V&V Reference Report
L2 ASCDS Version : 7.6.10

Observation 712 - L2 Version 4
Chandra X-Ray Center

L2 Processing Date : Aug 9 2007

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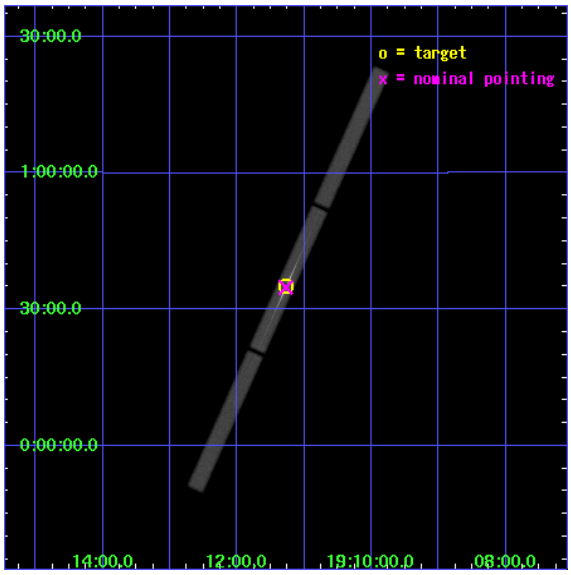
1 Front

seq_num	400079
obs_id	712
title	TEMPORAL EVOLUTION OF TRANSIENT TYPE I BURSTERS IN QUIESCENCE
observer	PROF. LARS BILDSTEN
object	AQL X-1
ra_targ	287.816667
dec_targ	0.585111
ra_nom	287.81847200482
dec_nom	0.58062999880633
roll_nom	294.25591799269
revision	4
ontime	10314.831643805
livetime	10256.496088244
l2events	430229

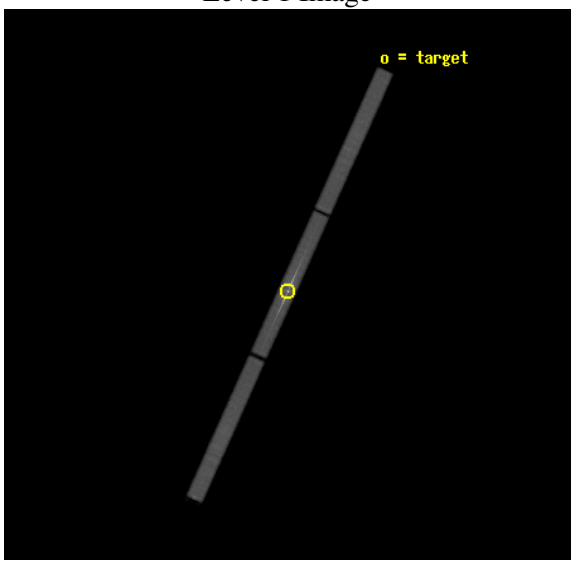


2 OBI

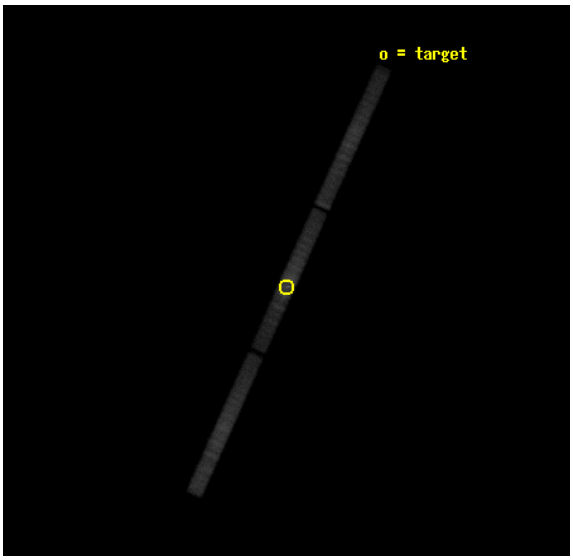
2.1 OBI

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	2007-06-16T19:58:55
revision	3

sched_exp_time	9320.095000
ontime	10314.831643805
l1events	666642

2.1.3 Events

Level 1 Events

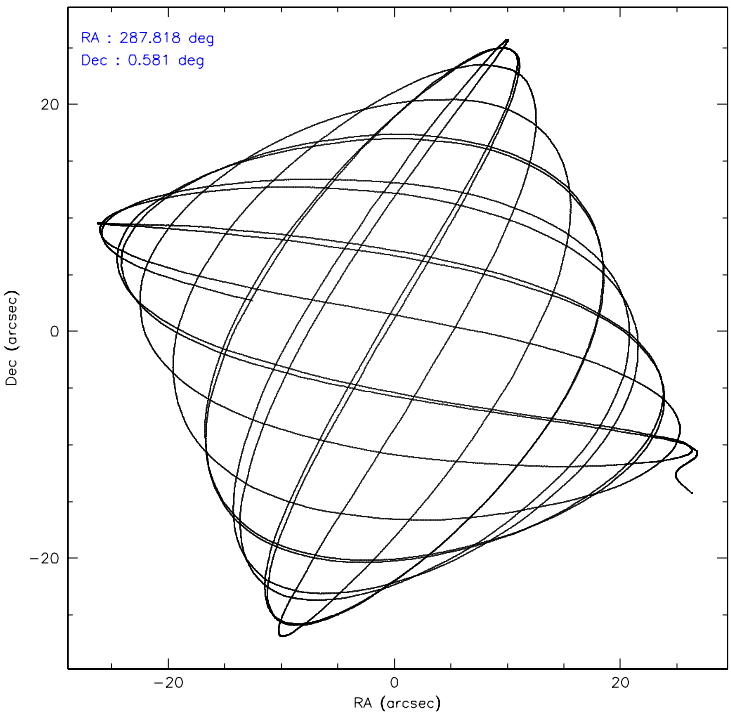
	segment 1	**segment 2**	**segment 3**
level 1 events	206806	252219	207617
rejected events	54943	59681	65123
rejected %	26%	23%	31%

