V&V Reference Report
L2 ASCDS Version : 10.9.1

Observation 4662 - L2 Version 4
Chandra X-Ray Center

L2 Processing Date : Sep 27 2020

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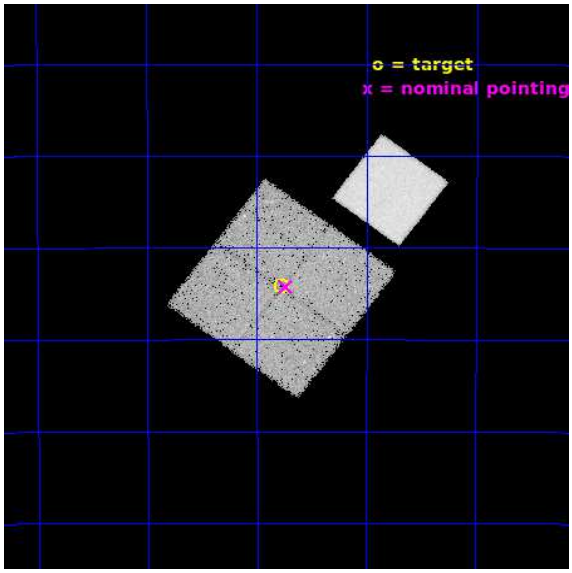
1 Front

seq_num	500481	Sequence number
obs_id	4662	Observation id
title	The Energetics and Host Galaxies of X-Ray Flashes	Proposal title
observer	Prof. Derek Fox	Principal investigator
object	XRF040701	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	311.942917	Observer's specified target RA [deg]
dec_targ	-40.236944	Observer's specified target Dec [deg]
ra_nom	311.93378891829	Nominal RA [deg]
dec_nom	-40.237462936531	Nominal Dec [deg]
roll_nom	36.665980266568	Nominal Roll [deg]
revision	4	Processing version of data
ontime	18984.318012983	Sum of GTIs [s]
livetime	18736.273922091	Livetime [s]
ontime0	18987.458993226	Sum of GTIs [s]
ontime1	18987.458993226	Sum of GTIs [s]
ontime2	18990.599963456	Sum of GTIs [s]
ontime3	18984.318012983	Sum of GTIs [s]
ontime7	18990.599963456	Sum of GTIs [s]
l2events	138611	Number of level 2 events

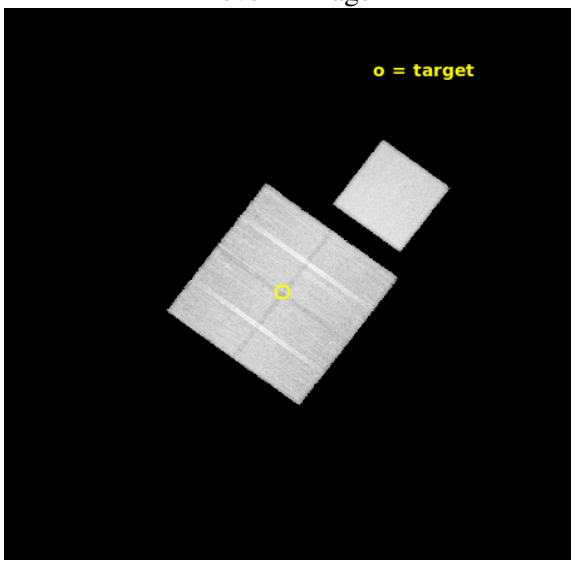


2 OBI

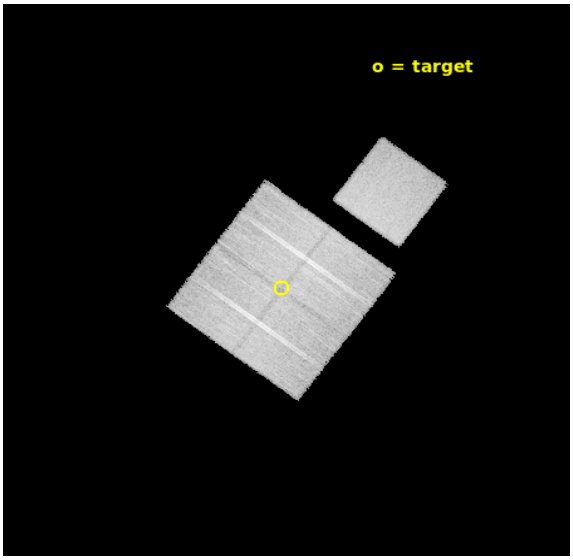
2.1 OBI

2.1.1 Images

Level 1 Image

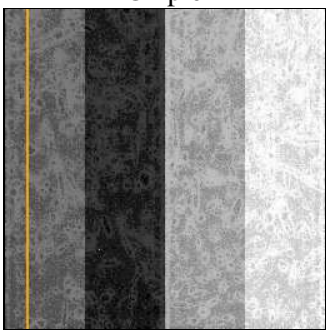


Level 1 Bad Events

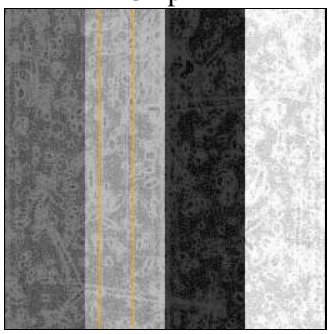


2.1.2 Bias

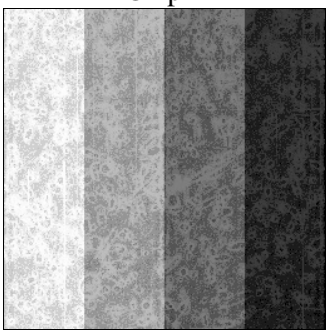
Chip 0



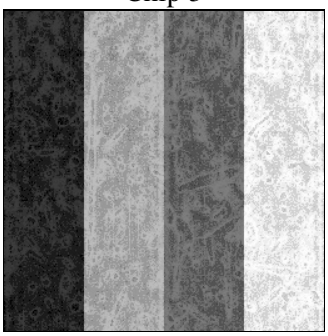
Chip 1



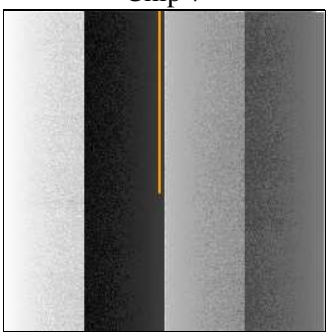
Chip 2



Chip 3



Chip 7



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	10.9.1	Processing system revision
caldbver	4.9.2	
date	2020-09-27T13:06:10	Date and time of file creation
revision	4	Processing version of data

sched_exp_time	18816.059000	[s] Scheduled observation exposure time
ontime	18984.318012983	Sum of GTIs [s]
ontime0	18987.458993226	Sum of GTIs [s]
ontime1	18987.458993226	Sum of GTIs [s]
ontime2	18990.599963456	Sum of GTIs [s]
ontime3	18984.318012983	Sum of GTIs [s]
ontime7	18990.599963456	Sum of GTIs [s]
l1events	743434	Number of level 1 events

2.1.4 Events

	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 7**
level 1 events	132637	132161	144495	141056	193085
rejected events	114114	113496	126395	123294	115129
rejected %	86%	85%	87%	87%	59%

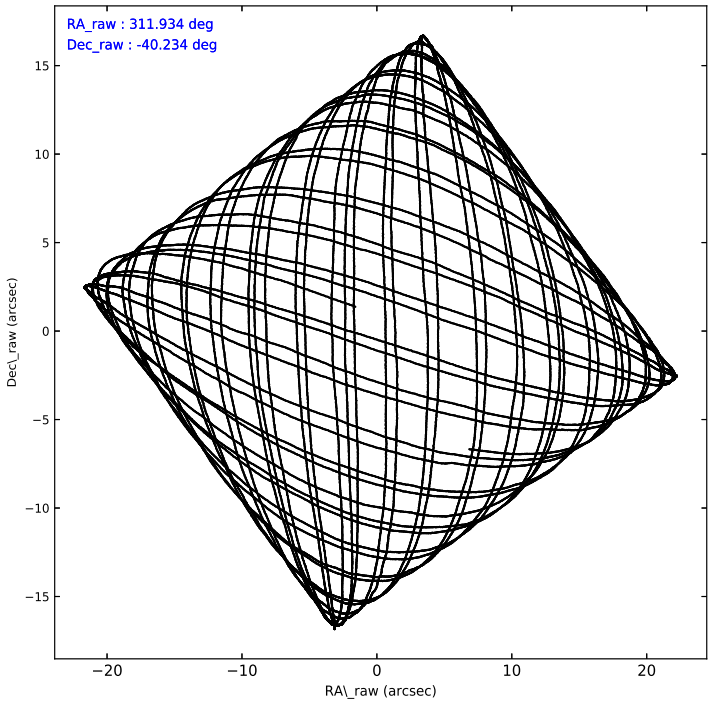
	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 7**
grade 0 events	9003	8244	8924	8618	7166
	6%	6%	6%	6%	3%
grade 1 events	72	77	107	93	171
	0%	0%	0%	0%	0%
grade 2 events	3713	3980	3674	3339	16099
	2%	3%	2%	2%	8%
grade 3 events	1735	1803	1645	1622	6895
	1%	1%	1%	1%	3%
grade 4 events	1598	1808	1621	1743	6930
	1%	1%	1%	1%	3%
grade 5 events	5753	6069	5424	6448	18147
	4%	4%	3%	4%	9%
grade 6 events	3044	3432	2835	3019	43594
	2%	2%	1%	2%	22%
grade 7 events	107719	106748	120265	116174	94083
	81%	80%	83%	82%	48%

