V&V Reference Report
L2 ASCDS Version : 7.6.9

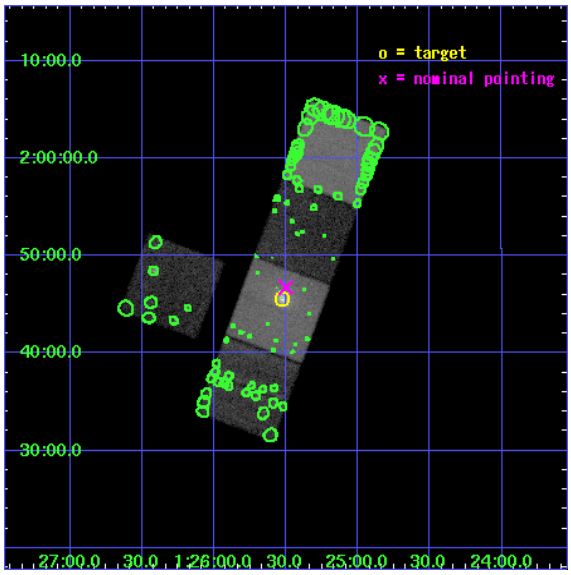
Observation 2880 - L2 Version 001
Chandra X-Ray Center

L2 Processing Date : Sep 26 2006

Contents

1 Front

seq_num	600217
obs_id	2880
title	STELLAR MASS LOSS VERSUS EXTERNAL ACCRETION IN X-RAY BRIGHT ELLIPTICALS
observer	Dr. Craig Sarazin
object	NGC533
dtycycle	0
cycle	P
ra_targ	21.380833
dec_targ	1.759111
ra_nom	21.37526754034
dec_nom	1.7791492421795
roll_nom	110.32456418789
revision	2
ontime	38102.09992674
livetime	37604.267940839
ontime3	38098.958966494
ontime5	38102.09992674
ontime6	38102.09992674
ontime7	38102.09992674
ontime8	38098.958986431
l2events	293781

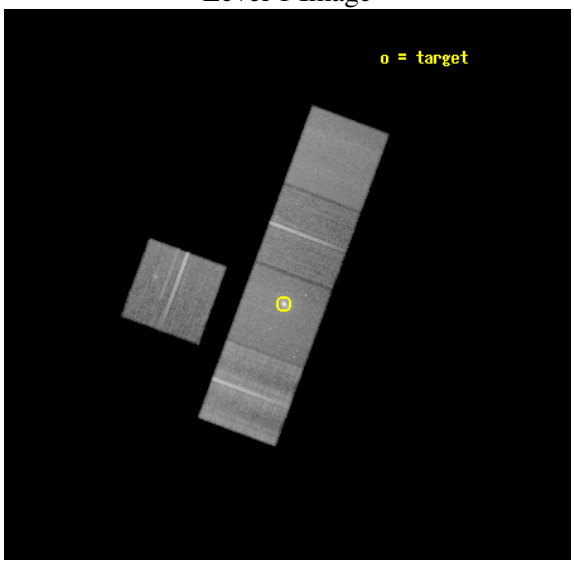


2 OBI

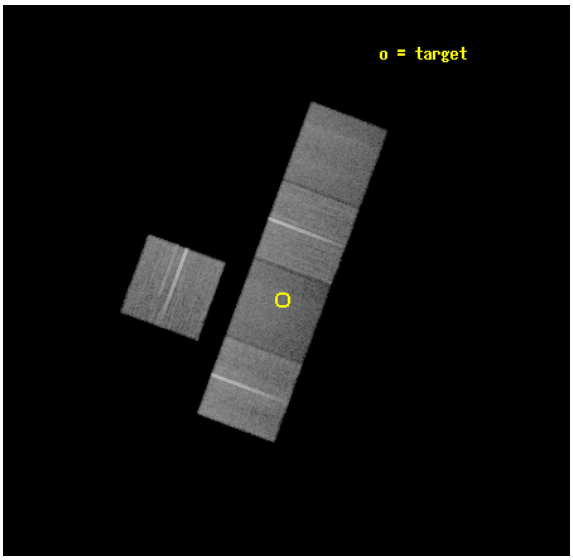
2.1 OBI

2.1.1 Images

Level 1 Image

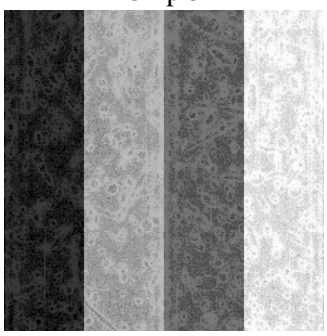


Level 1 Bad Events

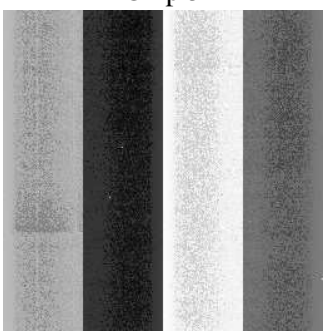


2.1.2 Bias

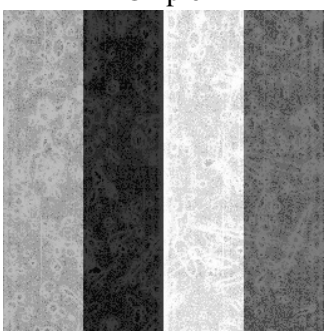
Chip 3



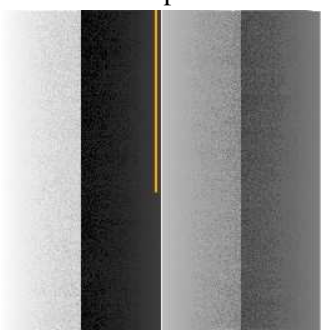
Chip 5



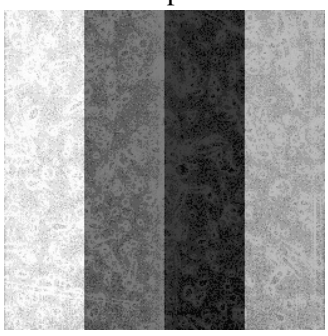
Chip 6



Chip 7



Chip 8



2.1.3 Parameters

obi_num	0
ascdsver	7.6.9
caldbver	3.2.3
date	2006-09-26T17:28:14
revision	2

sched_exp_time	38000.000000
ontime	38106.63475728
ontime3	38106.634787202
ontime5	38106.63475728
ontime6	38106.63475728
ontime7	38106.63475728
ontime8	38106.63480714
l1events	1153760

2.1.4 Events

	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
level 1 events	194432	246331	202065	233636	277296
rejected events	174498	130236	178601	116763	191792
rejected %	89%	52%	88%	49%	69%

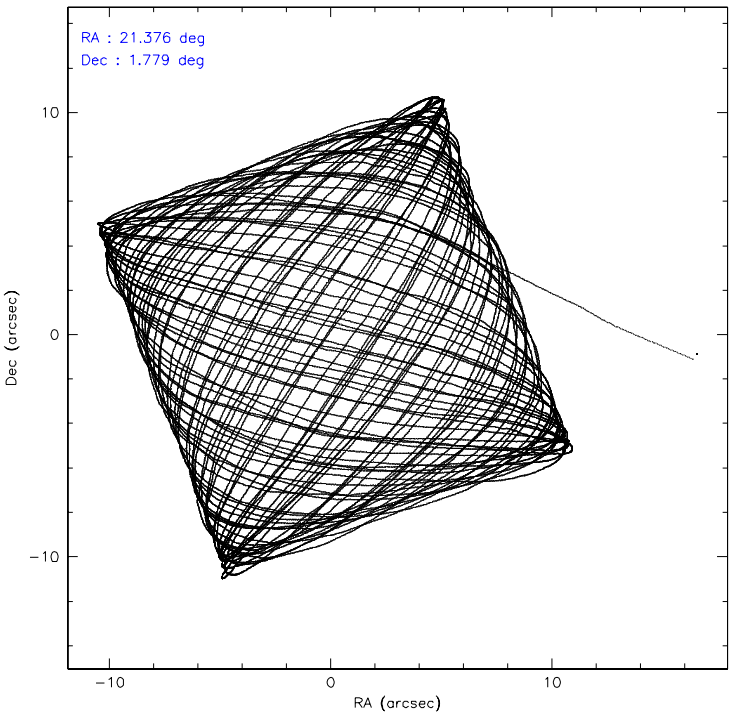
	ccd 3	ccd 5	ccd 6	ccd 7	ccd 8
grade 0 events	8011	4829	9697	14614	26338
	4%	1%	4%	6%	9%
grade 1 events	87	77	97	106	209
	0%	0%	0%	0%	0%
grade 2 events	4047	37243	4745	29829	15477
	2%	15%	2%	12%	5%
grade 3 events	2058	3356	2318	8635	12008
	1%	1%	1%	3%	4%
grade 4 events	2061	3230	2220	8419	10656
	1%	1%	1%	3%	3%
grade 5 events	6518	12772	7098	15583	10486
	3%	5%	3%	6%	3%
grade 6 events	3762	67451	4485	55389	21046
	1%	27%	2%	23%	7%
grade 7 events	167888	117373	171405	101061	181076
	86%	47%	84%	43%	65%

