

V&V Reference Report

L2 ASCDS Version : 10.9.2

Observation 21058 - L2 Version 2
Chandra X-Ray Center

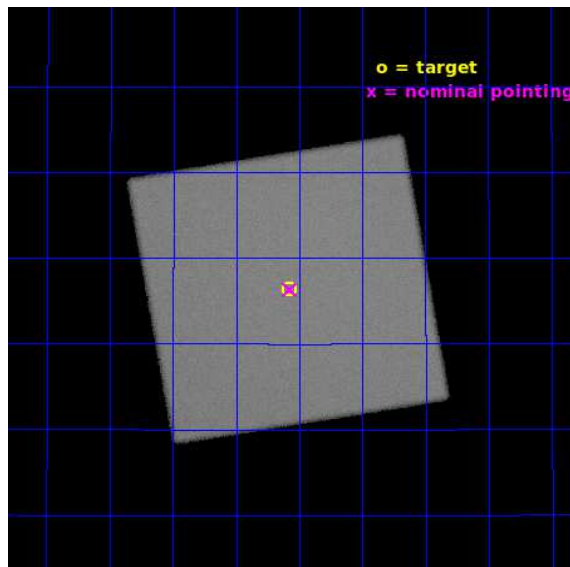
L2 Processing Date : Oct 25 2020

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1 Front

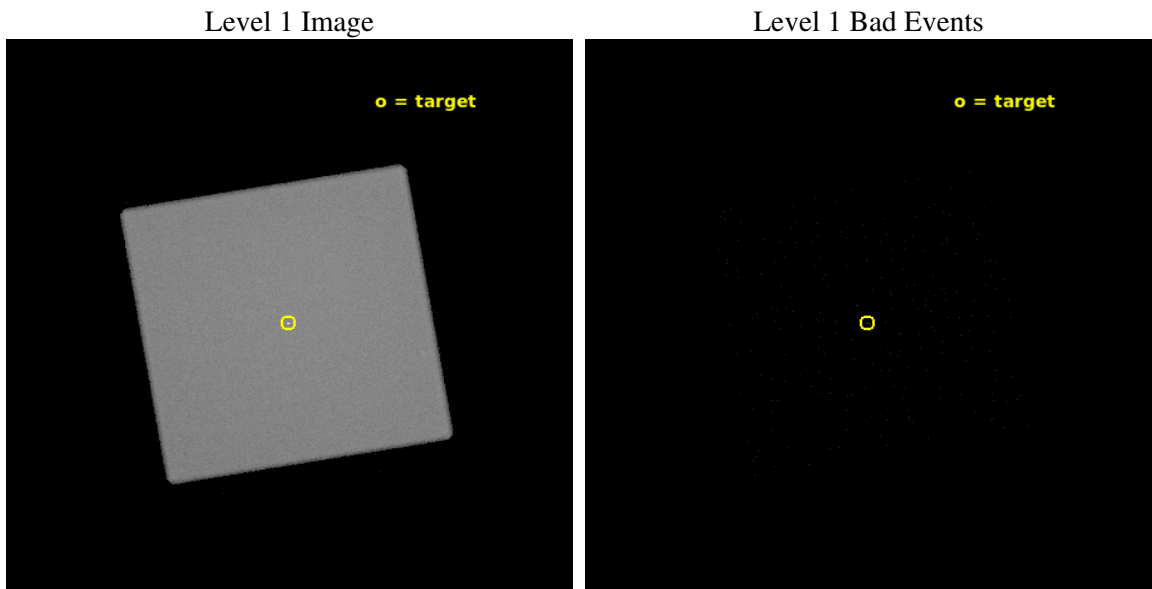
seq_num	703675	Sequence number
obs_id	21058	Observation id
title	Determining the emission region of VHE gamma-rays in radio galaxy 3C 264	Proposal title
observer	Marcos Santander	Principal investigator
object	3C 264	Source name
ra_targ	176.270833	Observer's specified target RA [deg]
dec_targ	19.606306	Observer's specified target Dec [deg]
ra_nom	176.26852083736	Nominal RA [deg]
dec_nom	19.605459116283	Nominal Dec [deg]
roll_nom	215.38964056555	Nominal Roll [deg]
revision	2	Processing version of data
ontime	14779.73211205	[s]
liveltime	14580.425157426	Ontime multiplied by DTCOR
l2events	1729551	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	15013.488000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	14779.732122064	[s]
caldsver	4.9.3	 	l1events	2275538	Number of level 1 events
date	2020-10-25T10:51:24	Date and time of file creation			
revision	2	Processing version of data			

2.1.3 Events

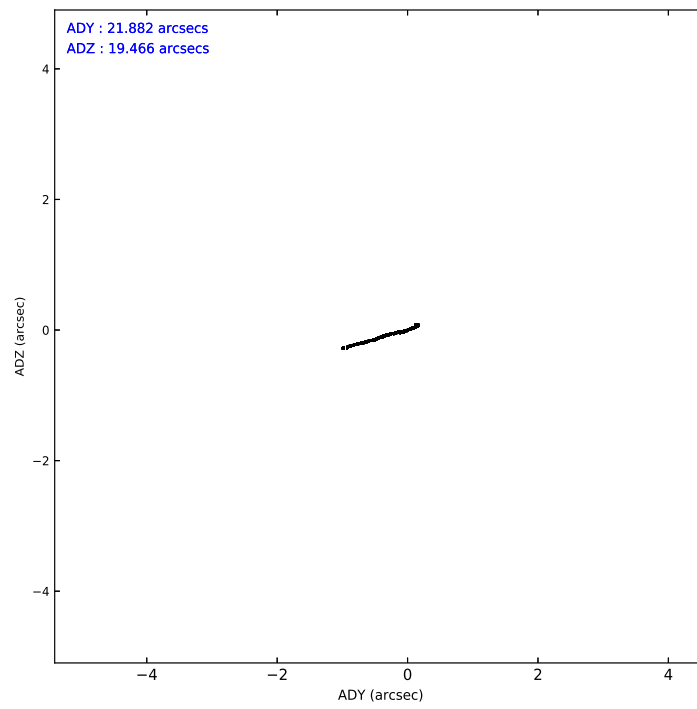
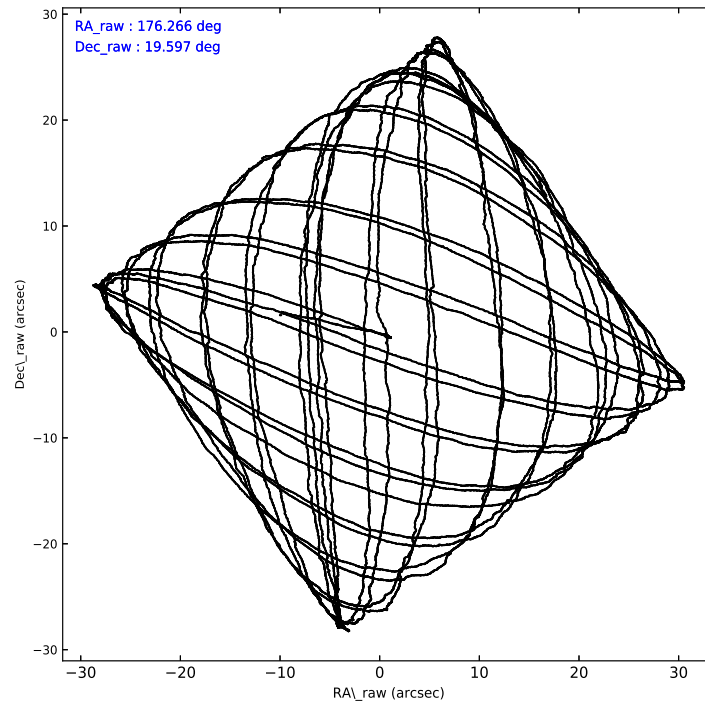
Level 1 Events

