ALPS2018 presentation numbers are defined as ALPS<#1>-<x>-<#2>-<#3>.

The number <#1> indicates the session order in ALPS2018 conference.
The letter <x> indicates the session topics.
The number <#2> indicates the session order of the topics <x>.
The number <#3> indicates the presentation order in the session.

<table>
<thead>
<tr>
<th>Letter</th>
<th>Session</th>
<th>Topics</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.</td>
<td>ALPS3-A</td>
<td>Novel optical materials/structure and applications</td>
</tr>
<tr>
<td>B.</td>
<td>ALPS1-B</td>
<td>High average power lasers and applications</td>
</tr>
<tr>
<td>C.</td>
<td>ALPS12-C1</td>
<td>High peak power lasers, high pulse energy lasers and applications</td>
</tr>
<tr>
<td></td>
<td>ALPS14-C2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ALPS17-C3</td>
<td></td>
</tr>
<tr>
<td>D.</td>
<td>ALPS10-D1</td>
<td>Novel solid state / fiber / diode lasers and applications</td>
</tr>
<tr>
<td></td>
<td>ALPS13-D2</td>
<td></td>
</tr>
<tr>
<td>E.</td>
<td>ALPS4-E1</td>
<td>ELI special session in ALPS2018</td>
</tr>
<tr>
<td></td>
<td>ALPS6-E2</td>
<td></td>
</tr>
<tr>
<td>F.</td>
<td>ALPS15-F1</td>
<td>Terahertz devices, nonlinear optics and applications</td>
</tr>
<tr>
<td></td>
<td>ALPS16-F2</td>
<td></td>
</tr>
<tr>
<td>G.</td>
<td>ALPS9-G1</td>
<td>Novel optical devices, metamaterials, structure and applications</td>
</tr>
<tr>
<td></td>
<td>ALPS11-G2</td>
<td></td>
</tr>
<tr>
<td>H.</td>
<td>ALPS2-H</td>
<td>Optical devices and techniques for bio and medical applications</td>
</tr>
<tr>
<td>I.</td>
<td>ALPS5-I1</td>
<td>Optical frequency combs / Frequency stabilized lasers and applications</td>
</tr>
<tr>
<td></td>
<td>ALPS7-I2</td>
<td></td>
</tr>
<tr>
<td>J.</td>
<td>ALPS8-J</td>
<td>Joint session ALPS+HEDS+XOPT</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ALPS8-J-1 (HEDSj-1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ALPS8-J-2 (ALPSj-1)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ALPS8-J-3 (XOPTj-1)</td>
</tr>
<tr>
<td>p.</td>
<td>ALPSp</td>
<td>Poster session</td>
</tr>
</tbody>
</table>
# ALPS2018 Program-at-a-glance

<table>
<thead>
<tr>
<th>Date</th>
<th>Time</th>
<th>Room 303</th>
<th>Room 511+512</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>09:00–09:30</td>
<td>Opening Remarks</td>
<td></td>
</tr>
<tr>
<td>Tue</td>
<td>09:30–10:00</td>
<td>ALPS1–B High power lasers</td>
<td></td>
</tr>
<tr>
<td>24 Apr.</td>
<td>10:00–10:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:30–11:00</td>
<td>Break</td>
<td>ALPS3–H Novel optical materials/structures and application</td>
</tr>
<tr>
<td></td>
<td>11:00–11:30</td>
<td>ALPS2–A Biomedical Imaging and Sensing</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11:30–12:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12:00–12:30</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12:30–13:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>13:00–13:30</td>
<td>ALPS4–E1 Extreme Light Infrastructure 1</td>
<td>ALPS5–I1 Optical Frequency Comb (Light Source)</td>
</tr>
<tr>
<td></td>
<td>13:30–14:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14:00–14:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14:30–15:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15:00–15:30</td>
<td>Break</td>
<td>ALPS7–I2 Optical Frequency Comb (Applications)</td>
</tr>
<tr>
<td></td>
<td>15:30–16:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16:00–16:30</td>
<td>ALPS6–E2 Extreme Light Infrastructure 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16:30–17:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>17:00–17:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wed</td>
<td>09:00–12:10</td>
<td>OPIC Plenary Session</td>
<td></td>
</tr>
<tr>
<td>25 Apr.</td>
<td>12:10–12:30</td>
<td>Room 501+502</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12:30–13:00</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13:00–13:30</td>
<td>ALPS8–J Joint Session ALPS+HEDS+XOPT</td>
<td>ALPS9–G1 Diode laser and metamaterials</td>
</tr>
<tr>
<td></td>
<td>13:30–14:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14:00–14:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14:30–15:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15:00–15:30</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td></td>
<td>15:30–16:00</td>
<td>ALPS10–D1 Semiconductor Lasers and Ultrafast Fiber Lasers</td>
<td>ALPS11–G2 Nano structure and applications</td>
</tr>
<tr>
<td></td>
<td>16:00–16:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16:30–17:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Date</td>
<td>Time</td>
<td>Room 303</td>
<td>Room 511+512</td>
</tr>
<tr>
<td>-----------</td>
<td>----------</td>
<td>-----------------------------------------------</td>
<td>--------------------------------------------------</td>
</tr>
<tr>
<td></td>
<td>09:00–09:30</td>
<td>ALPS12–C1 Ultra-high intensity lasers and technology</td>
<td>ALPS13–D2 Visible and Mid-infrared Lasers</td>
</tr>
<tr>
<td></td>
<td>09:30–10:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:00–10:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:30–11:00</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11:00–11:30</td>
<td>ALPS14–C2 High energy lasers and technology</td>
<td>ALPS15–F1 Terahertz photonics 1</td>
</tr>
<tr>
<td></td>
<td>11:30–12:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thu 26 Apr.</td>
<td>12:00–12:30</td>
<td>Lunch</td>
<td></td>
</tr>
<tr>
<td></td>
<td>12:30–13:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>13:00–13:30</td>
<td>ALPSp Poster session Exhibition Hall A</td>
<td></td>
</tr>
<tr>
<td></td>
<td>13:30–14:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14:00–14:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>14:30–15:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15:00–15:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>15:30–16:00</td>
<td>Exhibition Time</td>
<td></td>
</tr>
<tr>
<td></td>
<td>16:00–16:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>16:30–17:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Room 303</td>
<td>Room 511+512</td>
</tr>
<tr>
<td></td>
<td></td>
<td>ALPS16–F2 Terahertz photonics 2</td>
<td></td>
</tr>
<tr>
<td></td>
<td>09:00–09:30</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fri 27 Apr.</td>
<td>09:30–10:00</td>
<td>ALPS17–C3 Ultrafast Phenomena</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:00–10:30</td>
<td>Break</td>
<td></td>
</tr>
<tr>
<td></td>
<td>10:30–11:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>11:00–11:30</td>
<td>Closing Remarks Award Ceremony</td>
<td></td>
</tr>
<tr>
<td></td>
<td>11:30–12:00</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>12:00–12:30</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
ALPS1-B  High Power Lasers
9:15 - 10:30  Room 303

Chair: Fumihiko Kannari
Department of Electronics and Electrical Engineering, Keio University, Japan

ALPS1-B-1  High Average Power and High Energy Ultrafast Thin-Disk Amplifiers
9:15  invited
Catherine Y. Teisset¹, Christoph Wandt¹, Marcel Schultze¹, Sandro Klingebiel¹, Stephan Prinz¹, Sebastian Stark¹, Christian Grebing¹, Jan-Philipp Negel², Helge Höck², Michael Scharun², Thomas Dietz², Dominik Bauer², Aleksander Budnicki², Christian Stolzenburg², Dirk Sutter², Alexander Killi², Thomas Metzger¹

¹. TRUMPF Scientific Lasers GmbH + Co. KG, Germany, ². TRUMPF Laser GmbH, Germany.

