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Wallace C. H. Choy Gabriella Cipparrone Cristian Ciraci Lorenzo Crocco
Tie Jun Cui Xin Dai Costantino De Angelis Guangwei Deng
Loreto Di Donato Gerardo Di Martino Alessio Di Simone Fei Ding
Da-Zhi Ding Ying Dong Yanlei Du Jiahua Duan
Yeshaiahu Shaya Fainman Yancheng Fan Ming Fang Newton C. Frateschi
Seiji Fukushima Eva Gescheidtova Tian Gu Junpeng Guo
Qingyi Guo Tolga Ulaş Gürbüz Song Han Sang-Min Han
SYMPOSIUM VENUE

The 2023 PhotonIcs & Electromagnetics Research Symposium, will be held in Prague from 3 to 6 July 2023, at the Prague Congress Center (Address: Kongresové Centrum Praha, a.s., 5. května 1640/65, Nusle, 140 00 Prague 4, Czechia).

REGISTRATION

The PIERS technical sessions will begin at 8:00 on Monday, July 3, 2023. You may come to register during 9:30–18:30 on Sunday, July 2, 2023, at the registration desks at the Prague Congress Center, Czech Republic. Registration is also available from 7:30 to 18:00 on Monday, July 3, 2023 and from 8:00 to 18:00 on July 4–6, 2023.

The on-site registration fee is USD 730 or RMB 5110, and the reduced registration fee for a student is USD 490 or RMB 3430 (a valid student ID is required). If you have pre-registered and paid, your name badge and symposium program will be ready for you to pick up at the registration counter during the symposium. Please wear your name badge throughout the meeting. Access to the coffee break, interactive areas, and technical sessions will be prohibited if a name badge is not visible.

SPECIAL EVENTS

Symposium Reception

On Monday evening, July 3, 2023, all conference participants are invited to a welcome reception at the conference hotel. The tickets are free and handed out on a first-come-first-served basis. Please make reservation in advance for the reception by June 5, 2023.

Symposium Banquet

On Wednesday evening, July 5, 2023, symposium banquet is planned for PIERS participants and their guests at the conference hotel. Detailed information will be posted here...

PIERS ONLINE

Information on PIERS 2023 Prague and future PIERS is posted at www.piers.org.
GUIDELINE FOR PRESENTERS

Onsite Oral Presentations

- **Load and TEST Presentation Files in Advance:**
  Onsite Oral Presenters must upload and test presentation files in the onsite PIERS OFFICE no late than 12 hours before the scheduled talk. Presenters are not allowed to detach the session computer and attach their own notebook/laptop to the LCD projector in session room.

- **Presentation Files Format:**
  PDF, Power Point are recommended. Movies or animations in MPEG, Windows Media, and etc, should be tested in PIERS computer in PIERS OFFICE no later than half-day before the session.

- **USB Disk:**
  Presentation files in USB disk are acceptable by onsite PIERS Computer.

- **Report to Session Chair:**
  Onsite Presenters are required to report to their session chairs at least 10 minutes prior to the start of their session.

- **Talk Limit: 15 Minutes (Onsite Oral Talk):**
  All oral presentations, including questions and answers, should be less than the given minutes.

- **DO NOT Change Presentation Sequence:**
  Session Chairs, please be present in the session room at least 15 minutes before the start of the session and must strictly observe the starting time and time limit of each paper and refrain from changing paper presentation sequence.

- **NO Picture Request:**
  When such a request is made by the presenter, the session chair and session helpers will do their best to ensure that no pictures will be taken at the presentation.

Onsite Poster Presentations

- One panel will be available for each poster. The panel size may be different for each PIERS.

- The poster panels for PIERS 2023 Prague will be 84 cm (Width) x 120 cm (Height).

- All presenters are required to mount their papers one hour before the session and remove them at the end of their sessions. All poster presenters are suggested to be present at least during 10:00–10:30 and 15:30–16:00.

- Presenters should post time slots of their presence on the panel and be present for interactive questions at the given time.
PIERS 2023 PRAGUE ORGANIZERS AND SPONSORS

Sponsored by:
- Czech Technical University in Prague
- Zhejiang University
- The Electromagnetics Academy at Zhejiang University

Technically co-sponsored by:
- IEEE Geoscience and Remote Sensing Society (IEEE GRSS)
- IEEE Antennas and Propagation Society (IEEE AP-S)
- IEEE Photonics Society
- Czech National Committee of URSI
- The Electromagnetics Academy

Exhibitor:
- nanoplus Nanosystems and Technologies GmbH
GENERAL INFORMATION

LANGUAGE

The official language for the Symposium is English.

CURRENCY AND CREDIT CARDS

The local currency is the Czech Crown (CZK) and the exchange rate is approximately 1 USD = 21 CZK, or 1 EUR = 24 CZK. The credit cards and cash in either USD or EUR are acceptable on the PIERS registration desk. This is also the case in large shopping centers, restaurants and hotels in Prague or generally in the Czech Republic.

TAXI

Usually, a taxi is available along the roadsides, while you wave for it.

BUSINESS OPENING HOURS

- **Bank and Post Office**
  Opening hours: usually 09:00 – 17:00, from Monday to Sunday.

- **Government Office**
  Operating hours: generally 09:00 – 17:00, from Monday to Friday.

- **Store**
  Opening hours: usually 08:00 – 18:00, but the large shopping center serves till 22:00, from Monday to Sunday.

ELECTRICITY

In the Czech Republic, the standard outlets provide AC of 220 V/50 Hz.
00:00 Nanowire Photonics: From High Efficiency Micro-LEDs to Stable Solar Fuel Production
   Zetian Mi (University of Michigan);

00:00 Perovskite LEDs: A Next-generation Light Source
   Dawei Di (Zhejiang University);

00:00 iSCAT Microscopy: Label-free Protein Sensing, Nanoparticle Sizing, and 3D Imaging of Structure and Dynamics in Live Cells
   Vahid Sandoghdar (Max-Planck-Institute for the Science of Light);
Session 1A1
Nonlinear and Nonclassical Plasmonics

Monday AM, July 3, 2023
Room Club E
Organized by Fan Yang, Cristian Ciraci
Chaired by Cristian Ciraci

00:00 Keynote
Dynamics of Nonlinear Response of Plasmonic Heterostructures
Anton Yu. Bykov (King’s College London); Diane J. Roth (King’s College London); Aleksey V. Krasavin (King’s College London); Anatoly V. Zayats (King’s College London);

00:00 Invited
The Nonlinear Optical Response and Electron Dynamics in ITO
Subhajit Sarkar (Ben-Gurion University); Ieng Wai Un (Ben-Gurion University); Yonatan Sivan (Ben-Gurion University);

00:00 Invited
Quantum Nanophotonics: Antibunched Light and Molecular Entanglement
Antonio I. Fernandez-Dominguez (Universidad Autonoma de Madrid);

00:00 Invited
Nonlocal Surface Effects in the Optical Response of Plasmonic Nanoresonators
Rubén Esteban (Materials Physics Center CSIC-UPV/EHU); Antton Babaze (Materials Physics Center CSIC-UPV/EHU); T. Neuman (Institute of Physics of the Czech Academy of Sciences); E. Ogando (University of the Basque Country UPV/EHU); P. Elli Stamatopoulou (University of Southern Denmark); N. Asger Mortensen (University of Southern Denmark); Javier Aizpurua (Donostia International Physics Center (DIPC) and Centro Mixto de Física de Materiales (CSIC-UPV/EHU)); A. Borisov (UMR 8214 CNRS-Université Paris-Saclay);

00:00 Invited
Homogenization of Metamaterials in Macroscopic Quantum Electrodynamics
Ehsan Amooghorban (Shahrekord University); Martijn Wubs (Technical University of Denmark);

00:00 Invited
Geometric Phase and Nonlinear Photonic Metasurfaces
Guixin Li (Southern University of Science and Technology);

00:00 Lattice Resonances Excited by Arbitrary Light Sources
Alejandro Manjavacas (Consejo Superior de Investigaciones Científicas);

00:00 Generalized Lorentz Model and Quasinormal Mode Theory for Extreme Nanophotonic
Xuewen Chen (Huazhong University of Science and Technology);

00:00 Electrostatic Theory of Optical Rectification in Hydrodynamic Nonlocal Optical Response
Tetsuyuki Ochiai (National Institute for Materials Science (NIMS));

00:00 Extreme Plasmonics with Atomically Smooth Monocrystalline Gold Flakes
Vladimir A. Zenin (University of Southern Denmark);

00:00 Nonlinear Photoluminescence in Crystalline Gold Thin Films
Alvaro Rodriguez Echarri (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology); F. ˙Iyikanat (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology); S. Borovks (University of Southern Denmark); N. Asger Mortensen (University of Southern Denmark); Joel D. Cox (University of Southern Denmark); F. Javier García de Abajo (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology);

00:00 Contribution of Patchy Reconnection to the Ion to Electron Temperature Ratio in the Earth’s Magnetotail
Chuxin Chen (University of Science and Technology of China); Chih-Ping Wang (University of California);

00:00 Second-harmonic Generation from Singular Plasmonic System
Yunfei Zhang (Sichuan University); Chen Wei (Sichuan University); Fuhua Gao (Sichuan University); Cristian Ciraci (Istituto Italiano di Tecnologia); Fan Yang (Sichuan University);
00:00 The Challenge of Photonic Crystals (and Metamaterials) is Inverse Electromagnetic Design (Aperiodic)
Eli Yablonovitch (University of California);

00:00 Nonlinear and Topological Photonics on a CMOS Chip
Invited
Dawn T. H. Tan (Singapore University of Technology and Design); Ju Won Choi (Singapore University of Technology and Design); Byoung-Uk Sohn (Singapore University of Technology and Design); George F. R. Chen (Singapore University of Technology and Design); Doris K. T. Ng (Institute of Microelectronics, A*STAR); Yannwei Cao (Singapore University of Technology and Design); Xiang Liu (Singapore University of Technology and Design); Hongwei Gao (Singapore University of Technology and Design); Kenny Y. K. Ong (Singapore University of Technology and Design);

00:00 Photonics for Neuromorphic Computing
Invited
Paul R. Prucnal (Princeton University);

00:00 Large-scale Silicon Photonics Switch: Introduction of FSR-free Wavelength Selectivity
Invited
Kazuhiko Ikeda (National Institute of Advanced Industrial Science and Technology (AIST));

00:00 Photonic Integrated Circuits Realized Using Microtransfer Printing
Invited
Jing Zhang (Ghent University); Laurense Bogaert (Ghent University); Maximon Billet (Ghent University); Dongbo Wang (Ghent University); Biwei Pan (Ghent University); Senbiao Qin (Ghent University); Emadreza Soltanian (Ghent University); Stijn Cayers (Ghent University); Dennis Maes (Ghent University); Tom Vanackere (Ghent University); Tom Vandekerckhove (Ghent University); Stijn Poelman (Ghent University); Max Kiewiet (Ghent University); Issac Luntadila Lufungula (Ghent University); Xin Guo (Ghent University); He Li (Ghent University); Jasper de Witte (Ghent University); Guy Lepage (IMEC); Peter Verheyen (IMEC); Joris Van Campenhout (IMEC); Bart Kuiken (Ghent University, IMEC); Geert Mortier (Ghent University, IMEC); Dries Van Thourhout (Ghent University); Roel Baets (Ghent University); Gunther Roelkens (Ghent University, IMEC);

00:00 A Molecular Optomechanical Nanocavity Platform for Continuous-wave Mid-infrared to Visible Frequency Upconversion
Invited
Wen Chen (East China Normal University); Philippe Roelli (CIC nanGUNE); Haotian Hu (Wuhan Institute of Technology); Ewald Verhagen (AMOLF); Alejandro Martinez (Universitat Politècnica de València); Christophe Galland (Ecole Polytechnique Fédérale de Lausanne (EPFL));
Session 1A3a
Optical Sensing and Detection

Monday AM, July 3, 2023
Room Club C
Organized by Jiang Wu, Aobo Ren

00:00 MXene-GST-Graphene-Si Composited Tunable Surface Plasmon Resonance-based Refractive Index Sensor Operated at Infrared Optical Wavelength
Vishal Parsotambhai Sorathiya (Parul University); Vipul Vekariya (Parul University); Kalpesh Jadav (Parul University);

00:00 Efficient Passivation Strategies for High-performance Perovskite-based Photodetectors
Kai Shen (University of Electronic Science and Technology of China);

00:00 Graphene-sandwiched Van der Waals Heterostructures for Infrared Photodetectors
Betong Cheng (Southwest Institute of Technical Physics); Yong Zhou (Chengdu Technological University); Ruomei Jiang (Southwest Institute of Technical Physics); Xule Wang (Southwest Institute of Technical Physics); Shuai Huang (Southwest Institute of Technical Physics); Xingyou Huang (Yibin University); Wei Zhang (Southwest Institute of Technical Physics); Qian Dai (Southwest Institute of Technical Physics); Hai-Zhi Song (Southwest Institute of Technical Physics);

00:00 Plasmonic Resonators for Carrier Envelope Phase Readout
Andrés Szenes (University of Szeged); Dávid Vass (University of Szeged); Balazs Banhelvi (University of Szeged); Maria Csete (University of Szeged);

00:00 On Estimation of Flight Path of Unmanned Aerial Vehicle by Using LiDAR
Takashi Kuroe (Nihon University); Yifan Wu (Nihon University); Syota Yasawa (Nihon University); Kiyozumi Nizuma (Nihon University);

00:00 High Speed Type-II Superlattice Photodiodes
Baile Chen (ShanghaiTech University);

00:00 III-V Nanolasers Monolithically Integrated on Silicon Invited Platform
Mincha Tang (University College London); T. Zhou (University College London); Michael Martin (Université Grenoble Alpes, CNRS, CEA-LETI, MINATEC, LTM); Thierry Baron (Université Grenoble Alpes, CNRS, CEA-LETI, MINATEC, LTM); Siming Chen (University College London); Alwyn J. Seeds (University College London); Z. Zhang (The Chinese University of Hong Kong); H. Liu (University College London);

00:00 Tailoring Charge Carrier Dynamics in Perovskite Light-Emitting Diodes for Efficient Optical Wireless Communications
Aobo Ren (University of Electronic Science and Technology of China); Jiang Wu (University of Electronic Science and Technology of China);

Session 1A3b
Optical Sensors: Fundamentals and Applications

Monday AM, July 3, 2023
Room Club C
Organized by Cees Ronda

00:00 Role of Instantaneous Poynting Vector in Enhancing the Performance of Surface Plasmon Resonance Based Sensors
Himanshu Kushwah (University of Delhi); Jagneet Kaur Anand (University of Delhi);

00:00 Development of Optical Sensors Based on Porous TiO2 Layers Created Using Bottom-Up Synthesis Methods
Salvador Ponce-Alcantara (Universitat Politècnica de València); David Ortiz de Zárate (Universitat Politècnica de València); Jaime Garcia Ruperez (Universitat Politècnica de València);

00:00 The Effectiveness of Edge Detection Evaluation Metrics for Automated Coastline Detection
Conor O’Sullivan (The ADAPT SFI Research Centre); Seamus Coveney (Enco-Geo Environmental Geoinformatics); Xavier Monteys (Geological Survey Ireland); Soumyabrata Dev (Beijing-Dublin International College);

00:00 Integration of Pupil Phase Mask and Principal Component Analysis-based Image Fusion for Enhanced Depth-of-Field
Benny Milgrom (The Jerusalem College of Technology); Roy Avrahamy (Ben-Gurion University of the Negev); Y. Golovachev (The Jerusalem College of Technology); A. Caspi (The Jerusalem College of Technology);
Session 1A4
Microresonator Frequency Comb and THz Sources for Next-generation Communications and Related Applications 1

Monday AM, July 3, 2023
Room Club B
Organized by Takasumi Tanabe, Takeshi Yasui
Chaired by Takeshi Yasui

00:00 Fiber-tip Photonic Crystal Biosensors
Invited
Mathias Dolci (Eindhoven University of Technology); Mildred S. Cano-Velázquez (Eindhoven University of Technology); Arthur Hendriks (Eindhoven University of Technology); Peter J. van Veldhoven (Eindhoven University of Technology); Andrea Fiore (Eindhoven University of Technology); Peter Zijlstra (Eindhoven University of Technology);

00:00 SPR-based Refractive Index Sensor at 1550-nm Wavelength Using Silicon and Graphene
Mohd Uwais (Indian Institute of Technology Roorkee); Vipul Rastogi (Indian Institute of Technology Roorkee);

00:00 Generation of 300-GHz Terahertz Waves with Microresonator Frequency Combs
K. Tanikawa (Keio University); S. Fujii (Keio University); Soma Kogure (Keio University); H. Kumazaki (Keio University); Satoki Kawanishi (Keio University); Takesumi Tanabe (Keio University);

00:00 Versatile Cavity Solitons for Kerr Frequency Comb Generation
Xiaoxiao Xue (Tsinghua University);

00:00 Counter-propagating Microcavity Solitons Interaction and Application in Spectroscopy
Chengyung Bao (Tsinghua University);

00:00 Extending Spectral Tunability of Soliton Microcombs in Ultrahigh-Q Microresonators
Shun Fujii (Keio University); Koshiro Wada (Keio University); Hajime Kumazaki (Keio University); Soma Kogure (Keio University); Takesumi Tanabe (Keio University);

00:00 Nonlinear Photonics Based on Thin-film Lithium Niobate
Mengjie Yu (University of Southern California);

00:00 Low-phase-noise Frequency-tunable Microwave and Millimeter-wave Generation Using an Electro-optic-modulation Comb
Atsushi Ishizawa (Nippon University); Y. Kikkawa (NTT Corporation); R. Kou (National Institute of Advanced Industrial Science and Technology (AIST)); G. Cong (National Institute of Advanced Industrial Science and Technology (AIST)); X. Xu (NTT Corporation); T. Aihara (NTT Corporation); K. Hitachi (NTT Corporation); T. Tsuchizawa (NTT Corporation); N. Yamamoto (National Institute of Advanced Industrial Science and Technology (AIST)); T. Nishikawa (Tokyo Denki University); K. Yamada (National Institute of Advanced Industrial Science and Technology (AIST)); K. Oguri (NTT Corporation);

Session 1A5
FocusSession.SC1: Casimir Effect and Radiative Heat Transfer 1

Monday AM, July 3, 2023
Room Club A
Organized by Mauro Antezza, Matthias Krüger
Chaired by Mauro Antezza

00:00 Near-field Quantum Electrodynamics of Optical Metasurfaces
Igor V. Bondarev (North Carolina Central University);

00:00 Heat Radiation and Transfer with Cylindrical Waveguide Shells
Kiryl Asheichyk (Belarusian State University); Matthias Krüger (Georg-August-Universitats Gottingen);
00:00 Tunable Critical Casimir Forces Counteract Casimir-Lifshitz Attraction
Invited: Agnese Callegari (University of Gothenburg); Falko Schmidt (University of Gothenburg); Abdallah Daddi-Moussa-Ider (Max-Planck-Institut für Dynamik und Selbstorganisation); Battulga Munkhbat (Technical University of Denmark); Ruggero Verre (Chalmers University of Technology); Timur Shegai (Chalmers University of Technology); Mikael Käll (Chalmers University of Technology); Hartmut Lüewen (Heinrich-Heine-Universität Düsseldorf); Andrea Gambassi (SISSA — International School for Advanced Studies and INFN); Giovanni Volpe (University of Gothenburg);

00:00 Nonlinearity and Anisotropy Interplay in van der Waals Interactions
Invited: Lilia M. Woods (University of South Florida);

00:00 Radiative Heat Transfer in Three-body Moiré Elliptical System
Invited: Cheng-Long Zhou (Harbin Institute of Technology); Yong Zhang (Harbin Institute of Technology); Hongliang Yi (Harbin Institute of Technology);

00:00 Radiative Heat Transfer in Ensembles of Nanostructures
Invited: Alejandro Manjavacas (CSIC);

00:00 Randomly Micro-structured Silicon for Thermal Light Invited: Radiative Properties and Applications
Engineering: Elyes Nezzaoui (University Gustave Eiffel); T. Bourouina (University Gustave Eiffel); P. Basset (University Gustave Eiffel); E. Richalot (University Gustave Eiffel); G. Hamaoui (University Gustave Eiffel); A. Hérè (University Gustave Eiffel);

00:00 Vacuum Torque, Propulsive Forces, and Anomalous Tangential Force: Effects of Nonreciprocal Media Out of Equilibrium
Invited: Kimball A. Milton (University of Oklahoma); Xin Guo (University of Oklahoma); Gerard Kennedy (University of Southampton); Nima Pouriolami (National Bank of Canada); Dylan Deolcke (University of Oklahoma);

00:00 Enhancement and Modulation of Near-field Radiative Heat Transfer through Graphene-based Heterostructures
Invited: KeZhang Shi (Zhejiang University); Sailing He (Royal Institute of Technology & Zhejiang University);

00:00 Effect of Giant Anisotropy in Casimir Effect
Invited: Pablo Rodriguez-Lopez (Universidad Rey Juan Carlos); Mauro Antezza (Université de Montpellier); Igor V. Bondaren (North Carolina Central University); Lilia M. Woods (University of South Florida);

00:00 Casimir Effects: A Novel Multiple Scattering Approach for Dielectric Media
Invited: Thorsten Emig (Université Paris-Sud, Université Paris-Saclay); Giuseppe Bimonte (Università di Napoli Federico II);

00:00 Originating from Quantum Fluctuation of the Electromagnetic Field
Invited: Julien Lecoffre (Université Paris 13);

Session 1A6
Recent Advances in Optical Metasurfaces 1

Monday AM, July 3, 2023
Room Terrace 2A
Organized by Fei Ding, Cheng Zhang, Chao Meng
Chaired by Fei Ding

00:00 Structural Reconfigurable Metamaterials Driven by Phase-transition Materials
Invited: Zhixiang Huang (University of Delaware); Weipeng Wu (University of Delaware); Eric Herrmann (University of Delaware); Ke Ma (University of Delaware); Zizwe Chase (University of Illinois Chicago); Thomas Searles (University of Illinois Chicago); M. Benjamin Jungfleisch (University of Delaware); Xi Wang (University of Delaware);

00:00 Physics-informed Reinforcement Learning for Nanophotonic Device Design
Invited: Min Seok Jang (Korea Advanced Institute of Science and Technology);

00:00 Ultrabright Single-nanocrystal Upconversion via Coupling to Single Nanocavity Mode
Invited: Jianwei Tang (Huazhong University of Science and Technology); Guanying Chen (Harbin Institute of Technology); Xuewen Chen (Huazhong University of Science and Technology);

00:00 Versatile Nanopainting with Pixelated Plasmonic Metasurface
Invited: Maowen Song (Nanjing University); Yan-Qing Lu (Nanjing University); Ting Xu (Nanjing University);

00:00 Ultraviolet Metasurfaces Using Wide-bandgap Dielectrics
Invited: Cheng Zhang (Huazhong University of Science and Technology);

00:00 Efficient Integrated Nanophotonic Interfaces to Atoms and Ions
Invited: Amit K. Agrawal (National Institute of Standards and Technology);

00:00 3D Meta-optics: A New Platform for Wavefront Shaping and Optical Sensing
Invited: Haoran Ren (Monash University); S. A. Maier (Monash University);

00:00 Polarization Manipulation from Planar Chiral Dielectric Metasurfaces
Invited: Yi Jin (Zhejiang University);

00:00 All-solid-state Beam Steering Module Based on a Metafiber with High Compactness
Invited: Nan He (Zhejiang University); Xinan Xu (Zhejiang University); Tingbiao Guo (Zhejiang University); Yi Jin (Zhejiang University); Sailing He (Royal Institute of Technology & Zhejiang University);

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Session 1A7
Recent Advances in Topological Photonics and Acoustics 1

Monday AM, July 3, 2023
Room Terrace 2B
Organized by Hai-Xiao Wang, Zhiwang Zhang, Weiwei Zhu
Chaired by Hai-Xiao Wang

00:00 Gaussian Process Regression for the Modeling of Metallic A. Al-Zawqari (Vrije Universiteit Brussel); G. Vanderveen (Vrije Universiteit Brussel); Francesco Ferranti (Vrije Universiteit Brussel);

00:00 Twisting Induced Nonlocality and Non-volatile Beam Steering in Rotating Metasurfaces Peng Tang (Zhejiang University); Jie Tao (Zhejiang University); Min Li (Zhejiang University); Fei Gao (Zhejiang University); Hongsheng Chen (Zhejiang University); Zuojia Wang (Zhejiang University);

00:00 Gaussian Process Regression for the Modeling of Metalenses A. Al-Zawqari (Vrije Universiteit Brussel); G. Vanderveen (Vrije Universiteit Brussel); Francesco Ferranti (Vrije Universiteit Brussel);

Session 1A8
Quantum Information Processing and Devices 1

Monday AM, July 3, 2023
Room South Room 220
Organized by Hai-Zhi Song, Guangwei Deng
Chaired by Hai-Zhi Song, Guangwei Deng

00:00 Non-Hermitian Topological Whispering Gallery Invited
Bolun Hu (Nanjing University); Zhiwang Zhang (Nanjing University); Haiziao Zhang (Nanjing University); Ying Cheng (Nanjing University); Xiao-Jun Liu (Nanjing University); Johan Christensen (Universidad Carlos III de Madrid);

00:00 Equivalent Lasing and Coherent Perfect Absorption Enabled through an Acoustic Anti-parity-time Symmetric Structure Invited
Da-Jian Wu (Nanjing Normal University); Xinggao Zhu (Nanjing Normal University); Jie Yao (Nanjing Normal University);

00:00 Topological Edge States Invited
Johan Christensen (IMDEA Materials Institute);

00:00 Degenerate Zero-energy Topological States at Disclinations in an Acoustic Lattice Invited
Yun Jing (The Pennsylvania State University);

00:00 Multilayer Analysis Method Reveals Unconventional Topology in Quasicrystals Invited
Jianjun Liu (Hunan University);

00:00 Higher-order Topology in Quasicrystals Invited
Jianjun Liu (Hunan University);

