V&V Reference Report
L2 ASCDS Version : 10.9.1

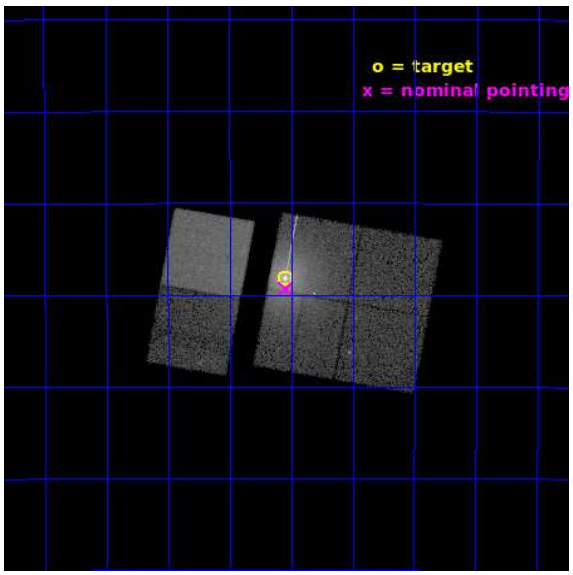
Observation 5511 - L2 Version 4
Chandra X-Ray Center

L2 Processing Date : Oct 9 2020

Contents

1 Front

seq_num	400441	Sequence number
obs_id	5511	Observation id
title	Measuring Dense Clouds with X-rays and Millimeter Waves	Proposal t
observer	Randall Smith	Principal investigator
object	XB 1724-307	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	261.887083	Observer's specified target RA [deg]
dec_targ	-30.8024	Observer's specified target Dec [deg]
ra_nom	261.88563379471	Nominal RA [deg]
dec_nom	-30.822122980094	Nominal Dec [deg]
roll_nom	280.20201518022	Nominal Roll [deg]
revision	4	Processing version of data
ontime	14754.282266587	Sum of GTIs [s]
livetime	14567.454660565	Livetime [s]
ontime0	14754.159146607	Sum of GTIs [s]
ontime1	14754.20018658	Sum of GTIs [s]
ontime2	14754.241226584	Sum of GTIs [s]
ontime3	14754.282266587	Sum of GTIs [s]
ontime6	14754.364346594	Sum of GTIs [s]
ontime7	14754.32330659	Sum of GTIs [s]
l2events	232936	Number of level 2 events

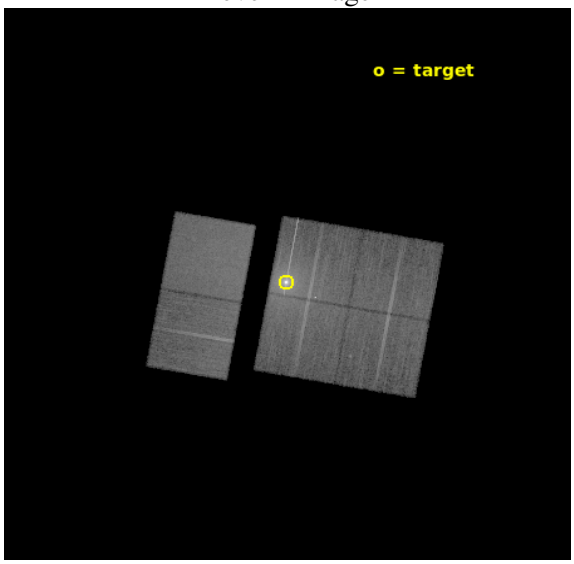


2 OBI

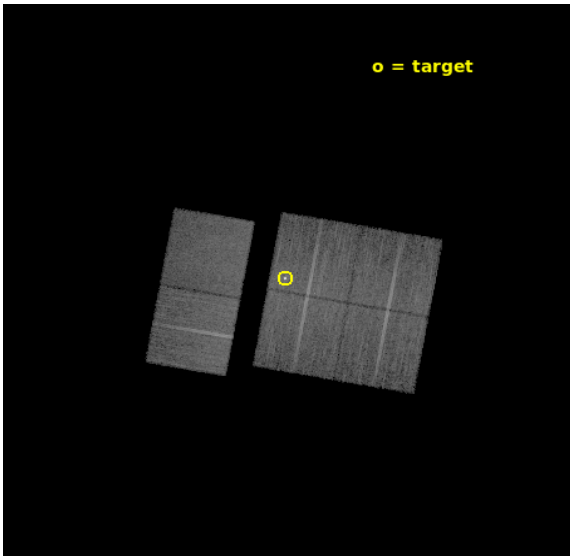
2.1 OBI

2.1.1 Images

Level 1 Image

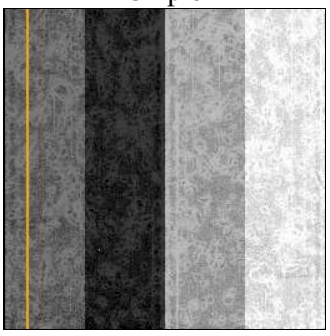


Level 1 Bad Events

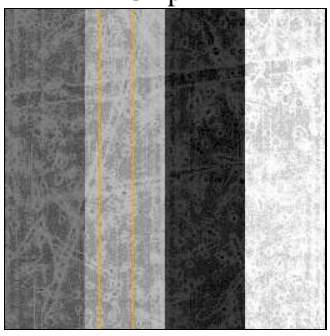


2.1.2 Bias

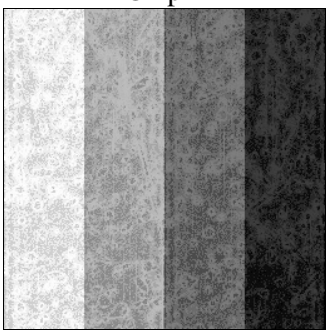
Chip 0



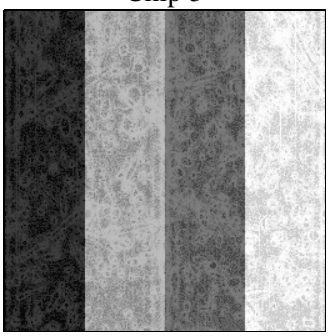
Chip 1



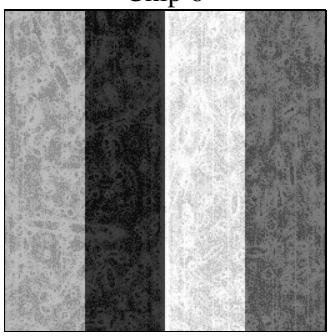
Chip 2



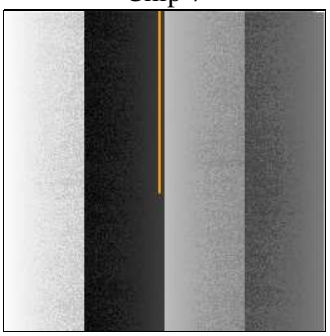
Chip 3



Chip 6



Chip 7



2.1.3 Parameters

obi_num	1	Obi number
ascdsver	10.9.1	Processing system revision
caldbver	4.9.2	
date	2020-10-09T12:46:10	Date and time of file creation
revision	4	Processing version of data

sched_exp_time	15000.000000	[s] Scheduled observation exposure time
ontime	14754.282266587	Sum of GTIs [s]
ontime0	14754.159146607	Sum of GTIs [s]
ontime1	14754.20018658	Sum of GTIs [s]
ontime2	14754.241226584	Sum of GTIs [s]
ontime3	14754.282266587	Sum of GTIs [s]
ontime6	14754.364346594	Sum of GTIs [s]
ontime7	14754.32330659	Sum of GTIs [s]
l1events	790199	Number of level 1 events

2.1.4 Events

	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
level 1 events	99038	103855	122397	200381	115296	149232
rejected events	82275	86201	92385	98938	97650	82011
rejected %	83%	83%	75%	49%	84%	54%