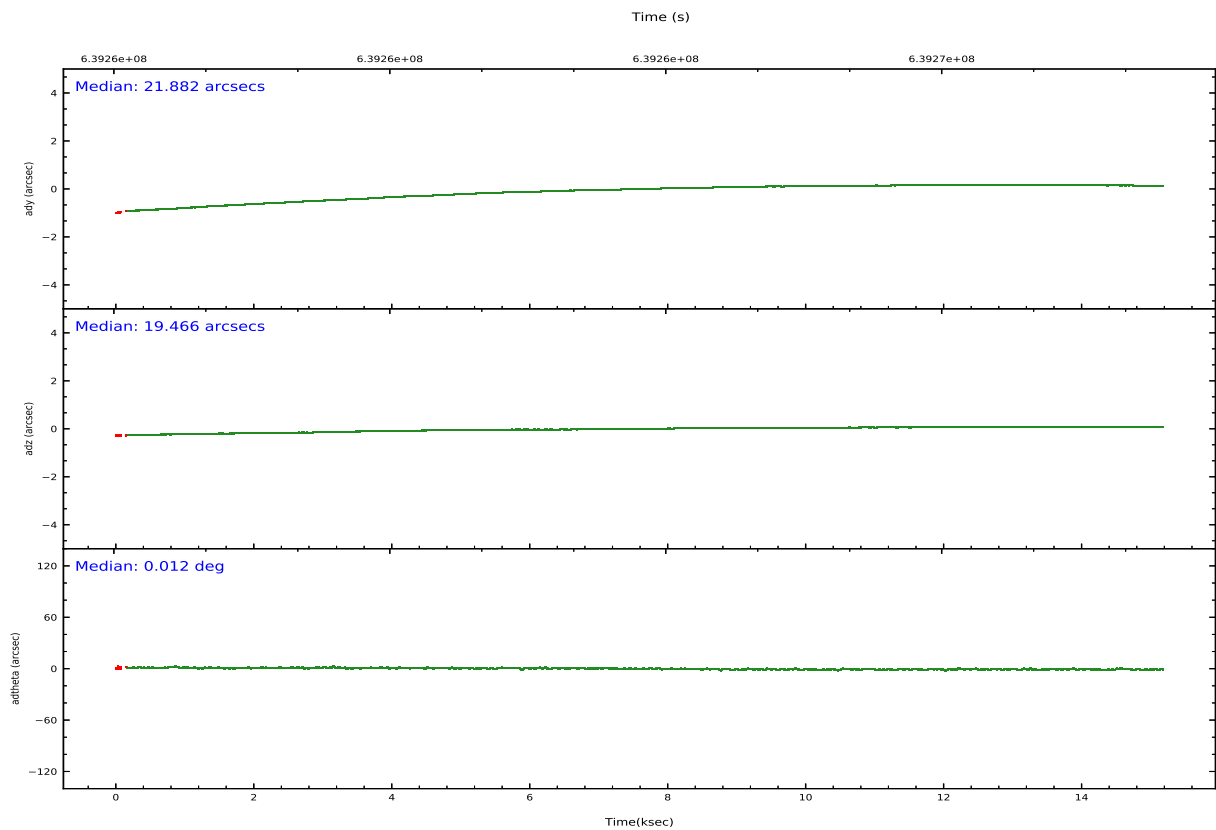
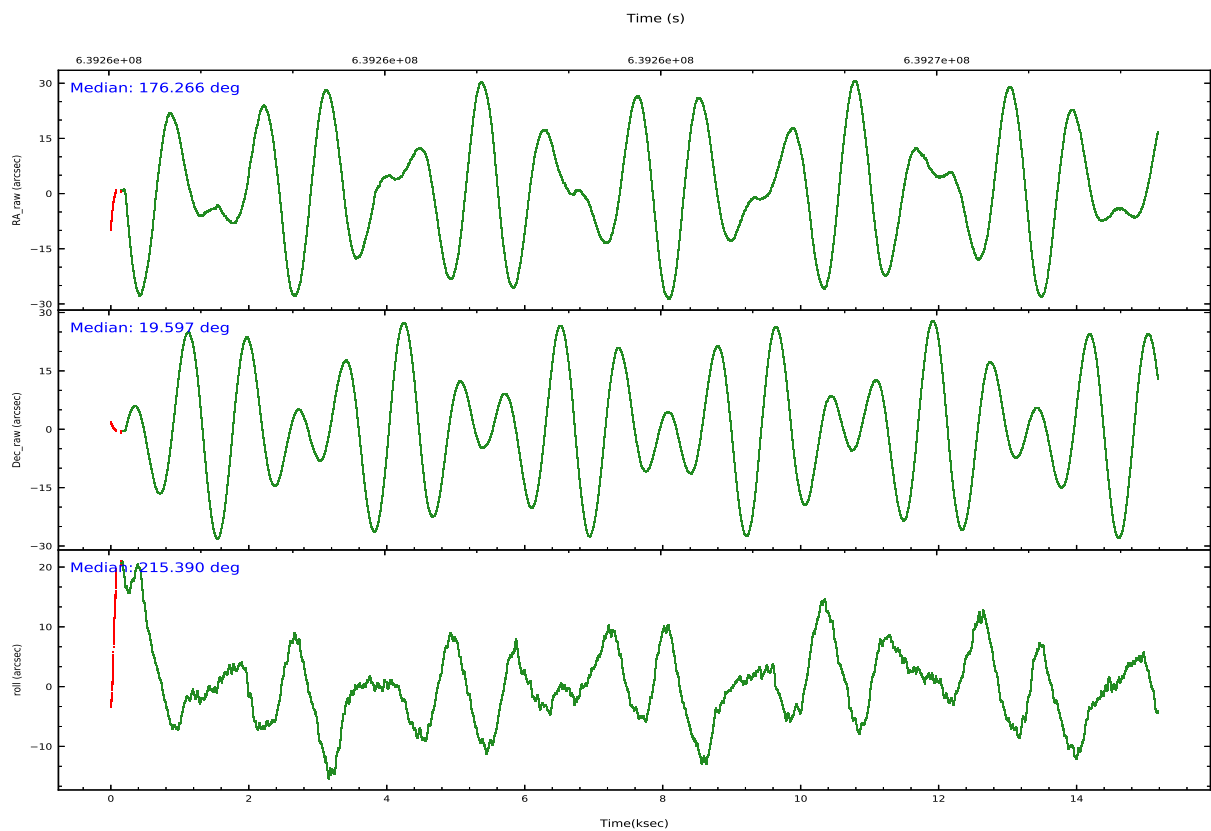
	segment 0
level 1 events	2275538
rejected events	4880
rejected %	0%

2.2 Compared Parameters

Parameter	Planned	Actual	Parameter	Planned	Actual
Instrument	HRC	HRC	Obspar version number	8	8
Detector	HRC-I	HRC-I	Obspar file type	PREDICTED	ACTUAL
Grating	NONE	NONE	Obspar update status	NONE	UPDATED
Data mode	OBSERVING	OBSERVING			
Observation mode	POINTING	POINTING			
[deg] Pointing RA	176.278149	176.26852083736			
[deg] Pointing Dec	19.622318	19.605459116283			
[deg] Pointing Roll	215.499169	215.38964056555			
[mm] SIM focus pos	-1.040293	-1.038866356238299			
[mm] SIM defocus	0	0.001426264420575141			
[mm] SIM translation stage pos	126.985494	126.9829799899862			
[mm] SIM translation stage offset	0	0.002508901615314585			
[s] Observation start time (MET)	639256197.184000	639255329.99193			
Observation start date	2018-04-04T19:08:48	2018-04-04T18:55:29			
[s] Observation end time (MET)	639271211.184000	639272213.79293			
Observation end date	2018-04-04T23:19:02	2018-04-04T23:36:53			

