The Leibniz Institute for Solid State and Materials Research Dresden – in short IFW Dresden – is a non-university research institute and a member of the Leibniz Association. The IFW employs approximately 600 people and one focus is on the training of young scientists besides enhancing fundamental and applied research development. At the highest international level, the IFW operates modern materials science on a scientific basis and makes the obtained results useful for the economy. The complex and interdisciplinary research work is carried out within the IFW by five scientific institutes, which are supported by a highly developed technical infrastructure. The IFW supports its employees in reconciling work and family life and regularly submits to the berufundfamilie® audit. Further information at: http://www.ifw-dresden.de.

Doctoral Researcher Position (m/f/d)

Van der Waals heterostructures with high temperature superconductors

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

“Topological superconductivity in complex quantum materials in a wide range of temperatures and external-fields”

starting from Sep 2020. The employment contract is primarily limited to 12 months and will be extended by another 2 years upon a successful mid-term evaluation. The salary is based upon the TV-L rules (E13; 65%).

Your profile: We are looking for a highly motivated and team-oriented student, who holds a Master degree in physics, nanoscience, chemistry or material science. Basic knowledge in condensed matter physics is welcome. The successful candidate is enthusiast about fundamental science, highly ambitious and able to establish collaborations. Very good communication skills in written and spoken English are required.

Project description: Most of topological quantum phenomena are bounded to a narrow temperature range and low temperatures. Thus, raising their operating temperature is a pressing albeit daunting task. One of the most promising routes to control novel states of matter in topological superconductors is the use of the Van der Waals heterostructures, non-natural solids formed by mechanically stacking layers of 2-D materials, which possess unique properties to serve as a platform for new functionalities. In this project, the assembly of complex devices via stacking of atomically thin superconducting crystals - with relatively high operation temperature - will be established. Then, the topological and superconducting proximity effects of the heterostructures will be investigated. Ultimately the goal of the project is to create new pathways for tunable devices based on complex quantum materials functioning in a wide range of temperatures.

The IFW is aiming to increase the percentage of women in science. Qualified women are therefore explicitly invited to apply. Severely handicapped persons (m/f/d) will be preferred for the same qualification set.

If you have further questions on the position, please contact:

Dr. Nicola Poccia (n.poccia@ifw-dresden.de).

Application including a CV, a motivation letter describing the research career goals, skills and experience, copies of all certificates should be sent citing the reference number A2107-1/20 not later than June 30th, 2020 online as a single pdf-file (other formats will not be accepted) to:

bewerbung@ifw-dresden.de.