ALPS1-B-2  Graphene and Voltage Reconfigurable Graphene Devices for Femtosecond Pulse Generation in the Near Infrared
9:45  invited
Alphan Sennaroglu¹-², Isinsu Baylam², Ferda Canbaz¹, Nurbek Kakenov³, Coskun Kocabas³, Umit Demirbas³, Sarper Ozharar³

¹. Laser Research Laboratory, Departments of Physics and Electrical-Electronics Engineering, Koç University, Turkey, ². Koç University Surface Science and Technology Center (KUYTAM), Koç University, Turkey, ³. Department of Electrical and Electronics Engineering, Antalya Bilim University, Turkey.

ALPS1-B-3  Kumgang laser: stimulated Brillouin scattering phase conjugate mirrors (SPC-SBS-PCM) for high repetition rate lasers towards the coherent beam combining
10:15
Hong Jin Kong, Seongwoo Cha
Department of physics, KAIST, Korea.

-----Break (10:30 - 11:00)-----
## ALPS2-H  Biomedical Imaging and Sensing

**11:00 - 12:00   Room 303**

**Chair:** Masayuki Suzuki  
*Faculty of Medicine, Aichi Medical University, Japan*

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00</td>
<td>ALPS2-H-1</td>
<td>Development of depth-sensitive optical spectroscopy</td>
<td>Quan Liu, Joshua Su Weiming, Chao-Mao Hsieh</td>
</tr>
<tr>
<td>11:30</td>
<td>ALPS2-H-2</td>
<td>3D high-resolution spectral-domain optical coherence microscopy at 1700 nm spectral band for deep tissue imaging</td>
<td>Naoki Hayakawa¹, Masahito Yamanaka¹, Hiroyuki Kawagoe¹, Shuichi Makita², Yoshiaki Yasuno², Norihiko Nishizawa¹</td>
</tr>
<tr>
<td>11:45</td>
<td>ALPS2-H-3</td>
<td>Mid Infrared Cavity Ring-Down Spectroscopy for Radiocarbon Analysis toward Medical Applications</td>
<td>Ryohei Terabayashi¹, Volker Sonnenschein¹, Hideki Tomita¹, Noriyoshi Hayashi¹, Shusuke Kato¹, Shin Takeda¹, Lei Jin¹, Masahito Yamanaka¹, Norihiko Nishizawa¹, Atsushi Sato², Kenji Yoshida², Kohei Nozawa², Tetsuo Iguchi¹</td>
</tr>
</tbody>
</table>

*¹. Dept. Electronics, Nagoya University, Japan, ². Computational Optics Group, University of Tsukuba, Japan.

-----Lunch (12:00 - 13:00)-----

## ALPS4-E1  Extreme Light Infrastructure 1

**13:00 - 15:00   Room 303**

**Chair:** Katsumi Midorikawa  
*RIKEN Center for Advanced Photonics, Japan*

<table>
<thead>
<tr>
<th>Time</th>
<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>13:00</td>
<td>ALPS4-E1-1</td>
<td>Paving the Way towards Novel Applied and Fundamental Sciences with ELI-Beamlines</td>
<td>Sergei V. Bulanov¹,²</td>
</tr>
</tbody>
</table>

*¹. Institute of Physics AS CR, v.v.i (FZU), ELI-Beamlines, Czech Republic, ². Kansai Photon Science Institute, National Institutes for Quantum and Radiological Science and Technology (QST), Japan.*
ALPS4-E1-3  ELI-NP Status and Plan
invited  Kazuo A. Tanaka
14:00  ELI-NP/IFIN-HH, Romania.

ALPS4-E1-4  High Power Laser Development and its application for High Energy Density Science
invited  Ryosuke Kodama
14:30  Osaka University, Japan.

-----Break (15:00 - 15:15)-----

ALPS6-E2  Extreme Light Infrastructure 2
15:15 - 17:15  Room 303
Chair: Kazuo A. Tanaka  ELI-NP/IFIN-HH, Romania

ALPS6-E2-1  High Harmonic Generation and Attosecond Science at RIKEN
invited  Katsumi Midorikawa
15:15  RIKEN Center for Advanced Photonics, Japan.

ALPS6-E2-2  Laser-driven Particle Acceleration and Ultra-short X-Ray Generation using PW-class High Power Lasers
invited  Tetsuya Kawachi
15:45  Kansai Photon Science Institute (KPSI), Quantum Beam Science Directorate, National Institutes for Quantum and Radiological Science and Technology (QST), Japan.

ALPS6-E2-3  The ELI-ERIC: status, agreements and basic rules
invited  Florian Gliksohn
16:15  ELI Delivery Consortium, Belgium.

ALPS6-E2-4  Photon Frontier Network Opening Frontiers by Complete Control of Light and Matter
invited  Yoshiaki Kato¹, Ryosuke Kodama², Norikatsu Mio³
16:45  1. The Graduate School for Creation of New Photonics Industries, Japan, 2. Institute of Laser Engineering, Osaka University, Japan, 3. Institute for Photon Science and Technology, School of Science, University of Tokyo, Japan.
Tuesday, 24th April 2018  Room 511+512

ALPS3-A   Novel Optical Materials/Structures and Application  
10:45 - 12:00   Room 511+512

Chair: Sunao Kurimura
National Institute for Materials Science, Japan
Yoichi Sato
Institute for Molecular Science, National Institutes of Natural Sciences, Japan

ALPS3-A-1   QPM devices in KTP isomorphs: linear, nonlinear absorption properties and extreme domain aspect-ratios  
invited
10:45
Carlota Canalias, Andrius Zukauskas, Staffan Tjörnhammar, Anne-Lise Viotti,
Charlotte Liljestrand, Valdas Pasiskevicius, Fredrik Laurell

Applied Physics department, KTH Royal Institute of Technology, Albanova University Center, Sweden.

ALPS3-A-2   Mg:SLT-based nonlinear optical light sources for down conversion  
11:15
Sunao Kurimura¹, Ryo Okamoto², Shigeki Takeuchi²

¹. National Institute for Materials Science, Japan, ². Kyoto University, Japan.

ALPS3-A-3   Design of magnetic anisotropy in micro domains for Yb:Fluoroapatite Laser Ceramics  
11:30
Yoichi Sato, Jun Akiyama, Takunori Taira

Institute for Molecular Science, National Institutes of Natural Sciences, Japan.

ALPS3-A-4   Vertical cavity lasing from CH₃NH₃PbCl₃ microcrystals under multiphoton excitation  
11:45
Decheng Yang, Chao Xie, Feng Yan, Siu Fung Yu

Department of Applied Physics, The Hong Kong Polytechnic University, China.

-----Lunch (12:00 - 13:00)-----

ALPS5-I1   Optical Frequency Comb (Light Source)  
13:00 - 15:00   Room 511+512

Chair: Hajime Inaba
National Institute of Advanced Industrial Science and Technology, Japan

ALPS5-I1-1   Optical frequency combs: From lab-scale to chip-scale  
invited
13:00
Scott A. Diddams¹,²

¹. National Institute of Standards and Technology, USA, ². Department of Physics, University of Colorado, USA.
ALPS5-I1-2  Er-doped Bi-directional Dual-comb Fiber Laser With Single-walled Carbon Nanotube Film
13:30
Shuto Saito1, Lei Jin1, Yoichi Sakakibara2, Emiko Omoda2, Hiromichi Kataura2, Norihiko Nishizawa1
1. Department of Electronics, Nagoya University, Japan, 2. National Institute of Advanced Industrial Science and Technology (AIST), Japan.

ALPS5-I1-3  Evaluation of Broadband Coherence of Bidirectional Mode-Locked Er-Fiber Laser with Two Saturable Absorber Mirrors
13:45
Yoshiaki Nakajima1,2, Yuya Hata1, Kaoru Minoshima1,2
1. Department of Engineering Science, Graduate School of Informatics and Engineering, the University of Electro-Communications, Japan, 2. Japan Science and Technology Agency (JST), ERATO MINOSHIMA Intelligent Optical Synthesizer (IOS) Project, Japan.

