

Mini-Workshop on Nonlinear Response in Laser-Matter Interaction

Date: 8 July 2019

Venue: ITBL Building, KPSI, QST, 8-1-7, Umemidai Kizugawa, Kyoto, 619-0215, Japan

Host: Organizing Committee

Cohost: CREST ‘Development and applications of first-principles software for unified photonics’

Q-LEAP (ALICE) ‘Next Generation Laser’

Program

Opening Remarks 9:25–9:30

Prof. Kazuhiro Yabana,

Center for Computational Science, University of Tsukuba

1st session: High-Harmonic Generation from Solids

Chair: Atsushi Yamada (Univ. Tsukuba)

1. **9:30–10:00 Prof. Tzveta Apostolova**

New Bulgarian University, Bulgaria

“Conversion efficiency of high harmonic generation
in diamond for 800 nm wavelength”

2. **10:00–10:30 Prof. Hideki Hirori**

Institute for Chemical Research, Kyoto University

“Extreme nonlinear optical phenomena caused by laser-field-driven
carrier motions”

10:30–10:45 Break

Chair: Mitsuharu Uemoto (Univ. Tsukuba)

3. **10:45–11:15 Dr. Yasushi Shinohara**

Photon Science Center, The University of Tokyo

“Real-time quantum dynamics simulations for solid-state high-order
harmonic generation: from one-dimensional models to an *ab-initio*
three-dimensional approach”

4. **11:15–11:45 Dr. Nobuhisa Ishii**

Ultrafast Dynamics Group, KPSI, QST,

“Selection rules and nonlinear propagation in HHG from solids”

11:45–13:00 Lunch

2nd session: Laser Processing

Chair: Masaharu Nishikino (KPSI, QST)

1. **13:00–13:30 Dr. Thibault Derrien**

HiLASE, Czech Republic

“Predicting laser surface nanostructuring using dispersion laws
in the complex plane”

2. 13:30–14:00 Prof. Masaki Hashida

Institute for Chemical Research, Kyoto University

“LIPPS formation and ablation thresholds of metals irradiated
by femtosecond laser pulse”

14:00–14:15 Break

Chair: Shunsuke Yamada (KPSI, QST)

3. 14:15–14:45 Prof. Yasuhiko Shimotsuma

Department of Material Chemistry, Kyoto University

“Functionalization of photoinduced structure in material
by femtosecond laser”

4. 14:45–15:15 Dr. Kazuyuki Sakaue

Photon Science Center, The University of Tokyo

“Material processing by femto-second extreme ultraviolet laser pulses”

15:15–15 : 30 Break

Chair: Tomohito Otobe (KPSI, QST)

5. 15:30–16:00 Prof. Kazuhiro Yabana

Center for Computational Science, University of Tsukuba

“Recent research using SALMON: Scalable *Ab-initio* Light-Matter simulator for Optics and Nanoscience”

6. 16:00–16:30 Dr. Noboru Hasegawa

X-Ray Laser Research Group, KPSI, QST

“Observation of the dynamics of the femto-second laser ablation
by using the soft x-ray laser probe”

7. 16:30–17:00 Dr. Ryuji Itakura

Ultrafast Dynamics Group, KPSI, QST

“Laser ablation probed by time-resolved reflection spectroscopy”

Closing Remarks

Dr. Kiminori Kondo

Director, Department of Advanced Photon Research, KPSI, QST

Committee

Prof. Kazuhiro Yabana (Univ. Tsukuba)

Dr. Tomohito Otobe (KPSI, QST)

Dr. Ryuji Itakura (KPSI, QST)

Dr. Masaharu Nishikino (KPSI, QST)

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