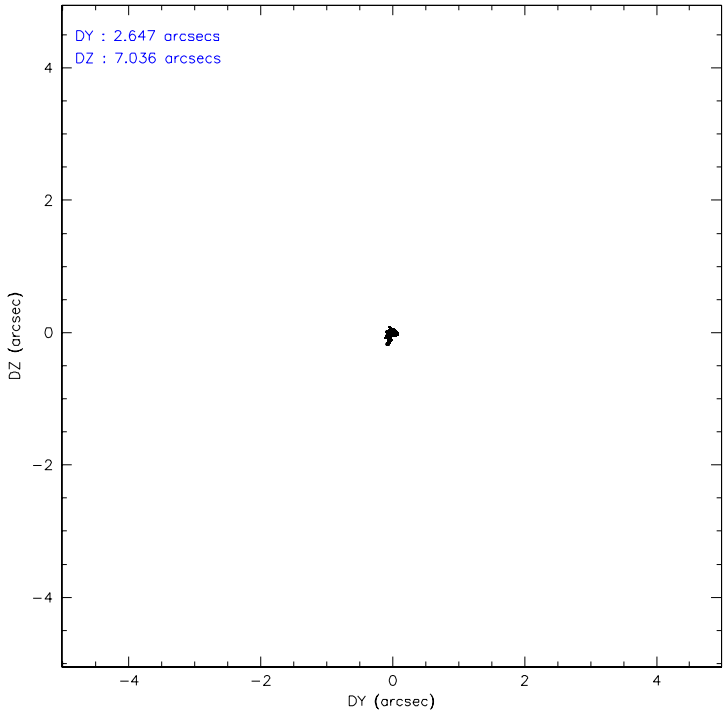
2.2 Compared Parameters

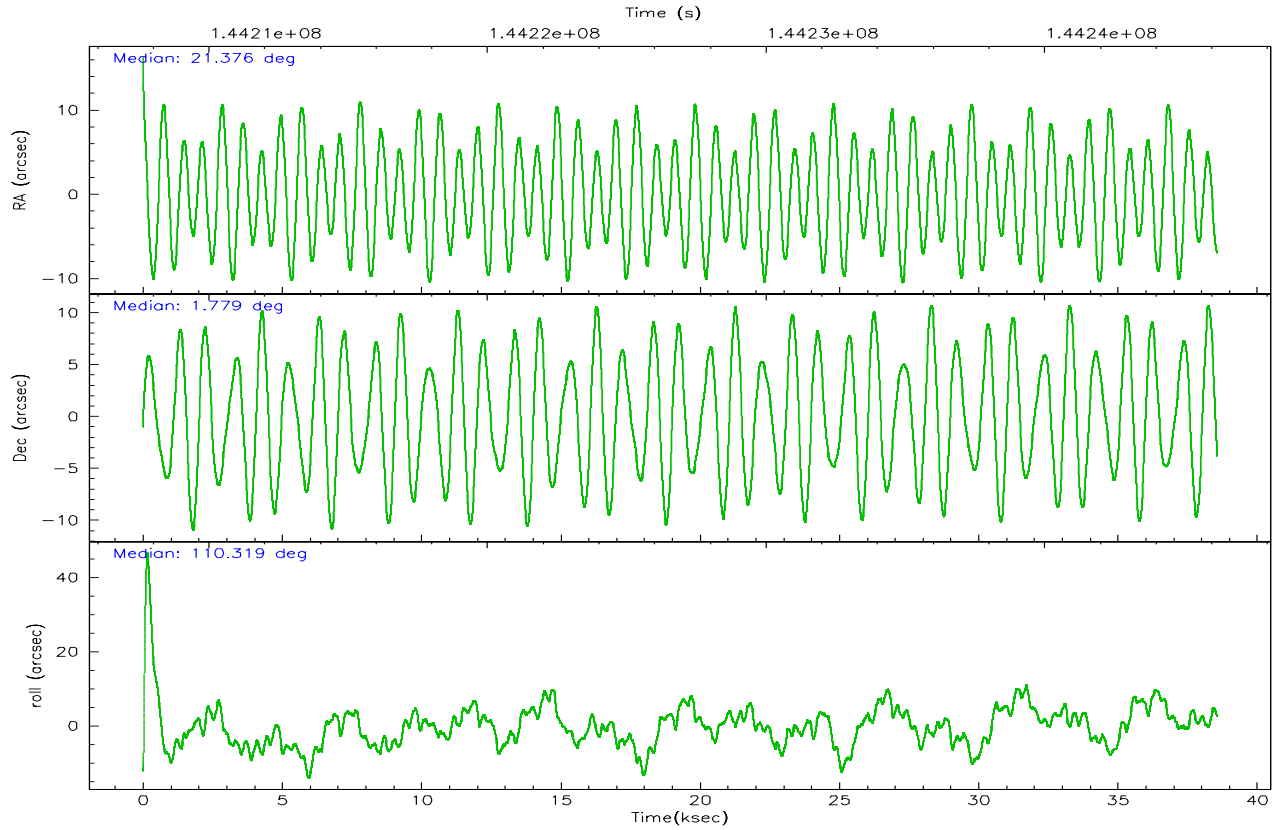
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-35678	ACIS-35678
Grating	NONE	NONE
Data mode	VFAINT	VFAINT
Observation mode	POINTING	POINTING
Pointing RA	21.396464	21.37526754034001
Pointing Dec	1.762012	1.779149242179511
Pointing Roll	110.167301	110.3245641878947
SIM focus pos (mm)	-0.684267	-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	144208192.184000	144207037.9425
Observation start date	2002-07-28T01:48:48	2002-07-28T01:30:37
Observation end time	144246192.184000	144246996.03164
Observation end date	2002-07-28T12:22:08	2002-07-28T12:36:36
Read mode	TIMED	TIMED

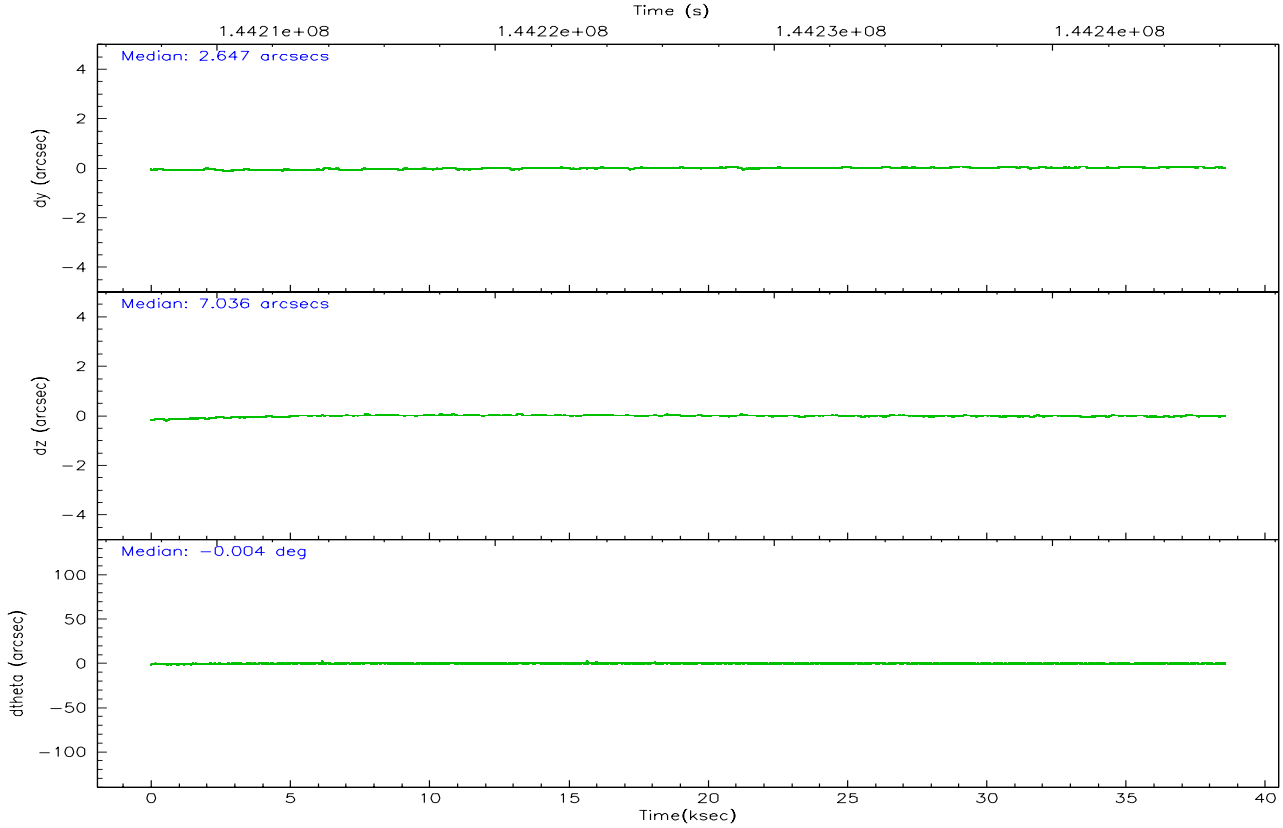
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
Number of optional ACIS chips dropped	0	0
On-chip summing requested	N	N
Subarray requested	NONE	NONE
Alternating exposures requested	N	N
Primary exposure time	0.000000	3.1

