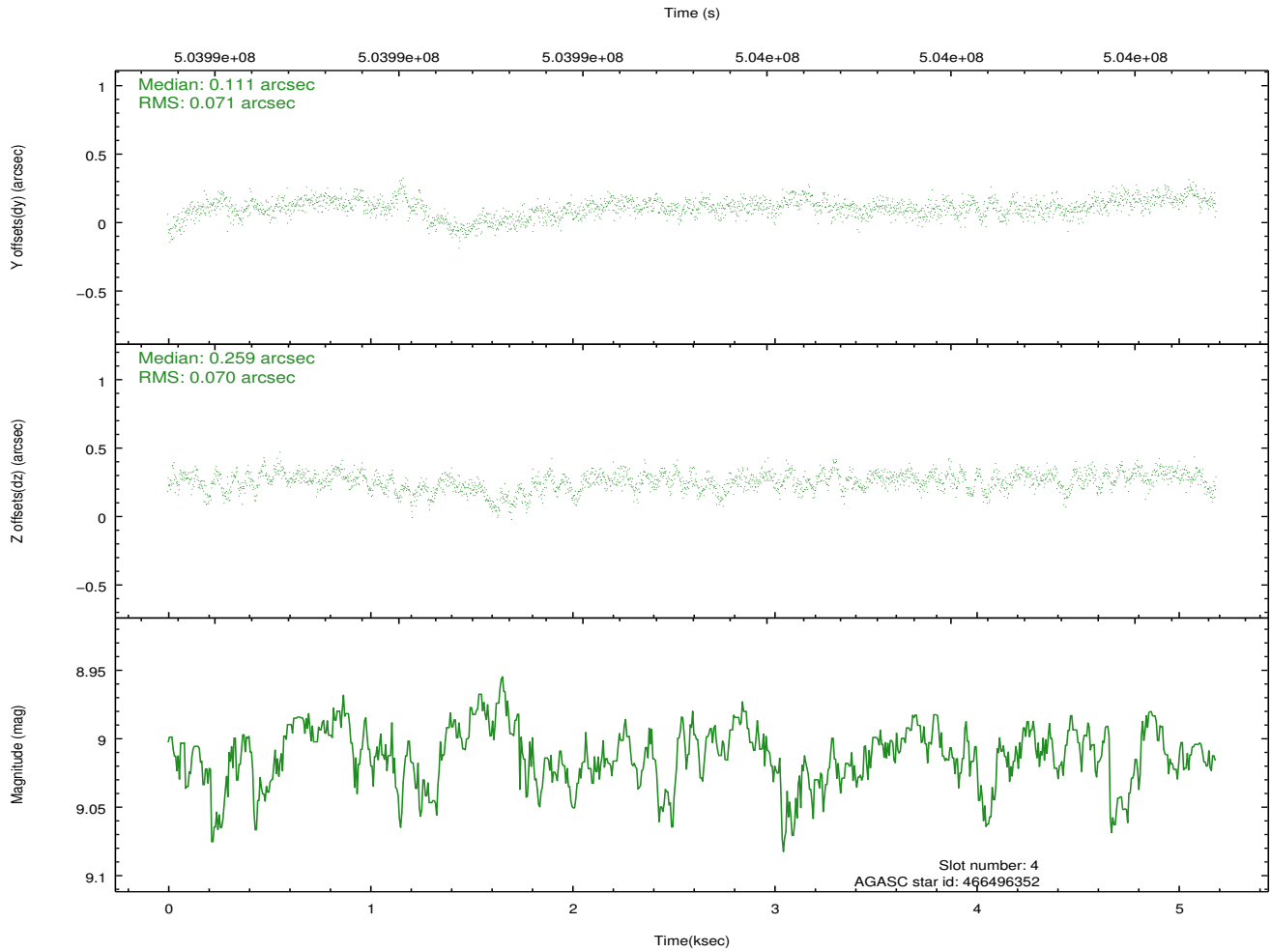
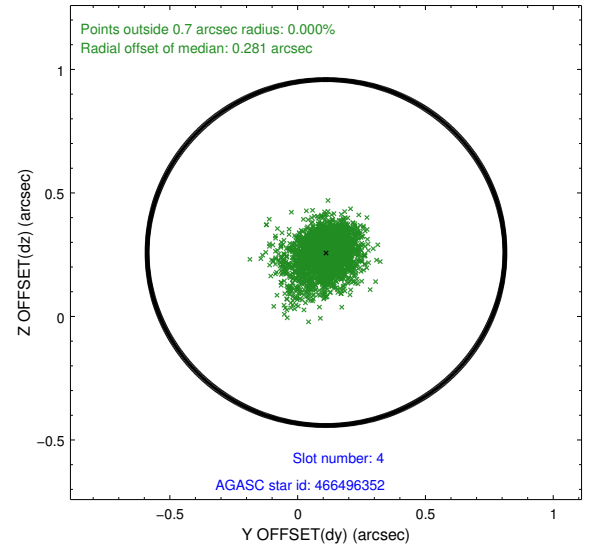
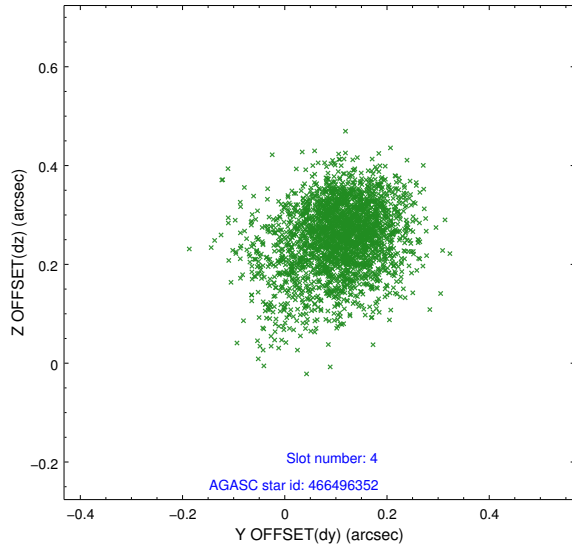
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-2	6.98	1265	-0.273	-0.124	0.008	0.013	0.000000	0.000000	-784.12	-852.95