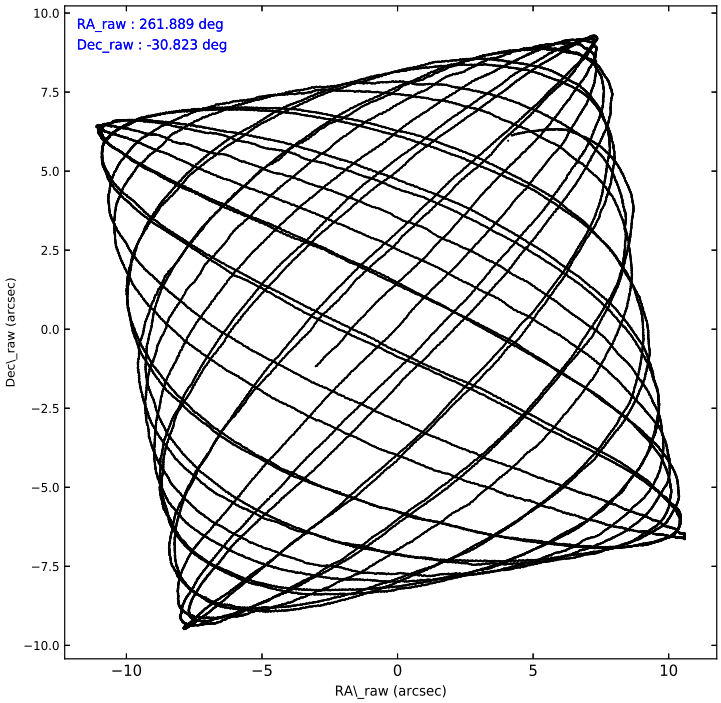
	ccd 0	ccd 1	ccd 2	ccd 3	ccd 6	ccd 7
grade 0 events	8000	7691	18815	71262	8316	7343
	8%	7%	15%	35%	7%	4%
grade 1 events	69	48	147	1970	79	140
	0%	0%	0%	0%	0%	0%
grade 2 events	3583	3944	4921	13520	3819	14056
	3%	3%	4%	6%	3%	9%
grade 3 events	1309	1370	1722	4786	1338	6097
	1%	1%	1%	2%	1%	4%
grade 4 events	1272	1479	1835	4892	1316	6172
	1%	1%	1%	2%	1%	4%
grade 5 events	4142	4311	4177	6499	4916	13353
	4%	4%	3%	3%	4%	8%
grade 6 events	2606	3175	2735	7022	2870	33573
	2%	3%	2%	3%	2%	22%
grade 7 events	78057	81837	88045	90430	92642	68498
	78%	78%	71%	45%	80%	45%

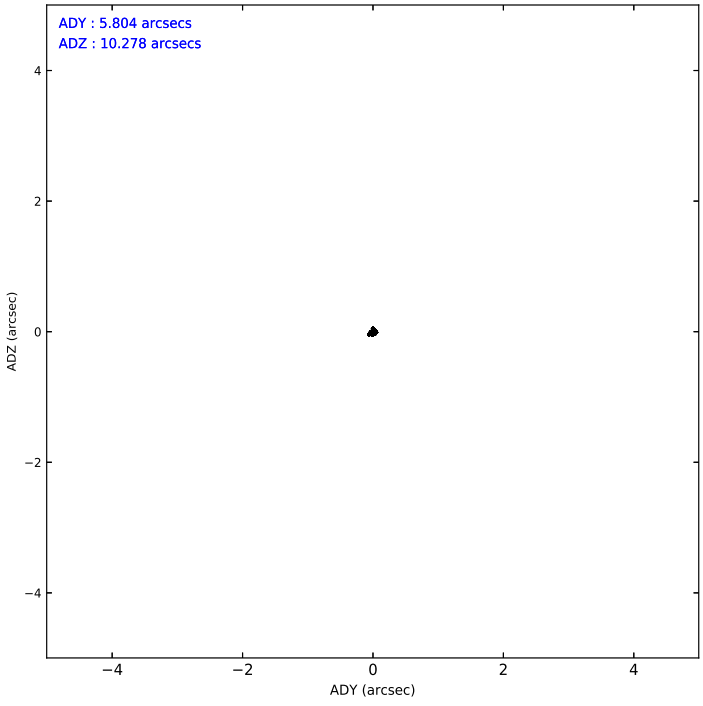
2.2 Compared Parameters

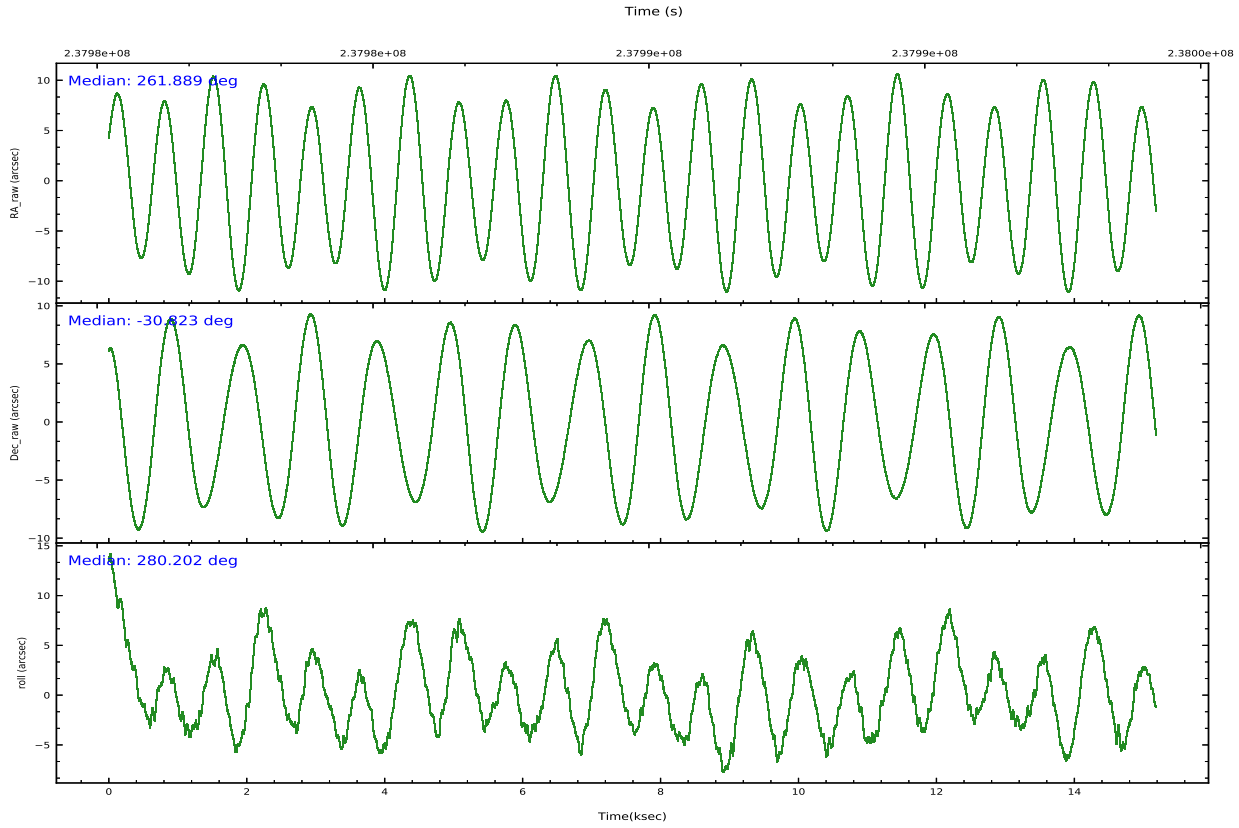
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-012367	ACIS-012367
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	261.868589	261.88563379471
[deg] Pointing Dec	-30.802494	-30.822122980094
[deg] Pointing Roll	279.990533	280.20201518022
[mm] SIM focus pos	-0.782348	-0.7809083437167272
[mm] SIM defocus	0	0.001439871863259334
[mm] SIM translation stage pos	-215.592463	-215.5874512169607
[mm] SIM translation stage offset	-18	-18.00500178596903
[s] Observation start time (MET)	237980354.184000	237979695.41176
Observation start date	2005-07-17T09:38:10	2005-07-17T09:28:15
[s] Observation end time (MET)	237995354.184000	237996675.05004
Observation end date	2005-07-17T13:48:10	2005-07-17T14:11:15
Read mode	TIMED	TIMED

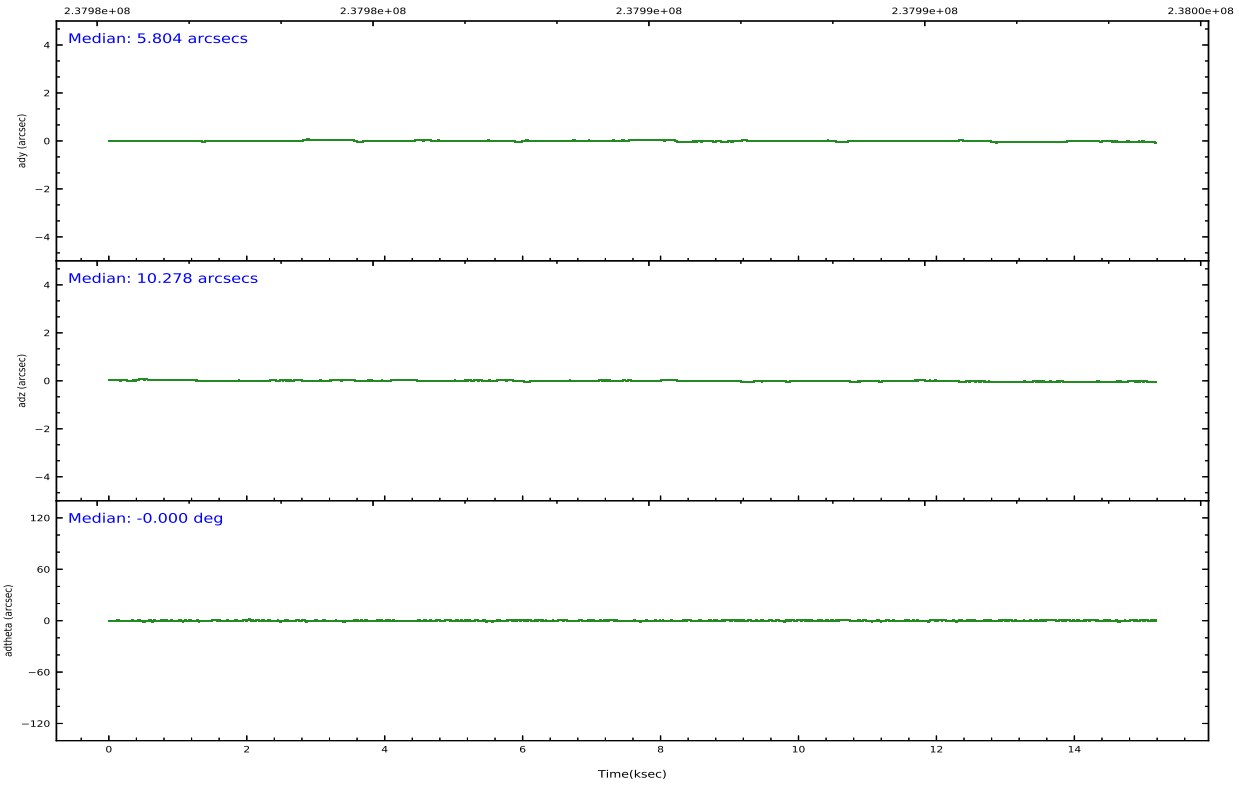
Parameter	Planned	Actual
Obspar version number	8	8
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3.2

