

# V&V Reference Report

## L2 ASCDS Version : 10.8.1

Observation 23090 - L2 Version 1  
Chandra X-Ray Center

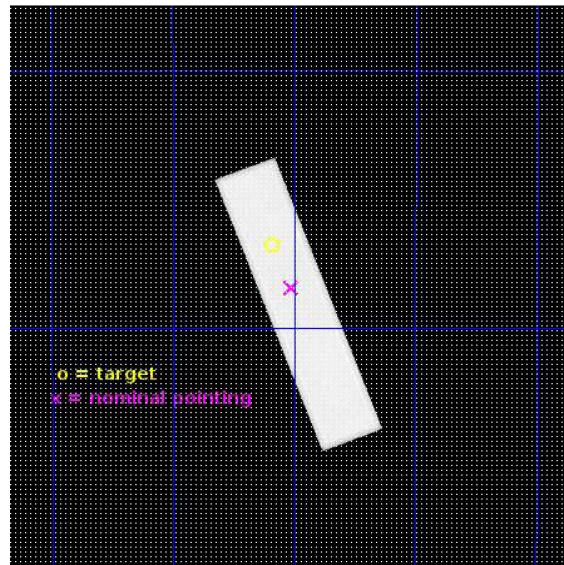
L2 Processing Date : Dec 17 2019

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# 1 Front

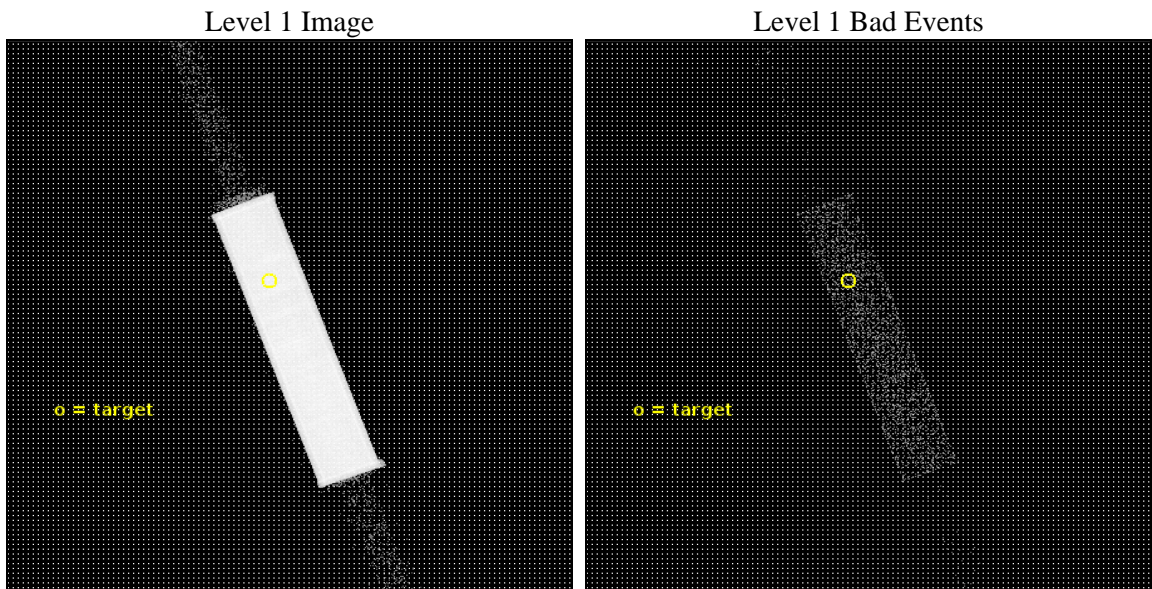
seq_num	100192	Sequence number
obs_id	23090	Observation id
title	Chandra Observations of the Interstellar Comet C/2019 Q4 Borisov	P
observer	Bradford Snios	Principal investigator
object	C/2019 Q4 Borisov	Source name
ra_targ	175.546624	Observer's specified target RA [deg]
dec_targ	-24.839564	Observer's specified target Dec [deg]
ra_nom	175.50540706963	Nominal RA [deg]
dec_nom	-24.922168401949	Nominal Dec [deg]
roll_nom	69.050010472734	Nominal Roll [deg]
revision	1	Processing version of data
ontime	12655.932014942	[s]
livetime	12538.422421809	Ontime multiplied by DTCOR
l2events	895667	Number of level 2 events



## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



2.1.2 Parameters

obi_num	0	Obi number	sched_exp_time	12500.000000	[s] Scheduled observation exposure time
ascdsver	10.8.1	Processing system revision	ontime	12655.932014942	[s]
caldbver	4.8.4.2	&#160	l1events	1121311	Number of level 1 events
date	2019-12-17T18:20:14	Date and time of file creation			
revision	1	Processing version of data			

2.1.3 Events

Level 1 Events

	<b>segment 1</b>	<b>segment 2</b>	<b>segment 3</b>
level 1 events	1009	1119280	1022
rejected events	1009	83081	1022
rejected %	100%	7%	100%

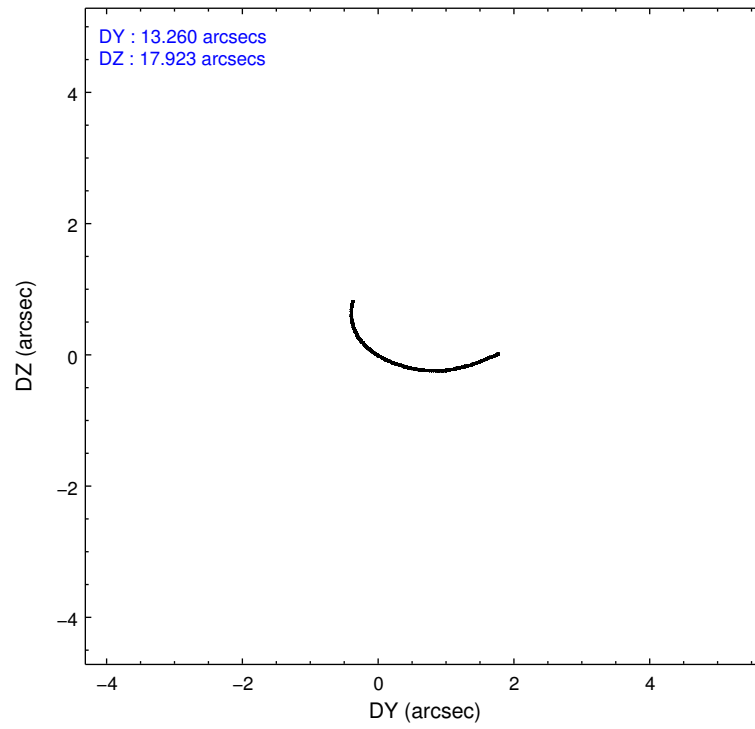
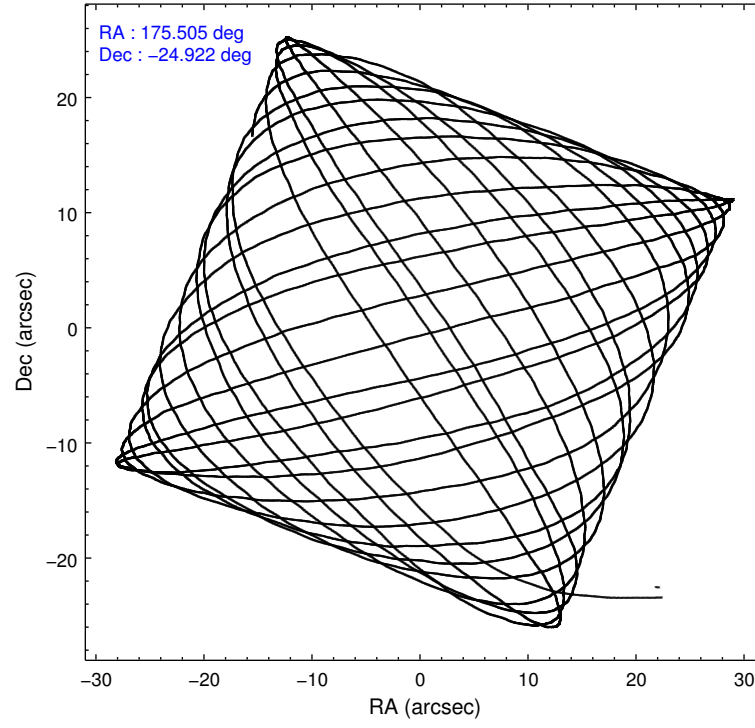


