V&V Reference Report
L2 ASCDS Version : 10.9.1

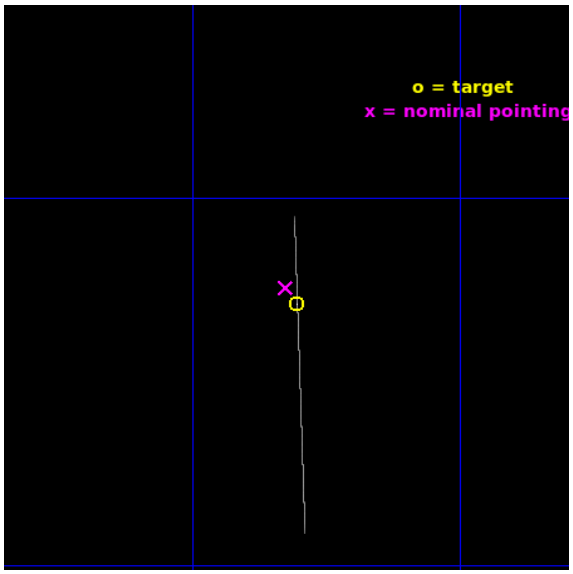
Observation 5524 - L2 Version 5
Chandra X-Ray Center

L2 Processing Date : Oct 6 2020

Contents

1 Front

seq_num	500518	Sequence number
obs_id	5524	Observation id
title	Timing the Enigmatic Nearby Neutron Star RX J1308.8+2127	Proposal
observer	Prof. David Kaplan	Principal investigator
object	RX J1308.8+2127	Source name
ra_targ	197.20125	Observer's specified target RA [deg]
dec_targ	21.451889	Observer's specified target Dec [deg]
ra_nom	197.206406021	Nominal RA [deg]
dec_nom	21.459183700123	Nominal Dec [deg]
roll_nom	88.152221253356	Nominal Roll [deg]
revision	5	Processing version of data
ontime	5161.5	Sum of GTIs [s]
livetime	5141.337890625	Livetime [s]
ontime7	5161.5	Sum of GTIs [s]
l2events	21811	Number of level 2 events

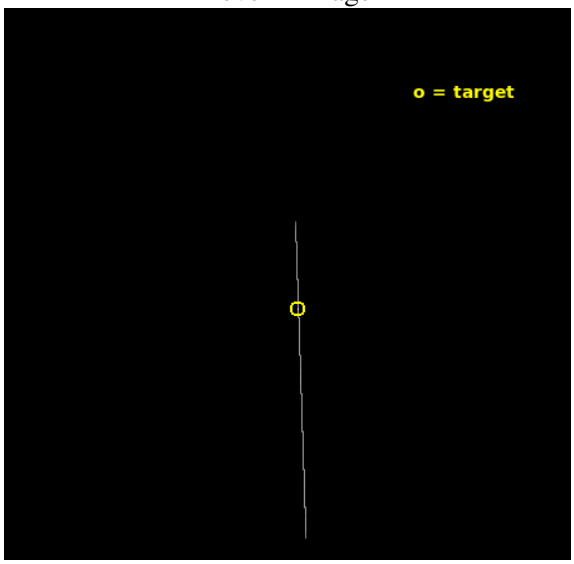


2 OBI

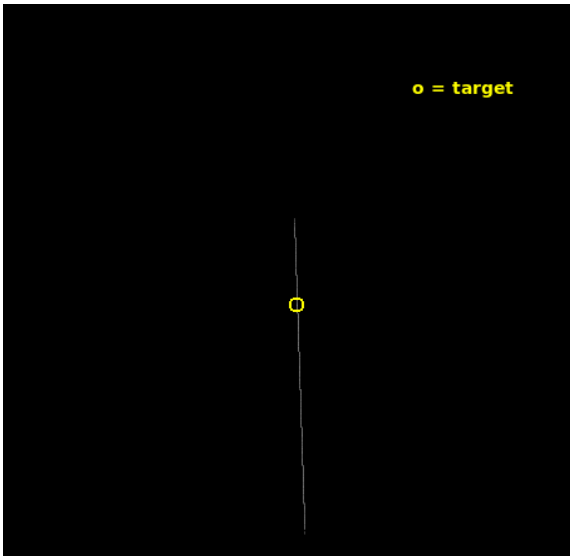
2.1 OBI

2.1.1 Images

Level 1 Image

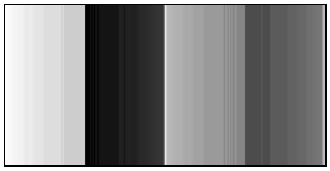


Level 1 Bad Events



2.1.2 Bias

Chip 7



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	10.9.1	Processing system revision
caldbver	4.9.2	
date	2020-10-06T21:41:11	Date and time of file creation
revision	5	Processing version of data

sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ontime	5161.5	Sum of GTIs [s]
ontime7	5161.5	Sum of GTIs [s]
l1events	30800	Number of level 1 events

2.1.4 Events

	ccd 7
level 1 events	30800
rejected events	8162
rejected %	26%

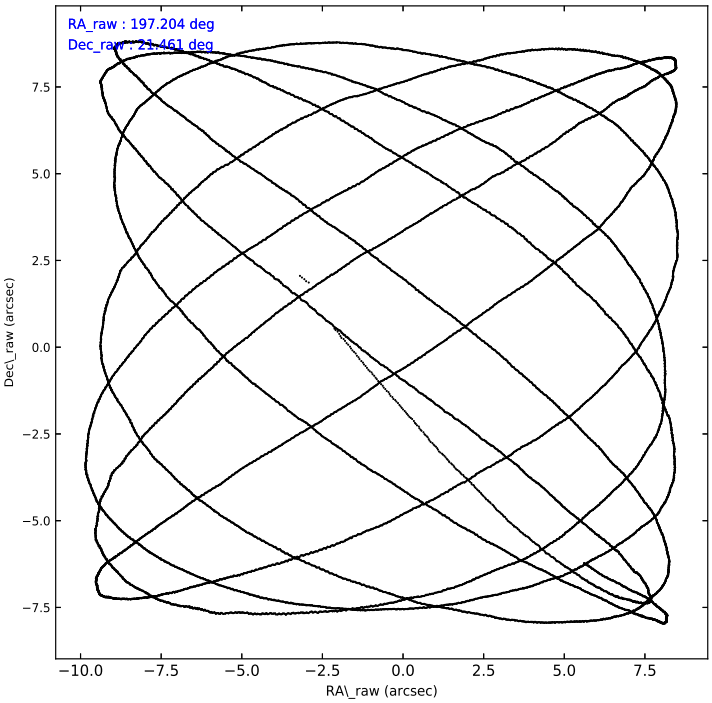
	ccd 7
grade 0 events	3706
	12%
grade 1 events	74
	0%
grade 2 events	6162
	20%
grade 3 events	1944
	6%
grade 4 events	1955
	6%
grade 5 events	4730
	15%
grade 6 events	12229
	39%
grade 7 events	0
	0%

