V&V Reference Report
L2 ASCDS Version : 7.6.9

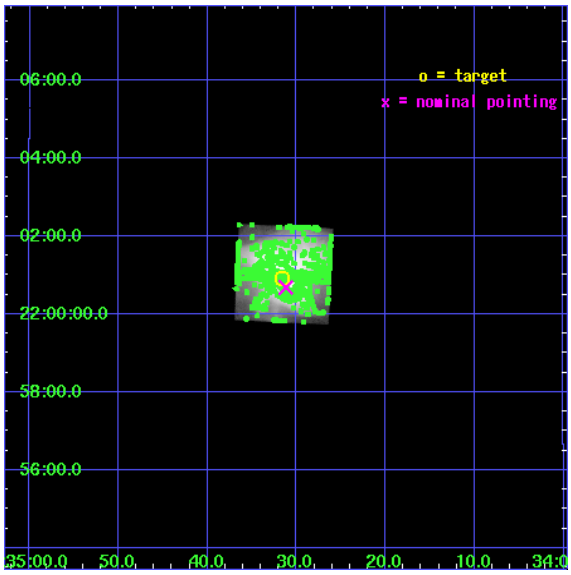
Observation 1997 - L2 Version 001
Chandra X-Ray Center

L2 Processing Date : Nov 15 2006

Contents

1 Front

seq_num	500174
obs_id	1997
title	COORDINATED CHANDRA/HST OBSERVATIONS OF THE CRAB NEBULA
observer	PROF. JEFF HESTER
object	CRAB NEBULA
dtycycle	0
cycle	P
ra_targ	83.631667
dec_targ	22.015667
ra_nom	83.630009424054
dec_nom	22.01144107145
roll_nom	272.72066227105
revision	3
ontime	14702.014755711
livetime	2569.6533638114
ontime7	14702.014755711
l2events	8799685

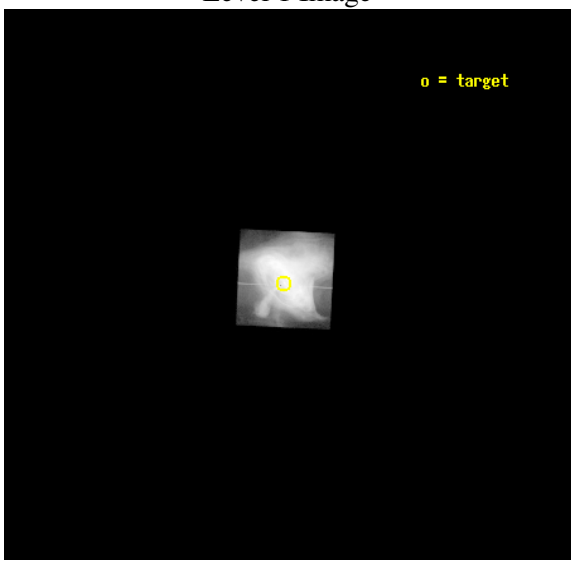


2 OBI

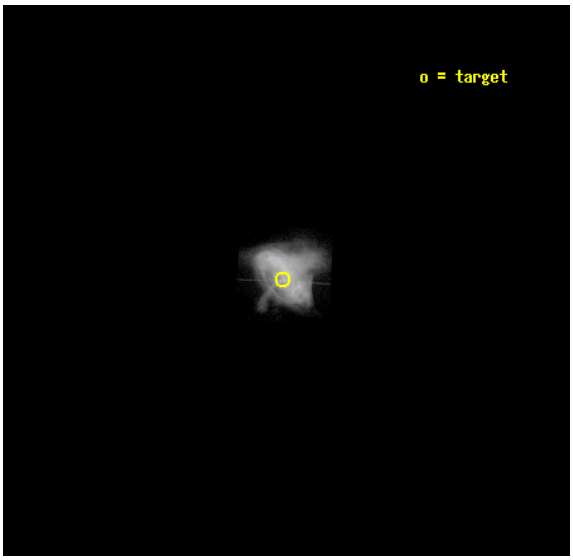
2.1 OBI

2.1.1 Images

Level 1 Image



Level 1 Bad Events



2.1.2 Parameters

obi_num	0
ascdsver	7.6.9
caldbver	3.2.4
date	2006-11-15T17:40:38
revision	3

sched_exp_time	24153.809000
ontime	15126.167626098
ontime7	15126.167626098
l1events	9963462

2.1.3 Events

	ccd 7
level 1 events	9963462
rejected events	1068000
rejected %	10%

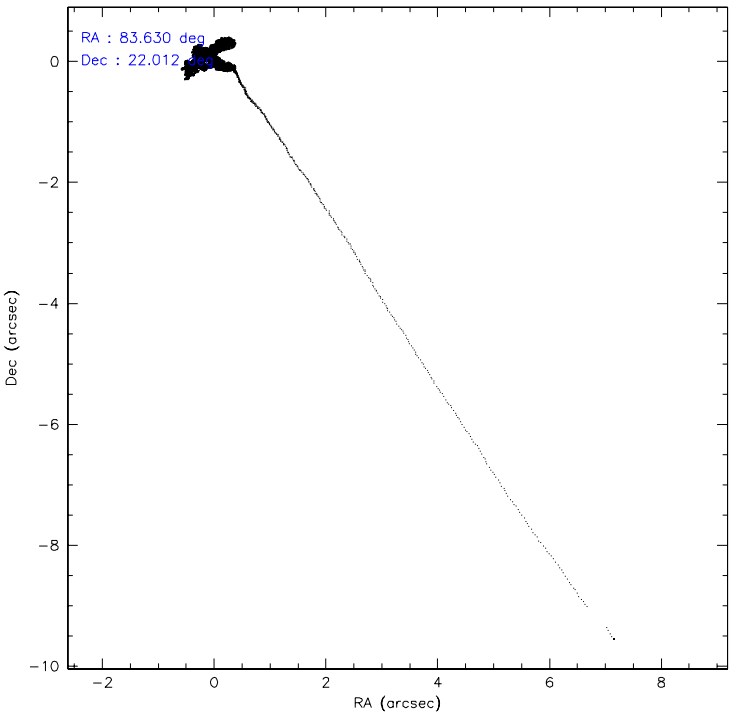
	ccd 7
grade 0 events	2084356
	20%
grade 1 events	137045
	1%
grade 2 events	2378351
	23%
grade 3 events	1053165
	10%
grade 4 events	1025098
	10%
grade 5 events	368641
	3%
grade 6 events	2428444
	24%
grade 7 events	488362
	4%

