V&V Reference Report
L2 ASCDS Version : 8.5.1.1

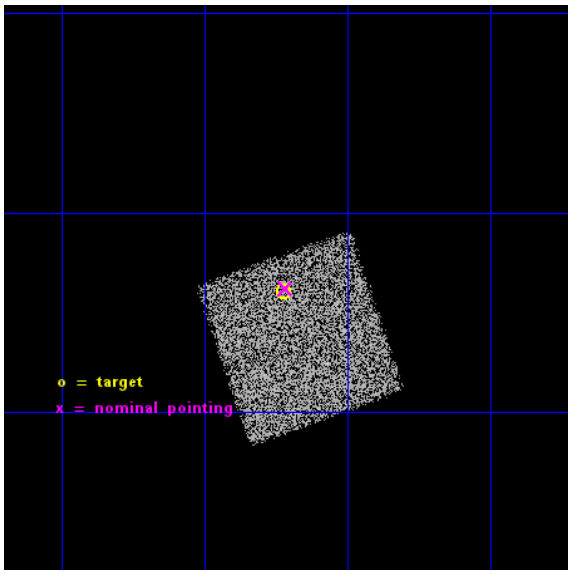
Observation 14645 - L2 Version 2
Chandra X-Ray Center

L2 Processing Date : Dec 1 2014

Contents

1 Front

seq_num	401478	Sequence number
obs_id	14645	Observation id
title	A snap-shot survey of Galatic neutron-star Be/X-ray transients in quiescence	Proposal title
observer	Dr. Rudy Wijnands	Principal investigator
object	XTE J1858+034	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	284.68125	Observer's specified target RA [deg]
dec_targ	3.434556	Observer's specified target Dec [deg]
ra_nom	284.67937505873	Nominal RA [deg]
dec_nom	3.4370019789416	Nominal Dec [deg]
roll_nom	70.654309992005	Nominal Roll [deg]
revision	2	Processing version of data
ontime	5091.0	Sum of GTIs [s]
livetime	5022.2950043406	Livetime [s]
ontime7	5091.0	Sum of GTIs [s]
l2events	16223	Number of level 2 events

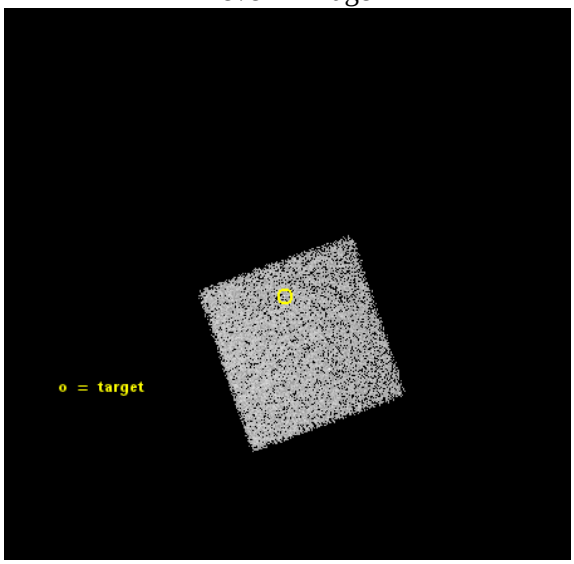


2 OBI

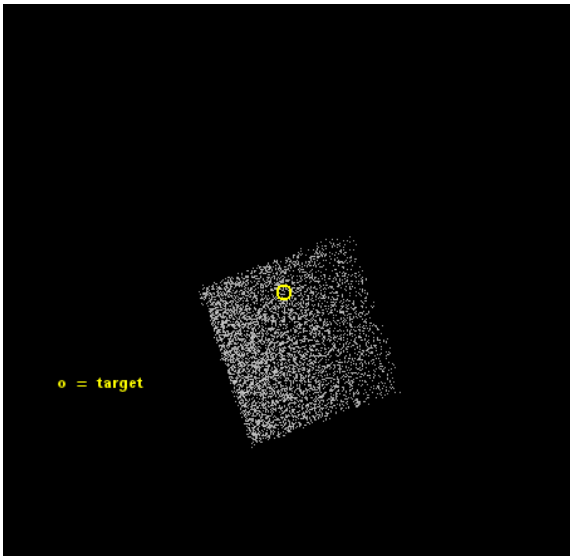
2.1 OBI

2.1.1 Images

Level 1 Image

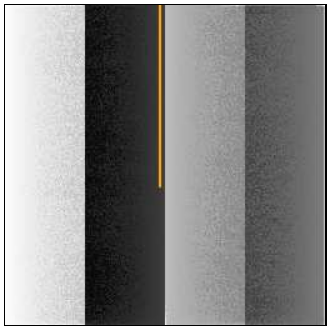


Level 1 Bad Events



2.1.2 Bias

Chip 7



2.1.3 Parameters

obi_num	0	Obi number
ascdsver	10.3	Processing system revision
caldbver	4.6.4	
date	2014-12-01T18:29:31	Date and time of file creation
revision	2	Processing version of data

sched_exp_time	5000.000000	[s] Scheduled observation exposure time
ontime	5091.0	Sum of GTIs [s]
ontime7	5091.0	Sum of GTIs [s]
l1events	36857	Number of level 1 events

2.1.4 Events

	ccd 7
level 1 events	36857
rejected events	20213
rejected %	54%

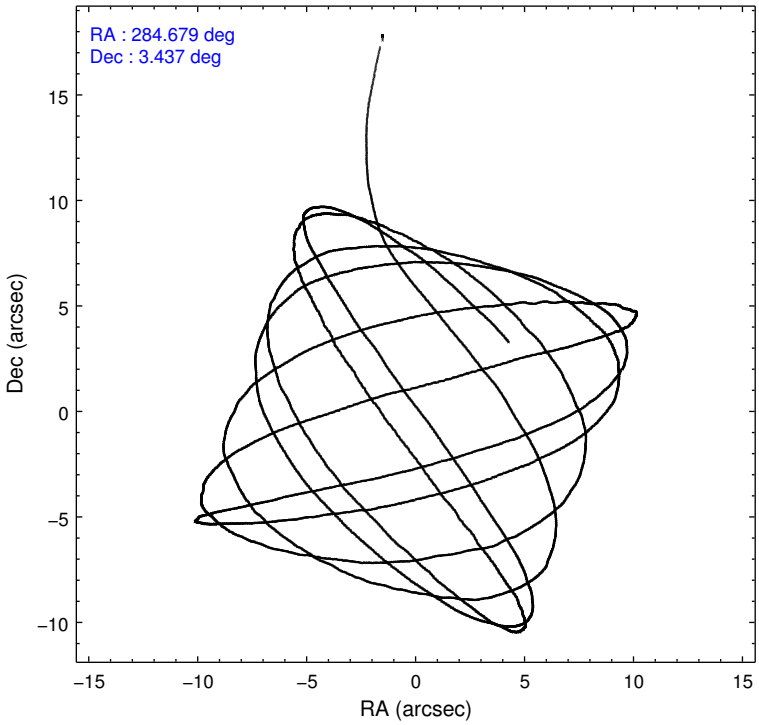
	ccd 7
grade 0 events	1526
	4%
grade 1 events	46
	0%
grade 2 events	3429
	9%
grade 3 events	1470
	3%
grade 4 events	1453
	3%
grade 5 events	3876
	10%
grade 6 events	8780
	23%
grade 7 events	16277
	44%