2.3 Aspect


RA_raw : 261.889 deg
Dec_raw : -30.823 deg
Dec_raw (arcsec)
RA_raw (arcsec)


ADY : 5.804 arcsecs
ADZ : 10.278 arcsecs
ADZ (arcsec)
ADY (arcsec)


Time (s)
2.3798e+08
2.3798e+08
2.3799e+08
2.3799e+08
2.3800e+08
Median: 261.889 deg
RA_raw (arcsec)
Median: -30.823 deg
Dec_raw (arcsec)
Median: 280.202 deg
roll (arcsec)
Time(ksec)

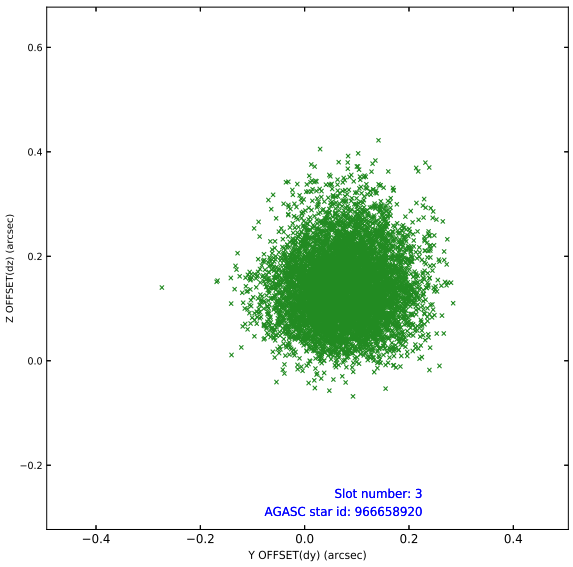

Time (s)
2.3798e+08
2.3798e+08
2.3799e+08
2.3799e+08
2.3800e+08
Median: 5.804 arcsecs
ady (arcsec)
Median: 10.278 arcsecs
adz (arcsec)
Median: -0.000 deg
adtheta (arcsec)
Time(ksec)

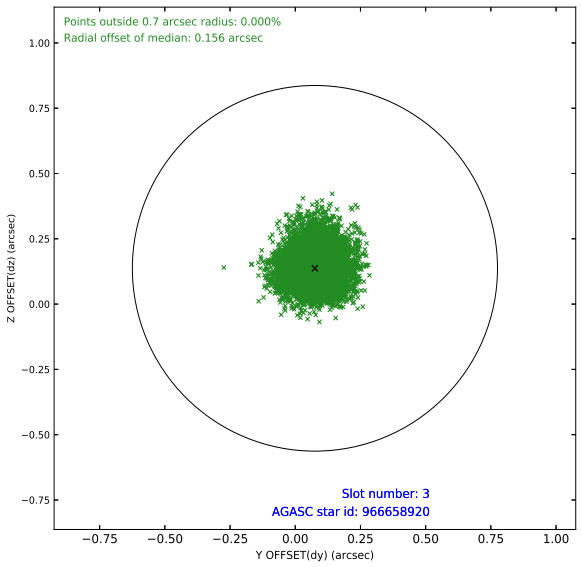
Slot Statistics

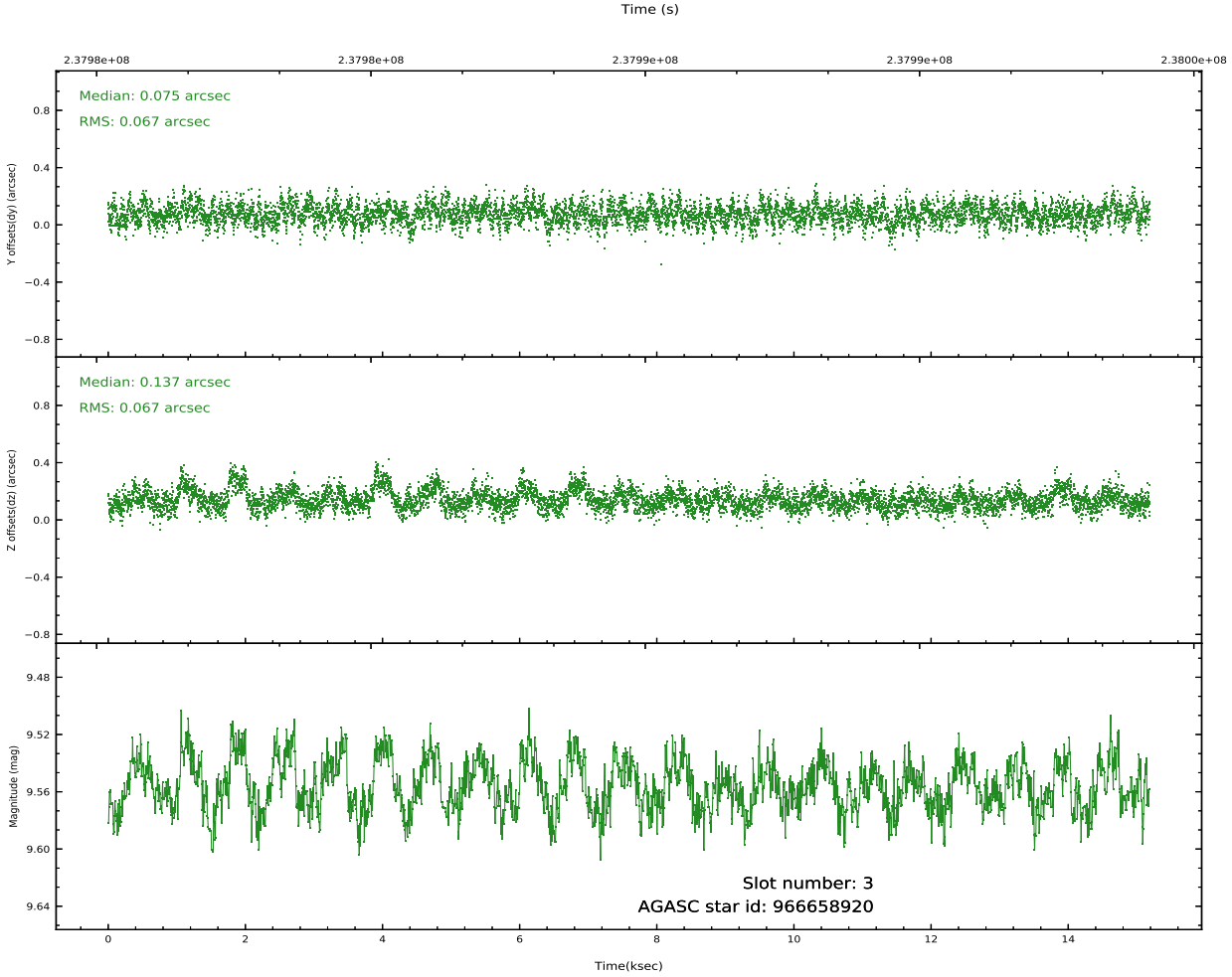
ot	status	used	id	mag	n_pts	frac_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mea
0	FID		ACIS-I-1	7.21	3704	1.000	0.295	-0.262	0.006	0.011	0.000000	0.000000	933.84	-1203
1	FID		ACIS-I-5	7.22	3704	1.000	-0.450	0.208	0.006	0.011	0.000000	0.000000	-1814.79	693
2	FID		ACIS-I-6	7.27	3702	1.000	0.063	0.125	0.007	0.011	0.000000	0.000000	398.90	1338
3	GUIDE	used	966658920	9.56	7406	1.000	0.075	0.137	0.101	0.165	262.388325	-31.303244	2056.78	1261
4	GUIDE	used	966659240	8.10	7409	1.000	-0.016	-0.056	0.067	0.106	262.189777	-30.931568	631.68	895
5	GUIDE	used	966662864	6.51	7408	1.000	-0.119	-0.011	0.035	0.055	261.732957	-31.091595	953.16	-592
6	GUIDE	used	966663720	7.86	7409	1.000	-0.004	-0.013	0.052	0.086	262.170068	-31.384212	2224.95	548
7	GUIDE	used	966663784	8.73	7379	1.000	0.063	-0.057	0.077	0.123	261.636886	-31.482666	2289.77	-1125