ALPS5-I1-4  All-Polarization-Maintaining Dual-wavelength mode-locked Er-fiber laser with nonlinear amplifying loop mirror
14:00
Yoshiaki Nakajima1,2, Yuya Hata1, Kaoru Minoshima1,2
1. Department of Engineering Science, Graduate School of Informatics and Engineering, the University of Electro-Communications, Japan, 2. Japan Science and Technology Agency (JST), ERATO MINOSHIMA Intelligent Optical Synthesizer (IOS) Project, Japan.

ALPS5-I1-5  Mid-infrared Frequency Comb Based on Er-doped Ultrashort Pulse Fiber Laser System and Tm-doped Fiber Amplifier
14:15
Kento Mochizuki1, T. Masahumi1, L. Jin1, M. Yamanaka1, V. Sonnenschein1, H. Tomita1, T. Iguchi1, A. Sato2, K. Hashizume2, K. Nozawa2, N. Nishizawa1
1. Nagoya University, Japan, 2. Sekisui Medical Co. Ltd., Japan.

ALPS5-I1-6  Single-frequency narrow-linewidth lasing and Kerr soliton microcomb generation with a regular laser diode
14:30
Nikolay G. Pavlov1,2, G.V. Lihachev2,3, A.S. Voloshin2, S. Koptyaev4, M.L. Gorodetsky2,3
1. Moscow Institute of Physics and Technology, Russia, 2. Russian Quantum Center, Russia, 3. Lomonosov Moscow State University, Russia, 4. Samsung R&D Institute Russia, SAIT-Russia Laboratory, Russia.

ALPS5-I1-7  Nonlinear Parametric Oscillation Phase-matched via High-order Dispersion in High-Q Silica Toroid Microresonators
14:45
Shun Fujii, Minoru Hasegawa, Ryo Suzuki, Takasumi Tanabe
Department of Electronics and Electrical Engineering, Faculty of Science and Technology, Keio University, Japan.

-----Break (15:00 - 15:30)-----
ALPS7-I2  Optical Frequency Comb (Applications)
15:30 - 17:00    Room 511+512

Chair: Scott Diddams
National Institute of Standards and Technology, USA

ALPS7-I2-1  Ultrafast Photonics for Precision Optical Measurement and Instrumentation
invited  15:30  Seung-Woo Kim
Korea Advanced Institute of Science and Technology (KAIST), Korea.

ALPS7-I2-2  Mid-Infrared Frequency Comb Working at 4500 nm Based on Yb-doped Fiber Laser for CRDS Application
16:00  Lei Jin¹, V. Sonnenschein¹, R. Terabayashi¹, N. Hayashi¹, S. Sato¹, M. Yamanaka¹, H. Tomita¹, T. Iguchi¹, A. Sato², K. Nozawa², K. Yoshida², N. Nishizawa¹
¹. Dpet. Electronics, Nagoya University, Japan, ². Sekisui Medical Co. Ltd., Japan.

ALPS7-I2-3  No-scanning 3D image detection with sum-frequency generation of optical frequency combs
16:15  Yurina Tanaka¹,², Takashi Kato¹,², Megumi Uchida¹,², Akifumi Asahara¹,², Kaoru Minoshima¹,²
¹. The University of Electro-Communications (UEC), Japan, ². Japan Science and Technology Agency (JST), ERATO MINOSHIMA Intelligent Optical Synthesizer (IOS) Project, Japan.

ALPS7-I2-4  One-shot three-dimensional imaging with a paired filter and an optical pseudo-Hilbert transform using chirped-frequency combs
16:30  Takashi Kato¹,², Megumi Uchida¹,², Yurina Tanaka¹,², Kaoru Minoshima¹,²
¹. The University of Electro-Communications (UEC), Japan, ². JST, ERATO MINOSHIMA Intelligent Optical Synthesizer (IOS), Japan.

ALPS7-I2-5  Simultaneous measurement of refractive index and thickness profiles of solids based on dual-comb spectroscopy
16:45  Yue Wang¹,², Akifumi Asahara¹,², Ken-ichi Kondo¹,², Kaoru Minoshima¹,²
¹. The University of Electro-Communications (UEC), Japan, ². Japan Science and Technology Agency (JST), ERATO MINOSHIMA Intelligent Optical Synthesizer (IOS) Project, Japan.
Wednesday, 25th April 2018, Room 303

ALPS8-J Joint session ALPS+HEDS+XOPT
13:30 - 15:00 Room 303

Chairs: Ryosuke Kodama
Osaka University, Japan
Hitoki Yoneda
Institute for Laser Science, The University of Electro-Communications (UEC), None
Makina Yabashi
RIKEN SPring-8 Center, Japan

ALPS8-J-1 Manipulating Electrons with Intense Laser Pulses
(HEDSj-1)
13:30
Victor Malka\textsuperscript{1,2}

invited

1. Laboratorirre d’Optique Appliquée, France, 2. Weizmann Institute of Science, Israel.

ALPS8-J-2 Development and Commissioning of a 20 fs, 4 PW Laser
(ALPSj-1)
14:00
Junghun Shin\textsuperscript{1}, Hyung Taek Kim\textsuperscript{1,2}, Seong Ku Lee\textsuperscript{1,2}, Jae Hee Sung\textsuperscript{1,2}, Hwang Woon Lee\textsuperscript{1}

invited

Jin Woo Yoon\textsuperscript{1,2}, Cheonha Jeon\textsuperscript{1}, Chang Hee Nam\textsuperscript{1,3}

1. Center for Relativistic Laser Science (CoReLS), Institute for Basic Science (IBS), Korea, 2. Advanced Photonics Research Institute, Gwangju Institute of Science and Technology (GIST), Korea, 3. Department of Physics and Photon Science, GIST, Korea.

ALPS8-J-3 European XFEL – New Opportunities for X-ray Science
(XOPTj-1)
14:30
Robert Feidenhans’l

invited

European XFEL, Germany.

-----Break (15:00 - 15:30)-----
ALPS10-D1  **Semiconductor Lasers and Ultrafast Fiber Lasers**  
15:30 - 17:15  Room 303  

**Chair: Shun-ichi Matsushita**  
*Laboratories for Fusion Core Technologies, Furukawa Electric Co. Ltd., Japan*

**ALPS10-D1-1**  
**invited**  
**15:30**  
**Effects of back-irradiance on the reliability of GaAs high power diode pump lasers**  
Paul Orville Leisher¹, Susant K. Patra¹, Matthew C. Boisselle¹, Sezer Sezgin¹, Robert J. Deri¹, Chen Li², Aman K. Jha², Kevin P. Pipe², Jason D. Helmrich³, Devin E. Crawford³, Prabhu Thiagarajan³  
1. Lawrence Livermore National Laboratory, USA, 2. University of Michigan, USA, 3. Lasertel Incorporated, USA.

**ALPS10-D1-2**  
**16:00**  
**Demonstration of an asymmetric beam in an on-chip 2D-pattern-projecting lasers**  
Takahiro Sugiyama, Kazuyoshi Hirose, Yu Takiguchi, Yoshiro Nomoto, So Uenoyama, Yoshitaka Kurosaka  
*Central Research Laboratory, Hamamatsu Photonics K.K., Japan.*

**ALPS10-D1-3**  
**16:15**  
**More than 350kW Peak Power Pulse Generation of sub-100ps pulse width by using a Very Large Mode Area Er-Doped Fiber Amplifier.**  
Ryo Kawahara¹, Hiroshi Hashimoto¹, Jeffrey W. Nicholson², Jun Nishina¹, Eisuke Otani¹, Shun-ichi Matsushita¹  
1. Laboratories for Fusion Core Technologies, Furukawa Electric Co. Ltd., Japan, 2. OFS Laboratories, USA.

