

# V&V Reference Report

## L2 ASCDS Version : 10.7.1

Observation 22115 - L2 Version 2  
Chandra X-Ray Center

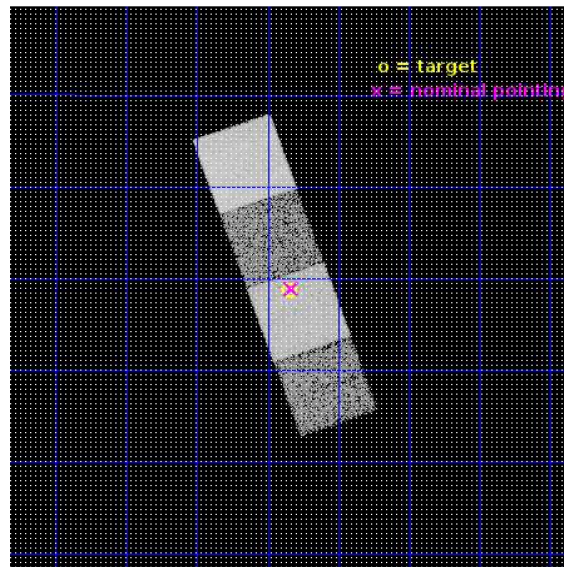
L2 Processing Date : Feb 26 2019

## 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
2.5	FID Slots . . . . .	13
2.5.1	Slot 0 . . . . .	13
2.5.2	Slot 1 . . . . .	14
2.5.3	Slot 2 . . . . .	15
<b>A</b>	<b>Summary</b>	<b>16</b>
A.1	Status . . . . .	16
A.2	Comments . . . . .	16

# 1 Front

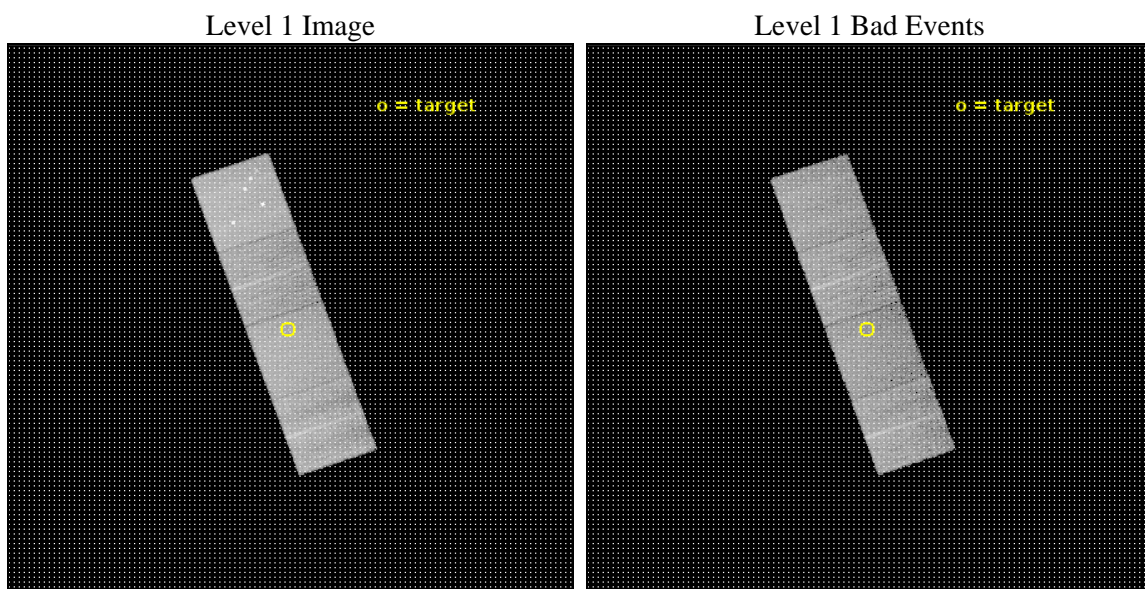
seq_num	703865	Sequence number
obs_id	22115	Observation id
title	C-BASS: A Chandra Legacy Survey of AGN at the Highest Spatial Resolutions	Proposal title
observer	Michael Koss	Principal investigator
object	CGMW5-04382	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	277.710968	Observer's specified target RA [deg]
dec_targ	9.478339	Observer's specified target Dec [deg]
ra_nom	277.70823337816	Nominal RA [deg]
dec_nom	9.4815150839622	Nominal Dec [deg]
roll_nom	70.623496301238	Nominal Roll [deg]
revision	2	Processing version of data
ontime	10059.500077486	Sum of GTIs [s]
livetime	9928.0653032775	Livetime [s]
ontime5	10059.500077486	Sum of GTIs [s]
ontime6	10059.500077486	Sum of GTIs [s]
ontime7	10059.500077486	Sum of GTIs [s]
ontime8	10059.500077486	Sum of GTIs [s]
l2events	114560	Number of level 2 events



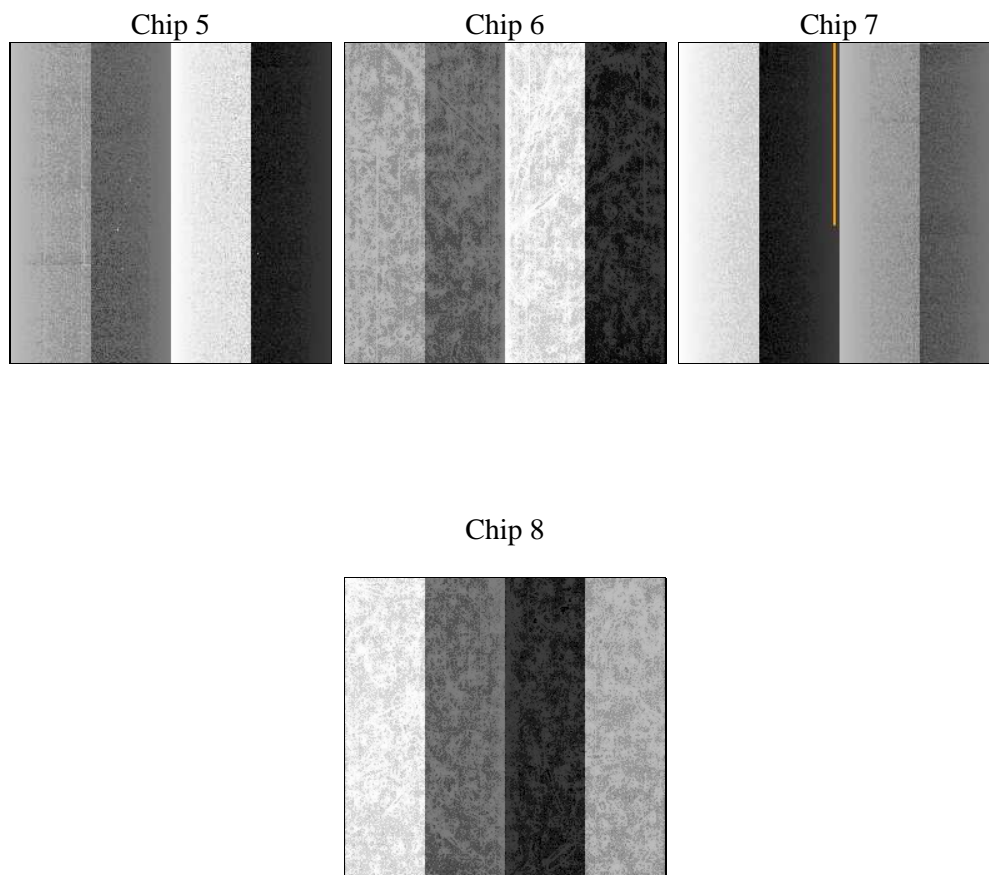
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	10000.000000	[s] Scheduled observation exposure time
ascdsver	10.7.1	Processing system revision	ontime	10059.500077486	Sum of GTIs [s]
caldsver	4.8.2	&#160	ontime5	10059.500077486	Sum of GTIs [s]
date	2019-02-26T17:07:56	Date and time of file creation	ontime6	10059.500077486	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	10059.500077486	Sum of GTIs [s]
			ontime8	10059.500077486	Sum of GTIs [s]
			l1events	414180	Number of level 1 events