2.3 Aspect



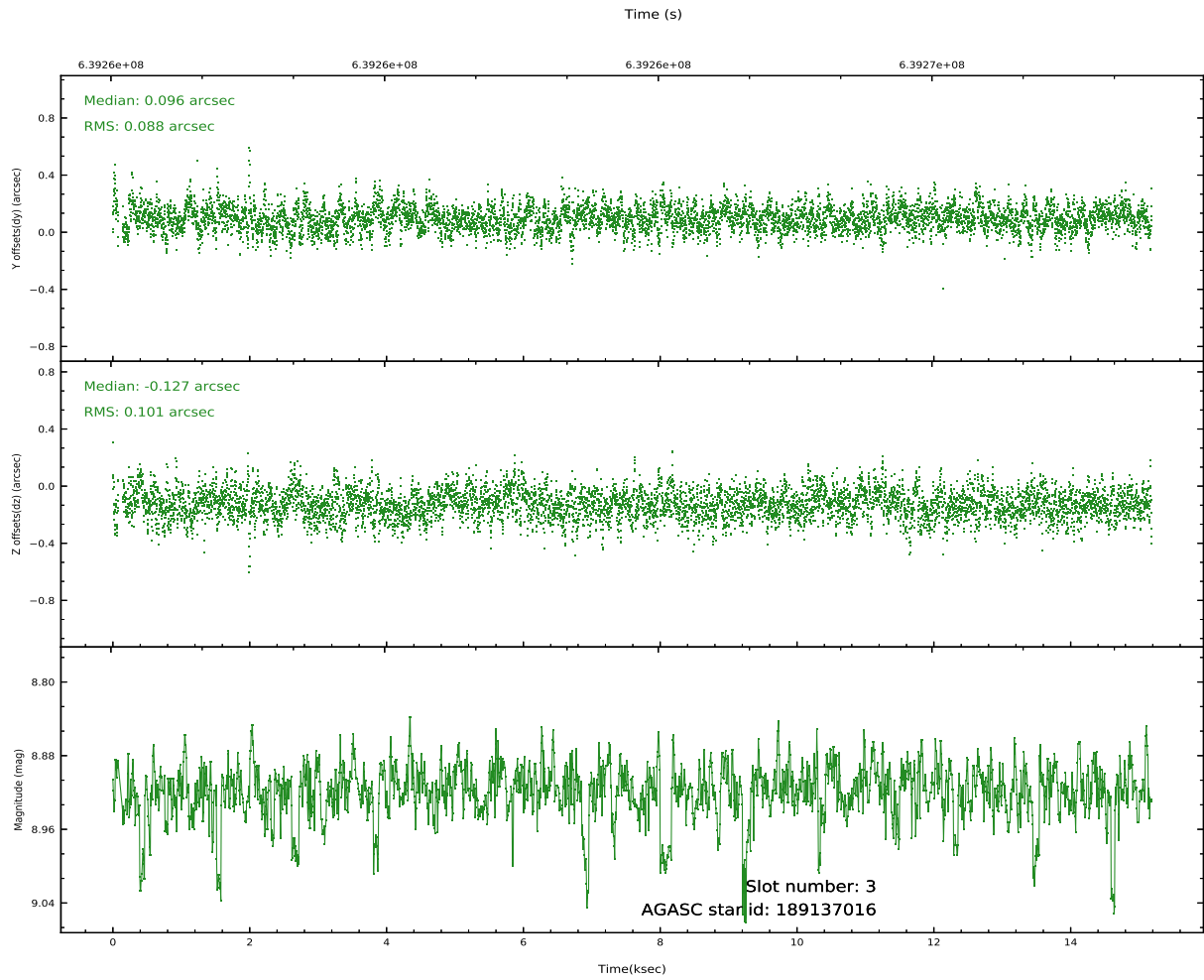
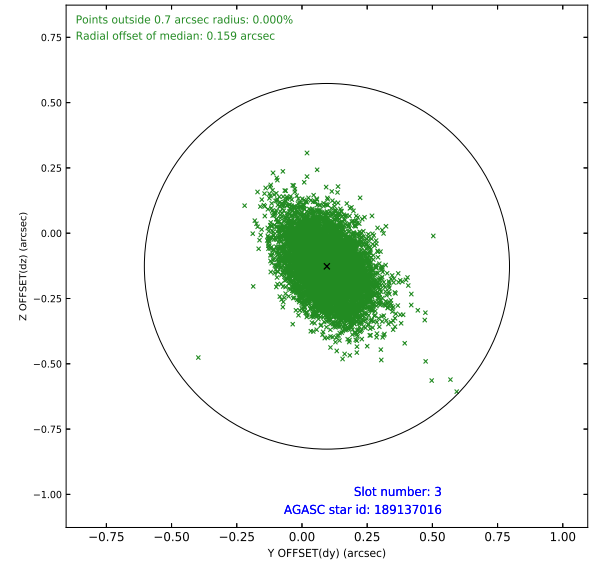
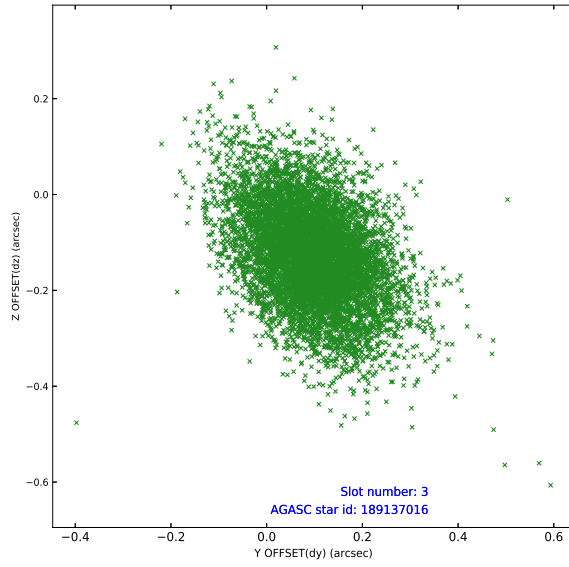


