

# V&V Reference Report

## L2 ASCDS Version : 10.9.2

Observation 19497 - L2 Version 2  
Chandra X-Ray Center

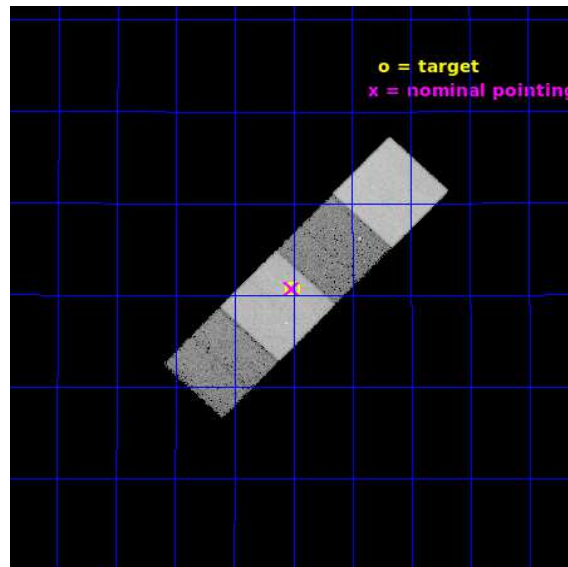
L2 Processing Date : Oct 24 2020

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# 1 Front

seq_num	703345	Sequence number
obs_id	19497	Observation id
title	Constraining the Nature of an Intermediate Mass Black Hole in the Nucleus of Mrk 59	Proposal title
observer	Yi-Jung Yang	Principal investigator
object	Mrk 59	Source name
dtcycle	0	&#160
cycle	P	events from which exps? Prim/Second/Both
ra_targ	194.75125	Observer's specified target RA [deg]
dec_targ	34.84525	Observer's specified target Dec [deg]
ra_nom	194.75308003615	Nominal RA [deg]
dec_nom	34.845483210279	Nominal Dec [deg]
roll_nom	133.65301370003	Nominal Roll [deg]
revision	2	Processing version of data
ontime	24839.899080992	Sum of GTIs [s]
livetime	24515.347512631	Livetime [s]
ontime5	24839.858041048	Sum of GTIs [s]
ontime6	24836.675950646	Sum of GTIs [s]
ontime7	24839.899080992	Sum of GTIs [s]
ontime8	24839.775961041	Sum of GTIs [s]
l2events	269848	Number of level 2 events

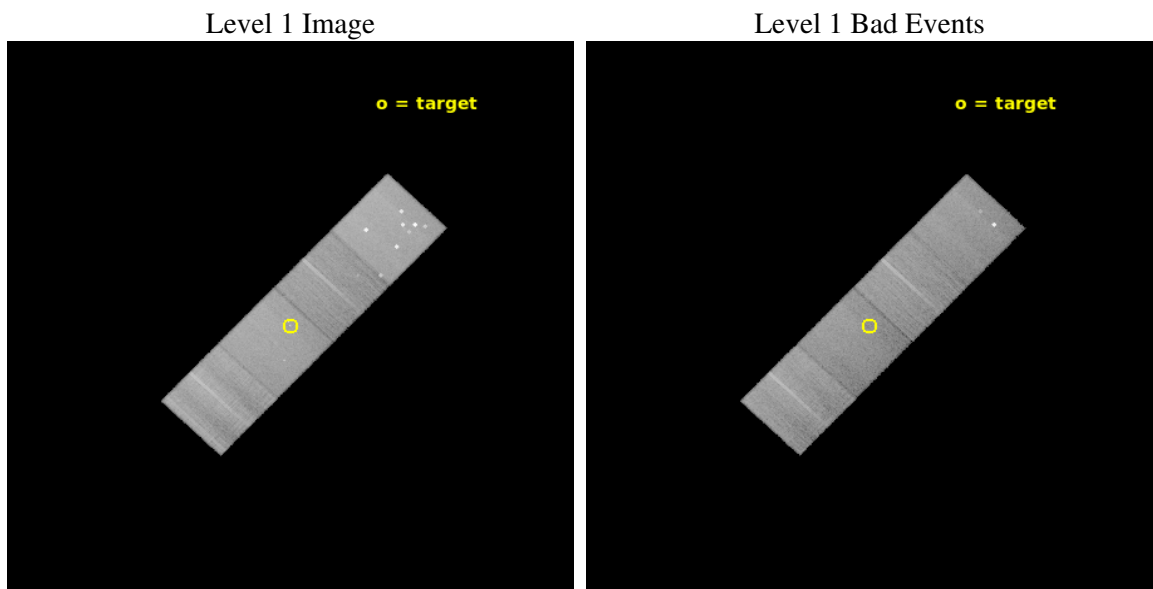




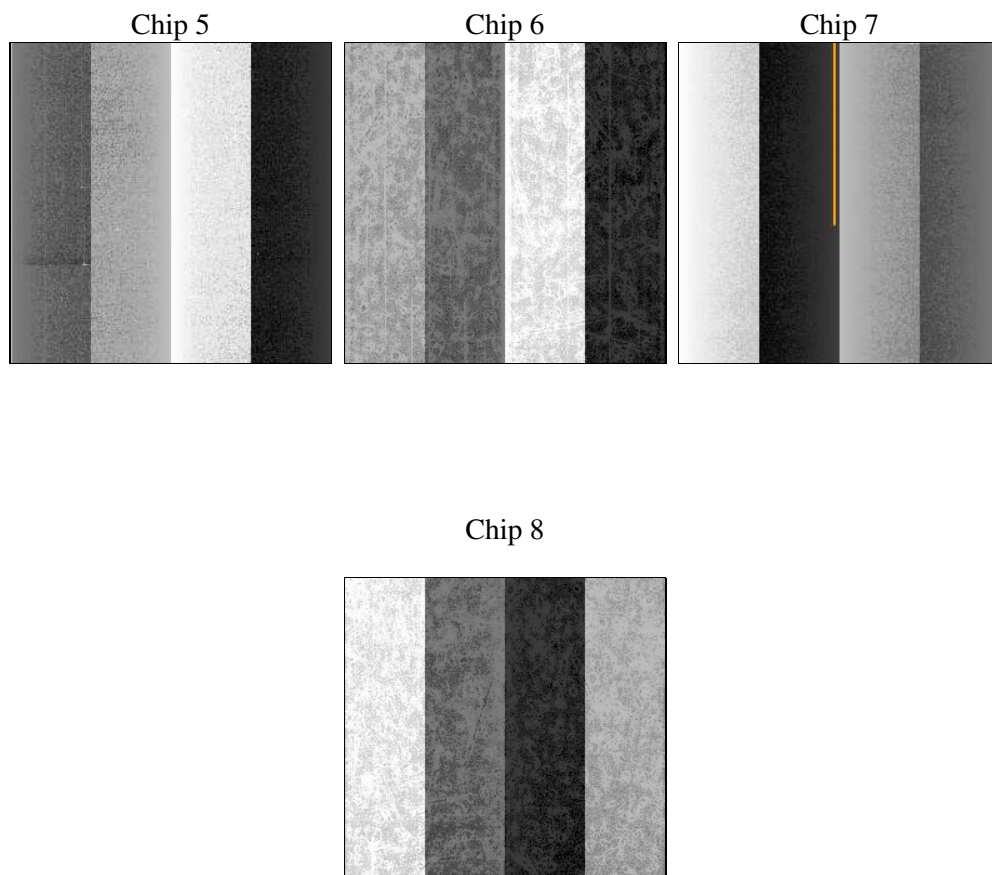
## 2 OBI

### 2.1 OBI

#### 2.1.1 Images



#### 2.1.2 Bias



### 2.1.3 Parameters

obi_num	0	Obi number	sched_exp_time	24775.000000	[s] Scheduled observation exposure time
ascdsver	10.9.2	Processing system revision	ontime	24839.899080992	Sum of GTIs [s]
caldsver	4.9.3	&#160	ontime5	24839.858041048	Sum of GTIs [s]
date	2020-10-25T01:48:23	Date and time of file creation	ontime6	24836.675950646	Sum of GTIs [s]
revision	2	Processing version of data	ontime7	24839.899080992	Sum of GTIs [s]
			ontime8	24839.775961041	Sum of GTIs [s]
			l1events	975088	Number of level 1 events

### 2.1.4 Events

	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	318049	183001	233456	240582
rejected events	154447	162416	130229	173812
rejected %	48%	88%	55%	72%