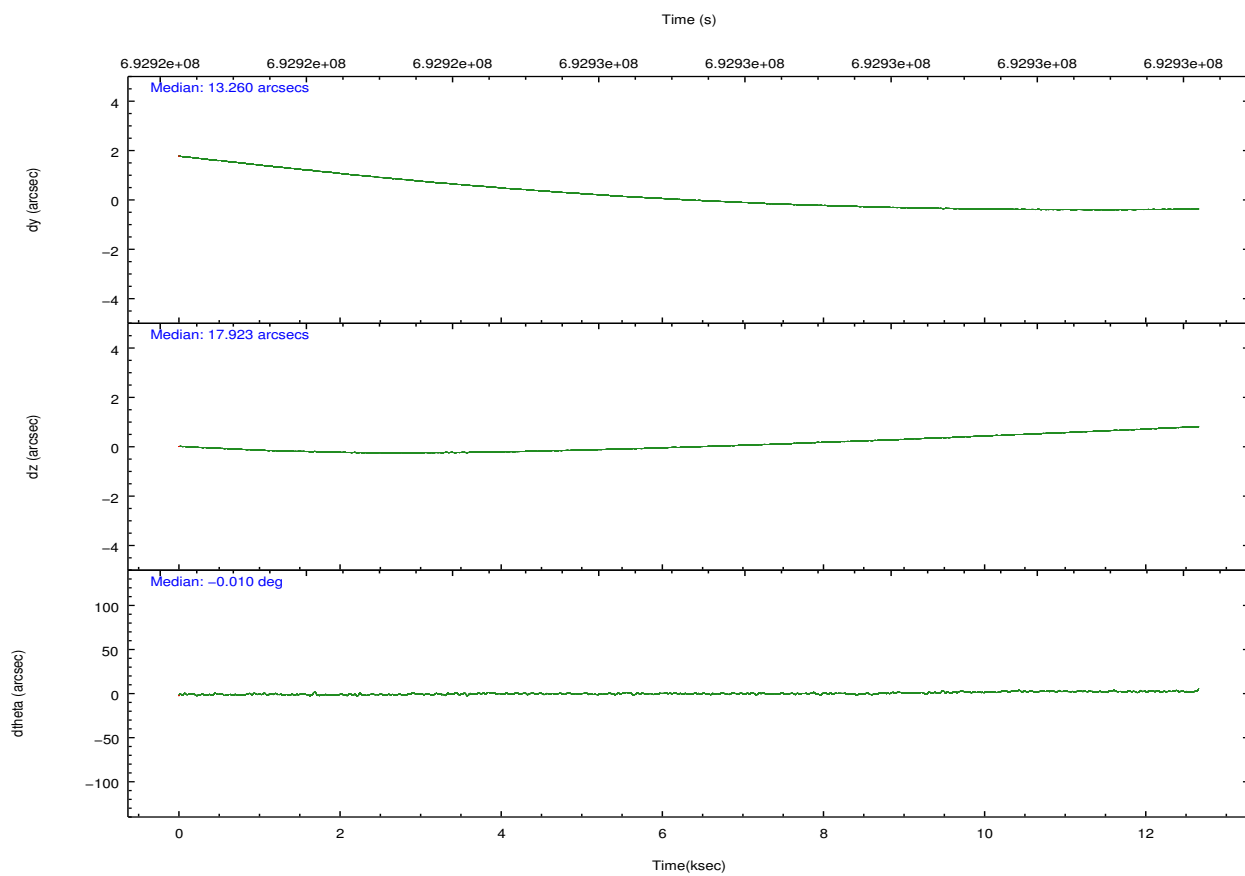
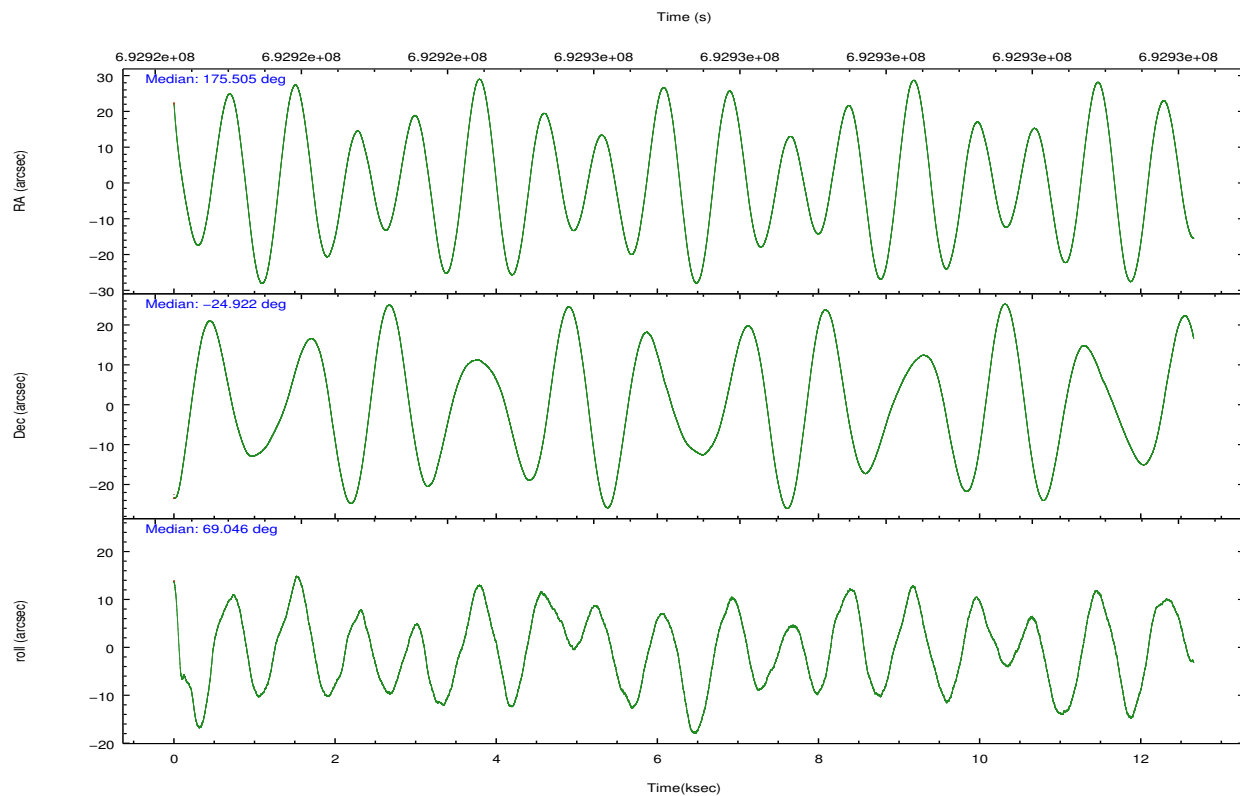
## 2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-S	HRC-S
Grating	NONE	NONE
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
[deg] Pointing RA	175.511929	175.5054070696347
[deg] Pointing Dec	-24.950505	-24.92216840194934
[deg] Pointing Roll	68.985422	69.05001047273387
[s] Window start time (MET)	692625669.184000	692625669.184000
[s] Window stop time (MET)	693835269.184000	693835269.184000
[mm] SIM focus pos	-1.533336	-1.526339935833849
[mm] SIM defocus	7.710433287538843e-07	0.006996703570447904
[mm] SIM translation stage pos	250.455976	250.4635187648994
[mm] SIM translation stage offset	0	-0.007540371344731511
[s] Observation start time (MET)	692921047.184000	692919910.40176
Observation start date	2019-12-16T22:02:58	2019-12-16T21:45:10
[s] Observation end time (MET)	692933547.184000	692933681.79009
Observation end date	2019-12-17T01:31:18	2019-12-17T01:34:41

Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

## 2.3 Aspect



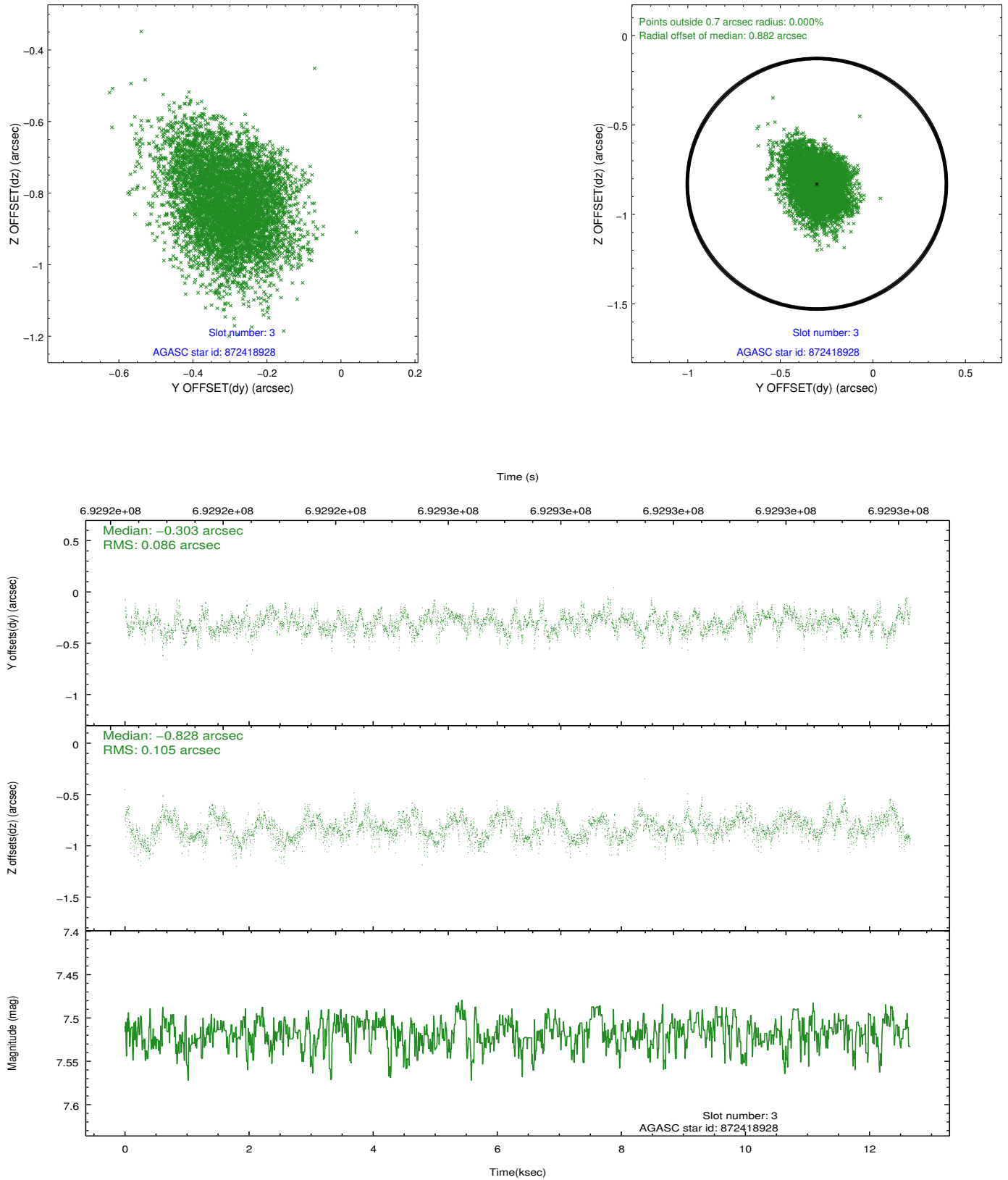


Slot Statistics

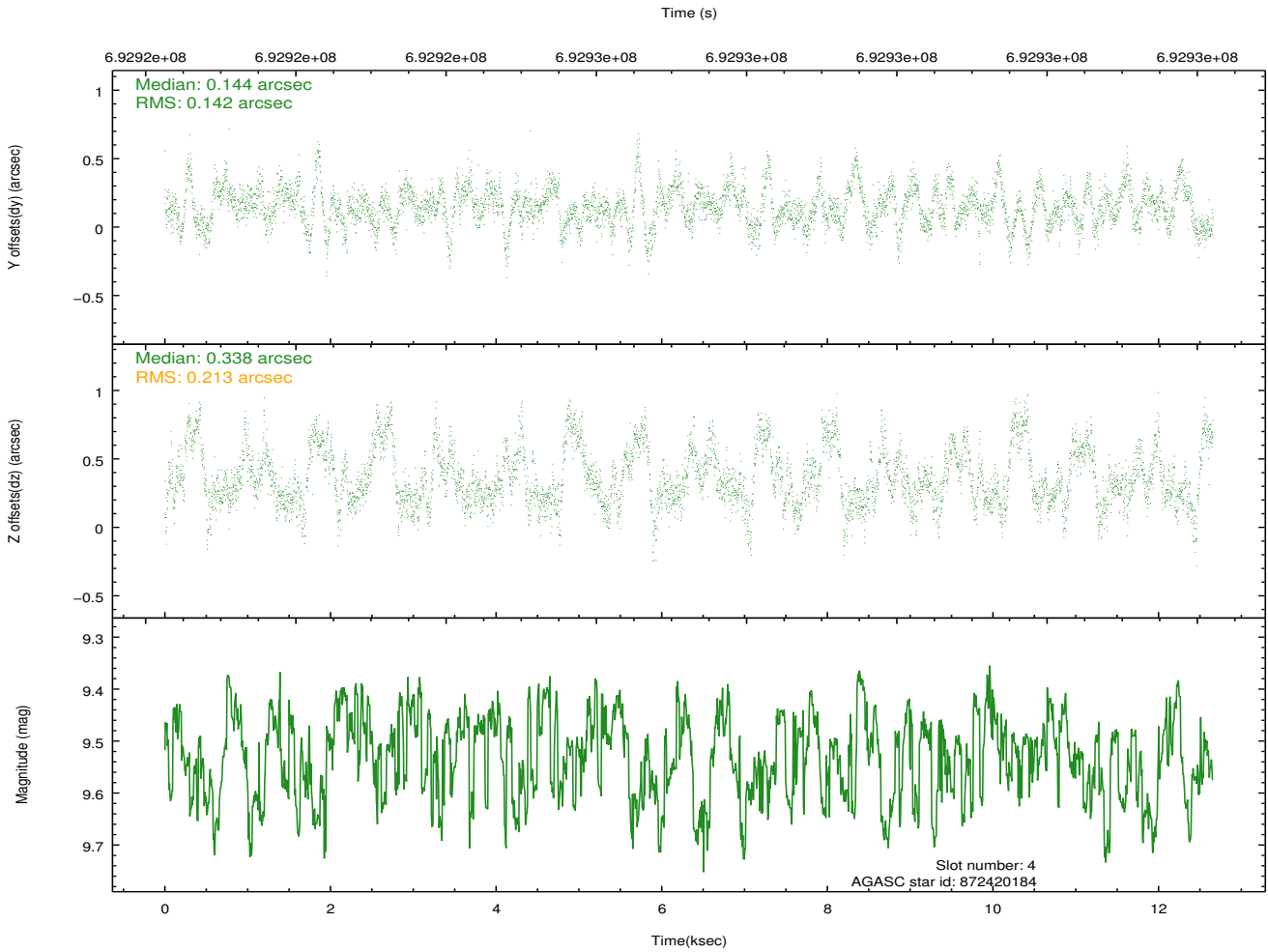
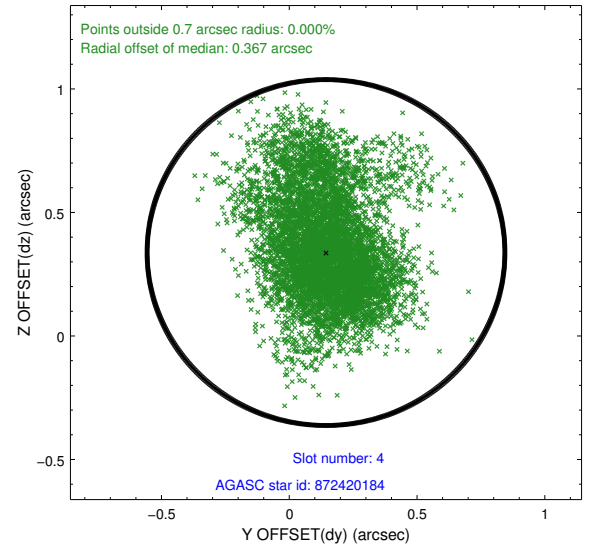
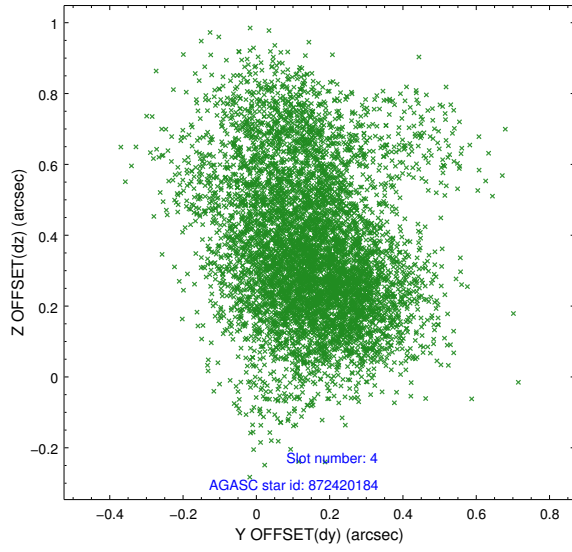
	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	m
	FID		HRC-S-1	7.07	3088	1.000	-0.121	-0.234	0.015	0.029	0.000000	0.000000	-1167.98	-4
	FID		HRC-S-2	7.04	3088	1.000	0.485	-0.144	0.015	0.022	0.000000	0.000000	1231.90	-4
	FID		HRC-S-3	7.04	3087	1.000	0.027	0.072	0.025	0.038	0.000000	0.000000	-1170.27	5
	GUIDE	used	872418928	7.52	6173	1.000	-0.303	-0.828	0.144	0.233	174.842903	-24.896427	-606.66	21
	GUIDE	used	872420184	9.53	6163	1.000	0.144	0.338	0.267	0.461	175.347233	-25.343001	-1510.81	
	GUIDE	used	874121856	8.26	6173	1.000	-0.278	-0.154	0.115	0.188	175.838313	-24.758064	1027.91	-7
	GUIDE	used	874125744	9.26	6160	1.000	0.438	0.617	0.226	0.366	175.933082	-25.663895	-1908.24	-21
	BAD	unused	872422744	0.00	0	-nan	0.000	0.000	1.017	43.608	175.605015	-25.502500	-1746.20	-9