Slot Statistics

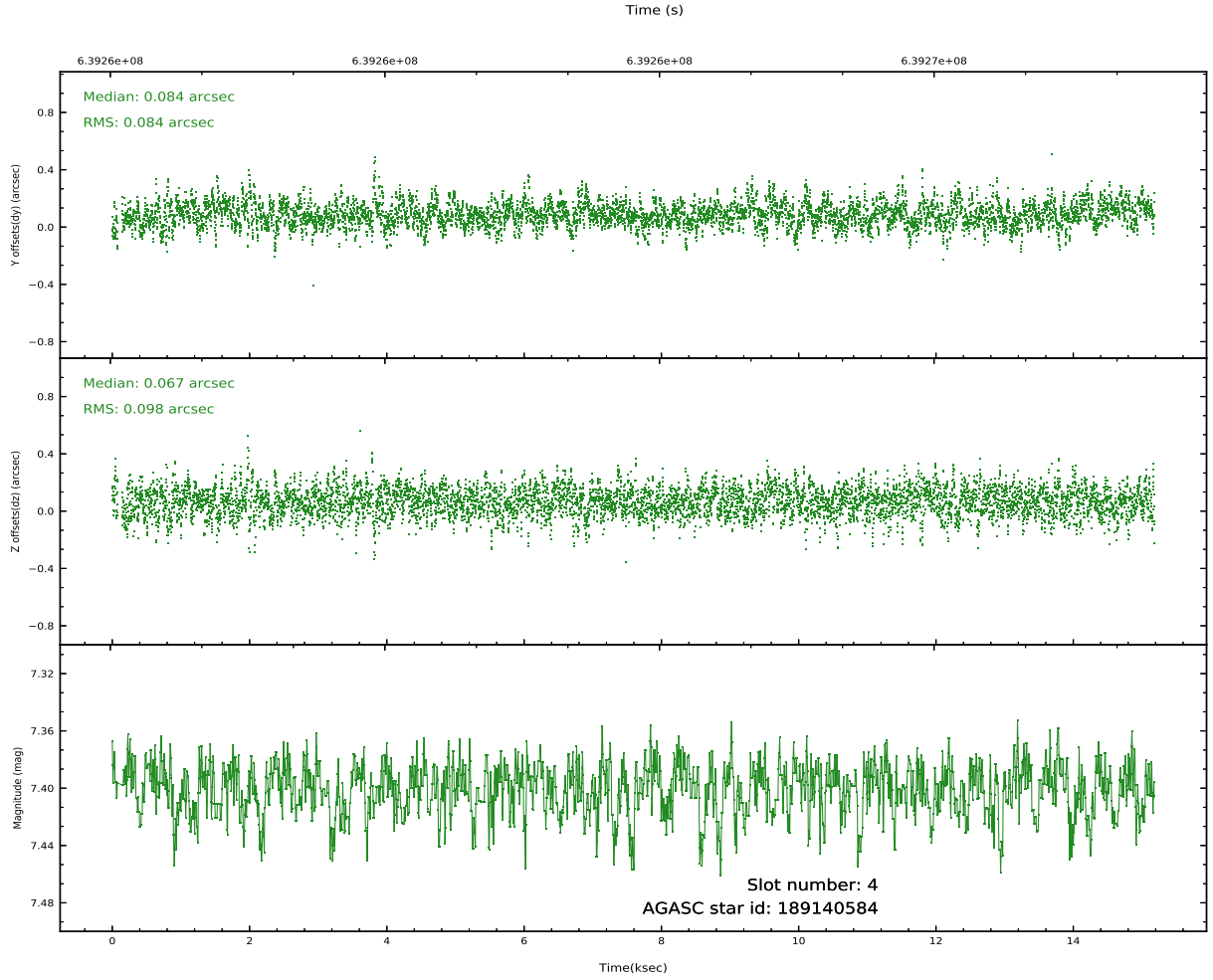
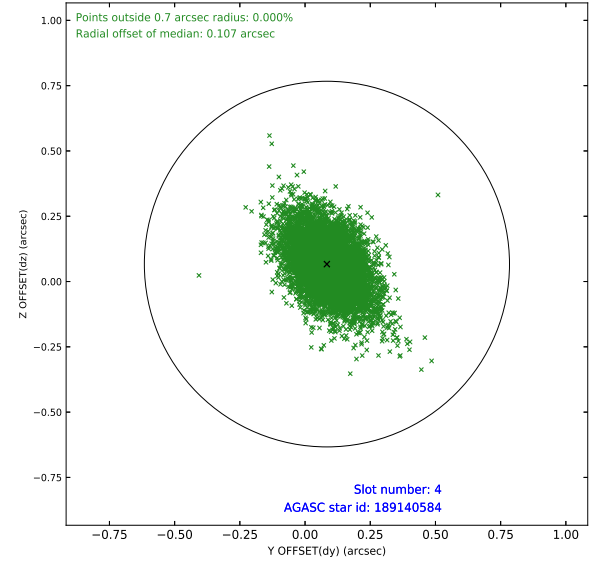
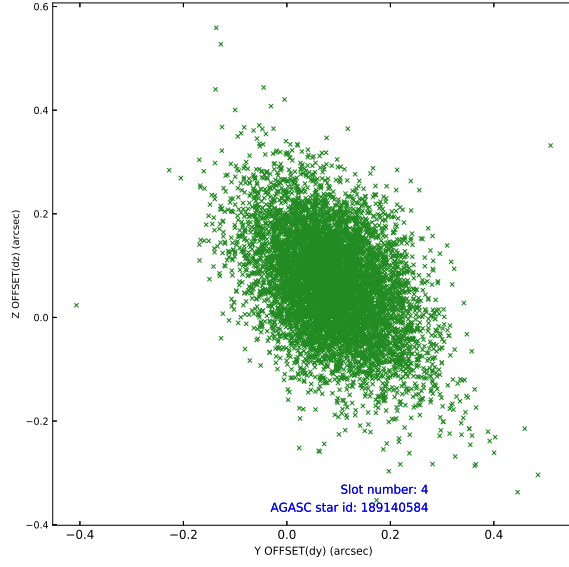
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		HRC-I-1	6.98	3688	1.000	-0.047	0.062	0.008	0.013	0.000000	0.000000	-777.85	-1307
1	FID		HRC-I-2	7.01	3689	1.000	0.268	-0.210	0.010	0.016	0.000000	0.000000	834.89	-1309
2	FID		HRC-I-3	7.08	3689	1.000	-0.101	0.058	0.009	0.016	0.000000	0.000000	-1206.04	996
3	GUIDE	used	189137016	8.92	7367	1.000	0.096	-0.127	0.138	0.236	176.017714	19.173647	1658.49	800
4	GUIDE	used	189140584	7.40	7376	1.000	0.084	0.067	0.132	0.233	176.337611	19.889196	-721.11	-663
5	GUIDE	used	189147640	7.56	7375	1.000	0.012	0.059	0.131	0.224	176.540349	20.319236	-2178.37	-1528
6	GUIDE	used	189152088	8.49	7371	1.000	-0.195	0.005	0.139	0.247	176.796455	19.306289	-774.92	1946
7	MONITOR	unused		0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0

