V&V Reference Report
L2 ASCDS Version : 7.6.10

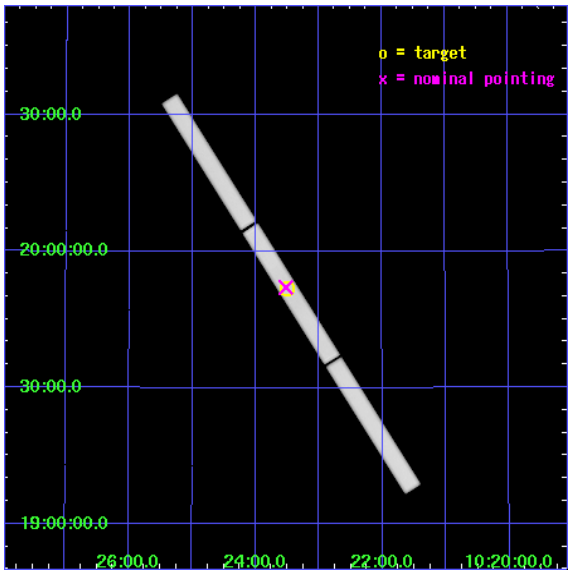
Observation 1591 - L2 Version 001
Chandra X-Ray Center

L2 Processing Date : Jun 12 2007

Contents

1 Front

seq_num	700207
obs_id	1591
title	NGC 3227: PROPERTIES OF THE WARM ABSORBER
observer	Dr. Peter Predehl
object	NGC 3227
ra_targ	155.8775
dec_targ	19.865
ra_nom	155.88046505156
dec_nom	19.86900195979
roll_nom	57.56633035298
revision	4
ontime	96305.15988639
livetime	95713.136107836
l2events	4520813

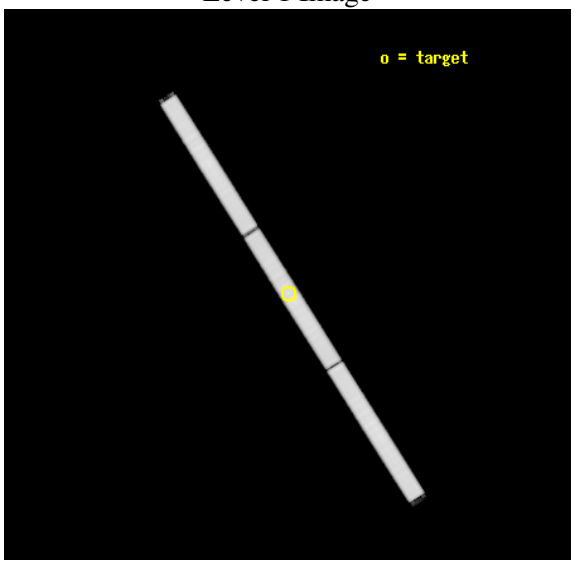


2 OBI

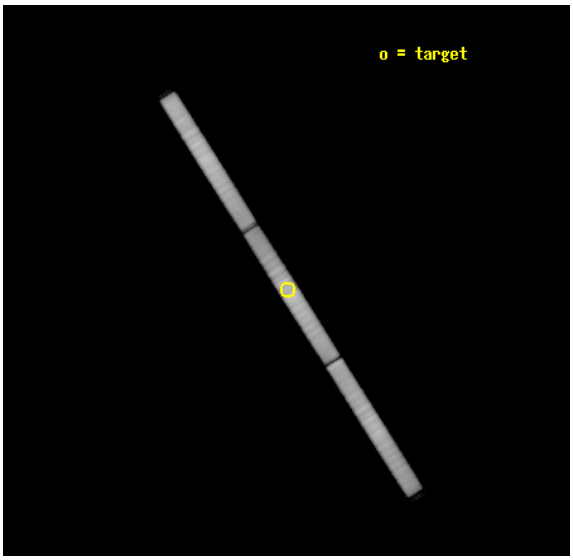
2.1 OBI

2.1.1 Images

Level 1 Image



Level 1 Bad Events



2.1.2 Parameters

obi_num	0
ascdsver	7.6.10
caldbver	3.4.0
date	2007-06-12T19:02:27
revision	4

sched_exp_time	96475.000000
ontime	96305.159890398
l1events	6714871

2.1.3 Events

Level 1 Events

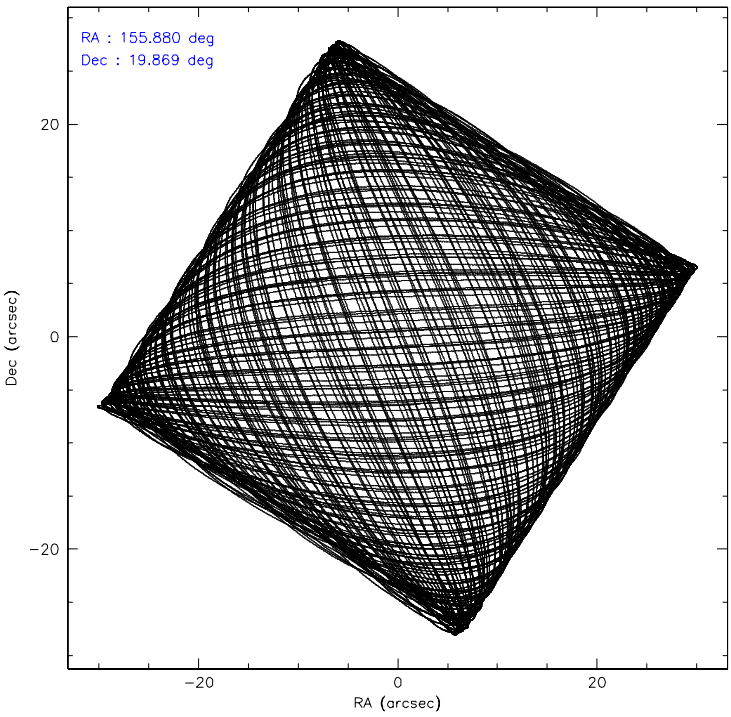
	segment 1	**segment 2**	**segment 3**
level 1 events	2309979	2166486	2238406
rejected events	490863	522751	605708
rejected %	21%	24%	27%