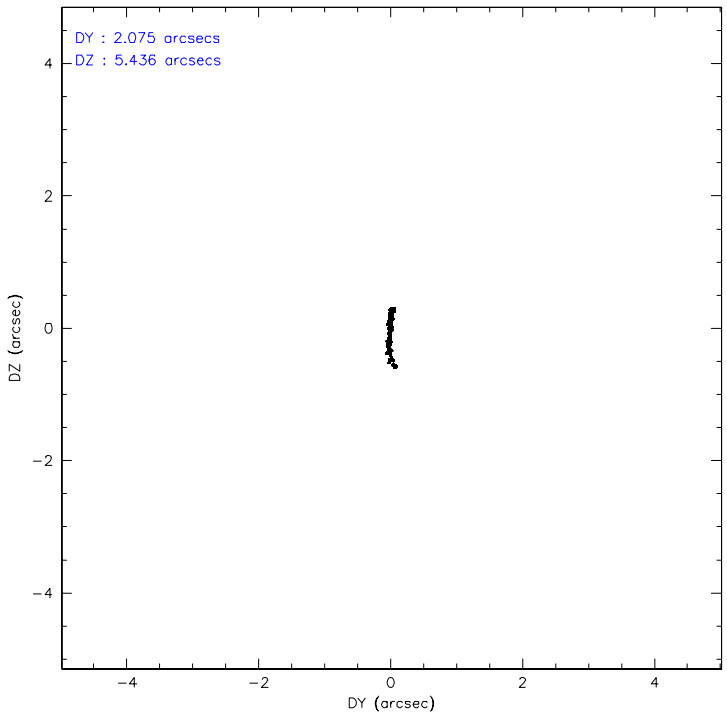
2.2 Compared Parameters

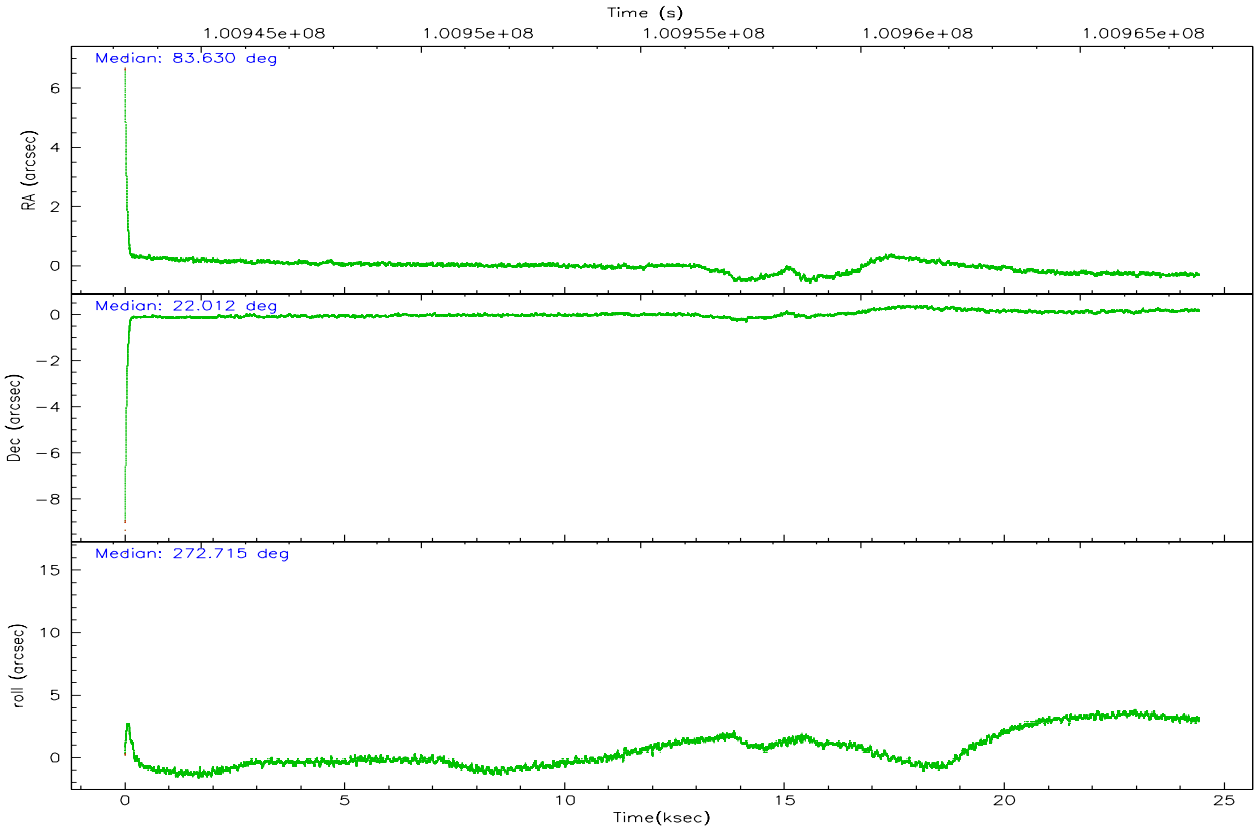
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-7	ACIS-7
Grating	NONE	NONE
Data mode	GRADED	GRADED
Observation mode	POINTING	POINTING
Pointing RA	83.613847	83.63000942405382
Pointing Dec	22.034273	22.01144107145039
Pointing Roll	272.570097	272.720662271051
Window start time	100850464.184000	100850464.184000
Window stop time	101264464.184000	101264464.184000
SIM focus pos (mm)	-0.684267	-0.6828225247311905
SIM defocus (mm)	0	0.001444936568705701
SIM translation stage pos (mm)	-182.620523	-182.6197489829059
SIM translation stage offset (mm)	-7.512	-7.512773600101895
Observation start time	100943543.184000	100942531.90437
Observation start date	2001-03-14T07:51:19	2001-03-14T07:35:31
Observation end time	100967697.184000	100968011.86785
Observation end date	2001-03-14T14:33:53	2001-03-14T14:40:11
Read mode	TIMED	TIMED

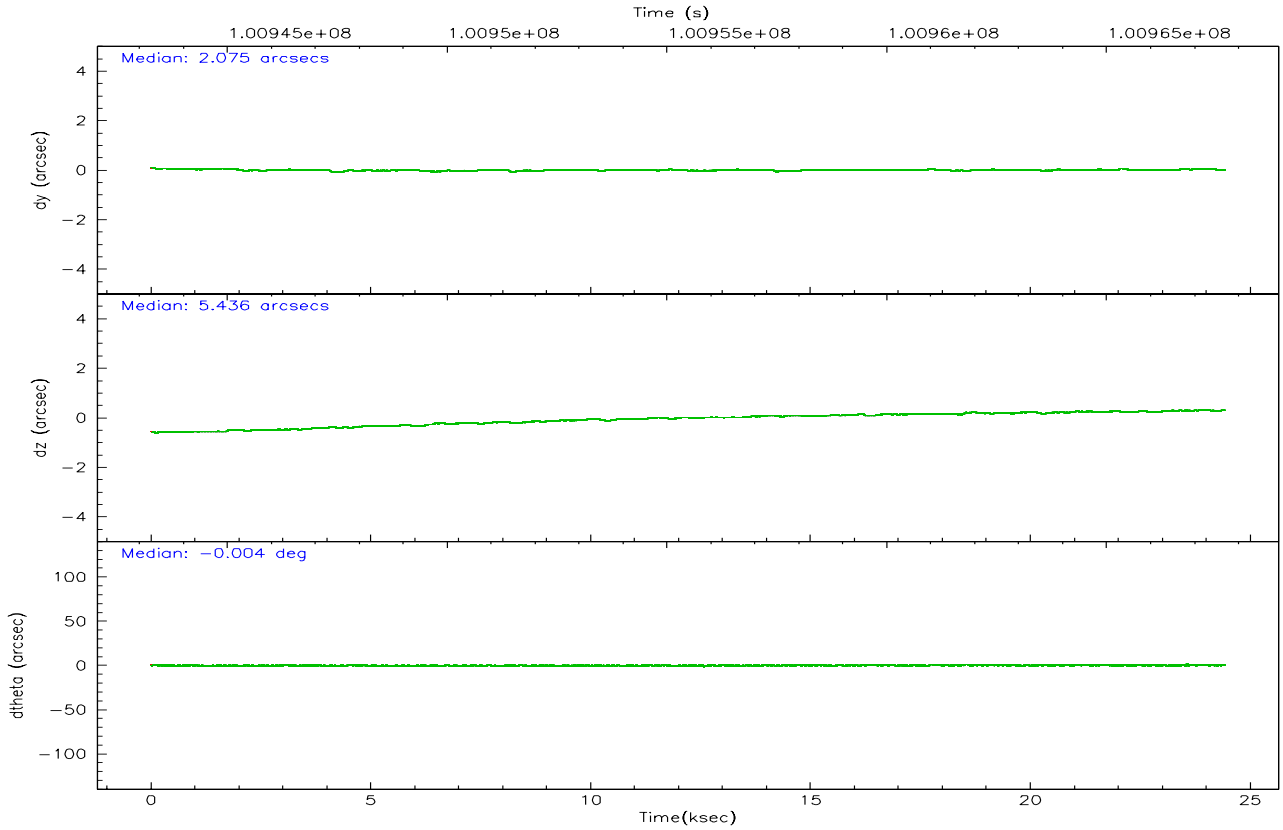
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	CUSTOM	CUSTOM
Subarray start row	49	49
Subarray row count	300	300
Alternating exposures requested	N	N
Primary exposure time	0.000000	0.2

2.3 Aspect


RA : 83.630 deg
Dec : 22.012 deg
Dec (arcsec)
RA (arcsec)
0
−2
−4
−6
−8
−10
−2
0
2
4
6
8