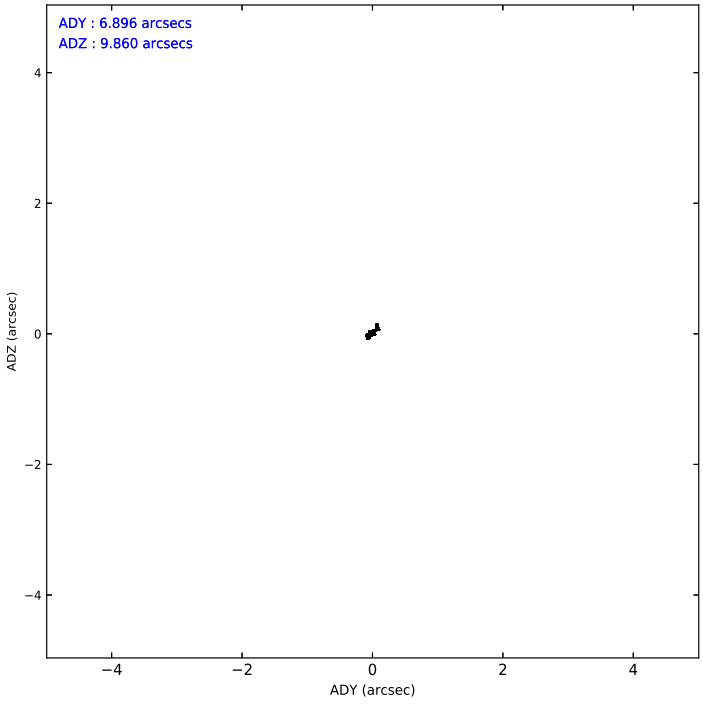
2.2 Compared Parameters

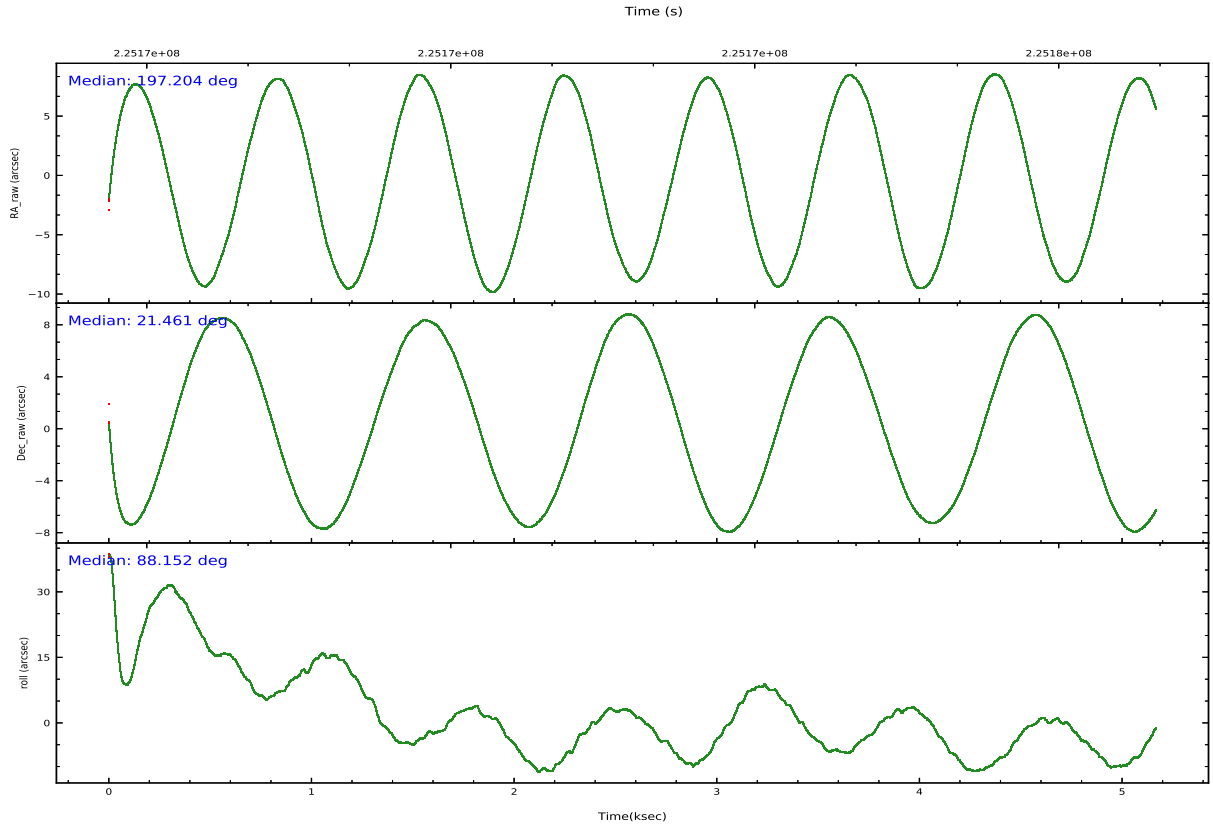
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-7	ACIS-7
Grating	NONE	NONE
Data mode	CC33_FAINT	CC33_FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	197.217552	197.206406021
[deg] Pointing Dec	21.437519	21.459183700123
[deg] Pointing Roll	87.994044	88.152221253356
[mm] SIM focus pos	-0.684267	-0.6828225247311905
[mm] SIM defocus	0	0.001444936568705701
[mm] SIM translation stage pos	-190.132523	-190.1425803651734
[mm] SIM translation stage offset	0	0.01005778216563158
[s] Observation start time (MET)	225170480.184000	225169454.9537
Observation start date	2005-02-19T03:20:16	2005-02-19T03:04:14
[s] Observation end time (MET)	225175480.184000	225177032.77904
Observation end date	2005-02-19T04:43:36	2005-02-19T05:10:32
Read mode	CONTINUOUS	CONTINUOUS

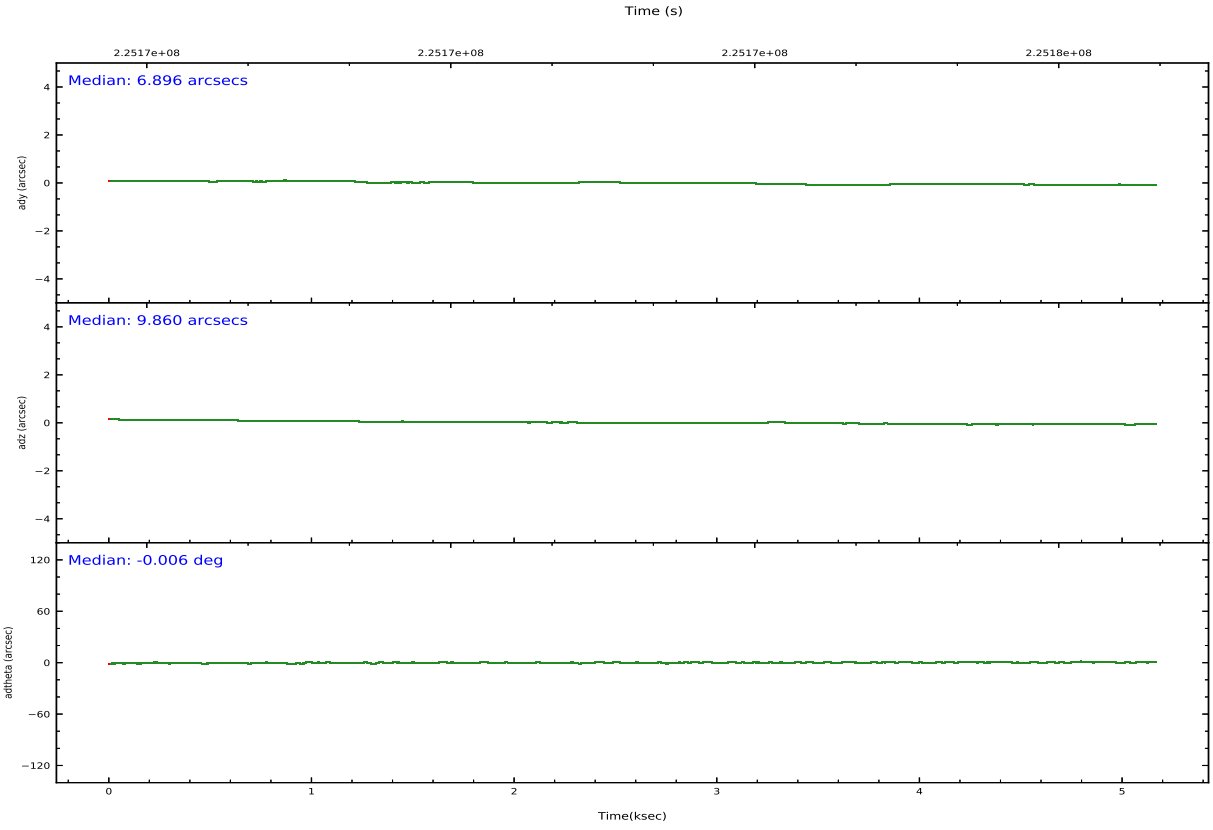
Parameter	Planned	Actual
Obspar version number	8	8
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	0

2.3 Aspect


RA_raw : 197.204 deg
Dec_raw : 21.461 deg
Dec_raw (arcsec)
RA_raw (arcsec)
7.5
5.0
2.5
0.0
−2.5
−5.0
−7.5
−10.0
−7.5
−5.0
−2.5
0.0
2.5
5.0
7.5


ADY : 6.896 arcsecs
ADZ : 9.860 arcsecs
ADZ (arcsec)
ADY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
2.2517e+08
2.2517e+08
2.2517e+08
2.2518e+08
Median: 197.204 deg
RA_raw (arcsec)
Median: 21.461 deg
Dec_raw (arcsec)
Median: 88.152 deg
roll (arcsec)
Time(ksec)