00:00 Topological Phononic Band Topologies Arising from Fluid-solid Interactions and Experimental Observations Invited
Xiaoziao Wu (Hong Kong University of Science and Technology (Guangzhou)); Jie Zhu (Tongji University); Xiang Zhang (The University of Hong Kong);

00:00 Nonreciprocal Acoustics from Asymmetric Pecierls Phases Invited
Li Zhang (Zhejiang University); Hongsheng Chen (Zhejiang University); Yihao Yang (Zhejiang University);

00:00 Structured Sonic Tube with Carbon Nanotube-like Topological Edge States Invited
Zhiwang Zhang (Nanjing University); Penglin Gao (Shanghai Jiao Tong University); Ying Cheng (Nanjing University); Xiao-Jun Liu (Nanjing University); Johan Christensen (IMDEA Materials Institute);

00:00 Observation of the Photonic Topological Anderson Insulator in Microwave Metamaterial Invited
Mina Ren (Tongji University); Zhigang Chen (Nankai University); Yong Sun (Tongji University); Hong Chen (Tongji University);

00:00 Hybrid Topological Photonic Crystals Invited
Hai-Xiao Wang (Guangxi Normal University);

00:00 Remote Preparation of Squeezed States and Non-Hermitian Topological Whispering Gallery Invited
Abolfazl Bayat (University of Electronic Science and Technology of China);

00:00 Remote Preparation of Squeezed States and Non-Hermitian Topological Whispering Gallery Invited
Abolfazl Bayat (University of Electronic Science and Technology of China);

00:00 Quantum Many-body Sensors Invited
Abolfazl Bayat (University of Electronic Science and Technology of China);

00:00 Photon-counting Reconstructive Spectrometers Utilizing Superconducting Nanowire Single-photon Detectors and On-chip Photonic Structures Invited
Weizhang Zhang (Tsinghua University); Yidong Huang (Tsinghua University);

00:00 Detecting the Symmetry Breaking of the Quantum Vacuum Invited
Tie-Fu Li (Tsinghua University);

00:00 Mid-infrared Single-photon Upconversion Spectroscopy Based on Temporal-spectral Quantum Correlation Invited
Yu-Jie Cai (East China Normal University); Yu Chen (East China Normal University); Xiaoning Xin (East China Normal University); Kun Huang (East China Normal University); E Wu (East China Normal University);

00:00 Remote Preparation of Squeezed States and Non-Hermitian States Based on Gaussian Entanglement Invited
Xiaolong Su (Shanxi University); Dongmei Han (Shanxi University); Na Wang (Shanxi University); Meihong Wang (Shanxi University);

00:00 Remote Preparation of Squeezed States and Non-Hermitian States Based on Gaussian Entanglement Invited
Xiaolong Su (Shanxi University); Dongmei Han (Shanxi University); Na Wang (Shanxi University); Meihong Wang (Shanxi University);

00:00 Nanoemtromechanical Interfaces Based on Low Dimensional Nanostructures Invited
Zhao-Zhi Zhang (University of Science and Technology of China);

00:00 Phonon Cavity and Dark Phonon Modes in Nonlinearly Coupled Nanomechanical Resonators Invited
Xiang-Xiang Song (University of Science and Technology of China);
00:00 Ultrastable Single-molecule Single Photon Sources on
Invited Chip
Jianwei Tang (Huazhong University of Science and Technology); Yaoheng Shi (Zhejiang University); Xuewen Chen (Huazhong University of Science and Technology);

00:00 Infrared Property of One-dimensional Weyl Fermion
Invited under High Magnetic Field
Xiang Yuan (East China Normal University); Wenbin Wu (East China Normal University); Cheng Zhang (Fudan University);

00:00 Design of a Nano-optomechanical System with Excep-
Invited tional Point at Room Temperature
Feng Tian (The University of Tokyo); Yasutomo Ota (The University of Tokyo); Satoshi Iwamoto (The University of Tokyo);

00:00 Design of Quantum Light Sources in Mid-infrared Band
Invited Using Lithium Niobate Crystal
Rui-Bo Jin (Wuhan Institute of Technology); Zi-Xiang Yang (Wuhan Institute of Technology);

Session 1A9
Nanomaterials and Advanced Characterizations for Innovative Energy Generation and Storage Technologies

Monday AM, July 3, 2023
Room South Room 221
Organized by Sara Pescetelli, Antonio Agresti
Chaired by Sara Pescetelli, Antonio Agresti

00:00 Industrial Production of High Quality 2D Materials for
Invited Energy Applications
Francesco Bonaccorso (BeDimensional Spa.);

00:00 A Sputtered Gig-iox TiO₂ Sponge for Multipurpose App-
Invited plication in Perovskite Solar Cells
Alessandra Alberti (CNR-IMM); Salvatore Valastro (CNR-IMM); Ioannis Deretzies (CNR-IMM); Giuseppe Fisicaro (CNR-IMM); Giovanni Mannino (CNR-IMM); Emanuele Smecca (CNR-IMM);

00:00 Additive Engineering: A Route Towards Flexible and
Invited Robust Perovskite Solar Cells
A. Giuri (CNR NANO — Istituto di Nanotecnologia); F. Bisconti (CNR NANO — Istituto di Nanotecnologia); Nicholas Rolston (Arizona State University); Reinhold H. Dauskardt (VTT Technical Research Centre of Finland Ltd.); R. Suonen (VTT Technical Research Centre of Finland Ltd.); T. M. Kraft (VTT Technical Research Centre of Finland Ltd.); M. Yikunnari (VTT Technical Research Centre of Finland Ltd.); V. Holappa (VTT Technical Research Centre of Finland Ltd.); R. Po (Renewable, New Energies and Material Science Research Centre); P. Biagini (Renewable, New Energies and Material Science Research Centre); C. Esposito Corcione (Università del Salento, Campus Ecotekne); A. Listorti (Università di Bari); Silvia Colella (Università di Bari); Aurora Rizzo (CNR NANO — Istituto di Nanotecnologia);

00:00 Band Structure and Exciton Dynamics in Quasi-2D De-
Invited caylammonium Halide Perovskites
Daniele Catone (CNR-ISM); G. Ammirati (Istituto di Struttura della Materia — CNR (ISM-CNR), Euro-FEL Support Laboratory (EFSL)); F. Martelli (Istituto per laMicroelettronica e i Microsistemi (IMM), CNR); P. O’Keeffe (Istituto di Struttura della Materia - CNR (ISM-CNR), EuroFEL Support Laboratory (EFSL)); S. Turchini (Istituto di Struttura della Materia - CNR (ISM-CNR), EuroFEL Support Laboratory (EFSL)); Alessandra Paladini (CNR-ISM); Maurizia Palammo (University of Rome Tor Vergata); G. Giorgi (University of Perugia); M. Cinquino (University of Salento); M. De Giorgi (University of Salento); L. De Marco (University of Salento);

00:00 Ultrafast Spin Relaxation Mechanisms in Layered Per-
Invited ovsites
Valentino Romano (Politecnico di Milano); Martin Hörmann (Politecnico di Milano); Anna Stadlbauer (Technical University Munich); Felix Deschler (Technical University Munich); Giulio Cerallo (Politecnico di Milano); Franco Valduga De Almeida Camargo (Istituto di Fotonica e Nanotecnologie-CNR);

00:00 Plasmonic Metal@Oxide, Core@Shell Nanoparticles: Invited Applications in Photovoltaic Materials and Interactions with Reducible Oxides
Sergio D’Addato (Università di Modena e Reggio Emilia);

00:00 The Role of Water at the Interface with TiO₂ for H₂ Invited Photoproduction
R. Verduci (University of Messina); F. Creazzo (University of Zürich); G. Cassone (Institute for Chemical-Physical Processes, National Research Council of Italy (IPCF-CNR)); F. Twella (University of Messina); C. Ampelli (University of Messina); S. Luber (University of Zürich); S. Perathoner (University of Messina); G. Centi (University of Messina); Giovanna D’Angelo (University of Messina);
MoS\textsubscript{2} Nanosheets Protected Black Silicon for Enhanced Solar Hydrogen Production
Huaping Jia (The Hong Kong Polytechnic University); Fengjia Xie (The Hong Kong Polytechnic University); Xuming Zhang (The Hong Kong Polytechnic University);

All-optical Retrieval of the Thermal Boundary Resistance at the Interface between Carbon Nanotubes and Water
Alessandro Casto (Université Lyon 1); Margherita Vituccu (Université Lyon 1); Francesco Maria Bellussi (Politecnico di Torino); Michele Diego (The University of Tokyo); Fabien Vialla (Université Lyon 1); Aurelien Crut (University of Lyon 1); Fabrice Vallée (Université Lyon 1); Matteo Fasano (Politecnico di Torino); Natalia Del Fatti (Université de Lyon, Institut Lumiere Matiere (iLM), Universite Lyon 1 and CNRS); Paolo Maioli (Université Lyon 1);

Biomimetic Microreactor for Glucose Precursor Production from CO\textsubscript{2}
Yujiao Zhu (The Hong Kong Polytechnic University); Fengjia Xie (The Hong Kong Polytechnic University); Kangming Ren (Hong Kong Baptist University); Xuming Zhang (The Hong Kong Polytechnic University);

Silver-bismuth Double Perovskite: Variations on a Theme
Teresa Gatti (Politecnico di Torino);

Session 1A10
Remote Sensing of Water and Energy Cycles 1
Monday AM, July 3, 2023
Room South Room 222
Organized by Hui Lu, Jiancheng Shi, Rajat Bindlish
Chaired by Hui Lu, Jiancheng Shi

The Spatial Impact Changes of Heat Wave Disasters Based on Long Time Series: A Case Study of Qingdao, China
Zhimei Zhang (China University of Petroleum (East China)); Yanguo Fan (China University of Petroleum (East China)); Zhijun Jiao (China University of Petroleum (East China));

High Resolution 3D Mapping of Coastal Floods Due to Hurricanes from Moderate Resolution Remote Sensing Data
Donglian Sun (George Mason University); Sameei Li (George Mason University); Tianshu Yang (George Mason University);

Explainable AI for Radar Quantitative Estimation of Precipitation
Haonan Chen (Colorado State University);

Updates on the GLASS and Hi-GLASS Water Cycle and Energy Budget Products
Shanlin Liang (University of Hong Kong);

Estimation of Cloud Base Height and Surface Downward Longwave Radiation Using H8/AHI Measurement
Husi Letu (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences (CAS)); Ri Xu (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences (CAS)); Jiangqi Shao (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences (CAS));

A Total Precipitable Water Fusion Algorithm by Considering Microwave and Optical Remote Sensing Observations
Dabin Ji (Aerospace Information Research Institute, Chinese Academy of Sciences); Qixiang Sun (Aerospace Information Research Institute, Chinese Academy of Sciences); Jiancheng Shi (National Space Science Center, Chinese Academy of Sciences); Husi Letu (Institute of Remote Sensing and Digital Earth, Chinese Academy of Sciences (CAS));

A Proposed Cryosphere Monitoring Satellite
Jiancheng Shi (National Space Science Center, Chinese Academy of Sciences); Hao Liu (National Space Science Center, Chinese Academy of Sciences); Jimei Pan (Aerospace Information Research Institute, Chinese Academy of Sciences);

Detection, Mapping and Tracking Large Scale Inundation Dynamics Using CYGNSS Level-1 Coherence Detections
Mohammad Al-Khaldi (The Ohio State University); Joel T. Johnson (The Ohio State University); Nicholas Brendle (The Ohio State University);

X/ku-band Radar SWE Retrieval Performance from SnowEX 2017
Edward J. Kim (NASA Goddard Space Flight Center); D. K. Kang (NOAA); Firoz Borah (University of Michigan); Leung Tsang (University of Michigan);

Retrieval of Cloud Microphysical Properties from Himawari-8/AHI Infrared Channels and Its Application in Surface Shortwave downward Radiation Estimation in the Sun Glint Region
Gegen Tana (National Space Science Center, Chinese Academy of Sciences); Xu Ri (Aerospace Information Research Institute, Chinese Academy of Sciences); Chong Shi (Aerospace Information Research Institute, Chinese Academy of Sciences); Run Ma (Aerospace Information Research Institute, Chinese Academy of Sciences); Husi Letu (Aerospace Information Research Institute, Chinese Academy of Sciences); Jian Xu (National Space Science Center, Chinese Academy of Sciences); Jiancheng Shi (National Space Science Center, Chinese Academy of Sciences);
00:00 Multi-channel Collaborative Retrieval of Soil Moisture and Vegetation Optical Depth
Tianjie Zhao (Aerospace Information Research Institute, Chinese Academy of Sciences); Zhiqing Peng (Aerospace Information Research Institute, Chinese Academy of Sciences); Lu Hu (Nanjing University); Dabin Ji (Aerospace Information Research Institute, Chinese Academy of Sciences); Jiancheng Shi (National Space Science Center, Chinese Academy of Sciences);

00:00 Downscaling Passive Microwave Soil Moisture Across All Sensors
Venkataraman Lakshmi (University of South Carolina);

00:00 Soil Moisture Downscaling through the Simultaneous Assimilation of Multi-scale and Multi-source Remote Sensing
Hui Lu (Tsinghua University);

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Session 1A11a
Axions and Axion Electrodynamics

Monday AM, July 3, 2023
Room South Room 223
Organized by Iver Hakon Brevik, Roberto Passante
Chaired by Iver Hakon Brevik, Roberto Passante

00:00 Axion Electrodynamics: Energy-momentum Aspects, and Measurement Possibilities
Iver Hakon Brevik (Norwegian University of Science and Technology);

00:00 Classical and Quantum Studies of an Atom with Rectilinear Motion in the Presence of Topological Insulators
Omar Jesús Franca Santiago (Universität Kassel); Stefan Yoshi Buhmann (Universität Kassel);

00:00 Axion Detection Setup Exploiting Magnetic-type Transitions in Alkali Atoms Trapped in a Cold Matrix of Inert Gases
Caterina Braggio (Università di Padova and INFN Padova); Roberto Calabrese (Università di Ferrara and INFN Ferrara); Giovanni Carugno (INFN, Sezione di Padova); Giuseppe Fiscelli (Università degli Studi di Palermo); Marco Guarise (Università di Ferrara and INFN Ferrara); Alen Khanbekyan (Università di Ferrara and INFN Ferrara); Antonio Noto (Università degli Studi di Palermo and CNISM); Roberto Passante (Università di Palermo); Luca Rizzuto (Università degli Studi di Palermo and CNISM); Giuseppe Ruoso (Viale dell’Università 2); Luca Tomasetti (Università di Ferrara and INFN Ferrara);

00:00 Green’s Functions and Zero-point Energy in Axion Electrodynamics
Amedeo Maria Favitta (University of Palermo); Iver Hakon Brevik (Norwegian University of Science and Technology); Masud Chaichian (University of Helsinki);

00:00 Searching for Dark Matter with BREAD: Broadband Invited Reflector Experiment for Axion Detection
Stefan Knirck (Fermi National Accelerator Laboratory);

00:00 Comparison of Axion Haloscopes via Axion Spectral Sensitivity and the Use of Poynting Theorem to Calculate Sensitivity
Michael E. Tobar (University of Western Australia);

00:00 The ORGAN Experiment: Results, Status, and Future Plans
Ben T. McAllister (University of Western Australia);

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Session 1A11b
Electromagnetic Problems Involving Layered Media

Monday AM, July 3, 2023
Room South Room 223
Organized by Tolga Ulaş Gürbüz, Qiwei Zhan
Chaired by Tolga Ulaş Gürbüz

00:00 A Semi-analytical Method for TE Scattering from Arbitrary Shaped Radially Inhomogeneous Cylindrical Shells at Normal Incidence
Tolga Ulaş Gürbüz (Gaziantep University); Birol Aslanğürek (Yıldız Technical University);

00:00 Wake Fields in a Three-layer Cylindrical Waveguide
Mikayel Iovan Ivanyan (Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)); B. Grigoryan (Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)); Luise Aslyan (Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)); A. Grigoryan (Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE)); A. Vardanyan (Center for the Advancement of Natural Discoveries Using Light Emission (CANDLE));

00:00 An Asymptotic Approach to Linear Pulse Propagation in Layered, Causally Dispersive, Media
Constantinos M. Balictsis (Hellenic Telecommunications and Post Commission);

00:00 Metasurface Modeling in Plane-stratified Media via Plane Wave Decomposition
Botond Tamás Csathó (Budapest University of Technology and Economics); Jozsef Pavo (Budapest University of Technology and Economics); Zsolt Badics (Tensor Research LLC); B. P. Horvath (Budapest University of Technology and Economics);
Session 1A12
Microstrip Antennas, Array Antennas, Theory and Radiation

Monday AM, July 3, 2023
Room South Room 224
Organized by Peter Stoyanov Apostolov
Chaired by Peter Stoyanov Apostolov, Dimitar G. Valchev

00:00 Fast Analysis and Design of Cylindrical Array of Patch Antennas via Phase Modes
Hasan Aydin (Istanbul Technical University); Ozgur Ozdemir (Istanbul Technical University);
00:00 Planar Log-periodic Antenna Array for Millimetric 5G Band
Anton Venouil (Aix Marseille University); M. Benawad (University Grenoble Alpes, CEA, LITEN); C. Serbutov (University Grenoble Alpes, CEA, LITEN); Philippe Pannier (Aix Marseille University); Matthieu Egels (Aix-Marseille University);
00:00 Design of a Passive Retrodirective SHF-RFID Transponder for Communication and Localization
Sebastian Böller (Fraunhofer Institute for Microelectronic Circuits and Systems (IMS)); Thorben Greuter (Fraunhofer Institute for Microelectronic Circuits and Systems (IMS)); Anton Grabmaier (Fraunhofer Institute for Microelectronic Circuits and Systems (IMS));
00:00 Interaction of THz Radiation with Dielectric Layer with Regimes of Resonant Scattering
00:00 A Scalable X-band Overlapped Subarray Beamformer for Linear Phased Array Antennas
Yasin Ozer (Istanbul Technical University); Selçuk Paker (Istanbul Technical University);
00:00 Characterization of Frequency Selective Surfaces (FSS) at Oblique Incidence by a Generalized Equivalent Circuit Based on Poster’s Theorem
Gerardo Pérez-Palomino (Universidad Politécnica de Madrid); José Ramón Montejo-Garai (Universidad Politécnica de Madrid); Juan E. Page (Universidad Politécnica de Madrid);
00:00 Design of a Low-cost Broadband Dual-polarized Aperture-coupled Stacked Patch Antenna
Okay Schierhorn (Technical University of Berlin (TUB)); Jesus Cumana Morales (Corning Optical Communications GmbH & Co. KG); Wolfgang Heinrich (Technical University of Berlin (TUB));
00:00 On the Development of a Microwave Sensor to Detect Pesticides
Nouf Al Eissaee (Technology Innovation Institute); John Jairo Pantoja Acosta (Technology Innovation Institute); Luciano P. Oliveira (Technology Innovation Institute); Felix Vega (Technology Innovation Institute); Chaouki Kasmi (Technology Innovation Institute);
00:00 S Band Monopole Plasma Antenna Design and Beam Forming Application by Plasma Columns
Atalay Kocakusak (Akdeniz University); Selcuk Helhel (Akdeniz University);
00:00 On the Development of a Microwave Sensor to Detect Pesticides
Nouf Al Eissaee (Technology Innovation Institute); John Jairo Pantoja Acosta (Technology Innovation Institute); Luciano P. Oliveira (Technology Innovation Institute); Felix Vega (Technology Innovation Institute); Chaouki Kasmi (Technology Innovation Institute);
00:00 Near Field-far Field Conversion Using a Semicircular Probe Antenna
Jorge R. Sosa-Pedroza (Instituto Politecnico Nacional); Fabiola Martinez-Zaniga (Instituto Politecnico Nacional); David Calderón-Medelín (Instituto Politecnico Nacional); Rodrigo Del Villar-Ramirez (Instituto Politecnico Nacional);
00:00 Characterization of Frequency Selective Surfaces (FSS) at Oblique Incidence by a Generalized Equivalent Circuit Based on Poster’s Theorem
Gerardo Pérez-Palomino (Universidad Politécnica de Madrid); José Ramón Montejo-Garai (Universidad Politécnica de Madrid); Juan E. Page (Universidad Politécnica de Madrid);
00:00 Evaluation of Radiation Efficiency of Single-wall Carbon Nanotube-based Flexible Antenna Using Wheeler Cap Method
Sho Kuromatsu (Aoyama Gakuin University); Takeshi Watanabe (Aoyama Gakuin University); Yoshiyuki Nonoguchi (Kyoto Institute of Technology); Ryosuke Suga (Aoyama Gakuin University); Osamu Hashimoto (Aoyama Gakuin University); Shinji Koh (Aoyama Gakuin University);
00:00 Near Field-far Field Conversion Using a Semicircular Probe Antenna
Jorge R. Sosa-Pedroza (Instituto Politecnico Nacional); Fabiola Martinez-Zaniga (Instituto Politecnico Nacional); David Calderón-Medelín (Instituto Politecnico Nacional); Rodrigo Del Villar-Ramirez (Instituto Politecnico Nacional);
00:00 Miniaturized Ultra-wideband Bandpass Filter with Multifrequency Suppression Capability
Abdul Basit (NingboTech University); Muhammad Zubair Ajmal (University of Engineering and Technology); Chaman Ali (University of Engineering and Technology); Saad Ashhad (University of Engineering and Technology); Amil Daraz (NingboTech University); Guoqiang Zhang (NingboTech University);
00:00 Passive 2-D Retro Directive Array Antenna with Adjustable Reflection Angle
Mohammadreza Fallah (Iran University of Science and Technology); Nima Mokary Bahar (Iran University of Science and Technology); Seyed Hassan Sedighy (Iran University of Science and Technology);
00:00 A Scalable X-band Overlapped Subarray Beamformer for Linear Phased Array Antennas
Yasin Özer (Istanbul Technical University); Selçuk Paker (Istanbul Technical University);
00:00 A Scalable X-band Overlapped Subarray Beamformer for Linear Phased Array Antennas
Yasin Özer (Istanbul Technical University); Selçuk Paker (Istanbul Technical University);
00:00 Characterization of Frequency Selective Surfaces (FSS) at Oblique Incidence by a Generalized Equivalent Circuit Based on Poster’s Theorem
Gerardo Pérez-Palomino (Universidad Politécnica de Madrid); José Ramón Montejo-Garai (Universidad Politécnica de Madrid); Juan E. Page (Universidad Politécnica de Madrid);
00:00 Evaluation of Radiation Efficiency of Single-wall Carbon Nanotube-based Flexible Antenna Using Wheeler Cap Method
Sho Kuromatsu (Aoyama Gakuin University); Takeshi Watanabe (Aoyama Gakuin University); Yoshiyuki Nonoguchi (Kyoto Institute of Technology); Ryosuke Suga (Aoyama Gakuin University); Osamu Hashimoto (Aoyama Gakuin University); Shinji Koh (Aoyama Gakuin University);
00:00 Steering of Two-element Array Antenna with Arbitrary Narrow Beam Array Factor
Peter Stoyanov Apostolov (South-West University); Dimitar G. Valchev (The Open University);
Session 1P0a
FocusSession.SC1: Casimir Effect and Radiative Heat Transfer 2

Monday PM, July 3, 2023
Room South Hall 2
Organized by Mauro Antezza, Matthias Krüger

00:00 Thermal Radiation in Topological Systems
Invited
Swend-Age Biels (Carl von Ossietzky Universität);

00:00 Limits on Electromagnetic Fluctuation Phenomena
Invited
Alejandro W. Rodriguez (Princeton University);

00:00 Is There a Super-Planckian Regime of Heat Transfer between Side-by-side Two-dimensional Metal Sheets?
Invited
Jian-Sheng Wang (National University of Singapore);

00:00 Thermodynamics and Quantum Computing
Invited
Gabriele De Chiara (Queen’s University Belfast);

00:00 Equilibrium and Non-equilibrium Casimir Forces on Non-reciprocal Materials
David Gellesower-Klimovsky (Technion-Israel Institute of Technology);

00:00 Super-Planckian Thermal Radiation of a Macroscopic Cavity Due to the In-plane Propagation of Polaritons
Invited
Jose Ordonez-Miranda (The University of Tokyo);

00:00 Axion Electrodynamics: Fundamentals
Invited
Iver Hakon Brevik (Norwegian University of Science and Technology);

00:00 Motion-induced Effects in Dispersion Forces
Invited
Francesco Intravaia (Humboldt-Universität zu Berlin);

00:00 Universal Casimir Interaction and Its Relevance for Colloidal and Biophysical Systems
Tanja Schoger (Universität Augsburg);
Benjamin Spreng (Universität Augsburg);
Gert-Ludwig Ingold (Universität Augsburg);
Pablo A. Maia Neto (Universidade Federal do Rio de Janeiro);
S. Reymond (Laboratoire Kastler Brossel);

00:00 Critical Casimir Forces Control Colloidal Assembly
Invited
Peter Schall (Institute of Physics);

00:00 Control of Thermal State and Relaxation Dynamic of Non-Hermitian Many-body Systems
Philippe Ben-Abdallah (Universite Paris-Sud 11);

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Session 1P1
Specific Approaches in Computational Electromagnetics as Applied to Modern Nanophotonics 1

Monday PM, July 3, 2023
Room Club E
Organized by Maha Ben Rhouma
Chaired by Maha Ben Rhouma

00:00 Finite Element Method and Semi-analytical Approaches to Model the Optical, Thermal, Magnetic and Ultrafast Response of Plasmonic and Photonic Metamaterials
Invited
Nicolò Maccaferri (Umeå University);

00:00 Nanostructuration Effects in Casimir Torque and in Thermophotovoltaics
Invited
Mauro Antezza (Université de Montpellier);

00:00 An Efficient Numerical Approach Combining Finite Element with Integral Methods
Invited
Q. Didier (Avignon Université);
Slimane Arhab (Avignon Université — INRAE);
Gaëlle Lefèvre-Mesgouez (Avignon Université — INRAE);

00:00 Designing Nonlinear Optoelectronic Devices with Numerical Optimization: Lessons Learned
Invited
Erğun Sunseck (University of Maryland Baltimore County);
Ishraq Md Anjum (University of Maryland Baltimore County);
Curtis R. Menyuk (University of Maryland Baltimore County);
00:00 Coupling between Conduction and Near-field Radiative

