

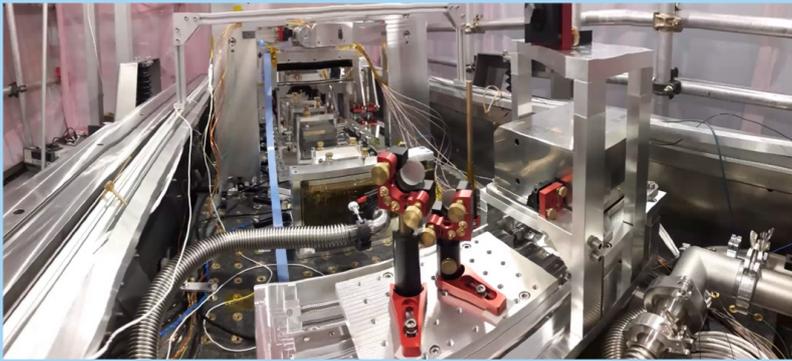


TECHNISCHE
UNIVERSITÄT
WIEN



PhD position in quantum/gravity/neutron physics

(fixed-term, f/m/d)



The research unit Neutron and Quantum Physics at the **Atominstut** is offering a PhD position at TU Wien and at Institut Laue-Langevin (ILL) in Grenoble linked to the **qBounce** experiment, which connects different areas of physics such as gravitation, quantum mechanics, and low energy particle physics. Measurements are performed at ILL.

Application deadline: 01.09.2024

The **qBounce** experiment successfully uses quantum mechanics to test gravitation and theories on dark energy and dark matter.

Tasks:

- Tests of gravitation with quantum objects
- Searches for beyond-Riemann gravity with quantum states of ultra-cold neutrons in the Earth's gravity potential
- Measurements with neutrons at the European Neutron Source at ILL in Grenoble
- Cooperation and guidance of bachelor and master students
- Writing a dissertation and publications
- Participation in scientific events

Qualifications Required:

- Master or Diploma degree physics or equivalent university studies in Austria or abroad
- Scientific interest in (low-energy) particle physics and gravity
- Strong analytical skills
- Skills in programming (e.g., C++, Python, LabVIEW, or similar)
- Good communication skills and ability to work as an independent and flexible researcher in an international and diverse team

Institution: TU WIEN is the largest institution for higher education and research focused on science and technology in Austria and has 5.650 employees and 26.100 students. The neutron group at the Atominstut in Vienna operates the **qBounce** experiment at the ILL Grenoble, the strongest neutron source in the world where 1400 scientists from 65 countries run 1000 experiments every year.

Position: For this position, a minimum gross salary of 37.577 €/year (30 hours/week) is offered, incl. full health and social insurance. It is expected that at least half of the time is spent at ILL. Full compensation for travel costs is guaranteed. Continuing personal and professional education and flexible working hours.

Application procedure: For further information: Prof. Hartmut Abele (abele@ati.ac.at). For this application, preference will be given to female applicants at equal qualification.