2.3 Aspect


RA : 21.376 deg
Dec : 1.779 deg
10
0
−10
Dec (arcsec)
−10
0
10
RA (arcsec)


DY : 2.647 arcsecs
DZ : 7.036 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
1.4421e+08
1.4422e+08
1.4423e+08
1.4424e+08
Median: 21.376 deg
RA (arcsec)
Median: 1.779 deg
Dec (arcsec)
Median: 110.319 deg
roll (arcsec)
Time(ksec)

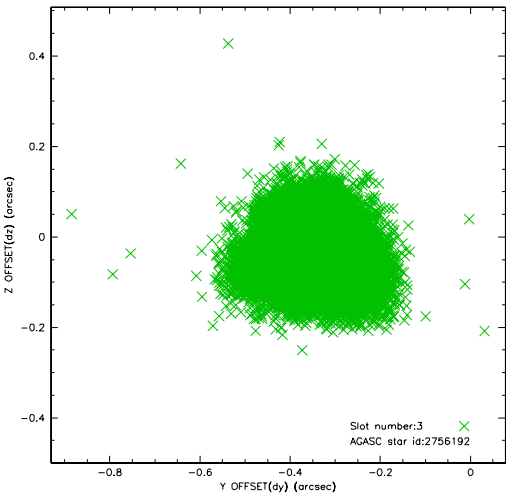

Time (s)
1.4421e+08
1.4422e+08
1.4423e+08
1.4424e+08
Median: 2.647 arcsecs
dy (arcsec)
Median: 7.036 arcsecs
dz (arcsec)
Median: −0.004 deg
dtheta (arcsec)
Time(ksec)

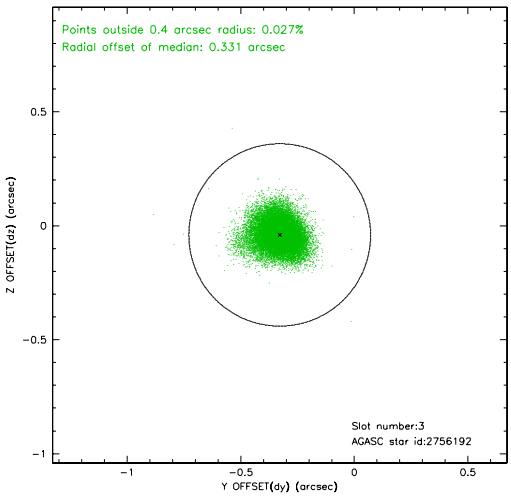
Slot Statistics

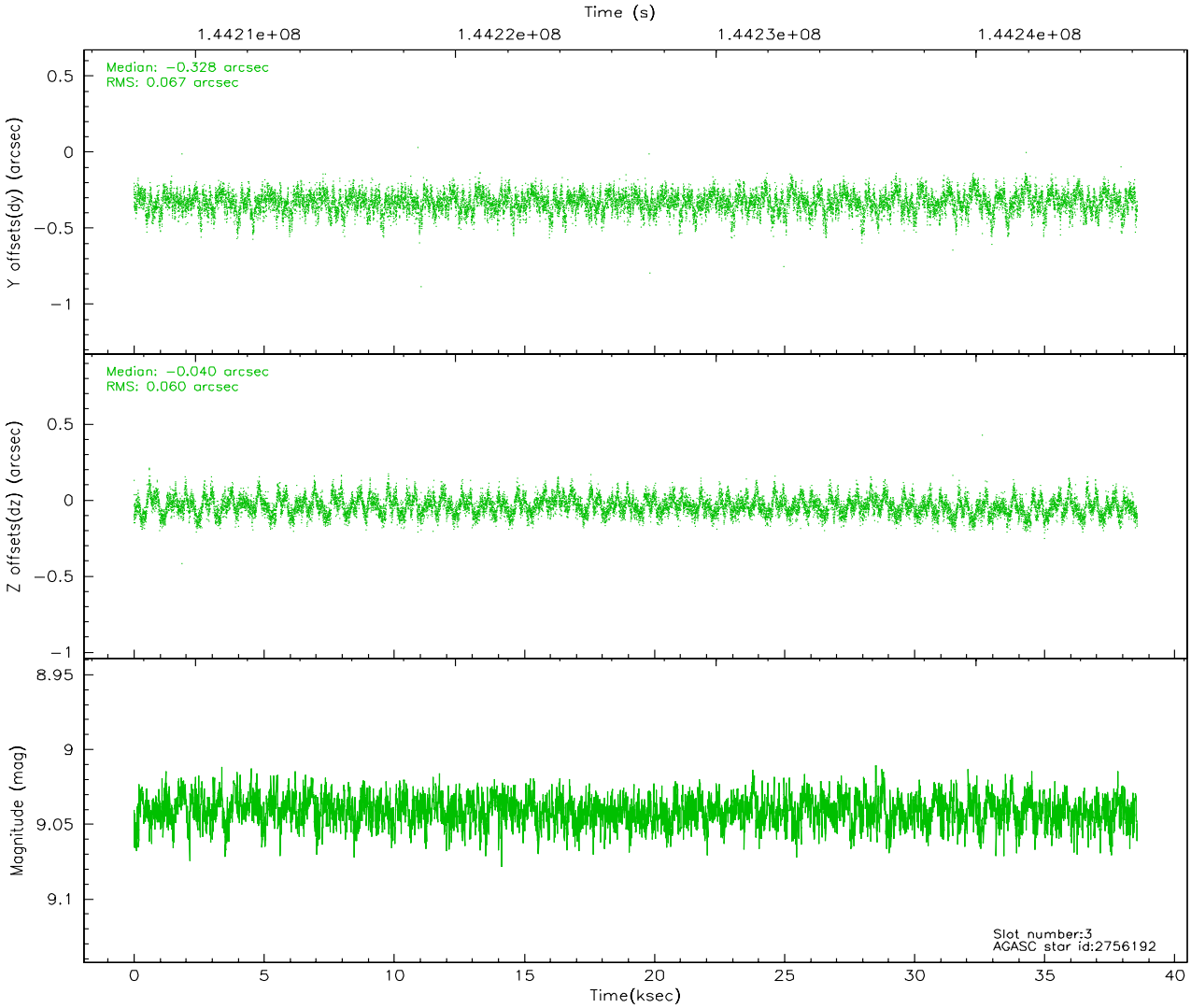
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-2	7.11	9405	-0.007	0.032	0.006	0.011	0.000000	0.000000	-755.27	-1728.17
1	FID	ACIS-S-4	7.20	9406	-0.068	-0.005	0.005	0.008	0.000000	0.000000	2157.93	180.27
2	FID	ACIS-S-5	7.24	9407	0.044	-0.018	0.006	0.011	0.000000	0.000000	-1808.04	173.94
3	GUIDE	2756192	9.04	18808	-0.328	-0.040	0.095	0.154	20.982348	2.298438	2326.85	734.12
4	GUIDE	2753504	10.08	18793	0.238	0.124	0.174	0.285	21.721458	1.297652	-1971.24	-520.32
5	GUIDE	2753960	9.94	18703	-0.015	-0.182	0.168	0.264	20.904906	1.901728	1082.61	1488.00
6	GUIDE	2761928	9.96	18609	-0.137	0.123	0.147	0.252	21.376870	2.420884	2251.62	-749.78
7	GUIDE	2758752	9.52	18804	0.245	-0.040	0.125	0.199	21.515614	1.127525	-2290.84	386.11