00:00 Heat Transfer

Invited

Riccardo Messina (Institut d’Optique, CNRS, Université Paris-Sud 11); P. Ben-Abdallah (Institut d’Optique Graduate School, CNRS, Université Paris-Saclay);

00:00 Fast Multi-channel Full-wave Solver and Inverse Design

Invited with Augmented Partial Factorization

Chia Wei Hsu (University of Southern California);

00:00 Multipolar Metasurface Modeling with Application to the Generalized Brewster Effect

Karim Achouri (Swiss Federal Institute of Technology Lausanne (EPFL));

00:00 Modeling the Acousto-plasmonic Coupling: Raman Energy Density Framework

Nicolas Large (University of Texas at San Antonio); Montaño Priede (University of Texas at San Antonio); Adnen Mlayah (Université de Toulouse);

00:00 Accelerating Photonic Crystal Waveguide Simulation: From CPU Hours to Sub-ms Timescales

Caspar F. Schwahn (University of St Andrews); Sebastian Andreas Schulz (University of St Andrews);

00:00 Projector-based Quantization and Potential-based Numerical Mode Decomposition for Quantum Nanophotonics

Soomin Moon (Purdue University); Jie Zhu (Purdue University); Thomas E. Roth (Purdue University); Dong-Yeop Na (Purdue University); Weng Cho Chew (Purdue University);

00:00 Modeling the Excitation of Graphene Magneto-plasmons in Periodic Grating of Magnetostatic Biased Graphene Ribbons

Maha Ben Rhouma (Université Gustave-Eiffel); Kofi Edee (Clermont Université); Brahim Guizal (University of Montpellier);

00:00 Ultra-low-loss GeAsSeTe/GeAsSe Pedestal Waveguides and Their Thermo-optic Characterisation for On-chip Long-wave IR Spectrometer Applications

Vasileios Mourgelas (University of Southampton); Siravit Boonst (University of Southampton); James S. Wilkinson (University of Southampton); Ganapathy Senthil Marugan (University of Southampton);

00:00 Strategies for Dynamic Control over Infrared Absorption and Emission Using Symmetry Breaking

Michelle L. Povinelli (University of Southern California); B. Shrewsbury (University of Southern California); A. Ghanekar (University of Southern California); R. Audhhaksi (University of Southern California);

00:00 Transmission-line-based Plasmonic Logic Gates and Half-adder

Pei-Yuan Wu (National Tsing Hua University); Chen-Bin Huang (National Tsing Hua University);

00:00 Enhancing the Gain Factor of Nanoscale Optical Parametric Amplifiers via Active Tuning

Ozam Emre Aşırım (Technical University of Munich);

00:00 Unlocking the Potential of High-frequency Nanooptomechanical Systems with Dissipative Optomechanics

Thiago Pedro Mayer Alegre (University of Campinas);

00:00 Triple-state Photonic Molecules for Degenerate Optical Parametric Oscillation

Nathalia B. Tomazio (University of Sao Paulo — USP); Lais Fujii (University of Campinas — UNICAMP); Luca O. Trinchao (University of Campinas — UNICAMP); Eduardo S. Gonçalves (University of Campinas — UNICAMP); Paulo F. Jarschel (University of Campinas — UNICAMP); Felipe G. S. Santos (University of Campinas — UNICAMP); Thiago Pedro Mayer Alegre (University of Campinas — UNICAMP); Felipe A. Barbosa (University of Campinas — UNICAMP); Gustavo S. Wiederhecker (University of Campinas — UNICAMP);

00:00 Modulating Refractive Index: Energy and Speed Considerations

Jacob B. Khurgin (Johns Hopkins University);

00:00 Lagrangian Formulation for Deriving Electromagnetic Energy Density in Dispersive Metamaterials with Non-negligible Absorption

Pi-Gang Luan (National Central University);

00:00 Dynamics of Hot Electrons and Optical Near-field in Plasmonic Nanoparticles under Ultrashort Laser Pulses: Influence on the Generation of ROS in Biomedical Applications

Syrine Gueffrache (Université Paris-Saclay); Sarra Mitiche (Université Paris-Saclay); Sylvie Marquet (Université Paris-Saclay); Jean-Frederic Audibert (Université Paris-Saclay); Ludovic Douillard (CEA/SPEC); Christophe Lebecouf (Université de Paris); L. Ghezil (Université de Paris); G. Bousquet (Université de Paris); R. B. Pansu (Université Paris-Saclay); Bruno Palpant (Université Paris Saclay);
Session 1P3a
Emerging On-chip Laser Technologies
Monday PM, July 3, 2023
Room Club C
Organized by Xiyuan Lu, Lin Chang

00:00 Silicon Nitride Integrated Photonics: From Microcombs to On-chip Frequency Agile Low Noise Lasers and Erbium Amplifiers
Tobias J. Kippenberg (EPFL);

00:00 Ultrahigh-Q Rare-earth-doped Microcavities for Lasing Applications
Lei Shi (Huazhong University of Science and Technology);

00:00 Organic Hybrid Platform for Microcavity Nonlinear Optics
Xiaoqin Shen (ShanghaiTech University);

00:00 Topological-cavity Surface-emitting Laser Invited
Ling Lu (Institute of Physics, Chinese Academy of Sciences);

00:00 On-Chip Integrated Light Sources of Miniaturized Invited Bound State in the Continuum
Chao Peng (Peking University);

00:00 Heterogeneously Integrated, On-chip, Lasers with Sub-micron Wavelengths for Quantum Applications
Nima Nadar (National Institute of Standards and Technology); Ali Eshaghian Dorche (National Institute of Standards and Technology); Eric J. Stanton (National Institute of Standards and Technology); Sae Woo Nam (National Institute of Standards and Technology); Richard P. Mirin (National Institute of Standards and Technology);

00:00 Nanowire Photonic Crystal Arrays for Optical Elements Invited in Photonic Integrated Circuits
Chia-Wei Tu (University of Cincinnati); Matthew Larson (University of Cincinnati); Masoud Kaveh (University of Cincinnati); Martin Fränzl (University of Leipzig); Qian Gao (The Australian National University); Hark Hoe Tan (The Australian National University); Chennupati Jagadish (The Australian National University); Heidrun Schmitzer (Xavier University); Hans-Peter Wagner (University of Cincinnati);

00:00 Fundamental Limits on Earth-like Exoplanet Imaging with Large Telescopes by Laser Tomography Adaptive Optics System
Nagendra Prasad Yadav (Hubei Polytechnic University);
00:00 InAs/GaAs Quantum-dot Lasers Monolithically Grown on Si Substrate
Jiajing Yuan (University College London); Xuan-chang Zhang (University College London); Xueying Yu (University College London); Khaya Mtnzi (University College London); Huiwen Deng (University College London); Hui Jia (University College London); Mingchu Tang (University College London); Huiyan Liu (University College London);

00:00 Enabling On-chip Lasers in the Visible through Integrated Optical Parametric Oscillators
Kartik Srinivasan (National Institute of Standards and Technology);

Session 1P4a
Microresonator Frequency Comb and THz Sources for Next-generation Communications and Related Applications 2

Monday PM, July 3, 2023
Room Club B
Organized by Takasumi Tanabe, Takeshi Yasui

00:00 Electro-optic-modulation Comb Generation Using a Silicon Modulator at 25-GHz Repetition Rate
Yugo Kikkawa (NTT Corporation); A. Ishizawa (NTT Corporation); X. Xu (NTT Corporation); G. Cong (Nihon University); R. Kou (Nihon University); K. Yoshida (NTT Corporation); K. Hitachi (NTT Corporation); N. Yamamoto (Nihon University); T. Nishikawa (Tokyo Denki University); K. Yamada (Nihon University); H. Sanada (NTT Corporation); K. Oguri (NTT Corporation);

00:00 Dual-Wavelength, Low-Phase-Nose, Optical Carrier for Terahertz-to-Optical Carrier Conversion with Electro-Optic Polymer Modulator
Y. Matsumura (Tokushima University); Eiji Hase (Tokushima University); Yu Tokizane (Tokushima University); Naoya Kase (Tokushima University); J. Fujikata (Tokushima University); Hiroki Kishikawa (Tokushima University); Masanobu Haraguchi (Tokushima University); Yasuhiro Okamura (Tokushima University); Takahiro Kaji (National Institute of Information and Communications Technology (NICT)); Akira Otomo (National Institute of Information and Communications Technology (NICT)); Atsushi Kanno (National Institute of Information and Communications Technology (NICT)); Shintaro Hisatake (Gifu University); Takeshi Yasui (Tokushima University);

00:00 SIN/Si Hybrid Integration with Edge Couplers by Butt-coupling
R. Sugano (Keio University); R. Otake (Keio University); Takasumi Tanabe (Keio University);

Session 1P4b
Millimeter-Terahertz Wave Sources Technologies and Imaging Applications

Monday PM, July 3, 2023
Room Club B
Organized by Wenxin Liu, Ziran Zhao
Chaired by Wenxin Liu

00:00 Characterization of Impedance and Physical Properties of CVD-grown Graphene up to 50 GHz
Ryota Okuda (AGC Inc.); Kazuhiko Niwano (AGC Inc.); Kaname Hatada (Aoyama Gakuin University); Kei Kokubu (Aoyama Gakuin University); Ryosuke Suga (Aoyama Gakuin University); Shunji Koh (Aoyama Gakuin University);

00:00 Dual-Polarized Reflectarray Antenna for Computational Polarimetric Imaging at Microwave Frequencies
Aobo Li (Queen’s University Belfast); Mengran Zhao (Queen’s University Belfast); Babar Abbasi (Queen’s University Belfast); Okan Yarduseven (Queen’s University Belfast);

00:00 Terahertz Spectroscopic Techniques for Material Characterization and Source Development
Meng Chen (National Engineering Research Center for Dangerous Articles and Explosives Detection Technologies); Yingxin Wang (Tsinghua University); Ziran Zhao (Tsinghua University);

00:00 A Model-based Low-frequency Image Quality Enhancement Method
Jiaheng Zhou (Tsinghua University); Yongshen Zhang (Tsinghua University); Zhiqiang Chen (Tsinghua University); Ziran Zhao (Tsinghua University);

00:00 Short-range Millimeter-wave Imaging for Multilayer Objects
Yongshen Zhang (Tsinghua University); Jiaheng Zhou (Tsinghua University); Ziran Zhao (Tsinghua University);

00:00 Design and Simulation of 1.0 THz Staggered Double Vane Backward-wave Oscillator
Wenxin Liu (Aerospace Information of Research Institute, Chinese Academy of Sciences); Xiangpeng Liu (Beijing University of Technology); Zhiqiang Zhang (Aerospace Information Research Institute, Chinese Academy of Sciences); Zhihao Jin (Aerospace Information of Research Institute, Chinese Academy of Sciences); Fan Deng (Aerospace Information of Research Institute, Chinese Academy of Sciences); Zaohuan Zhang (Aerospace Information of Research Institute, Chinese Academy of Sciences);
00:00 Steering Smith-Purcell Radiation Angle in a Fixed Frequency by the Metal Grating
Wangye Lu (Guilin University of Electronic Technology); Daofan Wang (Guilin University of Electronic Technology); Wenzin Liu (Aerospace Information Research Institute, Chinese Academy of Sciences); Tao Fu (Guilin University of Electronic Technology);

00:00 Study on Electron Optics System for 670 GHz Travelling Wave Tube
Zhiqiang Zhang (Aerospace Information Research Institute, Chinese Academy of Sciences); Wenzin Liu (Aerospace Information Research Institute, Chinese Academy of Sciences); Jianliang Wang (Aerospace Information Research Institute, Chinese Academy of Sciences);

00:00 Design of a Pillbox Window for 340 GHz Traveling Wave Tubes
Jiawei Tang (Shenzhen University); Guozheng Shu (Shenzhen University); Junchen Ren (Shenzhen University); Xinlan Xie (Shenzhen University); Huaxing Pan (Shenzhen University); Shaofen Ma (Shenzhen University); Mingze Li (Shenzhen University); Siyuan Liu (Shenzhen University); Wendong He (Shenzhen University);

00:00 Narrow Linewidth, Energy-enhanced Injection-seeded Tunable Terahertz Parameter Oscillator
Yuyu Wang (Tianjin University); Jingyi Zhang (Tianjin University); Zikun Liu (Tianjin University); Bingfeng Xu (Tianjin University); Hai Bin Li (Tianjin University); Mei Lan Ge (Tianjin University); Kai Chen (Tianjin University); Z. L. Wang (Tianjin University); Degang Xu (Tianjin University);

00:00 Ultra-broadband Terahertz Photothermoelectric Sensing and Multifunctional Imaging
Yingxin Wang (Tsinghua University); Meng Chen (National Engineering Research Center for Dangerous Articles and Explosives Detection Technologies); Ziran Zhao (Tsinghua University);

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Session 1P6a
Theory and Applications of Reconfigurable Photonic Metasurfaces

Monday PM, July 3, 2023
Room Terrace 2A

Organized by Costantino De Angelis, Andrea Locatelli
Chaired by Costantino De Angelis, Andrea Locatelli

00:00 Metasurface Generation of Second Harmonic Vortex Beams
Invited
L. Coudrat (Université de Paris); P. Filloux (Université de Paris); R. Tanos (Université de Paris); Julien Claudon (CEA/INAC/SP2M); Jean-Michel Gerard (CEA/INAC/SP2M); Aloyse Degiron (Université de Paris); Giuseppe Leo (CNRS, Université de Paris);

00:00 Adaptive and Nonlinear Diffractive Metasurfaces Based on Multiple Operation Principles
Invited
Thomas Pertsch (Friedrich-Schiller-Universität);

00:00 Second and Third Harmonic Generation from Aluminum Nanolayers and Nanostructures
Invited
Michael Scalora (Aviation and Missile Center, US Army CCDC); S. Mahopadhyay (Universitat Politècnica de Catalunya); K. Hallman (PeopleRec, Inc.); R. Vilaseca (Universitat Politècnica de Catalunya); Crina Cojocaru (Universitat Politècnica de Catalunya); J. Trull (Universitat Politècnica de Catalunya); D. De Ceglia (University of Brescia); Maria Antonietta Vincenti (University of Brescia);

00:00 Hot-carrier Reconfigurable Plasmonic Metasurfaces: The Role of Spatial Inhomogeneities at the Nanoscale
Invited
Andrew Schirato (Politecnico di Milano); Giulia Crotti (Politecnico di Milano); Andrea Toma (Istituto Italiano di Tecnologia); Remo Proietti Zaccaria (Italian Institute of Technology & Ningbo Institute of Materials and Technology Engineering, CAS); Alessandro Alabastri (Rice University); Giulio Cerullo (Politecnico di Milano); Marjherita Maiuri (Politecnico di Milano); Giuseppe Della Valle (Politecnico di Milano);

00:00 Van der Waals Semiconductors for All-dielectric Nanophotonics Empowered by Bounds States in the Continuum
Invited
Luca Sortino (Ludwig-Maximilians-Universität München); Luca Küfferer (Ludwig-Maximilians-Universität München); Thomas Weber (Ludwig-Maximilians-Universität München); Stefan A. Maier (Monash University); Andreas Tittel (Ludwig-Maximilians-Universität München);

00:00 Functionalized Mie Resonators Obtained via Solid State Dewetting
Invited
L. Fagiani (Politecnico di Milano); N. Granchi (University of Florence); C. Barri (Politecnico di Milano); M. Gerardi (Politecnico di Milano); Marco Salvalaglio (Technische Universität Dresden); A. Voigt (Technische Universität Dresden); M. Pasini (Institute of Chemical Sciences and Technologies (SCITEC) — CNR); M. Bouabdellauai (Aix Marseille University, University de Toulon, CNRS, IM2NP); Andrea Chiappini (IFN, CNR CSMFO Lab.); A. Fedorov (Institute of Photonics and Nanotechnology (IFN) — CNR, LNESS); Marco Abbarchi (Aix Marseille University, University de Toulon); Maria Antonietta Vincenti (University of Brescia); Francesca Intonti (University of Florence); Monica Bollani (LNESS);

00:00 Broad/Tailored Band Metamaterials for Microwave and Polarization
Invited
Young Pak Lee (Hanyang University); H. Y. Zheng (Hanyang University); L. Y. Chen (Hanyang University);

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**Session 1P6b**

**Recent Advances in Optical Metasurfaces 2**

**Monday PM, July 3, 2023**

**Room Terrace 2A**

Organized by Fei Ding, Cheng Zhang, Chao Meng

Chaired by Fei Ding

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00:00 Geometric Metasurfaces Photodetectors for Polarized Infrared Light

Jingxuan Wei (University of Electronic Science and Technology of China); Cheng-Wei Qiu (National University of Singapore);

00:00 Bifacial Metamaterials for Compact Pancake Camera

Chen Chen (Nanjing University); Tao Li (Nanjing University);

00:00 Ultra-broadband Metasurface for Meta-mirrors, Terahertz Cloak, and Perfect Absorber

Shiwei Tang (Ningbo University); Tong Cai (Airforce Engineering University); Junhua Guo (Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences);

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**Session 1P7a**

**Topological Micro-nano Cavities**

**Monday PM, July 3, 2023**

**Room Terrace 2B**

Organized by Qi Jie Wang, Song Han

Chaired by Song Han

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00:00 Topological Insulator Vertical cavity Lasers and Single Photonic Emitters

Aleix Dikopoltsev (Technion — Israel Institute of Technology); Tristan H. Harder (Universität Würzburg); J. Jurkat (Universität Würzburg); E. Lustig (Technion — Israel Institute of Technology); O. A. Egorov (Friedrich-Schiller-Universitat Jena); J. Beierlein (Universität Würzburg); A. Wolf (Universität Würzburg); Yaakov Lum (Technion — Israel Institute of Technology); M. Emmerling (Universität Würzburg); M. De Gregorio (Universität Würzburg); M. Meinecke (Universität Würzburg); Q. Buchinger (Universität Würzburg); C. Krause (Universität Würzburg); T. Huber-Loyola (Universität Würzburg); Christian Schneider (Universität Oldenburg); Sebastian Klemmt (Universität Würzburg); Mordechai (Motti) Segev (Technion — Israel Institute of Technology); Sven Hofling (Universität Würzburg);

00:00 Monopole Cavities

Ling Lu (Institute of Physics, Chinese Academy of Sciences);
Session 1P8
Quantum Information Processing and Devices 2

Monday PM, July 3, 2023
Room South Room 220
Organized by Hai-Zhi Song, Guangwei Deng
Chaired by Hai-Zhi Song, Guangwei Deng

00:00 Landau Polaritons with Hybridized Metamaterials
Invited
Hsun-Chi Chan (The University of Hong Kong); Hongxia Xue (The University of Hong Kong); Dong-Kyun Ki (The University of Hong Kong); Shuang Zhang (The University of Hong Kong);

00:00 Strong Photon-magnon Coupling in a System of Two Coupled Resonators: Planar Photonic Crystal with Defect and Inverted Split-ring Resonator
Invited
Aleksy A. Gierch (Usikov Institute for Radiophysics and Electronics of NAS of Ukraine); Sergey V. Nedukh (Usikov Institute for Radiophysics and Electronics of NAS of Ukraine); Sergey Yu. Polevoy (Usikov Institute for Radiophysics and Electronics of NAS of Ukraine); A. S. Vakula (Usikov Institute for Radiophysics and Electronics of NAS of Ukraine); K. Yu. Sova (Usikov Institute for Radiophysics and Electronics of NAS of Ukraine); Sergey I. Tarapov (Usikov Institute for Radiophysics and Electronics of NAS of Ukraine);

00:00 Quantum Parameter Estimation via Reinforcement Learning
Invited
Xin Wang (City University of Hong Kong);

00:00 Optimized Entanglement Detection
Invited
Zizhu Wang (University of Electronic Science and Technology of China); Xiaomin Hu (University of Science and Technology of China); Bi-Heng Liu (University of Science and Technology of China); Chuan-Feng Li (University of Science and Technology of China, CAS); Zhao-hui Wei (Tsinghua University); Miguel Navascués (Austrian Academy of Sciences);

00:00 Telecom-band Integrated Multimode Photonic Quantum Memory
Invited
Qiang Zhou (University of Electronic Science and Technology of China);

00:00 Circuit Quantum Electrodynamics for Semiconductor Quantum Dot
Invited
Gang Cao (University of Science and Technology of China);

00:00 Theoretical Studies on the Interfacial Properties of Carbon Nanotube Bundles and Their Interaction with Metallic Surfaces
Invited
Yanning Zhang (University of Electronic Science and Technology of China); Weili Li (University of Electronic Science and Technology of China);

00:00 Studying Quantum Many-body Problems through Meta-learning
Si Jiang (Tsinghua University); Dong-Ling Deng (Tsinghua University);

00:00 Silicon Photonic Crystal Architecture for Ultra-thin, High-efficiency Single Photon Detectors
Invited
Sanjay Avi (Indian Institute of Technology Kanpur); Sayak Bhattacharya (Indian Institute of Technology Delhi);

00:00 Photonic Devices for Quantum Technology Enabled through Adaptive Laser Fabrication
Invited
Martin J. Booth (University of Oxford);

00:00 The Diabatic SWAP Gate Based on Si-MOS Double Quantum Dots
Invited
Hai-Ou Li (University of Science and Technology of China);

00:00 Majorana-Magnon Interactions in Topological Shiba Chains
Invited
Peng Xing Shen (Institute of Physics, Polish Academy of Sciences); Mircea Trif (Institute of Physics, Polish Academy of Sciences);

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Session 1P9
Materials and Applications: Ferroelectrics, Piezoelectrics, and Ferromagnetics

Monday PM, July 3, 2023
Room South Room 221
Organized by Tong-Yi Zhang, Shi-Gu Cao
Chaired by Shi-Gu Cao

00:00 Introduction to Materials Informatics
Keynote
Tong-Yi Zhang (The Hong Kong University of Science and Technology (Guangzhou));

00:00 Relaxor-antiferroelectric HfO2 Thin Films for Energy Storage Application
Invited
Wentao Shuai (South China Normal University); Xu-ying Lu (South China Normal University); Jiyan Dai (The Hong Kong Polytechnic University);

00:00 Low Power Smart Gas Sensor System Based on Three-dimensional Tin-oxide Nanotube Arrays
Invited
Zhiqiang Fan (The Hong Kong University of Science and Technology);

00:00 Mechanical Control of Topological Domain Structure in Ferroelectric Materials
Invited
Jie Wang (Zhejiang University); Chang Liu (Zhejiang University); Xu Hou (Zhejiang University);

00:00 Machine Learning Assisted Phase Diagram Construction and Property Prediction in Multi-component Ferroelectric Materials
Invited
Yang Bai (University of Science and Technology Beijing);
Optimization of Nanoporous Metallic Actuators by Combining Multiscale Calculations and Machine Learning
Sheng Sun (Shanghai University); Tong-Yi Zhang (Shanghai University);

Stress Induced Twinning and Phase Transition in Ferroelectric Perovskites
Shi-Gu Cao (The Hong Kong University of Science and Technology); Honghai Wu (The Hong Kong University of Science and Technology); Tong-Yi Zhang (The Hong Kong University of Science and Technology (Guangzhou));

Predictions of Ferroelectricity and Antiferroelectricity in One-dimensional Atomic Wires
Tao Xu (Shanghai University);

Flexible Ferroelectric Thin Film with Large Electrocaloric Effect and Good Energy Storage Performance
Chengwen Bin (Zhejiang University);

Phase Field Study of a Jumping Dielectric Breakdown Behavior Induced by Crack Propagation in Ferroelectric Materials
Yong Zhang (Tongji University); Jie Wang (Zhejiang Laboratory);

Phase Field Simulation of the Magneto-acoustic Interaction in Ferromagnetic Materials Induced by Einstein-de Haas Effect
Jiajun Sun (Zhejiang University); Shengbin Shi (Zhejiang University); Jie Wang (Zhejiang University);

A Phase-field Study: Coherent Magnitude-fluctuated Spin Waves Emitted by Magnetic Skyrmions
Yu Wang (Kyoto University); Jie Wang (Zhejiang University); Takayuki Kitamura (Kyoto University); Hiroaki Hirakata (Kyoto University); Takahiro Shimada (Kyoto University);

A Phase-field Model for the Fracture Behavior of Ferroelectric Materials with Flexoelectric Effect
Chang Liu (Southwest Jiaotong University); Zhaoyi Liu (Southwest Jiaotong University);

Many-valued Logic-memory Elements Based on Nanoscale Electromechanical Oscillators
Yiming (Steven) Yan (Exponent); B. Zhang (Physics Department of Hong Kong University of Science and Technology); Shi-Gu Cao (HKUST Shenzhen-Hong Kong Collaborative Innovation Research Institute);

Structurally and Magnetically Driven Ferroelectricity in Perovskites
Yajun Zhang (Lanzhou University); Jie Wang (Zhejiang University); Philippe Ghosez (University of Liege);

Effect of Grain Size on the Electrocaloric Properties of Polycrystalline Ferroelectrics
Xu Hou (Zhejiang University);

Structure Control of the Ferroelectric Electrocaloric Material
Huiyu Li (Hangzhou Polytechnic); Xu Hou (Zhejiang University); Jie Wang (Zhejiang University);

Progress and Prospects of Machine Learning on Ferroelectric Materials
Shi-Gu Cao (HKUST Shenzhen-Hong Kong Collaborative Innovation Research Institute); Liquan Liu (Shenzhen Inequation Technology Co., Ltd.);

Session 1P10a
Ocean and Coastal Remote Sensing: The AI Approach

Monday PM, July 3, 2023
Room South Room 222
Organized by Xiaofeng Li, Xiaofeng Yang
Chaired by Xiaofeng Li, Xiaofeng Yang

Neural Networks for Ocean Color Remote Sensing: A Invited Few Examples and the Question
Zhongping Lee (Xiamen University); Xiaolong Yu (Xiamen University); Shaoling Shang (Xiamen University);

A New Indicator for Representing Different Life Phases of Floating Green Tide on the Yellow Sea
Le Gao (Institute of Oceanography, Chinese Academy of Sciences); Xiaofeng Li (Institute of Oceanography, Chinese Academy of Sciences);