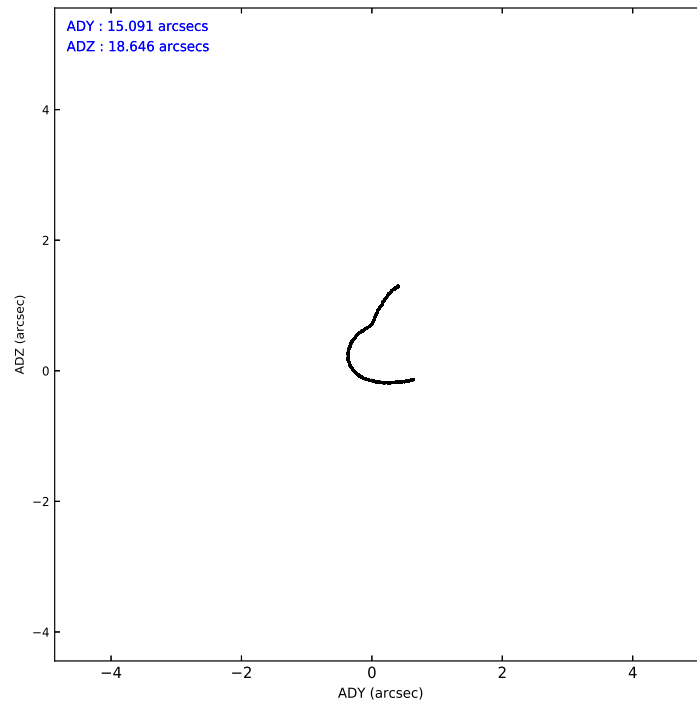
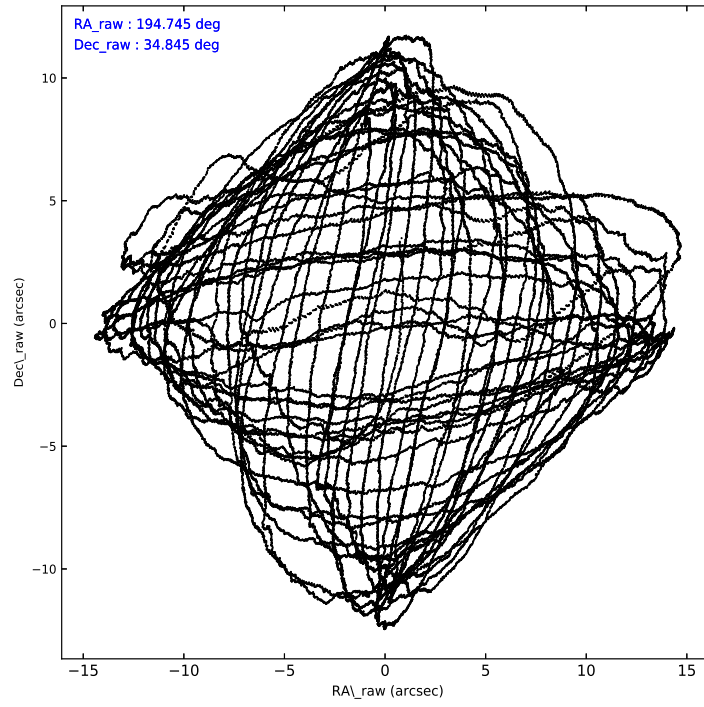
	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	28822	6862	9107	18881
	9%	3%	3%	7%
grade 1 events	687	77	321	184
	0%	0%	0%	0%
grade 2 events	48395	4830	21858	16089
	15%	2%	9%	6%
grade 3 events	5105	2060	8483	7003
	1%	1%	3%	2%
grade 4 events	4770	2032	8399	6571
	1%	1%	3%	2%
grade 5 events	20639	8439	23810	13160
	6%	4%	10%	5%
grade 6 events	76560	4806	55403	18233
	24%	2%	23%	7%
grade 7 events	133071	153895	106075	160461
	41%	84%	45%	66%

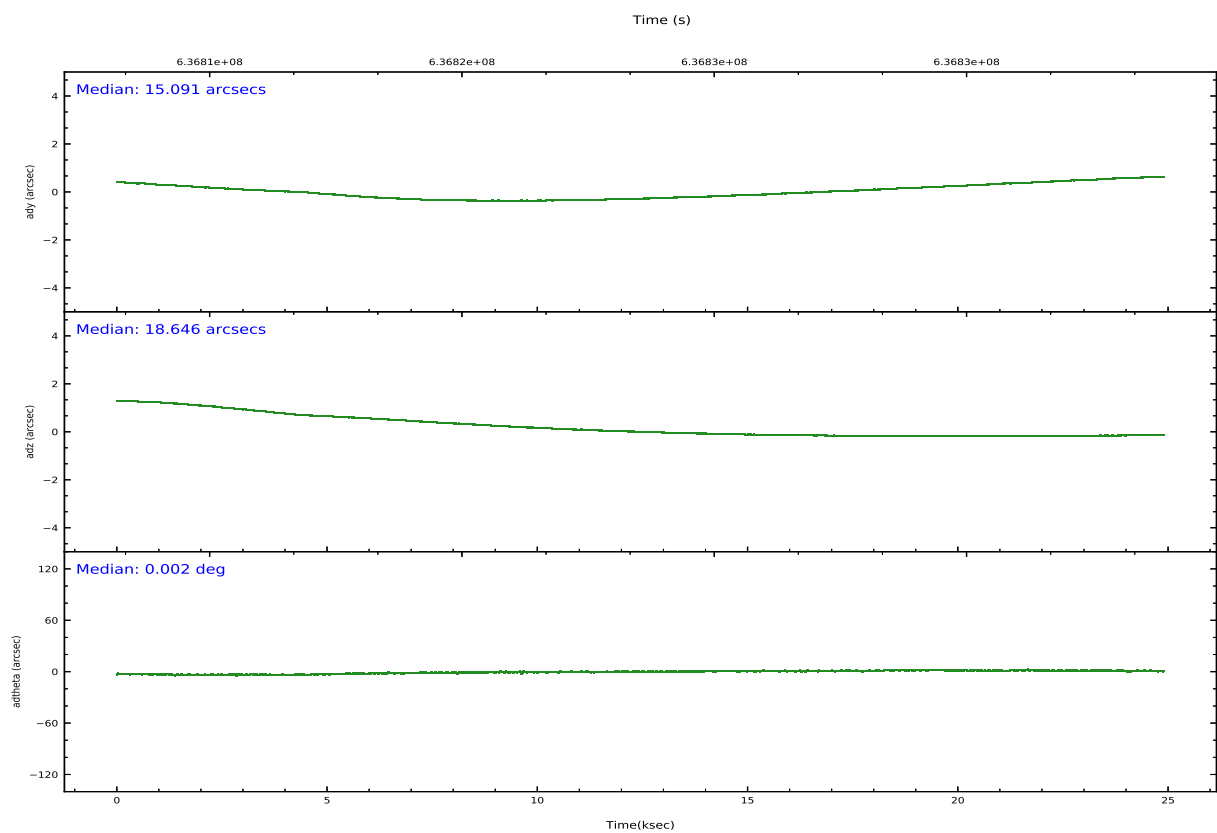
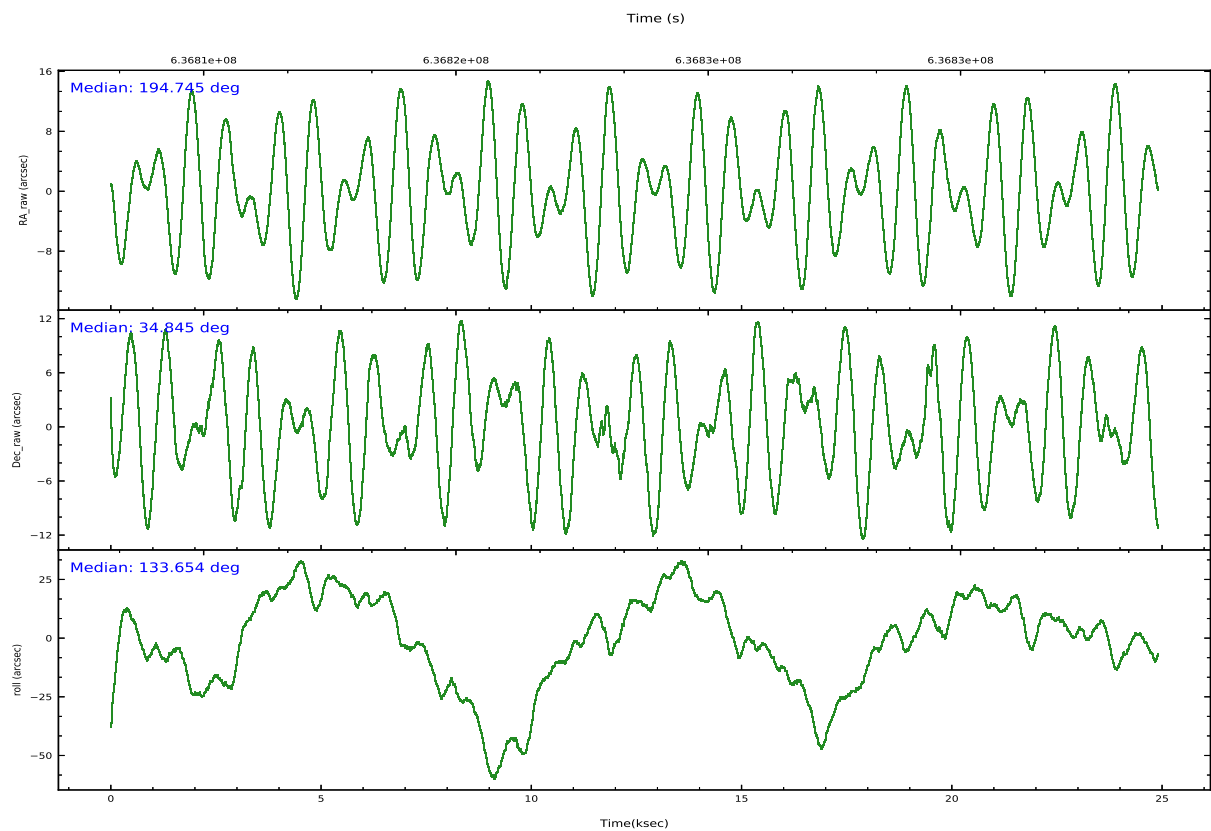
## 2.2 Compared Parameters

Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-5678	ACIS-5678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	194.776893	194.75308003615
[deg] Pointing Dec	34.837482	34.845483210279
[deg] Pointing Roll	133.485353	133.65301370003
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1400660498719
[mm] SIM translation stage offset	0	0.00754346686406393
[s] Observation start time (MET)	636811924.184000	636810712.5352499
Observation start date	2018-03-07T12:10:55	2018-03-07T11:51:52
[s] Observation end time (MET)	636836699.184000	636837787.39935
Observation end date	2018-03-07T19:03:50	2018-03-07T19:23:07
Read mode	TIMED	TIMED

Parameter	Planned	Actual
Obspar version number	8	8
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.1

## 2.3 Aspect



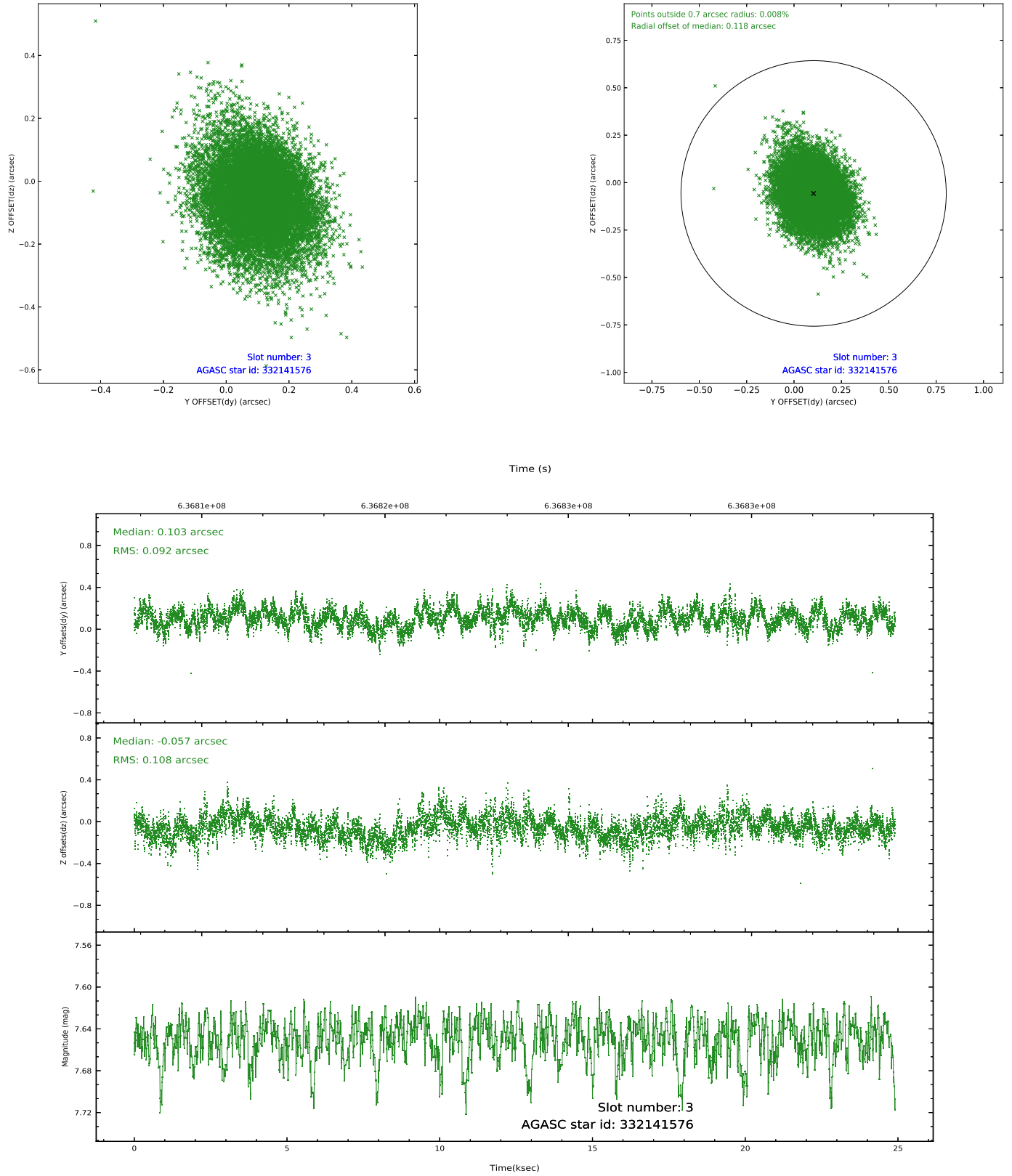


Slot Statistics

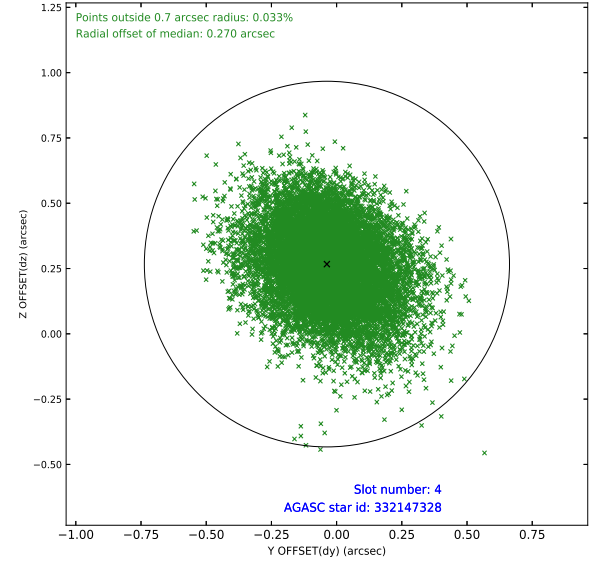
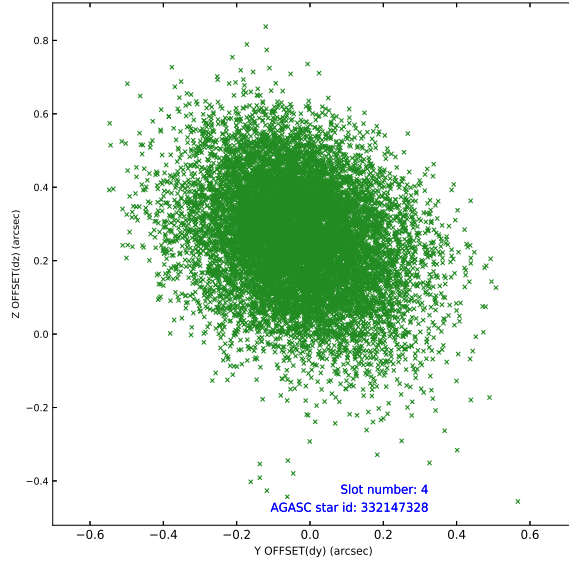
pt	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	6.98	6073	1.000	0.077	-0.095	0.018	0.041	0.000000	0.000000	-768.20	-1740
1	FID		ACIS-S-4	7.08	6075	1.000	0.161	-0.012	0.020	0.039	0.000000	0.000000	2145.30	167
2	FID		ACIS-S-5	7.06	6075	1.000	-0.263	0.118	0.018	0.039	0.000000	0.000000	-1821.02	162
3	GUIDE	used	332141576	7.65	12149	1.000	0.103	-0.057	0.148	0.247	195.042870	34.998417	-117.48	-967
4	GUIDE	used	332147328	9.71	12129	1.000	-0.037	0.267	0.223	0.369	195.656361	34.859115	-1722.52	-1945
5	GUIDE	used	332147400	6.81	12151	1.000	-0.096	-0.167	0.117	0.225	194.745902	34.545694	-699.02	789
6	GUIDE	used	332150720	7.54	12147	1.000	0.104	-0.039	0.145	0.251	195.031183	34.919346	-300.93	-746
7	GUIDE	used	332148064	8.82	12138	1.000	-0.073	-0.003	0.188	0.319	194.866742	34.047668	-2247.18	1762