2.4 Star Slots

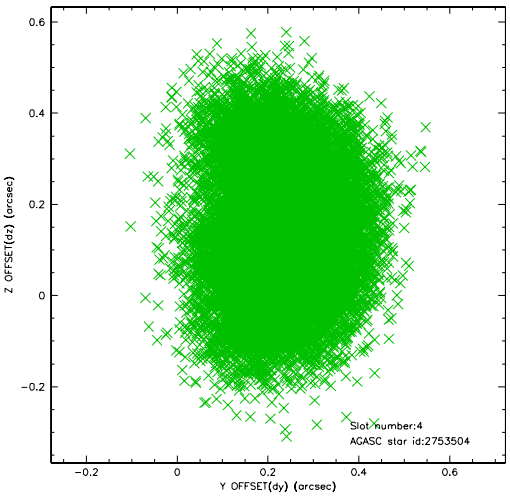
2.4.1 Slot 3

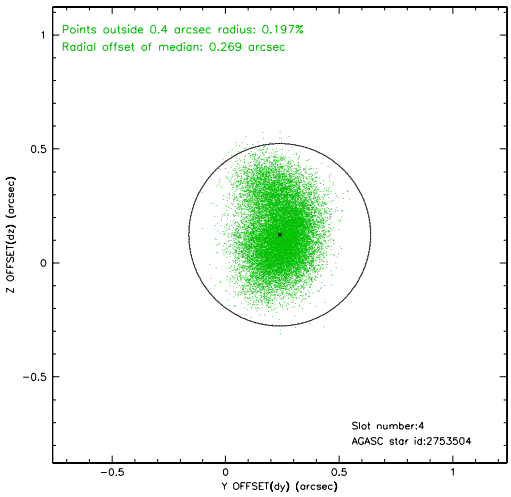


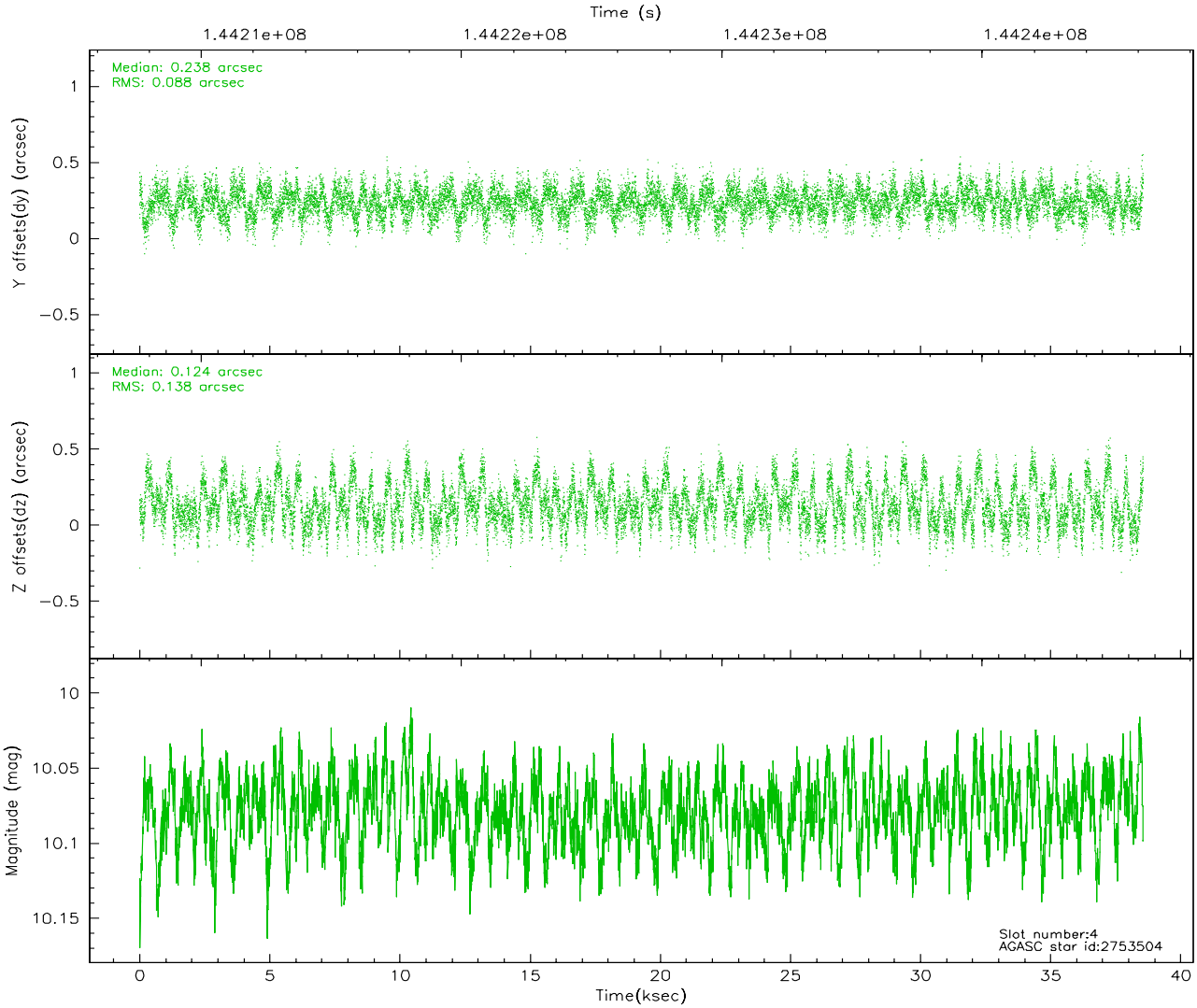




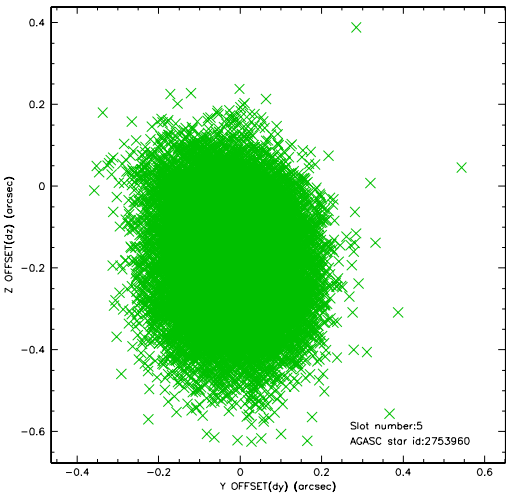
2.4.2 Slot 4

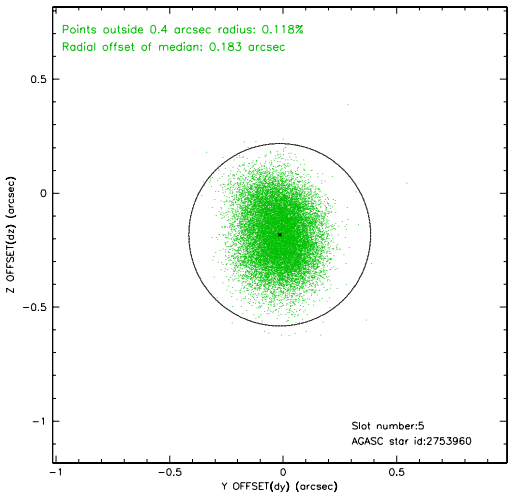

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:2753504

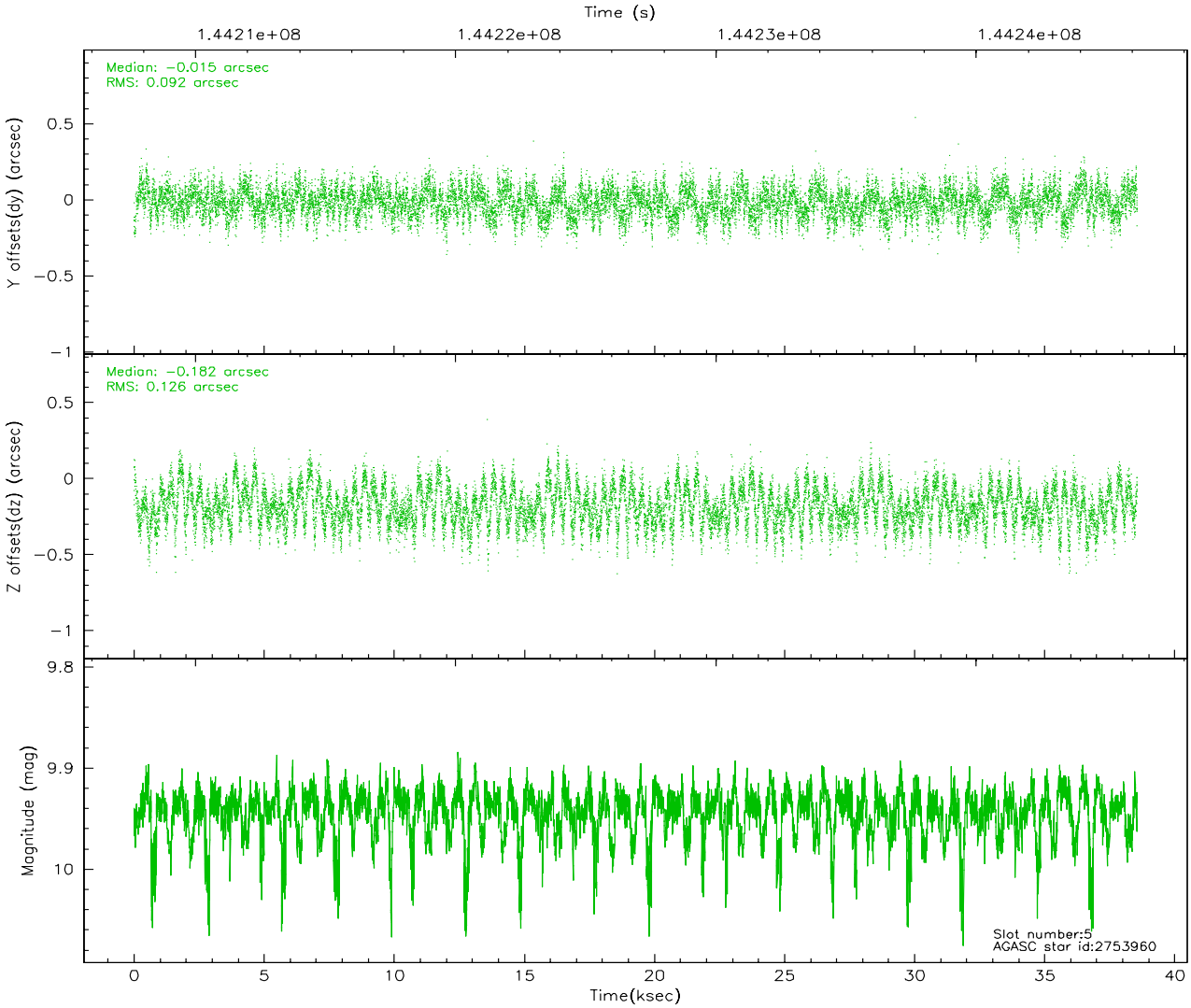

Points outside 0.4 arcsec radius: 0.197%
Radial offset of median: 0.269 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:2753504


Time (s)
1.4421e+08
1.4422e+08