## 2.4 Star Slots

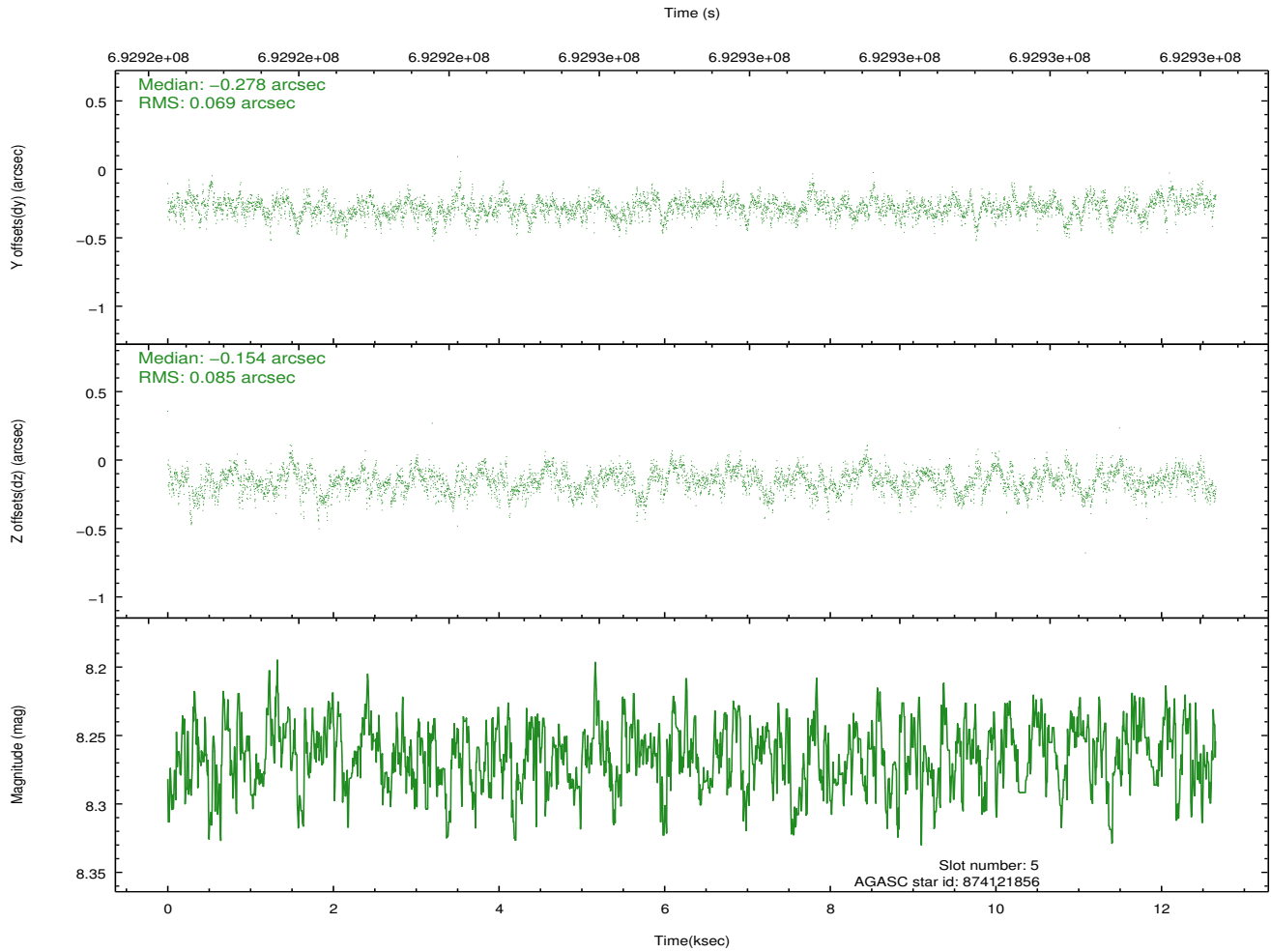
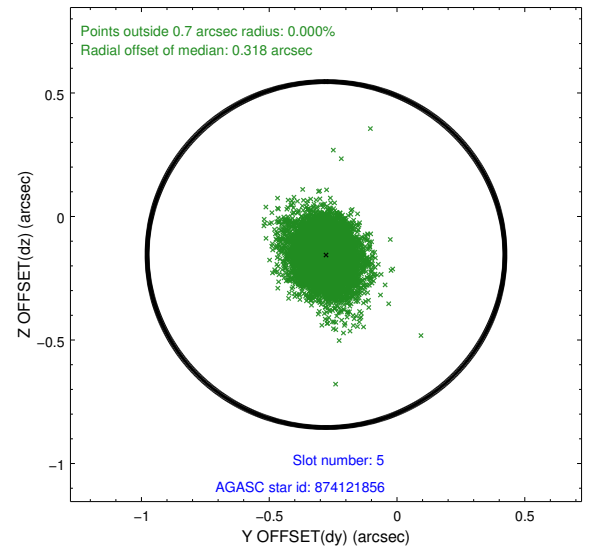
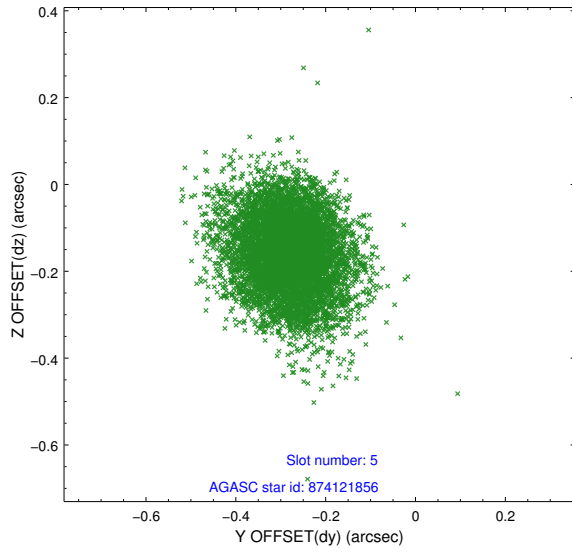