## 2.4 Star Slots

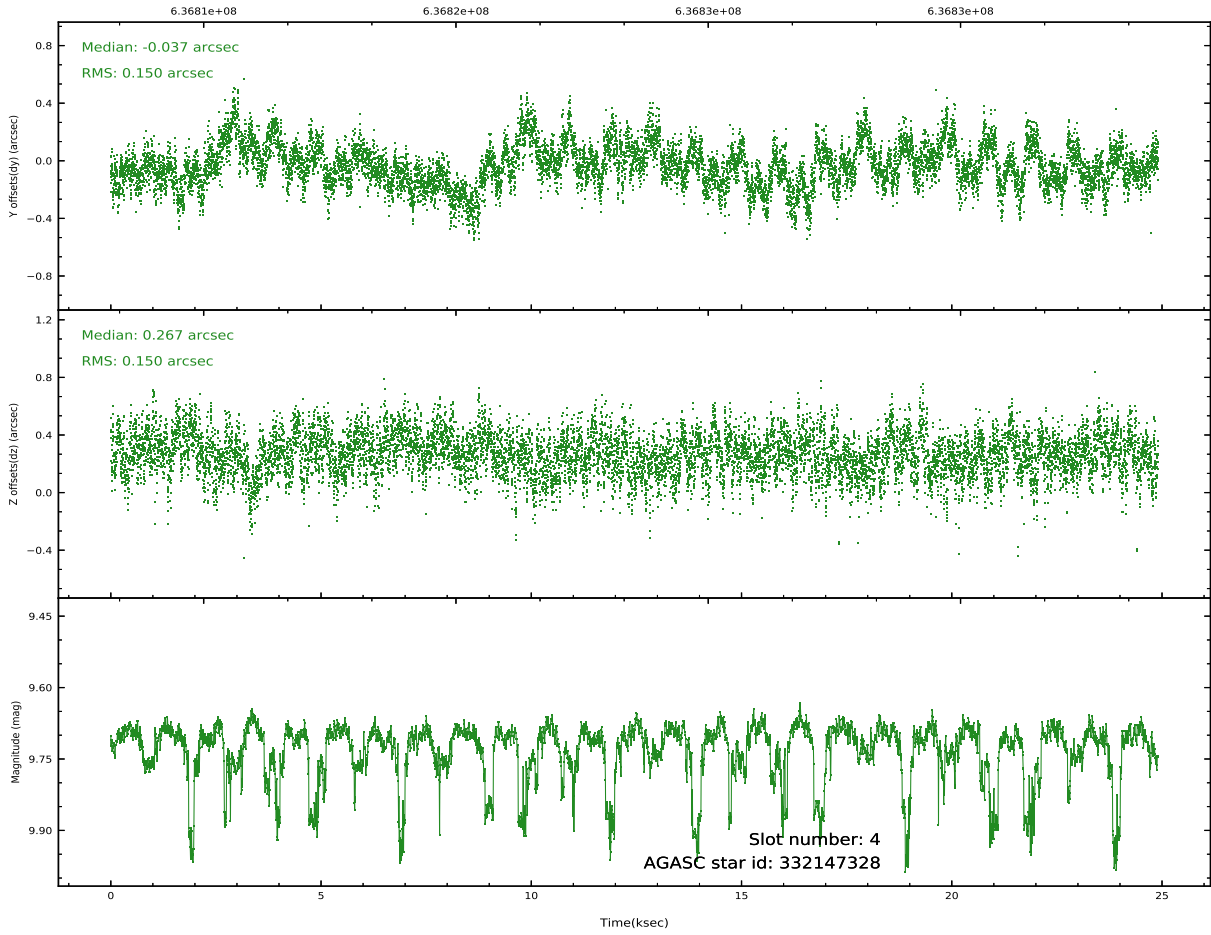
### 2.4.1 Slot 3



## 2.4.2 Slot 4

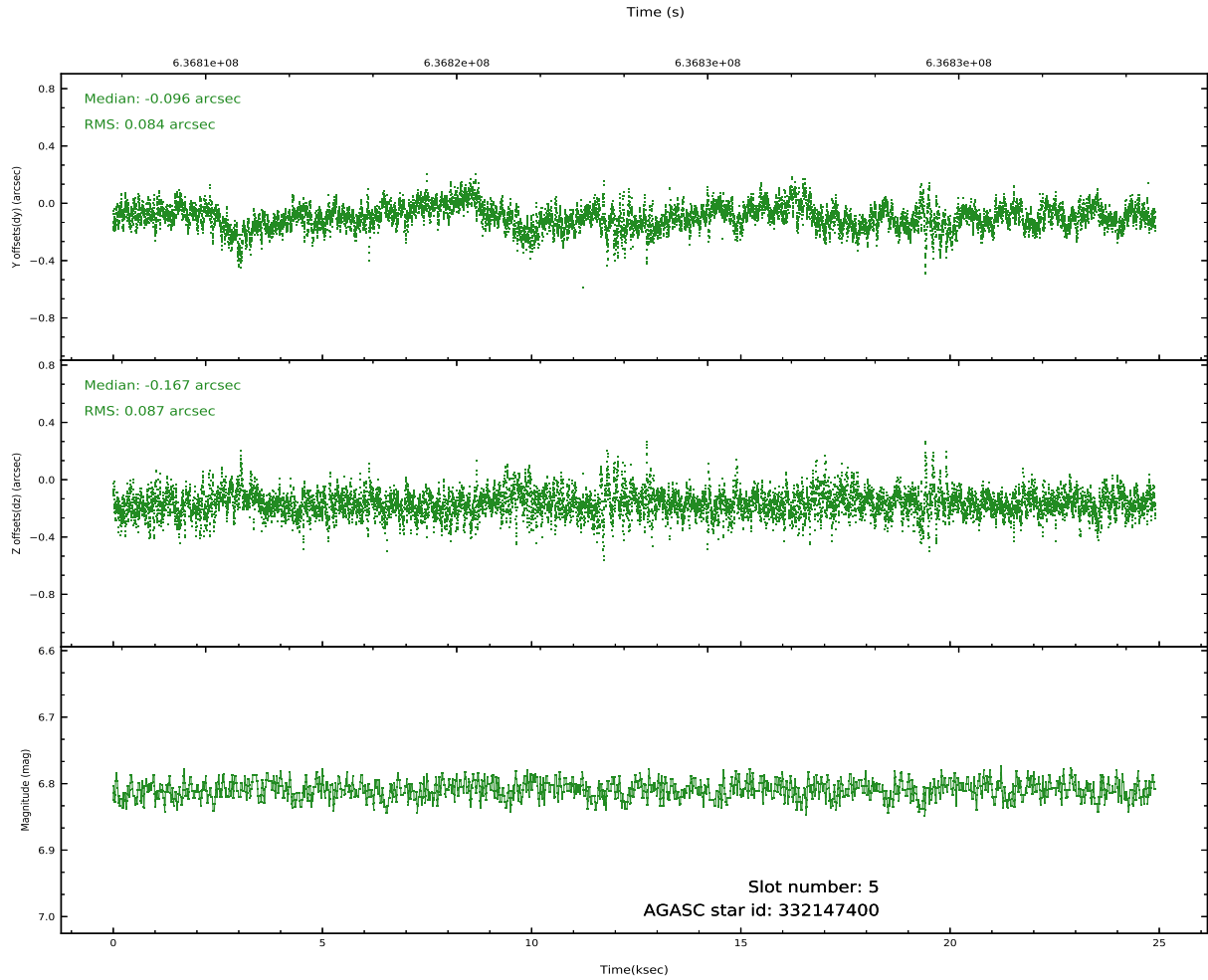
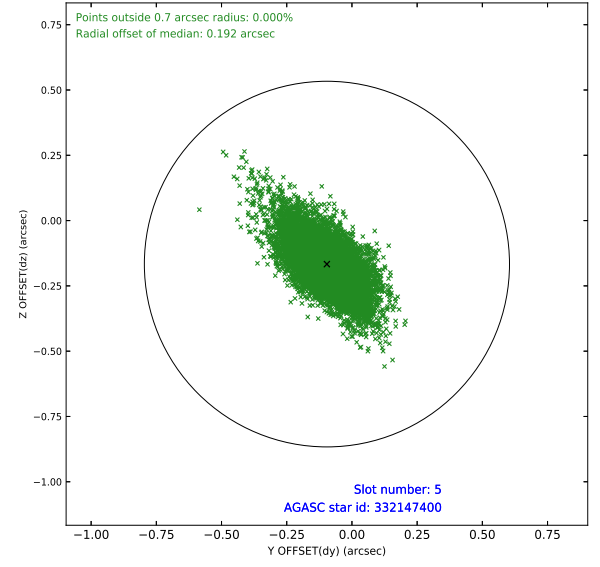
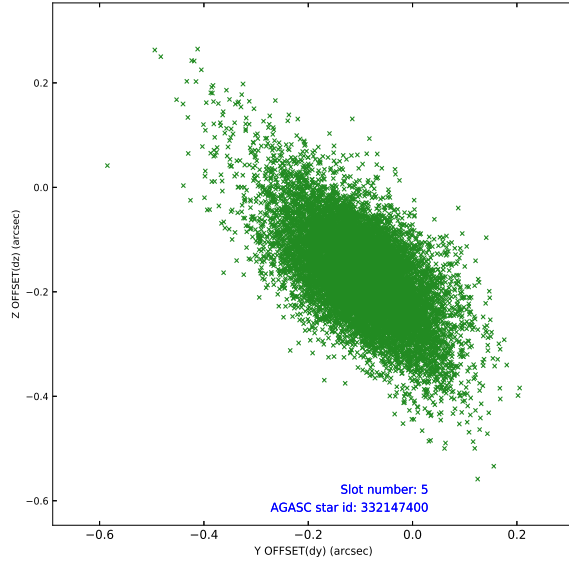