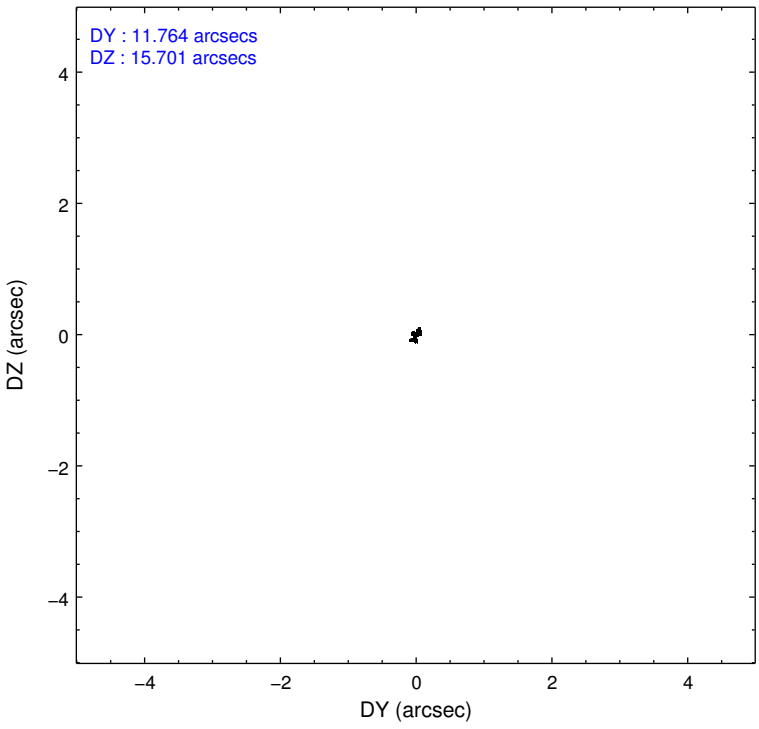
2.2 Compared Parameters

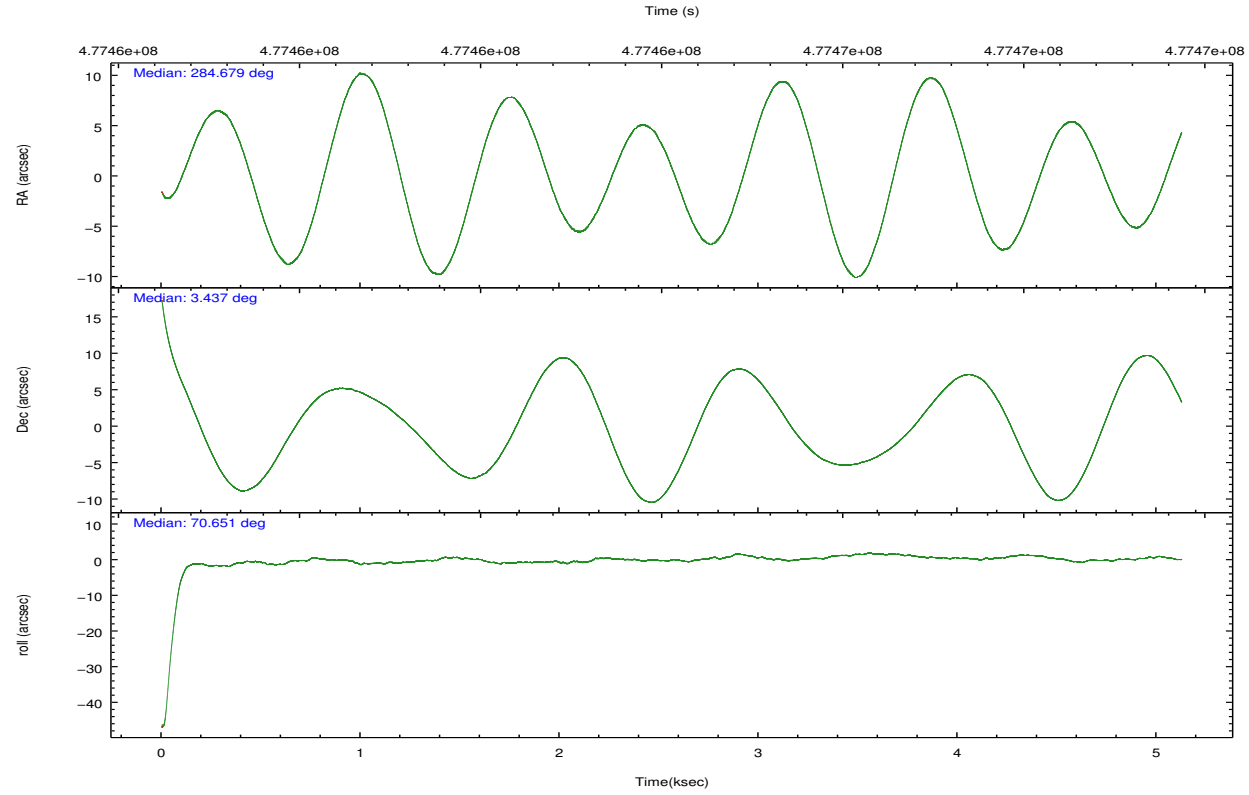
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-7	ACIS-7
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
[deg] Pointing RA	284.684809	284.6793750587339
[deg] Pointing Dec	3.410138	3.437001978941552
[deg] Pointing Roll	70.497486	70.65430999200525
[mm] SIM focus pos	-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)	477462626.184000	477461195.46121
Observation start date	2013-02-17T04:29:19	2013-02-17T04:06:35
[s] Observation end time (MET)	477467626.184000	477468270.52409
Observation end date	2013-02-17T05:52:39	2013-02-17T06:04:30
Read mode	TIMED	TIMED

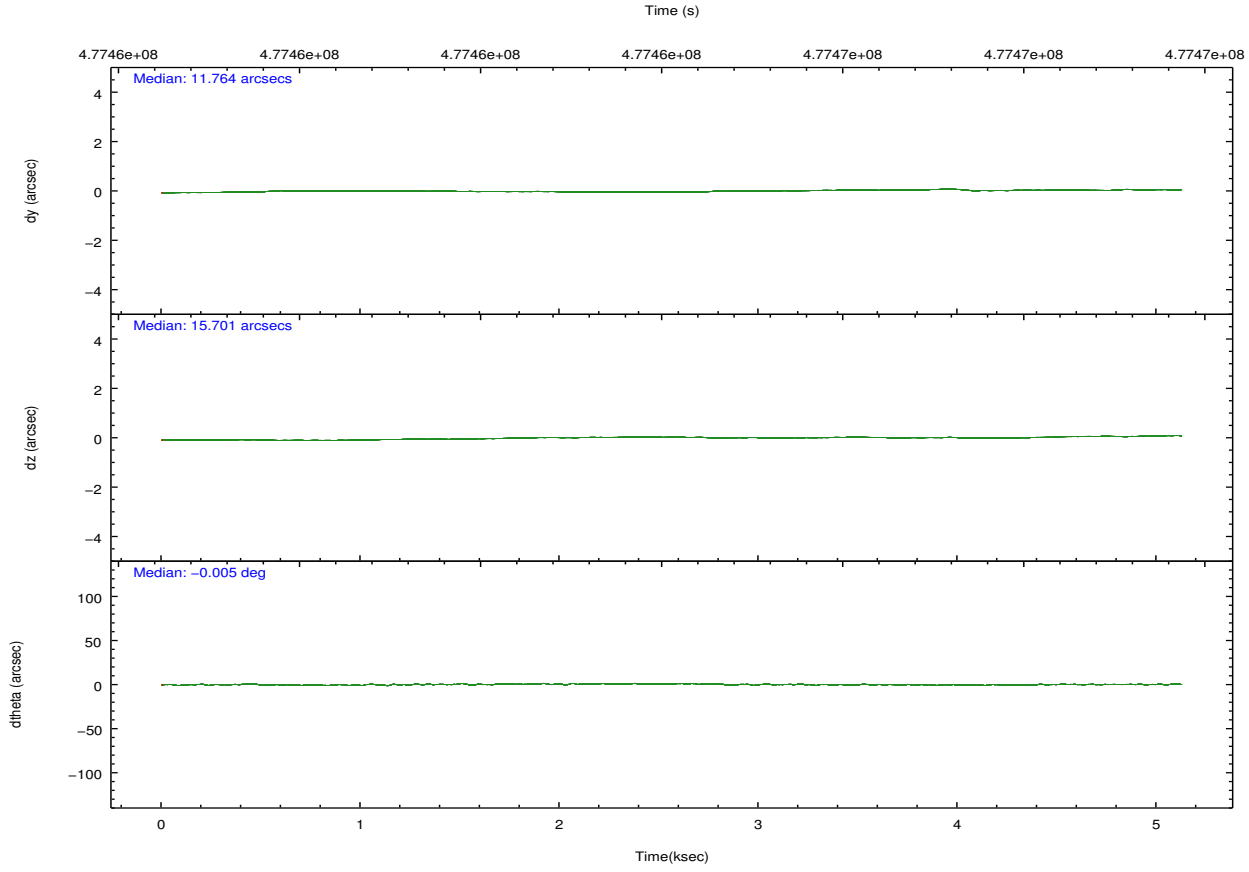
Parameter	Planned	Actual
Obspar format version number	7	7
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
[s] Primary exposure time	0.000000	3

2.3 Aspect


RA : 284.679 deg
Dec : 3.437 deg
Dec (arcsec)
RA (arcsec)
15
10
5
0
−5
−10
−15
−10
−5
0
5
10
15


