PIERS 2021 Hangzhou

PhotonIcs & Electromagnetics Research Symposium

also known as Progress In Electromagnetics Research Symposium

Program

November 22, 2021

Hangzhou, CHINA

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CONTENTS

TECHNICAL PROGRAM SUMMARY

Monday AM, November 22, 2021

Monday PM, November 22, 2021

THE ELECTROMAGNETICS ACADEMY

PIERS: PhotonIcs and Electromagnetics Research Symposium, also known as Progress in Electromagnetics Research Symposium, is sponsored by The Electromagnetics Academy.

The Electromagnetics Academy is devoted to academic excellence and the advancement of research and relevant applications of the electromagnetic theory and to promoting educational objectives of the electromagnetics profession. PIERS provides an international forum for reporting progress and advances in the modern development of electromagnetic theory and its new and exciting applications.

Founded by the late Professor Jin Au Kong (1942–2008) of MIT in 1989, The Electromagnetics Academy is a non-profit organization registered in USA.

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JOURNAL: PROGRESS IN ELECTROMAGNETICS RESEARCH

Progress In Electromagnetics Research (PIER) publishes peer-reviewed original and comprehensive articles on all aspects of electromagnetic theory and applications. This is an open access, on-line journal PIER (E-ISSN 1559-8985). It has been first published as a monograph series on Electromagnetic Waves (ISSN 1070-4698) in 1989. It is freely available to all readers via the Internet.

PIER is a non-profit organization.

WWW.JPIER.ORG

Contact Email: work@jpier.org

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PhotonIcs & Electromagnetics Research Symposium
November 22, 2021
Hangzhou, CHINA

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IMPORTANT NOTICE

Due to the recent domestic outbreaks of COVID-19 that have spread to many provinces in China, the organizing committee of PIERS 2021 has decided to split this event into 2 parts.

Part 1: Totally Virtual

This virtual part will be on November 22, the original start date of PIERS 2021.

1) All poster sessions will be switched to online. Poster Presenters are requested to upload the presentation files in PDF format by November 15. A ZOOM conference on November 22 will be arranged for all poster presenting authors to discuss the details interactively. The poster presenting author is encouraged to upload a 3–5 mins pre-recorded video to introduce the poster. All onsite registered presenting authors in this online poster session can still attend the future hybrid part of PIERS.

2) In total there will be 5 virtual oral sessions (1 oral session for each subcommittee) to accept a few oral talks online, in case some presenting authors strongly hope to join the virtual conference without delay.

3) This virtual PIERS will use ZOOM as supporting software. There will be an online help center via ZOOM during the conference week. The ZOOM access information and linkages will be available on the Online Program.

4) The final program for this virtual PIERS 2021 will be available online by November 18.

Part 2: Hybrid PIERS

This hybrid part will be postponed to April 25–29, 2022. The conference site remains unchanged.

1) All oral sessions will be postponed to April 25–29, 2022 by default.

2) If a presenting author strongly hopes to join the virtual oral session, please kindly contact PIERS OFFICE to apply for the virtual oral slot before November 15.

3) This hybrid PIERS can accept a few submissions of new abstracts. The deadline for new abstract submission is January 10. The registration deadline is January 30. The Advance Program will be available by March 5. The final program will be available by March 20.

GUIDELINE FOR WEB PRESENTERS

Web Oral Presentations

- **Upload Pre-recorded Video by November 10:**
  Web Oral Presenters must upload a pre-recorded video by November 10. Please upload your presentation file in PIERS author center. Each uploaded video will be checked by PIERS OFFICE. Once it is checked, you can view a "confirmed" status in PIERS Author Center. Please wait 1–2 working days to check this video confirmed status especially during the uploading peak.

- **Video File Format:**
  Your final video file should be in the MP4 format.
  There are several tools you can use to make a MP4 video file.
  1) Create a Voice Over PowerPoint presentation and convert it to MP4.
  2) Use some meeting softwares to directly have a final MP4 video file. Please visit these instructions on how to record a video on web page of PIERS Guidelines for Presenters.

- **Web Talk Limit and Video Duration:**
  Please find the following suggested time to record your video.
  Web Keynote Talk: Total 25 mins — including (20 mins video + 5 mins Q&A)
  Web Invited Talk: Total 15 mins — including (13 mins video + 2 mins Q&A)
  Web Contributed Talk: Total 10 mins — including (9 mins video + 1 mins Q&A)

Web Poster Presentations

- The web poster presentation file should be in the PDF format.
- This PDF poster presentation file will be available on online PIERS Program during the whole conference week.
- All presenters are suggested to update your PIERS profile with a personal image in order for the attendees to establish a connection or know you better.

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PIERS 2021 HANGZHOU TECHNICAL PROGRAM

Session 0A1a
Oral Session SC1. Computational Electromagnetics, Electromagnetic Compatibility, Scattering and Electromagnetic Theory - Part 1

Monday AM, November 22, 2021

Room Online ROOM 1
Chaired by Jun Shibayama, Qiwei Zhan

09:00 Extension of the DCP-FDTD Method to the Analysis of a Periodic Structure at Oblique Incidence
Tetsuya Iwamoto (*Hosei University*); *Jun Shibayama* (*Hosei University*); *J. Yamauchi* (*Hosei University*); *H. Nakano* (*Hosei University*);

09:10 Detection of Phase and Neutral Fault Currents by Using Noninvasive Sensing and Electromagnetic Field Modelling
Prasad Shrawane (*The University of Ontario Institute of Technology*); *Tarlochan S. Sidhu* (*The University of Ontario Institute of Technology*);

09:20 Investigation of Electromagnetic Potentials Using FDTD Schemes
Takanori Higashi (*Nihon University*); *Seiya Kishimoto* (*Nihon University*); *Tokuei Sako* (*Nihon University*); *Shinichiro Ohnuki* (*Nihon University*);

09:30 Efficiency and Accuracy of Time-division Parallel Computation for the LOD-FDTD Method
Tasuku Nakazawa (*Nihon University*); *D. Wu* (*Nihon University*); *Seiya Kishimoto* (*Nihon University*); *Jun Shibayama* (*Hosei University*); *Junji Yamauchi* (*Hosei University*); *Shinichiro Ohnuki* (*Nihon University*);

09:40 Off-grid One-dimensional Scattering Center Extraction Method Based on Compressed Sensing
Xiao Huang (*Nanjing University of Science and Technology*); *Zi He* (*Nanjing University of Science and Technology*); *Da-Zhi Ding* (*Nanjing University of Science and Technology*); *Rushan Chen* (*Nanjing University of Science and Technology*);

09:55 Fast Parameter Estimation by Using Matrix Pencil Method
Shixi Li (*Nanjing University of Science and Technology*); *Chenfeng Yang* (*Nanjing University of Science and Technology*); *Pengfei Gu* (*Nanjing University of Science and Technology*); *Zi He* (*Nanjing University of Science and Technology*); *Rushan Chen* (*Nanjing University of Science and Technology*);

10:10 Scattering Center Extraction Based on Perturbed OMP
Shengkai Sun (*Nanjing University of Science and Technology*); *Xiao Huang* (*Nanjing University of Science and Technology*); *Zi He* (*Nanjing University of Science and Technology*); *Da-Zhi Ding* (*Nanjing University of Science and Technology*); *Rushan Chen* (*Nanjing University of Science and Technology*);

10:25 Calculation of Layered Medium Green's Function Based on Machine Learning Methods
Wentao Wang (*University of Electronic Science and Technology of China*); *Yongpin Chen* (*University of Electronic Science and Technology of China*); *Jun Hu* (*University of Electronic Science and Technology of China*);

10:55 Analysis of Electromagnetic Interference of Power Distribution-network by Using Full Wave Numerical Method
Yue Wu (*Hebei University of Technology*); *Hong-Xing Zheng* (*Hebei University of Technology*);

11:05 Efficient Implementation of the ADE-PML in WCS-FDTD Method
Kanglong Zhang (*Hebei University of Technology*); *Yue Wu* (*Hebei University of Technology*); *Hong-Xing Zheng* (*Hebei University of Technology*);

11:15 Predicting the Time-domain Wave Properties in Chaotic Reverberating Environments
Shukai Ma (*University of Maryland*); *Thomas M. Antonsen, Jr.* (*University of Maryland*); *Edward Ott* (*University of Maryland*); *Steven M. Anlage* (*University of Maryland*);

Session 0A1b
SC1 Poster Session: Web Presentation & Discussion [11:30-12:30]

Monday AM, November 22, 2021

Room Online ROOM 1
Chaired by Fei Gao, Bin Zheng

1 A Microscopic Deep UV Imaging System with a Single Detector
Yong Ma (*Chongqing University of Posts and Telecommunications*); *Jincheng He* (*Chongqing University of Posts and Telecommunications*); *Yi Liu* (*Chongqing University of Posts and Telecommunications*); *Longliang Yang* (*Chongqing University of Posts and Telecommunications*); *Binzheng Liu* (*Chongqing University of Posts and Telecommunications*); *Xingye Zhou* (*Hebei Semiconductor Research Institute*); *Shixiong Liang* (*Hebei Semiconductor Research Institute*); *Zhihong Feng* (*Hebei Semiconductor Research Institute*);

2 Complex-valued DNNs to Solve Full-wave Nonlinear Inverse Scattering Problems
Si-Zhuo Gu (*Beijing Institute of Technology*); *Bo-Yue Song* (*Beijing Institute of Technology*); *Di Wu* (*Beijing Institute of Technology*); *Xiao-Min Pan* (*Beijing Institute of Technology*); *Xin-Qing Sheng* (*Beijing Institute of Technology*);

3 Research on Realization Method of Color Image Grayscale Based on FPGA
Xin Zeng (*East China Institute of Photo-electron IC*); *Zhen-Xing Zhu* (*East China Institute of Photo-electron IC*); *Jian Wang* (*East China Institute of Photo-electron IC*); *Shu-Xi Xu* (*East China Institute of Photo-electron IC*);

4 New Design and Verification of Flexible Frequency Selective Surface Radome Using Liquid Metal
Rong-Qing Sun (*Aerospace Research Institute of Materials & Processing Technology*); *Yun-Hua Liu* (*Aerospace Research Institute of Materials & Processing Technology*); *Bao-Gang Sun* (*Aerospace Research Institute of Materials & Processing Technology*); *Jian-Chang Wang* (*Aerospace Research Institute of Materials & Processing Technology*); *Xi-Jun He* (*Aerospace Research Institute of Materials & Processing Technology*); *Zhi-Yong Yang* (*Aerospace Research Institute of Materials & Processing Technology*);

5 Dynamical Characterisation and Numerical Simulation of Multimode Semiconductor Laser Subject to Double Optical Feedback
Ionut-Relu Andrei (*National Institute for Laser, Plasma and Radiation Physics*); *Cristina Sanda Onea* (*University "Politehnica" of Bucharest*); *Paul E. Sterian* (*University "Politehnica" of Bucharest*); *Mihail Lucian Pascu* (*National Institute for Laser, Plasma and Radiation Physics*); *Mircea Bulinski* (*University of Bucharest*);

6 Experimental Validation of Geometrical and Material Uncertainties Consideration in the Modeling of Wound Inductors Using FEM
Geoffrey Lossa (*University of Mons*); *O. Deblecker* (*University of Mons*); *Z. De Greve* (*University of Mons*);

7 Accuracy and Efficiency Enhancement for Air Pressure of Train Braking Based on Multidimensional LSTM-Attention Model
Kai Ting Zhou (*Tongji University*); *Ji Xuan Wan* (*Tongji University*); *Ying Liu* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

8 Resonant Impedance Evaluation Methods for Sensors
Zdeněk Roubal (*Brno University of Technology*); *P. Pokorný* (*Brno University of Technology*); *Pavel Fiala* (*Brno University of Technology*); *Tomas Hejtmánek* (*Brno University of Technology*);

9 The Impedance of Optically Transparent Thin Mesh Wire RF Devices
Jean L. Kubwimana (*University of New Hampshire*); *Nicholas Kirsch* (*University of New Hampshire*);

10 Mathematical Modeling of Infinite Waveguides with Inhomogeneous Losses
Mikhail Maximovich Shusharin (*M. V. Lomonosov Moscow State University*); *Mikhail I. Svetkin* (*M. V. Lomonosov Moscow State University*); *Alexander Nikolaevich Bogolyubov* (*M. V. Lomonosov Moscow State University*); *Alexander Igorevich Erokhin* (*M. V. Lomonosov Moscow State University*);

11 Design and Analysis of a *TE-TEM-TE* Co-coaxial Coupling Structure for Multilayer Rectangular SIW
Yiming Zhang (*South China Normal University*); *Yuxi Liu* (*South China Normal University*); *Chenyang Meng* (*South China Normal University*); *Hui Liu* (*Zhejiang University*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

12 Analysis of the Law of Electromagnetic Pulse Effect of Low Noise Amplifier Based on Norm
Dewei Xia (*High-Tech Institute of Xi'an*); *Fei Cao* (*High-Tech Institute of Xi'an*); *Chuanbao Du* (*Northwest Institute of Nuclear Technology*); *Congguang Mao* (*Northwest Institute of Nuclear Technology*); *Hui Zhang* (*High-Tech Institute of Xi'an*);

13 A Based Time-frequency Analysis Method for Selecting a Time-window of Low Noise
Jinben Li (*Xidian University*); *Yanchun Zuo* (*Xidian University*); *Li-Xin Guo* (*Xidian University*); *Wei Liu* (*Xidian University*); *Le Yu* (*Xidian University*);

14 Semi-deterministic Channel Model Based on the FDTD Method
Yunyang Dong (*Southeast University*); *Jianyi Zhou* (*Southeast University*);

15 Near-field Scanning Test Imaging Focusing Method Based on Differential GPS
Shun Liu (*Science and Technology on Electromagnetic Scattering Laboratory*); *Ming Lyu* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Zhihe Xiao* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Yang Bai* (*Science and Technology on Electromagnetic Scattering Laboratory*);

16 New Methods for Formation and Directed Radiation of Powerful Short Radio Pulses
Yuriy K. Sirenko (*O. Ya. Usikov Institute for Radiophysics and Electronics of National Academy of Sciences of Ukraine & V.M. Karazin Kharkiv National University*); *Seil Seitenovich Sautbekov* (*Al-Farabi Kazakh National University*); *Nataliya P. Yashina* (*O. Ya. Usikov Institute for Radiophysics and Electronics of National Academy of Sciences of Ukraine*); *Petro Nikolaevich Melezhik* (*O. Ya. Usikov Institute for Radiophysics and Electronics of National Academy of Sciences of Ukraine*); *Anotliy Ye. Poyedinchuck* (*O. Ya. Usikov Institute for Radiophysics and Electronics of National Academy of Sciences of Ukraine*); *Merey S. Sautbekova* (*Al-Farabi Kazakh National University*);

17 Amplification of Spin Waves in the Antiferromagnet through the Spin Hall Effect
Anastasia Yu. Mitrofanova (*Bauman Moscow State Technical University*); *Ansar Rizaevich Safin* (*National Research University "Moscow Power Engineering Institute"*); *Oleg V. Kravchenko* (*Bauman Moscow State Technical University*);

18 Numerical and Physical Modelling the Processes of Electromagnetic Microwave Propagation in Multilayer Media — Oil-saturated and Coal Seams with Hydraulic Fracturing Crack
Aleksey P. Khmelinin (*N. A. Chinakal Institute of Mining Siberian Branch Russian Academy of Sciences*); *A. I. Konurin* (*N. A. Chinakal Institute of Mining Siberian Branch Russian Academy of Sciences*); *E. V. Denisova* (*N. A. Chinakal Institute of Mining Siberian Branch Russian Academy of Sciences*);

19 A Hybrid ESM-EDM Approach for 3D Radiation Source Localization and Radiated Field Prediction
Shuaihua Ren (*Southwest University of Science and Technology*); *Qiang-Ming Cai* (*Southwest University of Science and Technology*); *Bo-Wen Luo* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

20 Current Response Characteristic Analysis of HEMP RF Protectors in PCI Test Based on Norms
Chuanbao Du (*Northwest Institute of Nuclear Technology*); *Dewei Xia* (*High-Tech Institute of Xi'an*); *Congguang Mao* (*Northwest Institute of Nuclear Technology*); *Zhitong Cui* (*Northwest Institute of Nuclear Technology*); *Xin Nie* (*Northwest Institute of Nuclear Technology*); *Shengquan Zheng* (*Science and Technology on Electromagnetic Compatibility Laboratory*);

21 A Novel Semi-physical Simulation Platform for Train Braking System Based on Cascade Control Strategy
Ying Liu (*Tongji University*); *Kai Ting Zhou* (*Tongji University*); *Ji Xuan Wan* (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

22 Design of Low Profile Broadband Electromagnetic Absorber
Wei Ding (*Nanjing University*); *Jian Chen* (*Nanjing University*); *Fangkun Zhou* (*Nanjing University*); *Rui-Xin Wu* (*Nanjing University*);

23 The Research on the Modeling Technology of Target Scattering Characteristics Based on Scattering Point Correction
Jun Gu (*Shanghai Radio Equipment Research Institute*); *Jiaxuan Lin* (*Shanghai Radio Equipment Research Institute*); *Qiping Chen* (*Shanghai Radio Equipment Research Institute*);

24 Hybrid CPU- and GPU-based Implementation for Particle-in-Cell Simulation on Multicore and Multi-GPU Systems
Pan Wang (*Northwest Institute of Nuclear Technology*); *Xiang-Qin Zhu* (*Northwest Institute of Nuclear Technology*);

25 Electromagnetic Characteristics Analysis of a Novel Bearingless Permanent Magnet Slice Motor with Halbach Arrays for Artificial Heart Pump
Xin Liu (*Ganjiang Innovation Academy, Chinese Academy of Sciences*); *Hongyi Qu* (*Institute of Electrical Engineering, Chinese Academy of Sciences*); *Qi Chen* (*Ganjiang Innovation Academy, Chinese Academy of Sciences*); *Cong Wang* (*Ganjiang Innovation Academy, Chinese Academy of Sciences*); *Jianhua Liu* (*Ganjiang Innovation Academy, Chinese Academy of Sciences*); *Qiuliang Wang* (*Institute of Electrical Engineering, Chinese Academy of Sciences*);

26 Study of Coding Metasurface for Electromagnetic Regulation
Jiaji Yang (*Huazhong University of Science and Technology*); *Lei Liu* (*Huazhong University of Science and Technology*); *Rongzhou Gong* (*Huazhong University of Science and Technology*);

27 Multi-radiators Scattering Characteristic Solver via ARCS Theory and GPU Acceleration
Shida Gao (*Beihang University*); *Yong-Jun Xie* (*Beijing University of Aeronautics and Astronautics*); *Jie Gao* (*Beihang University*); *Peiyu Wu* (*Tianjin Polytechnic University*);

28 A Dual-board Substrate Integrated Waveguide for Large Phase Delay Application
Yuxi Liu (*South China Normal University*); *Yiming Zhang* (*South China Normal University*); *Chenyang Meng* (*South China Normal University*); *Hui Liu* (*Zhejiang University*); *Bofu Liu* (*Guangdong Polytechnic Normal University*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

29 Holographic Reconfigurable Intelligent Surface Based on Holl Effect for Electromagnetic Recording
Yile Ma (*North China University of Water Resources and Electric Power*); *Xia Shao* (*North China University of Water Resources and Electric Power*); *Wenyu Luo* (*North China University of Water Resources and Electric Power*);

30 A Novel Cooperative Network Using Down-link Non-orthogonal Multiple Access Scheme
Syed Agha Hassnain Mohsan (*COMSATS Institute of Information Technology*); *Moqbel Ali Mohammed Hamood* (*Jordan University of Science and Technology*); *Syed Muhammad Tayyab Shah* (*COMSATS University*); *Alireza Mazinani* (*Beihang University*);

31 Generalization of Orthogonal Kravchenko Wavelets with Convolutions of Rectangular Pulse and Atomic Functions
Victor Filippovich Kravchenko (*Kotelnikov Institute of Radio Engineering and Electronics of RAS*); *Yaroslav Yurevich Konovalov* (*Bauman Moscow State Technical University*);

32 A Domain Decomposition Method Based on Volume Surface Integral Equation for Solving Electromagnetic Scattering from Complex Dielectric/Metallic Composite Objects
Zengjun Li (*High Speed Aerodynamics Institute*); *Xiangsen Rong* (*High Speed Aerodynamics Institute*);

33 Experimental Research on Adjustable-speed Characteristics of Squirrel Cage Asynchronous Magnetic Coupling
Junyue Yang (*Dalian Jiaotong University*); *Daming Wang* (*Dalian Jiaotong University*); *Yanjun Ge* (*Dalian Jiaotong University*);

34 Experience with the Design of an Air Ionization Monitoring Station for Earthquake Prediction
Zdeněk Roubal (*Brno University of Technology*); *Zoltan Szabó* (*Brno University of Technology*); *Wolfgang Straka* (*Universität für Bodenkultur Wien*); *Premysl Dohnal* (*Brno University of Technology*); *Tomáš Hejtmánek* (*Brno University of Technology*);

35 A Hybrid PEEC-SPICE Method with Curved Triangular Meshes for Coupled Circuit-Electromagnetic Simulation of PCB/Flex Circuit
Ce-Ming Zhou (*Southwest University of Science and Technology*); *Qiang-Ming Cai* (*Southwest University of Science and Technology*); *Qi Liu* (*Southwest University of Science and Technology*); *Chao Zhang* (*Southwest University of Science and Technology*); *Xin Cao* (*Southwest University of Science and Technology*); *Jun Fan* (*Southwest University of Science and Technology*);

36 Motion of a Charge Density and the Speed of Light in Vacuum
Namik Yener (*Istanbul Gedik University*);

37 A 600 kV High-voltage, 2 ns-risetime Pulse Generator Based on a 1 MV Peaking Capacitor
Haiyang Wang (*Northwest Institute of Nuclear Technology*); *Chuyu Sun* (*Northwest Institute of Nuclear Technology*); *Jing Xiao* (*Northwest Institute of Nuclear Technology*);

38 Bandpass HIE-PML Algorithm with Improved Absorption and Efficiency for Lorentz Medium
Peiyu Wu (*Tianjin Polytechnic University*); *Yong-Jun Xie* (*Beijing University of Aeronautics and Astronautics*); *Haolin Jiang* (*Southeast University*);

39 Influence of Attachment Structure on Radiating Fields of Bi-conical Antenna Composed of EMP Simulator
Xiang-Qin Zhu (*Northwest Institute of Nuclear Technology*); *Wei Chen* (*Northwest Institute of Nuclear Technology*); *Haiyang Wang* (*Northwest Institute of Nuclear Technology*);

40 Technical Research on the Big Data Acquisition of Target Scattering Characteristics Based on Lagrange Interpolation
Jun Gu (*Shanghai Radio Equipment Research Institute*);

41 New Digital Infinite Impulse Response Filters on Atomic Function $\mathbf{h_a(x)}$
Kristina Andreevna Budunova (*Kotel'nikov Institute of Radio Engineering and Electronics, Russian Academy of Sciences*); *Victor Filippovich Kravchenko* (*Kotel'nikov Institute of Radio Engineering and Electronics, Russian Academy of Sciences*);

42 Quasi-optical Theory of Surface Wave Formation at Corrugated Metallic Surfaces and Its Interaction with Relativistic Electron Beams
Andrey M. Malkin (*Institute of Applied Physics, RAS*); *Alexander S. Sergeev* (*Institute of Applied Physics, RAS*); *Vladislav Yu. Zaslavsky* (*Institute of Applied Physics, RAS*); *Ilya V. Zheleznov* (*Institute of Applied Physics, RAS*); *Naum S. Ginzburg* (*Institute of Applied Physics, RAS*);

43 Wireless Underground Sensor Network Path Loss Models for Durian Tree
Supachai Phaiboon (*Mahidol University*); *Pisit Phokharatkul* (*Kasem Bundit University*);

44 A Dual-band Printed Antenna Based on Closely Spaced Loading Parasitic Strip
Mingying Dou (*Xi'an Mingde Institute of Technology*); *Shiyin Wang* (*Northwestern Polytechnical University*); *Ku Jiao* (*Xi'an Mingde Institute of Technology*);

45 An 810-nm Narrowband Filter Film for Iris Recognition System
Jia Feng Xie (*Tongji University*); *Wen Yue Zhang* (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

46 An Analytically Based Approach for Evaluating the Impact of the Noise on the Microwave Imaging Detection
Behnaz Sohani (*London South Bank University*); *Adam Degaichia Abdallah* (*London South Bank University*); *Gianluigi Tiberi* (*London South Bank University*); *Navid Ghavami* (*UBT-Umbria Bioengineering Technologies*); *Mohammad Ghavami* (*London South Bank University*); *Sandra Dudley* (*London South Bank University*);

47 Speed of Light in Vacuum in the Case of Arbitrarily Non-uniform Motion of Reference Frames; Examples
Namik Yener (*Istanbul Gedik University*);

48 Design on the Microwave Absorber with Lattice of 3D Composite Element for X-band Application
Yutong Liu (*Huazhong University of Science and Technology*); *Yuhao Zhou* (*Huazhong University of Science and Technology*); *Shao-Wei Bie* (*Huazhong University of Science and Technology*); *Jian-Jun Jiang* (*Huazhong University of Science and Technology*);

49 Equivalent Circuit Analysis of ESIW Slot Antenna with Matching Stubs
Hao Huang (*University of Electronic Science and Technology of China*); *Ren Wang* (*University of Electronic Science and Technology of China*); *Bing-Zhong Wang* (*University of Electronic Science and Technology of China*);

50 Modeling Electromagnetic Properties of Multilayer Carbon Fiber Reinforced Composites by SVM and Its Test Verification
Yanan Chen (*Shanghai Radio Equipment Research Institute*); *Yi Liao* (*Shanghai Key Laboratory of Electromagnetic Environmental Effects for Aerospace Vehicle*); *Guochang Shi* (*Shanghai Key Laboratory of Electromagnetic Environmental Effects for Aerospace Vehicle*); *Xiaying Meng* (*Shanghai Key Laboratory of Electromagnetic Environmental Effects for Aerospace Vehicle*); *Yuan Zhang* (*Shanghai Key Laboratory of Electromagnetic Environmental Effects for Aerospace Vehicle*);