2.4 Star Slots

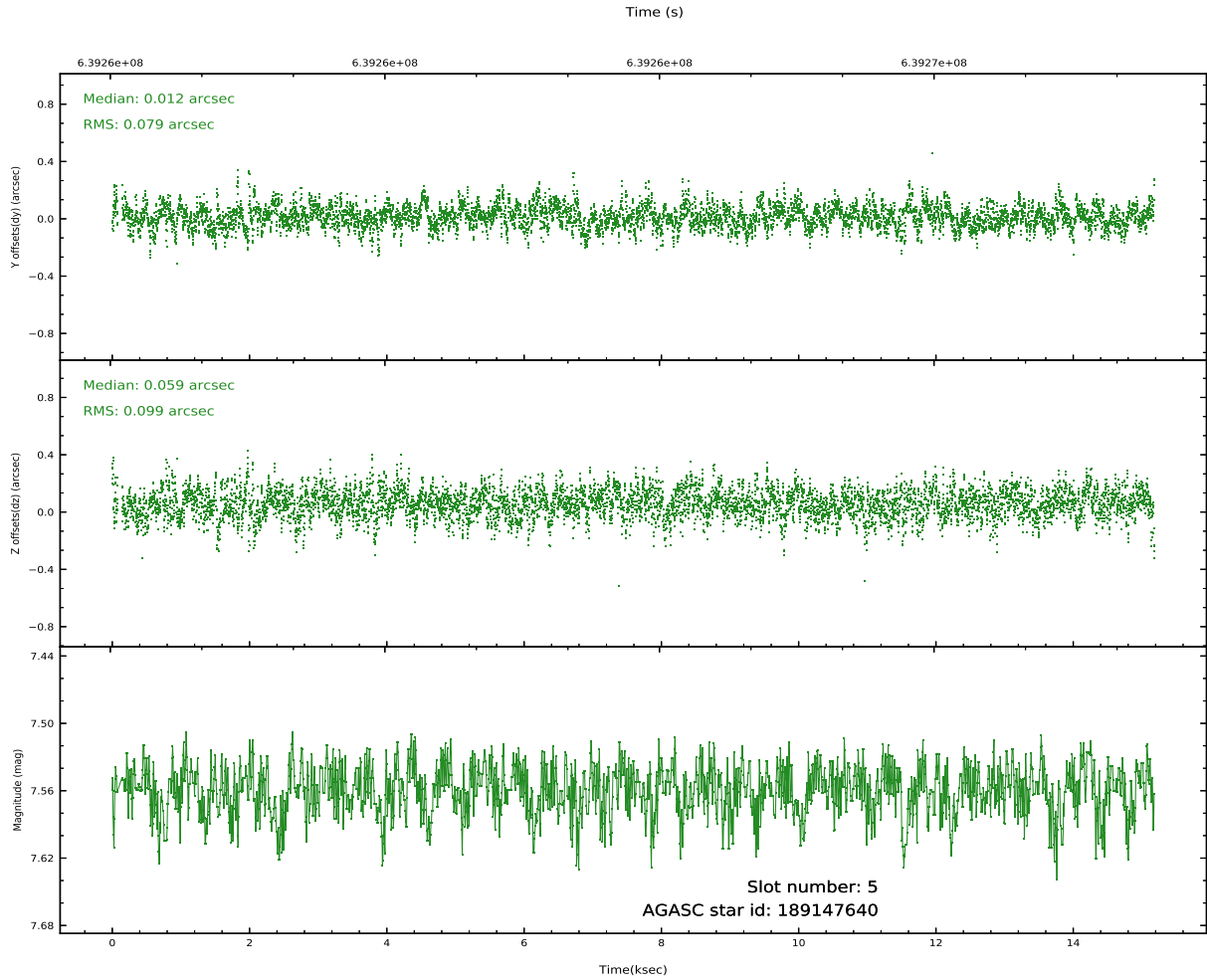
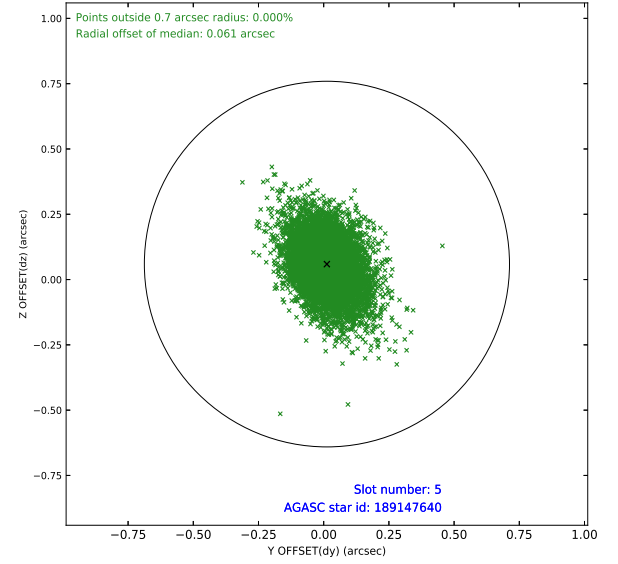
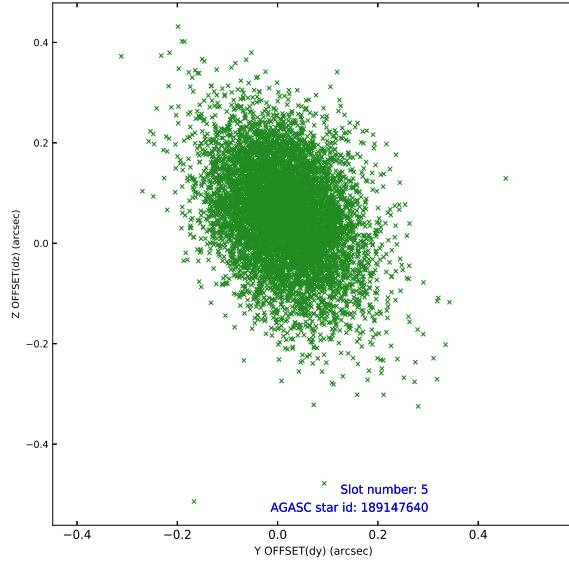
2.4.1 Slot 3



