

# V&V Reference Report

## L2 ASCDS Version : 10.4.3.1

Observation 18627 - L2 Version 2  
Chandra X-Ray Center

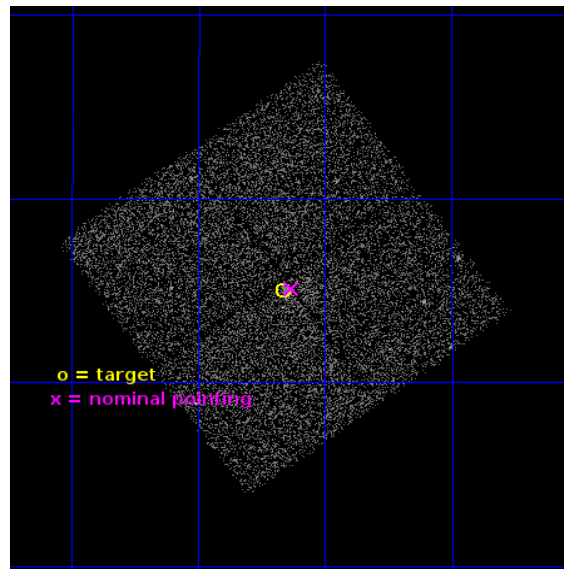
L2 Processing Date : Apr 12 2016

## 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

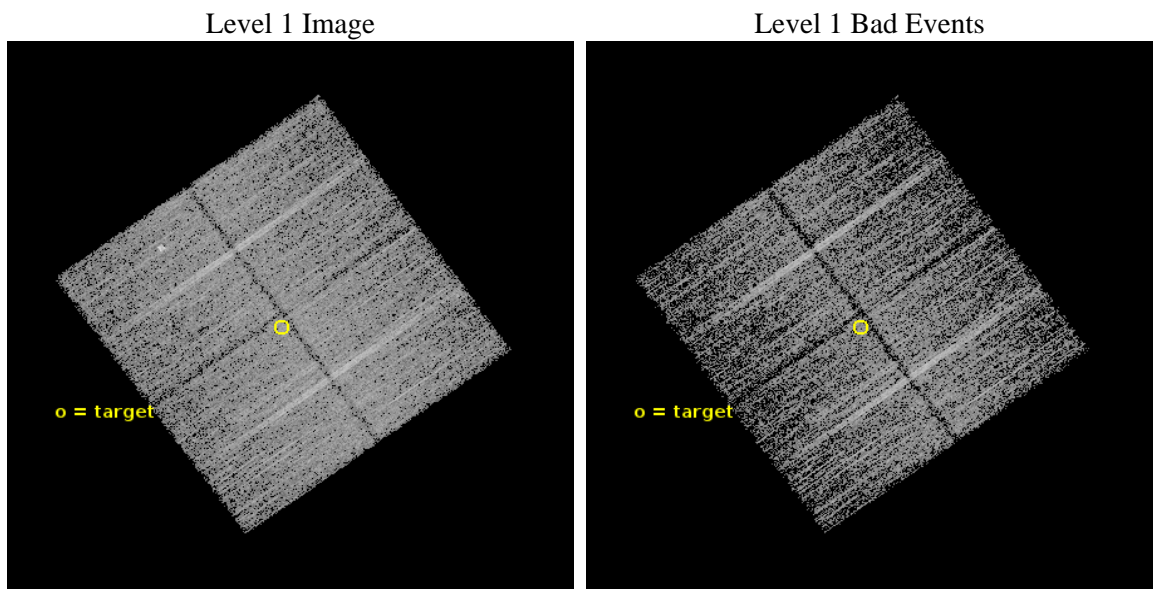
seq_num	801635	Sequence number
obs_id	18627	Observation id
title	Lensing Calibration of the Evolution of Cluster Scaling Relations for eROSITA	Proposal title
observer	Dr. Peter Predehl	Principal investigator
object	CODEX 35399	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	225.79125	Observer's specified target RA [deg]
dec_targ	27.916583	Observer's specified target Dec [deg]
ra_nom	225.78328141584	Nominal RA [deg]
dec_nom	27.918437059182	Nominal Dec [deg]
roll_nom	144.21246396927	Nominal Roll [deg]
revision	2	Processing version of data
ontime	9591.4000738859	Sum of GTIs [s]
livetime	9466.0813708346	Livetime [s]
ontime0	9591.4000738859	Sum of GTIs [s]
ontime1	9588.2589836121	Sum of GTIs [s]
ontime2	9588.2589936256	Sum of GTIs [s]
ontime3	9591.4000738859	Sum of GTIs [s]
l2events	22693	Number of level 2 events



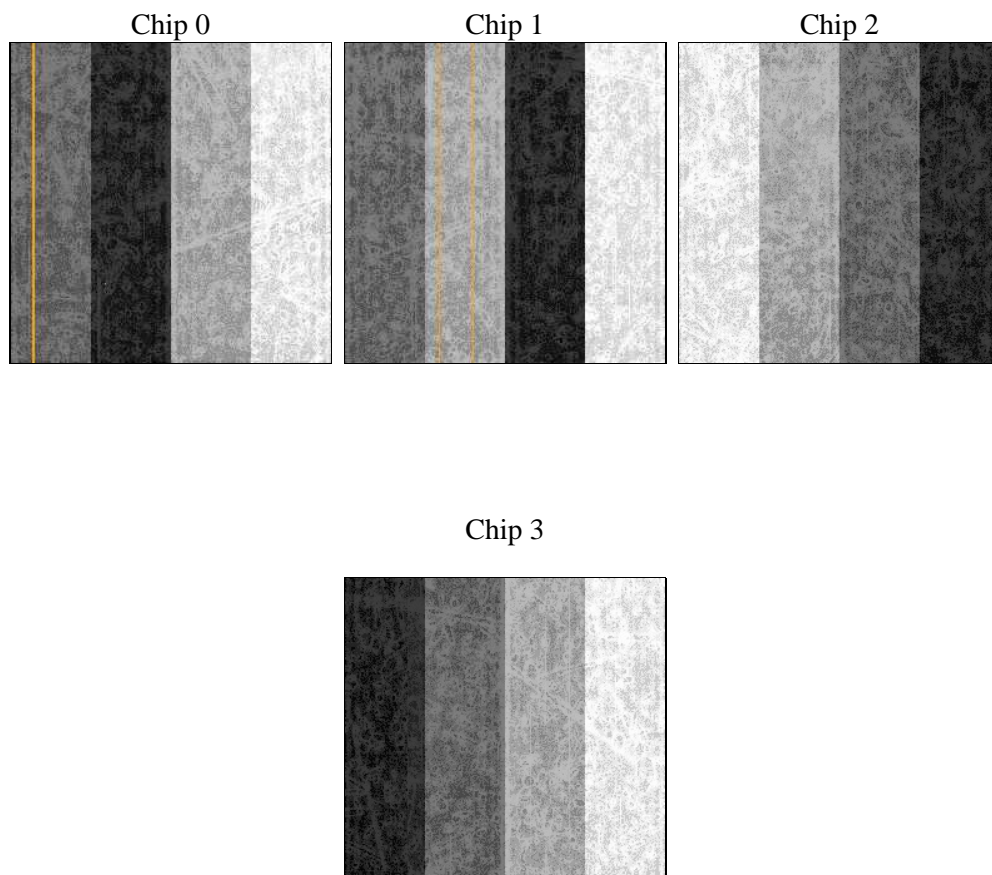
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	9519.324000	[s] Scheduled observation exposure time
ascdsver	10.4.3.1	Processing system revision	ontime	9591.4000738859	Sum of GTIs [s]
caldsver	4.7.1	&#160	ontime0	9591.4000738859	Sum of GTIs [s]
date	2016-04-12T20:15:23	Date and time of file creation	ontime1	9588.2589836121	Sum of GTIs [s]
revision	2	Processing version of data	ontime2	9588.2589936256	Sum of GTIs [s]
			ontime3	9591.4000738859	Sum of GTIs [s]
			l1events	241647	Number of level 1 events