51 A Full-polarization Scattering Matrix Measurement Method Based on Antenna Spatial Polarization Characteristic Analysis
Fang Liu (*Science and Technology on Electromagnetic Scattering Laboratory*); *Yang Bai* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Jingxuan Yang* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Ming Lyn* (*Science and Technology on Electromagnetic Scattering Laboratory*);

52 Fast RCS Data Generation Based on InfoGAN
Yao Ren (*Science and Technology on Electromagnetic Scattering Laboratory*); *Xunwang Dang* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Chao Wang* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Xiaosheng Han* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Jinchuan Hao* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Hong-Cheng Yin* (*Science and Technology on Electromagnetic Scattering Laboratory*);

53 Low Frequency Magnetic Field Reduction Applying Different Shielding Procedures
Teodora Gavrilov (*University of Novi Sad*); *Karolina Kasas-Lazetic* (*University of Novi Sad*); *Gorana Mijatovic* (*University of Novi Sad*); *Nikola Djuric* (*University of Novi Sad*); *Miroslav Prsa* (*University of Novi Sad*);

54 Categorical Difference and Related Brain Regions of the Attentional Blink Effect
Renzhou Gui (*Tongji University*); *Xiaohong Ji* (*Tongji University*);

55 An Empirical Path Loss Model for Wireless Sensor Network Placement in Banana Plantation
Supachai Phaiboon (*Mahidol University*); *Pisit Phokharatkul* (*Kasem Bundit University*);

56 Measurement and Optimization of an ECR Plasma Source
Lukáš Havlíček (*Brno University of Technology*); *Dusan Nešpor* (*Brno University of Technology*); *Karel Juřík* (*Brno University of Technology*);

57 Numerical Calculation for Squirrel Cage Rotor Asynchronous Magnetic Coupling
Kaikai Zhou (*Henan University of Animal Husbandry and Economy*); *Shuo Wang* (*Henan University of Animal Husbandry and Economy*); *Yuepeng Shi* (*Henan University of Animal Husbandry and Economy*); *Qian Li* (*Henan University of Animal Husbandry and Economy*);

58 Efficient Monostatic RCS Calculation for Scattering Center Extraction
Chenxi Zhu (*Science and Technology on Electromagnetic Scattering Laboratory*); *Xunwang Dang* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Hua Yan* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Xuejian Feng* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Chaoying Huo* (*Science and Technology on Electromagnetic Scattering Laboratory*); *Hongcheng Ying* (*Science and Technology on Electromagnetic Scattering Laboratory*);

59 Spectrum Analyzer Model for a Virtual Laboratory
Dmitry S. Gubsky (*Southern Federal University*); *Yevgeniya A. Daineko* (*International IT University*); *Madina T. Ipalakova* (*International IT University*); *Anatoliy B. Kleshchenkov* (*Southern Federal University*); *Altai Z. Aitmagambetov* (*International IT University*); *Svetlana A. Vyatkina* (*Faculty of Physics Southern Federal University*);

60 Further Investigation and Analysis of Radiation Fields of an Improved Wire TEM Horn
Linshen Xie (*Northwest Institute of Nuclear Technology*); *Wei Wu* (*Northwest Institute of Nuclear Technology*); *Xiangqin Zhu* (*Northwest Institute of Nuclear Technology*); *Jing Xiao* (*Northwest Institute of Nuclear Technology*);

61 A Complex Permittivity Inversion Method Based on Free-space Method and BP Neural Network
Ao Peng (*Xidian University*); *Yanchun Zuo* (*Xidian University*); *Wei Liu* (*Xidian University*); *Lixin Guo* (*Xidian University*); *Le Yu* (*Xidian University*);

62 Design of the S-band 18 MeV Accelerator for FLASH Radiotherapy
Hao Chen (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Rui Zhang* (*Aerospace Information Research Institute, Chinese Academy of Science*); *Xu Zhang* (*Aerospace Information Research Institute, Chinese Academy of Science*); *Yong Wang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Yunfeng Liao* (*Aerospace Information Research Institute, Chinese Academy of Science*); *Zhihui Geng* (*Aerospace Information Research Institute, Chinese Academy of Science*); *Xiudong Yang* (*Aerospace Information Research Institute, Chinese Academy of Science*);

63 A Low-cost Eye-tracking Autostereoscopic Three-dimensional Display System
Yuan Wang (*Zhejiang University*); *Mingjin Li* (*Zhejiang University*); *Phil Surman* (*Southern University of Science and Technology*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

64 Analysis and Simulation of Quantum Scattering Characteristics of Target Based on Spatial Correlation
Naixuan Wei (*Xi'an Jiaotong University*); *Shitao Zhu* (*Xi'an Jiaotong University*);

65 Partial Region Method for Modeling Guided-wave Properties of Cylindrical Waveguide with Complex Discontinuities
Daria V. Lonkina (*Southern Federal University*); *Viacheslav V. Zemlyakov* (*Southern Federal University*); *Dmitry S. Gubsky* (*Southern Federal University*); *Sergey V. Krutiev* (*Southern Federal University*); *P. V. Makhno* (*Southern Federal University*);

66 3D Numerical Simulation and Electrical Performance Analysis of p-channel Cylindrical TFTs for New Man-machine Interface Applications
Viswanath G. Akkili (*University of KwaZulu-Natal*); *Viranjay M. Srivastava* (*University of KwaZulu-Natal*);

67 Path Loss Model for the Bananas and Weeds Environment Based on Grey System Theory
Pisit Phokharatkul (*Kasem Bundit University*); *Supachai Phaiboon* (*Mahidol University*);

68 Numerical Analysis of ECR Plasma Source
Dusan Nespor (*Brno University of Technology*); *Lukáš Havlíček* (*Brno University of Technology*); *Karel Juřík* (*Brno University of Technology*);

69 Dynamic Target Simulation System for Automotive Millimeter Wave Radar
Weigang Shi (*Tongji University*); *Li Liu* (*Shanghai Motor Vehicle Testing and Certification Technology Research Center Co., Ltd.*); *Yafei Shen* (*Shanghai Motor Vehicle Inspection Certification & Tech Innovation Center Co., Ltd.*); *Huanlei Chen* (*Shanghai Motor Vehicle Inspection Certification & Tech Innovation Center Co., Ltd.*); *Zhuoping Yu* (*Tongji University*);

70 Prediction of Feature Points in Train Braking Curve Based on EC-LSTM Multiple Regression Network
Ji Xuan Wan (*Tongji University*); *Kai Ting Zhou* (*Tongji University*); *Ying Liu* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

71 UWB Highly Efficient Ultrathin Polarization Converter
Mohsen Karamirad (*Department of Electrical Engineering University*); *Changiz Ghobadi* (*Urmia University*); *Javad Nourinia* (*Urmia University*); *Ali Lalbakhsh* (*Macquarie University*); *Bahman Mohammadi* (*Urmia University*);

72 Numerical Study on the Near-field Hotspot Generation of the Thin Film Waveguide
Arisa Kudoh (*Tokai University*); *Takehiro Tachizaki* (*Tokai University*);

73 Low-frequency Test System Based on the Unmanned Aerial Vehicle (UAV) with Tethered Antenna
Zi-An Chen (*Nanjing University of Aeronautics and Astronautics*); *Zheng-Yu Huang* (*Nanjing University of Aeronautics and Astronautics*); *Shaobin Liu* (*Nanjing University of Aeronautics and Astronautics*); *Xing Zhao* (*Nanjing University of Aeronautics and Astronautics*); *Ming-Hao Liu* (*Nanjing University of Aeronautics and Astronautics*);

74 Modeling Layered Organic Samples of PSEUDO-SPECKLE Structures
Z. Szabó (*Brno University of Technology*); *R. Kadlec* (*Brno University of Technology*); *Pavel Fiala* (*Brno University of Technology*); *M. Klíma* (*Brno University of Technology*); *M. Steinbauer* (*Brno University of Technology*);

75 Comparison of Segmentation Methods in Analysis of MR and CT Images of Pediatric Spine
Jan Mikulka (*Brno University of Technology*); *Daniel Chalupa* (*Brno University of Technology*); *Martin Kolařík* (*Brno University of Technology*); *Kamil Riha* (*Brno University of Technology*); *Karel Bartusek* (*Institute of Scientific Instruments of the ASCR*); *Milan Filipovic* (*The University Hospital Brno*);

76 Parametric Optimization of a Birdcage Resonator for Low-pressure Plasma Excitation
Karel Juřík (*Brno University of Technology*); *Petr Drexler* (*Brno University of Technology*); *Dusan Nespor* (*Brno University of Technology*); *Lukáš Havlíček* (*Brno University of Technology*);

77 Effect of Human Conductivity Distributions during Magnetic Nanoparticles Hyperthermia
Amro A. Nour (*American University of Kuwait (AUK)*); *Fridon Shubitidze* (*Dartmouth College*);

78 Speed of Light in Vacuum in the Case of Arbitrarily Non-uniform Motion of Reference Frames
Namik Yener (*Istanbul Gedik University*);

79 Fundamental Properties of Metamaterial Interface's Waves: Definitions, Classification, and Numerical Study
Yuriy K. Sirenko (*O. Ya. Usikov Institute for Radiophysics and Electronics of National Academy of Sciences of Ukraine & V.M. Karazin Kharkiv National University*); *Seil Seitenovich Sautbekov* (*Al-Farabi Kazakh National University*); *Merey S. Sautbekova* (*Al-Farabi Kazakh National University*); *Petro Nikolaevich Melezhik* (*O. Ya. Usikov Institute for Radiophysics and Electronics of National Academy of Sciences of Ukraine*); *Anotliy Ye. Poyedinchuck* (*O. Ya. Usikov Institute for Radiophysics and Electronics of National Academy of Sciences of Ukraine*); *Nataliya P. Yashina* (*O. Ya. Usikov Institute for Radiophysics and Electronics of National Academy of Sciences of Ukraine*);

80 Design of Miniaturized UWB Low Noise Amplifier Based on 65 nm CMOS Technology
Qing Guo (*Anhui University*); *Yuting Chen* (*Anhui University*); *Xianliang Wu* (*Anhui University*);

81 Steady-state Analysis of Bipolar Transistor
Yeqiang Yan (*Anhui Province Key Laboratory of Target Recognition and Feature Extraction*); *Xingang Ren* (*Anhui Province Key Laboratory of Target Recognition and Feature Extraction*); *Shuping He* (*Anhui University*); *Xiaotao Huang* (*Lingnan Normal University*); *Zhixiang Huang* (*Anhui Province Key Laboratory of Target Recognition and Feature Extraction*);

82 A Circuit Model for Electromagnetic Suppressing Spurious Noise of Synchronous DC-DC Buck Convertor
Xinke Li (*Zhejiang University*); *Kaining Wang* (*Zhejiang University-University of Illinois at Urbana-Champaign Institute*); *Er Ping Li* (*Zhejiang University — UIUC Institute*);

83 Correlation of Sleepiness Scale with Hemoglobin Concentration Variation: Experimental fNIRS Validation
Yun-Hsuan Chen (*Westlake University*); *Chaoming Fang* (*Westlake University*); *Emma Z. Chen* (*Westlake University*); *Leixu Huang* (*Westlake University*); *Mohamad Sawan* (*Westlake University*);

84 A Resonator-type Sensor with Enhanced Sensitivity for Noninvasively Detecting the Variation of Permittivity of Liquids
Yunjing Zhang (*Soochow University*); *Peng Li* (*Soochow University*); *Xingli He* (*Soochow University*); *Mei Song Tong* (*Tongji University*);

85 Study on Near-field Electromagnetic Scattering Characteristics of Targets Irradiated by Antenna Beam
Ce Guo (*Xidian University*); *Lixin Guo* (*Xidian University*); *Chungang Jia* (*Xidian University*); *Guangbin Guo* (*Xidian University*);

86 Optical Properties of Nanoporous Gold Sponges Using Model Structures Obtained from Three-dimensional Phase-field Simulation
Sebastian Bohm (*Technische Universität Ilmenau/Institute of Physics and Institute of Micro- and Nanotechnologies*); *Malte Grunert* (*Technische Universität Ilmenau*); *Hauke Lars Honig* (*Technische Universität Ilmenau*); *Dong Wang* (*Technische Universität Ilmenau*); *Peter Schaaf* (*Technische Universität Ilmenau*); *Erich Runge* (*Technische Universitat Ilmenau*); *Jinhui Zhong* (*University of Oldenburg*); *Christoph Lienau* (*Carl von Ossietzky Universitat Oldenburg*);

87 Temperature Sensing Characteristics of Surface Acoustic Wave Brillouin Scattering in Optical Microfibers
Yi Liu (*Taiyuan University of Technology*); *Yuanqi Gu* (*Taiyuan University of Technology*); *Pengfei Chen* (*Taiyuan University of Technology*); *Rongrong Guo* (*Taiyuan University of Technology*); *Yao Yao* (*Taiyuan University of Technology*); *Yajun You* (*North University of China*); *Wenjun He* (*North University of China*); *Xiu-Jian Chou* (*North University of China*);

88 On Hybrid Approach in Microwave Scattering Theory for Wire-filled Composites
Azim Uddin (*Zhejiang University*); *Yujie Zhao* (*Zhejiang Key Research Lab of Fiber-optic Communication Technology*); *Faxiang Qin* (*Zhejiang University*);

89 Accurate Modeling and Analysis for Electromagnetic Problems with Changeable Geometries and Materials
Ze Yuan Lu (*Tongji University*); *Xiao Jiao Huang* (*Tongji University*); *Li Zhang* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

90 Augmented Surface Integral Equations for Low-frequency Modeling of Composite Objects
Li Zhang (*Tongji University*); *Mei Song Tong* (*Tongji University*);

91 A Ka-band Phased-array Antenna Based on Liquid Crystal Phase Shifter
Xiao Yu Li (*Tongji University*); *Di Jiang* (*University of Electronic Science and Technology of China*); *Juan Liu* (*Beijing Institute of Remote Sensing Equipment*); *Mei Song Tong* (*Tongji University*);

92 An Effective Extraction Method of Common Characteristic Basis Functions for 3D Rough Surfaces Scattering Computation
Jiaxin Wan (*Fudan University*); *Hongxia Ye* (*Fudan University*); *Mei Song Tong* (*Tongji University*);

93 A Novel Test Scheme for Crossly-polarized Electromagnetic Wave Based on Pseudo-random Codes
Renzhou Gui (*Tongji University*); *Hao Liang* (*Tongji University*); *Han Nie* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

Session 0A2b
SC2 Poster Session: Web Presentation & Discussion [11:30-12:30]

Monday AM, November 22, 2021

Room Online ROOM 2

Chaired by Huanyang Chen, Hongsheng Chen, Yihao Yang

1 Wide-angel Receiving Array at 5.8 GHz for Harvesting Electromagnetic Energy
Sen Shi (*Beihang University*); *Dawei Liu* (*Beihang University*);

2 Design of a Two Absorption Band Rasorber Based on Split-ring Resonator and Lumped Resistor
Xinyuan Zheng (*Nanjing University of Aeronautics and Astronautics*); *Shaobin Liu* (*Nanjing University of Aeronautics and Astronautics*); *Zi-An Chen* (*Nanjing University of Aeronautics and Astronautics*); *Xuewei Zhang* (*Nanjing University of Aeronautics and Astronautics*); *Zhiyong Hu* (*Nanjing University of Aeronautics and Astronautics*); *Yuning Yang* (*Nanjing University of Aeronautics and Astronautics*); *Yukun Yang* (*Nanjing University of Aeronautics and Astronautics*);

3 A Polarization-insensitive Metamaterial Absorber with both Low and High Frequency Absorption Based on Magnetic Material
Shan Zhang (*University of Electronic Science and Technology of China*); *Haipeng Lu* (*University of Electronic Science and Technology of China*); *Kaihuai Wen* (*University of Electronic Science and Technology of China*); *Zhenxiong Wang* (*University of Electronic Science and Technology of China*); *Qingting He* (*University of Electronic Science and Technology of China*); *Guanya Li* (*University of Electronic Science and Technology of China*); *Hai-Yan Chen* (*University of Electronic Science and Technology of China*); *Long-Jiang Deng* (*University of Electronic Science and Technology of China*);

4 Design of a Metamaterial-inspired Microfluidic Sensor for High Permittivity Liquids
Yunhao Cao (*Beihang University*); *Cun-Jun Ruan* (*Beihang University*); *Kanglong Chen* (*Beihang University*);

5 Quasi-bound States in the Continuum in Metasurfaces and Its Applications
Shun Cao (*Zhejiang University*); *Hongguang Dong* (*Zhejiang University*); *Jinlong He* (*Zhejiang University*); *Erik Forsberg* (*JORCEP [Sino-Swedish Joint Research Center of Photonics], ZJU*); *Yi Jin* (*Zhejiang University*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

6 Detection of Breast Cancer Using Microwave Imaging and Machine Learning-finite Element Method Inverse Models
Aleksandar Jeremic (*McMaster University*);

7 A Plasma and Surface Properties of Materials
R. Pernica (*Brno University of Technology*); *Pavel Fiala* (*Brno University of Technology*); *M. Klíma* (*Brno University of Technology*); *P. Londák* (*Brno University of Technology*); *R. Kadlec* (*Brno University of Technology*);

8 Analysis of Atmospheric Electromagnetic Environment of Eggplant and Tomato Seeds Treated by Plasma
Yuanyong Zhu (*Guizhou Education University*); *Shuanghua Gu* (*Guizhou Education University*); *Feng Huang* (*Guizhou Education University*); *Liyi Luo* (*Guizhou Education University*); *Wei Hou* (*Guizhou Education University*); *Zhuwen Zhou* (*Guizhou Education University*);

9 3D-printed Metasurface Conformal Carpet Cloak with Arbitrary Boundary
Chaohui Wang (*Air force Engineering University*); *Mingzhao Wang* (*Air Force Engineering University*); *Shaojie Wang* (*Air Force Engineering University*); *He-Xiu Xu* (*Air Force Engineering University*);

10 Magneto-optical Double-zero-index Metamaterials
Fanghu Feng (*Shenzhen University*); *Neng Wang* (*Shenzhen University*);

11 Design of Broadband Achromatic Metalens in Terahertz Band
Yan Chen (*Shanghai University*); *Yingchao Hao* (*Shanghai University*); *Rong Tang* (*Shanghai University*); *Xiaodong Cai* (*Shanghai University*);

12 Generating Vortex Beam with Tunable Divergence Radiation by High-efficient Broadband Metasurface
Fei Shen (*Dongguan University of Technology*); *Jianxin Chen* (*Guangdong University of Technology*); *Yang Yang* (*University of Electronic Science and Technology of China*); *Bingyang Liang* (*Dongguan University of Technology*); *Kaiyang Cheng* (*Dongguan University of Technology*);

13 Independent Control of Beam Direction and Polarization of Terahertz Active Wavefronts with Cascaded Metasurfaces
Jie Liang (*Shanghai University*); *Xiaodong Cai* (*Shanghai University*); *Rong Tang* (*Shanghai University*); *Shiyi Xiao* (*Shanghai University*);

14 Active Controllable Broadband Absorber Based on Vanadium Dioxide
Zonge Che (*Lanzhou University*); *Zhongxian Li* (*Lanzhou University*); *Guanmao Zhang* (*Lanzhou University*); *Juan Yue* (*Lanzhou University*); *Jingci Zhu* (*Lanzhou University*);

15 Electromagnetic Modeling of a Plasma Chamber: Theory and Experiments
P. Drexler (*Brno University of Technology*); *Pavel Fiala* (*Brno University of Technology*); *M. Klíma* (*Brno University of Technology*); *Z. Szabó* (*Brno University of Technology*); *L. Dostál* (*Brno University of Technology*); *R. Kadlec* (*Brno University of Technology*); *R. Pernica* (*Brno University of Technology*);

16 Spectral Computed Tomography: Influence of Contrast Medium for Calculation of Virtual Noncontrast-enhanced Images
Jiři Janoušek (*Brno University of Technology*); *Anna Siruckova* (*Saint Leo University*); *Katerina Siruckova* (*Brno University of Technology*); *Petr Marcoň* (*Brno University of Technology*); *M. Dostal* (*The University Hospital in Brno*); *Josef Pokorny* (*Brno University of Technology*);

17 Manipulating Temperature Waves with Thermal Metamaterials
Zeren Zhang (*Fudan University*); *Liujun Xu* (*Fudan University*); *Xiaoping Ouyang* (*Xiangtan University*); *Jiping Huang* (*Fudan University*);

18 W-band Linear Polarization to Circular Polarization Convertor Based on Multilayer Meta-surface
Runze Li (*Shanghai University*); *Taolei Zhou* (*Shanghai University*); *Yan Chen* (*Shanghai University*); *Cong Chen* (*Wuhan University*); *Shiyi Xiao* (*Shanghai University*);

19 Ultra-broadband, Wide-angle Microwave Metamaterial Absorber Based on 3D FSS Array
Yunqiang Huang (*University of Electronic Science and Technology of China*); *Hai-Yan Chen* (*University of Electronic Science and Technology of China*); *Qifeng Sun* (*University of Electronic Science and Technology of China*); *Guanya Li* (*University of Electronic Science and Technology of China*); *Linbo Zhang* (*University of Electronic Science and Technology of China*); *Haipeng Lu* (*University of Electronic Science and Technology of China*); *Xiao Long Weng* (*University of Electronic Science and Technology of China*); *Difei Liang* (*University of Electronic Science and Technology of China*); *Jianliang Xie* (*University of Electronic Science and Technology of China*); *Long-Jiang Deng* (*University of Electronic Science and Technology of China*);

20 Metasurface Bound States in the Continuum Spectrum Fitting Based on Coupled Mode Theory
Songyi Liu (*Guilin University of Electronic and Technology*); *Shiting Cao* (*Guilin University of Electronic and Technology*); *Xiaoyuan Hao* (*Guilin University of Electronic and Technology*); *Zhihao Yan* (*Guilin University of Electronic and Technology*);

21 A Model for Nonlinear Waves in Space Plasma with Generalized ($\boldsymbol{r}$, $\boldsymbol{q}$) Distribution
M. N. S. Qureshi (*Government College University*); *K. H. Shah* (*University of Narowal*); *Jiankui Shi* (*Center for Space Science and Applied Research, CAS*);

22 Graphene Coated Aluminum-based 2D Plasmonic Nanostructures for Perfect Tunable Absorber in the Visible and Infrared Band
Abhishek Tyagi (*Birla Institute of Technology and Science Pilani*); *Sambhavi Shukla* (*Birla Institute of Technology and Science Pilani*); *Pankaj Arora* (*Birla Institute of Technology and Science Pilani*);

23 Ultrathin and Ultra-wideband P-band Absorber Using Magnetic Material and Fan-shaped Resonators
Qiming Yu (*Nanjing University of Aeronautics and Astronautics*); *Xuewei Zhang* (*Nanjing University of Aeronautics and Astronautics*); *Shaobin Liu* (*Nanjing University of Aeronautics and Astronautics*); *Wenhui He* (*Nanjing University of Aeronautics and Astronautics*); *Yukun Yang* (*Nanjing University of Aeronautics and Astronautics*); *Ziyan Zhou* (*Nanjing University of Aeronautics and Astronautics*); *Shining Sun* (*The Aeronautical Science Key Lab for High Performance Electromagnetic Windows*);

24 Design of Narrow-band Absorption and Wide-band Transmission Metasurface
Taolei Zhou (*Shanghai University*); *Shiyi Xiao* (*Shanghai University*);

25 Double Lorentzian Spectral Lineshape in Strongly-coupled Atom-nanocavity System: Quantum Mechanical Solution
Jian Zeng (*South China University of Technology*); *Zhi-Yuan Li* (*Institute of Physics, Chinese Academy of Sciences*);

26 Investigation of Power Losses due to Non-ideal Conductors in a X-band Relativistic Backward Wave Oscillator
Nongchao Tan (*Tsinghua University*); *Ping Wu* (*Northwest Institute of Nuclear Technology*); *Ye Hua* (*Northwest Institute of Nuclear Technology*); *Jun Sun* (*Northwest Institute of Nuclear Technology*);

27 Colossal Near-field Thermal Radiation Enabled by Multiple Plasmon & Phonon Polaritons Coupling
Kezhang Shi (*Zhejiang University*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

28 Hybrid Modes Spoof Surface Plasmon Polaritons Excitation and Propagation under Linear Polarized Incidence
Tonghao Liu (*Air Force Engineering University*); *Yueyu Meng* (*Air Force Engineering University*); *Hua Ma* (*Air Force Engineering University*); *Jiafu Wang* (*Air Force Engineering University*); *Ruichao Zhu* (*Air Force Engineering University*); *Xiaofeng Wang* (*Air Force Engineering University*); *Jiaheng Yang* (*Air Force Engineering University*); *Yipeng Zhai* (*Air Force Engineering University*); *Hong Zhang* (*Air Force Engineering University*);

29 A Planar Millimeter-wave Bow-tie Metamaterial Structure for 5G Applications
Farzad Khajeh-Khalili (*Islamic Azad University*); *Mohammad Amin Honarvar* (*Islamic Azad University, Najafabad Branch*); *Ali Lalbakhsh* (*Macquarie University*);

30 Multiwavelength Plasmonic Activity in Aluminum-based 2D Nanostructures for Biosensing Applications
Sambhavi Shukla (*Birla Institute of Technology and Science Pilani*); *Pankaj Arora* (*Birla Institute of Technology and Science Pilani*);

31 Nanophotonic Multi-wavelength Devices Based on Topological States
Cuicui Lu (*Beijing Institute of Technology*);

32 Enhangced Absorption Based on the Excitation of Surfacewave Mode by Metasurface
Yueyu Meng (*Air Force Engineering University*); *Tonghao Liu* (*Air Force Engineering University*); *Lin Zhen* (*Air Force Engineering University*); *Hua Ma* (*Air Force Engineering University*); *Shaobo Qu* (*Air Force Engineering University*);

33 The Application of Local Field Enhancement and Spatial Field Matching in All-dielectric Frequency Selective Surface Design
Liyang Li (*Air Force Engineering University*); *Jiafu Wang* (*Air Force Engineering University*); *Shaobo Qu* (*Air Force Engineering University*);