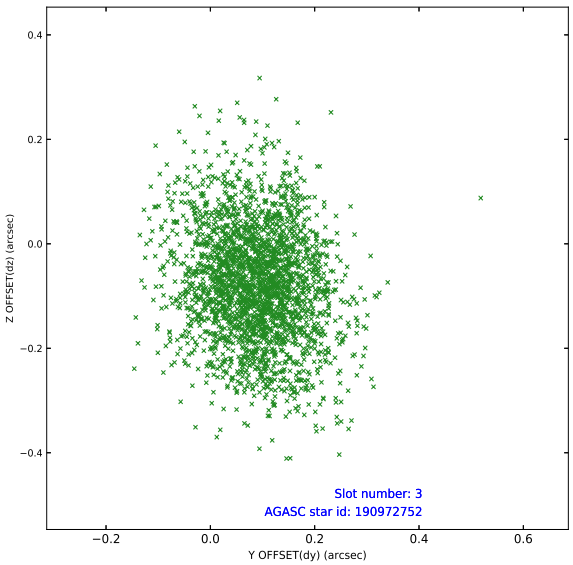

Time (s)
2.2517e+08
2.2517e+08
2.2517e+08
2.2518e+08
Median: 6.896 arcsecs
ady (arcsec)
Median: 9.860 arcsecs
adz (arcsec)
Median: -0.006 deg
adtheta (arcsec)
Time(ksec)

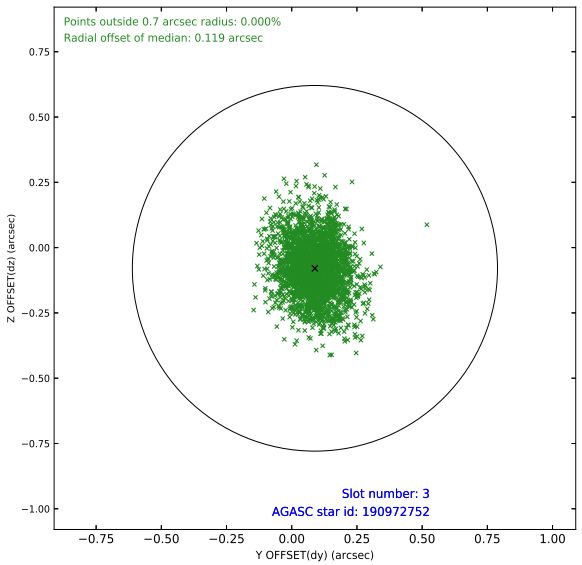
Slot Statistics

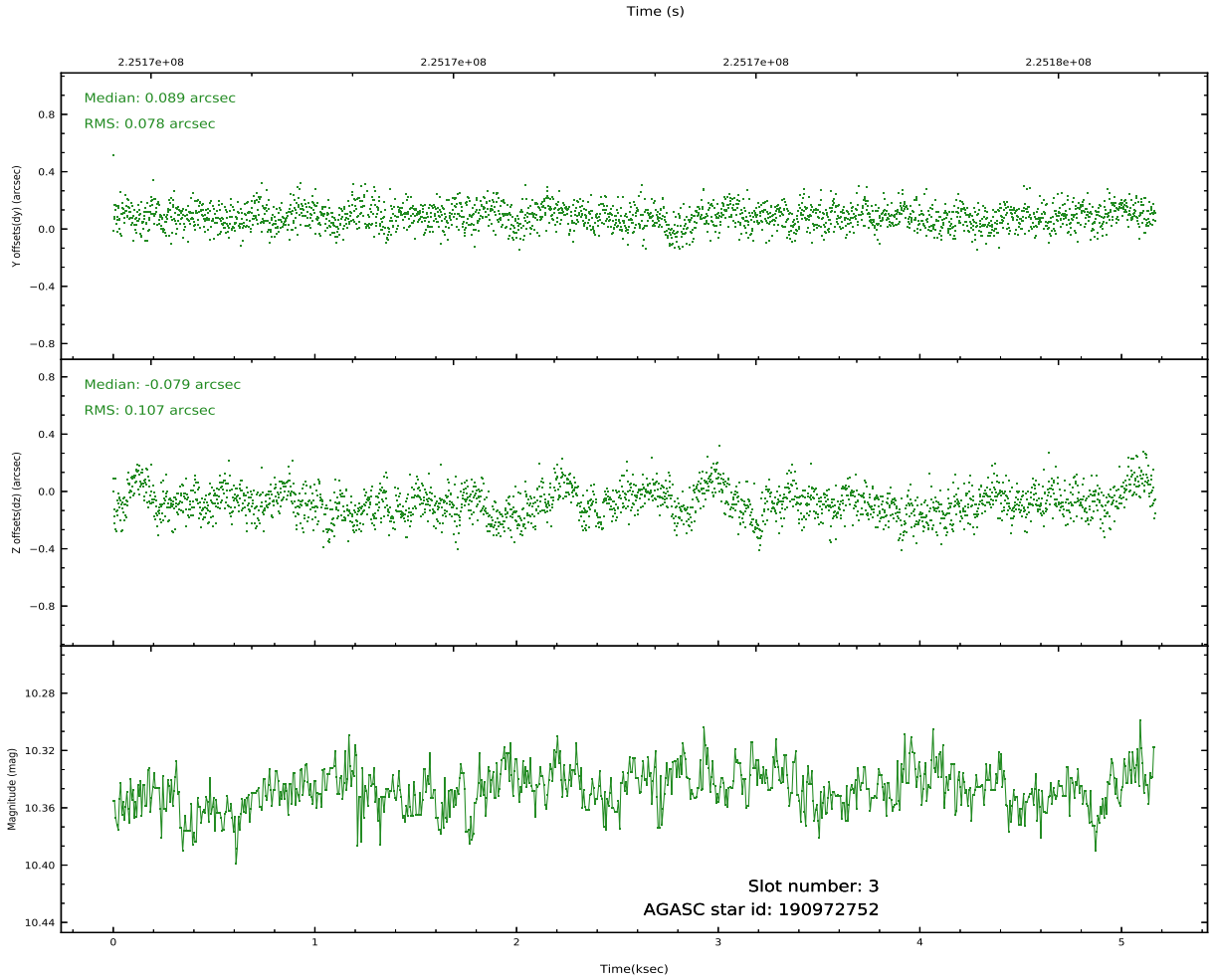
ot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-S-2	7.10	1261	1.000	-0.088	-0.070	0.007	0.012	0.000000	0.000000	-759.67	-1731
1	FID		ACIS-S-4	7.21	1261	1.000	0.159	0.061	0.006	0.010	0.000000	0.000000	2153.26	176
2	FID		ACIS-S-5	7.23	1261	1.000	-0.102	0.018	0.006	0.011	0.000000	0.000000	-1811.08	171
3	GUIDE	used	190972752	10.35	2516	1.000	0.089	-0.079	0.139	0.233	197.567107	21.351082	-267.88	-1181
4	GUIDE	used	190973928	9.83	2521	1.000	-0.181	0.059	0.137	0.213	197.904188	21.564389	542.61	-2280
5	GUIDE	used	190974376	6.81	2522	1.000	-0.220	0.144	0.067	0.115	197.884749	21.918670	1814.61	-2166
6	GUIDE	used	190979840	10.37	2520	1.000	0.159	-0.064	0.234	0.345	197.337465	20.846267	-2111.60	-478
7	GUIDE	used	190971944	10.05	2518	1.000	0.161	-0.056	0.155	0.281	197.963793	22.064478	2349.14	-2408

