V&V Reference Report
L2 ASCDS Version : 8.1.2

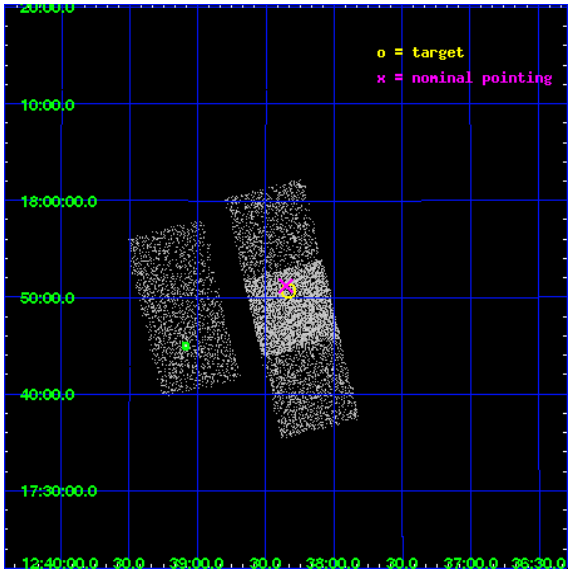
Observation 820 - L2 Version 3
Chandra X-Ray Center

L2 Processing Date : Dec 5 2009

Contents

1 Front

seq_num	700125	Sequence number
obs_id	820	Observation id
title	LIFTING THE SHROUD AROUND BROAD ABSORPTION LINE QSOS: AN AXAF SURVEY	
observer	Dr. Paul Green	Principal investigator
object	LBQS 1235+1807B	Source name
dtycycle	0	
cycle	P	events from which exps? Prim/Second/Both
ra_targ	189.58375	Observer's specified target RA
dec_targ	17.844083	Observer's specified target Dec
ra_nom	189.58824178772	Nominal RA
dec_nom	17.853531666907	Nominal Dec
roll_nom	76.44220518757	Nominal Roll
revision	3	Processing version of data
ontime	1352.4425755143	Sum of GTIs [s]
livetime	1335.31713328	Livetime [s]
ontime2	1352.401535511	Sum of GTIs [s]
ontime3	1352.3194555119	Sum of GTIs [s]
ontime6	1352.3604955152	Sum of GTIs [s]
ontime7	1352.4425755143	Sum of GTIs [s]
ontime8	1352.278415516	Sum of GTIs [s]
l2events	9952	Number of level 2 events

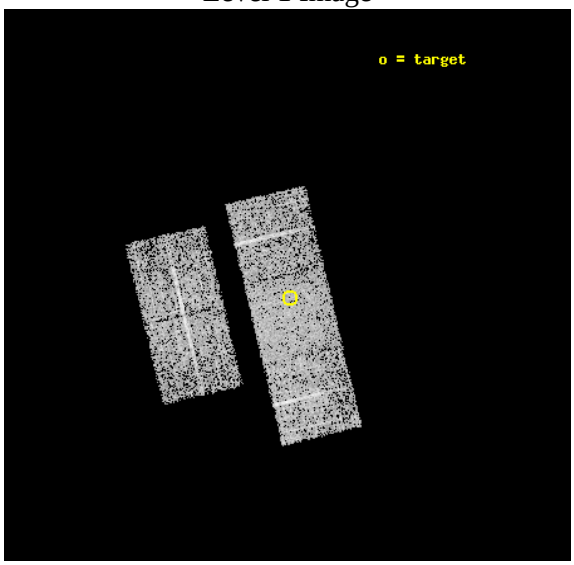


2 OBI

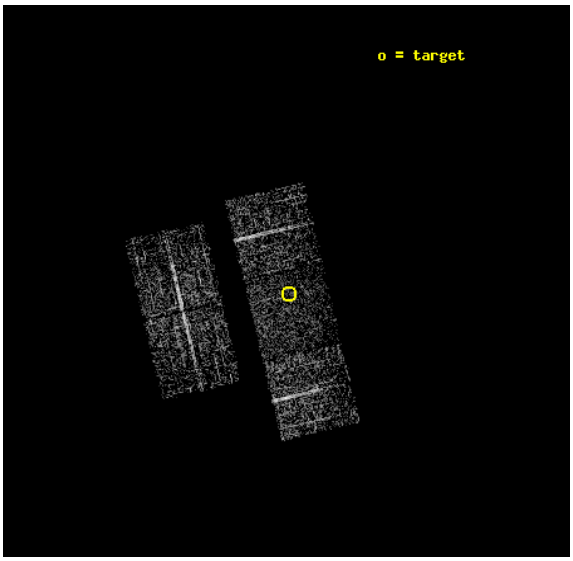
2.1 OBI

2.1.1 Images

Level 1 Image

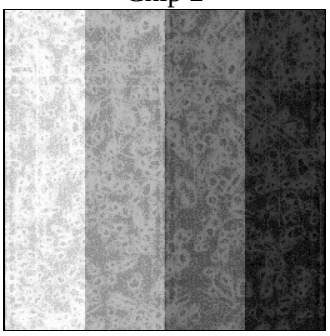


Level 1 Bad Events

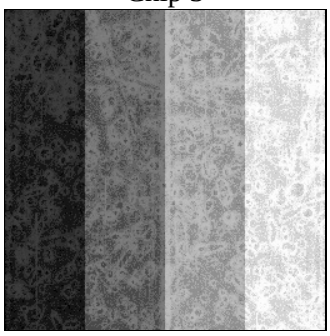


2.1.2 Bias

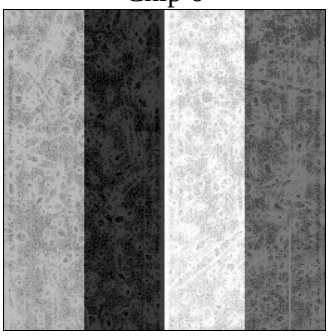
Chip 2



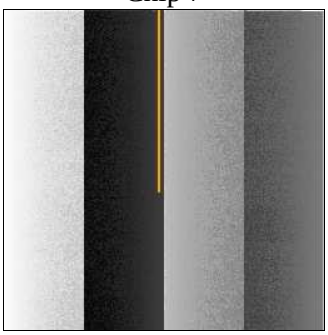
Chip 3



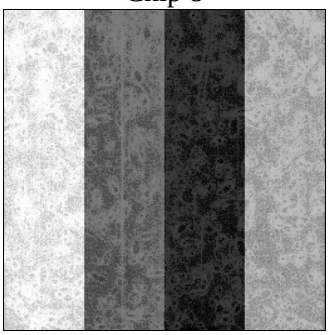
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	1	Obi number
ascdsver	8.1.2	ASCDS version number
caldbver	4.1.4	
date	2009-12-05T04:45:45	Date and time of file creation
revision	3	Processing version of data

sched_exp_time	2200.000000	Scheduled observation exposure time
ontime	1352.4425755143	Sum of GTIs [s]
ontime2	1352.401535511	Sum of GTIs [s]
ontime3	1352.3194555119	Sum of GTIs [s]
ontime6	1352.3604955152	Sum of GTIs [s]
ontime7	1352.4425755143	Sum of GTIs [s]
ontime8	1352.278415516	Sum of GTIs [s]
l1events	59387	Number of level 1 events

2.1.4 Events

	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
level 1 events	11116	10838	11135	12694	13604
rejected events	9985	9554	9842	7563	10990
rejected %	89%	88%	88%	59%	80%