### 2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3
level 1 events	56662	58071	65340	61574
rejected events	50085	50504	58763	54783
rejected %	88%	86%	89%	88%

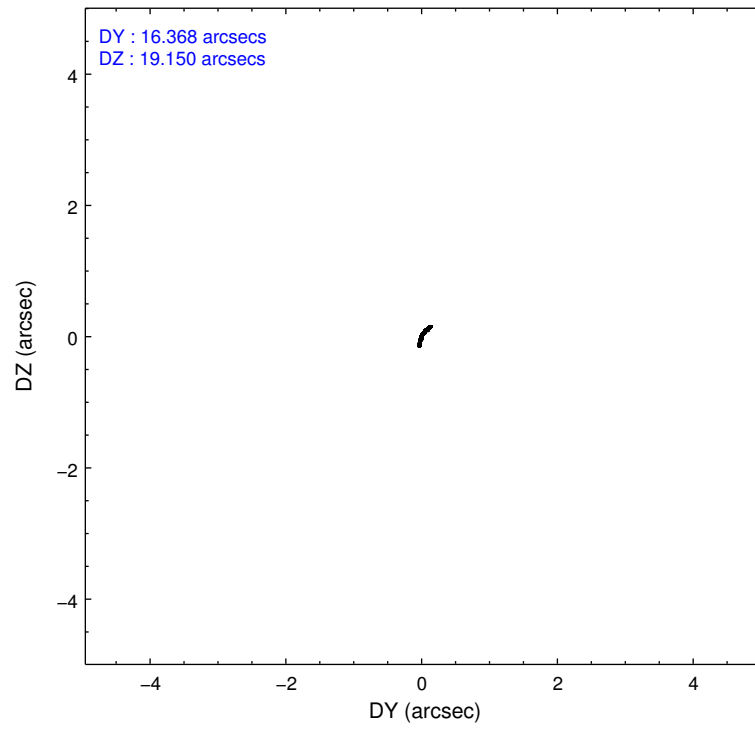
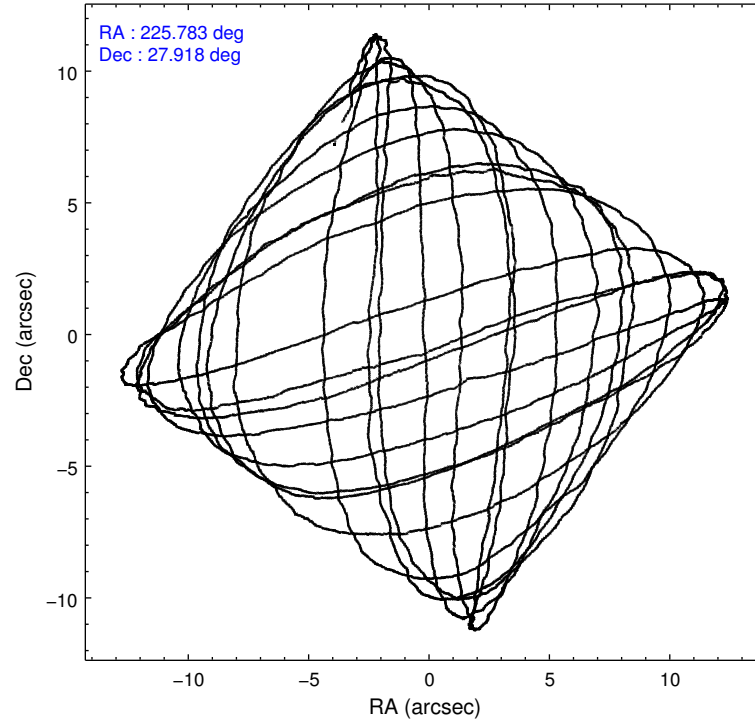
	ccd 0	ccd 1	ccd 2	ccd 3
grade 0 events	2130	2850	2472	2545
	3%	4%	3%	4%
grade 1 events	22	33	23	34
	0%	0%	0%	0%
grade 2 events	1638	1665	1558	1431
	2%	2%	2%	2%
grade 3 events	708	684	643	733
	1%	1%	0%	1%
grade 4 events	660	693	631	680
	1%	1%	0%	1%
grade 5 events	2408	2627	2283	2946
	4%	4%	3%	4%
grade 6 events	1445	1683	1274	1407
	2%	2%	1%	2%
grade 7 events	47651	47836	56456	51798
	84%	82%	86%	84%

