V&V Reference Report
L2 ASCDS Version : 7.6.8

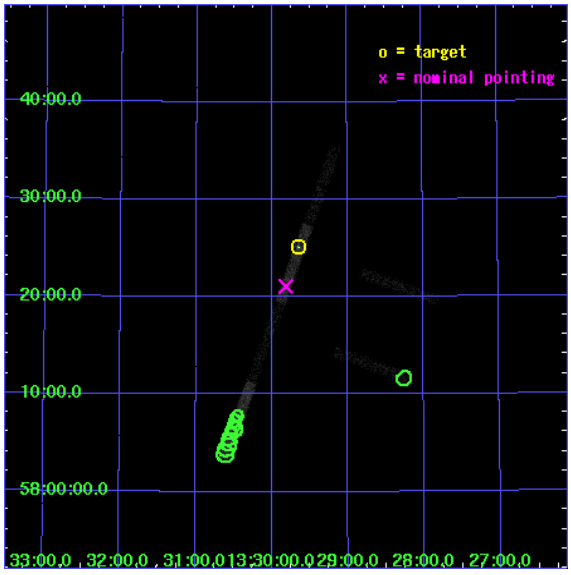
Observation 3936 - L2 Version 001
Chandra X-Ray Center

L2 Processing Date : Jul 11 2006

Contents

1 Front

seq_num	600310
obs_id	3936
title	PROBING THE SPECTRAL VARIABILITY OF THE ULTRALUMINOUS X-RAY SOURCE NGC 5204 X-1
observer	Dr Timothy Roberts
object	NGC 5204 X-1
dtycycle	0
cycle	P
ra_targ	202.410833
dec_targ	58.418333
ra_nom	202.45367720831
dec_nom	58.351293241583
roll_nom	290.02697681054
revision	2
ontime	4829.9588976204
livetime	4562.4679212111
ontime2	4829.9588976204
ontime3	4829.9588976204
ontime5	4829.9588976204
ontime6	4829.9588976204
ontime7	4829.9588976204
ontime8	4829.9588976204
l2events	9450

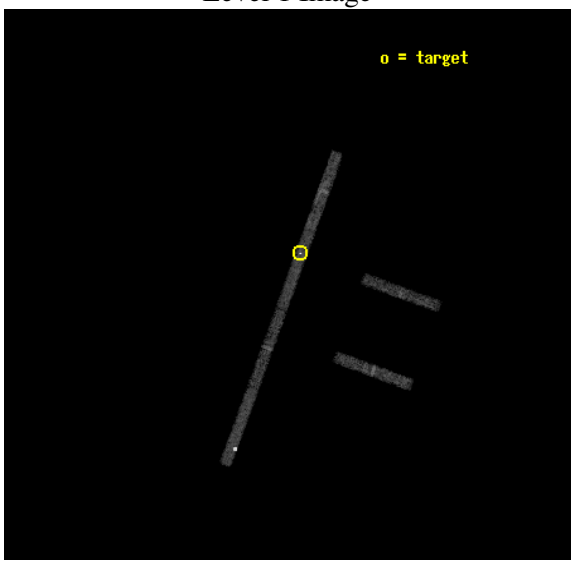


2 OBI

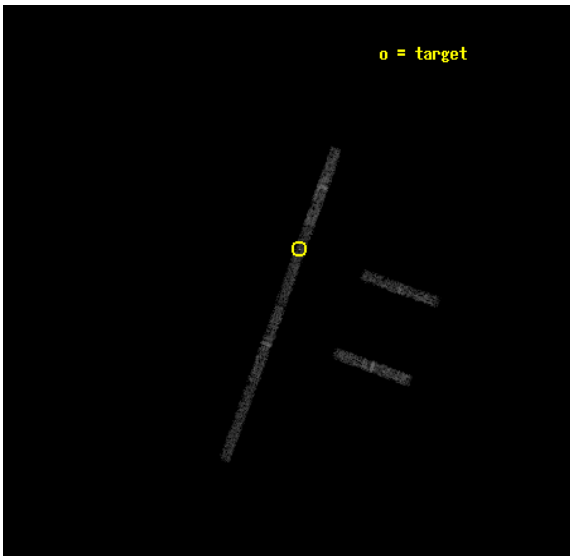
2.1 OBI

2.1.1 Images

Level 1 Image



Level 1 Bad Events



2.1.2 Bias

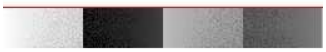
Chip 2

Chip 3

Chip 5

Chip 6

Chip 7



Chip 8

2.1.3 Parameters

obi_num	0
ascdsver	7.6.8
caldbver	3.2.2
date	2006-07-11T06:10:47
revision	2

sched_exp_time	4707.182000
ontime	5617.0262100995
ontime2	5616.2852000296
ontime3	5617.0262100995
ontime5	5617.0262100995
ontime6	5617.0262100995
ontime7	5617.0262100995
ontime8	5617.0262100995
l1events	50153

2.1.4 Events

	ccd 2	**ccd 3**	**ccd 5**	**ccd 6**	**ccd 7**	**ccd 8**
level 1 events	6756	5407	14537	5886	9354	8213
rejected events	6136	4838	5310	5312	4591	6918
rejected %	90%	89%	36%	90%	49%	84%

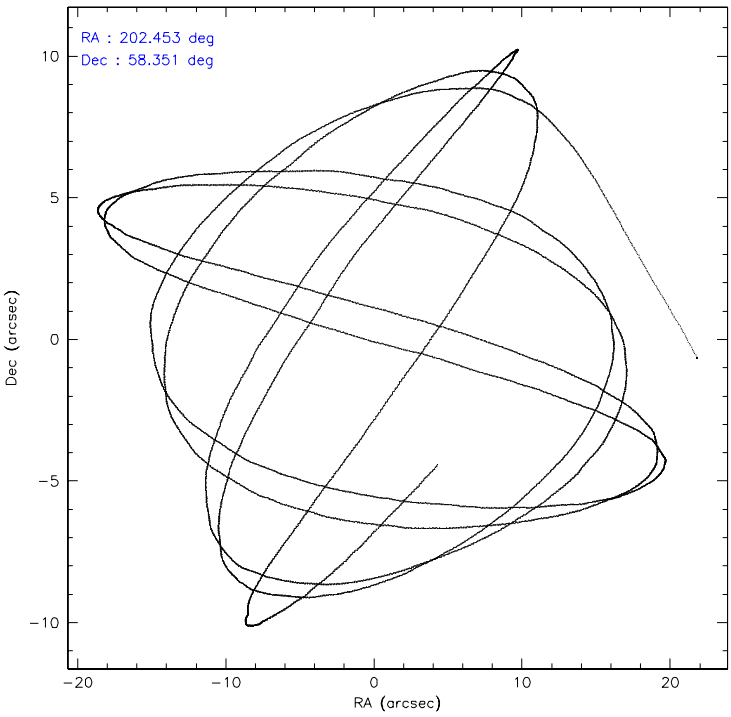
	ccd 2	**ccd 3**	**ccd 5**	**ccd 6**	**ccd 7**	**ccd 8**
grade 0 events	263	235	5938	237	1082	372
	3%	4%	40%	4%	11%	4%
grade 1 events	1	0	18	2	15	1
	0%	0%	0%	0%	0%	0%
grade 2 events	136	106	2449	114	1294	266
	2%	1%	16%	1%	13%	3%
grade 3 events	112	120	145	121	484	152
	1%	2%	0%	2%	5%	1%
grade 4 events	110	82	295	99	498	168
	1%	1%	2%	1%	5%	2%
grade 5 events	193	192	350	202	516	302
	2%	3%	2%	3%	5%	3%
grade 6 events	122	116	1884	107	1881	491
	1%	2%	12%	1%	20%	5%
grade 7 events	5819	4556	3458	5004	3584	6461
	86%	84%	23%	85%	38%	78%