Time (s)

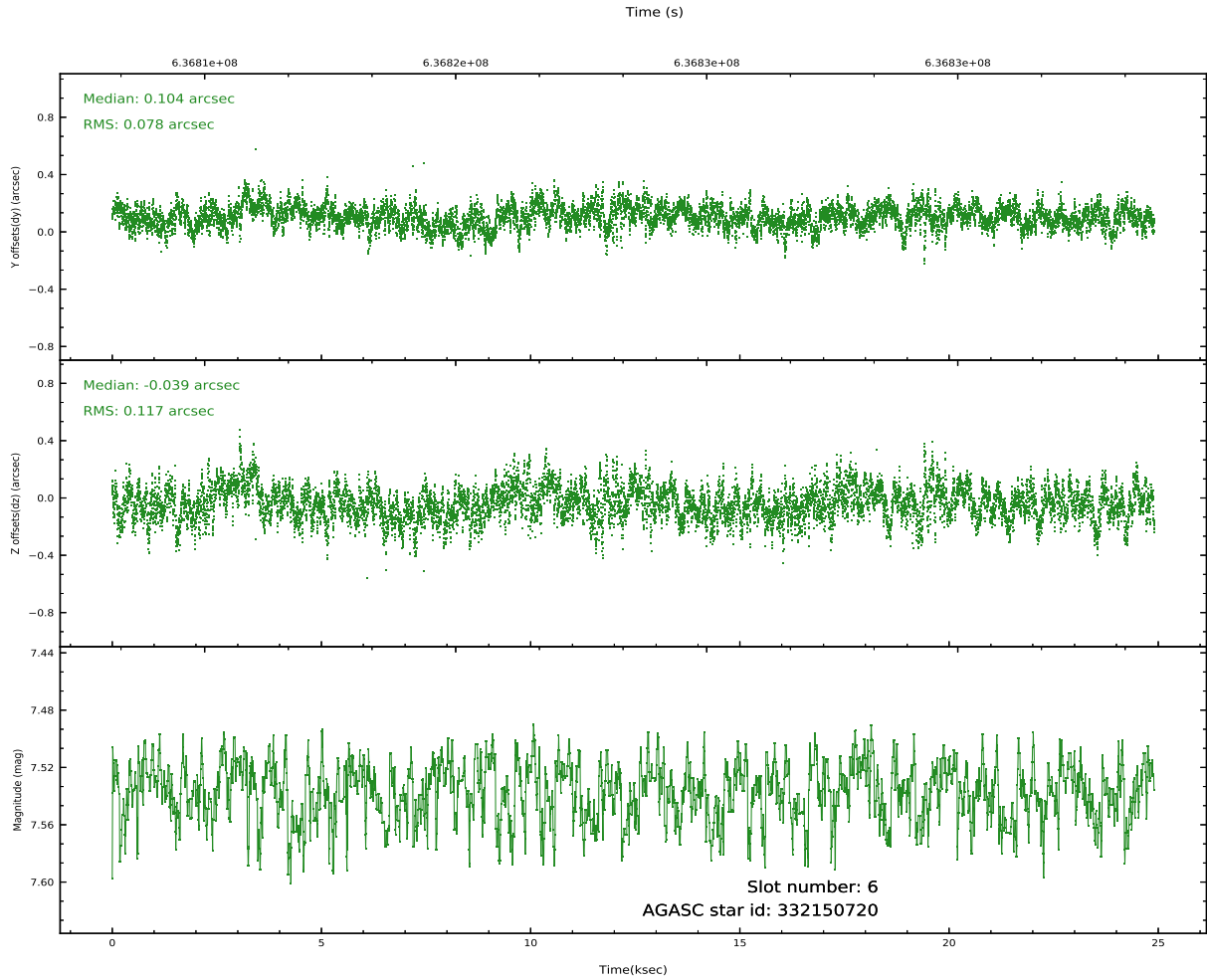
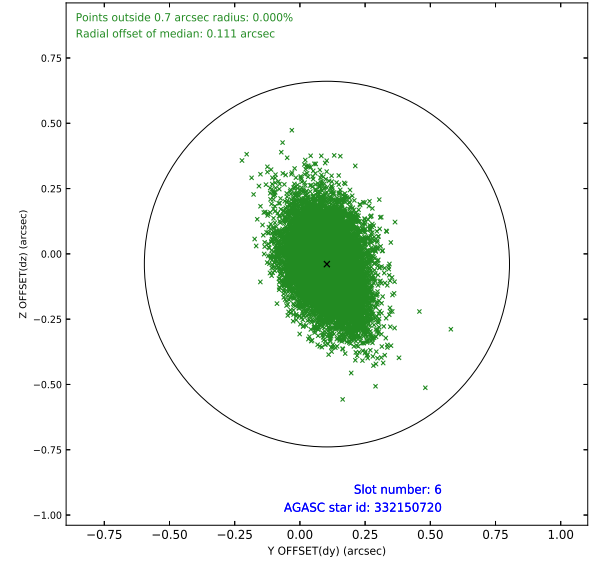
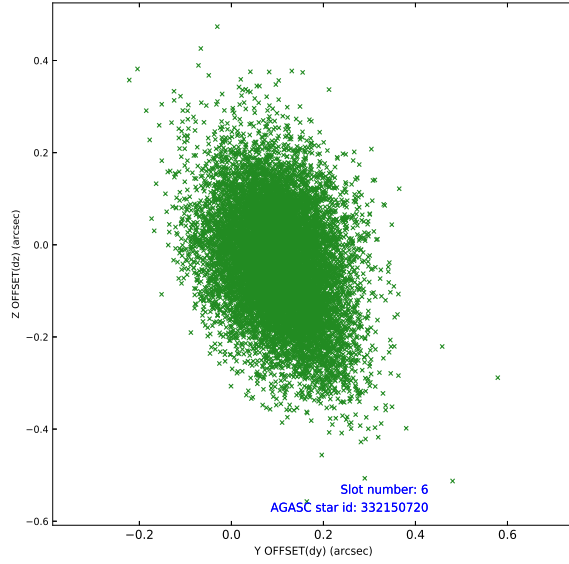




