

Session Title:	[Fr1I] AI and Monitoring in Laser Processing
Session Date:	August 9 (Fri.), 2024
Session Time:	09:00-10:30
Session Room:	Room I (118)
Session Chair(s)	Prof. Joonghan Shin (Kongju Nat'l Univ., Korea)

[Fr1I-1] 09:00-09:15

Photonic Neural Network Fabricated on Thin Film Lithium Niobate for High-Fidelity and Power-Efficient Matrix Computation

Yong Zheng, Rongbo Wu, Yuan Ren, Rui Bao, Jian Liu (East China Normal Univ., China), Yu Ma (Shanghai Inst. of Optics and Fine Mechanics, Chinese Academy of Sciences, China), Min Wang, and Ya Cheng (East China Normal Univ., China)

[Fr1I-2] 09:15-09:30

Real-time Spectroscopic Monitoring of Continuous-flow Synthesis in Femtosecond Laser Fabricated 3D Microfluidic Chip with Integrated On-chip Fiber Probe Array

Miao Wu, Xin Li (East China Normal Univ., China), Di-Feng Yin (Shanghai Inst. of Optics and Fine Mechanics, Chinese Academy of Sciences, China), Wei Chen, Jia Qi, Ming Hu, Jian Xu, and Ya Cheng (East China Normal Univ., China)

[Fr1I-3] 09:30-09:45

Deep Learning-based Laser Spectroscopy for Inline Process Monitoring

Soojin Choi, Jiyeon Choi, and Jiwhan Noh (Korea Inst. of Machinery & Materials, Korea)

[Fr1I-4] 09:45-10:00

Weld Shape Monitoring Using a Deep Neural Network (DNN) in Dissimilar Al/Cu Laser Welding

SeungGu Kang and Joonghan Shin (Kongju Nat'l Univ., Korea)

[Fr1I-5] 10:00-10:15

Wide-field Second Harmonic Microscopy for Non-destructive and Fast in line Analysis of Femtosecond Laser-induced Crystallization Phenomena

Seonwoo Lee (Ecole Polytechnique Federale de Lausanne, Switzerland), Tetsuo Kishi (Tokyo Inst. of Tech., Japan), and Yves Bellouard (Ecole Polytechnique Federale de Lausanne, Switzerland)

[Fr1I-6]

10:15-10:30

Integrated Multi-color Raman Microlasers at Low Pump Levels in High-Q Lithium Niobate Microdisks

Guanghui Zhao, Jintian Lin (Shanghai Inst. of Optics and Fine Mechanics, Chinese Academy of Sciences, China), Renhong Gao (East China Normal Univ., China), and Ya Cheng (Shanghai Inst. of Optics and Fine Mechanics, Chinese Academy of Sciences, China)