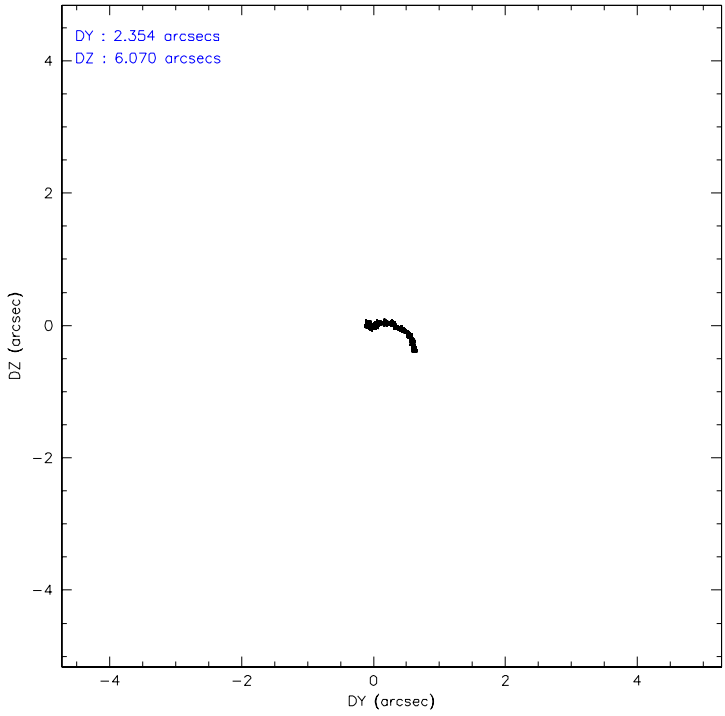
2.2 Compared Parameters

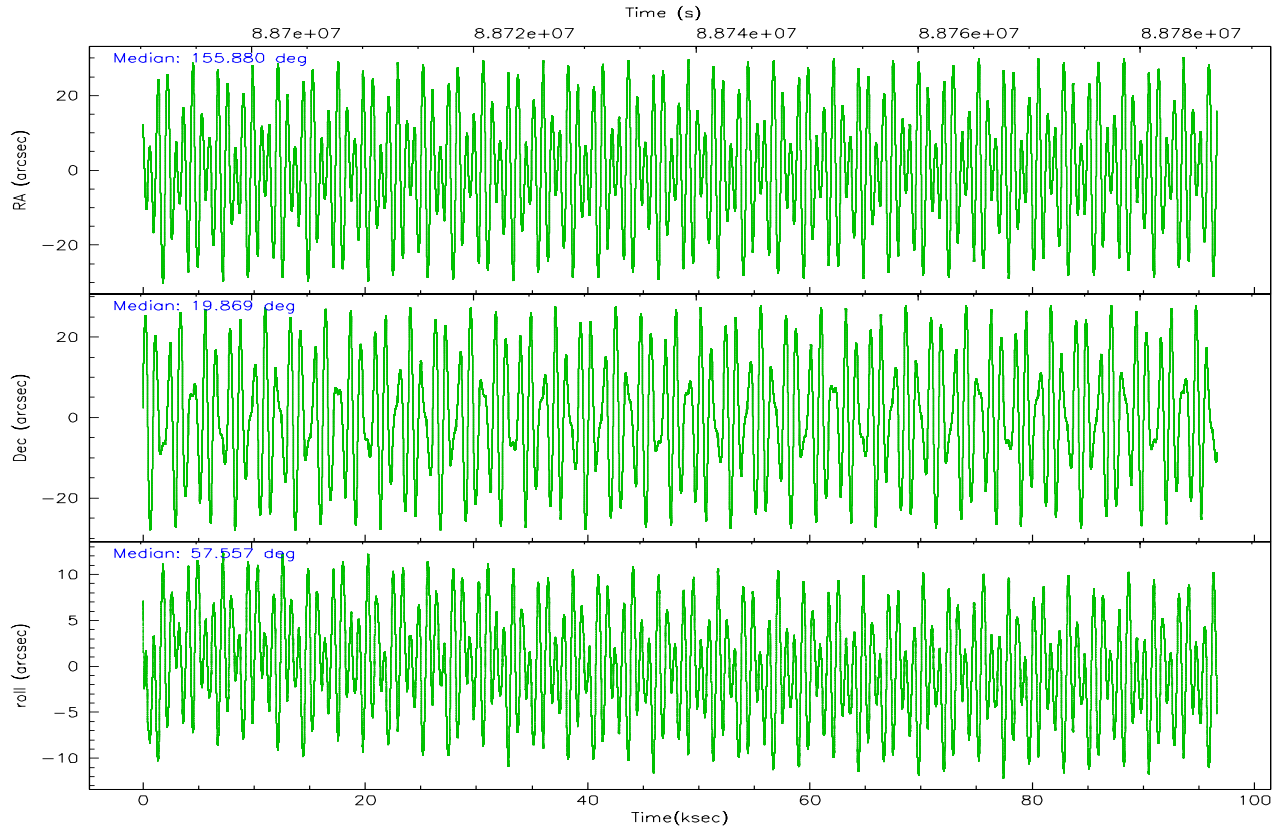
Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-S	HRC-S
Grating	LETG	LETG
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
Pointing RA	155.880501	155.8804650515578
Pointing Dec	19.840278	19.86900195978955
Pointing Roll	57.498981	57.56633035298017
SIM focus pos (mm)	-1.429586	-1.428180813131781
SIM defocus (mm)	0.1037507710433287	0.1051558262725154
SIM translation stage pos (mm)	250.455976	250.466033080201
SIM translation stage offset (mm)	0	-0.01005468664627074
Observation start time	88690433.184000	88689628.64749999
Observation start date	2000-10-23T12:12:49	2000-10-23T12:00:28
Observation end time	88786908.184000	88787176.36368699
Observation end date	2000-10-24T15:00:44	2000-10-24T15:06:16

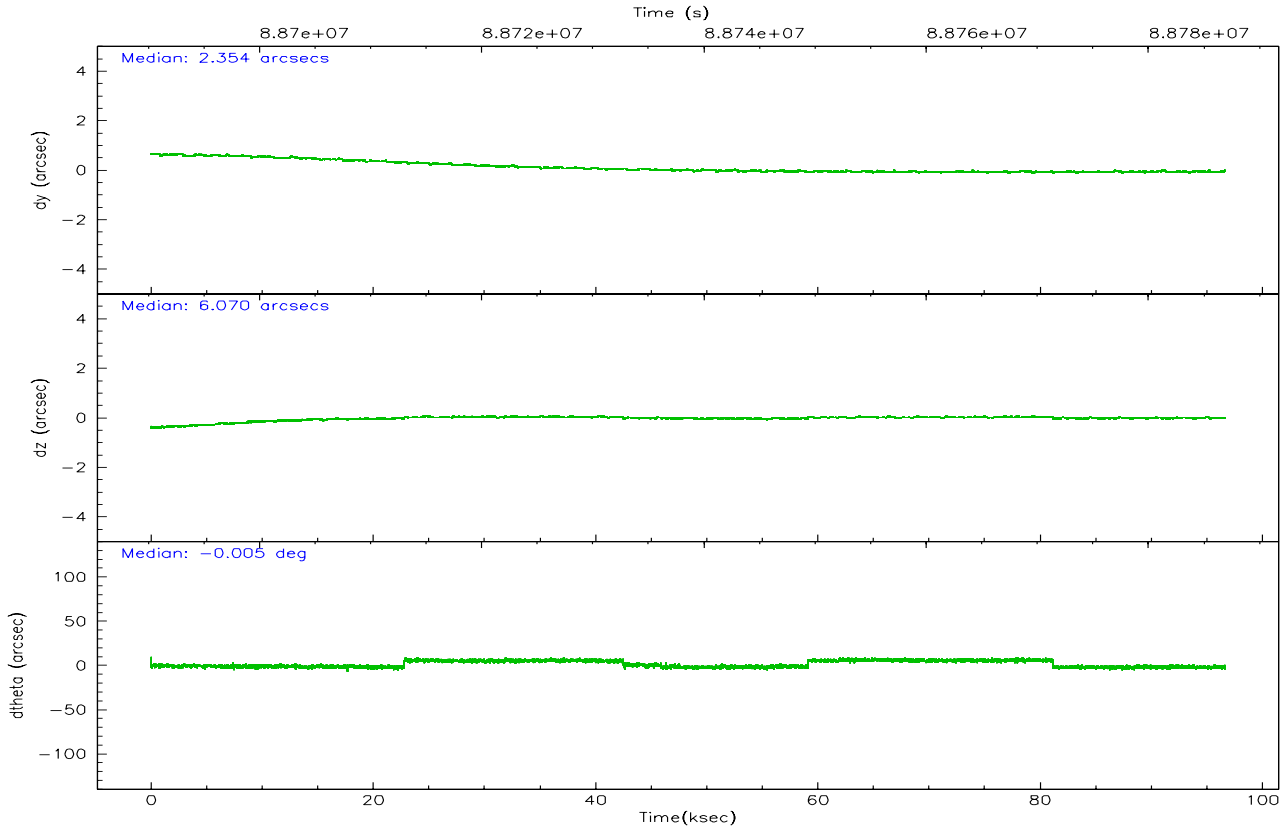
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

2.3 Aspect


RA : 155.880 deg
Dec : 19.869 deg
20
0
−20
Dec (arcsec)
−20
0
20
RA (arcsec)


DY : 2.354 arcsecs
DZ : 6.070 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
8.87e+07
8.872e+07
8.874e+07
8.876e+07
8.878e+07
Median: 155.880 deg
RA (arcsec)
Median: 19.869 deg
Dec (arcsec)
Median: 57.557 deg
roll (arcsec)
Time(ksec)

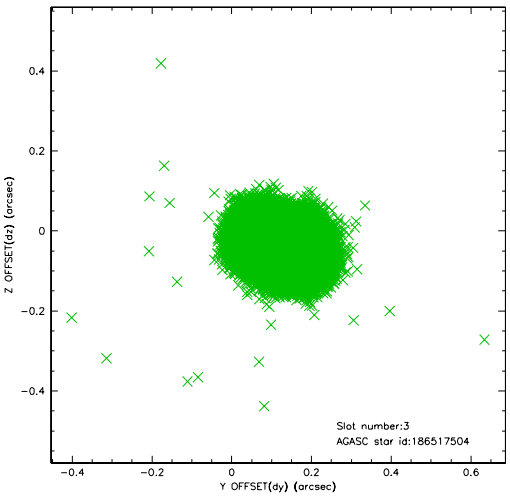

Time (s)
8.87e+07
8.872e+07
8.874e+07
8.876e+07
8.878e+07
Median: 2.354 arcsecs
dy (arcsec)
Median: 6.070 arcsecs
dz (arcsec)
Median: −0.005 deg
dtheta (arcsec)
Time(ksec)