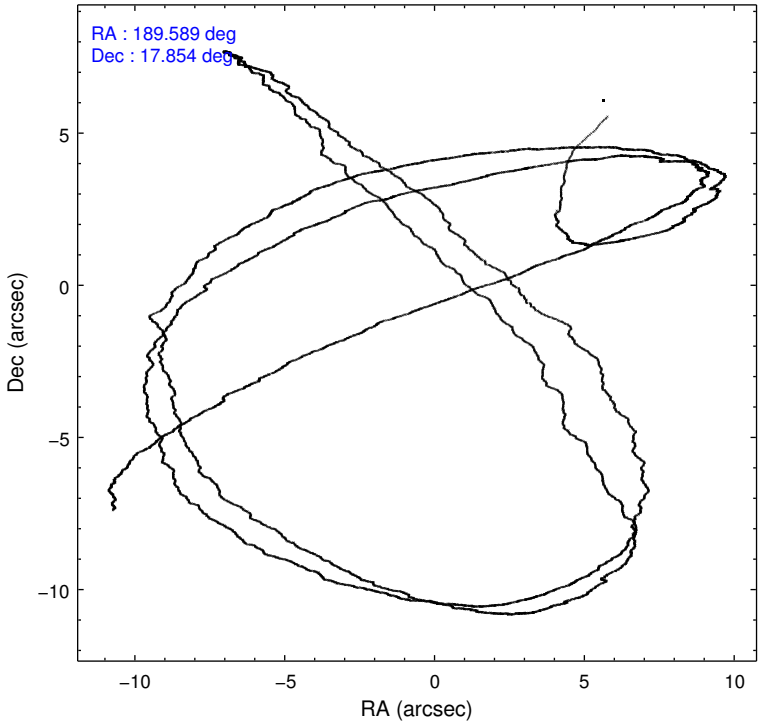
	ccd 2	ccd 3	ccd 6	ccd 7	ccd 8
grade 0 events	242	299	303	352	644
	2%	2%	2%	2%	4%
grade 1 events	4	1	2	5	2
	0%	0%	0%	0%	0%
grade 2 events	497	580	571	1013	892
	4%	5%	5%	7%	6%
grade 3 events	66	66	76	332	217
	0%	0%	0%	2%	1%
grade 4 events	62	60	65	251	224
	0%	0%	0%	1%	1%
grade 5 events	185	196	248	784	332
	1%	1%	2%	6%	2%
grade 6 events	270	287	281	3212	649
	2%	2%	2%	25%	4%
grade 7 events	9790	9349	9589	6745	10644
	88%	86%	86%	53%	78%

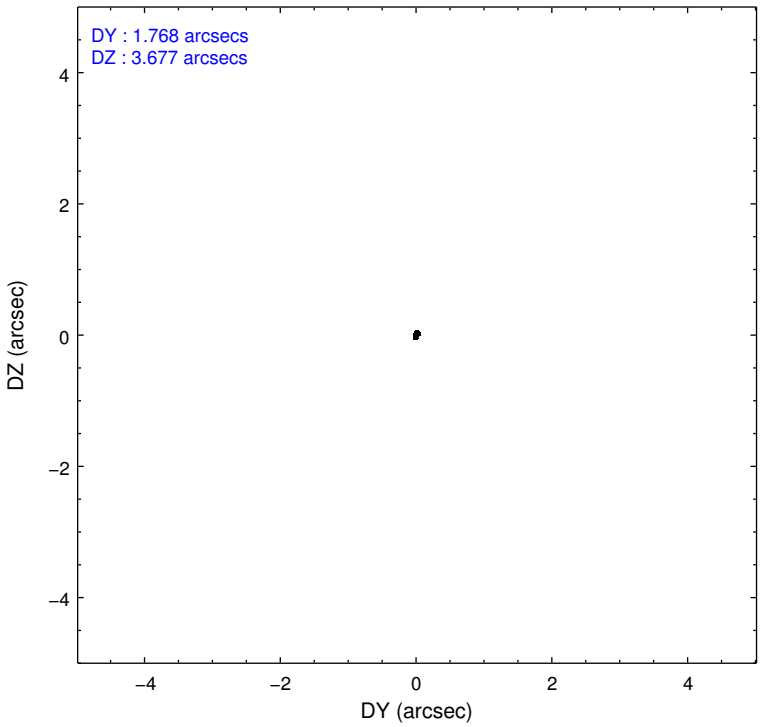
2.2 Compared Parameters

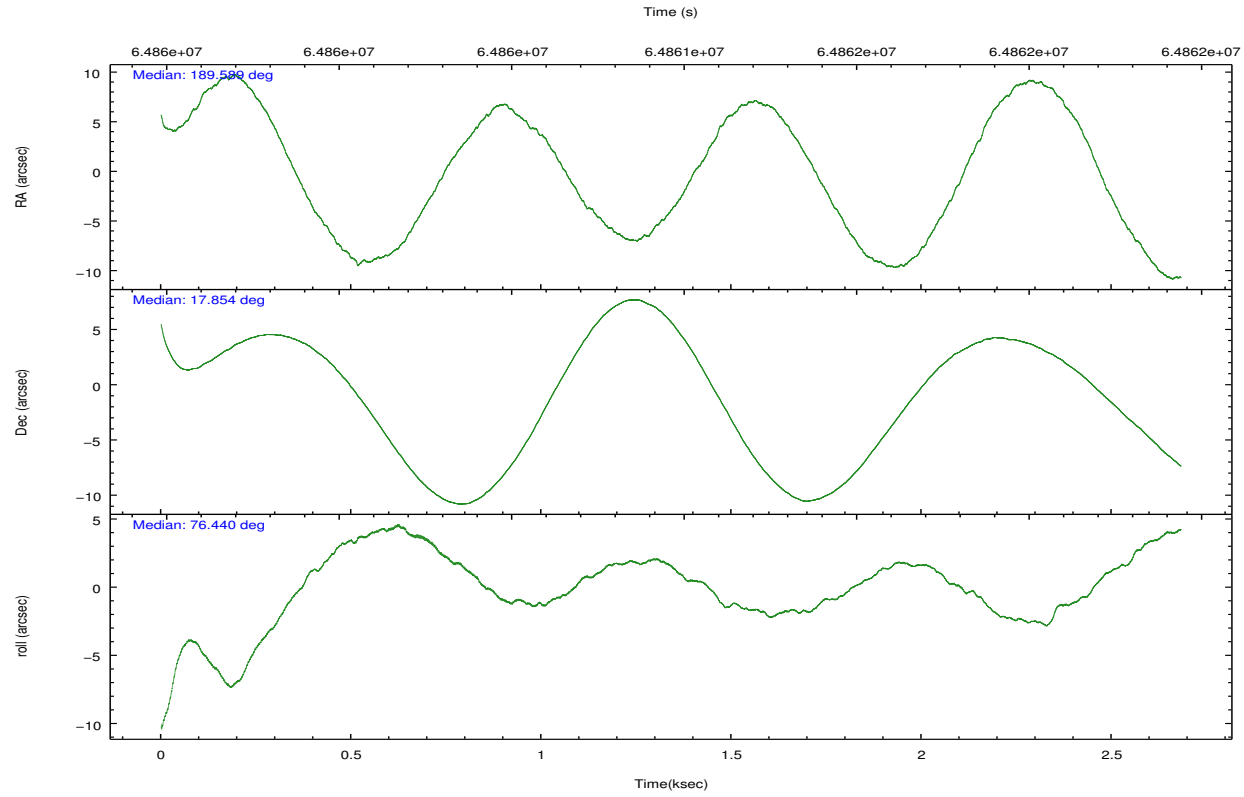
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-23678	ACIS-23678
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
Pointing RA	189.596290	189.5882417877225
Pointing Dec	17.826929	17.85353166690658
Pointing Roll	76.283130	76.44220518757028
Window start time	63072064.184000	63072064.184000
Window stop time	84153664.184000	84153664.184000
SIM focus pos (mm)	-0.684267	-0.6828225247311905
SIM defocus (mm)	0	0.001444936568705701
SIM translation stage pos (mm)	-190.132523	-190.1400660498719
SIM translation stage offset (mm)	0	0.00754346686406393
Observation start time	64860104.184000	64858817.437758
Observation start date	2000-01-21T16:40:40	2000-01-21T16:20:17
Observation end time	64862304.184000	64863015.325411
Observation end date	2000-01-21T17:17:20	2000-01-21T17:30:15
Read mode	TIMED	TIMED

