Research project:
This position is embedded in the research project OPTIMO-II, a DLR-funded project investigating atomic quantum memories for operation in space.

We are looking for a PhD student to work on the development of space-compatible laser-cooled atomic ensemble platform for a variety of quantum optics experiments from long-lived quantum memories to EIT-based velocimetry in microgravity conditions. The work will be highly interdisciplinary and involve domestic and international collaborations.

With suitable qualification, this position can be upgraded and filled with a Post-Doc position.

Area of responsibility:

Doctoral position (75%, TV-L - E 13 | 31.03.2022, code: DR / 094/20)

- Assembly, characterization and operation of a laser system for high resolution atomic spectroscopy.
- Realization of a coherent light-matter interface based on trapped atomic gases.
- Software development and implementation of evolutionary machine learning algorithms towards optimizing memory efficiency.
- Work closely with other postdoctoral fellows, Ph.D. and Master’s students

Scientific and technical competences:

- Master’s degree in physics
- Hands-on experience in atomic physics and/or quantum optics experiments e.g. laser cooling of atoms, optical spectroscopy, photon sources etc.
- Expertise in the development and characterization of laser systems for quantum optics experiments
- Good programming skills are desired
- Good knowledge in analog and digital electronics is desired
- General laboratory skills (e.g. RF electronics, opto-mechanics and optics)
- Experience in computer aided design of electric circuits and mechanics
- Familiarity with concepts in quantum information science would be beneficial
- Good team spirit and ability to work independently in a collaboration is essential

Employment:

HU is seeking to increase the proportion of women in research and teaching, and specifically encourages qualified female scholars to apply.

Researchers from abroad are welcome to apply.

Severely disabled applicants with equivalent qualifications will be given preferential consideration.

People with a migration background are specifically encouraged to apply.

Application to:

Dr. Markus Krutzik  
Humboldt-Universität zu Berlin  
Institut für Physik  
Newtonstraße 15  
12489 Berlin  
phone: (+49)30 2093 4814  
fax : (+49)30 2093 4718  
markus.krutzik@physik.hu-berlin.de

Dr. Mustafa Gündoğan  
Humboldt-Universität zu Berlin  
Institut für Physik  
Newtonstraße 15  
12489 Berlin  
phone: (+49)30 2093 4906  
fax : (+49)30 2093 4718  
mustafa.guendogan@physik.hu-berlin.de

Your application must include a curriculum vitae, copies of certificates and documents, a detailed description of your past or current research projects, and a list of publications, if available.