2.4 Star Slots

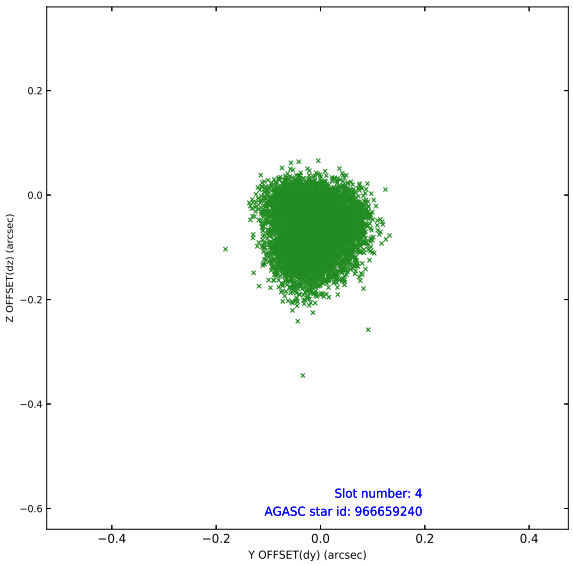
2.4.1 Slot 3

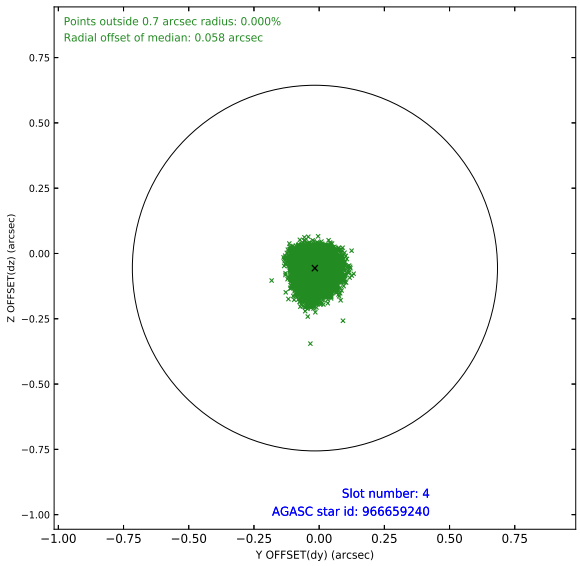


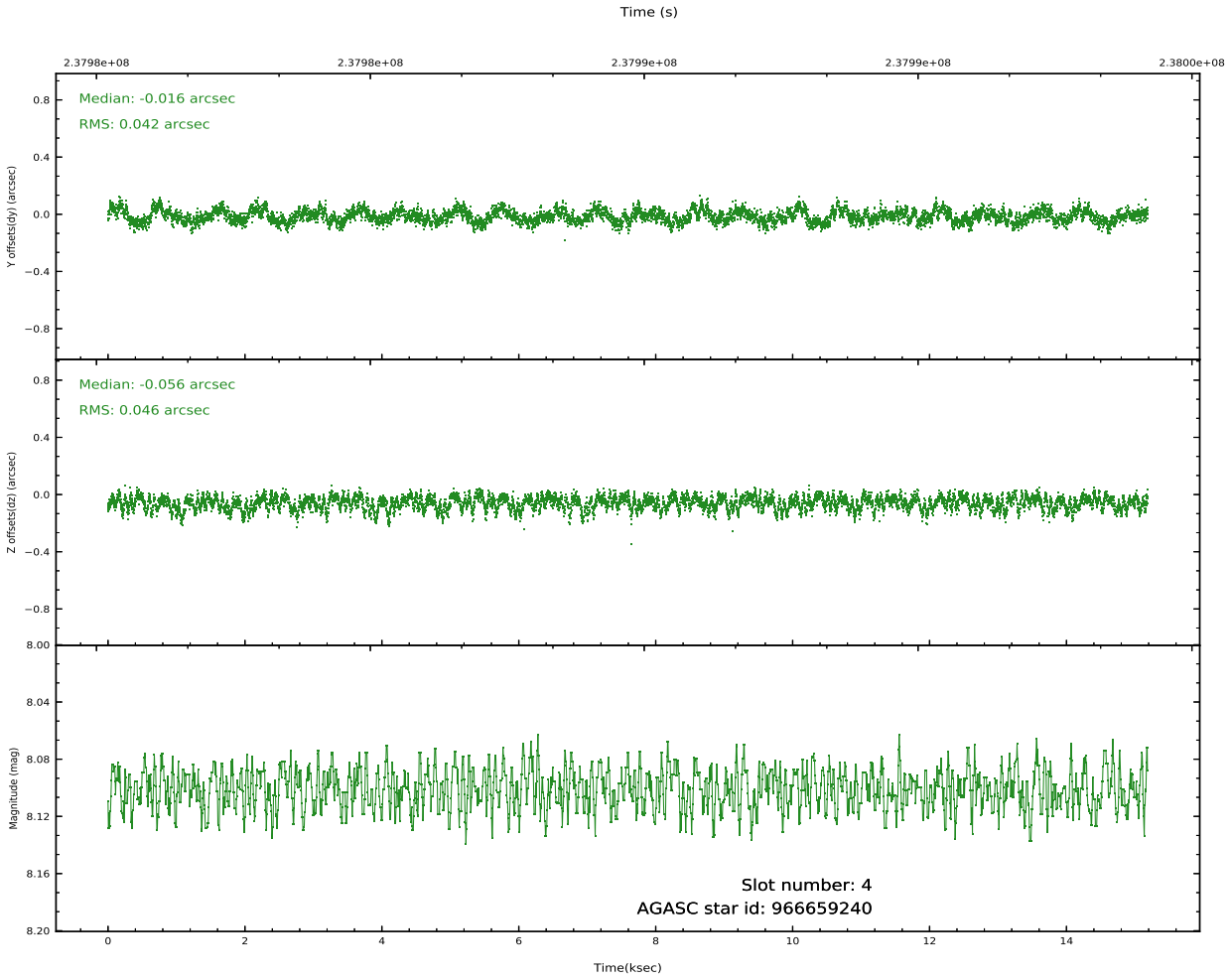




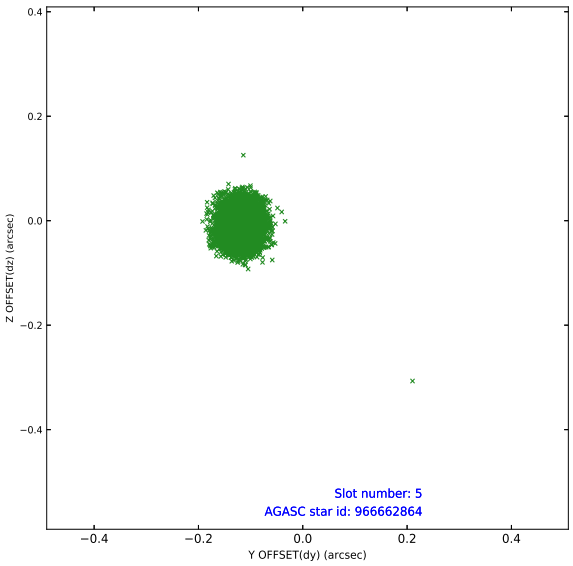
2.4.2 Slot 4

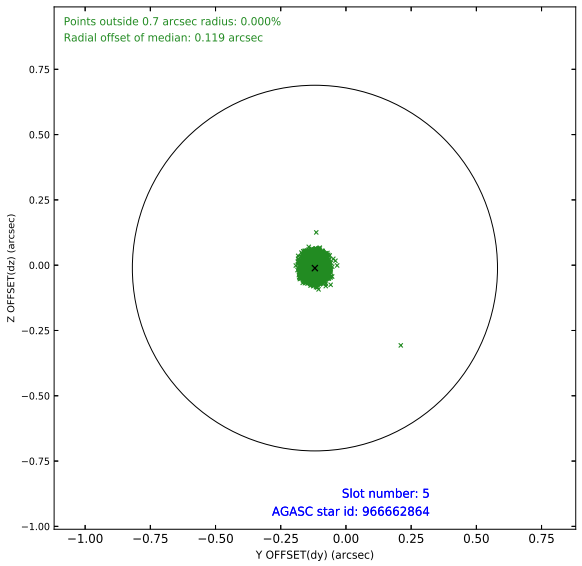

Slot number: 4
AGASC star id: 966659240
Y OFFSET(dy) (arcsec)
Z OFFSET(dz) (arcsec)