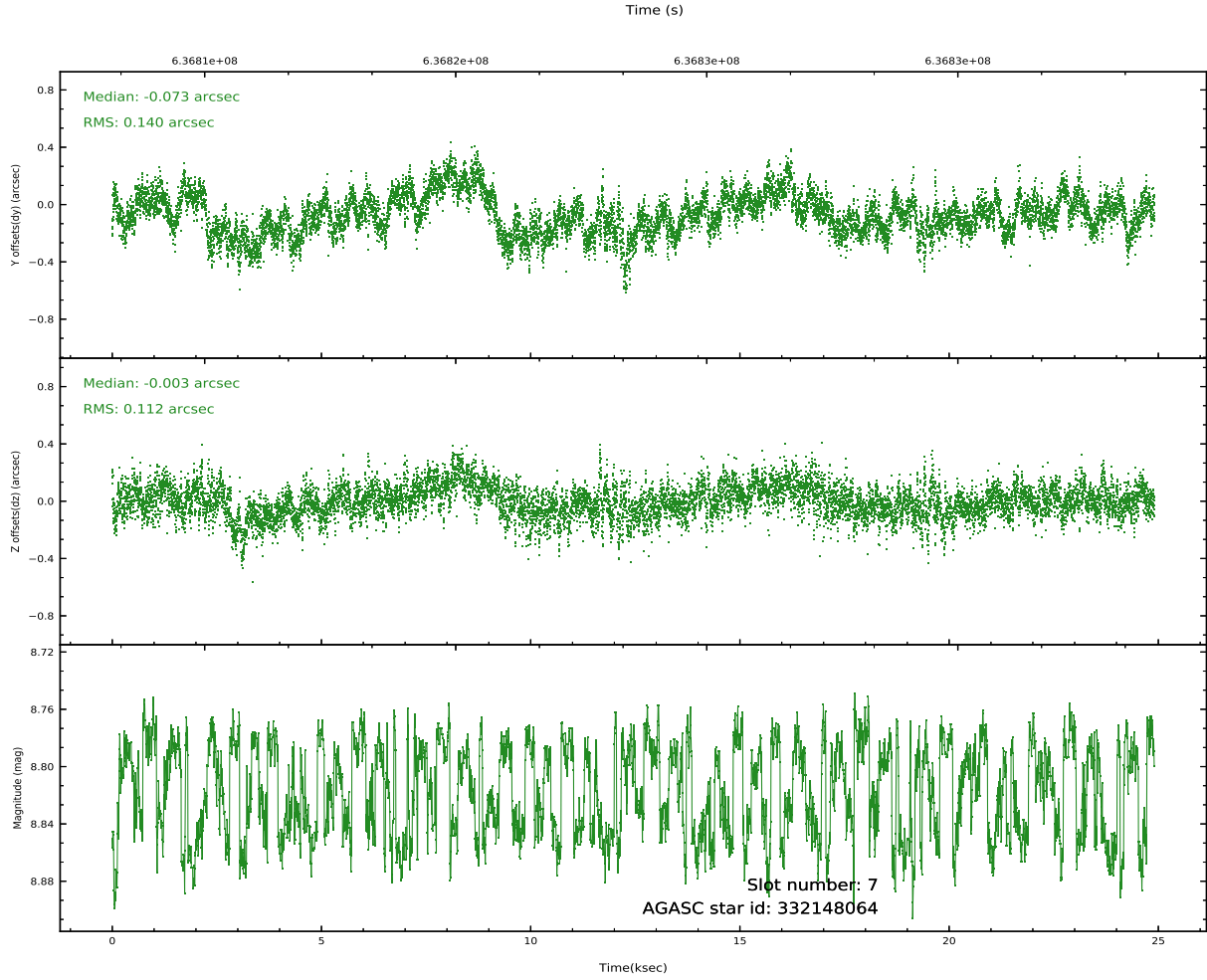
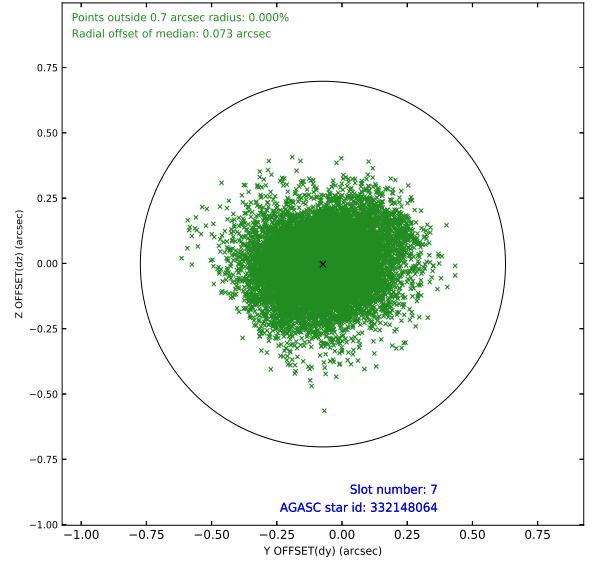
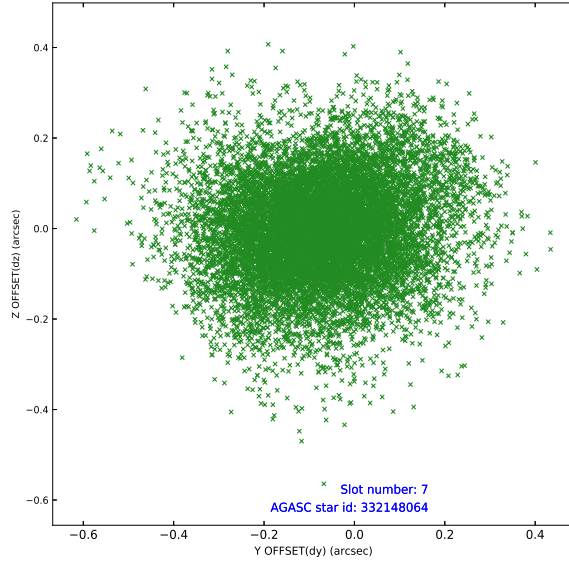
### 2.4.3 Slot 5