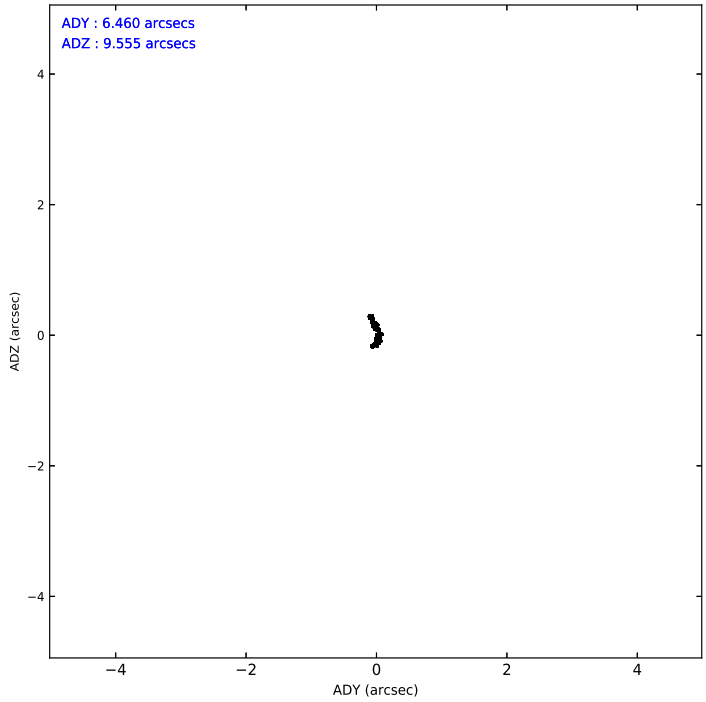
2.2 Compared Parameters

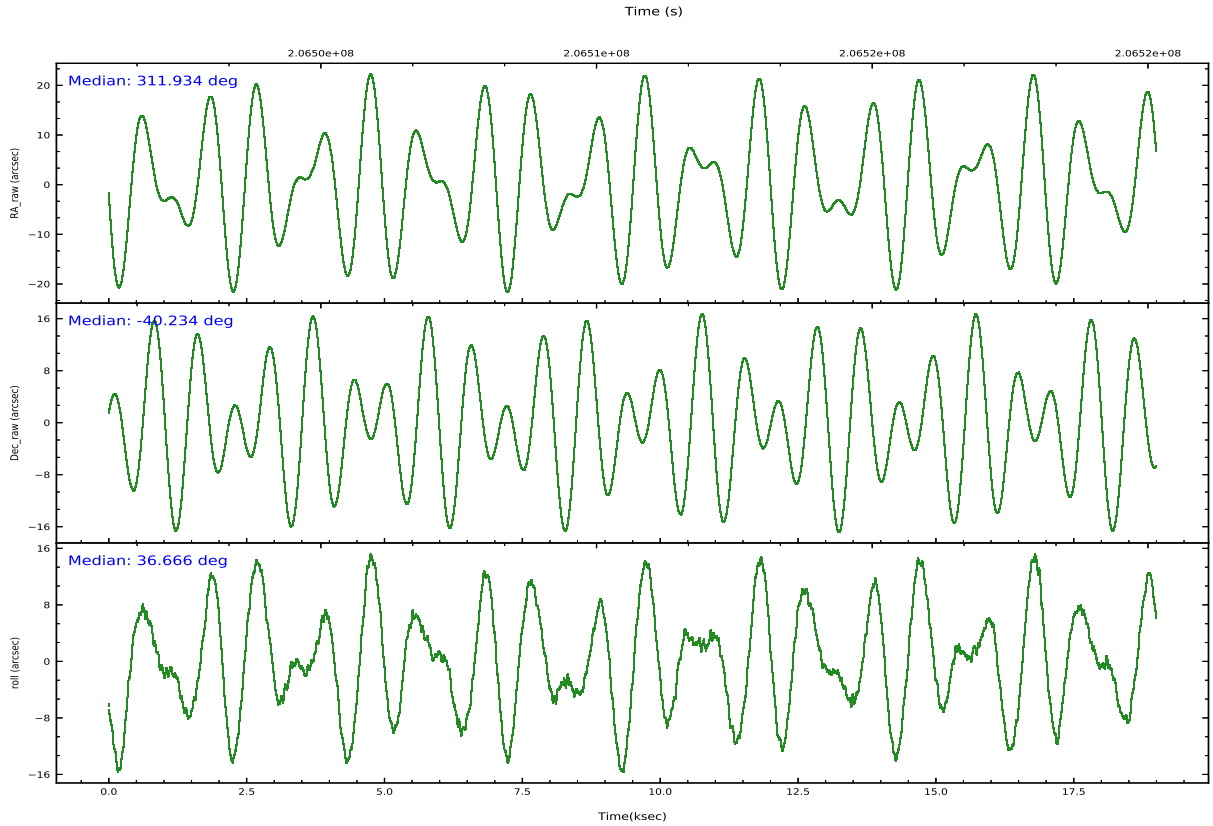
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-01237	ACIS-01237
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	311.919468	311.93378891829
[deg] Pointing Dec	-40.259287	-40.237462936531
[deg] Pointing Roll	36.453523	36.665980266568
[mm] SIM focus pos	-0.782348	-0.7809083437167272
[mm] SIM defocus	0	0.001439871863259334
[mm] SIM translation stage pos	-233.592463	-233.5874344608287
[mm] SIM translation stage offset	0	-0.005018542100998502
[s] Observation start time (MET)	206501334.184000	206500015.96679
Observation start date	2004-07-18T01:27:50	2004-07-18T01:06:55
[s] Observation end time (MET)	206520150.184000	206520386.81769
Observation end date	2004-07-18T06:41:26	2004-07-18T06:46:26
Read mode	TIMED	TIMED

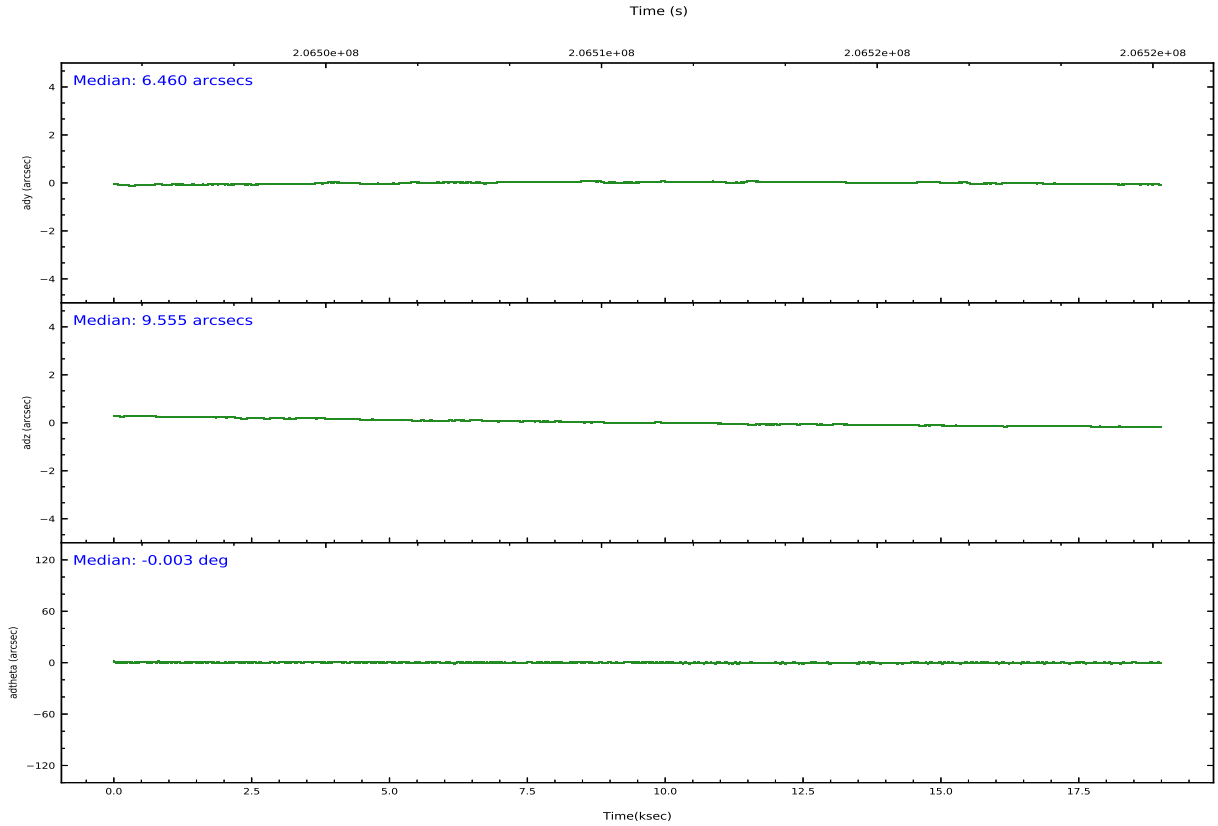
Parameter	Planned	Actual
Obspar version number	8	8
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.1