1.4423e+08
1.4424e+08
Median: 0.238 arcsec
RMS: 0.088 arcsec
Y offsets(dy) (arcsec)
Median: 0.124 arcsec
RMS: 0.138 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:2753504
Time(ksec)

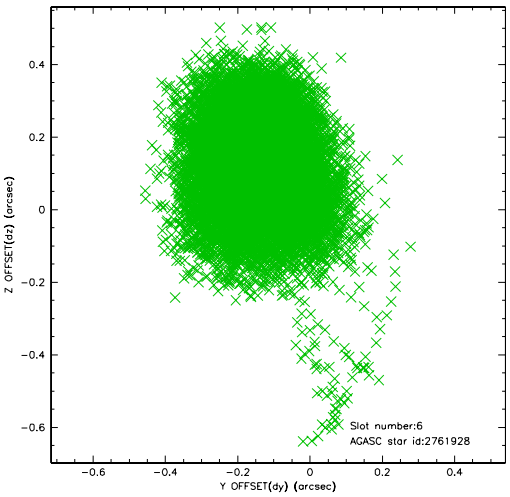
2.4.3 Slot 5

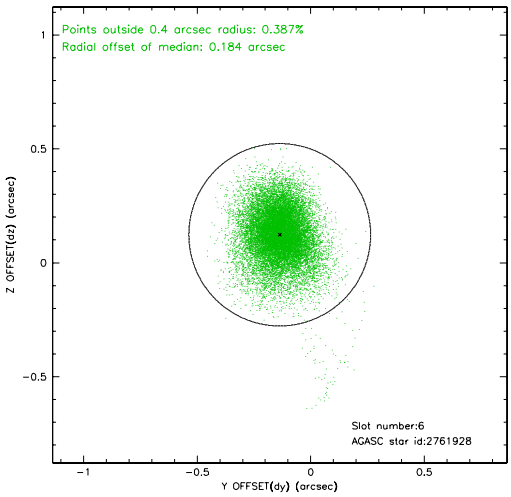

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:2753960

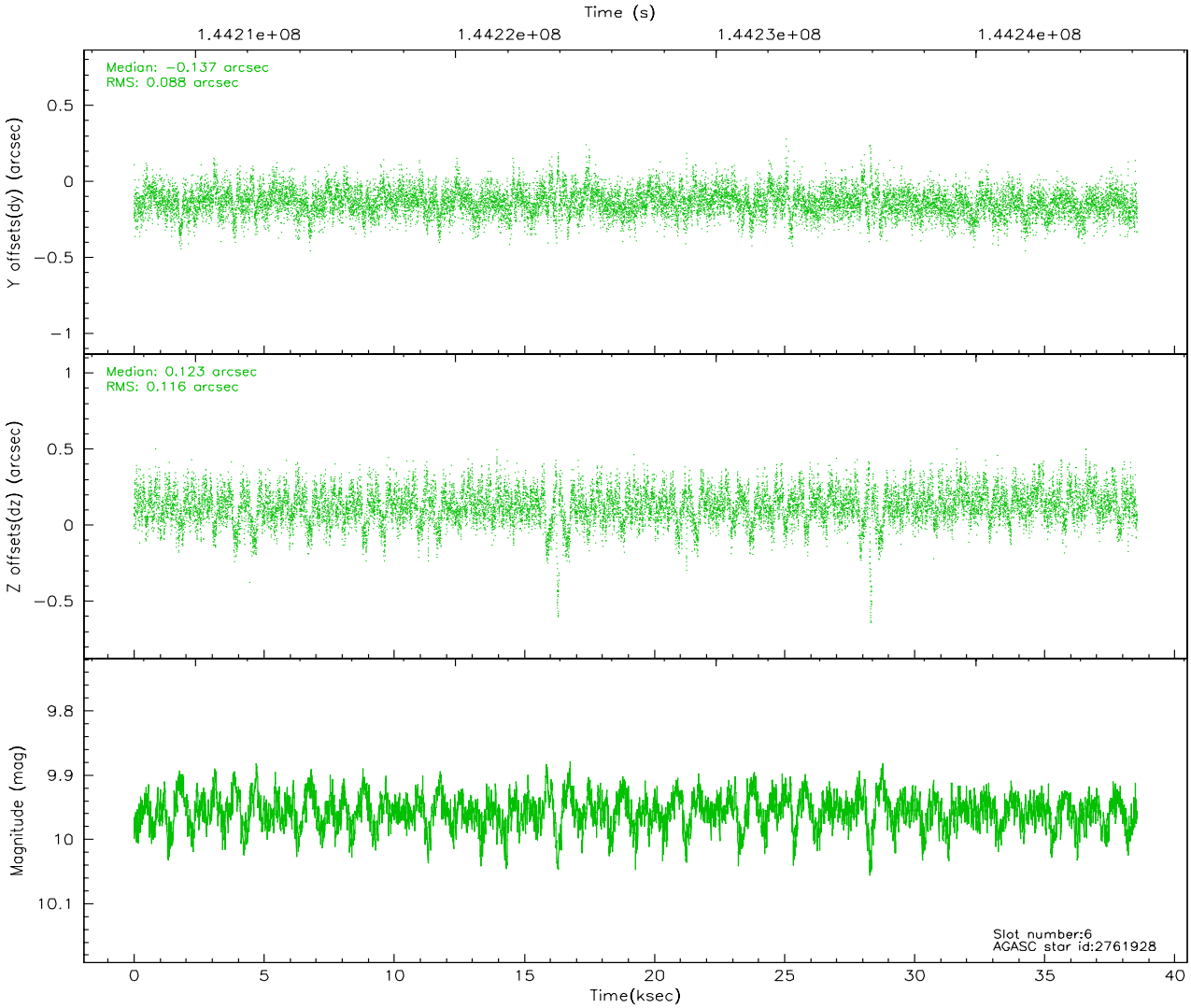

Points outside 0.4 arcsec radius: 0.118%
Radial offset of median: 0.183 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:2753960