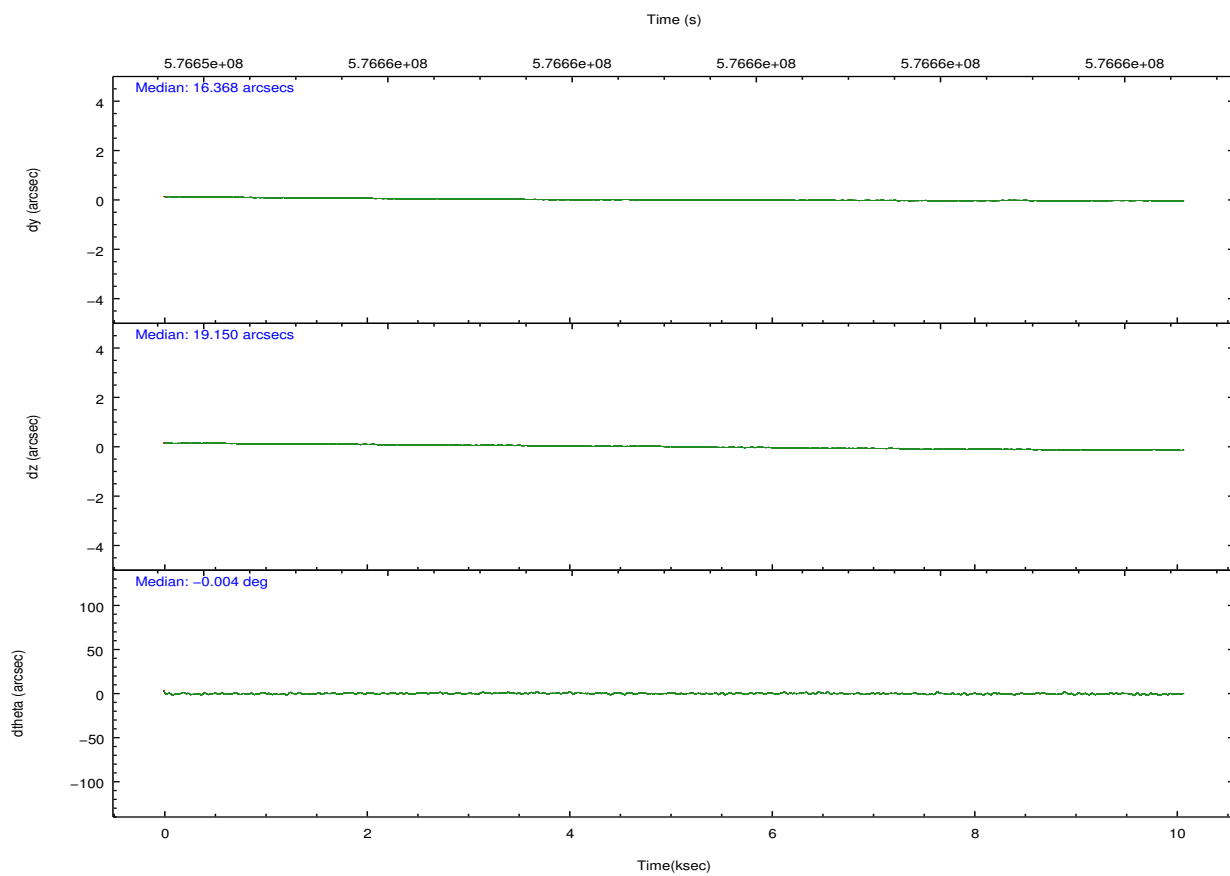
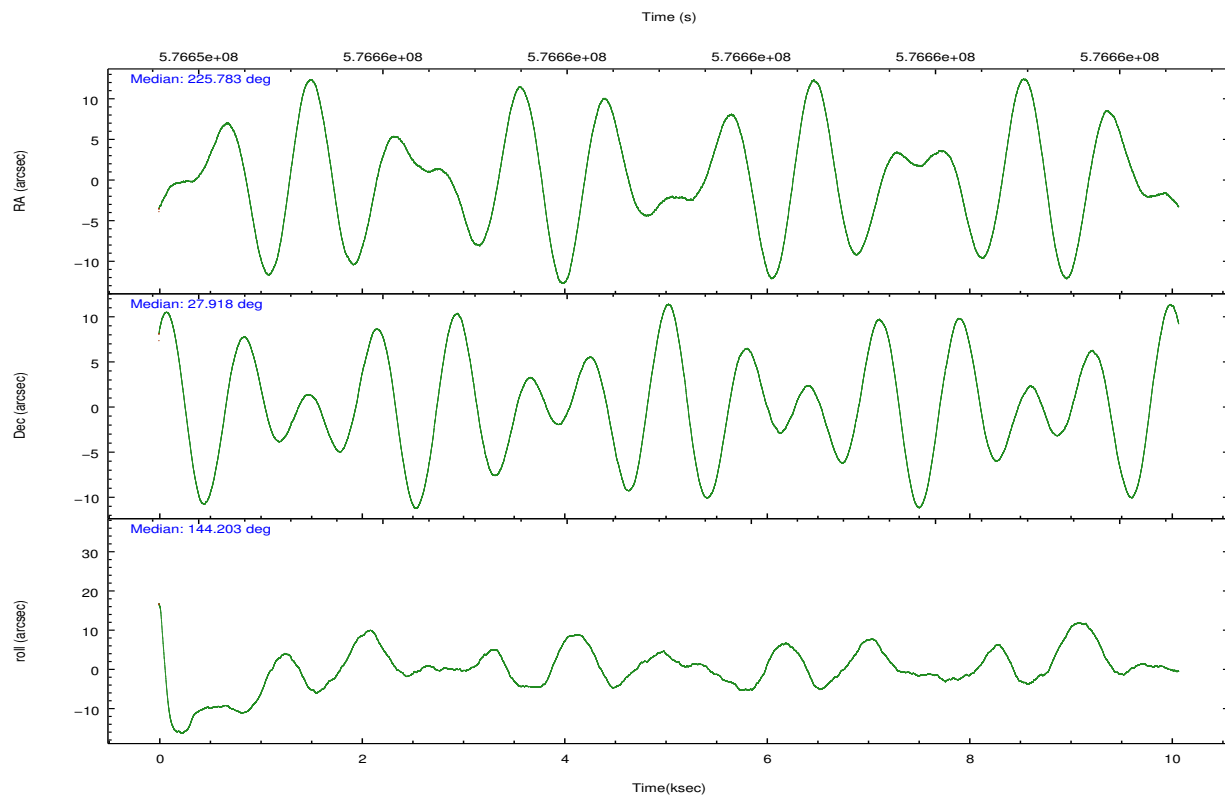


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-0123	ACIS-0123	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	225.814370	225.783281415841	CCD I2 on	Y	Y
[deg] Pointing Dec	27.915731	27.91843705918234	CCD I3 on	Y	Y
[deg] Pointing Roll	143.989169	144.2124639692742	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	N	N
[mm] SIM translation stage pos	-233.592463	-233.5874344608287	CCD S3 on	O1	N
[mm] SIM translation stage offset	0	-0.005018542100998502	CCD S4 on	N	N
[s] Observation start time (MET)	576654625.184000	576653563.59347	CCD S5 on	N	N
Observation start date	2016-04-10T05:49:17	2016-04-10T05:32:43	Number of optional ACIS chips dropped	1	1
[s] Observation end time (MET)	576664144.184000	576664370.16908	On-chip summing requested	N	N
Observation end date	2016-04-10T08:27:56	2016-04-10T08:32:50	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