34 Effective Magneto-optical Medium by Using an Array of Spinning Cylinders
Dan Yang (*Shenzhen University*); *Neng Wang* (*Shenzhen University*);

35 Nanoimaging of In-plane Anisotropic Phonon Polaritons in hBN Heterostructure
Tian Sun (*Huazhong University of Science and Technology*); *Cheng Luo* (*National Center for Nanoscience and Technology*); *Guangwei Hu* (*National University of Singapore*); *Qing Dai* (*National Center for Nanoscience and Technology*); *Cheng-Wei Qiu* (*National University of Singapore*); *Peining Li* (*Huazhong University of Science and Technology*);

36 Tailoring Third Harmonic Generation in a Metal-dielectric Hybrid Nanoantenna
Yan Wang (*Xiamen University*); *Jin Yao* (*Xiamen University*); *Guoxiong Cai* (*Xiamen University*); *Qing Huo Liu* (*Duke University*);

37 Electrically Controllable Infrared Frequency Conversion in Nonlinear Multilayer Graphene Ribbon Arrays
Alexander M. Lerer (*Southern Federal University*); *Galina S. Makeeva* (*Penza State University*); *V. V. Cherepanov* (*Southern Federal University*); *Sergey V. Krutiev* (*Southern Federal University*); *P. V. Makhno* (*Southern Federal University*); *Daria V. Lonkina* (*Southern Federal University*); *A. S. Makhno* (*Southern Federal University*);

38 Fluid Functional Materials and Their Application in the THz Region
Denis Olegovich Zyatkov (*National Research Tomsk State University*); *Ruslan M. Gadirov* (*National Research Tomsk State University*); *Zahar S. Kochnev* (*National Research Tomsk State University*); *Elena D. Fakhrutdinova* (*National Research Tomsk State University*); *Basil Yurchenko* (*Research Institute of Semiconductor Devices*); *Viktor Nikolayevich Cherepanov* (*National Research Tomsk State University*);

39 Compact Triple-band Metamaterial Antenna
Hooshmand Ghasri (*Urmia University*); *Javad Nourinia* (*Urmia University*); *Changiz Ghobadi* (*Urmia University*); *Ali Lalbakhsh* (*Macquarie University*); *Bahman Mohammadi* (*Urmia University*);

40 Dexter Energy Transfer Enhances Self-trapped Exciton Emission in 2D/0D Perovskite Heterostructures
Wancai Li (*Huazhong University of Science and Technology*); *Dehui Li* (*Huazhong University of Science and Technology*);

41 Manipulations and Applications of Electromagnetic Waves Based on Anisotropic Coding Metasurfaces
Junjie Han (*Anhui University*); *Sixian Qian* (*Anhui University*); *Jie Wu* (*Anhui University*); *Zhi-Xiang Huang* (*Anhui University*);

42 A Reflective Decoupled Coding Metasurface Based on Jerusalem Cross for Realizing Dual-mode Vortex Beams
Wenqiong Chen (*Lanzhou University*); *Buxiong Qi* (*Lanzhou University*); *Jingwei Zhang* (*Lanzhou University*); *Tiao Ming Niu* (*Lanzhou University*); *Zhong-Lei Mei* (*Lanzhou University*);

43 Efficiency Limit Analysis of 10 μm Silicon Thin Film Solar Cells
Bin Xu (*University of Electronic Science and Technology of China*); *Sanlve Huang* (*University of Electronic Science and Technology of China*); *Liyifei Xu* (*University of Electronic Science and Technology of China*); *Yifan Zhou* (*University of Electronic Science and Technology of China*); *Xiaowei Guo* (*University of Electronic Science and Technology of China*);

44 Acoustic Phonon Polaritons in vdW Material/Metal Heterostructures
Qizhi Yan (*Huazhong University of Science and Technology*); *Zhu Yuan* (*Huazhong University of Science and Technology*); *Peining Li* (*Huazhong University of Science and Technology*); *Xinliang Zhang* (*Huazhong University of Science and Technology*);

45 Polariton Waveguide Modes in Two-dimensional Van der Waals Crystals: An Analytical Model and Correlative Nano-imaging
Fengsheng Sun (*Sun Yat-sen University*); *Huanjun Chen* (*Sun Yat-sen University*); *Shaozhi Deng* (*Sun Yat-sen University*);

46 Large-scale, Panchromatic Structural Color Manipulation via Thermal Trimming
Tingbiao Guo (*Zhejiang University*);

47 Electrode Design for Tribovoltaic Generator: Geometry Morphology and Hardness
Xiyan Xu (*East China Normal University*); *Z. Guan* (*East China Normal University*); *Wei Ou-Yang* (*East China Normal University*); *J. Li* (*Tongji University*);

48 UWB Dual-notched Planar Antenna by Incorporating Single Compact EBG
Hiwa Taha Sediq (*Urmia University*); *Javad Nourinia* (*Urmia University*); *Changiz Ghobadi* (*Urmia University*); *Farzad Alizadeh* (*Urmia University*); *Ali Lalbakhsh* (*Macquarie University*); *Bahman Mohammadi* (*Urmia University*);

49 Evolutionary Design of Impedance Gradient Honeycomb Metastructure with Broadband Microwave Absorption and Effective Mechanical Resistance
Dongmeng Li (*Huazhong University of Science & Technology*); *Wenhui Pan* (*Huazhong University of Science & Technology*); *Yuhui Guo* (*Huazhong University of Science & Technology*); *Xian Wang* (*Huazhong University of Science and Technology*);

50 Tunable Electromagnetic Metallic Wire Crystal for Reconfigurable Antennas and Phase Shifters
Evgeniy Alekseevich Ishchenko (*Voronezh State Technical University*); *Yury Gennadievich Pasternak* (*Voronezh State Technical University*); *V. A. Pendyurin* (*Voronezh State Technical University*); *Sergey Mihajlovich Fedorov* (*Voronezh State Technical University*);

51 Optically and Voltage Reconfigurable Metamaterials
Kanglong Chen (*Beihang University*); *Cun-Jun Ruan* (*Beihang University*);

52 Dual-band Trifunctional Coding Metasurfaces Based on Independent Control of Transmission and Reflection
Yibo Pan (*University of Electronic Science and Technology of China*); *Feng Lan* (*University of Electronic Science and Technology of China*); *Yaxin Zhang* (*University of Electronic Science and Technology of China*); *Guiju He* (*University of Electronic Science and Technology of China*); *Luyang Wang* (*University of Electronic Science and Technology of China*); *Ziqiang Yang* (*University of Electronic Science and Technology of China*);

53 Terahertz Digital Beam Steering via Modularly Reconfigurable HEMT-embedded Metasurfaces
Feng Lan (*University of Electronic Science and Technology of China*); *Guiju He* (*University of Electronic Science and Technology of China*); *Yibo Pan* (*University of Electronic Science and Technology of China*); *Mulan Yang* (*University of Electronic Science and Technology of China*); *Jing Yin* (*University of Electronic Science and Technology of China*); *Yaxin Zhang* (*University of Electronic Science and Technology of China*); *Ziqiang Yang* (*University of Electronic Science and Technology of China*);

54 Linear Polarization Independent Planar Retro-reflectors Based on Anisotropic Binary Coding Theory
Yuxiang Jia (*Air Force Engineering University*); *Jiafu Wang* (*Air Force Engineering University*); *Meng Ding* (*Space Engineering University*); *Ruichao Zhu* (*Air Force Engineering University*); *Yajuan Han* (*Air Force Engineering University*); *Xinmin Fu* (*Air Force Engineering University*); *Hong Zhang* (*Air Force Engineering University*); *Tiefu Li* (*Air Force Engineering University*); *Shaobo Qu* (*Air Force Engineering University*);

55 Broadband Terahertz Diffuse Scattering on Convolutional Coding Metasurfaces
Guiju He (*University of Electronic Science and Technology of China*); *Feng Lan* (*University of Electronic Science and Technology of China*); *Yibo Pan* (*University of Electronic Science and Technology of China*); *Yaxin Zhang* (*University of Electronic Science and Technology of China*); *Tianyang Song* (*University of Electronic Science and Technology of China*); *Zongjun Shi* (*University of Electronic Science and Technology of China*); *Ziqiang Yang* (*University of Electronic Science and Technology of China*);

56 Ultra-wideband Linear Polarization Expansions on Collectively Zigzag-like Inter-coupling Metasurfaces
Munan Yang (*University of Electronic Science and Technology of China*); *Feng Lan* (*University of Electronic Science and Technology of China*); *Tianyang Song* (*University of Electronic Science and Technology of China*); *Guiju He* (*University of Electronic Science and Technology of China*); *Yibo Pan* (*University of Electronic Science and Technology of China*); *Yaxin Zhang* (*University of Electronic Science and Technology of China*); *Ziqiang Yang* (*University of Electronic Science and Technology of China*);

57 Fault Correction of Tunable Metasurfaces for Radar Cross Section Reduction
Jing Rui Wang (*Tongji University*); *Yun Jing Zhang* (*Soochow University*); *Mei Song Tong* (*Tongji University*);

58 Broadband High-reflective Omnidirectional Mixed-quasi-periodic Multilayer
Huanhuan Wang (*University of Chinese Academy of Sciences*); *Guoyan Dong* (*University of Chinese Academy of Sciences*);

59 Plasma Frequency Reduction Factors of Sheet Electron Beam in Rectangular Waveguide
Hanwen Tian (*University of Electronic Science and Technology of China*); *Hongyang Guo* (*University of Electronic Science and Technology of China*); *Ningjie Shi* (*University of Electronic Science and Technology of China*); *Shaomeng Wang* (*University of Electronic Science and Technology of China*); *Zhan-Liang Wang* (*University of Electronic Science and Technology of China*); *Yu-Bin Gong* (*University of Electronic Science and Technology of China*);

60 Reduction of the Port Reflection Coefficient on SSPP through Quadratic Polynomial Sinusoidal Transition
Yujian Wang (*University of Electronic Science and Technology of China*); *Feng Lan* (*University of Electronic Science and Technology of China*); *Yufeng Deng* (*University of Electronic Science and Technology of China*); *Luyang Wang* (*University of Electronic Science and Technology of China*); *Tianyang Song* (*University of Electronic Science and Technology of China*); *Yaxin Zhang* (*University of Electronic Science and Technology of China*); *Ziqiang Yang* (*University of Electronic Science and Technology of China*);

61 A Compact Quarter-mode SIW Bandpass Filter for 5G Power IoT
Guojiang Zhang (*State Grid Jiangsu Electric Power Co., Ltd.*); *Yong Li* (*State Grid Jiangsu Electric Power Co. LTD*); *Ting Chen* (*State Grid Jiangsu Electric Power Co. LTD*); *Yulu Song* (*Shanghai University*);

62 Efficient Design of 3D Chiral Plasmonic Metasurfaces Assisted by Intelligent Algorithms
Xianglai Liao (*Beijing University of Posts and Telecommunications*); *Lili Gui* (*Beijing University of Posts and Telecommunications*); *Chuanshuo Wang* (*Beijing University of Posts and Telecommunications*); *Maoyu Feng* (*Beijing University of Posts and Telecommunications*); *Zhenming Yu* (*Beijing University of Posts and Telecommunications*); *Tian Zhang* (*Beijing University of Posts and Telecommunications*); *Kun Xu* (*Beijing University of Posts and Telecommunications*);

Session 0A3a
Oral Session SC3. Optics and Photonics - Part 1

Monday AM, November 22, 2021

Room Online ROOM 3

Chaired by Hyeon Jeong Lee

09:00 Realizing a Gaussian Symplectic Ensemble with Quantum Spin Hall Photonic Topological Insulator Graph
Shukai Ma (*University of Maryland*); *Thomas M. Antonsen, Jr.* (*University of Maryland*); *Edward Ott* (*University of Maryland*); *Steven M. Anlage* (*University of Maryland*);

09:10 Physical Reservoir Computing Using Wave Chaotic Systems
Shukai Ma (*University of Maryland*); *Thomas M. Antonsen, Jr.* (*University of Maryland*); *Edward Ott* (*University of Maryland*); *Steven M. Anlage* (*University of Maryland*);

09:20 Quasi-optical Beamforming Approach Using Plano-concave Lens
Pratik Ghate (*University of Texas*); *Jonathan W. Bredow* (*University of Texas*);

09:30 300-GHz Terahertz Wave Beam Steering Using 8-arrayed UTC-PDs
Yuki Matsuo (*Kyushu University*); *Kazuya Kondo* (*Kyushu University*); *Kazutoshi Kato* (*Kyushu University*);

09:40 Terahertz-wave Beam Steering by Wavelength Tuning at Dispersive Optical Fibers
Takumi Saito (*Kyushu University*); *Kazutoshi Kato* (*Kyushu University*);

09:50 Novel Autocorrelation System for High-repetition THz Pulse Wave
Ruo Yamamoto (*Kyushu University*); *Kazutoshi Kato* (*Kyushu University*);

10:00 High-resolution Detection by Multiband Fusion of Photonics-based Radars
Xin Zhu (*Nanjing University of Aeronautics and Astronautics*); *Fangzheng Zhang* (*Nanjing University of Aeronautics and Astronautics*); *Bindong Gao* (*Nanjing University of Aeronautics and Astronautics*); *Shilong Pan* (*Nanjing University of Aeronautics and Astronautics*); *Yuewen Zhou* (*Nanjing University of Aeronautics and Astronautics*); *Guanqun Sun* (*Nanjing University of Aeronautics and Astronautics*);

10:15 High-sensitivity Angular Velocity Measurement Based on Optoelectronic Oscillator
Muguang Wang (*Beijing Jiaotong University*); *Jing Zhang* (*Beijing Jiaotong University*);

10:30 A Compact Photonic-delay Line Phase Noise Measurement System Based on an Electro-absorption Modulated Laser
Yifeng Xie (*Soochow University*); *Pei Zhou* (*Soochow University*); *Zhidong Jiang* (*Soochow University*); *Zhihua Zhou* (*Soochow University*); *Zheng Song* (*Soochow University*); *Nianqiang Li* (*Soochow University*);

10:45 Development of Classification Model for the Discrimination of Crohn's Disease and Healthy Controls Using Surface-enhanced Raman Spectroscopy
Chao Luo (*University of Shanghai for Science and Technology*); *Bingyan Li* (*University of Shanghai for Science and Technology*); *Yaling Wu* (*Tongji University*); *Zijie Wang* (*University of Shanghai for Science and Technology*); *Weimin Xu* (*Shanghai Jiaotong University School of Medicine*); *Yilian Zhu* (*Shanghai Jiaotong University School of Medicine*); *Peng Du* (*Shanghai Jiao Tong University School of Medicine*); *Xiaolei Wang* (*Tongji University*); *Huinan Yang* (*University of Shanghai for Science and Technology*);

Session 0A3b
SC3 Poster Session: Web Presentation & Discussion [11:30-12:30]

Monday AM, November 22, 2021

Room Online ROOM 3

Chaired by Huan Li, Sailing He

1 75 GHz Millimeter-wave Radio-over-fiber Transmission of 10 Gbit/s over 50 km Equivalent Wireless Distance
Qichao Lu (*China Ship Development and Design Centre*); *Li Tao* (*China Ship Development and Design Centre*); *Shuowei Wang* (*China Ship Development and Design Centre*); *Xiujuan Xi* (*China Ship Development and Design Centre*); *Liyan Li* (*Zhejiang University*); *Zijian Chen* (*Zhejiang University*); *Zhixiang Hu* (*Zhejiang University*);

2 The Control of Terahertz Radiation Excited by Three-color Laser Pulses via Phase Difference and Intensity Ratio
Jiarong Zhang (*Kunming University of Science and Technology*); *Tao Shen* (*Kunming University of Science and Technology*); *Haoyang Wang* (*Kunming University of Science and Technology*); *Jiahe Liu* (*Kunming University of Science and Technology*);

3 Thermally Assisted Rashba Splitting and Circular Photogalvanic Effect in Aqueously Synthesized 2D Dion-Jacobson Perovskite Crystals
Boxuan Zhou (*Huazhong University of Science and Technology*); *Lihan Liang* (*Huazhong University of Science and Technology*); *Dehui Li* (*Huazhong University of Science and Technology*);

4 Study on Multipoint Strain Measurement of FBG Sensor System Using Neural Network
Lili Yuan (*Henan Polytechnic University*); *Yao Zhao* (*Henan Polytechnic University*); *Shinya Sato* (*Muroran Institute of Technology*);

5 Crosstalk Probability of Orbital Angular Momentum Carried by Shift and Deflection Bessel Gaussian Beams in the Weak Turbulent Seawater
Pan Wang (*Jiangnan University*); *Qingze Yan* (*Jiangnan University*); *Yixin Zhang* (*Jiangnan University*); *Lifa Hu* (*Jiangnan University*);

6 A Wavelength Tunable Optical Neuron Based on a Fiber Laser
Yi Wei (*Beijing University of Posts and Telecommunications*); *Lili Gui* (*Beijing University of Posts and Telecommunications*); *Fengbin Lin* (*Beijing University of Posts and Telecommunications*); *Yihang Dan* (*Beijing University of Posts and Telecommunications*); *Tian Zhang* (*Beijing University of Posts and Telecommunications*); *Xiaojuan Sun* (*Beijing University of Posts and Telecommunications*); *Yueheng Lan* (*Beijing University of Posts and Telecommunications*); *Kun Xu* (*Beijing University of Posts and Telecommunications*);

7 Modeling and Electrical Performance Optimization of p-type SnO-based Cylindrical Thin-film Transistors
Viswanath G. Akkili (*University of KwaZulu-Natal*); *Viranjay M. Srivastava* (*University of KwaZulu-Natal*);

8 Improvement of MG-30 Type IR Pyroelectric Detector Performance in THz Range Using Terajet Effect by Spherical Wavelength-scaled Particle
Oleg V. Minin (*Tomsk Polytechnic University*); *Igor V. Minin* (*Tomsk Polytechnic University*); *Yanfeng Li* (*Tianjin University*); *Jiaguang Han* (*Tianjin University*);

9 Seawater Temperature Sensing of Sagnac Fiber Optic Interferometer Based on PDMS Encapsulated Optical Microfiber Coupler
Xueliang Zhang (*Hunan Institute of Traffic Engineering*); *Junyang Lu* (*National University of Defense Technology*); *Yang Yu* (*National University of Defense Technology*);

10 Numerical Analysis on Intense THz-wave Transmission through THz Quantum Cascade Lasers
Yohei Sakasegawa (*National Institute for Information and Communications Technology*); *Shin'ichiro Hayashi* (*RIKEN*); *Shingo Saito* (*National Institute for Information and Communications Technology*); *Norihiko Sekine* (*National Institute of Information and Communications Technology*);

11 Properties of Carbon Nanotubes and Applications
Diyar Bajalan (*TU Wien*);

12 All-optical Ultra-fast 3R Repeaters Using Cascade Periodically Poled Lithium Niobate Devices
Yutaka Fukuchi (*Tokyo University of Science*); *Ryoichi Miyauchi* (*Tokyo University of Science*);

13 Improved Mask R-CNN Method for Intelligent Monitoring of Helmet in Power Plant
Zongyuan Chen (*University of Shanghai for Science and Technology*); *Mingxu Su* (*University of Shanghai for Science and Technology*);

14 Light-induced Reversible Self-assembly of Gold Nanoparticles for SERS Detection
Xiaobo Xing (*South China Normal University*); *Yu Xu* (*South China Normal University*); *Zongbao Li* (*Tongren University*); *Haiyan Wang* (*Guangdong Industry Technical College*); *Jianlin Huang* (*Guangzhou Institute of Measurement and Testing Technology*);

15 Rapid Biosensing Carbamazepine in Human Serum of Epileptic Patients
Sumin Bian (*Westlake University*); *Ying Tao* (*Westlake University*); *Mohamad Sawan* (*Westlake University*);

16 110–170 GHz Quasi-optical Dual-reflector System for Dielectric Property Measurement
Dong Xia (*Shanghai Radio Equipment Research Institute*); *Yao Ma* (*Shanghai Radio Equipment Research Institute*);

17 Effect of Absorptivity Oceanic Turbulence on the Concurrence of Spatial Two-qubit States
Zhenmei He (*Jiangnan University*); *Qingze Yan* (*Jiangnan University*); *Hongbin Yang* (*Jiangnan University*); *Nanshun Jiang* (*Jiangnan University*); *Hanyu Wang* (*Jiangnan University*); *Yu Yan* (*Jiangnan University*); *Zeyuan Zhen* (*Jiangnan University*); *Yixin Zhang* (*Jiangnan University*); *Lin Yu* (*Jiangnan University*);

18 High-contrast Grating Resonator Supported Quasi-BIC Lasing and Gas Sensing
H. Zhang (*Hangzhou Dianzi University*); *Tao Wang* (*Hangzhou Dianzi University*); *J. Tian* (*Nanyang Technological University*); *J. Sun* (*Hangzhou Dianzi University*); *S. Li* (*Hangzhou Dianzi University*); *I. De Leon* (*Tecnológico de Monterrey*); *R. P. Zaccaria* (*Cixi Institute of Biomedical Engineering, Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences*); *L. Peng* (*Hangzhou Dianzi University*); *F. Gao* (*Zhejiang University*); *X. Lin* (*Zhejiang University*); *H. Chen* (*Zhejiang University*); *G. Wang* (*Hangzhou Dianzi University*);

19 Application of LDPC Channel Coding in High Speed Optical Communication Systems with Nonlinearity Compensation
Wenjiao Yue (*Tongji University*); *Junhe Zhou* (*Tongji University*);

20 Phase-tunable Microwave Photonic Filter Based on DPol-DPMZM and Microfiber Ring Resonator
Weicheng Xun (*Nanjing University of Posts and Telecommunications*); *Chaoqun Cai* (*Nanjing University of Posts and Telecommunications*); *Enming Xu* (*Nanjing University of Posts and Telecommunications*); *Hongdan Wan* (*Nanjing University of Posts and Telecommunications*); *Zuxing Zhang* (*Nanjing University of Posts and Telecommunications*);

21 High Field Emission Performance and Thickness Effect of Conductive Polymers Coated Silicon Carbide Matrices for Vacuum Electronic Devices
H. Wu (*East China Normal University*); *Z. Guan* (*East China Normal University*); *Wei Ou-Yang* (*East China Normal University*); *Jun Li* (*Tongji University*);

22 Polarization Transformation with Refractive Axicon
Muslim S. Gubaev (*Samara National Research University*); *Dmitry A. Savelyev* (*Samara National Research University*); *Yuriy S. Strelkov* (*Samara National Research University, Image Processing Systems Institute of RAS — Branch of the FSRC "Crystallography and Photonics" RAS*); *Sergey A. Degtyarev* (*Samara National Research University (Samara University)*);

23 Research on Super-PON Communication System with FWM-based Comb Source
Marina Aleksejeva (*Riga Technical University*); *Ilja Lyashuk* (*Riga Technical University*); *Ricards Kudojars* (*Riga Technical University*); *Dmitrijs Prigunovs* (*Riga Technical University*); *Dilan Ortiz* (*Riga Technical University*); *Janis Braunfelds* (*Riga Technical University*); *Toms Salgals* (*Riga Technical University*); *Sandis Spolitis* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

24 Magnetic Nano Structures Studies
Diyar Bajalan (*TU Wien*);

25 Research Progress of Lithium Niobate Waveguide and Its Application in Quantum Information Technology
Ran Cheng (*Southwest Institute of Technical Physics*); *Shuai Huang* (*Southwest Institute of Technical Physics*); *Qiang Xu* (*Southwest Institute of Technical Physics*); *Xiumin Xie* (*Southwest Institute of Technical Physics*); *Wei Zhang* (*Southwest Institute of Technical Physics*); *Qiang Zhou* (*University of Electronic Science and Technology of China*); *Guangwei Deng* (*University of Electronic Science and Technology of China*); *You Wang* (*Southwest Institute of Technical Physics*); *Hai-Zhi Song* (*Southwest Institute of Technical Physics*);

26 Spurious-mode-suppression Method of a High-order Mode Coaxial Cavity for Multi-beam Klystron
Quangui Chao (*Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing 100190*); *Rui Zhang* (*Aerospace Information Research Institute, Chinese Academy of Science*); *Yong Wang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

27 Sensing Properties of SnO_2/Pd/Graphene Composites
Huiyi Zheng (*University of Electronic Science and Technology of China*); *Yifan Zhou* (*University of Electronic Science and Technology of China*); *Bin Xu* (*University of Electronic Science and Technology of China*); *Yizhou He* (*University of Electronic Science and Technology of China*); *Ting Jiang* (*University of Electronic Science and Technology of China*); *Xiaowei Guo* (*University of Electronic Science and Technology of China*);

28 Full-stokes Polarimeter Based on Chiral Perovskites with Chirality and Anisotropy
Jiaqi Ma (*Huazhong University of Science and Technology*); *Dehui Li* (*Huazhong University of Science and Technology*);

29 Dual-channel and Reconfigurable Microwave Photonic Filter Based on DPol-DMZM and PS-FBG
Yu Qin (*Nanjing University of Posts and Telecommunications*); *Enming Xu* (*Nanjing University of Posts and Telecommunications*); *Cui Qin* (*Nanjing Institute of Technology*); *Zuxing Zhang* (*Nanjing University of Posts and Telecommunications*);

30 Propagation of an nth-order Edge Dislocation
V. V. Kotlyar (*Samara National Research University*); *A. A. Kovalev* (*Samara National Research University*); *A. G. Nalimov* (*Samara National Research University*); *Vladislav D. Zaitsev* (*Samara National Research University*);

31 The Investigation Pulsed Laser Beams Focusing Using a Refractive Microaxicon with the Variable Opening Angle
Stanislav Sergunin (*Samara National Research University*); *Dmitry A. Savelyev* (*Samara National Research University*);

32 3.33 Tb/s All-optical AND Logic Gate Based on Two-dimensional Photonic Crystals
Fariborz Parandin (*Eslamabad-E-Gharb Branch, Islamic Azad University*); *Reza Kamarian* (*Kermanshah Branch, Islamic Azad University*); *Mohamadreza Jomour* (*Kermanshah Branch, Islamic Azad University*); *Ali Lalbakhsh* (*Macquarie University*); *Mohammad Alibakhshikenari* (*University of Rome "Tor Vergata"*);