### 2.1.4 Events

	<b>ccd 5</b>	<b>ccd 6</b>	<b>ccd 7</b>	<b>ccd 8</b>
level 1 events	132383	81014	100338	100445
rejected events	65363	72217	57177	73682
rejected %	49%	89%	56%	73%

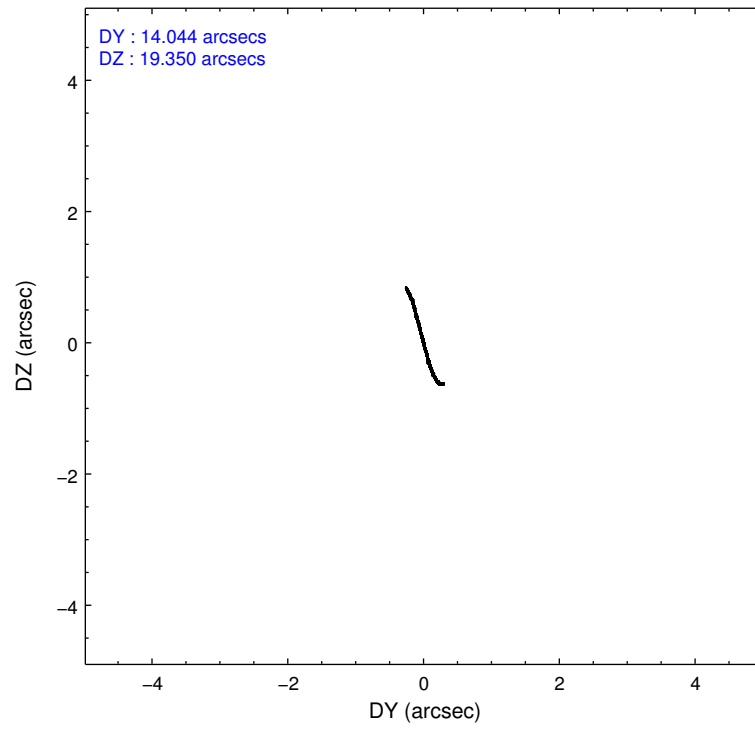
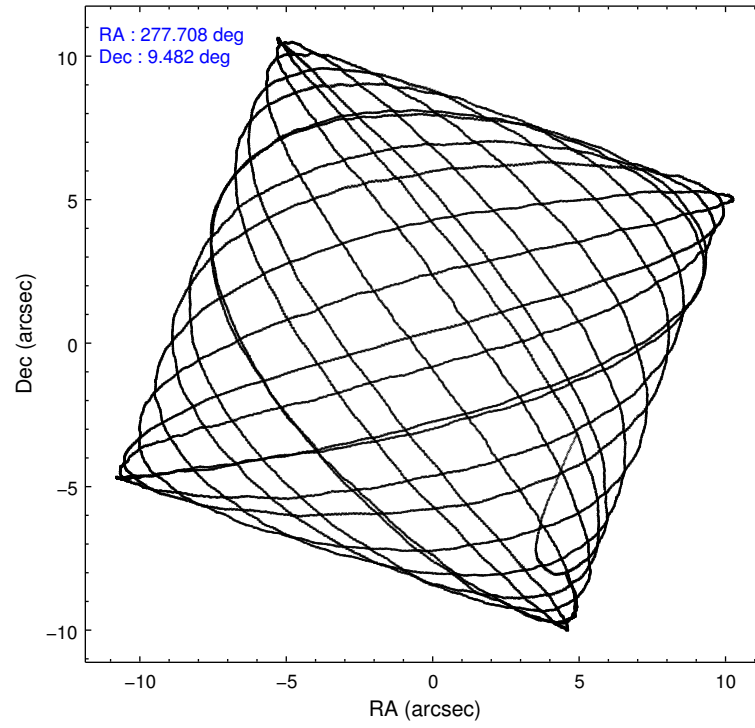
	<b>ccd 5</b>	<b>ccd 6</b>	<b>ccd 7</b>	<b>ccd 8</b>
grade 0 events	11398	2717	3649	7525
	8%	3%	3%	7%
grade 1 events	459	31	133	80
	0%	0%	0%	0%
grade 2 events	18961	2225	9072	6333
	14%	2%	9%	6%
grade 3 events	1653	819	3368	2820
	1%	1%	3%	2%
grade 4 events	1684	783	3207	2657
	1%	0%	3%	2%
grade 5 events	7953	3292	9681	5241
	6%	4%	9%	5%
grade 6 events	33343	2255	23881	7434
	25%	2%	23%	7%
grade 7 events	56932	68892	47347	68355
	43%	85%	47%	68%