Dual-branch Neural Network for Mesoscale Eddy Identification Based on Multi-variables Remote Sensing Data
Yingjie Liu (Institute of Oceanology, Chinese Academy of Sciences); Le Gao (Institute of Oceanography, Chinese Academy of Sciences); Qian Liu (Institute of Oceanology, Chinese Academy of Sciences); Xiaofeng Li (Institute of Oceanography, Chinese Academy of Sciences);

Evaluating the Effect of Incident Angle on Sea Ice Classification in SAR Images Based on a Deep Learning Model
Yibin Ren (Institute of Oceanography, Chinese Academy of Sciences); Xiaofeng Li (Institute of Oceanography, Chinese Academy of Sciences); Yan Huang (Institute of Oceanology, Chinese Academy of Sciences);

Sea Ice and Open Water Classification from Radarsat-2 Dual-polarized SAR Imagery by Deep Learning
Yiru Lu (Nanjing University of Information Science and Technology); Biao Zhang (Nanjing University of Information Science and Technology); William Perrie (Bedford Institute of Oceanography);

Deep Learning Based Reconstruction of Three-dimensional Temperature in the South China Sea from Satellite Data
Qing Xu (Hohai University); Huarong Xie (Ocean University of China); Yongcun Cheng (PIESAT Information Technology Co., Ltd.); Xiaobin Yin (Hohai University);

Machine Learning Techniques Promote the Study of Internal Solitary Waves
Xudong Zhang (Institute of Oceanography, Chinese Academy of Sciences); Xiaofeng Li (Institute of Oceanography, Chinese Academy of Sciences);
Session 1P10b
Remote Sensing of Water and Energy Cycles 2
Monday PM, July 3, 2023
Room South Room 222
Organized by Hui Lu, Jiancheng Shi, Rajat Bindlish
Chaired by Hui Lu, Jiancheng Shi

00:00 Soil Moisture and Vegetation Optical Depth Retrieval from the SMAP Mission by Using Multi-channel Collaborative Algorithm
Zhijing Peng (Aerospace Information Research Institute, Chinese Academy of Sciences); Tianjie Zhao (Aerospace Information Research Institute, Chinese Academy of Sciences); Lu Hu (Nanjing University); Panpan Yao (Aerospace Information Research Institute, Chinese Academy of Sciences); Jiancheng Shi (National Space Science Center, Chinese Academy of Sciences);

00:00 Dual Frequency SWE Retrieval Algorithm Validation Using Airborne and Tower Data at X and Ku Band
Leung Tsang (University of Michigan); Firoz Borah (University of Michigan); Joel T. Johnson (The Ohio State University); Edward J. Kim (NASA Goddard Space Flight Center); Michael Durand (Byrd Polar Research Center); Ana P. Barros (University of Illinois); Carrie Vuyovich (NASA Goddard Space Flight Center); Batuhan Osmanoglu (NASA Goddard Space Flight Center); Hans-Peter Marshall (Boise State University);

00:00 Time-series Ratio Algorithm for NISAR Soil Moisture Retrieval
Jeonghwan Park (NASA Goddard Space Flight Center); Rajat Bindlish (NASA’s Goddard Space Flight Center); Dustin Horton (The Ohio State University); Joel T. Johnson (The Ohio State University);

Session 1P11a
Oral Presentations for Best Student Paper Awards — SC1: CEM, EMC, Scattering & EM Theory
Monday PM, July 3, 2023
Room South Room 223
Chaired by Giuseppe Schettini, Rachid Talhi, Jiefu Chen

00:00 A Warping Strategy and MPME Algorithm for Data Reduction in Near-field Antenna Measurements
Antonio Ciociola (University of Campania “L. Vanvitelli”);

00:00 Application and Challenges of Machine Learning-assisted Antenna Design
Zhaohui Wei (Aalborg University); Zhao Zhou (Aalborg University); Peng Wang (Aalborg University); Jiali Kang (Aalborg University); Nan Sun (Aalborg University); Ming Shen (Aalborg University);

00:00 Efficiency-improved Highly Transparent Antenna Using Multiple Layer Transparent Conducting Oxide
Jeong-Wook Kim (Korea Advanced Institute of Science and Technology); Sol Kim (Korea Advanced Institute of Science and Technology); Kwang-Seok Kim (Affiliated Research Organization of the Electronics and Telecommunications Research Institute); Seong-Jin Kim (Korea Advanced Institute of Science and Technology); Jong-Won Yu (Korea Advanced Institute of Science and Technology);

00:00 A Wideband and Compact 3 × 3 Nolen Matrix with Flat Phase Differences
Ye Yang (City University of Hong Kong); Yu Fei Pan (Guangzhou University); Wing Shing Chan (City University of Hong Kong); Shao Yong Zheng (Sun Yat-sen University);

00:00 Phased Array Diagnostics by TR-MUSIC Approach by a Reduced Set of Measurements
Mario Del Prete (Università degli Studi della Campania — Dipartimento di Ingegneria);
Session 1P12a
Emerging Antenna Techniques and Applications for 5G/B5G

Monday PM, July 3, 2023
Room South Room 224
Organized by Yao Zhang, Peng Fei Hu

00:00 Experimental Analysis of Plane Wave Generator Performance in Anechoic and Non-anechoic Setups
Wei Fan (Aalborg University); Zhengpeng Wang (Beihang University); Fengchun Zhang (Aalborg University);

00:00 Millimeter-wave CP-LP Reconfigurable Antennas Using PCM
Runcong Lv (Shenzhen University); Xinyu Xie (Shenzhen University); Qingyi Guo (Shenzhen University);

00:00 Tunable Photogenerated Silicon Plasma Monopole Antenna
Thomas R. Jones (Purdue University); Alden Fisher (Purdue University); Dimitrios Peroulis (Purdue University);

00:00 Plasma Discharge-based Treatment to Increase the Strength of a Dielectric Surface
Roman Pernica (Brno University of Technology); Miloš Klíma (Brno University of Technology);

Session 1P12b
Wideband and High-Gain Lens Antennas for 5G and Beyond 5G applications

Monday PM, July 3, 2023
Room South Room 224
Organized by Qingyi Guo, Xin Dai
Chaired by Qingyi Guo, Xin Dai

00:00 A Miniaturized MIMO Antenna with Dual-band for 5G Smartphones
Yi Liu (Shenzhen University); Zhe Chen (Shenzhen University); Qingyi Guo (Shenzhen University);

00:00 Study on High Flexibility of the Ceramic Patch Antenna
Wenjian Sun (City University of Hong Kong); Hang Wong (City University of Hong Kong);

00:00 Anisotropy and Impedance Mismatch
Yuanyan Su (Shenzhen University); Bao Qi Wang (Tongji University); Mei Song Tong (Tongji University);

00:00 Immunity Measurement of Military Equipment to Radiated Radio Frequency Field
Rafal Przesmycki (Military University of Technology); Marek Bugaj (Military University of Technology);

00:00 Photoelectric Effect and Relativity
Manuel Fiolhais (University of Coimbra);

00:00 Accurate Electromagnetic Modeling for Multiscale Interconnect Structures Based on Volume-surface Integral Equations
Hao Nan Dong (Tongji University); Bao Qi Wang (Tongji University); Mei Song Tong (Tongji University);
00:00 Efficient Smoothers for Multigrid Solver in 3D Magnetotelluric Modeling
Yongfei Wang (Central South University); Rongwen Guo (Central South University); Jian-Xin Liu (Central South University); Gangqiang Yang (Central South University); Rong Liu (Central South University);

00:00 Possibility of Generating High Power with Thermionic Converters
Dilip K. De (Sustainable Green Power Technologies); Olavleo C. Olukunle (Covenant University);

00:00 The Associated Hermite Orthogonal Expansion in Time-domain (AH-OETD) Method: A New Tool for Solving Multi-scale and Multi-physical Fields
Zheng-Yu Huang (Nanjing University of Aeronautics and Astronautics); Viviana Lorena Robalino Espinoza (Nanjing University of Aeronautics and Astronautics); Haiyan Duan (Nanjing University of Aeronautics and Astronautics); Feng Jiang (Nanjing University of Aeronautics and Astronautics); Xu-Zhen Gong (Nanjing University of Aeronautics and Astronautics);

00:00 Study of High-power Microwave Protection Technology Based on Plasma
Zhigang Li (Huazhong University of Science and Technology); Xuesong Deng (National University of Defense Technology); Li Cheng (National University of Defense Technology); Zongshen Chen (National University of Defense Technology); Jianming Shi (National University of Defense Technology);

00:00 Rotatable Rod-type Three-mode Switchable Metamaterial Based on Structural Transformation
Lei Zheng (Huazhong University of Science and Technology); Lei Niu (Huazhong University of Science and Technology); Lili Wu (Huazhong University of Science and Technology); Xian Wang (Huazhong University of Science and Technology);

00:00 Improving the Gain of a Multiband Antenna by Adding an AMC Metasurface
Amira Bousselli (Tunis EL Manar University); Ali Gharsallah (Tunis EL Manar University); Tan-Phu Vuong (Universite Grenoble-Alpes, IMEP-LAHC);

00:00 Investigation of Periodic Structures on Dual Band Metamaterial Antenna Performance for 5G Systems
Shantu Ghose (North Carolina A&T State University); Brinta Choudhury (North Carolina A&T State University); Jyosri M. Karra (North Carolina A&T State University); Thisara Walpita (North Carolina A&T State University); Abdulrah Eroglu (Purdue University);

00:00 All-optical NOR Logic Gate Based on MIM Plasmonic Waveguide Structure with Nano-rectangular Resonators
Yaw-Dong Wu (National Kaohsiung University of Science and Technology); Yi-Jun Xu (National Kaohsiung University of Science and Technology); Tien-Tsorg Shih (National Kaohsiung University of Applied Sciences);

00:00 Conformal FSS Based Radome to Mitigate the Interference between Radio Altimeters and 5G Base Stations
T. Jayanandan (Vellore Institute of Technology); Zachariah Calloottu Alex (Vellore Institute of Technology);

00:00 A Broadband Metacomposite Absorber Based on Structure-material Integrated Design
Faziang Qin (Zhejiang University); M. Y. Peng (Zhejiang University);

00:00 Modulation of Acoustic Properties of Ferroelectric Superlattices
Si Zheng Zheng (Zhejiang University);

00:00 Unexpected Dependence of Photonic Band Gap Size on Particle Randomness in Self-assembled Colloidal Crystals
Duanduan Wan (Wuhan University);

00:00 Designing of FBG Based Sensor Networks for Long-distance Monitoring Solutions
Ints Murans (Riga Technical University); Janis Braunsfelds (Riga Technical University); Ugis Senkans (Riga Technical University); Sandis Spoilits (Riga Technical University); Vjaceslavs Bobrovs (Riga Technical University);

00:00 IoT-based Smart Home System with Deep Learning Algorithm Based on FPGA Development Board
Guo-Ming Sung (National Taipei University of Technology); Chih-Yu Lin (National Taipei University of Technology); Chih-Jung Huang (National Taipei University of Technology); Chih-Ping Yu (National Taipei University of Technology);

00:00 Optical Waveguides with Microfluidic Channel for Raman Spectroscopy
Hideki Yokoi (Shibaura Institute of Technology); Yutaro Kozato (Shibaura Institute of Technology); Yoshikazu Koike (Shibaura Institute of Technology);

00:00 Superconductor Nanostructures for Sensitive Infrared Photodetectors
Hai-Zhi Song (Southwest Institute of Technical Physics); Wei Zhang (Southwest Institute of Technical Physics); Gang Liu (Beijing University of Posts and Telecommunications); Yuchen Zhao (Xi’an University of Technology); Qiang Xu (Southwest Institute of Technical Physics); Xiumin Xie (Southwest Institute of Technical Physics); Pengfei Lu (Beijing University of Posts and Telecommunications); Xiaoli Xi (Xi’an University of Technology); Jie Xiong (University of Electronic Science and Technology of China);

00:00 Frequency Control of Terahertz Wave Parametric Generation Using Spectral Drill Cavities
Shin’ichiro Hayashi (National Institute of Information and Communications Technology); Seigo Ohno (Tokyo University); Katsuhiko Miyamoto (Chiba University); Yoshitaka Urata (PHLUXi, Inc.); Norihiko Sekine (National Institute of Information and Communications Technology);
00:00 Performance Analysis of FEC Codes for WDM-PON Transmission Systems
Ricards Kudojars (Riga Technical University); Dmitrijs Prigunovs (Riga Technical University); Ilya Lyashuk (Riga Technical University); Vitalijs Devjatovskis (Riga Technical University); Nikita Krapenins (Riga Technical University); Vladislavs Kergets (Riga Technical University); Toms Salgals (Riga Technical University); Svetlana Matsenko (Riga Technical University); Vjaceslav Bobrovs (Riga Technical University);

00:00 Optimizing Grating Processing Conditions for Radiation-resistant Fiber Bragg Grating Sensors
Jong-Youl Kim (Korea Atomic Energy Research Institute); Youngwoong Kim (Korea Atomic Energy Research Institute); Young-Gwan Hwang (Korea Atomic Energy Research Institute); Gukbeen Ryu (Korea Atomic Energy Research Institute);

00:00 Algae Luminescence Dynamics Applied for Fast Toxicological Testing
Cristiano De Mello Gallep (Universidade Estadual de Campinas); Jalya C. M. Tavares (Universidade Estadual de Campinas); Marcos V. Da Silva (Universidade Estadual de Campinas);

00:00 Monolithically Integrated Circuits with Optical Injection Locking of Ring Lasers for QKD and QPSK Applications
D. Massela (UVigo — Campus Universitario As Lagoaos); M. Wallace (Bright Photonics BV); R. Broeke (Bright Photonics BV); P. Diaz (UVigo — Campus Universitario As Lagoaos); Nelson Filipe Duarte Pinto (UVigo — Campus Universitario As Lagoaos);

00:00 Magnetically Controllable Power Splitting in Topological Photonic Crystals
Wei Yuan Tang (The University of Hong Kong); Mudi Wang (The Hong Kong University of Science and Technology); Shaojie Ma (The University of Hong Kong); C. T. Chan (The Hong Kong University of Science and Technology); Shuang Zhang (The University of Hong Kong);

00:00 Direct Laser Writing of Complex 3D Ag Nanoparticle Patterns inside Polymer Microstructures
Luisa Lavelle (Trinity College Dublin); Srikanth Kolagatla (Trinity College Dublin); Paolo Parlanti (Istituto Italiano di Tecnologia); Mauro Gemmi (Istituto Italiano di Tecnologia); Colm Delaney (Trinity College Dublin); Larisa Florea (Trinity College Dublin);

00:00 Radiation Characteristics of a \( 1 \times N \) Planar Array Microstrip Antenna with a Parasitic Patch Using a Distribution Edge
Imelda Uti Vistalina Simanjuntak (Bandung Institute of Technology); Chairunnisa (Institut Teknologi Bandung); Achmad Munir (Institut Teknologi Bandung);

00:00 A Novel Design of Differential Dual-polarized Filtering DRA
Min Tang (Shanghai Jiaotong University);

00:00 On Parametric Amplification in Discrete Josephson Transmission Line
Eugene Kogan (Bar-Ilan University);

00:00 A V-band Cascoded Low Noise Amplifier with Path Coupling between Gate and Source Terminals in 90-nm CMOS
Yen-Chung Chiang (National Chung Hsing University); Yen-Yi Wu (National Chung Hsing University); Hsiang-Yu Kao (National Chung Hsing University);

00:00 Performance Evaluation on Radiation Characteristics of Kaiser-based Linear Antenna Array
Hartuti Mistiulanista (Institut Teknologi Bandung); Budi Syahbuddin (Institut Teknologi Bandung); Chairunnisa (Institut Teknologi Bandung); Achmad Munir (Institut Teknologi Bandung);

00:00 Design of Axial-mode 2.4 GHz Helix-conical Antenna for Wireless Communication
Sania Asri Monica (Institut Teknologi Bandung); Rheyuniarto Sahendar Asthan (Institut Teknologi Sumatera); Achmad Munir (Institut Teknologi Bandung);

00:00 A Novel Corrosion Sensor for Metallic Structures Based on RFID Tag with Square Spiral Structure
Zi Cheng Jiang (Tongji University); Ya Ming Xie (Tongji University); Guo Chen Wan (Tongji University); Mei Song Tong (Tongji University);

00:00 Characterization of Slotted Microstrip Patch Array Antenna for UAV Communication System
Achmad Munir (Bandung Institute of Technology); Nofelita Rahaya (Bandung Institute of Technology); Junas Haidi (Institut Teknologi Bandung); Muhammad Hilman Faazi (Universitas Pendidikan Indonesia); Faroqhi Kurniawan (National Research and Innovation Agency);

00:00 Dual-band Planar Microstrip Monopole Antenna Design Using Multi-objective Hybrid Optimization Algorithm
Vahid Hosseini (Islamic Azad University); Farzad Shapour (Islamic Azad University); Pedro Pinho (University of Aveiro); Yousef Farhang (Islamic Azad University); Kambiz Majidzadeh (Islamic Azad University); Changiz Ghabadi (Urmia University); Javad Nourinia (Urmia University); Saeid Barshandeh (Afagh Higher Education Institute); Majid Shokri (Urmia University); Zhale Amiri (Urmia University); Morteza Jalilrad (University of Aveiro); Keivan Kaboutari (University of Aveiro);

00:00 A Novel Frequency-adjustable RC Relaxation Oscillator with Low Power Consumption
Min Ye (Tongji University); Mei Song Tong (Tongji University);

00:00 Fast Calibration of Radar and Camera Images
Wei Huang (GulIn University of Technology); Ying Yang (Nanjing University of Science and Technology); Kun-Shan Chen (GulIn University of Technology);
A High Gain SIW Cavity-backed Differential-fed Dual-polarized Slot Antenna for 5G Applications
Amit Kumar (Indian Institute of Technology (BHU)); Arvind Kumar (Visvesvaraya National Institute of Technology); A. G. Keskar (Visvesvaraya National Institute of Technology); Amit Kumar Singh (Indian Institute of Technology (BHU));

A 3.3 kW AC-AC Converter of Transmitter for Wireless Power Transfer Systems of Automated Guided Vehicle
Kye-Seok Yoon (Electronics and Telecommunications Research Institute (ETRI)); Sang-Won Kim (Electronics and Telecommunications Research Institute (ETRI)); Gwangzeen Ko (Electronics and Telecommunications Research Institute (ETRI)); Seong-Min Kim (Electronics and Telecommunications Research Institute);

Theoretical Analysis of Graphene-coated Microwave Coaxial Slot Antenna for Cancer Treatment
Taggab Hussain Malik (Center of Advanced Studies in Health & Technology (CASHT));

A Stacked Doherty Power Amplifier For Ka-band Space Applications
Stela Furtghi (University of Roma Tor Vergata); Rocco Giofre (University of Roma Tor Vergata); Anna Piaccibello (Politecnico di Torino); Vittorio Camarchia (Polytechnic of Turin); Paolo Colantonio (University of Rome Tor Vergata);

Four Port Wide Band Shared Radiator with Diversity Effects for Wireless Application
Sanjay Chouhan (Jawaharlal Institute of Technology);

Energy Efficiency Analysis of Novel Index Modulation-based Non-orthogonal Multiple Access (IMNOMA) System for 5G Networks
H. M. Shwetha (National Institute of Technology); Sandhu Anuradha (National Institute of Technology Warangal);

Assessment of Sea Surface Wind Field Retrieval from 1-meter C-SAR-01 Satellite Imagery Based on Different Models
Yue Zhang (China University of Petroleum (East China)); Wentao An (National Satellite Ocean Application Service); Mingsen Lin (National Satellite Ocean Application Service);

Determination of Water Content of Dried Aquatic Products Based on Complex Dielectric Spectrum
Xinru Yang (China University of Petroleum (East China)); Bin Wang (China University of Petroleum); Lanchang Xing (China University of Petroleum); Muzhi Gao (China University of Petroleum (East China)); Jianqin Deng (41st Institute of China Electronic Technology Group Corporation); Chuan Li (The Affiliated Hospital of Qingdao University); Lixlin Qu (The Affiliated Hospital of Qingdao University); Shihong Shao (The Affiliated Hospital of Qingdao University);

Spatial and Temporal Variability of Upwelling in the West-central South China Sea and Its Relationship with the Wind Field
Jinke Shi (Guilin University of Technology); Hongchang He (Guilin University of Technology); Donglin Fan (Guilin University of Technology);

Stereo Camera-based Position Estimation for Unmanned Aircraft Navigation
Jiri Janousek (Brno University of Technology); O. Koukal (Brno University of Technology); Petr Marcö (Brno University of Technology);

A Multidimensionality Reduction approach to Rainfall Prediction
Menatallah Abdel Azem (University College Dublin); Prasanjit Dey (Technological University Dublin); Soumyabrata Deo (The ADAPT SFI Research Centre);

Parameter Estimation Error of Random Rough Surface and Its Effect on Microwave Emission Calculation
Zhihua Wang (Guilin University of Technology); Ying Yang (Nanjing University Of Science and Technology); Kun-Shan Chen (Guilin University of Technology);

A Study on Arc Detection Technology in Renewable Energy Plant
Seung Jin Chang (Hanbat National University);

Investigation of the Continuous Wavelet Transform Method for Use with Late Time Response Analysis of Concealed on Body Threat Objects
Ali Saeed Atiaah (Alzaqatuna University);

An Automatic Collection and Cutting Algorithm for Video Deep Learning on Table Tennis Competition
Jieh-Ren Chang (National Ilan University); Zhong-Kai Wei (National Ilan University); Chiu-Ju Lu (National Ilan University); Hsueh-Yi Lin (National Ilan University);

Bitrate-based Video Traffic Classification
Tianhua Chen (Riga Technical University); Elans Grabs (Riga Technical University); Aleksandrs Ipatovs (Riga Technical University); Ernests Petersons (Riga Technical University); Arnis Ancans (Riga Technical University);

The Implementation of Shannon-limited Polar Codes-based Information Reconciliation for Quantum Key Distribution
Junbin Guo (Sun Yat-Sen University); Bangying Tang (National University of Defense Technology); Tingqin Lai (Sun Yat-Sen University); Xiaolin Liang (Sun Yat-Sen University); Siquan Zhang (Sun Yat-Sen University); Zhiyu Tian (Sun Yat-Sen University); Jinquan Huang (Sun Yat-Sen University); Xuelin Yuan (Sun Yat-Sen University); Wanrong Yu (National University of Defense Technology); Bo Liu (National University of Defense Technology); Shaobo Luo (Southern University of Science and Technology); Shihai Sun (Sun Yat-Sen University);
00:00 Deep Complex Convolutional Speech Enhancement Network Based on Priori SNR Estimation
Liheng Cui (Chongqing University of Posts and Telecommunications); Yi Zhou (Chongqing University of Posts and Telecommunications); Hongqing Liu (Chongqing University of Posts and Telecommunications);

00:00 Evaluation of Electromagnetic Absorption Characteristics and Temperature Rises in the Human Body from 10 GHz to 100 GHz
Tomohiro Nakagawa (National Institute of Information and Communications Technology);

00:00 Large-Signal Stabilization of Interleaved Floating Multilevel Boost Converter-Integrated High-Power DC Microgrids
Minghao Wang (The Hong Kong Polytechnic University); Xiangkai Li (The Hong Kong Polytechnic University); Xu Xu (The Hong Kong Polytechnic University); Menglin L. N. Chen (The Hong Kong Polytechnic University);

00:00 Nitrilotriacetic Acid (NTA) Conjugating on the γ-Fe2O3 via Anionic/Cationic Surface Treatment
Gye Seok An (Kyonggi University); Su Young Kang (Kyonggi University); Ji Hun Jeong (Kyonggi University); Jong Hun Kim (Kyonggi University);

00:00 Multilevel Fusion Lightweight Networks for Acoustic Echo Cancellation
Lei Zhang (Chongqing University Of Posts And Telecommunications); Yi Zhou (Chongqing University Of Posts and Telecommunications); Hongqing Liu (Chongqing University Of Posts and Telecommunications);

00:00 Scattering Analysis from Lossy Dielectric Loaded Grooves Using the Extended Method of Auxiliary Sources
Hichem Naeen (Ecole Nationale d’ingénieurs de Tunis); Ajmy Ben Hadj Hamouda (University of Monastir); Taoufiq Aguali (University of Tunis El Manar (UTM));

00:00 Influencing the Power Flow along a Superconducting Transmission Line-based Electromagnetic Metamaterial
Melanie Schemer (Technische Universitat Ilmenau); Thomas Ream (Technische Universitat Ilmenau); Hannes Toepfer (Technische Universitat Ilmenau);

00:00 Polarization and Complexity Effects on Ultrafast Laser-induced Nanoscale Surface Structuring
Invited
Jean-Philippe Colombier (Universite Jean Monnet Saint-Etienne); E. Moreno (Universite Jean Monnet Saint-Etienne); Anton Rudenko (Lyon University); V. Fedorov (Universite Jean Monnet Saint-Etienne);

00:00 Applications of the Spatial Spectral Maxwell Solver
Invited
Ligang Sun (Eindhoven University of Technology); M. C. Van Beurden (Eindhoven University of Technology); R. J. Dilz (Eindhoven University of Technology);

00:00 Spectral Galerkin Modal Method for Computing Leaky and Resonant Modes
Invited
Nan Zhang (City University of Hong Kong); Ya Yan Lu (City University of Hong Kong);

00:00 Selectively Enhancing Second Harmonic Generation from Diffraction at Gold Nanogratings
Invited
S. Beer (Friedrich-Schiller Universitat Jena); J. Gour (Friedrich-Schiller Universitat Jena); A. Alberucci (Friedrich-Schiller Universitat Jena); Christin David (Friedrich-Schiller Universitat Jena); Stefan Nolte (Friedrich-Schiller-Universitat Jena); Uwe-Deftef Zeitner (Fraunhofer Institute for Applied Optics and Precision Engineering);

00:00 Simulation of Harmonic Generation in Thin Films and Metasurfaces
Invited
M. Nikitin (Technical University of Denmark); L. Vertchenko (Technical University of Denmark); Andrei V. Lavrinenko (Technical University of Denmark);