2.3 Aspect


RA_raw : 311.934 deg
Dec_raw : -40.234 deg
Dec_raw (arcsec)
RA_raw (arcsec)


ADY : 6.460 arcsecs
ADZ : 9.555 arcsecs
ADZ (arcsec)
ADY (arcsec)


Time (s)
2.0650e+08
2.0651e+08
2.0652e+08
2.0652e+08
Median: 311.934 deg
RA_raw (arcsec)
Median: -40.234 deg
Dec_raw (arcsec)
Median: 36.666 deg
roll (arcsec)
Time(ksec)

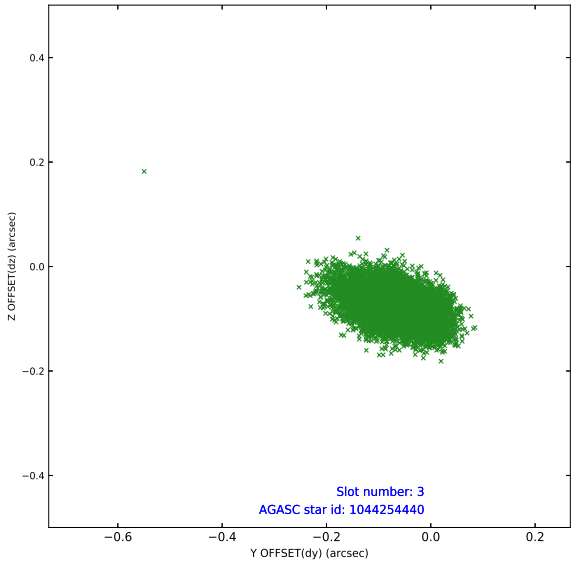

Time (s)
2.0650e+08
2.0651e+08
2.0652e+08
2.0652e+08
Median: 6.460 arcsecs
ady (arcsec)
Median: 9.555 arcsecs
adz (arcsec)
Median: -0.003 deg
adtheta (arcsec)
Time(ksec)

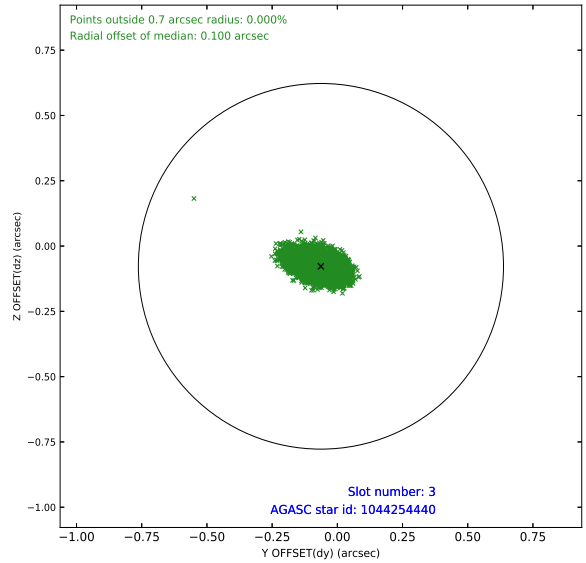
Slot Statistics

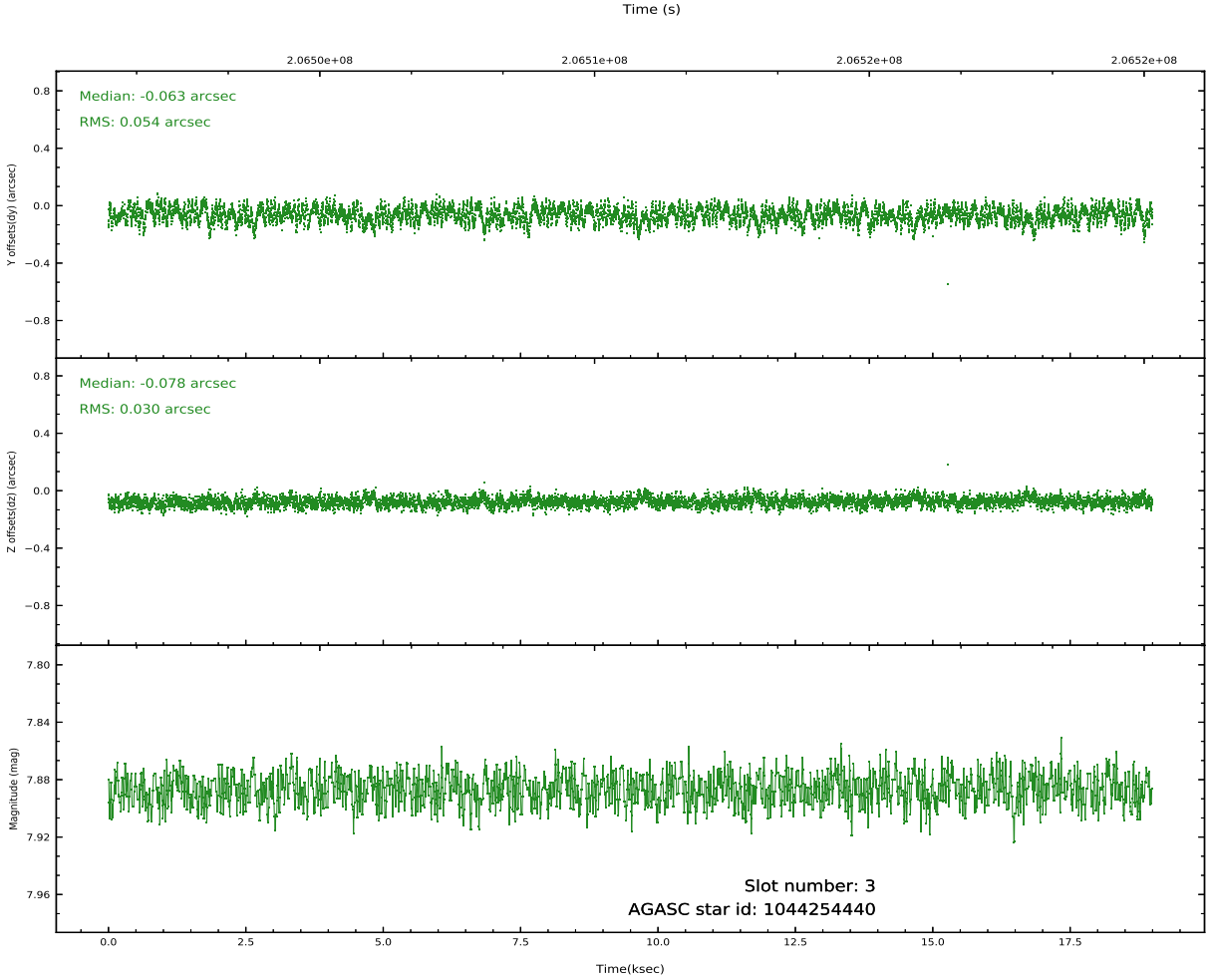
ot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.24	4633	1.000	0.003	0.018	0.007	0.013	0.000000	0.000000	933.26	-833
1	FID		ACIS-I-5	7.23	4633	1.000	-0.185	0.017	0.006	0.011	0.000000	0.000000	-1814.95	1064
2	FID		ACIS-I-6	7.26	4633	1.000	0.091	0.035	0.008	0.013	0.000000	0.000000	398.63	1709
3	GUIDE	used	1044254440	7.89	9267	1.000	-0.063	-0.078	0.065	0.108	310.924905	-40.060336	-1787.93	2191
4	GUIDE	used	1044256608	9.15	9260	1.000	0.082	0.043	0.076	0.124	311.405786	-40.800053	-2285.03	-737
5	GUIDE	used	1044260200	7.39	9267	1.000	0.009	-0.095	0.058	0.087	312.080069	-40.001195	907.91	483
6	GUIDE	used	1044260208	9.18	9262	1.000	0.054	0.052	0.083	0.134	311.587523	-40.801920	-1888.88	-1035
7	GUIDE	used	1044388888	9.00	9258	1.000	-0.081	0.078	0.085	0.139	312.593988	-40.608474	730.36	-2113