DY : 11.764 arcsecs
DZ : 15.701 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
4.7746e+08
4.7746e+08
4.7746e+08
4.7746e+08
4.7747e+08
4.7747e+08
4.7747e+08
Median: 284.679 deg
RA (arcsec)
Median: 3.437 deg
Dec (arcsec)
Median: 70.651 deg
roll (arcsec)
Time(ksec)

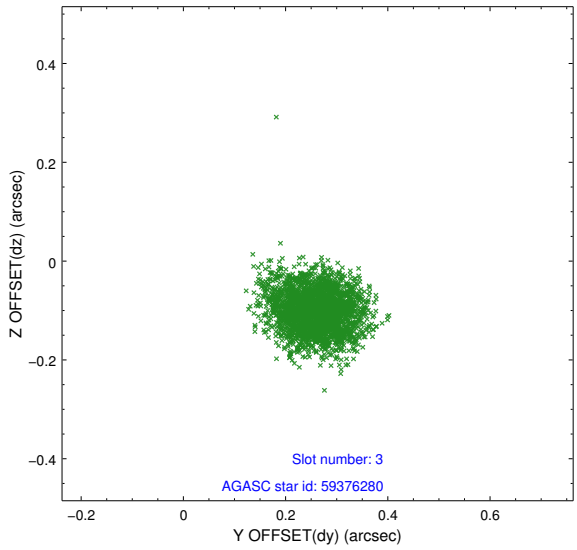

Time (s)
4.7746e+08
4.7746e+08
4.7746e+08
4.7746e+08
4.7747e+08
4.7747e+08
4.7747e+08
Median: 11.764 arcsecs
dy (arcsec)
Median: 15.701 arcsecs
dz (arcsec)
Median: −0.005 deg
dtheta (arcsec)
Time(ksec)

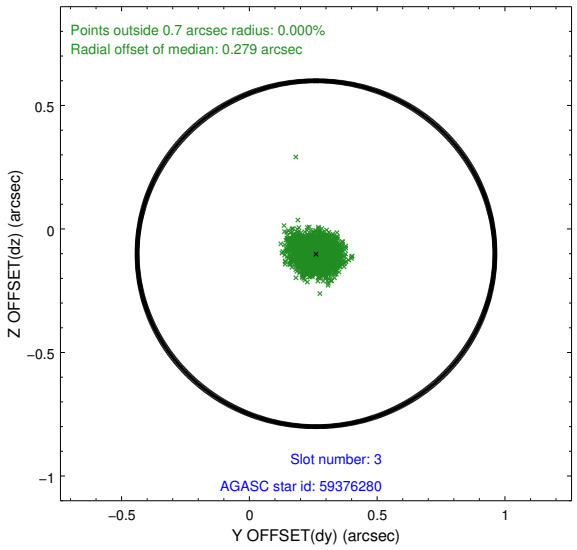
Slot Statistics

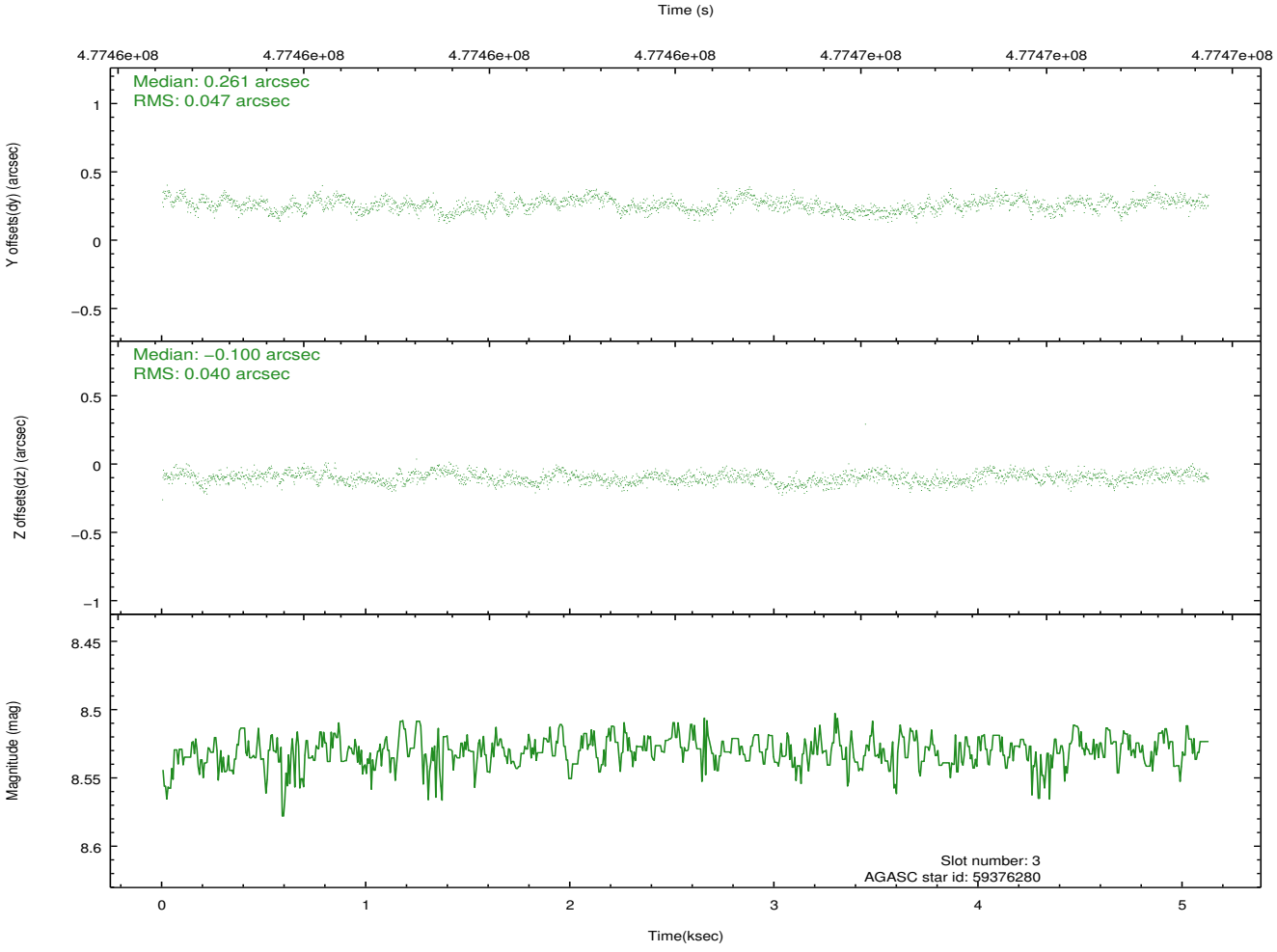
slot	status	used	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID		ACIS-S-2	6.96	1251	-0.063	-0.015	0.007	0.010	0.000000	0.000000	-764.69	-1737.05
1	FID		ACIS-S-4	7.05	1251	0.175	0.035	0.006	0.010	0.000000	0.000000	2148.27	170.28
2	FID		ACIS-S-5	7.08	1250	-0.143	-0.011	0.006	0.011	0.000000	0.000000	-1816.11	165.21
3	GUIDE	used	59376280	8.53	2500	0.261	-0.100	0.066	0.105	284.162299	3.109625	-1646.63	1409.45
4	GUIDE	used	59903192	8.24	2501	-0.332	-0.165	0.060	0.097	284.436439	3.775232	940.05	1280.39
5	GUIDE	used	61090648	7.70	2501	0.309	0.315	0.062	0.095	285.057707	2.950317	-1111.89	-1815.47
6	GUIDE	used	59902928	9.22	2501	0.041	-0.126	0.090	0.154	284.846978	4.034772	2313.42	201.25
7	GUIDE	used	61607824	8.61	2500	-0.279	0.070	0.083	0.135	285.051841	3.978815	2370.70	-558.62