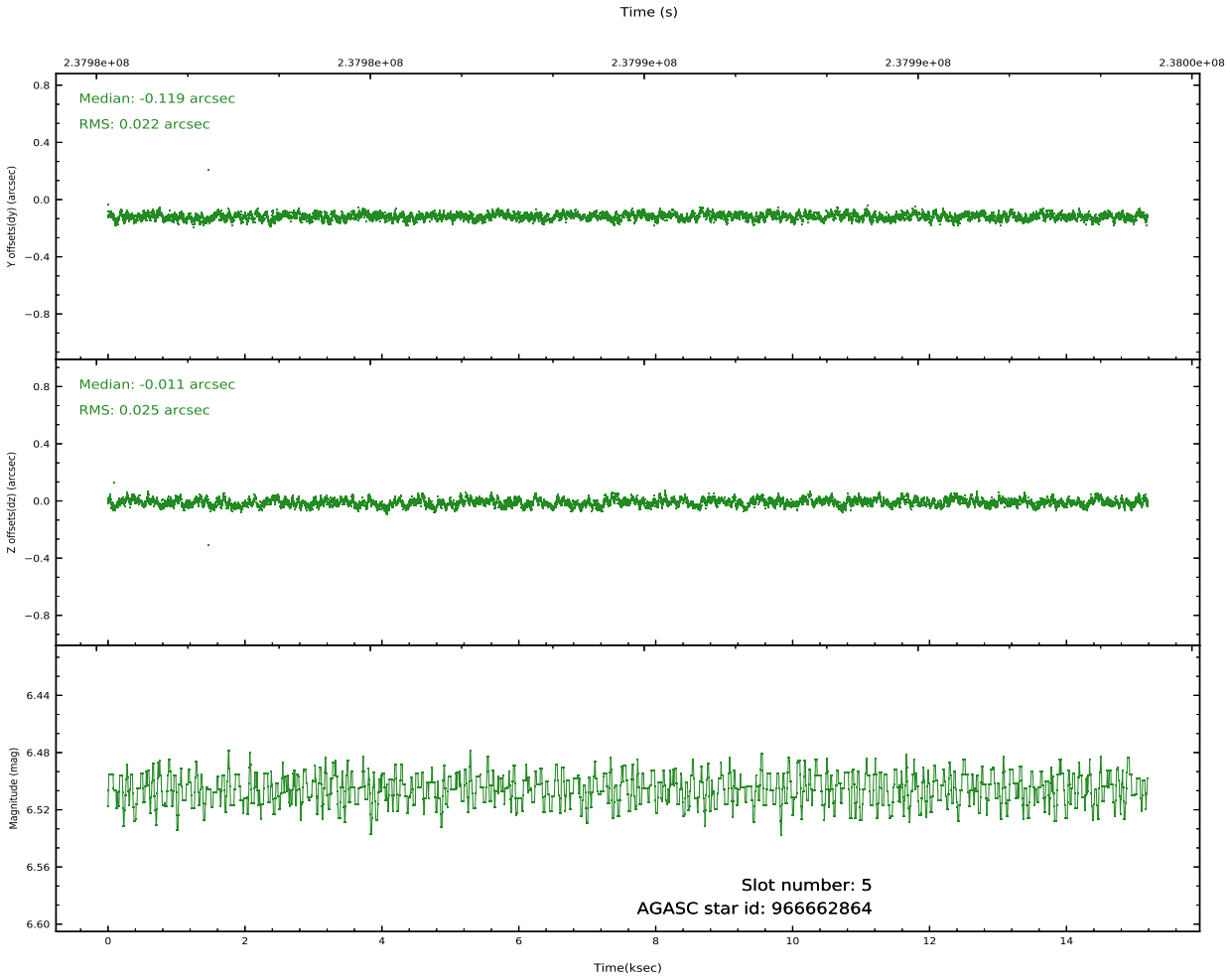

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.058 arcsec
Slot number: 4
AGASC star id: 966659240
Y OFFSET(dy) (arcsec)
Z OFFSET(dz) (arcsec)


Time (s)
Median: -0.016 arcsec
RMS: 0.042 arcsec
Y offsets(dy) (arcsec)
Median: -0.056 arcsec
RMS: 0.046 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 966659240
Time(ksec)

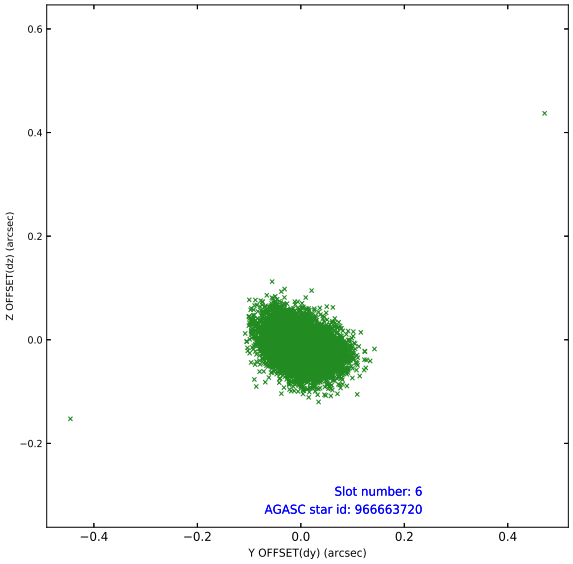
2.4.3 Slot 5

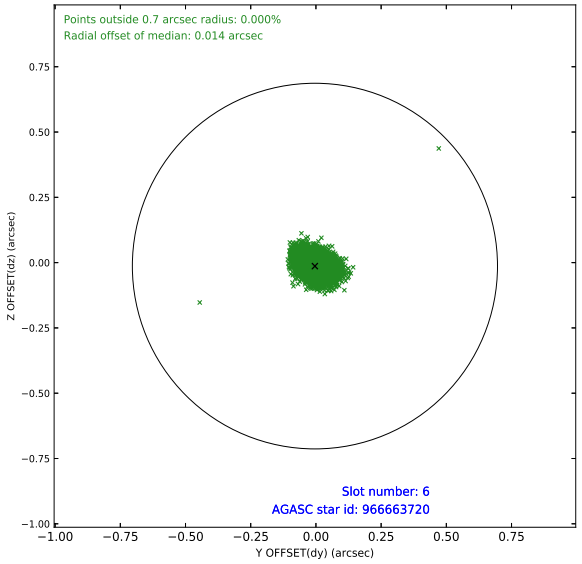

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 966662864

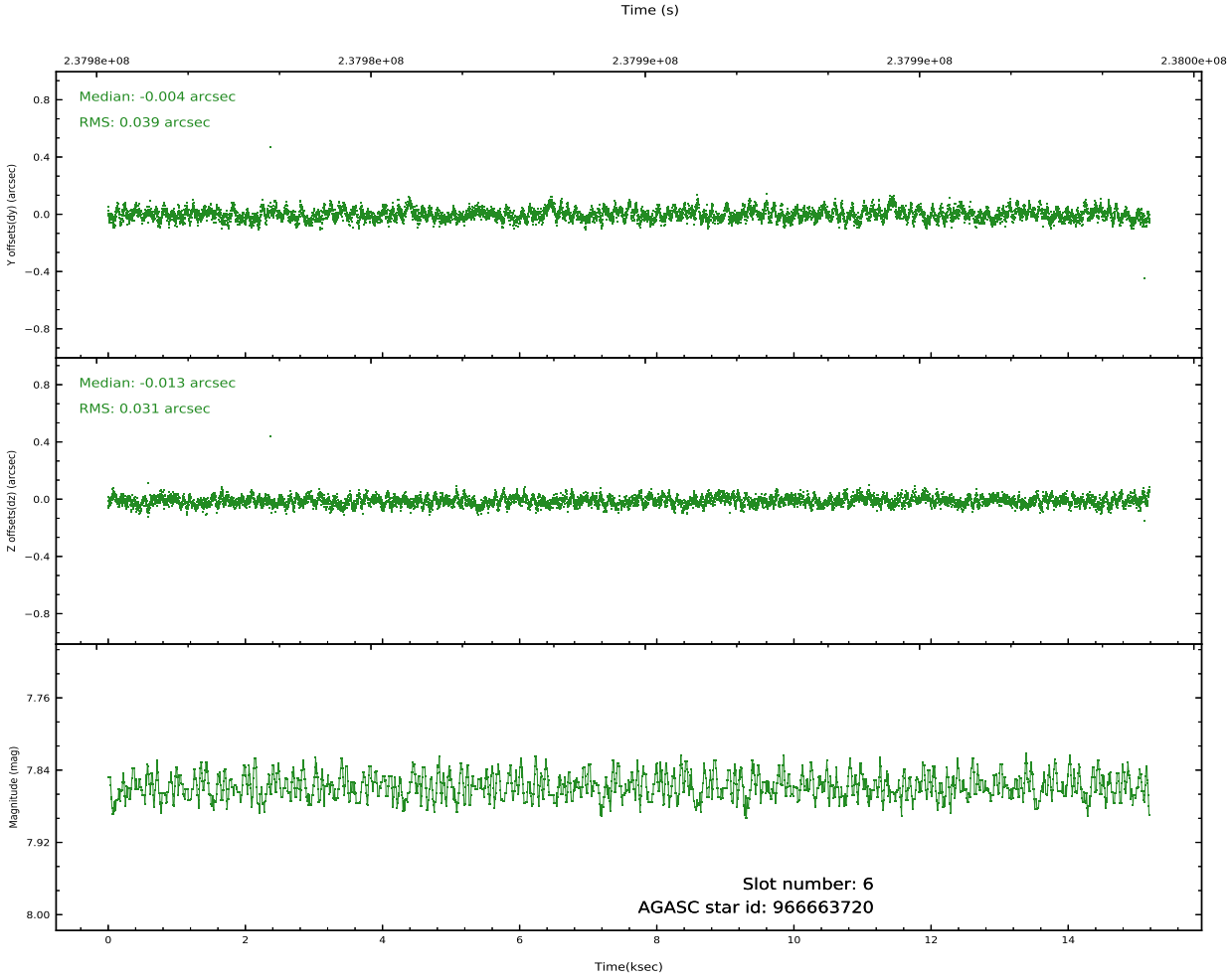

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.119 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 966662864


