

IFW Dresden e.V.



The Leibniz Institute for Solid State and Materials Research Dresden e. V. (IFW Dresden) conducts modern materials research on a scientific basis for the development of new and sustainable materials and technologies. The institute employs an average of 500 people from over 40 nations and, in addition to its scientific tasks, is dedicated to promoting young scientists and engineers. The IFW supports its employees in reconciling work and family life and regularly undergoes the audit berufundfamilie®. Further information at: <http://www.ifw-dresden.de>.

PhD Student (m/f/div) 048-26-2001

on the following topic: Transverse Thermoelectric Transport in Single Crystals

City: Dresden; Starting date (earliest): 01/10/26; Duration: 12 months; Remuneration: TV-L 13; Reference number: 048-26-2001; Closing date: 19/07/26

Tasks

At the beginning, this interdisciplinary project focuses on growth of specific single crystalline materials with dedicated band structures and fermi surfaces, which will take place in collaboration with the Institute of Solid-State Physics (IFF) at IFW. Once single crystals of a certain quality are available the (transverse) thermoelectric transport will be studied in specific crystal orientations over a wide temperature range and under the influence of magnetic field at the Institute of Metallic Materials (IMW). The PhD project will cover the scientific question, how the chemical design of the material is influencing the thermoelectric transport in 3D dimensions. Transverse thermoelectric materials are very well suited for solid-state cooling and energy harvesting, as a device does not rely on the classical optimization of p- and n-type materials and no low-resistance contacts on the hot side are required. This young scientist (m/f/div) will be involved in international collaborations, e.g. with the University of Maryland and selected research institute in India. Optional, the doctoral coworker (m/f/div) can partly focus his/her research on the advanced characterization of crystalline materials by transmission electron microscopy. We invite applicants for a position as a PhD student (m/f/div) to conduct research on the transverse thermoelectric transport on single crystals, which exhibit anisotropic thermoelectric transport behaviors. (e.g. K. Uchida, *Joule* 6, 2245 (2022)).

Requirements

- Master or Diploma in Physics or Chemistry
- Background in solid-state chemistry or physics
- Experiences in electrical or thermal transport at low temperature or growth of epitaxial thin films or single crystals would be ideal.
- Familiarity with the detailed structure characterization of crystalline materials is an advantage
- Excellent organizational and communication skills
- Enjoyment of teamwork, building up transnational networks and public outreach

- Willingness to travel between project sites and writing scientific publications and reports

What we offer

- a modern, well-equipped workplace on the campus of the Technische Universität Dresden,
- flexible, family-friendly working hours,
- 30 days vacation per year,
- Company pension scheme (VBL),
- Benefits for job ticket / Germany ticket,
- Special annual payment,
- Capital-forming benefits,
- Company health management (back training, health day with various offers),
- discounted sports offers from the Dresden University Sports Center,
- Job-related further training opportunities and language courses,
- Company restaurant with a variety of breakfast and lunch dishes.
- a future-oriented environment with a workplace with modern research infrastructure,
- working with international and interdisciplinary scientists from different fields,
- working on current research fields.

Application

IFW Dresden strives for a balanced gender ratio in all areas. Applications from severely disabled individuals and those with equal status according to § 2 paragraph 3 SGB IX are explicitly welcomed. A corresponding proof must be included with the application documents.

If you are interested in the position, please send your application including a CV, a motivation letter describing the career goals, skills and experience, copies of certificates citing the reference number 048-26-2001 as a single pdf file (other formats will not be accepted) no later than 19.07.2026 to

bewerbung@ifw-dresden.de.

More information at <https://stellenticket.de/204907/TUD/>
Offer visible until 15/07/26