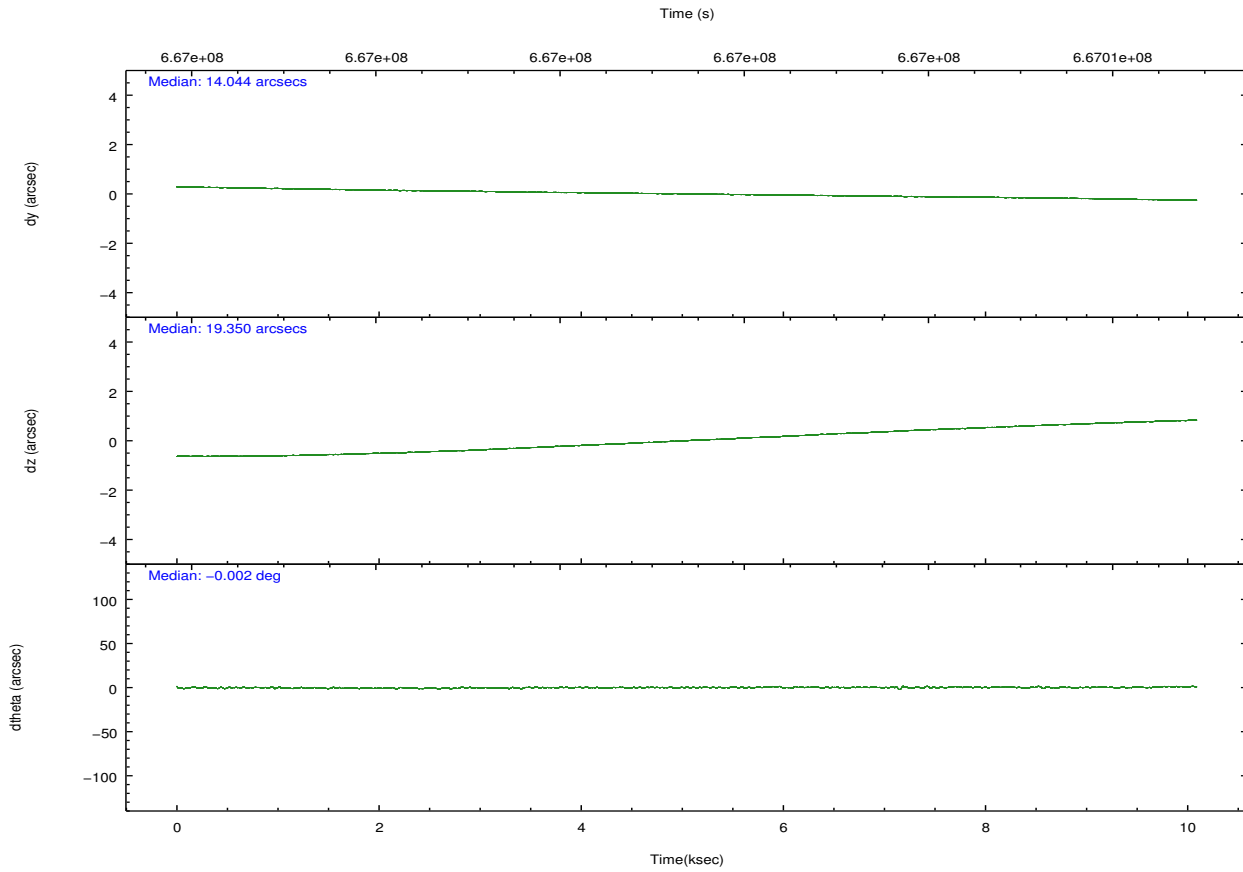
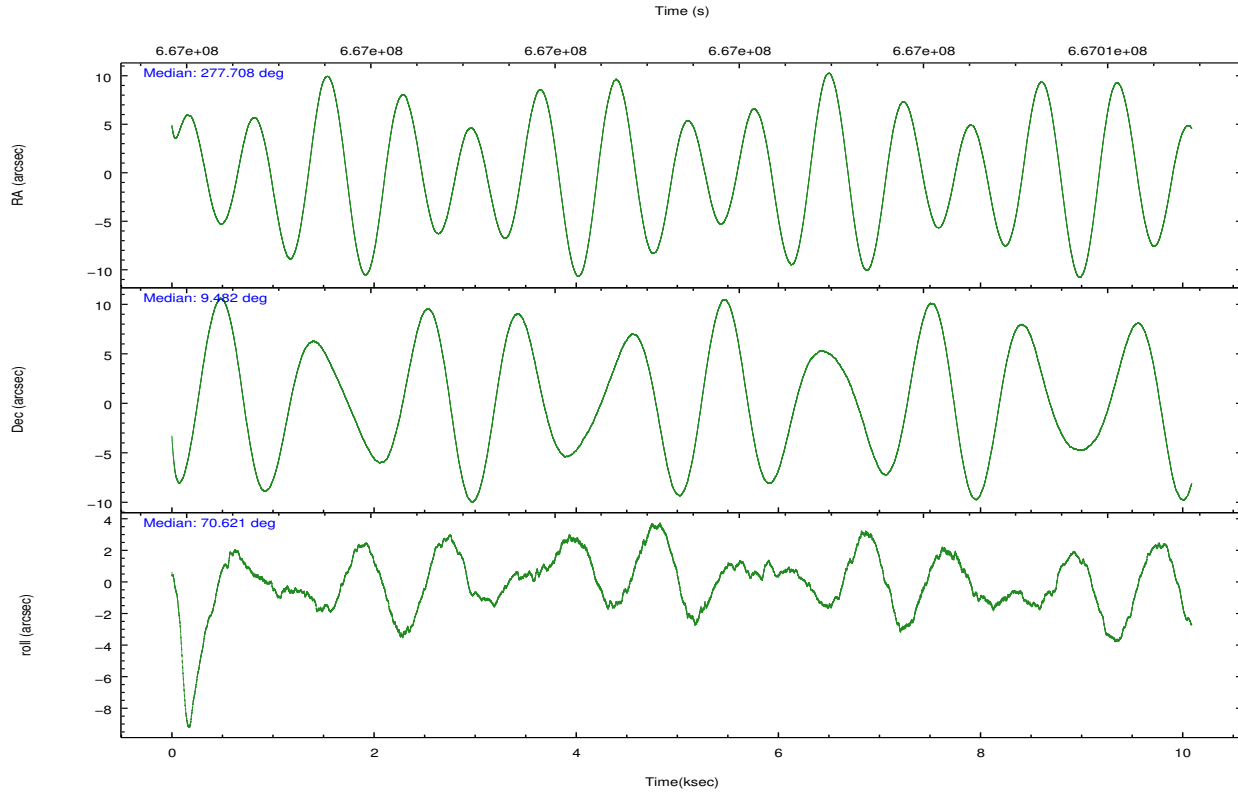


## 2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	ACIS	ACIS	Obspar format version number	7	7
Detector	ACIS-5678	ACIS-5678	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	VFAINT	VFAINT	CCD I0 on	N	N
Observation mode	POINTING	POINTING	CCD I1 on	N	N
[deg] Pointing RA	277.713690	277.7082333781605	CCD I2 on	N	N
[deg] Pointing Dec	9.454639	9.481515083962208	CCD I3 on	N	N
[deg] Pointing Roll	70.465968	70.62349630123782	CCD S0 on	N	N
[mm] SIM focus pos	-0.684267	-0.6828225247311905	CCD S1 on	O1	Y
[mm] SIM defocus	0	0.001444936568705701	CCD S2 on	Y	Y
[mm] SIM translation stage pos	-190.132523	-190.1400660498719	CCD S3 on	Y	Y
[mm] SIM translation stage offset	0	0.00754346686406393	CCD S4 on	Y	Y
[s] Observation start time (MET)	666996433.184000	666995189.61941	CCD S5 on	N	N
Observation start date	2019-02-19T20:46:04	2019-02-19T20:26:29	Number of optional ACIS chips dropped	0	0
[s] Observation end time (MET)	667006433.184000	667007590.07015	On-chip summing requested	N	N
Observation end date	2019-02-19T23:32:44	2019-02-19T23:53:10	Subarray requested	NONE	NONE
Read mode	TIMED	TIMED	Alternating exposures requested	N	N
			[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