2.4 Star Slots

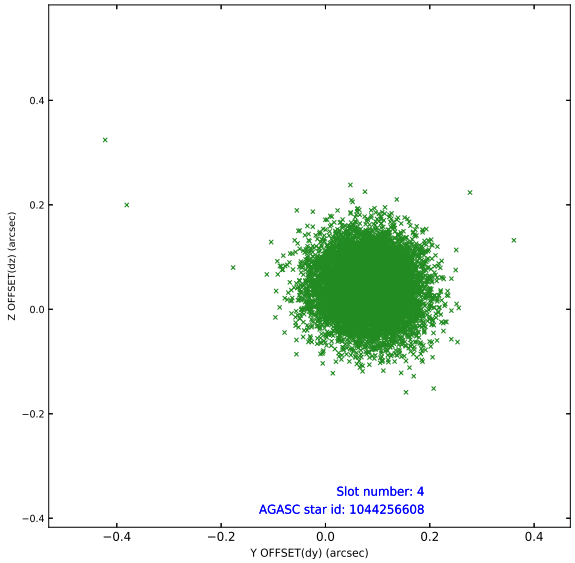
2.4.1 Slot 3

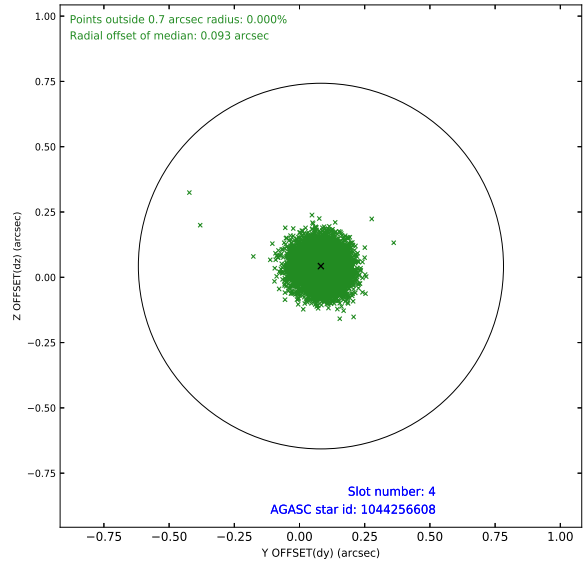


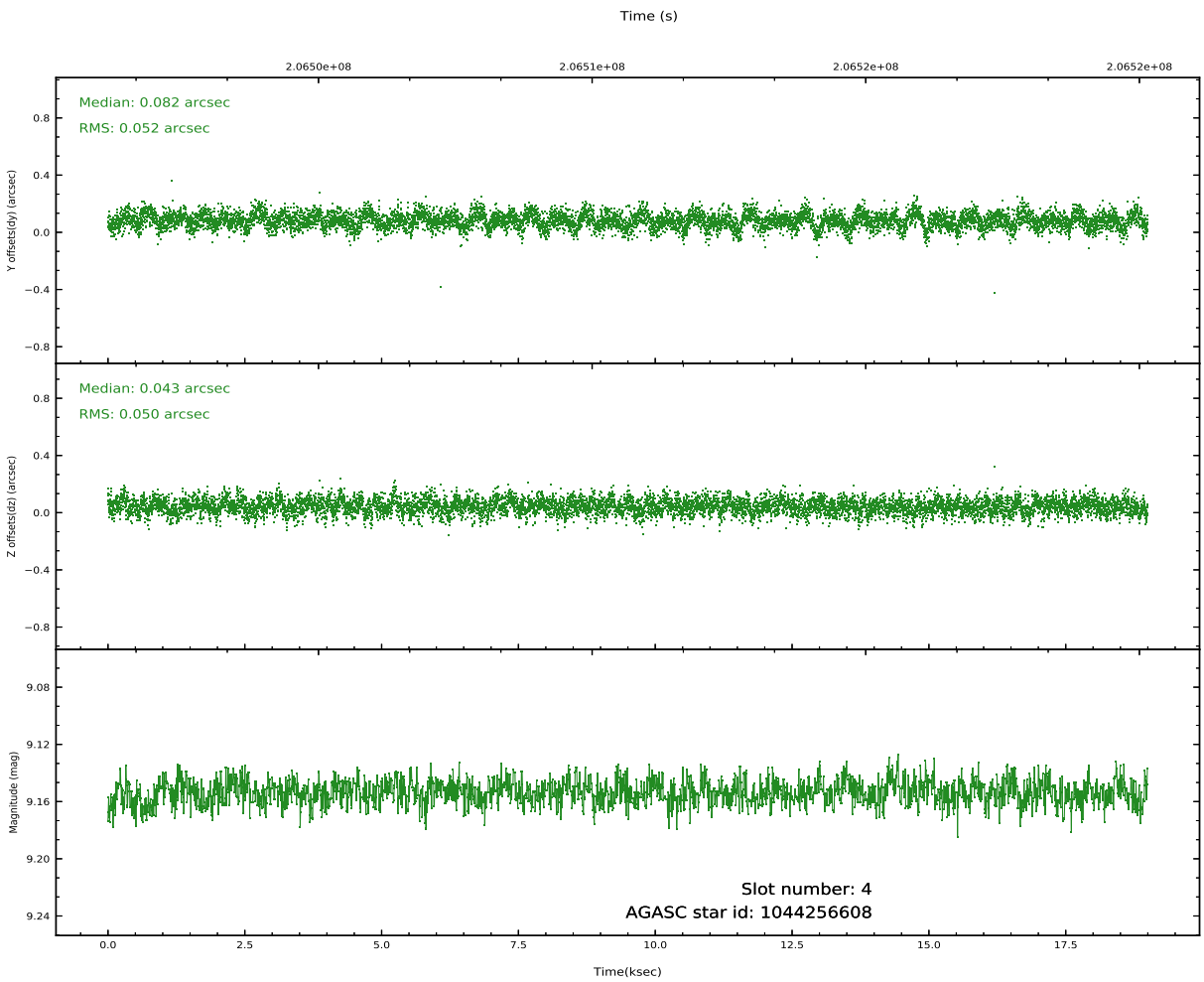




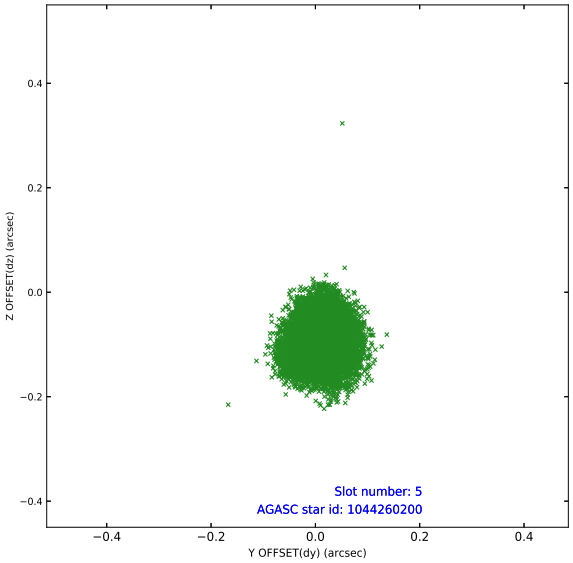
2.4.2 Slot 4

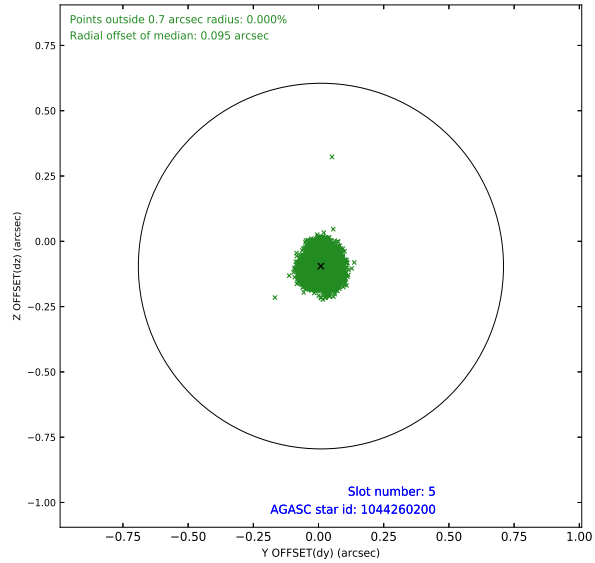

Slot number: 4
AGASC star id: 1044256608
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)

