

# V&V Reference Report

## L2 ASCDS Version : 10.9.1

Observation 5542 - L2 Version 6  
Chandra X-Ray Center

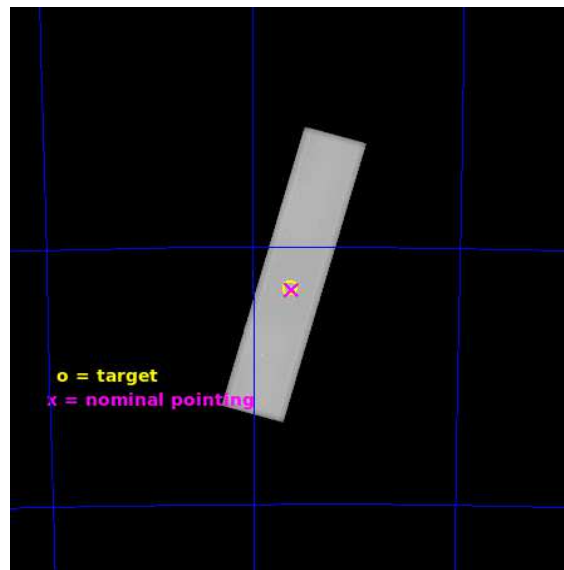
L2 Processing Date : Oct 12 2020

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# 1 Front

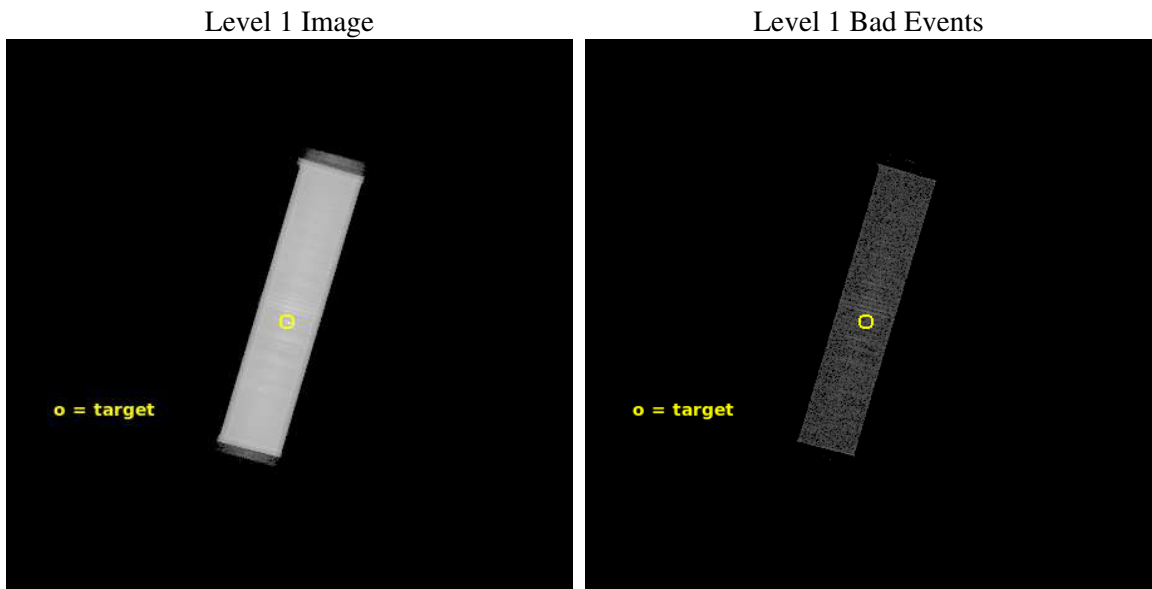
seq_num	500535	Sequence number
obs_id	5542	Observation id
title	Search for Sub-Millisecond Pulsars in 47 Tuc	Proposal title
observer	Prof. Robert Rutledge	Principal investigator
object	47 Tuc	Source name
ra_targ	6.021667	Observer's specified target RA [deg]
dec_targ	-72.080528	Observer's specified target Dec [deg]
ra_nom	6.013897291981	Nominal RA [deg]
dec_nom	-72.083486576594	Nominal Dec [deg]
roll_nom	285.88329260444	Nominal Roll [deg]
revision	6	Processing version of data
ontime	50162.7335715	[s]
livetime	49758.25001101	Ontime multiplied by DTCOR
l2events	2491918	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	50000.000000	[s] Scheduled observation exposure time
ascdsver	10.9.1	Processing system revision	ontime	50162.7335715	[s]
caldbver	4.9.2	&#160	l1events	3568851	Number of level 1 events
date	2020-10-12T06:06:44	Date and time of file creation			
revision	6	Processing version of data			

## 2.1.3 Events

### Level 1 Events

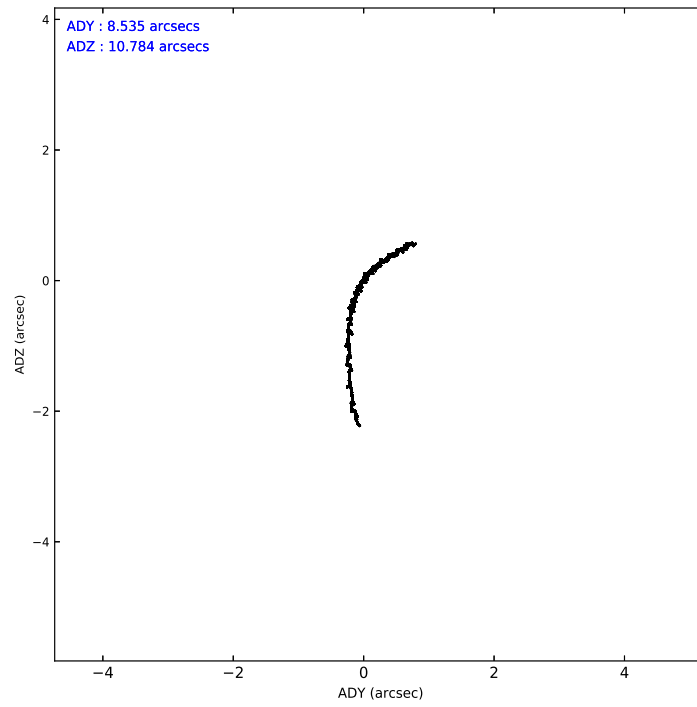
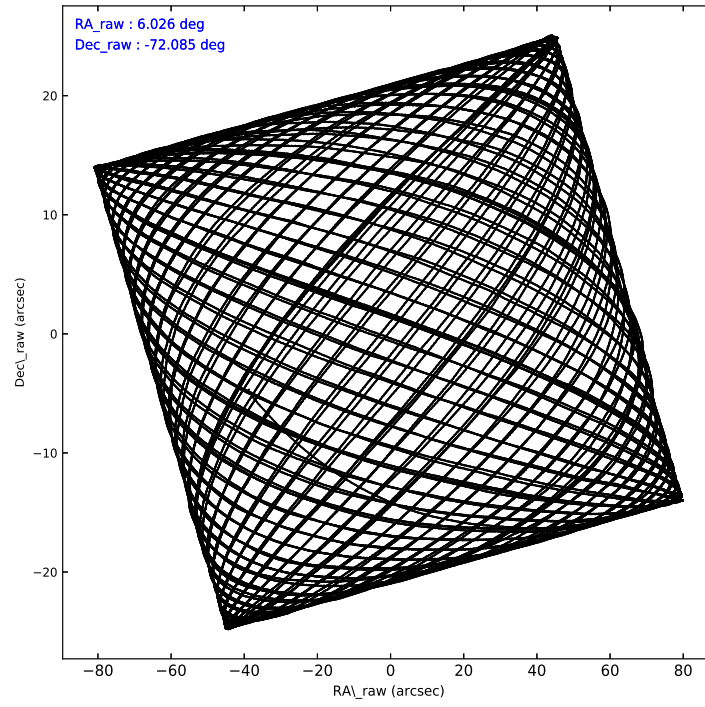
	<b>segment 1</b>	<b>segment 2</b>	<b>segment 3</b>
level 1 events	4495	3562946	1410
rejected events	141	110175	56
rejected %	3%	3%	3%