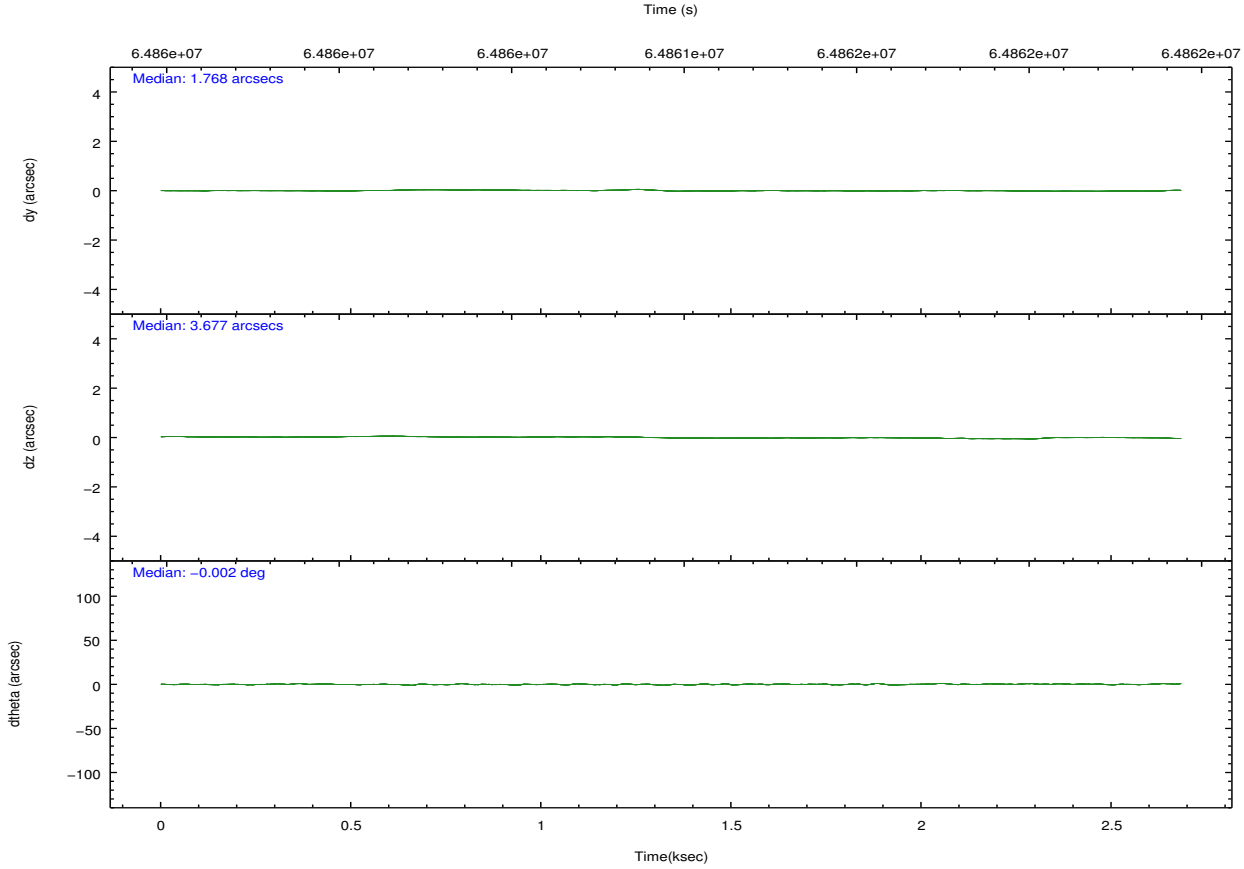
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
Primary exposure time	0.000000	3.2

2.3 Aspect


RA : 189.589 deg
Dec : 17.854 deg
Dec (arcsec)
RA (arcsec)
5
0
−5
−10
−10
−5
0
5
10


DY : 1.768 arcsecs
DZ : 3.677 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
6.486e+07
6.486e+07
6.486e+07
6.4861e+07
6.4862e+07
6.4862e+07
6.4862e+07
Median: 189.589 deg
RA (arcsec)
Median: 17.854 deg
Dec (arcsec)
Median: 76.440 deg
roll (arcsec)
Time(ksec)

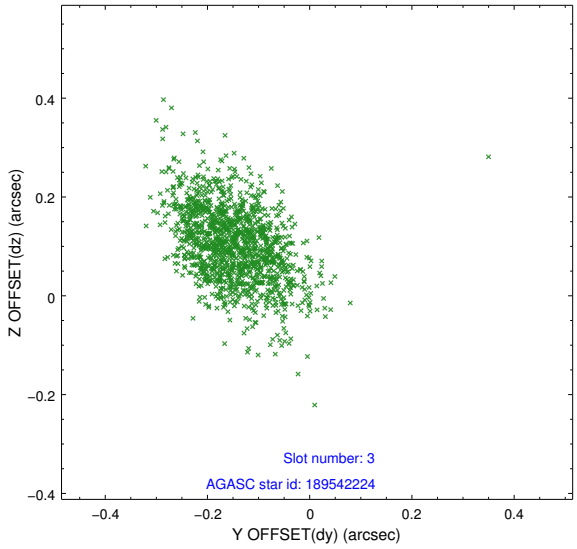

Time (s)
6.486e+07
6.486e+07
6.486e+07
6.4861e+07
6.4862e+07
6.4862e+07
6.4862e+07
Median: 1.768 arcsecs
dy (arcsec)
Median: 3.677 arcsecs
dz (arcsec)
Median: −0.002 deg
dtheta (arcsec)
Time(ksec)

