
S E M I N A R

on

Semiconductor Physics and Nanotechnology

Mo, 20.06.2022, 11:15 Uhr,

**Seminar in
person in the Physics lecture hall or via Zoom**

**“The Magical World of Tight Focusing –
From Ultraprecise Particle Localization to Polarization Möbius Strips”**

Univ.-Prof. Dr.rer.nat. Peter Banzer Institute of Physics, University of Graz

Intensity, phase and polarization of light beams are intrinsic parameters playing a pivotal role in many light-based technologies. Interestingly, they also can be tailored and sculpted spatially. The resulting bespoke field patterns find a wide range of applications in optical communication, sensing, and imaging. However, the real beauty of structured light becomes apparent when considering spatially strongly confined electromagnetic fields, which naturally feature complex three-dimensional distributions. These engineered light fields can be utilized, for example, to selectively excite individual nanosystems, extending the range of possible applications even further by enabling advanced single-particle spectroscopy, nanoscale traffic control, nano-metrology and more. In this talk, we plan to highlight intriguing fundamental properties of confined fields and a very promising applications.

Zoom – Link:

<https://zoom.us/j/95007781772?pwd=Um5qdUd2amhYWTA4cWdScK9XRmcyUT09>

[Meeting-ID: 950 0778 1772](#)

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