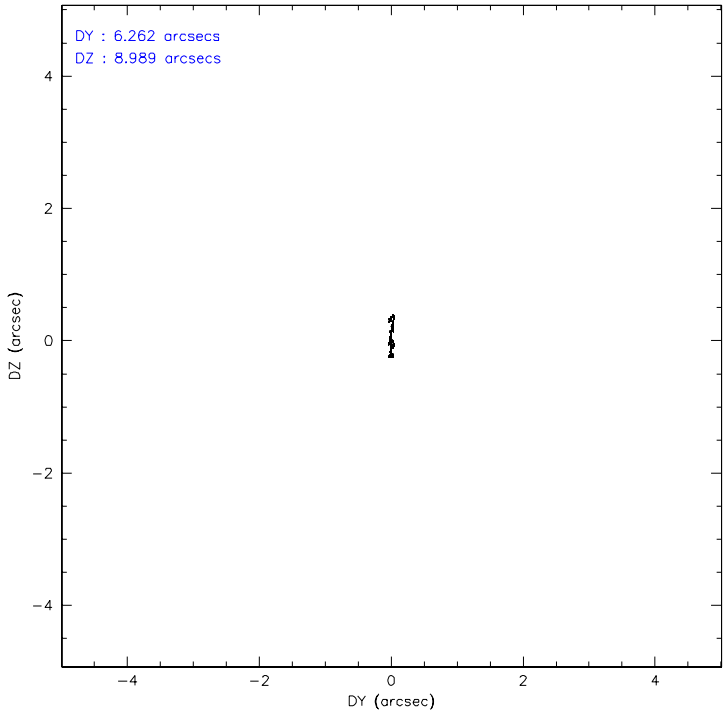
2.2 Compared Parameters

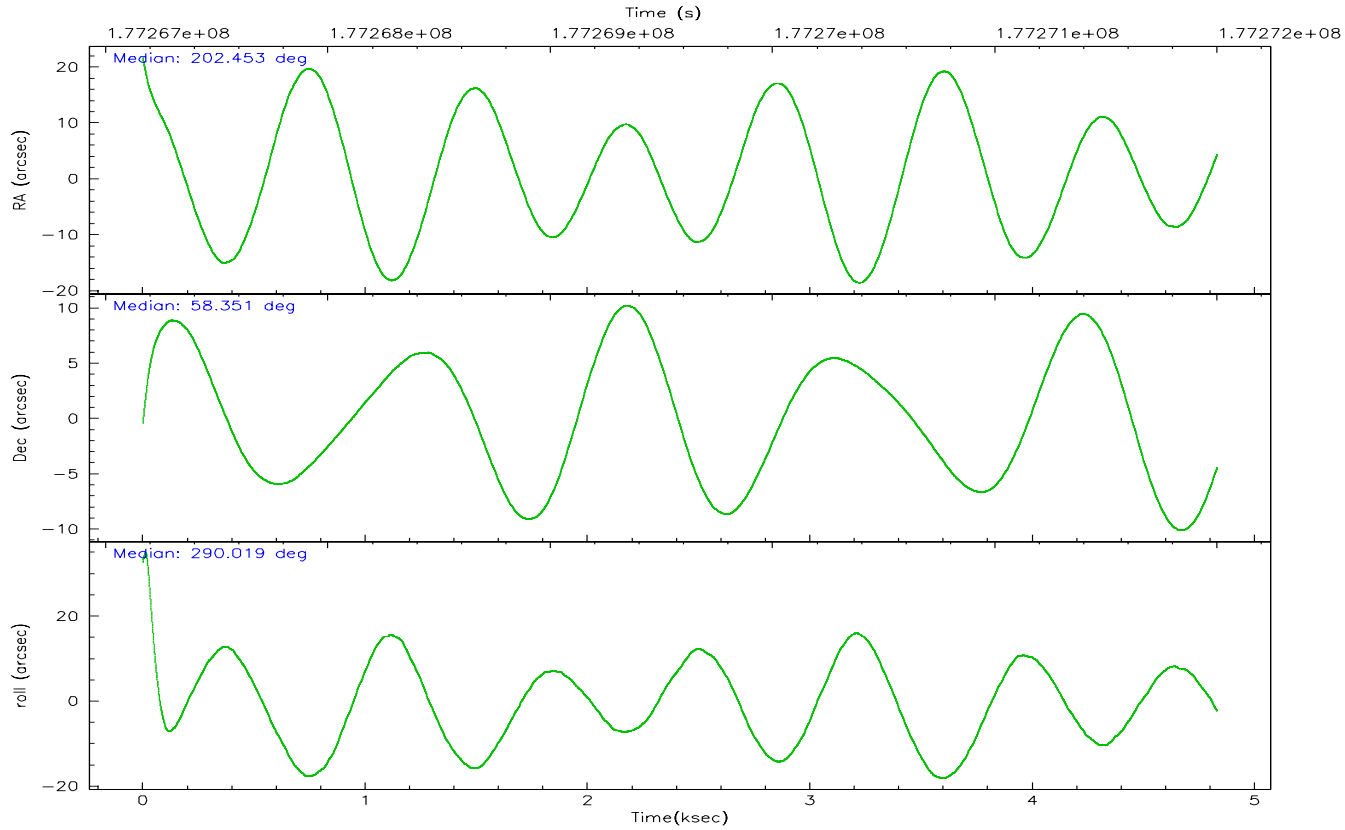
Parameter	Planned	Actual
Instrument	ACIS	ACIS
Detector	ACIS-235678	ACIS-235678
Grating	NONE	NONE
Data mode	FAINT	FAINT
Observation mode	POINTING	POINTING
Pointing RA	202.413477	202.453677208312
Pointing Dec	58.368496	58.35129324158315
Pointing Roll	289.904428	290.0269768105382
SIM focus pos (mm)	-0.684267	-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	177267294.184000	177266134.72901
Observation start date	2003-08-14T16:53:50	2003-08-14T16:35:34
Observation end time	177272001.184000	177272315.99178
Observation end date	2003-08-14T18:12:17	2003-08-14T18:18:35
Read mode	TIMED	TIMED

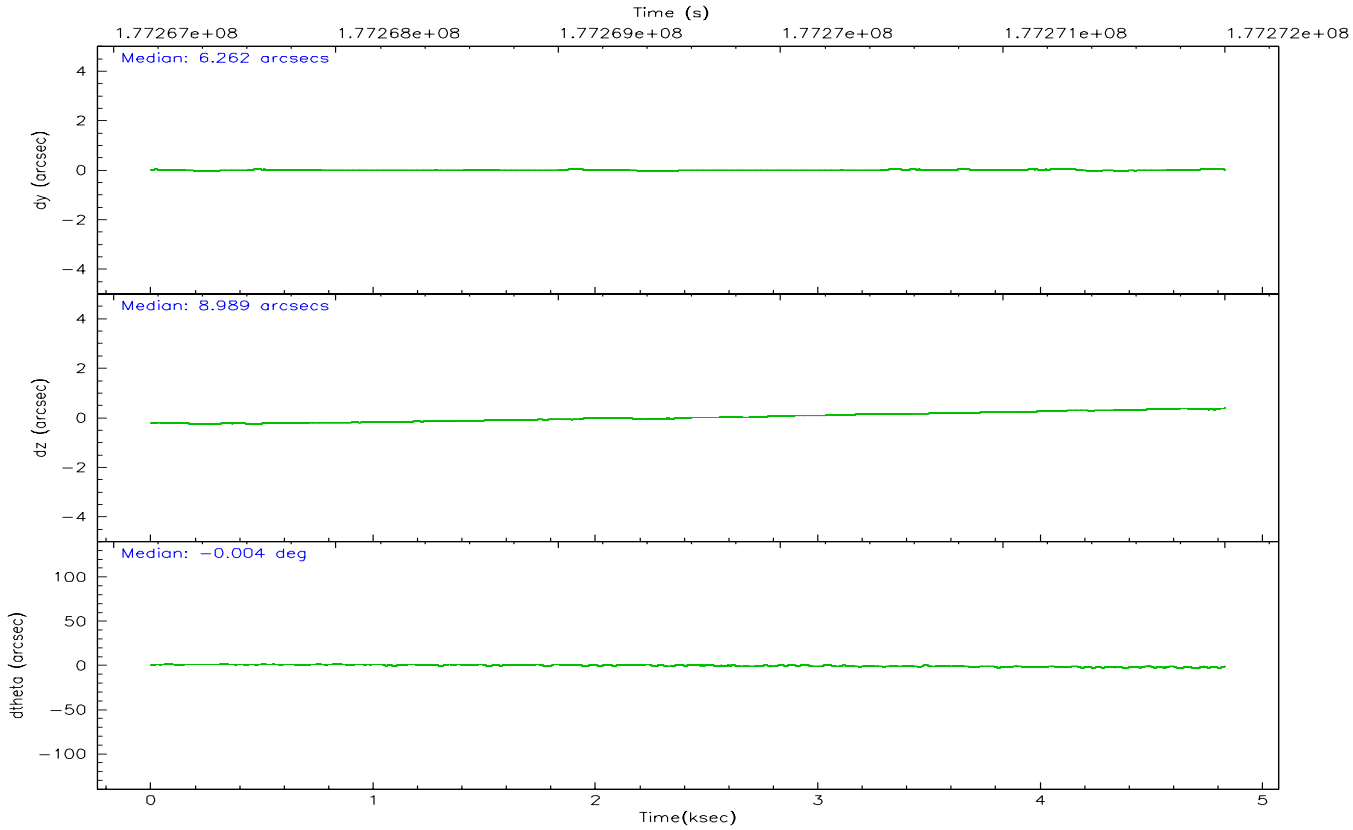
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED
On-chip summing requested	N	N
Subarray requested	1/8	1/8
Subarray start row	0	449
Subarray row count	1024	128
Alternating exposures requested	N	N
Primary exposure time	0.000000	0.7