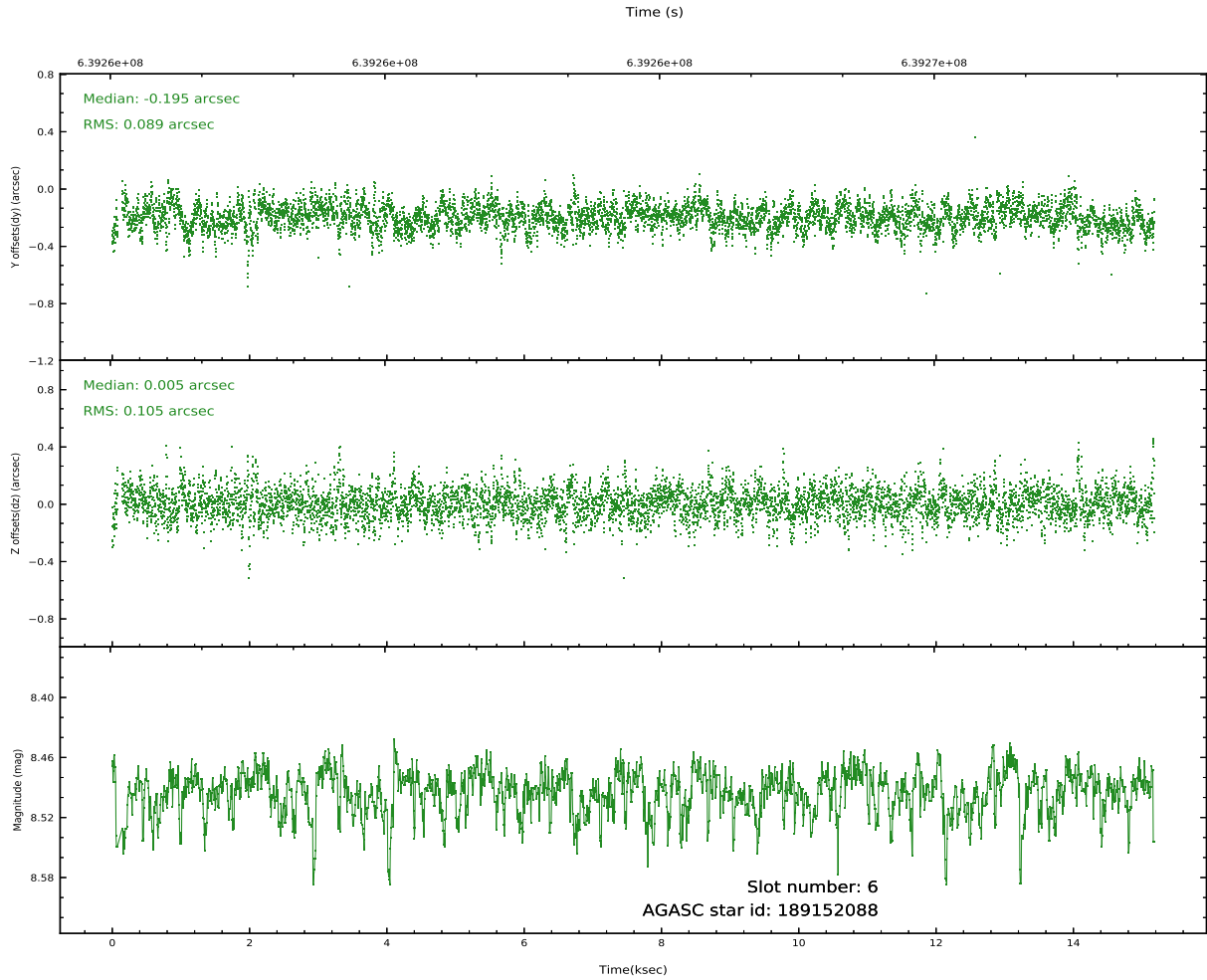
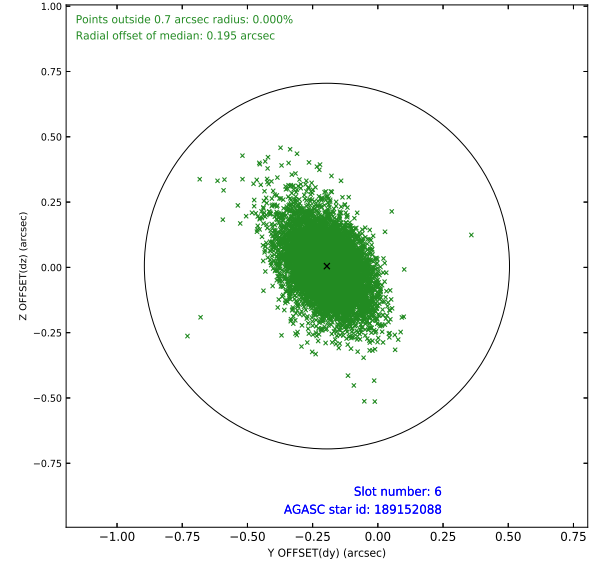
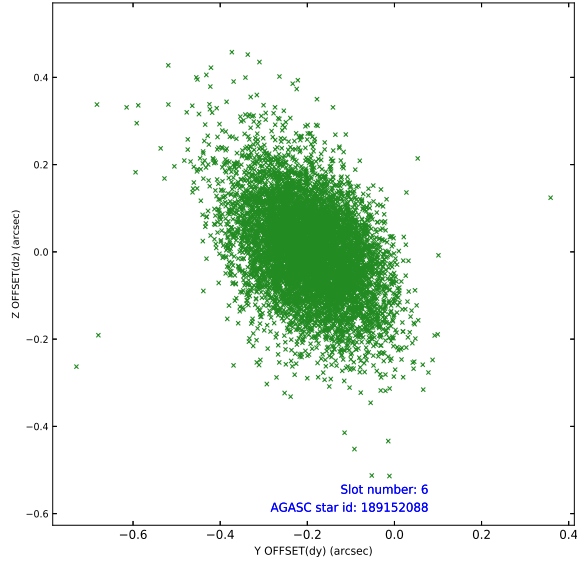
2.4.2 Slot 4



2.4.3 Slot 5

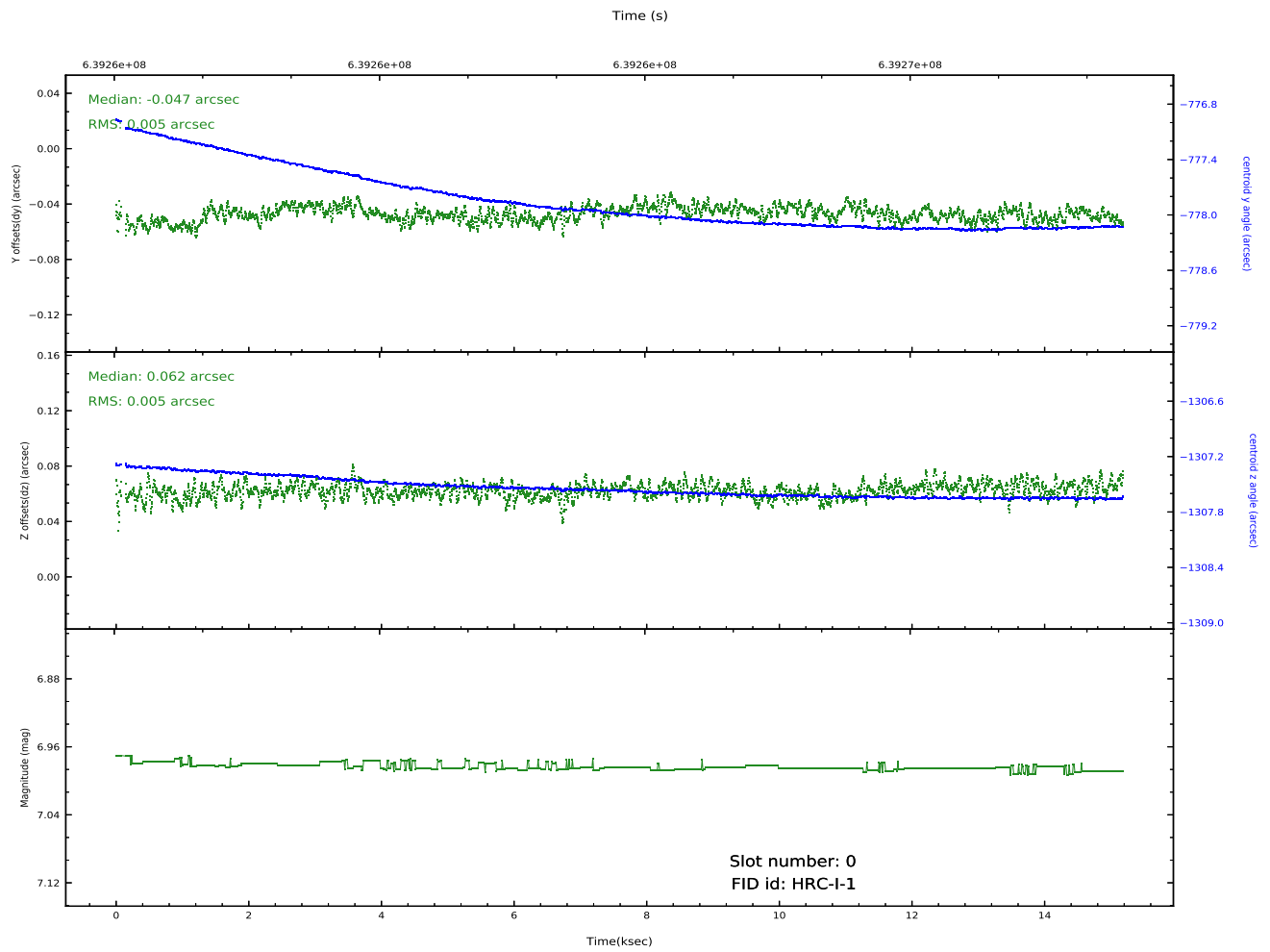
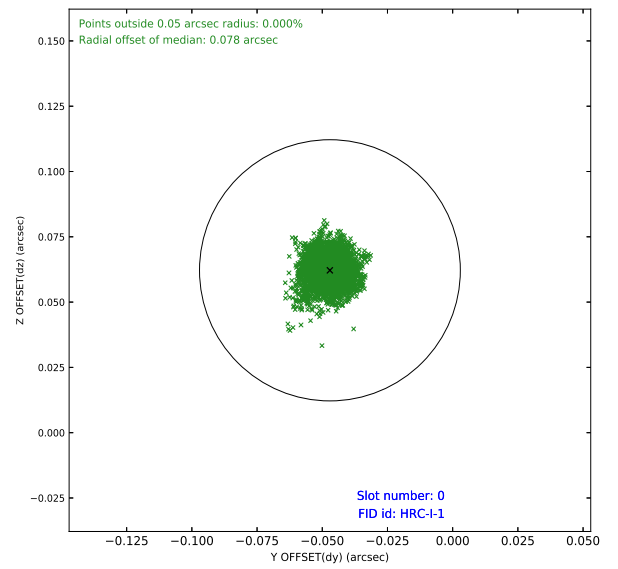
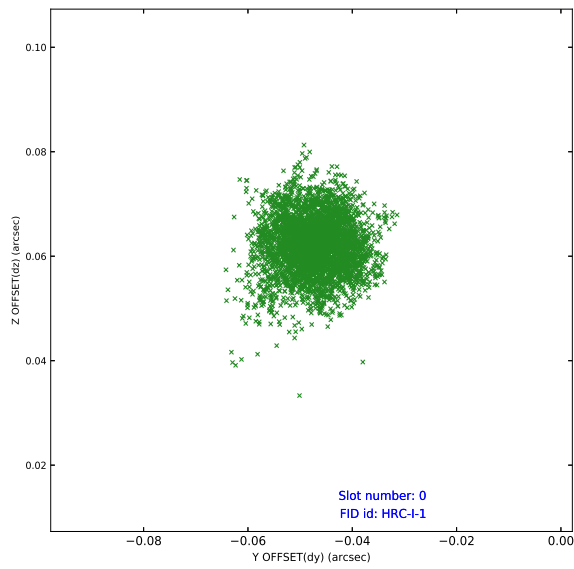