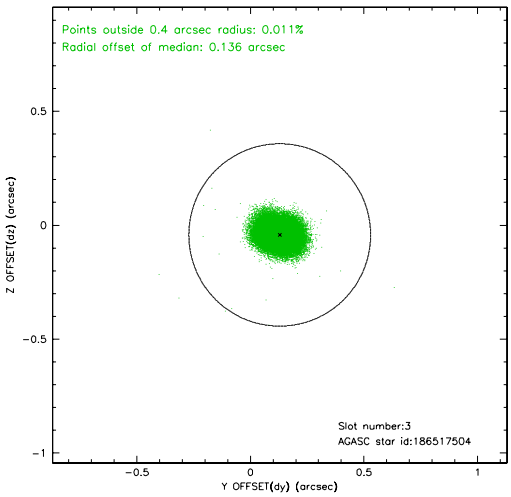
Slot Statistics

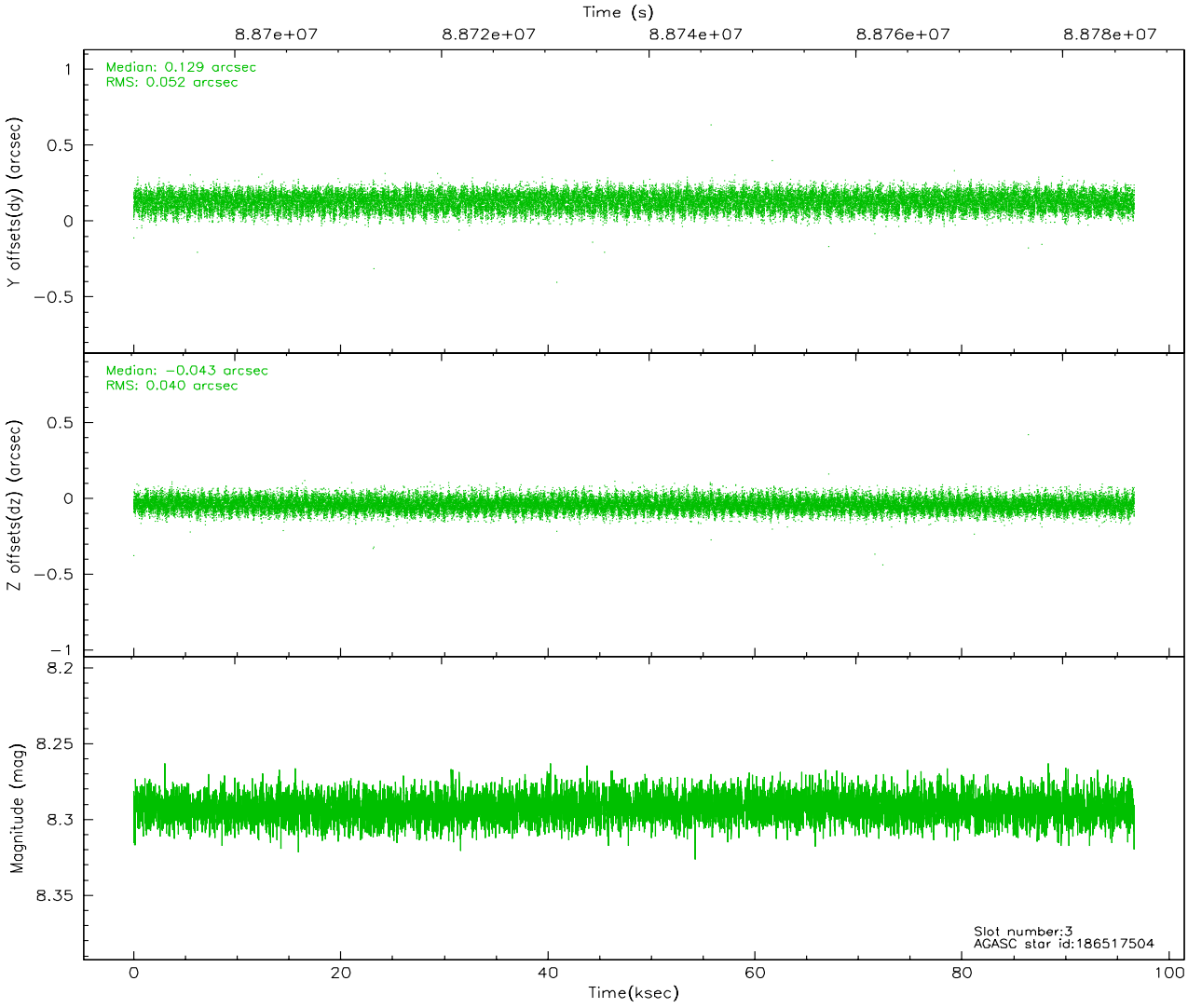
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-1	6.98	23576	0.098	-0.136	0.014	0.020	0.000000	0.000000	-1156.53	-454.61
1	FID	HRC-S-3	7.00	23577	0.155	-0.073	0.013	0.021	0.000000	0.000000	-1159.27	574.97
2	FID	HRC-S-4	6.94	23573	0.131	-0.087	0.008	0.013	0.000000	0.000000	1241.69	577.62
3	GUIDE	186517504	8.29	47146	0.129	-0.043	0.071	0.111	155.199091	19.538995	-2152.45	1369.31
4	GUIDE	186915152	8.63	47139	-0.104	-0.091	0.071	0.112	155.481319	20.053598	-76.01	1552.08
5	GUIDE	186515560	9.39	47117	-0.021	0.101	0.081	0.132	155.836391	19.698002	-511.60	-148.90
6	GUIDE	186517264	9.03	47137	0.008	-0.053	0.077	0.128	155.474034	19.793179	-880.92	1070.97
7	GUIDE	186517432	9.12	47136	-0.014	0.086	0.075	0.125	155.977538	19.585156	-596.92	-770.83