33 Hyperfine Interactions and the Chemical Shift
Sara Liyuba Vesely (*I.T.B. — C.N.R.*);

34 Design and Simulation of MIG for a W-band Second Harmonic Gyroklystron
Xiaoyan Wang (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Dongping Gao* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Yong Wang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Jie Yang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

35 Multistate Memory Enabled by Interface Engineering Based on Multilayer Tungsten Diselenide
Haizhen Wang (*Huazhong University of Science and Technology*); *Dehui Li* (*Huazhong University of Science and Technology*); *Hongzhi Shen* (*Huazhong University of Science and Technology*);

36 Study on Photon Modulation in Organic Microcrystalline Cavity
Qing Liao (*Capital Normal University*);

37 A Broadband Absorptive Metasurface for Efficient Radiative Cooling
Bin Wei (*Xiamen University*); *Han Zhu* (*Xiamen University*); *Guoxiong Cai* (*Xiamen University*); *Qing Huo Liu* (*Duke University*);

38 Absolute Distance Measurement over a Wide Range Based on Dual Femtosecond Lasers
Guohao Shi (*Beijing University of Posts and Telecommunications*); *Yue Zhou* (*Beijing University of Posts and Telecommunications*);

39 Channel Capacity of the Carrier of Relative Rotation Double Gaussian Vortex Laser in Weak Turbulence and Extinction Seawater
Qingze Yan (*Jiangnan University*); *Yuan Zheng* (*Jiangnan University*); *Yun Zhu* (*Jiangnan University*); *Yixin Zhang* (*Jiangnan University*);

40 Performance Comparative Analysis of MESFET with Si, GaAs, SiC and GaN Substrate Effects
Waseem Afzal (*Mohammad Ali Jinnah University*); *Amir Afaq* (*RMIT University*); *Saif Ur Rehman* (*Superior College*); *Wayne S. T. Rowe* (*RMIT University*);

41 Reconfigurable Microwave Photonic Filter Based on Dual-polarization Dual-parallel Mach-Zehnder Modulator and Phase-shifted Fiber Bragg Grating with Small Birefringence
Guangqiang Wu (*Nanjing University of Posts and Telecommunications*); *Enming Xu* (*Nanjing University of Posts and Telecommunications*); *Cui Qin* (*Nanjing Institute of Technology*); *Zuxing Zhang* (*Nanjing University of Posts and Telecommunications*);

42 Topological Charge of a Coaxial Superposition of the Bessel-Gaussian Laser Beams
Victor V. Kotlyar (*Image Processing Systems Institute of the Russian Academy of Sciences*); *A. A. Kovalev* (*Image Processing Systems Institute of the Russian Academy of Sciences*); *Elena Sergeevna Kozlova* (*Image Processing Systems Institute of the Russian Academy of Sciences*); *Alexandra A. Savelyeva* (*Image Processing Systems Institute of the Russian Academy of Sciences*);

43 Ultra-compact Photonic Crystal Based All Optical Half Adder
Ali Lalbakhsh (*Macquarie University*); *Fariborz Parandin* (*Eslamabad-E-Gharb Branch, Islamic Azad University*); *Reza Kamarian* (*Kermanshah Branch, Islamic Azad University*); *Mohamadreza Jomour* (*Kermanshah Branch, Islamic Azad University*); *Mohammad Alibakhshikenari* (*University of Rome "Tor Vergata"*);

44 Ferromagnetic Driven THz Filters with Sectioned 3D Printed Cells
Dmitry M. Ezhov (*Tomsk State University*); *Egor S. Savelyev* (*Tomsk State University*); *Ivan N. Lapin* (*Tomsk State University*); *Valery A. Svetlichnyi* (*National Research Tomsk State University*);

45 On-chip Ultra-small Arbitrary-elliptical-polarization Converters
Hongyi Yuan (*Beijing Institute of Technology*); *Zhe Yuan* (*Beijing Institute of Technology*); *Cuicui Lu* (*Beijing Institute of Technology*);

46 Nonlinear Differential Coding in DML-based IM/DD Systems Combined with VNLE in High-baudrate Short-reach Optical Transmission
Haoran Li (*Tongji University*); *Yuheng Wang* (*Tongji University*); *Junhe Zhou* (*Tongji University*);

47 Fiber-like Wearable Triboelectric Nanogenerator with Bionic Micro-Structure
M. J. Xie (*Tongji University*); *L. Liu* (*Tongji University*); *X. W. Hu* (*Tongji University*); *J. Li* (*Tongji University*); *Wei Ou-Yang* (*East China Normal University*);

48 Longitudinal Component Properties of Circularly Polarized Terahertz Beams with a Spiral Wave-front
Miao Wang (*Capital Normal University*); *Xinke Wang* (*Capital Normal University*);

49 Design of a High-power V-band Klystron Based on Novel Coupling Cavity with Ridges Loading in the Middle
Bingchuan Xie (*Aerospace Information Research Institute, Chinese Academy of Science*); *Rui Zhang* (*Aerospace Information Research Institute, Chinese Academy of Science*); *Yong Wang* (*Aerospace Information Research Institute, Chinese Academy of Science*); *Xu Zhang* (*Aerospace Information Research Institute, Chinese Academy of Science*); *Hao Chen* (*Aerospace Information Research Institute, Chinese Academy of Science*);

50 Optimal Design for a High Power Transit Time Oscillator at X-band
Zhongwu Xiang (*Naval University of Engineering*); *Jin Meng* (*Naval University of Engineering*); *Danni Zhu* (*Naval University of Engineering*); *Chao Chao Yang* (*Naval University of Engineering*); *Liyang Huang* (*Naval University of Engineering*); *Yuzhang Yuan* (*Naval University of Engineering*); *Haitao Wang* (*Naval University of Engineering*); *Kang Luo* (*Naval University of Engineering*); *Jiangfeng Han* (*Naval University of Engineering*);

51 Analysis of the Optical Properties of B-pixel under Different Sub-pixel Arrangements in OLED by the Mixed-level Algorithm
Linya Chen (*Huazhong University of Science and Technology*); *Honggang Gu* (*Huazhong University of Science and Technology*); *Xuenan Zhao* (*Huazhong University of Science and Technology*); *Shiyuan Liu* (*Huazhong University of Science and Technology*);

52 Spontaneous Super-radiative Emission of Ultra-short Terahertz Wave Pulses from Short Photo-injector Electron Bunches
Iliya V. Bandurkin (*Insitute of Applied Physics, RAS*); *Ivan V. Martianov* (*Insitute of Applied Physics, RAS*); *Yulia S. Oparina* (*Institute of Applied Physics, RAS*); *Nikolai Yu. Peskov* (*Institute of Applied Physics, RAS*); *Andrei V. Savilov* (*Institute of Applied Physics, RAS*); *D. Yu. Shchegolkov* (*Institute of Applied Physics RAS*);

53 Engineering Circular Polarization in Chip-integrated High-T_c Superconducting THz Antennas
Y. Xiong (*University of Glasgow*); *Kaveh Delfanazari* (*University of Glasgow*);

54 The Investigation on the Modeling of the Receiver Sensitivity in the RoF Transmission Systems
Inna Kurbatska (*Riga Technical University*); *Sandis Spolitis* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

55 An Intelligent Calibration Method for Multi-object Color Consistency
Shi Chong Li (*Tongji University*); *Jia Feng Xie* (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

56 Simulation and Optimization of Silicon Oxicarbide Waveguides for Electro-optic Polymer Phase-shifters
Lukas Deinert (*TU Dortmund University*); *Peter M. Krummrich* (*TU Dortmund University*);

57 Characteristics of Actively and Harmonically Mode-locked Bismuth-based Fiber Laser
Yutaka Fukuchi (*Tokyo University of Science*); *Ryoichi Miyauchi* (*Tokyo University of Science*);

58 High-output Flexible Ring-structure Triboelectric Nanogenerators for Wearable Electronics and Sports Monitoring
X. W. Hu (*Tongji University*); *L. Liu* (*Tongji University*); *M. J. Xie* (*Tongji University*); *J. Li* (*Tongji University*); *Wei Ou-Yang* (*East China Normal University*);

59 Research on the 0.22 THz Denisov Quasi-optical Mode Convertor for $TE_{32,9}$-Mode
Zeqi Zhao (*Information Research Institute, Chinese Academy of Sciences*); *Ding Zhao* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Guo Hui Zhao* (*Taishan University*); *Yong Wang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Xu Zhang* (*Taishan University*);

60 Key Metrics Analysis of Rydberg Microwave Receivers
Jia Rui Chen (*Nanjing University*); *Xiao-Guo Huang* (*The 36th Research Institute of China Electronic Technology Group Corporation*); *Menglei Zhu* (*The 36th Research Institute of China Electronic Technology Group Corporation*); *Guangqi Zhen* (*The 36th Research Institute of China Electronic Technology Group Corporation*); *Hongbin Lou* (*The 36th Research Institute of China Electronics Technology Group Corporation*); *Qi Zhang* (*The 36th Research Institute of China Electronics Technology Group Corporation*);

61 Optical Needle Beam Generated by a Mesoscale Dielectric Microtoroid
Ying Wang (*Quanzhou Normal University*); *Shiling Lei* (*Quanzhou Normal University*); *Shuangchao Qu* (*Quanzhou Normal University*); *Mingyu Chen* (*Quanzhou Normal University*); *Pinghui Wu* (*Quanzhou Normal University*);

62 Single-modelaser Emission by External Coupling in Photonic Molecules
Nan Zhang (*University of Macau*); *Guichuan Xing* (*University of Macau*);

63 Optical Analysis and Optimization of Organic Solar Cells with Nanostructures Using RCWA Considering the Incoherency of Light
Xuenan Zhao (*Huazhong University of Science and Technology*); *Honggang Gu* (*Huazhong University of Science and Technology*); *Linya Chen* (*Huazhong University of Science and Technology*); *Shiyuan Liu* (*Huazhong University of Science and Technology*);

64 "Flying" RF-undulators for Compton FELs: Design, Simulations and Testing
A. A. Vikharev (*Institute of Applied Physics, RAS*); *S. V. Kuzikov* (*Institute of Applied Physics, RAS*); *Nikolai Yu. Peskov* (*Institute of Applied Physics, RAS*); *Mikhail D. Proyavin* (*Institute of Applied Physics, RAS*); *Andrei V. Savilov* (*Institute of Applied Physics, RAS*);

65 400-GHz Frequency-tunable Second-harmonic Gyrotron with Irregular Cavity
I. V. Bandurkin (*Institute of Applied Physics RAS*); *Andrey P. Fokin* (*Institute of Applied Physics of the RAS*); *M. Fukunari* (*University of Fukui*); *M. Yu. Glyavin* (*Institute of Applied Physics RAS*); *Ivan V. Osharin* (*Institute of Applied Physics, RAS*); *Andrei V. Savilov* (*Institute of Applied Physics, RAS*); *D. Yu. Shchegolkov* (*Institute of Applied Physics RAS*); *Y. Tatematsu* (*University of Fukui*);

66 Simulation of Carbon Nanotube after Implantation of Hydrogen Ion or Atom through Binary Collision of Carbon Nanotubes
Diyar Bajalan (*TU Wien*);

67 Characteristics of All-optical Retiming Switches Employing Cascaded Second-order Nonlinearities in QPM-PPLN Waveguide Devices: Pattern Effects of Device Fabrication Errors
Yutaka Fukuchi (*Tokyo University of Science*); *Ryoichi Miyauchi* (*Tokyo University of Science*);

68 Excitation of the Talbot-type Supermode in Oversized Electromagnetic System of a Free-electron Laser
A. A. Vikharev (*Institute of Applied Physics, RAS*); *Yulia S. Oparina* (*Institute of Applied Physics, RAS*); *Nikolai Yu. Peskov* (*Institute of Applied Physics, RAS*); *Andrei V. Savilov* (*Institute of Applied Physics, RAS*); *D. Yu. Shchegolkov* (*Institute of Applied Physics, RAS*);

69 Terahertz Gyrotrons with Azimuthally-asymmetric Cavities
Yu. K. Kalynov (*Institute of Applied Physics RAS*); *G. I. Kalynova* (*Institute of Applied Physics RAS*); *Ivan V. Osharin* (*Institute of Applied Physics RAS*); *A. V. Savilov* (*Institute of Applied Physics RAS*); *D. Yu. Shchegolkov* (*Institute of Applied Physics RAS*);

70 Powerful Cherenkov Masers with 2D Slow-wave Structures of Planar and Cylindrical Geometry
Nikolai Yu. Peskov (*Institute of Applied Physics RAS*); *E. B. Abubakirov* (*Institute of Applied Physics RAS*); *A. V. Arzhannikov* (*Budker Institute of Nuclear Physics RAS*); *A. N. Denisenko* (*Institute of Applied Physics RAS*); *N. S. Ginzburg* (*Institute of Applied Physics RAS*); *P. V. Kalinin* (*Budker Institute of Nuclear Physics RAS*); *E. S. Sandalov* (*Budker Institute of Nuclear Physics RAS*); *S. L. Sinitsky* (*Budker Institute of Nuclear Physics RAS*); *V. D. Stepanov* (*Budker Institute of Nuclear Physics RAS*); *A. A. Vikharev* (*Institute of Applied Physics RAS*); *V. Yu. Zaslavsky* (*Institute of Applied Physics RAS*);

71 Spin-orbital Conversion in Focused Vector Beams of Fractional Orders
V. V. Kotlyar (*Samara National Research University*); *S. S. Stafeev* (*Samara National Research University*); *Vladislav D. Zaitsev* (*Samara National Research University*);

72 Tight Focusing of Beams with High-order Cylindrical-circular Polarization
Vladislav D. Zaitsev (*Samara National Research University*); *S. S. Stafeev* (*Samara National Research University*); *V. V. Kotlyar* (*Samara National Research University*);

73 Investigation of Plasmonic Lens with Annular Structure for Laser Light Focusing
E. S. Kozlova (*Samara National Research University*); *V. V. Kotlyar* (*Samara National Research University*); *Alexandra A. Savelyeva* (*Image Processing Systems Institute of the Russian Academy of Sciences*);

74 Analysis of the Fields Formed by the High-aperture Zone Plate and the Spiral Zone Plate
Alexandra A. Savelyeva (*Image Processing Systems Institute of the Russian Academy of Sciences*); *E. S. Kozlova* (*Samara National Research University*); *V. V. Kotlyar* (*Samara National Research University*);

75 Fusion Algorithm with Localization and Recognition Methods Based on Laser Radar and Imaging Sensor
Feng Lin (*Xiamen University of Technology*); *Yujie He* (*Xiamen University of Technology*); *Wuhui Lin* (*Xiamen University of Technology*); *Dahong Cai* (*Xiamen University of Technology*); *Luhui Zhao* (*Xiamen University of Technology*);

76 High-harmonic Large-orbit Gyrotrons for Physical Applications
Ilya Bandurkin (*Institute of Applied Physics, RAS*); *Yuriy Kalynov* (*Institute of Applied Physics, RAS*); *Galina Kalynova* (*Institute of Applied Physics, RAS*); *Ivan V. Osharin* (*Institute of Applied Physics, RAS*); *Andrei V. Savilov* (*Institute of Applied Physics, RAS*); *Dmitriy Shchegolkov* (*Institute of Applied Physics, RAS*);

77 Klystron-like Cyclotron Amplification of Transversely Propagating Wave by a Spatially-developed Electron Beam
E. M. Novak (*Institute of Applied Physics RAS*); *Sergey V. Samsonov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Andrei V. Savilov* (*Institute of Applied Physics, RAS*);

78 Highly Selective Terahertz Range Surface-wave Bragg Resonators and Waveguides Formed by Metallic Gratings
Andrey M. Malkin (*Institute of Applied Physics, RAS*); *Alexander S. Sergeev* (*Institute of Applied Physics, RAS*); *Sergey E. Fil'chenkov* (*Institute of Applied Physics, RAS*); *Vladislav Yu. Zaslavsky* (*Institute of Applied Physics, RAS*); *Naum S. Ginzburg* (*Institute of Applied Physics, RAS*);

79 Nanoscale Photonic Crystal Cavity for Gas Pressure Sensing
Ji Xia (*National University of Defense Technology*); *Shuidong Xiong* (*National University of Defense Technology*); *Fuyin Wang* (*National University of Defense Technology*); *Chunyan Cao* (*National University of Defense Technology*); *Zhengliang Hu* (*National University of Defense Technology*); *Min Zhu* (*National University of Defense Technology*);

80 Anti-chromatic Dispersion Transmission of Dual-chirp Waveform Based on a Single DPMZM
Chongyin Yi (*Zhejiang University*); *Shuna Yang* (*Hangzhou Dianzi University*); *Bo Yang* (*Hangzhou Dianzi University*); *Tao Jin* (*Zhejiang University*); *Hao Chi* (*Hangzhou Dianzi University*);

81 Optoelectronic Oscillator in Multimode Regime: Tunable Optical Frequency Comb Generation
Victor V. Kulagin (*Sternberg Astronomical Institute of Moscow State University*); *Victor V. Valuev* (*Kotel'nikov Institute of Radio-engineering and Electronics of RAS*); *Sergey M. Kontorov* (*Skolkovo Institute of Science and Technology*); *Vladimir N. Kornienko* (*Kotel'nikov Institute of Radio-engineering and Electronics of RAS*); *Denis A. Prokhorov* (*National Research Nuclear University MEPhI*); *Vladimir Alekseevich Cherepenin* (*Kotel'nikov Institute of Radio-engineering and Electronics of RAS*);

82 Photoacoustic Generation in Human Brain with Embedded Blood Vessel: Modeling and Simulation
Xi Yang (*Westlake University*); *Yun-Hsuan Chen* (*Westlake University*); *Mohamad Sawan* (*Westlake University*);

83 Polariton Luminescence in Organic Molecular Systems
Boris D. Fainberg (*Holon Institute of Technology*); *V. A. Osipov* (*Holon Institute of Technology*);

84 Optical Fiber Sensor Strain Sensing Cable Characterization through Swept Wavelength Interferometry
Filippo Bastianini (*Sestosensor S.r.l.*); *Francesco Falcetelli* (*Università degli Studi di Bologna*); *Leonardo Rossi* (*IMM Institute*); *Paweł Bocheński* (*Fibrain Sp. z.o.o. Wspólna 4A*); *Raffaella Di Sante* (*Università degli Studi di Bologna*); *Gabriele Bolognini* (*Consiglio Nazionale delle Ricerche, IMM Institute*);

85 Study of Multi-parameter in TDLAS Detection System Based on LabVIEW
Weilin Ye (*Shantou University*); *Weihao Liu* (*Shantou University*); *Zikun Xia* (*Shantou University*); *Xupeng Xiao* (*Shantou University*); *Xiaohuan Xu* (*Shantou University*); *Tao Wu* (*Shantou University*); *Fupei Wu* (*Shantou University*);

86 Estimating Ground-level Nitrogen Dioxide Concentration from Satellite Data
Bibhash Pran Das (*National Institute of Technology Rourkela*); *Muhammad Salman Pathan* (*University College Dublin Belfield*); *Yee Hui Lee* (*Nanyang Technological University Singapore*); *Soumyabrata Dev* (*The ADAPT SFI Research Centre*);

87 Predicting Ground-based $PM_{2.5}$ Concentration in Queensland, Australia
Nicholas Danesi (*University College Dublin*); *Mayank Jain* (*University College Dublin Belfield*); *Yee Hui Lee* (*Nanyang Technological University Singapore*); *Soumyabrata Dev* (*The ADAPT SFI Research Centre*);

88 Analyzing Air Pollutant Concentrations in New Delhi, India
Bugra Alparslan (*Middle East Technical University (METU)*); *Mayank Jain* (*University College Dublin Belfield*); *Jiantao Wu* (*University College Dublin*); *Soumyabrata Dev* (*Beijing-Dublin International College*);

89 Modal Analysis and Propagation Properties of the Multilayered Circular Optical Fiber
Pavel S. Anisimov (*Huawei Technologies Co., Ltd.*); *Vasily S. Motolygin* (*Huawei Technologies Co., Ltd.*); *Viacheslav V. Zemlyakov* (*Huawei Technologies Co., Ltd.*); *Jiexing Gao* (*Huawei Technologies Co., Ltd.*);

90 Mode Decomposition with the Mode Selective Time-resolved Algorithm
Pavel S. Anisimov (*Huawei Technologies Co., Ltd.*); *Viacheslav V. Zemlyakov* (*Huawei Technologies Co., Ltd.*); *Jiexing Gao* (*Huawei Technologies Co., Ltd.*);

91 Using Volterra Nonlinear Equalizer and Probabilistic Shaping in an IM/DD System
Tengyuan Liu (*Tongji University*); *Yuheng Wang* (*Tongji University*); *Junhe Zhou* (*Tongji University*);

92 Direct Measurement of Complex Wave Field by Exposure Lens
Yun-Yun Lai (*Beijing Institute of Technology*); *Wen-Xiu Dong* (*Beijing Institute of Technology*); *Ya-Tong He* (*Beijing Institute of Technology*); *Jin Hu* (*Beijing Institute of Technology*);

93 Millimeter-wave Slot Array Antenna with Low Sidelobe Levels for Foreign Object Debris
Jianhong Chen (*Beijing Institute of Technology*); *Cheng Jin* (*Beijing Institute of Technology*); *Lingwen Kong* (*Beijing Institute of Technology*); *Binchao Zhang* (*Beijing Institute of Technology*); *Qihao Lv* (*Beijing Institute of Technology*); *Pengyu Zhang* (*Beijing Zhongan Satcom Technology co., ltd*); *Buning Tian* (*Beijing Institute of Technology*); *Hangcheng Han* (*Beijing Institute of Technology*);

Session 0A4a
Oral Session SC4. Antennas and Microwave Technologies - Part 1

Monday AM, November 22, 2021

Room Online ROOM 4

Chaired by Hongjian Wang, Zuojia Wang

09:00 Wideband Magneto-electric Dipole Ridge Gap Waveguide Slotted Array
Hongjian Wang (*National Space Science Center, Chinese Academy of Sciences*);

09:15 Multi-beam Scatterometer Parabolic Torus Antenna
Hongjian Wang (*National Space Science Center, Chinese Academy of Sciences*);

09:30 Dual Band High-gain Photonic Crystal 5G Antenna with I-slot for C-band Applications
Zhongyu Yang (*Yunnan Normal University*); *S. H. Mu* (*Yunnan Normal University*); *B. Yao* (*Yunnan Normal University*); *J. W. Wang* (*Yunnan Normal University*); *J. R. Qi* (*Yunnan Normal University*); *X. M. Chen* (*Yunnan Normal University*);

09:40 A Novel Reconfigurable Chipless RFID Tag with Enhanced Coding Capacity
Li Zhang (*Tongji University*); *Mei Song Tong* (*Tongji University*);

09:55 A Study of Gain Improvement of a Quarter-wave Monopole with Wire Medium Structure
Saran Kampeephat (*Rajamangala University of Technology Isan*); *Paowphattra Kamphikul* (*Chiang Mai University*);

10:05 A Low-power 2.4-GHz Receiver Front-end in 55-nm CMOS
Ran Hong (*Tianjin University*); *Meiru Liu* (*Tianjin University*); *Rui Chen* (*Southeast University*); *Keping Wang* (*Tianjin University*);

10:15 A 1.92-GHz FBAR-based Oscillator Using Stacked-amplifier Architecture
Yanchun Li (*Fuzhou University*); *Qiao Tong* (*Fuzhou University*); *Jiwei Huang* (*Fuzhou University*);

10:25 A 94-GHz Power Amplifier with Transformer-based Two-way Power Combining in 65-nm CMOS
Jiazheng Chen (*Fuzhou University*); *Liangfeng Li* (*Fuzhou University*); *Jiwei Huang* (*Fuzhou University*);

10:35 Design and Optimization of Sheet-beam Electron Gun for G-band Devices
Han Wang (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Qianzhong Xue* (*Institute of Electronics, Chinese Academy of Sciences*); *Ding Zhao* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

10:50 A CMOS Temperature Sensor for MEMS-based Frequency Source
Jing Jin (*Fuhou University*); *Xing Chen* (*Fuhou University*); *Jiwei Huang* (*Fuzhou University*);

11:00 Design and Simulation of Optimized Doherty Power Amplifier for 5G Communication in Sub-6 GHz Frequency Band
K. V. Vinnetha (*VFSTR (Deemed to be University)*); *Ravi Sekhar Yarrabothu* (*Vignan's Foundation for Science Technologyu and Research*);

Session 0A4b
SC4 Poster Session: Web Presentation & Discussion [11:30-12:30]

Monday AM, November 22, 2021

Room Online ROOM 4

Chaired by Zuojia Wang, Jiangtao Huangfu, Tong Cai

1 A Compact, Broadband, High Isolated and Dual Polarized Cross Dipole Loaded with Metal Wall
Bingdou Li (*Xi'an Jiaotong University*); *Xiaobo Liu* (*Xi'an Jiaotong University*);

2 Highly Selective UWB Bandpass Filter with Dual Notch Bands Using Stub Loaded Multiple-mode Resonator
Guangxiu Zhao (*Anhui University*); *Min-Quan Li* (*Anhui University*); *Ran Zhao* (*Anhui University*); *Ziyun Tu* (*Anhui University*); *Yajing Yan* (*Anhui University*); *Xiaming Mo* (*Anhui University*);

3 Study of the High-frequency System for a Ka-band EIK
Weihao Lai (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Haibing Ding* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Liuya Wang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

4 An Expanded Topology for Dual-band Wilkinson Power Divider
Du Chen (*Nanjing University of Aeronautics and Astronautics*); *Yong-Jiu Zhao* (*Nanjing University of Aeronautics and Astronautics*); *Yonggang Zhou* (*Nanjing University of Aeronautics and Astronautics*); *Zehui Chen* (*Nanjing University of Aeronautics and Astronautics*); *Qinmeng Ji* (*Nanjing University of Aeronautics and Astronautics*); *Feng Tian* (*Nanjing University of Aeronautics and Astronautics*);

5 Efficient RCS Prediction of Composite Scene Based on Deep BP Neural Networks
Peipeng Zhang (*Xidian University*); *Wei Liu* (*Xidian University*); *Lixin Guo* (*Xidian University*); *Junjie She* (*Xidian University*);