2.3 Aspect


RA : 202.453 deg
Dec : 58.351 deg
Dec (arcsec)
RA (arcsec)
10
5
0
−5
−10
−20
−10
0
10
20


DY : 6.262 arcsecs
DZ : 8.989 arcsecs
DZ (arcsec)
DY (arcsec)
4
2
0
−2
−4
−4
−2
0
2
4


Time (s)
1.77267e+08
1.77268e+08
1.77269e+08
1.7727e+08
1.77271e+08
1.77272e+08
Median: 202.453 deg
RA (arcsec)
Median: 58.351 deg
Dec (arcsec)
Median: 290.019 deg
roll (arcsec)
Time(ksec)

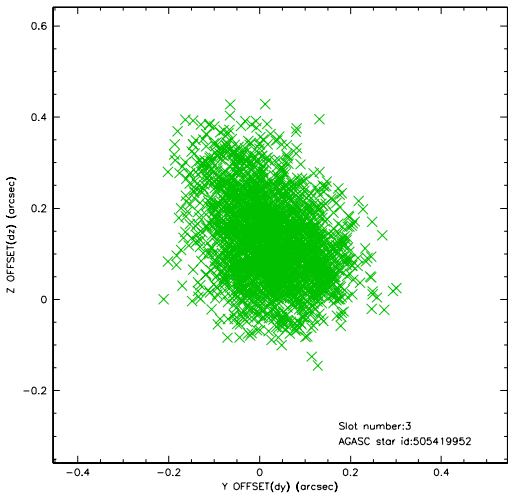

Time (s)
1.77267e+08
1.77268e+08
1.77269e+08
1.7727e+08
1.77271e+08
1.77272e+08
Median: 6.262 arcsecs
dy (arcsec)
Median: 8.989 arcsecs
dz (arcsec)
Median: −0.004 deg
dtheta (arcsec)
Time(ksec)

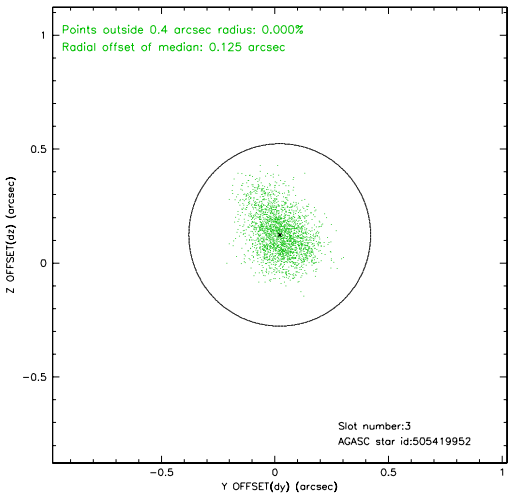
Slot Statistics

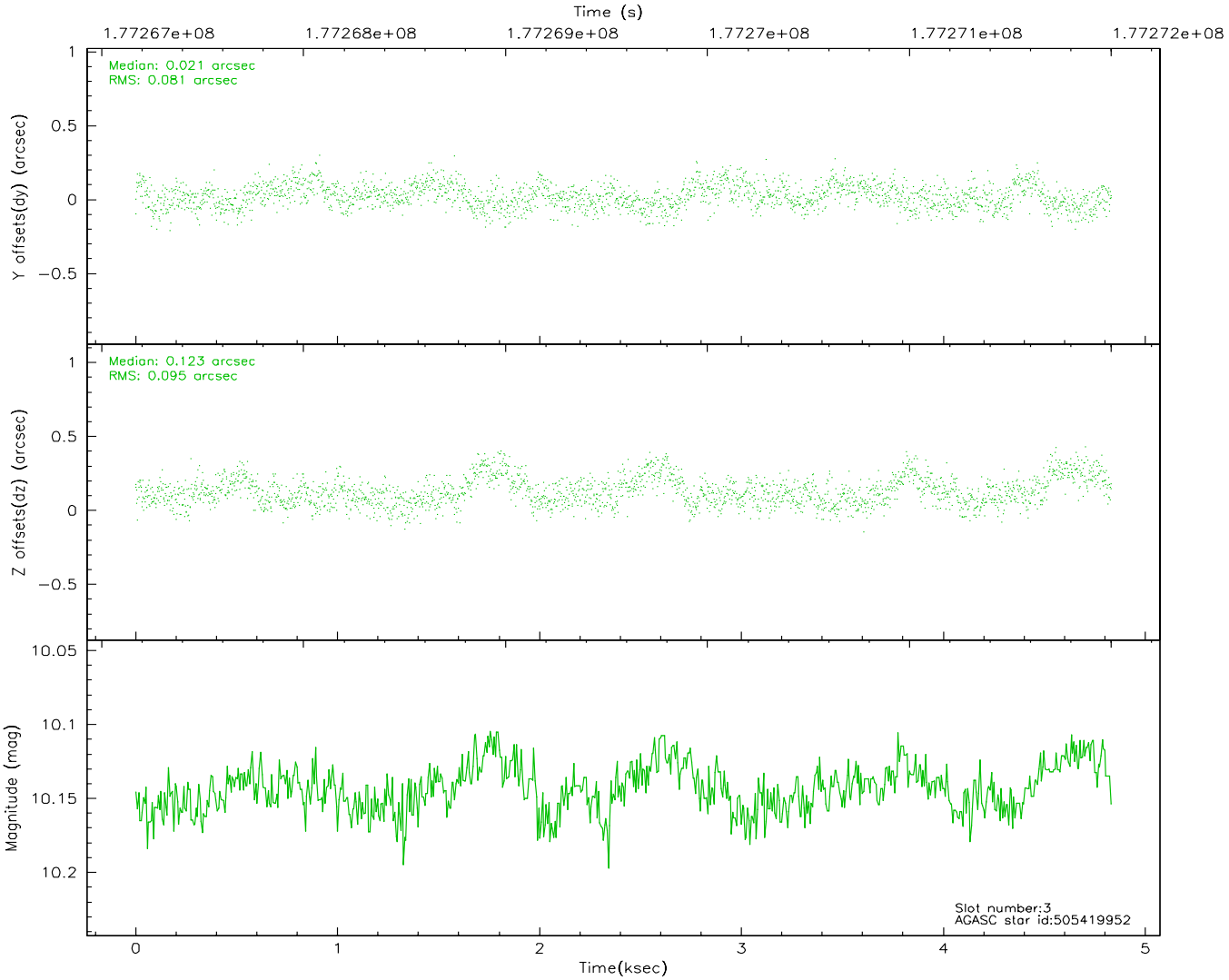
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	ACIS-S-4	7.20	1179	0.015	0.020	0.006	0.009	0.000000	0.000000	2154.37	178.43
1	FID	ACIS-S-5	7.23	1178	-0.033	0.019	0.005	0.009	0.000000	0.000000	-1810.24	172.07
2	FID	ACIS-S-6	7.35	1178	-0.011	-0.026	0.008	0.013	0.000000	0.000000	401.24	815.75
3	GUIDE	505419952	10.14	2355	0.021	0.123	0.131	0.218	201.880700	58.804366	-1816.94	-398.40
4	GUIDE	505421936	8.87	2354	-0.022	0.056	0.067	0.109	201.854843	57.887820	1258.69	-1592.49
5	GUIDE	505421968	8.19	2357	0.049	-0.045	0.063	0.099	202.022601	58.209270	285.59	-891.90
6	GUIDE	505418080	9.06	2357	0.001	-0.000	0.079	0.125	201.533017	58.898788	-2361.97	-886.33
7	GUIDE	505414952	10.00	2355	-0.050	-0.142	0.133	0.208	203.527988	58.651569	-264.83	2315.15

