

## TUEIIa • Poster II a - Applications

*Poster Area***18:00–20:00****TUEIIa • Poster II a - Applications****TUEIIa.1 • 18:00****Resonant and Nonresonant Stimulated Parametric**

**Fluorescence**, *Xuejun Liu*, ●*Mark Mero*, *James L. Thomas*, and *Wolfgang Rudolph*; *Department of Physics and Astronomy, University of New Mexico, Albuquerque, New Mexico 87131, USA.*

A femtosecond four-wave mixing microscopy with polarized detection has been applied to selectively image dyes while suppressing signals from host materials. The image signal persists even after photobleaching, making this technique attractive for biological microscopy.

**TUEIIa.2 • 18:00****Femtosecond pump-probe spectroscopy as an instrument for nanostructured materials investigation.**

●*Sergey V. Chekalin*; *Institute of Spectroscopy RAS, 142190 Troitsk, Moscow Region, Russia*; e-mail: *chekalin@isan.troitsk.ru*.

The femtosecond pump-probe technique was used to investigate the difference spectra dynamics in heterophase fullerene-metal nanostructures. The relaxation at the same metal-to-fullerene ratio strongly depends on the mutual distribution of nanocomposite components.

**TUEIIa.3 • 18:00****Selective Excitation in Nonlinear Optical Microscopy by Using an Ultra-broadband Pulse**

●*Keisuke Isobe*<sup>1</sup>, *Akira Suda*<sup>1</sup>, *Masahiro Tanaka*<sup>2</sup>, *Fumihiko Kannari*<sup>2</sup>, *Hiroyuki Kawano*<sup>3</sup>, *Hideaki Mizuno*<sup>3</sup>, *Atsushi Miyawaki*<sup>3</sup>, and *Katsumi*

*Midorikawa*<sup>1</sup>; <sup>1</sup>*Laser Technology Laboratory, RIKEN, 2-1, Hirosawa, Wako, Saitama 351-0198, Japan*, <sup>2</sup>*Department of Electronics and Electrical Engineering, Keio University, 3-14-1 Hiyoshi, Kohoku-ku, Yokohama, 223-8522, Japan*, <sup>3</sup>*Laboratory for Cell Function Dynamics, RIKEN, 2-1, Hirosawa, Wako, Saitama 351-0198, Japan.*

We show that the selective excitation in two-photon excited fluorescence microscopy and four-wave mixing microscopy is achieved by modulating the spectral phase of a single broadband pulse.

**TUEIIa.4 • 18:00****First Step Towards a Femtosecond VUV Microscope: Zone Plate Optics as**

●*Jérôme Gaudin*, *Stefan Rehbein*, *Peter Guttmann*, *Sophie Godé*, *Gerd Schneider*, *Philippe Wernet*, and *Wolfgang Eberhardt*; *BESSY, Albert Einstein Strasse 15, 12489 Berlin, Germany.*

We demonstrate the efficiency of zone plate optics as a high-order harmonics monochromator in the photon energy range from 30 to 70 eV. This is the first step towards a VUV microscope with femtosecond time resolution.

**TUEIIa.5 • 18:00****Interferometrically detected femtosecond CARS in a single beam of shaped femtosecond pulses**

●*Bernhard von Vacano*, *Jean Rehbinder*, *Tiago Buckup*, and *Marcus Motzkus*; *Physikalische Chemie, Philipps-Universität Marburg, Hans-Meerwein-Strasse, D-35043 Marburg, Germany.*

Photonic integration of functions such as excitation, probing and interferometry in shaped broadband pulses allows huge simplification of coherent anti-Stokes Raman scattering (CARS) for microspectroscopy, paving the way to cost-efficient implementations, *e. g.* all-fibre solutions.