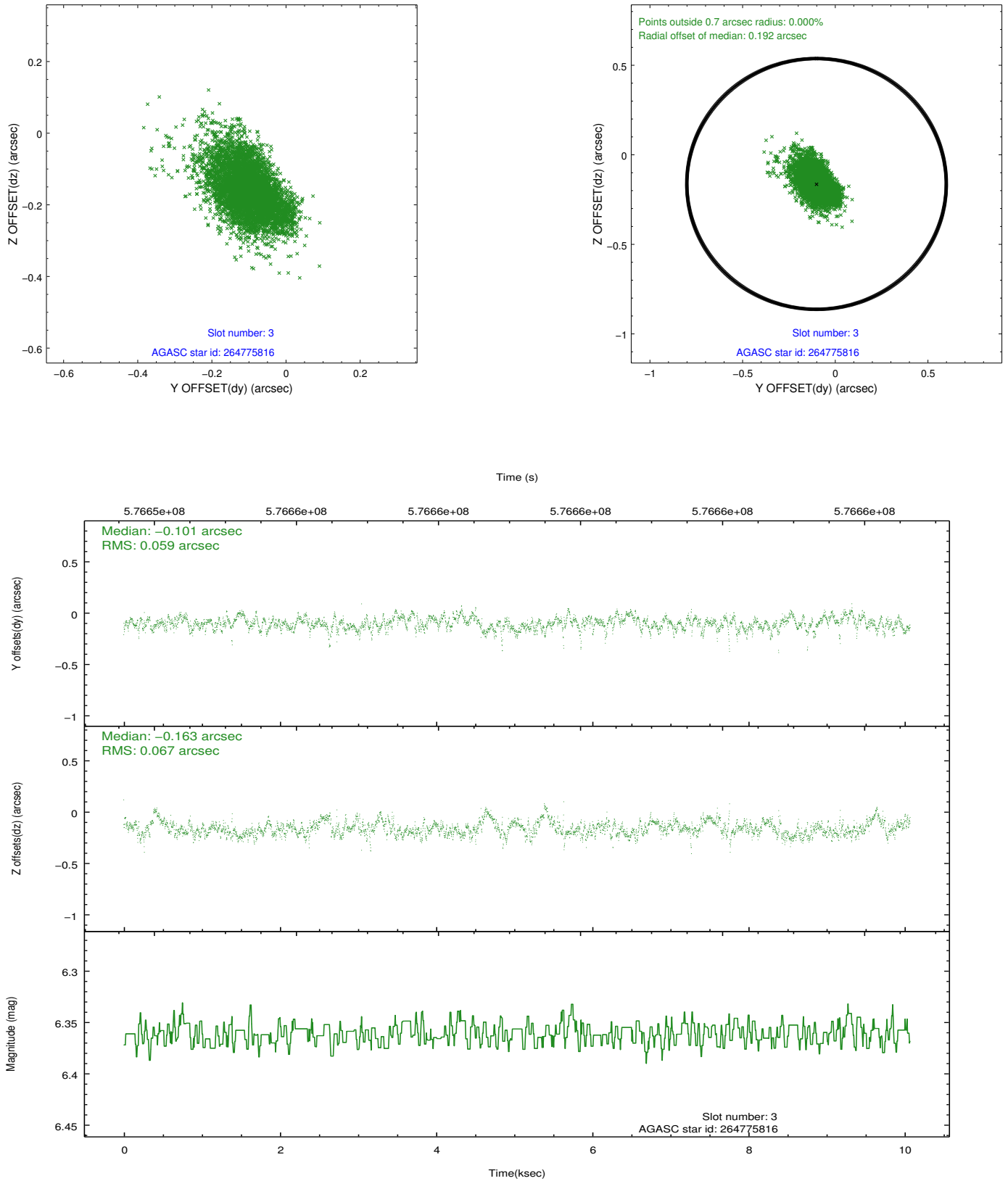


### Slot Statistics

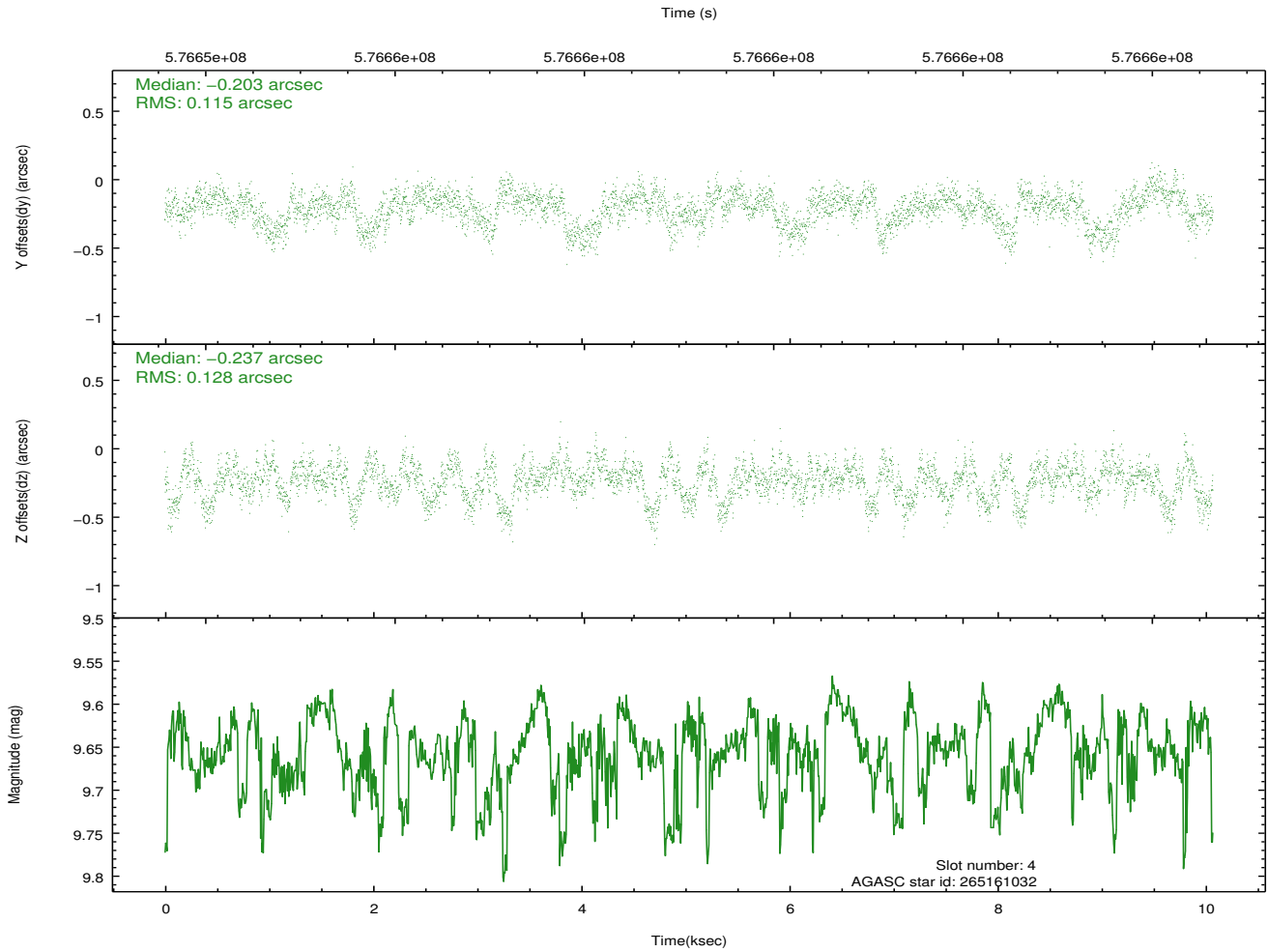
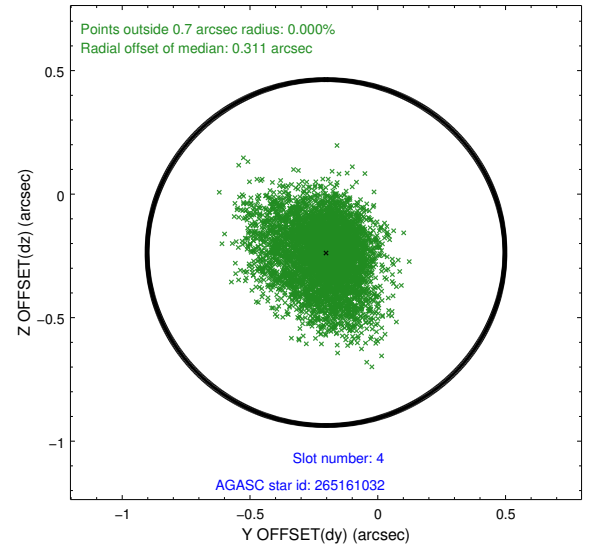
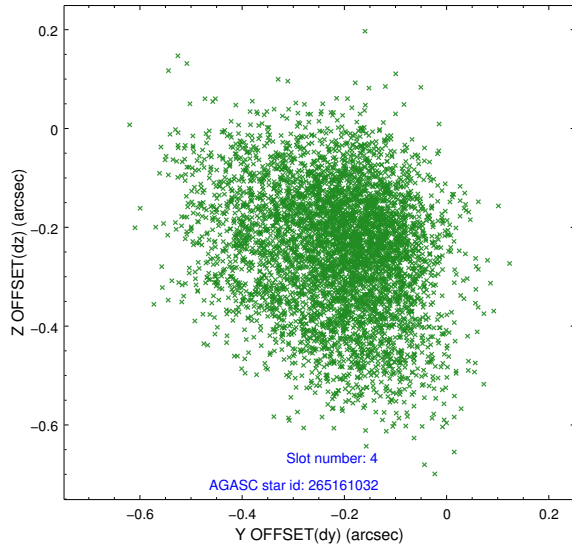
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-I-2	7.17	2457	-0.199	-0.050	0.009	0.016	0.000000	0.000000	-771.30	-849.30
1	FID		ACIS-I-4	7.20	2457	0.478	0.121	0.006	0.011	0.000000	0.000000	2143.12	1056.89
2	FID		ACIS-I-5	7.26	2456	-0.381	-0.001	0.009	0.015	0.000000	0.000000	-1824.71	1055.06
3	GUIDE	used	264775816	6.36	4914	-0.101	-0.163	0.091	0.158	225.955325	27.081158	-2131.90	2164.77
4	GUIDE	used	265161032	9.65	4904	-0.203	-0.237	0.183	0.299	225.336671	27.793043	972.41	1250.15
5	GUIDE	used	265161336	7.47	4914	0.064	0.030	0.110	0.184	225.776578	28.267250	841.56	-952.53
6	GUIDE	used	265162696	9.38	4904	0.030	0.094	0.163	0.252	225.957997	28.188772	210.23	-1062.62
7	GUIDE	used	265693888	9.63	4904	0.230	0.290	0.134	0.219	226.379816	27.491867	-2354.84	169.46