2.4 Star Slots

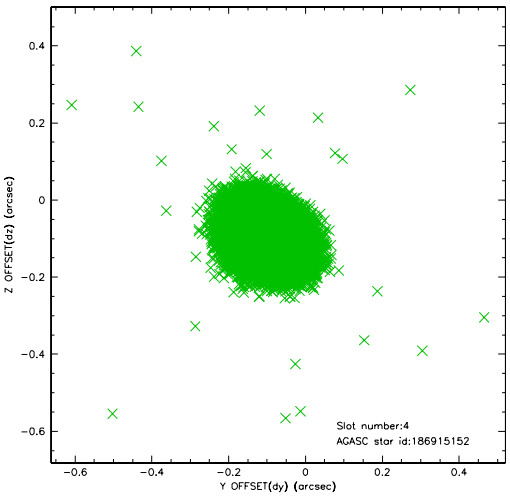
2.4.1 Slot 3

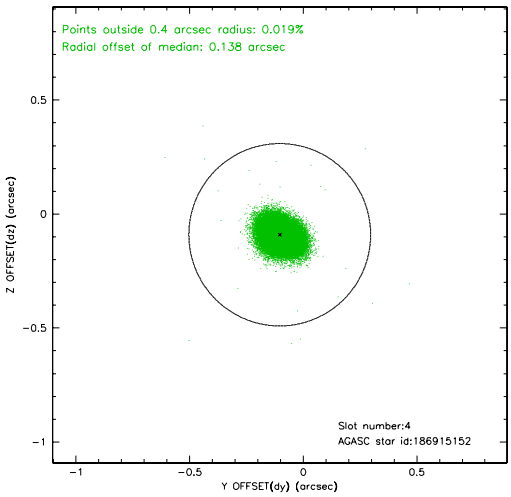


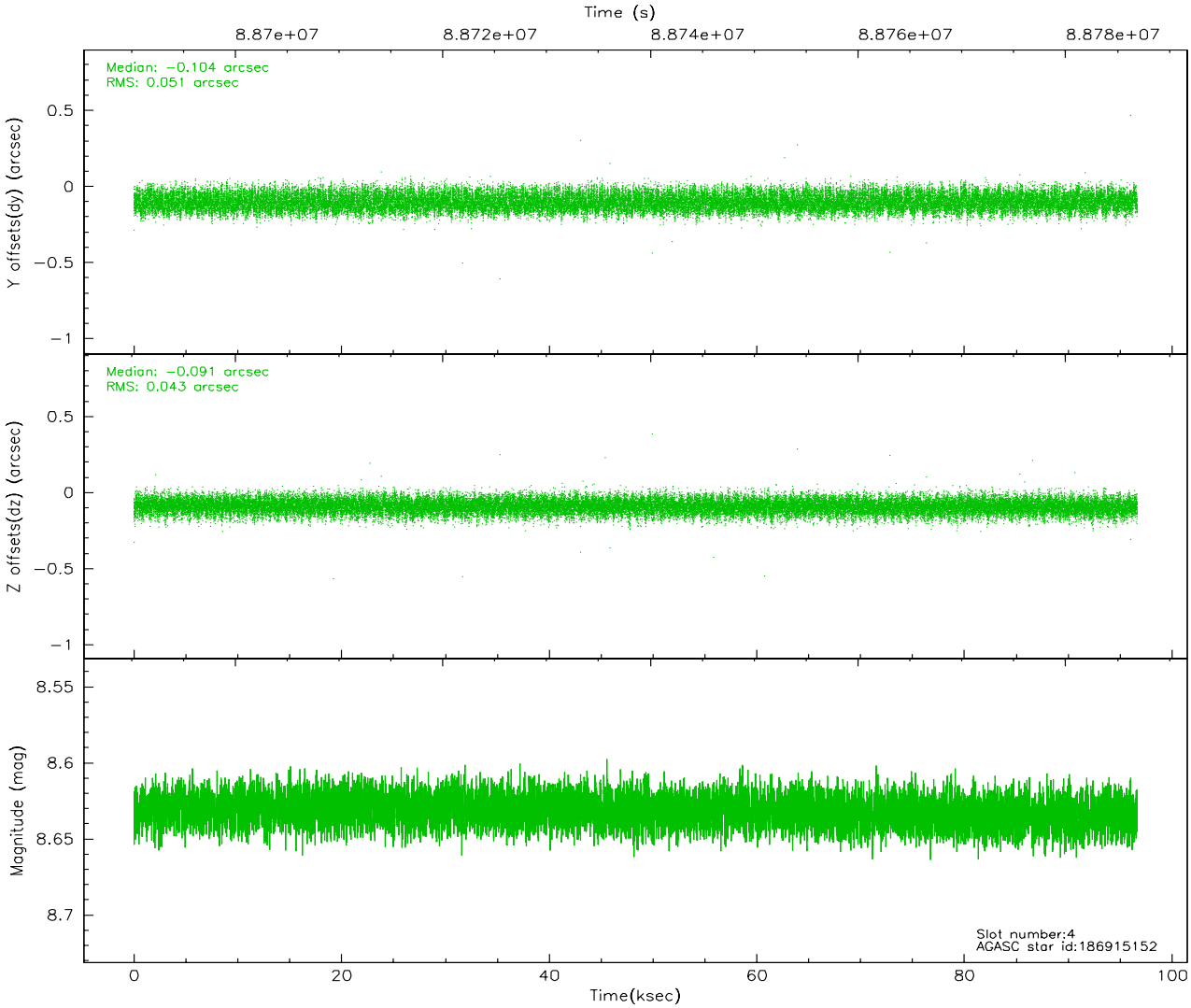




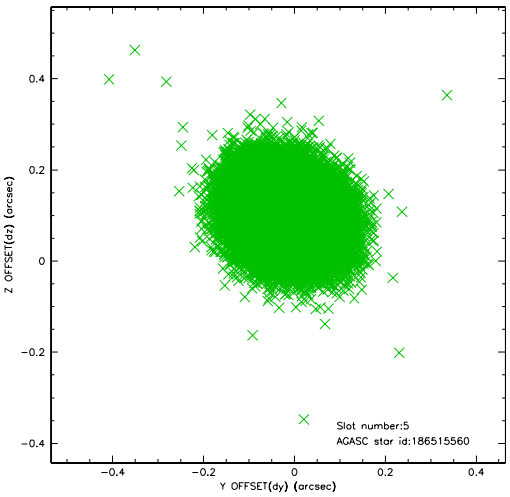
2.4.2 Slot 4

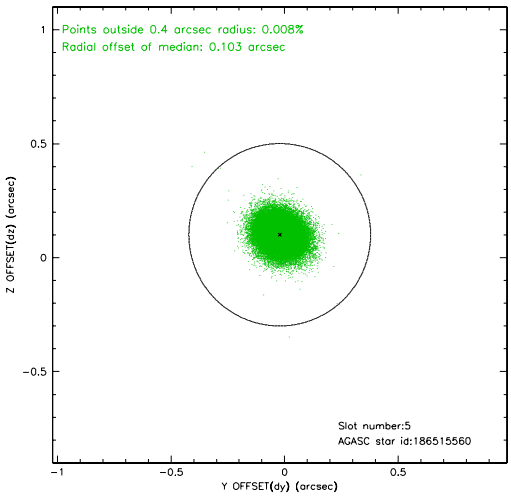

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:186915152

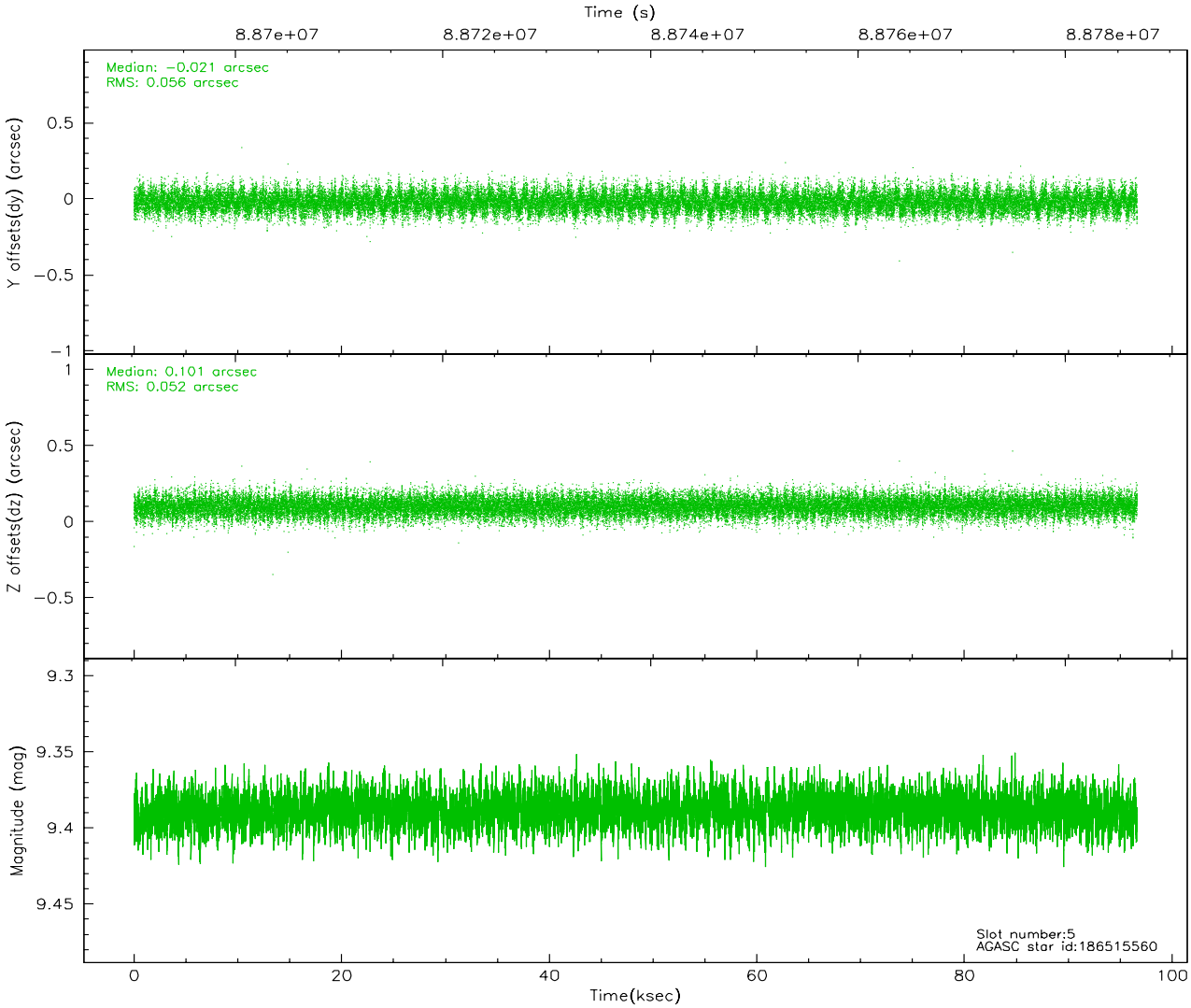

Points outside 0.4 arcsec radius: 0.019%
Radial offset of median: 0.138 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:186915152


Time (s)
8.87e+07
8.872e+07
8.874e+07
8.876e+07
8.878e+07
Median: −0.104 arcsec
RMS: 0.051 arcsec
Y offsets(dy) (arcsec)
Median: −0.091 arcsec
RMS: 0.043 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:186915152
Time(ksec)