## 2.4.4 Slot 6

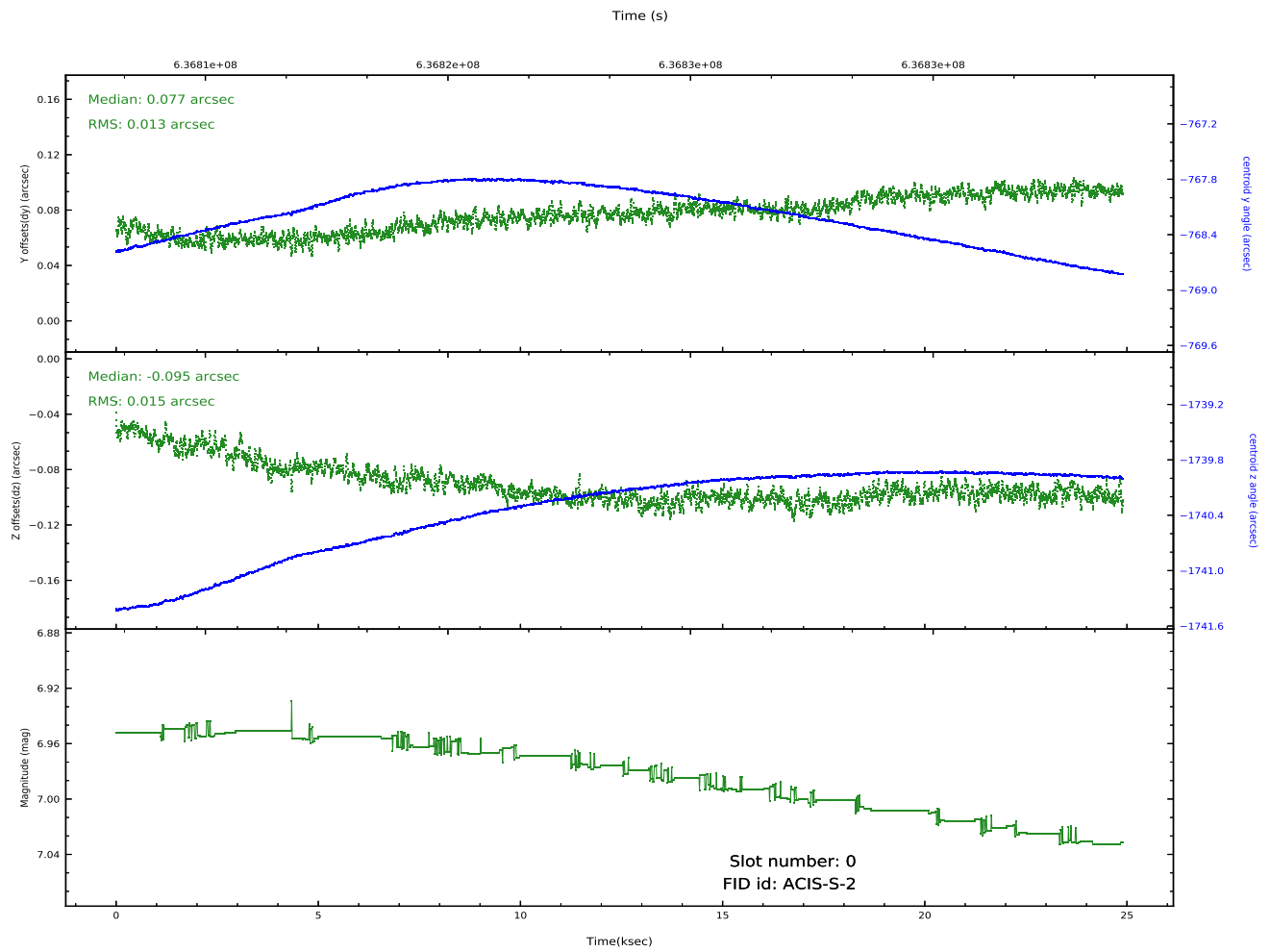
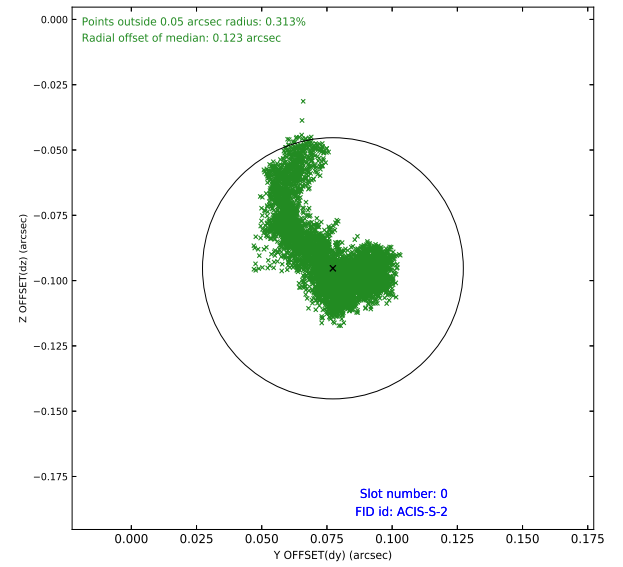
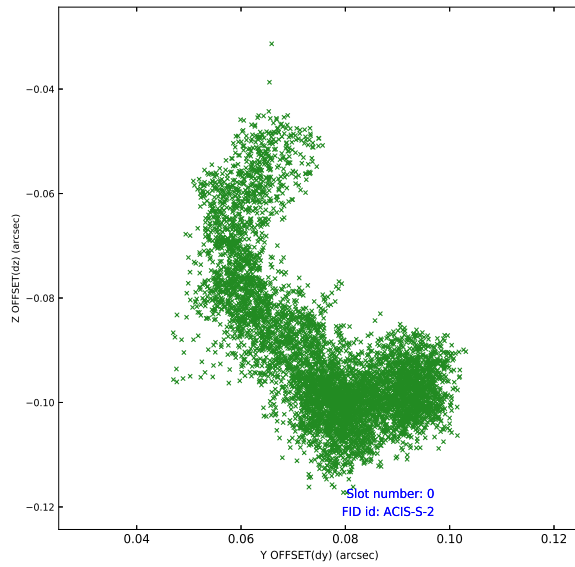


## 2.4.5 Slot 7

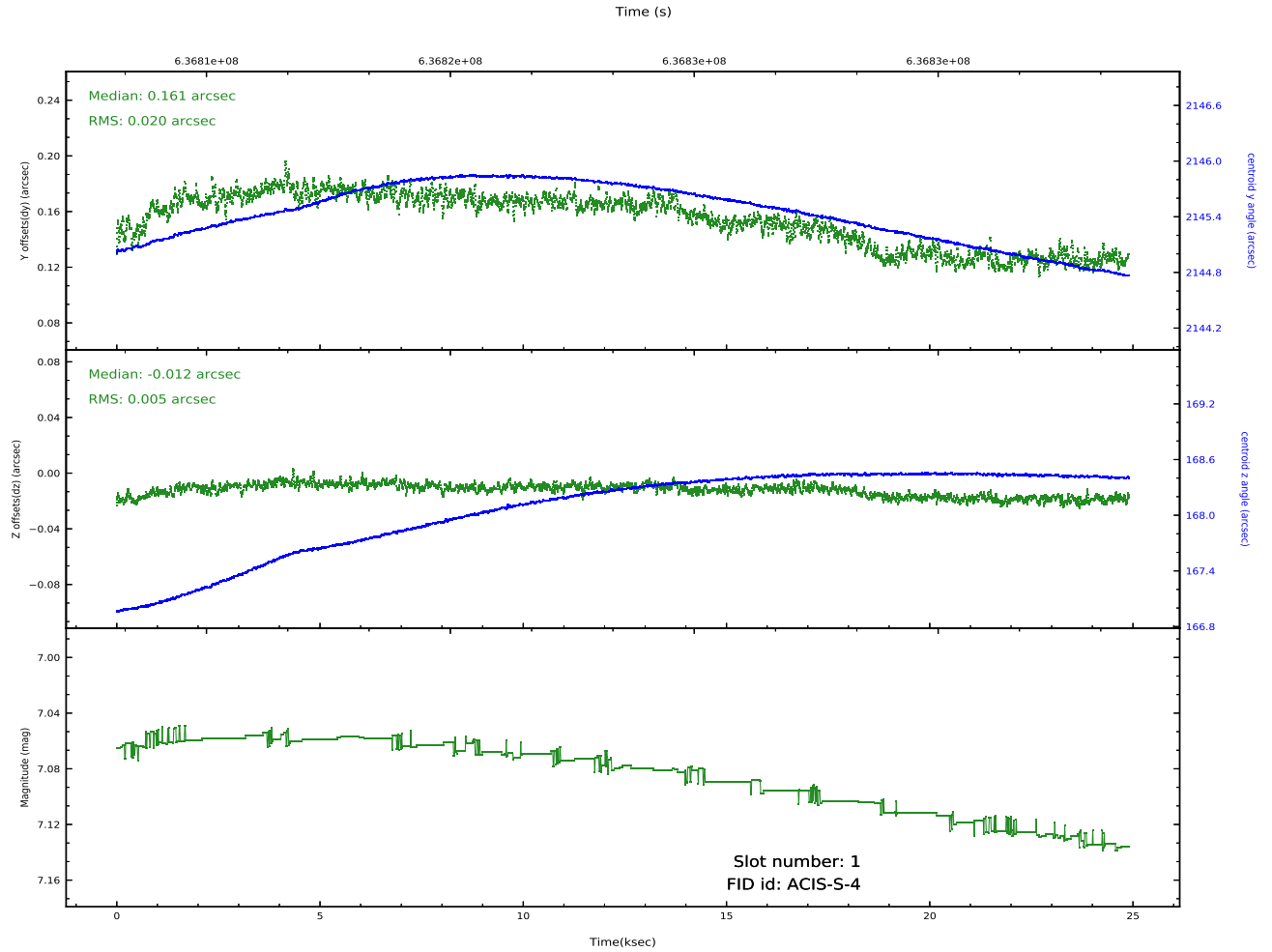
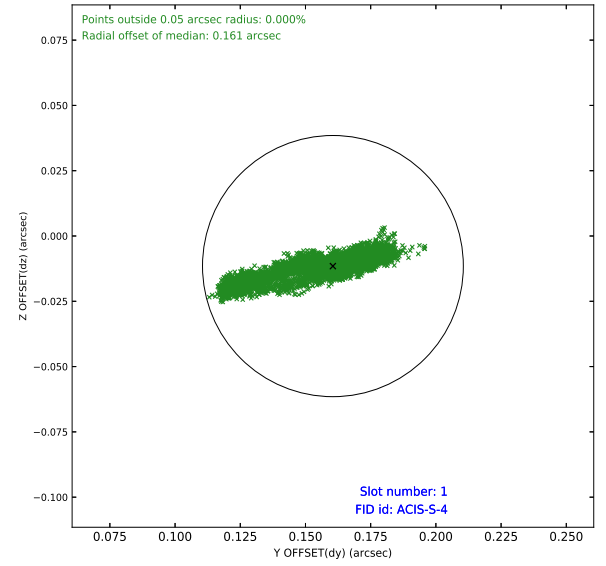
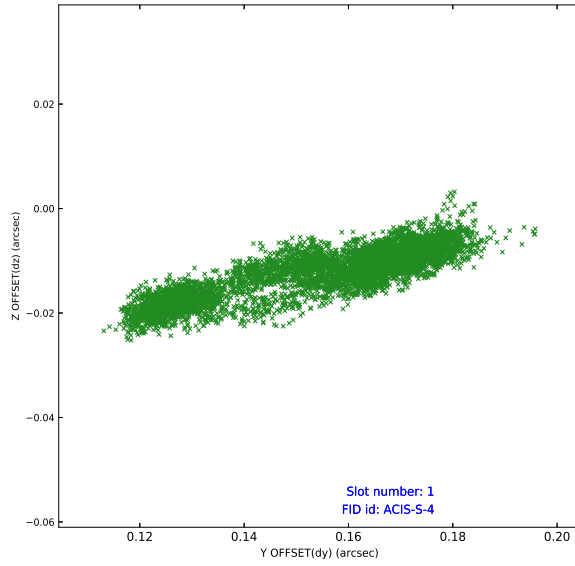


