

Room A (101)

Session Title 28A1 / [T01] Fiber-based Sources
Date & Time Friday, 28 August, 09:00 ~ 10:15
Session Chair Kwanil Lee (KIST, Korea)

[28A1-1] 09:00~09:15

Formation Sequences of Noise-Like Pulse in Fiber Ring Cavity Configuration and Their Effect on the Partial Coherence

Seungjong Lee, Luis Alonso Vazquez-Zuniga, Youngchul Kwon, Hansol Kim, Dongyeul Lee, and Yoonchan Jeong
Seoul National University, Korea

We experimentally investigate the partially coherent nature of noise-like pulses (NLPs) generated from passively mode-locked fiber ring cavity, and emphasize that the coherence of NLPs can be completely different, depending on the NLP formation sequence.

[28A1-2] 09:15~09:30

Widely-Tunable Single-Frequency Yb-Doped Fiber Ring Laser

Hou Yubin, Wang Jing, Zhang Qian, Liu Jiang, and Wang Pu
Beijing University of Technology, China

We report a widely-tunable single-frequency Yb-doped fiber ring laser based on a loop mirror filter and a tunable filter with a wavelength tunable range of 17.5 nm and a linewidth of less than 2 kHz.

[28A1-3] 09:30~09:45

On the Efficiency of Self-Similar Pulse Evolution in Fiber Amplifiers with Gain Shaping

Sijia Wang¹, Lei Wang¹, Bowen Liu², Youjian Song², and Minglie Hu²
¹China Academy of Space Technology, China, ²Tianjin University, China

Influences of initial pulse parameters on self-similar evolution efficiency in fiber amplifiers with gain shaping are discussed. Optimal center wavelength, duration, negative chirp and triangular profile can minimize the gain-shaping disturbance and accelerate self-similar amplification.

[28A1-4] 09:45~10:00

CW High Power Dual Wavelength Switching in an Ytterbium Doped Coupled Cavity Fiber Laser

W. J. Lai and L. Wang
Nanyang Technological University, Singapore

We demonstrate CW dual wavelength switching in an Ytterbium doped coupled cavity fiber laser by changing the direction and power of the pump. Slope efficiencies of > 70% and output power of > 100W have been achieved.

[28A1-5] 10:00~10:15

Experimental Investigation on Laser Performance of Distributed Side-Pumping Fiber Amplifier

Cong Gao, Li Ni, Xiaolong Wang, Yuying Wang, Zhen Wang, Kun Peng, Zhihua Huang, Jianjun Wang, Feng Jing, and Aoxiang Lin
Chinese Academy of Sciences, China

1+1 type distributed-side pumping active fibers were fabricated. Pumped with 976 nm LD, over 1 kW output power was achieved at 1064 nm and 581 W power was launched into the coupling unit via one port.

Room B (102)

Session Title 28B1 / [T03] Terahertz Technologies and Applications III
Date & Time Friday, 28 August, 09:00 ~ 10:30
Session Chair Toshihiko Kiwa (Okayama University, Japan)

[28B1-1] 09:00~09:30 Invited Talk

Efficient Broadband THz Wave Generation Based on Organic Phenolic Electro-Optic Crystals

O-Pil Kwon, Seung-Heon Lee, Bong-Joo Kang, and Fabian Rotermund
Ajou University, Korea

Highly efficient broadband THz wave generations based on electro-optic phenolic molecular crystals are reviewed. As-grown phenolic quinolinium crystals exhibited large macroscopic nonlinearity and suitable crystal characteristics for THz wave generation.

[28B1-2] 09:30~10:00 Invited Talk

Novel THz-wave Detection Technique via Interaction between Optical Pumping Waves and THz-wave Generated by Cherenkov Phase Matching

Koji Suizu¹, Noaya Kaneko¹, Takuya Akiba¹, Katsuhiko Miyamoto², and Takashige Omatsu²
¹Chiba Institute of Technology, Japan, ²Chiba University, Japan

THz-wave and optical waves in nonlinear optical process are strongly correlated. Thus, THz-wave information can be transferred to pump and signal wave. THz-wave generated by Cherenkov phase matching can be used as evanescentprobe at interface facet of the crystal. Phase shift and attenuation of reflected THz-wave has information of a sample set at the interface, so the information can be detected by optical analysis for pump and signal wave.

[28B1-3] 10:00~10:15

Polarization Independent and Optical-controlled Metamaterial Modulator in Terahertz Regime

Yang Bai and Kejian Chen
University of Shanghai for Science and Technology, China

We demonstrated a polarization independent and optical-controlled terahertz wave modulator based on hybrid metamaterials. Experimental validations confirm an intensity modulation depth more than 90% by changing the pump power between 0 and 2.5 W, spanning 0.45-0.85 THz.

[28B1-4] 10:15~10:30

Broadband THz Vortex Pulse Generation by a Tsurupica Spiral Phase Plate

Katsuhiko Miyamoto¹, Bong Joo Kang², Won-Tea Kim², Fabian Rotermund², and Takashige Omatsu^{1,2}

¹Chiba University, Japan, ²Ajou University, Korea

We demonstrate a broadband, highly intense 0.6-terahertz vortex pulse by utilizing a polymeric Tsurupica spiral phase plate.