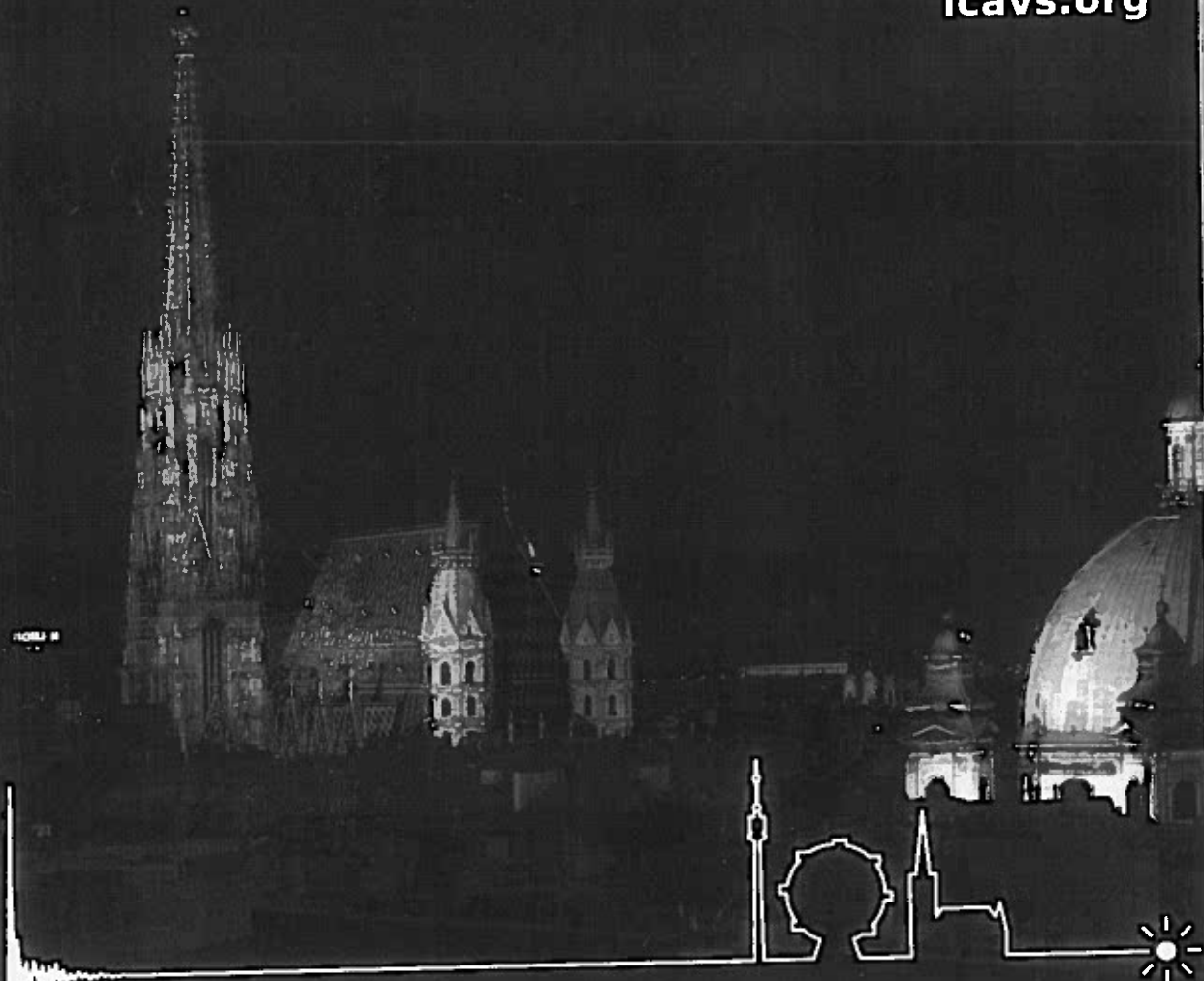


I C A V S 8

PROGRAM

icavs.org



Vienna, AUSTRIA

July 12-17, 2015

Platinum Sponsors

WITec
focus innovations

BRUKER

RENISHAW
apply innovation™

Gold Sponsors

Thermo
SCIENTIFIC
A Thermo Fisher Scientific Brand

Metrohm
NIRSystems

HORIBA
Scientific

KAISER
OPTICAL SYSTEMS, INC.

NT-MDT

ANASYS
INSTRUMENTS
The nondestructive analysis company

Agilent Technologies

SHIMADZU
Excellence in Science



Poster Session B

Tuesday, 16:20 - 18:00

MIR Laser Spectroscopy 1

B001 QCLAS Sensor for Purity Monitoring in Medical Gas Supply Lines

Henrik Zimmermann

Continuous monitoring on the distribution lines in hospitals could avoid fatal accidents that unfortunately still happen to patients. Concentration limits for harmful compounds are defined for every gas line by local regulatory. Within the scope of the EU funded project MIRIFISENS, which addresses technological issues as specified by a number of selected safety and security applications, the neoplas control GmbH is focusing on the on-site purity monitoring of medical gases used in hospitals. Achievements in related developments are presented.

B002 Mid-Infrared Supercontinuum Spectroscopy with a MOEMS-Based Fabry-Perot Microspectrometer

Jakob Kilgus, Petra Müller, Peter M. Moselund, Markus Brandstetter

Supercontinuum sources (SC) - most recently proceeding into the mid-infrared wavelength region - emerge as promising new light sources for laser-based infrared spectroscopy. We present the combination of a mid-infrared SC laser with a MOEMS-based Fabry-Perot microspectrometer (FPMS) and its application to various analytical tasks. While the SC source features both broadband and high-intensity laser emission, the FPMS acts as fully integrated wavelength-selective element featuring eligible properties for process applications.

B003 High Performance Ring Quantum Cascade Laser for Sensing Applications

Martin Holzbauer, Rolf Szedlak, Donald MacFarland, Tobias Zederbauer, Hermann Detz, Aaron Maxwell Andrews, Werner Schrenk, Gottfried Strasser

Ring quantum cascade lasers are ideal light sources for mid-infrared spectroscopy, due to their compact size, designable wavelength, high output power and collimated light beam. However, high duty-cycle operation at room temperature is a demanding task because of the huge amount of heat generated in the active laser core. Therefore, various techniques for better heat extraction are investigated with a finite element based approach.

TERS

B004 Tip-Enhanced Raman Scattering Spectroscopy of Graphene/SiO₂: Tip Preparation and Evaluation of Spatial Resolution

Masamichi Yoshimura, Ryo Uehara, Tomomi Kozu, Mayumi Misawa, Misao Suzuki

We report on the reproducible TERS measurement using the custom-made Ag/Al-coated tips, where 70-80 % of tips show the enhancement. Using this tip we did TERS imaging of the CVD-graphene on SiO₂ substrate, simultaneously with AFM imaging. It is found that the spatial resolution of TERS is ~5 time higher than the normal Raman imaging and that even small fluctuation in the sample was revealed revealed.

General Information

Program

Exhibition

Author Index