Time (s)
Median: -0.119 arcsec
RMS: 0.022 arcsec
Y offsets(dy) (arcsec)
Median: -0.011 arcsec
RMS: 0.025 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 966662864
Time(ksec)

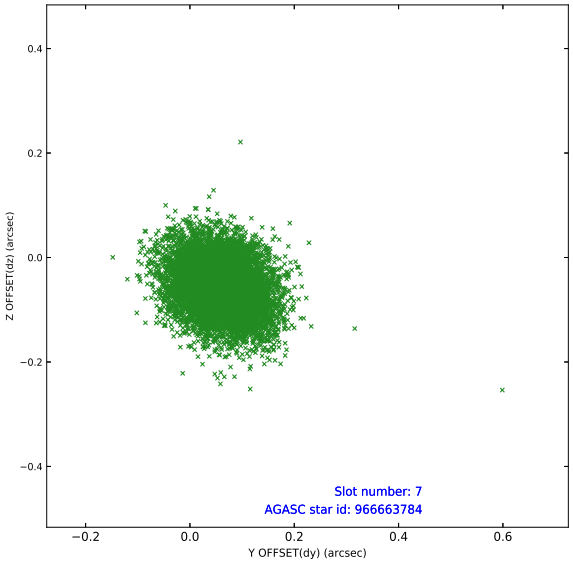
2.4.4 Slot 6

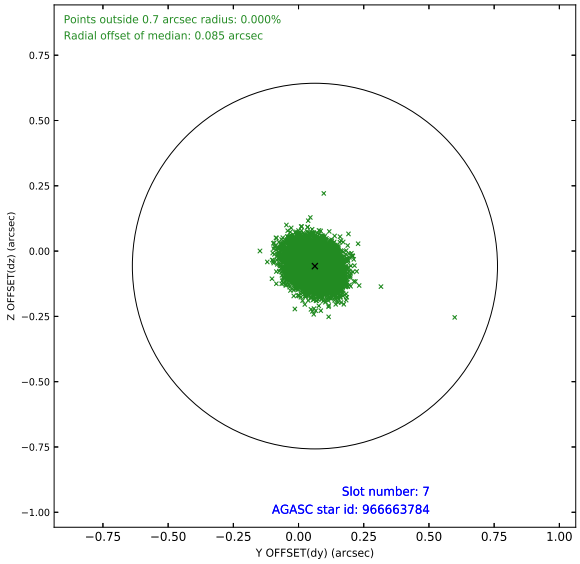

Slot number: 6
AGASC star id: 966663720
Y OFFSET(dy) (arcsec)
Z OFFSET(dz) (arcsec)

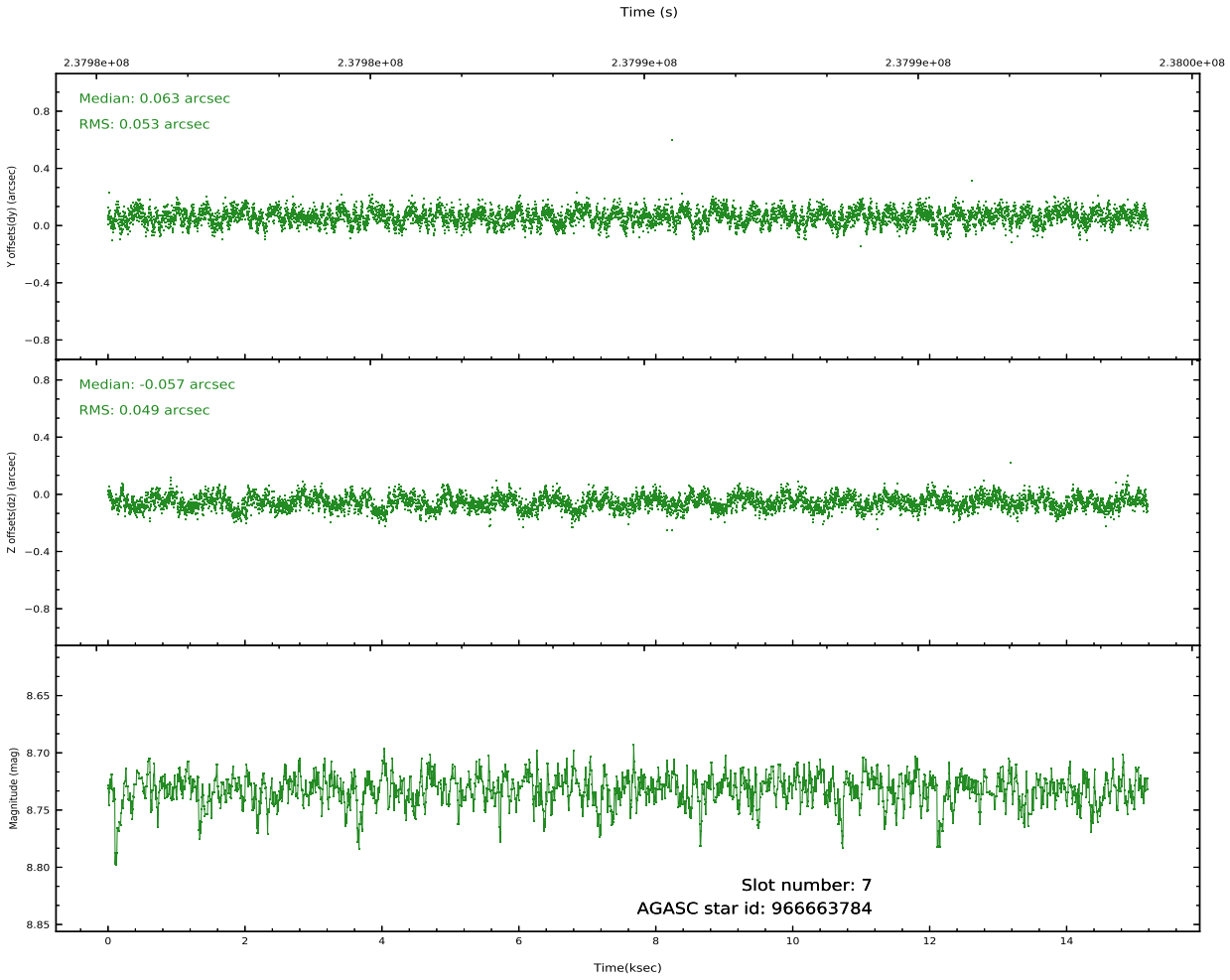

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.014 arcsec
Slot number: 6
AGASC star id: 966663720
Y OFFSET(dy) (arcsec)
Z OFFSET(dz) (arcsec)


Time (s)
Median: -0.004 arcsec
RMS: 0.039 arcsec
Y offsets(dy) (arcsec)
Median: -0.013 arcsec
RMS: 0.031 arcsec
Z offsets(dz) (arcsec)
Slot number: 6
AGASC star id: 966663720
Magnitude (mag)
Time(ksec)

2.4.5 Slot 7

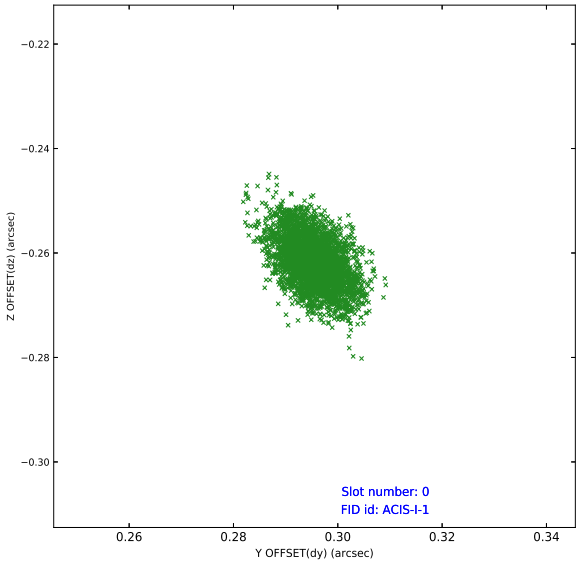

Slot number: 7
AGASC star id: 966663784
Y OFFSET(dy) (arcsec)
Z OFFSET(dz) (arcsec)

