Lehrstuhl für Physik

Department Physik, Mechanik und Elektrotechnik
Montanuniversität Leoben

A-8700 LEOBEN, Franz Josef Straße 18, Austria
Tel: +43 3842 402-4601, Fax:+43 3842 402-4602
e-mail: physics@unileoben.ac.at

S E M I N A R
on
Semiconductor Physics and Nanotechnology

Mo, 27.11.2023, 11:15 Uhr,

Seminar in
person in the Physics lecture hall *or* via Zoom

"Electronic Fingerprint Spectroscopy"

Prof. Birgitta Schultze-Bernhardt

Institute of Experimental Physics, Graz University of Technology, Austria

Dual Comb Spectroscopy combines high spectral resolution with broad spectral coverage and short measurement times. In the recent years, this spectroscopic method has proven its capabilities in molecular spectroscopy in different spectral regions ranging from the visible across the infrared spectral region into the THz domain [1-3]. The UV has so far been neglected for fingerprinting although electron transitions are as element specific as rovibrational transitions and the corresponding absorption cross sections can be huge (> 100 Mb). Especially molecular gasses of astrophysical and environmental relevance have strong and congested absorption characteristics in this spectral region (few examples: NO_2, CO, SO_2, HCHO). I will present our first efforts and latest results on expanding dual comb spectroscopy via nonlinear frequency up-conversion into the ultraviolet region [4, 5]. Further application possibilities could aim at solid state samples, comprising the investigation of temperature induced insulator to metal transitions in semiconductors.

Zoom – Link:
https://zoom.us/j/96375934537?pwd=RTlKTWhSdzRHU211YTY1bGFxTUtpZz09
Meeting-ID: 963 7593 4537
Kenncode: =r=4YQ

References

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