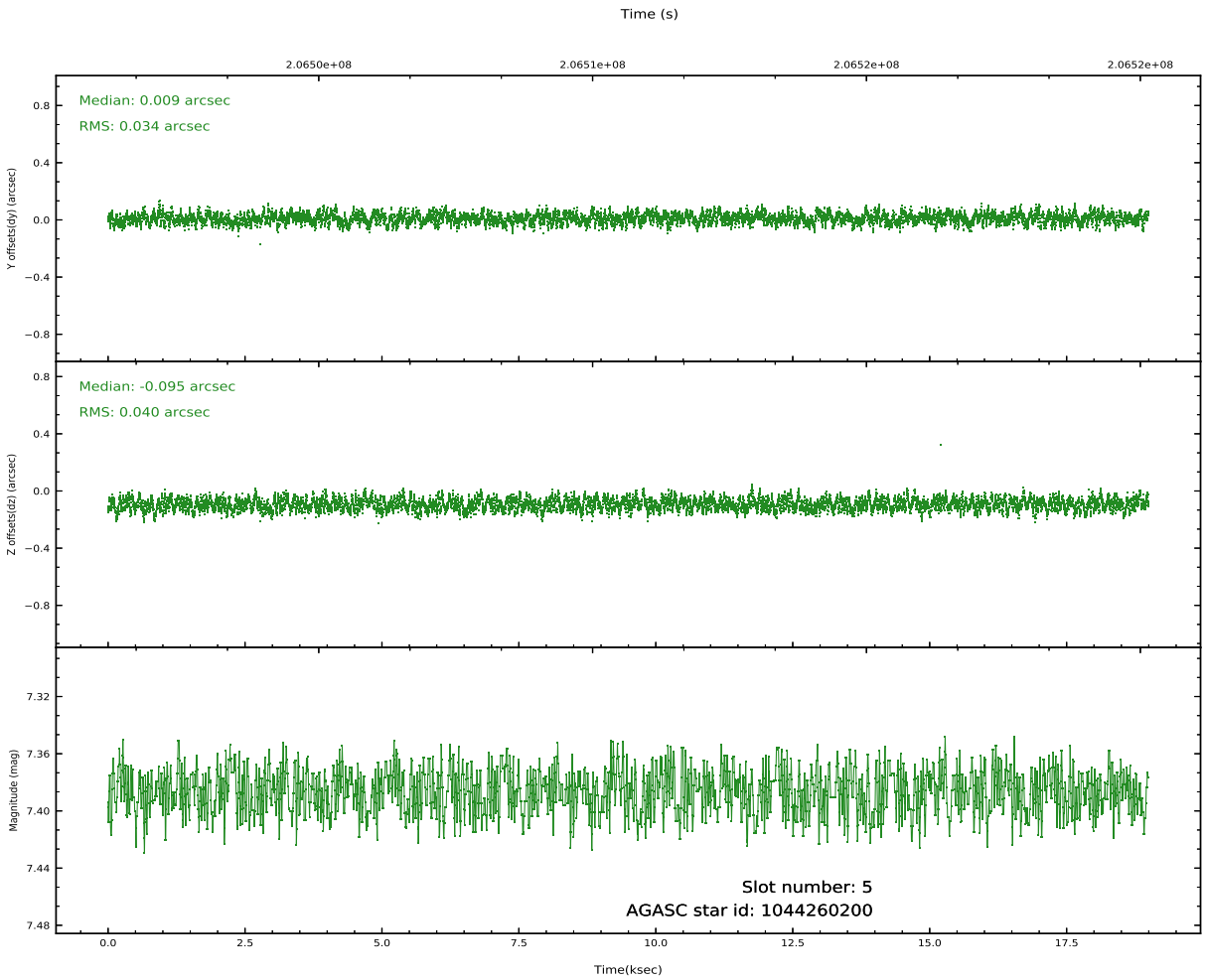

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.093 arcsec
Slot number: 4
AGASC star id: 1044256608
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)


Time (s)
Median: 0.082 arcsec
RMS: 0.052 arcsec
Y offsets(dy) (arcsec)
Median: 0.043 arcsec
RMS: 0.050 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 1044256608
Time(ksec)

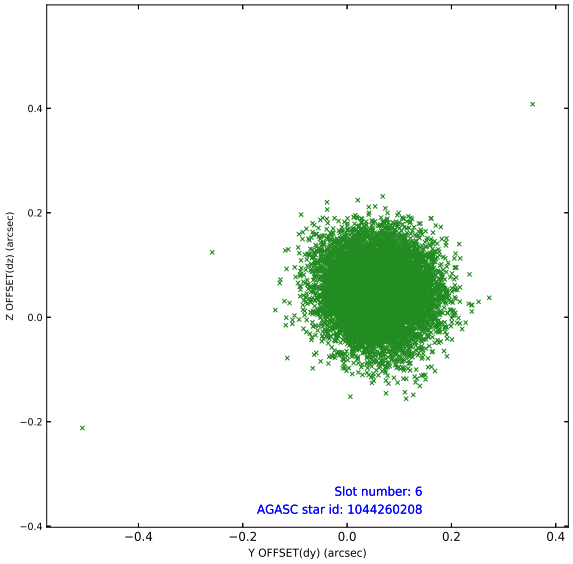
2.4.3 Slot 5

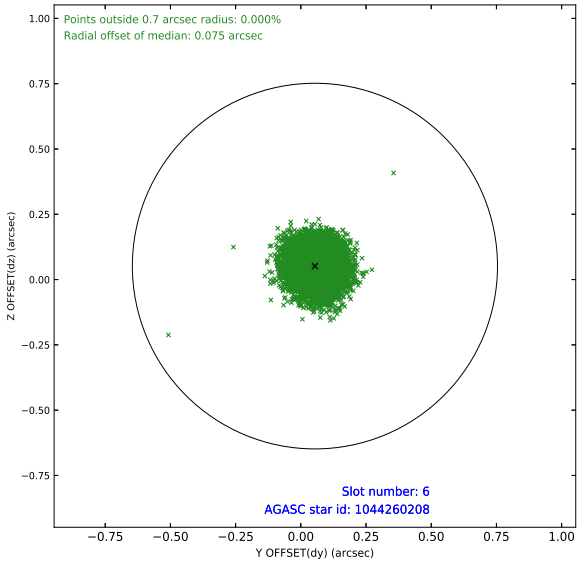

Slot number: 5
AGASC star id: 1044260200
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)

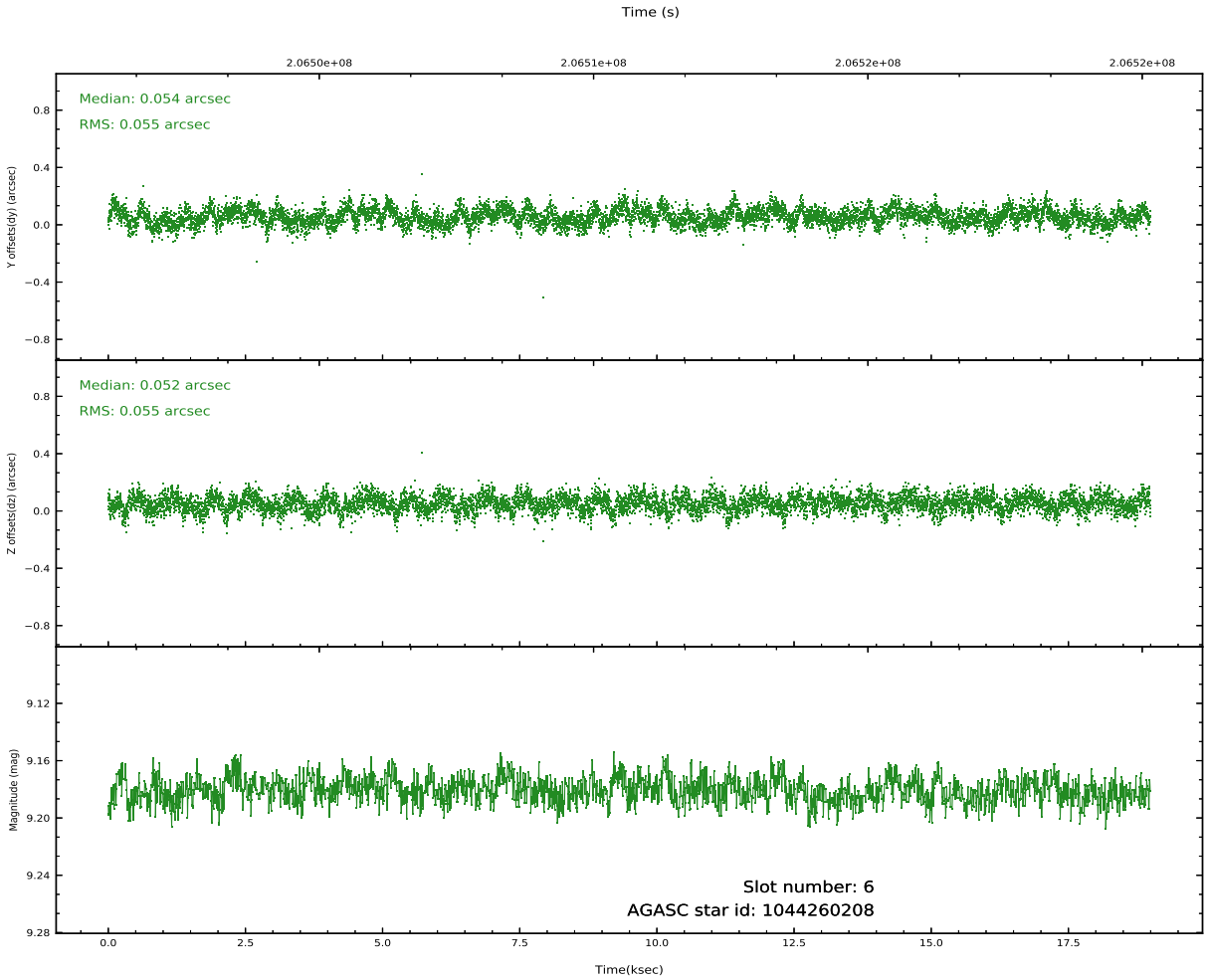

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.095 arcsec
Slot number: 5
AGASC star id: 1044260200
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)


