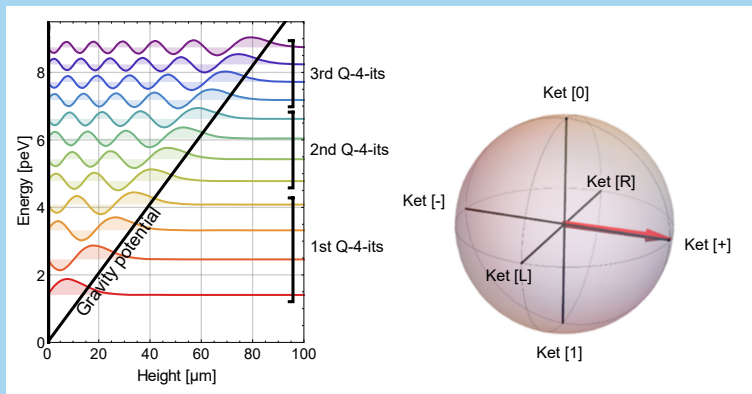


## PhD position in quantum computing

(fixed-term, f/m/d)



Neutron and Quantum Physics Group at the **Atominstiut** is offering a PhD position at TU Wien and at Institut Laue-Langevin (ILL) in Grenoble linked to the **qBOUNCE** experiment. Quantum computers with a neutron are based on gravitation, quantum mechanics, and low energy particle physics.

**Application deadline: 01.09.2024**

The **qBounce** experiment offers quantum computing with higher dimensional states (Q-N-its > Q-bits) using single ultra cold neutrons in the gravity of Earth.

### Tasks:

- Identification of well-defined Q-N-its
- Demonstrate accurate quantum gate operations
- Reliable state preparation in a UCN storage device
- 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 Atominstiut 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.