**ALPS10-D1-4**  
**16:30**  
**Robust Yb:fiber laser architecture for high repetition rate femtosecond pulse generation**  
Guanyu Liu, Aimin Wang, Zhigang Zhang  
*State Key Laboratory of Advanced Optical Communication System and Networks, School of Electronics Engineering and Computer Science, Peking University, China.*

**ALPS10-D1-5**  
**16:45**  
**Spectral-Temporal Dynamics of Soliton Explosion in Passively Mode-Locked Yb Fiber Laser**  
Masayuki Suzuki, Hiroto Kuroda  
*Faculty of Medicine, Aichi Medical University, Japan.*
**Wednesday, 25th April 2018, Room 511+512**

**ALPS9-G1** Diode Laser and Metamaterials  
13:30 - 15:00 Room 511+512

Chair: Takuo Tanaka  
*Metamaterials laboratory, RIKEN, Japan*

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Speaker(s)</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALPS9-G1-1</td>
<td>High-power continuous-wave operation over 100W of a single-chip InGaN Laser Diode</td>
<td>Atsunori Mochida, Masao Kawaguchi, Shinichiro Nozaki, Hiroyuki Hagino, Koshi Nakamura, Shinichi Takigawa, Kouji Oomori, Takayuki Yoshida, Takuma Katayama, Tsuyoshi Tanaka</td>
</tr>
<tr>
<td>13:30</td>
<td><strong>InGaN Laser Diode</strong></td>
<td>1. Sensing Solution Development Center, Engineering Division, Automotive &amp; Industrial Systems Company, Panasonic Corporation, Japan, 2. Technology Development Department, Corporate Technology Division, Panasonic Smart Factory Solutions Co., Ltd., Japan.</td>
</tr>
<tr>
<td>ALPS9-G1-2</td>
<td>High power Si light emission device using dressed photons</td>
<td>Tadashi Kawazoe, Motoichi Ohtsu</td>
</tr>
<tr>
<td>13:45</td>
<td><strong>High power Si light emission device using dressed photons</strong></td>
<td>1. Institute of Advanced Laser Technology, Tokyo Denki University, Japan, 2. The University of Tokyo, Japan.</td>
</tr>
<tr>
<td>ALPS9-G1-3</td>
<td>Seeing is Believing!? A super plasmonic probe and a Harry Potter’s invisible cloak</td>
<td>Tsung-Yu Huang, Ruei-Han Jiang, Chi Chen, Ding-Zheng Lin, Jian-Hui Lin, Tung Lee, He-Chun Chou, Jen-You Chu, Ta-Jen Yen</td>
</tr>
<tr>
<td>14:00</td>
<td><strong>Seeing is Believing!? A super plasmonic probe and a Harry Potter’s invisible cloak</strong></td>
<td>1. Department of Materials Science and Engineering, National Tsing Hua University, Taiwan, 2. Department of Materials and Chemical Research Laboratory, Industrial technology and research institute, Taiwan, 3. Research Center for Applied Sciences, Academia Sinica, Taiwan.</td>
</tr>
<tr>
<td>ALPS9-G1-4</td>
<td>Controlling the phase transition of vanadium oxide using plasmonic metamaterials</td>
<td>James Frame, Nicolas Green, Wakana Kubo, Xu Fang</td>
</tr>
<tr>
<td>14:30</td>
<td><strong>Controlling the phase transition of vanadium oxide using plasmonic metamaterials</strong></td>
<td>1. Department of Electronics and Computer Science, University of Southampton, UK, 2. Department of Electrical and Electronic Engineering, Tokyo University of Agriculture and Technology, Japan, 3. Metamaterials Laboratory, RIKEN, Japan.</td>
</tr>
<tr>
<td>ALPS9-G1-5</td>
<td>Photothermal Electric Effect Triggered by Local Heat under Localized Surface Plasmons</td>
<td>Masaki Kondo, Wakana Kubo</td>
</tr>
<tr>
<td>14:45</td>
<td><strong>Photothermal Electric Effect Triggered by Local Heat under Localized Surface Plasmons</strong></td>
<td>Tokyo University of Agriculture and Technology (TUAT), Japan.</td>
</tr>
</tbody>
</table>

-----break (15:00 - 15:30)-----
ALPS11-G2  Nano Structure and Applications
15:30 - 17:00  Room 511+512

Chair: Takasumi Tanabe
Department of Electronics and Electrical Engineering, Faculty of Science and Technology, Keio University, Japan

ALPS11-G2-1  UV-laser irradiation of ZnO seed layer for the growth of well-aligned ZnO nanorods
15:30
Qiyan Zhang, Mitsuhiro Honda, Shinji Takayanagi, Yo Ichikawa
Graduate school of Engineering, Nagoya Institute of Technology, Japan.

ALPS11-G2-2  Magneto-optical Kerr effect enhancement by localized plasmon resonance in Au / Co / Au nanostructure
15:45
Yusuke Kikuchi1,2, Takuo Tanaka1,2
1. Metamaterials laboratory, RIKEN, Japan, 2. School of Materials and Chemical Technology, Tokyo Institute of Technology, Japan.

ALPS11-G2-3  Metal fine periodic structures on polyimide film fabricated by femtosecond laser writing
16:00
Seiya Toriyama1, Vygantas Mizeikis2, Atsushi Ono2
1. Graduate school of Science and Technology, Shizuoka University, Japan, 2. Research institute of electronics, Shizuoka University, Japan.

ALPS11-G2-4  THz Antireflective Structures Fabricated by Femtosecond Laser Processing
16:15
Xi Yu, Mahiro Takeuchi, Shingo Ono, Jongsuck Bae
Nagoya Institute of Technology, Japan.

ALPS11-G2-5  Significant suppression of cross talk and enhancement of angular response in color image sensors using a wave-guided color filter array
16:30
Kuo-Feng Lin, Chin-Chuan Hsieh
VisEra Technologies Company, Taiwan.
<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Presenters</th>
<th>Affiliations</th>
</tr>
</thead>
</table>
| ALPS12-C1-1 | PW-class multi Hz laser generating ultra-high contrast pulses and interaction with aligned nanostructures | Jorge J. Rocca\(^1\), Yong Wang\(^1\), Shoujun Wang\(^1\), Alex Rockwood\(^1\), Bradley M. Luther\(^1\), Reed Hollinger\(^1\), Alden Curtis\(^1\), Chase Calvi\(^1,2\), M.G. Capeluto\(^2\), V.N. Shlyaptsev\(^1\), A. Pukhov\(^3\), V. Kaymak\(^3\), C. S. Menoni\(^1\)  
\(^1\) Electrical and Computer Engineering Department, Department of Physics, Colorado State University, USA,  
\(^2\) FCEyN, University of Buenos Aires, Argentina,  
\(^3\) Heinrich-Heine – Universität Düsseldorf, Germany. |                                                                                                                                 |
Advanced Photon Technologies, Lawrence Livermore National Laboratory, NIF & Photon Science Directorate, USA. |                                                                                                                                 |
| ALPS12-C1-3 | Generation of the Ultraintense Laser Pulse by Focusing the 4 PW Laser | Jin Woo Yoon\(^1,2\), Seong Ku Lee\(^1,2\), Jae Hee Sung\(^1,2\), Hwang Woon Lee\(^1\), Il Woo Choi\(^1,2\), Cheonha Jeon\(^1\), Junghun Shin\(^1\), Chang Hee Nam\(^1,3\)  
\(^1\) Center for Relativistic Laser Science, Institute for Basic Science (IBS), Korea,  
\(^2\) Advanced Photonics Research Institute, GIST, Korea,  
\(^3\) Dept. Of Physics and Photon Science, GIST, Korea. |                                                                                                                                 |
| ALPS12-C1-4 | Meter-size 575\(\times\)1015mm Gold-coated Gratings for 10PW-class lasers | Arnaud Cotel  
HORIBA Scientific, France. |                                                                                                                                 |
| ALPS12-C1-5 | High quality and high damage threshold optics with ozone mixed gas grating | Yurina Michine, Hitoki Yoneda  
Institute for Laser Science, University of Electro-Communications, Japan. |                                                                                                                                 |
| ALPS12-C1-6 | Multiple-Plate Pulse Compression for Generation of Few-Cycle, CEP-Stable, Intense Mid-Infrared Pulses | Peiyu Xia, Faming Lu, Nobuhisa Ishii, Teruto Kanai, Jiro Itatani  
Institute for Solid State Physics, The University of Tokyo, Japan. |                                                                                                                                 |
### ALPS14-C2  High Energy Lasers and Technology