2.4.4 Slot 6

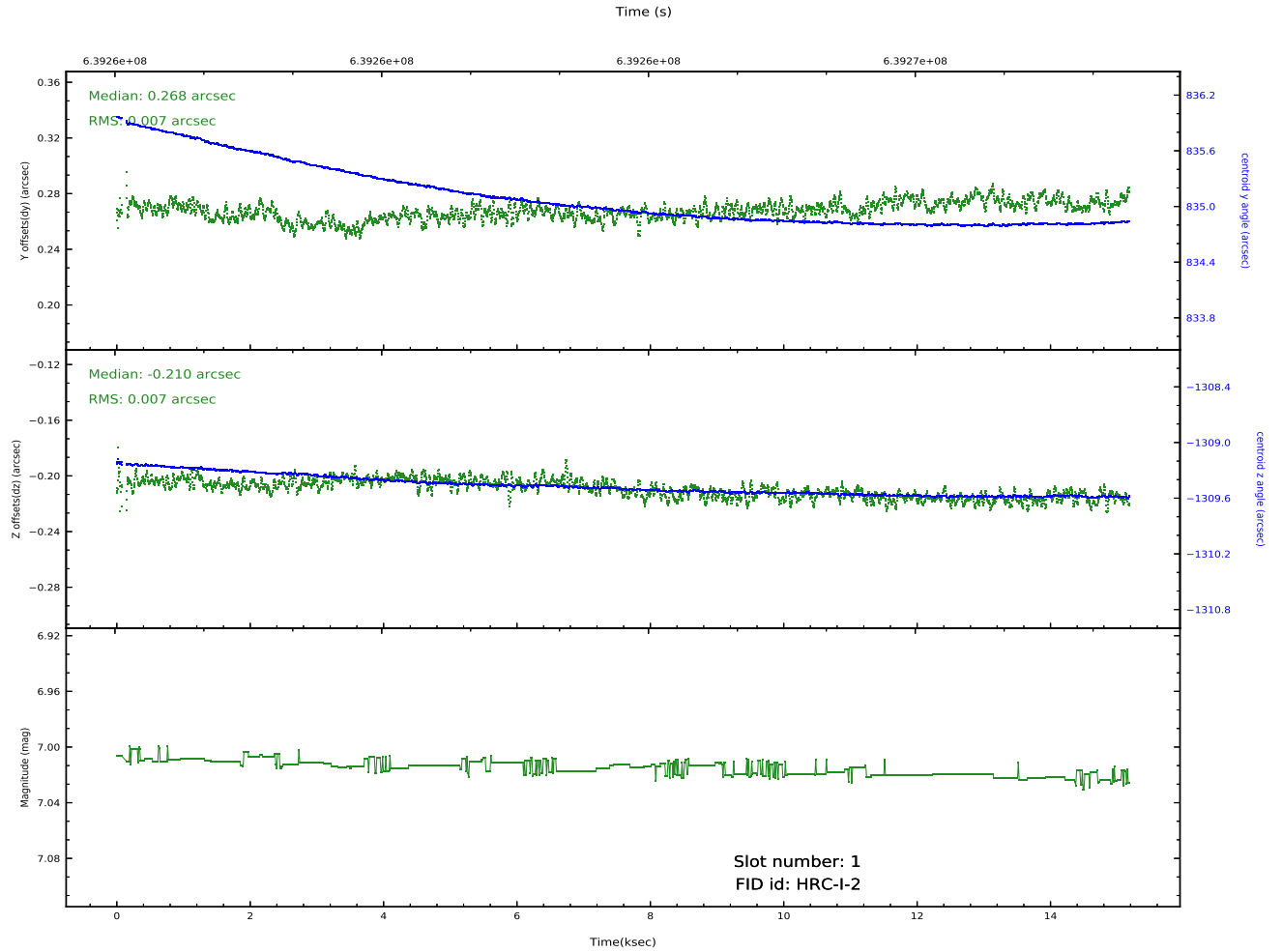
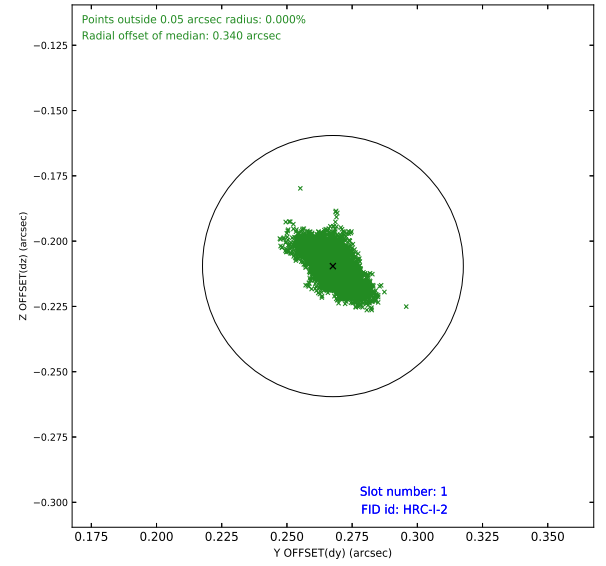
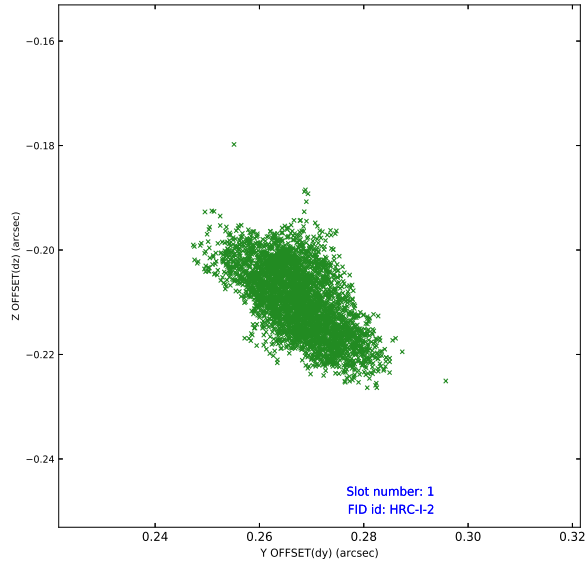