00:00 Topology Optimization in the Time Domain of Dispersive Optical Materials: Novel 3D Nanostructures and Functionalities
Invited
Antonio Cala Lesina (Leibniz University Hannover);

00:00 A Simplified Version of the Fourier Modal Method for Graphene Gratings
Invited
Brahim Guzal (University of Montpellier);

00:00 Image Processing with Nonlocal Nonlinear Metasurfaces
Invited
D. De Ceglia (University of Brescia); Costantino De Angelis (University of Brescia);

00:00 Quantum Hydrodynamic Theory for Plasmonics: A Computational Perspective
Invited
Cristian Ciraci (Istituto Italiano di Tecnologia (IIT)); M. Castiotta (Istituto Italiano di Tecnologia (IIT)); H. Baghrmagan (Istituto Italiano di Tecnologia (IIT)); M. Khalid (Institute of Nanotechnology (CNR-Nanotec)); F. Della Sala (Istituto Italiano di Tecnologia (IIT));

00:00 Heat Transfer Modelling in the Crossover Regime between Conduction and Radiation
Invited
Mauricio Gomez Viloria (Universite Paris-Saclay); Ricardo Messina (Institut d’Optique, CNRS, Universite Paris-Sud 11); Philippe Ben-Abdallah (Universite Paris-Sud 11);
Session 2A2
Laser Processing and Applications

Tuesday AM, July 4, 2023
Room Club D
Organized by Dezhi Tan

00:00 High-efficient Engineering of Domain in Lithium Niobate Crystals
Qiang Cao (Wuhan University); Xiaoliang Wang (Wuhan University);

00:00 Multi-material Nanoscale 3D Fabrication Based on Femtosecond Light Sheets
Shih-Chi Chen (The Chinese University of Hong Kong);

00:00 3D Photonic Integrated Devices Preparation via Femtosecond Laser Direct Writing
Zhen-Nan Tian (Jilin University); Bao-Xu Wang (Jilin University); Qi-Dai Chen (Jilin University);

00:00 Hybrid Femtosecond Laser 3D Processing for Fabrication of Microfluidic SERS Chip Enabling Attmolarmolecular Sensing
Koji Sugioaka (RIKEN Advanced Science Institute); Shi Bai (RIKEN Advanced Science Institute);

00:00 Ultrafast Laser-induced Transformations inside Various Transparent Dielectrics
Heng Yao (Shanghai University); Matthieu Lancry (Université Paris-Saclay); Ye Dai (Shanghai University);

00:00 Laser Direct Writing on Flexible Materials for Electrical and Optical Applications
Mitsuhito Terakawa (Keio University);

00:00 Direct Writing of GQDs with Different Fluorescent Properties by Femtosecond Laser Irradiation on PDMS
Kosuke Tsukada (Keio University); Mitsuhito Terakawa (Keio University);

00:00 Laser Derived Nanocrystals Embedding for High Performance Perovskite Photovoltaics
Hongqiang Wang (Northwestern Polytechnical University);

00:00 Adaptive Optics for Precision Laser Processing
Martin J. Booth (University of Oxford);

00:00 Femtosecond Laser Structuring of Multicore and Multi-mode Fibers for Laser Applications
Sergey A. Babin (Institute of Automation and Electrometry SB RAS);

Session 2A3
Perspectives in Soft Matter Optics and Photonics

Tuesday AM, July 4, 2023
Room Club C
Organized by Pasquale Pagliusi, Gabriella Cipparrone
Chaired by Pasquale Pagliusi, Gabriella Cipparrone

00:00 Topological Steering of Light by Liquid Crystal Defects and Solitons
Ivan I. Smalyukh (University of Colorado at Boulder);

00:00 Exotic Optical Forces in Optical Tweezers
Yuzhi Shi (Tongji University (TJU));

00:00 Light to Work Conversion and Physical Properties of Holographic Gratings Recorded in a New Class of Photo-mobile Polymeric Mixtures
Daniele Eugenio Lucchetta (Università Politecnica delle Marche); A. Didonato (Università Politecnica delle Marche); Riccardo Castagna (URT-CNR@UNICAM);

00:00 Modeling the Photoinduced Ordering and Reshaping of Glassy Azopolymers
Marina Grenzer Saphiannikova (Leibniz-Institut für Polymerforschung Dresden);

00:00 Reprogrammable Diffractive Micro-optical Elements
Francesco Reda (Complesso Universitario di Monte Sant’Angelo); Marcella Salvatore (University of Naples “Federico II”); Fabio Borbone (University of Naples “Federico II”); Stefano Luigi Oصارato (University of Naples “Federico II”);

00:00 Anomalous Angular Light-scattering by Acrylate-based Materials and Structured-light
Riccardo Castagna (URT-CNR@UNICAM); A. Didonato (Università Politecnica delle Marche); Cristiano Riminesi (Institute for Applied Physics — National Research Council); Daniele Eugenio Lucchetta (Università Politecnica delle Marche);

00:00 Flexible Physical Unclonable Functions Based on Random Distributed Dye-doped Fibers and Droplets
Mauro Daniel Luigi Bruno (University of Calabria); Giuseppe Emanuele Lio (University of Florence); Antonio Ferraro (University of Calabria); Sara Nocentini (European Laboratory for Non-linear Spectroscopy); Giuseppe Papuzzo (Institute for High Performance and Networking); Agostino Forestiero (Institute for High Performance and Networking); Giovanni Desiderio (Istituto di Nanotecnologia CNR-Nanotec); Maria Penelope De Santo (University of Calabria); Diederik Sybolt Wiersma (University of Florence); Roberto Caputo (University of Calabria); Giovanni Golemine (University of Calabria); Francesco Riboldi (European Laboratory for Nonlinear Spectroscopy (LENS)); Riccardo Cristoforo Barberi (University of Calabria);
00:00 High Fidelity Vectorial Holography via Broadband Laser: Towards a Scale-up of Ultra-compact Optics
Biagio Audia (University of Calabria); Pasquale Pagliusi (University of Calabria); Alfredo Mazzulla (CNR Nanotec — Institute of Nanotechnology); Gabriella Cipparrone (University of Calabria);
00:00 Photo-driven Micropatterning Technique for Three-dimensional Surface Engineering
Marcella Salvatore (University of Naples “Federico II”); Francesco Reda (Complesso Universitario di Monte Sant’Angelo); I. Komang Januarigasa (University of Naples “Federico II”); Stefano Luigi Oscrato (University of Naples “Federico II”);
00:00 Hydrogel Microstructures for Tuneable and Dynamic Invited Structural Colour
Colm Delaney (Trinity College Dublin);
00:00 Transparent Electrodes and Thin-film Encapsulation Technologies Based on Atomic Layer Deposition for Semitransparent Photovoltaic Devices
Dung-Yue Su (National Taiwan University); Ming-Hung Tseng (National Taiwan University); Feng-Yu Tsai (National Taiwan University);
00:00 Vegetable Growth Tuned by Semitransparent Organic Photovoltaic Modules for Agrivoltaic Applications
Cheng-Si Tsao (Institute of Nuclear Energy Research, Atomic Energy Concraleunicile); Yu-Yu Huang (Taiwan Agricultural Research Institute); Hou-Chin Cha (Institute of Nuclear Energy Research); Chih-Min Chuang (Institute of Nuclear Energy Research); Tsai-Yun Chang (Institute of Nuclear Energy Research); Zhe-Cheng Hu (Institute of Nuclear Energy Research); Tian-Cheng Liu (Institute of Nuclear Energy Research); Ying-Yuan Lien (Institute of Nuclear Energy Research); Yun-Ming Sung (Institute of Nuclear Energy Research); Wei-Yang Ma (Institute of Nuclear Energy Research); Yu-Hua Wang (Taiwan Agricultural Research Institute); Keng-Peng Chang (Taiwan Agricultural Research Institute); Yu-Chang Chao (National Taiwan Normal University); Hsiao-Wen Wan (National Chiao Tung University); Wei-Fang Su (National Taiwan University); Hsin-Fei Meng (National Chiao Tung University);
00:00 Field Phenotyping Rail System and Photosynthesis of Vicia Faba under Agriphotovoltaics
00:00 Charaterization of Semitransparent Perovskite Solar Cells with Light Intensity Modulated Technique
Damian Glowienka (Gdansk University of Technology);

Session 2A4a
Photonics of Photovoltaic Device for Plant Growth

Tuesday AM, July 4, 2023
Room Club B
Organized by Feng-Yu Tsai, Wei-Fang Su
Chaired by Feng-Yu Tsai, Wei-Fang Su

00:00 Should Solar Cells be Installed on the Inside or Outside of the Windows in Greenhouses?
Frederik C. Krebs (InfinityPV ApS);
00:00 Wavelength-dependence of Plants’ Interactions with Light: Toward Photovoltaics-complementing Agriculture
Radomira Vankova (Institute of Experimental Botany of the Czech Academy of Sciences);
00:00 Analysis of the Interface Effects in Semitransparent Perovskite Solar Cells
Jedrzej Szmytkowski (Gdansk University of Technology); Damian Glowienka (Gdansk University of Technology);
00:00 Highly Efficient Semitransparent Cs-FA Based Wide-bandgap Perovskite Solar Cell for 4-terminal Perovskite/Silicon Tandem Solar Cell
Chia-Feng Li (National Taiwan University); Yu-Ching Huang (Ming Chi University of Technology); Sheng-Wen Huang (Ming Chi University of Technology); Chih-Yun Chen (Ming Chi University of Technology); Wei-Fang Su (National Taiwan University); Feng-Yu Tsai (National Taiwan University);

Session 2A4b
Integrated Electrically-driven Nano-photonic Devices

Tuesday AM, July 4, 2023
Room Club B
Organized by Hao Hu, Songyan Hou
Chaired by Hao Hu, Songyan Hou
00:00 Free Electrons for Infrared Nanophotonics
Invited
F. Javier García de Abajo (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology);

00:00 Free-electron Radiation Based on Phonon Partitions
Juan-Feng Zhu (Singapore University of Technology and Design); Zi-Wen Zhang (Peking University); Lin Wu (Singapore University of Technology and Design (SUTD));

00:00 Observation of 2D Cherenkov Radiation and Its Quantized Photonic Nature
Yuval Adiv (Technion-Israel Institute of Technology); Hao Hu (Nanyang Technological University);
Shai Tsesses (Technion-Israel Institute of Technology); Raphael Dahan (Technion-Israel Institute of Technology);
Kangpeng Wang (Technion-Israel Institute of Technology); Yanis Kurman (Technion-Israel Institute of Technology); Aleksey Gorlach (Technion-Israel Institute of Technology); Hongsheng Chen (Zhejiang University);
Xiao Lin (Zhejiang University); Guy Bartal (Technion-Israel Institute of Technology); Ido Kaminer (Technion-Israel Institute of Technology);

00:00 Lithium Niobate Ring-pair Modulator
Songyan Hou (Xidian University);

00:00 Spatiotemporal Quarter-wave Impedance Transformers
Youxue Yu (Soochow University); Hao Hu (Nanjing University of Aeronautics and Astronautics); Linyang Zou (Nanyang Technological University); Qianru Yang (Nanyang Technological University); Xiao Lin (Zhejiang University); Zuo Li (Nanjing University of Aeronautics and Astronautics); Lei Gao (Soochow University);

00:00 Superluminal Pulse Propagation in Photonic Time Moiré Superlattice
Linyang Zou (Nanyang Technological University); Hao-tian Wu (Nanyang Technological University); Qianru Yang (Nanyang Technological University); Yu Luo (Nanyang Technological University);

Session 2A5
Focus Session SC1: Casimir Effect and Radiative Heat Transfer 3

Tuesday AM, July 4, 2023
Room Club A
Organized by Mauro Antezza, Matthias Krüger
Chaired by Mauro Antezza

00:00 Tunable Thermal Emission of Subwavelength Silica Ribbons
Juan José García Esteban (Universidad Autónoma de Madrid); Jorge Bravo-Abad (Universidad Autónoma de Madrid); Juan Carlos Cuevas (Universidad Autónoma de Madrid);

00:00 Thermal Radiation, Electroluminescence and Heat Engines in the Near Field
Invited
J. Legendre (Université de Lyon, CNRS, INSA-Lyon, Université Claude Bernard Lyon 1, CETHIL UMR5008); T. Châtelet (Université de Lyon, CNRS, INSA-Lyon, Université Claude Bernard Lyon 1, CETHIL UMR5008); M. Thomas (Université de Lyon, CNRS, INSA-Lyon, Université Claude Bernard Lyon 1, CETHIL UMR5008); Christophe Lucchesi (INSA Lyon); Olivier Merciers (Université de Lyon, CNRS, INSA-Lyon, Université Claude Bernard Lyon 1); R. Vaillon (IES, Université de Montpellier, CNRS); Pierre-Olivier Chapuis (CNRS, National Institute of Applied Physics (INSA) Lyon);

00:00 Thermal Hall Force and Frequency Mixing of Electromagnetic Fluctuations
Invited
Carsten Henkel (University of Potsdam);

00:00 The Casimir Interaction in Electrolyte Solutions
Invited
Paulo A. Maia Neto (Universidade Federal do Rio de Janeiro);

00:00 Nonlinear Fluctuation-dissipation Theorem and Dispersion Forces
Invited
Stefan Scheel (University of Rostock); Matthias Krüger (Universität Göttingen);

00:00 Casimir-like Forces in Flocking Active Matter
Invited
Andrea Gambassi (SISSA — International School for Advanced Studies and INFN);

00:00 Heat Transport Using Nonreciprocal Media
Invited
Nico Strauß (University of Kassel); Omar Jesús Franca Santiago (University of Kassel); Stefan Yoshi Buhmann (University of Kassel);

00:00 Very Low Noise Measurement of the Near-field Radiative Conductance
Invited
Victor Guillemot (Université PSL, CNRS); W. Poirier (LNE-Laboratoire National De Métrologie Et D’essais); Yannick De Wilde (Institut Langevin);

00:00 Large Area, Self-supported Emitter-cell Structures for Nanogap Thermophotovoltaics
Invited
Jennifer Selvage (National Renewable Energy Laboratory); Myles A. Steiner (National Renewable Energy Laboratory); Ryan M. France (National Renewable Energy Laboratory); Eric J. Tervo (University of Wisconsin-Madison);

00:00 Purcell-induced Suppression of Radiative Decays near Dielectric Surfaces
Invited
Johannes Fiedler (University of Bergen); S. Y. Buhmann (University of Kassel);
00:00 From Photonic to Temperonic Metamaterials: A New Paradigm in Nanoscale Heat Transport
Invited Marco Gandolfi (University of Brescia); G. Mazza (University of Geneva); Massimo Capone (CNR-IOM Democritos National Simulation Center and Scuola Internazionale Superiore di Studi Avanzati (SISSA)); C. Giannetti (Université Claude Bernard Lyon 1); Francesco Banfi (Université de Lyon, Institut Lumiere Matiere (iLM), Universite Lyon 1 and CNRS);

Session 2A6
Multifunctional and Reconfigurable Terahertz and Infrared Metasurfaces
Tuesday AM, July 4, 2023
Room Terrace 2A
Organized by Jin Hui Shi, Yuancheng Fan
Chaired by Chunying Guan, Chunmei Ouyang

00:00 Design and Simulation of a Sub-Terahertz Metasurface for 6G Communication Systems
Invited Hisham Khalil (The University of Lahore); Seaed Ur Rahman (Xidian University); Umar Rafique (University of Oudo);

00:00 Multifunction Metasurfaces for Mode Conversion and Multiplexing in Terahertz Regime
Invited Jianqiang Gu (Tianjin University); Wanying Liu (Tianjin University);

00:00 Phase Change Materials-enabled Metasurfaces with Tunable Properties
Invited Jin Hui Shi (Harbin Engineering University); Tingting Lv (Harbin Engineering University); Guohua Dong (Harbin Engineering University); Zheng Zhu (Harbin Engineering University); Yuziang Li (Harbin Engineering University); Chunying Guan (Harbin Engineering University);

00:00 Ultrahigh-Q Chiroptical Resonances and Perfect Absorption in Quasi-BIC Metasurfaces
Invited Chuming Guan (Harbin Engineering University); Shun Wan (Harbin Engineering University); Keda Wang (Harbin Engineering University); Yuziang Li (Harbin Engineering University); Jin Hui Shi (Harbin Engineering University);

00:00 Active Beam Manipulation in VO2-integrated Coding Terahertz Metasurfaces
Invited Zheng Zhu (Harbin Engineering University); Yuziang Li (Harbin Engineering University); Huawei Tang (Harbin Engineering University); Bo Lv (Harbin Engineering University); Chuming Guan (Harbin Engineering University); Jin Hui Shi (Harbin Engineering University);

00:00 Development of Metasurface Biosensors Using Freespace and On-chip Terahertz Spectroscopy
Invited Sae June Park (Queen Mary University of London);

00:00 Active Metasurface Devices for Terahertz Field Modulation
Invited Yan Zhang (Capital Normal University); Guocui Wang (Capital Normal University); Xinke Wang (Capital Normal University);

00:00 Moiré-driven Electromagnetic Responses and Negative Refraction in Hyperbolic Metasurfaces
Invited Chunmei Ouyang (Tianjin University); Yi Liu (Tianjin University);

00:00 Piezoelectric MEMS-empowered Dynamic Metasurfaces
Invited Fei Ding (University of Southern Denmark);

00:00 Observation of Photonic Quantum Spin Hall Effect in Hyperbolic Metasurfaces
Invited Yuyuan Wang (Tongji University); Zhiwei Guo (Tongji University); Hong Chen (Tongji University);

00:00 Efficient and Stable Triple-resonance Wireless Power Transfer with the Aid of Bound State in the Continuum
Invited Haiyan Zhang (Tongji University); Zhiwei Guo (Tongji University); Yuyuan Chen (Tongji University); Yunhui Li (Tongji University); Hong Chen (Tongji University);

00:00 Tunable Focusing of Dyakovon Surface Waves Based on Hyperbolic Metamaterial Film
Invited Xiaoyu Xiong (Tsinghua University); Kaiguan Zhang (Tsinghua University); Janming Zhang (Tsinghua University); Yongzheng Wen (Tsinghua University); Ji Zhou (Tsinghua University);

Session 2A7
Physical and Topological Properties of Waves in Complex Media 1
Tuesday AM, July 4, 2023
Room Terrace 2B
Organized by Igor Tsukerman, Andrei V. Lavrinenko
Chaired by Igor Tsukerman, Andrei V. Lavrinenko

8:00 Plasmonic and Dielectric Resonances of Homogeneous Objects: From Quasistatic Approximations to the Full-wave Regime
Invited Carlo Forestiere (Università degli Studi di Napoli Federico II); G. Miano (Università degli Studi di Napoli Federico II); Guglielmo Rubinacci (Università degli Studi di Napoli Federico II);

8:20 Light Energy Trapping in Dielectric Nanoparticle Structures and Metasurfaces via Multipole Coupling
Invited Andrey B. Evlyukhin (Leibniz University Hannover); Vladimir R. Tuz (Jilin University);
8:40 Cross-polarization Effects in Metasurfaces Based on Silicon Nanocuboids with a Defect
Alexei V. Prokhorov (Moscow Institute of Physics and Technology); Alexander V. Shesterikov (Vladimir State University named after A. G. and N. G. Stoletovs); Mikhail Yu. Gubin (Vladimir State University named after A. G. and N. G. Stoletovs); Sergey M. Novikov (Moscow Institute of Physics and Technology); Roman V. Kirtaev (Moscow Institute of Physics and Technology); Aleksey V. Arsenin (Moscow Institute of Physics and Technology); Valentina S. Volkov (Moscow Institute of Physics and Technology);

8:55 Experimental Investigation of Quasi-trapped Modes in Dielectric Metasurfaces Designed on the Basis of Broken Symmetry Nanoparticles
Sergey M. Novikov (Moscow Institute of Physics and Technology); Alexei V. Prokhorov (Moscow Institute of Physics and Technology); Mikhail Yu. Gubin (Alexandrov and Nikolai Stoletovs Vladimir State University); Roman V. Kirtaev (Moscow Institute of Physics and Technology); Elena S. Zhukova (Moscow Institute of Physics and Technology); Alexander V. Shesterikov (Alexandrov and Nikolai Stoletovs Vladimir State University); Aleksey V. Arsenin (Moscow Institute of Physics and Technology); Valentina S. Volkov (Moscow Institute of Physics and Technology);

9:10 Topological and Dynamical Properties of Classical Waves
Konstantin Y. Bliokh (RIKEN);

9:40 Advanced Plasmonic Material Models and the Computation of Atom-surface Interactions
Kurt Busch (Max-Born Institute for Nonlinear Optics and Short Pulse Spectroscopy);

10:30 Multiphysics Analysis of Composite Metasurfaces Based on Phase Change Materials
Dmitry N. Chigrin (DWI Leibniz Institute for Interactive Materials);

10:50 Longitudinal Field Tailoring for Interactions of Complex Beams with Anisotropic Metamaterials
Vittorio Aita (King’s College London); Diane J. Roth (King’s College London); Alexey V. Krasavin (King’s College London); Anastasija Zaleska (King’s College London); Francisco J. Rodríguez Fortuño (King’s College London); Anatoly V. Zayats (King’s College London);

11:05 Propagation of Generalised Higher Order Radial Beams through Anisotropic Metamaterials
Vittorio Aita (King’s College London); Anatoly V. Zayats (King’s College London);

11:20 Localization Properties of 1D Random Fibonacci Multi-layer
P. Falcone (University of Campania “Luigi Vanvitelli”); Luigi Moretti (University of Campania “Luigi Vanvitelli”);

11:35 Bulk-Edge Correspondence and Monotonicity ofBloch Impedance
Igor Tsukerman (The University of Akron); Vadim A. Markel (University of Pennsylvania);

11:50 Design of Reflectionless Photonic Structures with Randomly Distributed Nanoparticles
Cédric Blanchard (CNRS); Timothée Guerra (CNRS); Jean-Paul Hugonin (CNRS, Institut d’Optique Graduate School); Olivier Rozenbaum (CNRS);

Session 2A8
Quantum Cryptography and Quantum Networks
Tuesday AM, July 4, 2023
Room South Room 220
Organized by Qin Wang
Chaired by Qin Wang

00:00 Integrated Quantum Photonics for Quantum Network Invited
Xiaosong Ma (Nanjing University);

00:00 Long Distance Quantum Key Distribution with Vibration Sensing Invited
Ju-Peng Chen (University of Science and Technology of China); Chi Zhang (University of Science and Technology of China); Yang Liu (Jinan Institute of Quantum Technology); Cong Jiang (Jinan Institute of Quantum Technology); Dong-Feng Zhao (University of Science and Technology of China); Weijun Zhang (Shanghai Institute of Microsystems, CAS); Fa-Xi Chen (Jinan Institute of Quantum Technology); Hao Li (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences); Lizing You (Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences); Zhen Wang (Shanghai Institute of Microsystem and Information Technology (SIMIT), Chinese Academy of Sciences); Yang Chen (University of Science and Technology of China); Xiang-Bin Wang (Tsinghua University); Qiang Zhang (University of Science and Technology of China); Jian-Wei Pan (University of Science and Technology of China);

00:00 The Implement of Reference-frame-independent Quantum Key Distribution Invited
Shihai Sun (Sun Yat-Sen University);

00:00 Quantum Key Distribution with Integrated Silicon Photonics Invited
Kejin Wei (Guangxi University);
Networking of Measurement-Device-Independent Quantum Key Distribution
Guan-Jie Fan-Yuan (University of Science and Technology of China); Feng-Yu Lu (University of Science and Technology of China); Shuang Wang (University of Science and Technology of China); De-Yong He (University of Science and Technology of China); Wei Chen (University of Science and Technology of China); Zhen Zhou (University of Science and Technology of China); Guang-Can Gao (University of Science and Technology of China, CAS); Zhengfu Han (University of Science and Technology of China);

Long-distance Measurement-device-independent Quantum Cryptography
Jingyang Liu (Nanjing University of Posts and Telecommunications); Xiao Ma (Nanjing University of Posts and Telecommunications); Hua-Jian Ding (Nanjing University of Posts and Telecommunications); Chanhui Zhang (Nanjing University of Posts and Telecommunications); Xing-Yu Zhou (Nanjing University of Posts and Telecommunications); Qin Wang (Nanjing University of Posts and Telecommunications);

An Access Network for Continuous-variable Quantum Key Distribution Based on Frequency Division Multiplexing
Tao Wang (Shanghai Jiao Tong University); Yuchen Xu (Shanghai Jiao Tong University); Lang Li (Shanghai Jiao Tong University); Peng Huang (Shanghai Jiao Tong University); Guihua Zeng (Shanghai Jiao Tong University);

Quantum Photonics Enhances Continuous Variable Quantum Key Distribution
Lang Li (Shanghai Jiao Tong University); Tao Wang (Shanghai Jiao Tong University); Peng Huang (Shanghai Jiao Tong University); Guihua Zeng (Shanghai Jiao Tong University);

Optimizing the Trade off between Precision and Probability in Post-selection Estimation of the Coupling of Trapped Ion System
Ya-Fei Yu (South China Normal University); He-Fei Li (South China Normal University); Han-Tong Zou (South China Normal University); Jian Deng (South China Normal University); Tian-Ming Zhao (South China Normal University); Ping Zou (South China Normal University); Jin-Dong Wang (South China Normal University);

Practical Memory-assisted Measurement-device-independent Quantum Key Distribution
Ming-Shuo Sun (Nanjing University of Posts and Telecommunications); Qin Wang (Nanjing University of Posts and Telecommunications);

Prime Comb Lasing in a Fiber Ring at Low Temperatures
Eyal Buka (Technion-Israel Institute of Technology);

An Semi-quantum Secret Sharing Scheme Based on Hyperentangled Bell State
Yuan Tian (Xi’an University of Architecture and Technology); Gen Qing Bian (Xi’an University of Architecture and Technology); Jian Li (Beijing University of Posts and Telecommunications);

Multiparticle Entanglement Distribution Using Separable States
Hannah McAleese (Queen’s University Belfast); Alessandro Laneve (Sapienza Universita di Roma); Mauro Paternostro (Queen’s University Belfast);