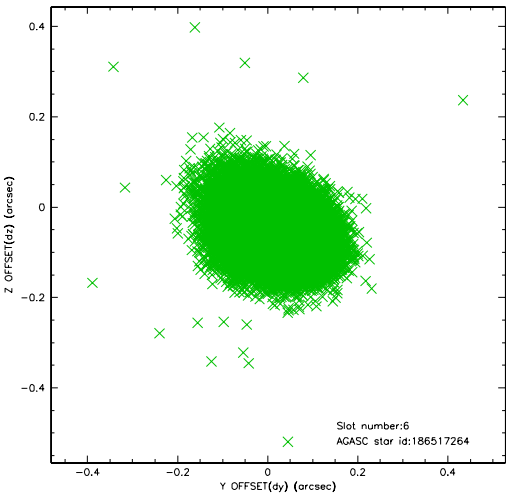
2.4.3 Slot 5

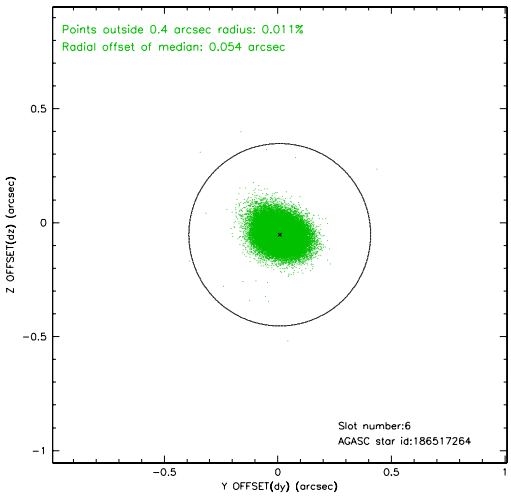

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:186515560

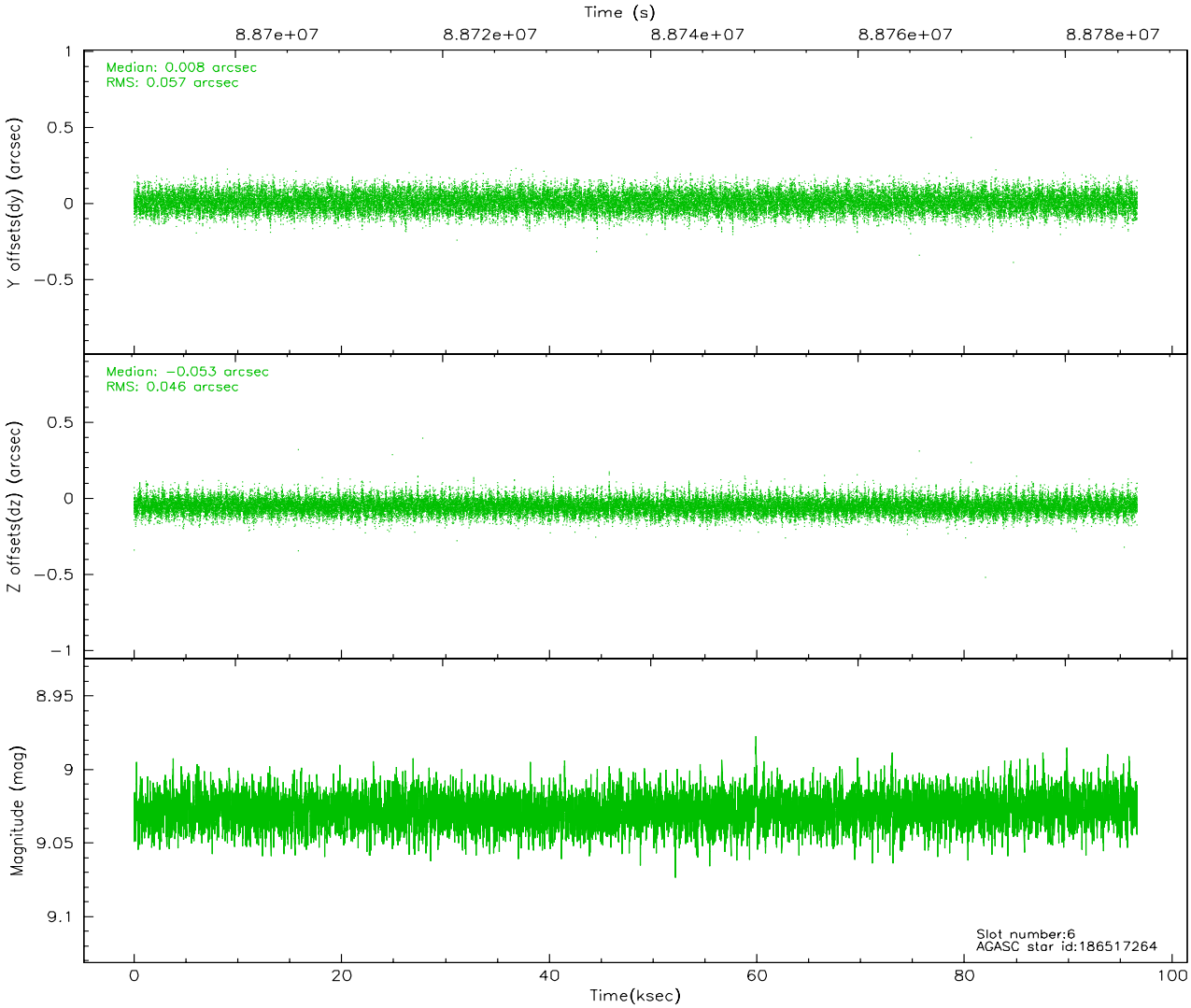

Points outside 0.4 arcsec radius: 0.008%
Radial offset of median: 0.103 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:186515560


Time (s)
8.87e+07
8.872e+07
8.874e+07
8.876e+07
8.878e+07
Median: −0.021 arcsec
RMS: 0.056 arcsec
Y offsets(dy) (arcsec)
Median: 0.101 arcsec
RMS: 0.052 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:186515560
Time(ksec)