### 2.4.1 Slot 3



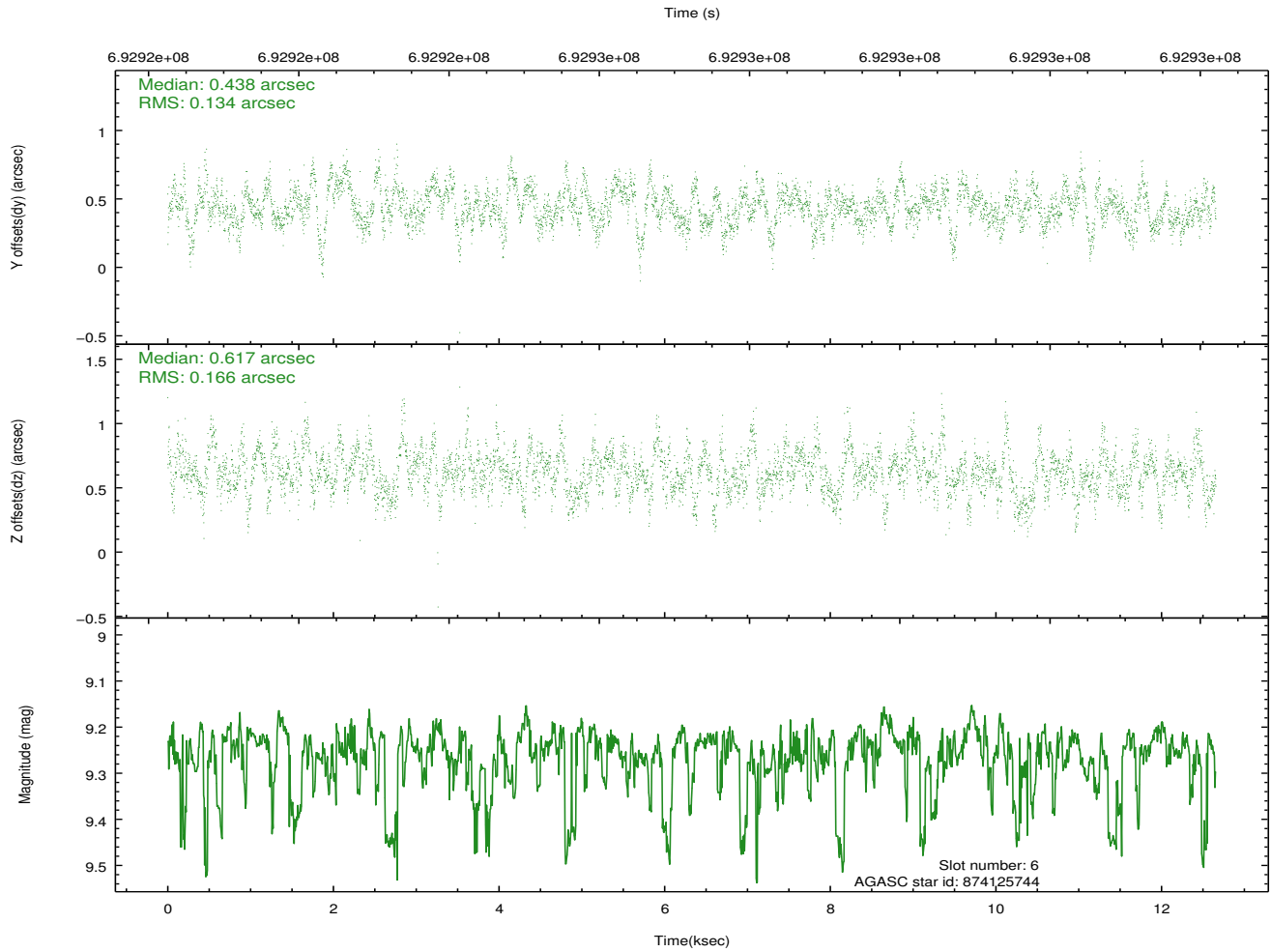
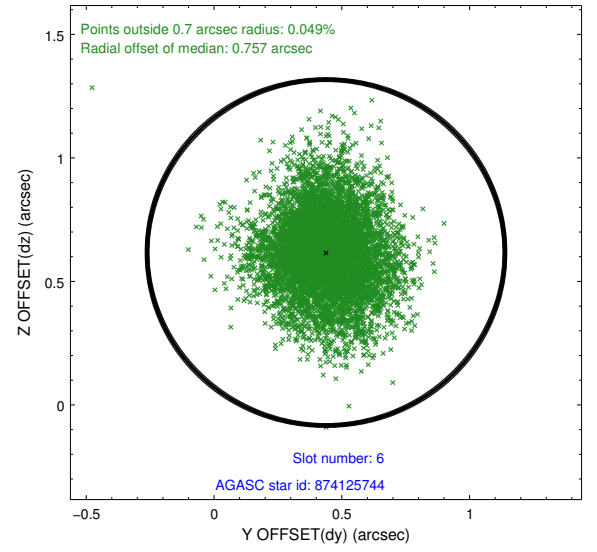
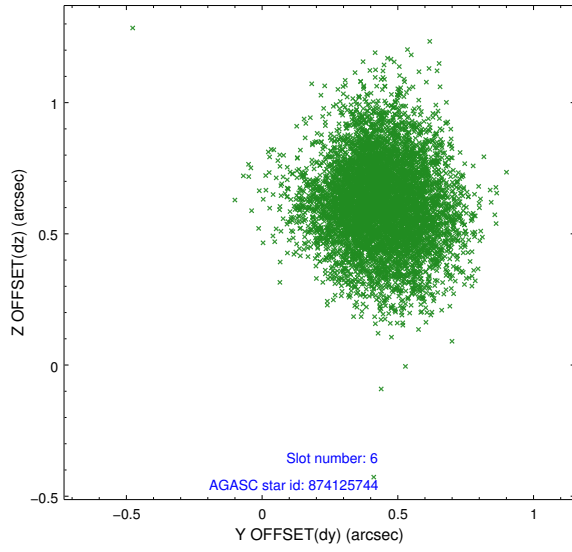
## 2.4.2 Slot 4



