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PHOTONIK SEMINAR

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Femtosecond Laser-written Components for Mid-infrared Fibre Lasers

In most molecules, rotational and vibrational transitions can be excited by illumination with light at mid-infrared wavelengths from $\sim 2 - 15 \mu\text{m}$. The corresponding absorption features are typically very strong and can provide a characteristic fingerprint of a molecular species which can be exploited in applications like environmental sensing, defence, material processing and medicine.

However, in order to realise field-deployable systems, compact and ideally monolithic laser sources without bulky and sensitive free-space optical components are needed. In this talk, I will review our work into the fabrication of femtosecond laser-written components for the development of all-fibre mid-infrared sources. These include fibre Bragg gratings and in-fibre polarisers as well as fibre-pigtailed linear and nonlinear waveguide chips.

Tuesday, 25th June 2024, 14:00h c.t.

Seminarraum 387 (CBEG02) - Institut für Photonik
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