## 2.5 FID Slots

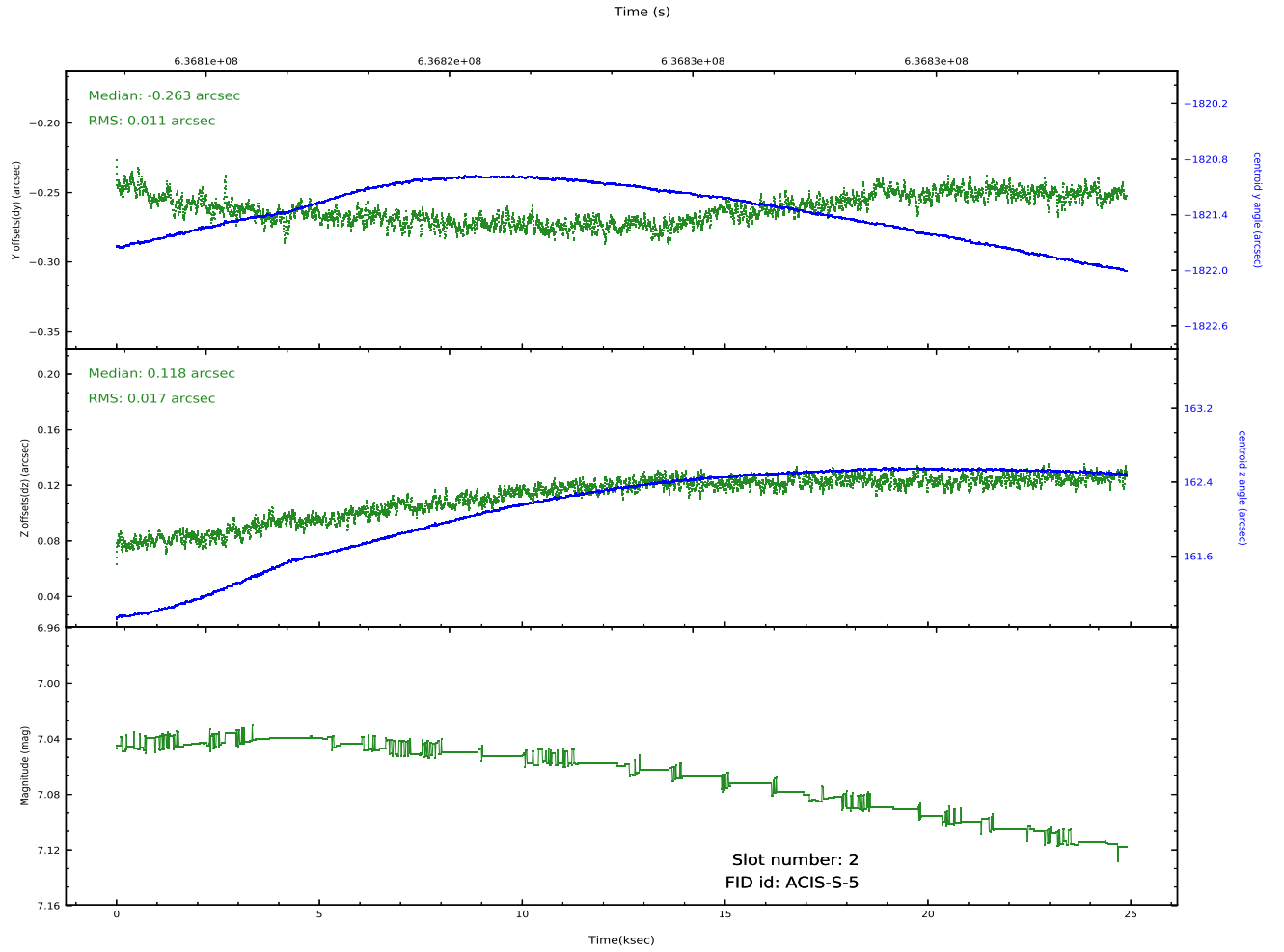
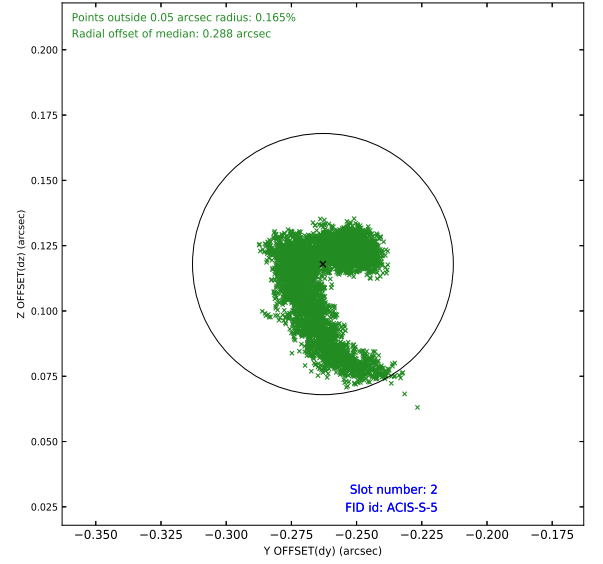
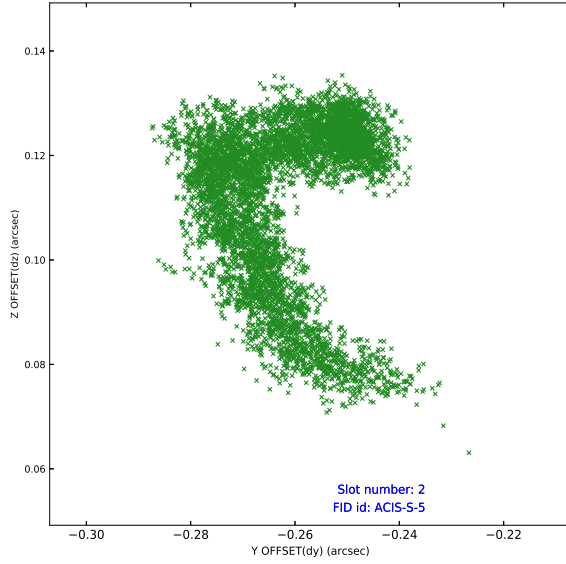
### 2.5.1 Slot 0



## 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)	2020.10.26
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	24.839899080873

### A.2 Comments