Room C (103)

Session Title 26C1 / [T02] Fiber Laser
Date & Time Wednesday, 26 August, 09:00 ~ 10:30
Session Chair Myeong Soo Kang (KAIST, Korea)

[26C1-1] 09:00~09:15

Passively Mode-Locked Erbium-Doped Fiber Laser Using Gold-Nanosphere Based on Double Cladding Fiber as Saturable Absorber

Jun Yuan, Xunkun Bai, Dengfeng Fan, Jie Gu, Shaofei Wang, and Xianglong Zeng

Shanghai University, China

We have obtained a serial of mode-locked pulses at 1530 nm with a repetition rate of 8.47 MHz by using a double cladding fiber coated with gold-nanosphere as saturable absorber.

[26C1-2] 09:15~09:30

Femtosecond Erbium-doped Fiber Oscillator with Pulse Energy up to 58 nJ

Hao-Yuan Jiang, Chia-Lun Tsai, and Shang-Da Yang

National Tsing Hua University, Taiwan

Mode-locked Erbium fiber oscillator with pulse energy up to 58 nJ is experimentally demonstrated, the highest value to our best knowledge. The broadest spectrum corresponds to a transform-limited pulse of 93 fs duration.

[26C1-3] 09:30~09:45

A 359 fs Er-doped Fiber Laser Based on Topological Insulator: Bi_2Se_3

Kexuan LI, Yansong Song, Zhenhua Yu, and Jinrong Tian

Beijing University of Technology, China

A 359 fs erbium-doped fiber laser using topological insulator Bi_2Se_3/Polyvinyl alcohol (PVA) composite film as a saturable absorber was demonstrated. When changing the length of the erbium-doped fiber, a mode-locking pulse ranging from 1557 nm to 1600 nm could be generated.

[26C1-4] 09:45~10:00

Passively Q-switching of Erbium-doped Fiber Laser Using Ferrite as Saturable Absorber

Xuekun Bai[1], Jun Yuan[1], Shaofei Wang[1], Dengfeng Fan[1], Jie Gu[1], Yi Huang[1], Yunhe Zhao[1], Qianwu Zhang[1], Shengli Pu[2], and Xianglong Zeng[1]

[1]Shanghai University, China, [2]University of Shanghai for Science and Technology, China

We report on passive Q-switching of an erbium-doped fiber laser with ferrite saturable absorber achieving for the first time short (~3.2 μs) pulse durations with a low threshold pump power (~15 mW).

[26C1-5] 10:00~10:15

Dissipative-soliton-resonance in All-normaldispersion Fiber Lasers

Daojing Li[1], Luming Zhao[2], Dingyuan Tang[2], and Deyuan Shen[1]

[1]Fudan University, China, [2]Nanyang Technological University, Singapore

Multiple dissipative soliton operation is numerically found to be caused by the spectral filtering effect. Strong peak-power-clamping effect is required for the dissipativesoliton-resonance generation. The peak power is controlled by the cavity peak-power-clamping effect.

[26C1-6] 10:15~10:30

Ultra Low Threshold Optical Power Limiter Based on a Silicon Photonic Crystal Cavity

Zheng Wu, Mengxi Ji, and Yi Wang

Huazhong University of Science and Technology, China

Limiting high intensity light transmission and passing through the low in a L3-type nanocavity was proposed. This thermo-optic-effect-based power limiter realized a threshold power 19 μw. The threshold as a function of detuned wavelength is given.

Room D (106)

Session Title 26D1 / [T04] Ultrahigh Intensity Lasers I
Date & Time Wednesday, 26 August, 09:00 ~ 10:30
Session Chair Guoqiang Xie (Shanghai Jiao Tong University, China)

[26D1-1] 09:00~09:30 Invited Talk

Precision Performance for Full-scale Operation of LFEX PW Laser

Noriaki Miyanaga, Junji Kawanaka, Shigeki Tokita, Takahisa Jitsuno, Yoshiki Nakata, Hiroyuki Shiraga, and Shinsuke Fujioka

Osaka University, Japan

LFEX is a four-beam, picosecond Nd: glass laser system based on the chirped pulse amplification. The current operation level of amplifier is ~400 J/beam with a chirping of ~2 ns/3 nm. The compressor output is ~1.4 kJ at a pulse width of ~1.5 ps with a pulse contrast better than 109.

[26D1-2] 09:30~10:00 Invited Talk

Recent Progress and Research Status of Petawatt Femtosecond Lasers in SIOM

Xiaoyan Liang, Yuxi Chu, Zebiao Gan, Lianghong Yu, Lu Xu, Cheng Wang, Xiaoming Lu, Yuxin Leng, Ruxin Li, and Zhizhan Xu

Shanghai Institute of Optics and Fine Mechanics, China

The latest progress towards a 10PW ultra-intense femtosecond laser at SIOM was reported. The energy of 192.3J was achieved with Ti:sapphire amplifiers, which could support a peak power of 5.13PW.

[26D1-3] 10:00~10:30 Invited Talk

Dynamics of Cluster Ionization and Neutral Atom Acceleration

Krishnamurthy Manchikanti

Tata institute of Fundamental Research, India

Nanoclusters are simpler systems that engulf most of the complexity of the intense laser matter interactions. While the intra-cluster density is solid-like, the bulk density is orders of magnitude smaller. Inter-cluster plasma dynamics offer a rich variety of parameters to tweak the plasma for unusual effects like neutral atom and negative ion acceleration. Rydberg excited states generated in these systems have a decisive effects on the ion charge states and their angular distributions. In this talk I present a review of the dynamics of the intra-cluster and intercluster effects in nano-plasmas.