## 2.4 Star Slots

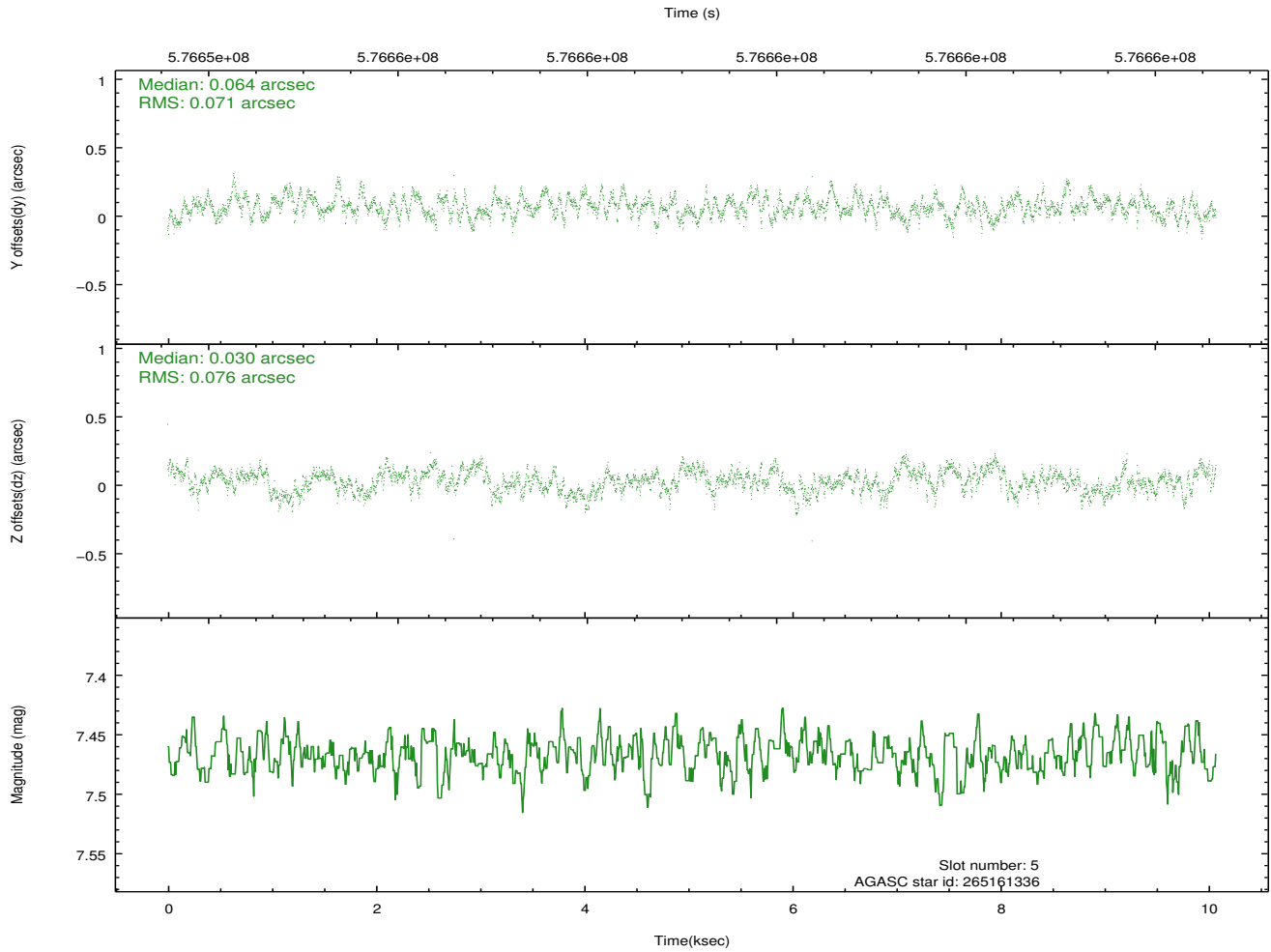
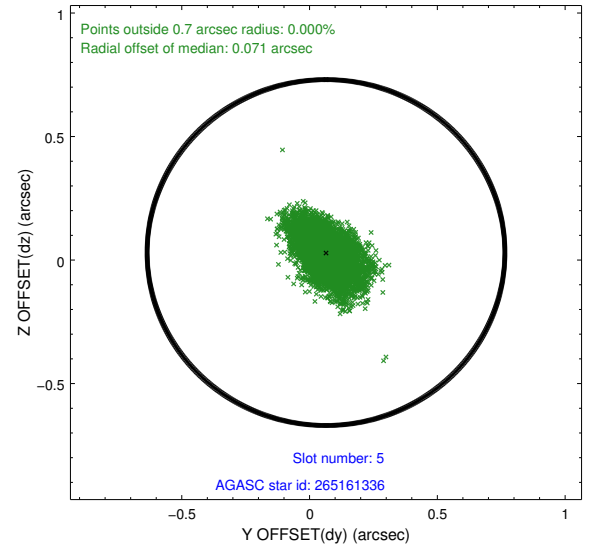
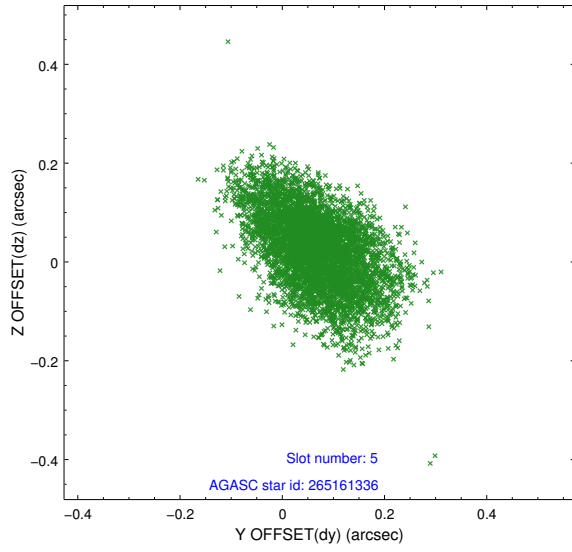
### 2.4.1 Slot 3