2.4 Star Slots

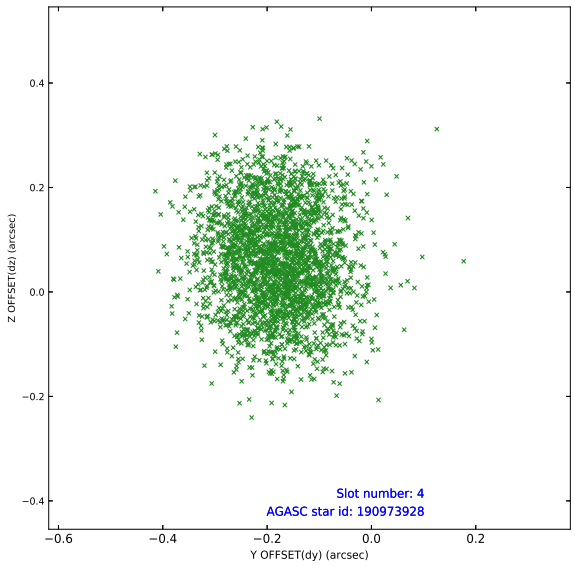
2.4.1 Slot 3

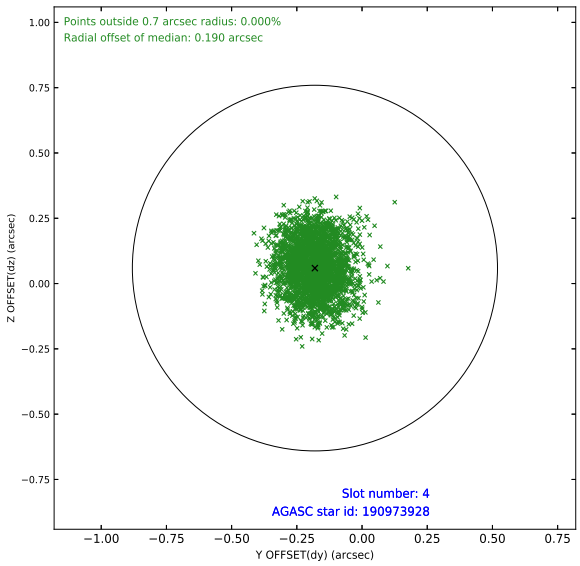


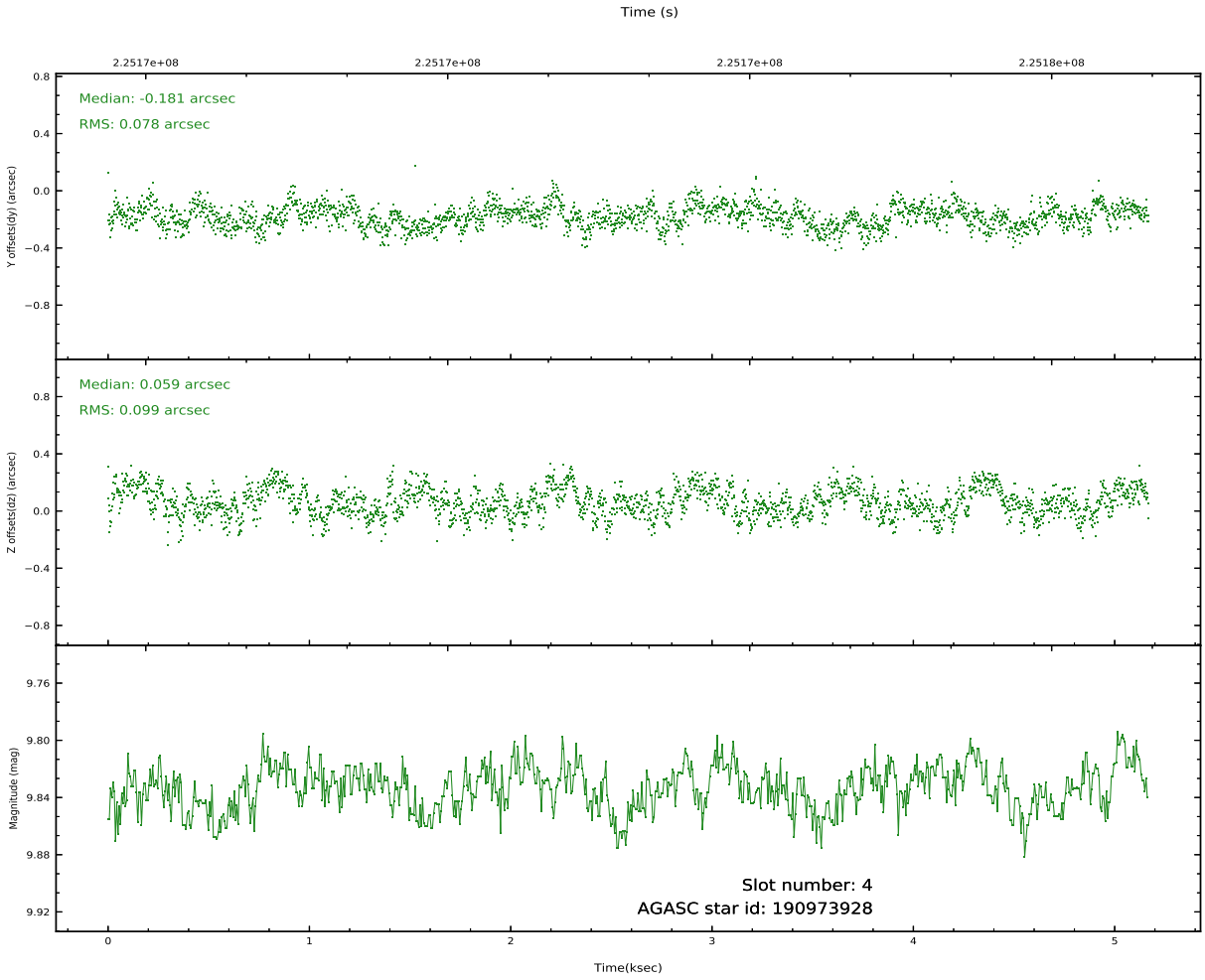




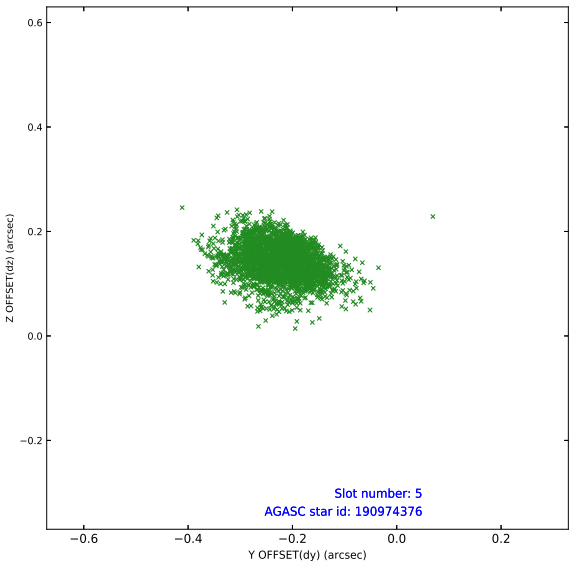
2.4.2 Slot 4

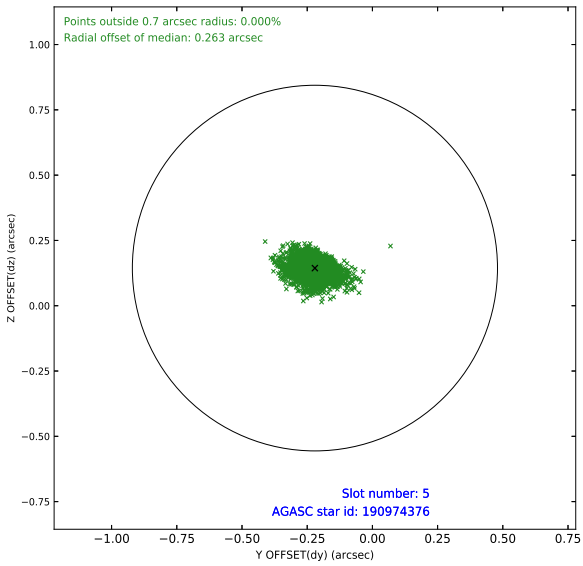

Slot number: 4
AGASC star id: 190973928
Y OFFSET(dy) (arcsec)
Z OFFSET(dz) (arcsec)