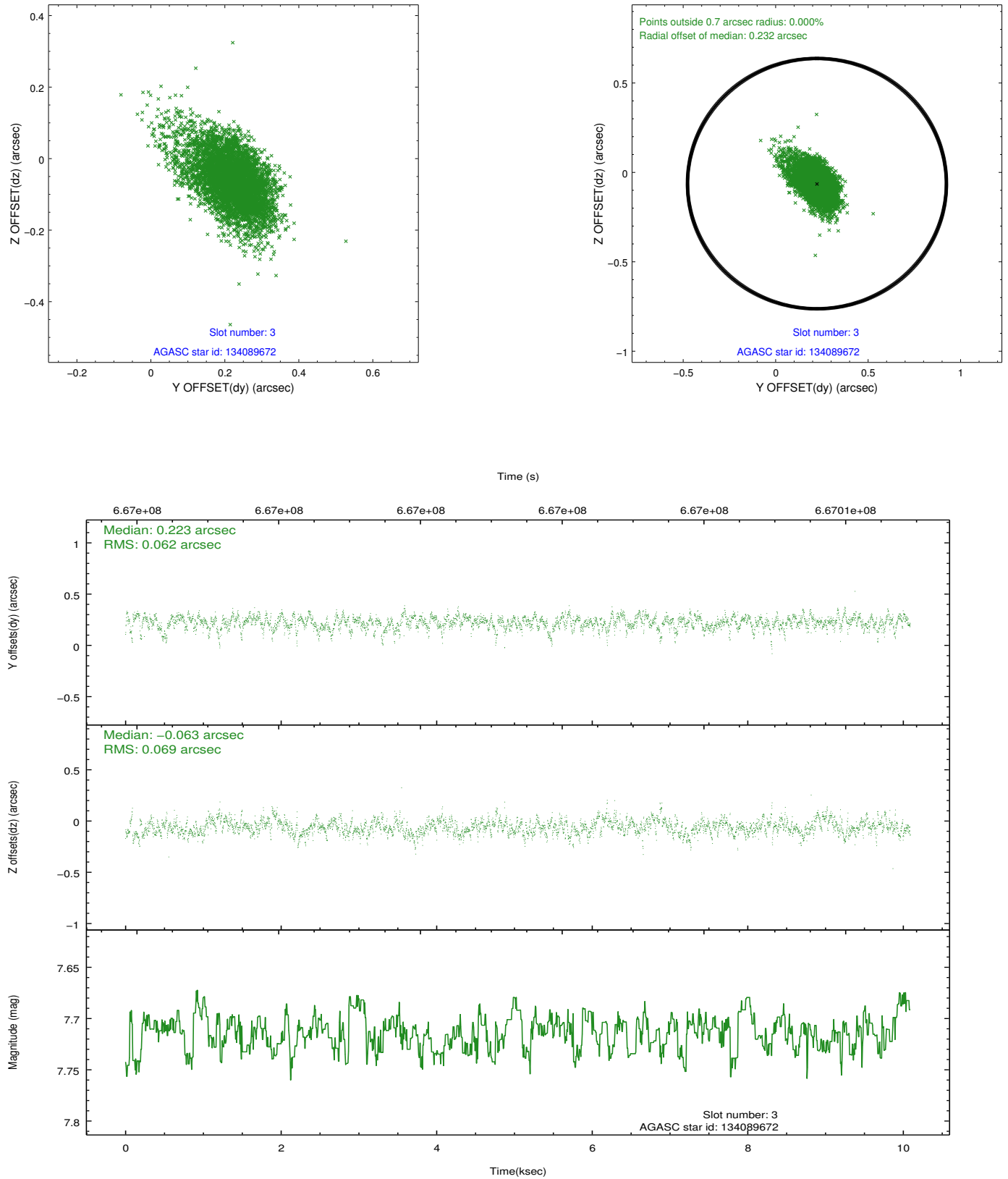


Slot Statistics

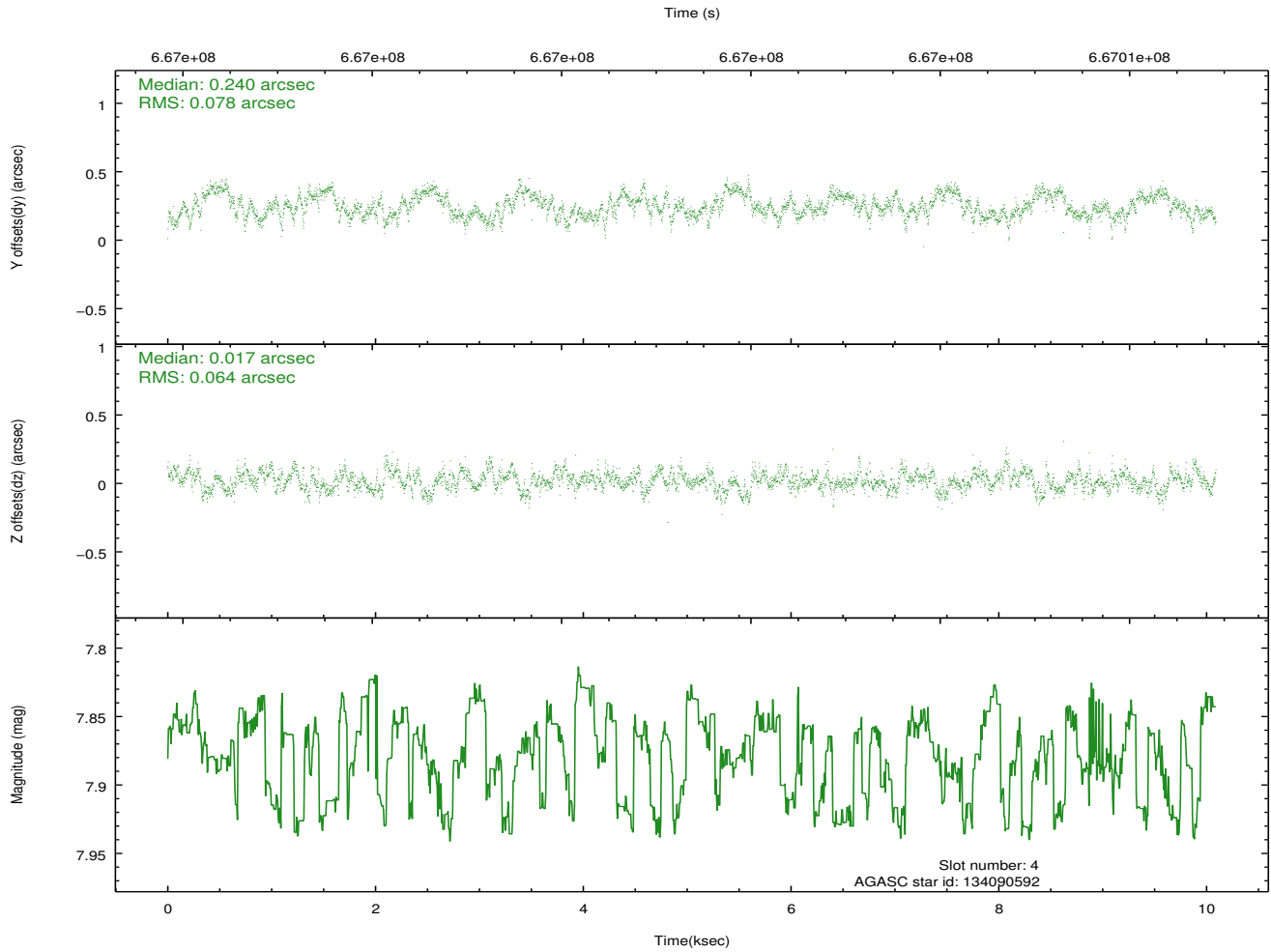
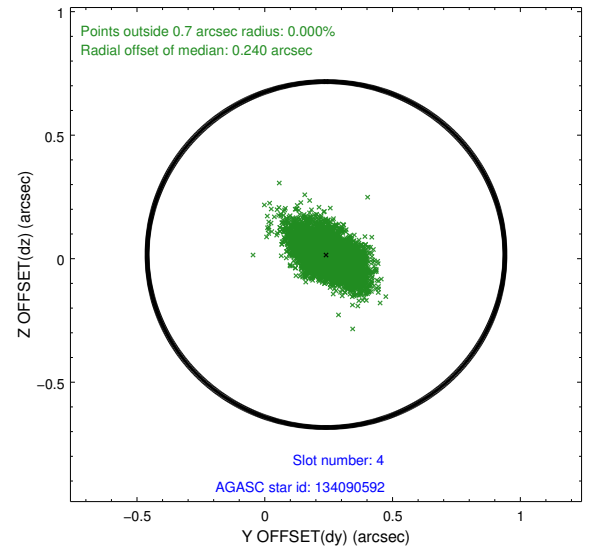
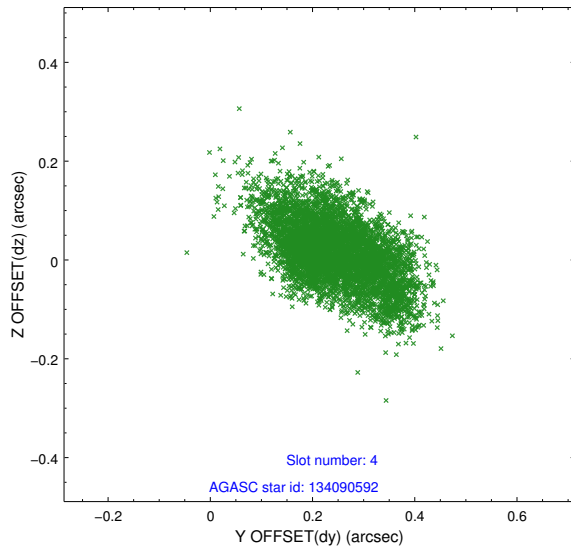
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-1	7.17	2461	1.000	0.079	-0.006	0.034	0.048	0.000000	0.000000	929.03	-1736
1	FID		ACIS-S-2	7.08	2461	1.000	-0.551	-0.298	0.015	0.022	0.000000	0.000000	-767.22	-1741
2	FID		ACIS-S-4	7.19	2461	1.000	0.446	0.310	0.021	0.029	0.000000	0.000000	2146.49	167
3	GUIDE	used	134089672	7.71	4921	1.000	0.223	-0.063	0.092	0.167	277.056680	9.175224	-1726.50	1864
4	GUIDE	used	134090592	7.88	4920	1.000	0.240	0.017	0.106	0.176	277.174215	9.209259	-1471.80	1512
5	GUIDE	used	134612440	7.67	4922	1.000	-0.558	-0.512	0.096	0.150	277.596482	10.084230	1996.53	1148
6	GUIDE	used	134754544	7.99	4921	1.000	0.103	0.556	0.150	0.227	278.401443	9.692012	1624.43	-2013
7	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0