### 2.4.3 Slot 5

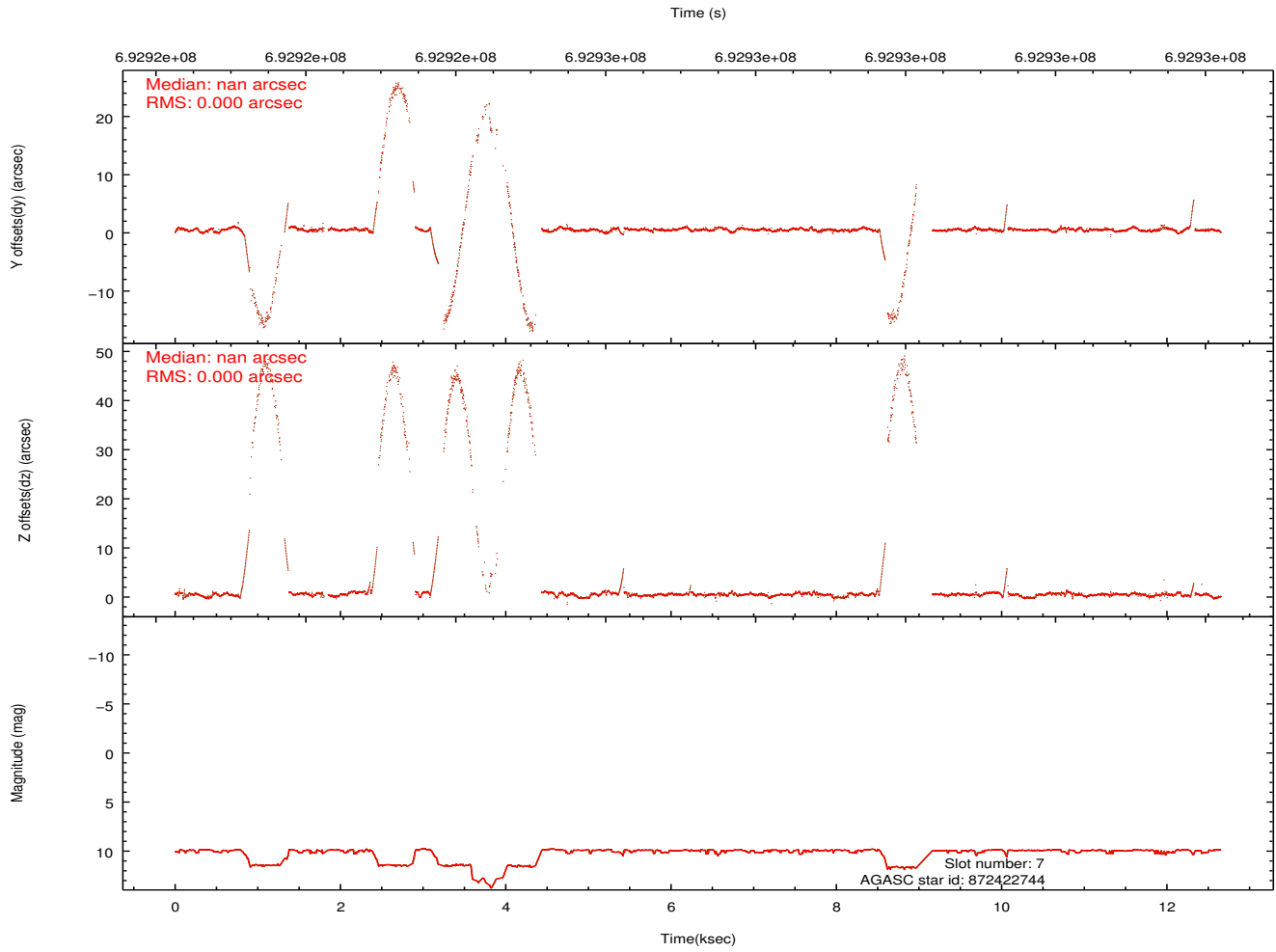
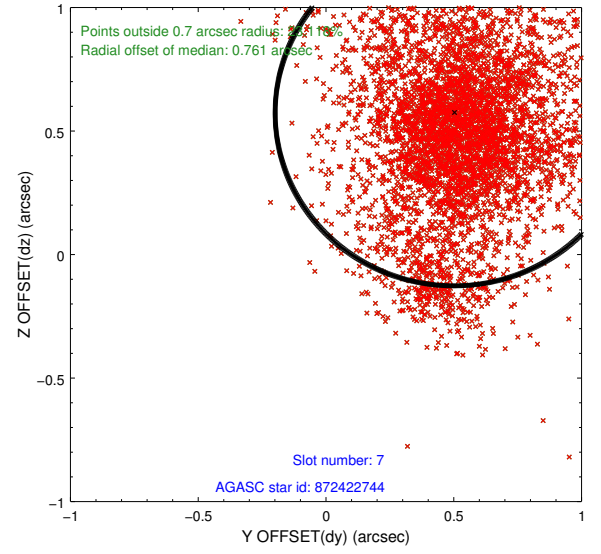
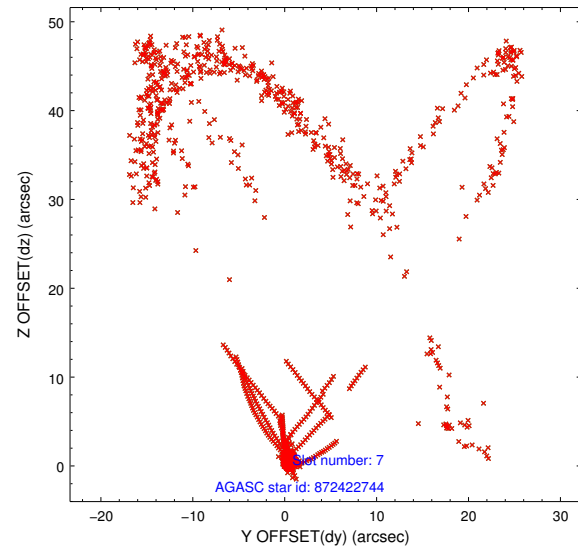