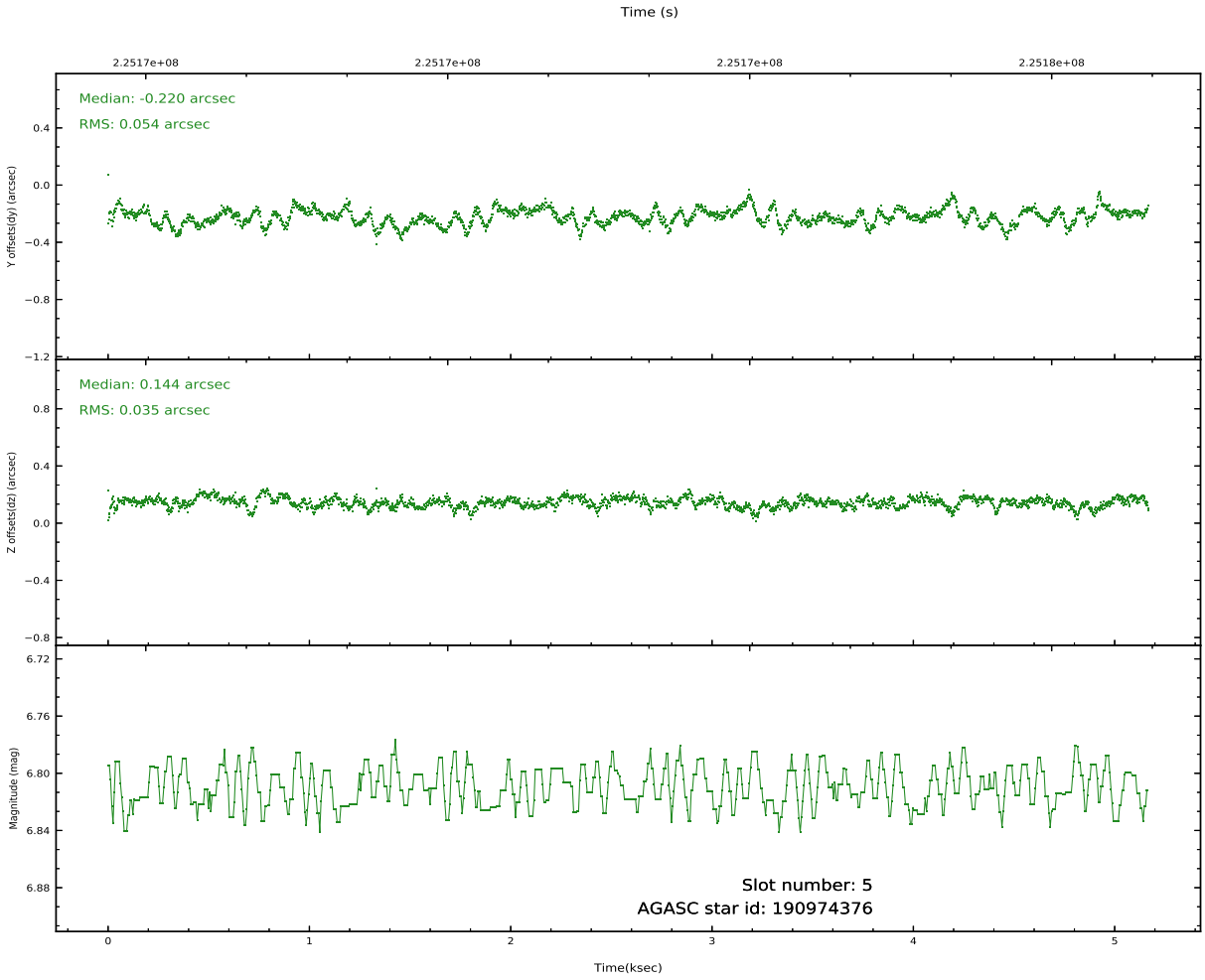

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.190 arcsec
Slot number: 4
AGASC star id: 190973928
Y OFFSET(dy) (arcsec)
Z OFFSET(dz) (arcsec)


Time (s)
2.2517e+08
2.2517e+08
2.2517e+08
2.2518e+08
Median: -0.181 arcsec
RMS: 0.078 arcsec
Y offsets(dy) (arcsec)
Median: 0.059 arcsec
RMS: 0.099 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 190973928
Time(ksec)

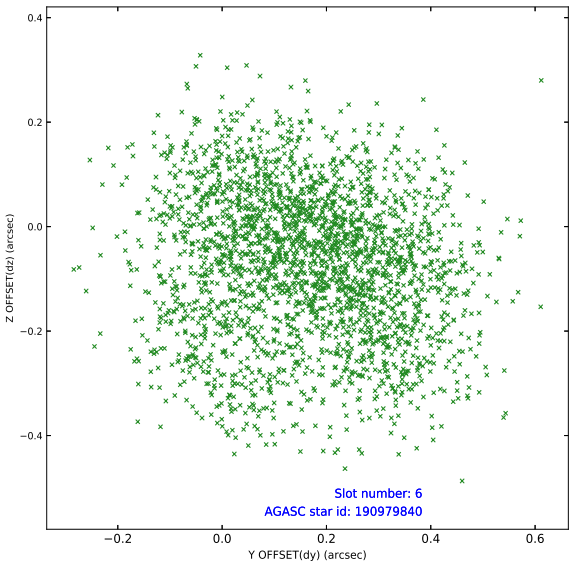
2.4.3 Slot 5

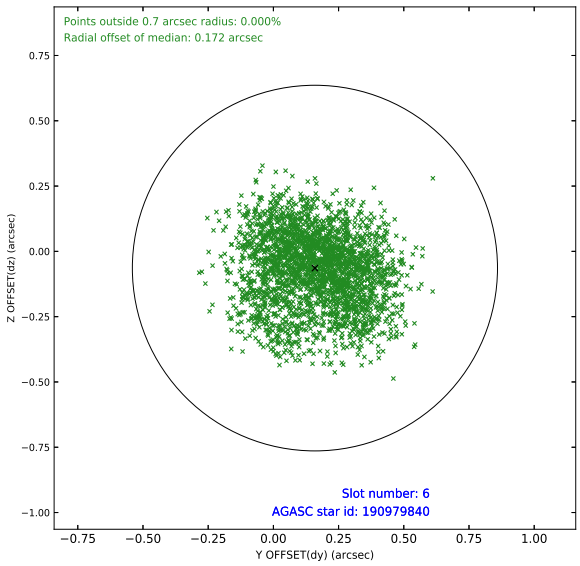

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 190974376

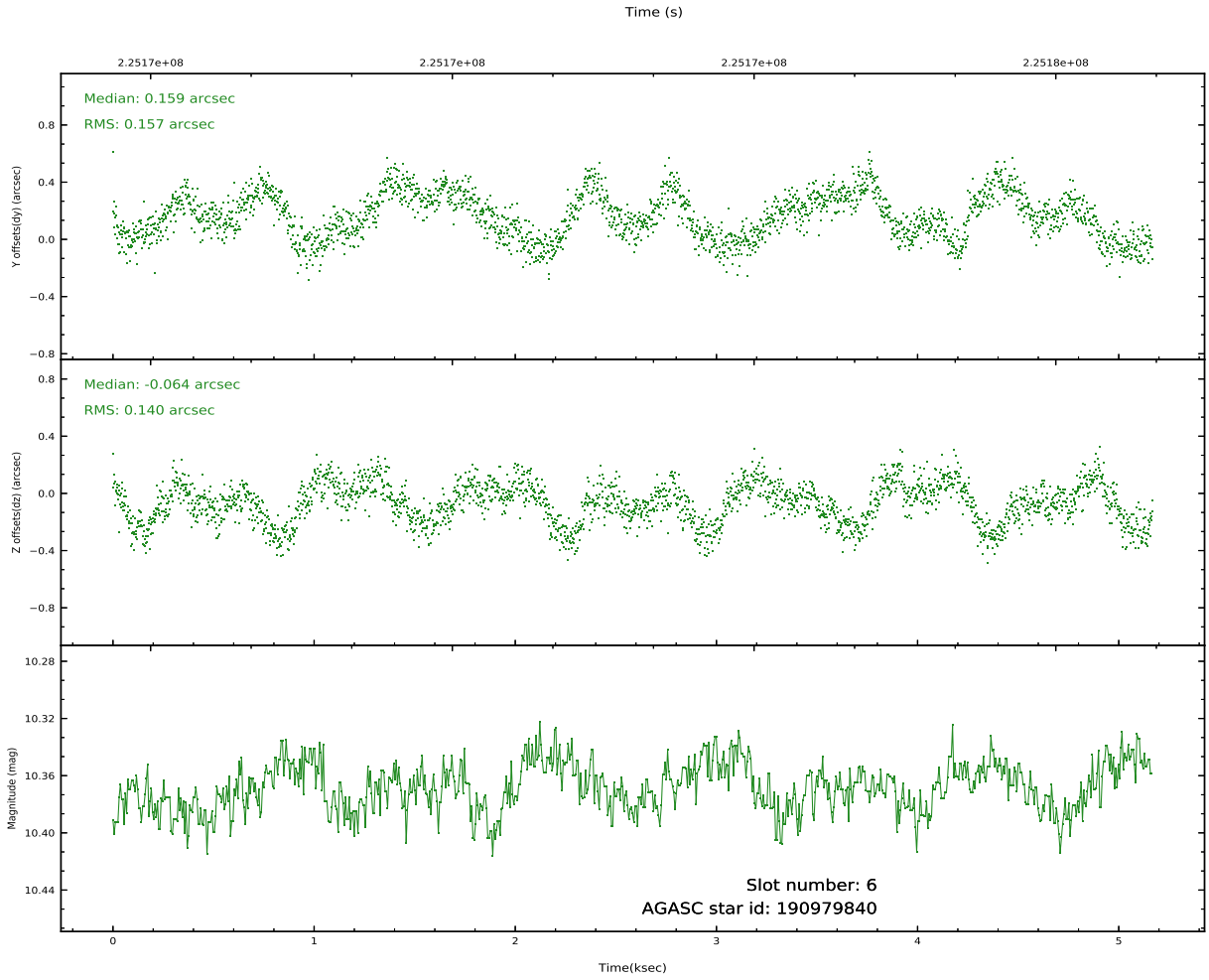

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.263 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 190974376