Time (s)
Median: 0.009 arcsec
RMS: 0.034 arcsec
Y offsets(dy) (arcsec)
Median: -0.095 arcsec
RMS: 0.040 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 1044260200
Time(ksec)

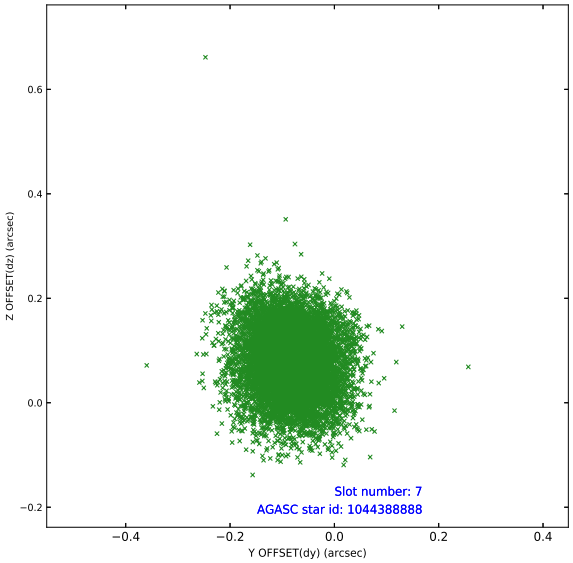
2.4.4 Slot 6

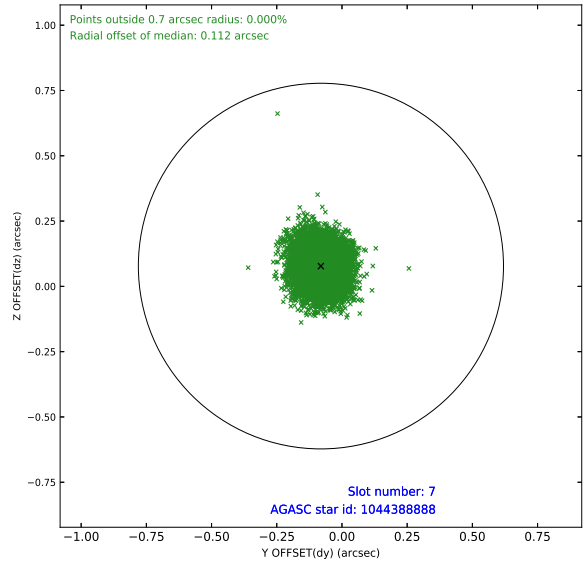

Slot number: 6
AGASC star id: 1044260208
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)

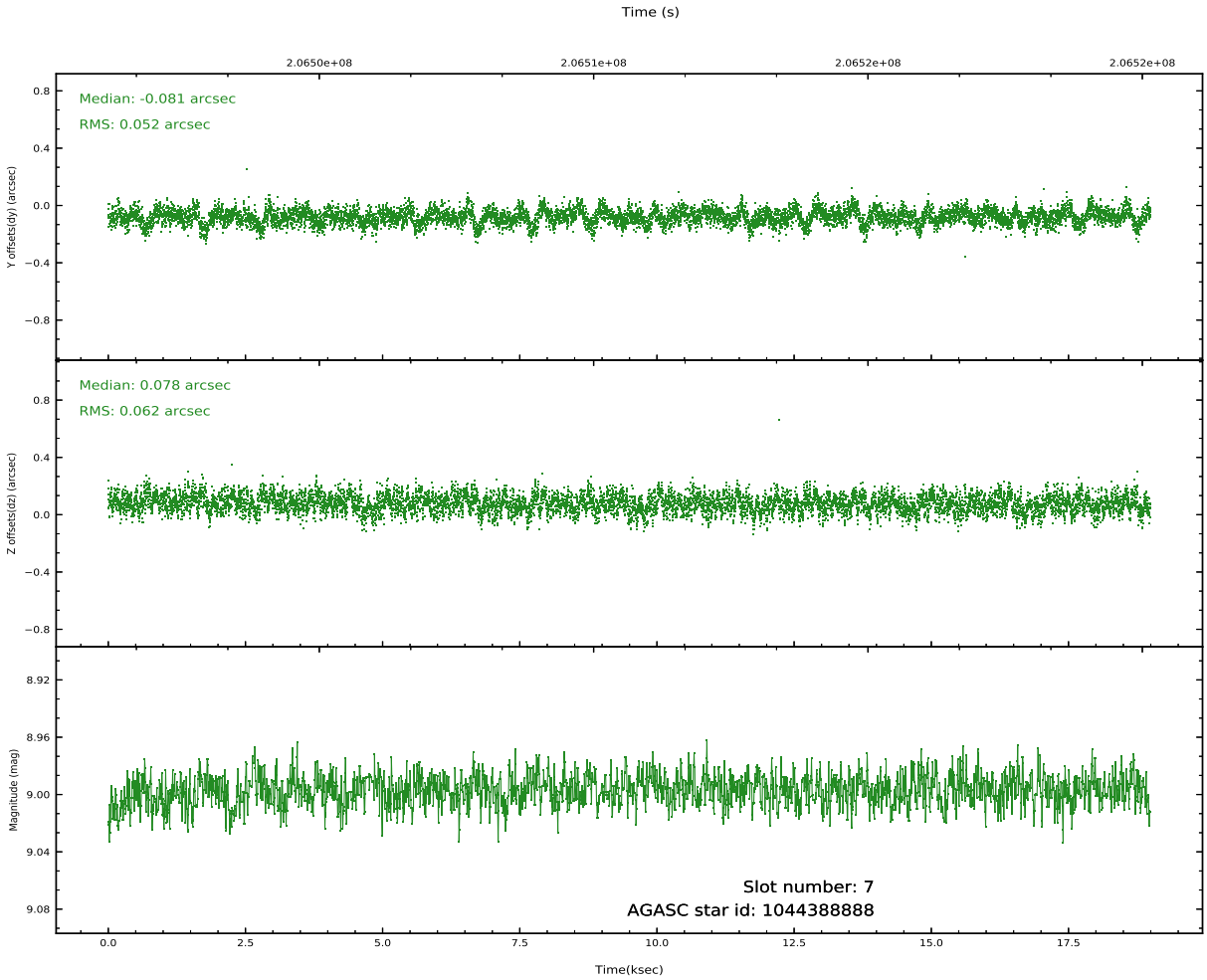

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.075 arcsec
Slot number: 6
AGASC star id: 1044260208
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)


Time (s)
Median: 0.054 arcsec
RMS: 0.055 arcsec
Y offsets(dy) (arcsec)
Median: 0.052 arcsec
RMS: 0.055 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 1044260208
Time(ksec)

2.4.5 Slot 7

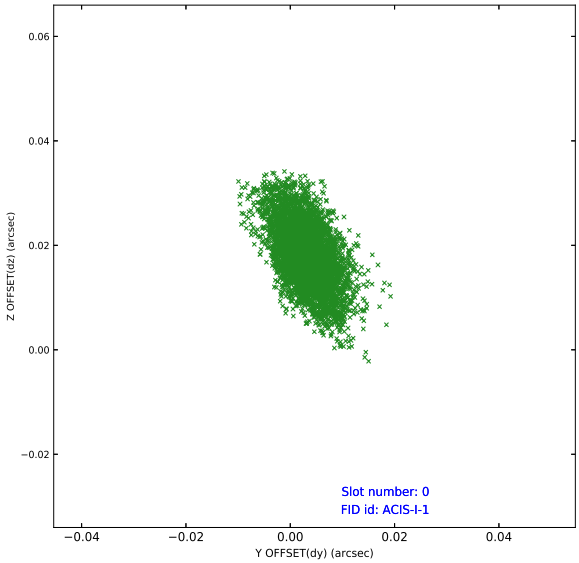

Slot number: 7
AGASC star id: 1044388888
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)