DY : 2.075 arcsecs
DZ : 5.436 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
1.00945e+08
1.0095e+08
1.00955e+08
1.0096e+08
1.00965e+08
Median: 83.630 deg
RA (arcsec)
Median: 22.012 deg
Dec (arcsec)
Median: 272.715 deg
roll (arcsec)
Time(ksec)

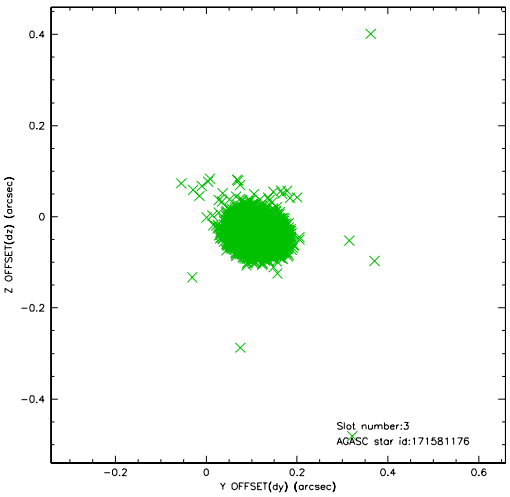

Time (s)
1.00945e+08
1.0095e+08
1.00955e+08
1.0096e+08
1.00965e+08
Median: 2.075 arcsecs
dy (arcsec)
Median: 5.436 arcsecs
dz (arcsec)
Median: −0.004 deg
dtheta (arcsec)
Time(ksec)

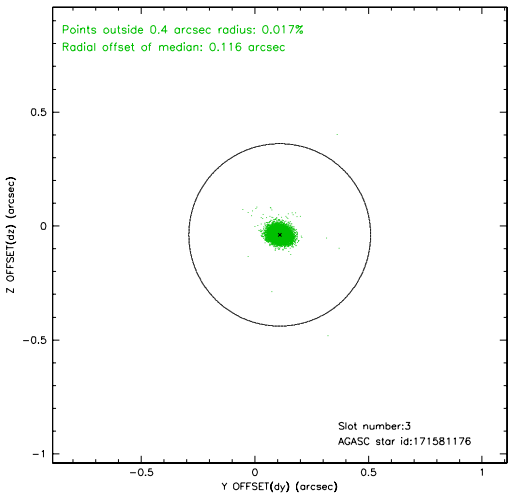
Slot Statistics

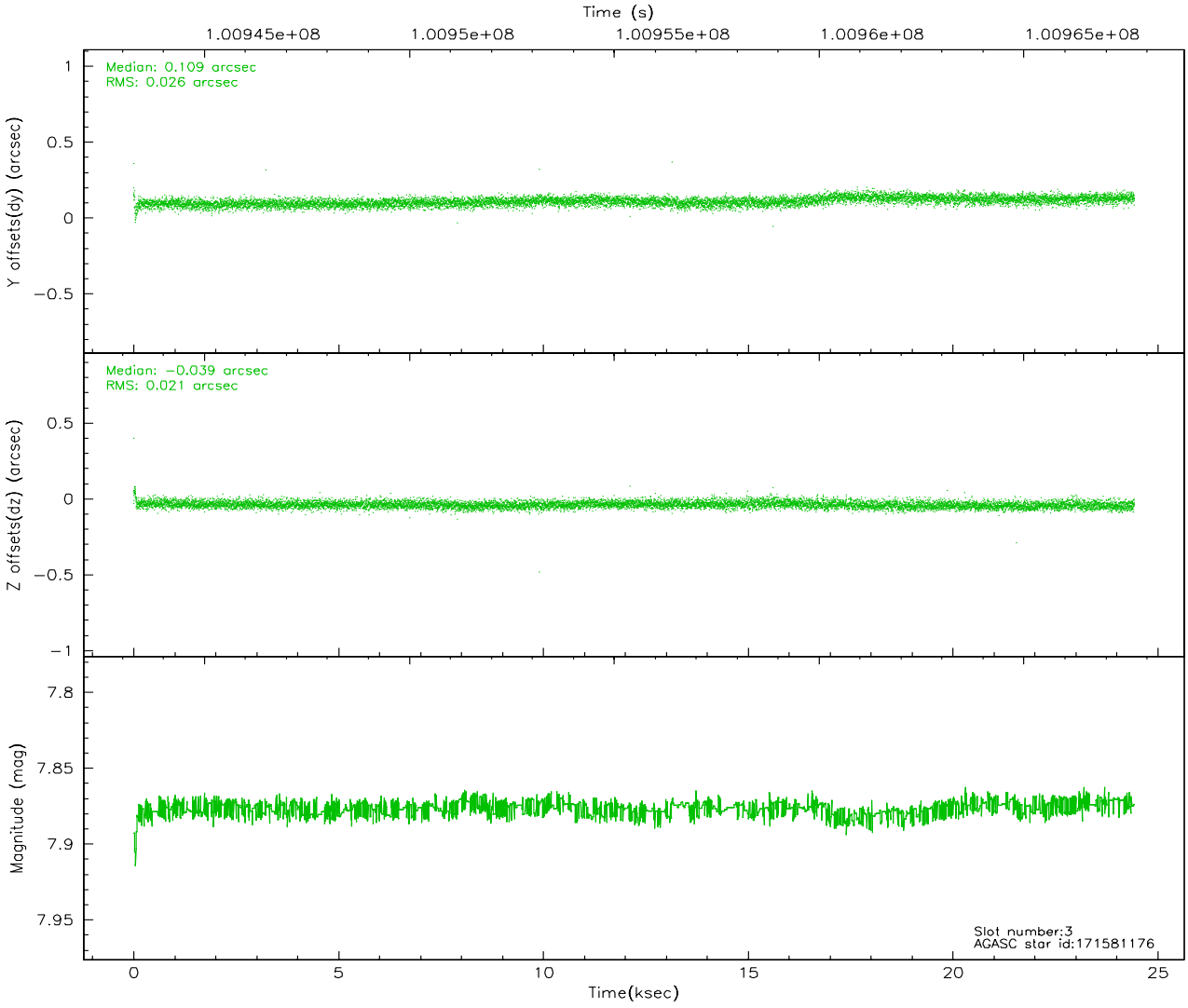
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.10	5959	-0.056	-0.041	0.007	0.011	0.000000	0.000000	-754.21	-1881.32
1	FID	ACIS-S-4	7.18	5958	-0.018	0.038	0.005	0.010	0.000000	0.000000	2159.05	27.08
2	FID	ACIS-S-5	7.23	5958	0.043	0.011	0.006	0.011	0.000000	0.000000	-1806.79	20.86
3	GUIDE	171581176	7.88	11917	0.109	-0.039	0.034	0.056	83.918863	21.403256	2315.43	919.88
4	GUIDE	243941560	8.28	11914	-0.244	-0.024	0.035	0.059	83.733264	22.568598	-1902.90	482.90
5	GUIDE	171585880	8.40	11918	0.077	0.001	0.041	0.066	83.676260	22.176319	-500.51	230.96
6	GUIDE	171586976	8.54	11918	-0.135	0.135	0.038	0.063	83.857953	22.438065	-1415.49	876.90
7	GUIDE	171597832	9.16	11911	0.194	-0.077	0.059	0.099	83.183230	21.366702	2335.51	-1549.61