Time (s)
Median: -0.220 arcsec
RMS: 0.054 arcsec
Y offsets(dy) (arcsec)
Median: 0.144 arcsec
RMS: 0.035 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 190974376
Time(ksec)

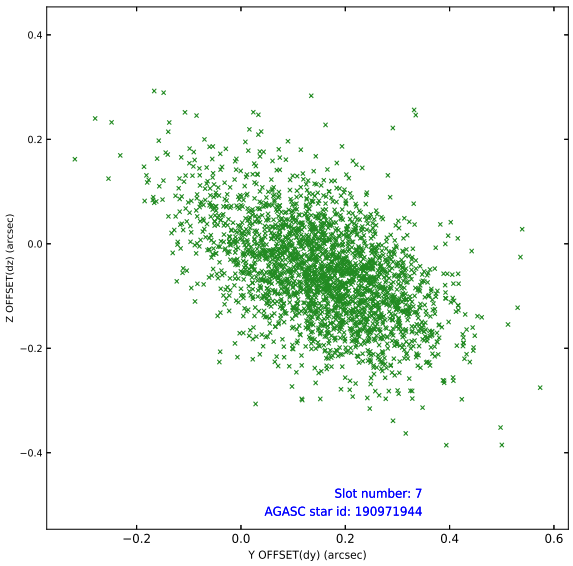
2.4.4 Slot 6

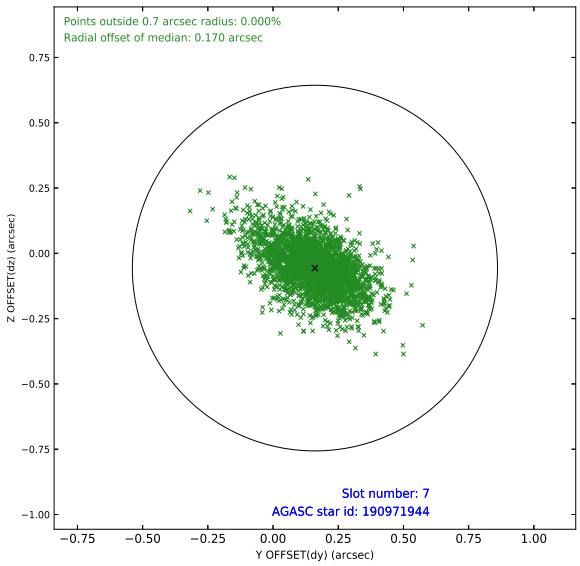

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 190979840

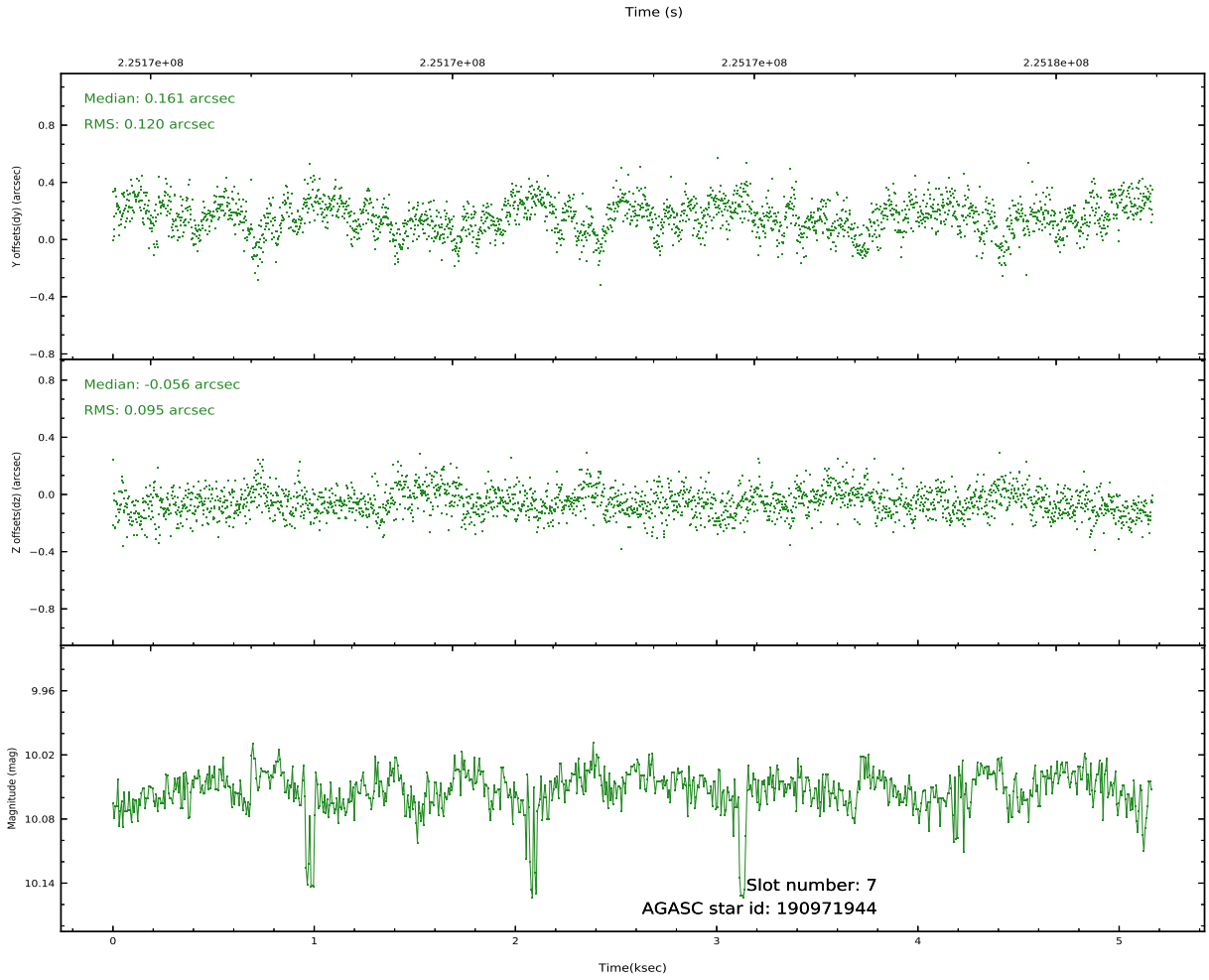

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.172 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 190979840


Time (s)
2.2517e+08
2.2517e+08
2.2517e+08
2.2518e+08
Median: 0.159 arcsec
RMS: 0.157 arcsec
Y offsets(dy) (arcsec)
Median: -0.064 arcsec
RMS: 0.140 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 190979840
Time(ksec)

2.4.5 Slot 7

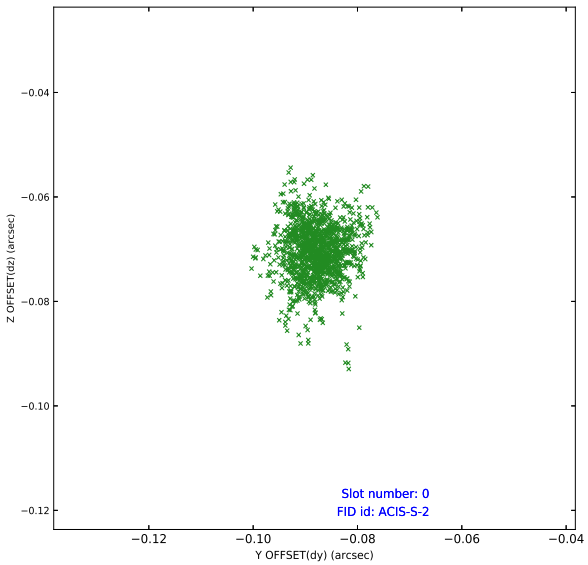

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 190971944

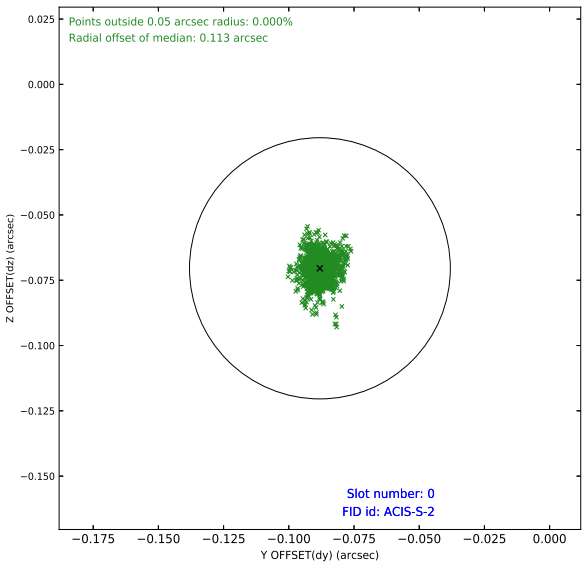

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.170 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 190971944