6 Design of Linear Polarization Antenna with Wide Bandwidth and Low Mutual Coupling
Guohu Deng (*Southeast University*); *Di Gao* (*Aviation Key Laboratory of Science and Technology on High Performance Electromagnetic Windows*); *Xin Quan* (*Southeast University*); *Mengtin Xie* (*Southeast University*); *Zhenxin Cao* (*Southeast University*);

7 Design of a Compact Quarter-mode Substrate-integrated Waveguide Triple-band Antenna for Sub-6 Applications
Hao Bai (*Air Force Engineering University*); *Guangming Wang* (*Air Force Engineering University*); *Xiao-Jun Zou* (*Air Force Engineering University*);

8 Design of 335 GHz and 430 GHz Doublers Based on Discrete Schottky Diodes
Jin Meng (*National Space Science Center, Chinese Academy of Sciences*); *De Hai Zhang* (*National Space Science Center, Chinese Academy of Sciences*); *Guangyu Ji* (*University of Chinese Academy of Sciences*);

9 Bowknot-type Resonator Loaded Dual-wideband Folded Dipole Antenna for Base Station Applications
Shuaihu Mu (*Yunnan Normal University*); *Z. Y. Yang* (*Yunnan Normal University*); *B. Yao* (*Yunnan Normal University*); *X. M. Chen* (*Yunnan Normal University*); *J. R. Qi* (*Yunnan Normal University*); *J. W. Wang* (*Yunnan Normal University*);

10 Hybrid-fed Enhanced Gain Circularly Polarized Shared Aperture Antenna for S/X-band Airborne Synthetic Aperture Radar Applications
Venkata Kishore Kothapudi (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Bala Ankaiah Nunna* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Praveena Kati* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Hari Vara Prasad Reddy Kandhi* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Sushanth Reddy Shivagari* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Pavan Sagar Mindala* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Adarsh Kayithi* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Gopi Chand Vuppugandla* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Sai Lakshmi Sri Vemuri* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Sahithi Singu* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*);

11 Design of Dual-band Dual-polarized S/X-band Shared Aperture Antenna Array for Synthetic Aperture Radar Applications
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12 Dual Wide Band ACS Fed Uniplanar Compact Antenna Loaded with Circular Arc & L-shaped Branches for Wireless Communication
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13 Generation and Location Control of Attenuation Pole by Tap-coupled Open Stub Loaded with Left-hand Circuit
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14 Analysis on Frequency Arrangement for the 600 MHz Band
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15 Compact Low-profile Unidirectional Antenna at 2.45 GHz for Body-centric Communications
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16 Cassegrain Antenna Design, Fabrication, and Testing for Passive Millimeter Wave Imaging
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17 Analysis of the Response Characteristics of Pyramid Horn Antenna to Electromagnetic Pulse
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18 Detection of Sleeve Grouting Defects Based on Cascaded Two-port Networks Method
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19 Design of Miniaturized UWB Antenna with Rectangular Slot
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20 Multiband MIMO Antenna with High Isolation for Smartphone Application
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21 A High-power and High-efficiency Ku Band RTTO with Trapezoidal Extraction Cavity
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22 Tunable Bandstop Filters Based on Varactor-loaded Multi-mode Resonators
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23 Alphabetic Image Recognition Based on Multi-channel Diffractive Deep Neural Network
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24 Miniaturized Substrate Integrated Waveguide Dual-band Filter with High Common-mode Signal Suppression
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25 Utility Based Handoff Decision for Internet of Everything (IoE)
Meenakshi Munjal (*Chandigarh University*); *Soumyabrata Dev* (*The ADAPT SFI Research Centre*);

26 Non-periodic and Conformal Antenna Arrays Design Using Parallel Evolutionary Algorithm Based on GA and PSO
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27 A Single Layer C/X-band Shared Aperture Antenna Array for Synthetic Aperture Radar Applications
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28 An S/X-band Multi-layer Shared Aperture Antenna with Frequency Ratio of 2.9 for Airborne Synthetic Aperture Radar Applications
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29 Design and Analysis of Shorting Pin Loaded Triple Band Microstrip Patch Antenna with Enhanced Gain for Wireless Applications
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30 Dependence between Signal Parameter Values and Perceived Internet Access Service QoS in Mobile Networks
Alina Stafecka (*Riga Technical University*); *Andrejs Lizunovs* (*Riga Technical University*); *Girts Ivanovs* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

31 Analysis on Coexistence of 5G and Fixed Satellite Service in 3.5 GHz Band
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32 Machine Learning to Optimize Signal Ring-down for Bowtie Antenna Design
Junyao Zhang (*University of Manchester*);

33 High Isolation Compact Four Port MIMO Antenna with Slotted Ground for UWB Applications
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34 An Ultra-wideband Fractal Antenna with Circular Rings Based on Coplanar Waveguide
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35 Wideband Excitations of Higher-order Mode SIW Slot Array Antenna for X-band Applications
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36 Decoupling Wideband Antenna Array by Employing Metasurface
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37 A Miniaturized Bandpass Filter Based on Hexagonal Resonator
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38 Design and Simulation of Electron Optics System for 0.34 THz Traveling Wave Tube
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39 Theoretical Study of a Multi-mode Relativistic Backward Wave Oscillator Operating at Low Magnetic Field
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40 A Compact Negative-Group-Delay Branch-line Coupler with Equal Power Division
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41 Circular Polarized 2-D Series-fed Patch Antenna Array with Direct Coupling for X-band Airborne SAR Applications
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42 A Printed Dipole Antenna for WLAN Applications with Anti-interference Functionality
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43 Hybrid-fed Enhanced Gain Circularly Polarized Shared Aperture Antenna Array for X/K-band Airborne Synthetic Aperture Radar Applications
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44 Dual-band U-shaped Dipole Antenna with Circular Radiation Pattern in the $\boldsymbol{E}$ Plane
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45 Design of a High Isolation and Dual-polarized Antenna for 2G/3G/LTE Base Stations
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46 Design of a Compact Ultra-wideband Bandpass Filter Based on Improved Multi-mode Resonator
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47 Miniaturized Single Band Filter with Wide Outer-band Rejection at Higher Frequencies
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48 New Gyrotron Concept: Multi-barrel Gyrotron
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49 Single-step and Multi-step Time Series Prediction for Urban Temperature Based on LSTM Model of TensorFlow
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50 A Compact Four-port High Isolation ACS Fed Dual Band MIMO Antenna with L-shaped Branches for Wireless Applications
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51 A Triple Band Microstrip Wilkinson Power Divider with Harmonics Suppression Suitable for 5G Applications
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52 Properties Studies on a Novel Spoof Surface Plasmon Polaritons with Low Loss
Xiaoyu Du (*Xidian University*); *Chenghao Zhang* (*Xidian University*); *Jia-Yuan Yin* (*Xidian University*); *Ying Zeng Yin* (*Xidian University*);

53 Study on Ka-band TWT with Four Helix Channels
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54 A Wideband High-gain Dipole Antenna
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55 A Novel Design of Wide Stopband Filter with High Selectivity
Min-Quan Li (*Anhui University*); *Xiaming Mo* (*Anhui University*); *Ran Zhao* (*Anhui University*); *Yajing Yan* (*Anhui University*); *Guangxiu Zhao* (*Anhui University*); *Ziyun Tu* (*Anhui University*);

56 Design of Air-cooled Collector Cooling Fin for High Power Klystron
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57 Design and Simulation of 0.22 THz High Power Continue Wave Folded Waveguide Traveling Wave Tube
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58 A 220 GHz Dual-beam Metal-only Transmitarray Antenna
Wenke Song (*University of Chinese Academy of Sciences*); *Qianzhong Xue* (*Institute of Electronics, Chinese Academy of Sciences*); *Yang Cai* (*Space Engineering University*); *Naining Guo* (*University of Chinese Academy of Sciences*); *Kegang Liu* (*University of Chinese Academy of Sciences*);

59 A Novel $\mathbf{3} \times \mathbf{3}$ Nolen Matrix Based on Trans-directional Coupled Lines
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60 A Dual Layer Aperture Coupled Circularly Polarized Wideband Microstrip Patch Antenna for C-band Radar Applications
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61 Performance Analysis of Different Distribution Techniques for C/X/Ku-band Shared Aperture Antenna for SAR Applications
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62 A Compact Broadband End-fire Array Antenna Consisting of I-shaped Radiating Elements
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64 Effects of Radome's Frequency Selection Surface on the Radiation Pattern of a Slotted Waveguide Antenna Array
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65 A Dual Band Microstrip Branch Line Coupler with Harmonics Suppression Using LPF and Open Ended Stubs
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66 Broadband Frequency Tuning in a Powerful Gyrotron for Fusion
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67 Using LoRa Modules to Measure Physical Quantities Describing Air Quality and Their Long-distance Transmission
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68 Wireless Communication Textile Based on Passive UHF RFID and NFC
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69 Sparse Multi-carrier Frequency Diverse Array Transmit Beampattern Optimization
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70 Filtering Liquid Dielectric Resonator Antenna with Polarization Reconfigurability
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71 A Novel Automotive Positioning System Based on BLE and UWB Wireless Communication Technology
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72 Fast Solver of 2D Maxwell's Equations Based on Fourier Neural Operator
Chengke Zhu (*Fudan Uninversity*); *Hongxia Ye* (*Fudan University*); *Bin Zhan* (*NVIDIA Technology Shanghai Co., Ltd.*);

73 An Off-grid Compressed Sensing Method for the Synthesis of Sparse Concentric Ring Arrays
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74 Design and Fabrication of Frequency Selective Surface Radome Based on Inextensible Quadric Surface
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75 The Influence of Wave Spectrum and Antenna Attitude on the Offshore Electromagnetic Spectrum Distribution
Zhenjia Chen (*Hainan University*); *Yonghui Zhang* (*Hainan University*);

76 Virtual Antenna Array Based on Magnetic Elements for Accuracy Enhancement of DoA Estimation
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77 Design, Simulation and Performance Analysis of Phased Array **16 × 16** TR Module
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78 A Compact Dual Layer Top Fed Circularly Polarized Stacked Antenna for C-band Radar Applications
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79 5-element Series-feed Shared Aperture Antenna Array for X/Ku-Band SAR Applications
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80 Ka-band Vivaldi Antenna Made of Liquid Crystal Polymer
Sehwan Choi (*Korea Electronics Technology Institute*);

81 A 5G Gong-shaped Circular-polarization Antenna
Wei Zhou (*Harbin Engineering University*); *Chuan Yue* (*PLA 66736*); *Yingsong Li* (*Harbin Engineering University*); *Yingfeng Xia* (*Harbin Engineering University*);

82 A Highly Integrated W-band Digital Radar
Hu Xiao (*Science and Technology on Antenna and Microwave Laboratory*); *Jiang Wen* (*Science and Technology on Antenna and Microwave Laboratory*);

83 Designing of a Lowpass Filter with a Wide Stopband and High Attenuation Level
Sepehr Soltani (*Shiraz University*); *Gholamhosein Moloudian* (*Salman Farsi University*); *Ali Lalbakhsh* (*Macquarie University*); *Siroos Bahrami* (*Pohang University of Science and Technology*);

84 Design of a Compact Microstrip Coupler with Harmonics Suppression Using Resonator and Meandered Lines
Sobhan Roshani (*Razi University*); *Saeed Roshani* (*Islamic Azad University*); *Mohammad (Behdad) Jamshidi* (*Islamic Azad University*); *Behnam Dorostkar Yaghouti* (*Iran University of Science and Technology (IUST)*); *Naser Mahtabi* (*Islamic Azad University*);

85 Comparison between Classic Propagation Model Distribution and Artificial Intelligence Model Distribution Detection
C. Bucur (*Ovidius University of Constanta*); *Antonio Sorin Tasu* (*Ovidius University of Constanta*); *F. Cazan* (*Ovidius University of Constanta*);

86 Low-profile Wideband Planar Dipole Antenna on Folded Ground Plane
Mengmeng Sun (*Shanghai Aerospace Electronics Co., Ltd.*); *Yanting Lv* (*Shanghai Aerospace Electronics Co., Ltd.*); *Fanwei Kong* (*Shanghai Aerospace Electronics Co., Ltd.*); *Jingyi Qian* (*Shanghai Aerospace Electronics Co., Ltd.*); *Xudong Bai* (*Shanghai Aerospace Electronics Co., Ltd.*);

87 Ultra-wideband MIMO Antenna Design Based on EBG Structure
Zhipeng Chen (*Anhui University*); *Shijie Huang* (*Anhui University*); *Zhongxiang Zhang* (*Hefei Normal University*); *Xianliang Wu* (*Anhui University*);

88 Design of Low Profile Broadband Planar Spiral Antenna
Yanting Lv (*Shanghai Aerospace Electronics Co., Ltd.*); *Mengmeng Sun* (*Shanghai Aerospace Electronics Co., Ltd.*); *Fanwei Kong* (*Shanghai Aerospace Electronics Co., Ltd.*); *Dongzhi Chen* (*Shanghai Aerospace Electronics Co., Ltd.*); *Jingyi Qian* (*Shanghai Aerospace Electronics Co., Ltd.*); *Xudong Bai* (*Shanghai Aerospace Electronics Co., Ltd.*);

89 Research on the Multi-beam Excitation of a High-order Mode Multi-gap Cavity with Coaxial Structure
Xu Zhang (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Rui Zhang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Yong Wang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Hao Chen* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Bingchuan Xie* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

90 A Method of Identifying Water Level Information through WiFi Signal
Hengjian Ma (*Zhejiang University*); *Yinger Zhang* (*Zhejiang University*); *Xinyu Hong* (*Zhejiang University*); *Tingjun Lai* (*Zhejiang University*); *Jiangtao Huangfu* (*Zhejiang University*);

91 Analysis of Dynamic Characteristics of T-type Impedance Matching Network
Min-Hua Yan (*National Defense Engineering Institute, Academy of Military Science of PLA*); *Wei He* (*National Defense Engineering Institute, Academy of Military Science of PLA*); *Jie Yang* (*National Defense Engineering Institute, Academy of Military Science of PLA*); *Yue-Bo Li* (*National Defense Engineering Institute, Academy of Military Science of PLA*);

92 Design of Low-profile PIFA Based on Dielectric Substrate Structure
Shengshu Yang (*Beijing Institute of Technology*); *Wei-Ming Li* (*Beijing Institute of Technology*); *Zheng Hui Xue* (*Beijing Institute of Technology*); *Wu Ren* (*Beijing Institute of Technology*);

93 Analysis of Different Tapering Techniques to Reduce Side Lobe Level of a Linear Antenna Array for X Band SAR Applications
Bala Ankaiah Nunna (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Praveena Kati* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Venkata Kishore Kothapudi* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*);

94 Incremental Pragmatic Distribution Algorithm for Cooperative Cognitive Radio Network
Syed Agha Hassnain Mohsan (*Zhejiang University*); *Syed Muhammad Tayyab Shah* (*COMSATS University*); *Moqbel Ali Mohammed Hamood* (*Jordan University of Science and Technology*); *Zeeshan Fiaz* (*COMSATS University*);

95 Compression Mapping Based Bayesian Optimization for the Design of Frequency Selective Surface
Fuyao Hou (*Xidian University*); *Yu Zhao* (*Xidian University*); *Song Zhang* (*Xidian University*); *Long Li* (*Xidian University*);

96 Design for Ultra Wideband Filter Using Composite Right/Left-handed Transmission Line by Genetic Algorithm
Hinata Ishikawa (*National Institute of Technology, Kisarazu College*); *Atsuya Hirayama* (*National Institute of Technology, Kisarazu College*); *Seiya Fujino* (*National Institute of Technology, Kisarazu College*); *Takanobu Ohno* (*National Institute of Technology, Kisarazu College*); *Kosei Tanii* (*National Institute of Technology, Kisarazu College*); *Masahiro Uehara* (*National Institute of Technology, Kisarazu College*); *Satoko Iida* (*National Institute of Technology, Kisarazu College*);

97 Controlling Attenuation Pole and Adjusting First-Negative-Order Resonant Frequency by CRLH-TL Resonator Including Right-hand Circuit Replaced with Distributed Constant Line
Seiya Fujino (*National Institute of Technology, Kisarazu College*); *Atsuya Hirayama* (*National Institute of Technology, Kisarazu College*); *Hinata Ishikawa* (*National Institute of Technology, Kisarazu College*); *Takanobu Ohno* (*National Institute of Technology, Kisarazu College*); *Kosei Tanii* (*National Institute of Technology, Kisarazu College*); *Masahiro Uehara* (*National Institute of Technology, Kisarazu College*); *Satoko Iida* (*National Institute of Technology, Kisarazu College*);

98 5G mmWave Band Pass Filter Made of Liquid Crystal Polymer
Sehwan Choi (*Korea Electronics Technology Institute*);

99 An Efficient Design of DC-DC Converters for Intelligent Power Control System
Zhong Jun Tong (*Tongji University*); *Pei Si Xu* (*Tongji University*); *Pengwei Zhao* (*Tongji University*); *Lei Qiu* (*Tongji University*); *Guo Chun Wan* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

100 Design of a Fast-response Reference Buffer Providing High and Low Reference Voltages for High Speed ADCs
Bingbing Ma (*Fudan University*); *Longbo Fan* (*Fudan University*); *Na Yan* (*Fudan University*); *Hongtao Xu* (*Fudan University*);

101 Design of Conformal Multi-band Antenna with 5G mm-Wave Beam Steering Array for Mobile Handset Applications
Marguerita G. Elias (*Antonine University*); *Remi M. Sarkis* (*TICKET Laboratory*);

102 A Highly Compact Doherty Power Amplifier Based on Quasi-MMIC Technology for Sub-6 GHz Small Cell Applications
Hongsun Yoon (*Korea Electronics Technology Institute*); *Minsoo Park* (*Korea Electronics Technology Institute*); *Hyeon-Woo Kim* (*Korea Electronics Technology Institute*); *Jong Min Yook* (*Korea Electronics Technology Institute*); *Yeongcheol Park* (*Hankuk University of Foreign Studies*); *Dongsu Kim* (*Korea Electronics Technology Institute*);

103 Three-dimensional Multi-dipole Model for Estimating Neuronal Generators Using Scalp EEG
Aleksandar Jeremic (*McMaster University*);

104 An Ultra-wideband Circularly Polarized Slot Antenna
Bosong Qiu (*Harbin Engineering University*); *Yingfeng Xia* (*Harbin Engineering University*); *Yingsong Li* (*Harbin Engineering University*); *Chuan Yue* (*PLA 66736*);

105 Simulation of Inspecting Pipeline Defects and Pipeline Thinning Based on Microwave
Shanshan Tian (*China Jiliang University*); *Guohua Qiu* (*China Jiliang University*);

106 A Compact Dual-Band Negative Group Delay Circuit with Independently Adjustable Characteristics
Yu Bai (*Dalian Maritime University*); *Zhongbao Wang* (*Dalian Maritime University*); *Yuwei Meng* (*Dalian Maritime University*); *Hongmei Liu* (*Dalian Maritime University*); *Shao-Jun Fang* (*Dalian Maritime University*);

107 Horizontal and Vertical Mutual Coupled Stacked Configuration 1 : 3-Driven/Parasitic Element Antenna for C-band Radar Applications
Anil Kumar Karra (*Vignan's Foundation for Science, Technology and Research (VFSTR)*); *Telagathoti Pitchaiah* (*Vignan's Foundation for Science, Technology and Research (VFSTR)*);

108 A Stepped Microstrip Circuit Attenuator Based on Wilkinson Power Divider for Sub-6G RF Testing
Chenyang Meng (*South China Normal University*); *Yiming Zhang* (*South China Normal University*); *Yuxi Liu* (*South China Normal University*); *Hui Liu* (*Zhejiang University*); *Bofu Liu* (*Guangdong Polytechnic Normal University*); *Sailing He* (*Royal Institute of Technology & Zhejiang University*);

109 A Wideband Irregular Circular Polarization Antenna Analyzed by Characteristic Mode Theory
Qiubo Ye (*Jimei University*); *Ping Chen* (*Jimei University*); *Jun Xiao* (*Jimei University*); *Zhuo Yang* (*Jimei University*);

110 A Low-profile Slot Antenna with Frequency and Pattern Reconfigurability
Ge Zhao (*Tongji University*); *Yi Zhou* (*Tongji University*); *Yunjing Zhang* (*Soochow University*); *Mei Song Tong* (*Tongji University*);

111 A Novel Wideband Quasi-Yagi Antenna for Base-station Applications
Kangyu Yang (*Guangdong University of Technology*); *Liang Hua Ye* (*Guangdong University of Technology*); *Wenjian Zhu* (*Guangdong University of Technology*); *Jian-Feng Li* (*Guangdong University of Technology*); *Duo-Long Wu* (*Guangdong University of Technology*);

112 Wide-beam Vivaldi Antenna
Jinjing Ren (*Southeast University*); *Zhongyuan Yu* (*Southeast University*); *Qi Tang* (*Science and Technology on Near-surface Detection Laboratory*);

113 Analysis of EIRP Measurement Grid for 5G Millimeter Wave User Equipment
Yuanyuan Liu (*China Academy of Information and Communications Technology*); *Rui Zhang* (*China Academy of Information and Communications Technology*); *Yu Zhou* (*China Academy of Information and Communications Technology*);

114 A Ka Full Band Dual Circularly Polarized Antenna for Satellite Applications
Yanbin Luo (*The 38th Research Institute of China Electronics Technology Group Corporation*); *Wei Wang* (*The 38th Research Institute of China Electronics Technology Group Corporation*); *Qingsheng Zeng* (*Nanjing University of Aeronautics and Astronautics*); *M. Chen* (*The 38th Research Institute of China Electronics Technology Group Corporation*); *Hongtao Zhang* (*East China Research Institute of Electronic Engineering*); *Z. Zheng* (*The 38th Research Institute of China Electronics Technology Group Corporation*); *Y. Wei* (*Xi'an Satellite Control Center*); *Tayeb Ahmed Denidni* (*University of Quebec*);

115 A SIW Leaky-wave Antenna Featuring Wide Beam-scanning Range and Rapid Scanning Rate for 5G Applications
Qinwei Ji (*Shenzhen University*); *Long Zhang* (*Shenzhen University*); *Jinfeng Zhang* (*Shenzhen University*); *Xianting Xie* (*Shenzhen University*); *Minqing Wang* (*Shenzhen University*); *Yejun He* (*Shenzhen University*);

116 A Transmitting and Receiving Coplanar Distribution Design for Limited Scan Phased Array
Zhi Zheng (*The 38th Research Institute of China Electronics Technology Group Corporation*); *Wei Wang* (*East China Research Institute of Electronic Engineering*); *Yanbin Luo* (*The 38th Research Institute of China Electronics Technology Group Corporation*); *M. Chen* (*The 38th Research Institute of China Electronics Technology Group Corporation*); *Hongtao Zhang* (*East China Research Institute of Electronic Engineering*); *Qingsheng Zeng* (*Nanjing University of Aeronautics and Astronautics*);

117 Design and Optimize of a G-band High-power Traveling Wave Tube
Wenbo Wang (*Beihang University*); *Cun-Jun Ruan* (*Beihang University*); *Zheng Zhang* (*Beihang University*); *Feng Zhang* (*Beihang University*);

118 Improvement of Output Power and Bandwidth for Extended Interaction Klystron in G-band
Feng Zhang (*Beihang University*); *Wenbo Wang* (*Beihang University*); *Cun-Jun Ruan* (*Beihang University*);

119 Matching and Stability Analyses of Planar Distributed Three-beam Electron Optics System
Pengpeng Wang (*Beihang University*); *Cun-Jun Ruan* (*Beihang University*);

120 Filter-free Band-limited Digital Predistortion of Power Amplifiers for 5G Wireless Transmitters
Kang Han (*Beijing University of Posts and Telecommunications*); *Zhijun Liu* (*Beijing University of Posts and Telecommunications*); *Xin Hu* (*Beijing University of Posts and Telecommunications*); *Weidong Wang* (*Beijing University of Posts and Telecommunications*);

121 Ray-tracing Based 28 GHz Channel Characterization for Outdoor Millimeter Wave Communications
Yu Zhou (*China Academy of Information and Communications Technology*); *Yuan Dong* (*China Academy of Information and Communications Technology*); *Yuanyuan Liu* (*China Academy of Information and Communications Technology*); *Xiangqian Sun* (*China Academy of Information and Communications Technology*);

122 Status and Analysis of RF Conformance Test for Millimeter-wave Devices
Xiangqian Sun (*China Academy of Information and Communications Technology*); *Yuanyuan Liu* (*China Academy of Information and Communications Technology*); *Yu Zhou* (*China Academy of Information and Communications Technology*);

123 An Octagonal Iterative Fractal Antenna with Notch Band and UWB Characteristics
Yong Cai (*Anhui University*); *Shuping He* (*Anhui University*); *Xingang Ren* (*Anhui University*); *Zhi-Xiang Huang* (*Anhui University*);

124 Image Data Enhancement Method Based on Generative Adversarial Network for Millimeter-wave Body Scanner
Yijie Niu (*China Academy of Civil Aviation Science and Technology*); *Pengzhe Li* (*China Academy of Civil Aviation Science and Technology*); *Haitao Qin* (*China Academy of Civil Aviation Science and Technology*); *Qi Ye* (*China Academy of Civil Aviation Science and Technology*); *Yuejun Han* (*China Academy of Civil Aviation Science and Technology*);

Session 0A5a
Oral Presentations for Best Student Paper Awards — SC5: Remote Sensing, Inverse Problems, Imaging, Radar and Sensing

Monday AM, November 22, 2021

Room Online ROOM 5

Chaired by Kun-Shan Chen, Yang Du, Saibun Tjuatja

9:00 Surface Waves Generated by Polar Lows: Satellite Observations and Simulations
Vahid Cheshm Siyahi (*Russian State Hydrometeorological University*); *Vladimir N. Kudryavtsev* (*FSBSI Marine Hydrophysical Institute RAS*); *M. V. Yurovskaya* (*FSBSI Marine Hydrophysical Institute RAS*);