2.4 Star Slots

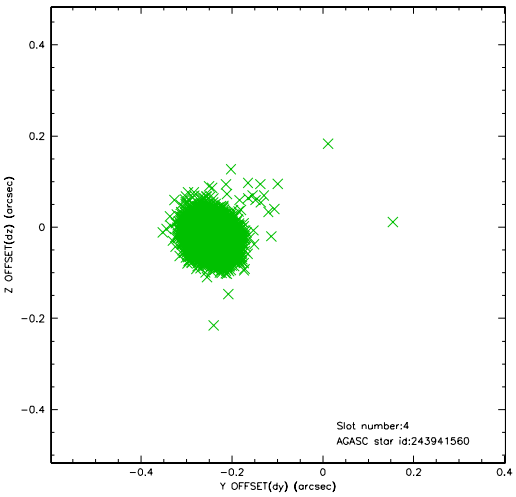
2.4.1 Slot 3

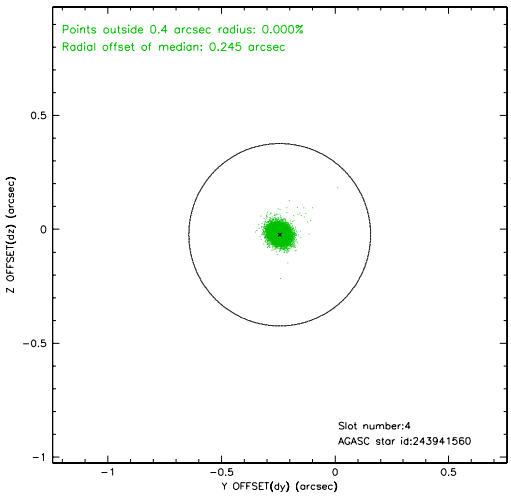


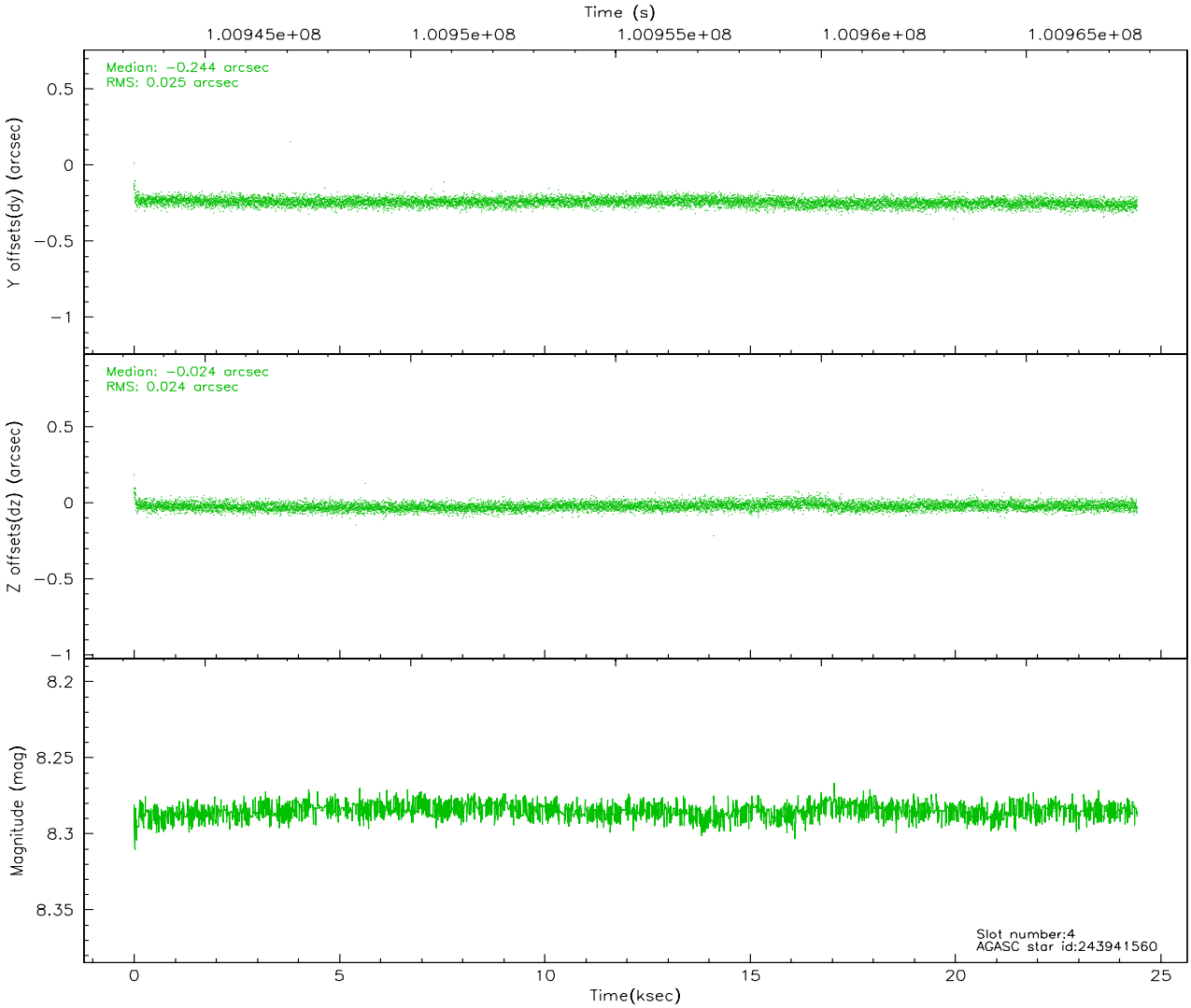




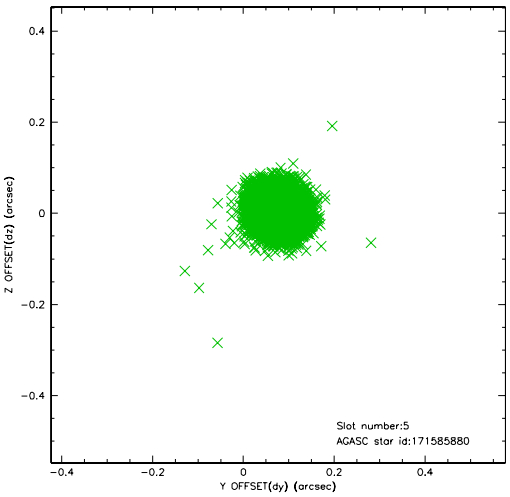
2.4.2 Slot 4

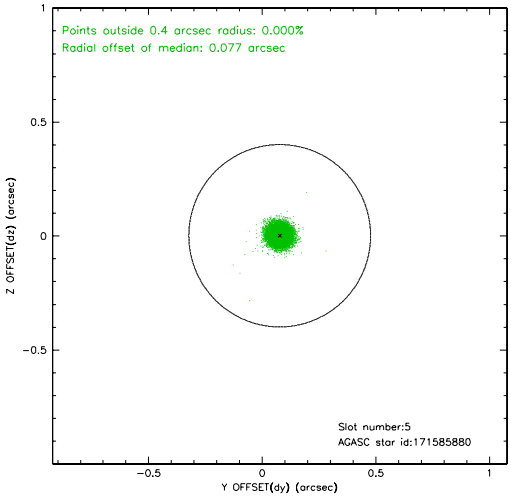

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:243941560

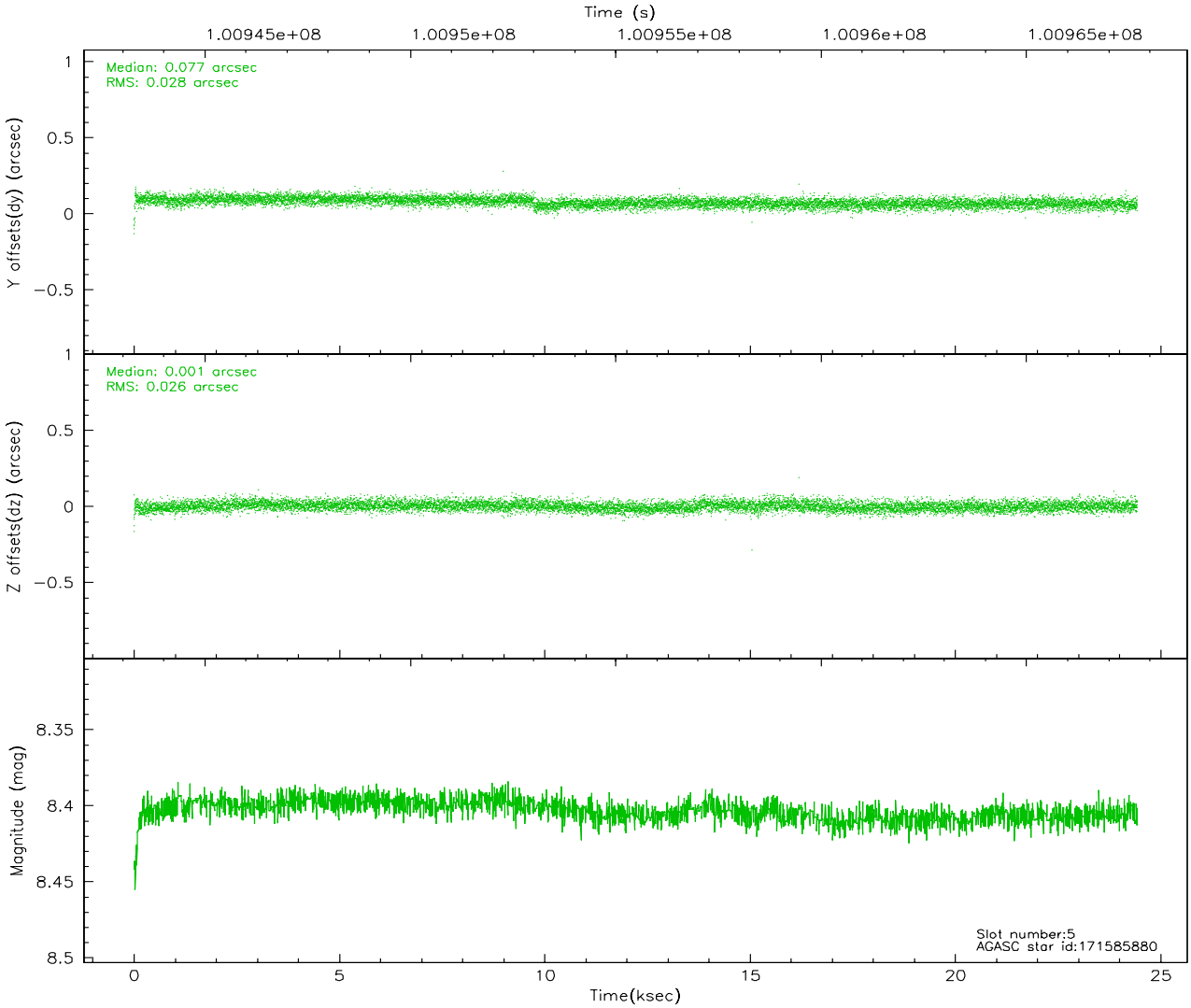

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.245 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:243941560


Time (s)
1.00945e+08
1.0095e+08
1.00955e+08