11:00 - 12:15  Room 303

**Chair:** Hiromitsu Kiriyama  
*Kansai Photon Science Institute (KPSI), National Institutes for Quantum and Radiological Science and Technology (QST), Japan*

<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Speaker/Institution</th>
</tr>
</thead>
</table>
| ALPS14-C2-1 invited | Current status of 10 PW laser and 100 PW laser project | Yuxin Leng, Xiaoyan Liang, Ruxin Li, Zhizhan Xu  
*State Key Laboratory of High Field Physics, Shanghai Institute of Optics and Fine Mechanics, Chinese Academy of Sciences, China.* |
| ALPS14-C2-2 | Development of Cryogenically Cooled Helium Gas Circulation System for Cooling Active Medium of 100 J Class Laser Amplifier | Yasuki Takeuchi¹, Yoshio Mizuta¹, Takashi Sekine Takashi Kurita¹, Masateru Kurata¹, Yuma Hatano¹, Takaaki Morita¹, Yuki Kabeya¹, Kazuki Kawai¹, Yuki Muramatsu¹, Takuto Iguchi¹, Yoshinori Tamaoki¹, Koichi Iyama¹, Yujin Zheng¹, Shigeki Tokita², Junji Kawanaka², Yoshinori Kato¹  
¹*Industrial Development Center, Central Research Laboratory, Hamamatsu Photonics K.K., Japan, 2. Institute of Laser Engineering, Osaka University, Japan.* |
| ALPS14-C2-3 | Development of a 10-J, 10-Hz Cryogenically-Cooled Yb:YAG Ceramics Active-Mirror Laser Amplifier System | Takaaki Morita¹, Takashi Sekine¹, Yasuki Takeuchi¹, Yuuma Hatano¹, Takashi Kurita¹, Yoshinori Tamaoki¹, Koichi Iyama¹, Yuki Kabeya¹, Masateru Kurata¹, Takuto Iguchi¹, Yoshio Mizuta¹, Kazuki Kawai¹, Yuki Muramatsu¹, Yoshinori Kato¹, Shigeki Tokita², Junji Kawanaka²  
¹*Industrial Development Center, Central Research Laboratory, Hamamatsu Photonics K.K., Japan, 2. Institute of Laser Engineering, Osaka University, Japan.* |
| ALPS14-C2-4 | High energy cryogenically cooled Yb:YAG/Cr:YAG microchip laser | Xiaoyang Guo¹ ², Shigeki Tokita¹, Junji Kawanaka¹  
¹*Institute of Laser Engineering, Osaka University, Japan, 2. Department of Electronic Science and Engineering, Kyoto University, Japan.* |

-----Lunch (12:15 - 13:00)-----
<table>
<thead>
<tr>
<th>Session</th>
<th>Title</th>
<th>Authors</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALPS13-D2-1</td>
<td>Development of direct visible pulse fiber laser</td>
<td>Shota Kajikawa¹, Minoru Yoshida¹, Osamu Ishii², Masaaki Yamazaki², Yasushi Fujimoto³</td>
</tr>
<tr>
<td>9:00</td>
<td>invited</td>
<td>1. Faculty of Science and Engineering, Kindai University, Japan, 2. Sumita Optical Glass, Inc., Japan, 3. Department of Electrical and Electronic Engineering, Chiba Institute of Technology, Japan.</td>
</tr>
<tr>
<td>ALPS13-D2-2</td>
<td>Characterization of Transition-Metal-Doped Saturable Absorbers for Passive Q-switching of Visible Lasers</td>
<td>Hiroki Tanaka¹, Elena Castellano-Hernández², Christian Kränkel²-³, Fumihiko Kannari¹</td>
</tr>
<tr>
<td>9:30</td>
<td></td>
<td>1. Department of Electronics and Electrical Engineering, Keio University, Japan, 2. Center for Laser Materials, Leibniz Institute for Crystal Growth, Germany, 3. Institute of Laser-Physics, Universität Hamburg, Germany.</td>
</tr>
<tr>
<td>ALPS13-D2-3</td>
<td>Ultrafast Thulium-Doped Fiber Amplifier for Multiphoton Microscopy</td>
<td>Yutaka Nomura¹,², Takao Fuji¹</td>
</tr>
<tr>
<td>9:45</td>
<td></td>
<td>1. Institute for Molecular Science, Japan, 2. JST-PRESTO, Japan.</td>
</tr>
<tr>
<td>ALPS13-D2-4</td>
<td>Femtosecond-Laser-Written Ho:KGd(WO₄)₂ Waveguide Lasers at 2.06 μm</td>
<td>Esrom Kifle¹, Pavel Loiko², Xavier Mateos¹, Javier Rodriguez Vázquez de Aldana³, Airan Ródenas¹⁴, Magdalena Aguiló¹, Francesc Díaz¹, Viktor Zakharov², Andrey Veniaminov², Uwe Griebner³, Valentin Petrov⁵</td>
</tr>
<tr>
<td>10:00</td>
<td></td>
<td>1. Física i Cristal·lografia de Materials i Nanomaterials (FiCMA-FiCNA)-EMaS, Dept. Química Física i Inòrganica, Universitat Rovira i Virgili (URV), Spain, 2. ITMO University, Russia, 3. Aplicaciones del Láser y Fotónica, University of Salamanca, Spain, 4. Istituto di Fotonica e Nanotecnologie, Consiglio Nazionale delle Ricerche (IFN-CNR), Italy, 5. Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy, Germany.</td>
</tr>
<tr>
<td>ALPS13-D2-5</td>
<td>Point-by-Point inscription of fiber Bragg grating by a Femtosecond laser for 2.8 mm fiber laser</td>
<td>Kenji Goya¹, Hiyori Uehara¹, Satoshi Hattori², Daisuke Konishi², Masanao Murakami², Shigeki Tokita¹</td>
</tr>
</tbody>
</table>
Efficient CW and Q-switched operation of Er:Lu$_2$O$_3$ ceramic laser at 2.8 mm

Hiyori Uehara$^1$, Shigeki Tokita$^1$, Junji Kawanaka$^1$, Daisuke Konishi$^3$, Masanao Murakami$^3$, Seiji Shimizu$^3$, Ryo Yasuhara$^2$


-----Break (10:45 - 11:00)-----

ALPS15-F1 Terahertz Photonics 1
11:00 - 12:15 Room 511+512

Chair: Takashi Notake
Teraphotonics Team, RIKEN, Japan

ALPS15-F1-1 Liquid Crystal Based Devices for THz Applications
invited
11:00
Lei Wang$^1$, Makoto Nakajima$^2$, Yanqing Lu$^3$
1. College of Electronic and Optical Engineering & College of Microelectronics, Nanjing University of Posts and Telecommunications, China, 2. Institute of Laser Engineering, Osaka University, Japan, 3. College of Engineering and Applied Sciences, Nanjing University, China.

ALPS15-F1-2 Liquid phase growth of Ge doped GaSe and GaSe$_{1-x}$Te$_x$ bulk crystals at low temperature for highly efficient THz wave source
11:30
Yohei Sato, Chao Tang, Tadao Tanabe, Yutaka Oyama
Department of materials science, Tohoku University, Japan.

ALPS15-F1-3 Laser-matter interaction in picosecond pulsed second-harmonic generation by periodically poled LiTaO$_3$: Experiment and theory
11:45
Oleg A. Louchev, Satoshi Wada
Center for Advanced Photonics, RIKEN, Japan.

ALPS15-F1-4 Efficient Terahertz Emission from the Co/Pt Ferromagnetic Heterostructure Based on Inverse Spin Hall Effect
12:00
Hongsong Qiu, Kosaku Kato, Kazumasa Hirota, Nobuhiko Sarakura, Masashi Yoshimura, Makoto Nakajima
Institute of Laser Engineering, Osaka University, Japan.

