

Laserové centrum HiLASE Vás zve na seminář

Laser-induced correlative SHG and fluorescence in a silver-containing phosphate glass under a train of femtosecond laser pulses

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Second harmonic generation (SHG) and fluorescence induced by silver nanostructures formation has been observed experimentally in silver-containing phosphate glass irradiated by a train of femtosecond laser pulses. To understand and explain these observations, we present a multi-scale spatial and temporal theoretical modeling, which includes silver-based chemical reactivity and provides the description of silver clusterization process, charge separation and creation of static electric field E_{dc} responsible for a local centrosymmetry breakdown and the appearance of effective second order nonlinearity in such a tailored glass. The spatial second harmonic profile is reconstructed by solving a system of coupled propagation equations for the pump pulse and second-harmonic pulse along the silver nanostructure and is in a good agreement with experimentally measured second harmonic profile. This modeling is an efficient tool to develop and optimize further laser-induced glass structuring.

který se bude konat ve středu 11.5. 2016 od 15:00

v přednáškové místnosti laserového centra HiLASE

Za Radnicí 828, Dolní Břežany