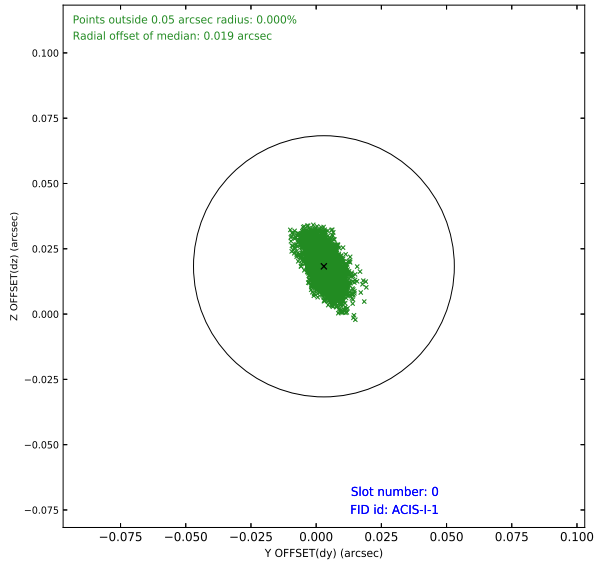

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.112 arcsec
Slot number: 7
AGASC star id: 1044388888
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)

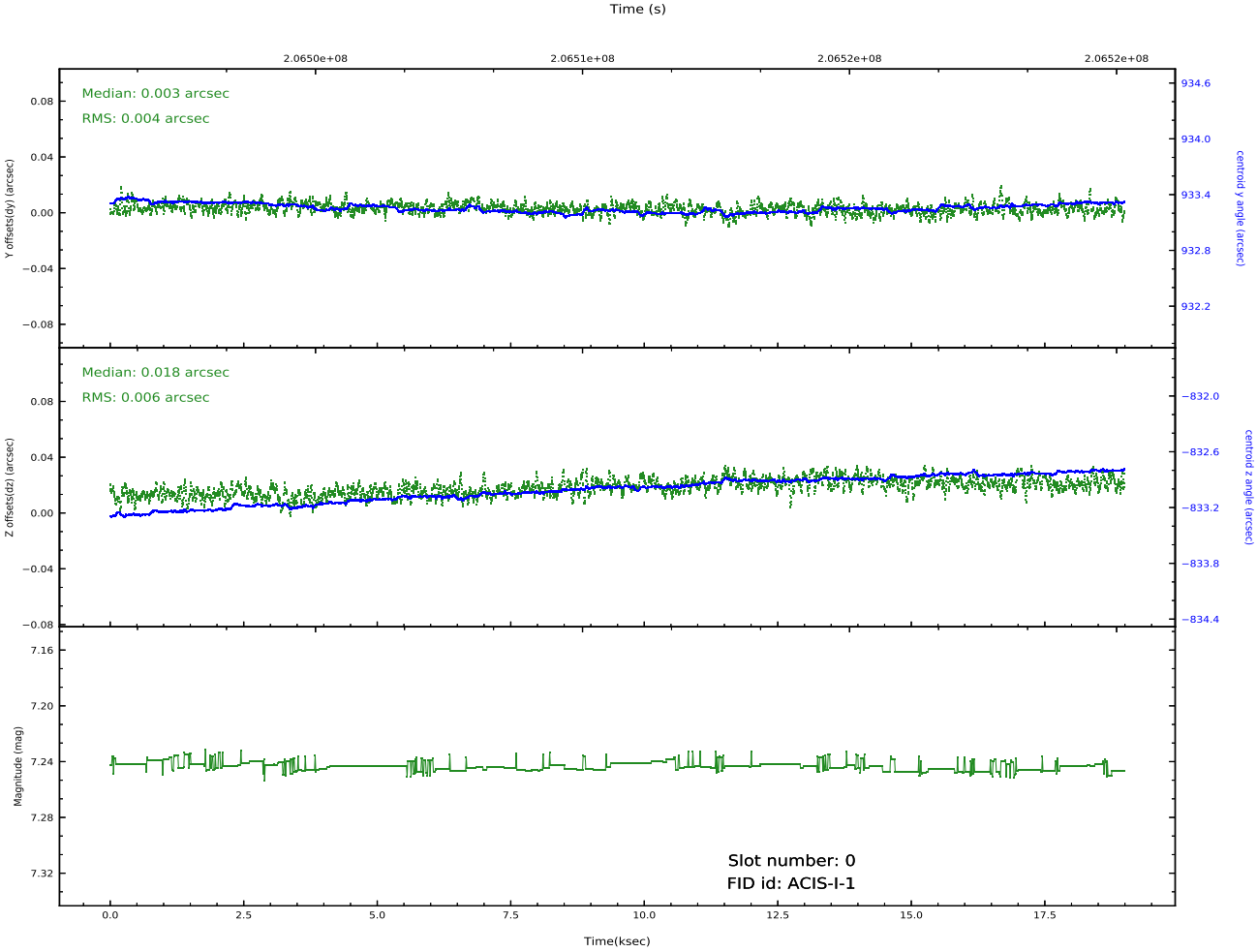

Time (s)
Median: -0.081 arcsec
RMS: 0.052 arcsec
Y offsets(dy) (arcsec)
Median: 0.078 arcsec
RMS: 0.062 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 1044388888
Time(ksec)