-----Lunch (12:15 - 13:00)-----
<table>
<thead>
<tr>
<th>ALPSp-1</th>
<th>Vertically-oriented Graphene for Field-Effect Transistor Photodetector</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Jiawei Yang, Baolu Guan</td>
</tr>
<tr>
<td></td>
<td>Key Laboratory of Optoelectronics Technology, Ministry of Education,</td>
</tr>
<tr>
<td></td>
<td>Faculty of Information Technology, Beijing University of Technology,</td>
</tr>
<tr>
<td></td>
<td>China.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ALPSp-2</th>
<th>Structure of non-temperable low-E glass determined by synchrotron radiation</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sang Joon Park¹, Hyung Wook Choi², Samgmo Kim², Chung Wung Bark²</td>
</tr>
<tr>
<td></td>
<td>¹. Dept. Chemical and Biological Engineering, Gachon University, Korea, ². Dept. Electrical Engineering, Gachon University, Korea.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ALPSp-3</th>
<th>SERS on Antirabbit IgG: Preliminary results</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Juan Carlos Martínez-Espinosa¹, Teodoro Córdova-Fraga², Gustavo Basurto-Islas²,-Octavio Jimenez-Gonzalez², Jacqueline Torres-Ramirez¹, Ana Pamela Andrade-Pérez¹, Jesús Bernal-Alvarado², Angélica Hernández-Rayas², Mauricio Sánchez-Barajas³</td>
</tr>
<tr>
<td></td>
<td>¹. Instituto Politécnico Nacional-UPIIG, México, ². Departamento de Ingeniería Física – DCI, Universidad de Guanajuato campus León, México, ³. Hospital General de Zona con Medicina Familiar No 21 León Sur, Universidad de Guanajuato campus León., México.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ALPSp-4</th>
<th>High gain single crystal fiber amplifier for hybrid femtosecond laser system</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Elena Sall, Sergey Chizhov, Byunghak Lee, Bosu Jeong, Jun Wan Kim, Duchang Heo, Chur Kim, Seol Won Park, Guang-Hoon Kim</td>
</tr>
<tr>
<td></td>
<td>Korea Electrotechnology Research Institute, Korea.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ALPSp-5</th>
<th>Longitudinally Excited CO₂ Laser Driven by Fast-High Voltage Solid State Switch</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Noor Shahira binti Masroon¹, Shigeyasu Ohashi¹, Masaya Tei¹, Miyu Tanaka¹, Kazuyuki Uno², Hitoshi Nakano¹</td>
</tr>
<tr>
<td></td>
<td>¹. Kindai University, Japan, ². University of Yamanashi, Japan.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ALPSp-6</th>
<th>Development of Nanosecond Pump Source for Optically Synchronized OPCPA</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Yasuhiro Miyasaka, Hiromitsu Kiriyama, Maki Kishimoto, Michiaki Mori, Masaki Kando, Kiminori Kondo</td>
</tr>
<tr>
<td></td>
<td>Kansai Photon Science Institute (KPSI), National Institutes for Quantum and Radiological Science and Technology (QST), Japan.</td>
</tr>
</tbody>
</table>
Reducing amplified spontaneous emission of a cryogenic disk amplifier through geometrical optimization of the gain medium
Reza Amani1, Jan Cvrček1,2, Jitka Černohorská1,2, Martin Smrž2, Akira Endo1, Tomáš Mocek1
1. HiLASE Centre, Institute of Physics, Czech Academy of Sciences, Czech Republic, 2. Czech Technical University in Prague, Czech Republic.

Temperature Dependence Evaluation of Absorption in YAG Cladding Materials for High Power Solid-State Lasers
Koichi Hamamoto1,2, Shigeki Tokita1, Hidetsugu Yoshida1, Noriaki Miyanaga1, Junji Kawanaka1
1. Institute of Laser Engineering, Osaka University, Japan, 2. Mitsubishi Heavy Industries, Ltd., Japan.

Research of Diamond Transmission Gratings Used for of High Power Laser Pulse Compression
Shuwei Fan, Tianfei Zhu, Hongxing Wang
Institute of Wide Band Gap Semiconductors, School of Electronics and Information Engineering, Xi'an Jiaotong University, China.

Sub-100-fs Pulse Generation from a Tm,Ho:CALYO Laser Mode-Locked by SWCNTs
Yongguang Zhao1,2, Yicheng Wang1, Zhongben Pan1,3, Ji Eun Bae4, Sun Young Choi4, Fabian Rotermund4, Wei Zhou2, Xiaodong Xu2, Deyuan Shen2, Jun Xu3, Xavier Mateos1,6, Pavel Loiko7, Uwe Griebner1, Valentin Petrov1
1. Max Born Institute for Nonlinear Optics and Short Pulse Spectroscopy, Germany, 2. Jiangsu Key Laboratory of Advanced Laser Materials and Devices, Jiangsu Normal University, China, 3. Institute of Chemical Materials, China Academy of Engineering Physics, China, 4. Department of Physics, Korea Advanced Institute of Science and Technology (KAIST), Korea, 5. School of Physics Science and Engineering, Institute for Advanced Study, Tongji University, China, 6. Física i Cristal·lografia de Materials i Nanomaterials (FiCMA-FiCNA)-EMaS, Dept. Química Física i Inòrganica, Universitat Rovira i Virgili (URV), Spain, 7. ITMO University, Russia.

177 fs Pulses From Kerr-Lens Mode-Locked Yb:Lu2O3 Ceramic Thin-Disk Laser
Shotaro Kitajima1, Akira Shirakawa1, Hideki Yagi2, Takagimi Yanagitani2
1. Institute for Laser Science, University of Electro-Communications, Japan, 2. Takuma Works, Konoshima Chemical Co., Ltd., Japan.
ALPSp-12 Measurement of Carrier Dynamics of the Graphite by Time-Resolved ARPES
Kento Toume1,2, Katsuya Oguri1, Hiroki Mashiko1, Keiko Kato1, Yoshiaki Sekine1, Hiroki Hibino1,3, Akira Suda2, Hideki Gotoh1
1. NTT Basic Research Laboratories, Japan, 2. Tokyo University of Science, Japan, 3. Kwansei Gakuin University, Japan.

ALPSp-13 Electron Temperature of High-Pressure Argon Plasma by Focusing Femtosecond Laser
Kohsuke Tsuchida, Norio Tsuda, Jun Yamada
Aichi Institute of Technology, Japan.

ALPSp-14 Patterning Oxidation of Copper Substrate by Femtosecond Laser Irradiation
Xi Yu1, Masaaki Sudo2, Fumihiro Itogawa1, Shingo Ono1
1. Nagoya Institute of Technology, Japan, 2. IMRA America Inc., Japan.

ALPSp-15 Optical Properties of Saturable Absorber for Temporal Contrast Improvement of Ultra-High Intensity Laser
Koichi Ogura, Yasuhiro Miyasaka, Yuji Fukuda, Akito Sagisaka, Alexander S. Pirozhkov, Hiromitsu Kiriyama
Kansai Photo Science Institute, National Institutes for Quantum and Radiological Science and Technology, Japan.

ALPSp-16 Polarization and Laser Properties of Resonators with Corner-Cube and Axicon Retro-Reflectors
Haik Chosrowjan1, Seiji Taniguchi1, Hidetsugu Yoshida2, Noriaki Miyanaga3
1. Institute for Laser Technology, c/o Technical Research Center, Kansai Electric Power Company, Japan, 2. Institute of Laser Engineering, Osaka University, Japan.

ALPSp-17 Amplification Property of Ce/Cr/Nd:YAG Ceramic Laser Using White-light Pump Source
Taku Saiki1, T. Nakamachi1, T. Hayashi1, T. Matsushita1, T. Ichijji1, H. Furuse2, S. Motokoshi4, Y. Fujimoto3, M. Nakatsuka3,4
1. Department of Electrical and Electronic Engineering, Faculty of Engineering Science, Kansai University, Japan, 2. Kitami Institute of Technology, Japan, 3. Institute of Laser Engineering, Osaka University, Japan, 4. Institute for Laser Technology, Japan.