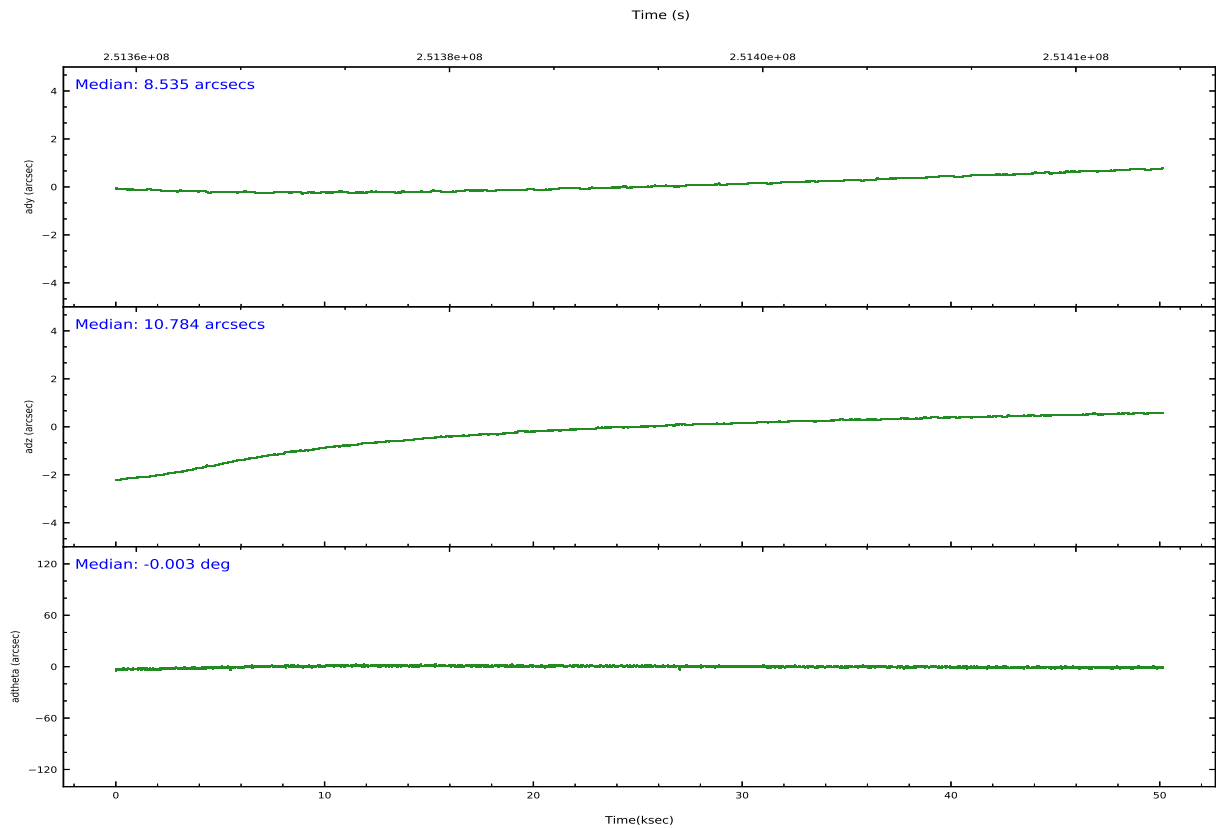
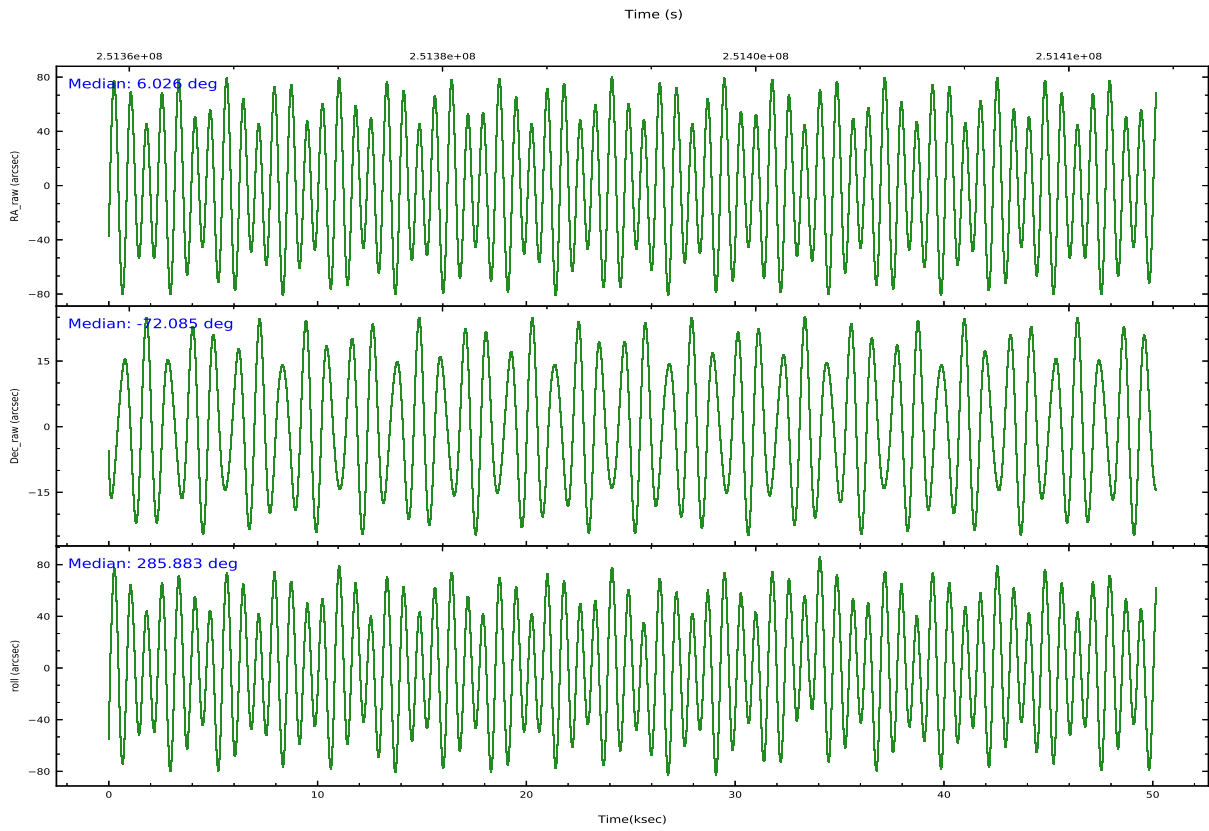
## 2.2 Compared Parameters

