



Infrared Frontier Physics and Technology

Sep.23 Saturday, Meeting Room 5, 3F	
Presider: Weida Hu, Shanghai Institute of Technical Physics, Chinese Academy of Sciences; Jianlu Wang, Fudan University	
13:30-14:00 (Keynote)	2D materials-based optoelectronic devices from the near-infrared to terahertz wavelengths Jianbin Xu The Chinese University of Hong Kong
14:00-14:20 (Invited)	Infrared Electromagnetic Spectra of 2D Strong Correlated Systems Xiaomu Wang Nanjing University
14:20-14:40 (Invited)	Polarization-Sensitive Photodetector and Image Sensor based on 2D Materials Zhongming Wei Institute of Semiconductors, Chinese Academy of Sciences
14:40-15:00 (Invited)	Two-dimensional material devices for neuromorphic vision Shijun Liang Nanjing University
15:00-15:15	Coffee Break
Presider: Xiaomu Wang, Nanjing University; Zhongming Wei, Institute of Semiconductors, Chinese Academy of Sciences	
15:15-15:35 (Invited)	Superconducting nanowire single photon detectors operating at the far-infrared Qingyuan Zhao Nanjing University
15:35-15:55 (Invited)	Mid-Infrared Photodetection Based on Topological Semimetals Dong Sun Peking University
15:55-16:15 (Invited)	Superconducting strip photon detectors and applications in quantum information processing Lixing You Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences (SIMIT, CAS)
16:15-16:25	ESIT2023-0809-32 Mid-infrared single-photon 3D imaging Jianan Fang, Ben Sun, Tingting Zheng, Yinqi Wang, Kun Huang, Heping Zeng East China Normal University, China
16:25-16:35	ESIT2023-0802-5 Analysis of dark current mechanisms for high-operating temperature Si:Ga blocked-impurity-band detectors Ke Deng ^{1,2} , Qing Li ^{1,2*} , Peng Wang ² , Ning Li ^{2,3} , Wei da Hu ^{1,2} 1.Hangzhou Institute for Advanced Study, University of Chinese Academy of Sciences, China; 2.State Key Laboratory of Infrared Physics, Shanghai Institute of Technical Physics, Chinese Academy of Sciences, China; 3.Hangzhou Institute for Advanced Study, University of Chinese Academy of Sciences, Hangzhou, China
16:35-16:45	ESIT2023-0817-3 2-bit Boolean Optoelectronic Logic Gates at Communication Band for Chip-integration Ting He Hangzhou Institute for Advanced Study, China



16:45-16:55	<p>ESIT2023-0912-3 SDGSAT-1 Thermal Infrared Sensor On-orbit Calibration performance Zhuoyue Hu¹, Xiaoyan Li², Fansheng Chen¹ 1.State Key Laboratory of Infrared Physics, Shanghai Institute of Technical Physics, Chinese Academy of Sciences, China; 2.Hangzhou Institute for Advanced Study, University of Chinese Academy of Sciences, China</p>
16:55-17:05	<p>ESIT2023-0816-4 Epitaxial substitution of metal iodides for low-temperature growth of two-dimensional metal chalcogenides Lijie Zhang Wenzhou University</p>
Sep.24 Sunday, Meeting Room 5, 3F	
Presider: Qingyuan Zhao, Nanjing University; Hugen Yan, Fudan University	
8:30-9:00 (Keynote)	<p>II-VI and III-V multistage detectors Piotr Martyniuk Institute of Applied Physics, Military University of Technology</p>
9:00-9:20 (Invited)	<p>Near-Infrared Position-Sensitive Detector Based on 2D/3D Heterogeneous Integration Junpeng Lu Southeast University</p>
9:20-9:40 (Invited)	<p>Ferroelectric field effect transistors for electronics and optoelectronics Jianlu Wang Fudan University</p>
9:40-10:00 (Invited)	<p>Recent progress of the blocked impurity band VLWIR photodetector Peng Wang Shanghai Institute of Technical Physics, Chinese Academy of Sciences</p>
10:00-10:15	Coffee Break
Presider: Haofei Shi, Chongqing Institute of Chinese Academy of Sciences; Shijun Liang, Nanjing University; Liang Shen, Jilin University	
10:15-10:35 (Invited)	<p>Research on enhancing detector performance at near infrared region with local field structure Jun Wang University of Electronic Science and Technology of China</p>
10:35-10:45	<p>ESIT2023-0815-3 Infrared photodetectors based on Van der Waals heterojunctions Feng Wu Huazhong University of Science & Technology</p>
10:45-10:55	<p>ESIT2023-0814-2 Control over thermal emission for infrared application Qiang Li Zhejiang University</p>
10:55-11:05	<p>ESIT2023-0809-7 Mid-wavelength Infrared photoconductive detectors based on HgCdSe/GaSb thin films grown by molecular beam epitaxy ZEKAI ZHANG, Wen Lei, Lorenzo Faraone, Wenwu Pan, Gilberto Umana Membreno, Shuo Ma University of Western Australia, Australia</p>
11:05-11:15	<p>ESIT2023-0809-6 Research on High Sensitivity Infrared Photodetectors and Applications Li Qing Hangzhou Institute for Advanced Study, University of Chinese Academy of Sciences, China</p>