2.5 FID Slots

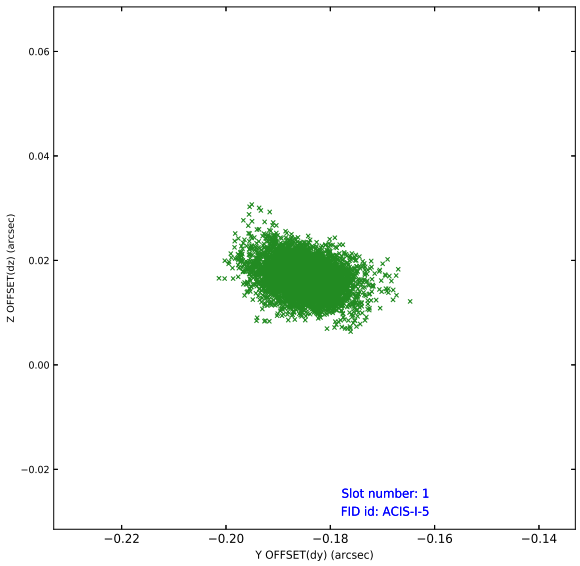
2.5.1 Slot 0

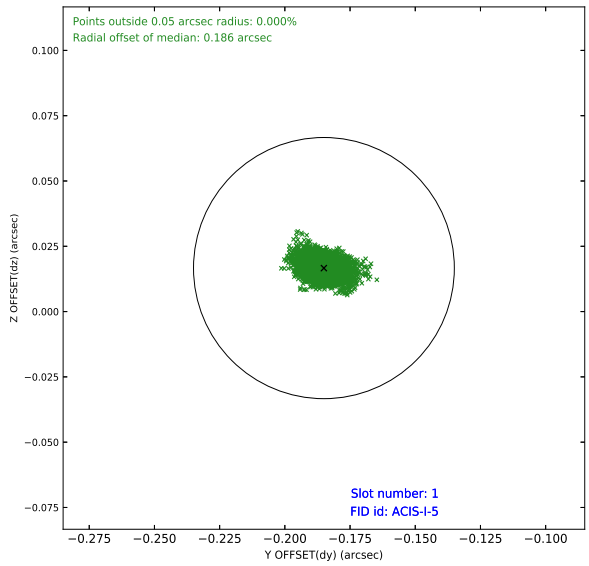


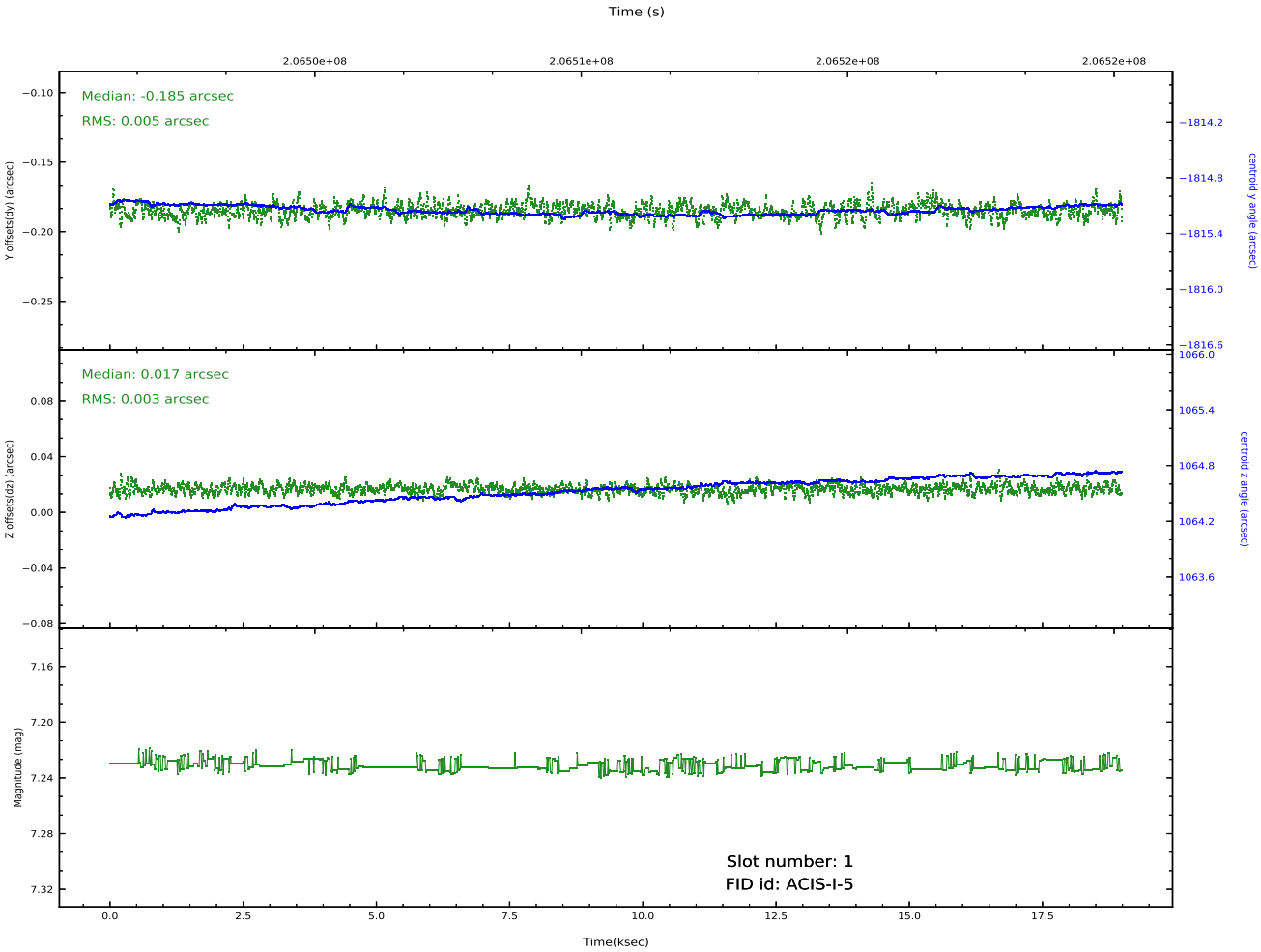




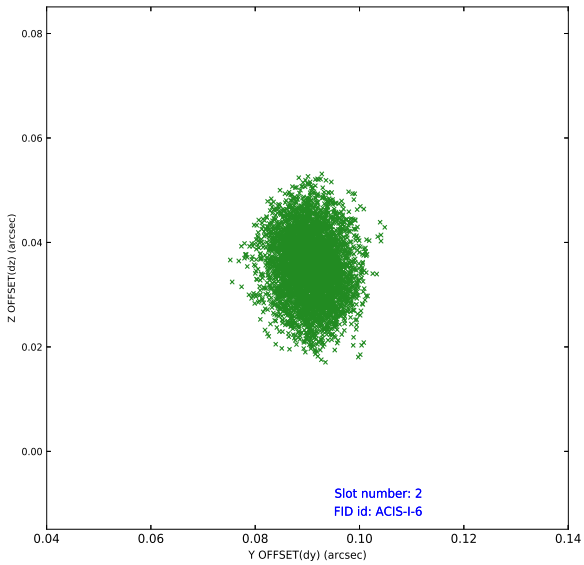
2.5.2 Slot 1

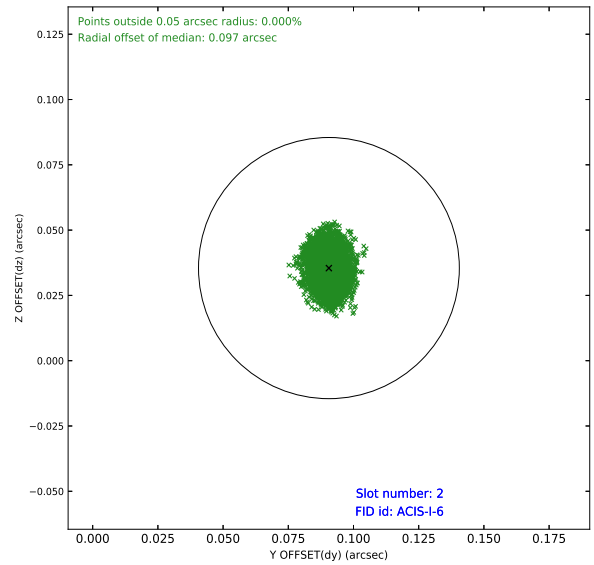

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS-I-5

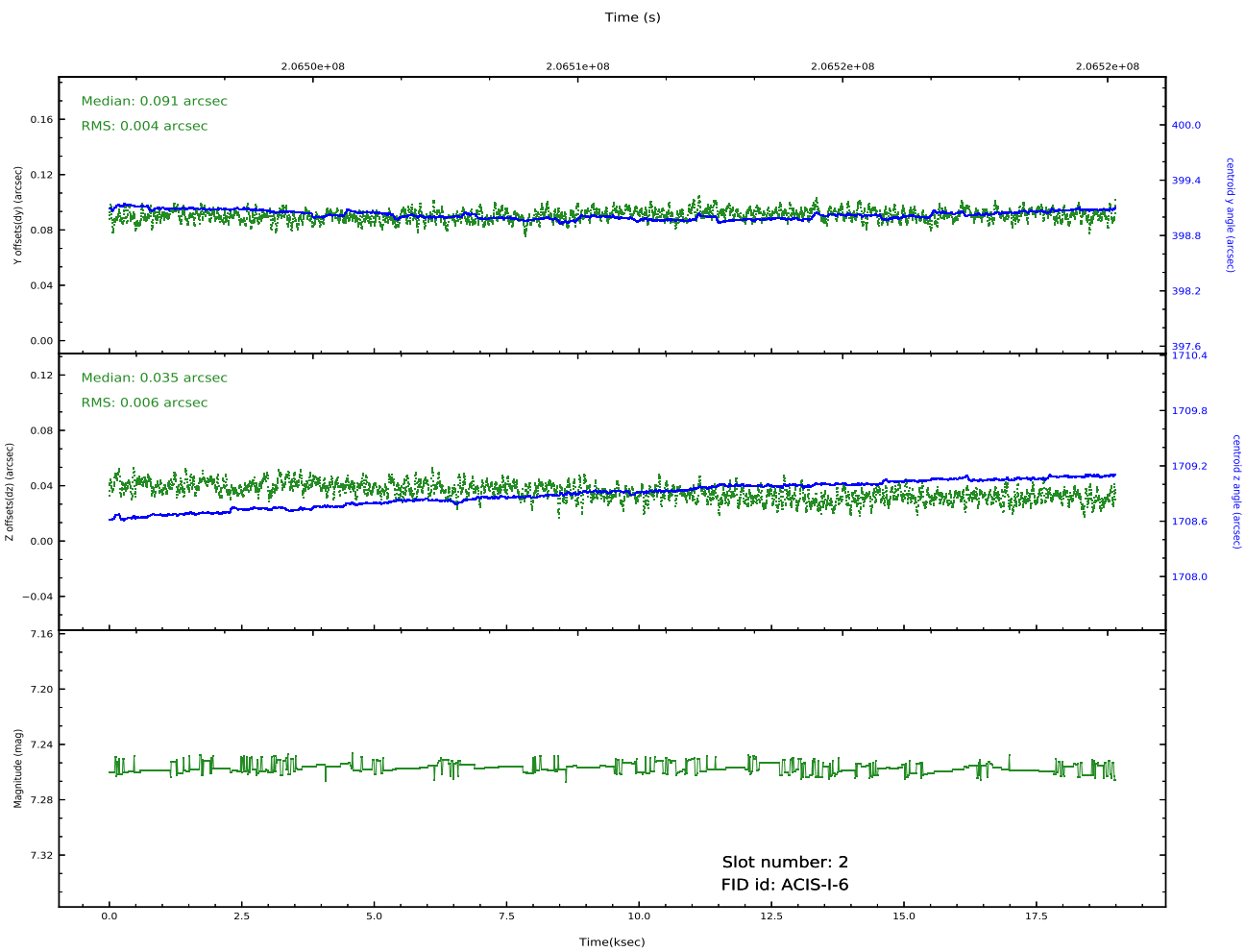

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.186 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS-I-5


Time (s)
Median: -0.185 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.017 arcsec
RMS: 0.003 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: ACIS-I-5
Time(ksec)

2.5.3 Slot 2


Slot number: 2
FID id: ACIS-I-6
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.097 arcsec
Slot number: 2
FID id: ACIS-I-6
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)


Time (s)
Median: 0.091 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.035 arcsec
RMS: 0.006 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: ACIS-I-6
Time(ksec)

A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2020.09.29
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	18.99

A.2 Comments

```
A custom dither of 11.988 arcsec was used to mitigate the inter-chip gap
space, since the coordinates are poorly known.
========
Monitor constraint met. Roll preference not met.
```