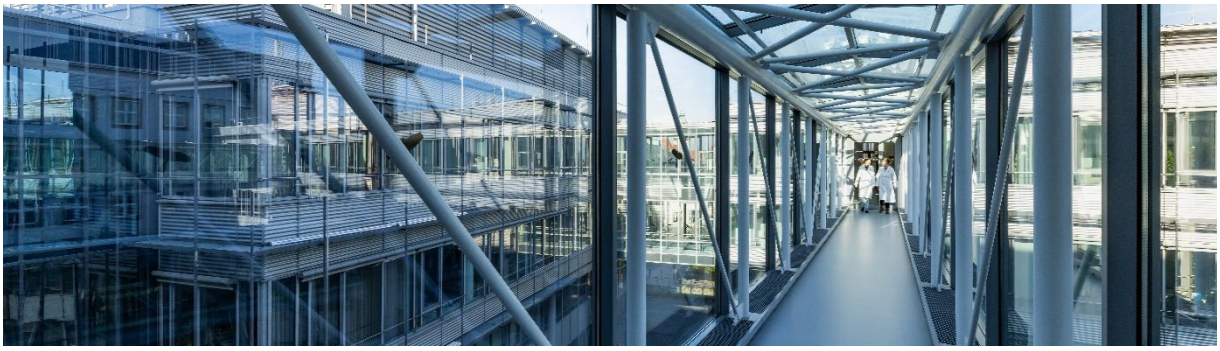
Leibniz Institute for Solid State and Materials Research Dresden

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. Further information at: http://www.ifw-dresden.de.



The Institute of Metallic Materials at the Leibniz Institute for Solid State and Materials Research Dresden (IFW Dresden) offers a

Doctoral Researcher Position (m/f/div)

on the topic “Twisted 2D superconductors for quantum hardwares”

Project Overview:

The field of van der Waals quantum materials is opening routes to engineer superconductivity through stacking, twisting, and interface control. A timely direction is twisted nodal superconductors, where orientation can tune Josephson coupling, order-parameter hybridization, quasiparticle spectra, and topological phases. We seek a motivated PhD candidate (m/f/div) for an experimental project on ultraclean twisted superconducting interfaces, including cuprate and layered superconductors. The candidate (m/f/div) will develop expertise in nanofabrication, cryogenic stacking, inert-atmosphere and ultra-high-vacuum assembly, low-temperature transport, Josephson-junction measurements, and spectroscopy. The work will be carried out in Dresden at the Superpuddles Lab, in synergy with the QTLab at the University of Naples Federico II.

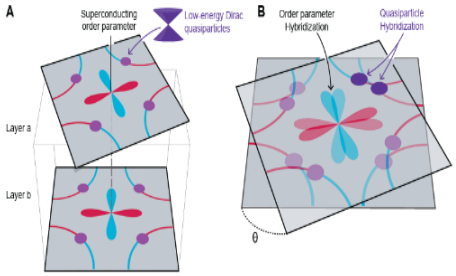


Figure: Twisted d-wave superconducting bilayer: each layer hosts an order parameter and Dirac Bogoliubov quasiparticles; interlayer twist couples them, modifying superconducting order, quasiparticle spectra, and valley structure via interface interference and hybridization.

Leibniz Association

Your profile:

We are looking for a highly motivated and team-oriented student (m/f/div), who holds a master's degree in physics, engineering or quantum science and technology. successful candidate is enthusiast about fundamental science, highly ambitious and a good team-player. Good communication skills in written and spoken English are required.

What we offer:

- employment in accordance with the collective agreement for the public service of the federal states (TV-L),
- A modern, well-equipped workplace on the campus of the Technische Universität Dresden,
- Flexible, family-friendly working hours,
- 30 days vacation,
- 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.

The salary is based upon the TV-L rules (EG 13, 65%). The initial appointment is for one year and will be extended by another 2 years upon a successful mid-term evaluation. The anticipated start date is January 2027.

In line with our commitment to diversity, we encourage qualified women to apply, as we aim to increase female representation in the field of science. Additionally, disabled applicants (m/f/div) will receive preferential consideration if they meet the requisite qualifications. Promising candidates (m/f/div) will be invited for an interview.

Please send your application with informative documents (letter of motivation, CV, Master certificate, training certificates) exclusively in electronic form and in a PDF file (other formats will not be considered), citing the reference number **049-26-2107**, no later than **30.09.2026** to

bewerbung@ifw-dresden.de

If you have further questions about the position please contact Prof. Dr. Nicola Poccia (n.poccia@ifw-dresden.de) and/or Dr. Golam Haider (g.haider@ifw-dresden.de)