In the theory institute “Fundamental physics for metrology” at the National Metrology Institute of Germany (PTB), we are looking for a

PhD student in theoretical atomic physics

to join us as soon as possible. The remuneration will be paid in accordance with remuneration group 13 TVöD Bund (75 %). You will be employed at our Braunschweig site. Braunschweig University of Technology and PTB promote equal opportunities for women and men in science.

Your tasks:

You will participate in the development of new theoretical approaches in the description of light-atom interactions. Due to their special structure applications of so called vortex or twisted photons are discussed in various fields. One particular application is a controlled generation of persistent currents and vortex states in atomic Bose-Einstein condensates, which is necessary for the development of future "atomtronic" devices and sensors. Additionally optical ion traps and spatially resolved spectroscopy are highly important for metrological applications. Your work should improve the understanding of excitation and ionization of atomic systems by twisted photons, as well as their interaction with coherent atomic condensates, with special emphasis on possible metrological implementations.

Your qualifications:

- Successfully completed university studies in physics (i.e. Master degree or its equivalent).
- Previous knowledge and experience in theoretical atomic physics, quantum mechanics, mathematical and computational physics.
- Good English writing and communication skills.
- Strong interest in doing research in many-body atomic physics and quantum electrodynamics.

Contact:

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