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WORKSHOP on

HIGH ENERGY CLASS MID INFRARED LASERS

Chairs: J. Hein IOQ Jena Germany; P. Crump, FBH Berlin Germany

Lasers in the mid-infrared (MIR) wavelength range (wavelengths around 1.7 - 5.0 μm) are currently of rapidly increasing interest and market importance. MIR lasers operate with beam characteristics that cannot be delivered by conventional lasers, and enable new and scientifically and industrially important applications to be addressed, especially when ultra-short MIR pulses are available, or when they are used as pumps for other gain media. Examples of application fields include XUV or X-ray sources, laser driven particle acceleration, as well as many applications in medicine, life sciences, material research, material (e.g. semiconductor) processing, solar cells and defense. Such MIR sources have the potential to replace many current lasers operating in the 1 μm wavelength range. Of particular interest are sources that deliver high energy MIR pulses, as these are not currently commercially available. We therefore present here a workshop focusing on status of efforts towards developing these important MIR sources, detailing latest progress in the key system components.

17th October 2018

WISTA
Rudower Chaussee 17
12489 Berlin

Part of the Photonic Days Berlin Brandenburg
THE WORKSHOP WILL BE HELD IN ENGLISH

Preliminary Program 17.10.2018

09:00 - 19:30	registration // exhibition// coffee
9:30 – 9:50	Welcome and introduction to the HECMIR workshop Dr. Paul Crump, Ferdinand-Braun-Institut, Leibniz-Institut für Höchstfrequenztechnik Dr. Joachim Hein, Institut für Optik und Quantenelektronik (IOQ), FSU
9:50 - 10:10	High duty cycle GaAs-based pump sources (HECMIR) Dr. Paul Crump, Ferdinand-Braun-Institut, Leibniz-Institut für Höchstfrequenztechnik
10:10 - 10:30	GaSb-and InP-based Diode Laser Pump Sources J. Neukum, Coherent/Dilas
10:30 - 10:50	InP-based Pump Sources Dr. M. Möhrle, Fraunhofer HHI
10:50 - 11:20	Coffee break and exhibition
11:20 – 11:40	Fabrication of advanced MIR Gain Media – Status and Overview (HECMIR) Dr. C. Kränkel, Zentrum für Lasermaterialien, Leibniz-Institut für Kristallzüchtung
11:40 - 12:00	Optimization of MIR amplifier material for high energy class operation N.N., Orga (tbc)
12:00 - 12:20	Application-ready gain elements for high-energy class MIR Systems (HECMIR) Torsten Müller-Koschmieder, Crystal GmbH
12:20 – 12:40	High Performance Passive MIR materials for Laser Cavity Design and Beam Delivery N.N., Orga (tbc)
12:40 - 13:00	High Energy Pulsed MIR Systems (HECMIR) Dr. Ragnar Bödefeld, Lastronics GmbH
13:00 - 14:00	Lunch and exhibition
14:00 - 14:20	Progress in MIR Fiber Lasers N.N., Orga (tbc)
14:20 - 14:40	High power picosecond mid-IR radiation sources at the Hilase centre. Dr. Martin Smrz
14:40 – 15:00	High power pulsed Er:YLF lasers Manuel Messner, Vienna University of Technology (Austria)
15:00 – 15:20	System progress and application development in MIR lasers Dr Dieter Hoffmann , Fraunhofer ILT Aachen
15:20 – 15:40	Coffee break and exhibition
15:40 – 16:00	Scientific application of short pulse MIR lasers for laser-matter(plasma)- interaction research (HECMIR), Dr. Joachim Hein and Prof. Malte Kaluza, Institut für Optik und Quantenelektronik (IOQ), FSU, Jena
16:00 – 16:20	Medical Applications of pulsed Mid-Infrared Lasers" Frau Svenja Hübner, Asclepion Laser Technologies GmbH
16:20 – 16:40	NanoMIR: A Q-switched CO ₂ -laser for material processing Dr. Martin Kahle, IFW, Jena
16:40 – 17:00	High power MIR lasers for the oil, natural gas, geothermal, and mining industries. N.N., Orga (tbc)
17:00 – 17:20	CFK Processing with MIR Lasers N.N., Orga (tbc)
17:20 – 17:40	MIR lasers for optical pumping of CO ₂ lasers: potential ultra-compact drivers of secondary radiation sources Prof. Dino Jaroszynski, Director of the Scottish Centre for the Application of Plasma-based Accelerators, University of Strathclyde
17:40 - 18:00	Atmospheric sensing and military applications of MIR lasers N.N., Orga (tbc)
18:00	Photonic Days Evening reception at WISTA

Registration

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High Energy Class Mid-Infrared Lasers

Wednesday, 17th October 2018

WISTA

Rudower Chaussee 17

12489 Berlin

Please reply before October 12th 2018 to OpTecBB

Online registration: http://optecbb.de/lang/de/anmeldung_20181017_hecmir_laser.php

Or mail to OpTecBB e.V., Hr. Reschke: optecbb@optecbb.de, Fax: +49-30-6392-1729

Name, first name:

Title:

Institution/company:

Address:

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By registering you consent to the following:

- all personal data collected via this registration form will, in accordance with the current rules concerning the protection of personal data, be saved, processed and used for the sole purpose of organising the event and for legitimate business interests with regard to providing advice and support.
- during the event, visual images of you may be taken, processed and used in the context of public relations work (print and online media) and for documentation purposes.
- The transmitted data concerning title, first name, surname and company/institution may be made available to all event participants in the form of a printed list of participants.