2.4 Star Slots

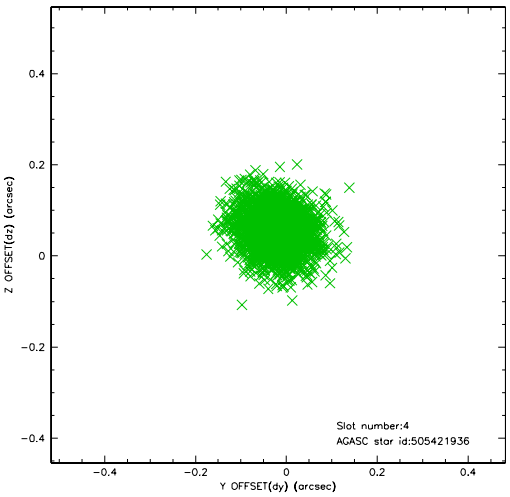
2.4.1 Slot 3

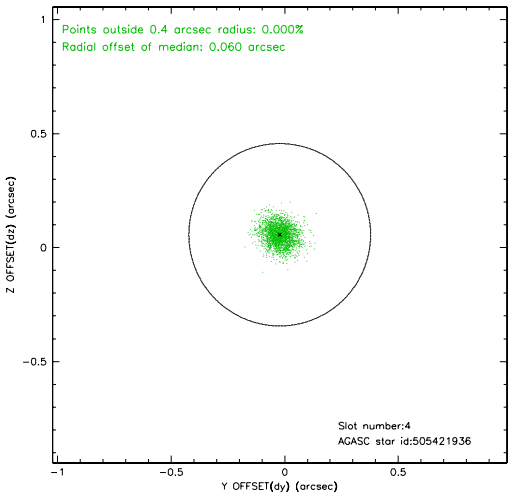


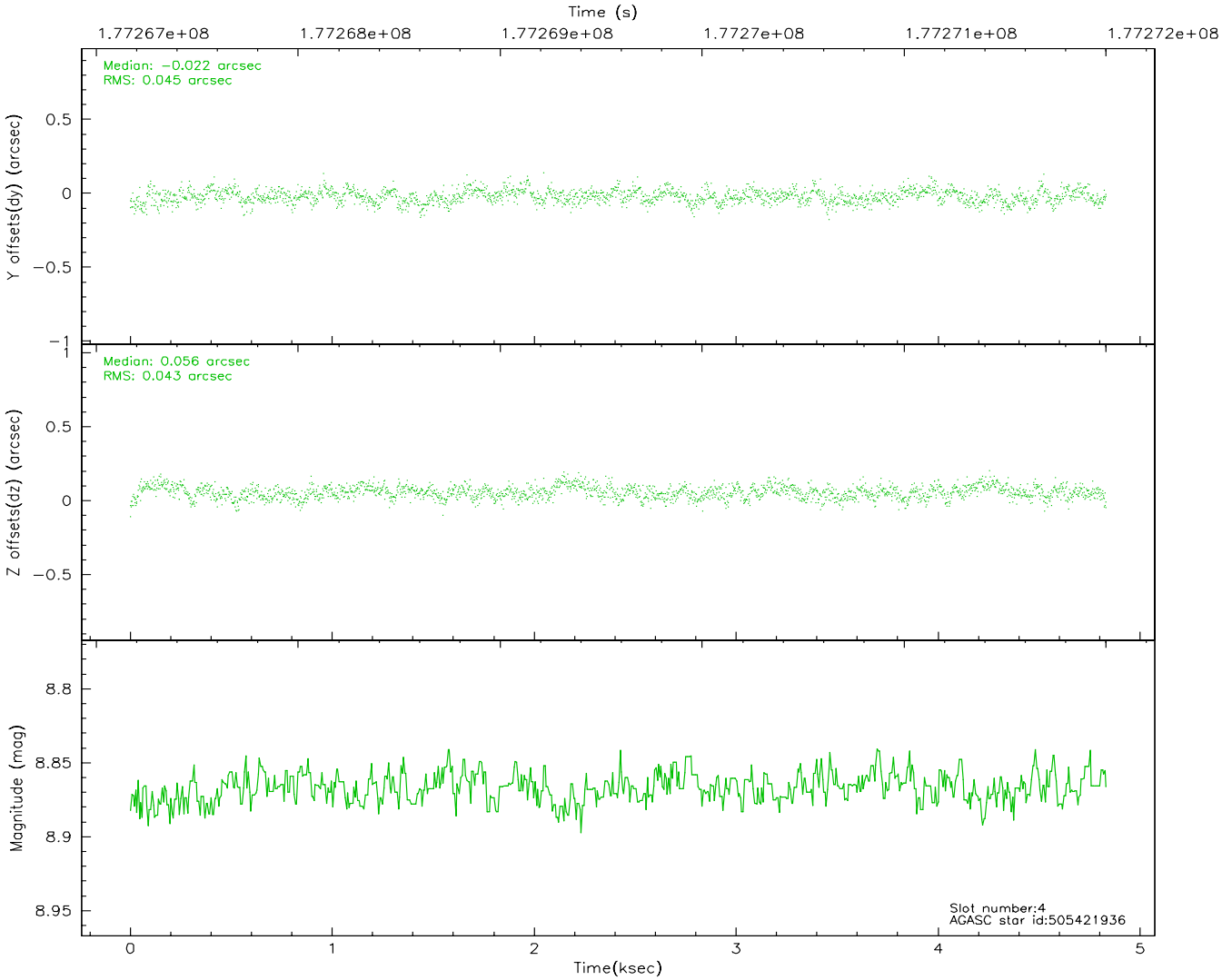




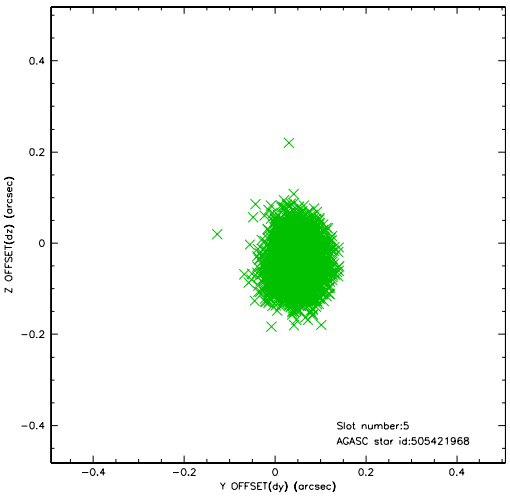
2.4.2 Slot 4

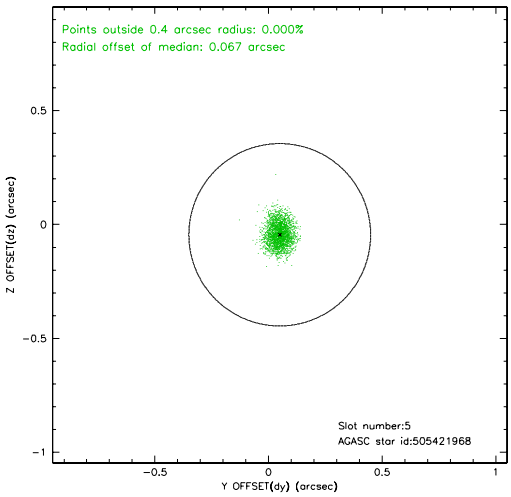

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:505421936

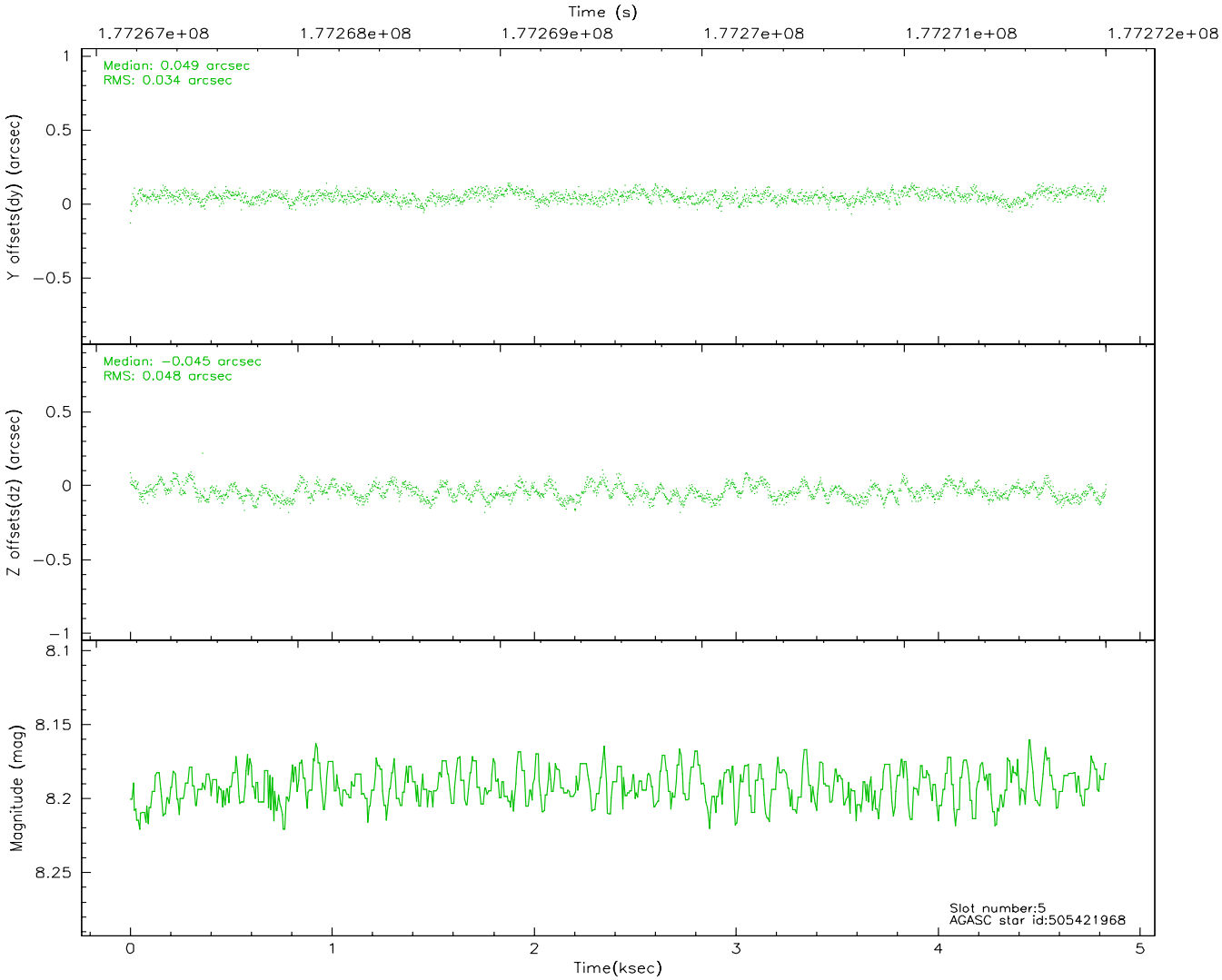

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.060 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:505421936


Time (s)
