



Digital Earth & Space

| Sep.23 Saturday, Grand Ballroom II , 3F | |
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| President: Nan Chi, School of Information Science and Technology, Fudan University | |
| 13:30-14:00 (Keynote) | Infrared Intellectual Perception and Space Metaverse Shengli Sun Shanghai Institute of Technical Physics, Chinese Academy of Sciences |
| 14:00-14:30 (Keynote) | Intelligent interpretation of remotely sensed big data Bing Zhang Aerospace Information Research Institute, Chinese Academy of Sciences |
| 14:30-15:00 (Keynote) | From Earth to Deep Space Objects: Recent Advance in Remote Sensing and Mapping Xiaohua Tong Tongji University |
| President: Rong Shu, Shanghai Institute of Technical Physics, Chinese Academy of Sciences | |
| 15:00-15:20 (Invited) | Improving space asset management and collision avoidance capabilities through high-precision visualization of space target situation deduction Ke Zhang GeovisTT&CTechnologyCo., Ltd |
| 15:20-15:40 (Invited) | Building a globally leading integrated satellite constellation to serve the high-quality development of the digital economy Dongsheng Liu PIESAT Company |
| 15:40-16:00 (Invited) | Intelligent Satellite Processing Technology and Application in Blue Carbon Economy Zhiyu Yan Zhuhai Aerospace Microchips Science & Technology Co., Ltd. |
| President: Jianhua Gong, Aerospace Information Research Institute, Chinese Academy of Sciences | |
| 16:00-16:30 | Panel Discussion |
| 16:30-16:50 (Invited) | Application of artificial intelligence to smart city construction from a spatial perspective Xiang Li East China Normal University |
| 16:50-17:10 (Invited) | Perceptual interaction of generalized point cloud for intelligent construction of large-scale infrastructure Chun Liu Tongji University |
| 17:10-17:20 | ESIT2023-0809-33 Joint geometric calibration using multiple images for linear array optical imaging satellite Hao Wu ^{1,2} , Shijie Liu ^{1,2} , Xiaohua Tong ^{1,2} 1.College of Surveying and Geo-Informatics, Tongji University, China; 2.Shanghai Key Laboratory for Planetary Mapping and Remote Sensing for Deep Space Exploration, Tongji University, China |
| 17:20-17:30 | ESIT2023-0808-34 Research on the Concept and Key Issues of Aerospace Metaverse Zhong Wang; Shengli Sun; Rui Chen; Tijun Ma; Wenjun Xu; Yafeng Zhang Shanghai Institute of Technical Science |



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| 17:30-17:40 | ESIT2023-0825-4 An Instant Neural Rendering and 3D Reconstruction Method and Its Application in Outdoor Scenes Jiangfeng She, Shuangpin Wu School of Geography and Ocean Sciences, Nanjing University |
| 17:40-17:50 | ESIT2023-0809-25 Digital twin based high-precision deformation monitoring method for complex structures Tianhe Gao, Kuo Tian, Xuanwei Hu, Yiwei Huang Dalian University of Technology |
| Sep.24 Sunday, Grand Ballroom II , 3F | |
| Presider: Presider: Xiaoping Du, Aerospace Information Research Institute, Chinese Academy of Sciences | |
| 8:30-9:00 (Keynote) | A Primary Exploration of Geographic Metaverse from the Perspective of Virtual Geographic Environment Jianhua Gong Aerospace Information Research Institute, Chinese Academy of Sciences |
| 9:00-9:20 (Invited) | Lightweight Mobile Web3D Key Technology for Massively Multi-player Online Metaverse Platform Jinyuan Jia Smart 3D Lab WebSite, School of Software, Tongji University |
| 9:20-9:40 (Invited) | Next-Generation Urban Management: When Human Mobility Modeling Meets AI and Big Data Xuan Song Southern University of Science and Technology |
| 9:40-9:50 | ESIT2023-0808-2 Imaging simulation and analysis of attitude jitter effect on topographic mapping for lunar satellite stereo optical cameras Chen Chen ^{1;2} ; Shijie Liu ^{3;4*} ; Zhen Ye ^{3;4} ; Xiaohua Tong ^{3;4} 1.College of Surveying and Geo-Informatics, Tongji University; 2.Shanghai Key Laboratory for Planetary Mapping and Remote Sensing for Deep Space Exploration, Tongji University; 3.College of Surveying and Geo-Informatics, Tongji University; 4.Shanghai Key Laboratory for Planetary Mapping and Remote Sensing for Deep Space Exploration, Tongji University |
| 9:50-10:00 | ESIT2023-0808-20 Advancements in Digital Twin Technology for Simulation and Health Prediction of Infrared Optomechanical System Xiaozhuo wang Shanghai Institute of Technical Physics of the Chinese Academy of Sciences |
| 10:00-10:10 | ESIT2023-0726-2 Structural strength digital twin modeling method Kuo Tian Dalian University of Technology |
| 10:10-10:20 | ESIT2023-0814-1 A Geometry-Based Method for Visualizing Time-varying Flow Fields on Map Platforms Using Texture Polymorphism Yucheng Shu, Songshan Yue Nanjing Normal University |
| 10:20-10:35 | Coffee Break |



