

Bachelor / Master Thesis:

Solid-state light detection and ranging (LiDAR) System - Characterization and design of active optical components

To realize compact and robust LiDAR systems, beam shaping and beam steering with a integrated photonic circuit (PIC) is under investigation. The application for such LiDAR systems range from “Internet of Things” (IOT) to “Industry 4.0” and self-driving vehicles. All require a fast and reliable ranging system that delivers a three-dimensional image of the environment.

This work includes the characterization of first active optical components for LiDAR systems and subsequent development of design improvements.

Your tasks:

- Experimental characterization of active photonic test structures on first PIC designs
- Design and simulation of possible design improvements

For detailed information contact:

Prof. Dr. Christian Koos

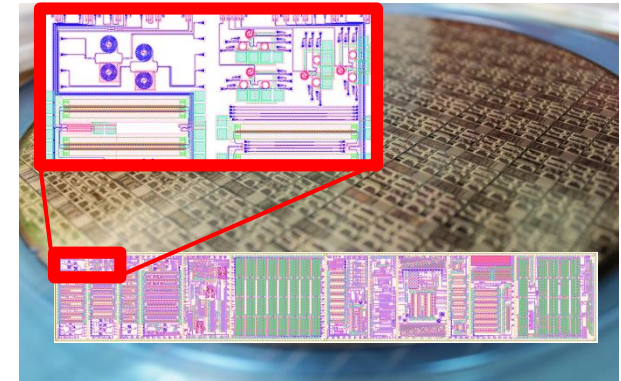
Christian.koos@kit.edu

Tel. 0721-608-42481

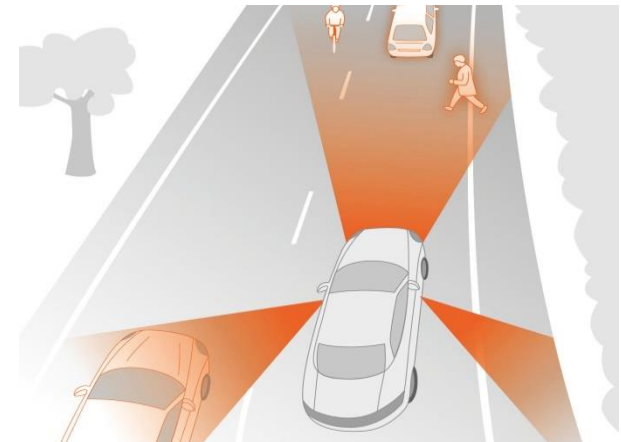
M. Sc. Stefan Singer

Stefan.singer@kit.edu

Tel. 0721-608-48954



Silicon-photonic chip designed at KIT. Such a chip can be used to realize an optical phased array for beam steering in e.g. LiDAR applications.



LiDAR technology enables autonomous cars and recognition of the environment. Source: OSRAM