## 2.4 Star Slots

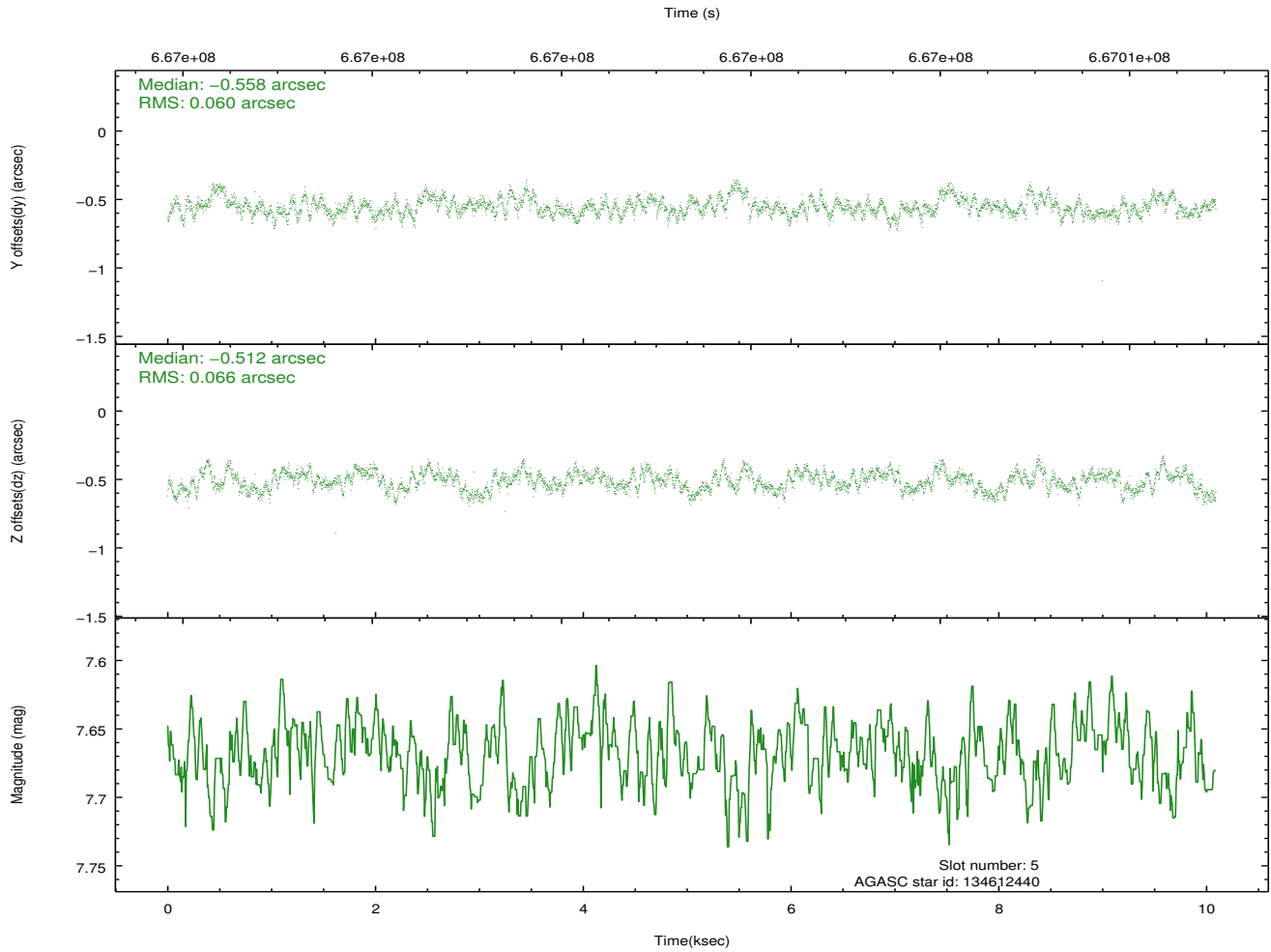
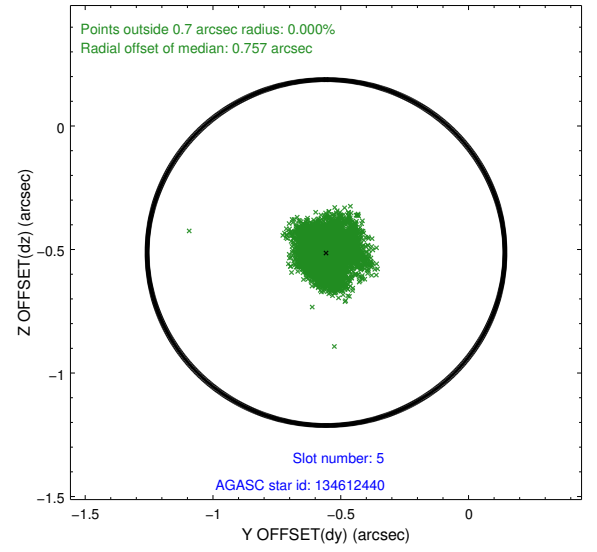
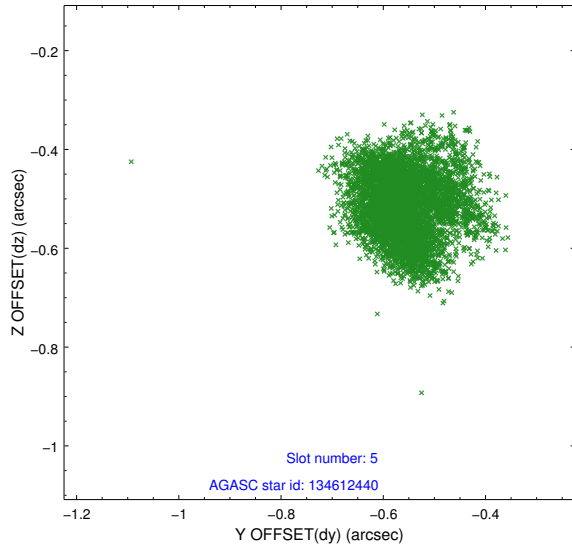
### 2.4.1 Slot 3