1.0096e+08
1.00965e+08
Median: −0.244 arcsec
RMS: 0.025 arcsec
Y offsets(dy) (arcsec)
Median: −0.024 arcsec
RMS: 0.024 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:243941560
Time(ksec)

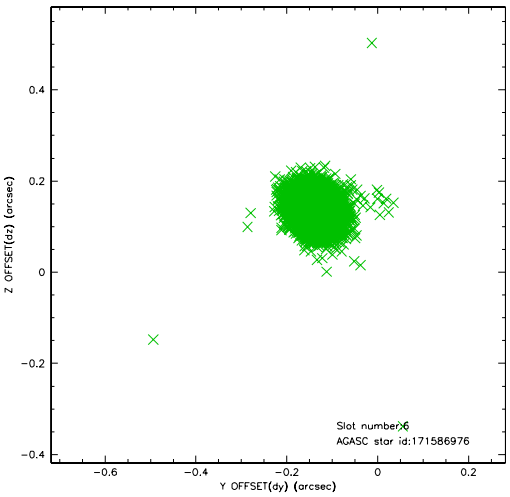
2.4.3 Slot 5

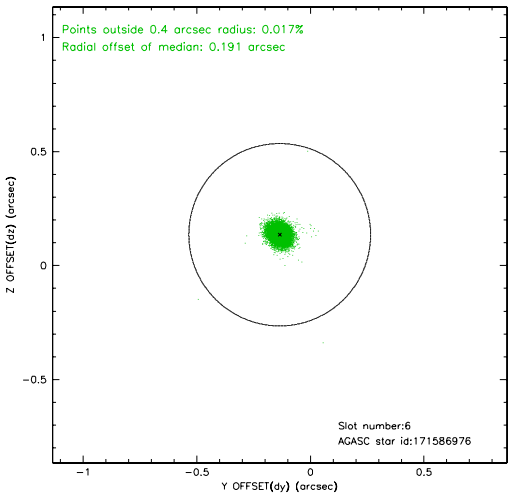

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:171585880

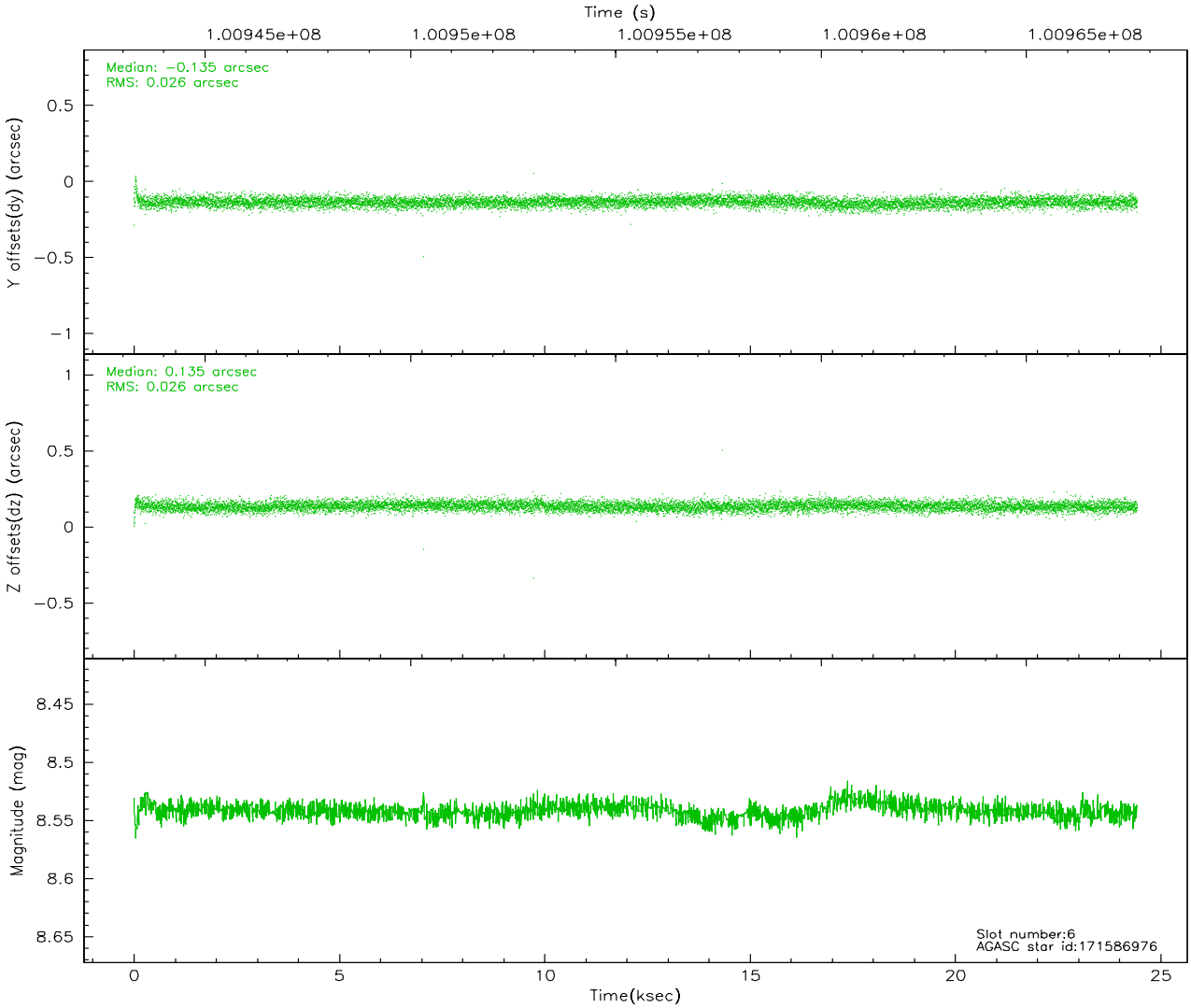

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.077 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:171585880


