

Two postdocs in physics (97/14-4) *apply by 16. September 2014*

The Physikalisch-Technische Bundesanstalt (PTB) is the National Metrology Institute of the Federal Republic of Germany with scientific and technical service tasks. It furthers progress and reliability in metrology for society, the economy and science.

The working group “Frequency Dissemination with Fibres” in the well-equipped department “Quantum Optics and the Unit of Length” <http://www.ptb.de/cms/fachabteilungen/abt4/fb-43.html> in Braunschweig, offers positions for

two postdoctoral researchers in physics

or researchers with comparable qualifications, to support its team as soon as possible. Funding is initially for 3.5 years. Payment is up to grade E14 of the TVöD Bund, depending on your personal qualifications.

We are a young working group carrying out research in the areas of fibre based frequency combs, frequency measurements of new optical atomic clocks and, especially, the dissemination of ultra-stable frequencies via optical fibre links. We have been operating, for example, two 900 km long, interferometrically stabilized optical fibre links between PTB and the Max-Planck Institut for Quantum Optics in Garching (near Munich), and between PTB and the Leibniz Universität Hanover. We are internationally leading in this field of research.

We are now designing and implementing a metrological link based on optical fibre between PTB Braunschweig and the LNE-SYRTE in Paris, within a joint French-German project, and are beginning cooperative work within the newly-founded SFB 1128 geo-Q on relativistic geodesy.

Your tasks:

Your work will be focused on one of the two research projects:

- International frequency comparison of optical atomic clocks via a French-German fibre link (supported by a PhD student, who you will co-supervise)
- Optical fibre links for relativistic geodesy (project A04 in SFB 1128) – <http://www.geoq.uni-hannover.de/> with emphasis on relativistic effects

You will develop, implement and characterize instrumentation and methods for frequency dissemination (for example: optical amplifiers and branched optical fibre links), and carry out field tests in cooperation with external project partners. You will further develop measurement procedures for the determination of optical frequencies, with the aim of achieving a relative frequency resolution $<10^{-18}$.

Your profile:

- First class degree and PhD in physics, or comparable qualifications
- In-depth experience in optics or in both servo-electronics and telecommunications
- Experimental ingenuity and practical experience of optical measuring techniques and data acquisition; some programming experience, preferably in C++
- Fluent in English and German, including solid writing skills
- Willingness and physical ability to plan and carry out field tests and experiments at external locations

You enjoy working with others, yet can work independently; you are highly organised, yet know how to improvise; you are enthusiastic, dedicated and reliable. If you are also creative and have a good understanding of physics, this position allows you to make a significant contribution in a relatively young research area.

Disabled persons will be given priority if they have the same occupational aptitude.

PTB promotes the professional equality of women and men and is thus especially interested in applications from women.

Within the scope of the official feasibilities, PTB offers flexible part-time work schemes in order to support in particular the compatibility of family and profession. For further information, please see our flyer "Familienfreundliche PTB" (Compatibility of family and profession at PTB) at www.ptb.de/cms/Jobsausbildung.html.

Are you interested? Then please submit your application using our

online application form via <http://www.ptb.de/cms/en/jobsausbildung/bms-stellen.html>

or by post to: Physikalisch-Technische Bundesanstalt, Referat "Personal",
Reference number 97/14-4, Bundesallee 100, 38116 Braunschweig, Germany.

The closing date for applications is **16 September 2014**. Unfortunately, we cannot accept applications sent via e-mail.

For further information, please contact

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