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	5.955598	6.013897291981
[deg] Pointing Dec	-72.066175	-72.083486576594
[deg] Pointing Roll	285.750585	285.88329260444
[mm] SIM focus pos	-1.533336	-1.526339935833849
[mm] SIM defocus	7.710433287538843e-07	0.006996703570447904
[mm] SIM translation stage pos	250.455976	250.466033080201
[mm] SIM translation stage offset	0	-0.01005468664627074
[s] Observation start time (MET)	251364179.184000	251363050.30263
Observation start date	2005-12-19T07:21:55	2005-12-19T07:04:10
[s] Observation end time (MET)	251414179.184000	251415068.54253
Observation end date	2005-12-19T21:15:15	2005-12-19T21:31:08

Parameter	Planned	Actual
Obspar version number	8	8
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

## 2.3 Aspect





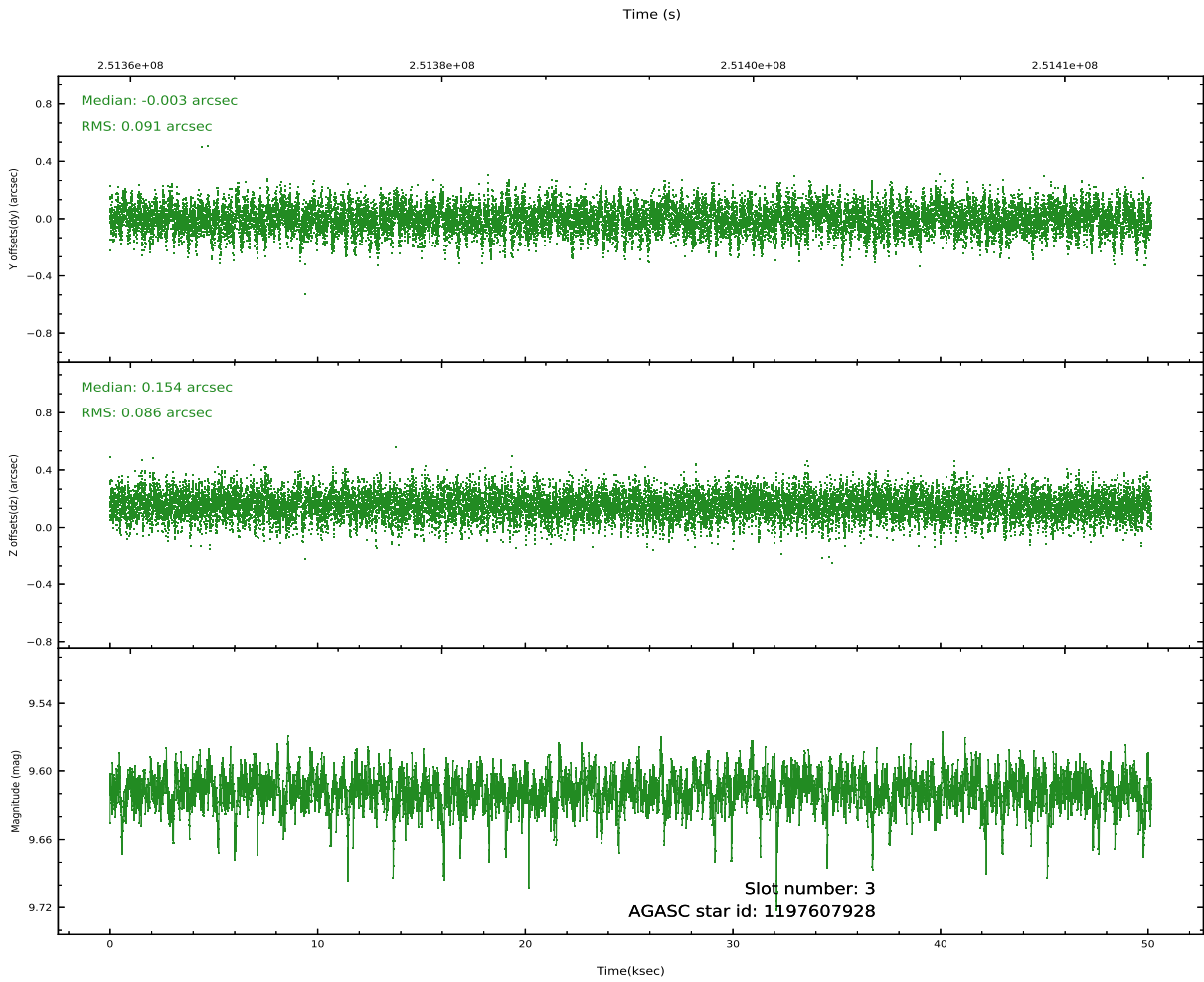
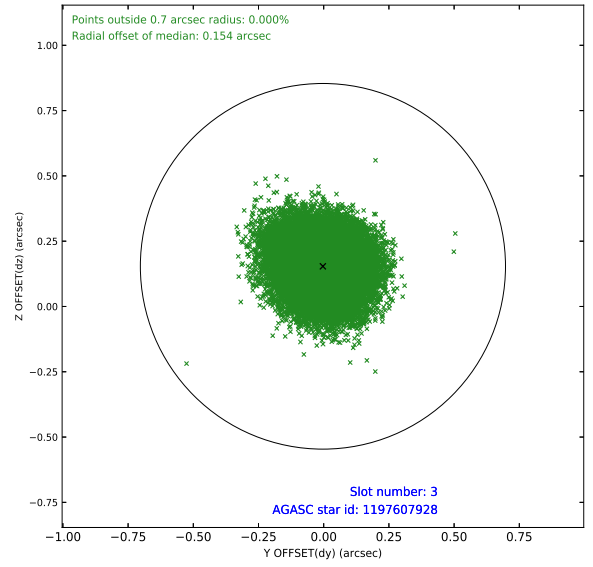
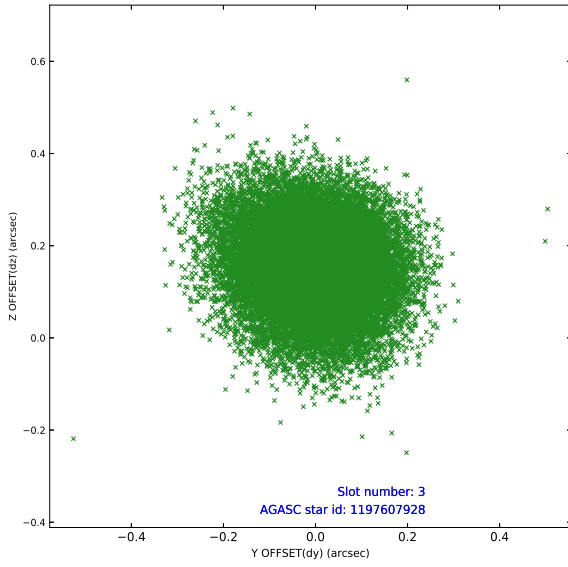
### Slot Statistics

slot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		HRC-S-1	7.04	12235	1.000	0.126	-0.200	0.018	0.027	0.000000	0.000000	-1162.82	-459
1	FID		HRC-S-2	7.03	12234	1.000	0.173	-0.117	0.007	0.013	0.000000	0.000000	1236.79	-451
2	FID		HRC-S-3	7.04	12234	1.000	0.090	0.015	0.023	0.034	0.000000	0.000000	-1165.48	570
3	GUIDE	used	1197607928	9.62	24444	1.000	-0.003	0.154	0.133	0.218	7.837743	-72.165759	939.63	1891
4	GUIDE	used	1197620848	10.02	24427	1.000	-0.092	-0.055	0.167	0.352	3.913465	-71.739620	-1718.87	-1908
5	OMITTED			0.00	0	0.000	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0
6	GUIDE	used	1198000776	9.88	24442	1.000	0.176	-0.083	0.174	0.292	4.972441	-72.805451	2286.32	-1731
7	GUIDE	used	1197621088	9.94	24357	1.000	-0.078	-0.015	0.159	0.257	3.823480	-72.180366	-201.02	-2382