Median: −0.022 arcsec
RMS: 0.045 arcsec
Y offsets(dy) (arcsec)
Median: 0.056 arcsec
RMS: 0.043 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:505421936
Time(ksec)

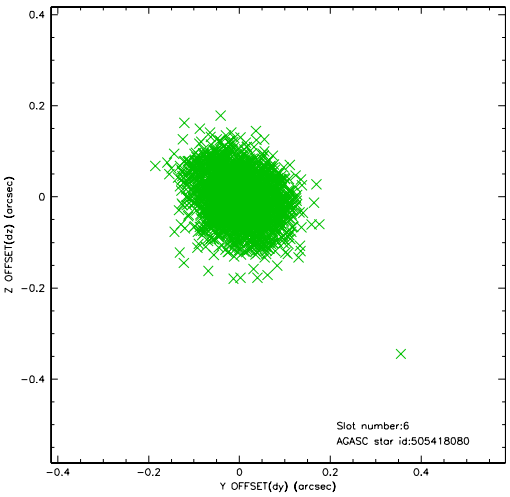
2.4.3 Slot 5

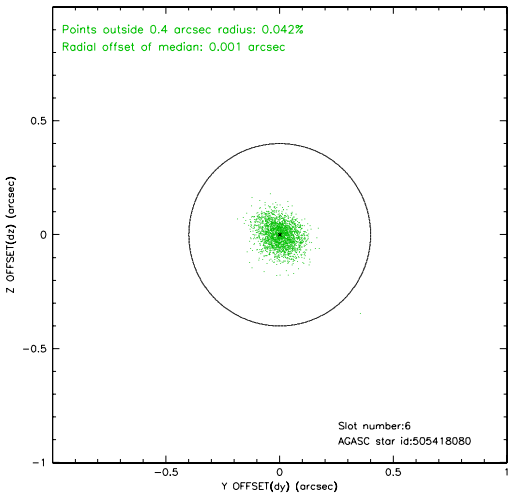

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:505421968

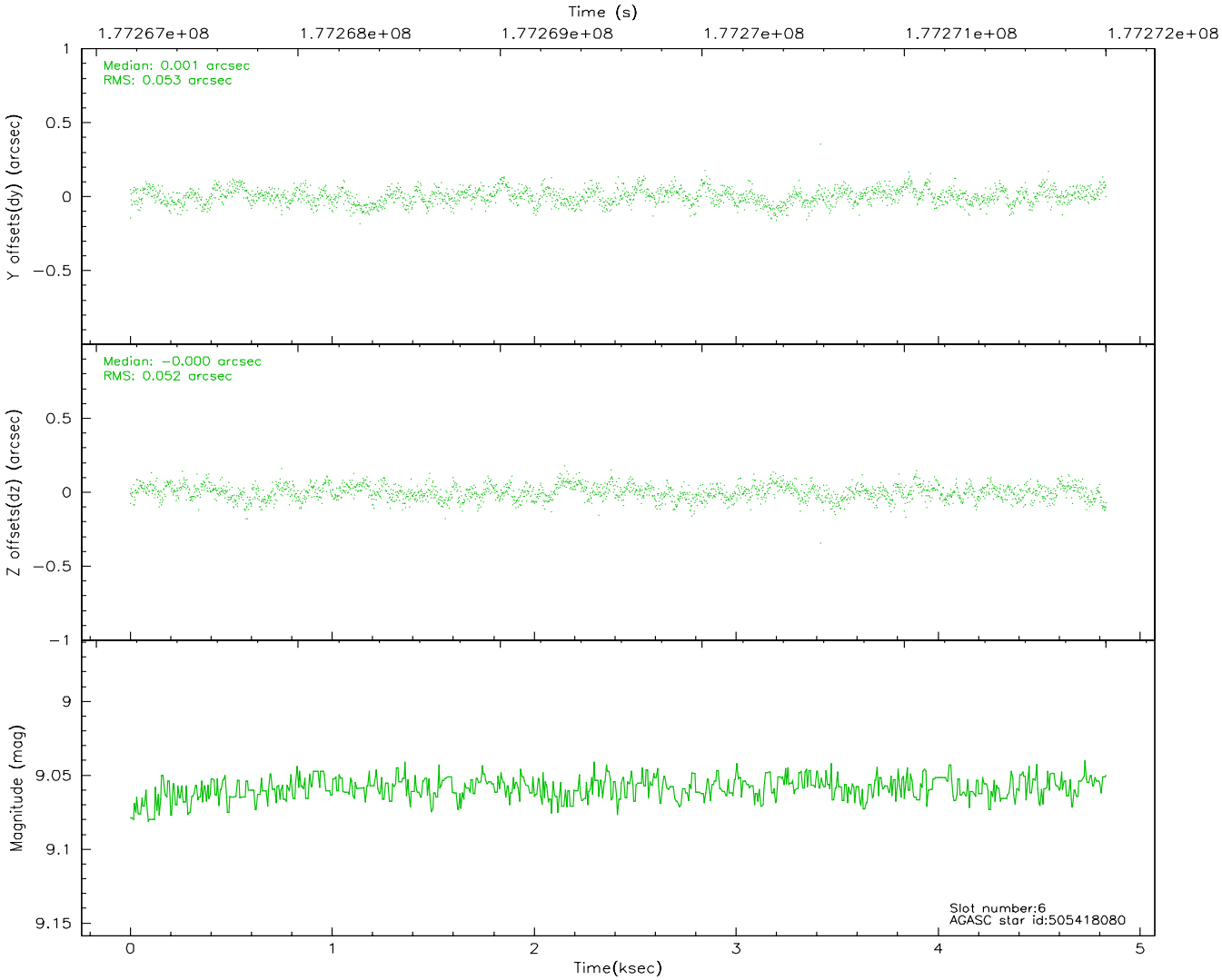

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.067 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:505421968