Session 2A9a
Multiphysics Modeling in Electromagnetics
Tuesday AM, July 4, 2023
Room South Room 221
Organized by Ming Fang, Wenchao Chen
Chaired by Ming Fang, Wenchao Chen

Coherent Perfect Absorption and Maximum Information States in Complex Environments
Ruifeng Li (Zhejiang University — UIUC Institute); Da Li (Zhejiang University — UIUC Institute); Er Ping Li (Zhejiang University — UIUC Institute);

Multiphysics Analysis of High-power Vacuum Feedthrough for DTT ICRH System
Lorenzo Valletti (University of Rome “Tor Vergata”); Gian Luca Ravera (ENEA); Stefano Fantauzzi (University of Rome “Tor Vergata”); Silvio Cuccuzzi (Roma Tre University); Francesco Mirizzi (CREATE Consortium); Sofia Bertolami (University of Roma “Tor Vergata”); Franco Di Paolo (University of Roma “Tor Vergata”);

Physics-based Optimization of Tapered Slot Waveguides for Sub-relativistic Electron Acceleration
Andrea Locatelli (Università degli Studi di Brescia); R. Palmeri (Istituto per il Rilevamento Elettromagnetico dell’Ambiente, Consiglio Nazionale delle Ricerche); G. S. Mauro (Istituto Nazionale di Fisica Nucleare — Laboratori Nazionali del Sud); D. Rocco (Università degli Studi di Brescia); N. Salerno (Università degli Studi di Catania); G. Torrisi (Istituto Nazionale di Fisica Nucleare — Laboratori Nazionali del Sud); G. Sorbello (Università degli Studi di Catania);

Modeling Mesoscopic Electrodynamics in Nanosphere-on-mirror (NSoM) Construct
Xuezhi Zheng (KU Leuven);
00:00 Intelligent Multiphysics Modeling of High-power Microwave Devices
Jianwei You (Southeast University); Jing Ze Li (Southeast University); Zhong Kuan Tan (Southeast University); Qi Cheng Chen (Southeast University); Zi Xin Hu (Southeast University); Xiong Wei Wu (Southeast University); Zhuo Chen Lou (Southeast University); Long Chen (Southeast University); Jun Ming Hou (Southeast University); Jianan Zhang (Southeast University); Tie Jun Cui (Southeast University);

00:00 Hybrid Maxwell-Schrödinger Modeling of a Fluxonium Qubit Capacitively Coupled to a Transmission Line Network
Thomas E. Roth (Purdue University);

00:00 Multiphysics Design of High-power Microwave Vacuum Window for Vircator
Lorenzo Valletti (University of Rome “Tor Vergata”); Fabrizio Marrese (University of Rome “Tor Vergata”); Sofia Bertolami (University of Roma “Tor Vergata”); Stefano Fantauzzi (University of Rome “Tor Vergata”); Franco Di Paolo (University of Roma “Tor Vergata”);

00:00 Multiphysics Computation for Self-heating Induced Thermal Stress Effects on Quantum Transport in p-type Ultrathin Body-FinFET
Wenchao Chen (Zhejiang University); Huali Duan (Zhejiang University); Er Feng Li (Zhejiang University — UIUC Institute);

00:00 Study on the Mechanism of Strong Electromagnetic Pulse Acting on Solar Cells Based on Optical-electrical-thermal Modeling
Tao Liu (Xidian University); Genrui Hua (Laser Fusion Research Center); Shiyan Jiao (Xidian University); Xiao-Wei Shi (Xidian University); Le Xu (Xidian University);

Session 2A9b
Microwave Vision and AI in Electromagnetics

Tuesday AM, July 4, 2023
Room South Room 221
Organized by Feng Xu
Chaired by Feng Xu

00:00 A Status Recognition Method Based on Scattering Center Matching
J. Chen (Nanjing University of Science and Technology); Shengkai Sun (Nanjing University of Science and Technology); Zi He (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology); J. W. Lu (National Key Laboratory of Scattering and Radiation); J. Zhang (Nanjing University of Science and Technology);

00:00 Physics-informed Supervised Residual Learning for Electromagnetic Modeling
Tao Shan (Tsinghua University); Maokun Li (Tsinghua University); Fan Yang (Tsinghua University); Shenheng Xu (Tsinghua University);

00:00 Three-dimensional Reconstruction of Space Targets from Multi-view ISAR Images Using Differentiable Voxel Reconstruction Network
Bo Long (Fudan University); Zhi-Chao Wang (Fudan University); Jia-Wei Tan (Fudan University); Feng Wang (Fudan University);

00:00 Blind Source Separation of Adjacent Group Targets Based on Coupling Scattering Center Removal
X. Y. Sun (Nanjing University of Science and Technology); R. Wen (Nanjing University of Science and Technology); J. W. Lu (National Key Laboratory of Scattering and Radiation); S. X. Sun (Nanjing University of Science and Technology); Zi He (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology);

00:00 Recent Progress in Artificial Intelligence Computational Electromagnetics
Xiaohan Xue (University of Electronic Science and Technology of China); Ming Jiang (University of Electronic Science and Technology of China); Yongpin Chen (University of Electronic Science and Technology of China); Sheng Sun (University of Electronic Science and Technology of China); Jun Hu (University of Electronic Science and Technology of China);

Session 2A10a
Recent Progresses in Hardware Technologies, Architectures, and Signal Processing for Automotive Sensors

Tuesday AM, July 4, 2023
Room South Room 222
Organized by Ivan Russo, Raffaele Solimene
Chaired by Ivan Russo, Raffaele Solimene

00:00 Edge-fed Microstrip Spline Antenna Design for Automotive Radar
Lorenzo Poli (University of Trento); Marco Salucci (University of Trento); Pietro Rosatti (University of Trento); Paolo Rocca (University of Trento); Andrea Massa (University of Trento);

00:00 ±45° Linearly Polarized PCB Antennas for Polarimetric Automotive Radar
Alessandro Tinti (Huawei Technologies Duesseldorf); Simon Tejero Alfageme (Huawei Technologies Duesseldorf); Sergio Duque Biarge (Huawei Technologies Duesseldorf); Nils Pohl (Ruhr-University of Bochum);

00:00 Angle of Arrival Estimation through Low-profile Patch Antenna Array and Short Data Snapshot Acquisition
O. Crisafulli (University “Mediterranea” of Reggio Calabria); N. I. Piazzese (STMicroelectronics); M. Sardo (STMicroelectronics); S. C. Pavone (University of Catania); G. Sorbello (University of Catania); Loreto Di Donato (University of Catania);
00:00 Automotive MIMO-SAR Imaging from Non-continuous Radar Acquisitions  
Mattia Giovanni Polisano (Politecnico di Milano); Marco Manzoni (Politecnico di Milano); Stefano Tebaldini (Politecnico di Milano); Andrea Virgilio Montiguarneri (Politecnico di Milano); Claudio Maria Prati (Politecnico di Milano); Ivan Russo (Huawei Technologies s.r.l.);

00:00 Computationally Efficient MUSIC Algorithm for ADAS Radar Processing  
Maria Antonia Maisto (Università degli Studi della Campania “Luigi Vanvitelli”); Angela Dell’Aversano (Seconda Università di Napoli); Ivan Russo (Huawei Technologies Italia S.r.l.); Adriana Brancaccio (Seconda Università di Napoli); Raffaele Solimene (Università degli Studi della Campania “Luigi Vanvitelli”);

00:00 High Accurate Cast Shadow Detection of Moving Vehicles in Low Illumination Environment  
Kalpesh Jadav (Parul University); Vishal Porsotambhai Sorathiya (Parul University); Vipul Vekariya (Parul University);

00:00 DOA Estimation in Automotive Applications: Compressed vs Subspace Projection Methods  
Maria Antonia Maisto (Università degli Studi della Campania “Luigi Vanvitelli”); Angela Dell’Aversano (Università degli Studi della Campania “Luigi Vanvitelli”); Raffaele Solimene (Università degli Studi della Campania “Luigi Vanvitelli”);

00:00 Convolutional Sparse Coding and Dictionary Learning for Lidar Depth Completion in Automotive Scenarios  
Fabio Giovanneschi (Fraunhofer FHR); Avinash Nittur Ramesh (Fraunhofer FHR); Maria Antonia Gonzalez-Huici (Fraunhofer FHR); Erdem Altuntac (Fraunhofer FHR);

00:00 Sea Ice Types and Sea Water Distinction in the Arctic Using CFOSAT SWIM Data  
Run Yan (Qingdao University); Xi Zhang (First Institute of Oceanography, Ministry of Natural Resources); Ying Xu (National Satellite Ocean Application Service); Ping Chen (Huazhong University of Science and Technology); Ning Wang (North China Sea Marine Forecasting Center of State Oceanic Administration); Luchuan Bi (Qingdao University); Haipeng Guan (Qingdao University); Yunbo Liu (Qingdao University); Fuzi Duan (Qingdao University); Qinwei Xing (Qingdao University); Jun-Cheng Zhang (Qingdao University); Meijie Liu (Qingdao University);

00:00 An Interference Scattering Model for Nonzero INSAR Phase Closure for Remote Sensing of Soil and Vegetation Canopy Water Content  
Howard A. Zebker (Stanford University); Elizabeth Wig (Stanford University);

00:00 Scattering-based Despeckling of Multi-frequency SAR Data  
Alessio Di Simone (University of Naples Federico II); Gerardo Di Martino (Università di Napoli Federico II); Antonio Iodice (University of Naples “Federico II”); Daniele Riccio (University of Naples “Federico II”); Giuseppe Ruello (Università di Napoli “Federico II”);

00:00 Backscattering Coefficient Reconstruction from SAR Invited Images  
Pasquale Imperatore (Institute for Electromagnetic Sensing of the Environment (IREA), National Research Council (CNR));

Session 2A11a  
Oral Presentations for Best Student Paper Awards — SC3: Optics and Photonics  

Tuesday AM, July 4, 2023  
Room South Room 223  
Chaired by Sailing He, Dangyuan Lei, Stanislav Zvanovec

Encryption and Eavesdropping in Underwater Wireless Optical Communication  
Amir Handelman (Holon Institute of Technology);

Session 2A11b  
Oral Presentations for Best Student Paper Awards — SC5: Remote Sensing, Inverse Problems, Imaging, Radar and Sensing  

Tuesday AM, July 4, 2023  
Room South Room 223  
Chaired by Kun-Shan Chen, Saibun Tjuatja, Hong Tat Ewe
Wireless Wearable Devices for Passive Monitoring
Concentration Measurement of Aqueous Solutions Using Broadband Planar Transmission Line Characterization
An Empiric Mathematical Models to Predict Electrical Properties of Natural Juniper Wood Samples by Using Non-distractive Methods
Concentration Measurement of Aqueous Solutions Using Capacitive Coupling between Resonators
An Ultra-highly Sensitive Microwave Glucose Sensor Based on Coupled Resonators
An Empiric Mathematical Models to Predict Electrical Properties of Natural Juniper Wood Samples by Using Non-distractive Methods
Microwave Physical, Chemical and Biological Sensors and Measurement

Tuesday AM, July 4, 2023
Room South Room 224
Organized by Yunjing Zhang
Chaired by Yunjing Zhang

00:00 A Van-Atta UWB Cross-polar Chipless Tag to Be Used as a Sensor
Alessandro Di Carlofelice (University of L’Aquila); Emidio Di Giampaolo (Univrsita degli Studi dell’Aquila); Piero Tognolatti (University of L’Aquila);
00:00 Concentration Measurement of Aqueous Solutions Using Capacitive Coupling between Resonators
Ying Tian (Souochow University); Yunjing Zhang (Soochow University); Lingfeng Li (Soochow University); Xingli He (Soochow University); Peng Li (Soochow University);
00:00 An Empiric Mathematical Models to Predict Electrical Properties of Natural Juniper Wood Samples by Using Non-distractive Methods
Sinan Saeed Jasim Alsaadi (Akdeniz University); Atalay Koçakusak (Akdeniz University); Selcuk Helhel (Akdeniz University);
00:00 Broadband Planar Transmission Line Characterization with Applications of Substrate Dielectric Parameter Extractions
Chien-Chang Huang (Yuan Ze University);
00:00 Wireless Wearable Devices for Passive Monitoring Pressure Information
Yang Li (Shandong University); Yunjian Guo (University of Jinan); Song Gao (University of Jinan); Wenjing Yue (University of Jinan); Hao Li (University of Jinan);
00:00 An Ultra-highly Sensitive Microwave Glucose Sensor Based on Coupled Resonators
Yunjing Zhang (Soochow University);
00:00 Inkjet-printed Split Ring Resonators for Microwave Sensor Applications on Flexible Kapton Substrate
Matthias Paul (University of Applied Sciences Vienna); Rudolf Oberpertinger (University of Applied Sciences Vienna); Christoph Mehofer (University of Applied Sciences Vienna); Markus Wellenzohn (FH Campus WIEN);
00:00 A Microwave Holographic Imaging Method by Photo-induced Plasma Scanning
Ning Leng (Beihang University); Liao Ma (Beihang University); Ou Pan (Beihang University); Ming Bai (Beihang University);

Session 2A12b
RF Filters

Tuesday AM, July 4, 2023
Room South Room 224
Organized by Thottam S. Kalkur
Chaired by Thottam S. Kalkur

00:00 Tunable Comline Filter with Continuous Control of Central Frequency and Bandwidth
Mohammad Hosuba (University of Colorado, Colorado Springs); Thottam S. Kalkur (University of Colorado, Colorado Springs);
00:00 High Speed Line Driver with Tunable Stub Using Tunable Ferroelectric Capacitors
Aarushi Gupta (University of Colorado Colorado Springs); Dubari Borah (University of Colorado Colorado Springs); Thottam S. Kalkur (University of Colorado Colorado Springs);
00:00 Design Method for MMW LC Tunable Microstrip Periodic Filters
Abdolreza Divsalar (University of Essex); Darash Mirshekar-Syahkal (University of Essex);
00:00 X-band Microwave Filter with Low Multipactor Susceptibility
Andreas Neuber (Texas Tech University); Dawson Wright (Texas Tech University); Austin Gregory (Texas Tech University); Harrison Spencer (Texas Tech University); John J. Mankowski (Texas Tech University); James Claude Dickens (Texas Tech University); Jacob Stephens (Texas Tech University);
00:00 Design and Realisation Aspects of SWaP Optimised Invited Multi Function Module Based Switch Filter Banks
Saripaka Lalitha (Hyderabad Central University); Thumuki Abhilash (Hyderabad Central University); Kanakappillavilla Chinnayya James Raju (Hyderabad Central University);

Session 2A13
Poster Session 2

Tuesday AM, July 4, 2023
14:00 PM - 18:00 PM
Room Forum Hall Foyer 1

00:00 Designing a Robust Model of a Linear Motion-driven Harvester
Jiri Zukal (Brno University of Technology); Zoltán Szabó (Brno University of Technology); Roman Pernica (Brno University of Technology); Radim Kadlec (Brno University of Technology); Jarmila Dědková (Brno University of Technology); Miloš Klíma (Brno University of Technology); Pavel Fiala (Brno University of Technology);
Measurement of Magnetic Field Generated by Wireless Chargers
Rafal Przesmycki (Military University of Technology); Marek Bugaj (Military University of Technology);

A Nested Approach for Determination of Extracted Parameters for Dispersive FDTD Analyses at Low Frequency Region
Jerdivsanop Chakarothai (National Institute of Information and Communication Technology); Katsumi Fujii (National Institute of Information and Communications Technology); Jun Shibayama (Hosei University); Yukihisa Suzuki (Tokyo Metropolitan University);

Analysis and Design of a Tapered Stripline with a Tapered Slot for Stripline Transitions
Yu-Xu Liu (Shanghai Jiao Tong University); Xiao-Chun Li (Shanghai Jiaotong University); Xin He (Shanghai Jiaotong University); Jun-Fa Mao (Shanghai Jiao Tong University);

Antenna Gain Measurement Using Band Edge Effect Mitigation Method
Young-Ji Yun (Korea Testing Laboratory); Cheol-Min Choi (Korea Testing Laboratory); Jae-Suk Lee (Korea Testing Laboratory); Sang-Sik Wang (Hanyang Cyber University);

Charge form Factors of the $^{20}$Ne and $^{28}$Si Nuclei in the α-cluster Model with Dispersion
Yu. A. Berezhnoy (Karazin Kharkov National University); Vadim P. Mikhailyuk (Institute for Nuclear Research); V. V. Pilipenko (National Science Center “Kharkov Institute of Physics and Technology”);

A Novel Simulation Method for Analyzing Diode Electrical Characteristics Based on Neural Networks
Tao Liu (Xidian University); Le Xu (Xidian University); Yao He (Xidian University); Han Wu (Xidian University); Yong Yang (Beijing Institute of Spacecraft Environment Engineering); Nankai Wu (Beijing Institute of Spacecraft Environment Engineering); Xiaoning Yang (Beijing Institute of Spacecraft Environment Engineering); Xiao-Wei Shi (Xidian University); Feng Wei (Xidian University);

A MLP-based HF Modeling Method for Star-connected Induction Motors
Zhengy Zhao (Nanyang Technological University); Kye Yak See (Nanyang Technological University);

The Rogue Wave Clusters of the Nonlinear Schrödinger Equation Composed of the Kuznetsov-Ma Solitons
Sarah Alwassahi (University of Belgrade); Nadjan B. Aleksić (Texas A&M University at Qatar); Mihaylo R. Belic (Texas A&M University at Qatar); Stanko N. Nikolic (Texas A&M University at Qatar);

Observation of Dirac Hierarchy in Three-dimensional Acoustic Topological Insulators
Lingjun Yang (Southern University of Science and Technology); Zhen Gao (Southern University of Science and Technology);

LC Circuit Utilization as Impedance Matching for Spiral Resonator-based Planar Antenna
Mohamad Yanus (University of Pakuan); Agastini Rodiah Mahdi (University of Pakuan); Evgya Wismiana (University of Pakuan); Yamato Tan (University of Pakuan); Muhammad Farhan Maulana (Institut Teknologi Bandung); Achmad Munir (Bandung Institute of Technology);

Freeform Optimization of Metamaterial Microwave Absorber Using the Adjoint Method
Hyeonjin Park (Korea Advanced Institute of Science and Technology (KAIST)); Jonghwa Shin (Korea Advanced Institute of Science and Technology (KAIST));

Simultaneous Emergence of Odd-even Order Eigenmodes in Plasmonic Metasurfaces
Soumyajyoti Mallick (Mahindra University); Nityananda Acharyya (Mahindra University); Dibakar Roy Chowdhury (Mahindra University);

A Magnetically Tunable Metasurface Based on Ferrite
Chengpeng Liang (Nanjing University); Xiao Zhang (Nanjing University); Li Liang (Nanjing University); Fei Fei Li (China University of Mining and Technology); Yin Poo (Nanjing University);

Thickness Reduction of an UHF-RFID Reader Antenna (860 MHz–960 MHz) Using an AMC Reflector
Safa Chenoufi (University of Blida 1); Lila Moufek (Saad Dahlab University); Sami Hebib (University of Blida 1);

Two-dimensional Simulation of a Large-size Magnetized Inductively Coupled Plasma Generator
Fan Lei (Shaanxi University of Science and Technology); Yan Xue (Shaanxi University of Science and Technology); Chaoyang Zhang (Shaanxi University of Science and Technology); Hongshi Wu (Shaanxi University of Science and Technology);

Analysis of FBG Based Sensing for Infrastructure Structural Health Monitoring Applications
Ugis Senkans (Riga Technical University); Janis Braunefelds (Riga Technical University); Sandis Spolits (Riga Technical University); Vjaceslav Bobrows (Riga Technical University); Juris Porns (Riga Technical University);

Multilevel Beam Shapers for Optical Beams Generation with Curved Trajectories
Rebeca Tudor (IMT); Viorel Avramescu (IMT);

Experimental Characterization of Signal Gain Evolution in Cladding-pumped Doped Fiber Amplifier
Kaspars Zakis (Riga Technical University); Sandis Spolits (Riga Technical University); Toms Salgals (Riga Technical University); Lilita Gegere (Riga Technical University); Mareks Parfjonovs (Riga Technical University); Dmitrijs Prigunovs (Riga Technical University); Vjaceslav Bobrows (Riga Technical University); Andis Supe (Riga Technical University);
Performance Study of Channel Pre-equalisation in Millimeter-Wave AROF System for 5G and B5G Networks  
Armands Ostrouskins (Riga Technical University); Kristaps Rubuls (Riga Technical University); Toms Salgals (Riga Technical University); Laura Sklandova (Riga Technical University); Inna Kurbatska (Riga Technical University); Oskars Ozolins (Riga Technical University); Vjaceslavs Bobrows (Riga Technical University); Sandis Spolitis (Riga Technical University);  

The Approach for Simulation of the Noise-related Characteristics for Radio-over-fiber Transmission Systems  
Inna Kurbatska (Riga Technical University); Armands Ostrouskins (Riga Technical University); Laura Sklandova (Riga Technical University); Sandis Spolitis (Riga Technical University); Vjaceslavs Bobrows (Riga Technical University);  

Ultra-fast Laser Written Multifunctional Waveguide Devices Enabled by Cross-sectional Control  
Ze-Zheng Li (Jilin University); Zhen-Nan Tian (Jilin University); Qi-Dai Chen (Jilin University);  

Dual-comb Spectroscopy of Angular Surface-plasmon-resonance Spectrum Using Angle-converting Optical Frequency Comb  
Yuya Kodama (Tokushima University); Hidenori Korosawa (Tokushima University); Eiji Hase (Tokushima University); Yu Tokizane (Tokushima University); Takeo Minamikawa (Tokushima University); Takeshi Yasui (Tokushima University);  

Binomial Data Compression Method without Loss of Information  
Svitlana Matsenko (Riga Technical University); Oleksiy Borysenko (Sumy State University); Toms Salgals (Riga Technical University); Sandis Spolitis (Riga Technical University); Vjaceslavs Bobrows (Riga Technical University); Jurgis Porins (Riga Technical University);  

Enhancing Hole Injection by Electric Dipole Layer for Efficient and Stable PeLEDs  
Xiangtian Xiao (The University of Hong Kong); Hong Lin (The University of Hong Kong); Dongyu Li (The University of Hong Kong); Kai Wang (Southern University of Science and Technology); Wallace C. H. Choy (The University of Hong Kong);  

Nonreciprocal Solar Thermophotovoltaics  
Bo Zhao (University of Houston);  

2D MoS2 Response to Hydrogen and Nitrogen Plasma Exposure  
D. E. Melezhenko (Lomonosov Moscow State University); D. V. Lopace (Lomonosov Moscow State University); A. I. Zotovsh (Lomonosov Moscow State University); S. A. Khlebnikov (Lomonosov Moscow State University); Yuri A. Mankelech (Lomonosov Moscow State University); Alexander Solovikh (Lomonosov Moscow State University); A. A. Sycheva (Lomonosov Moscow State University); Ekaterina N. Voronina (Lomonosov Moscow State University);  

Toward Programmable Fibers Using Liquid Core Materials  
Mario Chemnitz (Leibniz Institute of Photonic Technology);  

Enhancing the Color Stability and Luminous Efficiency of Organic Light Emitting Diodes with Various Device Architectures  
Shui-Hsiang Su (I-Shou University); Yu-Cheng Lin (I-Shou University);  

Development of Representing Algorithms for Internet Broadband Geographically Based Information Modules Interaction  
Elnars Lipenbergs (Riga Technical University); Inga Vagale (Riga Technical University); Vjaceslavs Bobrows (Riga Technical University);  

Dual-band Liner-to-Circular Polarization Converter for Ku & Ka-band Satellite Communications  
Yi-Chen Lo (Yuan Ze University); Cheng-Nan Chiu (Yuan Ze University); Chiu-Kuo Chen (Ministry of Economic Affairs); Ye-Hong Chen (Ministry of Economic Affairs);  

The Evaluation of the Internet Access Service QoS Measurement Equipment Placement Conditions Based on Signal Parameters Values  
Alina Stafaceka (Riga Technical University); Andrejs Lizunovs (Riga Technical University); Aleksandrs Olinš (Riga Technical University); Mihails Ryumšins (Riga Technical University); Vjaceslavs Bobrows (Riga Technical University);  

A Triangular Dual-band Patch Antenna with Harmonic Frequencies Suppression  
Rezki Benedikt Renwarin (Institut Teknologi Bandung); Agus Dwi Prasetyo (Institut Teknologi Bandung); Achmad Munir (Institut Teknologi Bandung);  

Investigation on Radiation Characteristics of Slotted SIW Antenna with Non-uniform Slots in Array Configuration  
Fa’dyrianah (Institut Teknologi Bandung); Agus Dwi Prasetyo (Institut Teknologi Bandung); Achmad Munir (Institut Teknologi Bandung);  

Ku-band 35W Power Amplifier MMIC Using 0.15 μm GaN HEMT Technology  
Younsab Noh (ETRI); Hyun Wook Jung (ETRI);  

Noise Reduction Methods for Resonant Sensor Impedance Phase Measurement  
Josef Pokorný (Brno University of Technology); Zdeněk Roubal (Brno University of Technology); Zoltán Szabó (Brno University of Technology); Pavel Fiala (Brno University of Technology); Lukáš Ždralil (Brno University of Technology); Jiří Wiesner (Brno University of Technology);  
A Pair of Rectangular Slots for Bandwidth Improvement of Microstrip Antenna Fed by Proximity Coupling
Mohammad Ridwan Effendi (Institut Teknologi Bandung); Rheyunarto Sahendar Ashan (Institut Teknologi Sumatera); Fadjaranaah (Institut Teknologi Bandung); Rama Rahardi (Institut Teknologi Bandung); Achmad Munir (Institut Teknologi Bandung);...
On the Problem of the Sea Surface Effective Reflection Coefficient at Microwave Backscattering
Vladimir Yurjevich Karauer (Institute of Applied Physics, Russian Academy of Sciences); Maria Panfilova (Institute of Applied Physics, Russian Academy of Sciences); Yuriy A. Titchenko (Institute of Applied Physics, Russian Academy of Science); Eugeny Meshkov (Institute of Applied Physics, Russian Academy of Sciences); Dmitry Kovaldov (Institute of Applied Physics, Russian Academy of Sciences); Xuizong Li (Nanjing University of Information Science and Technology); Yijun He (Nanjing University of Information Science and Technology);

