V&V Reference Report
L2 ASCDS Version : 10.9.1

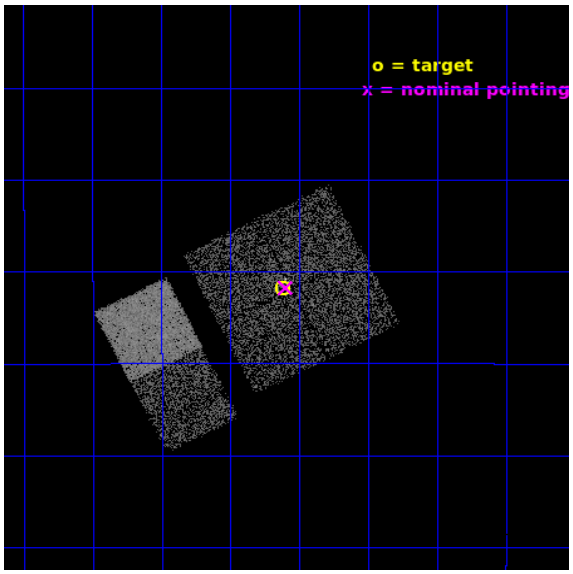
Observation 6276 - L2 Version 4
Chandra X-Ray Center

L2 Processing Date : Oct 9 2020

Contents

1 Front

seq_num	701178	Sequence number
obs_id	6276	Observation id
title	Search for strongly obscured AGNs: support for INTEGRAL all-sky hard X-ray survey	Proposal title
observer	Prof. Rashid Sunyaev	Principal investigator
object	IGR J12391-1612	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	189.78	Observer's specified target RA [deg]
dec_targ	-16.196	Observer's specified target Dec [deg]
ra_nom	189.77443207667	Nominal RA [deg]
dec_nom	-16.195887640509	Nominal Dec [deg]
roll_nom	243.34490752177	Nominal Roll [deg]
revision	4	Processing version of data
ontime	3253.9946520925	Sum of GTIs [s]
livetime	3212.7906124873	Livetime [s]
ontime0	3253.8715321124	Sum of GTIs [s]
ontime1	3253.9125720859	Sum of GTIs [s]
ontime2	3253.9536120892	Sum of GTIs [s]
ontime3	3253.9946520925	Sum of GTIs [s]
ontime6	3254.0767320991	Sum of GTIs [s]
ontime7	3254.0356722176	Sum of GTIs [s]
l2events	27856	Number of level 2 events

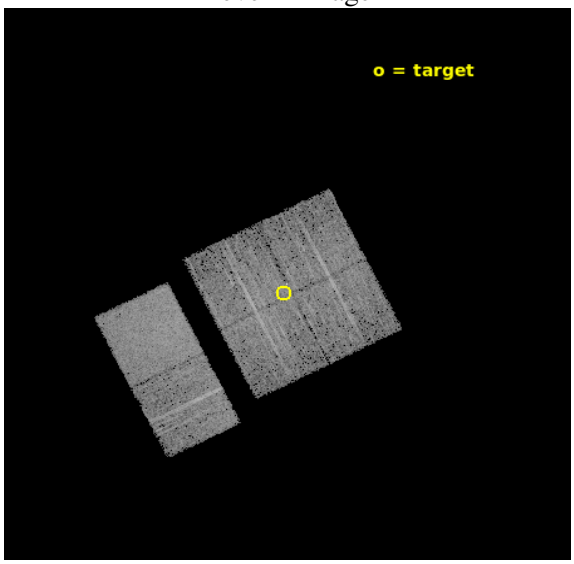


2 OBI

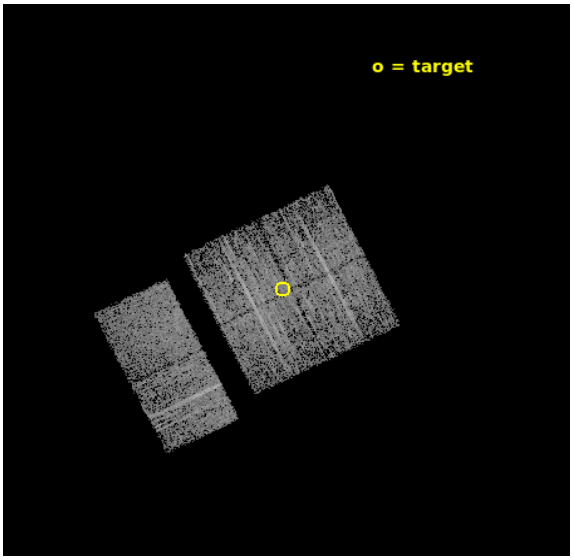
2.1 OBI

2.1.1 Images

Level 1 Image

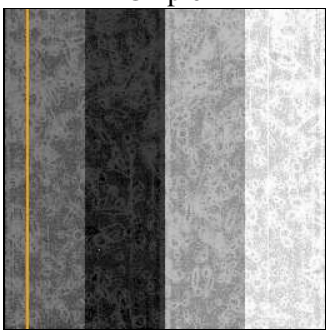


Level 1 Bad Events

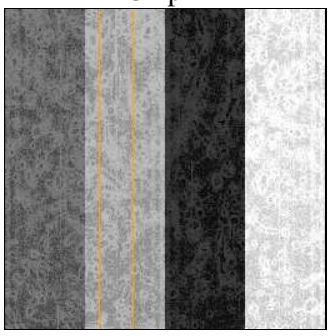


2.1.2 Bias

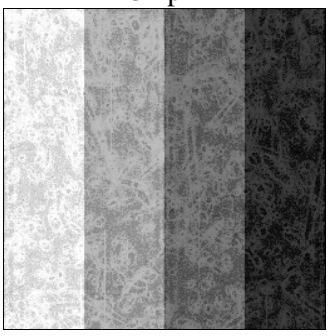
Chip 0



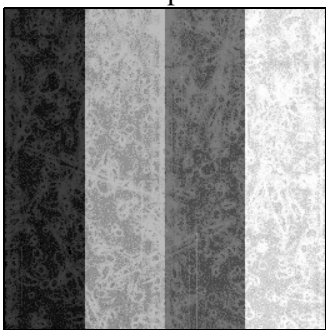
Chip 1



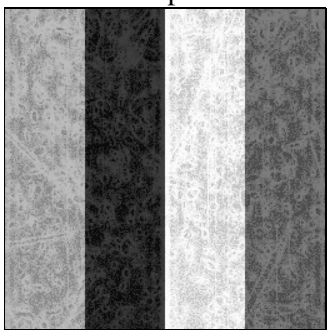
Chip 2



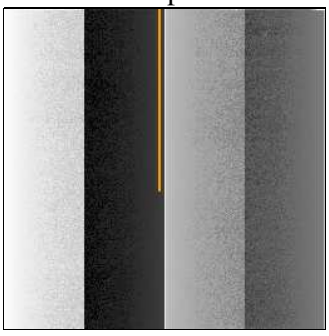
Chip 3



Chip 6



Chip 7



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	10.9.1	Processing system revision
caldbver	4.9.2	
date	2020-10-09T14:03:13	Date and time of file creation
revision	4	Processing version of data

sched_exp_time	3500.000000	[s] Scheduled observation exposure time
ontime	3253.9946520925	Sum of GTIs [s]
ontime0	3253.8715321124	Sum of GTIs [s]
ontime1	3253.9125720859	Sum of GTIs [s]
ontime2	3253.9536120892	Sum of GTIs [s]
ontime3	3253.9946520925	Sum of GTIs [s]
ontime6	3254.0767320991	Sum of GTIs [s]
ontime7	3254.0356722176	Sum of GTIs [s]
l1events	163039	Number of level 1 events

2.1.4 Events

	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 6**	**ccd 7**
level 1 events	24879	24200	25425	26633	26631	35271
rejected events	21730	20953	22459	23245	23471	20679
rejected %	87%	86%	88%	87%	88%	58%