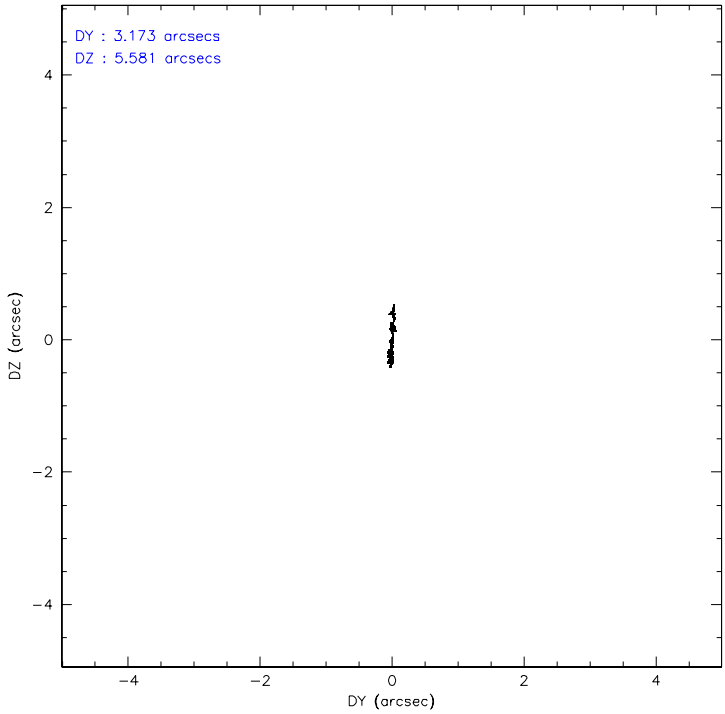
2.2 Compared Parameters

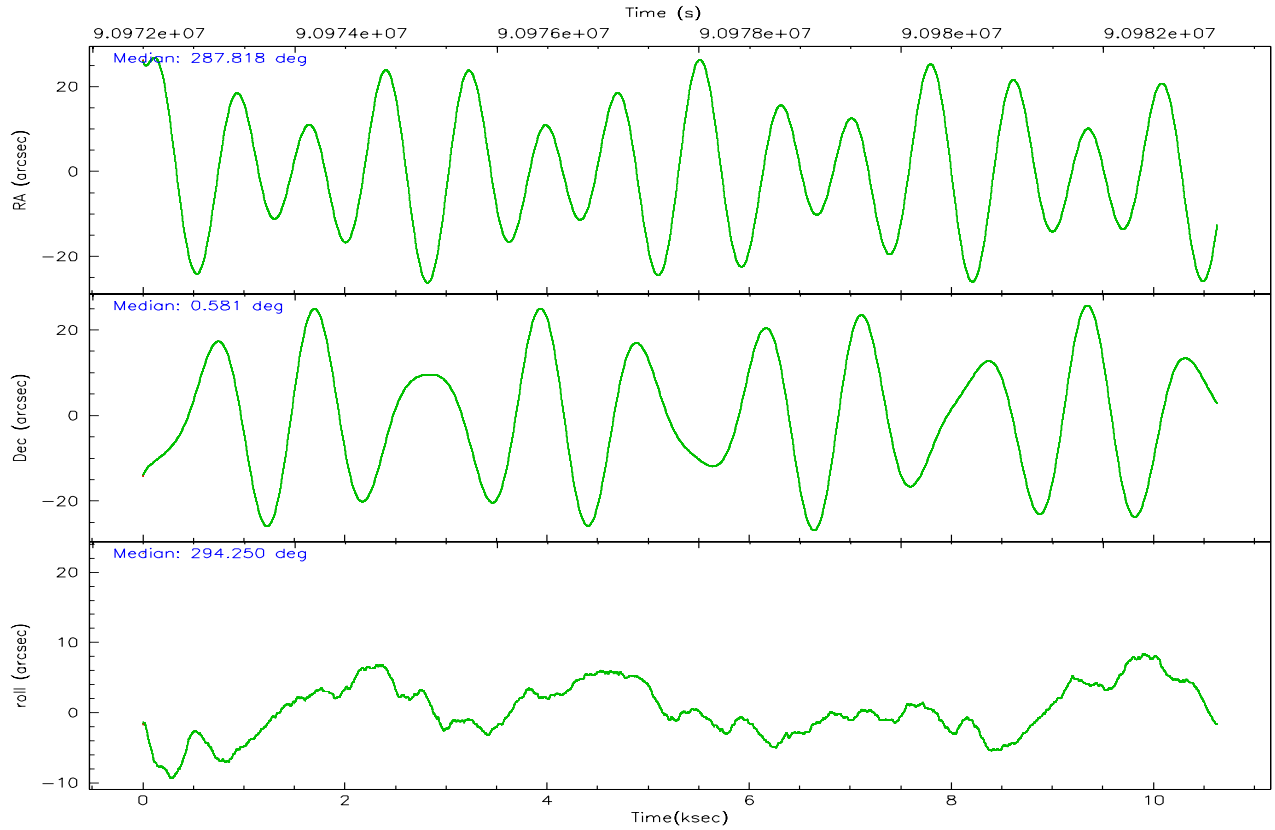
Parameter	Planned	Actual
Instrument	HRC	HRC
Detector	HRC-S	HRC-S
Grating	LETG	LETG
Data mode	OBSERVING	OBSERVING
Observation mode	POINTING	POINTING
Pointing RA	287.794454	287.8184720048209
Pointing Dec	0.596324	0.5806299988063313
Pointing Roll	294.188817	294.2559179926878
SIM focus pos (mm)	-1.429586	-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	90972643.184000	90971433.508956
Observation start date	2000-11-18T22:09:39	2000-11-18T21:50:33
Observation end time	90981964.184000	90983949.78443301
Observation end date	2000-11-19T00:45:00	2000-11-19T01:19:09

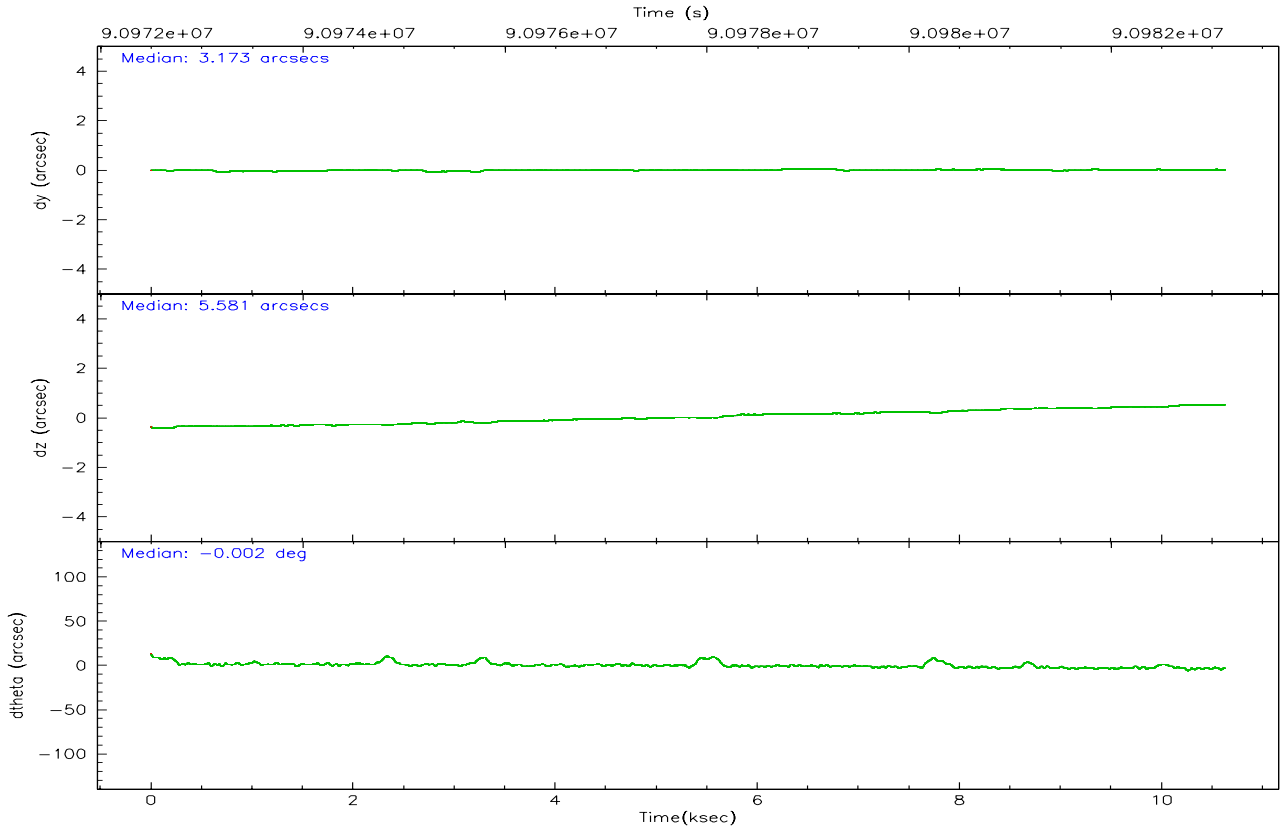
Parameter	Planned	Actual
Obspar format version number	6	6
Obspar file type	PREDICTED	ACTUAL
Obspar update status	NONE	UPDATED

2.3 Aspect


RA : 287.818 deg
Dec : 0.581 deg
20
0
−20
Dec (arcsec)
−20
0
20
RA (arcsec)


DY : 3.173 arcsecs
DZ : 5.581 arcsecs
4
2
0
−2
−4
DZ (arcsec)
−4
−2
0
2
4
DY (arcsec)


Time (s)
9.0972e+07
9.0974e+07
9.0976e+07
9.0978e+07
9.098e+07
9.0982e+07
Median: 287.818 deg
RA (arcsec)
Median: 0.581 deg
Dec (arcsec)
Median: 294.250 deg
roll (arcsec)
Time(ksec)

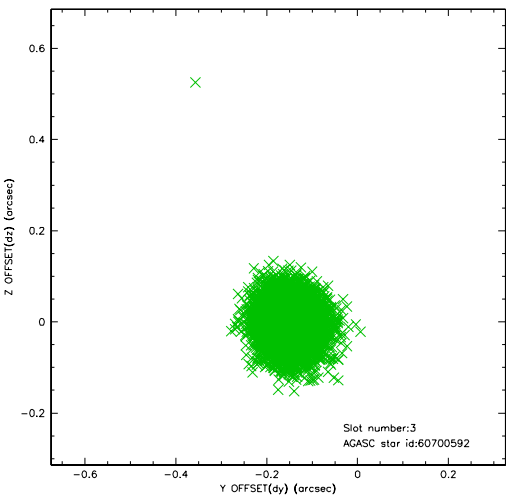

Time (s)
9.0972e+07
9.0974e+07
9.0976e+07
9.0978e+07
9.098e+07
9.0982e+07
Median: 3.173 arcsecs
dy (arcsec)
Median: 5.581 arcsecs
dz (arcsec)
Median: −0.002 deg
dtheta (arcsec)
Time(ksec)