ALPSp-18 White-Light Whispering-Gallery-Mode Lasing from Lanthanide-Doped Upconversion NaYF6 Hexagonal Microrods
Ting Wang1, Huan Yu2, Chun kit Siu1, Jianbei Qiu2, Xuhui Xu1,2, Siu Fung Yu1
1. Department of Applied Physics, The Hong Kong Polytechnic University, China, 2. College of Materials Science and Engineering, Kunming University of Science and Technology, China.
ALPSp-19  Assessment on Power-scaling of Ti:sapphire Lasers Pumped by Blue-diode Lasers  
Naoto Sugiyama, Hiroki Tanaka, Fumihiko Kannari  
Department of Electronics and Electrical Engineering, Keio University, Japan.

ALPSp-20  Power scaling of a passively Q-switched diode-pumped Pr³⁺:YLF laser  
Shogo Fujita, Hiroki Tanaka, Naoto Sugiyama, Fumihiko Kannari  
Department of Electronics and Electrical Engineering, Keio University, Japan.

ALPSp-21  Development of compact and high efficient UV laser system  
Y. Fujimoto¹, M. Nakahara², P. Binun², S. Motokoshi³, O. Ishii⁴, M. Watanabe⁴, M. Yamazaki⁵, T. Shinozaki², T. Sato², H. Yanomori²  

ALPSp-22  Compact pulsed Yb-doped fiber laser and intra-cavity cascaded Raman spectrum generation  
Yanrong Song, Zikai Dong, Runqin Xu, Jinrong Tian  
College of Applied Sciences, Beijing University of Technology, PR China.

ALPSp-23  Off-peak Raman fiber laser at the wavelength of 1629 nm  
Anna Suzuki, Eisuke Fujita, Masaki Tokurakawa  
Institute for Laser Science, University of Electro-Communications, Japan.

ALPSp-24  Research on Ohmic contact of VCSEL based on Cr/ Au alloy of non-magnetic materials  
Yanling Guo, Baolu Guan  
Key Laboratory of Optoelectronics Technology, Ministry of Education, Faculty of Information Technology, Beijing University of Technology, China.

ALPSp-25  Clean pump generation for in-line phase sensitive amplification using carrier phase recovery and injection locking  
Masato Kato¹, Takeshi Umeki², Koji Enbutsu², Masaki Asobe¹  
1. Tokai University, Japan, 2. NTT Device Technology Laboratories, NTT Corporation, Japan.

ALPSp-26  Terahertz Time Domain Spectroscopy for Radiative Eigenmodes in Metallic Slit Array  
Thanh Nhat Khoa Phan¹, Dazhi Li², Kosaku Kato¹, Masahiko Tani³, Masashi Yoshimura¹, Masaki Hashida⁴, Yanyu Wei⁵, Makoto Nakajima¹  
1. Institute of Laser Engineering, Osaka University, Japan, 2. Institute for Laser Technology, Japan, 3. University of Fukui, Japan, 4. Advanced Research Center for Beam Science, ICR, Kyoto University, Japan, 5. School of Physical Electronics, University of Electronics Science and Technology of China, China.
**ALPSp-27**  
Programmable Optical Linear Circuit using Wavelength-Division-Multiplexed Quantum States  
Akihito Omi, Aruto Hosaka, Masaya Tomita, Shintaro Niimura, Fumihiko Kannari  
*Department of Electronics and Electrical Engineering, Keio University, Japan.*

**ALPSp-28**  
Modal Analysis and Characterization of Photon-Number Statistics of Supercontinuum laser Pulses  
Shintaro Niimura, Aruto Hosaka, Masaya Tomita, Akihito Omi, Fumihiko Kannari  
*Department of Electronics and Electrical Engineering, Keio University, Japan.*

**ALPSp-29**  
Maker Fringe Measurements of Ultra-Precisely Processed N-Benzyl-2-Methyl-4-Nitroaniline Organic Crystal  
Takashi Notake¹, Masahiro Takeda²,³, Takuya Hosobata², Yutaka Yamagata²,³, Hiroaki Minamide¹  
¹. Teraphotonics Team, RIKEN, Japan, ². Ultrahigh Precision Optics Technology Team, RIKEN, Japan, ³. Advanced Manufacturing Support Team, RIKEN, Japan.

**ALPSp-30**  
Fabrication of 1 & 4 inch size transparent Nd:YAG ceramics and Laser Oscillation  
Yoshiki Yamazaki¹, Makoto Mikami¹, Yuichi Kozawa², Shunichi Sato²  
¹. JX Nippon Mining & Metals Corporation Isohara Works, Japan, ². Institute of Multidisciplinary Research for Advanced Materials, Tohoku University, Japan.

**ALPSp-31**  
High-efficiency ring beam converter with axicon mirrors  
Yuya Shimoji, Godai Miyaji  
*Department of Applied Physics, Tokyo University of Agriculture and Technology, Japan.*

**ALPSp-32**  
High aspect ratio nanometer size channel machining with phase corrected femtosecond Bessel beams.  
Kosuke Iida, Yurina Michine, Hitoki Yoneda  
*Institute for Laser Science, University of Electro-Communications, Japan.*

**ALPSp-33**  
Absorption Enhancement in Solar Cells with Metamaterial Perfect Absorbers  
Tomihisa Isegawa¹, Takayuki Okamoto², Wakana Kubo¹  
¹. Tokyo University of Agriculture and Technology, Japan, ². RIKEN, Japan.

**ALPSp-34**  
Selective coherent anti-Stokes Raman scattering microscopy employing dual-wavelength nanofocused ultrafast plasmon pulses  
Keita Tomita, Yasuhiro Kojima, Fumihiko Kannari  
*Department of Electronics and Electrical Engineering, Keio University, Japan.*

**ALPSp-35**  
Optical gain of multi stacked InGaAs quantum dots using VSL method  
Keishiro Goshima¹, Norio Tsuda¹, Keisuke Inukai¹, Takeru Amano², Takeyoshi Sugaya²  
¹. Electronics Engineering, Aichi Institute of Technology, Japan, ². National Institute of Advanced Industrial Science and Technology (AIST), Japan.
ALPSp-36  Single-shot Ultrafast Imaging with Burst Pulses of 100-ps Interval
Hirofumi Nemoto, Takakazu Suzuki, Yuki Yamaguchi, Ryohei Hida, Fumihiko Kannari
Department of Electronics and Electrical Engineering, Keio University, Japan.

ALPSp-37  Development of rigid-endoscope optical coherence tomography system using two-dimensional KTN optical scanner
Masato Ohmi1, Eunjoo Choi1, Takayuki Komatsu2, Shogo Yagi2
1. Course of Allied Health Science, Graduate School of Medicine, Osaka University, Japan,
2. NTT Advance Technology Corporation, Japan.

ALPSp-38  Multifocal spectral-domain optical coherence tomography based on Bessel beam for Biological Imaging
Luying Yi, Liqun Sun
State Key Laboratory of Precision Measurement Technology & Instruments, Department of Precision Instruments, Tsinghua University, China.

ALPSp-39  Velocity and Distance Simultaneous Measurement by Digital Processing of Self-Coupling Signal
Keiichi Shibata, Norio Tsuda, Jun Yamada
Aichi Institute of Technology, Japan.

ALPSp-40  A Simplified Heterodyne Surface Plasmon Resonance Sensor
Michihiro Uchiumi1, Fumiya Kai1, Ozora Ushijima1, Kohei Shimogama1, Kazuyoshi Koga1, Kyouichi Deki2, Nobuaki Tominaga1

ALPSp-41  Spectroscopic Ellipsometry-based Biosensor for Monitoring Microalgae Growth
Siti N. Alfath1, Riza A.N. Khasanah1, Asmida Herawati1, Edi Suharyadi1, Eko A. Suyono2, Iman Santoso1, Takeshi Kato3, Satoshi Iwata4
1. Department of Physics, Universitas Gadjah Mada, Indonesia, 2. Faculty of Biology, Universitas Gadjah Mada, Indonesia, 3. Department of Electronics, Nagoya University, Japan, 4. Institute of Materials and System for Sustainability, Nagoya University, Japan.