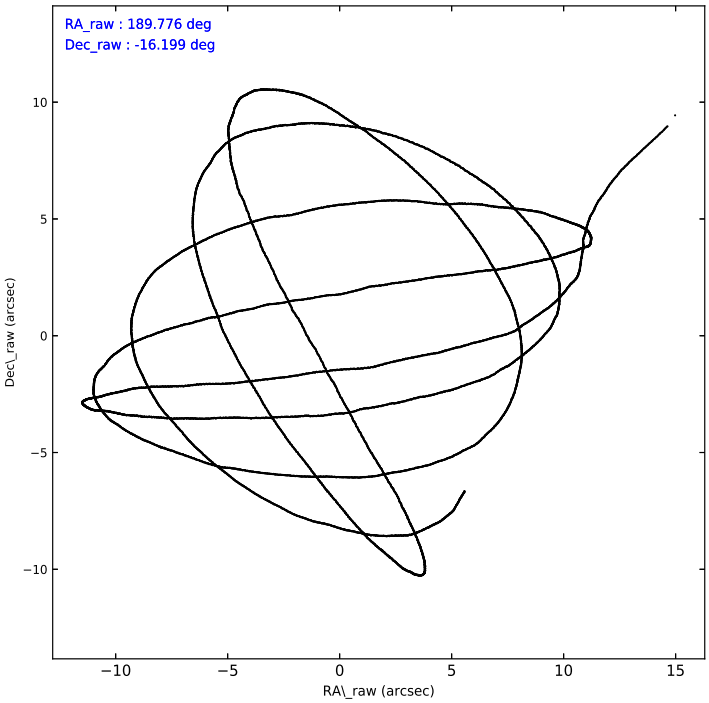
	ccd 0	**ccd 1**	**ccd 2**	**ccd 3**	**ccd 6**	**ccd 7**
grade 0 events	1385	1309	1378	1527	1277	1326
	5%	5%	5%	5%	4%	3%
grade 1 events	13	11	21	52	12	27
	0%	0%	0%	0%	0%	0%
grade 2 events	691	733	588	662	648	2996
	2%	3%	2%	2%	2%	8%
grade 3 events	270	304	262	338	294	1251
	1%	1%	1%	1%	1%	3%
grade 4 events	267	281	264	334	278	1302
	1%	1%	1%	1%	1%	3%
grade 5 events	1038	1148	937	1205	1237	3349
	4%	4%	3%	4%	4%	9%
grade 6 events	542	625	478	535	666	7757
	2%	2%	1%	2%	2%	21%
grade 7 events	20673	19789	21497	21980	22219	17263
	83%	81%	84%	82%	83%	48%

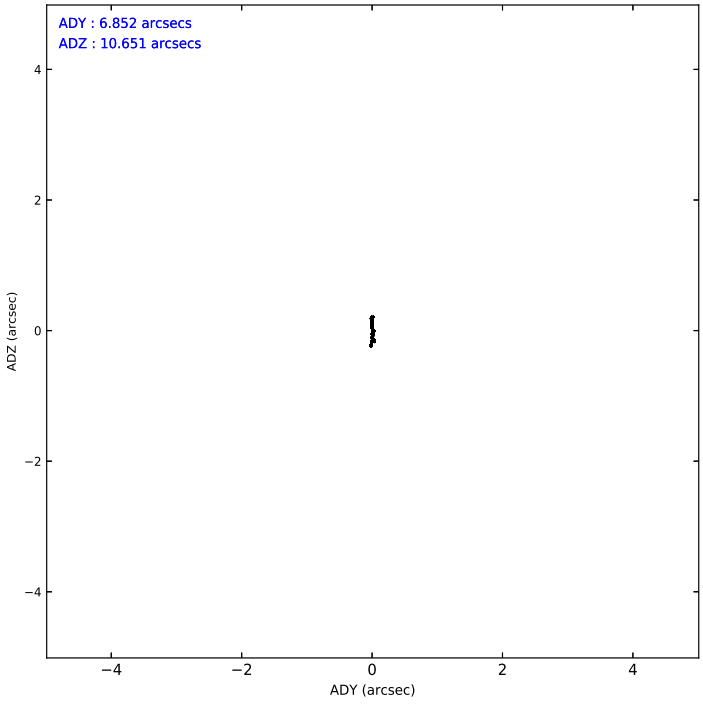
2.2 Compared Parameters

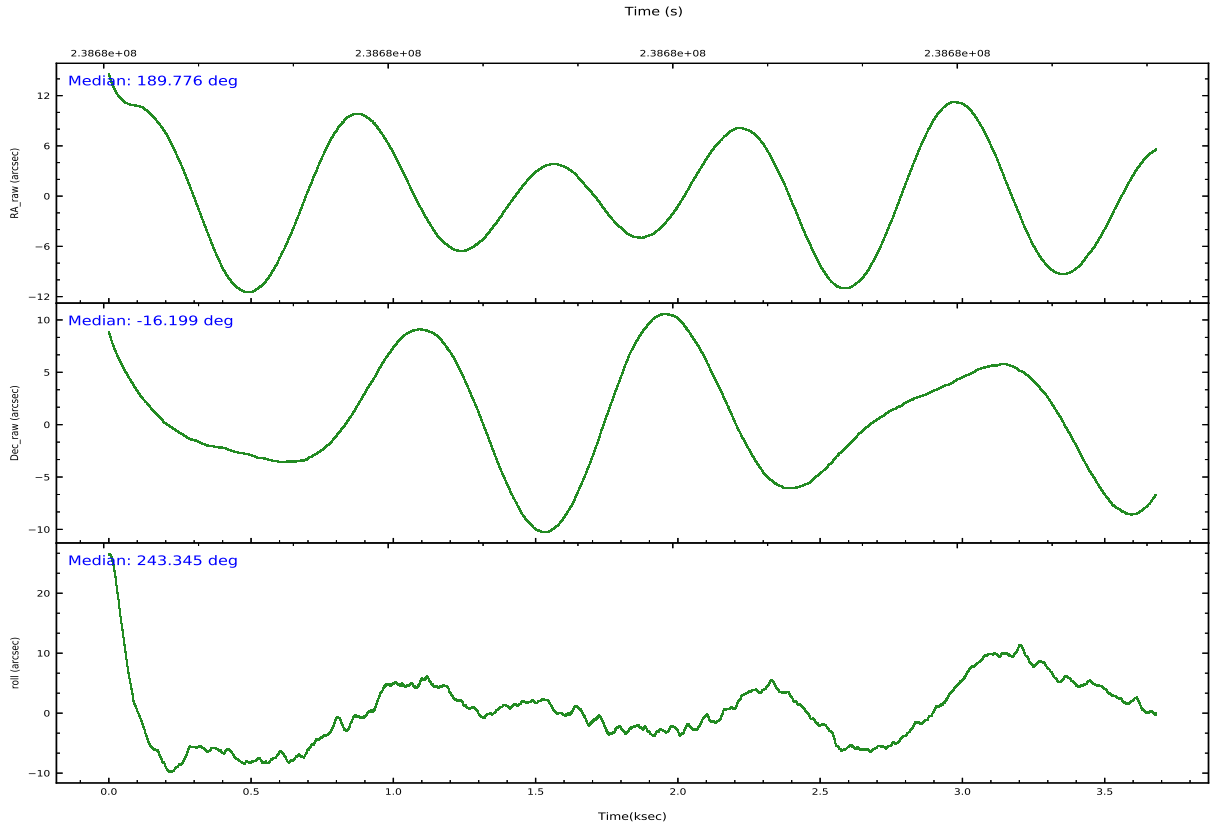
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-012367	ACIS-012367
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	189.774545	189.77443207667
[deg] Pointing Dec	-16.171679	-16.195887640509
[deg] Pointing Roll	243.140102	243.34490752177
[mm] SIM 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)	238679199.184000	238678418.98125
Observation start date	2005-07-25T11:45:35	2005-07-25T11:33:38
[s] Observation end time (MET)	238682699.184000	238683473.76899
Observation end date	2005-07-25T12:43:55	2005-07-25T12:57:53
Read mode	TIMED	TIMED

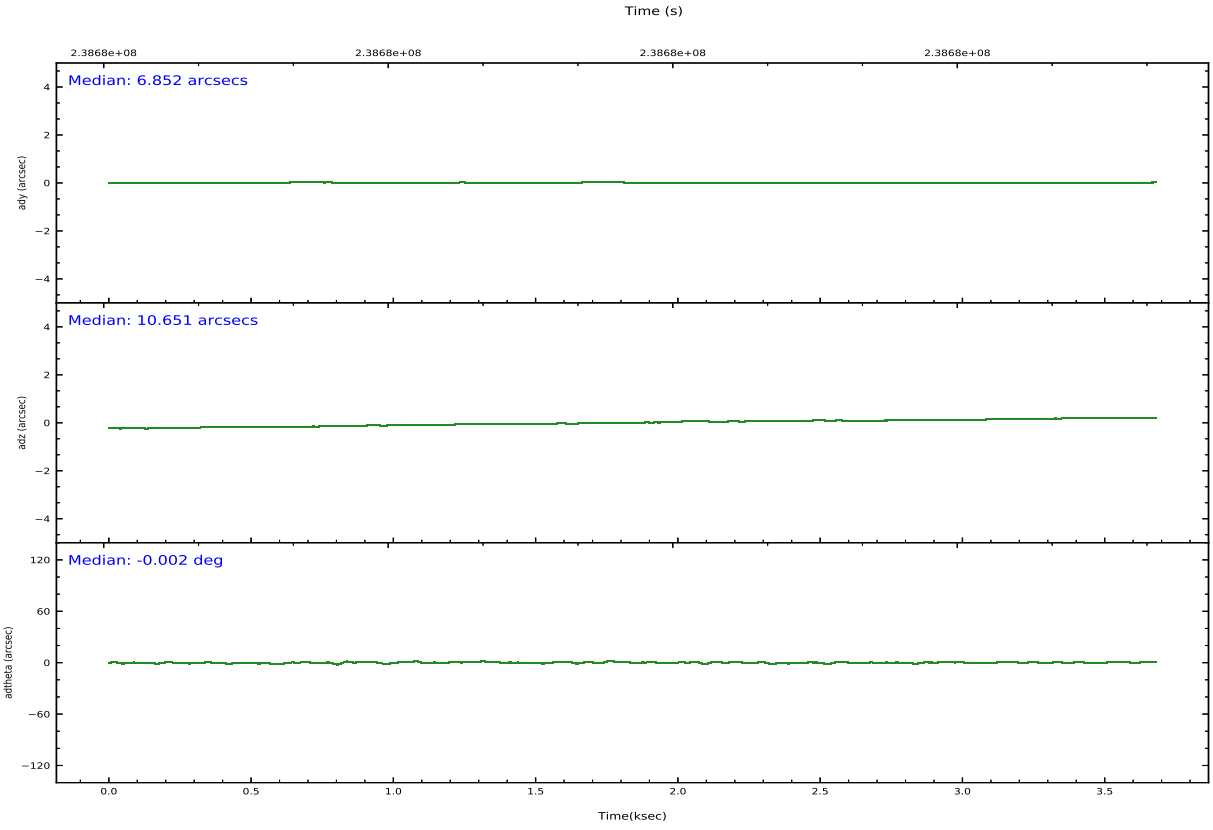
Parameter	Planned	Actual
Obspar version number	8	8
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.2

