The 2nd STEPS Symposium
on
Photon Science

March 14-16, 2016

Hotel New Peterhof

Organized by: Saint Petersburg State University, Lomonosov Moscow State Universit and School of Science, The University of Tokyo
The 2nd STEPS Symposium on Photon Science  
March 14 - 16, 2016

Program

March 14 (Mon)

10:00 – 12:30 Laboratory tour
12.30 – 13.30 Lunch
18:00 - 20:00 Welcome dinner

March 15 (Tue)

9:00 - 9:10 Opening Remarks
Sergey Tunik (Saint-Petersburg State University),
Kaoru Yamanouchi (The University of Tokyo)

Session I: Laser-plasma interaction and optical processes

9:10 - 9:30 Alex Andreev (Saint-Petersburg State University)
Efficient generation of attosecond pulses from relativistic laser plasmas

9:30 - 9:50 Makoto Takamoto (The University of Tokyo)
Turbulent reconnection in relativistic plasmas and effects of compressibility

9:50 - 10:10 Sergey Pulkin (Saint-Petersburg State University)
Experimental comb linear and nonlinear comb - spectroscopy of atoms and molecules with increased sensitivity

10:10 - 10:30 Nikolay Timofeev (Saint-Petersburg State University)
Light-Induced polariton clusters and their application in optical signal processing

10:30 - 10:50 Coffee Break

Session II: Photons and light-matter interaction

10:50 - 11:10 Olga Kosareva (Moscow State University)
Regularized superfilamentation in air

11:10 - 11:30 Kuniaki Konishi (the University of Tokyo)
Metamaterial-based circular polarization control

11:30 - 11:50 Junji Yumoto (The University of Tokyo)
Coherent photon technology -Light matter interaction
11:50 - 12:10  Andrey Fedyanin (Moscow State University)

Enhanced nonlinear optics in dielectric nanoparticles driven by magnetic Mie-type resonances

12:10 - 13:30  Lunch

Session III: Atoms and clusters in light fields

13:30 - 13:50  Kana Yamada (The University of Tokyo)

Selective state formation of Ar$^{2+}$ in two-photon non-sequential double ionization of Ar

13:50 - 14:10  Shinichi Fukahori (The University of Tokyo)

Energy-resolved photoelectron angular distribution of rare gas atoms by circularly-polarized few-cycle pulses

14:10 - 14:30  Tamas Szidarovzky (The University of Tokyo)

Full-dimensional simulation of alignment dynamics of H$_2$He$^+$ in laser fields

14:30 - 14:50  Alexander Pastor (Saint-Petersburg State University)

Study of the two-photon excited xenon clusters: Energy relaxation and ICD-like processes in picosecond time domain

14:50 - 15:10  Coffee Break

Session IV: Photons and solids

15:10 - 15:30  Yuriy Petrov (Saint-Petersburg State University)

Helium ion beam induced modification of materials

15:30 - 15:50  Koji Nakabayashi (The University of Tokyo)

Functional magnets based on cyanido-bridged metal assemblies

15:50 - 16:10  Alexey Povolotskiy (Saint-Petersburg State University)

Femtosecond laser modification of phosphate glasses: ions migration, structural changes

16:10 - 16:30  Yury Tver'yanovich (Saint-Petersburg State University)

Chalcogenide glasses doped with rare earth metals: concentration quenching of luminescence and glass’ structure

16:30 - 16:50  Coffee Break

Session V: Electron scattering in light fields
16:50 - 17:10 Reika Kanya (The University of Tokyo)

*Light-dressing effect in atoms and molecules in laser-assisted elastic electron Scattering*

17:10 - 17:30 Yuri V. Popov (Moscow State University)

*Theoretical background of laser-assisted electron momentum spectroscopy*

17:30 - 17:50 Konstantin Kouzakov (Moscow State University)

*(e, 2e) collisions in the presence of laser radiation*

17:50 - 20:00 Dinner

March 16 (Wed)

**Session VI: Photons and molecules**

9:00 - 9:20 Kaoru Yamanouchi (The University of Tokyo)

*Ultrafast dynamics of molecules induced by intense laser fields*

9:20 - 9:40 Katsunori Nakai (The University of Tokyo)

*Classical trajectories of neutral H₂ formation and hydrogen atom scrambling in CH₃CH₂⁺*

9:40 - 10:00 Toshiaki Ando (The University of Tokyo)

*Pump-probe coincidence momentum imaging of hydrogen migration in methanol induced by few-cycle intense laser pulses*

10:00 - 10:20 Andrey Stolyarov (Moscow State University)

*Molecular dynamic near dissociation threshold*

10:20 - 10:40 Coffee Break

**Session VII: Photons and organic compounds**

10:40 - 11:00 Olesya Tomashenko (Saint-Petersburg State University)

*A novel heterocyclic framework with tunable absorption/emission properties*

11:00 - 11:20 Yulia Shakirova (Saint-Petersburg State University)

*Dual emission: some cases of organometallic luminophores*

11:20 - 11:40 Alexander Konev (Saint-Petersburg State University)

*Porphyrin-fullerene dyads: from charge separation to photocurrent*

11:40 - 12:00 Maria G. Khrenova (Moscow State University)

*Highly efficient FRET-sensors with rationally designed linker structures*

12:00 - 13:30 Lunch
Session VIII: Photons interacting with gasses and clusters
13:30 - 13:50 Nikolay Kuzechkin (Moscow State University)

*Interaction of high-intense femtosecond radiation with gas cluster beam: Terahertz and X-ray emission*

13:50 - 14:10 Erik Lötstedt (The University of Tokyo)

*Ultrafast population inversion in N₂⁺ in an ultrashort pulsed intense laser field*

14:10 - 14:30 Igor Mashek (Saint-Petersburg State University)

*Laser-induced microwave discharges in applied aerodynamics*

14:30 - 14:50 Kirill Grigoriev (Moscow State University)

*Transformation and interaction of light beams, containing polarization singularities, in three-wave mixing processes in isotropic nonlocal media*

14:50 - 15:10 Coffee Break

Session IX: Photons interacting with liquid, gels, interfaces, and solids
15:10 - 15:30 Alina Manshina (Saint-Petersburg State University)

*Laser-induced synthesis in liquids, solids, liquid-solid interfaces*

15:30 - 15:50 Larisa Gulina (Saint-Petersburg State University)

*Plasmons in Au and Ag nanoparticles synthesized by successive ionic layer deposition method*

15:50 - 16:10 Takashi Hiroi (The University of Tokyo)

*Structural analysis of amphiphilic gels using small-angle X-ray and neutron scattering*

16:10 - 16:30 Oleg Vyvenko (Saint-Petersburg State University)

*One dimensional defects in semiconductors as effective light emitters*

16:30 - 16:50 Coffee Break

16:50 - 17:50 Round Table Discussion

17:50 - 18:00 Closing Remarks

18:00 - 20:00 Banquet