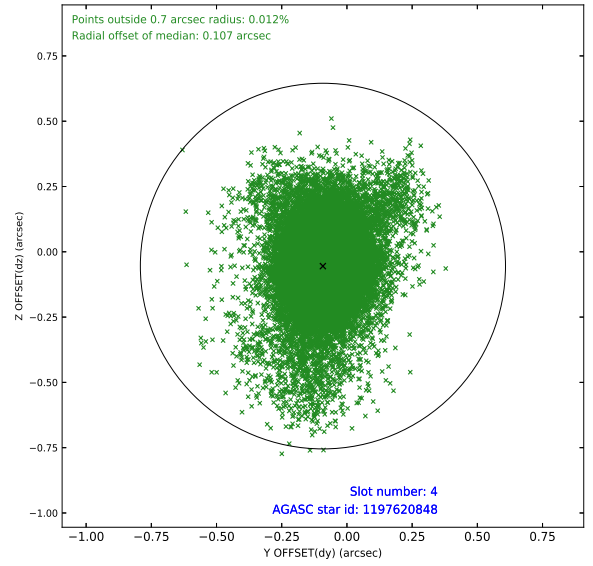
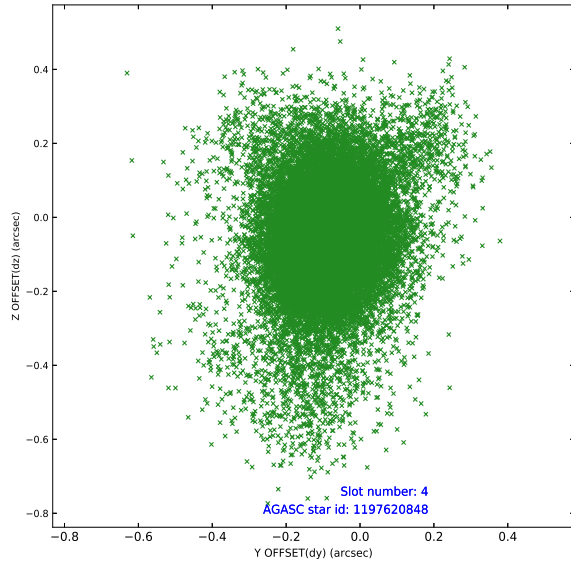
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## 2.4 Star Slots