2.3 Aspect


RA_raw : 189.776 deg
Dec_raw : -16.199 deg
Dec_raw (arcsec)
RA_raw (arcsec)


ADY : 6.852 arcsecs
ADZ : 10.651 arcsecs
ADZ (arcsec)
ADY (arcsec)


Time (s)
2.3868e+08
2.3868e+08
2.3868e+08
2.3868e+08
Median: 189.776 deg
RA_raw (arcsec)
Median: -16.199 deg
Dec_raw (arcsec)
Median: 243.345 deg
roll (arcsec)
Time(ksec)

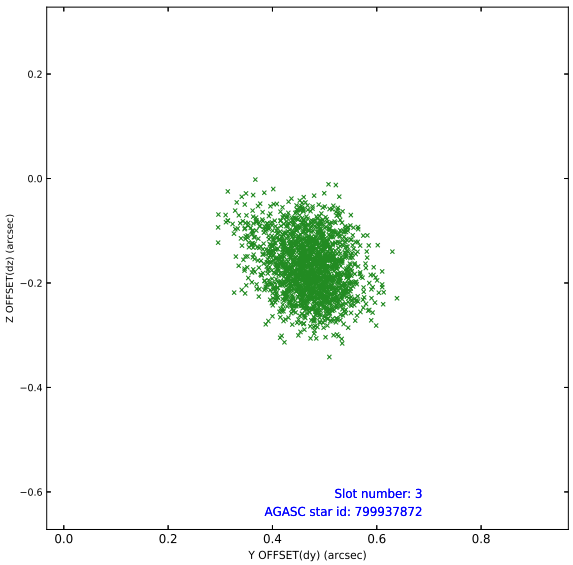

Time (s)
2.3868e+08
2.3868e+08
2.3868e+08
2.3868e+08
Median: 6.852 arcsecs
ady (arcsec)
Median: 10.651 arcsecs
adz (arcsec)
Median: -0.002 deg
adtheta (arcsec)
Time(ksec)

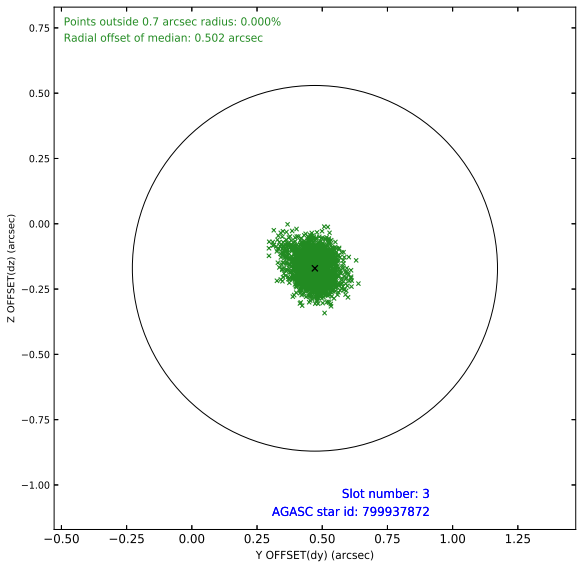
Slot Statistics

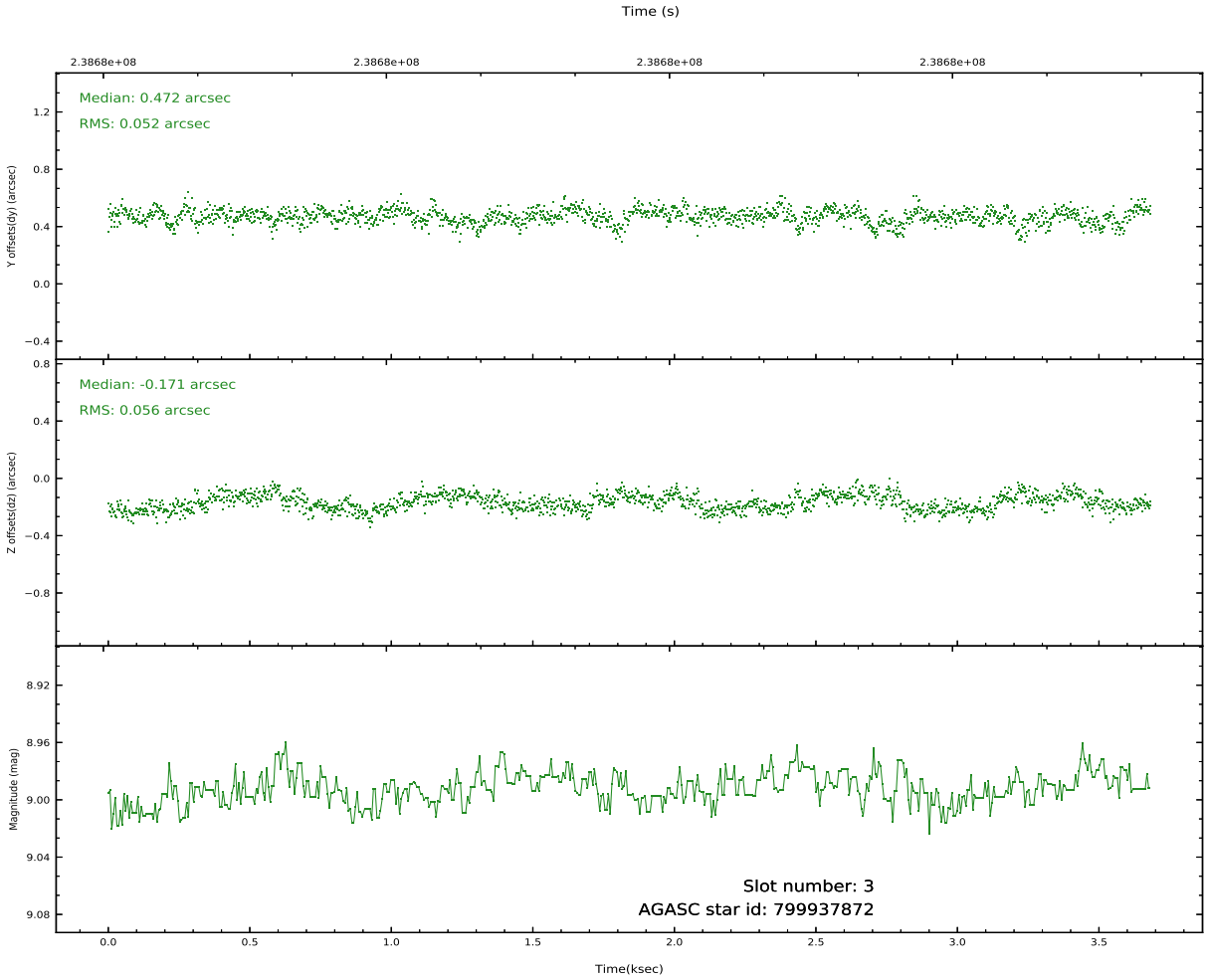
ot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.25	898	1.000	-0.018	-0.049	0.015	0.023	0.000000	0.000000	932.82	-834
1	FID		ACIS-I-4	7.18	898	1.000	0.159	0.066	0.010	0.017	0.000000	0.000000	2153.98	1064
2	FID		ACIS-I-5	7.23	899	1.000	-0.239	0.054	0.009	0.014	0.000000	0.000000	-1813.21	1064
3	GUIDE	used	799937872	8.99	1795	1.000	0.472	-0.171	0.081	0.134	189.138829	-16.385586	1683.00	-1609
4	GUIDE	used	800067280	8.19	1797	1.000	-0.140	0.116	0.068	0.107	190.179145	-16.146783	-709.96	1207
5	GUIDE	used	800067728	8.79	1797	1.000	-0.163	-0.112	0.072	0.120	189.544492	-15.558456	-1608.78	-1708
6	GUIDE	used	800068504	10.01	1787	1.000	0.023	0.301	0.152	0.252	190.210842	-16.342498	-131.72	1621
7	GUIDE	used	799934328	7.37	1796	1.000	-0.188	-0.142	0.048	0.077	189.229346	-15.722091	-587.90	-2415