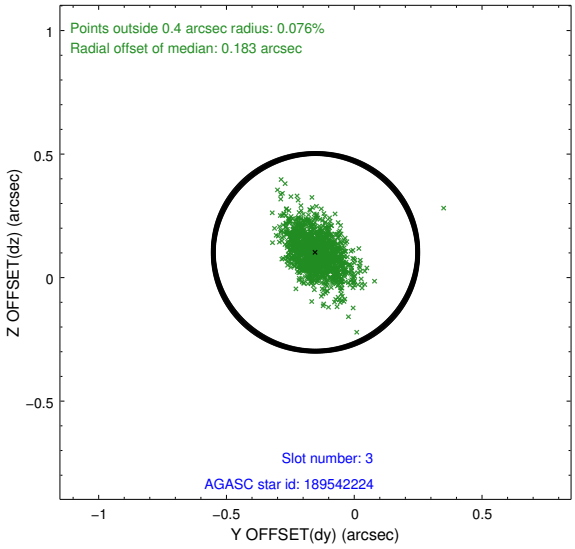
Slot Statistics

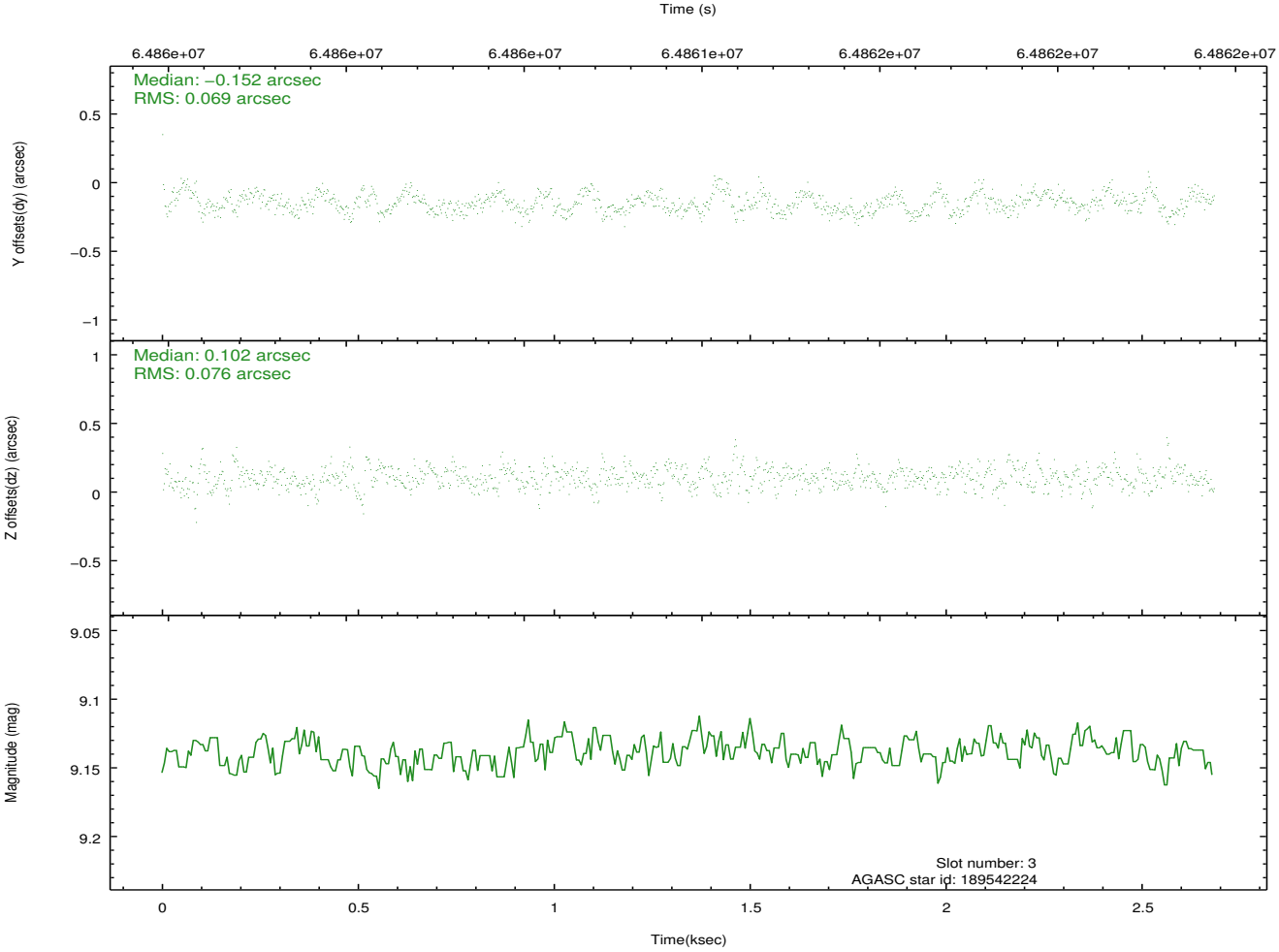
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	655	0.000	-0.012	0.006	0.011	0.000000	0.000000	-754.43	-1724.75
1	FID	ACIS-S-4	7.21	655	-0.008	0.003	0.005	0.010	0.000000	0.000000	2157.81	181.20
2	FID	ACIS-S-5	7.24	655	-0.024	0.018	0.006	0.011	0.000000	0.000000	-1804.15	177.73
3	GUIDE	189542224	9.14	1310	-0.152	0.102	0.104	0.180	190.259731	18.115027	1548.67	-1957.07
4	GUIDE	189533392	9.41	1310	0.062	0.044	0.102	0.189	190.100367	17.070110	-2233.08	-2331.28
5	GUIDE	189532800	9.37	1309	-0.065	-0.092	0.098	0.178	189.734926	18.135443	1188.77	-198.01
6	GUIDE	189537112	9.68	1306	0.150	-0.061	0.110	0.195	189.758126	17.437193	-1231.00	-871.74
7	UNUSED		0.00	0	0.000	0.000	0.000	0.000	0.000000	0.000000	0.00	0.00