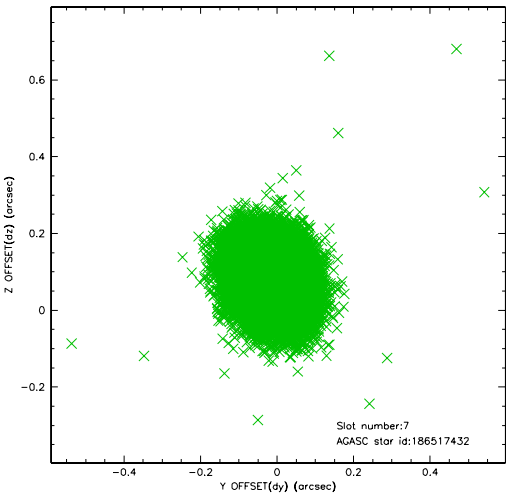
2.4.4 Slot 6

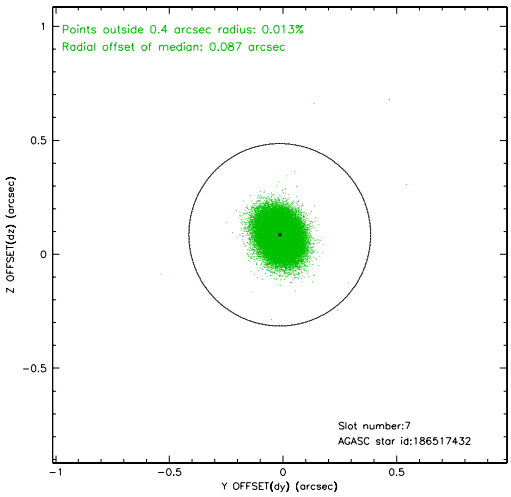

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:186517264

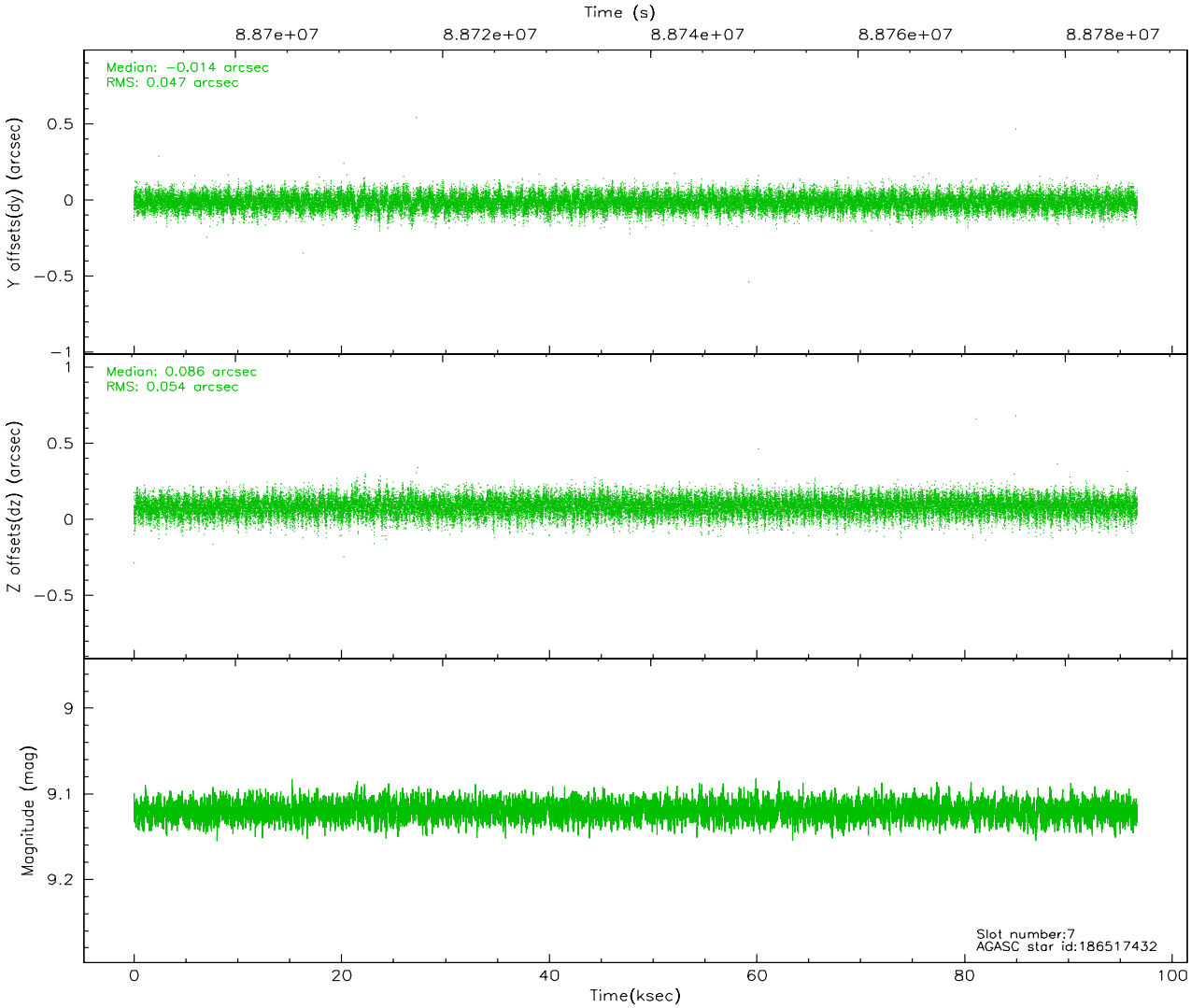

Points outside 0.4 arcsec radius: 0.011%
Radial offset of median: 0.054 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:186517264


Time (s)
8.87e+07
8.872e+07
8.874e+07
8.876e+07
8.878e+07
Median: 0.008 arcsec
RMS: 0.057 arcsec
Y offsets(dy) (arcsec)
Median: −0.053 arcsec
RMS: 0.046 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:186517264
Time(ksec)

2.4.5 Slot 7

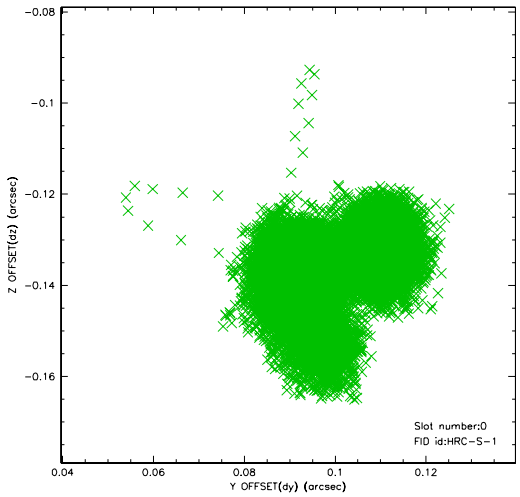

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:186517432

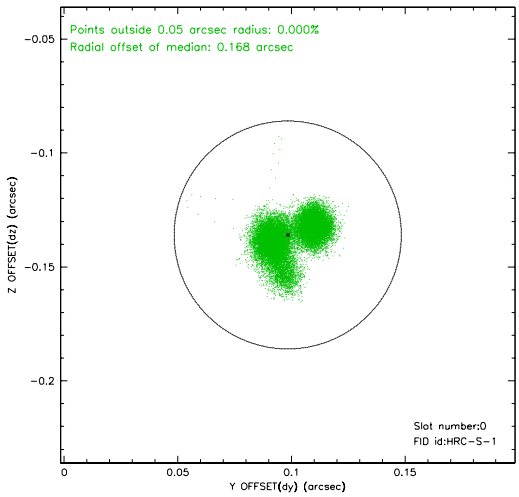

Points outside 0.4 arcsec radius: 0.013%
Radial offset of median: 0.087 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:186517432

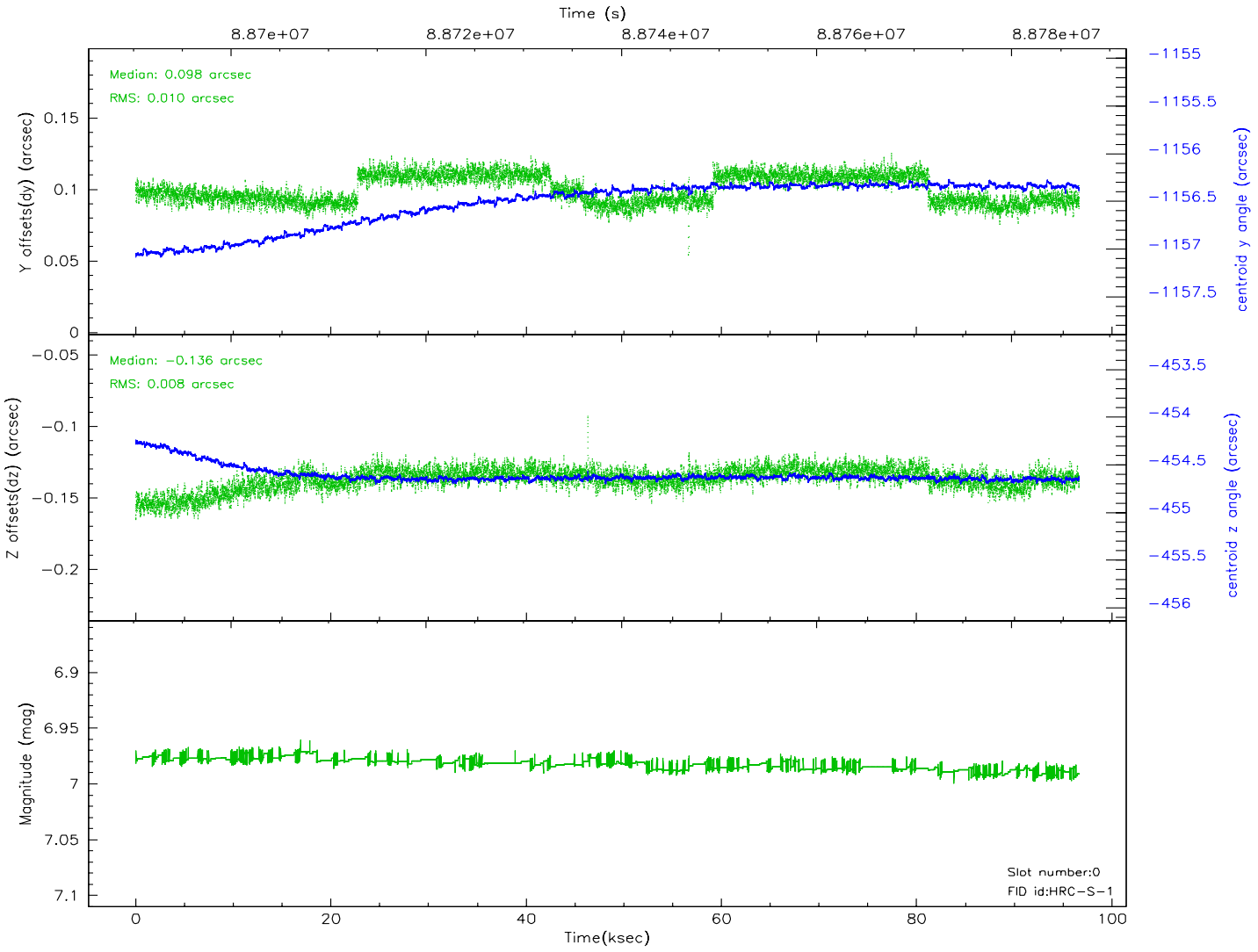

Time (s)
8.87e+07
8.872e+07
8.874e+07
8.876e+07
8.878e+07
Median: −0.014 arcsec
RMS: 0.047 arcsec
Y offsets(dy) (arcsec)
Median: 0.086 arcsec
RMS: 0.054 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:186517432
Time(ksec)