2.4 Star Slots

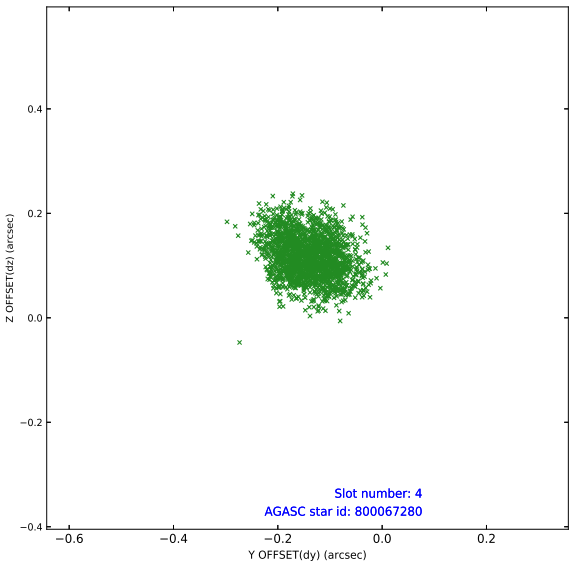
2.4.1 Slot 3

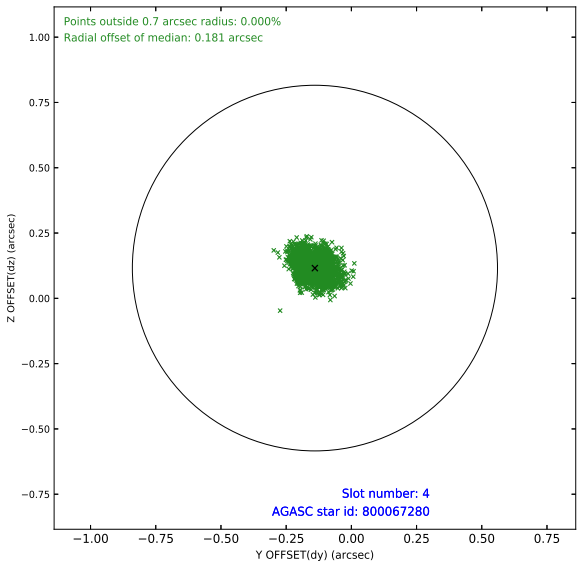


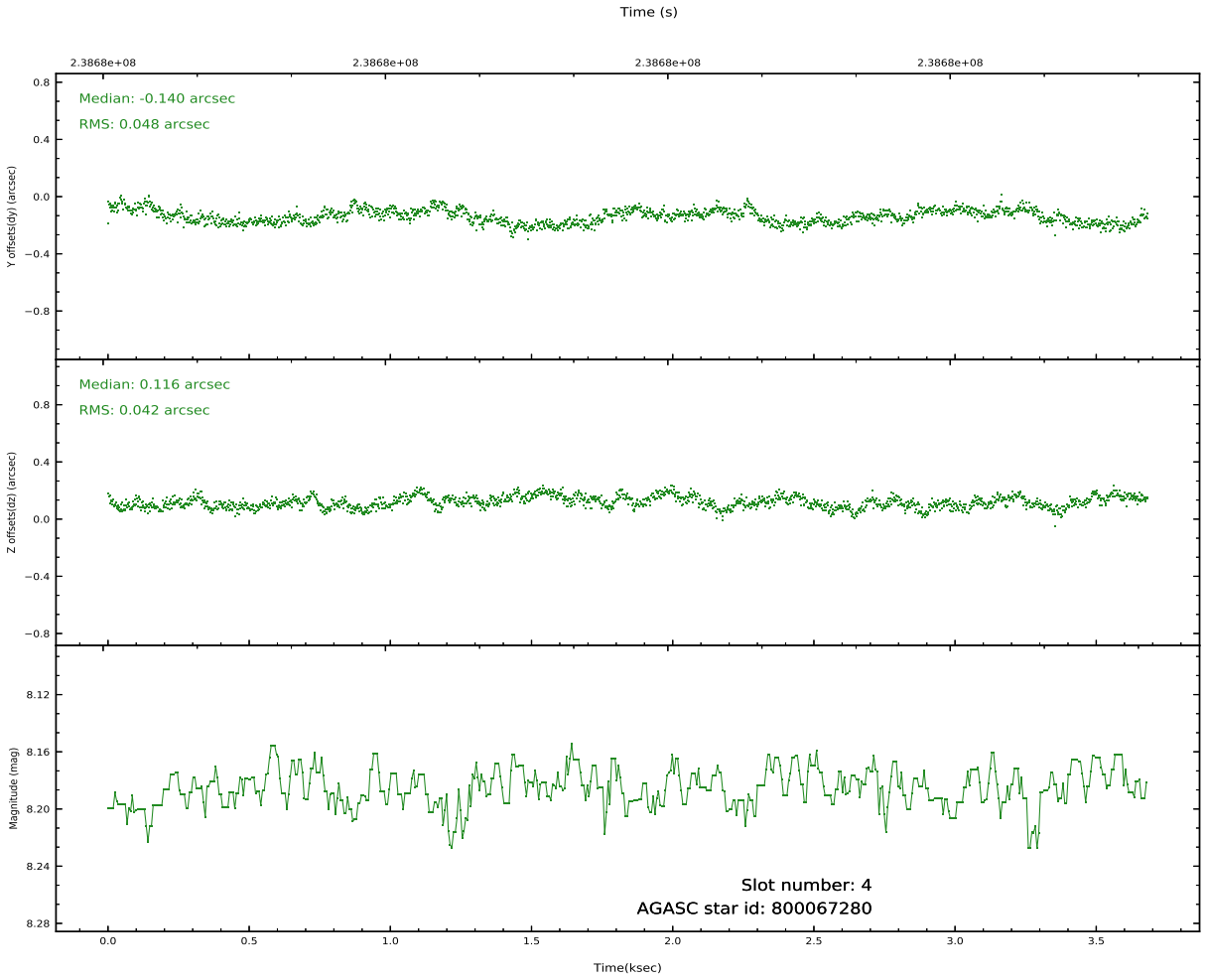




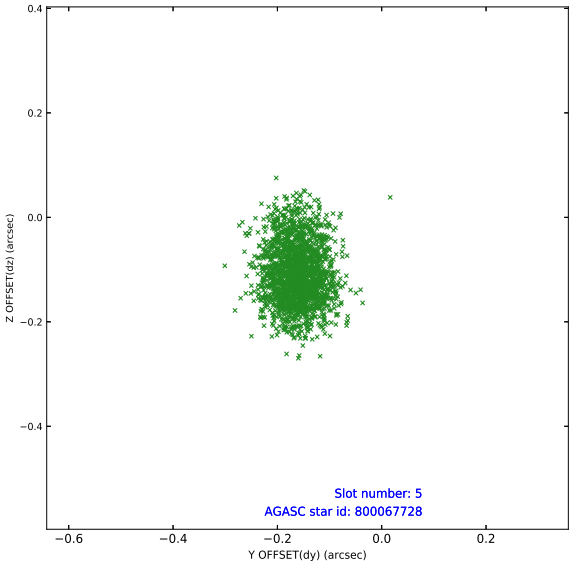
2.4.2 Slot 4

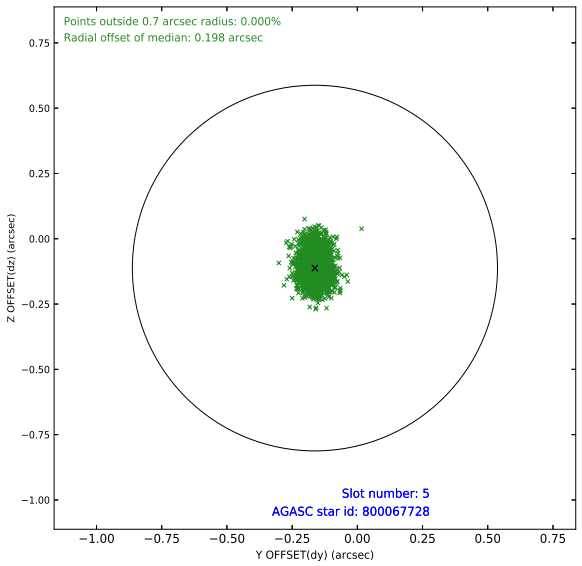

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 800067280


Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.181 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 800067280