## 2.4.4 Slot 6



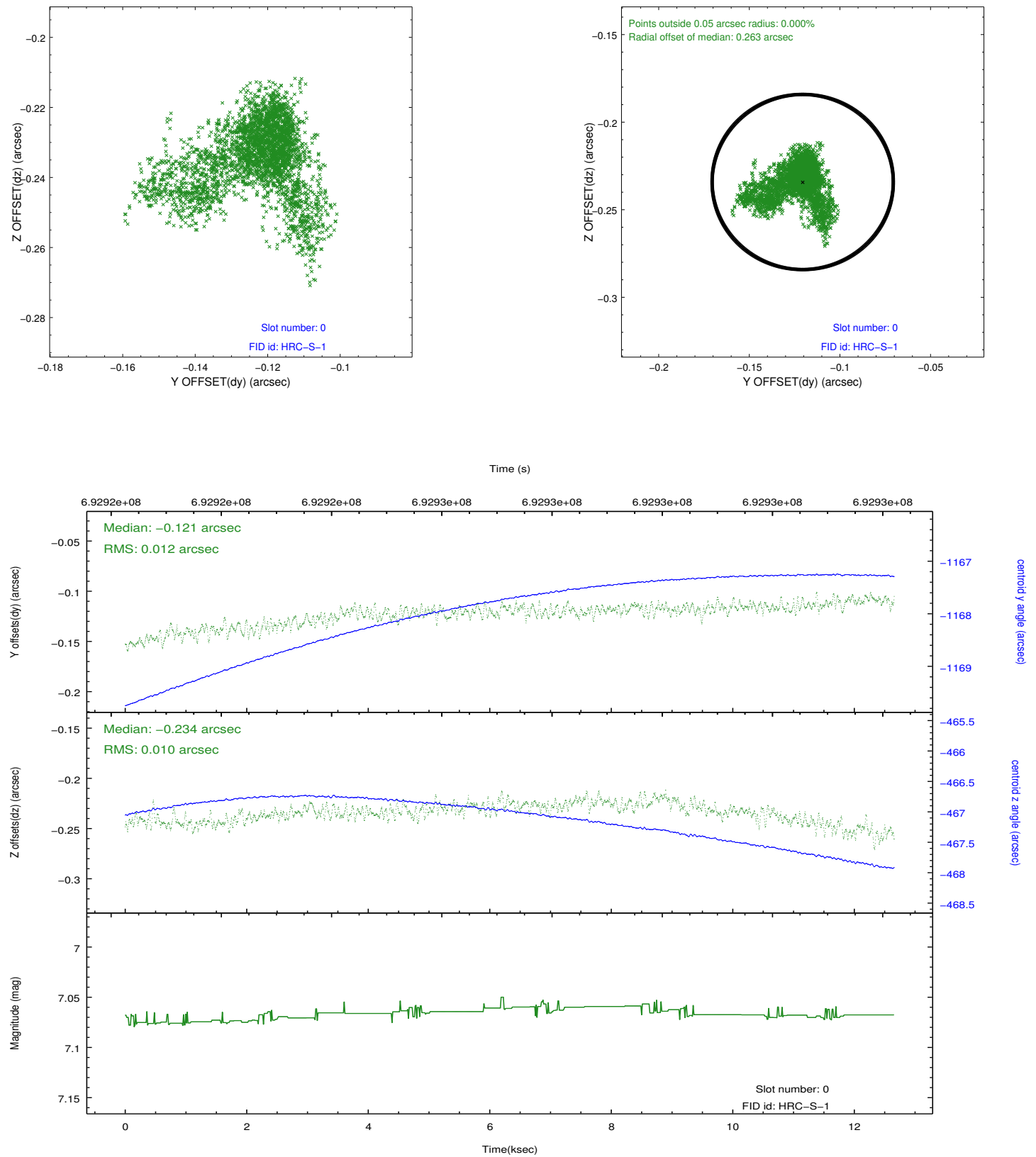


## 2.4.5 Slot 7

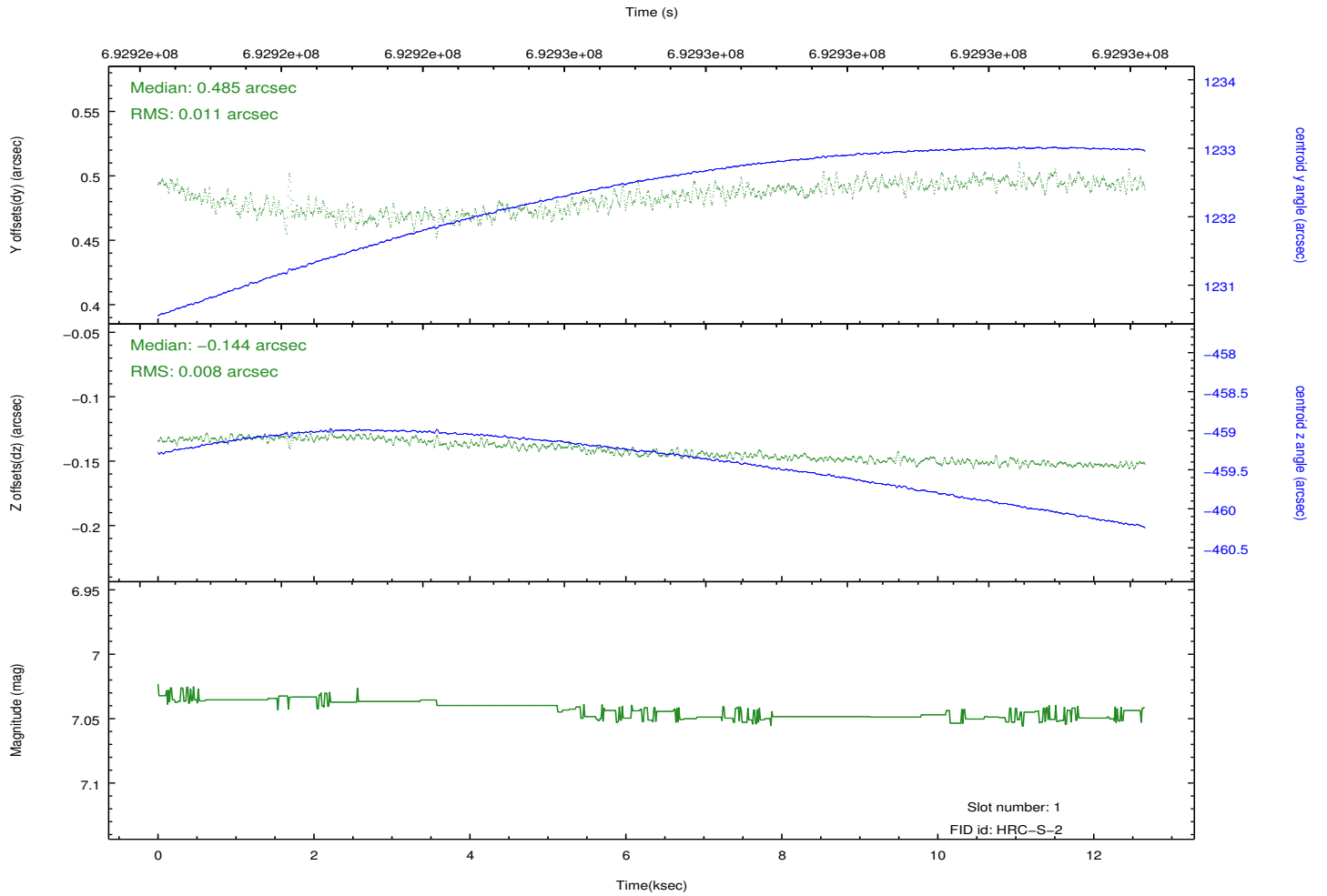
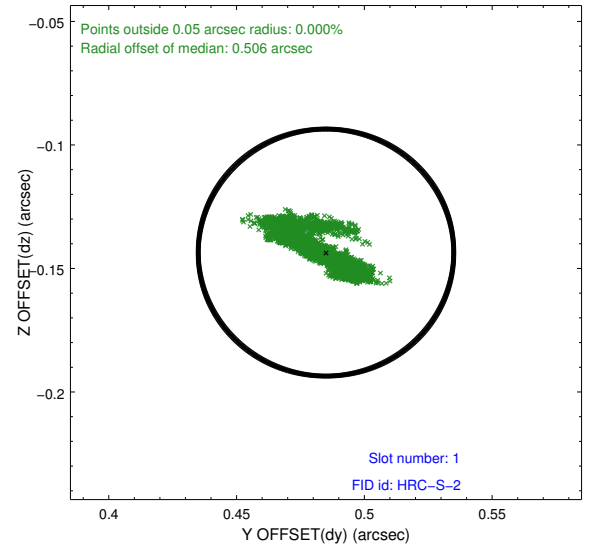
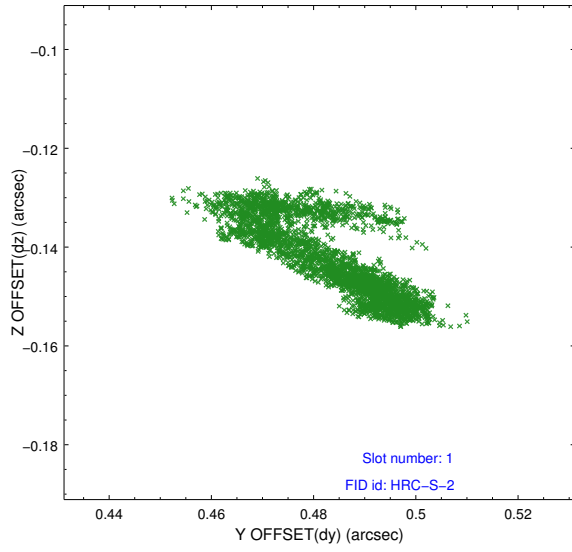


## 2.5 FID Slots

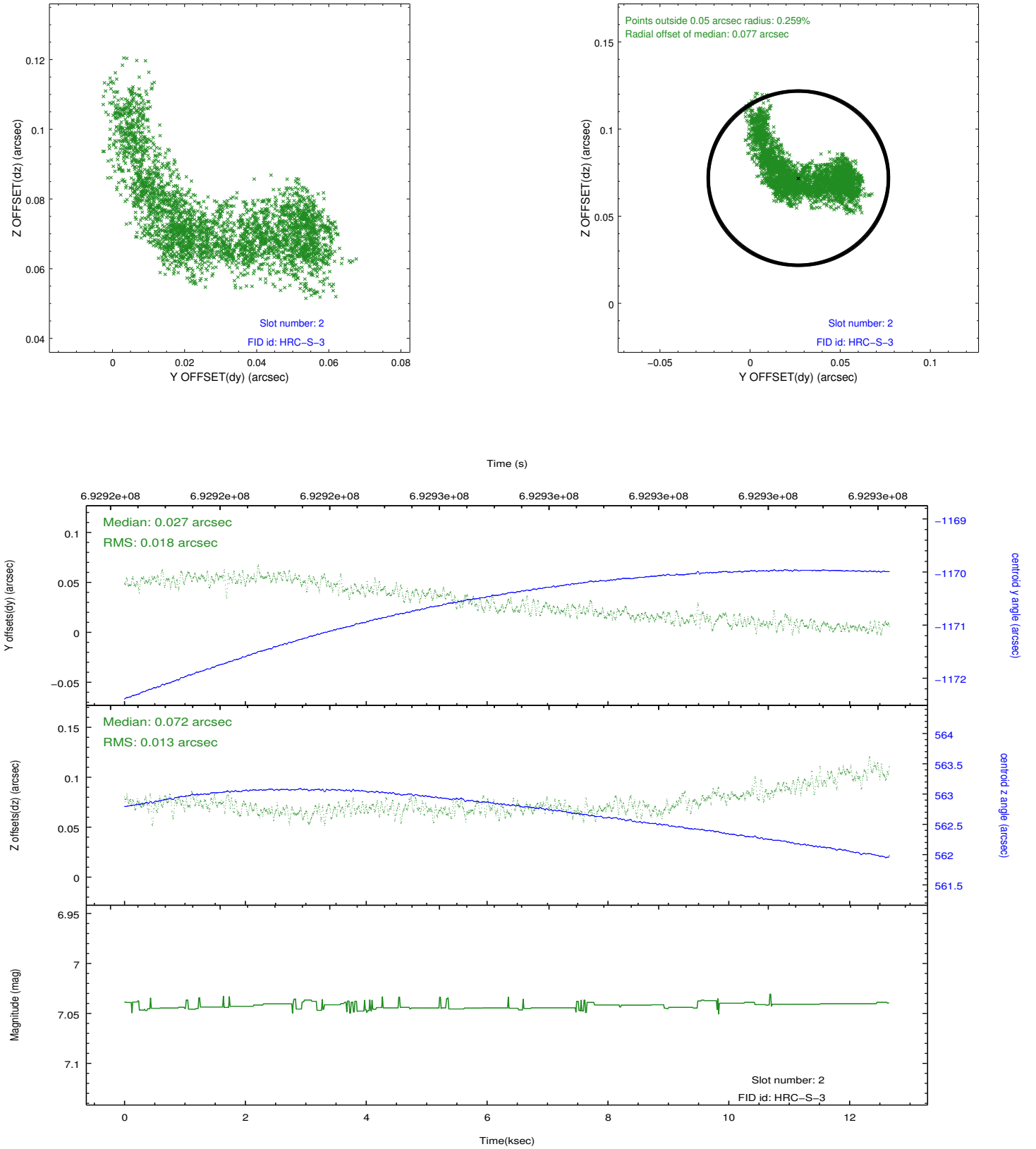
### 2.5.1 Slot 0



## 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)	2019.12.18
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	12.655932014942

## A.2 Comments

Window constraint met.

This is an observation of a moving target. Users will need to run sso\_freeze or similar software to position the events in the reference frame of the target.