2.4 Star Slots

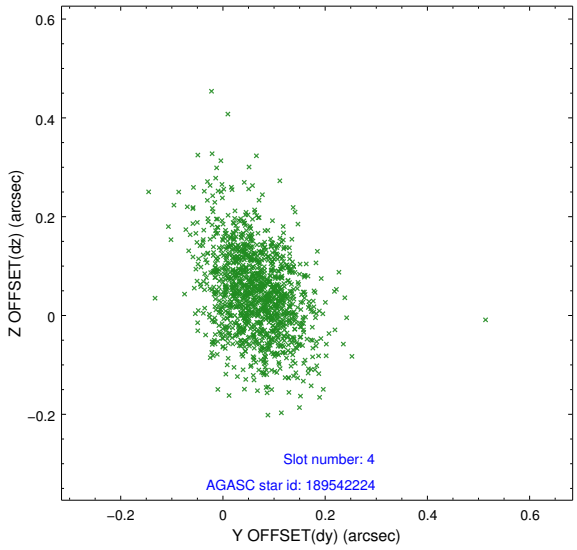
2.4.1 Slot 3

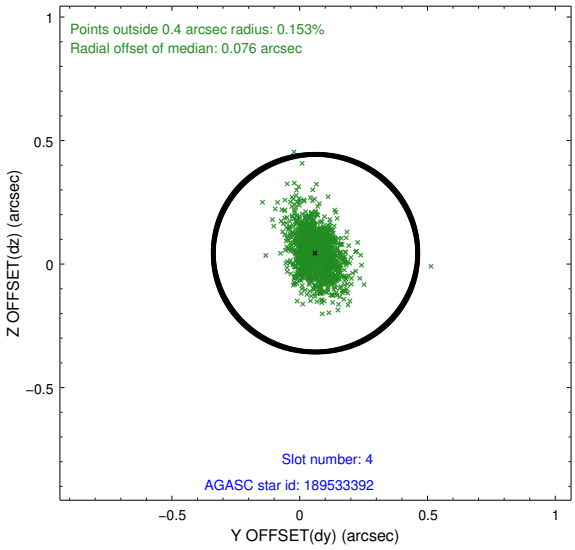


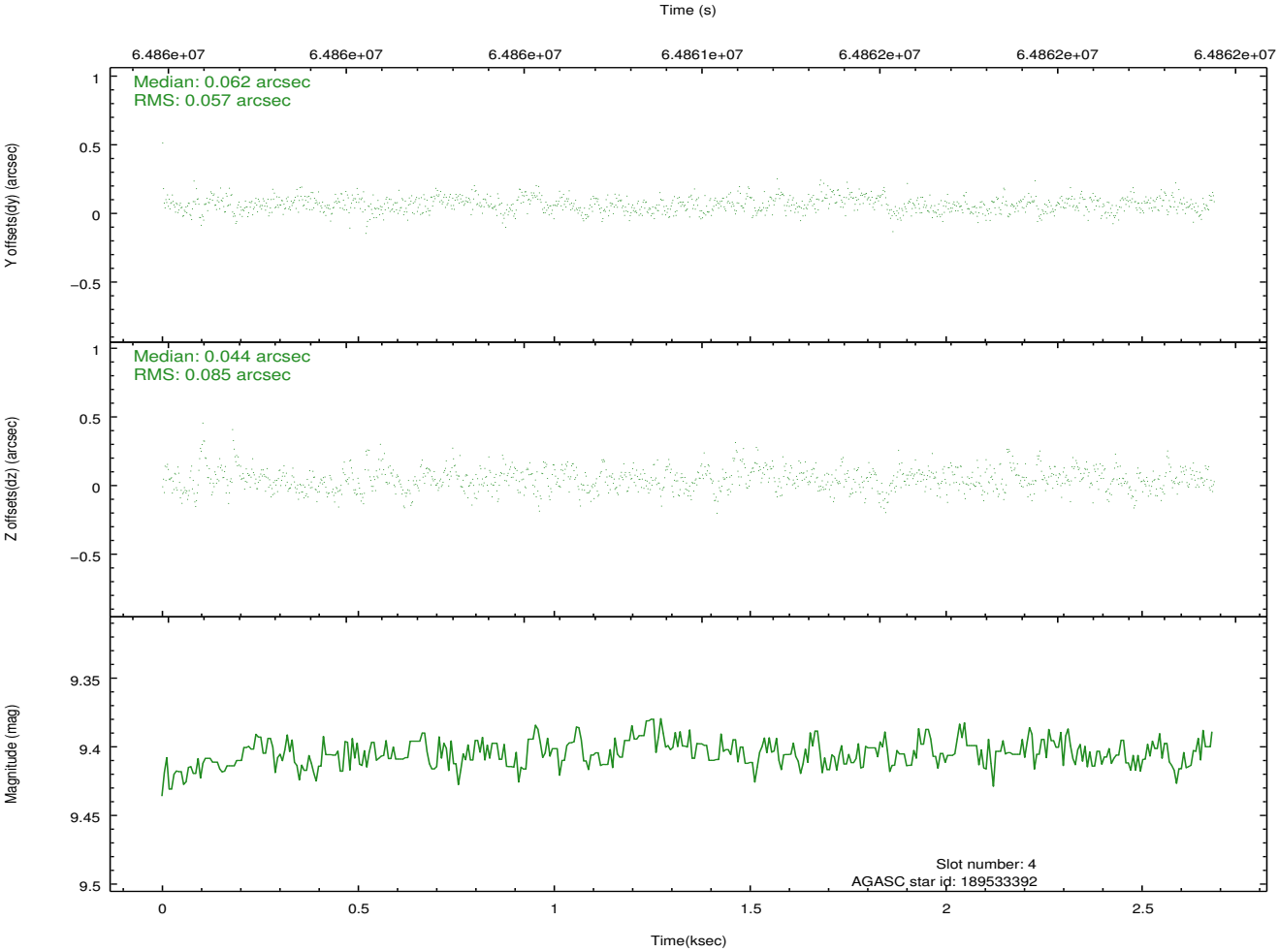




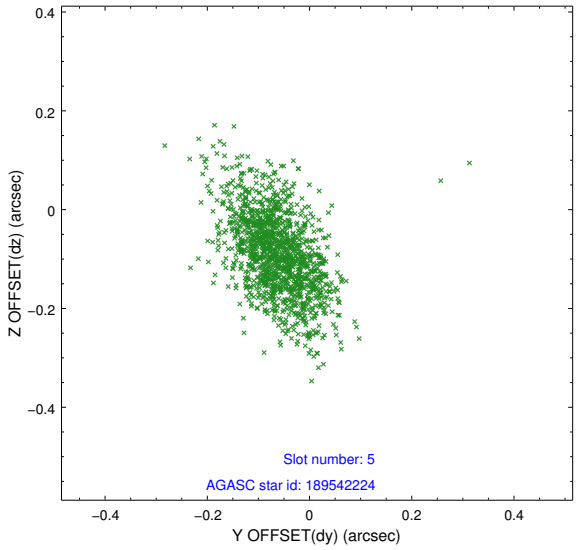
2.4.2 Slot 4

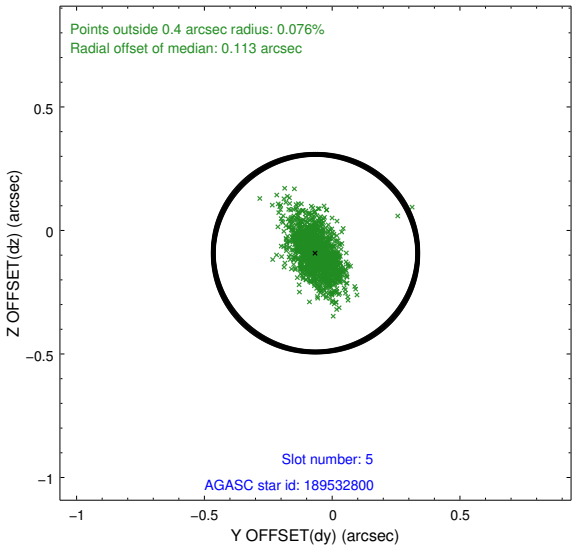

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 189542224

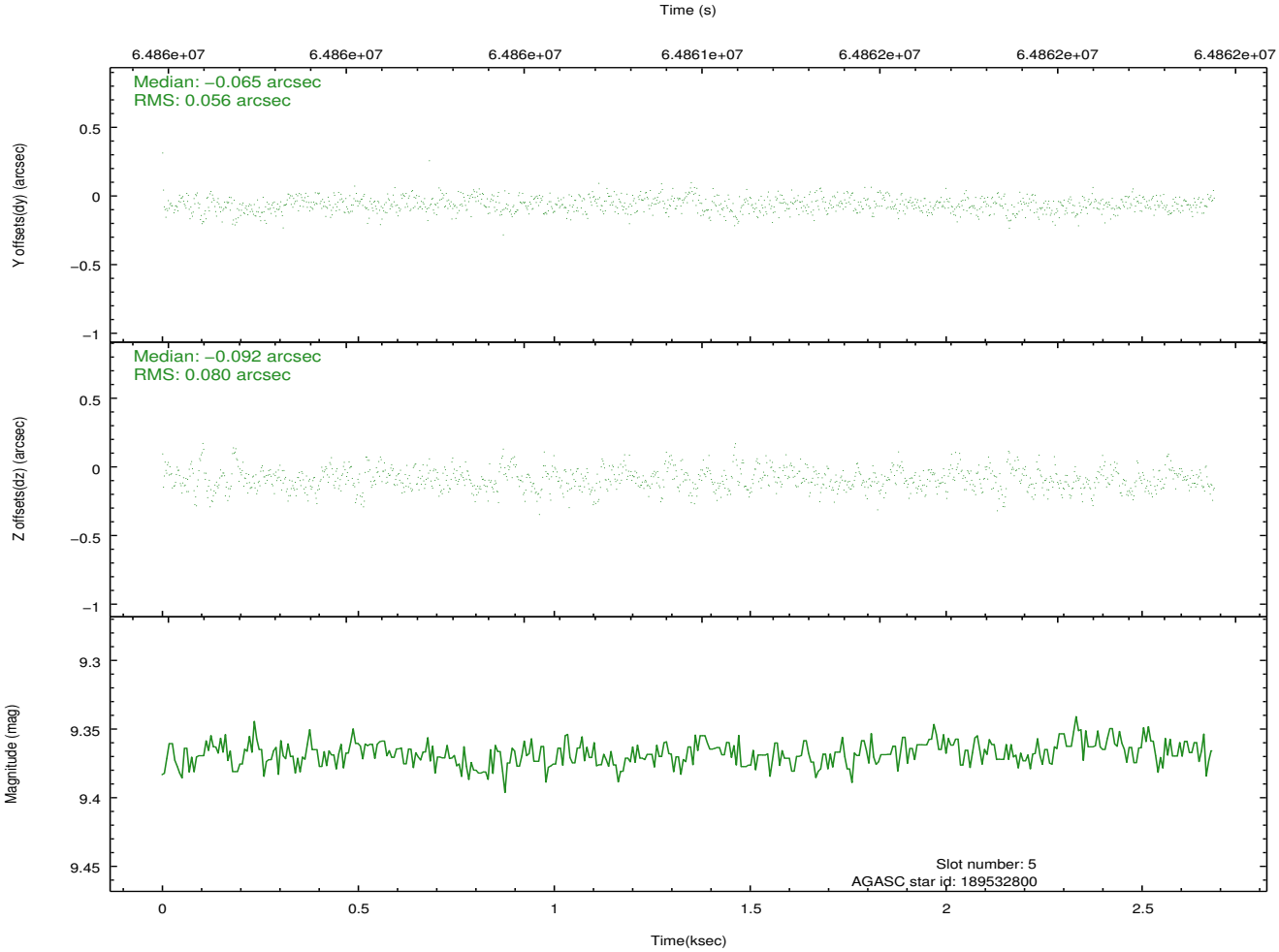

Points outside 0.4 arcsec radius: 0.153%
Radial offset of median: 0.076 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 4
AGASC star id: 189533392


Time (s)
Median: 0.062 arcsec
RMS: 0.057 arcsec
Y offsets(dy) (arcsec)
Median: 0.044 arcsec
RMS: 0.085 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 4
AGASC star id: 189533392
Time(ksec)

