

Centrum HiLASE Vás srdečně zve na přednášku

Polarisation-tailored focal spot engineering: generation, characterisation and applications

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Focal spot engineering is among the hot topics of modern optics. Optical beams focused down to subwavelength focal spots constitute one of the building blocks of light-matter interaction due to the complexity of their polarization states and their wide range of applications such as, for example, a selective excitation of the nanoparticles. Generation of novel states of the light field is yet another example of polarisation tailored focal spot engineering. In order to describe highly focused beams of various polarizations, one can employ a variety of beam characterisation techniques ranging from classical knife-edge method to more novel nanointerferometric phase and amplitude reconstruction approaches. Application driven focal spot engineering can be a viable solution also for laser microfabrication, where a structured light beam could overcome problems, encountered while using standard laser modes. Moreover, such flexible tool, based on either cylindrical or spherical multipole functions, enable us to produce rather exotic structures in the beam waist with high potential for laser micromachining.

která se bude konat ve čtvrtek 21. 1. 2016 od 15:00

v přednáškové místnosti laserového centra HiLASE

Za Radnicí 828, Dolní Břežany