Job offer

The Collaborative Research Center “Correlated Magnetism: From Frustration to Topology” (CRC 1143) invites applications for a

Research Associate / PhD position (project C01)

One of the most important tuning parameters to study quantum phenomena in frustrated magnetic materials is the magnetic field. Magnetic fields may induce novel quantum phases with emergent excitations (as for example magnetic monopoles) and non-equilibrium dynamics. The project C01 studies the thermodynamic properties and spin-lattice interactions of magnetically frustrated and topological materials up to the highest available magnetic fields (up to 95 T and beyond). For that, high-resolution specific-heat measurements (in static fields) as well as magnetization, magnetostriction, magnetocaloric, ultrasound, or occasionally electrical-transport experiments (in static and pulsed fields) down to very low temperatures (about 10 mK) will be utilized.

The PhD student is especially responsible for measurements of magnetostriction and thermal expansion as well as the magnetization of new magnetically frustrated materials in static and pulsed fields. Therefore, the knowledge of cryogenic techniques is desirable. In addition to the experiments, simulation calculations with simple models of magnetic interactions ("mean-field") have to be realized. The work is carried out alternatively at the TU Dresden, Institut of Solid State and Materials Research (IFMP) and at the Helmholtz-Zentrum Dresden-Rossendorf.

The position is available starting at **1st May 2019** for a duration of **3.5 years**.

Further information you can find at the CRC homepage
https://tu-dresden.de/mn/physik/sfb1143

Requirements

- MSc or Diploma in Physics (or comparative field of study)
- Motivation, interest in this field of research, experimental experience in low-temperature measurements
- Optimally: knowledge in computer technique and automation of experiments

In particular, our PhD students can take advantage of

- individual supervision by experienced scientists
- participation at international conferences, colloquia at institutes, as well as participation at the PhD seminars and the Summer School of the CRC – with contributions such as talks or posters
- Graduate Academy of the TU Dresden: qualification program, travel and conference awards, bridging funding or completion grants
- language courses: German courses for foreign PhD students and English courses for our German students
- communication courses, media training, etc.

Online application

Please apply online: english / german at
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