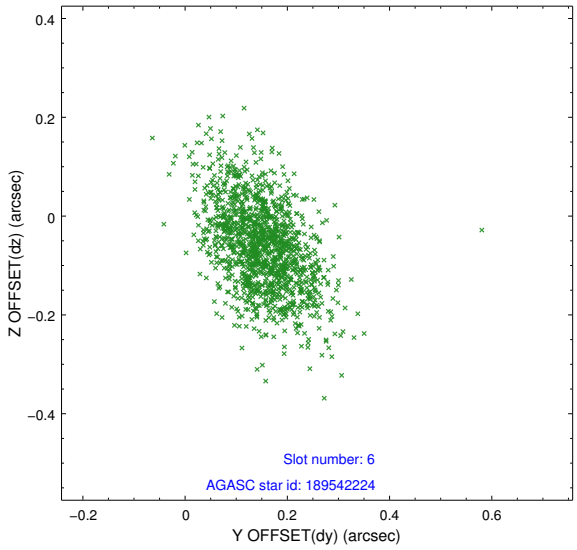
2.4.3 Slot 5

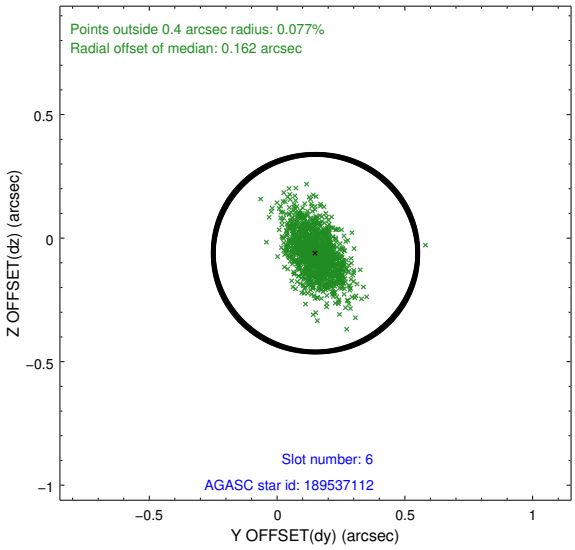

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 189542224

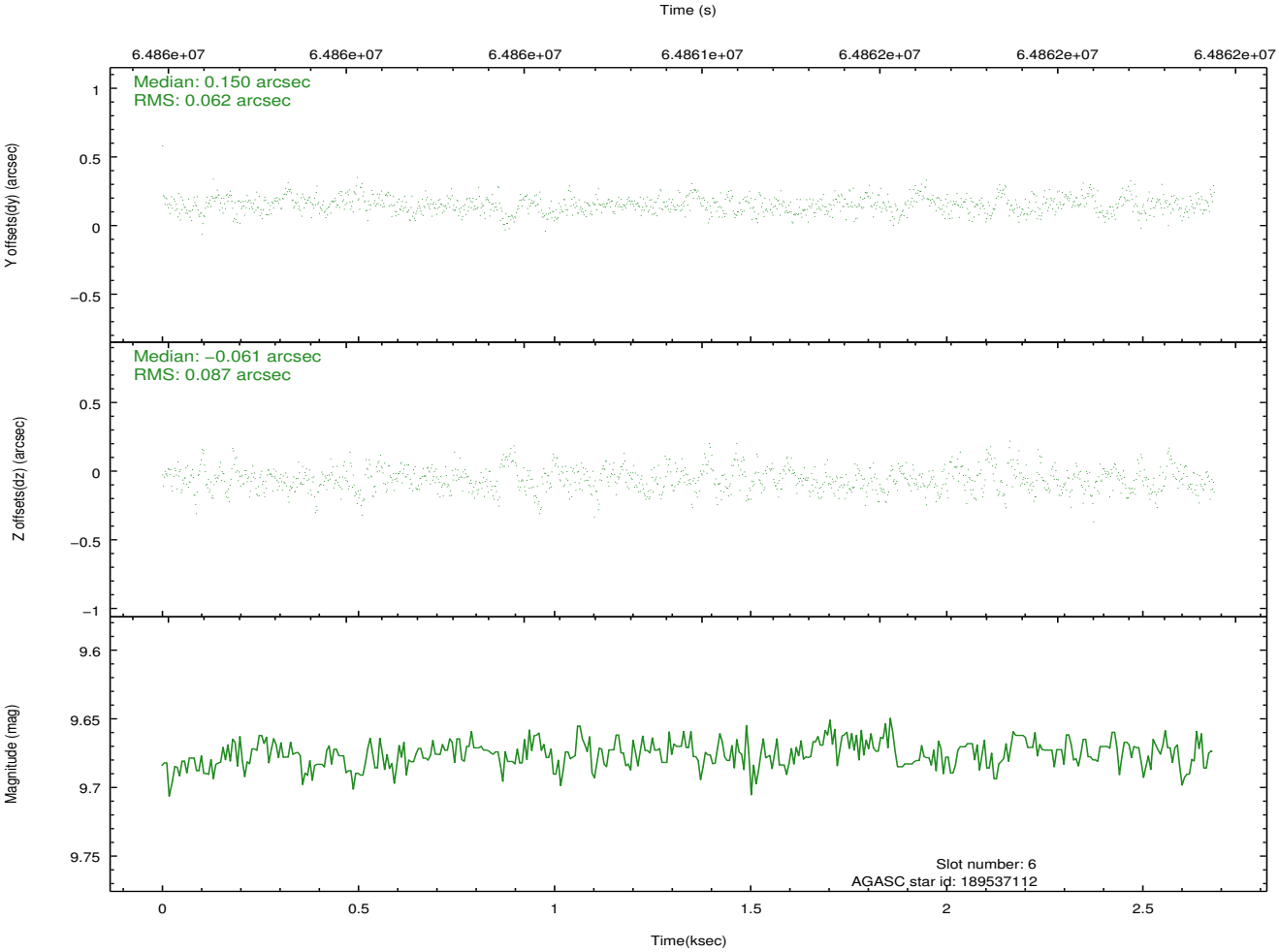

Points outside 0.4 arcsec radius: 0.076%
Radial offset of median: 0.113 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 5
AGASC star id: 189532800


Time (s)
Median: −0.065 arcsec
RMS: 0.056 arcsec
Y offsets(dy) (arcsec)
Median: −0.092 arcsec
RMS: 0.080 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 5
AGASC star id: 189532800
Time(ksec)

2.4.4 Slot 6

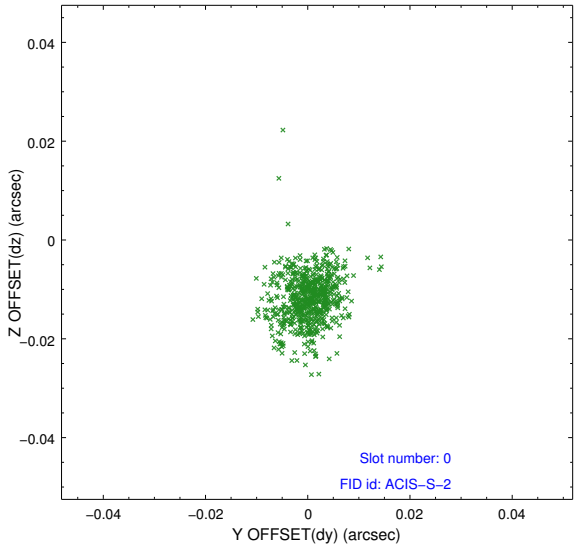

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 189542224

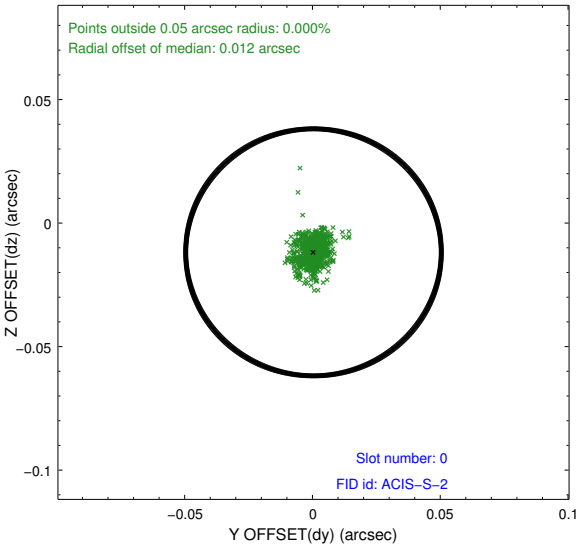

Points outside 0.4 arcsec radius: 0.077%
Radial offset of median: 0.162 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 6
AGASC star id: 189537112