Security Analysis of the CV-QKD with Gaussian-modulated Coherent State
Svitlana Matsenko (Riga Technical University); Tomas Salgals (Riga Technical University); Vjaceslav Bobrovs (Riga Technical University); Juris Porins (Riga Technical University);

Analysis of Multilayered Metamaterial Structures with Frequency Dependent Constitutive Parameters Using Wave Matrices Approach
Said Choukri (Gustave Eiffel University); Hakim Tahkendt (Gustave Eiffel University); Otm- man El Mrabet (Abdelmalek Essaadi University); Laurent Cirio (Gustave Eiffel University);

Effect of Children’s Stay on Aerosol and Concentration of Light Air Ions during Speleotherapy in the Cisarska Cave
Zdeněk Roubal (Brno University of Technology); Zoltán Szabó (Brno University of Technology); Radim Kadlec (Brno University of Technology); Lukáš Zdražil (Brno University of Technology);

An Efficient Diagnosis Method for Short-circuit Fault of Electrically-excited Double Salient Pole Motor
Yingjie Gao (Shanghai University of Engineering Science); Shua Jia Yan (Shanghai University of Engineering Science); Qiang Chen (Shanghai University of Engineering Science); Rong Song (Shanghai University of Engineering Science); Mei Song Tong (Tongji University);

Speaker Speaker Identification, Differentiation and Verification Using Deep Learning for Human Machine Interface
Prakhar Mishra (Samsung India Electronics Pvt. Ltd.); Jabed Akhtar Choudhury (Optum Global Solutions); Edison Kho (National Institute of Technology Silchar); Banani Basu (National Institute of Technology Silchar); Arnab Nandi (National Institute of Technology Silchar);

Mathematical Models for Seizure Source Localization in Neonates Using Machine Learning and Finite Element Method
Aleksandar Jeremic (McMaster University);

A Parallel Network Integrating Multiple Features for First-order Ambisonics Speech Signal Enhancement
Jiacheng Zhou (Chongqing University of Post and Telecommunications); Yi Zhou (Chongqing University of Posts and Telecommunications); Hongqin Liu (Chongqing University of Posts and Telecommunications);
00:00 Inverse Design of 3D Vectorial Holography: A Platform for Realising and Studying the Robustness of Optical Skyrmions
Haoran Ren (Monash University); C. Liu (University of Exeter); S. A. Maier (Monash University);

00:00 Design of Compact Apodised Subwavelength Grating Coupler Based on Inverse Design
Qiao Wang (Zhejiang Lab); Wei Ma (Zhejiang University);

00:00 Manipulation of Waves in Four Dimensions with Space-time Media
Victor Pacheco-Pena (Newcastle University); Nader Engheta (University of Pennsylvania);

00:00 Realizing Colorful Holographic Mimicry by Metasurfaces
Bo Xiong (Nanjing University); Yihao Xu (Northeastern University); Jia-Nan Wang (Nanjing University); Ru-Wen Peng (Nanjing University); Mu Wang (Nanjing University); Yongmin Liu (Northeastern University);

00:00 Data Science for the Extraction of Knowledge from Photonic Data and for the Understanding of Optical Processes
R. Houhou (Leibniz Centre for Photonics in Infection Research (LPI)); P. Pradhan (Leibniz Centre for Photonics in Infection Research (LPI)); S. Guo (Leibniz Centre for Photonics in Infection Research (LPI)); O. Rybachykov (Leibniz Centre for Photonics in Infection Research (LPI)); Thomas W. Bocklitz (Friedrich Schiller University Jena);

Session 2P1b
Oral Presentations for Best Student Paper Awards — SC2: Metamaterials, Plasmonics and Complex Media

Tuesday PM, July 4, 2023
Room Club E
Chairied by Jan Machac, Guancong Ma, Yongmin Liu

Encryption and Eavesdropping in Underwater Wireless Optical Communication
Amir Handelman (Holon Institute of Technology);

Session 2P2
Organic, Perovskite, and Quantum Dot Optoelectronics 1

Tuesday PM, July 4, 2023
Room Club D
Organized by Tae-Woo Lee, Wallace C. H. Choy
Chairied by Tae-Woo Lee, Wallace C. H. Choy

00:00 Effects of Doping on the Power Factor and Efficiency of Nano-materials for Thermoelectric Generator
Wiqar Hussain Shah (King Faisal University Hofuf);
00:00 2D Material-based Perovskite Photovoltaics for Efficient Perovskite/Silicon Tandem Devices: From Lab-scale Cells to Large Area Modules and Panels
Antonio Agresti (University of Rome Tor Vergata); Sara Pescetti (University of Rome Tor Vergata); Francesco Di Giacomo (University of Rome Tor Vergata); Giuseppe Bengasi (Enel Green Power (EGP) SpA); Enrico Leonardi (GreatCell Solar Italia SRL); Carmelo Connelli (Enel Green Power (EGP) SpA); Hanna Pazniak (Université Grenoble Alpes, CNRS); Fabrizio Bizzarri (Enel Green Power (EGP) SpA); Cosimo Gerardi (Enel Green Power (EGP) SpA); Francesco Bonaccorso (BeDimensional Spa.); Emmanuel Kymakis (Hellenic Mediterranean University (H MU)); Marina Foti (Enel Green Power (EGP) SpA); Aldo Di Carlo (Università di Roma “Tor Vergata”);

00:00 Solution-processed, Ultrahigh-density OLEDs by Silicon Engineered Anisotropic Lithography
Hyukmin Kweon (Hanyang University); Kewn-Yeon Choi (Soongsil University); Ryangyu Lee (Soongsil University); Borina Ha (Hanyang University); Kwon Bum Chung (Dongguk University); Jang-Yeon Kwon (Yonsei University); Moon Sung Kang (Soongsil University); Hojin Lee (Soongsil University); Do Hwan Kim (Hanyang University);

00:00 Material Design for Stretchable and Efficient Polymer Solar Cells
Bumjoon Kim (KAIST);

Session 2P3a
Holographic Materials and Applications

Tuesday PM, July 4, 2023
Room Club C
Organized by Daniele Eugenio Lucchetta, Riccardo Castagna
Chaired by Daniele Eugenio Lucchetta, Riccardo Castagna

00:00 High Density Holographic Data Storage Using Multi-Invited modulation
Xiaodi Tan (Fujian Normal University); Xiao Lin (Fujian Normal University); Jianyang Hao (Fujian Normal University); Haiyang Song (Fujian Normal University); Yongkun Lin (Fujian Normal University); Hongjie Liu (Fujian Normal University); Rupeang Yang (Fujian Normal University); Kun Wang (Fujian Normal University); Dakui Lin (Fujian Normal University); Yuhong Ren (Fujian Normal University);

00:00 Light-sensitive Sensors Systems
Daniele Eugenio Lucchetta (Università Politecnica delle Marche); C. Riminesi (Institute of Heritage Science); A. Di Donato (Università Politecnica delle Marche); Riccardo Castagna (URT-CNR@UNICAM);

00:00 Heterodyne Holography in a Scanning Probe Microscope Invited Configuration
Andrea Di Donato (Harvard University);

00:00 Compact Holographic Microscope Coupled with Deep Learning Strategies for Analyzing Flowing Microplastics
Teresa Cacace (Institute of Applied Science and Intelligent System — ISASI (CNR)); Marco Del Coco (Institute of Applied Science and Intelligent System — ISASI (CNR)); Pierluigi Carcagni (Institute of Applied Science and Intelligent System — ISASI (CNR)); Mariacristina Cocca (Institute for Polymers Composites and Biomaterials — IPCB (CNR)); Cosimo Distante (Institute of Applied Science and Intelligent System — ISASI (CNR)); Melaina Paturzo (Institute of Applied Science and Intelligent System — ISASI (CNR));

00:00 Highly Transparent Holographic Gratings Based on Multifunctional Acrylates as Linear Compression and Displacement Sensors
Cristiana Riminesi (Institute of Heritage Science);

00:00 In-situ Holographic Recording of Conical Diffraction Invited Vector Beams
Germano Montemezzani (Université de Lorraine, CentraleSupélec, LMOPS); Muhammad Waqar Iqbal (Université de Lorraine, CentraleSupélec, LMOPS); Yulija Shiposh (Uzhhorod National University); Anton Kohutych (Uzhhorod National University); Nicolas Marsal (Université de Lorraine, CentraleSupélec, LMOPS); Alexander A. Grabar (Uzhhorod National University);

00:00 Perspective of Multi-wavelength Optical Patterning for Invited Topographical Design
Biagio Audia (University of Calabria); Pasquale Pagliusi (University of Calabria); Alfredo Mazzulla (CNR Nanotec — Institute of Nanotechnology); Caterina Tone (University of Calabria); Gabriella Cipparrone (University of Calabria);

00:00 Vectorial Holograms in Azopolymer Films: Birefringence Invited and Surface Relief Gratings Amplitudes and Phase Evolution via an All-optical Method
Pasquale Pagliusi (University of Calabria); L. Sorridente (University of Calabria); Biagio Audia (University of Calabria); Gabriella Cipparrone (University of Calabria);

Session 2P3b
External Field-induced Motion: Materials and System

Tuesday PM, July 4, 2023
Room Club C
Organized by Riccardo Castagna, Daniele Eugenio Lucchetta
Chaired by Riccardo Castagna, Daniele Eugenio Lucchetta
00:00 Transient Electromagnetic Forces under Pulsed Excitation
Andrei Kiselev (Swiss Federal Institute of Technology Lausanne (EPFL)); Karim Achouri (Swiss Federal Institute of Technology Lausanne (EPFL)); Olivier J. F. Martin (Swiss Federal Institute of Technology (EPFL));

00:00 Controlled Rotational Dynamics of Gas Phase Molecules via Orchestrated Excitations of Short Terahertz and Near-IR Pulses
Ran Damari (Tel Aviv University); Amit Beer (Tel Aviv University); Sharly Fleischer (Tel Aviv University);

00:00 Rotation of Polarization of Light Propagating through a Gas of Molecular Super-rotors
Ilya Sh. Averbukh (The Weizmann Institute of Science); Ilia Tutunnikov (The Weizmann Institute of Science); Uri Steinitz (The Weizmann Institute of Science); Erez Gershabel (The Weizmann Institute of Science); Jean-Michel Hartmann (CNRS, École Polytechnique, Institut Polytechnique de Paris); Alexander A. Milner (The University of British Columbia); Valery Milner (University of British Columbia);

00:00 Photonicly-responsive Polymers for Dynamic Holography and Photonic Devices
Riccardo Castagna (URT-CNR@UNICAM); A. Didonato (Università Politecnica delle Marche); Cristiano Riminesi (Institute for Applied Physics — National Research Council); Daniele Eugenio Lucchetta (Università Politecnica delle Marche);

00:00 Photo-induced Bending of Asymmetric Graphene Oxide
Cristiano Riminesi (Institute for Heritage Science); Daniele Eugenio Lucchetta (Università Politecnica delle Marche); Riccardo Castagna (URT-CNR@UNICAM); F. Vito (Università Politecnica delle Marche); A. Didonato (Università Politecnica delle Marche);

00:00 Orientation Approach to Light-induced Deformations in Azobenzene-containing Materials
Marina Grenzer Saphiannikova (Leibniz-Institut für Polymerforschung Dresden);

00:00 Tuning Photoacoustic Generation in Water with Nanotransducers via Laser Pulse Duration
Michele Diego (The University of Tokyo); Marco Gandolfi (University of Brescia); Stefano Giordano (Université de Lille); Fabien Viailla (Université Lyon 1); Aurelien Cruc (University of Lyon 1); Fabrice Vallée (Université Lyon 1); Paolo Maioli (Università Lyon 1); Natalia Del Fatti (Université Lyon 1); Francesco Banfi (Université de Lyon, Institut Lumiere Matière (iLM), Université Lyon 1 and CNRS);

Session 2P4a
Novel Light-emitting Diode Technology and Applications
Tuesday PM, July 4, 2023
Room Club B
Organized by Yiyu Ou, Daisuke Iida
Chaired by Yiyu Ou, Daisuke Iida

00:00 RGB-emitting NanoLEDs Based on Relaxed InGaN
Invited Paper
Zhaoxia Bi (Lund University); Anders Gustafsson (Lund University); Mikael Björk (Hexagem AB); Lars Samuelson (Lund University);

00:00 Crystal Growth and Characterizations of GaN-based Multi-quantum Shell/Nanowire LEDs/Lasers
Invited Paper
Satoshi Kamiyama (Meijo University); Tetsuya Takeuchi (Meijo University); Motoaki Iwaya (Meijo University);

00:00 Novel Medical Applications of UV and Visible LEDs Systems
Invited Paper
Marcus Carstensen (Technical University of Denmark); Yiyu Ou (Technical University of Denmark); Paul Michael Petersen (Technical University of Denmark);

00:00 Performance Improvement of InGaN-based LEDs via a Current-blocking Region Prepared via Hydrogen Passivation
Cesar Altinkaya (King Abdullah University of Science and Technology (KAUST)); Pavel Kirilenko (King Abdullah University of Science and Technology (KAUST)); Daisuke Iida (King Abdullah University of Science and Technology (KAUST)); Kazuhiro Okawa (King Abdullah University of Science and Technology (KAUST));

00:00 Polarity Control in AlGaN and Recent Advances in Lateral-polarity-structure Based Optoelectronic and Electronic Devices
Wei Guo (Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences); Yijun Dai (Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences); Jiaxin Zhang (Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences); Kunzi Liu (Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences); Liping Deng (Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences); Tian Luo (Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences); Zhonghai Yang (Soochow University); Li Chen (Ningbo Institute of Materials Technology and Engineering, Chinese Academy of Sciences); Jichun Ye (Ningbo Institute of Material Technology and Engineering, Chinese Academy of Sciences);
00:00 Efficient Red Emission for Full Color Micro-display: The Invited Full InGaN Structure Grown on Relaxed InGaN Pseudo-substrates
Amelie Dussaigne (University of Grenoble-Alpes, CEA, LETI, Minatec Campus);

00:00 New Developments in Plasmonics and Nanophotonics for Invited Highly Efficient Light-emitting Devices in a Wide Wavelength Range
Koichi Okamoto (Osaka Prefecture University);

00:00 Optical Manipulation in Blue Micro-LEDs through Plasmonic Quantum Dots
Jing Li (Xiamen University); Jun Yin (Xiamen University); Junyong Kang (Xiamen University);

Session 2P4b
Energy Harvesting Systems Beyond Photovoltaics

Tuesday PM, July 4, 2023
Room Club B
Organized by Remo Proietti Zaccaria, Alessandro Alabasti
Chaired by Alessandro Alabasti

00:00 Cobalt Copper Sulfide/Tungsten Disulfide Nanowire Heterostructure as an Excellent Bifunctional Electrocatalyst for Overall Water Splitting Jagadis Gautam (Kumoh National Institute of Technology); Karthik Kannan (Kumoh National Institute of Technology); Jang Seok Gwon (Kumoh National Institute of Technology); Mikiyas Meket Mesghesh (Kumoh National Institute of Technology); Debabrata Chanda (Kumoh National Institute of Technology); G. S. Lee (National Nanofab Center); D. W. Hong (National Nanofab Center); Suhee Kwon (Kumoh National Institute of Technology); Myungskik Choi (SJ Tech. Co., Ltd.); Bee Lyong Yang (Kumoh National Institute of Technology);

00:00 Solar-to-hydrogen Conversion with an Optimally Balanced Light Absorption in a BiVO4/PM6:Y6 Compact Tandem Catarina G. Ferreira (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology); Constanza Sansierra (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology); Francisco Bernal-Texca (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology); Mingyu Zhang (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology); Carles Ros (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology); Jordi Martorell (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology);

00:00 New Perspectives for Microwave Energy Harvesting Martino Aldrigo (IMT Bucharest); Mircea Dragoman (IMT Bucharest); Adrian Dinescu (IMT Bucharest); Dan Vasile (IMT Bucharest); Sergiu Iordanescu (IMT Bucharest); Simone Troncelli (University of Bologna); Diego Masotti (Università di Bologna); Alessandra Costanzo (Università di Bologna); Daniela Dragoman (University of Bucharest); Emiliano Laudadio (Università Politecnica delle Marche); Eleonora Pavoni (Università Politecnica delle Marche);

00:00 Controlling Complex Chemical Reactions with Plasmonic Nanostructures Alberto Naldoni (University of Turin);

00:00 Broadband Absorption and Photothermal Properties of TiN Nanostructured Films Luca Mascaretti (Czech Advanced Technology and Research Institute, Regional Centre of Advanced Technologies and Materials); S. Kment (Czech Advanced Technology and Research Institute, Regional Centre of Advanced Technologies and Materials); Alberto Naldoni (University of Turin);

00:00 Operando Chemical Mapping of Photo-products from Hot Carrier-driven Catalysis with Plasmonic Nanosystems Olivier Henrotte (Palaeky University); Alberto Naldoni (University of Turin);

00:00 Piezoelectric Nanogenerators: Harvesting Energy from Mechanical Deformations Luana Persano (NEST, Istituto Nanoscienze-CNR);

00:00 Tailoring the Field Enhancement and Energy Deposition in Plasmonic Nanostructure-seeded Active Targets Illuminated by Short Pulses Dávid Vass (University of Szeged); Balázs Bánhelyi (University of Szeged); András Szenes (University of Szeged); Emese Tóth (University of Szeged); Olivér Fekete (University of Szeged); László Páll Csernai (Wigner Research Center for Physics); Tamás Biró (Wigner Research Center for Physics); Norbert Kroó (Wigner Research Center for Physics); Mária Csere (University of Szeged);

00:00 On Maximum Received Power in Rectenna Structures Abdelghafour Abaray (Instituto de Telecomunicacoes); Telmo R. Fernandes (Polytechnic Institute of Leiria); Stanislav Maslovski (University of Aveiro);

00:00 High Efficiency, Ultra-stable Solar Hydrogen Production Zetian Mi (University of Michigan);

Session 2P5
FocusSession.SC1: Casimir Effect and Radiative Heat Transfer 4

Tuesday PM, July 4, 2023
Room Club A
Organized by Mauro Antezza, Matthias Krüger
Chaired by Mauro Antezza
00:00 From Quantum-vacuum Detection to Energy Loss and
Invited Transfer
Stefan Yoshi Buhmann (Universität Kassel); Janne Christine Franz (University of Freiburg); Frieder Lindel (University of Freiburg);
00:00 Near-field Radiative Heat Transfer Enhancement via an
External Magnetic Field
S. G. Castillo-Lopez (Universidad Nacional Autonoma de Mexico); Alonso Márquez Hernández (Universidad Nacional Autonoma de Mexico); Raul P. Esquivel-Sirvent (Universidad Nacional Autonoma de Mexico);
00:00 Near-field Heat Transfer Control Using Plasmonic Meta-surfaces
Raul P. Esquivel-Sirvent (Universidad Nacional Autonoma de Mexico); S. G. Castillo-Lopez (Universidad Nacional Autonoma de Mexico); C. Villarreal (Universidad Nacional Autonoma de Mexico); F. G. Pirruccio (Universidad Nacional Autonoma de Mexico);
00:00 Radiative Thermal Rectification in Many-body Systems
Invited
Ivan Latella (University of Barcelona); Philippe Ben-Abdallah (Université Paris-Saclay); Moladad Nikbakht (University of Zanjan);
00:00 Controlling the Cavity System Dynamics via Dynamical Casimir Effect
Muhib Ullah (Zhejiang University, International Campus); Said Mikki (Zhejiang University);
00:00 Quantum Field Correlations in Two Cavities with a
Invited Fluctuating Reflecting Boundary
Federico Armata (Università degli Studi di Palermo); Federico Montalbano (Università degli Studi di Palermo); Roberto Passante (University of Palermo); Lucia Rizzuto (Università degli Studi di Palermo and CNISM);
00:00 Effective Hamiltonians in Molecular Quantum Electrodynamics
Invited
Roberto Passante (University of Palermo); Lucia Rizzuto (Università degli Studi di Palermo and CNISM);
00:00 Thermal Transport Across Nanoscale Gaps and Across
Invited Single Molecule Junctions
F. Tabatabaei (Université Lyon I); Y. Guo (Université Lyon I); Christophe Adessi (Université de Lyon); M. Gomez Viloria (Université Paris-Saclay); Philippe Ben-Abdallah (Université Paris-Sud 11); R. Messina (Université Paris-Saclay); T. Niehaus (Université Lyon I); Samy Merabia (Université de Lyon);
00:00 Extended Platform for Tunable Self-assembled Casimir Microcavities
Oleg Kotov (Chalmers University of Technology); Betül Kücüköz (Chalmers University of Technology); Adriana Canales (Chalmers University of Technology); Timur Shegai (Chalmers University of Technology);
00:00 Fluctuation-induced Decoherence of Nanoparticles
Invited
Kanupriya Sinha (Arizona State University);
00:00 Thermodynamic Paradox and Non-Hermitian Topological Singularities
Mário G. Silveirinha (University of Lisbon);
00:00 Manipulation of Heat Transfer Via Proximity Effect:
Invited The Thermal Superconducting Quantum Interference Proximity Transistor
Francesco Giazotto (Istituto Nanoscienze — CNR & Scuola Normale Superiore);
00:00 Tailoring the Casimir Force: From Active Control to Repulsion
Invited
Jeremy N. Munday (University of California);
00:00 Radiative Heat Transfer in High-order Topological Photonic Structures
Invited
Boxiang Wang (Shanghai Jiao Tong University);

Session 2P6a
Programmable and Intelligent Metasurface

Tuesday PM, July 4, 2023
Room Terrace 2A
Organized by Bin Zheng, Yunbo Li
Chaired by Bin Zheng, Yunbo Li

00:00 Design of the Programmable and Intelligent Metasurface for Detection and Sensing Applications
Invited
He Li (Southeast University); Yunbo Li (Southeast University);
00:00 Tunable Multifunction Metasurface for Intelligent Communication Systems
Invited
Da Li (Zhejiang University — UIUC Institute); Yudi Fan (Zhejiang University); Er Ping Li (Zhejiang University — UIUC Institute);
00:00 Metasurface-enabled High-resolution Localization of Non-cooperative Wireless Source in an Indoor Environment
Invited
Hanting Zhao (Peking University); Shengquo Hu (Peking University); Siyuan Jiang (Peking University); Hongrui Zhang (Peking University); Menglin Wei (Peking University); Zhuo Wang (Peking University); Lianlin Li (Peking University);
00:00 Intelligent Imaging and Sensing Based on Programmable Metasurface
Invited
Hongrui Zhang (Peking University); Zhuo Wang (Peking University); Hanting Zhao (Peking University); Lianlin Li (Peking University);
00:00 Multi-source Wave Sensing Enabled with Diffraction Neural Network
Invited
Min Huang (Zhejiang University); Bin Zheng (Zhejiang University); Tong Cai (Zhejiang University); Tianhang Chen (Zhejiang University); L. M. He (China Aeronautical Establishment); Hongsheng Chen (Zhejiang University);
00:00 Deep Learning-driven Adaptive Metasurface Transmission Focusing
Jiwei Zhao (Nanjing University); Huan Lu (Zhejiang University); Rongrong Zhu (Zhejiang University); Chi Wang (Zhejiang University); Bin Zheng (Zhejiang University);

00:00 The Reconfigurable Spatial Channels of Non-reciprocal Electromagnetic Transmission by Active Metasurface
Shi Yu Wang (Southeast University); Qian Wei Zhang (Southeast University); He Li (Southeast University); Hao Han He (Southeast University); Yun Bo Li (Southeast University);

Session 2P6b
Optical Metasurfaces for Energy Harvesting and Manipulation
Tuesday PM, July 4, 2023
Room Terrace 2A
Organized by Guixin Li, Changxu Liu
Chaired by Changxu Liu

00:00 Large-area Metasurfaces for High-definition Structural Coloration and Stable, Efficient Water-splitting
F. Wang (King Abdullah University of Science and Technology (KAUST)); N. Li (King Abdullah University of Science and Technology (KAUST)); M. Elizarov (King Abdullah University of Science and Technology (KAUST)); Z. He (King Abdullah University of Science and Technology (KAUST)); Andrea Fratalocchi (King Abdullah University of Science and Technology (KAUST));

00:00 Light Manipulation in Organic Light-Emitting Devices by Meta-Electrodes
Yan-Gang Bi (Jilin University); Shi-Rong Wang (Jilin University); Yue-Feng Liu (Jilin University); Ran Ding (Jilin University); Jing Feng (Jilin University);

00:00 Infrared Metasurfaces for the Thermal Management of Spacecraft
Otto L. Muskens (University of Southampton);

00:00 Modelling Hot Carrier Generation in Large Metallic Nanoparticles
Johannes Lischner (Imperial Coll London);

00:00 Metasurfaces for the Transformation and Measurement of Multiphoton Quantum States
Kai Wang (McGill University);

00:00 Optically Resonant Metasurfaces for Nonlinear Imaging and Sensing Applications
Lei Xu (Nottingham Trent University); Ze Zheng (Nottingham Trent University); Ride Wang (National Innovation Institute of Defense Technology); Cuifeng Ying (Nottingham Trent University); Mohsen Rahmani (Nottingham Trent University);

00:00 Topological Toroidal Optical Skyrmions of Free Space-time
Yijie Shen (University of Southampton);

00:00 Nonlinear Optical Image Encryption Based on Multistep Plasmonic Epsilon-near-Zero Metasurface
Junhong Deng (Southern University of Science and Technology);

00:00 Inverted Nano-pyramid Surface Texture for High Efficiency, Flexible Photovoltaics
Ratna Sai Kiran (Indraprastha Institute of Information Technology Delhi); Sayak Bhattacharya (Indraprastha Institute of Information Technology Delhi);

Session 2P7
Photonic Topological Meta-materials and Meta-crystals 1
Tuesday PM, July 4, 2023
Room Terrace 2B
Organized by Biao Yang, Shaojie Ma
Chaired by Biao Yang, Shaojie Ma