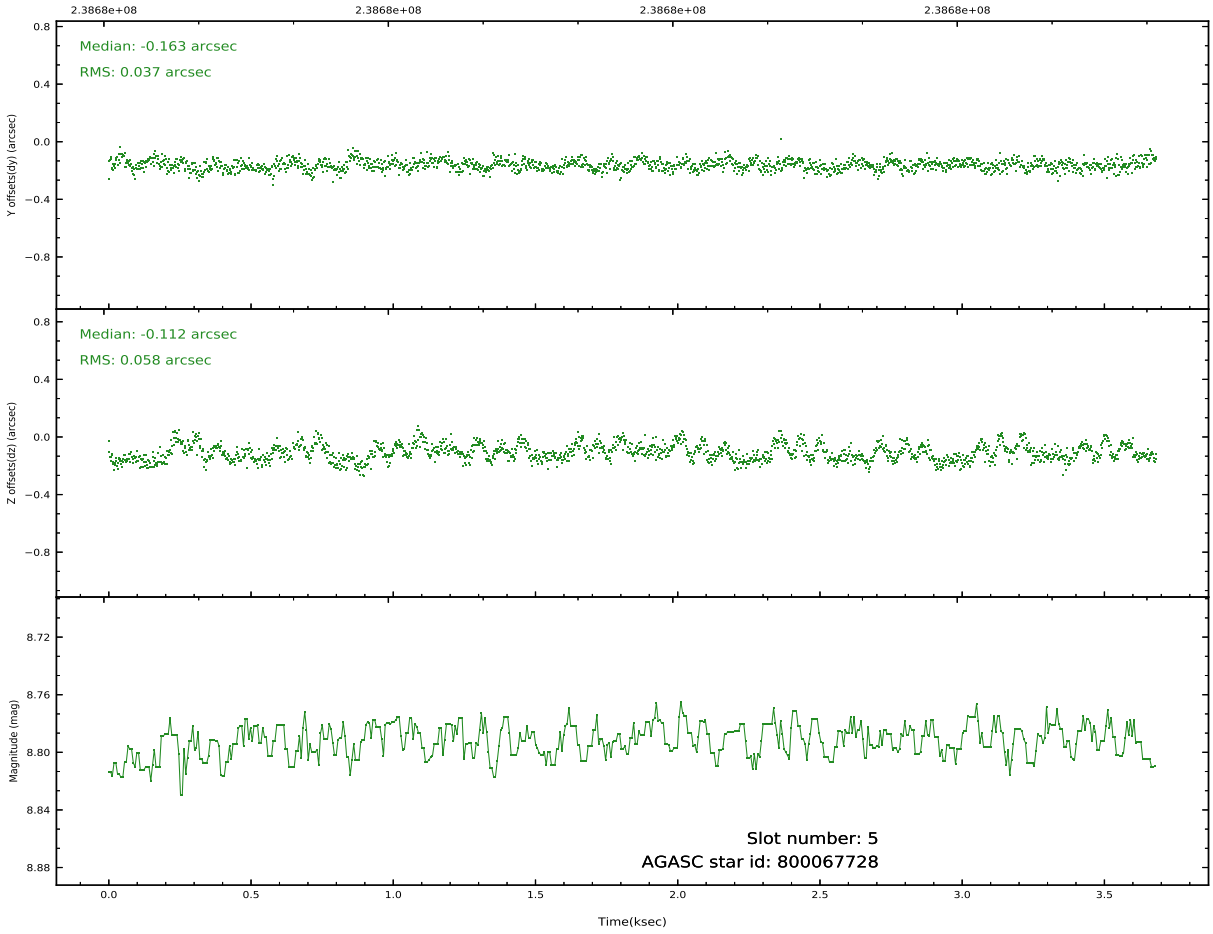

Time (s)
2.3868e+08
Median: -0.140 arcsec
RMS: 0.048 arcsec
Y offsets(dy) (arcsec)
Median: 0.116 arcsec
RMS: 0.042 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 800067280
Time(ksec)

2.4.3 Slot 5

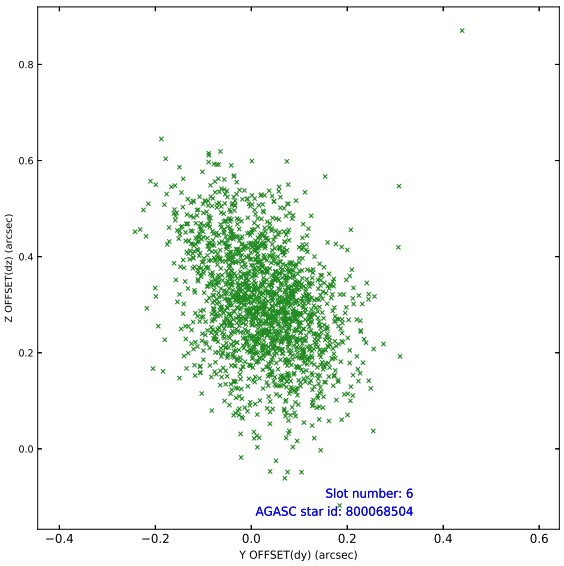


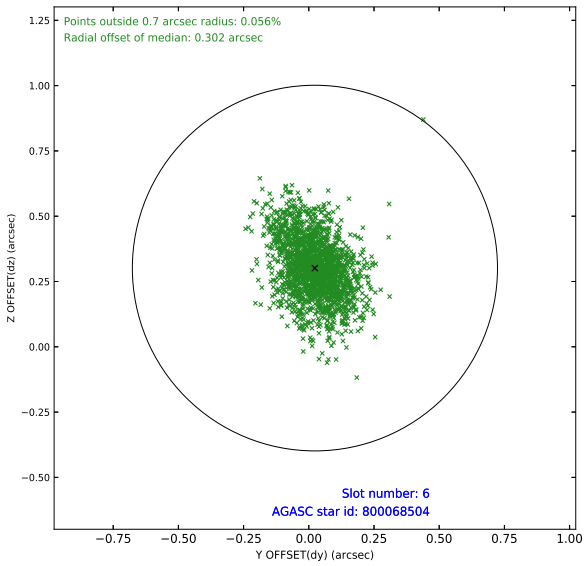


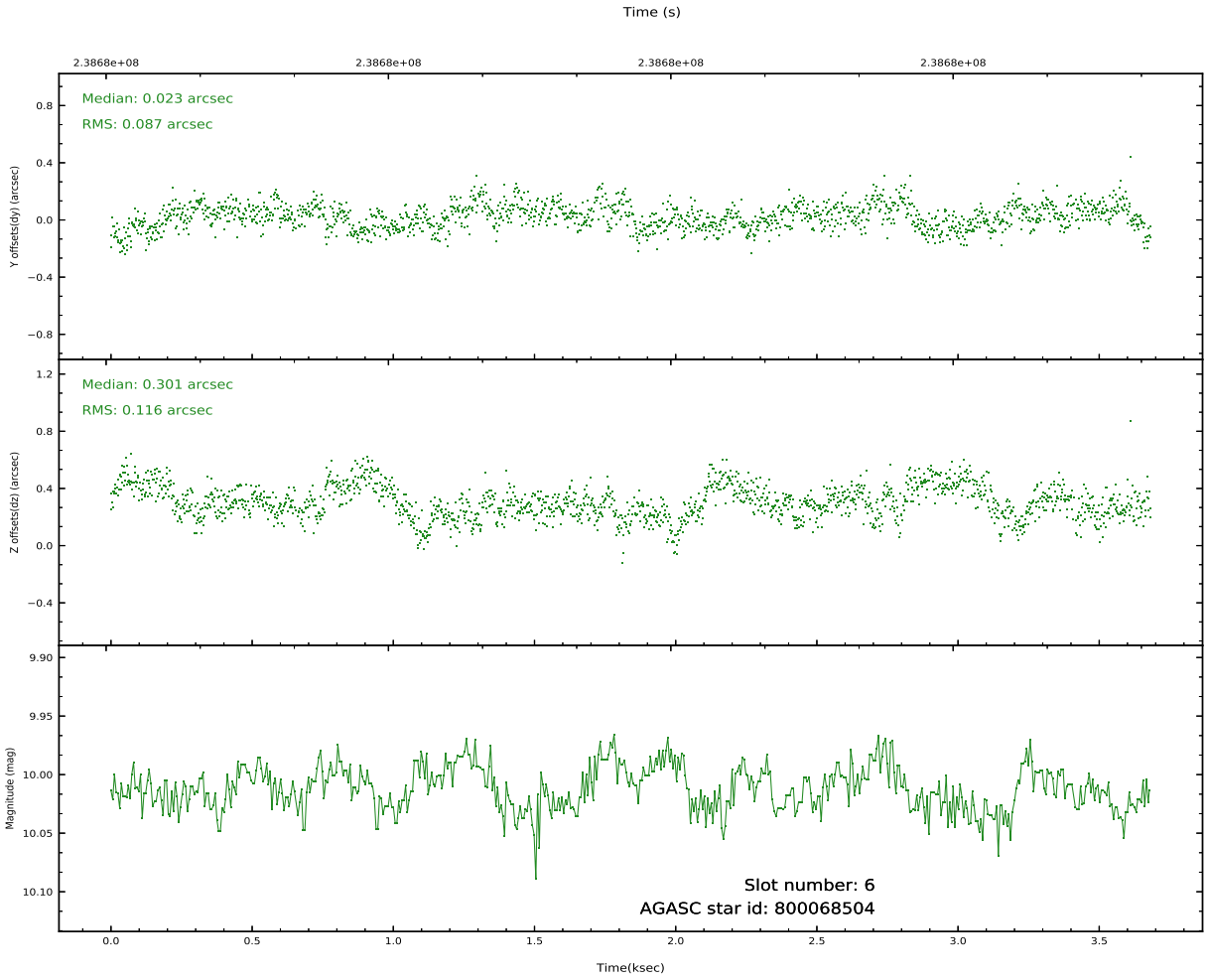
Time (s)



