Job opportunity: Call for interest

Two-year scientist position, for development of the GNSS IPPP time and frequency comparison technique

Context & Conditions

The Time Department of the Bureau International des Poids et Mesures (BIPM) in Sèvres, a suburb of Paris France, and the laboratory SYRTE (CNRS UMR 8630) in Observatoire de Paris, France, have secured the **funding for a two-year position to develop the GNSS IPPP time and frequency comparison technique**.
The position will be open either as a **Post-doc or as a Research engineer**, to be determined at a later stage, and is to be filled as soon as possible.
A **2-year fixed term contract** will be offered by the French scientific research center (CNRS) on a full-time basis, under French regulations. Other working conditions will be determined in a convention to be signed between the BIPM and the CNRS. The position will mainly be based at the BIPM and will involve a significant collaboration with the SYRTE.

Description of the work

Under the supervision of Dr Gérard Petit and Dr Frédéric Meynadier (BIPM) and of Dr Pierre Uhrich (SYRTE), the scientist will participate in the development of operational tools and software in the field of time/frequency transfer using GNSS Precise point positioning with integer ambiguities (IPPP).
In recent years, the IPPP technique has been developed based on specific GNSS products generated by the CNES/CLS (GRG) IGS analysis center. Its performance has been demonstrated by comparison to several optical time links, and its potential to become a standard operational technique has been recognized.

The work will focus on developing the capabilities of IPPP in several directions to:

- Validate the use of rapid integer products, e.g. as made available by the GRG (presently on an experimental basis), thus allowing computation of IPPP time links with reduced delay.
- Study the extension of IPPP to mixed GPS + Galileo solutions, or other multi-GNSS solutions as available, to quantify the possible gain of such solutions.
- Consolidate, maintain and upgrade the software tool that generates IPPP links, to optimize its interactions with the software providing daily integer ambiguity PPP solutions, to improve its robustness and ease of use, and make it distributable to interested parties.

The work will also include operational use of the software tool e.g. to participate in international comparisons of frequency standards, or to generate UTC links. Besides the SYRTE and the CNES/CLS, the work may involve collaboration with time laboratories worldwide and/or with other IGS analysis centres.

Profile/Skills

- PhD (for Post-doc) or Engineer degree (for Research engineer) in a field with direct connection to GNSS, especially its data analysis.
- Experience with GNSS PPP analysis, especially for time/frequency uses, and/or in integer ambiguity resolution techniques, is a plus.
- Good knowledge of Python. FORTRAN, Perl, and Unix shell script are also useful assets.
- Capacity to work in a team as well as to work in reliable autonomy.
- Ability to work in a multicultural environment and maintain effective working relationships with other involved teams.
- Good knowledge of written and spoken English.

Contacts

Informal enquiries can, in the first instance, be made directly to the Director of the Time Department, Dr Patrizia Tavella, patrizia.tavella@bipm.org or to Dr Gérard Petit gpetit@bipm.org.

Interested persons should send a **letter of interest with a CV to patrizia.tavella@bipm.org by 8 May 2022.**

Official job offer and formal application will then be managed through the CNRS web portal: https://emploi.cnrs.fr