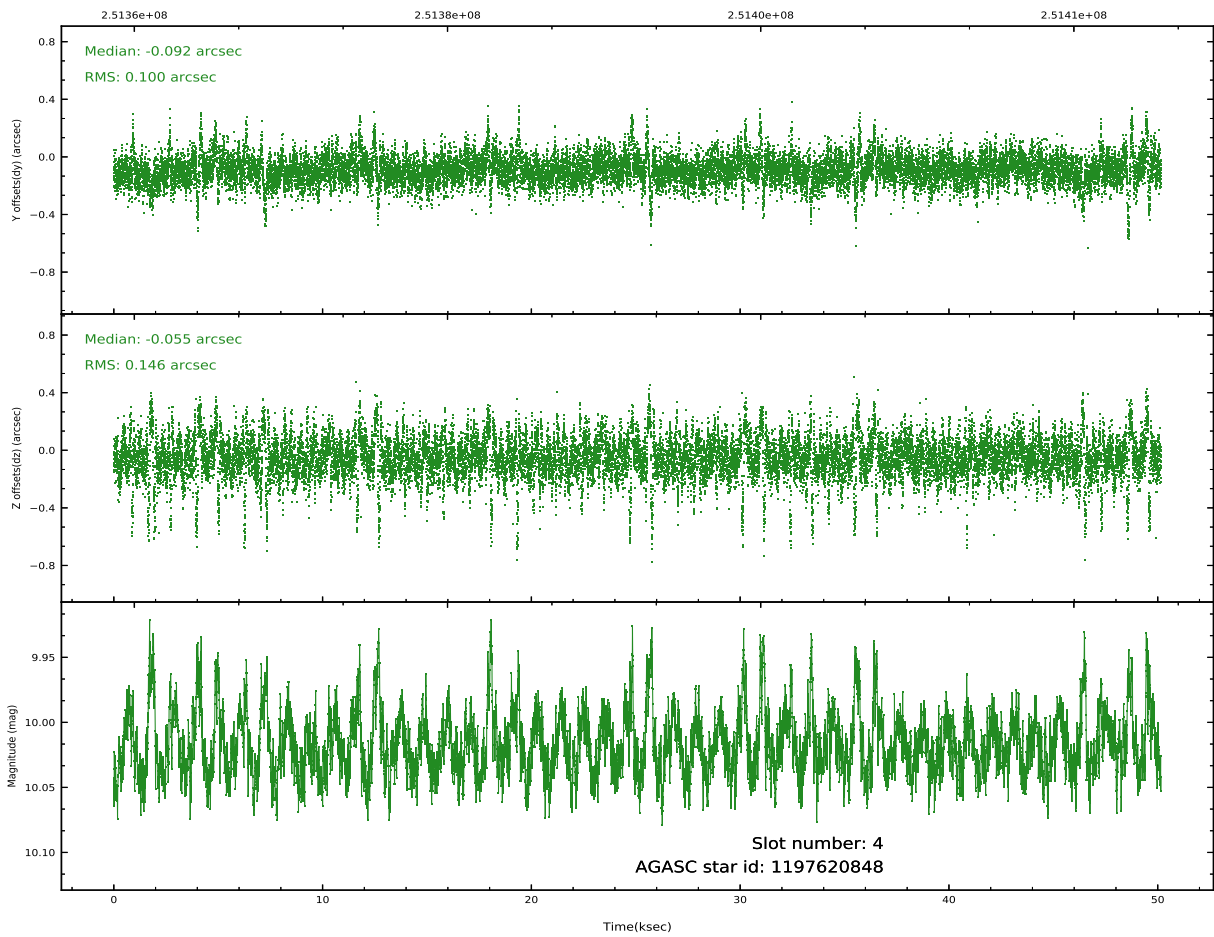
### 2.4.1 Slot 3



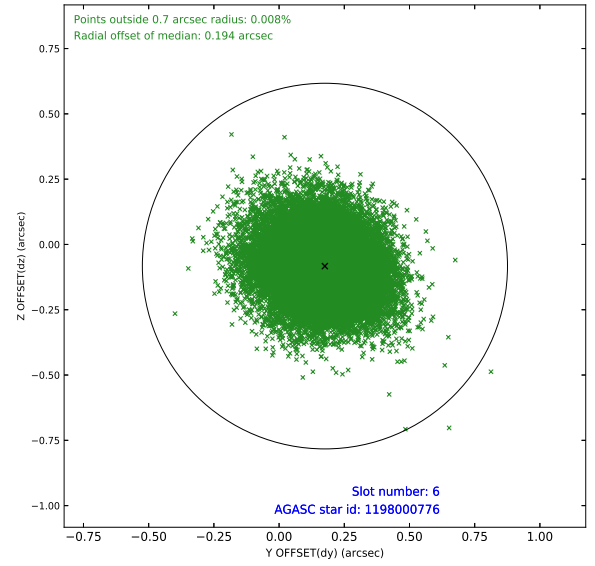
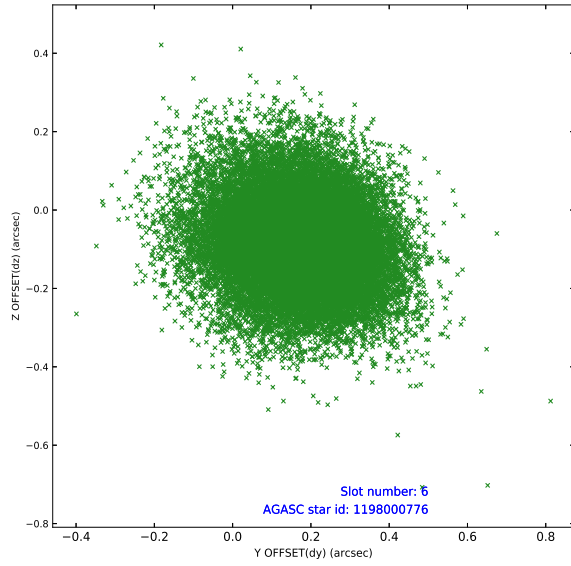
## 2.4.2 Slot 4



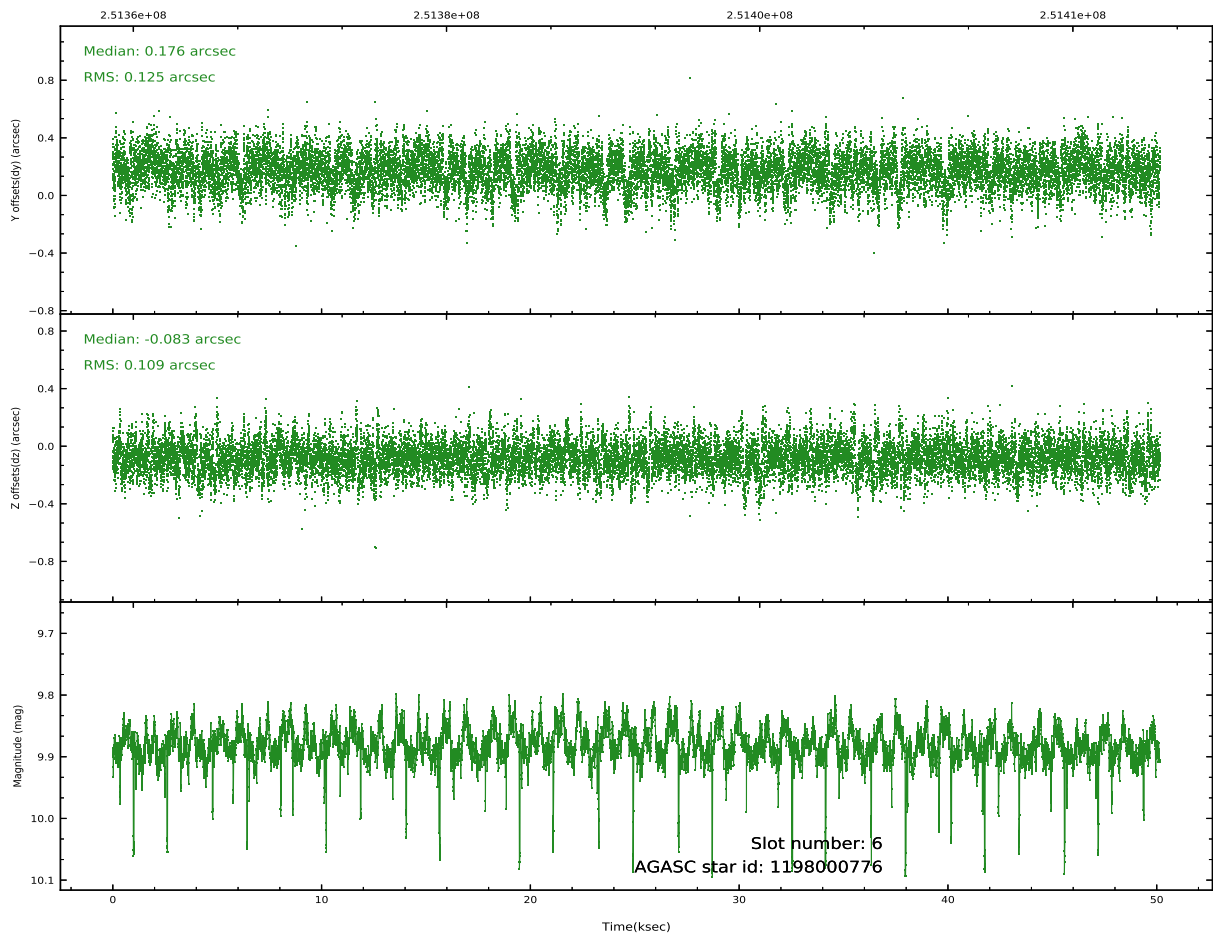
Time (s)



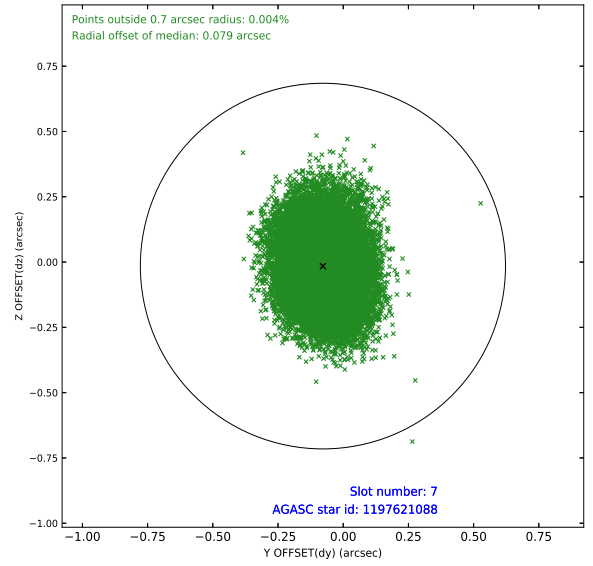
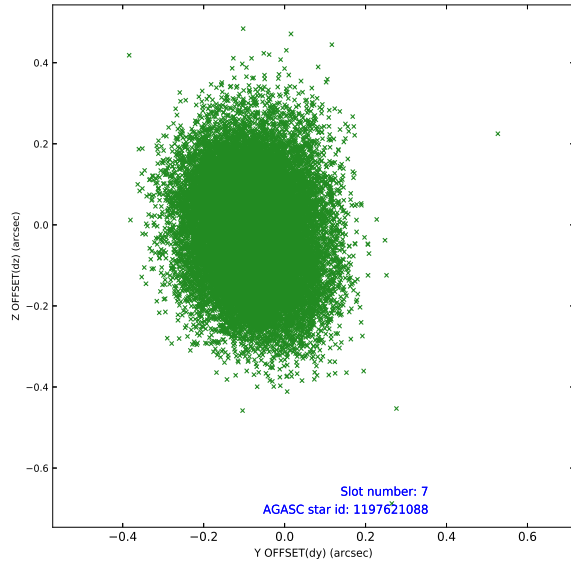
### 2.4.3 Slot 6