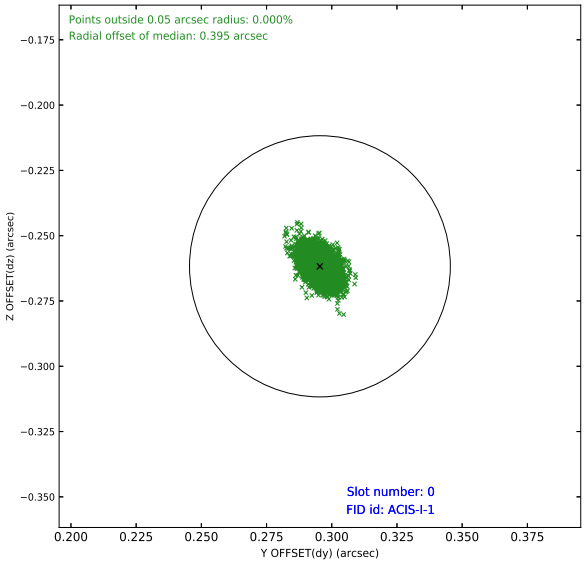

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.085 arcsec
Slot number: 7
AGASC star id: 966663784
Y OFFSET(dy) (arcsec)
Z OFFSET(dz) (arcsec)

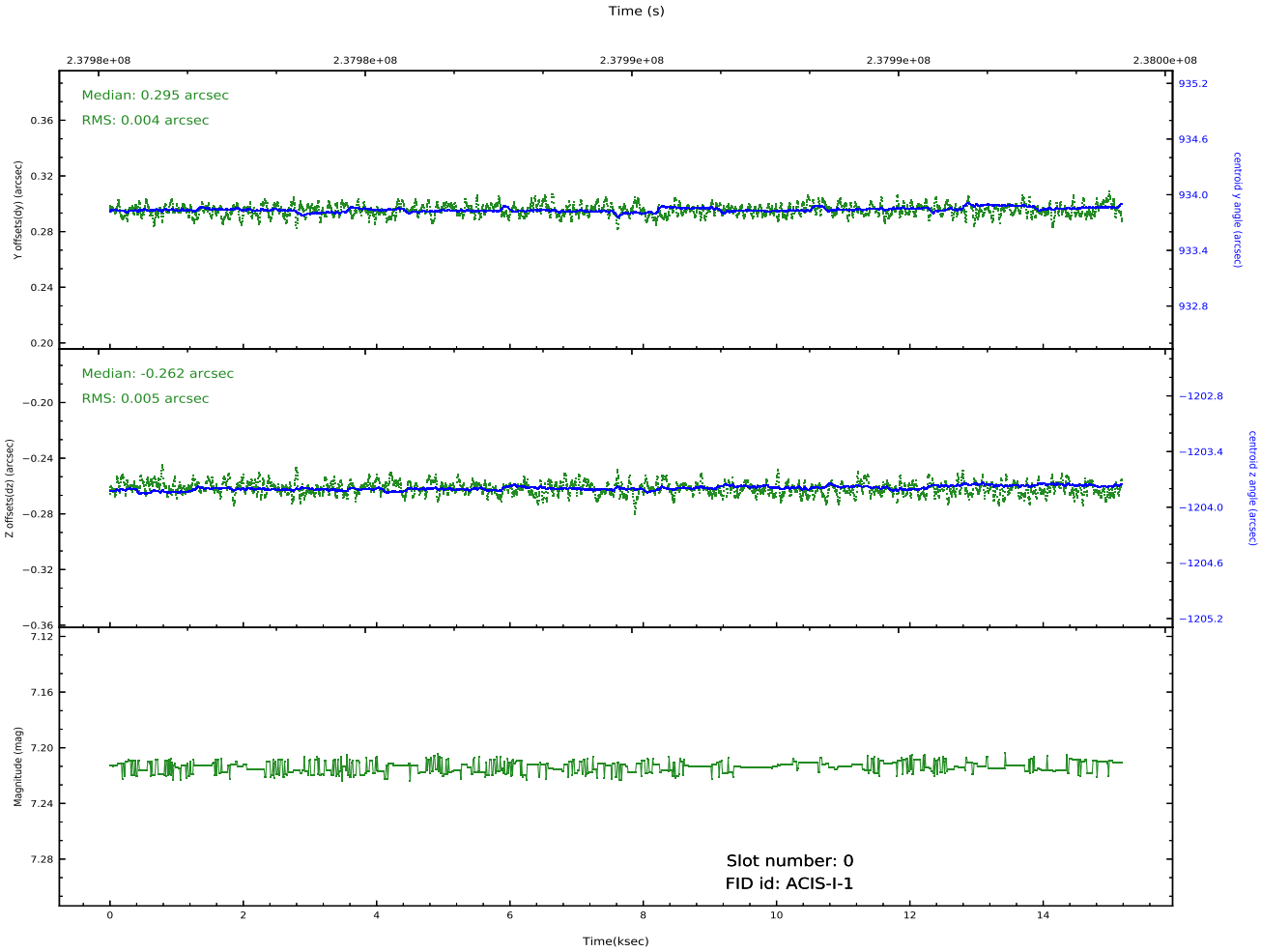

Time (s)
Median: 0.063 arcsec
RMS: 0.053 arcsec
Y offsets(dy) (arcsec)
Median: -0.057 arcsec
RMS: 0.049 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 966663784
Time(ksec)