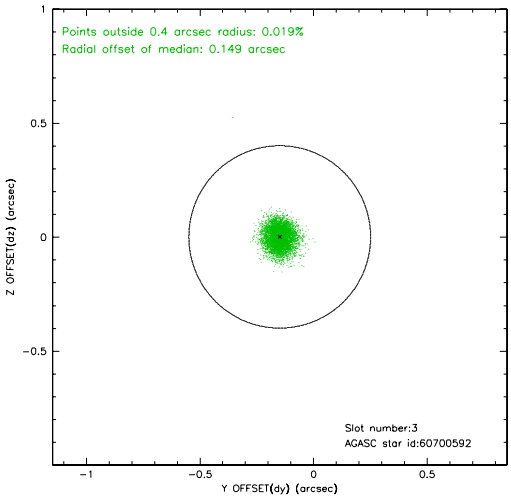
Slot Statistics

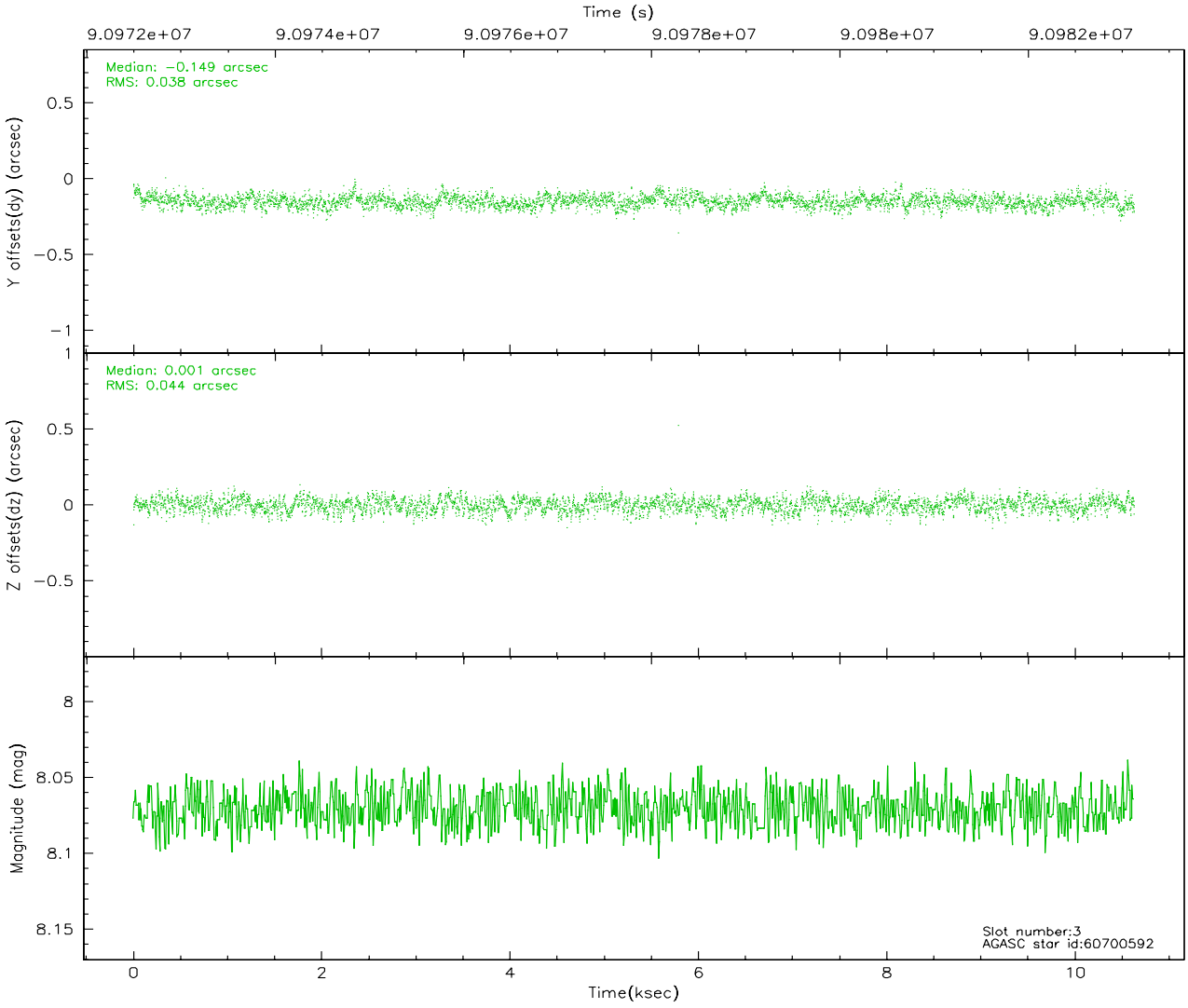
slot	status	id	mag	n_pts	med_dy	med_dz	dr1	dr2	ra	dec	mean_y	mean_z
0	FID	HRC-S-2	6.95	2593	0.118	-0.145	0.014	0.023	0.000000	0.000000	1242.43	-446.82
1	FID	HRC-S-3	6.98	2593	0.170	-0.105	0.008	0.022	0.000000	0.000000	-1159.41	575.27
2	FID	HRC-S-4	6.91	2593	0.117	-0.045	0.016	0.029	0.000000	0.000000	1240.58	578.23
3	GUIDE	60700592	8.07	5185	-0.149	0.001	0.062	0.097	287.530354	0.932002	-1492.20	-371.97
4	GUIDE	60712504	8.89	5185	0.108	0.143	0.071	0.116	288.588609	0.262689	2266.37	2116.47
5	GUIDE	60706688	8.73	5185	-0.014	0.005	0.069	0.112	287.637938	0.689635	-537.04	-375.74
6	GUIDE	60705928	9.01	5185	0.011	-0.055	0.075	0.124	287.833535	0.715711	-334.75	304.48
7	GUIDE	672281216	9.32	5181	0.045	-0.091	0.087	0.144	287.454836	-0.067927	1680.42	-2094.80