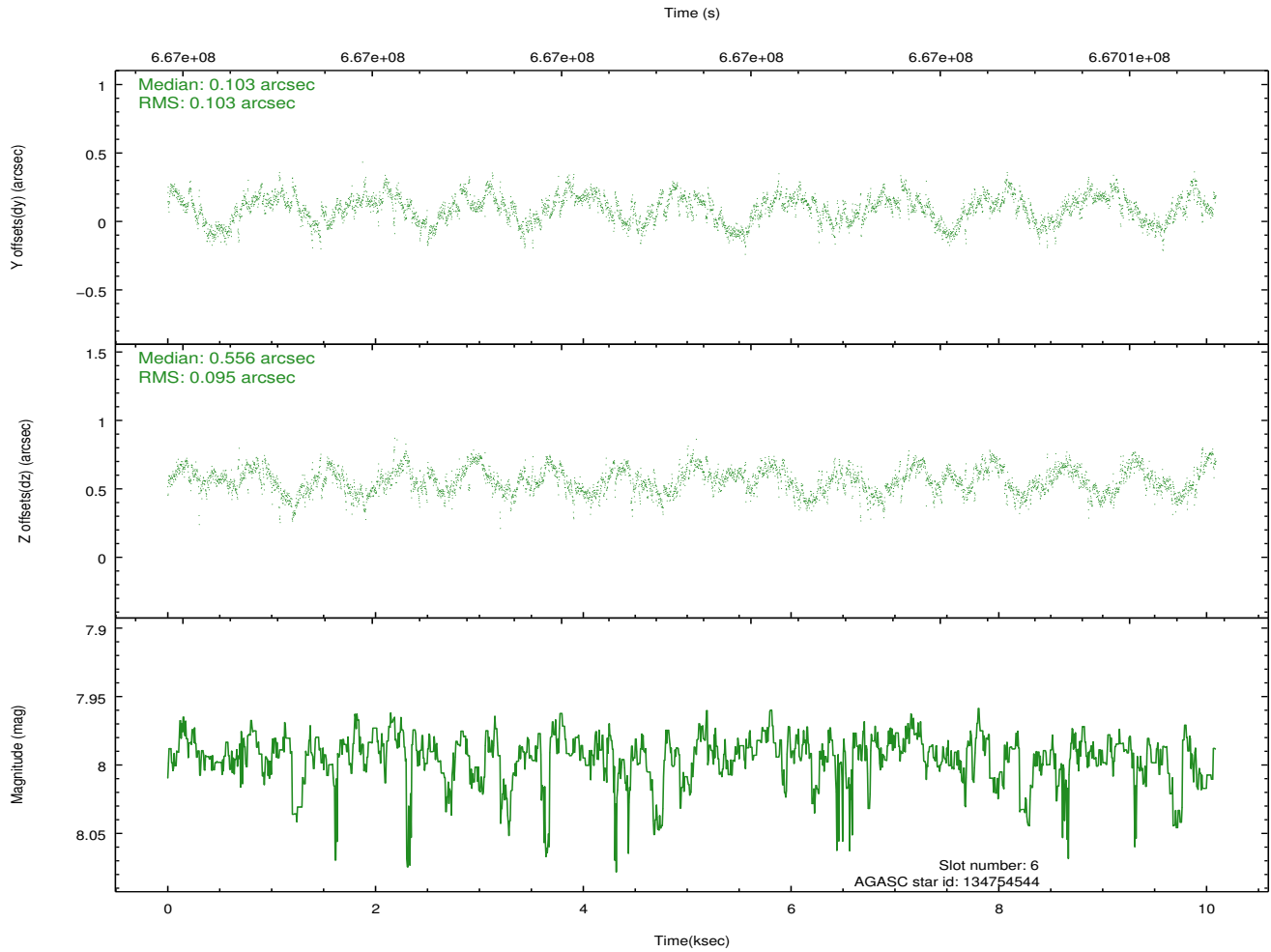
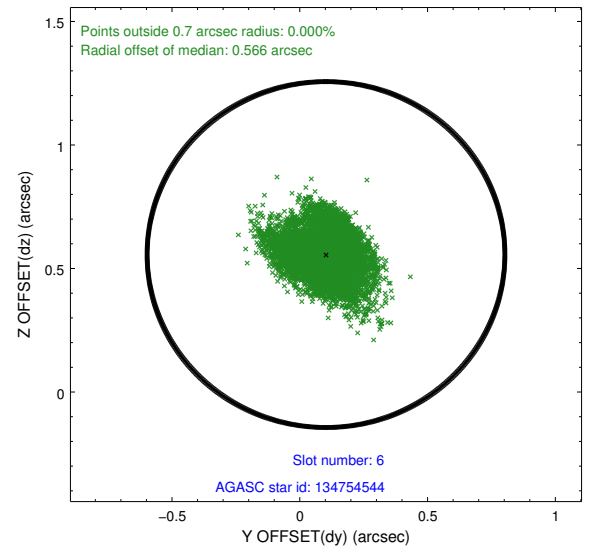
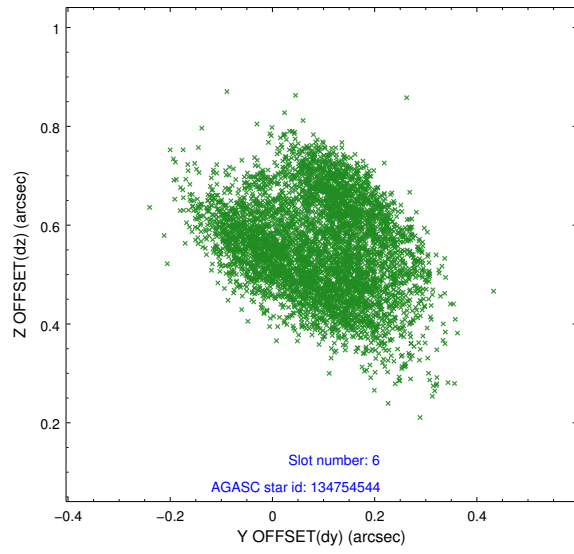
## 2.4.2 Slot 4



