



Institute of Physics of the
Czech Academy of Sciences

SEMINAR

29. 9. 2022 | 14:00

Perla Seminar Room
HiLASE Centre, FZU, Dolní Břežany

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Mid-IR OPA Development

Research on the development of powerful ultrafast laser sources is boosted due to the requirement in ultrafast optical applications. Optical parametric amplification is a solution for exploiting a wide range of spectrum that are unattainable by other laser technologies. The working principle of optical parametric amplification is very simple. A suitable nonlinear optical crystal is taken, the energy of high frequency and intensity beam is transferred to the lower frequency and lower intensity beam which is then amplified and to conserve the energy third beam is generated. OPA provides a practical solution for the generation of wavelengths that cannot be generated by amplified solid-state lasers. This presentation will be on the development of the OPA at HiLase using Perla-Biatri as a laser source with 1030 nm, 2.5 KHz, 1.2 ps. How a single fundamental source of 1030 nm is used to generate a pump beam of shorter wavelength and seed beam of supercontinuum that is propagated towards the stage-I of OPA for amplification? Progress and the problems faced during the development will be discussed.

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