ESIT 2023

The Second International Conference on Earth & Space: from Infrared to Terahertz 2023

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| Presider: Xuan Song, Southern University of Science and Technology | |
| 10:35-10:55 (Invited) | Urban Sensing and Simulation with AI and Spatiotemporal Big Data Qingfeng Guan China University of Geosciences, Wuhan |
| 10:55-10:15 (Invited) | 6G-oriented visible light communication Ziwei Li Fudan University |
| 10:15-11:35 (Invited) | Simulation Technology Driven by Digital Twin of Infrared Payloads Peng Rao Shanghai Institute of Technical Physics, Chinese Academy of Sciences |
| 11:35-11:55 (Invited) | Digital Earth Science Platform Supporting the SDG Applications: Cases, Challenges and Opportunities Xiaoping Du Aerospace Information Research Institute, Chinese Academy of Sciences |
| 11:55-12:05 | ESIT2023-0912-1 The Digitization Concept of Fusion Sensing Equipment based on Complex Systems Haibin Sun Key Laboratory of Intelligent Infrared Perception Chinese Academy Science (CAS), Shanghai Institute of Technical Physics, Chinese Academy Science (CAS), Shanghai 200043, China |
| Presider: Haibin Sun, Shanghai Institute of Technical Physics, Chinese Academy of Sciences | |
| 13:30-13:50 (Invited) | Revolutionizing Urban Mobility: The powerful combination of AIGC and City Simulators Yong Li Tsinghua University |
| 13:50-14:00 | ESIT2023-0809-14 A constant bank angle based two-stage predictor-corrector method for Mars atmospheric entry Zhixian Luo ^{1,2} , Yanmin Jin ^{1,3*} , Xiaohua Tong ^{2,4} 1.College of Surveying and Geo-Informatics, Tongji University, China; 2.Shanghai Key Laboratory of Space Mapping and Remote Sensing for Planetary Exploration, China; 3.hanghai Key Laboratory of Space Mapping and Remote Sensing for Planetary Exploration, China; 4.College of Surveying and Geo-Informatics, Tongji University, China |
| 14:00-14:10 | ESIT2023-0809-2 High fidelity digital human generation method based on polarization gradient light images Shuo Huang ^{1*} , Hongyi Bu ² , Yong Hu ¹ , Cailan Gong ¹ , Zixuan Han ¹ , Han Wang ¹ 1.Shanghai institute of technical physics, China; 2.Jiaying super dimensional Information Technology Co., LTD, China |
| 14:10-14:20 | ESIT2023-0807-13 Stereo matching for lunar surface reconstruction with an improved census cost Miyu Zhou;Zhen Ye;Yusheng Xu;Rong Huang;Xiaohua Tong Tongji University |
| 14:20-14:30 | ESIT2023-0808-12 Numerical validation of lunar subsurface dielectric property estimation based on full waveform inversion Shurui Chen, Feng Yongjiu Tongji University |
| 14:30-14:40 | ESIT2023-0817-2 Remote Sensing Image Classification by Integrating Multiple Feature Parameters Jintao Liang ¹ , Chao Chen ^{2*} , Zhisong Liu ¹ , Yankun Chen ¹ 1.zhejiang ocean university, China; 2.Suzhou University of Science and Technology, China |



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| 14:40-14:50 | <p>ESIT2023-0822-1 Farmland Boundary Extraction from Remote Sensing Imagery Based on Segment Anything Model Mengyu Hu^{1,2}, Jianhua Gong^{1,2,3*}, Dongqing Cao^{1,2}, Yousong Zhang⁴, Jianru Wang⁴, Weidong Hu³, Hongchao Cai⁵, Dongchuan Wang⁵ 1.Aerospace Information Research Institute (AIR),Chinese Academy of Sciences, China; 2.University of Chinese Academy of Sciences, China; 3.Zhejiang-CAS Application Center for Geoinformatics, China; 4.Zhejiang Marine and Fishery Law Enforcement Corps, China; 5.School of Geology and Geomatics, Tianjin Chengjian University, China</p> |
| 14:50-15:00 | <p>ESIT2023-0813-2 Multi-perspective regional continuity alignment network for hyperspectral-LiDAR image fusion and classification Weixin Ding, Wenbo Yu, Xiao Chen, He Huang Soochow University</p> |
| 15:00-15:10 | <p>ESIT2023-0807-14 Potential and performance for classifying land surface only with ICESat-2 altimetric data Yuan Sun^{1;2};Huan Xie^{1;2*};Qi Xu^{1;2};Binbin Li^{1;2};Peiqi Huang^{1;2};Changda Liu^{1;2};Min Ji^{1;2};Xiaohua Tong^{1;2} 1.College of Surveying and Geo-Informatics, Tongji University, China;2.Shanghai Key Laboratory of Space Mapping and Remote Sensing for Planetary Exploration, China</p> |