



The Institut für Strahlwerkzeuge (IFSW) of the University of Stuttgart, founded in 1986, is reputed as one of the leading laser research centers worldwide. Its strength is based on a holistic research approach covering every aspect from laser sources to their applications and ranging from fundamental investigations to industrial technology transfer. The main activities at the IFSW are currently concerned with selected topics in the fields of laser beam sources (especially the thin-disk laser), optical elements and components for beam delivery and beam shaping as well as fundamental investigations on the light-matter interaction with the subsequent process development of macro and micro applications for industrial manufacturing.

Within a DFG funded research project a "Vertical external-cavity surface-emitting laser based on a novel GaInP/AlGaInP grating waveguide for efficient high-power operation" shall be realized. The idea is to use a waveguide grating as a reflector to replace the DBR mirror on the back-side of the active disk and to enhance the pump-radiation absorption. This should allow a more efficient cooling of the disk from outside the laser cavity and - ideally - to make the multi-pass pump optics obsolete. The project will be realized in close collaboration with the IHFG (Dr. Jetter, Prof. Michler) of the University of Stuttgart. The expertise and emphasis of the IHFG will be on preparation of the grating waveguides (Design, MOVPE, e-beam lithography, dry etching, and characterization). At the IFSW you will focus on design of the passive and active grating waveguide structures (GWS), angle- and polarization resolved spectroscopy and laser characterization of these GWS and finally to set up and demonstrate an AlGaInP-based GWS VECSEL.

For this project we are looking for a

### Scientist / PhD student (m/f/d)

You want to work on a challenging scientific project and you have an above-average degree and preferably some knowledge and hands-on experience in optics, lasers and/or semiconductor physics.  
The payment will be according to TV-L 13 (100 %) plus the usual benefits.  
The position offered is limited to **three years** with a start on **01.02.2022**.

Please send your application to:

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