

We are looking for a PhD student (m/f/d) to strengthen our team on the topic of

High-reflectivity metasurfaces for cavity experiments

Job Description

High-reflectivity metasurfaces are a promising platform to reach new regimes in optical precision experiments such as ultra-stable laser cavities for optical clocks, gravitational wave detectors and micro-optomechanical devices. To fully exploit the potential of these nanostructured surfaces the characterization and mitigation of optical losses is necessary. In the framework of the PhD project, metamirrors will be investigated with respect to their ultimate reflectivity. Therefore, optical losses and their origins in the fabrication process will be studied. The results will be utilized to optimize the mirror design.

Your Profile

- High motivation and very good university degree in nanotechnology other related engineering disciplines or physics (Master or equivalent)
- Interest and aptitude for developing and performing laboratory and cleanroom work
- Ability to work independently and willingness to meet challenges
- Strong communication and teamwork skills
- English language skills, both written and spoken
- Prior experience in one or more of the following areas:
 - Micro- and nanotechnology
 - Micro- and Nanophotonics
 - Software for optical simulations (e.g. FEA, FDTD, RCWA), Matlab and/or Python, CAD tools
 - Optical experiments in the lab

Position

The position is to be filled as soon as possible on a part-time basis at 75% and will initially be limited to 3 years, with an option for extension. The employer is the TU Braunschweig. Payment will be up to EG 13 TV-L, depending on the assignment of duties and fulfillment of personal requirements. Applications from people of all nationalities are welcome. The TU Braunschweig promotes professional gender equality. We particularly encourage female scientists to apply for the advertised position. Application costs cannot be reimbursed. Personal data will be stored for the purpose of the application process. Severely disabled applicants will be given preferential consideration in case of equal suitability. A proof is to be enclosed. Applications (incl. curriculum vitae) should be sent by mail to Prof. Dr. Stefanie Kroker by 29.05. 2022.

Contact

Prof. Dr. Stefanie Kroker

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