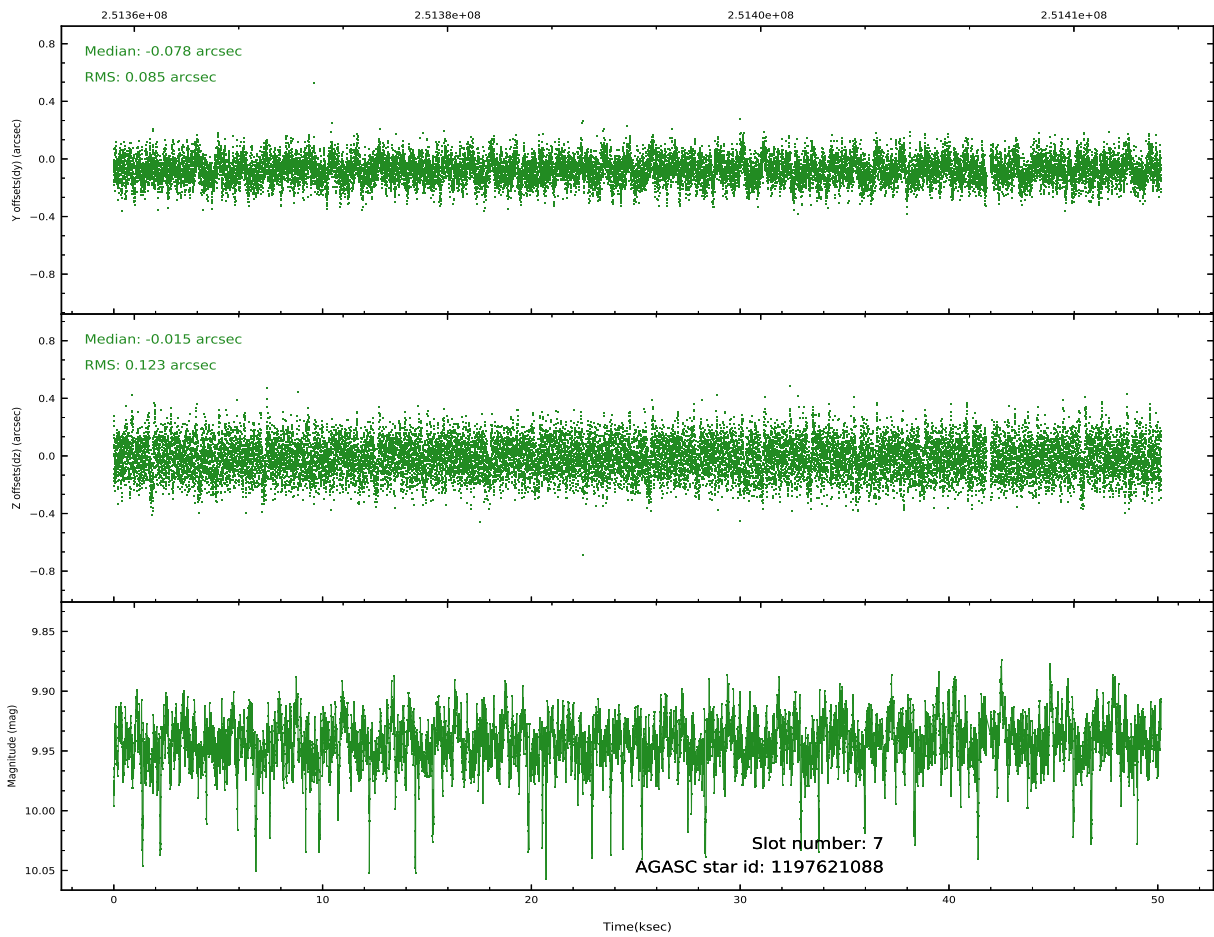
Time (s)



## 2.4.4 Slot 7

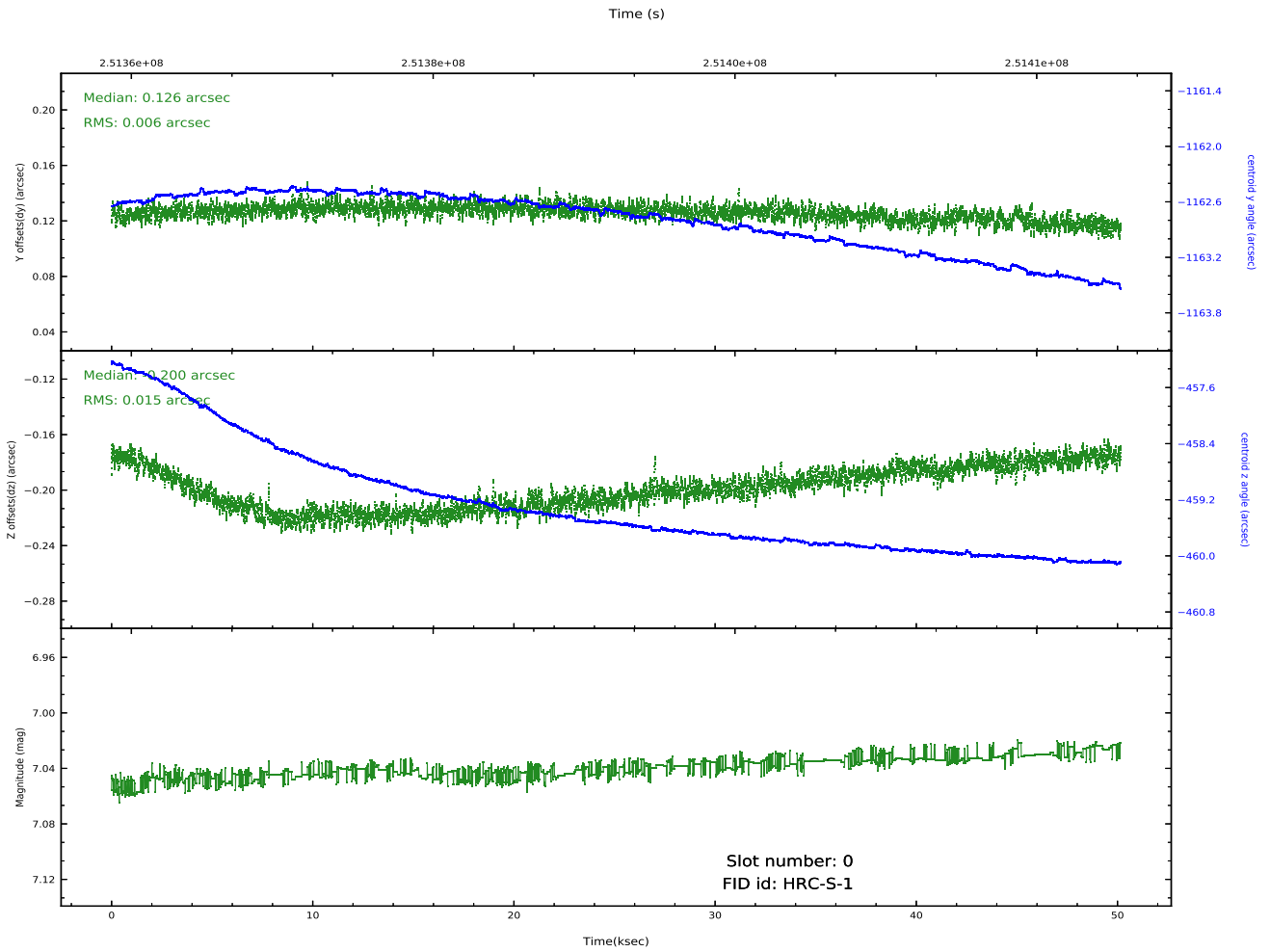
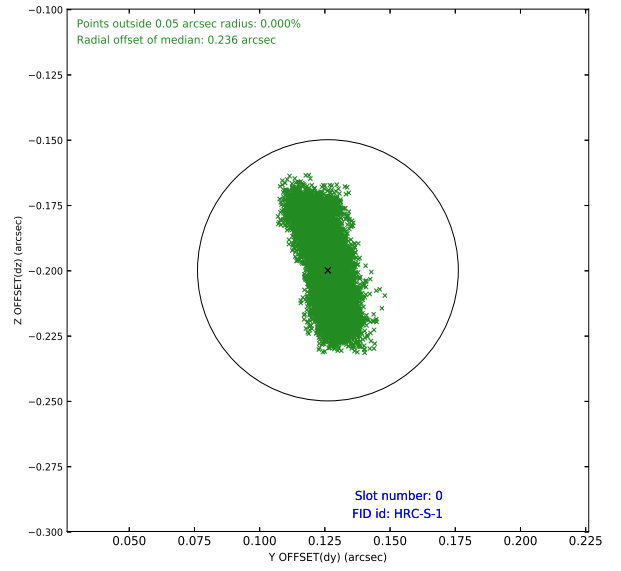
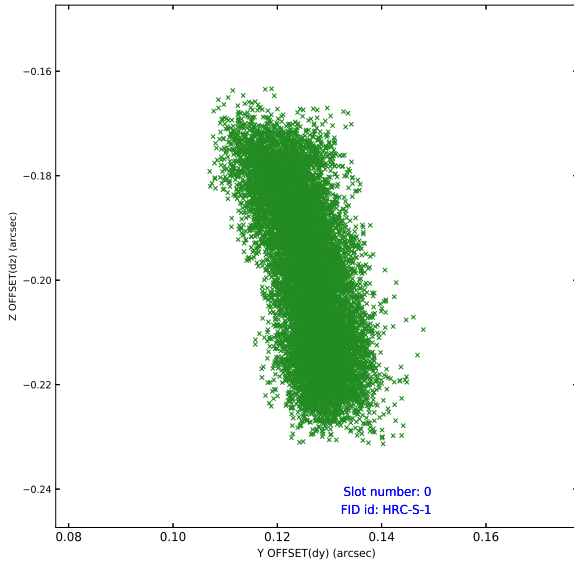


