

Laserové centrum HiLASE Vás srdečně zve na seminář

Overview of solid-state laser materials at cryogenic temperatures

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Development of diode-pumped solid-state lasers with high energy/high average power with good beam quality are of increasing interest for various scientific and technological applications such as laser driven inertial fusion, pump source for optical parametric chirped-pulse amplification (OPCPA), laser shock peening to harden the metals, laser induced damage threshold measurement etc.

To develop such systems, Yb-doped laser materials are used due to the simplest energy level structure and easy availability of diode lasers as pump sources, and are cooled down to cryogenic temperatures. The cryogenic cooling not only enhances the thermo-optic properties of the material but also the spectroscopic properties of the laser material leading to direct benefits of overall laser system performance. Understanding these properties under cryogenic temperature is inevitable because these factors will help in the determination of crucial design parameters such as maximum extracted energy, small signal gain, exact pump wavelength, absorption band width, etc.

This talk is mainly devoted in understanding the thermal and spectroscopic properties of various Yb-doped laser materials at cryogenic temperatures based on literatures. In addition, cryogenic spectroscopic and laser results obtained at the HiLASE facility will be presented in detail.

který se bude konat v úterý 27.9. 2016 od 15:00

v přednáškové místnosti laserového centra HiLASE

Za Radnicí 828, Dolní Břežany