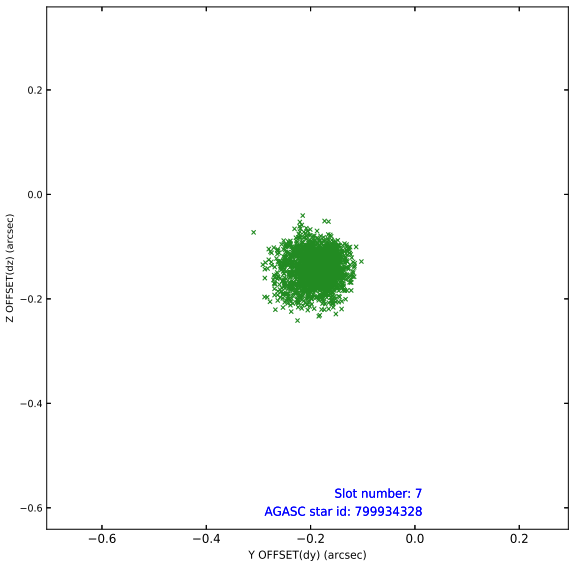
2.4.4 Slot 6

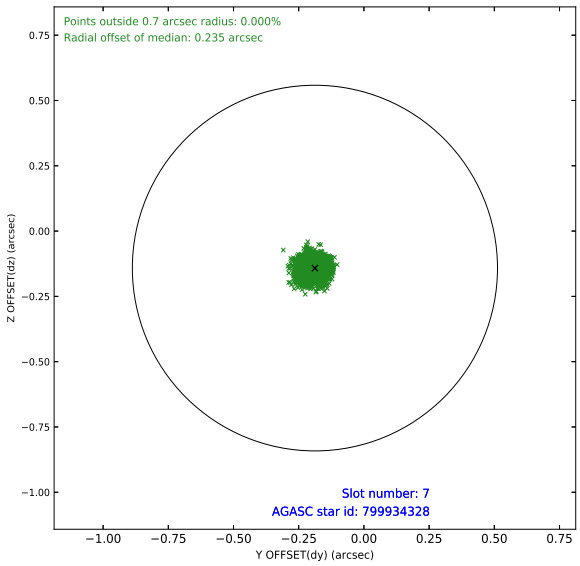

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 800068504

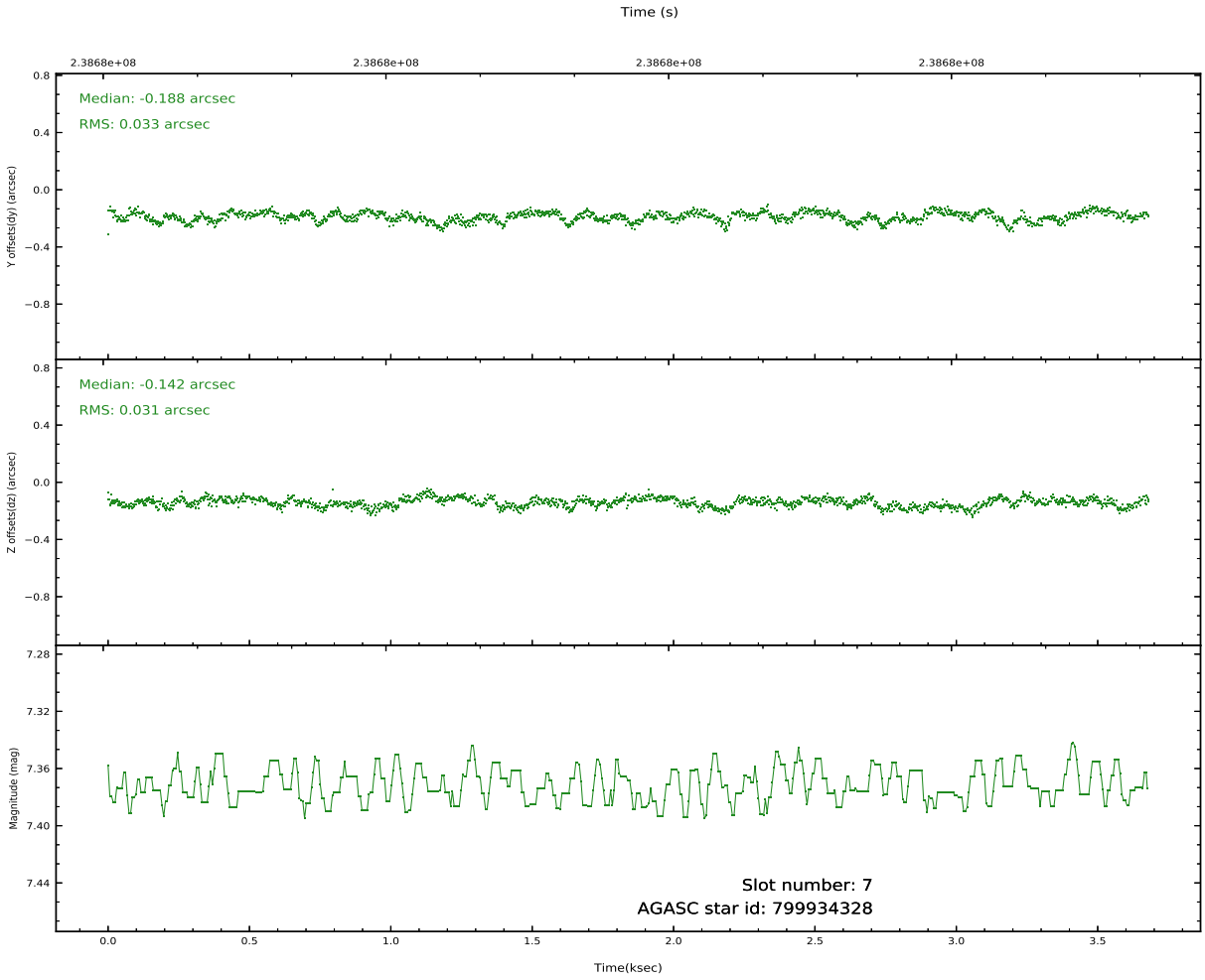

Points outside 0.7 arcsec radius: 0.056%
Radial offset of median: 0.302 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 800068504


Time (s)
Median: 0.023 arcsec
RMS: 0.087 arcsec
Y offsets(dy) (arcsec)
Median: 0.301 arcsec
RMS: 0.116 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 800068504
Time(ksec)

2.4.5 Slot 7

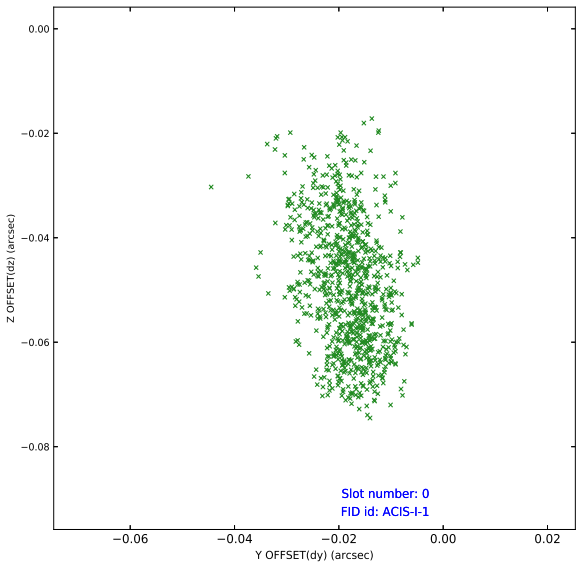

Slot number: 7
AGASC star id: 799934328
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)