Time (s)
1.00945e+08
1.0095e+08
1.00955e+08
1.0096e+08
1.00965e+08
Median: 0.077 arcsec
RMS: 0.028 arcsec
Y offsets(dy) (arcsec)
Median: 0.001 arcsec
RMS: 0.026 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:171585880
Time(ksec)

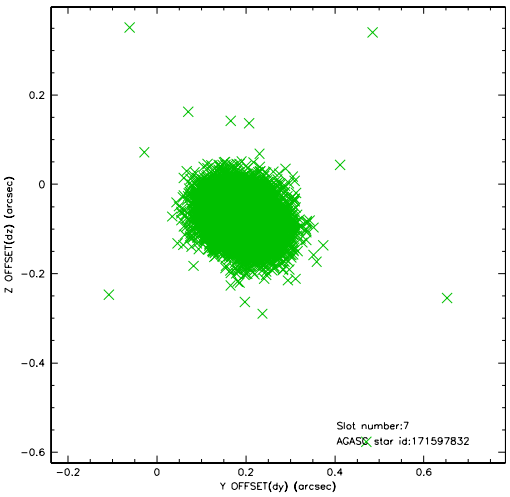
2.4.4 Slot 6

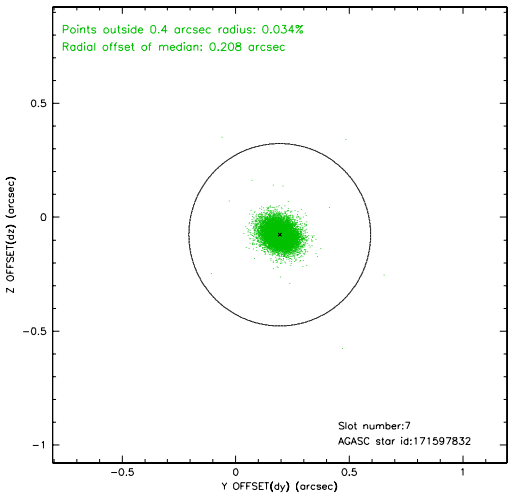

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:171586976

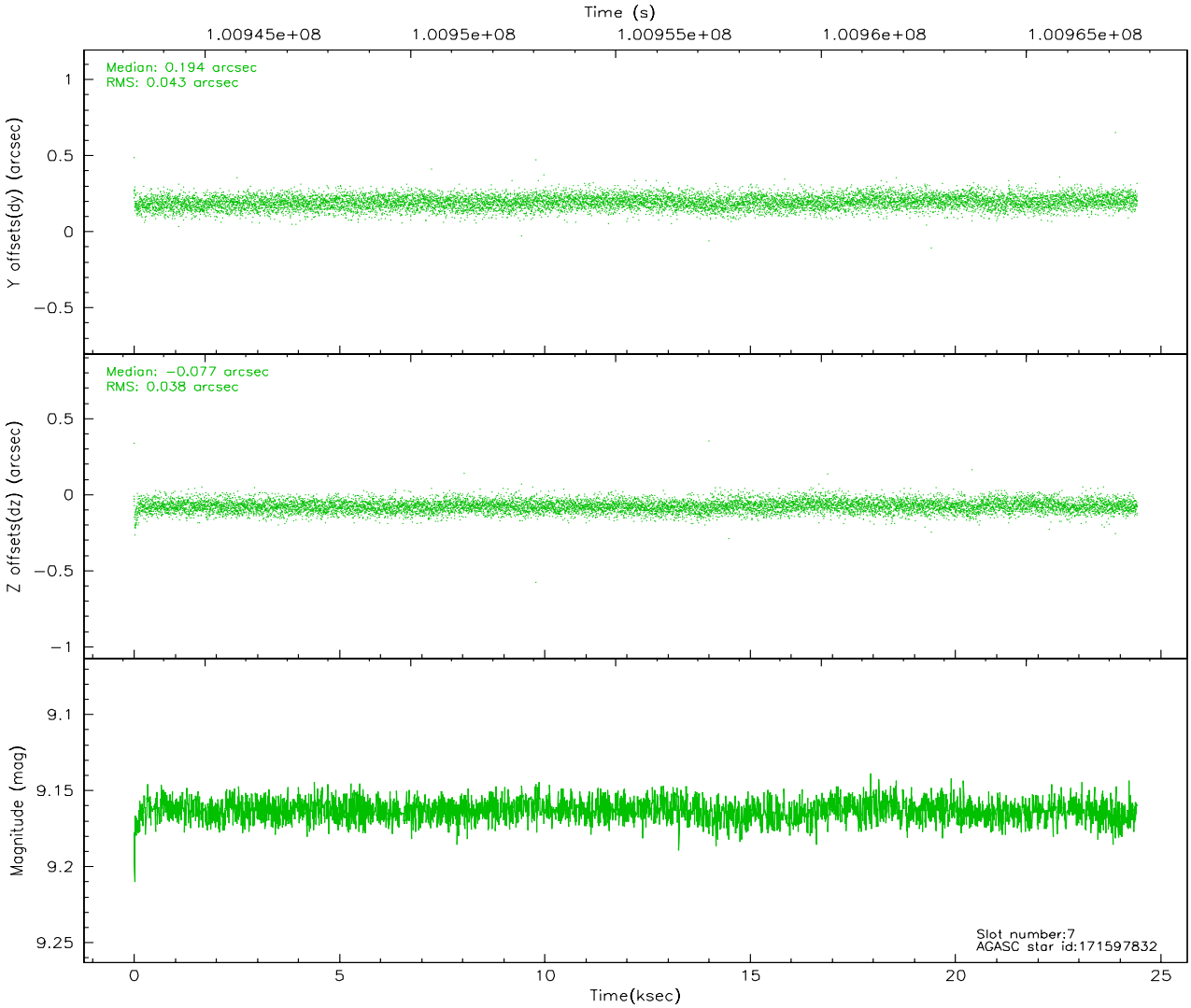

Points outside 0.4 arcsec radius: 0.017%
Radial offset of median: 0.191 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:171586976


Time (s)
1.00945e+08
1.0095e+08
1.00955e+08
1.0096e+08
1.00965e+08
Median: −0.135 arcsec
RMS: 0.026 arcsec
Y offsets(dy) (arcsec)
Median: 0.135 arcsec
RMS: 0.026 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:171586976
Time(ksec)

2.4.5 Slot 7

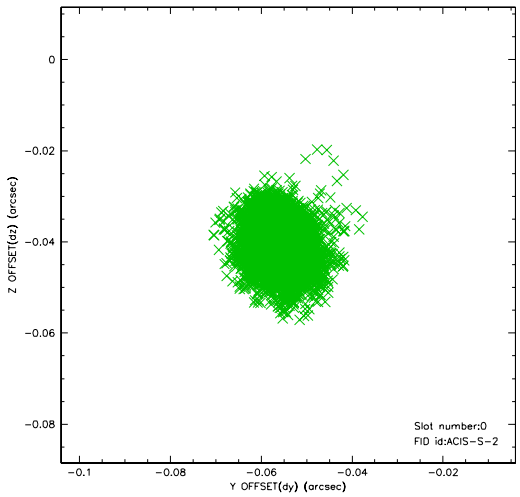

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:171597832

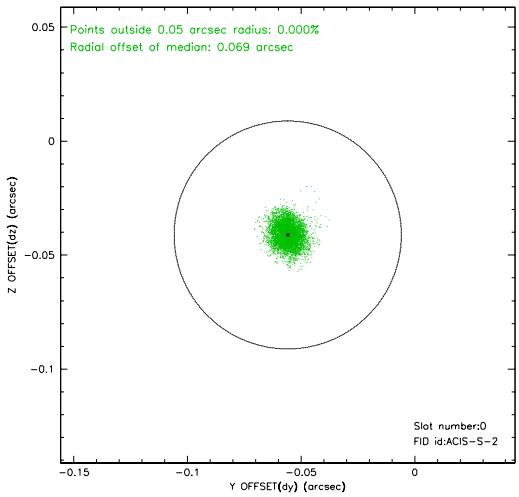

Points outside 0.4 arcsec radius: 0.034%
Radial offset of median: 0.208 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:171597832