Time (s)
1.4421e+08
1.4422e+08
1.4423e+08
1.4424e+08
Median: −0.015 arcsec
RMS: 0.092 arcsec
Y offsets(dy) (arcsec)
Median: −0.182 arcsec
RMS: 0.126 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:2753960
Time(ksec)

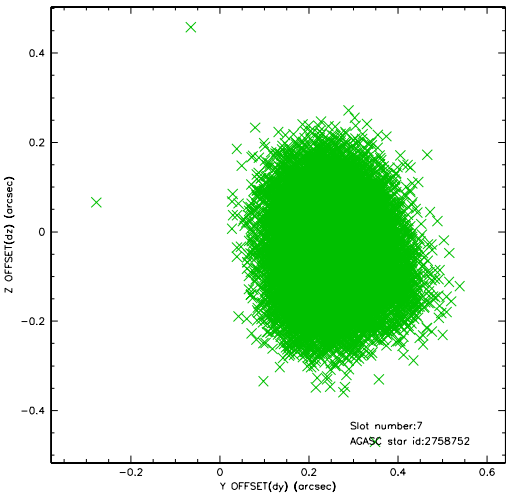
2.4.4 Slot 6

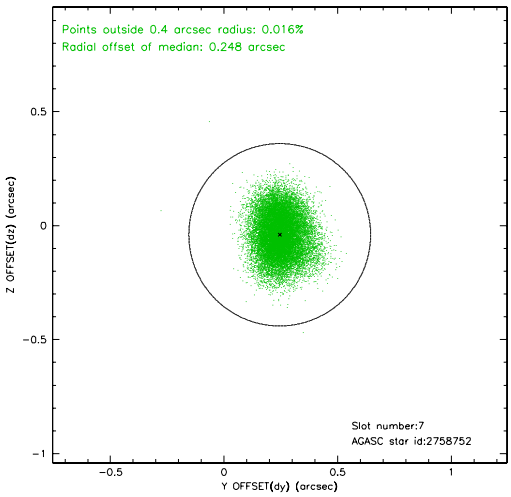

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:2761928

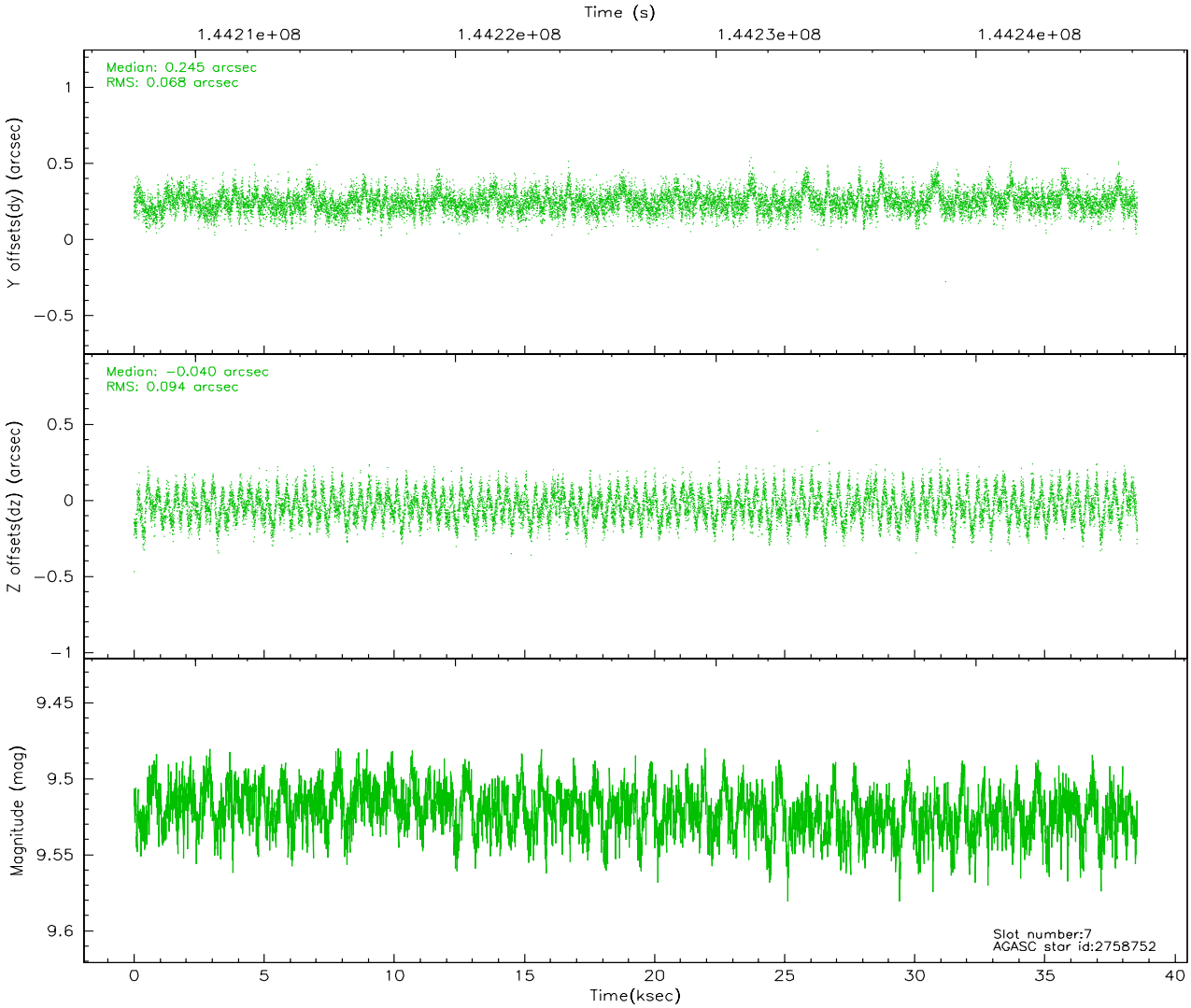

Points outside 0.4 arcsec radius: 0.387%
Radial offset of median: 0.184 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:2761928


Time (s)
1.4421e+08
1.4422e+08
1.4423e+08
1.4424e+08
Median: −0.137 arcsec
RMS: 0.088 arcsec
Y offsets(dy) (arcsec)
Median: 0.123 arcsec
RMS: 0.116 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:2761928
Time(ksec)

2.4.5 Slot 7

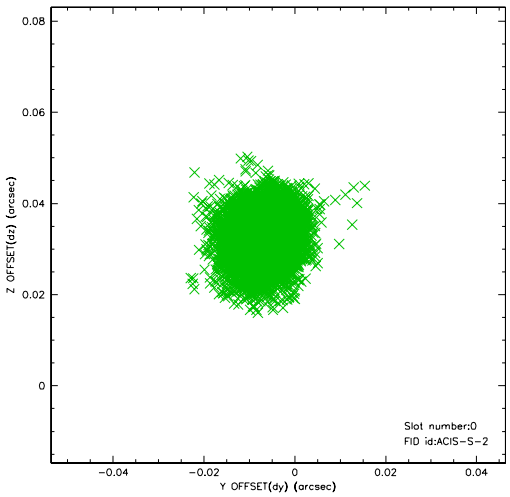

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:2758752

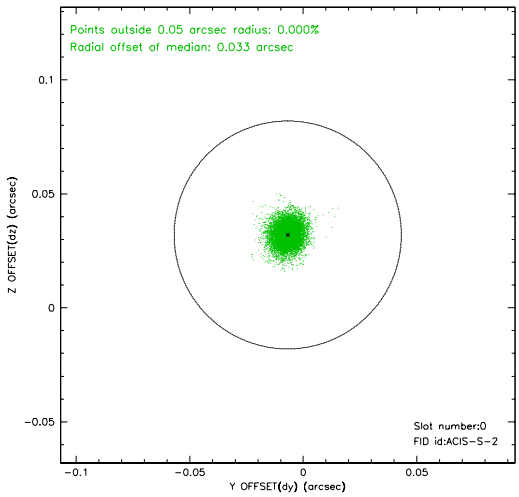

Points outside 0.4 arcsec radius: 0.016%
Radial offset of median: 0.248 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:2758752

