TECHNISCHE UNIVERSITÄT
CHEMNITZ

Institut für Physik
Physikalisches Kolloquium

Mittwoch, 03.06.2015, um **16:00 Uhr**

Ort: Reichenhainer Str. 90;
Zentrales Hörsaal- und Seminargebäude, Raum 2/N013

Dr. Michael Gensch

Helmholtz–Zentrum Dresden-Rossendorf e. V.

ELBE: Europe´s most powerful IR/THz photon facility for Solid State Research

The ELBE – Center for High Power Radiation Sources hosts two worldwide unique sources for infrared (IR) and terahertz (THz) radiation. The sources are based on a novel superconducting-radiofrequency (SRF) accelerator that allows for the generation of quasi-cw pulse trains at repetition rates of up to 13 MHz resulting in average IR/THz powers up to few 10 W. This worldwide unique combination of high pulse energy (up to the few 10 mJ regime) and high repetition rate can be employed to operate versatile spectroscopic techniques in the IR/THz frequency range (e.g. nearfield microscopy) or to perform novel investigations of (IR/THz-driven) non-equilibrium dynamics in solids. The IR free electron laser (FELBE) is operated since 2004 as a user-facility and provides narrow-band/multicycle, tunable IR/THz pulses with frequencies between 60 and 1.2 THz. Additionally a new THz facility (TELBE) based on two super-radiant sources is under commissioning that shall provide carrier-envelope-phase stable (CEP) single-cycle and multicycle photon pulses at adjustable center frequencies between 0.1 and 3 THz. The working principles and parameters of the FELBE and TELBE facility are presented and the opportunities for the investigation of solids are described based on different example experiments.

Alle Zuhörer sind ab 15:45 zum Kaffee vor dem Hörsaal eingeladen.

Informationen zum Vortrag erteilt:
Prof. Dr. Dietrich R. T. Zahn, Tel.: 0371 531 33036

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