2.5 FID Slots

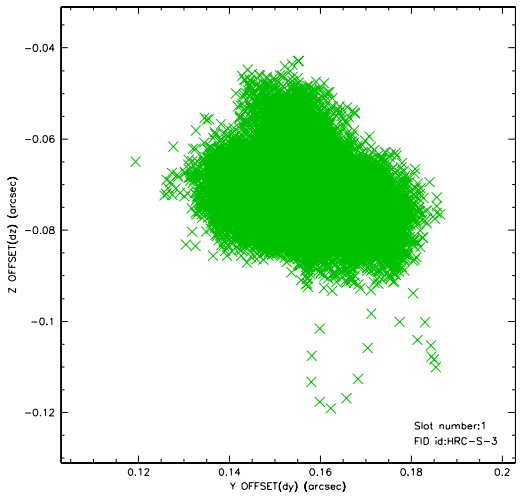
2.5.1 Slot 0

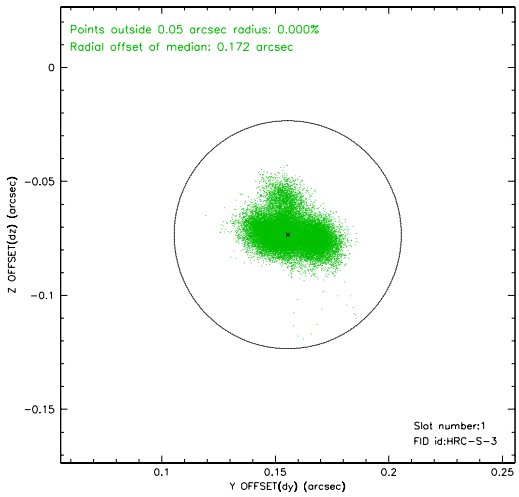


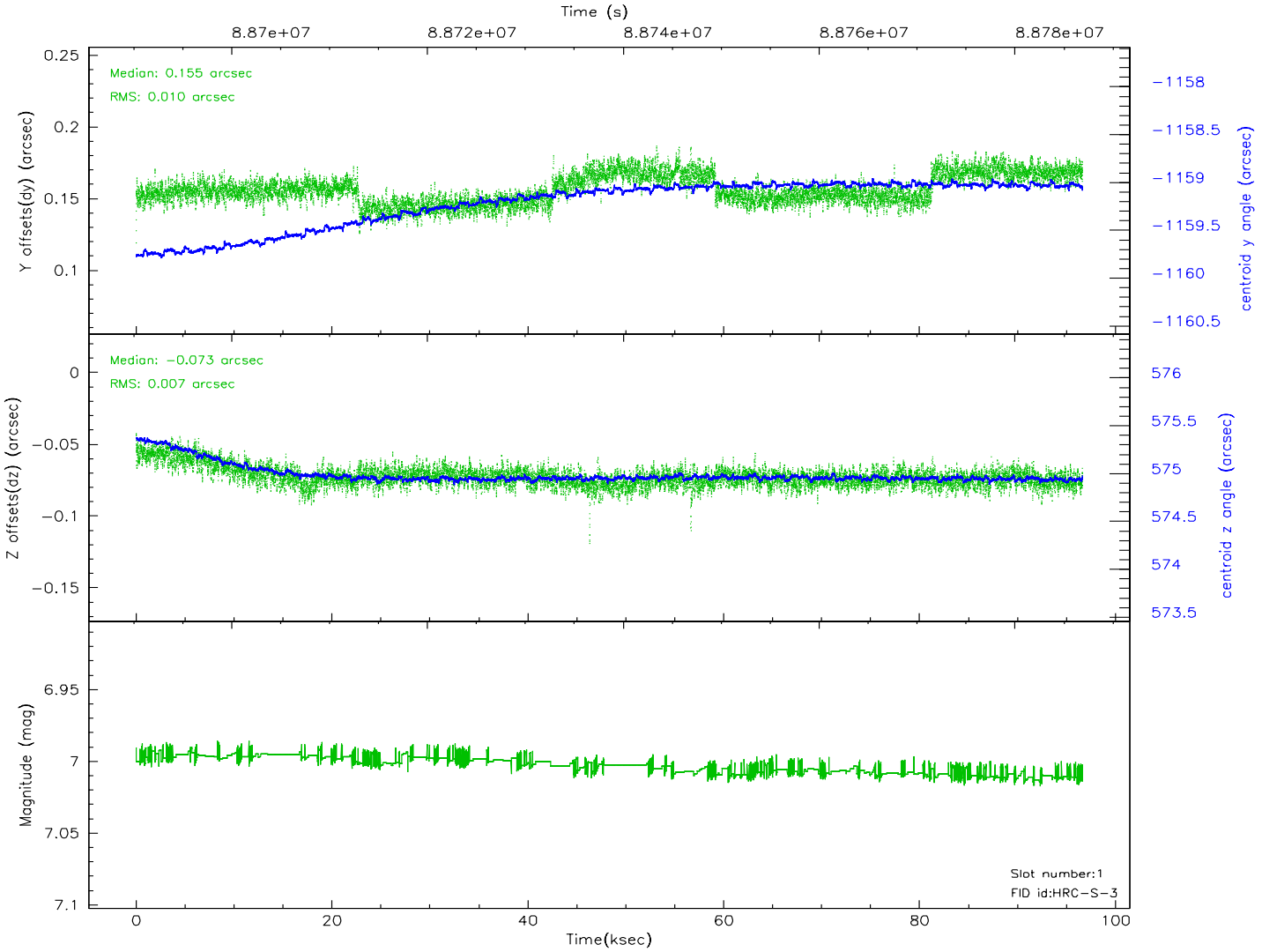




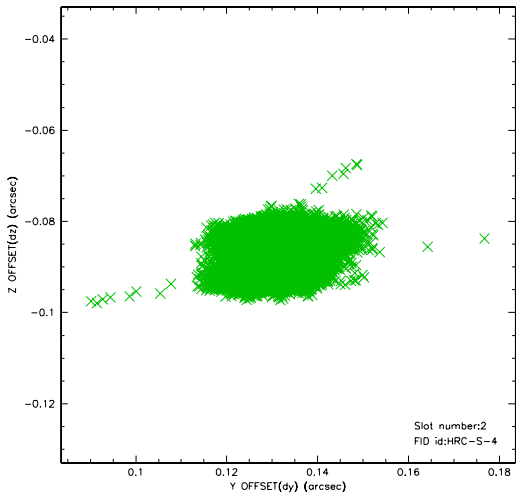
2.5.2 Slot 1

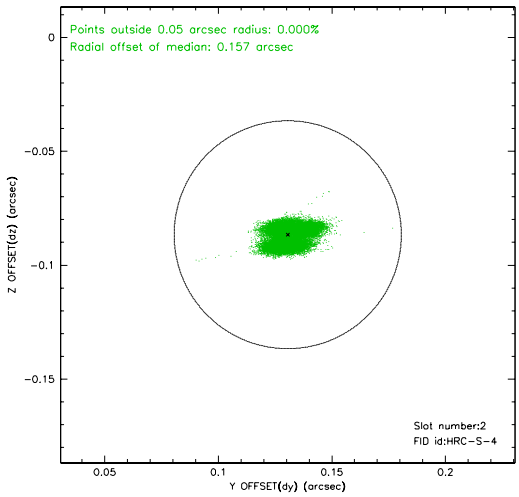

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-S-3

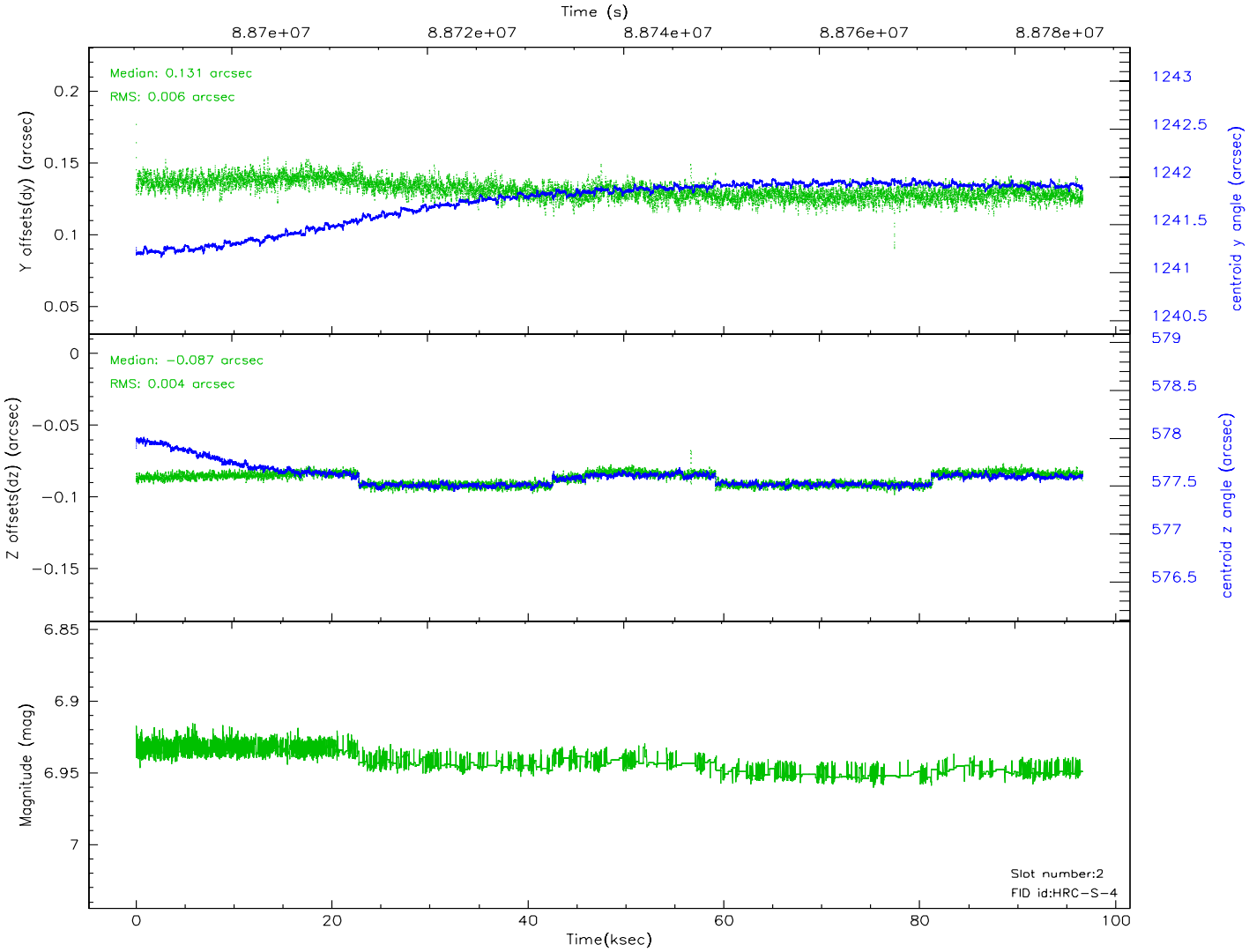

Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.172 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-S-3


Time (s)
8.87e+07
8.872e+07
8.874e+07
8.876e+07
8.878e+07
Median: 0.155 arcsec
RMS: 0.010 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.073 arcsec
RMS: 0.007 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:1
FID id:HRC-S-3
Time(ksec)

2.5.3 Slot 2

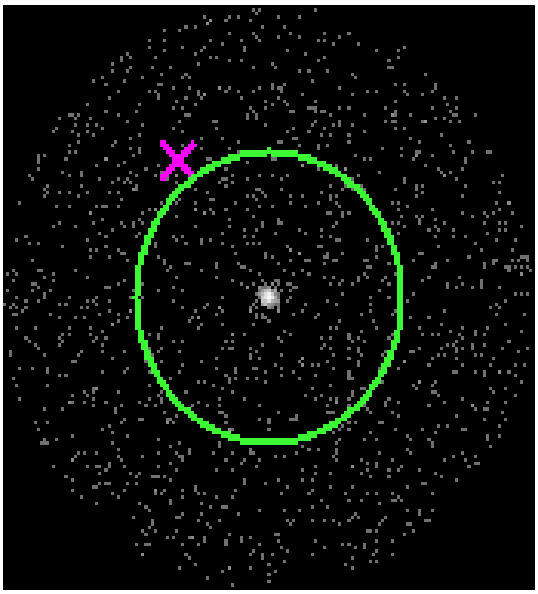

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:HRC-S-4


Points outside 0.05 arcsec radius: 0.000%