### 2.4.3 Slot 5



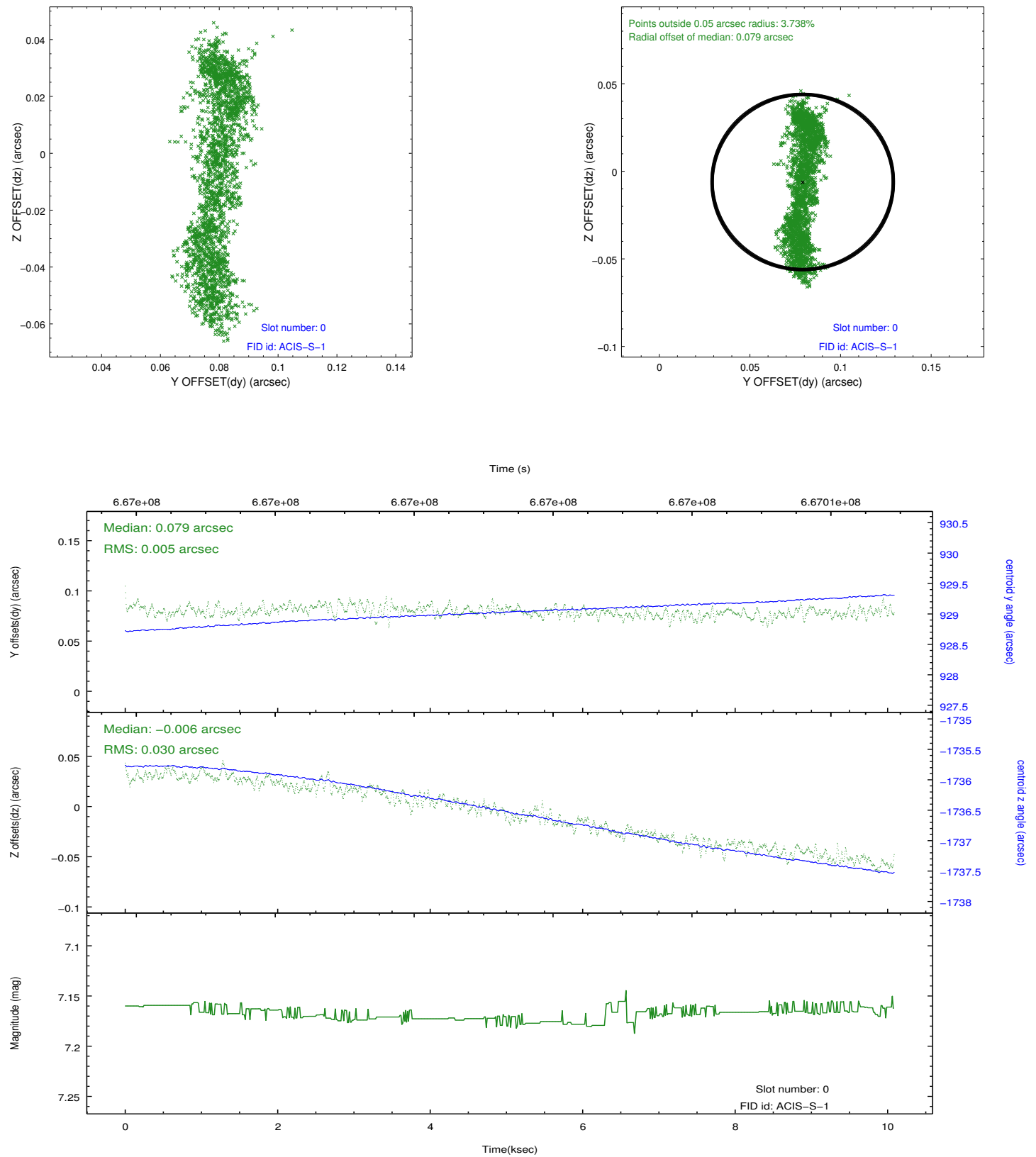
## 2.4.4 Slot 6



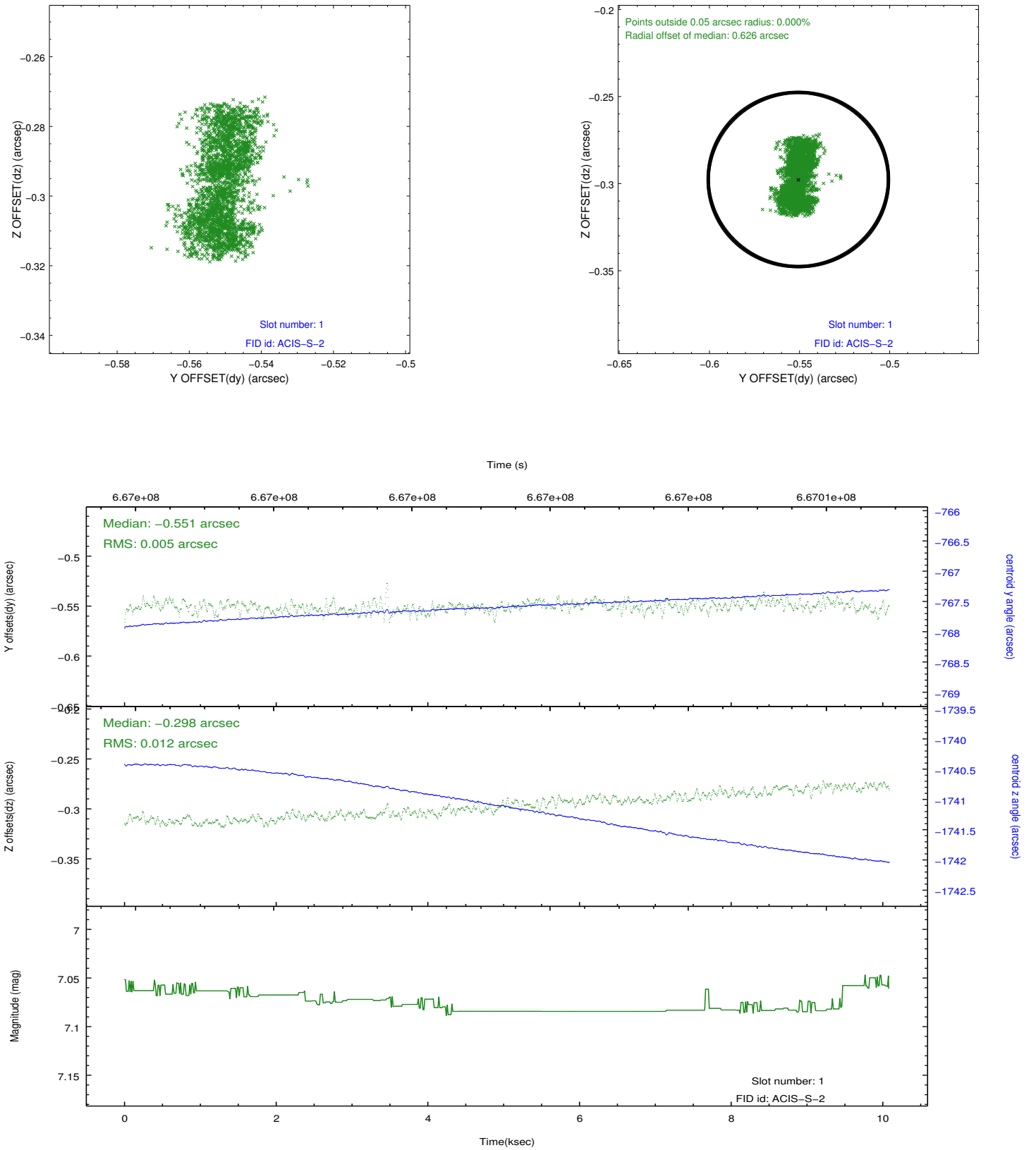


## 2.5 FID Slots

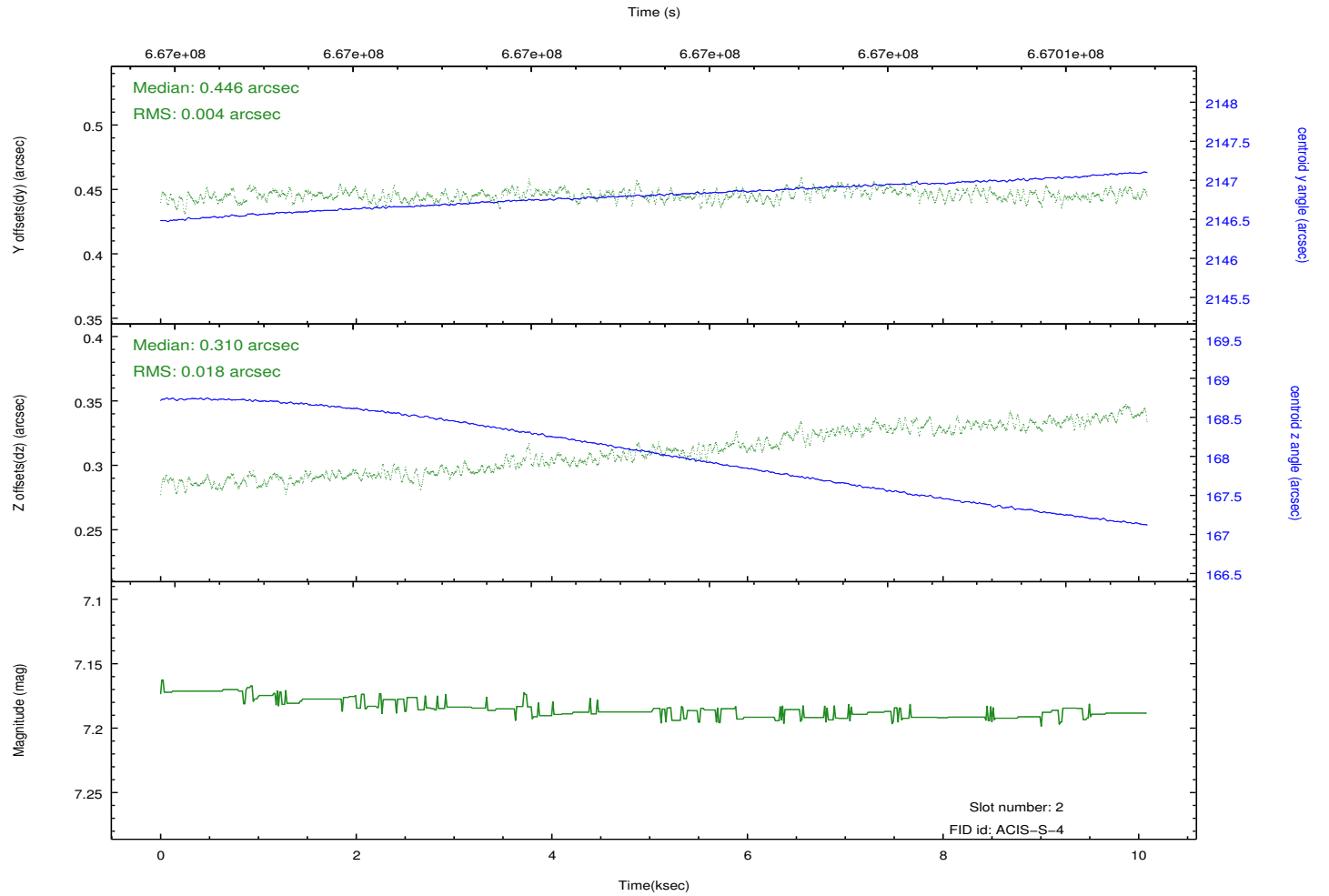
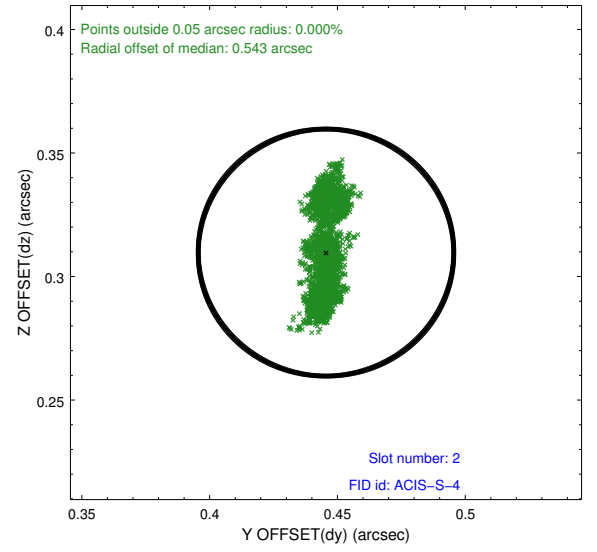
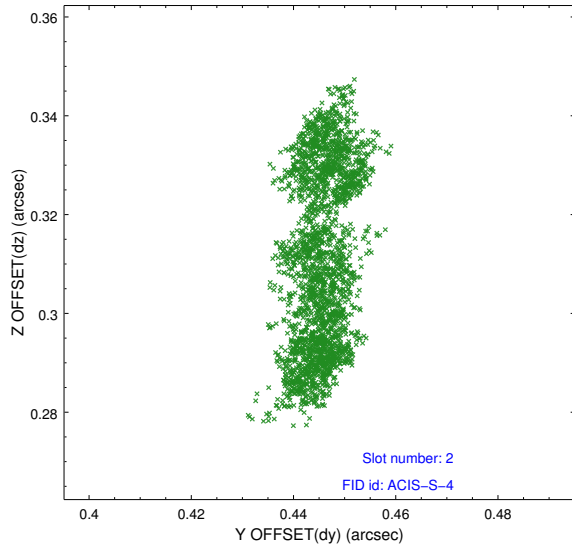
### 2.5.1 Slot 0



## 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)	2019.02.27
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.059500077486

## A.2 Comments

A spatial region of the original bias map for CCD = 7 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 ( $\sim 20$  eV), it depends on many parameters that have not yet been fully explored for this bias anomaly. The bias map for CCD = 7 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:  
(277.72582,9.41503),(277.72462,9.41168),(277.75739,9.40033),(277.75858,9.40368)

=====

The guide star in slot 7 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this guide star from the solution.