IVS Analysis Center at MAO UNAS

Sergei Bolotin

Abstract

The report briefly describes current and planning MAO activity in the field of the VLBI data processing.

1. MAO UNAS Analysis Center

The MAO VLBI Analysis Center was established by Main Astronomical Observatory of the Ukrainian National Academy of Sciences in 1994. It is located in MAO Primary building (see Fig. 1).

The main goal of the Center is developing software for VLBI data processing. It is also to prepare global solutions of EOP, CRS and TRS to make a submission to IERS on an annual basis.

Figure 1. Main Astronomical Observatory, Ukrainian National Academy of Scienses, Kiev. General view.

2. Technical Parameters

The VLBI data processing software SteelBreeze developed by the Analysis Center is able to make a global solution of a set of the Earth Orientation Parameters, Celestial and Terrestrial Reference Systems. It is also able to produce the estimation of the parameters with high time resolution (e.g., [1] and [2]).

The software is running on the dedicated Pentium-II computer with 192 Mb RAM and 19 Gb total space of SCSI hard disks. It is possible to expand both RAM and HDD set if necessary.

3. Technical Staff of the Center

We have a small and dynamic group of persons who are contributing to IVS:

- Yaroslav Yatskiv, professor, Space Geodynamics Dept., MAO: general coordination;
- Sergei Bolotin, astronomer, Space Geodynamics Dept., MAO: data processing, development of the software;
- Olexander Molotaj, astronomer, Kiev University Observatory: analysing and combining of catalogues of radio sources (CRS).

4. Current status

The development of version 1.2 of the SteelBreeze software has been finished. It has been used in the VLBI data processing of the annual IERS submission from 1995 until 1998. An example of the sofware's screen shot is shown on the Fig. 2.

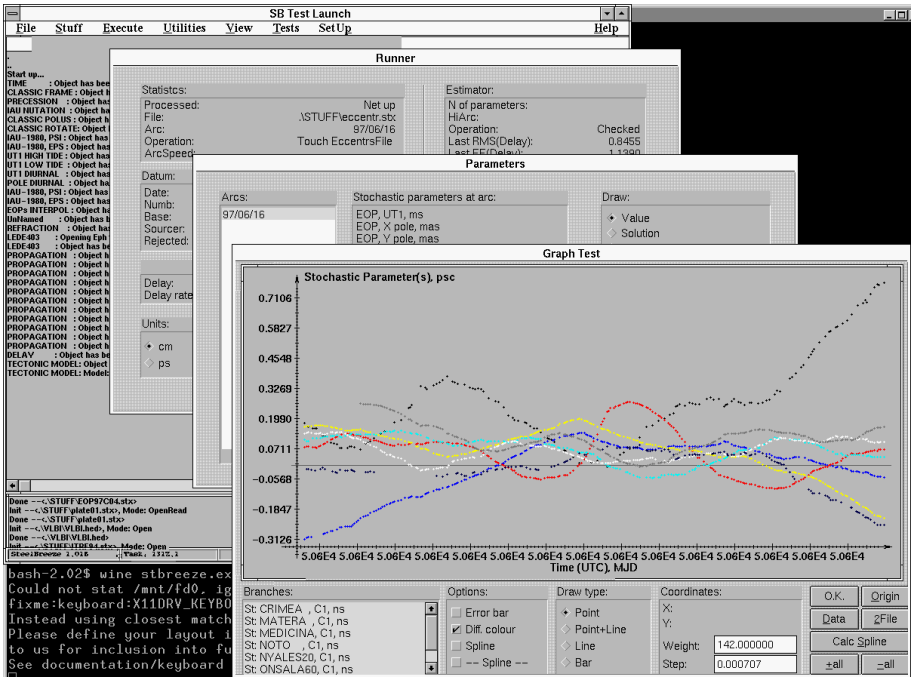

Figure 2. A screen shot of the SteelBreeze-1.2 software.

5. Future Plans

During these past years we have discovered weaknesses in the software design and now we are planning to produce a new version of the SteelBreeze. This new version will be essentially

improved and will be run on the most of popular hardware platforms. We are also going to make a submission of our results of global solutions of the EOP/TRS/CRS to IVS annually.

References

[1] Bolotin, S.: High frequency variations of EOP from extensive VLBI operations in January, 1994. Proc. of the 2nd JIVE/EVN Symposium.

[2] Bolotin, S., Bizouard, C., Loyer, S. and Capitaine, N.: High frequency variations of the Earth's instantaneous angular velocity vector, Astron. Astrophys., 317, 601-609, 1997.