2.4 Star Slots

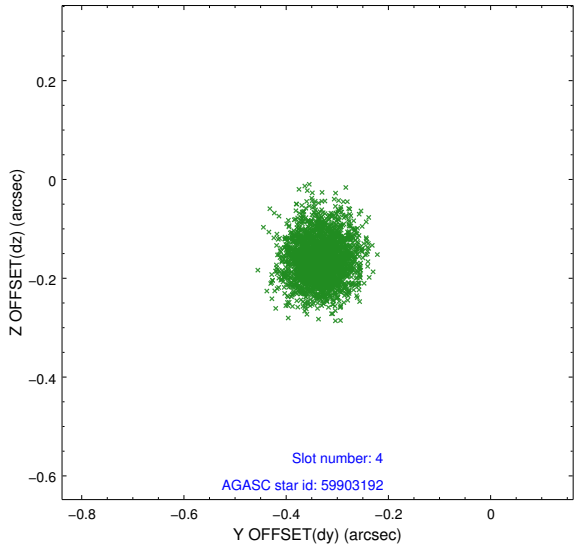
2.4.1 Slot 3

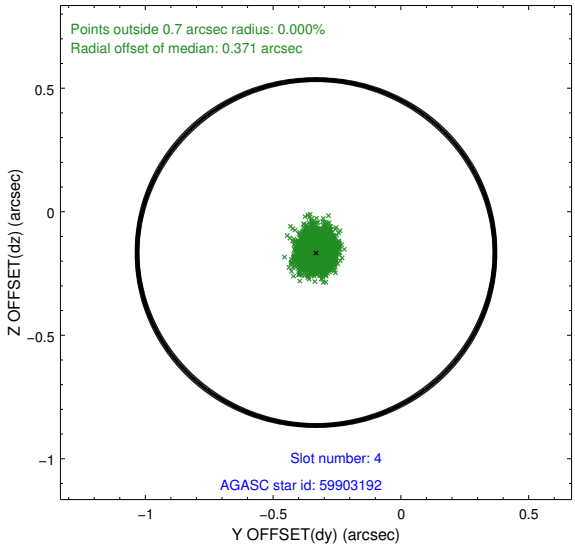


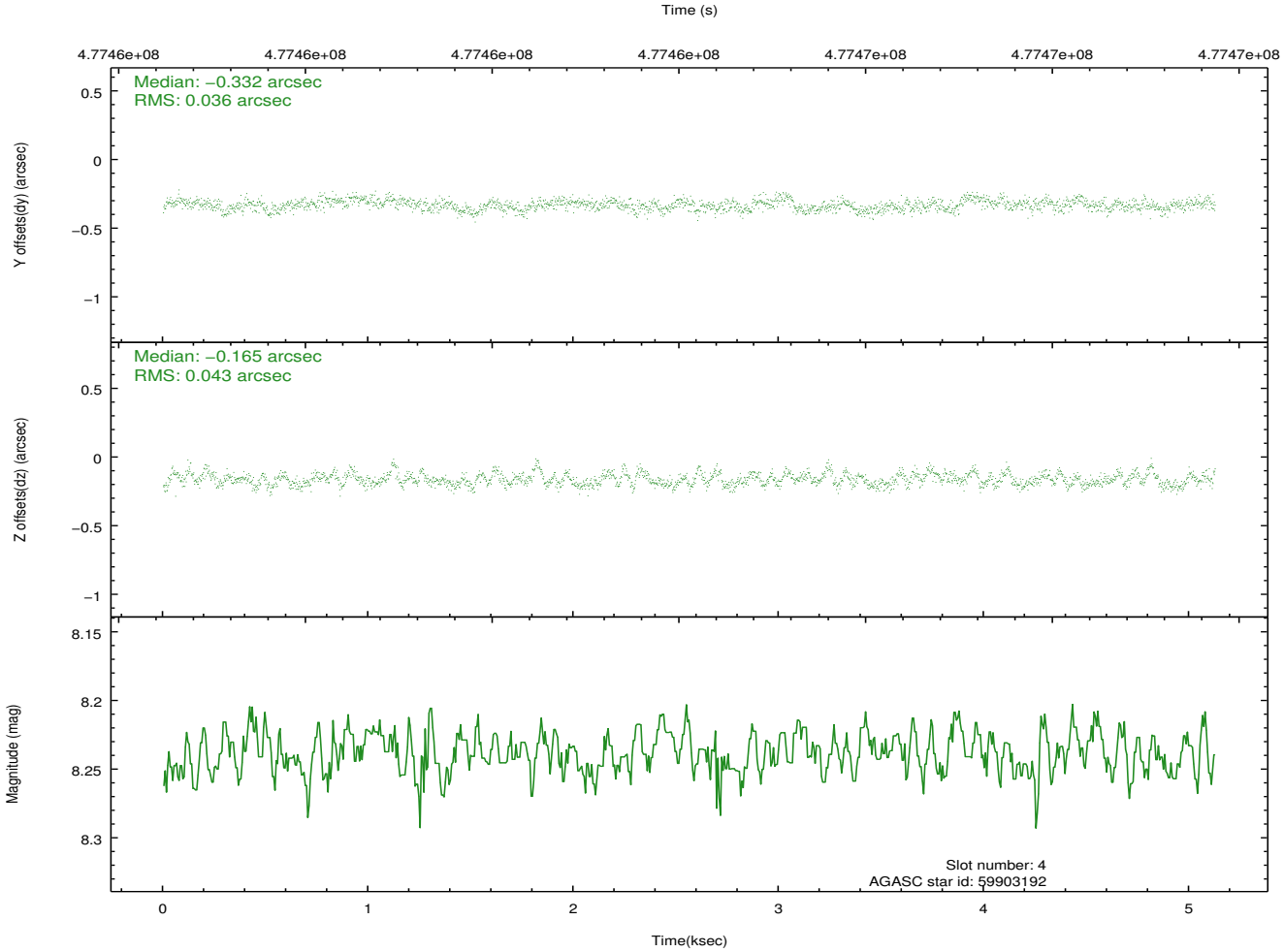




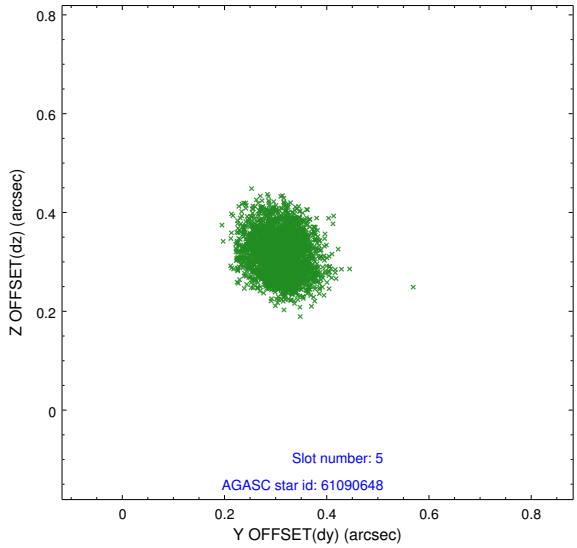
2.4.2 Slot 4

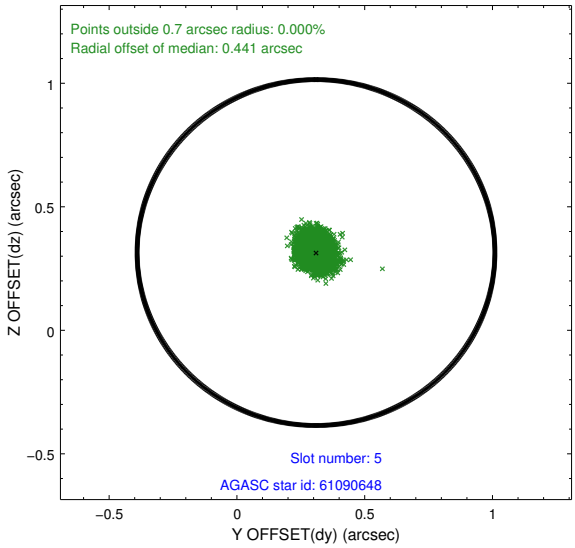

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 59903192

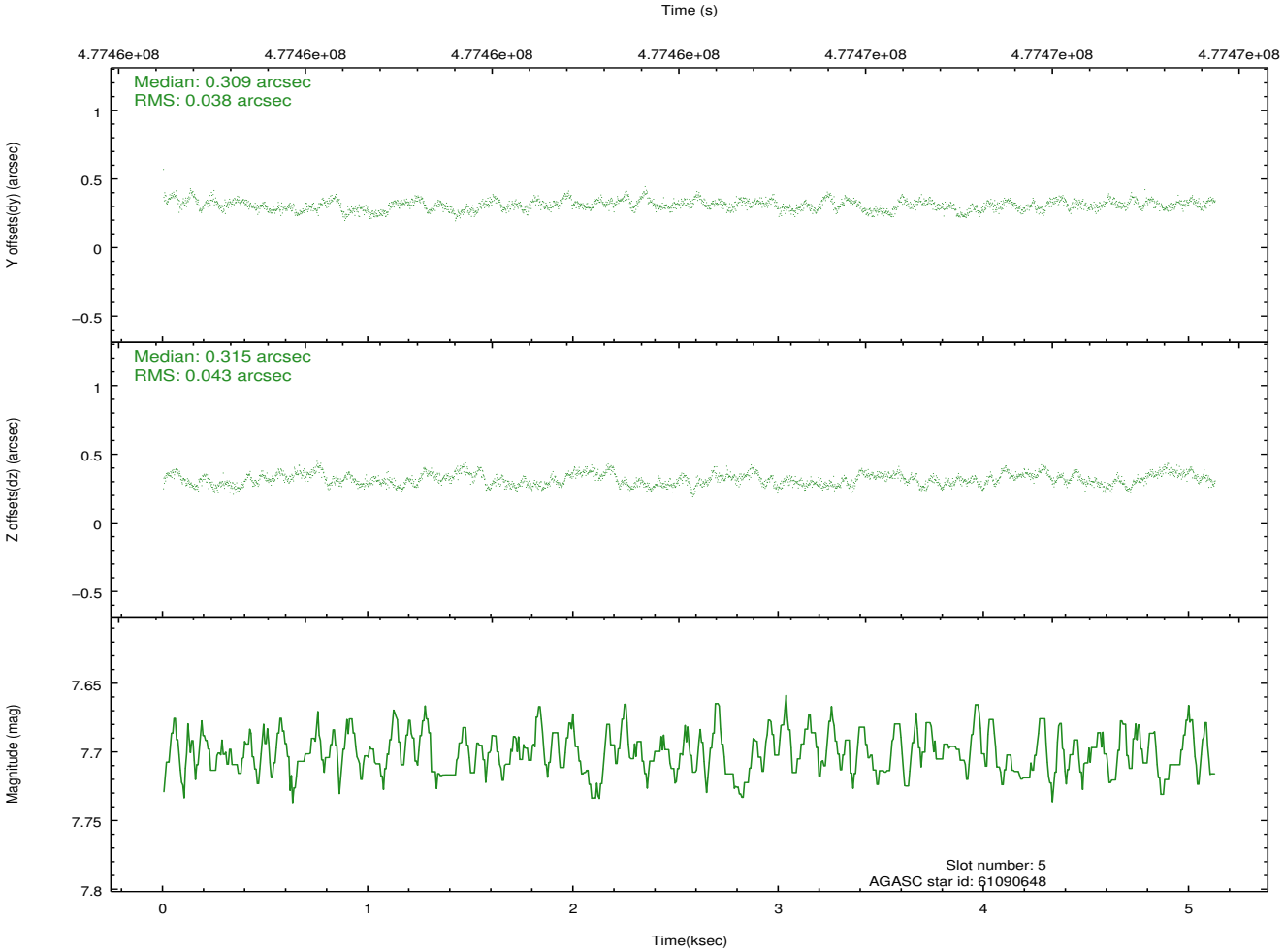

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.371 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 59903192


Time (s)