Time (s)

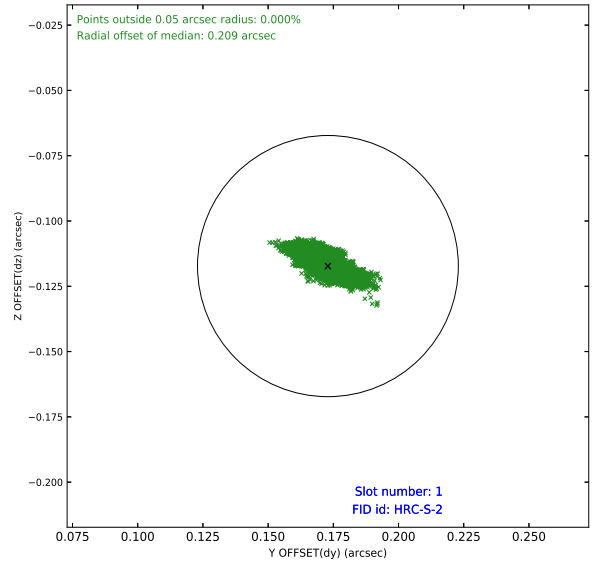
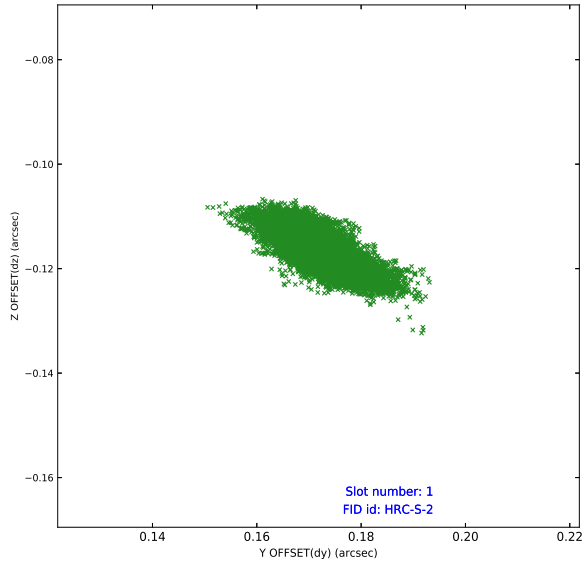