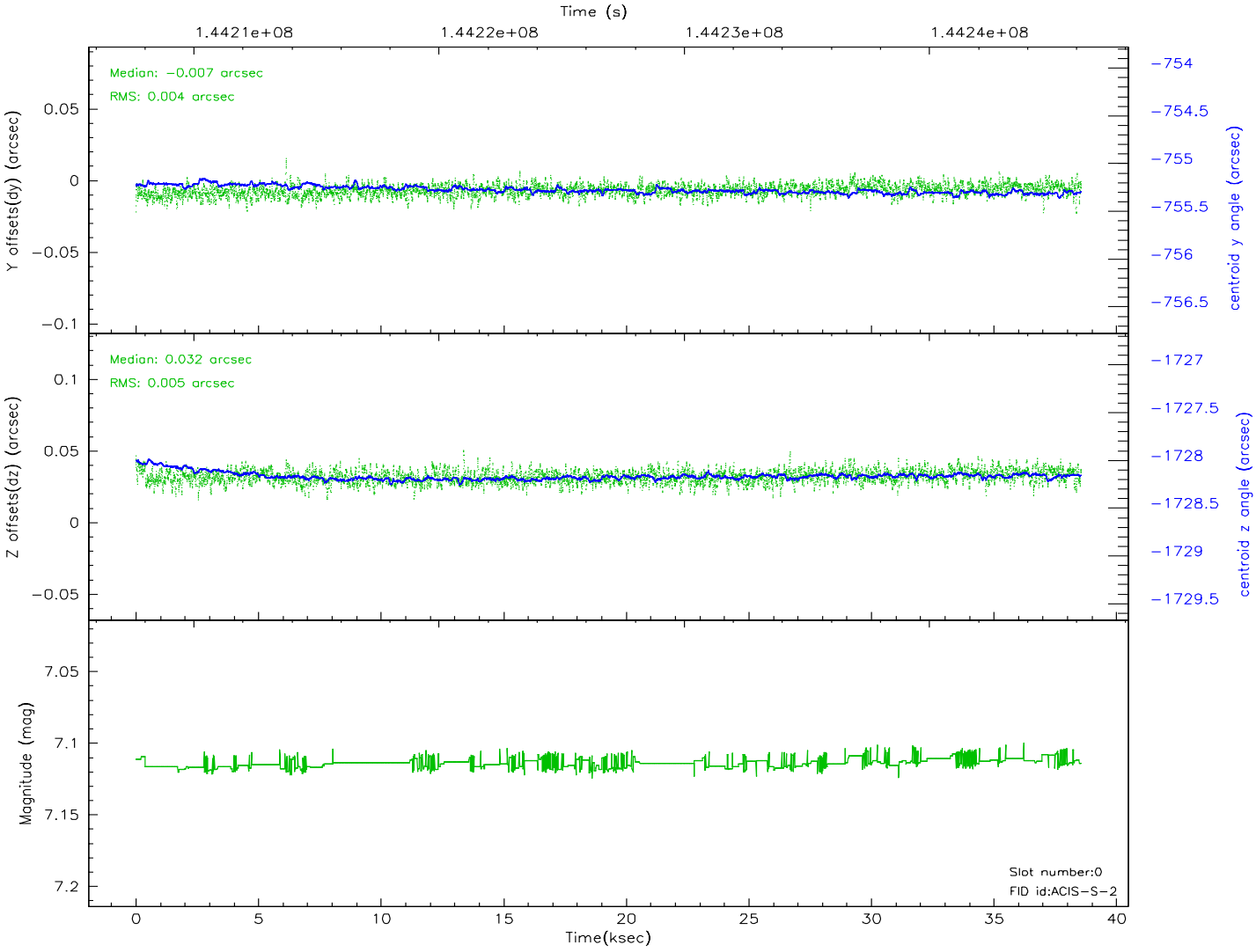

Time (s)
1.4421e+08
1.4422e+08
1.4423e+08
1.4424e+08
Median: 0.245 arcsec
RMS: 0.068 arcsec
Y offsets(dy) (arcsec)
Median: −0.040 arcsec
RMS: 0.094 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:2758752
Time(ksec)