Median: −0.332 arcsec
RMS: 0.036 arcsec
Y offsets(dy) (arcsec)
Median: −0.165 arcsec
RMS: 0.043 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 59903192
Time(ksec)

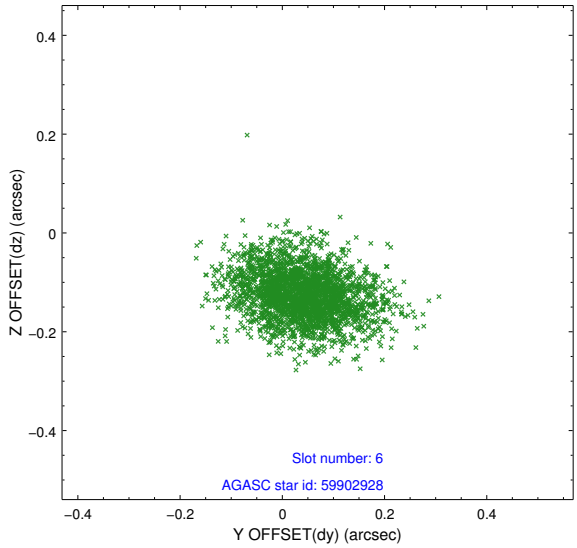
2.4.3 Slot 5

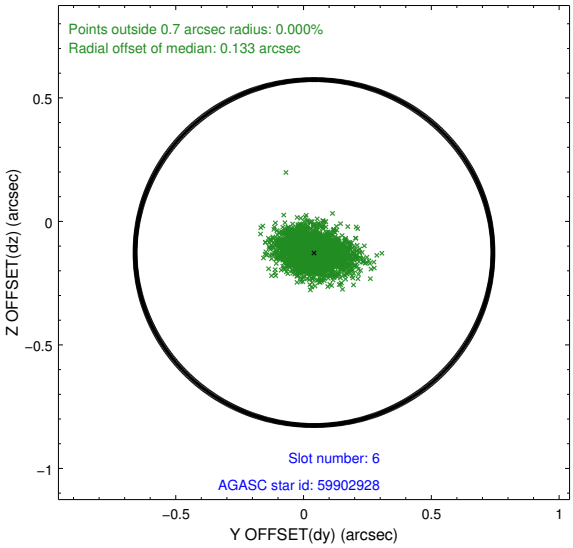

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 61090648

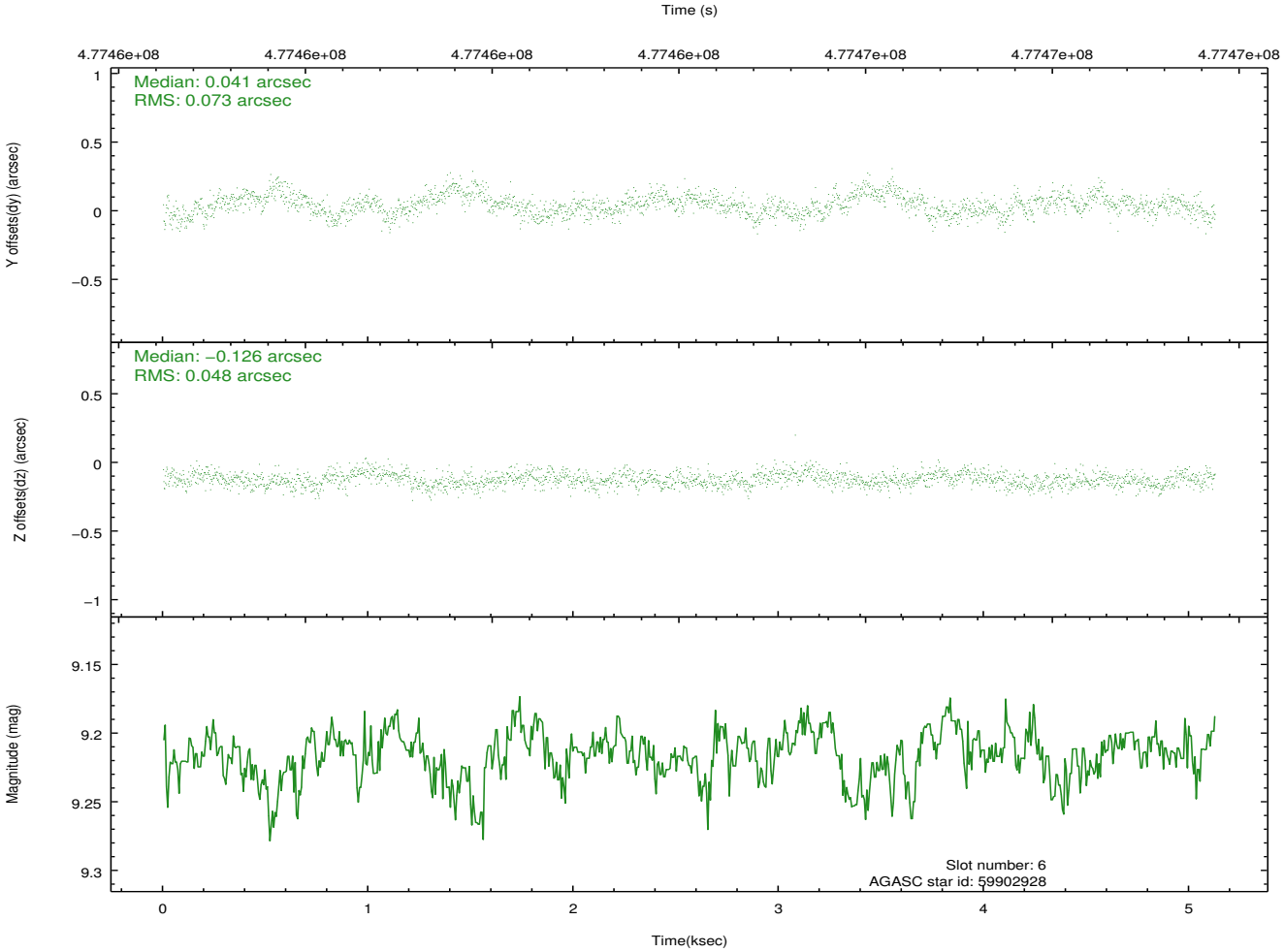

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.441 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 61090648