2.4 Star Slots

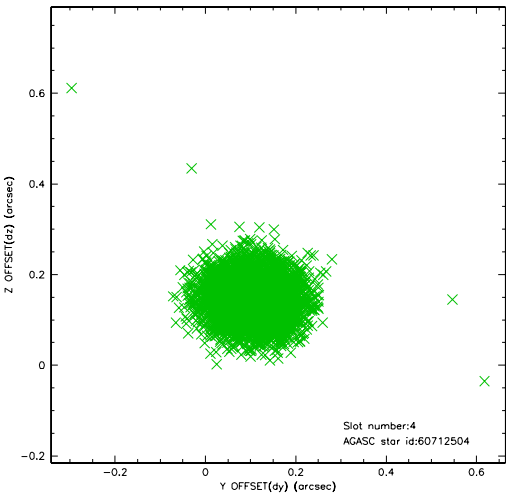
2.4.1 Slot 3

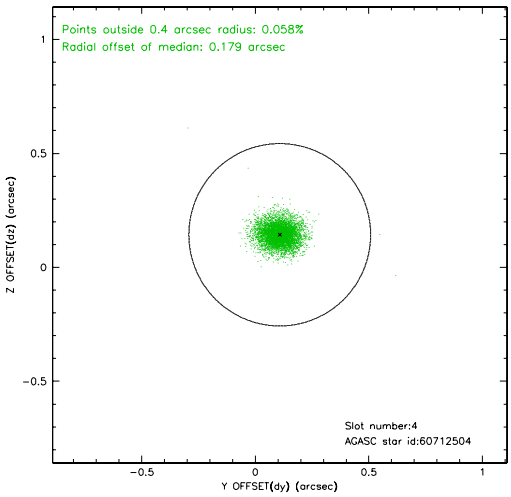


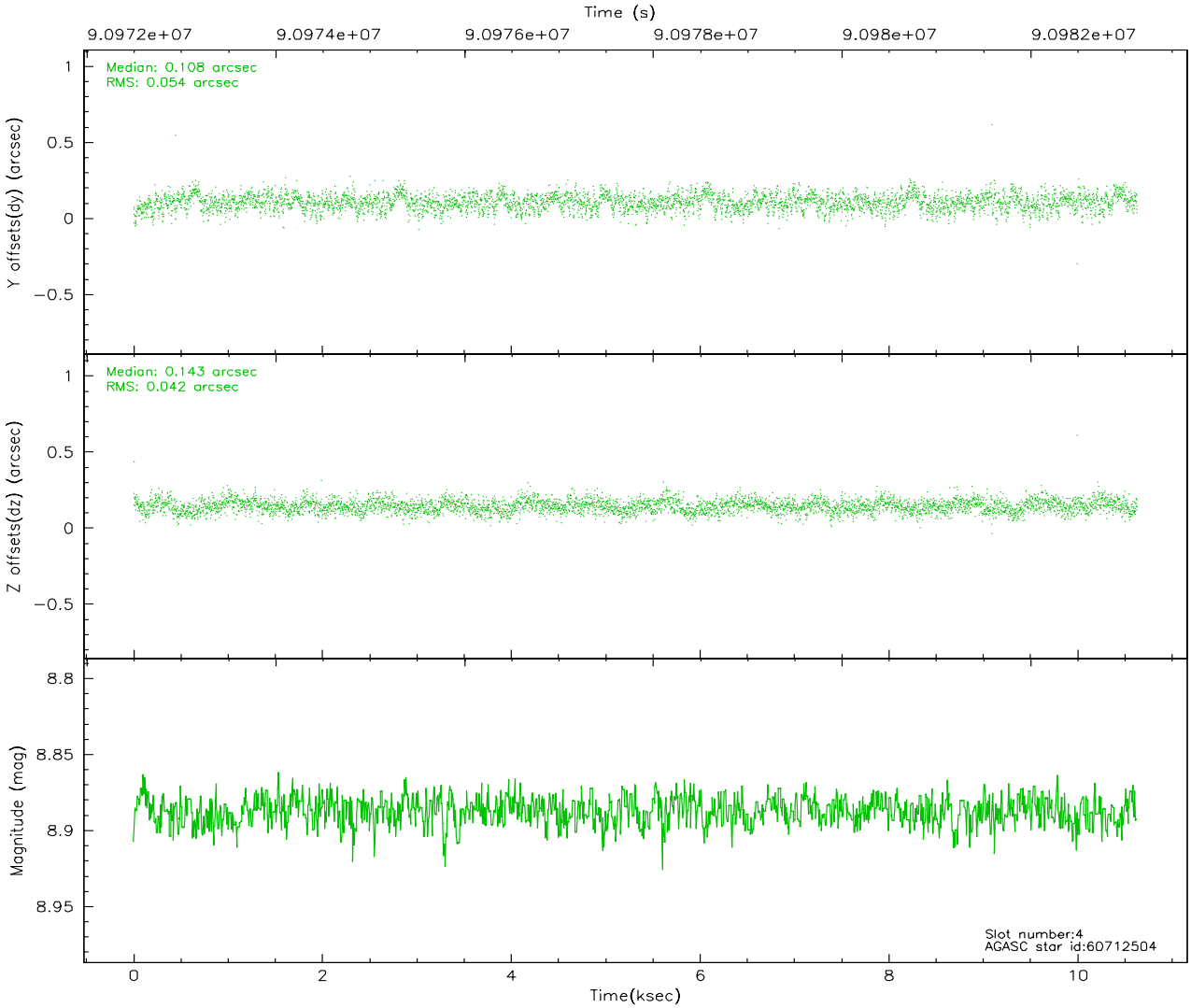




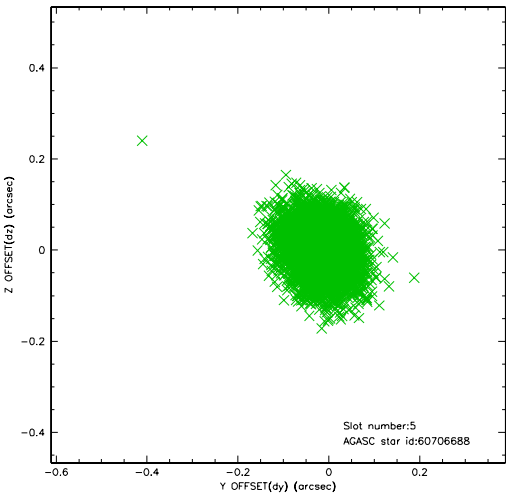
2.4.2 Slot 4

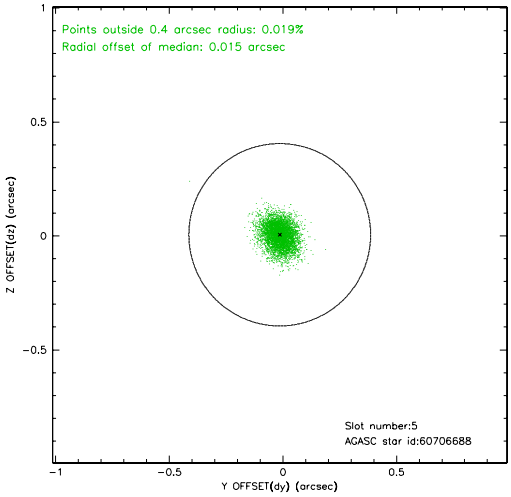

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:60712504

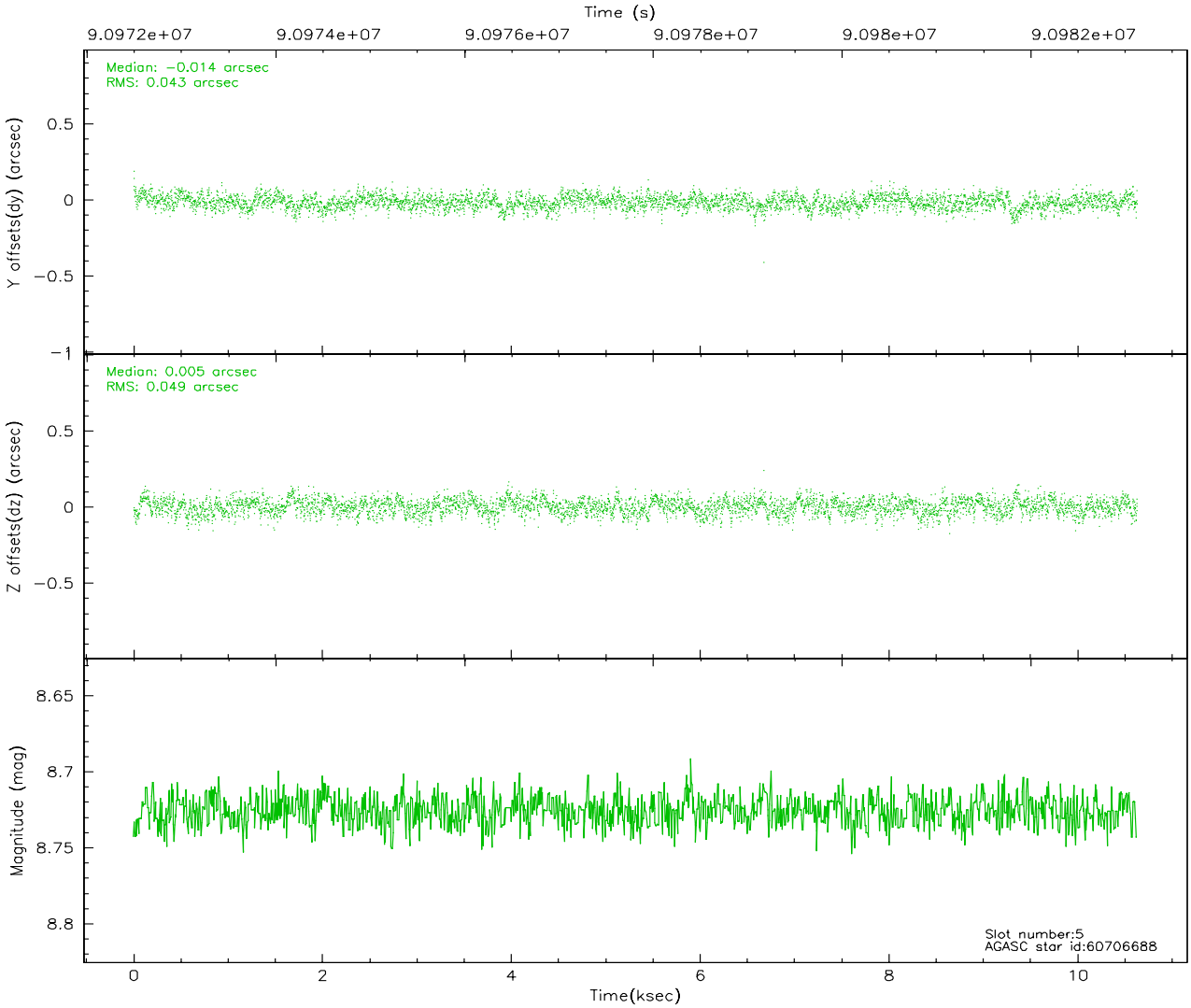

Points outside 0.4 arcsec radius: 0.058%
Radial offset of median: 0.179 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:4
AGASC star id:60712504


Time (s)
Median: 0.108 arcsec
RMS: 0.054 arcsec
Y offsets(dy) (arcsec)
Median: 0.143 arcsec
RMS: 0.042 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:4
AGASC star id:60712504
Time(ksec)