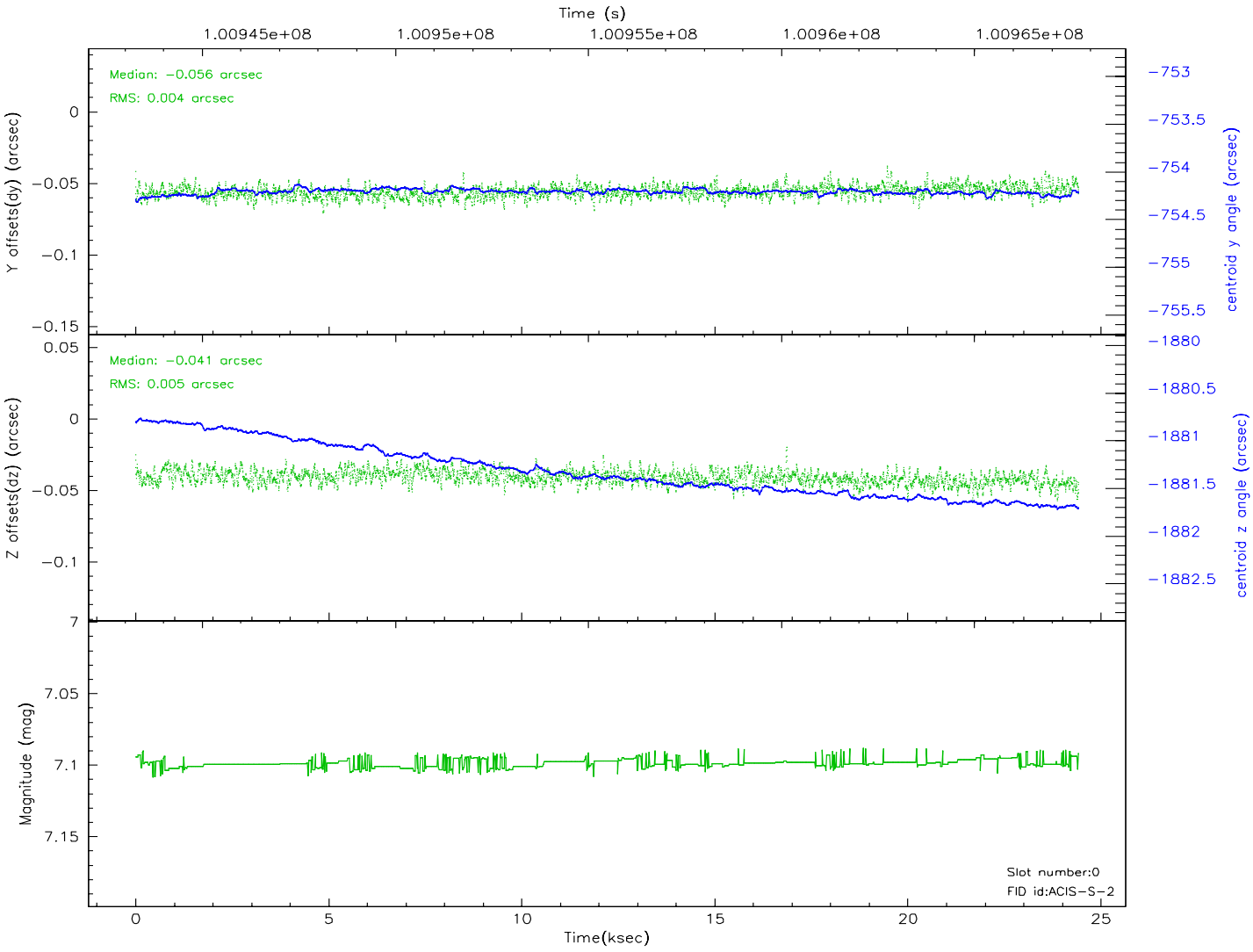

Time (s)
1.00945e+08
1.0095e+08
1.00955e+08
1.0096e+08
1.00965e+08
Median: 0.194 arcsec
RMS: 0.043 arcsec
Y offsets(dy) (arcsec)
Median: −0.077 arcsec
RMS: 0.038 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:171597832
Time(ksec)