Time (s)
Median: 0.309 arcsec
RMS: 0.038 arcsec
Y offsets(dy) (arcsec)
Median: 0.315 arcsec
RMS: 0.043 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 61090648
Time(ksec)

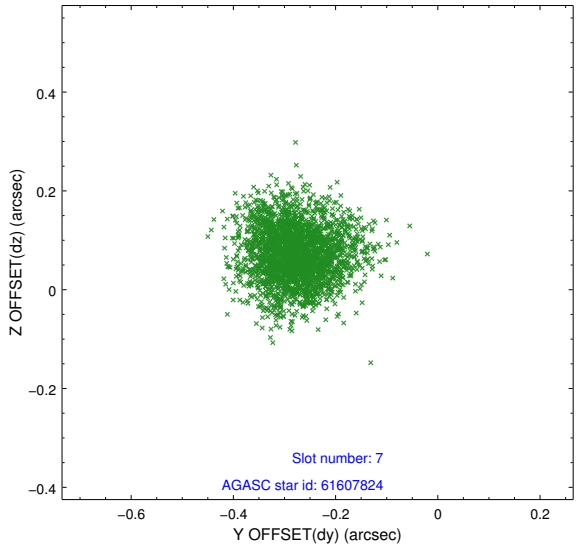
2.4.4 Slot 6

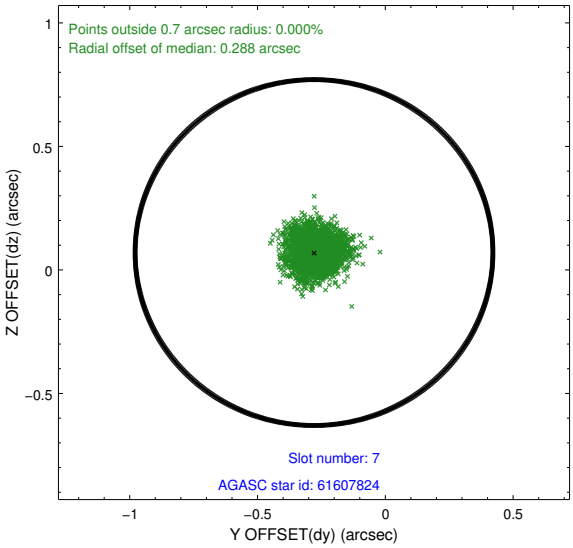

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 59902928

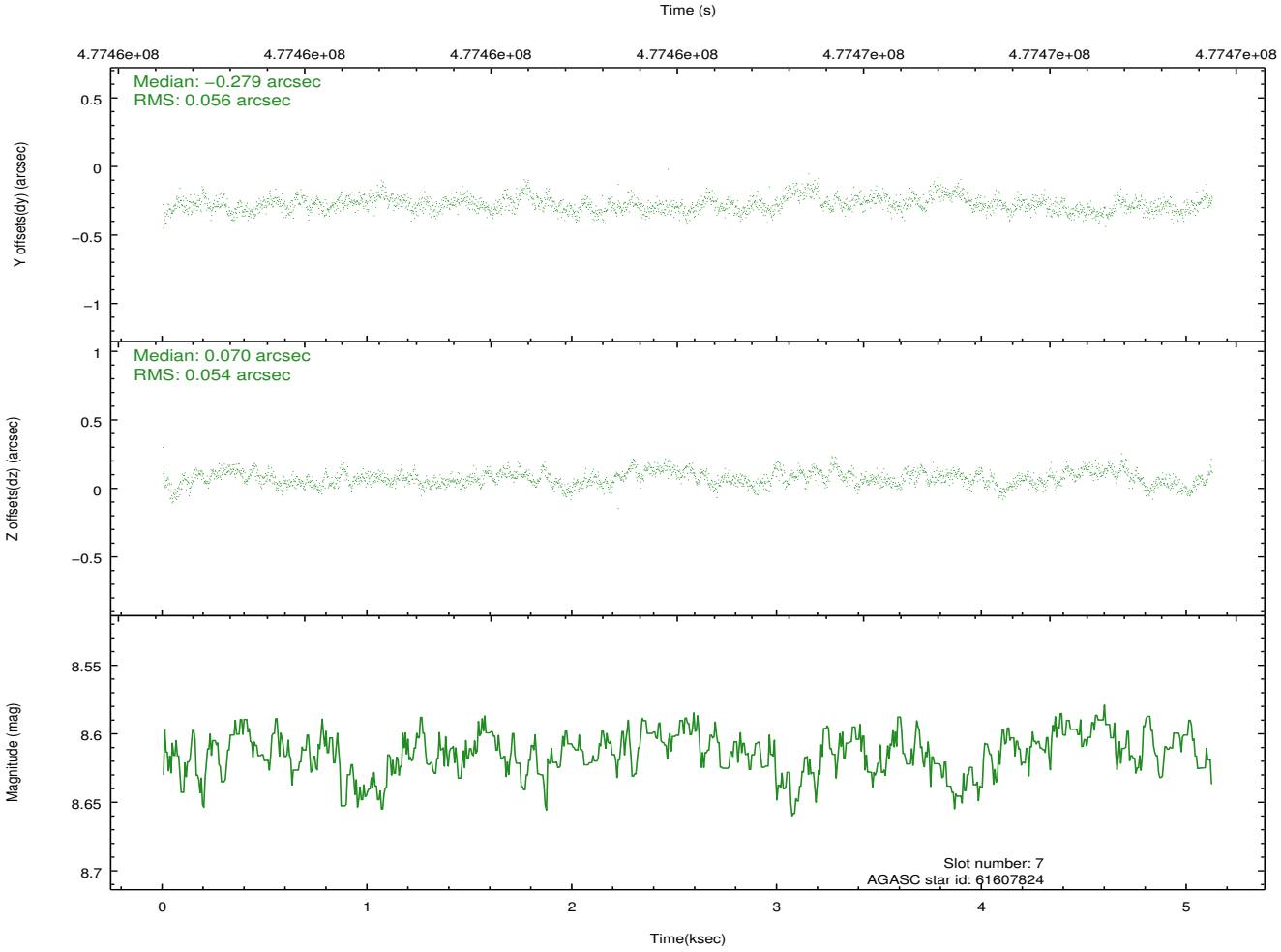

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.133 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 59902928


Time (s)
Median: 0.041 arcsec
RMS: 0.073 arcsec
Y offsets(dy) (arcsec)
Median: −0.126 arcsec
RMS: 0.048 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 59902928
Time(ksec)

2.4.5 Slot 7

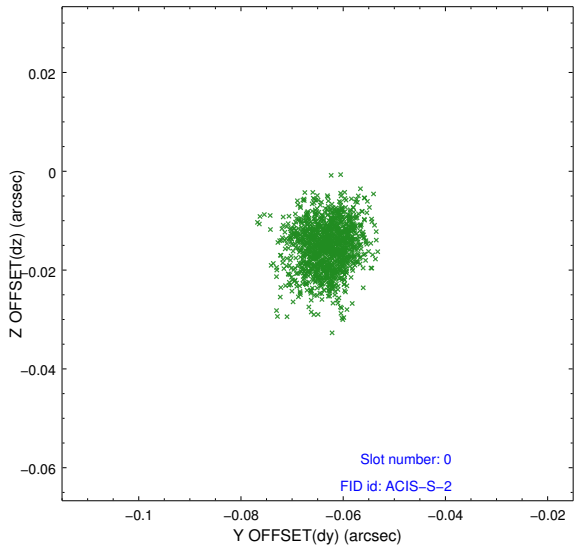

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 61607824

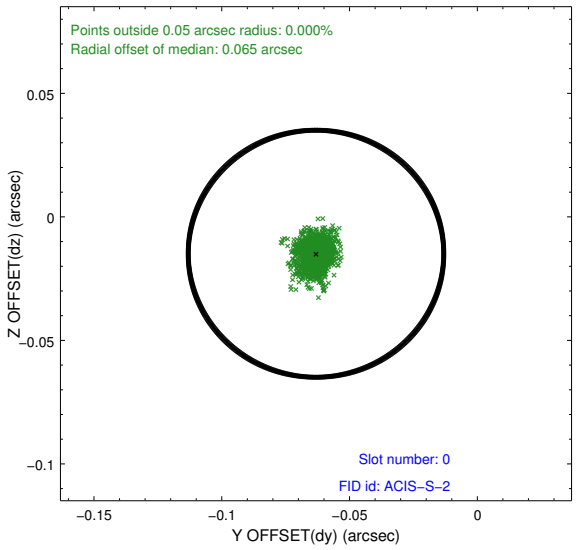

Points outside 0.7 arcsec radius: 0.000%
Radial offset of median: 0.288 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 7
AGASC star id: 61607824