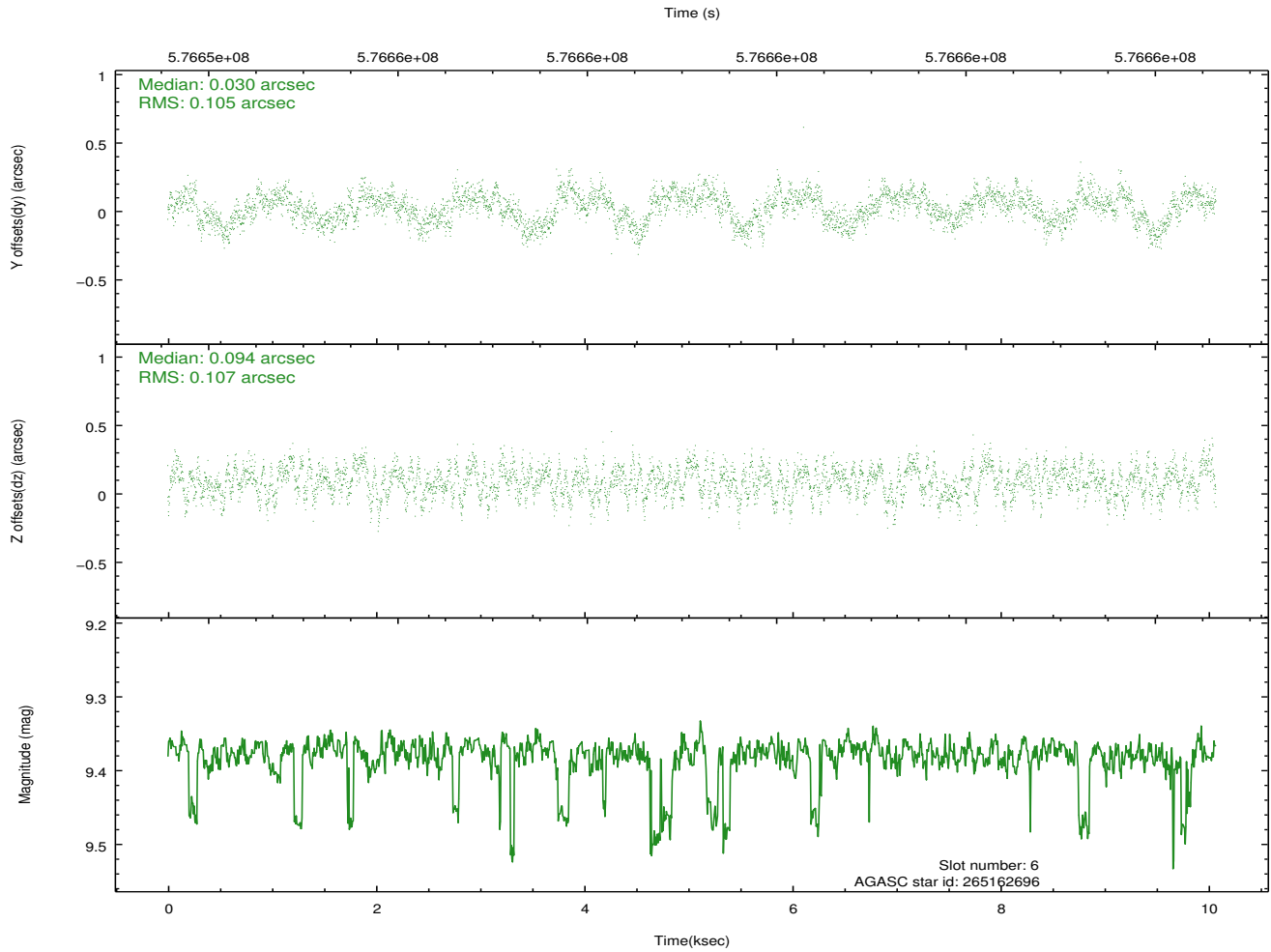
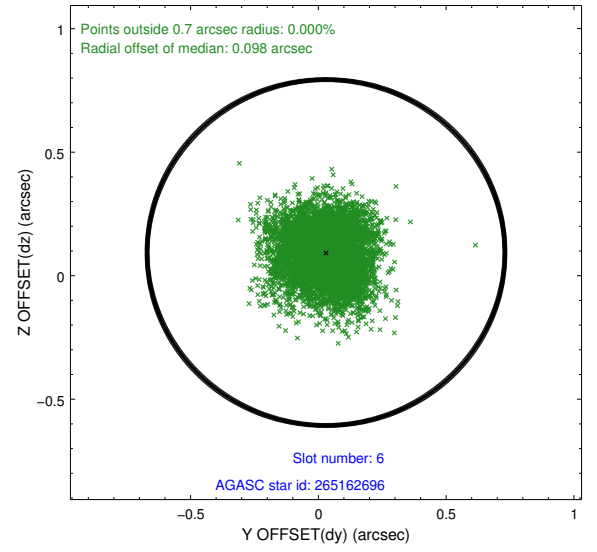
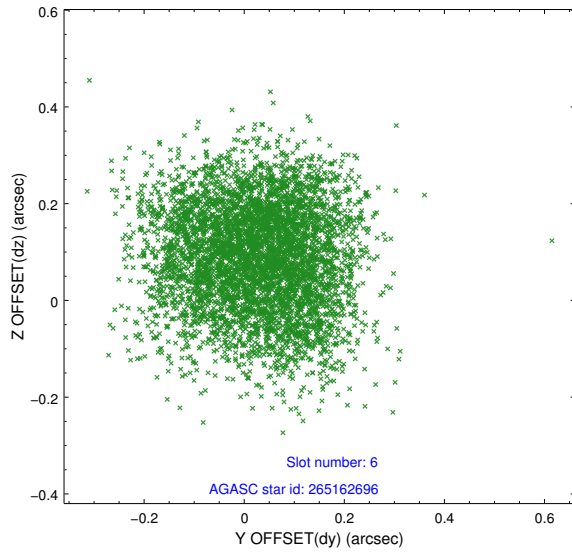
## 2.4.2 Slot 4