2.5 FID Slots

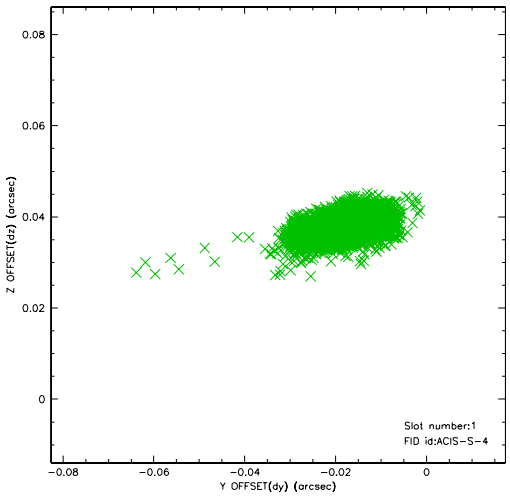
2.5.1 Slot 0

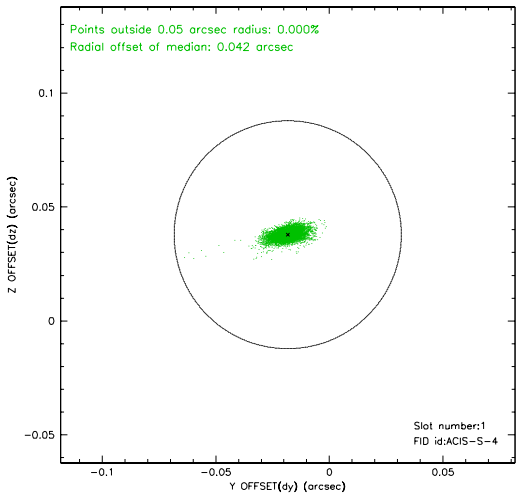


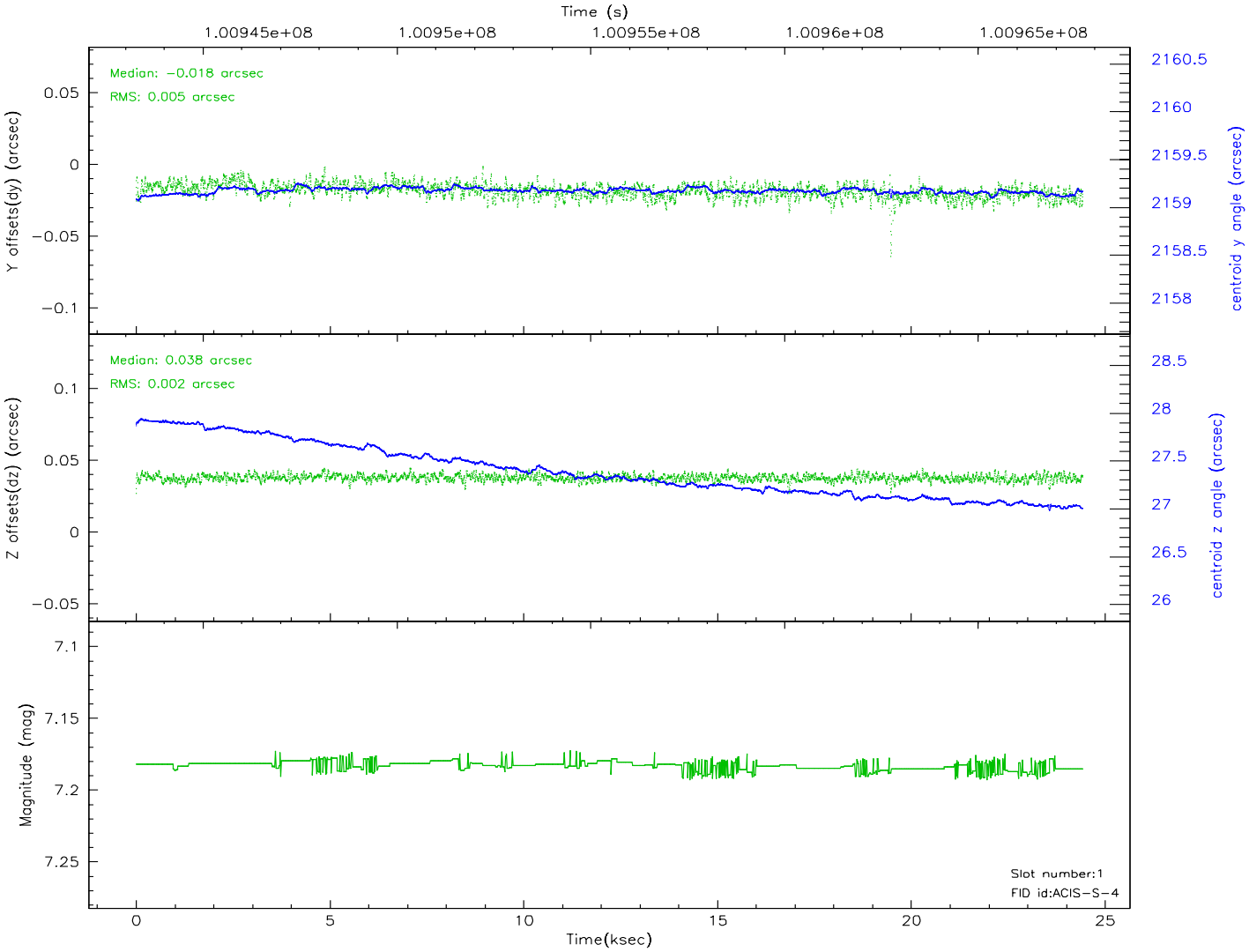




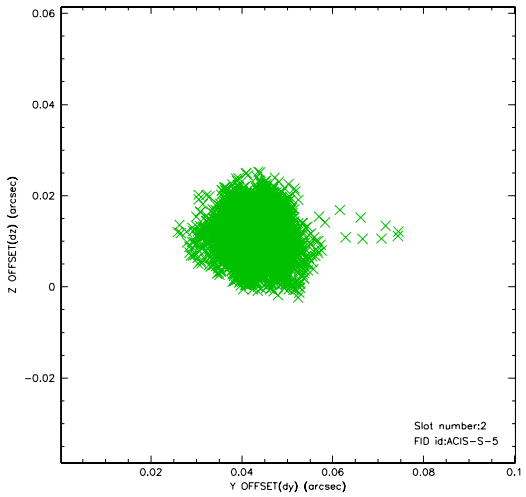
2.5.2 Slot 1

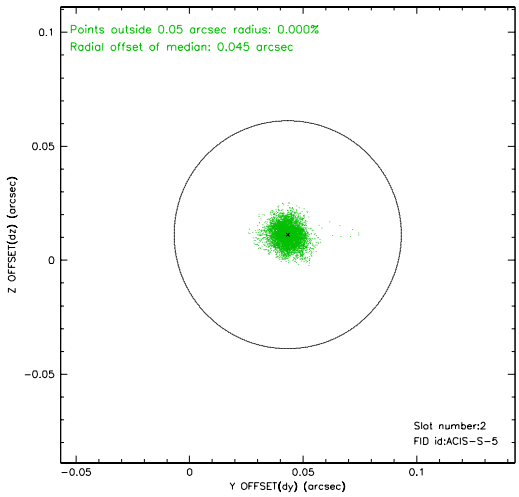

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4

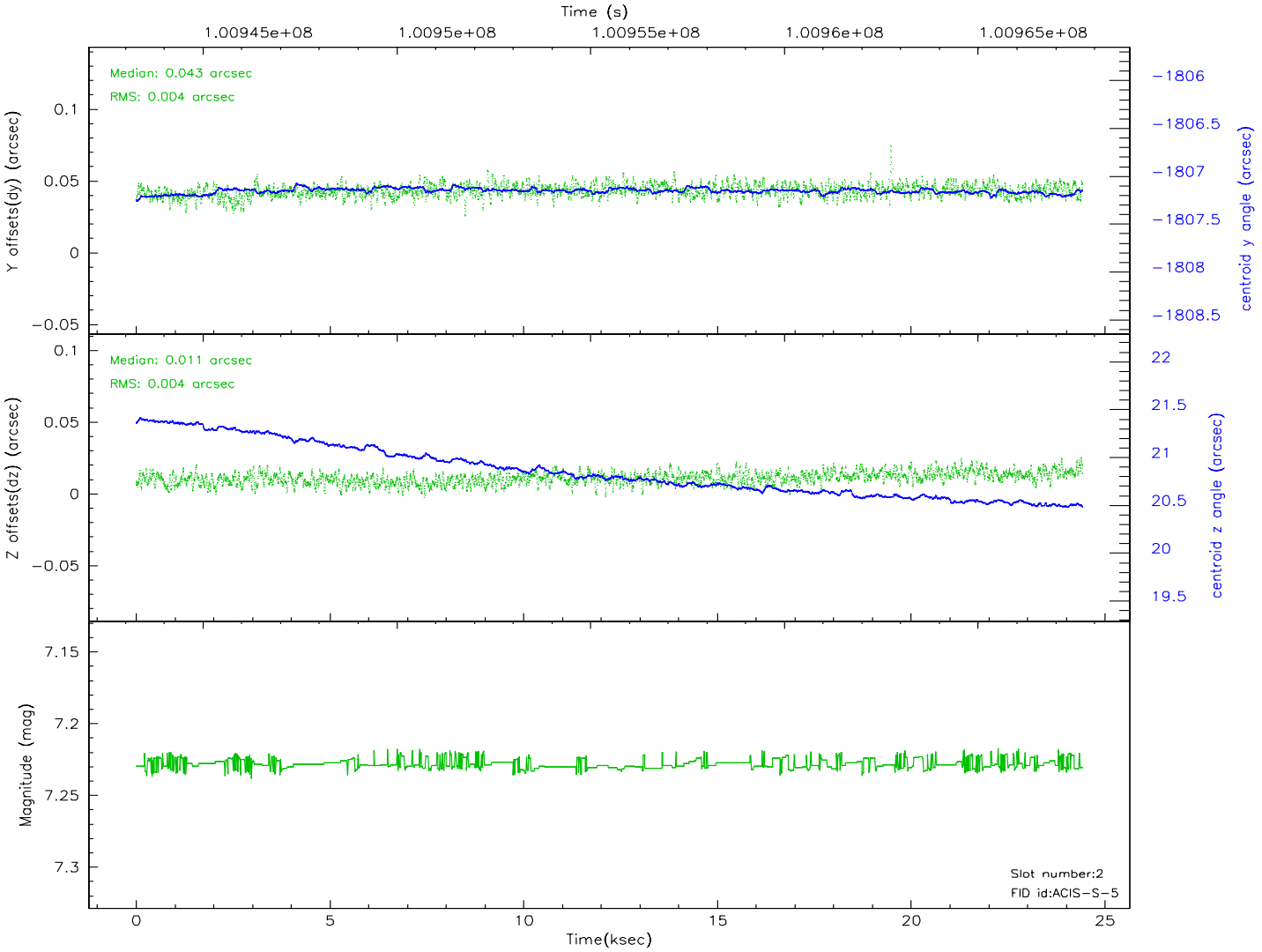

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.042 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4


Time (s)
1.00945e+08
1.0095e+08
1.00955e+08
1.0096e+08
1.00965e+08
Median: −0.018 arcsec
RMS: 0.005 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.038 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: 0.045 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:ACIS-S-5


Time (s)
Median: 0.043 arcsec
RMS: 0.004 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)

3 Point Sources

A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2007.01.24
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	22.726

A.2 Comments

```
Charge time for this ObsId remains at original value of 22.726 ks,
although
with the current processing the charge time would have been 14.702
ksec.
The lower time value for this processing of the data is due to improved
accounting of telemetry saturation in the software. There are many
dropped
exposures in this observation due to telemetry saturation.

This observation is not dithered. The boundary between 2 nodes of the
CCD chip
is sharp and very apparent as a streak of lower flux 2-4 columns wide.
The streak is only seen in Level 2 data, because the bad data are
filtered at
that point.
```