Time (s)
1.77267e+08
1.77268e+08
1.77269e+08
1.7727e+08
1.77271e+08
1.77272e+08
Median: 0.049 arcsec
RMS: 0.034 arcsec
Y offsets(dy) (arcsec)
Median: −0.045 arcsec
RMS: 0.048 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:505421968
Time(ksec)

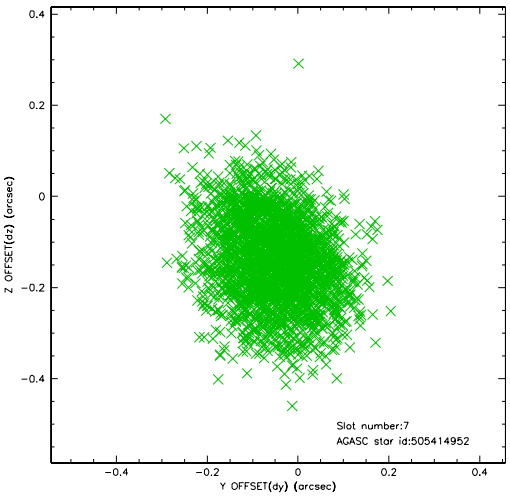
2.4.4 Slot 6

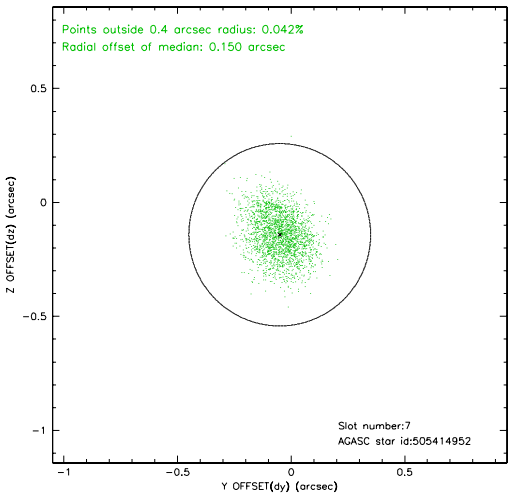

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:505418080

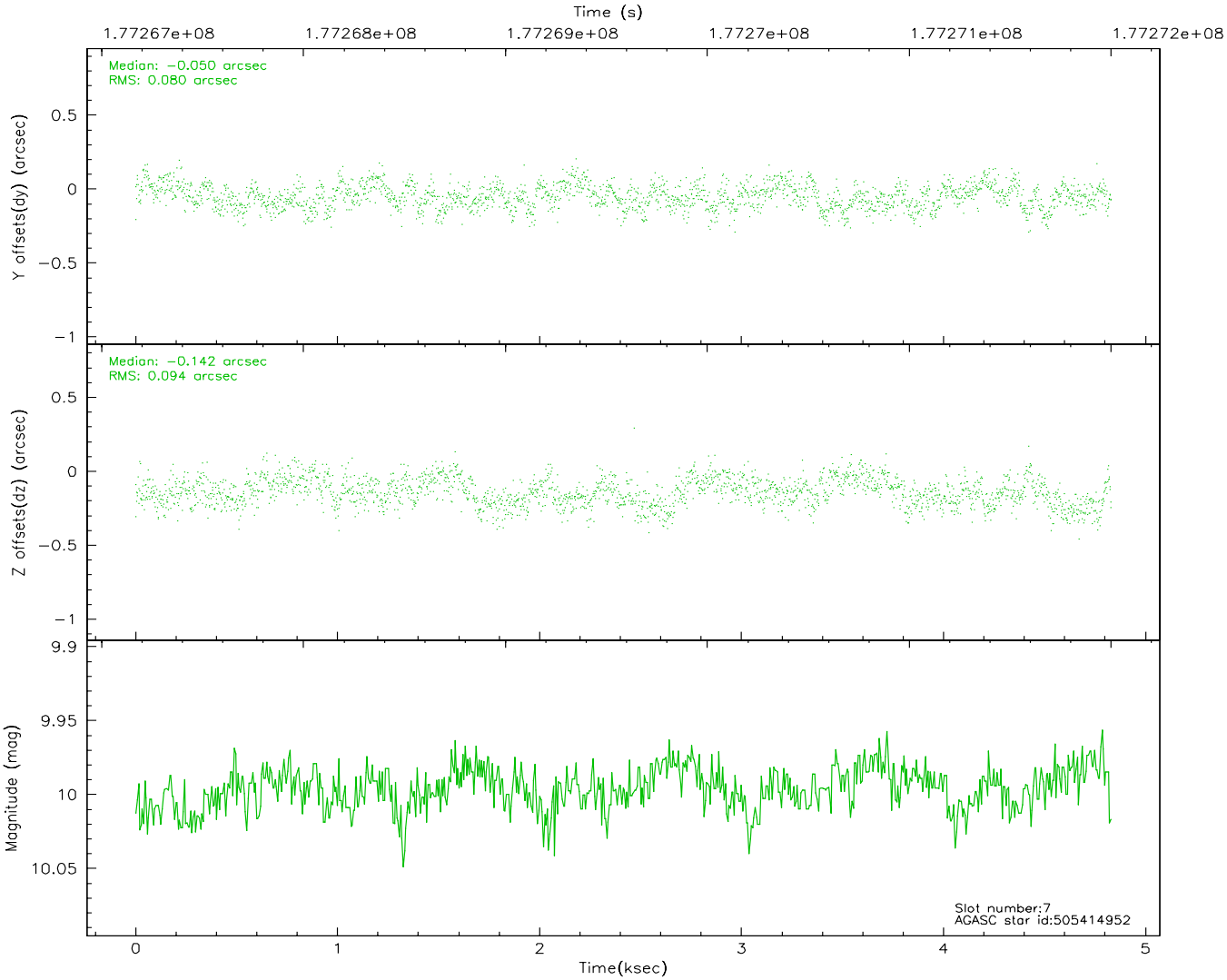

Points outside 0.4 arcsec radius: 0.042%
Radial offset of median: 0.001 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:505418080


Time (s)
Median: 0.001 arcsec
RMS: 0.053 arcsec
Y offsets(dy) (arcsec)
Median: −0.000 arcsec
RMS: 0.052 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:505418080
Time(ksec)

2.4.5 Slot 7

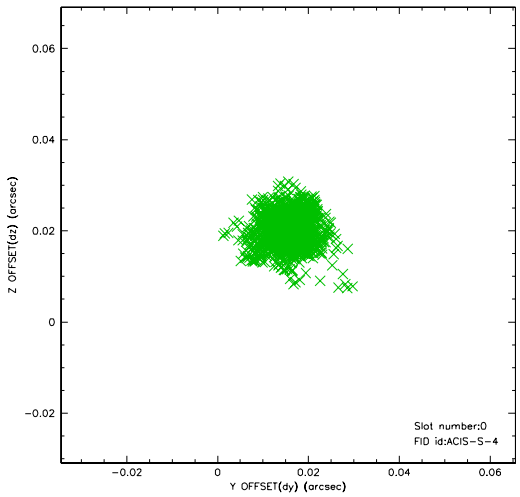

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:505414952

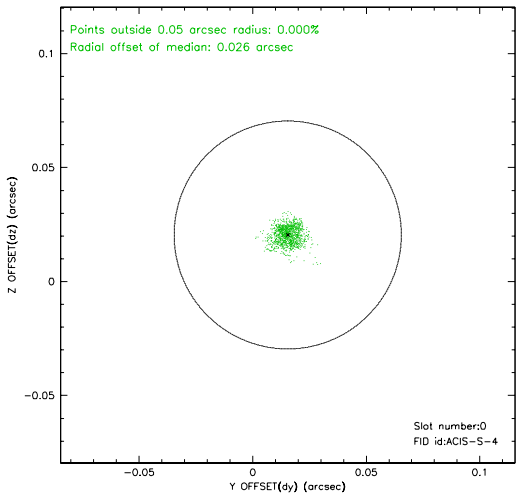

Points outside 0.4 arcsec radius: 0.042%
Radial offset of median: 0.150 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:505414952