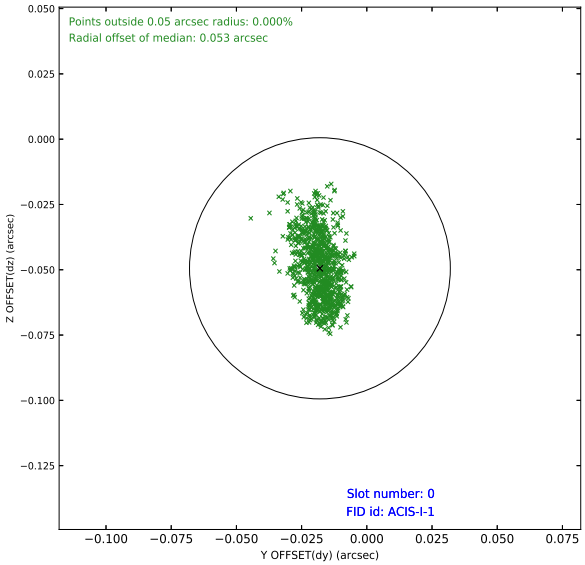

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.235 arcsec
Slot number: 7
AGASC star id: 799934328
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)

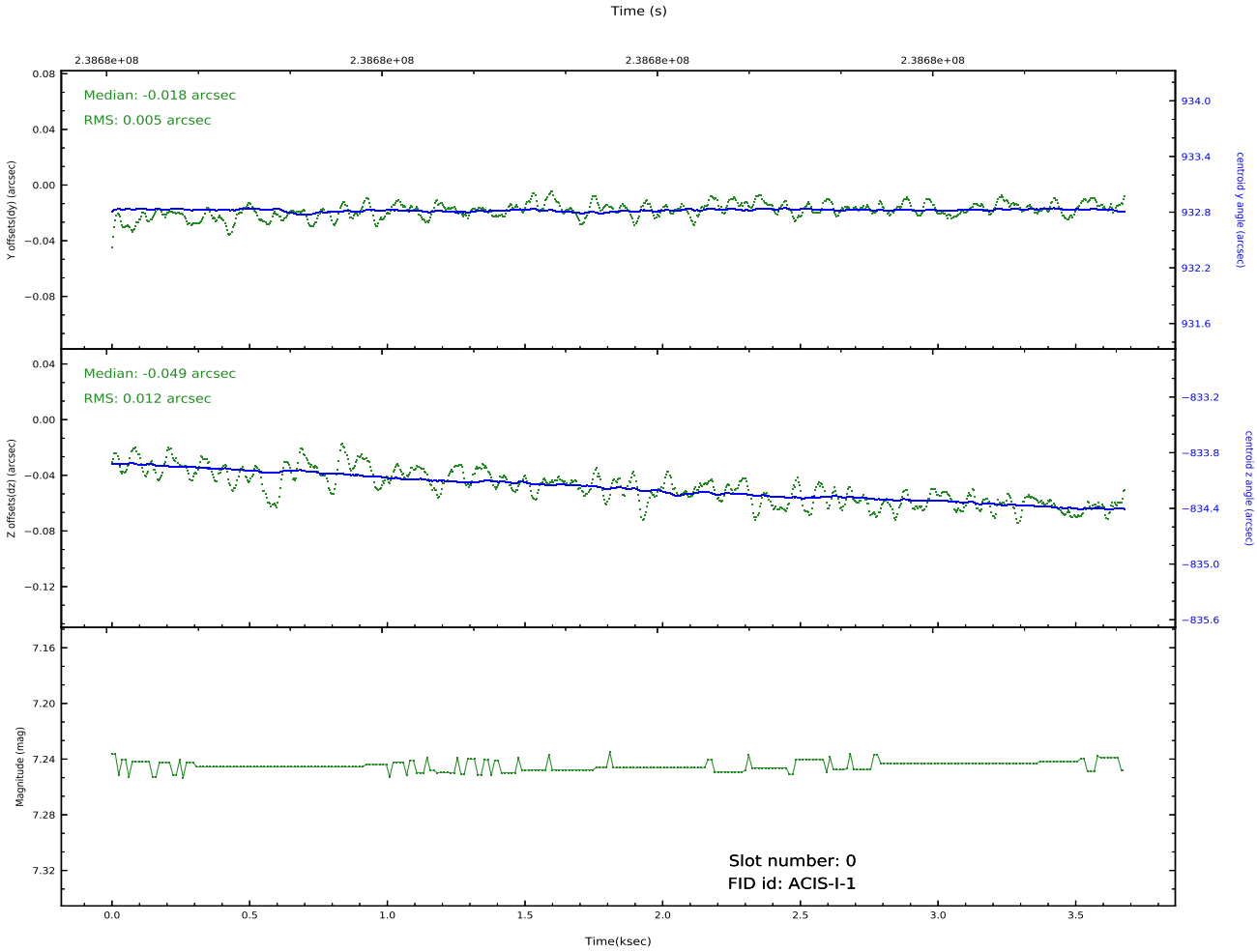

Time (s)
2.3868e+08
Median: -0.188 arcsec
RMS: 0.033 arcsec
Y offsets(dy) (arcsec)
Median: -0.142 arcsec
RMS: 0.031 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 799934328
Time(ksec)