2.5 FID Slots

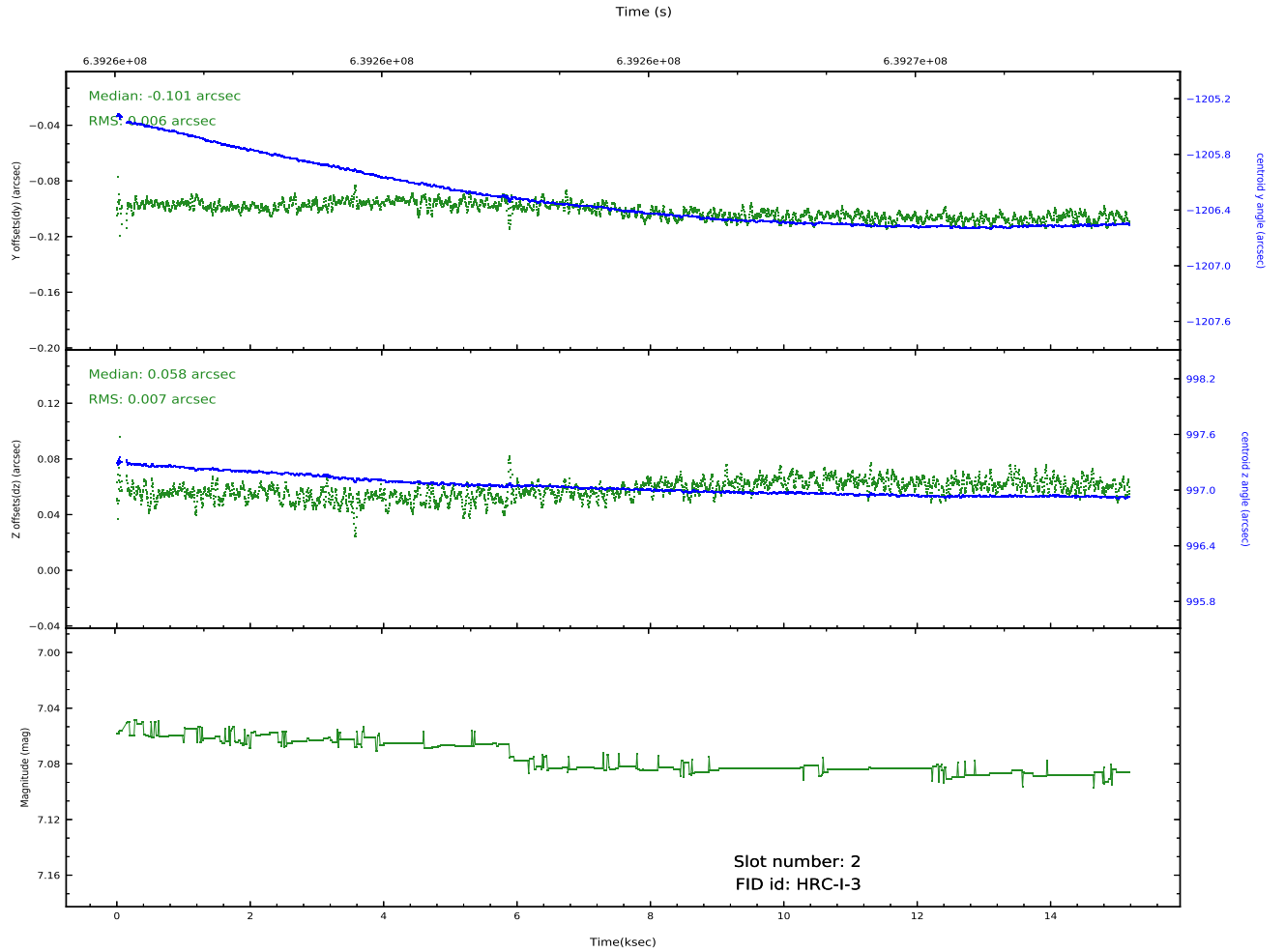
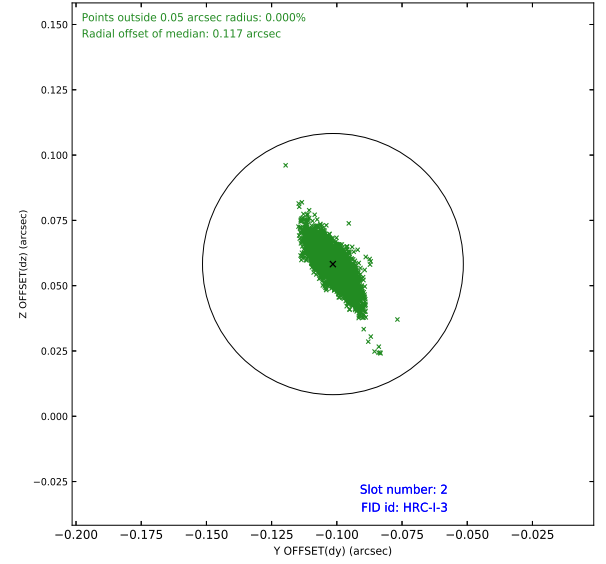
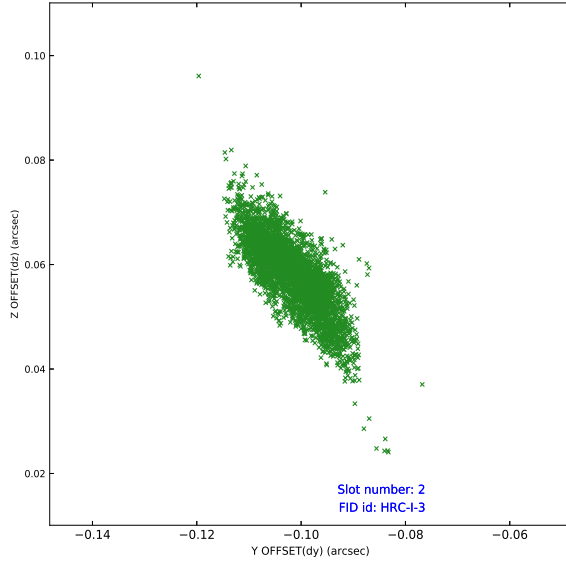
2.5.1 Slot 0



2.5.2 Slot 1



2.5.3 Slot 2



A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2020.10.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	14.779732121468

A.2 Comments

The ACA has the capability to devote one or more of the eight image slots to "monitor" particular sky locations. This allows simultaneous optical photometry of one or more targets in the ACA field of view. These optical sources can be slightly fainter than the ACA guide star limit of $m_{ACA} = 10.2$ mag. The bright-end limit for monitor star photometry is $m_{ACA}=6.2$ mag. However, since there are a fixed number of image slots, devoting a slot to photometry instead of tracking a guide star results in a degradation of the image reconstruction and celestial location accuracy (Section 5.4). Using one monitor slot represents a 15 - 25% increase in the aspect image reconstruction RMS diameter, depending on the particular guide star configuration. Two monitor slots would increase the diameter by about 50 - 60%, but this configuration is not operationally allowed under normal circumstances. The photometric accuracy which can be achieved depends primarily on the star magnitude, integration time, CCD dark current, CCD read noise, sky background, and the CCD dark current uncertainty.