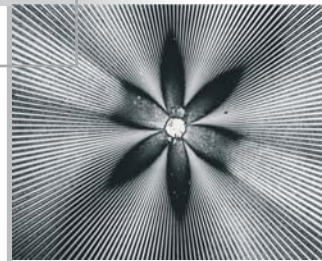
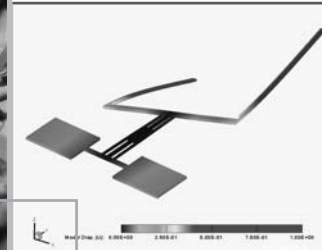




Chair of Micromechanics, Mikrofluidics/Microactuators



[Brief outline]

Key activities of the chair headed by Prof. Helmut Seidel focus on simulation and design of microsystems, on selected technologies in micromechanics, on principles of microactuators, as well as on the realisation and characterisation of micromechanical and microfluidic devices. Typical fields of application lie in automotive and aerospace engineering, as well as in medical technology. This includes components for inertial measurement units, RF MEMS micro switches, with their corresponding interconnect and packaging technologies, as well as piezoelectric thin-film-elements for micro-actuator applications.

[Key competence]

- Selected MEMS fabrication technologies on silicon, polymer and ceramic substrates (Mitranz, Science Park 2)
- Modelling and simulation of microsystems
- Selected aspects of packaging and interconnect technologies

[Co-operation]

- EADS Deutschland GmbH, Ottobrunn
- Robert Bosch GmbH, Stuttgart
- DaimlerChrysler AG, Stuttgart/Ulm
- Elmos Semiconductor AG, Dortmund
- Hydac Electronic GmbH, Saarbrücken
- Reinhard Microtech GmbH, Stuttgart
- Micro Systems Engineering GmbH & Co., Berg
- Dassault Aviation, Bordeaux, France
- Messier Bugatti, Groupe SAFRAN, France

[R&D operations]

- Novel sensor elements for the measurement of angular rate and acceleration
- RF-MEMS-switches
- Thin-film antenna elements on organic and ceramic substrates
- Thermal flow sensors on flexible substrates
- High temperature pressure sensor for aerospace applications
- Paramagnetic oxygen sensor
- High temperature stable metallization systems

[Education]

- Mikromechanics I (Microtechnology)
- Mikromechanics II (Microdevices)
- Mikromechanics III (Microfluidics)
- Mikromechanics IV (Complex microsystems)
- Cleanroom lab course in cooperation with FH Zweibrücken (Fabrication of a piezoresistive silicon pressure sensor)
- HTW master's programme biomedical technology: Microsystems technologies
- ASW course mechanical engineering: Introduction to micro systems technology

[Contact]

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