### 2.4.3 Slot 5

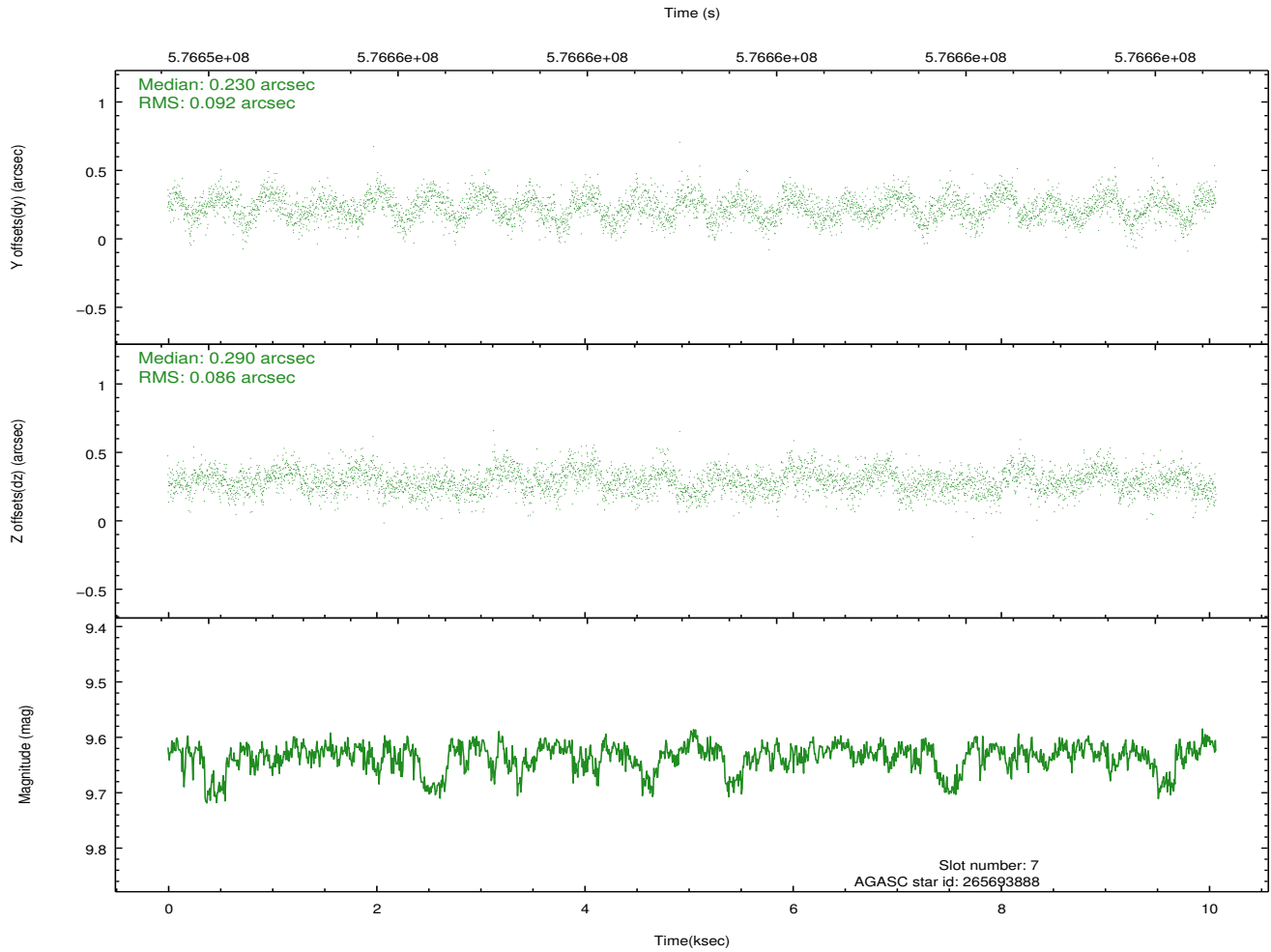
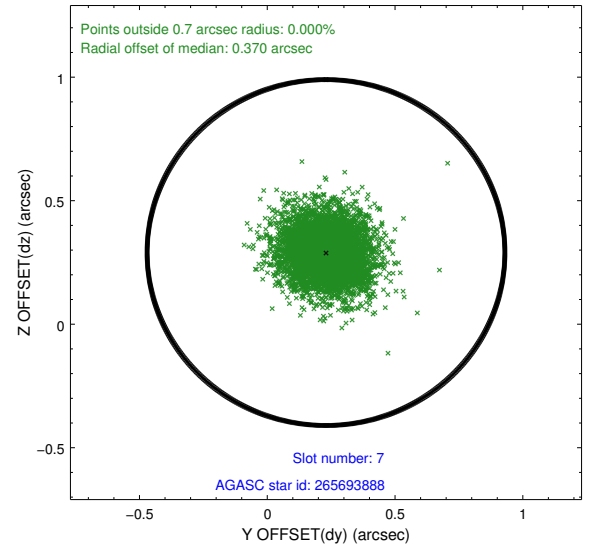
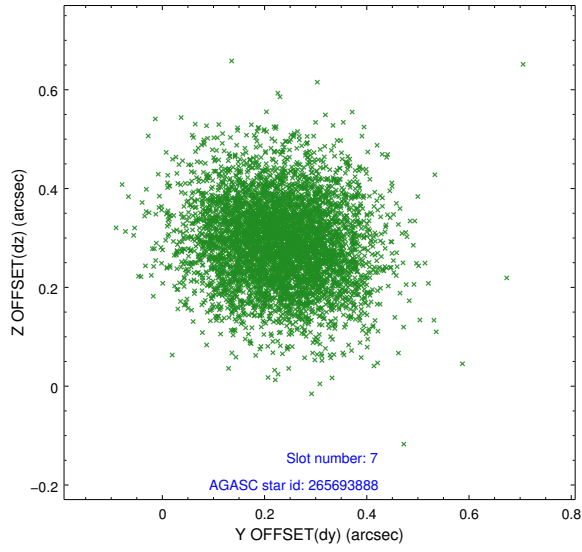


