

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 Institute for Ion Beam Physics and Materials Research is dedicated to the study of materials and their nanostructures that can be considered for future applications in information technology and are based on electrical, magnetic or optical functionalities. The Group Atomistic simulations of irradiation-induced phenomena is looking for a

PhD Student (f/m/d) First-Principles Calculations of the Electronic Properties of Single Metal Atom Chains

City: Dresden; Starting Date: 01/03/25; Renumeration: TVöD-Bund; Reference number: 2024/178; Closing date: 13/01/25

Working field

- Carry out first-principles calculations within the framework of the density-functional theory aimed at understanding the atomic structure and electronic properties of chains of metal atoms embedded into 2D transition metal dichalcogenides
- Model the synthesis of such structures
- Develop the dedicate software for modelling the electronic transport in the network of connected chains
- Closely collaborate with the experimental groups involved in the project

Requirements

- Completed university studies (Master/Diploma) in the field of solid-state physics or computational materials science or related fields
- Good knowledge of theoretical solid-state physics and advanced quantum mechanics
- Readiness to work in an international team and closely collaborate with experimentalists
- Experience with atomistic simulations (molecular dynamics, density-functional theory calculations) is highly desirable but not mandatory
- Excellent written and oral communication skills in English
- Excellent scripting and programming skills

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 - more information about the PhD program at the HZDR can be found here
- 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)
- 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=73509>

More information at <https://stellenticket.de/190069/>
Offer visible until 05/01/25