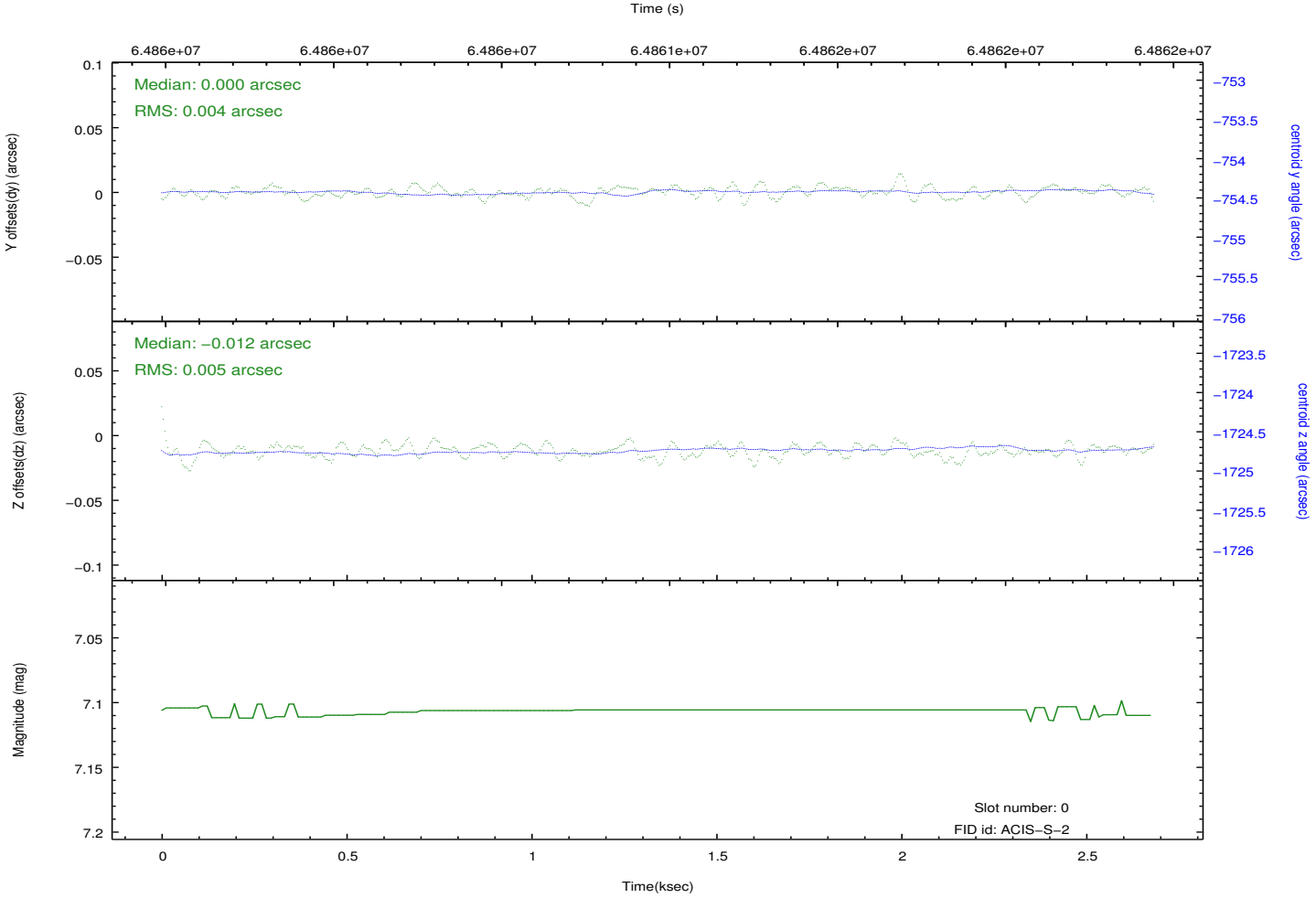

Time (s)
Median: 0.150 arcsec
RMS: 0.062 arcsec
Y offsets(dy) (arcsec)
Median: −0.061 arcsec
RMS: 0.087 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number: 6
AGASC star id: 189537112
Time(ksec)