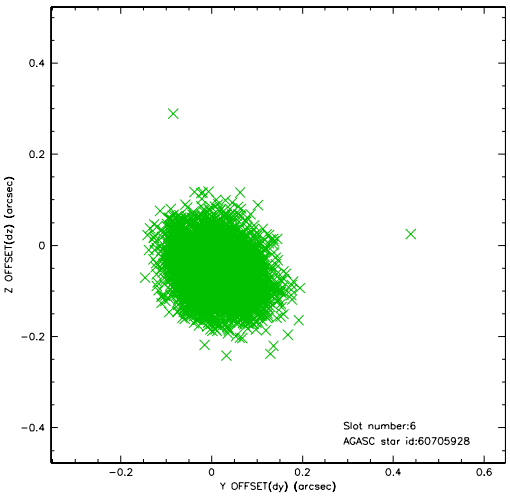
2.4.3 Slot 5

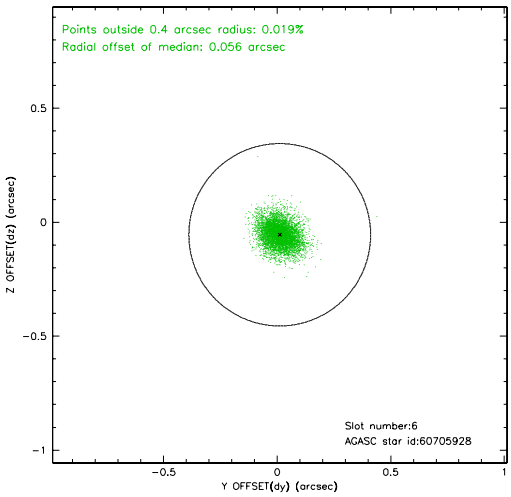

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:60706688

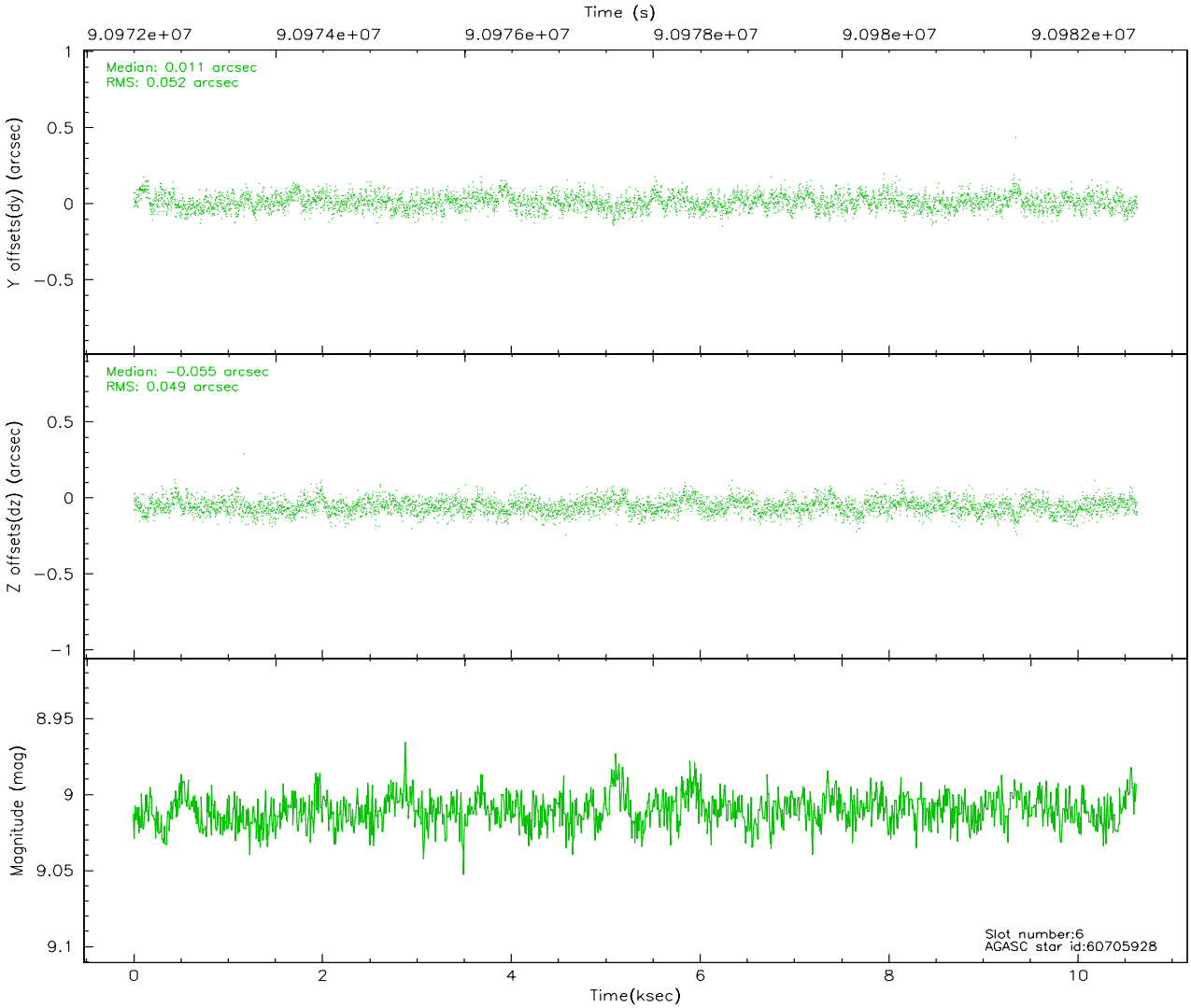

Points outside 0.4 arcsec radius: 0.019%
Radial offset of median: 0.015 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:5
AGASC star id:60706688


Time (s)
Median: −0.014 arcsec
RMS: 0.043 arcsec
Y offsets(dy) (arcsec)
Median: 0.005 arcsec
RMS: 0.049 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:5
AGASC star id:60706688
Time(ksec)

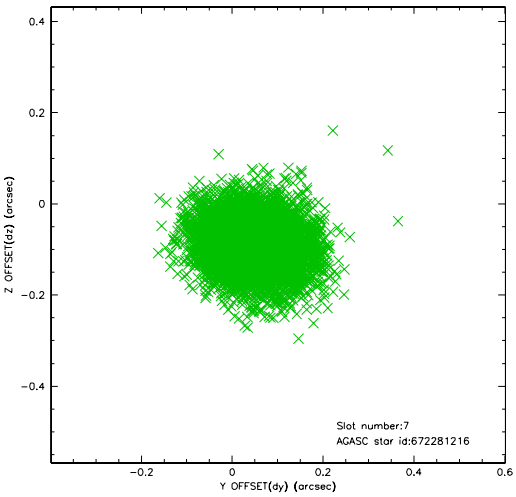
2.4.4 Slot 6

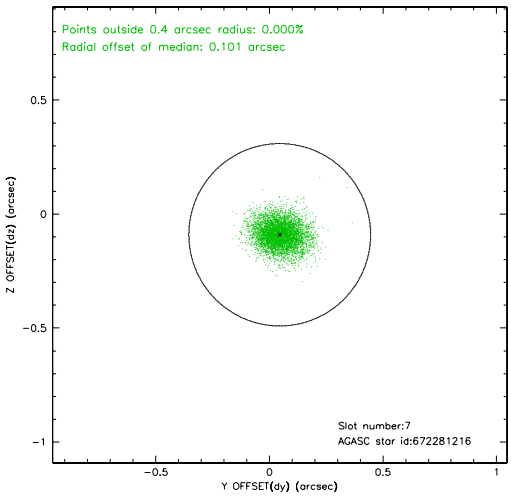

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:60705928

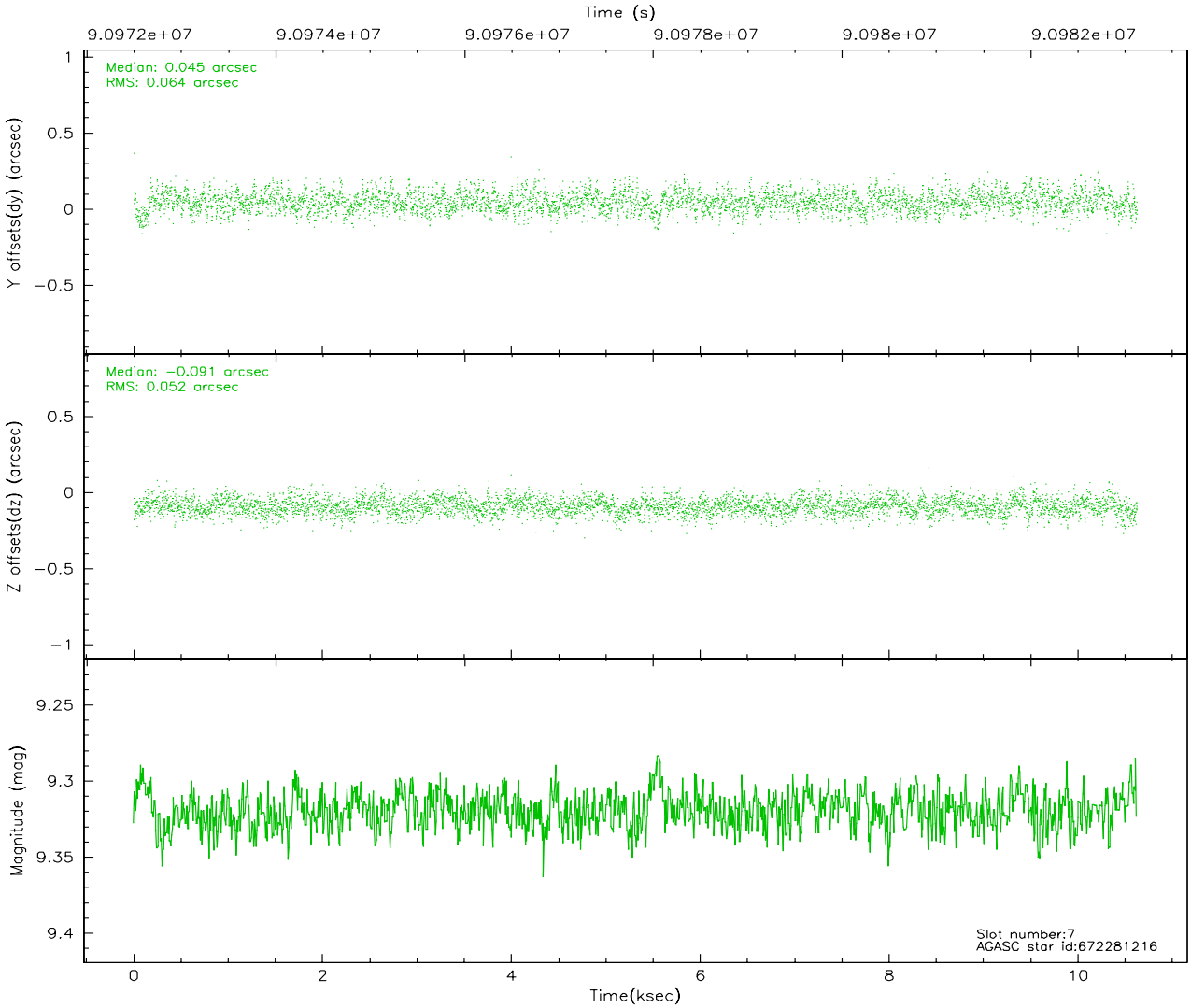

Points outside 0.4 arcsec radius: 0.019%
Radial offset of median: 0.056 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:6
AGASC star id:60705928