9:15 Microwave Snow Water Equivalent Retrieval Framework Using Coupled Hydrological and Passive Microwave Radiative Transfer Models
Chunzeng Luo (*Zhejiang University/University of Illinois at Urbana-Champaign Institute*); *Shurun Tan* (*Zhejiang University/University of Illinois at Urbana-Champaign Institute*); *Do Hyuk Kang* (*University of Maryland*);

9:30 A Preliminary Experiment Based on One-step Measurement-trained Supervised Descent Method for Microwave Thorax Imaging
Haolin Zhang (*Tsinghua University*); *Tong Zhang* (*Tsinghua University*); *Hongyu Zhou* (*Tsinghua University*); *Maokun Li* (*Tsinghua University*); *Fan Yang* (*Tsinghua University*); *Shenheng Xu* (*Tsinghua University*); *Yeyu Cao* (*Tsinghua University*);

9:45 Study on Multifrequency Electromagnetic Response of Hydraulic Fracturing Fracture with Proppant: Based on a Forward Model of Short Distance Receiving and Transmitting
Yang Li (*China University of Petroleum-Beijing*); *Dejun Liu* (*China University of Petroleum-Beijing*); *Ying Zhai* (*China University of Petroleum-Beijing*); *Jin Meng* (*China University of Petroleum-Beijing*);

10:00 Beamforming Antenna Arrays and Metasurfaces for Medical Imaging: From Overview to Suggesting a new Imaging Modality
Keivan Kaboutari (*University of Aveiro*); *Pedro Pinho* (*Instituto de Telecomunicaçoes*); *Stanislav Maslovski* (*University of Aveiro*);

10:15 First-principle Calculations of Coherent Waves and Incoherent Waves in Signals of Opportunity (SoOp) at P Band and L Band Based on Analytical Kirchhoff Solutions (AKS)
Bowen Ren (*University of Michigan*); *Jiyue Zhu* (*University of Michigan*); *Leung Tsang* (*University of Michigan*); *Haokui Xu* (*University of Michigan*);

Session 0A5b
SC5 Poster Session: Web Presentation & Discussion [11:30-12:30]

Monday AM, November 22, 2021

Room Online ROOM 5

Chaired by Kun-Shan Chen, Shurun Tan, Zhun Wei

1 Urban Expansion Analysis of GBA Based on Multisource Nighttime Light Remote Sensing Images
Tielan Huang (*Guangdong Polytechnic of Industry Commerce*); *Jing Luo* (*Guangdong Polytechnic of Industry Commerce*); *Yunpeng Wang* (*Guangzhou Institute of Geochemistry, Chinese Academy of Sciences*); *Feini Huang* (*Guangdong Polytechnic of Industry Commerce*);

2 Land Subsidence Monitoring in Wuhai City Based on D-InSAR
Guozhen Zhang (*Inner Mongolia University of Technology*); *Wei Xu* (*Inner Mongolia University of Technology*); *Pingping Huang* (*Inner Mongolia University of Technology*); *Weixian Tan* (*Inner Mongolia University of Technology*); *Yaolong Qi* (*Inner Mongolia University of Technology*); *Zhuo Zhang* (*Inner Mongolia University of Technology*);

3 An Evaluation of Deep Domain Adaptive Networks for Remote Sensing Scene Image Classification
Chen-Fang Liu (*National University of Defense Technology*); *Hao Sun* (*National University of Defense Technology*); *Lin Lei* (*National University of Defense Technology*); *Kefeng Ji* (*National University of Defense Technology*); *Gangyao Kuang* (*National University of Defense Technology*);

4 Extracting Ship Size from SAR Image End-to-end
Yibin Ren (*Institute of Oceanology, Chinese Academy of Sciences*); *Xiaofeng Li* (*Institute of Oceanography, Chinese Academy of Sciences*);

5 Cloud Liquid Content Retrieval Errors Related to the Flat-layered Cloudfield Model Usage
Dobroslav P. Egorov (*Kotel'nikov Institute of Radio Engineering and Electronics of RAS*); *Ya. A. Ilyushin* (*Moscow State University*); *Boris Georgievich Kutuza* (*Kotel'nikov Institute of Radio Engineering and Electronics of RAS*); *Ya. V. Koptsov* (*Moscow State University*);

6 Analyzing Impact of Time on Early Detection of Rainfall Event
Muhammad Salman Pathan (*University College Dublin Belfield*); *Mayank Jain* (*University College Dublin Belfield*); *Avishek Nag* (*University College Dublin Belfield*); *Tarek Al Skaif* (*Wageningen University and Research*); *Soumyabrata Dev* (*Beijing-Dublin International College*);

7 Electromagnetic Scattering Characteristic Analysis for Low Frequency Ultra-wideband Bistatic SAR
Hongtu Xie (*Sun Yat-sen University*); *Ni Xie* (*Hunan University of Science and Technology*); *Kang Liang* (*Sun Yat-sen University*); *Xingqiao Jiang* (*Sun Yat-sen University*); *Kaipeng Chen* (*Sun Yat-sen University*); *Guoqian Wang* (*Sun Yat-sen University*);

8 Sensing System for ^{14}N NQR Remote Detection of Explosives
Georgy Mozzhukhin (*Gebze Technical University*); *B. Çolak* (*Gebze Technical University*); *Sultonazar Mamadazizov* (*Gebze Technical University*); *I. Mershiev* (*Baltic Federal University by Immanuel Kant*); *Galina S. Kupriyanova* (*I. Kant Baltic Federal University*); *Bulat Rameev* (*Gebze Technical University*);

9 An Efficient Wavelet Transform for Hierarchical Echo Data Processing of Ground-penetrating Radar
Renzhou Gui (*Tongji University*); *Xiaomeng Zhao* (*Tongji University*); *Hao Liang* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

10 Sea-land Segmentation of Synthetic Aperture Radar Imagery Using Deep Neural Network Models
Yinfei Zhou (*Zhejiang University*); *Gang Zheng* (*The Second Institute of Oceanography, Chinese Ministry of Natural Resources*); *Jingsong Yang* (*Second Institute of Oceanography, State Oceanic Administration*); *Xiaofeng Li* (*Institute of Oceanography, Chinese Academy of Sciences*); *Bin Liu* (*Shanghai Ocean University*); *Jingliang Shao* (*University of Electronic Science and Technology of China*); *Han Jiang* (*Second Institute of Oceanography, Ministry of Natural Resources*); *Ren Ren* (*University of Electronic Science and Technology of China*); *Peng Chen* (*Second Institute of Oceanography, Ministry of Natural Resources*); *Lin Ren* (*State Oceanic Administration*); *Bin Zhang* (*Institute of Oceanology, Chinese Academy of Sciences*);

11 Recalibration and Wind Retrieval of GF-3 SAR Wave Mode Measurements
Jinyuan Dai (*Second Institute of Oceanography, Ministry of Natural Resources*); *Lin Ren* (*State Oceanic Administration*); *Jingsong Yang* (*Second Institute of Oceanography, State Oceanic Administration*); *Chong Jiang* (*Second Institute of Oceanography, Ministry of Natural Resources*); *Peng Chen* (*Second Institute of Oceanography, Ministry of Natural Resources*); *Gang Zheng* (*The Second Institute of Oceanography, Chinese Ministry of Natural Resources*);

12 Inverse Modeling of Electromagnetic Activity in Schizophrenia Using Finite-element Method and Electroencephalography
Aleksandar Jeremic (*McMaster University*);

13 SAR Image Classification Algorithm Based on Improved SIFT Features
Yuting Cui (*National University of Defense Technology*); *Tao Tang* (*National University of Defense Technology*); *Xiaoyan Zhou* (*National University of Defense Technology*); *Kefeng Ji* (*National University of Defense Technology*);

14 Estimating Sea Surface Currents Based on Himawari-8 Sea Surface Temperature Data
Yu Du (*Hohai University*); *Qing Xu* (*Ocean University of China*); *Yongcun Cheng* (*PIESAT Information Technology Co., Ltd.*); *Shuangshang Zhang* (*Hohai University*); *Chong Wang* (*Institute of Oceanography, Chinese Academy of Sciences*);

15 The Method of Mangrove Recognition Based on Deep Learning
Yongcun Cheng (*PIESAT Information Technology Co., Ltd.*);

16 Joint Detection, Tracking and Recognition of Multitargets Based on Narrowband Radar Measurement Information
Hongtu Xie (*Sun Yat-sen University*); *Ni Xie* (*Hunan University of Science and Technology*); *Lin Zhang* (*Air Force Early Warning Academy*); *Guoqian Wang* (*Sun Yat-sen University*); *Shaoying Shi* (*East China Normal University*);

17 DOA Tracking for Multiple Sources Based on a Novel Measurement Association Mapping
Renzhou Gui (*Tongji University*); *Jun Zhao* (*Tongji University*); *Hao Liang* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

18 Analysis of the MTVZA-GYa Microwave Imager/Sounder Measurements over the Arctic Sea Ice and Sea Water
Elizaveta V. Zabolotskikh (*Russian State Hydrometeorological University*); *Margarita Andreevna Zhivotovskaya* (*Russian State Hydrometeorological University (RSHU)*); *E. Balashova* (*Russian State Hydrometeorological University*); *S. M. Azarov* (*Russian State Hydrometeorological University*);

19 An Improved CFAR_CNN Algorithm for Ship Target Detection
Xiunan Li (*Zhejiang University*); *Jingsong Yang* (*Second Institute of Oceanography, State Oceanic Administration*); *Haitian Zhu* (*National Satellite Ocean Application Service*); *Gang Zheng* (*Second Institute of Oceanography, Ministry of Natural Resources*); *Yizhi Zhao* (*Second Institute of Oceanography, Ministry of Natural Resources*); *Wentao An* (*National Satellite Ocean Application Service Systematic Engineering*); *Peng Chen* (*Second Institute of Oceanography, Ministry of Natural Resources*);

20 Evaluation of Remotely Sensed Winds from the UK TechDemoSat-1 Mission in the Northwest Pacific
Xiaohui Li (*Beihang University*); *Dongkai Yang* (*Beihang University*); *Gang Zheng* (*The Second Institute of Oceanography, Chinese Ministry of Natural Resources*); *Jingsong Yang* (*Second Institute of Oceanography, State Oceanic Administration*);

21 Retrieving of Waves Parameters and Waves Direction Using the Doppler Spectrum of Reflected Radiation
Yuriy Titchenko (*Institute of Applied Physics, Russian Academy of Science*); *Vladimir Yurjevich Karaev* (*Institute of Applied Physics, Russian Academy of Sciences*);

22 Experimental Results of ISAR Imaging Using 216 GHz FMCW Radar
Xiao Dong (*Center for Space Science and Applied Research, Chinese Academy of Sciences*); *Yunhua Zhang* (*National Space Science Center, Chinese Academy of Sciences*); *Jin Meng* (*Center for Space Science and Applied Research, Chinese Academy of Sciences*); *De Hai Zhang* (*Center for Space Science and Applied Research, Chinese Academy of Sciences*);

23 A Novel Nonlinearity Correction Application for FMCW Range Radar
Kun Yan (*China Electronics Technology Group Corporation No. 58 Research Institute*); *Lin Gu* (*China Electronics Technology Group Corporation No. 58 Research Institute*); *Wenxin Zhang* (*Beijing Information Science and Technology University*);

24 U-net Conjugate Gradient Solution of Electromagnetic Scattering From Dielectric Objects
Bo-Wen Xue (*Beijing Institute of Technology*); *Di Wu* (*Beijing Institute of Technology*); *Bo-Yue Song* (*Beijing Institute of Technology*); *Xiao-Min Pan* (*Beijing Institute of Technology*); *Xin-Qing Sheng* (*Beijing Institute of Technology*);

25 Analysis on the Research Status of Mangrove Remote Sensing Monitoring
Yongcun Cheng (*PIESAT Information Technology Co., Ltd.*);

26 Statistical Study on Daytime Es Observed by Ground-ionosonde and RO-COSMIC S4 Index in Magnetic Equator Region in 2010
Zheng Wang (*National Space Science Center, CAS*); *Jiankui Shi* (*Center for Space Science and Applied Research, CAS*); *Guojun Wang* (*National Space Science Center, CAS*); *Zhengwei Cheng* (*National Space Science Center, CAS*); *Sheping Shang* (*National Space Science Center, CAS*); *Xiao Wang* (*National Space Science Center, CAS*);

27 Comparison between Ground-based Synoptic Data and ERA5 Reanalysis Data in Iran
Neda Akrami (*Shiraz University*); *Koorush Ziarati* (*Shiraz University*); *Soumyabrata Dev* (*The ADAPT SFI Research Centre Dublin*);

28 Change Detection of Foliage-concealed Targets Based on Deep Neural Network in Low Frequency Ultra-wideband SAR Images
Hongtu Xie (*Sun Yat-sen University*); *Kaipeng Chen* (*Sun Yat-sen University*); *Ni Xie* (*Hunan University of Science and Technology*); *Kang Liang* (*Sun Yat-sen University*); *Xingqiao Jiang* (*Sun Yat-sen University*); *Guoqian Wang* (*Sun Yat-sen University*);

29 Comparative Research of Dynamic Target Detection Algorithms Based on Static Background
Chao Li (*Tongji University*); *Song Ran* (*Tongji University*); *Lan Lin* (*Tongji University*);

30 A Novel Design of High-speed Multi-port Memory Interface for Digital Signal Processor
Pengwei Zhao (*Tongji University*); *Xiaoling Jia* (*Tongji University*); *Zhifeng Zhang* (*Tongji University*); *Haoqi Ren* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

31 Validation of Sea Surface Temperature from HY-1D Data
Hongyan Wang (*Tsinghua University*); *Mingsen Lin* (*National Satellite Ocean Application Service*); *Chaofei Ma* (*National Satellite Ocean Application Service*); *Jianqiang Liu* (*National Satellite Ocean Application Service*); *Lei Guan* (*Ocean University of China*);

32 Passive Detection Experiment of UAV Based on 5G New Radio Signal
Xiaofeng Ai (*National University of Defense Technology*); *Linyu Zhang* (*National University of Defense Technology*); *Yuqing Zheng* (*National University of Defense Technology*); *Feng Zhao* (*National University of Defence Technology*);

33 Analysis the Causes of the Change of Brightness Temperature Deviation with the Scan Angles
Yuwei Xiao (*National Space Science Center, Chinese Academy of Sciences*); *Zhenzhan Wang* (*National Space Science Center/Center for Space Science and Applied Research, Chinese Academy of Sciences*);

34 Satellite Data-driven Deep Learning Forecast of Sea Level Anomaly Field in the South China Sea
Chang Lu (*Tianjin University*); *Yuan Zhou* (*Tianjin University*); *Xiaofeng Li* (*National Oceanic and Atmospheric Administration (NOAA)*);

35 RCS Measurement Method Based on Compressed Sensing 3-D Super-resolution Imaging
Wenxin Ren (*Guilin University of Electronic Technology*); *Kefei Liao* (*Guilin University of Electronic Technology*); *Haotian Ren* (*Guilin University of Electronic Technology*);

36 Analysis of Segmentation Procedure on Quality Indicators of Mixed Radar Frame
Ilim Durusbekovich Isaev (*Bauman Moscow State Technical University*); *Aleksej Nikolaevich Savelyev* (*Bauman Moscow State Technical University*); *Aleksandr Nikolaevich Semenov* (*Bauman Moscow State Technical University*);

37 Predicting Temperature from Ground-based Synoptic Data in Shiraz City, Iran
Neda Akrami (*Shiraz University*); *Koorush Ziarati* (*Shiraz University*); *Soumyabrata Dev* (*The ADAPT SFI Research Centre*);

38 Figure Painting Generation Based on Deep Learning
Chang Lu (*Tongji University*); *Song Ran* (*Tongji University*); *Lan Lin* (*Tongji University*);

39 A Novel Design of High-performance Parallel-serial Conversion Interface Based on AXI-Stream4.0
Ye Han Tang (*Tongji University*); *Pengwei Zhao* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

40 Domain Shape Optimization in Electrical Impedance Tomography
Jan Mikulka (*Brno University of Technology*); *Jan Dušek* (*Brno University of Technology*); *Daniel Chalupa* (*Brno University of Technology*);

41 Weak Response to Spacecraft Jet Engines Progress in Full Electronic Content from GEONET Japan GNSS Network
Artem Borisovich Ishin (*Irkutsk National Research Technical University*); *Sergey Victorovich Voeykov* (*Institute of Solar-Terrestrial Physics (ISTP), Siberian Branch of Russian Academy of Sciences*);

42 Evaluation of Finding Point Method for Fengyun-4A Satellite Infrared Longwave Remote Sensing
Mingwei Zhu (*Nanjing University of Information Science and Technology*); *Shuanggen Jin* (*Nanjing University of Information Science and Technology*); *Wentao Duan* (*Nanjing University of Information Science and Technology*);

43 A New Method of Flat-earth Phase Removal for Interferometric Imaging Radar Altimeter Based on Edge Detection
Xiaojin Shi (*National Space Science Center, Chinese Academy of Sciences*); *Shengqi Sun* (*National Space Science Center, Chinese Academy of Sciences*); *Xiao Dong* (*Center for Space Science and Applied Research, Chinese Academy of Sciences*); *Jiefang Yang* (*National Space Science Center, Chinese Academy of Sciences*); *Yunhua Zhang* (*National Space Science Center, Chinese Academy of Sciences*);

44 Oceanic Vertical Deflections Derived from Observation Data by Tiangong-2 Interferometric Imaging Radar Altimeter
Meng Sun (*National Space Science Center, Chinese Academy of Sciences*); *Yunhua Zhang* (*National Space Science Center, Chinese Academy of Sciences*); *Xiao Dong* (*Center for Space Science and Applied Research, Chinese Academy of Sciences*); *Xiaojin Shi* (*National Space Science Center, Chinese Academy of Sciences*);

45 Low-cost Cognitive Chipless RFID Reader Based on Software Defined Radio
Mohamed El-Hadidy (*The University of Duisburg-Essen*); *Nahidul Islam* (*Vertex Antennentechnik GmbH*);

46 Frequency and Incident Angle Effects on Radar Cross Section of Quadcopter Unmanned Aerial Vehicle
Shen Shou Max Chung (*National Penghu University of Science and Technology*); *Shih-Chung Tuan* (*Oriental Institute of Technology*);

47 Painting Element Segmentation Algorithm Based on Deep Network
Song Ran (*Tongji University*); *Lan Lin* (*Tongji University*);

48 Optimization of Electrode Positions in Electrical Impedance Tomography
Jan Dušek (*Brno University of Technology*); *Jan Mikulka* (*Brno University of Technology*);

49 A New Approach to the Retrieval of the Sea Wave Slopes from Spectrometer SWIM Data
Vladimir Yurjevich Karaev (*Institute of Applied Physics, Russian Academy of Sciences*); *Maria A. Panfilova* (*Institute of Applied Physics, Russian Academy of Sciences*); *Mariya Ryabkova* (*Institute of Applied Physics, Russian Academy of Sciences*); *Yuriy Titchenko* (*Institute of Applied Physics of Russian Academy of Science*); *Xiuzhong Li* (*Nanjing University of Information Science and Technolog*);

50 Specifics the Generation and Registration Ionospheric Disturbances Caused by the New Zealand Earthquake of 13 November 2016
Artem Borisovich Ishin (*Irkutsk National Research Technical University*); *Sergey Victorovich Voeykov* (*Institute of Solar-Terrestrial Physics (ISTP), Siberian Branch of Russian Academy of Sciences*); *Tatiana Vitalievna Ishina* (*Irkutsk State Transport University*);

51 Compensation of Space-borne SAR Imaging Degradation Due to the Ionospheric Scintillation
Cheng Wang (*China Academy of Space Technology*); *Bo Liu* (*China Academy of Space Technology*); *Haisheng Zhao* (*China Research Institute of Radiowave Propagation*); *Liang Chen* (*China Academy of Space Technology*); *Peng Xiao* (*China Academy of Space Technology*); *Wulong Guo* (*China Academy of Space Technology*);

52 Azimuth Preprocessing of Squinted Sliding Spotlight Synthetic Aperture Radar Data with Block Varying PRF
Zhuo Zhang (*Inner Mongolia University of Technology*); *Wei Xu* (*Inner Mongolia University of Technology*); *Pingping Huang* (*Inner Mongolia University of Technology*); *Weixian Tan* (*Institute Of Electronics, Chinese Academy Of Scences*); *Yaolong Qi* (*Inner Mongolia University of Technology*);

53 Organizing Decentralized Energy Data Using Semantic Approach
Jiantao Wu (*University College Dublin*); *Fabrizio Orlandi* (*The ADAPT SFI Research Centre*); *Yee Hui Lee* (*Nanyang Technological University Singapore*); *Declan O'Sullivan* (*Trinity College Dublin*); *Soumyabrata Dev* (*Beijing-Dublin International College*);

54 Exploration of the Sea Surface Wind Speed Retrieval from the Geosynchronous Synthetic Aperture Radar
Lizhang Zhou (*Zhejiang University*); *Jingsong Yang* (*Second Institute of Oceanography, State Oceanic Administration*); *Gang Zheng* (*The Second Institute of Oceanography, Chinese Ministry of Natural Resources*); *Yanmin Zhang* (*Ocean University of China*); *Lin Ren* (*State Oceanic Administration*); *Peng Chen* (*Second Institute of Oceanography, Ministry of Natural Resources*);

55 Application of Doppler Spectrum of a Backscattered Microwave Signal for a Detection of "Water/Ice" Boundary: A Theoretical Approach
Vladimir Yurjevich Karaev (*Institute of Applied Physics, Russian Academy of Sciences*); *Maria A. Panfilova* (*Institute of Applied Physics, Russian Academy of Sciences*); *Mariya Ryabkova* (*Institute of Applied Physics, Russian Academy of Sciences*); *Yuriy Titchenko* (*Institute of Applied Physics of Russian Academy of Science*); *Eugeny A. Meshkov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Kiril Ponur* (*Institute of Applied Physics, Russian Academy of Sciences*);

56 Correction of Speed Calculation in SADM-GPS Method
Cheremisin Viktor Vladimirovich (*Institute of solar-terrestrial physics Siberian branch RAS*); *Sergey Victorovich Voeykov* (*Institute of Solar-Terrestrial Physics (ISTP), Siberian Branch of Russian Academy of Sciences*); *Artem Borisovich Ishin* (*Irkutsk National Research Technical University*);

57 Oil Spill Segmentation of SAR Image Based on Improved Deep Convolution Neural Network
Dan Luo (*Zhejiang University*); *Chunliang Gu* (*Zhejiang Academy of Surveying and Mapping*); *Peng Chen* (*Second Institute of Oceanography, Ministry of Natural Resources*); *Jingsong Yang* (*Second Institute of Oceanography, State Oceanic Administration*); *Yeping Yuan* (*Zhejiang University*); *Gang Zheng* (*The Second Institute of Oceanography, Chinese Ministry of Natural Resources*); *Lin Ren* (*Aviation University of Air Force*);

58 Analysis of Radar Frame Quality Indicators Properties
Ilim Durusbekovich Isaev (*Bauman Moscow State Technical University*); *Aleksej Nikolaevich Savelyev* (*Bauman Moscow State Technical University*); *Aleksandr Nikolaevich Semenov* (*Bauman Moscow State Technical University*);

59 Deep Neural Network for Precision Landing and Variable Flight Planning of Autonomous UAV
Jiři Janoušek (*Brno University of Technology*); *Petr Marcoň* (*Brno University of Technology*); *J. Klouda* (*Brno University of Technology*); *Josef Pokorny* (*Brno University of Technology*); *P. Raichl* (*Brno University of Technology*); *A. Siruckova* (*Brno University of Technology*);

60 Water Level Variation in Qinghai Lake from Global Ecosystem Dynamics Investigation (GEDI) Altimetry Data
Zhijie Zhang (*Suzhou University of Science and Technology*); *Shuanggen Jin* (*Nanjing University of Information Science and Technology*); *Xiaozu Guo* (*Nanjing University of Information Science and Technology*); *Yanchen Bo* (*Aerospace Information Research Institute, Chinese Academy of Sciences*);

61 Built-up Areas Mapping from Luojia 1-01 Nighttime Light Imagery with Considering Observation Number
Ting Hu (*Nanjing University of Information Science and Technology*); *Shuanggen Jin* (*Nanjing University of Information Science and Technology*); *Qingyun Yan* (*Nanjing University of Information Science and Technology*); *Xiaozu Guo* (*Nanjing University of Information Science and Technology*);

62 Evaluation of Water Level Estimation in the Upper Yangtze River from ICESat-2 Data
Xiaozu Guo (*Nanjing University of Information Science and Technology*); *Shuanggen Jin* (*Nanjing University of Information Science and Technology*); *Zhijie Zhang* (*Suzhou University of Science and Technology*);

63 Retrieving the True 3D Displacement of the Scene Based on Multiple Ground-based Microdeformation Monitoring Radars
Mengyu Zhang (*Inner Mongolia University of Technology*); *Pingping Huang* (*Inner Mongolia University of Technology*); *Yaolong Qi* (*Inner Mongolia University of Technology*); *Weixian Tan* (*Inner Mongolia University of Technology*); *Zhuo Zhang* (*Inner Mongolia University of Technology*);

64 Ka-band Radar Onboard GPM Satellite Surface Wind Speed Algorithm
Maria Panfilova (*Institite of Applied Physics RAS*); *Vladimir Yurjevich Karaev* (*Institute of Applied Physics, Russian Academy of Sciences*); *Leonid Mitnik* (*Institite of Applied Physics RAS*);

65 An Image Inspection Method for Power Equipment Based on a Multimodal Algorithm
Shu Jia Yan (*Shanghai University of Engineering Science*); *Yuan Li Liu* (*HiSilicon (Shanghai) Technologies CO. Ltd.*); *Xinbo Liu* (*Shanghai University of Engineering Science*); *Mei Song Tong* (*Tongji University*);

66 A Novel Method for Extracting Resistivity Anisotropy from EM Resistivity Logging While Drilling
Peng Kang (*China University of Petroleum (Beijing)*); *Jie Gao* (*China University of Petroleum (Beijing)*); *Hang Chen* (*China University of Petroleum (Beijing)*);