2.5 FID Slots

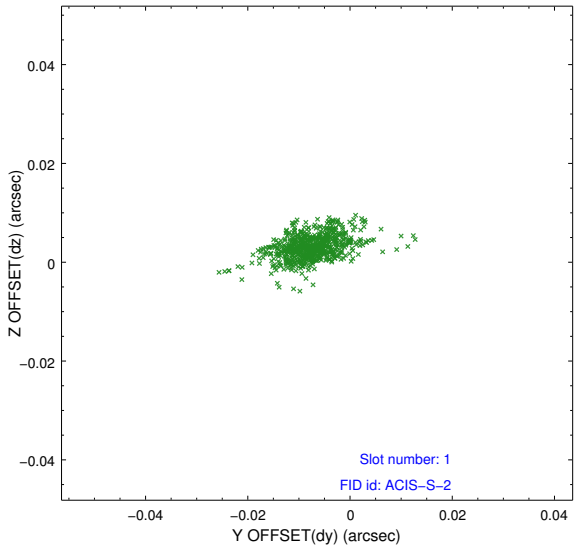
2.5.1 Slot 0

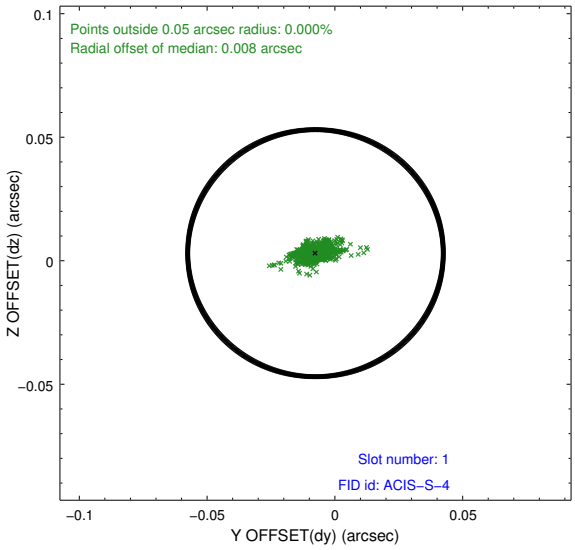


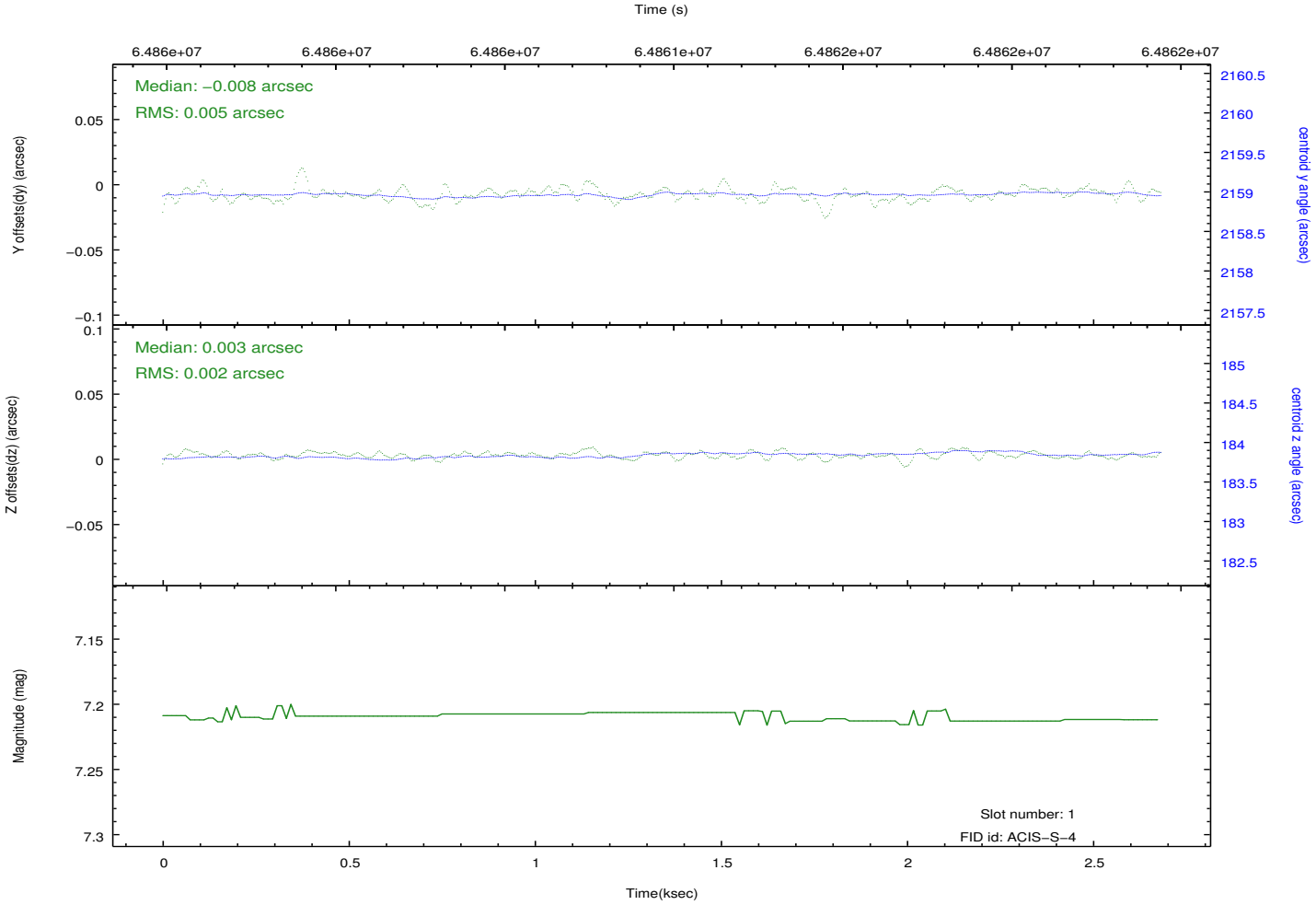




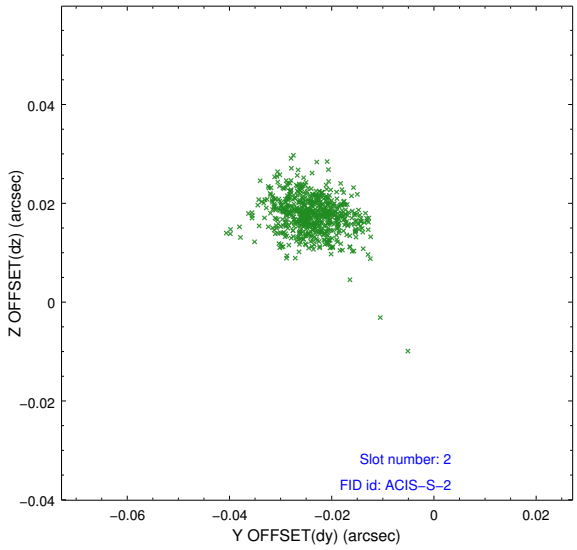
2.5.2 Slot 1

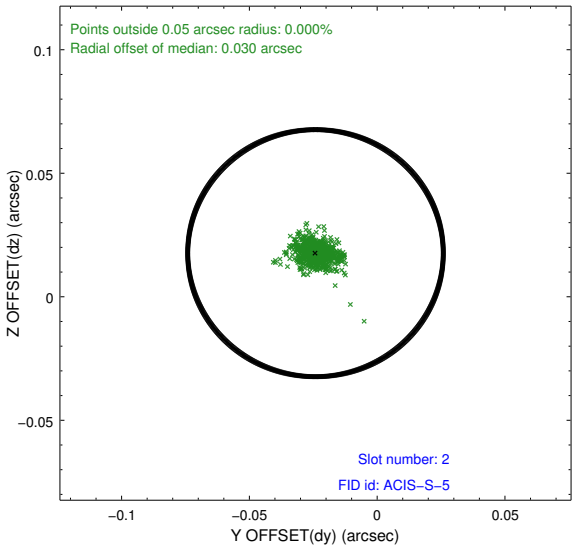

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−2

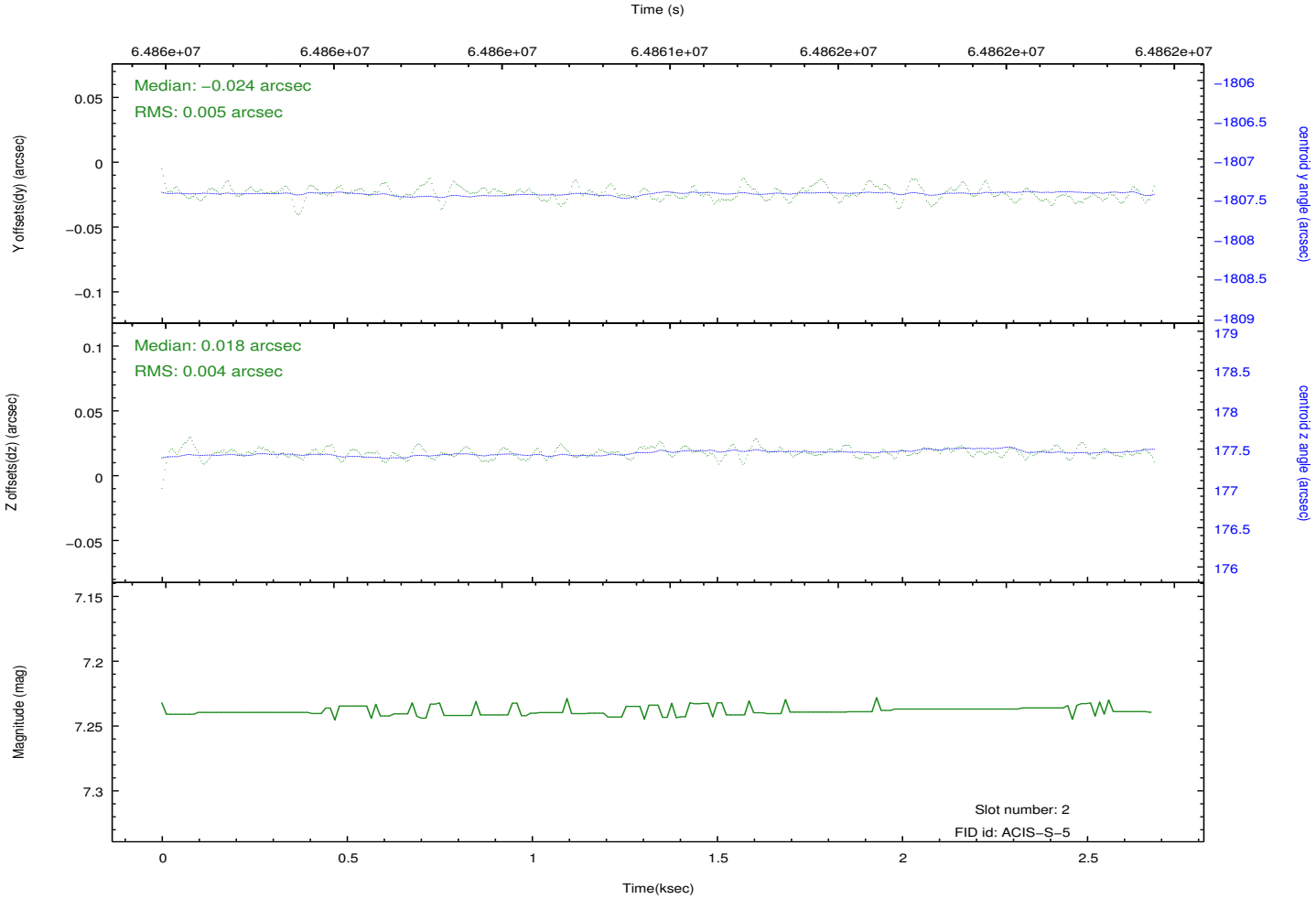

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.008 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 1
FID id: ACIS−S−4


Time (s)
Median: −0.008 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.003 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−2


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.030 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number: 2
FID id: ACIS−S−5


Time (s)
Median: −0.024 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)

3 Point Sources

12.17 arcmin

A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2010.01.22
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	1.353

A.2 Comments

```
Focal plane temperature is approximately -110 C degrees during this
observation. ACIS has not been calibrated at this temperature, because
the focal plan temperature of -119.7 C degrees became the standard
shortly
after the start of the mission. Both front and back illuminated chips
are affected.
The ACIS spectral response calibration is less accurate at these warmer
temperatures than it is at -119.7 C. Users whose science objectives
depend
on the most accurate spectral response (ie: fitting line-rich spectra)
may
notice an effect. Users whose science objectives do not depend on the
most accurate spectral response should not notice an effect.
This reprocessing
of the data applies no CTI correction because none is available
for this temperature.
==
Window preference met.
====
The guide star in slot 7 was removed from the aspect solution due to
poor data quality. The aspect solution is not expected to be degraded
by
removing one guide star from the solution.
====
```