11:15-11:25	<p>ESIT2023-0829-4 Very long wave infrared quantum cascade detector using diagonal transition miniband Kai Guo^{1,2}, Yi Xuan Zhu², Yu Chen², Kun Li², Jun Qi Liu^{2*}, Shen Qiang Zhai², Shu Man Liu², Feng Qi Liu², Xiao Hua Wang^{1*}, Zhi Peng Wei^{1*} 1.Changchun University of Science and Technology, China; 2.Institute of Semiconductors,Chinese Academy of Sciences, China</p>
11:25-11:35	<p>ESIT2023-0809-19 A three-dimensional cloud detection method by infrared satellite observations and its multi-spectral application in data assimilation in numerical weather prediction Gang Ma Center for Earth System Modeling and Prediction of CMA, China</p>
11:35-11:45	<p>ESIT2023-0809-10 Self-powered Ultrabroad Te Nanowire-Based Photodetectors from Visible to Terahertz Driven by Multiphysical Mechanism Jiazhen Zhang¹, Donghai Zhang², Liuping Liu², Delei Liu², Changyi Pan^{2,3}, Liu Changlong^{2*}, Haibo Shu^{4*}, Lin Wang³, Xiaoshuang Chen^{2,3} 1.Yangtze Delta Region Institute of University of Electronic Science and Technology of China, Huzhou, China; 2.Hangzhou Institute for Advanced Study, University of Chinese Academy of Sciences, China; 3.Shanghai Institute of Technical Physics, Chinese Academy of Sciences, China; 4.China Jiliang University, China</p>
11:45-11:55	<p>ESIT2023-0829-3 VdWs photodetector design for fast and high-sensitive polarized detection Fang Zhong Hangzhou Institute for Advanced Study, University of Chinese Academy of Sciences, China</p>
<p>President: Junpeng Lu, Southeast University; Zhijun Ning, School of Physical Science and Technology, ShanghaiTech University; Jun Zhao, Kunming Institute of Physics</p>	
13:30-13:50 (Invited)	<p>Infrared Optoelectronic Response of 2D Semiconductors Hugen Yan Fudan University</p>
13:50-14:10 (Invited)	<p>Innovative Optical Payloads and Big Data Technologies Support for High-Precision Quantitative Remote Sensing based on SDGSAT-1 Thermal Infrared Sensor Fansheng Chen Shanghai Institute of Technical Physics of the Chinese Academy of Sciences</p>
14:10-14:30 (Invited)	<p>High Quality Graphene for Hybrid Infrared Photodetector Haofei Shi Chongqing Institute of Chinese Academy of Sciences</p>
14:30-14:40	<p>ESIT2023-0731-2 Multi-physics Field based Numerical Simulation of Hg1-xCd_xTe Based Photovoltaic Detectors with Composition Gradients Jiahui Chen¹, Wangyong Chen^{1,2*}, Linlin Cai^{1,2*}, Haifeng Chen¹, Pengling Yang³, Dahui Wang³, Manling Shen³, Xiangyang Li⁴, Hui Qiao⁴ 1.School of Microelectronics Science and Technology, Sun Yat-sen University, China; 2.Guangdong Provincial Key Laboratory of Optoelectronic Information Processing Chips and Systems, Sun Yat-sen University, China; 3.Northwest Nuclear Technology Institute, China; 4.Key Laboratory of Infrared Imaging Materials and Detectors, Shanghai Institute of Technical Physics, Chinese Academy of Sciences, China</p>
14:40-14:50	<p>ESIT2023-0731-1 Study of high thermal isolation property structure made by electrospun used in Ru-based infrared imaging sensor Li Song, Yuxuan Dong, Shah Fahad, Xuanzheng Zhou, Min Wang Southern University of Science and Technology</p>
14:50-15:00	<p>ESIT2023-0730-1 Effective mass and electrical properties of few-layer 2D h-BN films based on FN tunneling effect Jiayi Qin, Man Luo, Yuxin Meng, Tiantian Cheng, Yuanze Zu, Xin Wang, Chenhui Yu Nantong University, China</p>



15:00-15:15	Coffee Break
Presider: Fansheng Chen, Shanghai Institute of Technical Physics of the Chinese Academy of Sciences; Peng Wang, Shanghai Institute of Technical Physics, Chinese Academy of Sciences	
15:15-15:35 (Invited)	Ultrafast and broadband photodetectors based on a perovskite/organic bulk heterojunction for large-dynamic-range imaging Liang Shen Jilin University
15:35-15:55 (Invited)	Development of New Infrared Detector Technology Jun Zhao Kunming Institute of Physics
15:55-16:15 (Invited)	Digital Infrared Focal Plane Array Technology Libin Yao Kunming Institute of Physics, Chinese Academy of Sciences
16:15-16:35 (Invited)	Colloidal quantum dot based upconversion imaging Zhijun Ning School of Physical Science and Technology, ShanghaiTech University
16:35-16:45	ESIT2023-0719-1 Hot-carrier infrared detection in lead salts thin film with highly-sensitive and ultrafast response at room temperature Wang Qisheng Nanchang University, China
16:45-16:55	ESIT2023-0722-1 Study and Optimization of Wide Bandwidth and Low Noise HgCdTe Avalanche photodiodes Wenrui Wei Shanghai Institute of Technical Physics, Chinese Academy of Sciences
16:55-17:05	ESIT2023-0829-19 HgCdTe e-APD Microscopic-Mesoscopic Monte Carlo Paradigm for Excess Noise Analysis Shuning Liu ^{1,2} 1. Shanghai Institute of Technical Physics, China; 2. Hangzhou Institute for Advanced Study, University of Chinese Academy of Sciences, China
17:05-17:15	ESIT2023-0907-3 Design and Fabrication of Si Microlens Arrays for Infrared Focal Plane Arrays Zhijin Hou Fudan University
17:15-17:25	ESIT2023-0908-1 Growth and photodetection application of low-dimensional perovskite semiconductors Ziqing Li Fudan University