

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 of Radiation Physics conducts research for states of matter under extreme conditions and in very small dimensions. The Department of Laser Particle Acceleration is looking for a

PhD Student (f/m/d) Structured Light

City: Dresden; Starting date (earliest): At the earliest possible; Remuneration: TVöD-Bund; Reference number: 2025/76; Closing date: 27/05/25

Working field

- Characterize the laser beam structures, particularly laser radial group delay (RGD) in the near-field, and spatiotemporal coupling (STC) at the far-field
- Design optical elements to generate a specific RDG and STC, e.g. doublet lens including axi-parabola
- Perform laser wakefield acceleration using "flying focus" geometry for the driver laser
- Analyze experimental data and communicate the results in work in progress reports, international conferences and publications in refereed journals

Requirements

- Completed university studies (Master/Diploma) in the field of Physics or related field
- Good-knowledge on nonlinear optics, photonics and laser physics
- Hands-on experience in one or more of these subjects are an advantage: femtosecond laser and diagnostics, high power lasers, ultrahigh vacuum, programming skills (Labview, Python)
- Ability to work closely within a team: engineers, students, postdocs and scientists, and capability of multi-tasking
- Strong scientific communication skills in English, German language skills are an advantage

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=74772>

More information at <https://stellenticket.de/194366/TUB/>
Offer visible until 27/05/25

