

Master Thesis:

Simulation, Design and Experimental Demonstration of On-Chip Terahertz System

The electromagnetic spectrum in the terahertz range (300 GHz to 30 THz) has unique material interaction properties. This makes this frequency range especially interesting for spectroscopy applications. In IPQ a new terahertz transmitter and receiver scheme based on plasmonic photomixers has been developed. With this approach a compact THz spectroscopy system could be achieved on a single silicon chip. This would drastically reduce the complexity of current systems.

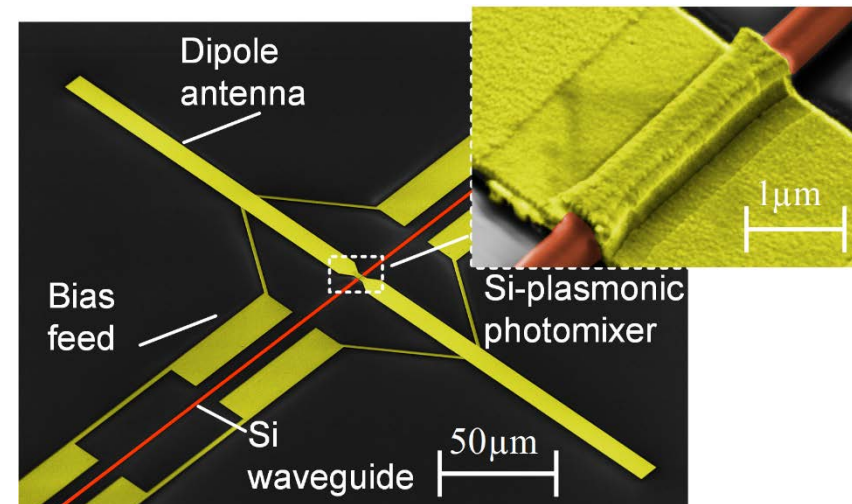
Your tasks:

- Simulation and design of on-chip THz measurement system
- Development of microfluidic system
- Experimental demonstration of spectroscopy system

For detailed information contact:

M. Sc. Tobias Harter
Tobias.harter@kit.edu
Tel. +49 721-608-42496

Prof. Dr. Christian Koos
Christian.Koos@kit.edu
Tel. 0721-608-42481



THz Dipole antenna connected to a plasmonic photomixer. The inset shows the plasmonic photomixer in more detail