## 2.5 FID Slots

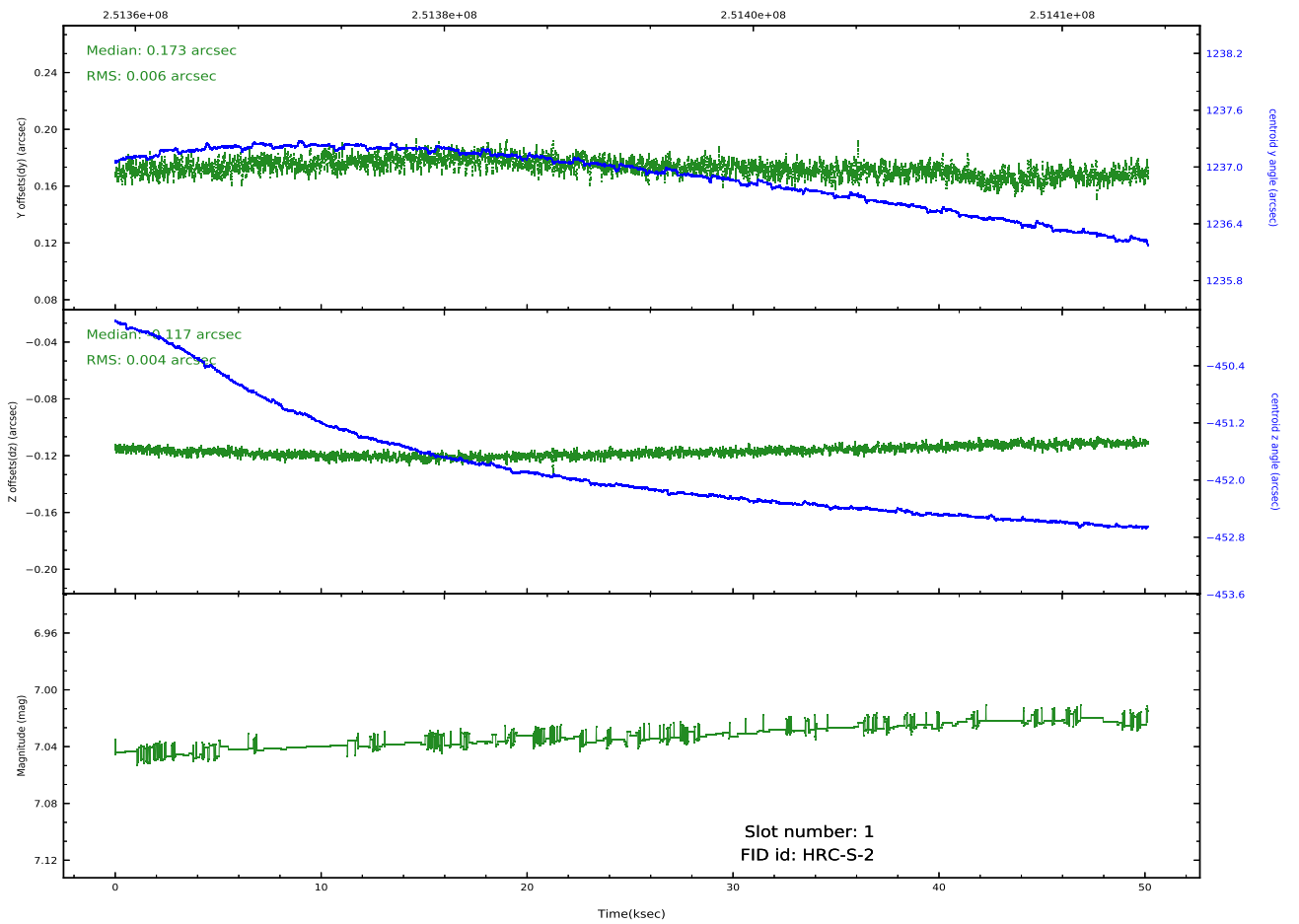
### 2.5.1 Slot 0



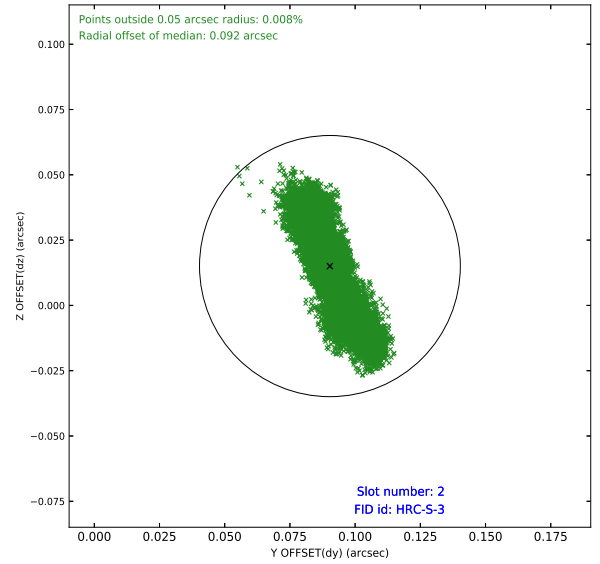
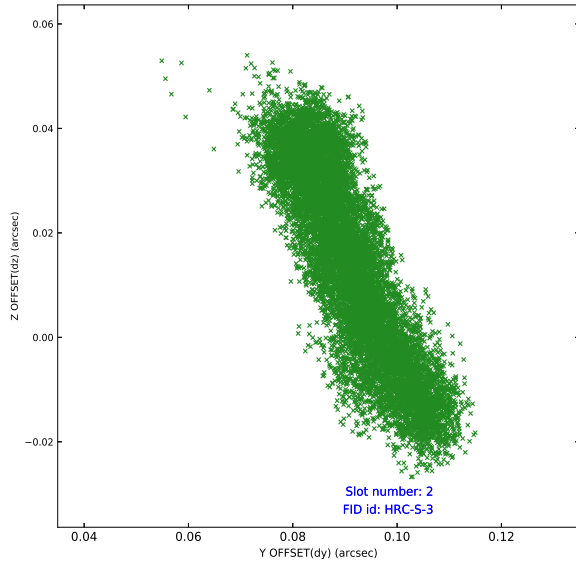
## 2.5.2 Slot 1



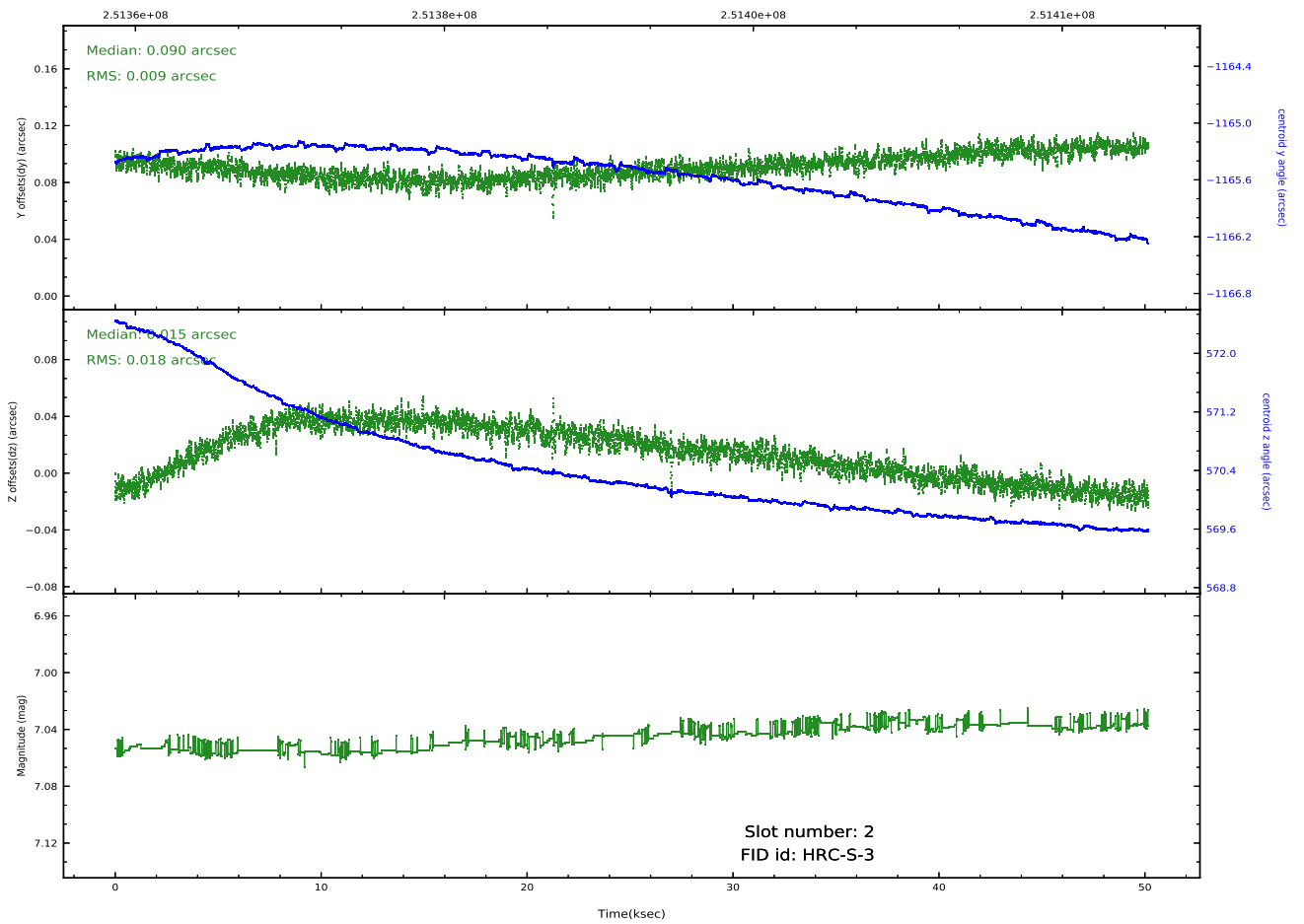
Time (s)



### 2.5.3 Slot 2



Time (s)



# A Summary

## A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2020.10.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	50.16247

## A.2 Comments

The guide star in slot 5 was removed from the aspect solution due to poor data quality. The aspect solution is improved by the removal of this star from the solution.