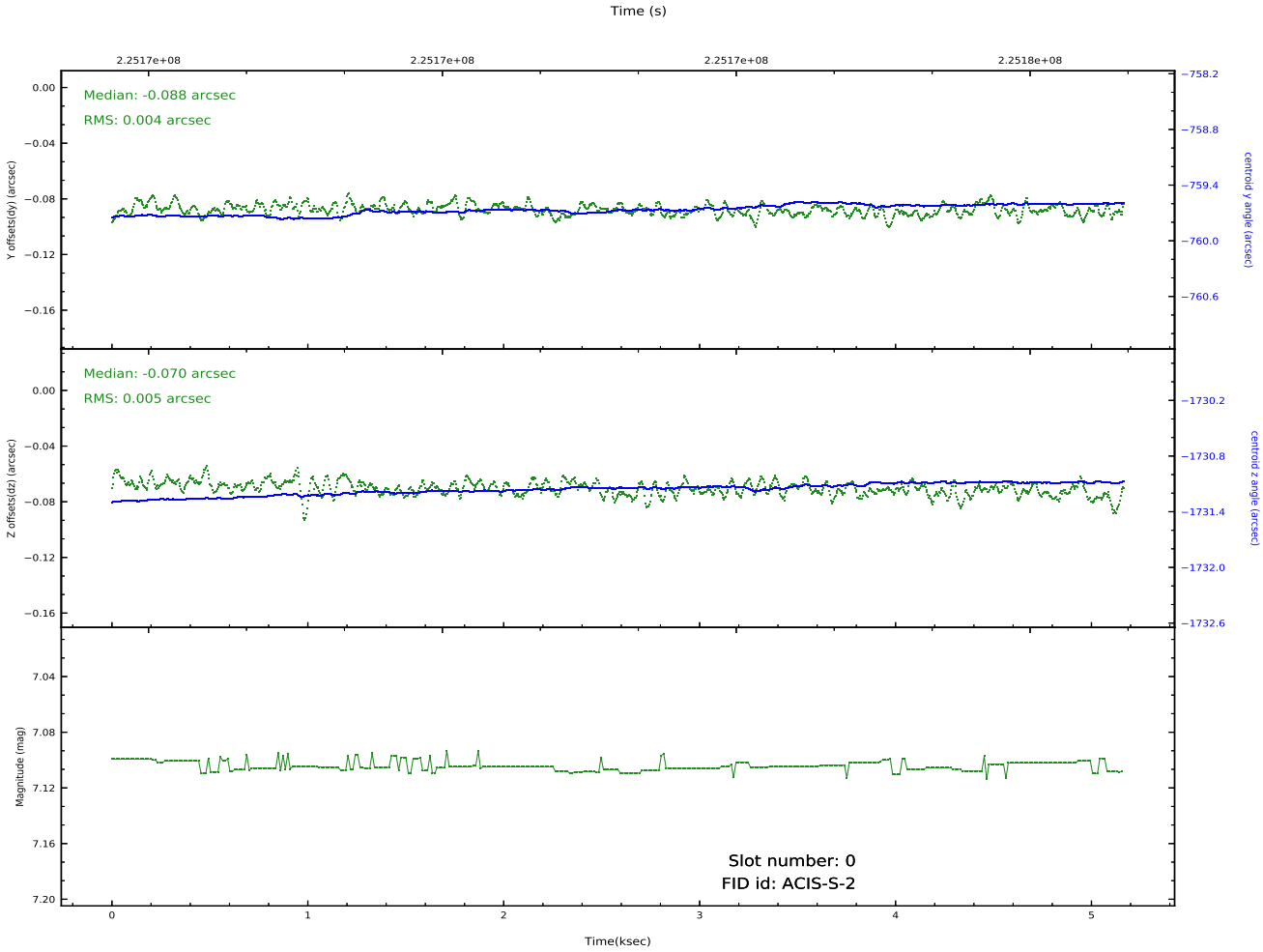

Time (s)
2.2517e+08
2.2517e+08
2.2517e+08
2.2518e+08
Median: 0.161 arcsec
RMS: 0.120 arcsec
Y offsets(dy) (arcsec)
Median: -0.056 arcsec
RMS: 0.095 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 190971944
Time(ksec)

