

Bachelor/Master Thesis:

Circularization and collimation of vastly elliptical beams for micro-optical assemblies

Without sophisticated technologies, mode fields at the facets of semiconductor lasers and InP chips often remain elliptical, posing an additional challenge for photonic packaging. While there are various well known solutions to this problem using macroscopical optical elements, a micro-optical counterpart would be highly desirable for micro-optical assemblies and compact and efficient photonic packaging at chip level.

The aim of this work is to explore the possibility of using 3D-lithography written freeform micro lens assemblies as a solution to above problem.

Your tasks:

- Refinement of simulations using in-house developed tools
- 3D-lithography fabrication of freeform lens assemblies
- Experimental validation in terms of mode field and coupling efficiency

For detailed information contact:

M. Sc. Yilin Xu

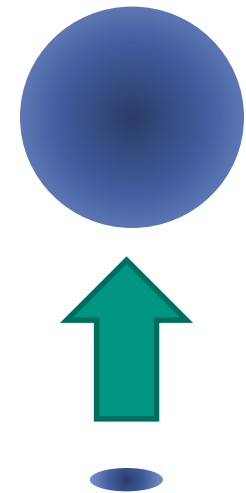
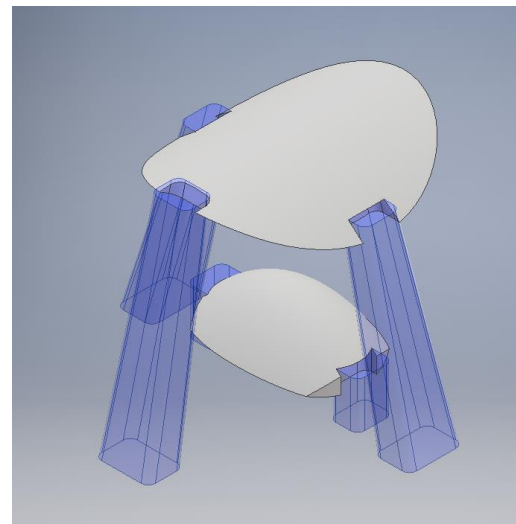
Yilin.Xu@kit.edu

Tel. 0721-608-41935

Prof. Dr. Christian Koos

Christian.koos@kit.edu

Tel. 0721-608-42481



3D model of a lens assembly, designed for circularization and collimation of an elliptical beam