1	FID		ACIS-I-4	7.06	1266	0.256	0.167	0.008	0.013	0.000000	0.000000	2129.98	1052.82
2	FID		ACIS-I-6	7.07	1265	-0.082	0.020	0.011	0.018	0.000000	0.000000	377.71	1696.24
3	GUIDE	used	466490128	7.83	2531	0.024	0.058	0.082	0.133	302.034688	45.543144	-1204.74	-830.09
4	GUIDE	used	466496352	9.01	2530	0.111	0.259	0.101	0.180	301.745854	45.687017	-2095.33	-759.49
5	GUIDE	used	466502256	7.36	2531	0.216	0.001	0.093	0.149	301.893365	45.153400	-790.12	-2217.09
6	GUIDE	used	468197288	7.61	2531	-0.224	-0.132	0.103	0.168	303.821648	45.741035	2249.19	2136.08
7	GUIDE	used	466505968	8.80	2530	-0.136	-0.180	0.115	0.179	303.619748	45.620579	2052.06	1500.09

## 2.4 Star Slots

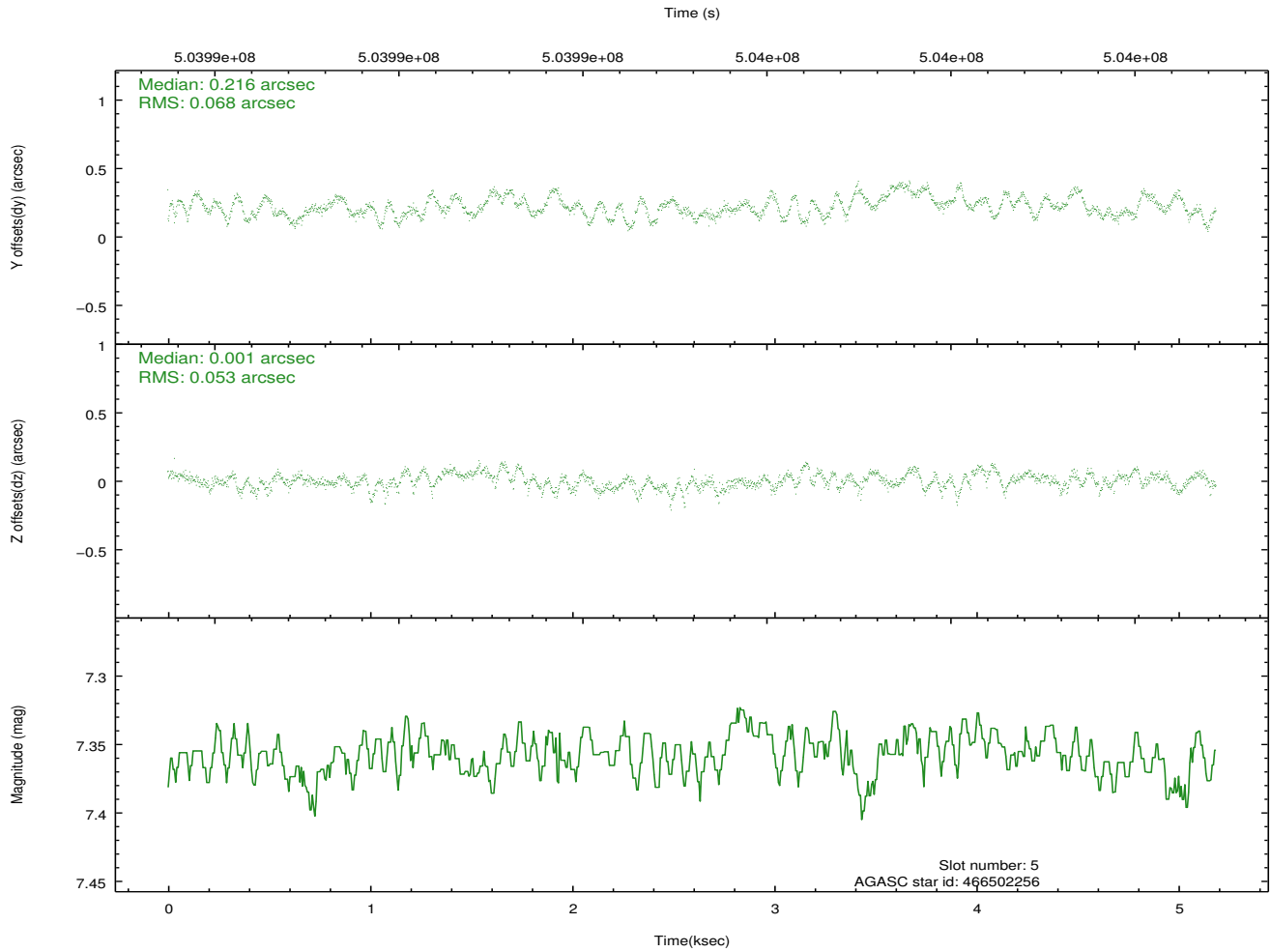
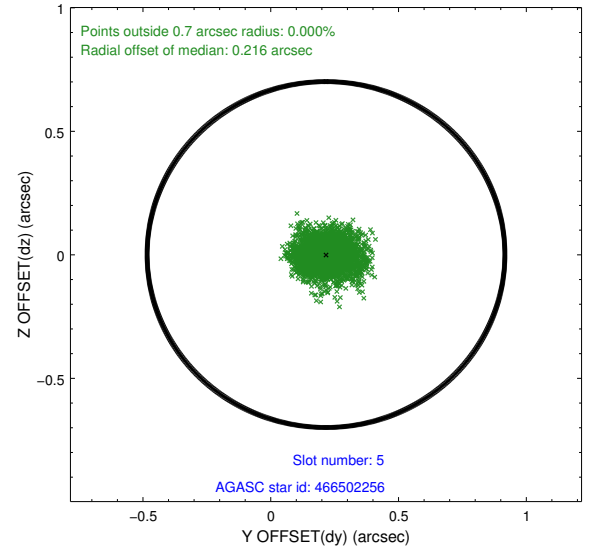
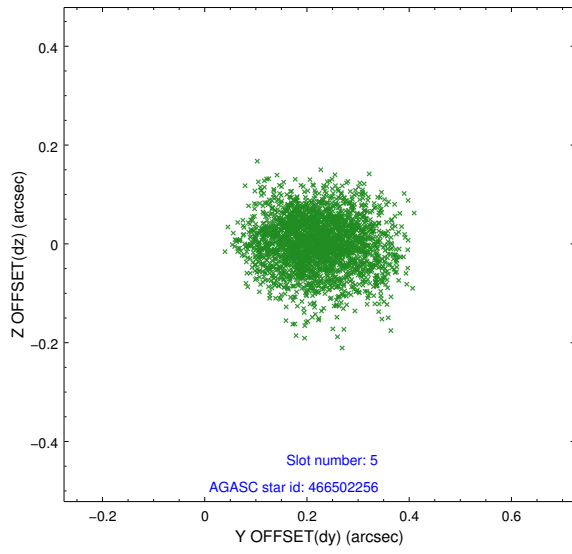
### 2.4.1 Slot 3



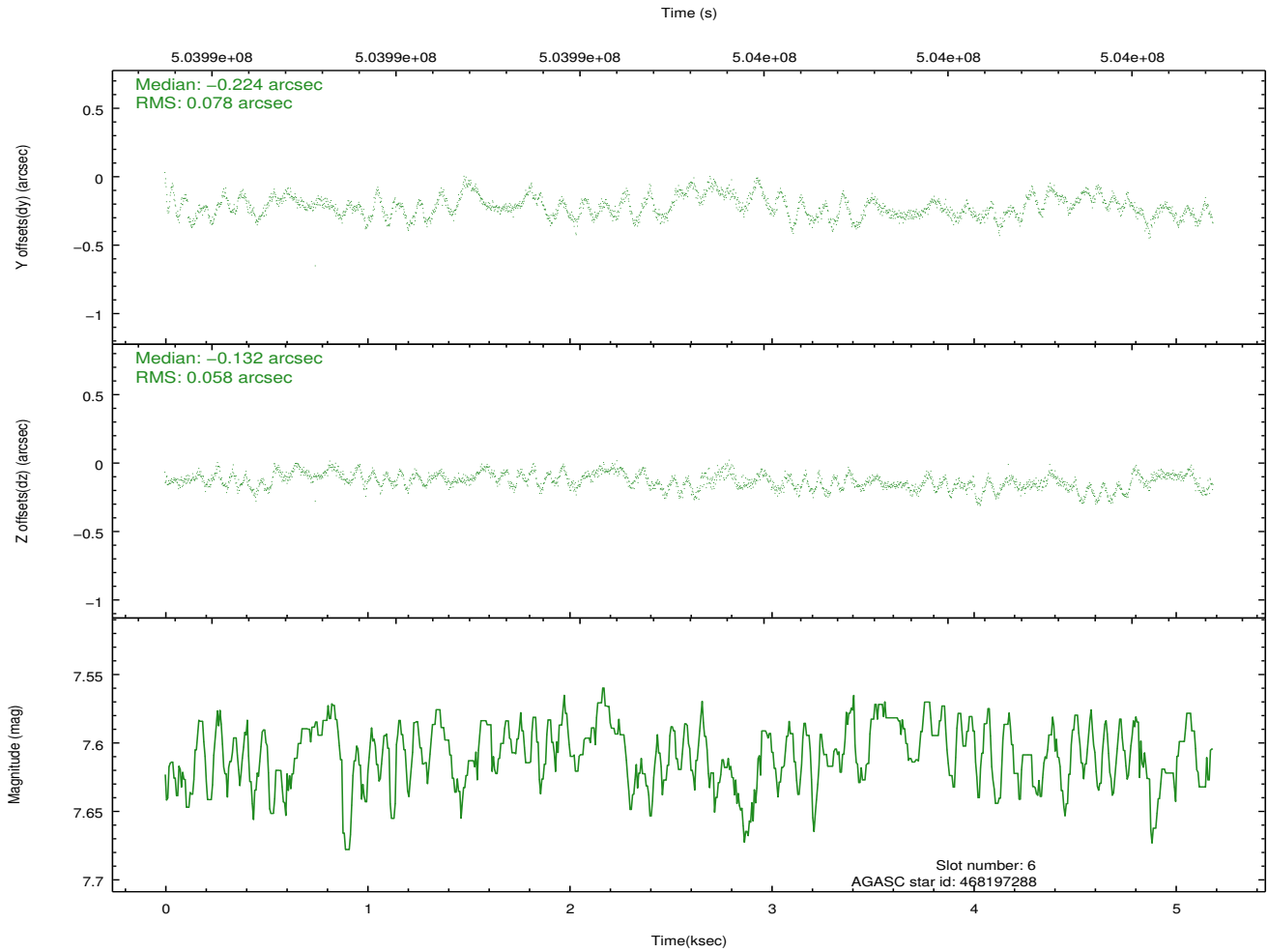
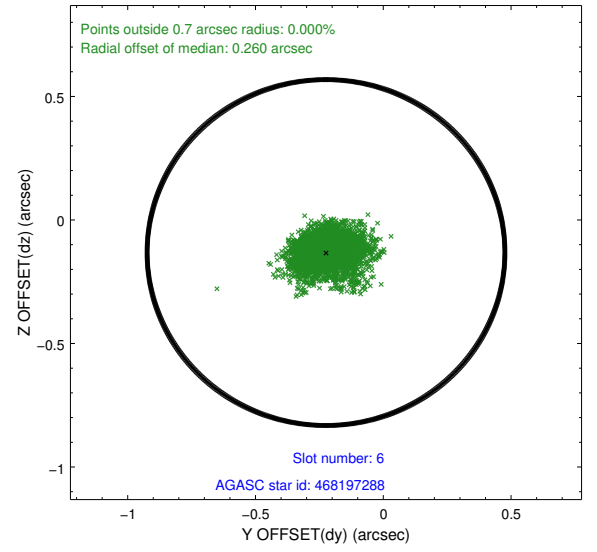