Time (s)
Median: 0.011 arcsec
RMS: 0.052 arcsec
Y offsets(dy) (arcsec)
Median: −0.055 arcsec
RMS: 0.049 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:6
AGASC star id:60705928
Time(ksec)

2.4.5 Slot 7

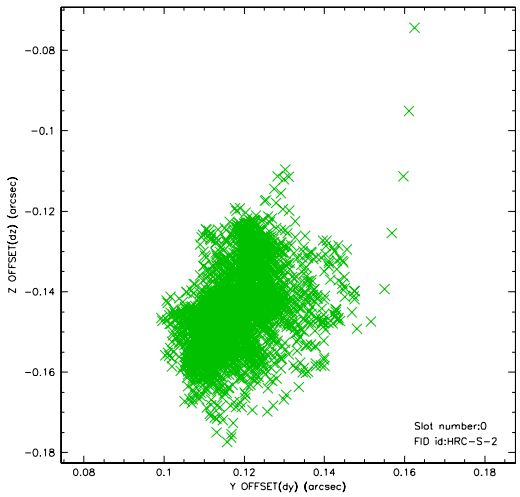

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:672281216

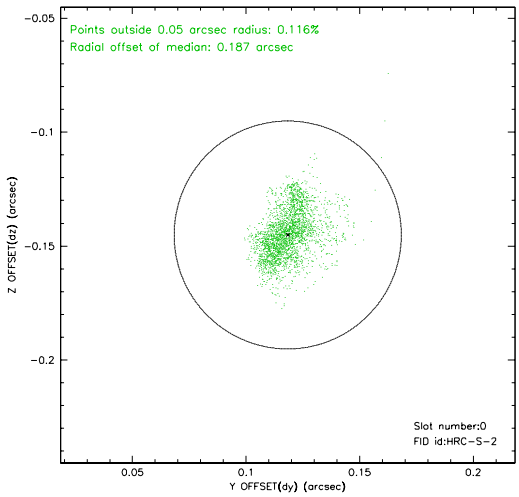

Points outside 0.4 arcsec radius: 0.000%
Radial offset of median: 0.101 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:7
AGASC star id:672281216

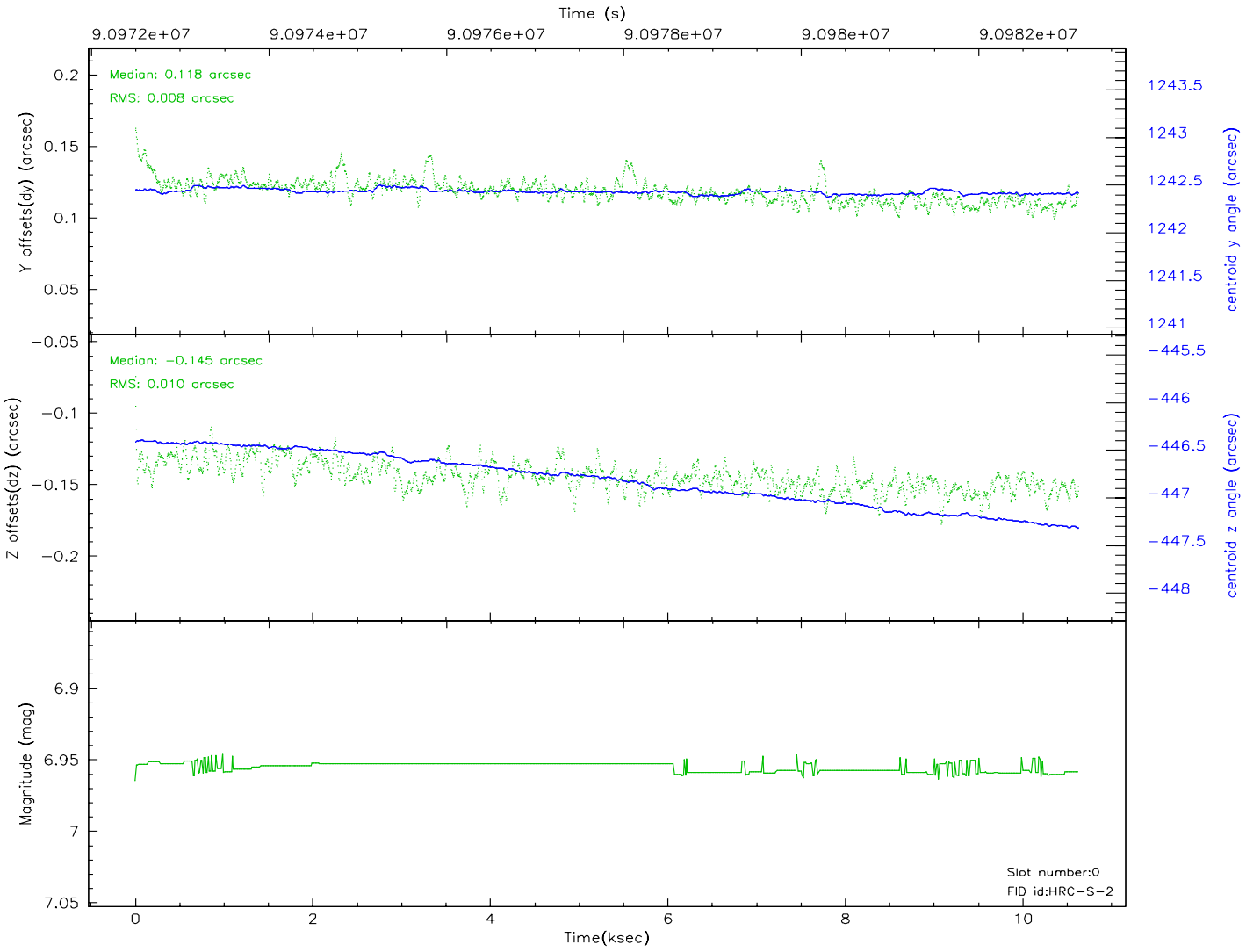

Time (s)
Median: 0.045 arcsec
RMS: 0.064 arcsec
Y offsets(dy) (arcsec)
Median: −0.091 arcsec
RMS: 0.052 arcsec
Z offsets(dz) (arcsec)
Magnitude (mag)
Slot number:7
AGASC star id:672281216
Time(ksec)