67 A Schematic of Track-wisely Calibrating CyGNSS Data
Qingyun Yan (*Nanjing University of Information Science and Technology*); *Shuanggen Jin* (*Nanjing University of Information Science and Technology*); *Weimin Huang* (*Memorial University of Newfoundland*); *Ting Hu* (*Nanjing University of Information Science and Technology*); *Yan Jia* (*Nanjing University of Posts and Telecommunications*);

68 Direction Dependence of the Fully Polarimetric Wind-induced Ocean Emissivity at L-band: Modeling and Anisotropy Analyses
Yanlei Du (*Tsinghua University*); *Wentao Ma* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Xiaofeng Yang* (*Aerospace Information Research Institute, Chinese Academy of Sciences*); *Jian Yang* (*Tsinghua University*);

69 The Sensitivity Analysis on GNSS-R Soil Moisture Retrieval
Yan Jia (*Nanjing University of Posts and Telecommunications*); *Shuanggen Jin* (*Nanjing University of Information Science and Technology*); *Qingyun Yan* (*Nanjing University of Information Science and Technology*); *Patrizia Savi* (*Politecnico di Torino*);

70 Efficient Forecasting of Precipitation Using LSTM
Muhammad Salman Pathan (*University College Dublin Belfield*); *Mayank Jain* (*University College Dublin Belfield*); *Yee Hui Lee* (*Nanyang Technological University Singapore*); *Tarek Al Skaif* (*Wageningen University and Research*); *Soumyabrata Dev* (*Beijing-Dublin International College*);

71 Multivariate Convolutional LSTMs for Relative Humidity Forecasting
Zheng Yi Ho (*Nanyang Technological University*); *Mayank Jain* (*University College Dublin Belfield*); *Soumyabrata Dev* (*Beijing-Dublin International College*);

72 Improving Training Efficiency of LSTMs While Forecasting Precipitable Water Vapours
Mayank Jain (*University College Dublin Belfield*); *Piyush Yadav* (*University of Delhi*); *Yee Hui Lee* (*Nanyang Technological University Singapore*); *Soumyabrata Dev* (*The ADAPT SFI Research Centre*);

73 Multi-satellite Observation of a Harmful Algal Bloom in the Beibu Gulf, South China Sea
Shaoqiong Fu (*Second Institute of Oceanography, Ministry of Natural Resources*); *Xiulin Lou* (*Second Institute of Oceanography, Ministry of Natural Resources*); *Jingsong Yang* (*Second Institute of Oceanography, State Oceanic Administration*); *Pengbin Wang* (*Second Institute of Oceanography, Ministry of Natural Resources*); *Weibing Guan* (*Second Institute of Oceanography, State Oceanic Administration*); *Dingtian Fu* (*Second Institute of Oceanography, Ministry of Natural Resources*);

74 Detecting Rainfall Events Leveraging Climate Knowledge Graphs
Jiantao Wu (*University College Dublin*); *Fabrizio Orlandi* (*The ADAPT SFI Research Centre*); *Declan O'Sullivan* (*Trinity College Dublin*); *Soumyabrata Dev* (*Beijing-Dublin International College*);

75 Role of Temporal Information for Multi-step Ahead Forecasting of Solar Irradiance
T. A. Fathima (*Indian Institute of Technology Bombay*); *Vasudevan Nedumpozhimana* (*ADAPT SFI Research Centre*); *Jiantao Wu* (*University College Dublin*); *Yee Hui Lee* (*Nanyang Technological University Singapore*); *Soumyabrata Dev* (*Beijing-Dublin International College*);

76 Uplifting Air Quality Data Using Knowledge Graph
Jiantao Wu (*University College Dublin*); *Fabrizio Orlandi* (*The ADAPT SFI Research Centre*); *Isabella Gollini* (*University College Dublin*); *Enrico Pisoni* (*European Commission, Joint Research Centre (JRC)*); *Soumyabrata Dev* (*Beijing-Dublin International College*);

77 A Novel Electromagnetic Reconstruction Algorithm for Dielectric Objects Using Neural Networks
Da Wang (*Shanghai Normal University*); *Chunxia Yang* (*Shanghai Normal University*); *Jian Zhang* (*Tongji University*); *Mei Song Tong* (*Tongji University*);

78 Towards a Calibration-free Approach to Deep Learning based Single-incidence Inverse Scattering
Girija Ramesan Karthik (*Indian Institute of Scienc*); *Prasanta Kumar Ghosh* (*Indian Institute of Scienc*);

79 Arctic Sea-ice Type Recognition Based on the Surface Wave Investigation and Monitoring Instrument of the China-French Ocean Satellite
Meijie Liu (*Qingdao University*); *Xi Zhang* (*First Institute of Oceanography, Ministry of Natural Resources of China*); *Ping Chen* (*Huazhong University of Science and Technology*); *Jin Wang* (*Qingdao University*); *Shilei Zhong* (*Qingdao University*);

80 Theoretical View on the Possibilities of Multi-frequency Remote Sensing of the Water Surface
Yuriy A. Titchenko (*Institute of Applied Physics, Russian Academy of Science*); *Vladimir Yurjevich Karaev* (*Institute of Applied Physics, Russian Academy of Sciences*); *Mariya S. Ryabkova* (*Institute of Applied Physics, Russian Academy of Sciences*); *Eugeny M. Meshkov* (*Institute of Applied Physics, Russian Academy of Sciences*); *Kiril A. Ponur* (*Institute of Applied Physics, Russian Academy of Sciences*); *Roman V. Belyaev* (*Institute of Applied Physics, Russian Academy of Sciences*);

81 Land Subsidence Assessment of Bandung City, Indonesia in Geological Perspective, Based on Interferometric SAR Using C-band Data
Joko Widodo (*National Agency for Research and Innovation (BRIN)*); *Heru Sri Naryanto* (*National Agency for Research and Innovation (BRIN)*); *Wisyanto* (*National Agency for Research and Innovation (BRIN)*); *Nur Hidayat* (*National Agency for Research and Innovation (BRIN)*); *Ahmad Pratama Putra* (*National Agency for Research and Innovation (BRIN)*); *Yuta Izumi* (*The University of Tokyo*); *Daniele Perissin* (*Razer Limited*); *Josaphat Tetuko Sri Sumantyo* (*Chiba University*);

82 LDPC Code with Fractal Decoder Device for 100 Gbps PAM-M Optical Interconnect
Svitlana Matsenko (*Riga Technical University*); *Sandis Spolitis* (*Riga Technical University*); *Oleksiy Borysenko* (*Sumy State University*); *Mihails Pudzs* (*Riga Technical University*); *Aleksandr Krotov* (*Riga Technical University*); *Vjaceslavs Bobrovs* (*Riga Technical University*);

83 A Novel Unmanned Aerial Vehicle Recognition Method Based on Bayesian Coherent Point Drift with Full Polarization Information
Hao Wu (*National University of Defense Technology*); *Dahai Dai* (*National University of Defense Technology*); *Bo Pang* (*National University of Defense Technology*); *Penghui Ji* (*National University of Defense Technology*); *Xuesong Wang* (*National University of Defense Technology*);

Session 0A6a
Oral Presentations for Best Student Paper Awards — SC1: CEM, EMC, Scattering & EM Theory

Monday AM, November 22, 2021

Room Online ROOM 6

Chaired by Wenchao Chen, Maokun Li, Naixing Feng

9:00 An A-$\mathbf{\Phi}$ Formulation Solver in Electromagnetics Based on Discrete Exterior Calculus
Boyuan Zhang (*Purdue University*); *Dong-Yeop Na* (*Purdue University*); *Dan Jiao* (*Purdue University*); *Weng Cho Chew* (*Purdue University*);

9:15 A Fast Computation Method for Solving Scattering from Complex Objects with Radar Absorbing Honeycomb Structure
Zeng Yang (*Beijing Institute of Technology*); *Xiao-Wei Yuan* (*Beijing Institute of Technology*); *Ming-Lin Yang* (*Beijing Institute of Technology*); *Xin-Qing Sheng* (*Beijing Institute of Technology*);

9:30 Impact of Roughness on Circular-Polarization-Ratio Anomalies of Lunar Rough Surfaces
Jiaxin Wan (*Fudan University*); *Hongxia Ye* (*Fudan University*); *Mei Song Tong* (*Tongji University*);

9:45 A Miniaturized Ultra-wideband Resistive Film Absorber for Radiation Suppression
Shuyun Huo (*Hebei University of Technology*); *Yan Li* (*China Jiliang University*); *Xiaoyong Lei* (*Hebei University of Technology*); *Zhe Sun* (*Hebei University of Technology*); *Heyuan Yu* (*Hebei University of Technology*); *Er Ping Li* (*Zhejiang University — UIUC Institute*); *Shaojie Xu* (*China Jiliang University*); *Lidan Fang* (*China Jiliang University*);

10:00 Electromagnetic Scattering Solver for Metal Nanostructures via Deep Learning
Yinpeng Wang (*Beihang University*); *Yongzhong Li* (*Beihang University*); *Shutong Qi* (*Beihang University*); *Qiang Ren* (*Beihang University*);

10:15 Electromagnetic-thermal Analysis of the Effect of Microwave Ablation of Thyroid Nodules
Jinzhi Wang (*Shanghai Jiao Tong University*); *Gaobiao Xiao* (*Shanghai Jiao Tong University*);

Session 0P1a
Oral Session SC1. Computational Electromagnetics, Electromagnetic Compatibility, Scattering and Electromagnetic Theory - Part 2

Monday PM, November 22, 2021

Room Online ROOM 1

Chaired by Wenchao Chen

13:00 Eigenmode Analysis of an Optical Waveguide by the Envelope FDTD Method
Hiroki Tanaka (*Hosei University*); *Jun Shibayama* (*Hosei University*); *J. Yamauchi* (*Hosei University*); *H. Nakano* (*Hosei University*);

13:10 Analysis of an InSb-coated Dielectric Sphere Array in the THz Region
Takuma Kuroda (*Hosei University*); *J. Shibayama* (*Hosei University*); *J. Yamauchi* (*Hosei University*); *H. Nakano* (*Hosei University*);

13:20 Flexible Scattering Operator Technique for Analysis of Axi-symmetric Optical Devices
Keita Morimoto (*Muroran Institute of Technology*); *Akito Iguchi* (*Muroran Institute of Technology*); *Yasuhide Tsuji* (*Muroran Institute of Technology*);

13:30 Analysis of Acoustic Waves on Living-inanimate Media Surfaces Using Finite Differences Time Domain Method
Turan Cakil (*Akdeniz University*); *Hamza Feza Carlak* (*Akdeniz University*); *Sukru Ozen* (*Akdeniz University*);

13:40 Performance Comparison of PML and Chiral Absorbing Boundary Condition in FDTD for Electromagnetic Scattering Problems
G. U. Varalakshmi (*Indian Institute of Science*); *Yoginder Kumar Negi* (*Indian Institute of Science*); *N. Balakrishnan* (*Indian Institute of Science*);

13:50 Method of Analytical Regularized Combined Field Integral Equation $\boldsymbol{H}$-matrix
Yoginder Kumar Negi (*Indian Institute of Science*); *N. Balakrishnan* (*Indian Institute of Science*); *Sadavisa M. Rao* (*Naval Research Laboratory*);

14:00 Research on Anti-electromagnetic Radiation Maternity Wear with Absorbing Wave
Sijia He (*Xi'an Polytechnic University*); *Zhe Liu* (*Xi'an Polytechnic University*); *Xiuchen Wang* (*Xi'an Polytechnic University*); *Haoyu Wang* (*Xi'an Polytechnic University*);

14:15 Influence of Emission Source Parameters on Shielding Effectiveness of Electromagnetic Shielding Clothing and New Evaluation Method
Xiuchen Wang (*Zhongyuan University of Technology*); *Ying Wei* (*Xi'an Polytechnic University*); *Zhe Liu* (*Xi'an Polytechnic University*); *Long Wu* (*Xi'an Polytechnic University*); *Yue Wang* (*Xi'an Polytechnic University*);

14:30 Protection against Lightning Electromagnetic Pulses Using Surge Arresters: A Simulation Study for the Realistic High-voltage Power Line Region
Turan Cakil (*Akdeniz University*); *Hamza Feza Carlak* (*Akdeniz University*); *Sukru Ozen* (*Akdeniz University*);

14:40 RCS Estimation and Synthesis of Typical Traffic Participants
Weigang Shi (*Tongji University*); *Xiaolei Zhang* (*Shanghai Motor Vehicle Inspection Certification & Tech Innovation Center Co., Ltd.*); *Yafei Shen* (*Shanghai Motor Vehicle Inspection Certification & Tech Innovation Center Co., Ltd.*); *Huanlei Chen* (*Shanghai Motor Vehicle Inspection Certification & Tech Innovation Center Co., Ltd.*); *Zhuoping Yu* (*Tongji University*);

15:00 Measurement of Low Flow Velocity by Dynamic Light Scattering
Guiqiong Huang (*South China Normal University*); *Jian Qiu* (*South China Normal University*); *Li Peng* (*South China Normal University*); *Kaiqing Luo* (*South China Normal University*); *Dongmei Liu* (*South China Normal University*); *Peng Han* (*South China Normal University*);

15:15 Research on a Deep Hopfield Neural Network for Class Prediction of Breast Cancer Gene Data
Renzhou Gui (*Tongji University*); *Juan Li* (*Tongji University*); *Xiaohong Ji* (*Tongji University*); *Hehua Zhu* (*Tongji University*); *Wei Wu* (*Tongji University*);

15:25 Sustainable Development of Urban Agglomeration Industrial Layout Based on Big Data and Deep Learning
Renzhou Gui (*Tongji University*); *Huilin Zheng* (*Tongji University*); *Xiaohong Ji* (*Tongji University*); *Tongjie Chen* (*Tongji University*); *Chuan Pang* (*Macau University of Science a nd Technology*); *Chengkun Liu* (*Macau University of Science and Technology*);

Session 0P1b
Oral Session SC1. Computational Electromagnetics, Electromagnetic Compatibility, Scattering and Electromagnetic Theory - Part 3

Monday PM, November 22, 2021

Room Online ROOM 1

Chaired by Qiwei Zhan

16:30 Model-based Microstrip Antenna Design
Hasan Yiğit (*Muğla Sitki Koçman University*); *Kutlu Karayahşi* (*Muğla Sitki Koçman University*);

16:40 Electromagnetic Simulation of Semiconductor Plasmonic Structures Using a Two-fluid Hydrodynamic Model
Doolos Aibek Uulu (*King Abdullah University of Science and Technology (KAUST)*); *Rui Chen* (*King Abdullah University of Science and Technology (KAUST)*); *Liang Chen* (*King Abdullah University of Science and Technology (KAUST)*); *Ping Li* (*Shanghai Jiao Tong University*); *Hakan Bagci* (*King Abdullah University of Science and Technology (KAUST)*);

16:50 Behaviour of the Electromagnetic Field Near the Edge of a Cylinder with Ogival Cross-section
Mikhail Maximovich Shusharin (*M. V. Lomonosov Moscow State University*); *Ilya E. Mogilevsky* (*M. V. Lomonosov Moscow State University*); *Alexander Nikolaevich Bogolyubov* (*M. V. Lomonosov Moscow State University*);

17:00 Simulation of Radar Signals in the VHF Range, Taking Account of Their Propagation Effects in the Troposphere and Ionosphere
Vladimir Alexeyevich Ivonin (*Institute of Solar-Terrestrial Physics SB RAS*); *Valentin P. Lebedev* (*Institute of Solar-Terrestrial Physics, Siberian Branch, Russian Academy of Sciences*);

17:10 Optimization of a Mirror Collimator with Rounded Edges on Multiple Frequencies
Fedor B. Khlebnikov (*Lomonosov Moscow State University*); *Maxim I. Propoy* (*Lomonosov Moscow State University*); *D. A. Konyaev* (*M.V. Lomonosov Moscow State University*); *Natalya E. Shapkina* (*Lomonosov Moscow State University*); *Alexander Nikolaevich Bogolyubov* (*M. V. Lomonosov Moscow State University*);

17:20 R-, Atomic and WA-system Functions Theory in Physical Problems
V. F. Kravchenko (*Kotelnikov Institute of Radio Engineering and Electronics of RAS*); *V. E. Antciperov* (*Kotelnikov Institute of Radio Engineering and Electronics of RAS*); *L. E. Nazarov* (*Fryazino Branch of Kotelnikov Institute of Radio Engineering and Electronics of RAS*); *O. V. Kravchenko* (*Kotelnikov Institute of Radio Engineering and Electronics of RAS*); *D. V. Churikov* (*Kotelnikov Institute of Radio Engineering and Electronics of RAS*); *Yaroslav Yu. Konovalov* (*Bauman Moscow State Technical University*); *K. A. Budunova* (*Kotelnikov Institute of Radio Engineering and Electronics of RAS*);

17:30 Comparison of Two Methods for Reducing the Support Influence on the Electromagnetic Field Scattered by an Object Using the Method of Mathematical Modeling
N. P. Balabukha (*Institute of Theoretical and Applied Electrodynamics of the Russian Academy of Sciences*); *Egor Evgenevich Evstafev* (*MSU Faculty of Physics*); *N. L. Menshikh* (*Institute of Theoretical and Applied Electrodynamics of the Russian Academy of Sciences*); *Natalya E. Shapkina* (*Lomonosov Moscow State University*);

17:40 Mathematical Simulating of Electromagnetic Field in the Quiet Zone of Pyramidal and Conical Tapered Anechoic Chambers: Comparison of Results
N. P. Balabukha (*Institute of Theoretical and Applied Electrodynamics of the Russian Academy of Sciences*); *N. L. Menshikh* (*Institute of Theoretical and Applied Electrodynamics of the Russian Academy of Sciences*); *Artem Dmitrievich Sakhno* (*Moscow Lomonosov State University*); *Natalya E. Shapkina* (*Lomonosov Moscow State University*);

17:50 Scattering from the Narrow Slots
I. I. Krasnolobov (*Institute for Theoretical and Applied Electromagnetics, Russian Academy of Sciences*); *Andrey M. Lebedev* (*Institute for Theoretical and Applied Electromagnetics, Russian Academy of Sciences*); *Anatoli I. Fedorenko* (*Institute for Theoretical and Applied Electromagnetics, Russian Academy of Sciences*); *T. A. Furmanova* (*Institute for Theoretical and Applied Electromagnetics, Russian Academy of Sciences*);

18:00 Pattern Recognition with Antiferromagnet-heavy Metal Hybrid Structure
Anastasia Yu. Mitrofanova (*Bauman Moscow State Technical University*); *Ansar Rizaevich Safin* (*National Research University "Moscow Power Engineering Institute"*); *Dobroslav P. Egorov* (*Kotel'nikov Institute of Radioengineering and Electronics, Russian Academy of Sciences*); *Oleg V. Kravchenko* (*Bauman Moscow State Technical University*); *Nikolay I. Bazenkov* (*V. A. Trapeznikov Institute of Control Sciences of Russian Academy of Sciences*);

18:10 Multiphysics Analysis of Screening Effects on Terahertz Photoconductive Devices
Liang Chen (*King Abdullah University of Science and Technology (KAUST)*); *Hakan Bagci* (*King Abdullah University of Science and Technology (KAUST)*);

18:20 Electromagnetic Response and Optical Properties of Spherical $CuSbS_2$ Nanoparticles
Fahime Seyedheydari (*Aalto University School of Science*); *Kevin Conley* (*Aalto University*); *Pasi Ylä-Oijala* (*Aalto University*); *Ari Sihvola* (*Aalto University*); *Tapio Ala-Nissila* (*Aalto University*);

Session 0P2a
Oral Presentations for Best Student Paper Awards — SC2: Metamaterials, Plasmonics and Complex Media

Monday PM, November 22, 2021

Room Online ROOM 2

Chaired by Hongsheng Chen, Huanyang Chen, Jian-Hua Jiang

13:00 Exceptional Transport Robustness in Anomalous Topological Scattering Networks: Theory and Experiment
Zhe Zhang (*EPFL*); *Pierre Delplace* (*Univ. Lyon, ENS de Lyon, Univ. Claude Bernard, CNRS, Laboratoire de Physique*); *Romain Fleury* (*Ecole Polytechnique Federale de Lausanne (EPFL)*);

13:15 Three Dimensional Topological Transitions of Magnetic Polaritons in Origami Metamaterials
Min Li (*Zhejiang University*); *Zuojia Wang* (*Zhejiang University*);

13:30 Angular Pinning of Accidental Bound State in the Continuum
Sergei A. Gladyshev (*ITMO University*); *A. N. Shalev* (*ITMO University*); *K. S. Ladutenko* (*ITMO University*); *Andrey A. Bogdanov* (*ITMO University*);

13:45 A Deep Learning Approach to Predict the Mutual Coupling Effect in Metasurfaces
Sensong An (*University of Massachusetts Lowell*); *Bowen Zheng* (*University of Massachusetts Lowell*); *Mikhail Y. Shalaginov* (*Massachusetts Institute of Technology*); *Hong Tang* (*University of Massachusetts Lowell*); *Hang Li* (*University of Massachusetts Lowell*); *Li Zhou* (*University of Massachusetts Lowell*); *Yunxi Dong* (*University of Massachusetts Lowell*); *Mohammad Haerinia* (*University of Massachusetts Lowell*); *Anuradha Murthy Agarwal* (*Massachusetts Institute of Technology*); *Clara Rivero-Baleine* (*Lockheed Martin Corporation*); *Myungkoo Kang* (*University of Central Florida*); *Kathleen A. Richardson* (*University of Central Florida*); *Tian Gu* (*Massachusetts Institute of Technology*); *Juejun Hu* (*Massachusetts Institute of Technology*); *Hualiang Zhang* (*University of Massachusetts Lowell*);

14:00 Characteristic Mode Analysis and Design of Compact Dual-port Dual-band Metasurface Antennas with High-isolation for Beyond 5G Networks
Yuxin Jing (*Shanghaitech University*); *Haoran Dong* (*Shanghaitech University*); *Fenghan Lin* (*Shanghaitech University*);

14:15 Acoustic Illusion Medium Mimicking Scattered Waves of a Groove on a Flat Surface Based on Transformation Acoustics
Akihiro Toshima (*Kagoshima University*); *Tsutomu Nagayama* (*Kagoshima University*); *Seiji Fukushima* (*Kagoshima University*); *Toshio Watanabe* (*Kagoshima University*);

Session 0P2b
Oral Session SC2. Metamaterials, Plasmonics and Complex Media

Monday PM, November 22, 2021

Room Online ROOM 2

Chaired by Xiao Lin, Ying Li

15:40 Design of Wideband Microwave Absorber with Ultra-wide-angle Response
Na Kang (*Beijing Institute of Technology*); *Cheng Jin* (*Beijing Institute of Technology*); *Binchao Zhang* (*Beijing Institute of Technology*); *Qihao Lv* (*Beijing Institute of Technology*); *Junwei Wang* (*Beijing Institute of Technology*); *Buning Tian* (*Beijing Institute of Technology*); *Pengyu Zhang* (*Beijing Institute of Technology*); *Hangcheng Han* (*Beijing Institute of Technology*);

15:55 Tunable Metasurface for Image Processing
Xiaomeng Zhang (*Tsinghua University*); *Benfeng Bai* (*Tsinghua University*); *You Zhou* (*Vanderbilt University*); *Hanyu Zheng* (*Vanderbilt University*); *Alberto Esteban Linares* (*Vanderbilt University*); *Fabian Chibuzor Ugwu* (*Vanderbilt University*); *Deyu Li* (*Vanderbilt University*); *Hong-Bo Sun* (*Tsinghua University*); *Jason G. Valentine* (*Vanderbilt University*);

16:10 A Novel Miniaturized Dual-band SIW Filter with Controllable Bandwidth
Yulu Song (*Shanghai University*); *Binbin Cheng* (*Shanghai University*); *Shuo Dan Feng* (*Shanghai University*); *Guohui Li* (*Shanghai University*);

16:20 Balanced-to-unbalanced Wideband Filtering Power Divider with High Common-mode Suppression Based on Coupled Lines
Binbin Cheng (*Shanghai University*); *Yulu Song* (*Shanghai University*); *Qi Tian Jiang* (*Shanghai University*); *Yin Chuan Xiao* (*Shanghai University*); *Guohui Li* (*Shanghai University*);

16:30 Dielectric Metasurface Light Trapping Structure for Silicon Thin Film Solar Cells
Yifan Zhou (*University of Electronic Science and Technology of China*); *Bin Xu* (*University of Electronic Science and Technology of China*); *Hengchang Lu* (*University of Electronic Science and Technology of China*); *Yizhou He* (*University of Electronic Science and Technology of China*); *Ting Jiang* (*University of Electronic Science and Technology of China*); *Xiaowei Guo* (*University of Electronic Science and Technology of China*);

16:45 Antenna Design Based on Phase-transforming Properties of the Spoof Surface Plasmon Polaritons (SSPPs)
Qiuyi Zhang (*Southeast University*); *Tongtong Zhang* (*Southeast University*); *Yuwei Huang* (*Southeast University*); *Shunli Li* (*Southeast University*); *Hongxin Zhao* (*Southeast University*); *Xiaoxing Yin* (*Southeast University*);

17:00 Design of Low-profile Broadband Circularly Polarized Metasurface Antenna Based on CPW Feed
Yue Ma (*Anhui University*); *Bo Wu* (*Anhui University*); *Changqing Liu* (*Anhui University*); *Xianliang Wu* (*Anhui University*);

17:15 The Invention Relates to a Wideband Circularly Polarized Metasurface Antenna
Mengying Dong (*Anhui University*); *Xianliang Wu* (*Anhui University*); *Yue Ma* (*Anhui University*);

17:30 CSRR Based Wearable Sensor for Monitoring Blood Glucose Level
Güliz Sili (*Istanbul Technical University*); *Funda Akleman* (*Istanbul Technical University*);

17:40 Multi-visual Structural Color Prints
Qifeng Ruan (*Singapore University of Technology and Design*); *Joel K. W. Yang* (*Singapore University of Technology and Design*);

17:50 A 28.3 THz Plasmonic Graphene Arrow-bowtie Nanoantenna for Energy Harvesting
Patrizia Livreri (*University of Palermo*); *Giovanni D'Arrigo* (*University of Palermo*); *Marco Ventimiglia* (*University of Palermo*);