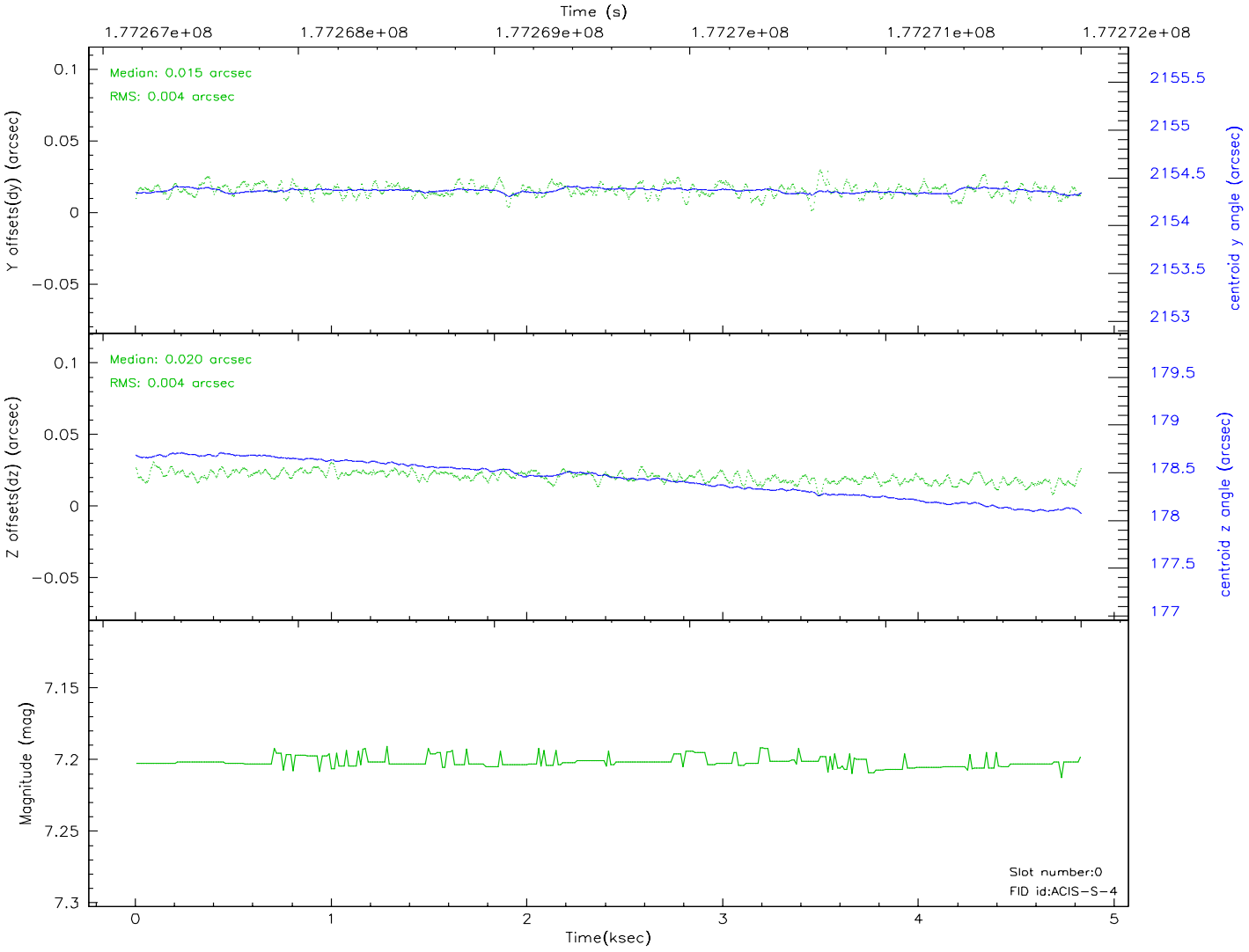

Time (s)
1.77267e+08
1.77268e+08
1.77269e+08
1.7727e+08
1.77271e+08
1.77272e+08
Median: −0.050 arcsec
RMS: 0.080 arcsec
Y offsets(dy) (arcsec)
Median: −0.142 arcsec
RMS: 0.094 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:505414952
Time(ksec)