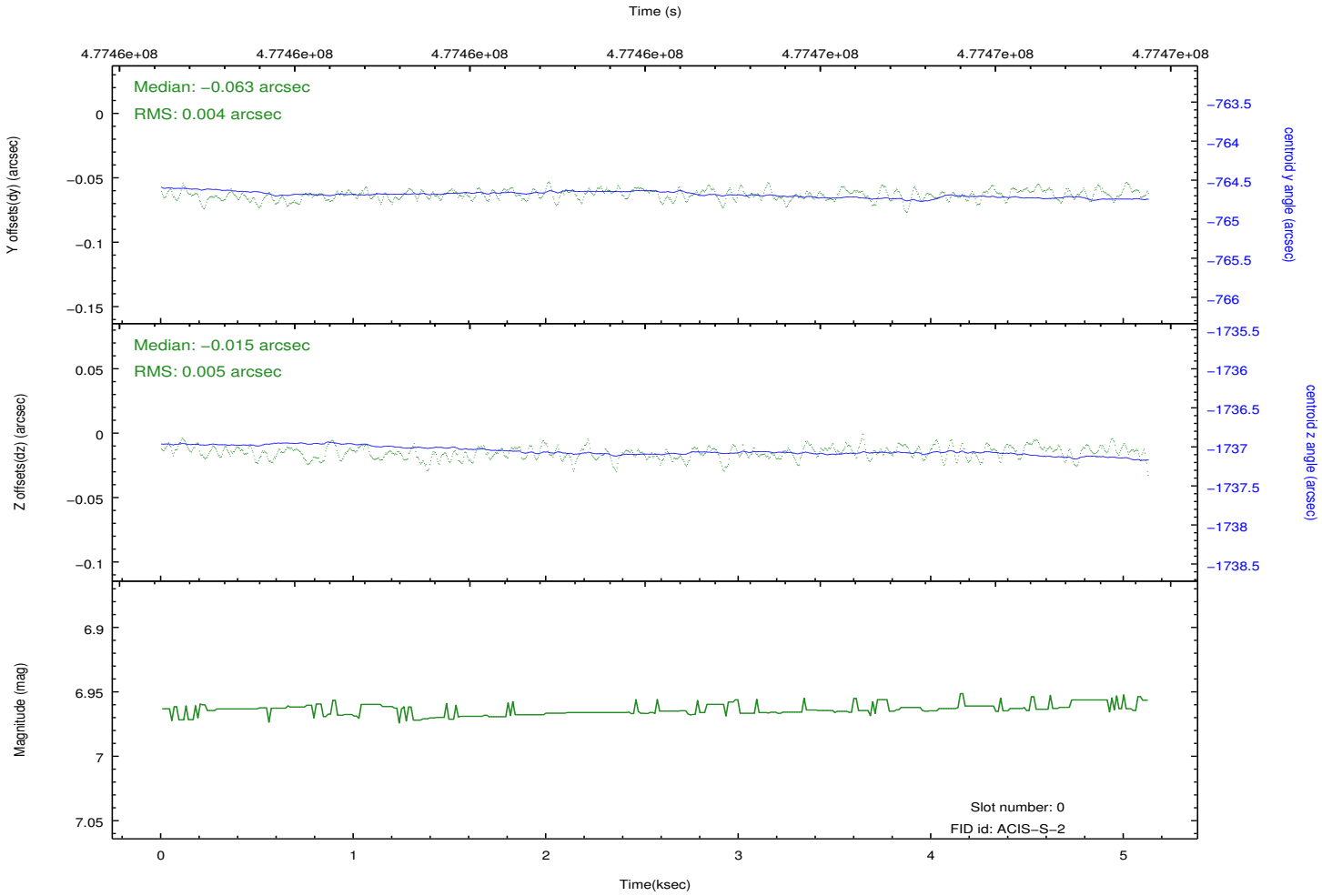

Time (s)
Median: −0.279 arcsec
RMS: 0.056 arcsec
Y offsets(dy) (arcsec)
Median: 0.070 arcsec
RMS: 0.054 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 7
AGASC star id: 61607824
Time(ksec)