2.5 FID Slots

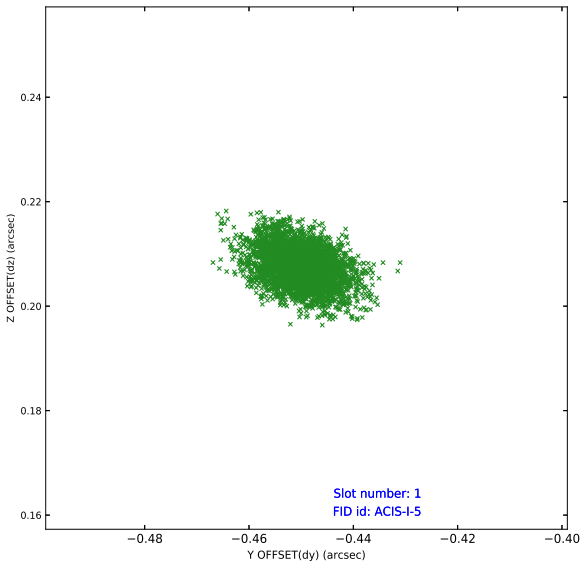
2.5.1 Slot 0

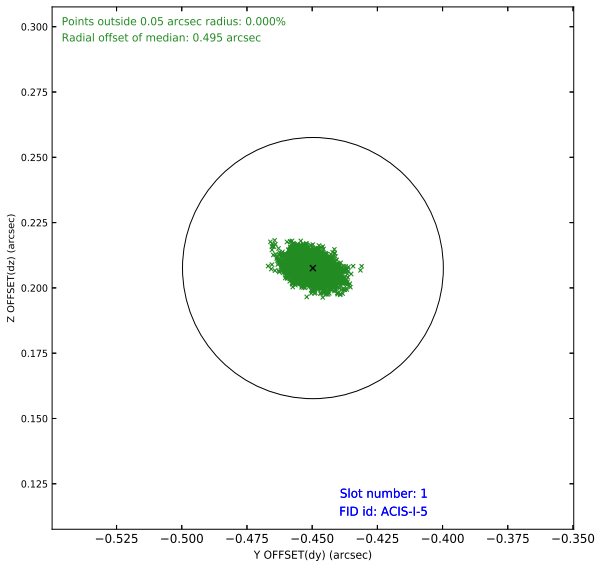


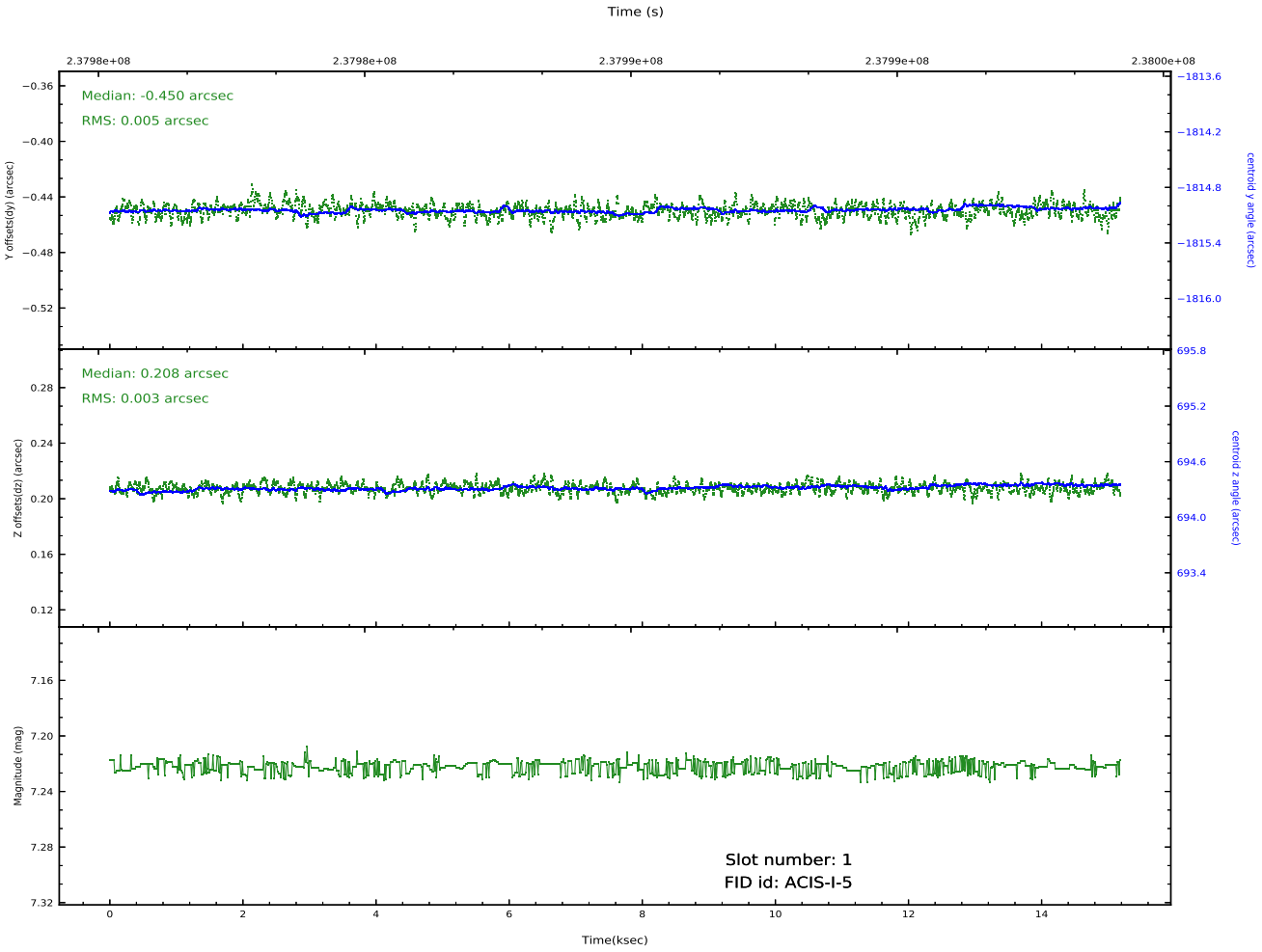




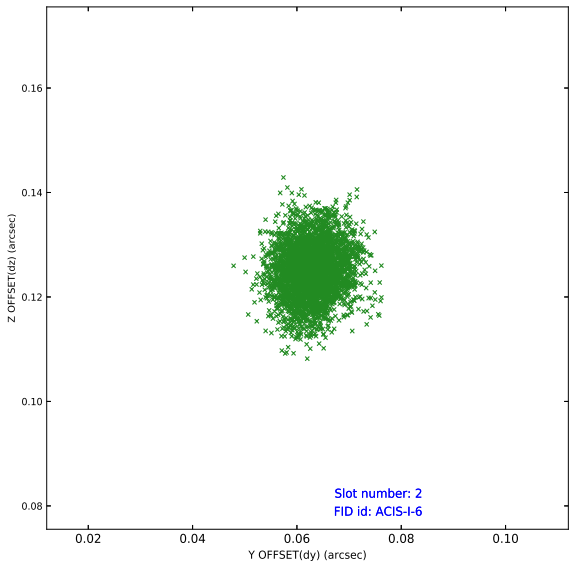
2.5.2 Slot 1

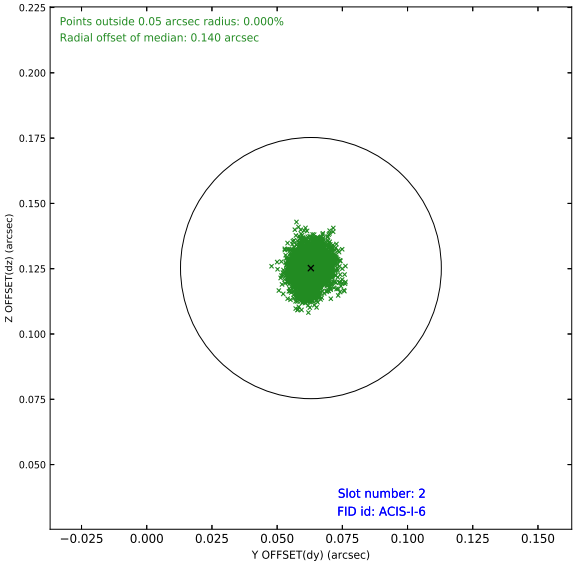

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS-I-5

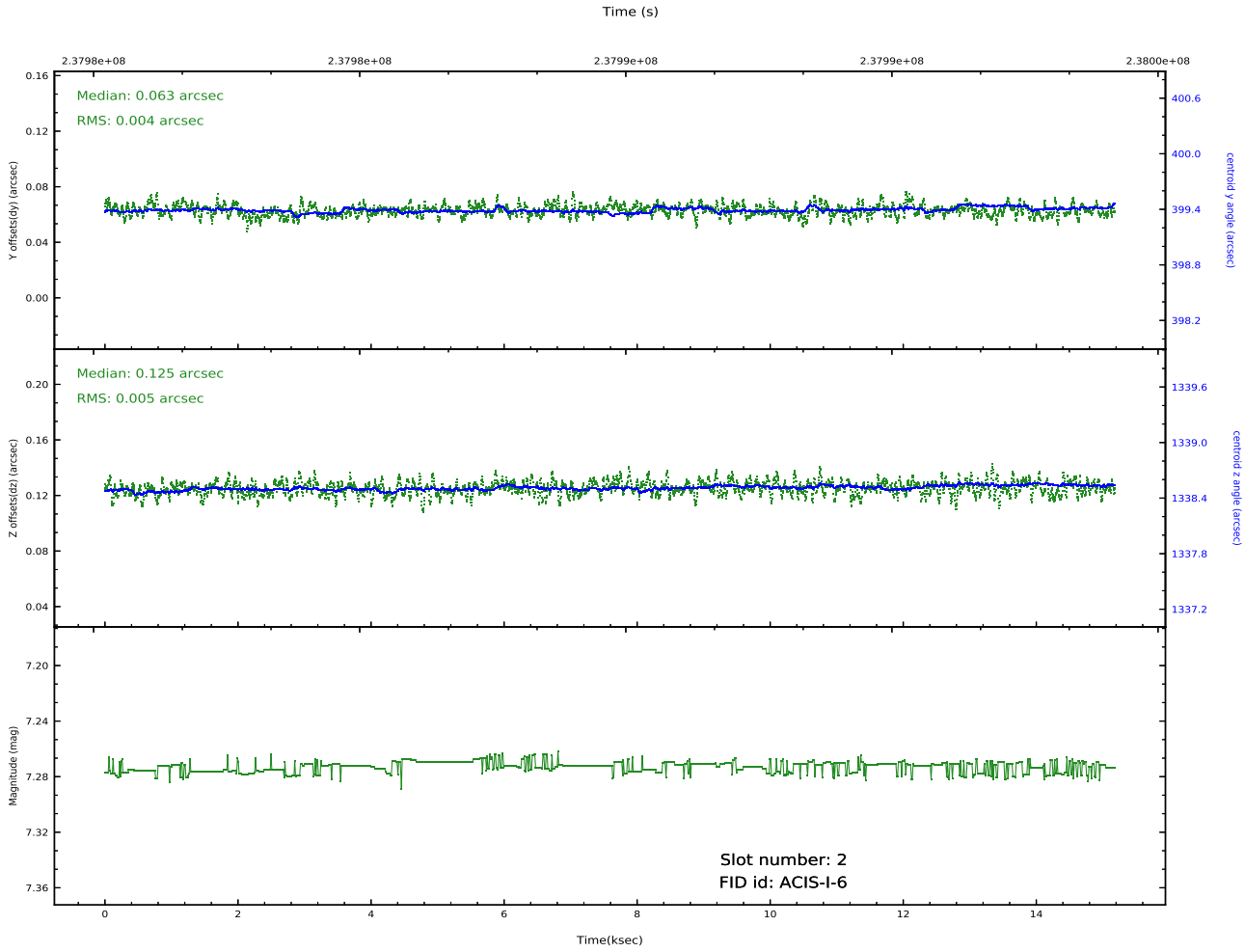

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.495 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS-I-5


Time (s)
Median: -0.450 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.208 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


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


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.140 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS-I-6


Time (s)
Median: 0.063 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.125 arcsec
RMS: 0.005 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)	2020.10.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	14.75519

A.2 Comments

```
This observation was performed with a large SIM offset, per PI request.
As a result, the fid light positions are offset beyond normally expected
ranges, but the fid light position correction has compensated for this
offset.
======
Source is piled up.
```