2.5 FID Slots

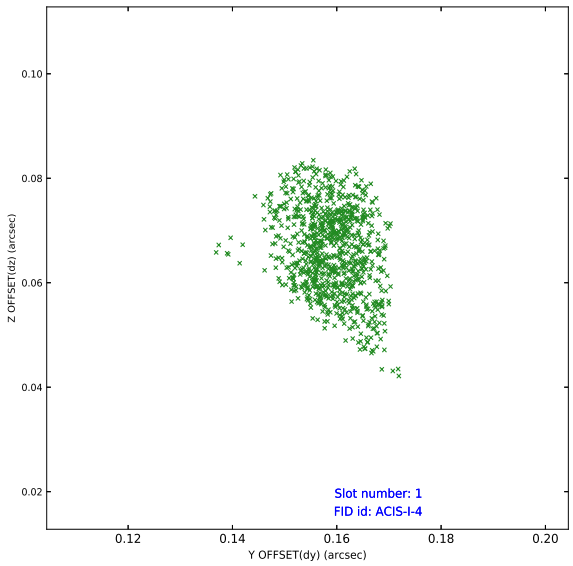
2.5.1 Slot 0

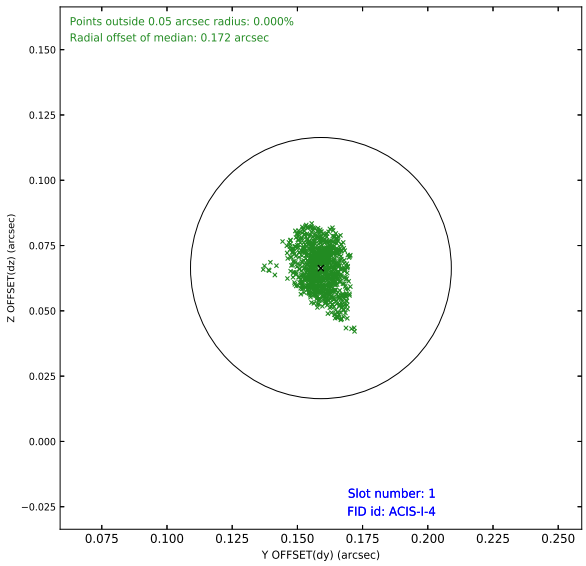


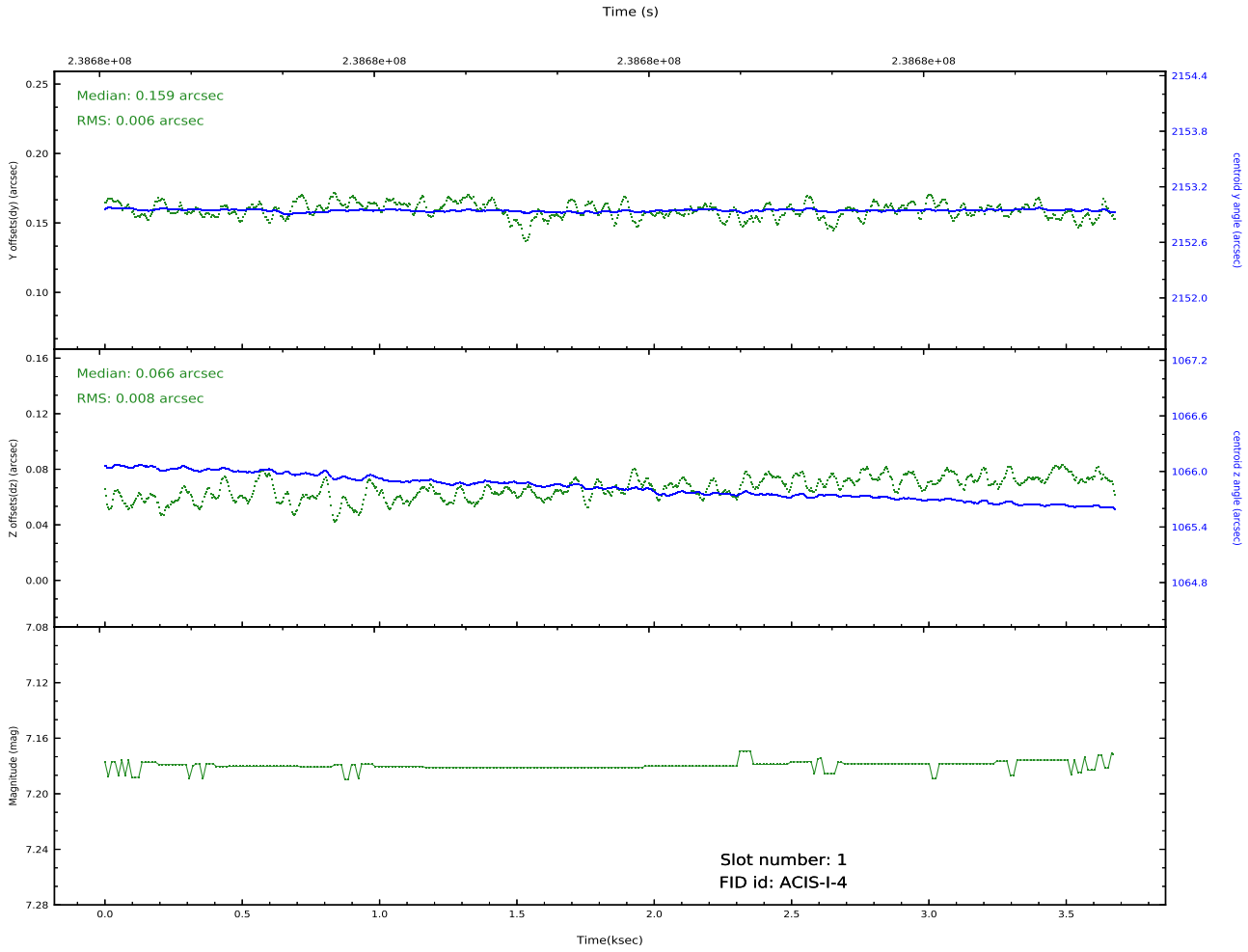




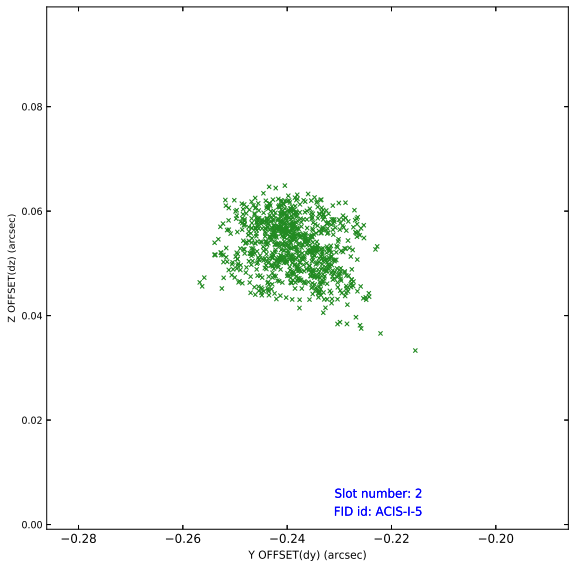
2.5.2 Slot 1

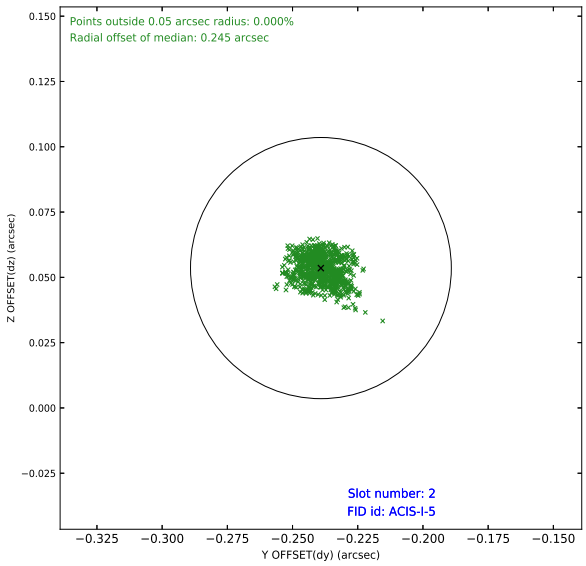

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS-I-4

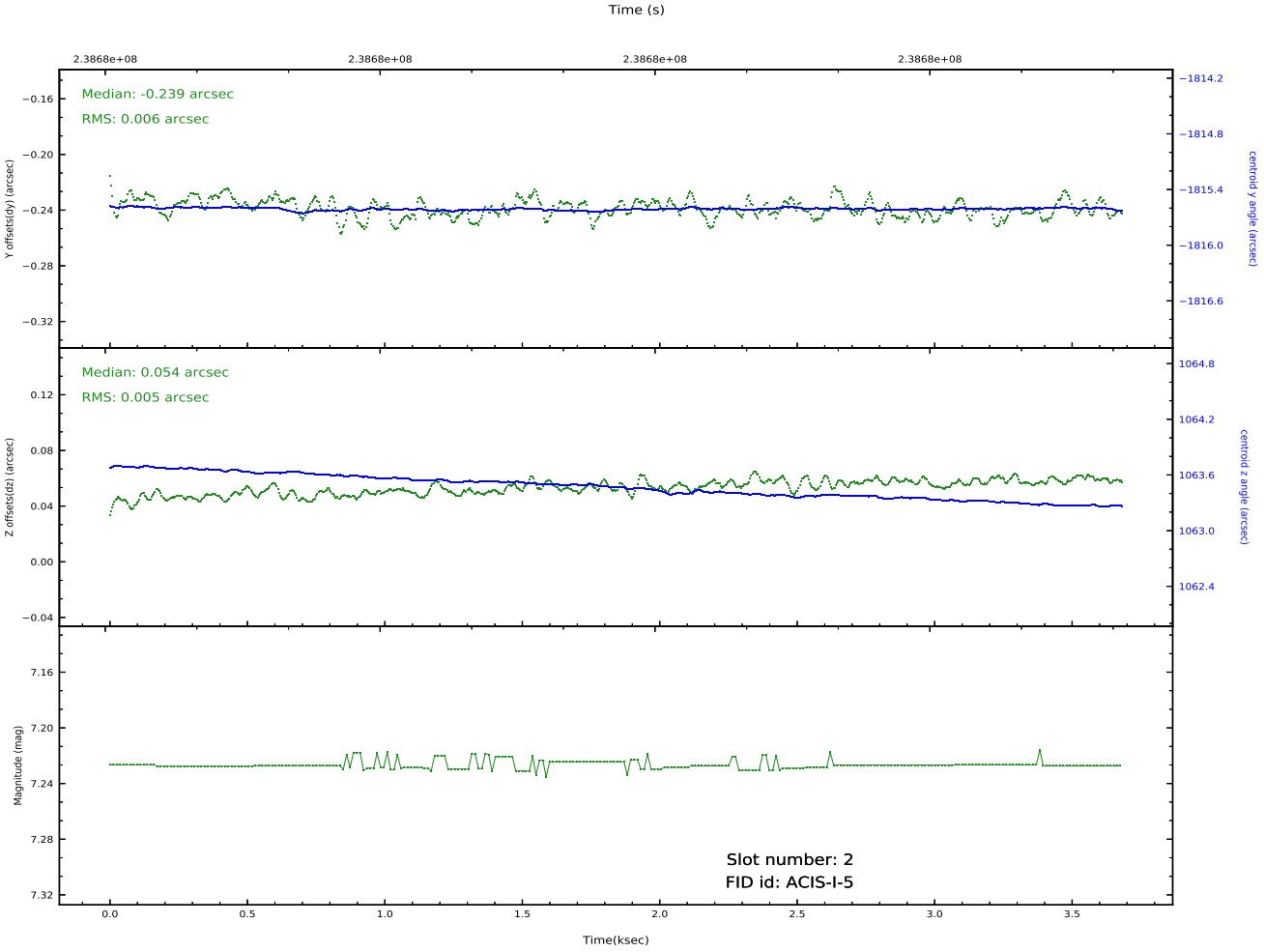

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.172 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS-I-4


Time (s)
Median: 0.159 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.066 arcsec
RMS: 0.008 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: ACIS-I-4
Time(ksec)

2.5.3 Slot 2


Slot number: 2
FID id: ACIS-I-5
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.245 arcsec
Slot number: 2
FID id: ACIS-I-5
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)


Time (s)
Median: -0.239 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.054 arcsec
RMS: 0.005 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: ACIS-I-5
Time(ksec)

A Summary

A.1 Status

V&V Scientist	Beth Sundheim
V&V Date (YYYY-MM-DD)	2020.10.15
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	3.260449

A.2 Comments

```
Charge time for this observation remains at previous value of 3.260449
ksec, although with the current processing the charge time would have
been 3.253 ksec.
```