Helmholtz-Zentrum Dresden-Rossendorf e.V.

With cutting-edge research in the fields of ENERGY, HEALTH and MATTER, around 1,500 employees from more than 70 nations at Helmholtz-Zentrum Dresden-Rossendorf (HZDR) are committed to mastering the great challenges facing society today. The Dresden High Magnetic Field Laboratory (HLD) conducts cutting-edge materials research at high magnetic fields and serves as an internationally active user facility in close cooperation with its partner institutes of the jointly founded European Magnetic Field Laboratory (EMFL). The Dresden High Magnetic Field Laboratory is looking for a

PhD Student (f/m/d) Probing Exotic Quantum Excitations via Spin Transport for Future Technologies

Recruitment is subject to final approval by the project sponsor.

City: Görlitz; Starting date (earliest): 01/03/27; Duration: 3 years; Remuneration: TVöD Bund; Reference number: 2026/135; Closing date: 15/01/27

Tasks

- Development of spin Seebeck effect measurements at milliKelvin temperatures in a He3-He4 dilution refrigerator
- Measurements of the spin Seebeck effect and related thermodynamic measurements in quantum spin chain / spin liquid systems
- Orientation of single crystals using Laue X-ray diffraction; fabrication of spin Seebeck devices using optical lithography and platinum sputtering; focused ion beam processing as an alternative device fabrication method
- Presentation of results at international conferences and publication in peer-reviewed journals

Requirements

- Completed university studies (Master/Diploma) in the field of in physics (experimental physics, solid-state physics) or related field
- Experience with low-temperature experiments and/or electrical transport measurements and/or spintronics techniques as well as basic knowledge of quantum mechanics and/or magnetism
- A passion for fundamental research in physics
- Basic programming and data analysis skills, e.g. using Python, Origin, or LabVIEW
- Good English skills, both spoken and written

What we offer

- A vibrant research community in an open, diverse and international work environment
- Scientific excellence and extensive professional networking opportunities

- A structured PhD program with a comprehensive range of continuing education and networking
  opportunities
- Salary and social benefits in accordance with the collective agreement for the public sector (TVöD-Bund) including 30 days of paid holiday leave, company pension scheme (VBL)
- Depending on the personal qualifications, the candidate may be classified in salary group 13
  according to TVöD-Bund
- We support a good work-life balance with the possibility of part-time employment, mobile working
  and flexible working hours
- Numerous company health management offerings
- Employee discounts with well-known providers via the platform Corporate Benefits
- An employer subsidy for the "Deutschland-Ticket Jobticket"

Application

We look forward to receiving your application documents (including cover letter, CV, diplomas/transcripts, etc.), which you can submit via our online-application-system: https://www.hzdr.de/db/Cms?pNid=490&pLang=en&pOid=79132

More information at https://stellenticket.de/208579/TUD/
Offer visible until 10/12/26