ALPSp-42  Bidirectional Mode-locked Er:fiber Laser with Two Semiconductor Saturable Absorber Mirrors
Yuya Hata1, Yoshiaki Nakajima1,2, Kaoru Minoshima1,2
1. The University of Electro-Communications (UEC), Japan, 2. Japan Science and Technology Agency (JST), ERATO MINOSHIMA Intelligent Optical Synthesizer (IOS) Project, Japan.
ALPSp-43  High-accuracy corrections of large and fast air refractive index fluctuations using two-color interferometry with optical frequency combs
Yoshihisa Ikisawa¹, Tomohiro Makino¹,², Yoshiaki Nakajima¹,², Guanhao Wu³, Kaoru Minoshima¹,²
1. The University of Electro-Communications (UEC), Japan, 2. Japan Science and Technology Agency (JST), ERATO MINOSHIMA Intelligent Optical Synthesizer (IOS) Project, Japan, 3. Tsinghua University, China.

ALPSp-44  10W amplification of 750-MHz Yb:fiber laser frequency comb for sub-100 fs pulse duration
Hirotaka Ishii¹, Bo Xu¹,², Yuxuan Ma¹,³, Isao Matsushima¹,², Yoshiaki Nakajima¹,², Thomas Schibli⁴, Zhigang Zhang³, Kaoru Minoshima¹,²
1. Department of Engineering Science, Graduate School of Informatics, The University of Electro-Communications (UEC), Japan, 2. Japan Science and Technology Agency (JST), ERATO MINOSHIMA Intelligent Optical Synthesizer (IOS) Project, Japan, 3. State Key Laboratory of Advanced Optical Communication System and Networks, Peking University, China, 4. Dep. of Physics, University of Colorado at Boulder, USA.

ALPSp-45  Dual-Comb Interferometry Based on Synthetic-Wavelength for High-Speed and High-Precision Distance Measurement
Zebin Zhu¹, Kai Ni², Qian Zhou², Guanhao Wu¹,²
1. State Key Laboratory of Precision Measurement Technology and Instruments, Department of Precision Instruments, Tsinghua University, China, 2. Division of Advanced Manufacturing, Graduate School at Shenzhen, Tsinghua University, China.

ALPSp-46  Tunable single-frequency continuous-wave optical parametric oscillator in the near-IR and mid-IR
Sophie Kröger¹, Edlef Büttner², Andreas Steiger³, Ralf Müller³
1. Hochschule für Technik und Wirtschaft, Germany, 2. APE Angewandte Physik & Elektronik GmbH, Germany, 3. Physikalisch-Technische Bundesanstalt, Germany.

ALPSp-47  Broadband achronatic metalens in the visible
Mu Ku Chen¹,², Pin Chieh Wu¹,², Vin-Cent Su⁴, Hui-Hsin Hsiao³, Yi-Chieh Lai¹,², Hsin Yu Kuo¹,², Bo Han Chen¹,², Yu Han Chen¹,², Din Ping Tsai¹,²
1. Research Center for Applied Sciences, Academia Sinica, Taiwan, 2. Department of Physics, National Taiwan University, Taiwan, 3. Institute of Biomedical Optomechatronics Taipei Medical University, Taiwan, 4. Department of Electrical Engineering, National United University, Taiwan.
ALPSp-48  Dependence of temporal Contrast on Optics Surface Roughness in the Stretcher and Compressor
Hiromitsu Kiriyama¹, Yuji Mashiba¹², Yasuhiro Miyasaka¹, Makoto R. Asakawa²
¹. Kansai Photon Science Institute (KPSI), National Institutes for Quantum and Radiological Science and Technology (QST), Japan, ². Faculty of Science and Engineering, Kansai University, Japan.

ALPSp-49  Surface Cleaning and Modification of Thin Target Films by CW laser for Laser-driven Heavy Ion Acceleration
Kotaro Kondo¹, Mamiko Nishiuchi¹, Hironao Sakaki¹, Nicholas P. Dover¹, Hiromitsu Kiriyama¹, Masahiko Ishino¹, Takumi Miyahara¹², Yukinobu Watanabe², Masaki Hashida³, Mitsuhiro Kusaba⁴, Masaki Kando¹, Kiminori Kondo¹
¹. Kansai Photon Science Institute, National Institutes for Quantum and Radiological Science and Technology (QST), Japan, ². Interdisciplinary Graduate School of Engineering Science, Kyushu University, Japan, ³. Institute for Chemical Research, Kyoto University, Japan, ⁴. Department of Electronics, Information and Communication Engineering, Osaka Sangyo University, Japan.
Friday, 27th April 2018, Room 511+512

ALPS16-F2  Terahertz Photonics 2
9:15 - 10:30  Room 511+512

Chair: Oleg A. Louchev
Center for Advanced Photonics, RIKEN, Japan

ALPS16-F2-1  Strong dc Precursors of Intense Laser Pulses in Electro-Optic Crystals
invited
9:15
Michael I. Bakunov¹, Alexey V. Maslov¹, Maxim V. Tsarev¹, Evgeny S. Efimenko²,
Sergey A. Sychugin¹
1. University of Nizhny Novgorod, Russia, 2. Institute of Applied Physics, Russian Academy of
Sciences, Russia.

ALPS16-F2-2  Effects of delayed feedback rates on THz wave generation using laser
chaos
9:45
Fumiyoshi Kuwashima¹, Takuya Shirao¹, Kazuyuki Iwao¹, Naoya Sakaue¹, Siori Gouda¹,
Takuro Sirasaki¹, Masahiko Tani², Kazuyoshi Kurihara³, Kohji Yamamoto²,
Osamu Morikawa⁴, Hideaki Kitahara², Makoto Nakajima⁵
1. Department of Electrical and Electronic Engineering, Fukui University of Technology, Japan,
2. Research Center for Development of Far-Infrared Region, University of Fukui, Japan, 3. Fac.
of Educ., University of Fukui, Japan, 4. Chair of Liberal Arts, Japan Coast Guard Academy,
Japan, 5. Institute of Laser engineering, Osaka University, Japan.

ALPS16-F2-3  Resonant tunnelling diodes versus semiconductor laser with feedback:
confronting their oscillating dynamics
10:00
Andreas Karsaklian Dal Bosco¹, Safumi Suzuki², Masahiro Asada², Hiroaki Minamide¹
1. RIKEN Center for Advanced Photonics, Tera-Photonics Research Team, Japan, 2. Tokyo
Institute of Technology, Department of Electrical and Electronic Engineering, Japan.

ALPS16-F2-4  High-speed measurement of terahertz waveform using Yb-doped fiber
laser
10:15
Masaaki Tsubouchi, Keisuke Nagashima
National Institutes for Quantum and Radiological Science and Technology (QST), Kansai Photon
Science Institute (KPSI), Japan.

-----Break (10:30 - 11:00)-----
ALPS17-C3  Ultrafast Phenomena
11:00 - 11:45 Room 511+512
Chair: Hiroki Mashiko
NTT Basic Research Laboratories, Japan

ALPS17-C3-1  Complete characterization of an optical waveform by luminescence from gas plasma
11:00
Nariyuki Saito, Nobuhisa Ishii, Teruto Kanai, Jiro Itatani
The Institute for Solid State Physics, The University of Tokyo, Japan.

ALPS17-C3-2  Femtosecond XUV Absorption Spectroscopy Elucidates the Origins of Multimode Vibrational Coherences Induced by Intense Laser Fields
11:15 invited
Zhi-Heng Loh
Division of Chemistry and Biological Chemistry, School of Physical and Mathematical Sciences, Nanyang Technological University, Singapore.

Award Ceremony & Closing Remarks
11:45 - 12:30 Room 511+512
Fumihiko Kannari
Department of Electronics and Electrical Engineering, Keio University, Japan
Sponsored & Organized by
The Laser Society of Japan