2.5 FID Slots

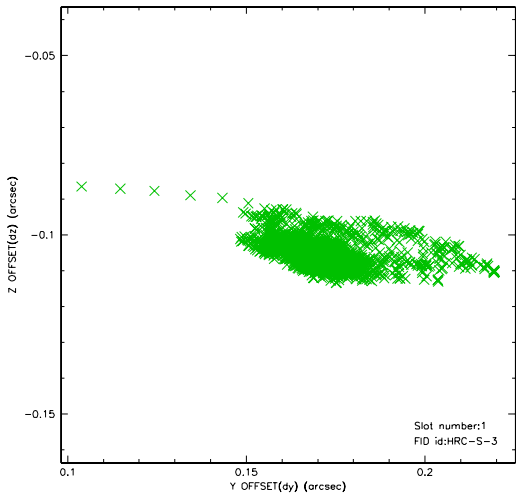
2.5.1 Slot 0

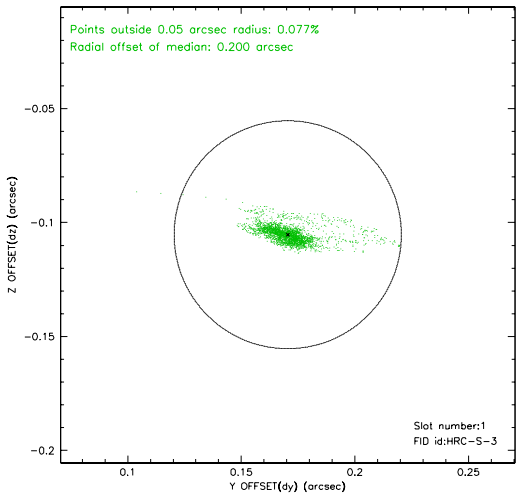


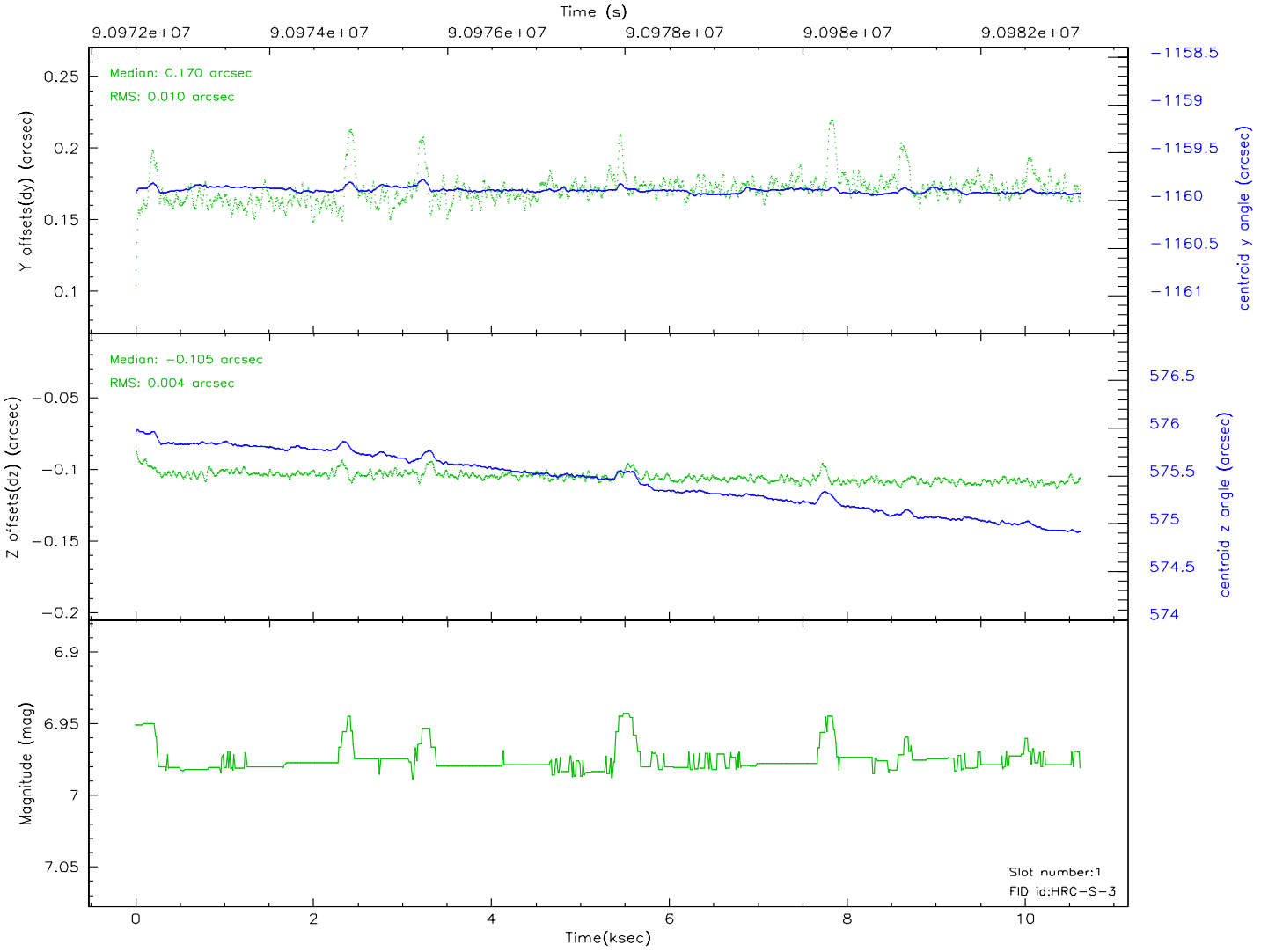




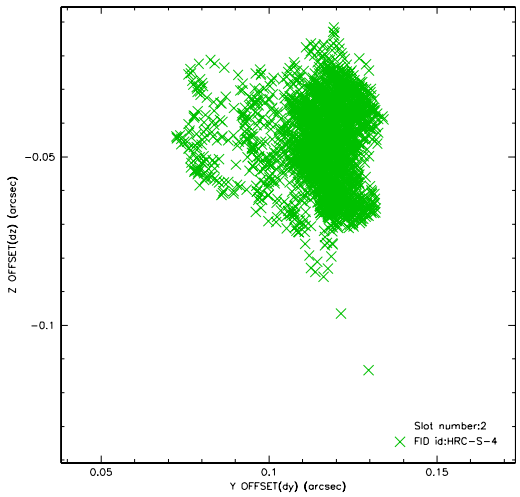
2.5.2 Slot 1

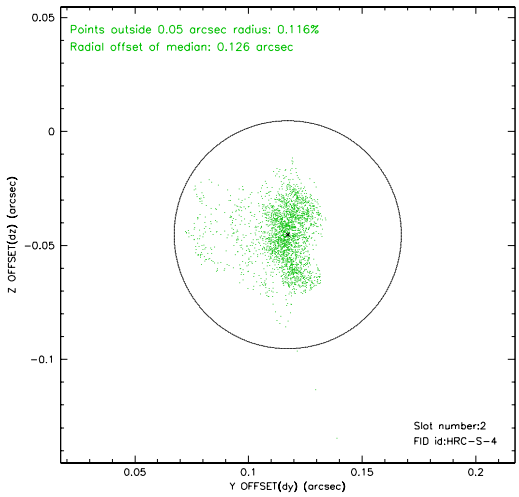

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-S-3

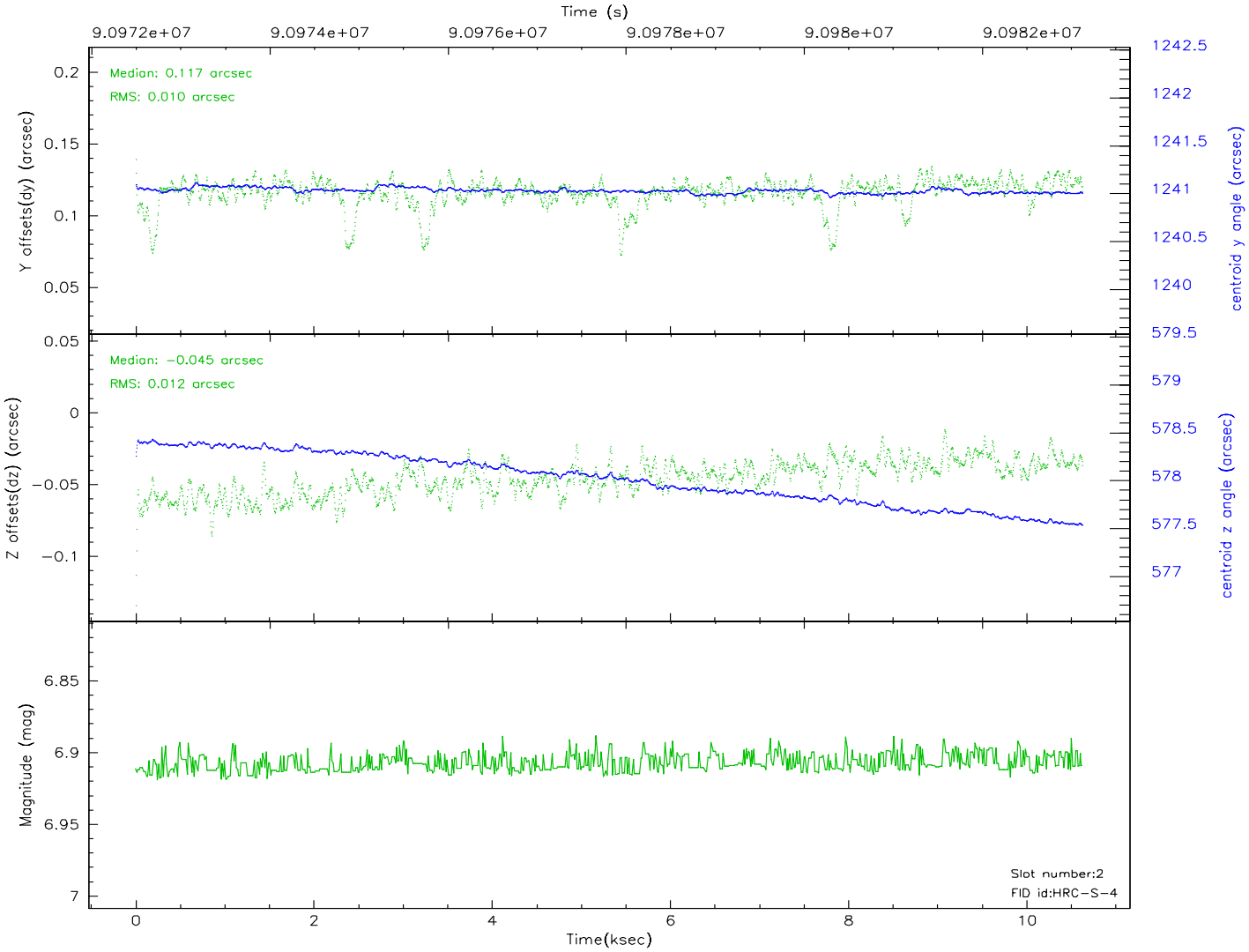

Points outside 0.05 arcsec radius: 0.077%
Radial offset of median: 0.200 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:1
FID id:HRC-S-3


