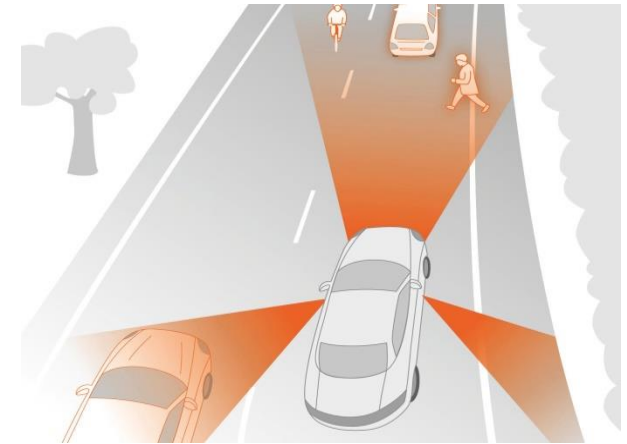


Bachelor / Master Thesis:

Solid-state light detection and ranging (LiDAR) System - Development of a silicon photonics optical phased array

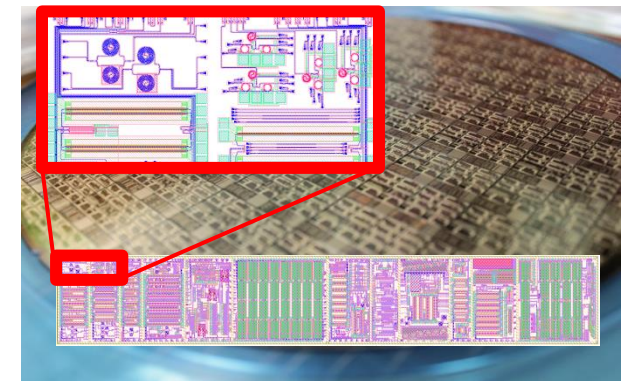
To realize compact and robust LiDAR systems, beam shaping and beam steering with a silicon based photonic integrated circuit (PIC) is under investigation. The application for such LiDAR systems range from “Internet of Things” (IOT) to “Industry 4.0” and self-driving vehicles. All require a fast and reliable ranging system that delivers a three-dimensional image of the environment. We will investigate novel concepts to realize an optical phased array based on silicon-on-insulator nano-photonic devices. The work will include simulation, characterization and verification of LiDAR chips.



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

Your tasks:

- Characterization of PIC designs
- Design of existing and new PIC building blocks
- Experimental characterization and verification



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

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