18:00 Analytical and Numerical Modeling of Reconfigurable Beamforming Metasurfaces
Stanislav Maslovski (*University of Aveiro*); *Abdelghafour Abraray* (*Instituto de Telecomunicacoes*); *Keivan Kaboutari* (*University of Aveiro*); *Diogo Nunes* (*University of Aveiro*); *Antonio Navarro* (*University of Aveiro*);

18:10 An Analytic Continuation Algorithm for Recovering the Electromagnetic Parameters of Metamaterials
Giovanni Angiulli (*University Mediterranea*); *Mario Versaci* (*University Mediterranea of Reggio Calabria*);

18:20 A FEMs Magnetic-Thermal Study for a MR Automotive Damper
Mario Versaci (*Mediterranea University*); *Giovanni Angiulli* (*Mediterranea University*);

Session 0P3a
Oral Session SC3. Optics and Photonics - Part 2

Monday PM, November 22, 2021

Room Online ROOM 3

Chaired by Remo Proietti Zaccaria, Lian Shen

13:00 Surface Evanescent Waves Based Structured Illumination Microscopy for Super-resolution Imaging
Zhenyan Li (*Institute of Optics and Electronics, Chinese Academy of Sciences*); *Xiangzhi Liu* (*Institute of Optics and Electronics, Chinese Academy of Sciences*); *Weijie Kong* (*Institute of Optics and Electronics, Chinese Academy of Sciences*); *Changtao Wang* (*Institute of Optics and Electronics, Chinese Academy of Sciences*); *Xiangang Luo* (*Institute of Optics and Electronics, Chinese Academy of Sciences*);

13:10 Analysis of Laser Intensity Noise in Electro-Optic Sensor System Using Polarization Simulator
Mayuko Yamagishi (*Hosei University*); *Mai Tominaga* (*Hosei University*); *Mitsuru Shinagawa* (*NTT Microsystem Integration Laboratories*); *Jun Katsuyama* (*Yokogawa Electric Corporation*); *Yoshinori Matsumoto* (*Yokogawa Electric Corporation*); *Nobuhiro Tomosada* (*Yokogawa Electric Corporation*);

13:20 Analysis of Second-order Apodization Fiber Gratings by Using Floquet-Bloch Theory
Nai-Hsiang Sun (*I-Shou University*); *Min-Yu Tsai* (*I-Shou University*); *Chia-Hsun Hsu* (*I-Shou University*); *Jung-Sheng Chiang* (*I-Shou University*);

13:30 Design and Simulation of Anti-resonant Hollow-core Fiber
Jung-Sheng Chiang (*I-Shou University*); *Yu-Cheng Chuang* (*I-Shou University*); *Jeng-Chian Lai* (*I-Shou University*); *Nai-Hsiang Sun* (*I-Shou University*);

13:40 Accurate Traffic Prediction Strategy Based on Multidimensional Edge-cloud Collaboration in B5G FiWi Networks
Lin Guan (*Beijing University of Posts and Telecommunications*); *Hui Yang* (*Beijing University of Posts and Telecommunications*); *Bowen Bao* (*Beijing University of Posts and Telecommunication*); *Qiuyan Yao* (*Beijing University of Posts and Telecommunication*); *Jie Zhang* (*Beijing University of Posts and Telecommunications*);

13:50 High Intensity Laser Applications: Space Prospective
Soon Hock Ng (*Swinburne University of Technology*); *Molong Han* (*Swinburne University of Technology*); *Lachlan Hyde* (*Swinburne University of Technology*); *Yvonne Durandet* (*Swinburne University of Technology*); *Tomas Katkus* (*Swinburne University of Technology*); *Remo Proietti Zaccaria* (*Italian Institute of Technology & Ningbo Institute of Materials and Technology Engineering, CAS*); *Saulius Juodkazis* (*Swinburne University of Technology*);

14:00 Demonstration of Secure Wireless Communication System Using a Pair of Terahertz-wave Beams
Yusuke Kawai (*Kyushu University*); *Kenta Yamauchi* (*Kyushu University*); *Hiroshi Ito* (*Kitasato University*); *Tadao Ishibashi* (*NTT Electronics Techno Corporation*); *Kazutoshi Kato* (*Kyushu University*);

14:10 UV Exposing Cabinet — A Technique for Improving the Dose Uniformity for Disinfection Processes
Sameh M. Reda (*National Institute of Standards*); *Samaa M. Faramawy* (*National Institute of Standards*);

14:20 Variable Optical Attenuation Using Stretchable Polymers
Kursad Ozcelik (*ASELSAN Inc.*); *Enes Okay Koc* (*ASELSAN Inc.*); *Ibrahim Halil Giden* (*ASELSAN Inc.*);

14:35 Demonstration of Bi-directional 400-GHz-wide High-speed High-reliability Wavelength Switching at DFB Laser with Current/Temperature Cooperative Control
Shenghong Ye (*Kyushu University*); *Ming Che* (*Kyushu University*); *Takeshi Kuboki* (*Kyushu University*); *Kazutoshi Kato* (*Kyushu University*);

14:45 An Efficient Collinear FROG System to Character the Ultrafast Infrared Laser Pulse
Shilong Liu (*Zhejiang University*); *Yudong Cui* (*Zhejiang University*); *Zhi-Yuan Zhou* (*University of Science and Technology of China*); *Ebrahim Karimi* (*University of Ottawa*);

14:55 Hybrid Metal-dielectric Nanostructure for Boosting the Emission of Single-photon Sources
Angela Barreda (*Friedrich Schiller University Jena*); *Maryam Moradi* (*Friedrich Schiller University Jena*); *Alexander Minovich* (*Friedrich Schiller University Jena*); *Michael Jäger* (*Friedrich Schiller University Jena*); *Ulrich S. Schubert* (*Friedrich Schiller University Jena*); *Thomas Pertsch* (*Friedrich-Schiller-Universitat*); *Isabelle Staude* (*Friedrich-Schiller-Universitat Jena*);

Session 0P3b
Oral Session SC3. Optics and Photonics - Part 3

Monday PM, November 22, 2021

Room Online ROOM 3

Chaired by Vladimir Yu. Venediktov, Dmitry A. Savelyev

16:00 Investigation of the Influence of Resonator Losses and Coupling Coefficient on the Characteristics of an Optical Resonator Gyroscope with a Mach-Zehnder Modulator
T. M. Akhmadiev (*Saint Petersburg Electrotechnical University "LETI"*); *Yu. V. Filatov* (*Saint Petersburg Electrotechnical University "LETI"*); *E. V. Shalymov* (*Saint Petersburg Electrotechnical University*); *Vladimir Yu. Venediktov* (*St.-Petersburg Electrotechnical University and St.-Petersburg State University*);

16:10 Principal Axes' Orientation Measurements of Antiresonant Hollow-core Fibers in Multiple Transmission Windows
Elizaveta A. Yelistratova (*Bauman Moscow State Technical University*); *S. O. Leonov* (*Bauman Moscow State Technical University*); *V. V. Demidov* (*Bauman Moscow State Technical University*); *Valeriy E. Karasik* (*Bauman Moscow State Technical University*);

16:20 Vector Vortices Production with the Use of Roof Prisms with Phase-shifting Coating
K. N. Gavril'eva (*Saint Petersburg Electrotechnical University "LETI"*); *A. A. Sevryugin* (*Saint Petersburg Electrotechnical University*); *E. V. Shalymov* (*Saint Petersburg Electrotechnical University*); *A. L. Sokolov* (*Research-and-Production Corporation, Precision Systems and Instruments (RPC PSI)*); *Vladimir Yu. Venediktov* (*St.-Petersburg Electrotechnical University and St.-Petersburg State University*);

16:30 The Comparison of Laser Radiation Focusing by Diffractive Axicons and Annular Gratings with Variable Height Using High-performance Computer Systems
Dmitry A. Savelyev (*Samara National Research University*);

16:40 Invited Long-wave IR Chalcogenide Integrated Photonic Devices without Post-deposition Processing
Ganapathy Senthil Murugan (*University of Southampton*); *Vasileios Mourgelas* (*University of Southampton*); *James S. Wilkinson* (*University of Southampton*);

Session 0P4a
Oral Presentations for Best Student Paper Awards — SC4: Antennas and Microwave Technologies

Monday PM, November 22, 2021

Room Online ROOM 4

Chaired by Liang Zhou, Sheng Sun, Tong Cai

13:00 Omnidirectional Dual-polarized Antenna in Wedgy Profile with Collaborative Electromagnetic and Aerodynamic Design
Yongjian Zhang (*Tsinghua University*); *Yue Li* (*Tsinghua University*);

13:15 Generation of Thermal Energy by a Local Electromagnetic Field near the Antenna under Microwave Irradiation
Ryunosuke Baba (*Kyushu Institute of Technology*); *Sadatsugu Takayama* (*National Institute for Fusion Science*); *Shokichi Ohuchi* (*Kyushu Institute of Technology*);

13:30 A Parabolic Shape Tilted Dipole Array with Improved AR Bandwidth for Omnidirectional and Circular Polarization Radiation
Haoliang Chen (*University of Electronic Science and Technology of China*); *Yuzhi Chen* (*Southeast University*); *Yifan Xiong* (*University of Electronic Science and Technology of China*); *Jiang Xiong* (*University of Electronic Science and Technology of China*);

13:45 A 0.0081 mm^2 0.15–5.9-GHz Low Noise Amplifier with Noise Cancelling and Current Reuse Techniques
Yunyou Pu (*Fudan University*); *Wei Li* (*Fudan University*); *Chuangguo Wang* (*Fudan University*); *Hongtao Xu* (*Fudan University*);

14:00 Performance Evaluation of a Metasurface-enabled Wearable Quasi-Yagi Antenna with End-fire Radiation Pattern on Textile Substrate
Shahbaz Ahmed (*Tampere University*); *Duc Le* (*Tampere University*); *Lauri Sydänheimo* (*Tampere University of Technology*); *Leena Ukkonen* (*Tampere University*); *Toni Björninen* (*Tampere University*);

14:15 Compact Quad-band Meandered Implantable PIFA for Wireless Brain Care
Nikta Pournoori (*Tampere University*); *Lauri Sydänheimo* (*Tampere University of Technology*); *Yahya Rahmat-Samii* (*University of California*); *Leena Ukkonen* (*Tampere University*); *Toni Björninen* (*Tampere University*);

Session 0P4b
Oral Session SC4. Antennas and Microwave Technologies - Part 2

Monday PM, November 22, 2021

Room Online ROOM 4

Chaired by Chao Qian

16:00 Virtual Instrument to Generate Radiation Pattern Time Series Data
K. A. Pradeep Kumar (*Amrita Vishwa Vidyapeetham*); *G. A. Shanmugha Sundaram* (*Amrita Vishwa Vidyapeetham*); *R. Thiruvengadathan* (*Amrita Vishwa Vidyapeetham*);

16:10 Wideband, High Gain Elliptical Slot Degenerate Ground Aperture Coupled Antenna for SatCom Applications
Yavuz Aşci (*Uşak University*); *Mustafa Pehlivan* (*Ege University*); *Korkut Yeğin* (*Ege University*);

16:30 Design and Optimization of 5G Millimeter Wave Patch Antenna for Smart Phones
Burak Erçiftci (*Ege University*); *Yavuz Aşci* (*Uşak University*); *Mustafa Pehlivan* (*Ege University*); *Korkut Yeğin* (*Ege University*);

16:40 Miniaturized Devices and Antennas Realized by Slow Wave Structures
Yin Zhang (*Xidian University*); *Jing-Ya Deng* (*Xidian University*);

16:55 An Antenna System for Wideband Detection of Target Information
Ji Li (*Beijing Institute of Technology*); *Cheng Jin* (*Beijing Institute of Technology*); *Binchao Zhang* (*Beijing Institute of Technology*); *Lingwen Kong* (*Beijing Institute of Technology*); *Jianhong Chen* (*Beijing Institute of Technology*); *Cheng Hu* (*Beijing Institute of Technology*);

17:05 Flexible Paper Substrate Based Monopole Structure Orthogonal MIMO Antenna for 5G Applications: Analysis of Isolation Enhancement
Pachiyannan Muthusamy (*Vignan's Foundation for Science Technology and Research (Deemed to be University)*); *Ravi Sekhar Yarrabothu* (*Vignan's Foundation for Science Technologyu and Research*);

17:15 Wideband Hexagon Antenna Array for Millimeter-wave 5G Applications in 38 GHz
J. W. Wang (*Yunnan Normal University*); *Yao Liu* (*Yunnan Normal University*); *B. Yao* (*Yunnan Normal University*); *Q. H. Zheng* (*Yunnan Normal University*); *J. R. Qi* (*Yunnan Normal University*);

17:25 Nature-inspired Electro-textile Antennas for Passive UHF RFID
Asif Shaikh (*Tampere University*); *Shiva Jabari* (*Tampere University*); *Ruowei Xiao* (*Tampere University*); *Juho Hamari* (*Tampere University*); *Oguz Buruk* (*Tampere University*); *Johanna Virkki* (*Tampere University*);

17:35 Vircator Technologies Comparison and Novel Anode Analysis
Lorenzo Valletti (*University of Rome "Tor Vergata"*); *Stefano Fantuzzi* (*University of Roma "Tor Vergata"*); *Marco Bartocc* (*Elettronica S.p.A.*); *Pietro Bia* (*Elettronica S.p.A.*); *Antonio Manna* (*Elettronica S.p.A.*); *Patrizia Livreri* (*University of Palermo*); *Franco Di Paolo* (*University of Roma "Tor Vergata"*); *Ernesto Limiti* (*University of Rome "Tor Vergata"*);

17:45 Invited Gyro-TWT and Gyro-BWO with a Microwave Circuit in the Form of Zigzag Quasi-optical Transmission Line
Sergey V. Samsonov (*Institute of Applied Physics, Russian Academy of Sciences*); *G. G. Denisov* (*Institute of Applied Physics, Russian Academy of Sciences*); *A. A. Bogdashov* (*Institute of Applied Physics, Russian Academy of Sciences*); *I. G. Gachev* (*Institute of Applied Physics, Russian Academy of Sciences*);

18:00 Experimental Radiation System for Effects Assessment in Biological in Vitro and in Vivo Models
Victoria Ramos (*Health Institute Carlos III*); *Pablo Marina* (*Instituto de Salud Carlos III, Telemedicine and eHealth Research Unit*); *Mónica Torres-Ruiz* (*Instituto de Salud Carlos III, Environmental Health National Center*); *Oscar J. Suárez* (*Direccion General de Telecomunicaciones y Tecnologias de la Informacion*); *Victoria López* (*Instituto de Salud Carlos III, Chronical Diseases Research Functional Unit*); *Isabel Liste* (*Instituto de Salud Carlos III, Chronical Diseases Research Functional Unit*); *Mercedes De Alba* (*Instituto de Salud Carlos III, Environmental Health National Center*);

Session 0P5
Oral Session SC5. Remote Sensing, Inverse Problems, Imaging, Radar and Sensing

Monday PM, November 22, 2021

Room Online ROOM 5

Chaired by Zhun Wei, Shurun Tan

15:00 Processing of Arc Array Bistatic SAR Data with a Moving Receiver
Lingxia Hao (*Inner Mongolia University of Technology*); *Pingping Huang* (*Inner Mongolia University of Technology*); *Wei Xu* (*Inner Mongolia University of Technology*); *Weixian Tan* (*Inner Mongolia University of Technology*); *Yaolong Qi* (*Inner Mongolia University of Technology*); *Xinwei Yan* (*Inner Mongolia University of Technology*);

15:15 Coal Mining Deformation Monitoring of Wuda District in Wuhai City Based on SBAS-InSAR
Xinwei Yan (*Inner Mongolia University of Technology*); *Xiaoqi Lv* (*Inner Mongolia University of Technology*); *Pingping Huang* (*Inner Mongolia University of Technology*); *Wei Xu* (*Inner Mongolia University of Technology*); *Weixian Tan* (*Inner Mongolia University of Technology*);

15:30 A Real-time Selection Method of Adaptive Threshold PS Points for Time Series GB-InSAR Images
Huaichao Feng (*Inner Mongolia University of Technology*); *Pingping Huang* (*Inner Mongolia University of Technology*); *Yaolong Qi* (*Inner Mongolia University of Technology*); *Weixian Tan* (*Inner Mongolia University of Technology*); *Wei Xu* (*Inner Mongolia University of Technology*); *Xinwei Yan* (*Inner Mongolia University of Technology*);

15:45 Impact of 2-D Antenna Pattern on Radiometric Calibration of Azimuthal Multi-angle Observation Spaceborne SAR
Jianjun Huang (*Beihang University*); *Pengbo Wang* (*Bei Hang University*); *Jie Chen* (*Beijing University of Aeronautics and Astronautics*);

15:55 Directional Context Covariance Matrix for SAR Image Classification
T. Fu (*National University of Defense Technology*); *Si-Wei Chen* (*National University of Defense Technology*);

16:10 Frequency Optimization of Magnetic Nondestructive Evaluation for Steel Structures at a Buried Position Near the Ground Level
Taisei Kawakami (*Okayama University*); *Shoya Adachi* (*Okayama University*); *Minoru Hayashi* (*Okayama University*); *Wang Jin* (*Okayama University*); *Kenji Sakai* (*Okayama University*); *Toshihiko Kiwa* (*Okayama University*); *Toshiyuki Ishikawa* (*Kansai University*); *Keiji Tsukada* (*Okayama University*);

16:20 Thickness Evaluation of High Manganese Steel Used for the Crossing of Railroad Switch Using Extremely Low Frequency Eddy Current Testing
Kazuya Shigaki (*Okayama University*); *Minoru Hayashi* (*Okayama University*); *Jin Wang* (*Okayama University*); *Kenji Sakai* (*Okayama University*); *Toshihiko Kiwa* (*Okayama University*); *Keiji Tsukada* (*Okayama University*); *Toshio Ohnawa* (*Futaba Railways Industries Co.*);

16:30 Invited Learning Enabled Optical Encryption in Complex Scattering Media
Lina Zhou (*The Hong Kong Polytechnic University*); *Yin Xiao* (*The Hong Kong Polytechnic University*); *Wen Chen* (*The Hong Kong Polytechnic University*);

16:45 A Two-stage Learning Technique for Precipitation Retrieval Using ABI and GLM Measurements on the GOES-R Series
Yang Liu (*Ocean University of China*); *Haonan Chen* (*Colorado State University*); *Lei Han* (*Ocean University of China*); *Jieying He* (*National Space Science Center, Chinese Academy of Sciences*);

16:55 Estimating MCC Template Size for Ocean Surface Currents Extraction from Sequential SAR Images
Xue Yang (*National Key Lab of Microwave Imaging Technology*); *Jinsong Chong* (*National Key Lab of Microwave Imaging Technology*); *Lijie Diao* (*Shandong University*);

17:05 One-step Jacobian Based Reconstruction Scheme for Complete Electrode Modelled Impedance Acoustic Tomography
Bharadwaj Jampu (*Indian Institute of Technology*); *Prabodh Kumar Pandey* (*University of California*); *Naren Naik* (*Indian Institute of Technology*); *Nishigandha Patil* (*Indian Institute of Technology*);

17:15 Driveline Infection Detection in Left Ventricular Assist Device Implanted Patients Using Image Processing Methods
Kemal Kandemir (*Akdeniz University*); *Hamza Feza Carlak* (*Akdeniz University*); *Turan Cakil* (*Akdeniz University*);

17:25 The New Wavelet-like Allan Variance Based on the Atomic Function
Mikhail A. Basarab (*Bauman Moscow State Technical University*);

17:35 Selection and Prediction of the Trend of a Time Series Using a Recurrent Neural Network
Nikita N. Trufanov (*Scientific and Research Centre of Unique Instrumentation of RAS*); *D. V. Churikov* (*Scientific and Research Centre of Unique Instrumentation of RAS*); *O. V. Kravchenko* (*Scientific and Research Centre of Unique Instrumentation of RAS*);

17:45 Microwave Imaging for Lung Covid-19 Infection Detection through Huygens Principle
Banafsheh Khalesi (*UBT-Umbria Bioengineering Technologies*); *Bilal Khalid* (*London South Bank University*); *Navid Ghavami* (*UBT-Umbria Bioengineering Technologies*); *Sandra Dudley* (*London South Bank University*); *Mohammad Ghavami* (*London South Bank University*); *Gianluigi Tiberi* (*London South Bank University*);

17:55 3D Microwave Imaging Using Huygens Principle: A Phantom-based Validation
Bilal Khalid (*London South Bank University*); *Banafsheh Khalesi* (*UBT-Umbria Bioengineering Technologies*); *Navid Ghavami* (*UBT-Umbria Bioengineering Technologies*); *Sandra Dudley* (*London South Bank University*); *Mohammad Ghavami* (*London South Bank University*); *Gianluigi Tiberi* (*London South Bank University*);

Session 0P6a
Oral Presentations for Best Student Paper Awards — SC3: Optics and Photonics

Monday PM, November 22, 2021

Room Online ROOM 6

Chaired by Sailing He, Hai-Zhi Song, Haoliang Qian

13:00 Ultrathin Endoscopy Probe for Simultaneous Photoacoustic and Fluorescence Microscopy
Tianrui Zhao (*King's College London*); *Sebastien Ourselin* (*King's College London*); *Tom Vercauteren* (*King's College London*); *Wenfeng Xia* (*King's College London*);

13:15 Coupling Mechanism between Electromagnetic Induction Generator and Triboelectric Nanogenerator toward Effective Ocean Energy Harvesting
Liqiang Liu (*Tongji University*); *Jun Li* (*Tongji University*); *Wei Ou-Yang* (*East China Normal University*);

13:30 Rapid Fabrication of Large Area Diffractive Axicons for Astronomical Applications
Daniel Smith (*Swinburne University of Technology*); *Soon Hock Ng* (*Swinburne University of Technology*); *Molong Han* (*Swinburne University of Technology*); *Tomas Katkus* (*Swinburne University of Technology*); *Vijayakumar Anand* (*Swinburne University of Technology*); *Karl Glazebrook* (*Swinburne University of Technology*); *Saulius Juodkazis* (*Swinburne University of Technology*);

13:45 A Near-array Convolution Computing Scheme Based on WSe_2 Photodiode
Lingling Cai (*Zhejiang University*); *Kejie Huang* (*Zhejiang University*); *Ruibing Song* (*Zhejiang University*); *Haibin Shen* (*Zhejiang University*);

14:00 A Distributed Acoustic Sensor Based on Dual-Sagnac Interferometer with Counter Loops
Tatyana V. Choban (*Bauman Moscow State Technical University*); *Andrey A. Zhirnov* (*Bauman Moscow State Technical University*); *Konstantin V. Stepanov* (*Bauman Moscow State Technical University*); *Kirill I. Koshelev* (*Bauman Moscow State Technical University*); *Anton O. Chernutsky* (*Bauman Moscow State Technical University*); *Alexey B. Pnev* (*Bauman Moscow State Technical University*); *Valeriy E. Karasik* (*Bauman Moscow State Technical University*);

14:15 Dual-input Dual-output (DIDO)/Multi-input Multi-output (MIMO)-based Off-axis Integrated Cavity Output Spectroscopy for Cavity Mode Noise Suppression
Kaiyuan Zheng (*Jilin University*); *Chuantao Zheng* (*Jilin University*); *Gangyun Guan* (*Jilin University*); *Haipeng Zhang* (*Jilin University*); *Fang Song* (*Jilin University*); *Yu Zhang* (*Jilin University*); *Yiding Wang* (*Jilin University*); *Frank K. Tittel* (*Rice University*);

Session 0P6b
PIERS 2021 - Part 1: The 8th Sino-French Optoelectronics Forum

Monday PM, November 22, 2021

Room Online ROOM 6

Organized by Dingshan Gao

Chaired by Dingshan Gao, Boris Gralak

15:30 Low-loss Zero-index Metamaterials Based on Bound States in the Continuum (BIC)
Yang Li (*Tsinghua University*);

15:50 Near-field Surface Plasmons with Complex Wavefront and Vectorial Behavior
Zhuo Wang (*Fudan University*); *Shiqing Li* (*Fudan University*); *Dongyi Wang* (*Fudan University*); *Qiong He* (*Fudan University*); *Lei Zhou* (*Fudan University*); *Shulin Sun* (*Fudan University*);

16:10 Opto-thermo-mechanic Coupling: From Fundamental to Applications
Linhan Lin (*Tsinghua University*);

16:30 Engineering the Exciton Emission in Layered Materials with Hexagonal Boron Nitride
Hong-Hua Fang (*Tsinghua University*); *B. Han* (*Universite de Toulouse*); *C. Robert* (*Universite de Toulouse*); *X. Marie* (*Université de Toulouse*);

16:50 Topological Reconstruction of Elastomer Stretched Patterns
Régis Barille (*Université Angers*);

17:10 Impact of Optical Clearing on ***ex vivo*** Human Skin Optical Properties Characterized by Spatially Resolved Multimodal Spectroscopy
Marine Amouroux (*Université de Lorraine*); *Sergey M. Zaytsev* (*Université de Lorraine*); *Grégoire Khairallah* (*Université de Lorraine*); *Alexey N. Bashkatov* (*Saratov State University*); *Valery V. Tuchin* (*Saratov State University*); *Elina A. Genina* (*Saratov State University*); *Walter C. P. M. Blondel* (*Université de Lorraine*);

17:30 Expansion(s) of Electromagnetic Fields on Dispersive Quasi-Normal Modes: An Open-source Solver
Guillaume Demesy (*Aix-Marseille Universite*); *Carmen Campos* (*Universitat Politècnica de València*); *Christophe Geuzaine* (*University of Liege*); *Boris Gralak* (*CNRS, Aix-Marseille University*); *Andre Nicolet* (*Aix-Marseille Universite*); *Jose E. Roman* (*Universitat Politècnica de València*); *Frederic Zolla* (*Aix-Marseille Universite*);

17:50 Shape-controlled Microlenses for Light Emerging from Optical Fibers
Hajj Tony (*Université de Strasbourg-CNRS*); *Djamila Bouaziz* (*Université de Strasbourg-CNRS*); *Assia Guessoum* (*Ferhat Abbas University*); *Gregoire Chabrol* (*Ferhat Abbas University*); *Nacee-E. Demagh* (*Ferhat Abbas University*); *Lecler Sylvain* (*Université de Strasbourg-CNRS*);