2.5 FID Slots

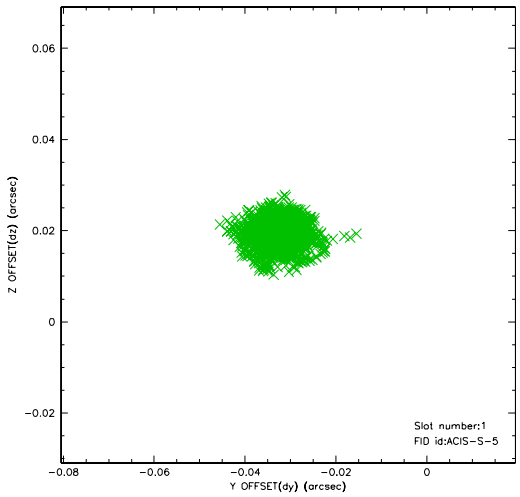
2.5.1 Slot 0

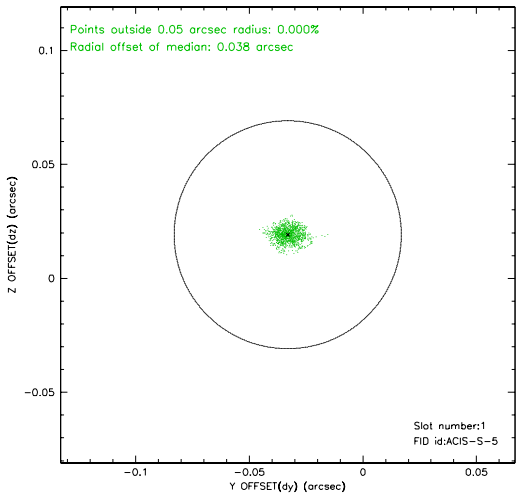


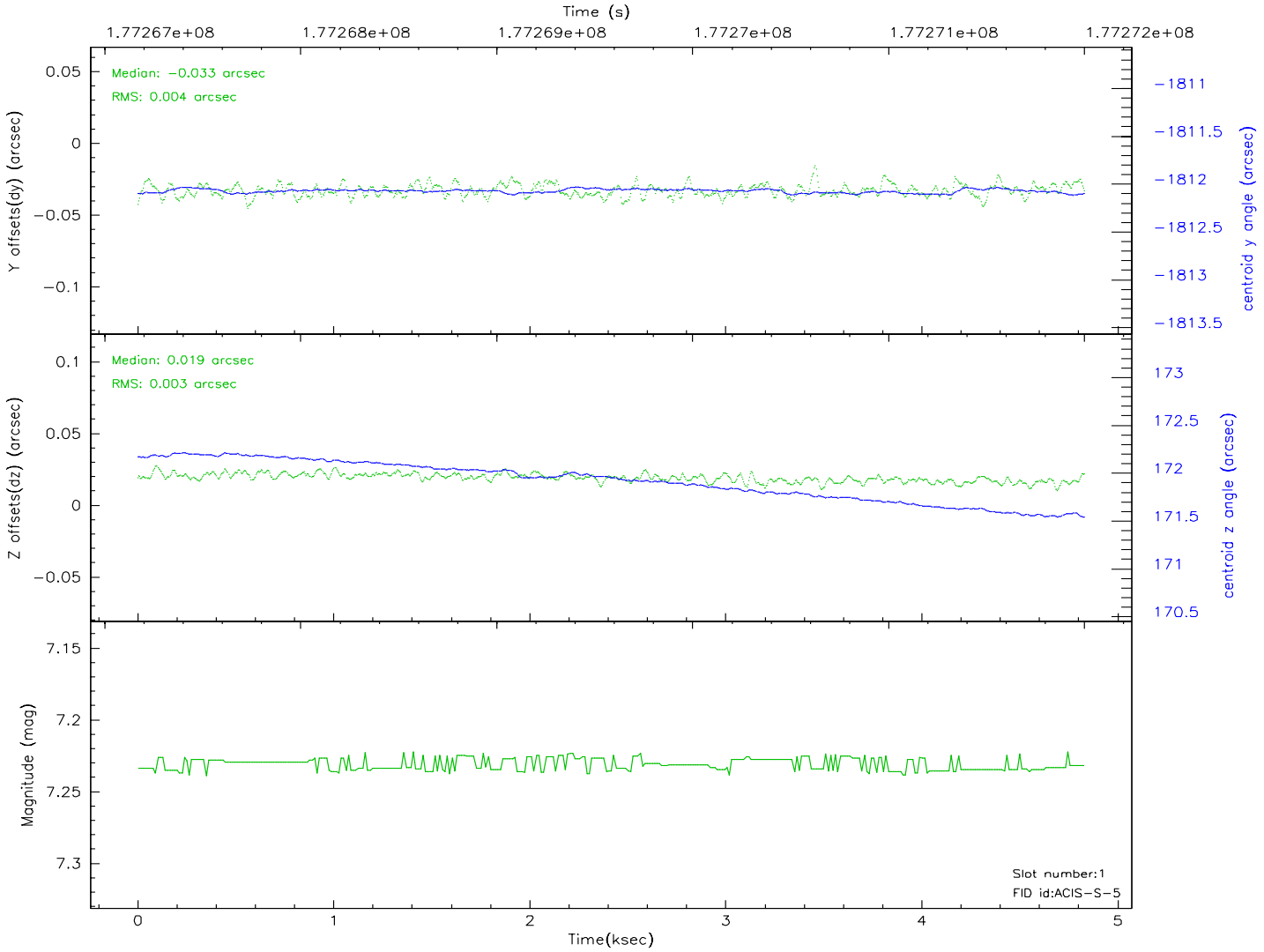




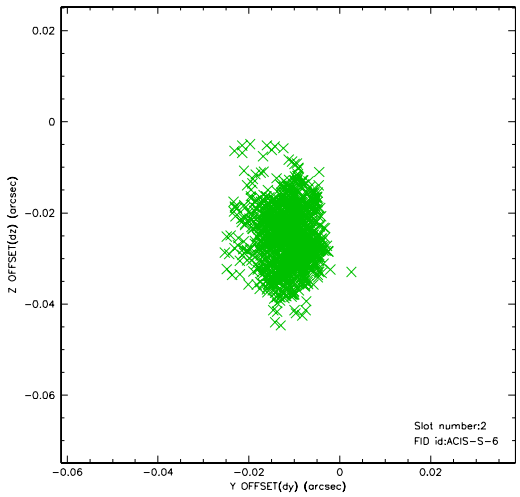
2.5.2 Slot 1

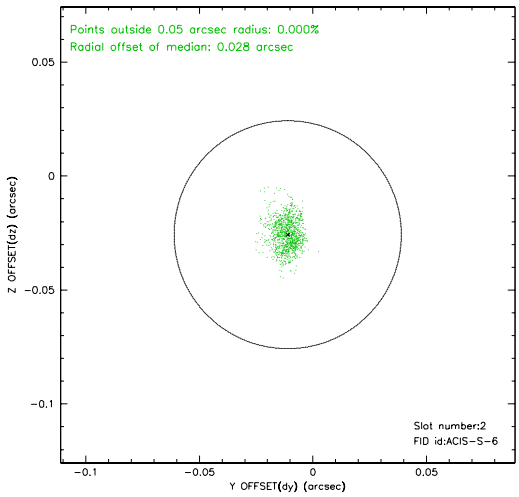

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-5

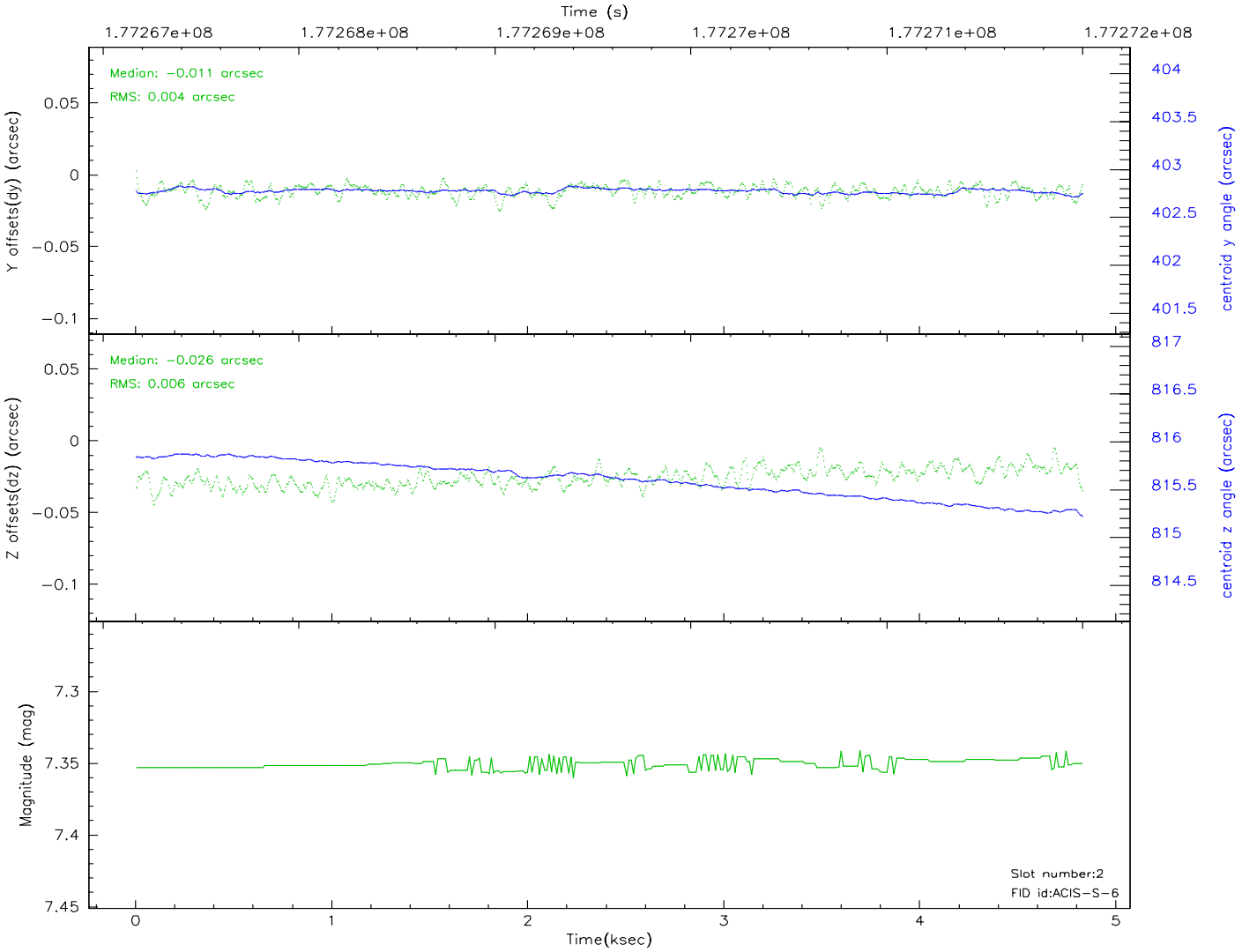

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.038 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:ACIS-S-5


Time (s)
Median: −0.033 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: 0.019 arcsec
RMS: 0.003 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:1
FID id:ACIS-S-5
Time(ksec)

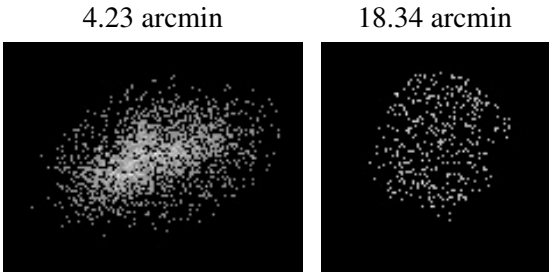
2.5.3 Slot 2


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


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.028 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:ACIS-S-6


Time (s)
Median: −0.011 arcsec
RMS: 0.004 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.026 arcsec
RMS: 0.006 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:2
FID id:ACIS-S-6
Time(ksec)

3 Point Sources



A Summary

A.1 Status

V&V Scientist	Jen Lauer
V&V Date (YYYY-MM-DD)	2006.07.11
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	4.829

A.2 Comments

```
Monitor constraint met.
```