Radial offset of median: 0.157 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:HRC-S-4


Time (s)
8.87e+07
8.872e+07
8.874e+07
8.876e+07
8.878e+07
Median: 0.131 arcsec
RMS: 0.006 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.087 arcsec
RMS: 0.004 arcsec
Z offsets(dz) (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:2
FID id:HRC-S-4
Time(ksec)

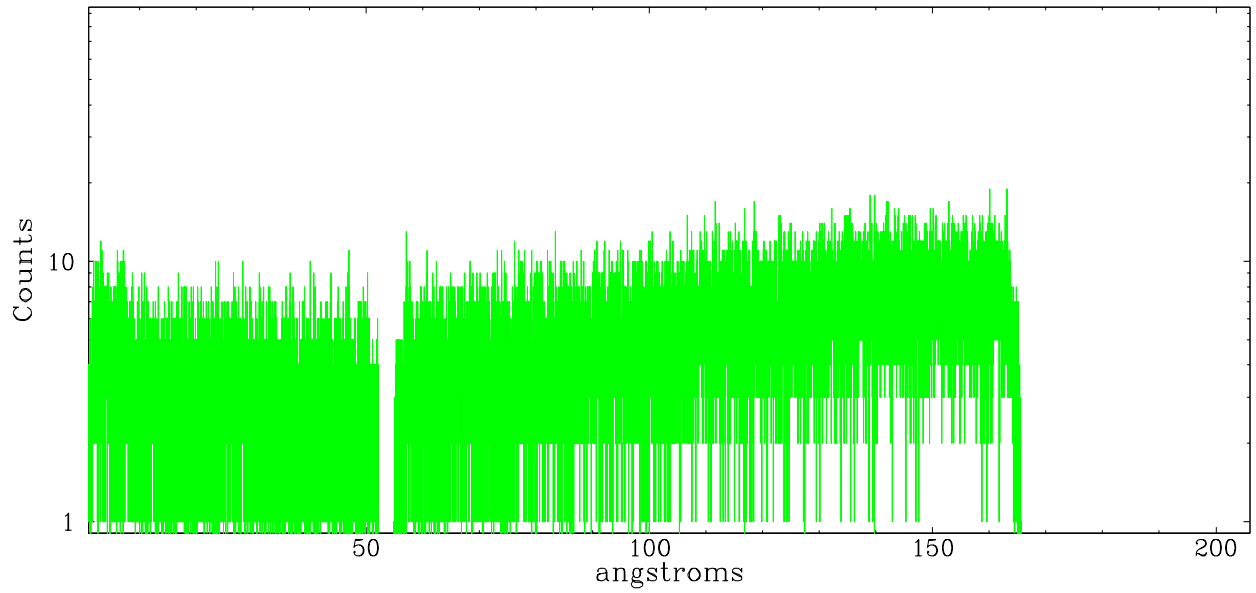
3 Gratings

3.1 LETG Arm

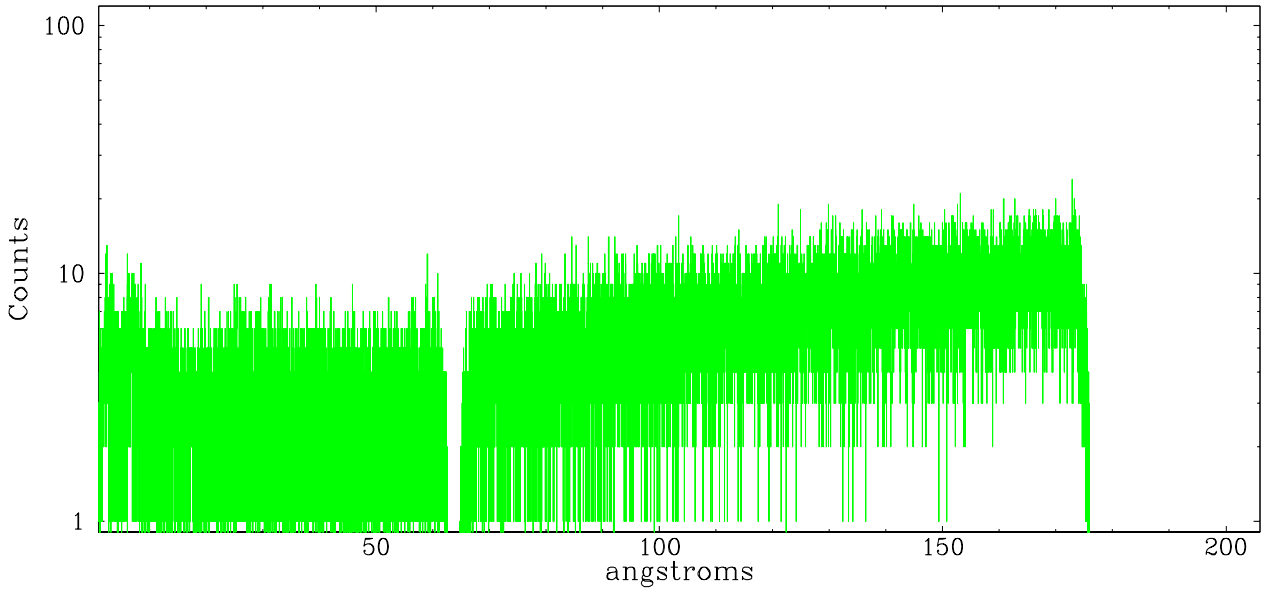


LETG Zero Order

leg order −1



leg order +1



A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2007.06.14
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	96.274

A.2 Comments

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There are several periods of enhanced count rate during this
observation,
due to a high radiation environment. The dead time factor (DTF) file
reflects the periods of anomalously high count rates.
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