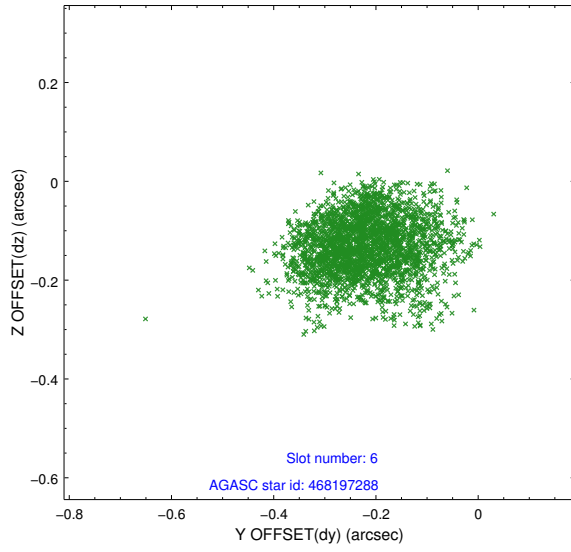
## 2.4.2 Slot 4



### 2.4.3 Slot 5

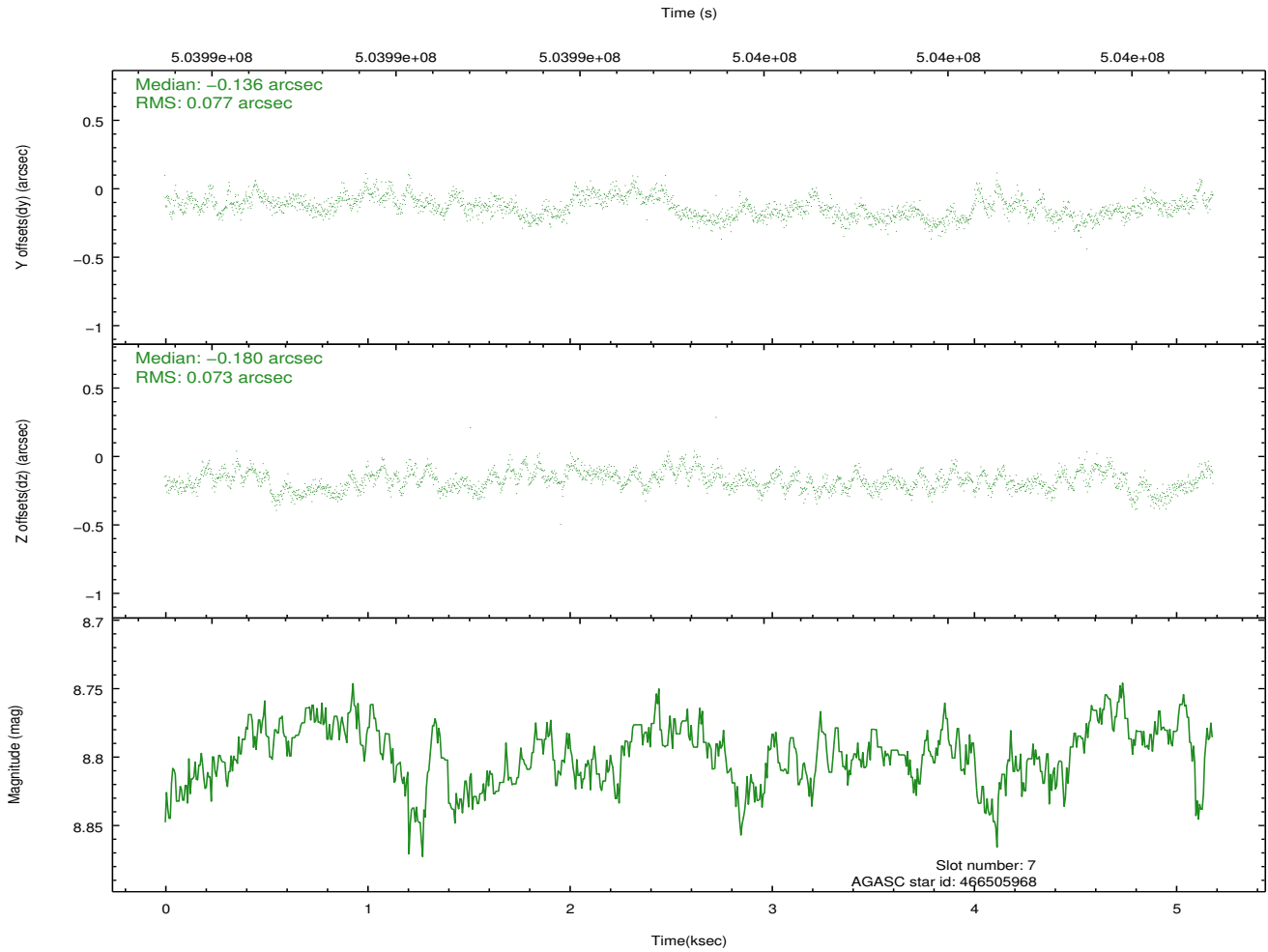
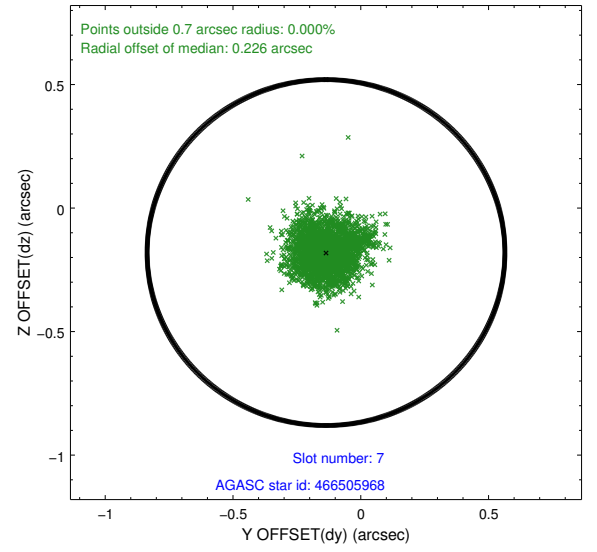
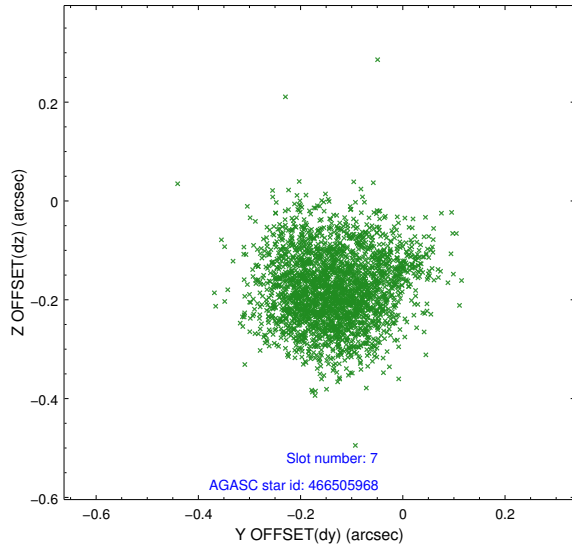