## 2.4.4 Slot 6



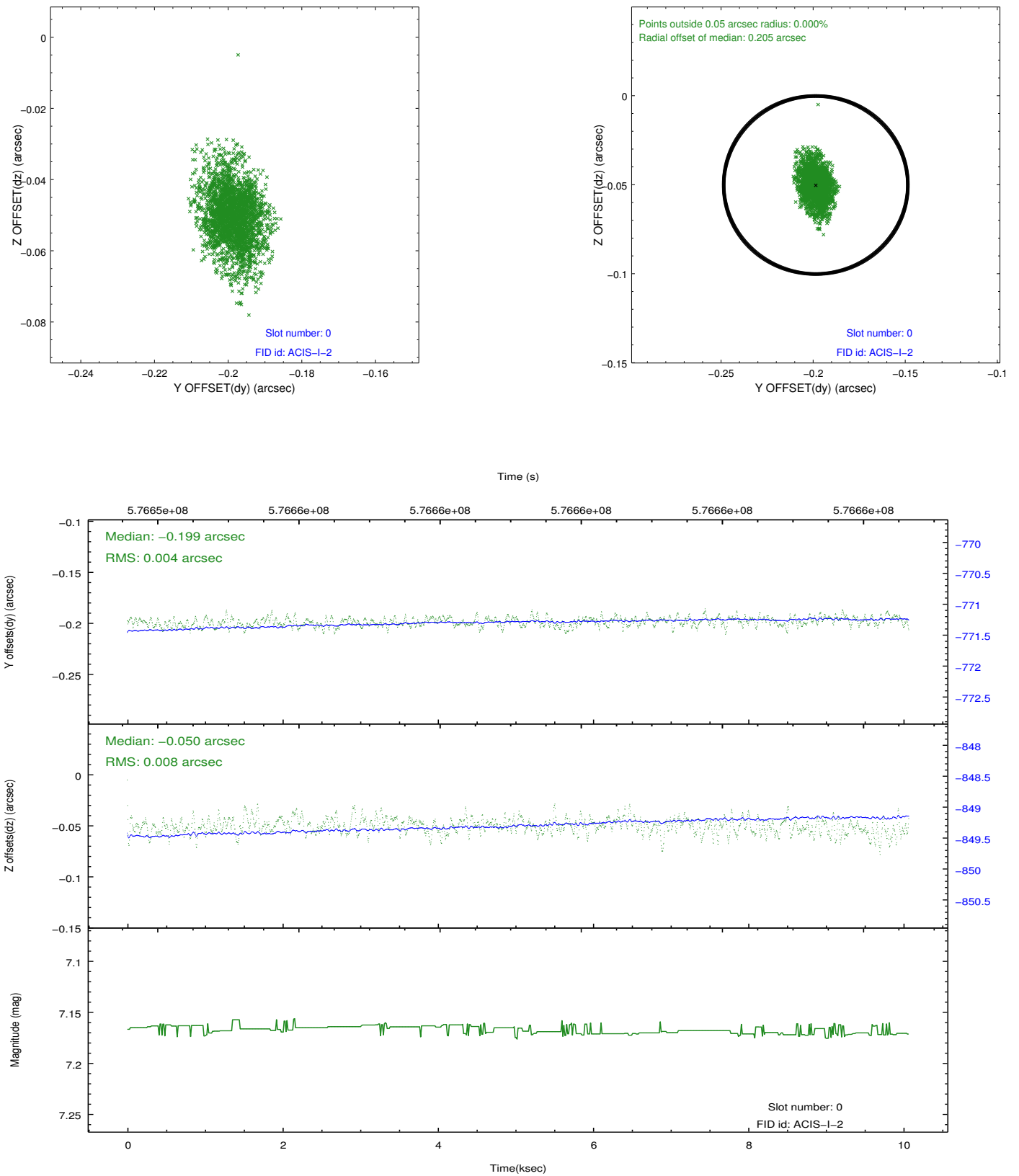


## 2.4.5 Slot 7

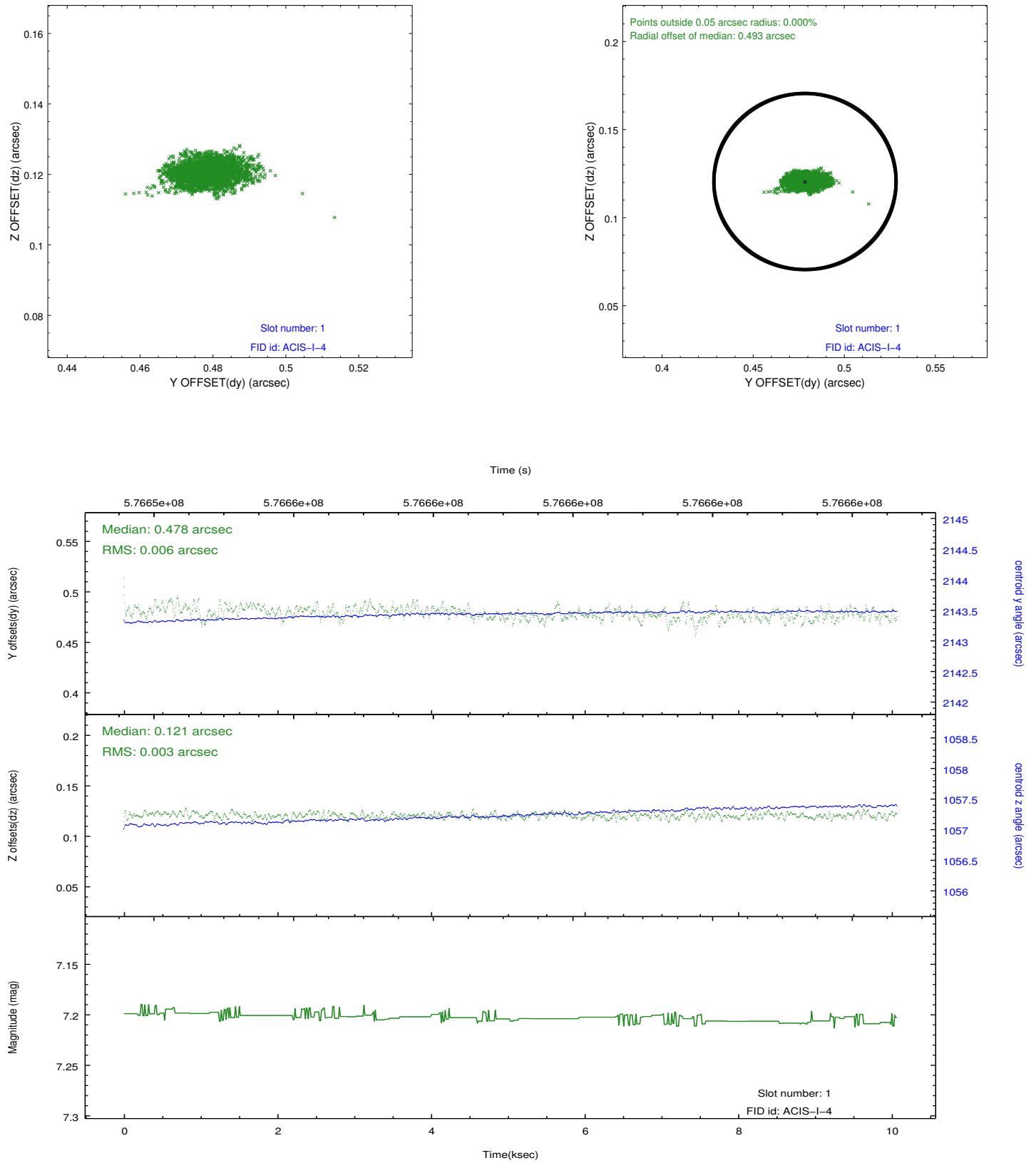


## 2.5 FID Slots

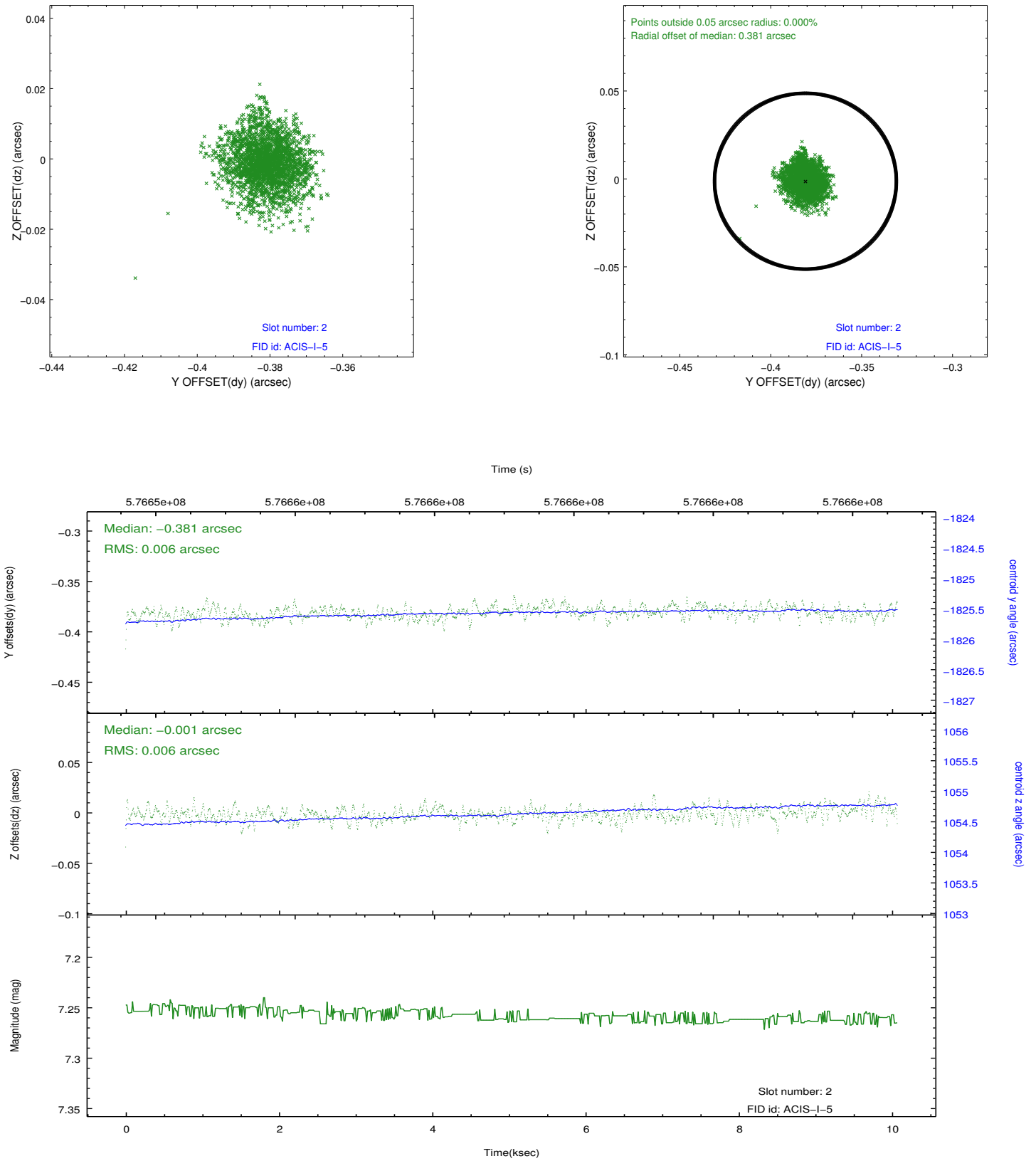
### 2.5.1 Slot 0



## 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)	2016.04.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	9.5914000738859

## 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 (~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: (225.83778, 27.74615), (225.84447, 27.75432), (225.71658, 27.83588), (225.70989, 27.82771).

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One optional chip was dropped.