2.5 FID Slots

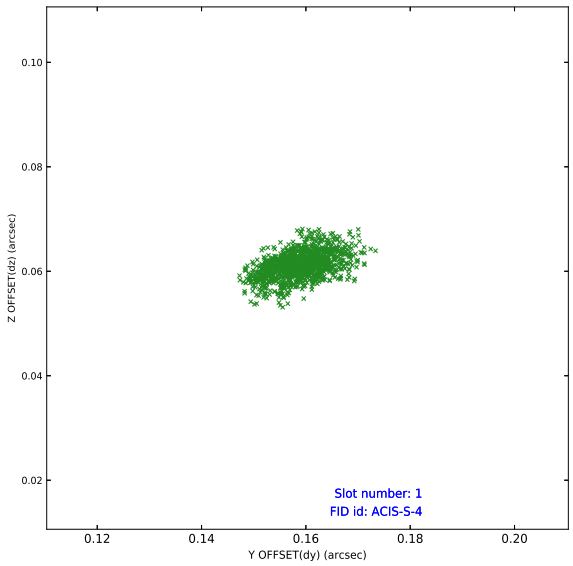
2.5.1 Slot 0

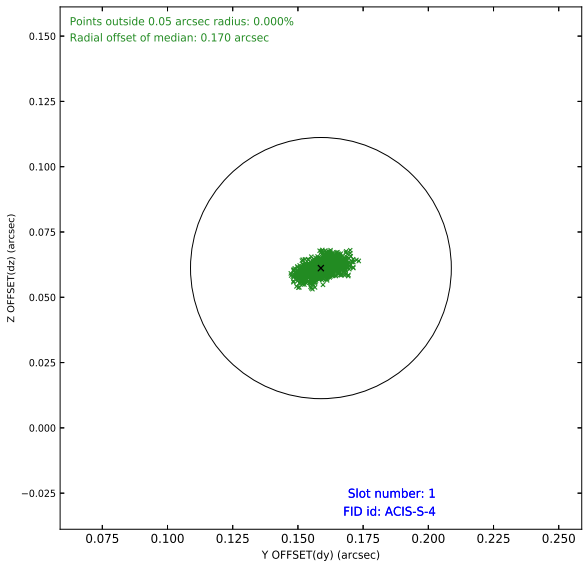


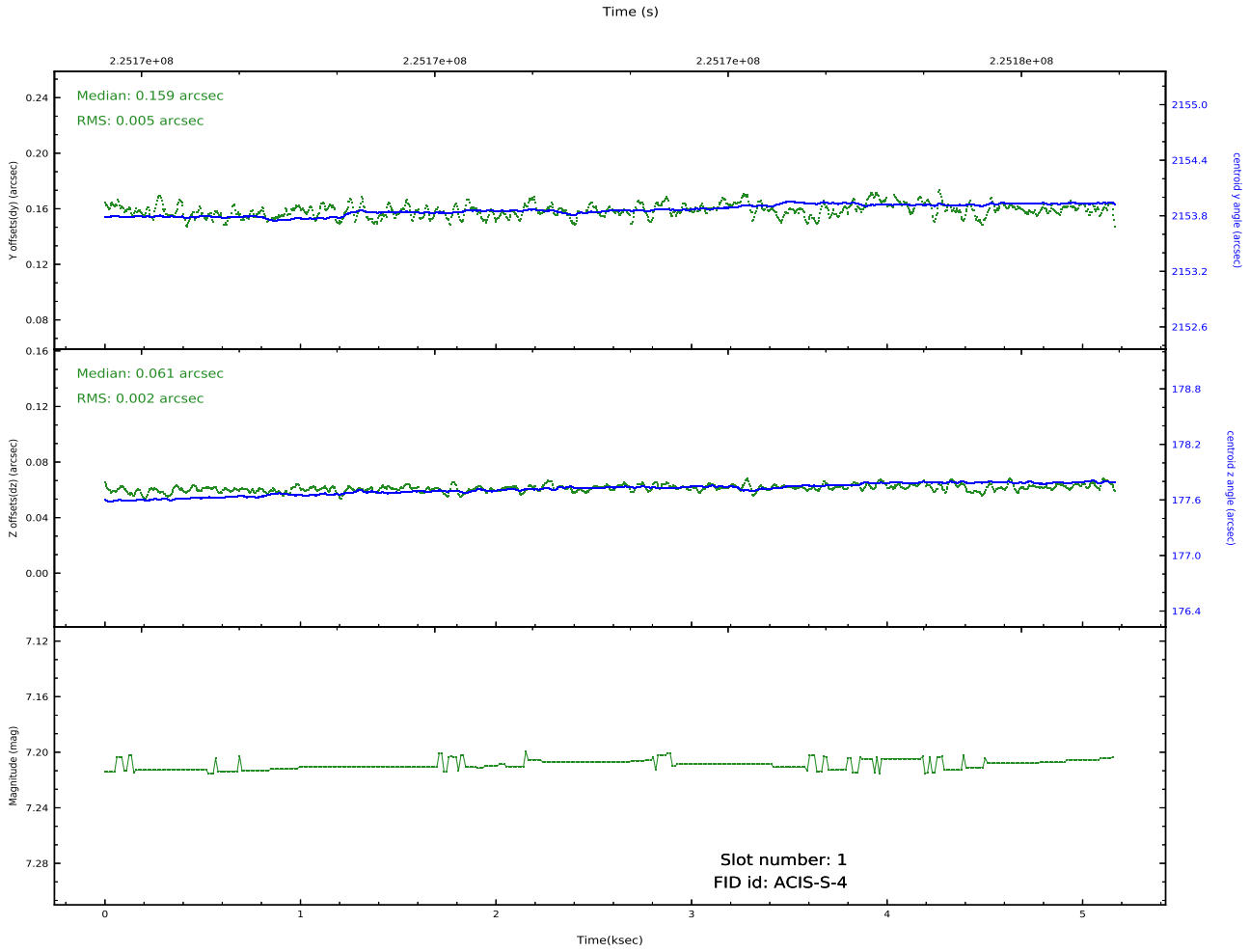




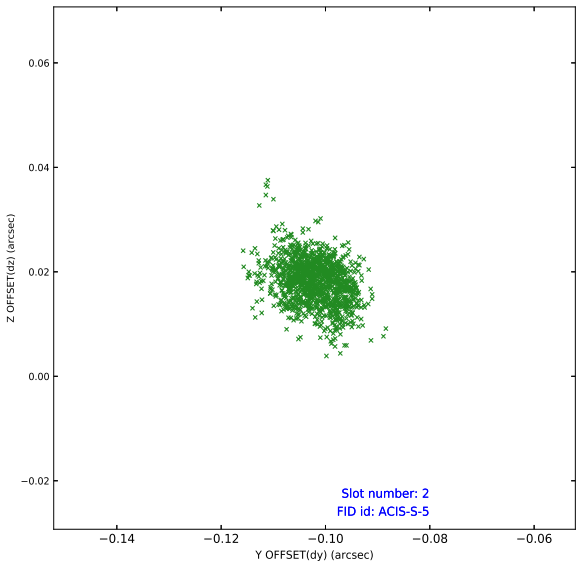
2.5.2 Slot 1

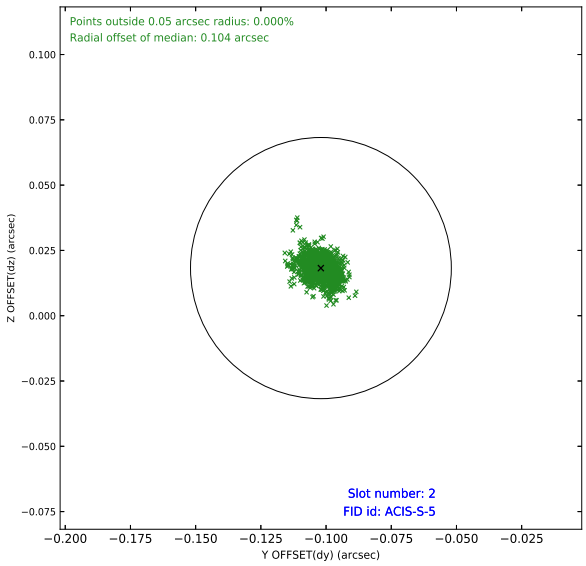

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS-S-4

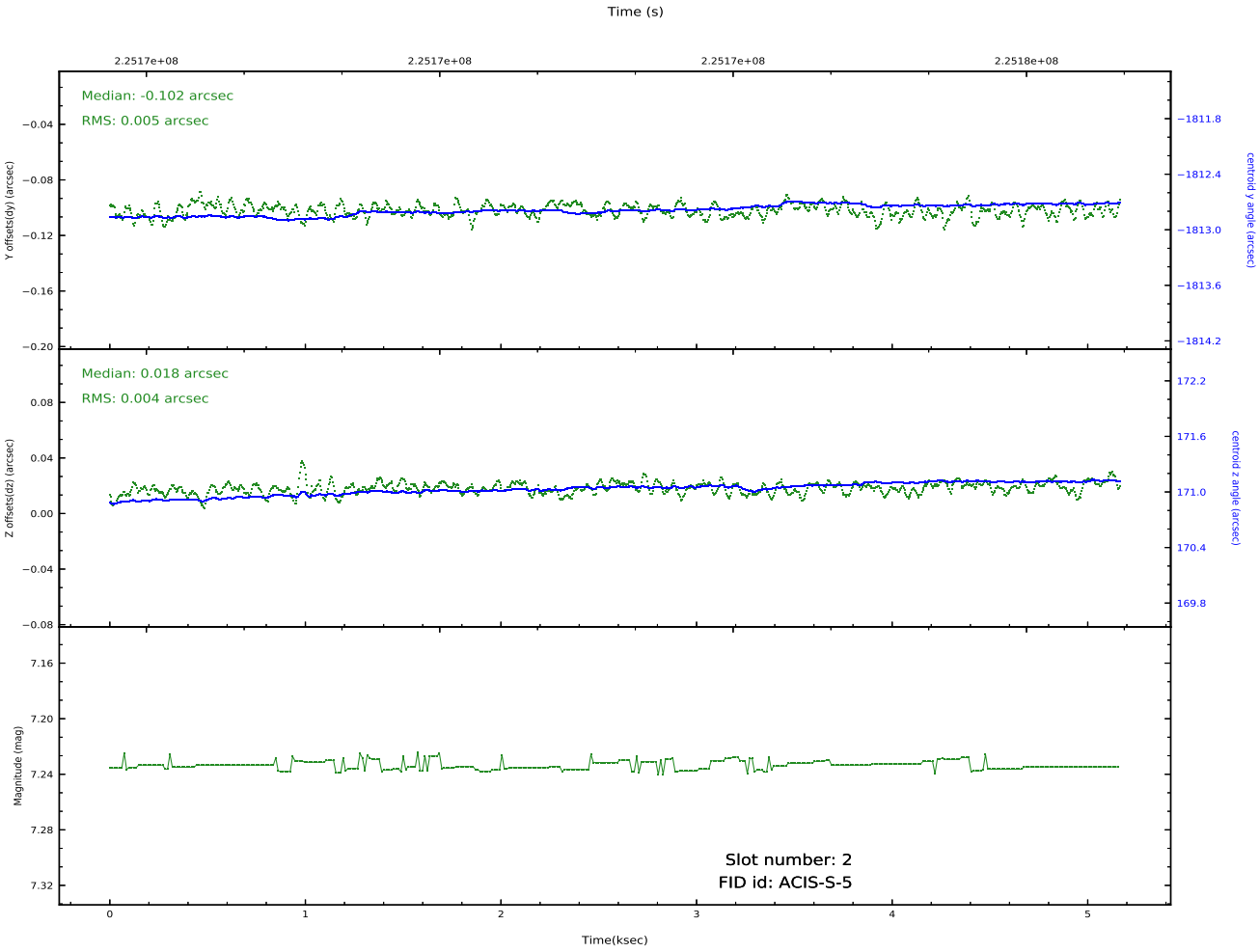

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.170 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS-S-4


Time (s)
Median: 0.159 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.061 arcsec
RMS: 0.002 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 1
FID id: ACIS-S-4
Time(ksec)

2.5.3 Slot 2


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


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.104 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS-S-5


Time (s)
Median: -0.102 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.018 arcsec
RMS: 0.004 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number: 2
FID id: ACIS-S-5
Time(ksec)

A Summary

A.1 Status

V&V Scientist	David Huenemoerder
V&V Date (YYYY-MM-DD)	2020.10.07
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.165

A.2 Comments