

Room A (101)

Session Title 25A1 / [T01] Raman Lasers
Date & Time Tuesday, 25 August, 11:00 ~ 12:30
Session Chair Valentin Petrov (Max Born Institute, Germany)

[25A1-1] 11:00~11:30 Invited Talk

Diamond Raman Lasers: Nonlinear Optical Beam Conversion at High Average Powers

Richard Mildren

Macquarie University, Australia

Recent advances in high power beam conversion in diamond are reviewed. It is shown that there are excellent prospects for developing high power (kilowatt) devices with diffraction-limited beam quality in bulk and at room temperature.

[25A1-2] 11:30~12:00 Invited Talk

High Power Single Frequency Raman Fiber Amplifiers

Yan Feng

Chinese Academy of Sciences, China

Single frequency Raman fiber amplifiers have been developed for applications of laser guide star and atom physics. Suppression of stimulated Brillouin scattering is the main technical challenge for power scaling.

[25A1-3] 12:00~12:15

Generation of Dissipative Solitons in Normal-Dispersion Raman Fiber Laser

Ugur Tegin¹, Parviz Elahi¹, Cagri Senel², E. Emre Ergecen², and F. Ömer İlday³

¹Bilkent University, Turkey, ²TUBITAK National Metrology Institute, Turkey, ³METU, Turkey

Dissipative soliton pulses in a synchronously pumped all-normal-dispersion Raman fiber laser is presented theoretically and experimentally. The laser generates 7.1 nJ intra-cavity pulses at 1.12 μm and is compressed to 136 fs.

[25A1-4] 12:15~12:30

Dual-Band Eye-Safe Nd:YAP/KTP Raman Laser

Y. J. Huang¹, Y. F. Chen¹, W. D. Chen², and G. Zhang²

¹National Chiao Tung University, Taiwan, ²Chinese Academy of Science, China

A compact efficient dual-wavelength eye-safe Nd:YAP Raman laser at 1478 and 1503 nm is originally demonstrated based on simultaneous excitations of the cascaded 267 cm^{-1} mode and the 694 cm^{-1} shift in the KTP crystal.

Room B (102)

Session Title 25B1 / [T13] Novel Devices and Systems for Display
Date & Time Tuesday, 25 August, 11:00 ~ 12:30
Session Chairs Yongtian Wang (Beijing Institute of Technology, China)
Hak-Rin Kim (Kyungpook National University, Korea)

[25B1-1] 11:00~11:30 Invited Talk

fvision: Interactive Glasses-free 3D Images Floating on a Flat Tabletop Surface

Shunsuke Yoshida

National Institute of Information and Communications Technology, Japan

Our proposed glasses-free tabletop 3D display, fvision, employs a hollow conical screen and tiny, circularly arranged projectors installed underneath the table. It floats interactive virtual 3D objects on a flat tabletop surface.

[25B1-2] 11:30~11:45

Evaluation Methods of Retro-Reflector for Polarized Aerial Imaging by Retro-Reflection

Masao Nakajima¹, Yuka Tomiyama², Ichiro Amimori², and Hirotsugu Yamamoto¹

¹Utsunomiya University, Japan, ²The Tokushima University, Japan, ³SN Partners, Japan

To improve the brightness of polarized aerial imaging by retro-reflection, we have established evaluation methods of retro-reflector. We found prism type retro-reflectors have higher reflectance and lower polarization maintenance rate than beads type retro-reflectors.

[25B1-3] 11:45~12:00

Blurring Correction for Aerial Image Formed by Dihedral Corner Reflector Array

Daisuke Miyazaki, Shinji Onoda, Yuki Maeda, and Takaaki Mukai

Osaka City University, Japan

A method to improve blurring in an aerial image formed by a novel optical imaging element consisting of micro mirror array is proposed. This method is based on prior inverse filtering with a point-spread function.

[25B1-4] 12:00~12:15

Side-wall Surface Relief Gratings for Micro-structured Liquid Crystal Alignment

Zhichao Ji¹, Xinzheng Zhang¹, Wei Li¹, Irena Drevensek-Olenik², and Jingjun Xu¹

¹Nankai University, China, ²J. Stefan Institute, Slovenia

The nematic liquid crystal can be uniformly aligned via its contact to a side-wall of a polymer ribbon fabricated by the TPP-DLW process. The origin of the alignment is analyzed. The surface anchoring energy on the side-wall structures is measured.

[25B1-5] 12:15~12:30

To Enhancement Luminous Efficiency of OLED by Roughness Thin Film Included Microparticles

Chuang-Hung Chiu¹, Chao-Heng Chier², Jen-Chi Lee², and Wei-Cheng Chier²

¹Chunghwa Picture Tubes, Taiwan, ²Tatung University Taipei, Taiwan

Including micro-particles and rough surface, an optical thin film was provided to address light extraction efficiency of OLED up to 80%. Two kinds of oxidized metal micro-particles were chosen to dope inside the optical thin film to increase scattering and refraction effect, and to rough surface on the optical thin film can enhance more light extraction efficiency due to the exit angle change on the top of the optical thin film.