Time (s)
Median: 0.170 arcsec
RMS: 0.010 arcsec
Y offsets(dy) (arcsec)
centroid y angle (arcsec)
Median: −0.105 arcsec
RMS: 0.004 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

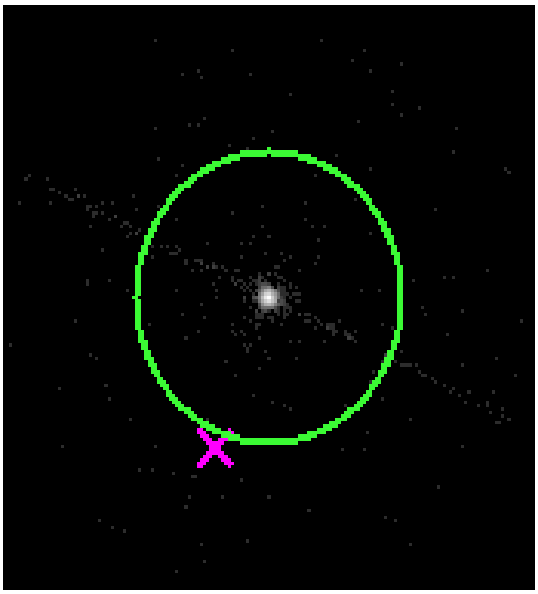

Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:HRC-S-4


Points outside 0.05 arcsec radius: 0.116%
Radial offset of median: 0.126 arcsec
Z OFFSET(dz) (arcsec)
Y OFFSET(dy) (arcsec)
Slot number:2
FID id:HRC-S-4

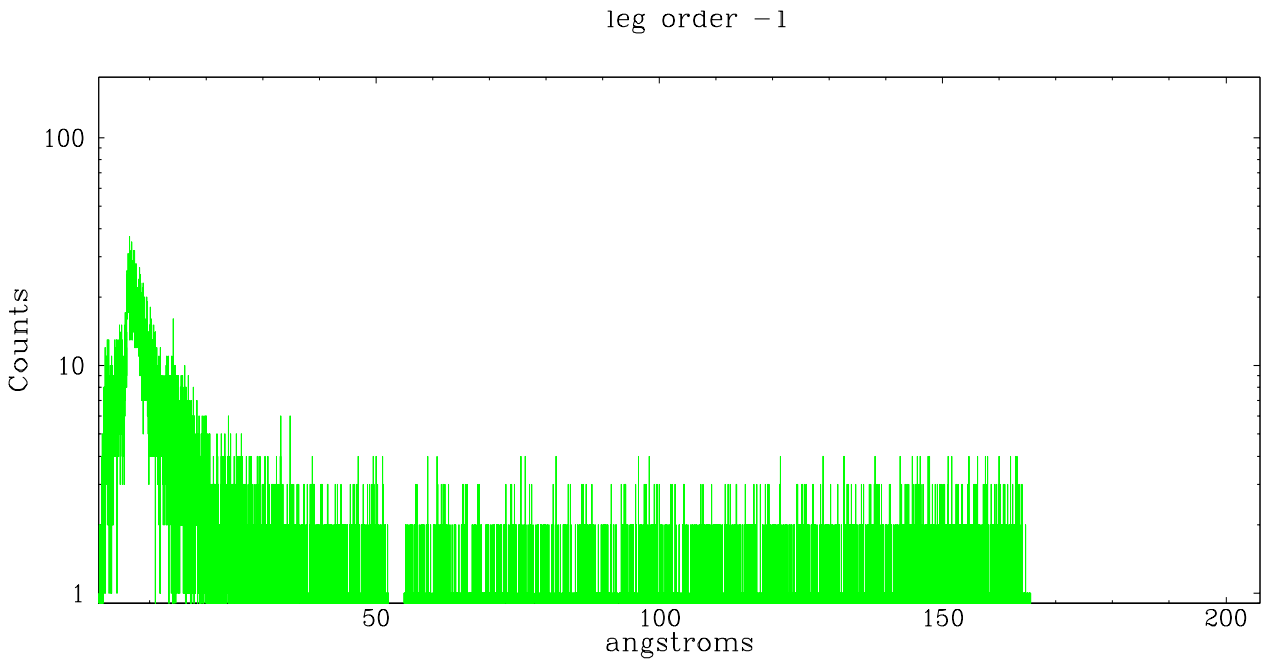

Time (s)
Median: 0.117 arcsec
RMS: 0.010 arcsec
Y offsets(dy) (arcsec)
Median: −0.045 arcsec
RMS: 0.012 arcsec
Z offsets(dz) (arcsec)
centroid y angle (arcsec)
centroid z angle (arcsec)
Magnitude (mag)
Slot number:2
FID id:HRC-S-4
Time(ksec)

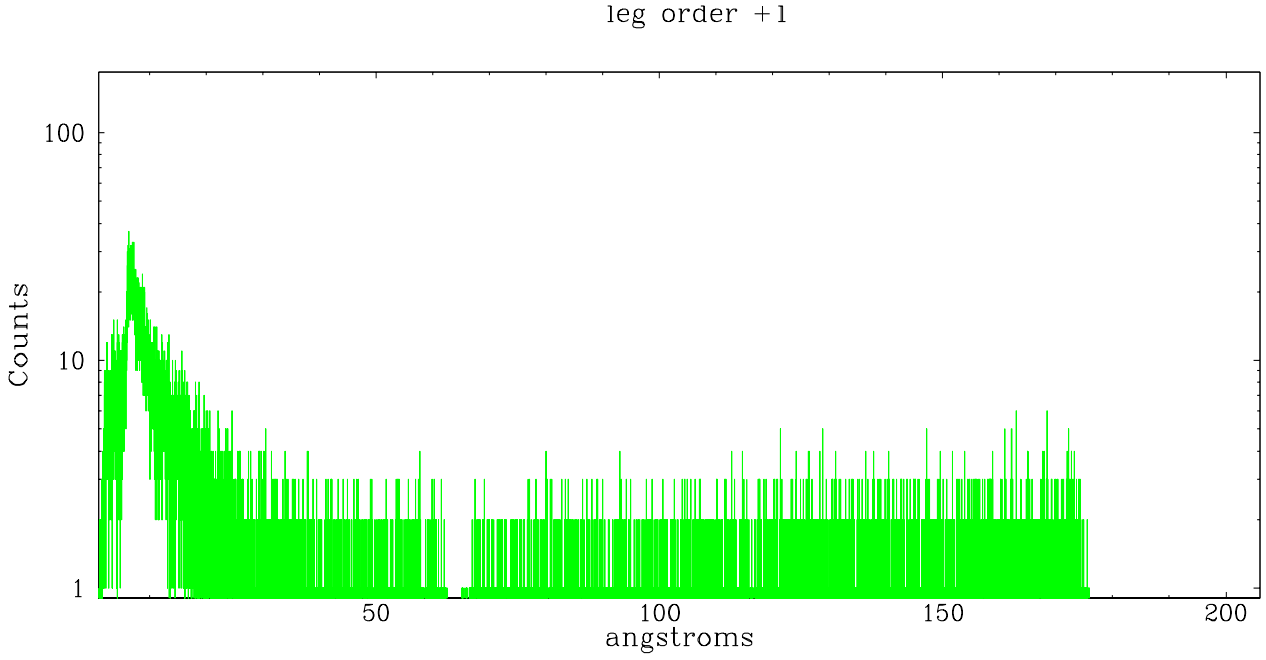
3 Gratings

3.1 LETG Arm



LETG Zero Order


leg order −1
100
10
1
Counts
50
100
150
200
angstroms


leg order +1
100
10
1
Counts
50
100
150
200
angstroms

A Summary

A.1 Status

V&V Scientist	Joy Nichols
V&V Date (YYYY-MM-DD)	2007.08.13
V&V Edition	1
V&V Disposition and Status	OK
V&V Charge Time	10.312

A.2 Comments

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Zeroth order has flat-topped PSF. Standard data processing software did
not correctly
locate the zeroth order. Manual intervention was used
to input the correct sky coordinates (x=32816.24; y=32887.40) into the
*src1a.fits file table. These corrected coordinates were determined
using
a software tool developed by CXC called findzero, which is expected to
be
released in CIAO (currently in ISIS). The tool calculates the point of
intersection of the
readout streak and the leg arm. The zeroth order source position
determined by the standard
pipeline processing using the tool tgdetect was not used in this
processing. The newly determined
zeroth order coordinates have been placed in the *src1a.fits file,
replacing the coordinates determined by tgdetect. Note that these
corrected coordinates of the zeroth order cannot be reproduced by
running
tgdetect on the data.
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