2.5 FID Slots

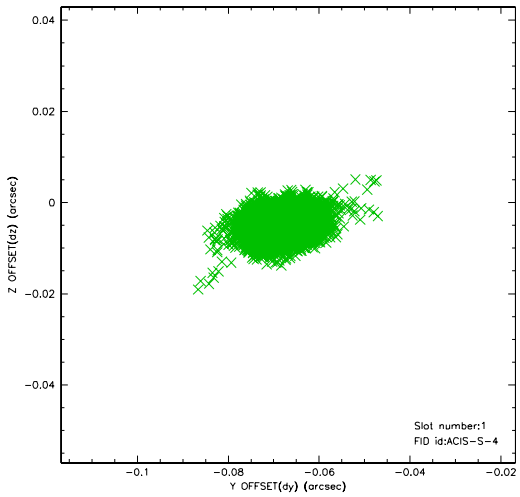
2.5.1 Slot 0

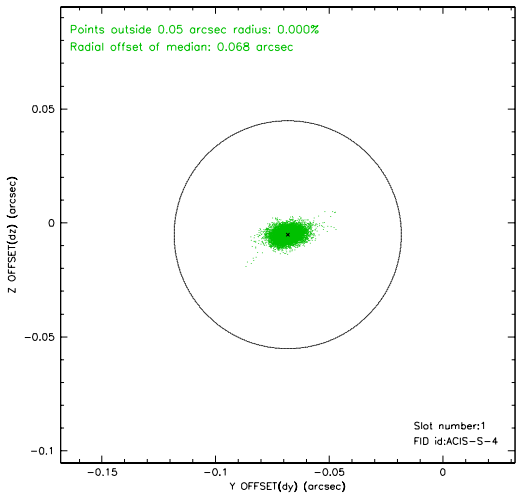


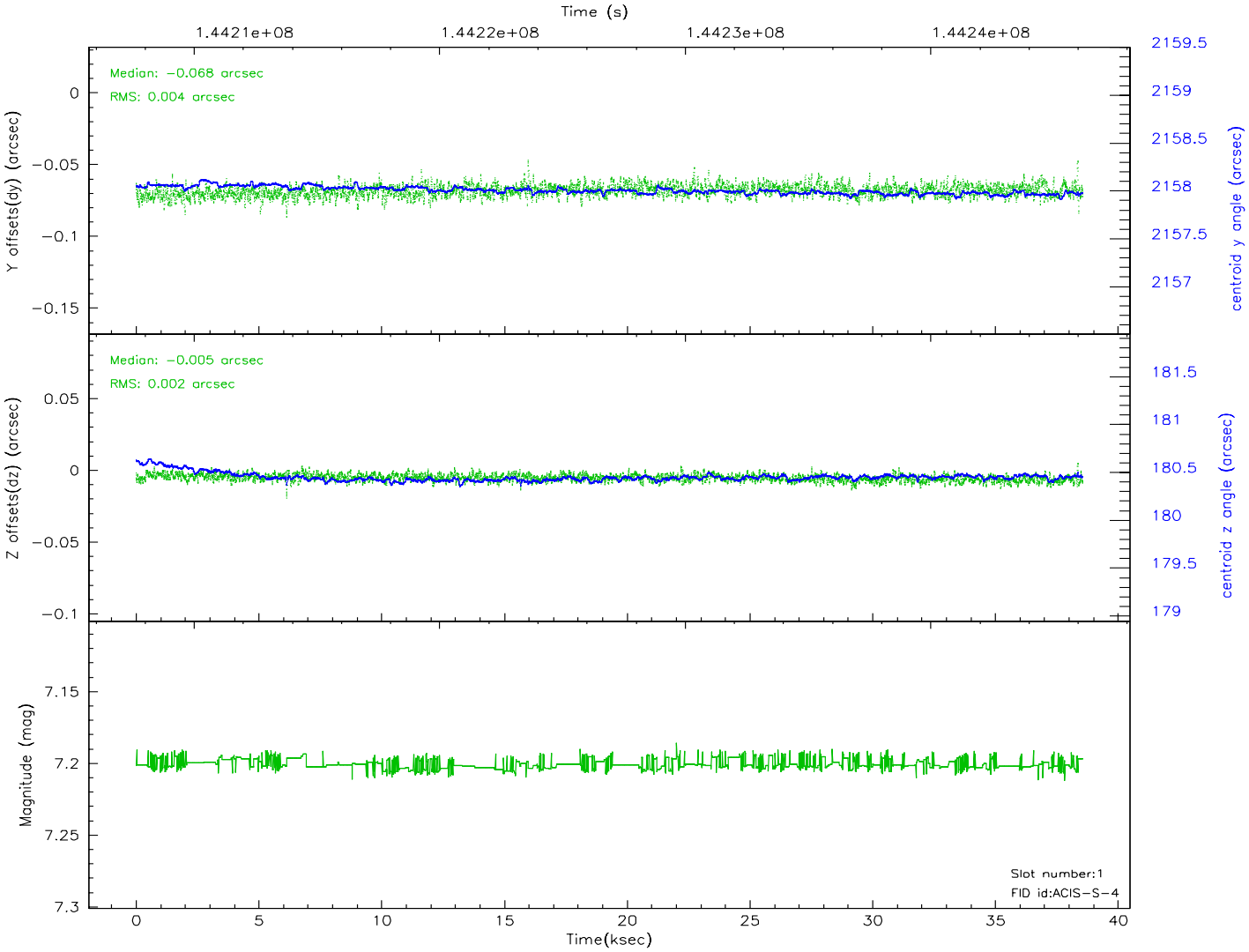




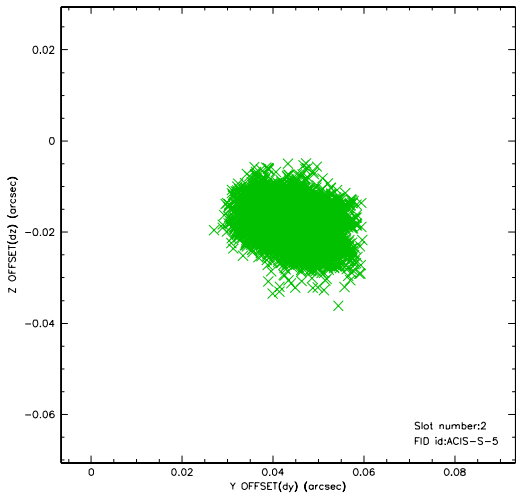
2.5.2 Slot 1

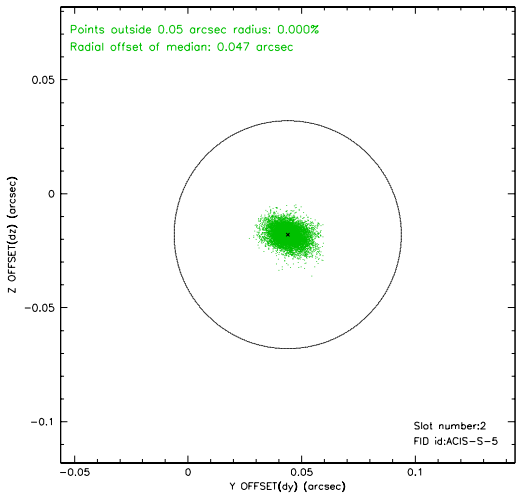

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4

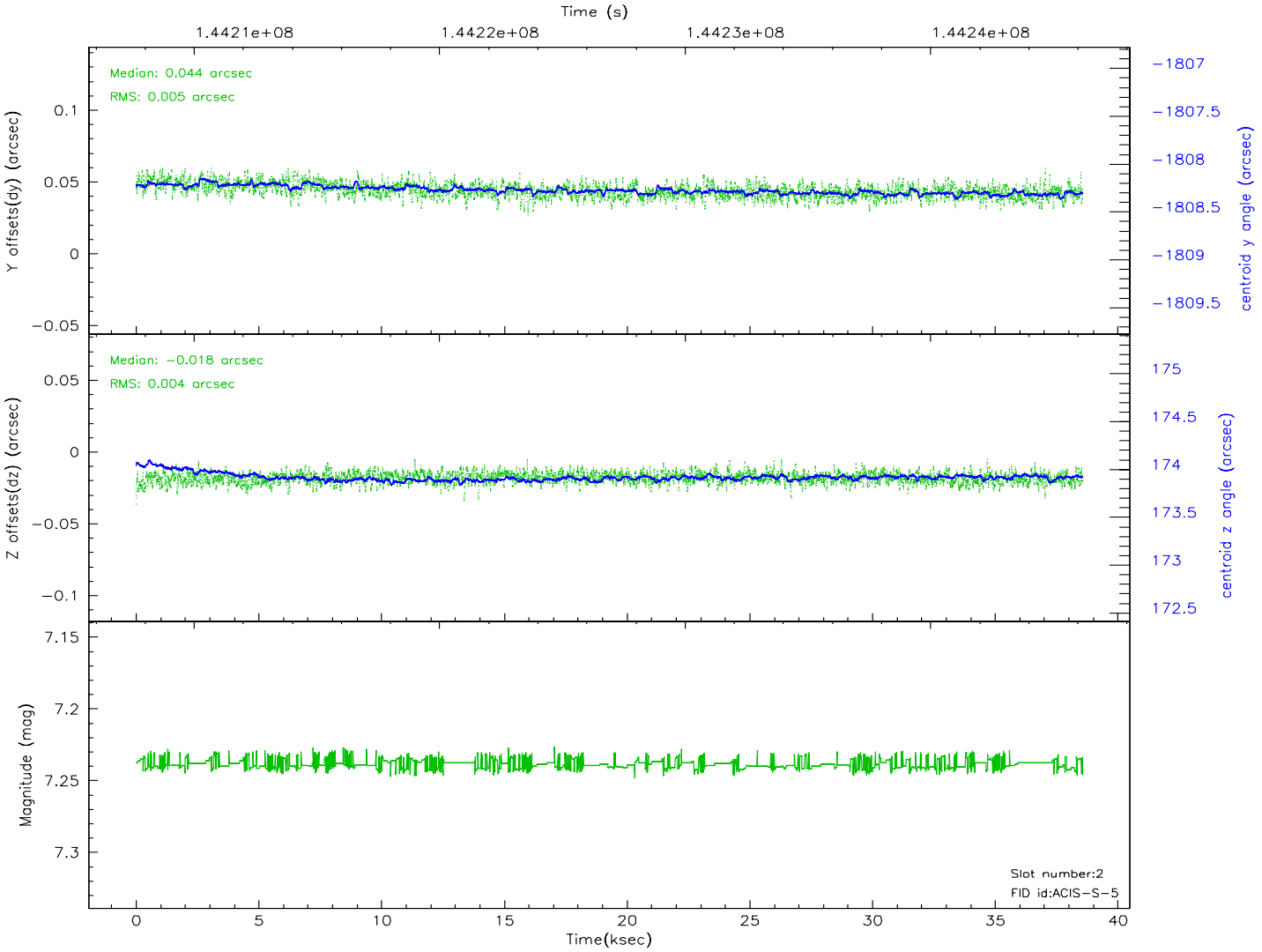

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.068 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-4


Time (s)
1.4421e+08
1.4422e+08
1.4423e+08
1.4424e+08
Median: −0.068 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.005 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)

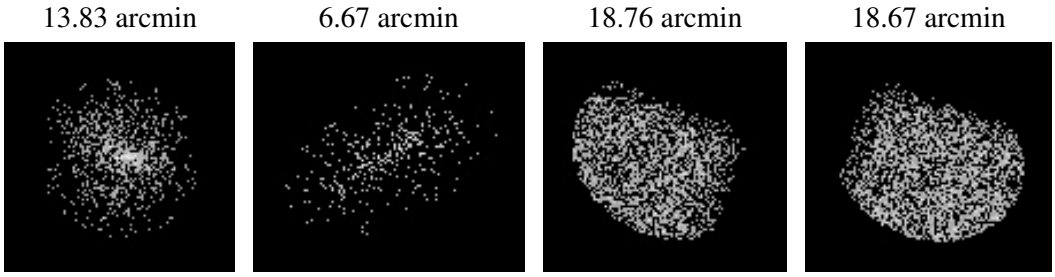
2.5.3 Slot 2


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


Time (s)
1.4421e+08
1.4422e+08
1.4423e+08
1.4424e+08
Median: 0.044 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



A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2006.09.27
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	38.102

A.2 Comments

```
Focal plane temperature is warmer than -118.7 C degrees during the
first
3 ksec of this observation. The ACIS spectral response calibration for
the front-illuminated chips is less accurate at these warmer
temperatures than it is at -119.7 C. The back-illuminated chips are
not affected at the focal plane temperatures recorded for this
observation. Users whose science objectives depend
on the most accurate spectral response (i.e.: 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.
```