## 2.4.4 Slot 6



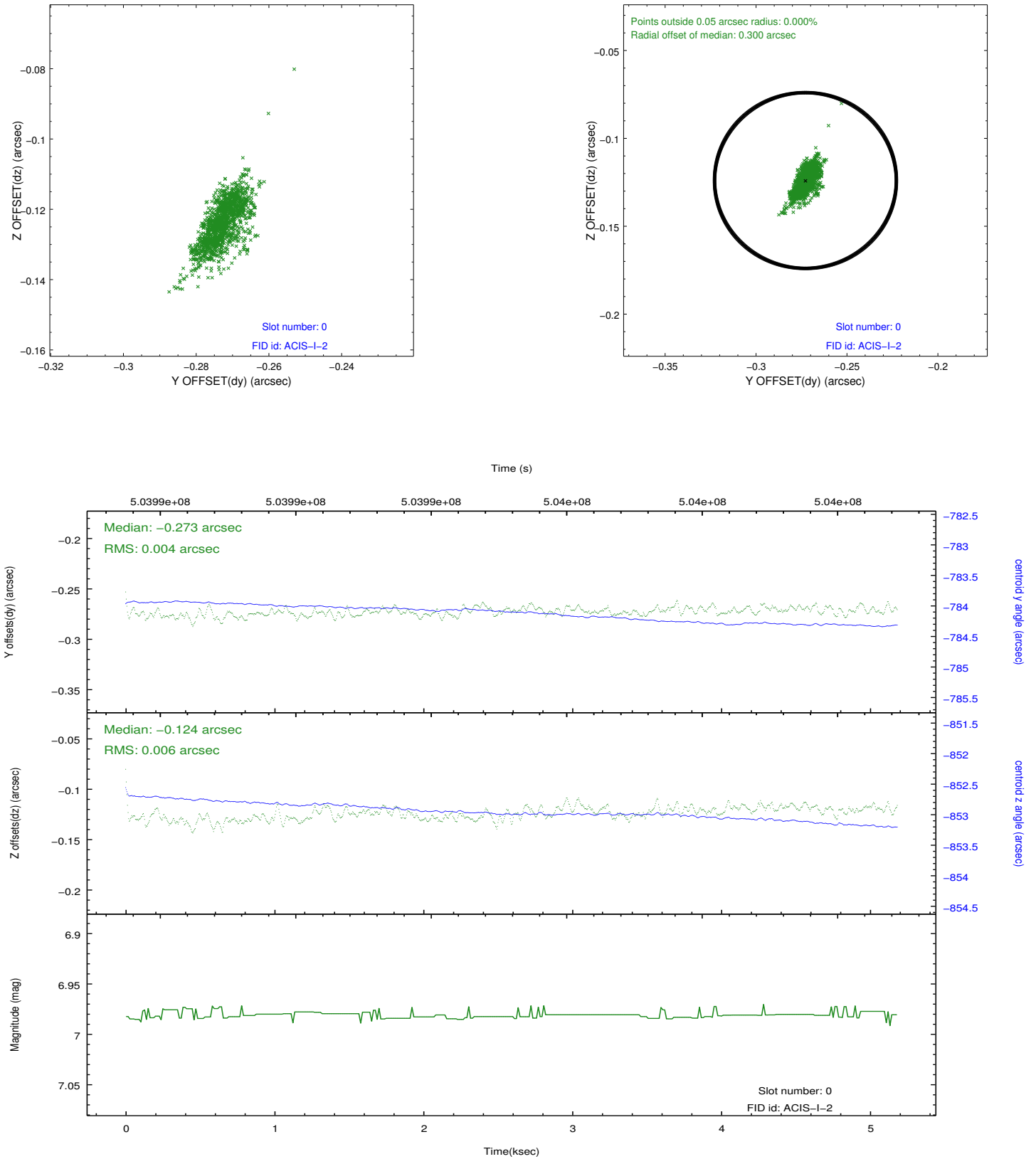


## 2.4.5 Slot 7

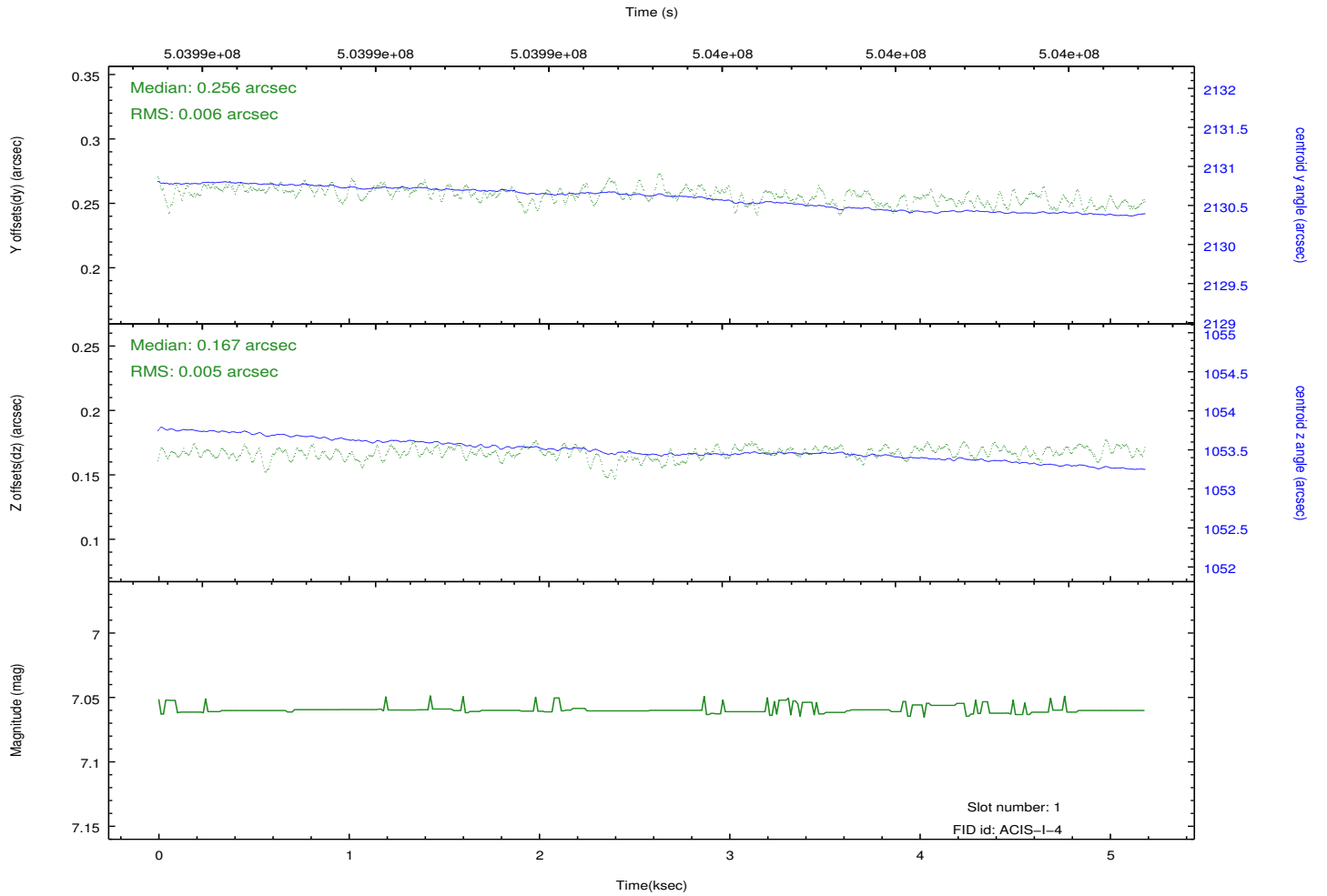
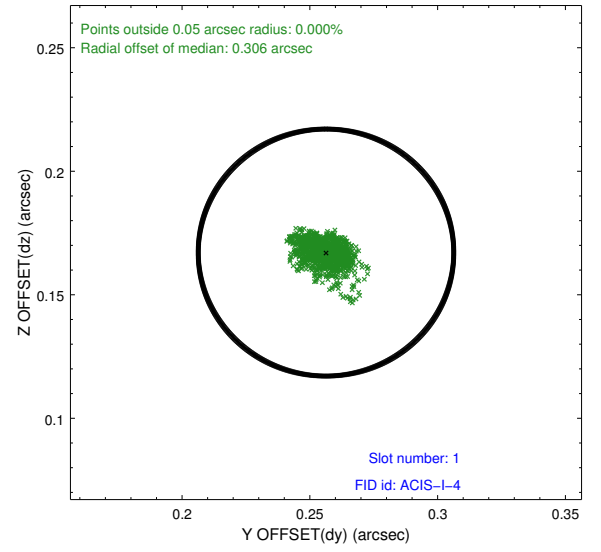
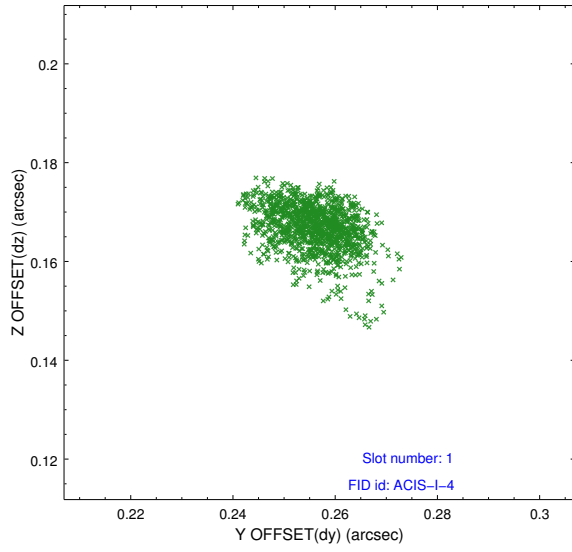


## 2.5 FID Slots

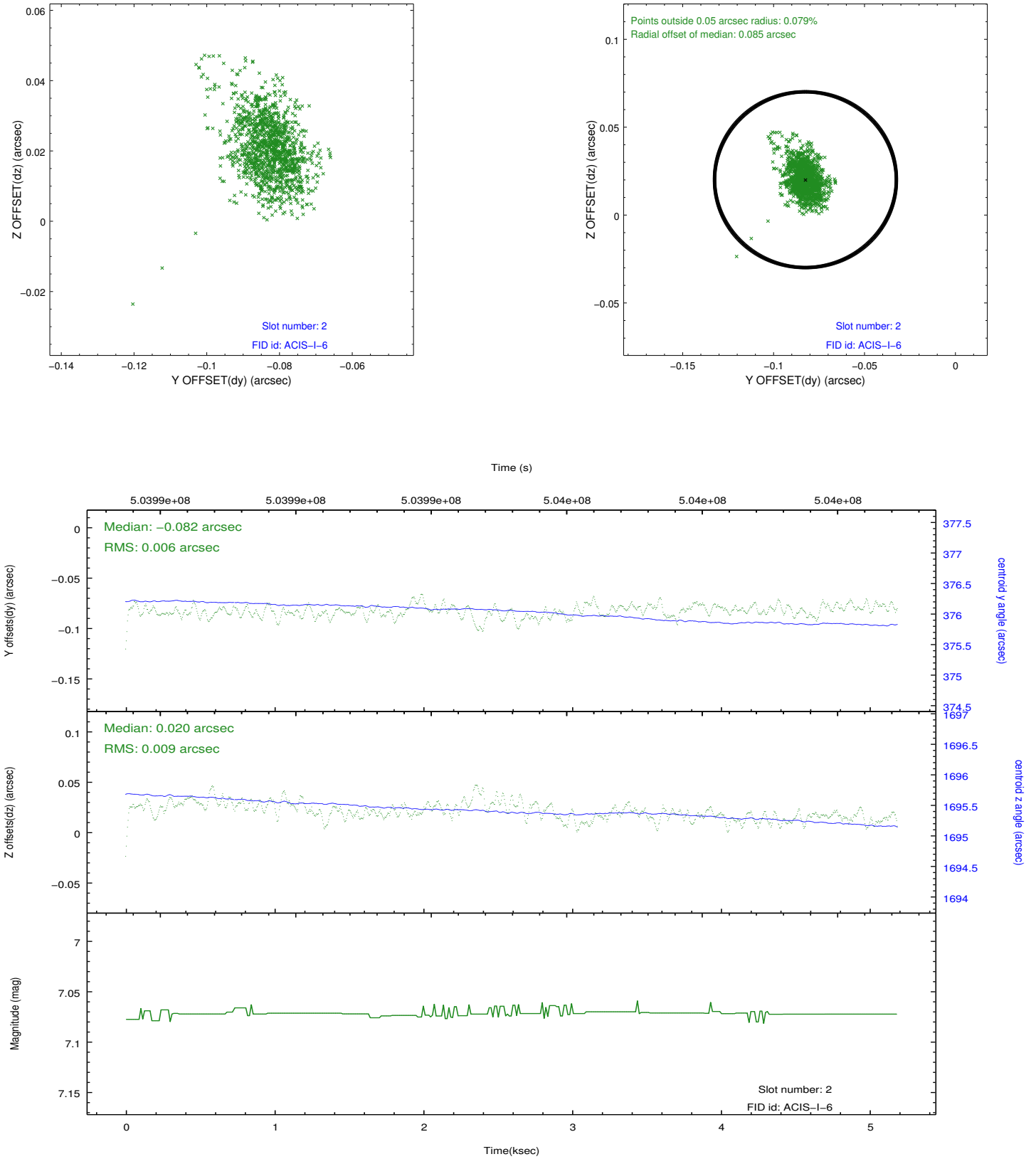
### 2.5.1 Slot 0



## 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)	2014.12.12
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.9719381733537

## 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.