2.5 FID Slots

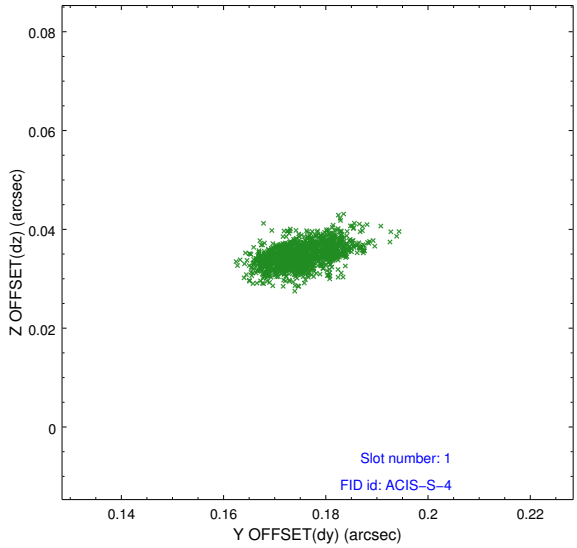
2.5.1 Slot 0

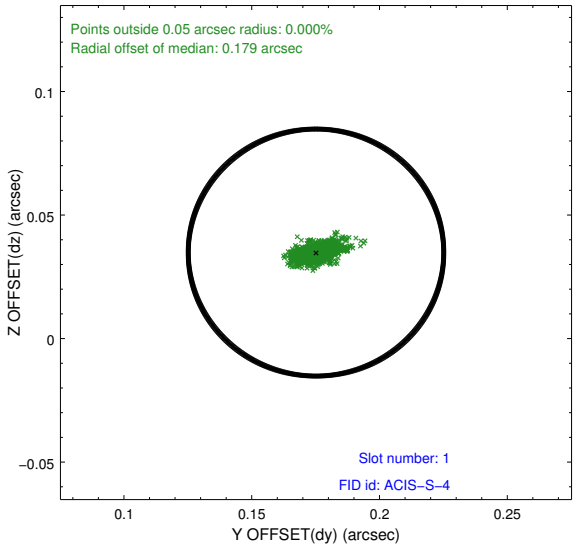


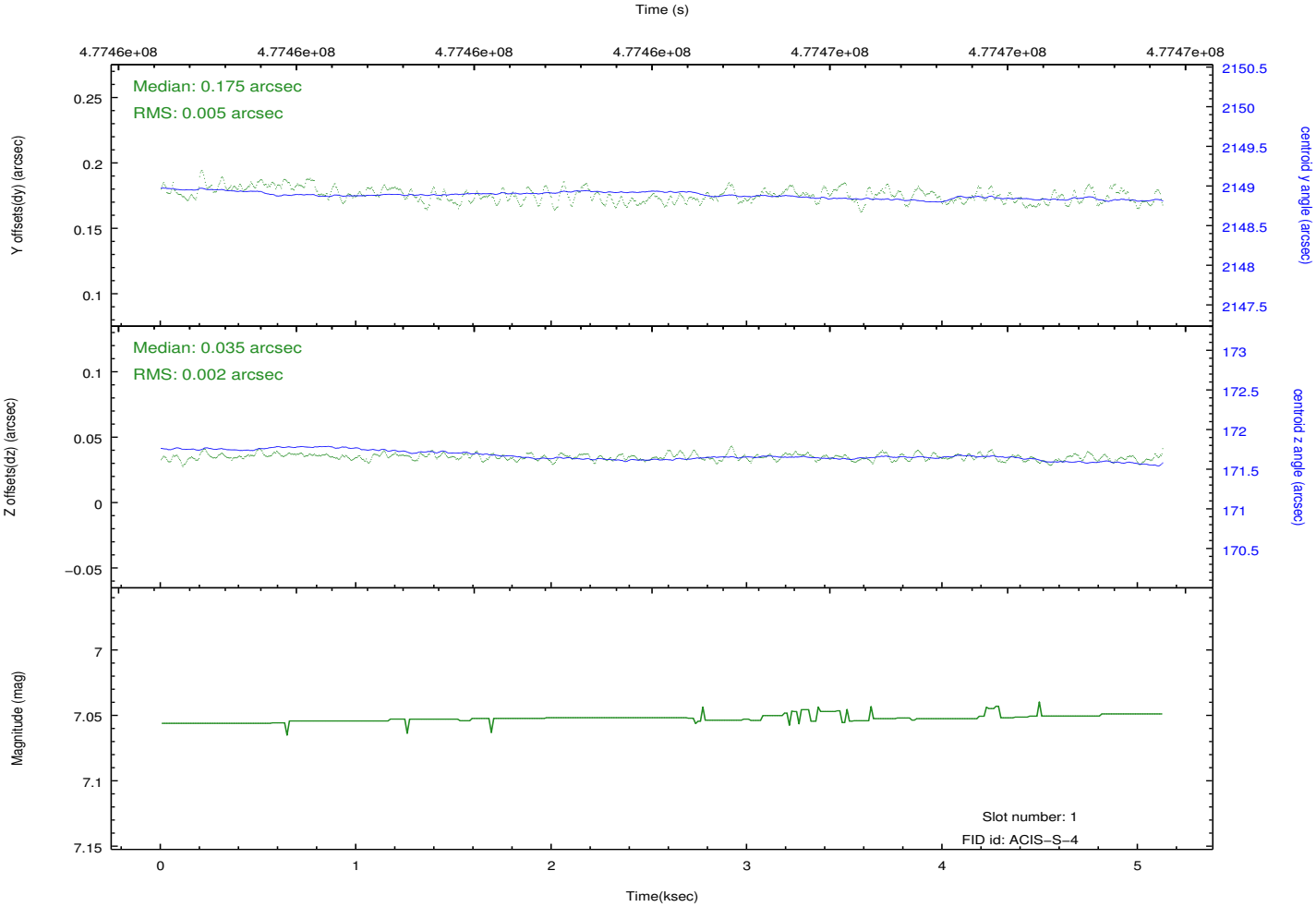




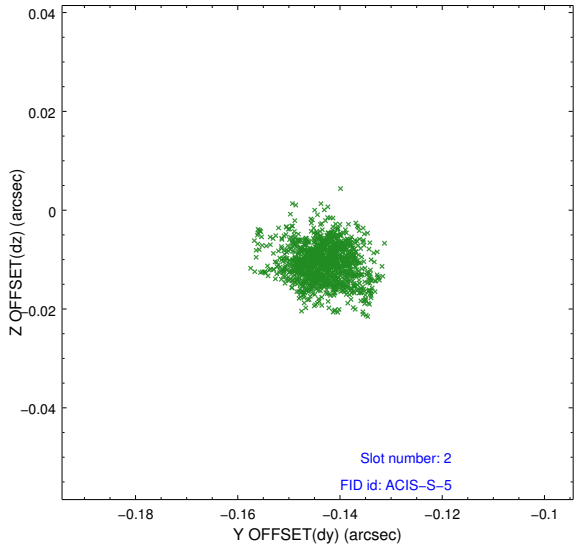
2.5.2 Slot 1

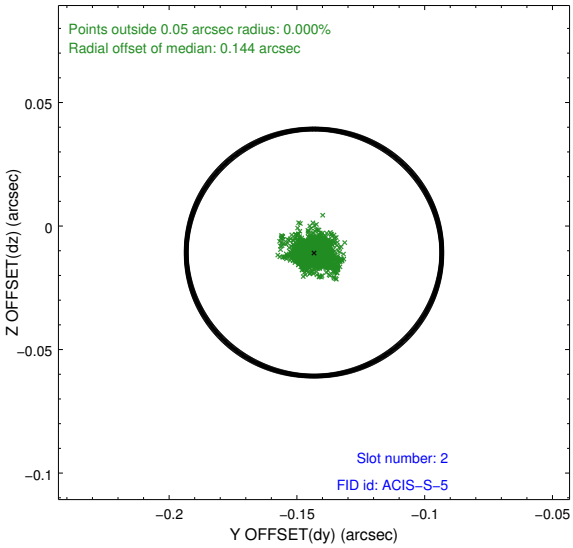

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4

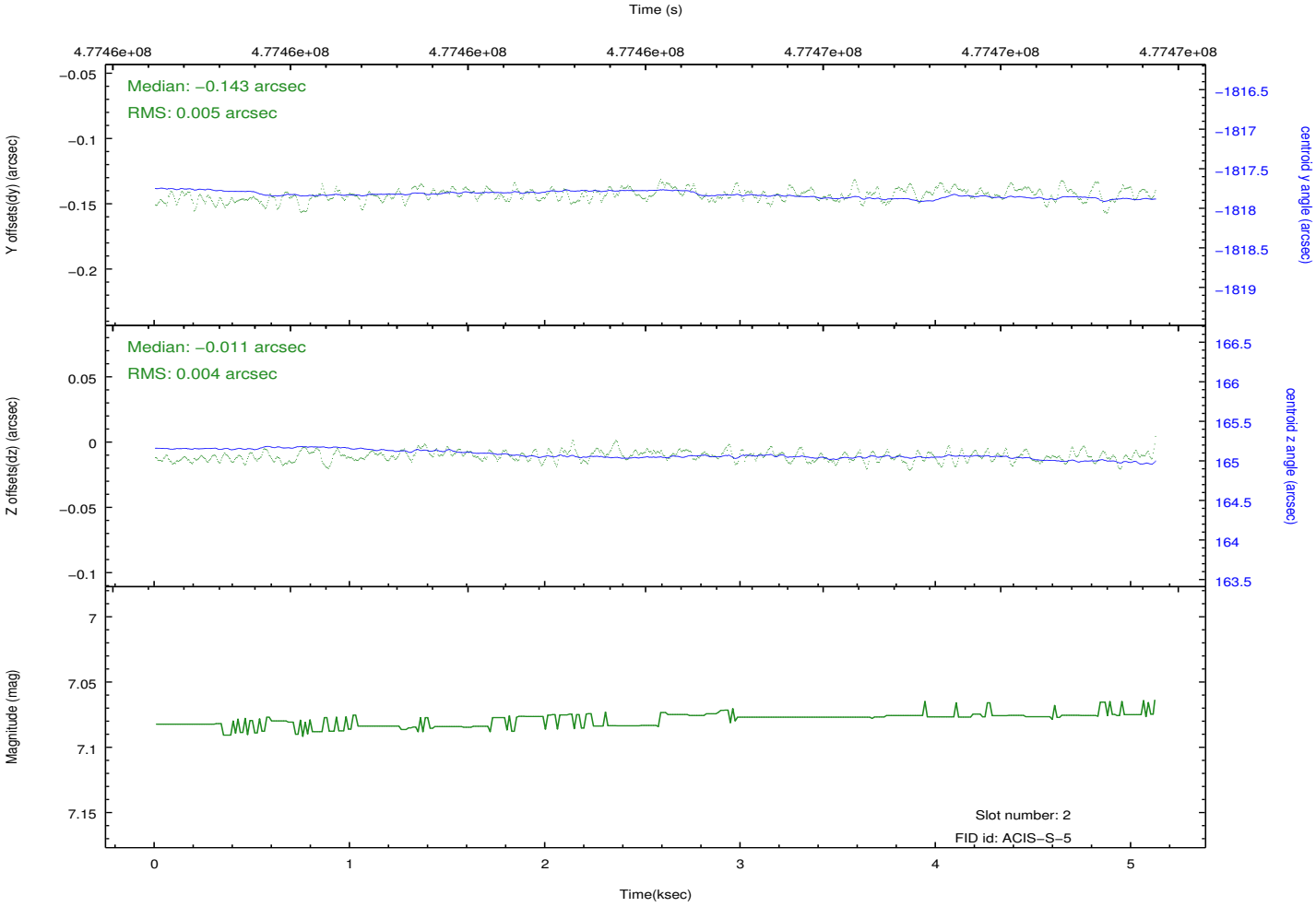

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.179 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4


Time (s)
Median: 0.175 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.035 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


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


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.144 arcsec
Slot number: 2
FID id: ACIS−S−5
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)


Time (s)
Median: −0.143 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.011 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	Beth Sundheim
V&V Date (YYYY-MM-DD)	2014.12.09
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	5.091

A.2 Comments

These data have been reprocessed with new aspect alignment calibration files that correct small mean offsets (up to 0.4 arcsecs) and improve overall astrometric accuracy. The new calibration was determined using data from the time period being reprocessed and was performed using cross-correlation of X-ray sources with radio and optical counterparts.