00:00 Acoustic and Photonic Non-Abelian Braiding
Guancong Ma (Hong Kong Baptist University);

00:00 Maximally-charged Weyl Point
Yihao Yang (Zhejiang University);

00:00 Moiré Metasurfaces: Low-cost Solution for Dynamic Beamforming
Shuo Liu (University of Birmingham); Shaojie Ma (Fudan University); Tie Jun Cui (Southeast University);

00:00 Topological Metasurface: From Passive toward Active Regime
Jianwei You (Southeast University); Xiong Wei Wu (Southeast University); Long Chen (Southeast University); Qian Ma (Southeast University); Tie Jun Cui (Southeast University);

00:00 Topological States in the Quasiperiodic-periodic Composite Photonic Crystals
Jianjun Liu (Hunan University);

00:00 Geometry-dependent Skin Effects and Experimental Realization in Reciprocal Systems
Kun Ding (Fudan University);

00:00 Topological Thouless Pumping in Photonic Time Crystals
Xiang Ni (City University of New York); Shizhong Yin (City University of New York); Huanan Li (City University of New York); Andrea Alù (City University of New York);
Experimental Realization of a Three-dimensional Topological Crystalline Insulator
Invited
Minkyung Kim (Gwangju Institute of Science and Technology (GIST)); Z. Wang (Nanyang Technological University); Y. Yang (Nanyang Technological University); J. Rho (Pohang University of Science and Technology (POSTECH)); B. Zhang (Nanyang Technological University);

Adiabatic Topological Photonics
Invited
Anton Vakulenko (The City College of New York); Svetlana Kiriashechkina (The City College of New York); Daria A. Smirnova (Australian National University); Sriram Guddala (The City College of New York); Filipp Komissarenko (The City College of New York); Andrea Alù (The City College of New York); Monica S. Allen (Air Force Research Laboratory); Jeffery W. Allen (Air Force Research Laboratory); Alexander B. Khanikaev (Graduate Center of City University of New York);

Nodal-line Topology and Surface States in Double-diamond Photonic Crystal
Invited
Haedong Park (Cardiff University); Sang Soon Oh (Cardiff University);

Nonlinearity Enabled Higher-order Exceptional Point
Invited
Meng Xiao (Wuhan University);

Spinful Topological Phases in Acoustic Crystals with Projective PT Symmetry
Invited
Yan Meng (Southern University of Science and Technology); Zhen Gao (Southern University of Science and Technology);

Rainbow Trapping Based on Higher-order Topological Corner Modes
Invited
Hai-Xiao Wang (Guangxi Normal University);

Considerations on the Reflection Eigenstates of Weyl Metamaterial
Invited
Wei Xu (National University of Defense Technology); Hanyu Wang (National University of Defense Technology); Zhuhong Zhu (National University of Defense Technology); Biao Yang (National University of Defense Technology);

Triple Point and Euler Class in Photonic Crystal
Invited
Wenwen Liu (The University of Hong Kong); Biao Yang (National University of Defense Technology); Shuang Zhang (The University of Hong Kong);

Topological Unidirectional Edge State in Broken Parity and Time Symmetries System
Invited
Hsuan-Chi Chan (The University of Hong Kong); Zhongfa Li (The University of Hong Kong); Biao Yang (National University of Defense Technology); Yuanjiang Xiang (Hunan University); Shuang Zhang (The University of Hong Kong);

Session 2P8
Quantum Light Source and Quantum Interference
Tuesday PM, July 4, 2023
Room South Room 220
Organized by Rui-Bo Jin, Chen-Zhi Yuan
Chaired by Rui-Bo Jin, Chen-Zhi Yuan

Silicon Photonic Chips for Quantum Entanglement Distribution Networks
Invited
Wei Zhang (Tsinghua University); Yidong Huang (Tsinghua University);

Quantum Optical Synthesis of a Biphoton Wave Packet
Invited
Ryosuke Shimizu (University of Electro-Communications);

Optical Phase Amplification Based on Nonlinear Wave Mixing
Invited
Zhi-Yuan Zhou (University of Science and Technology of China); Wu-Zhen Li (University of Science and Technology of China); BaoSen Shi (University of Science and Technology of China);

Mesoscopic Quantum Interference
Invited
Omar S. Magana-Loaiza (Louisiana State University);

Quantum Microwave Photonics
Invited
Ruifang Dong (National Time Service Center, Chinese Academy of Sciences); Yaqing Jin (National Time Service Center, Chinese Academy of Sciences); Ye Yang (Institute of Semiconductors, Chinese Academy of Sciences); Xiao Xiang (National Time Service Center, Chinese Academy of Sciences); Runai Quan (National Time Service Center, Chinese Academy of Sciences); Tao Liu (National Time Service Center, Chinese Academy of Sciences); Ming Li (Institute of Semiconductors, Chinese Academy of Sciences); Shou-Gang Zhang (National Time Service Center, Chinese Academy of Sciences);

Complete Spectral Characterization of Biphotons by Simultaneously Determining Its Frequency Sum and Difference in a Single Quantum Interferometer
Invited
Baihong Li (Shanxi University of Science and Technology);

Experimental Preparation and Manipulation of Squeezed Cat States
Invited
Meihong Wang (Shanxi University); Miao Zhang (Shanxi University); Zhongzhong Qin (Shanxi University); Xiaolong Su (Shanxi University);
Titanium Indiffused Lithium Niobate Waveguide Squeezer with Integrated Phase Modulator
Michael Steve Stefszky (Paderborn University); Felix Vom Bruch (Paderborn University); Matteo Santandrea (Paderborn University); Viktor Quiring (University of Paderborn); Raimund Ricken (University of Paderborn); Christof Egner (University of Paderborn); Harald Herrmann (University of Paderborn); Christine Silberhorn (Paderborn University);

Spectrally Multiplexed Single-photon Source at Telecom-band
Chen-Zhi Yuan (University of Electronic Science and Technology of China);

Multi-wavelength Quantum Light Source at Telecom-band
Yun-Ru Fan (University of Electronic Science and Technology of China); Chen Lyu (University of Electronic Science and Technology of China); Chen-Zhi Yuan (University of Electronic Science and Technology of China); Hao Li (Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences); Guangwei Deng (University of Electronic Science and Technology of China); Hai-Zhi Song (Southwest Institute of Technical Physics); You Wang (Southwest Institute of Technical Physics); Lixing You (Shanghai Institute of Microsystem and Information Technology SIMIT, Chinese Academy of Sciences); Guang-Can Guo (University of Electronic Science and Technology of China); Qiang Zhou (University of Electronic Science and Technology of China);

Towards Optimized Nonlocal Dispersion Cancellation with Wavelength Tuning
Xiao Xiang (National Time Service Center, Chinese Academy of Sciences); Runai Quan (National Time Service Center, Chinese Academy of Sciences); Yuting Liu (National Time Service Center, Chinese Academy of Sciences); Bingke Shi (National Time Service Center, Chinese Academy of Sciences); Huibo Hong (National Time Service Center, Chinese Academy of Sciences); Yaqing Jin (National Time Service Center, Chinese Academy of Sciences); Tao Liu (National Time Service Center, Chinese Academy of Sciences); Ruifang Dong (National Time Service Center, Chinese Academy of Sciences); Shou-Gang Zhang (National Time Service Center, Chinese Academy of Sciences);

Quantum Machine Learning with Linear Optics
Kui An (Shandong University); Ling-Xuan Kong (Shandong University); He Lu (Shandong University);

Direct Measurement of Biphonon Temporal Distributions with Sub-ps Resolution by Optical Kerr Gating
Takahisa Kweana (University of Electro-Communications); Masahiro Yabuno (National Institute of Information and Communications Technology); Fumihiro China (National Institute of Information and Communications Technology); Shigehito Miki (National Institute of Information and Communications Technology); Hirokatsu Terai (National Institute of Information and Communications Technology); Peter J. Mosley (University of Bath); Rui-Bo Jin (Wuhan Institute of Technology); Ryosuke Shimizu (University of Electro-Communications);

Experimental Quantification of Coherence and Entanglement without Tomography
Ting Zhang (Shandong University); Xiao Yuan (Peking University); He Lu (Shandong University);

Hong-Ou-Mandel Interference of Entangled Photons Generated from BBO Crystal
Zi-Xiang Yang (Wuhan Institute of Technology); Cong Zhang (Wuhan Institute of Technology); Rui-Bo Jin (Wuhan Institute of Technology);

All-optical Quantum Information Protocols Based on Four-wave Mixing Process
Shengshuai Liu (East China Normal University); Yanbo Lou (East China Normal University); Jietai Jing (East China Normal University);

Session 2P9a
Deep Learning in Electromagnetics

Tuesday PM, July 4, 2023
Room South Room 221
Organized by Willie John Padilla

Modeling of Near- and Far-field Diffraction from EUV Absorbers Using Physics-informed Neural Networks
Vlad Medvedev (Fraunhofer Institute for Integrated Systems and Device Technology IISB); Andreas Erdmann (Fraunhofer Institute for Integrated Systems and Device Technology IISB); Andreas Rosskopf (Fraunhofer Institute for Integrated Systems and Device Technology IISB);

Interpreting a Semantic Segmentation Model for Coastline Detection
Conor O’Sullivan (The ADAPT SFI Research Centre); Seamus Coveney (Enco-Geo Environmental Geoinformatics); Xavier Monteys (Geological Survey Ireland); Soumyabrata Dev (Beijing-Dublin International College);

Designing Energy Efficient Neural Networks According to Device Operation Principles
Ergun Simsek (University of Maryland Baltimore County);
00:00 A Reconstruction Method of Electromagnetic Scattering Target Based on Diffusion Model
Yu Hao Shen (Zhejiang University); Yuan Li (Zhejiang University); Lihen Yang (Zhejiang University); Ce Ding (Zhejiang University); Yijan Wu (Zhejiang University); Hai Lin (Zhejiang University);

00:00 Deep Learning to Accelerate Electromagnetic Spectra Simulations for Inverse Design of Metasurfaces
Wei-Jiang Zhao (A*STAR Institute of High Performance Computing); En-Xiao Liu (A*STAR Institute of High Performance Computing); Ching-Eng Png (Institute of High Performance Computing (IHPC));

00:00 Search for Efficient Wireless Network Structures
Simon Ziegler (Adaptive Wireless Network Design); Klaus Ziegler (Universität Augsburg);

00:00 Deep Learning Enabled Integrated mmWave/THz Passives, Integrated Circuits and Antennas
Kaushik Sengupta (CALTECH);

00:00 A Field-circuit Co-simulation Method for Antenna and
RF Front-ends with DGTD Solver
Marco A. Azpurua (Universitat Politecnica de Catalunya); Xileidys Parra (EMC Electromagnetic BCN); Marco A. Azpurua (Universitat Politecnica de Catalunya);

00:00 Redefinition of the Amplitude Probability Distribution Measuring Function for Electromagnetic Emissions Assessment
Marc Garcia Bermúdez (Universitat Politecnica de Catalunya); Xileidys Parra (EMC Electromagnetic BCN); Marco A. Azpurua (Universitat Politecnica de Catalunya);

00:00 Angular Self-adaptive Doppler Cloak Based on Spacetime Modulated Metasurface
Xinyu Fang (Nanjing University of Science and Technology); Minghui Chen (Nanjing University of Science and Technology); Mengmeng Li (Nanjing University of Science and Technology); Dazhi Ding (Nanjing University of Science and Technology);

00:00 A Semi-analytical Computation Method for Conformal Space-time Modulated Metasurface Design
Yonggeng Zhu (Nanjing University of Science and Technology); Xinyu Fang (Nanjing University of Science and Technology); Mengmeng Li (Nanjing University of Science and Technology); Dazhi Ding (Nanjing University of Science and Technology);

00:00 A Field-circuit Co-simulation Method for Antenna and
RF Front-ends with DGTD Solver
Chunyu Li (Nanjing University of Science and Technology); Tiancheng Zhang (Nanjing University of Science and Technology); Huaguang Bao (Nanjing University of Science and Technology); Zhou Dai (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology);

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Session 2P9b
Advances in Modeling and Optimization Methods for Realistic Applications

Tuesday PM, July 4, 2023
Room South Room 221
Organized by Da-Zhi Ding, Ming Jiang
Chaired by Mengmeng Li, Ming Jiang

00:00 Interval Evaluation of Electromagnetic Scattering Using a Polynomial Chaos Expansion-based DGTD Method
Yiting Yang (Southeast University); Wenming Yu (Southeast University); Huaguang Bao (Nanjing University of Science and Technology); Da-Zhi Ding (Nanjing University of Science and Technology); Tie Jun Cui (Southeast University);

00:00 A Mixed Spectrum for Predicting Scattering Properties of Typical Rough Surface
Wenjing Zheng (Nanjing University of Science and Technology); Zi He (Nanjing University of Science and Technology); Xunwang Dang (National Key Laboratory of Scattering and Radiation); Da-Zhi Ding (Nanjing University of Science and Technology);
00:00 Airborne P-band Signals of Opportunity Synthetic Aperture Radar for Remote Sensing of Snow and Soil Moisture
Simon H. Yueh (California Institute of Technology); Rashmi Shah (NASA JPL/California Institute of Technology); Joel T. Johnson (The Ohio State University); Mohammad Al-Khalidi (The Ohio State University); [Other contributors listed here...]

00:00 The NASA Commercial Smallsat Data Acquisition (CSDA) Program GNSS-R Dataset: A Calibration Assessment of Spire’s Batch-1 and Batch-2 Receivers
Mohammad Al-Khalidi (The Ohio State University); Joel T. Johnson (The Ohio State University); Darren S. McKague (University of Michigan); Anthony Russel (University of Michigan); Dorina Twigg (University of Michigan);

00:00 Analysis of GLORI GNSS-R Airborne Measurements for Moisture and Land Use Estimation
Mehrez Zrabi (Toulouse III University); Karin Dassas (CESBIO (CNES/CNRS/INRAE/IRD/UPS)); Pascal Fanise (LATMOS (UVSQ/CNRS/UPMC)); Vincent Dehaye (CESBIO (CNES/CNRS/INRAE/IRD/UPS)); Michel Le Page (LATMOS (UVSQ/CNRS/UPMC));

00:00 Signals of Opportunity P-band Investigation (SNOOPI): Validation Plans
James L. Garrison (Purdue University); Rashmi Shah (NASA JPL/California Institute of Technology); Manuel A. Vega (NASA Goddard Space Flight Center); Mehmet Kurum (Mississippi State University); Justin Mansell (California Institute of Technology); Rajat Bindlish (NASA’s Goddard Space Flight Center); Benjamin Nold (Purdue University); Juan Raymond (NASA Goddard Space Flight Center); Roger Banting (NASA Goddard Space Flight Center); Soo Kim (Purdue University); Weihang Li (Purdue University); Jeffrey R. Piepmeier (NASA Goddard Space Flight Center);

00:00 P-band Signal of Opportunity for Snow Water Equivalence Retrieval: From Ground Experiment to Space Mission Design
Xiaolan Xu (California Institute of Technology); Simon H. Yueh (California Institute of Technology); Rashmi Shah (NASA JPL/California Institute of Technology); Steven A. Margulis (UCLA); Kelly Elder (United States Forest Service); Charles Reynerson (California Institute of Technology); Steve Franklin (California Institute of Technology);

00:00 Understanding the Relationship between Surface Roughness and Coherence in GNSS Land Reflected Signals
Tianlin Wang (The Ohio State University); Joel T. Johnson (The Ohio State University); [Other contributors listed here...]

00:00 Validation of Forest Effects on P-band Signals of Opportunities by Using Electromagnetic Scattering Model of Fast Hybrid Method
Jongwoo Jeong (University of Michigan); Leung Tsang (University of Michigan); Xiaolan Xu (California Institute of Technology); Simon H. Yueh (California Institute of Technology); Steven A. Margulis (UCLA);

00:00 A Realistic Framework of GNSS-T for Simulating Scattering and Propagation of GNSS Signals under a Forest Canopy
Suraj Yadav (Mississippi State University); Abesh Ghosh (Mississippi State University); Dylan Boyd (Mississippi State University); Mehmet Kurum (Mississippi State University);

00:00 Development and Optimization of a Full-wave Model for Multistatic Scattering from Vegetated Terrains at P/L Band
Ines Fenni (California Institute of Technology); Helene Roussel (Sorbonne Université et Université Paris Saclay); Mehmet Kurum (Mississippi State University); Dylan Ray Boyd (Mississippi State University); Mark S. Haynes (California Institute of Technology); Ziad S. Haddad (California Institute of Technology);

Session 2P10b
Remote Sensing Natural Hazards
Tuesday PM, July 4, 2023
Room South Room 222
Organized by Donglian Sun
Chaired by Donglian Sun

00:00 Studies of Maximum Hurricane Wind Retreivals and Their Use for Improved Storm Surge Simulations Using Spaceborne GNSS-R Systems
Mohammad Al-Khalidi (The Ohio State University); Joel T. Johnson (The Ohio State University); Ethan J. Kubatko (The Ohio State University); Young hun Kang (The Ohio State University); Suranjan Nepal (The Ohio State University); Aaron Sines (The Ohio State University); Stephen J. Katzberg (NASA Langley Research Center);

00:00 Improved Active Fire Detection Using Operational U-nets
Ozer Can Deveciouglu (Tampere University); Muharem Mete Akishali (Tampere University); Fahad Sohrab (Tampere University); Turker Ince (Izmir University of Economics); Moncef Gabbouj (Tampere University);
00:00 Design and Simulation of a Flood Forecasting and Alerting System: A Focus on Rwanda
Gerard Rushingabigwi (University of Rwanda College of Science and Technology (UR CST)); G. B. Ishimwe (University of Rwanda College of Science and Technology (UR CST)); E. Irsabizwa (University of Rwanda College of Science and Technology (UR CST)); V. M. Sugira (University of Rwanda College of Science and Technology (UR CST)); P. Bakunizibake (University of Rwanda College of Science and Technology (UR CST)); T. Ndagamenye (University of Rwanda College of Science and Technology (UR CST)); Louis Sibomana (University of Rwanda); A. Vodacek (University of Rwanda College of Science and Technology (UR CST));

00:00 Application of MUSIC Algorithm for Identifying Unknown Objects from Limited-Aperture Configuration
Won-Kwang Park (Kookmin University);

00:00 A Microwave Reflection-based Measurement System for Moisture Detection in Textiles
Felix Essingholt (Fraunhofer IMS); Sebastian Böller (Fraunhofer Institute for Microelectronic Circuits and Systems (IMS)); Thorben Greter (Fraunhofer Institute for Microelectronic Circuits and Systems (IMS)); Anton Grabmaier (Fraunhofer Institute for Microelectronic Circuits and Systems (IMS));

00:00 Antenna Array Diagnostics through a Lebesgue-space Inversion Technique
Valentina Schenone (University of Genoa); Alessandro Fedeli (University of Genoa); Claudio Estatico (University of Genoa); Matteo Pastorino (University of Genoa); Andrea Randazzo (University of Genoa);

00:00 A Low Sidelobe Level Sub-reflector for Meteorological Applications
András Eszes (PPKE-ITK); Zsolt Szabo (PPKE-ITK); B. Ladanyi-Turoczy (Grante Co.);

00:00 Improving Precision Pointing of Monopulse Radars by Exploiting OAM Vortex Beams
Giada Maria Battaglia (Università Mediterranea di Reggio Calabria); Tommaso Isernia (Università Mediterranea di Reggio Calabria); Roberta Palmieri (National Research Council); Andrea Francesco Morabito (Università “Mediterranea” di Reggio Calabria);

00:00 A Practical Strategy for Improving GPR Images Referred to Inhomogeneous Scenarios
Raffaele Persico (University of Calabria); Francesco Marasco (University of Calabria); Gianfranco Morelli (Geostudi Astier S.r.l.); Giuseppe Esposito (National Research Council of Italy); Ilaria Catapano (Institute for Electromagnetic Sensing of Environment, National Research Council);

00:00 Geometry Reconstruction from Method of Moments Matrices
Quanfeng Wang (Technical University of Munich); Alexander Paulus (Technical University of Munich);

00:00 Improving Precision Pointing of Monopulse Radars by Exploiting OAM Vortex Beams
Giada Maria Battaglia (Università Mediterranea di Reggio Calabria); Tommaso Isernia (Università Mediterranea di Reggio Calabria); Roberta Palmieri (National Research Council); Andrea Francesco Morabito (Università “Mediterranea” di Reggio Calabria);

00:00 Solving Phase Retrieval Problems for Antenna Characterization and Diagnostics by Means of a Single Measurement Surface: Recent Developments and New Goals
Giada Maria Battaglia (Università Mediterranea di Reggio Calabria); Andrea Francesco Morabito (Università Mediterranea di Reggio Calabria); Roberta Palmieri (National Research Council); Tommaso Isernia (Università Mediterranea di Reggio Calabria);

00:00 Phaseless Array Faulty Diagnostics via Convex Optimization
Maria Antonia Maisto (Università degli Studi della Campania “Luigi Vanvitelli”); Raffaele Moretta (Università degli Studi della Campania “Luigi Vanvitelli”); Giovanni Leone (Università della Campania Luigi Vanvitelli);

00:00 Detection of Nitrogen Substances by Nuclear Quadrupole Resonance in Large Volumes
Georgy Mozakhmin (Gebze Technical University); Maksut Makstauglu (Gebze Technical University); B. Çolak (Gebze Technical University); A. Maraqlı (Gebze Technical University); Eren Doğan (Gebze Technical University); Kamil Çınar (Gebze Technical University); Pavel Kupriyanov (Gebze Technical University); C. Okay (Marmara University); R. Khusnutdinov (Kazan State Power Engineering University); S. Kazan (Gebze Technical University); Bulat Rameev (Gebze Technical University);

00:00 Development of Method for Suppression of Transient Processes in Large Power NQR Sensor
Eren Doğan (Gebze Technical University); Kamil Çınar (Gebze Technical University); Pavel Kupriyanov (Gebze Technical University); Georgy Mozakhmin (Gebze Technical University); Bulat Rameev (Gebze Technical University);

00:00 J-coupling in NMR-spectra of Organophosphorus Liquids in Earth’s Magnetic Field
Rifat Gimatdin (Gebze Technical University); Pavel Kupriyanov (Gebze Technical University); Georgy Mozakhmin (Gebze Technical University); Bulat Rameev (Gebze Technical University); Vladimir Chizhik (Saint-Petersburg State University);

Session 2P11a
Inverse Problems in Antenna and Scattering: Theory, Challenges and Applications

Tuesday PM, July 4, 2023
Room South Room 223
Organized by Andrea Randazzo, Raffaele Solimene
Chaired by Andrea Randazzo, Raffaele Solimene
Session 2P11b
Radar Signal Processing and Imaging Using Intelligent Technology

Tuesday PM, July 4, 2023
Room South Room 223
Organized by Gang Xu, Liangtian Wan

00:00 A Spiral-like Acquisition Strategy for 3D Huygens’ Principle Based Microwave Imaging
Bilal Khalid (London South Bank University); Banaftsheh Khalesi (UBT-UK DIVISION); Navid Ghavami (UBT-Umbria Bioengineering Technologies); Giovanni Raspa (Spin off of University of Perugia); Mario Badia (Umbria Bioengineering Technologies); Sandra Dudley (London South Bank University); Mohammad Ghavami (London South Bank University); Gianluigi Tiberi (London South Bank University);

00:00 Hyperspectral Image Analysis with Subspace Learning-based One-Class Classification
Sertac Kiliçkaya (Izmir University of Economics); Muharrem Mete Abishali (Tampere University); Fahad Sohrab (Tampere University); Turker Ince (Izmir University of Economics); Moncef Gabbouj (Tampere University);

00:00 Preliminary Results of Near Field Microwave Imaging System for Dielectric Material
Ercan Menguc (Akdeniz University); Melikhan Eren (Turkish Aerospace Industries Inc.); Atalay Kocakusak (Akdeniz University); Selcuk Helhel (Akdeniz University);

00:00 Study on the Detection of Vehicles under Effect of Foreground Obstacles
Yifan Wu (Nihon University); Syota Yazawa (Nihon University); Kiyozumi N izzama (Nihon University); Takashi Kuroiwa (Nihon University);

00:00 A Novel Tensor Alternating Direction Method of Multiplier (TADMM) Approach for Video SAR Imaging
Wei Pu (University of Electronic Science and Technology of China); Junjie Wu (University of Electronic Science and Technology of China); Hongyang An (University of Electronic Science and Technology of China); Yue Song (University of Electronic Science and Technology of China); Yulin Huang (University of Electronic Science and Technology of China); Haiqiang Yang (University of Electronic Science and Technology of China); Jianyu Yang (University of Electronic Science and Technology of China);

00:00 Image Spectrum Decomposition of Ice-sounding Data in Stratified Medium for Back Projection Algorithm
Chen Lv (Tongji University); Tong Hao (Tongji University);

00:00 Investigation of Usage Possibility FMCW Radar for Non-destructive Corrosion Detection in Building Structures
Melikhan Eren (Turkish Aerospace Industries Inc.); Ercan Menguc (Akdeniz University); Atalay Kocakusak (Akdeniz University); Selcuk Helhel (Akdeniz University);

Session 2P12a
Filters, Amplifiers and Microwave Technologies

Tuesday PM, July 4, 2023
Room South Room 224

00:00 3D Printed PL A-based SIW Bandpass Filter with Artificial Dielectric Material
Muhammad Farhan Maulana (Institut Teknologi Bandung); Achmad Munir (Institut Teknologi Bandung);

00:00 Incorporation of CSRRs for Bandwidth Enhancement of SIW Bandpass Filter
Junas Haidi (Institut Teknologi Bandung); Achmad Munir (Institut Teknologi Bandung);

00:00 Miniaturize Broadband Coplanar Stripline Bandpass Filter Based on Cross-coupled Resonances
Edison Kho (National Institute of Technology Silchar); Banani Basu (National Institute of Technology Silchar); Arnab Nandi (National Institute of Technology Silchar);

00:00 Suppression of High-order Resonance in High-speed Connectors
Wen-Chieh Liang (National Taiwan University of Technology); Jeih-Wei Hung (National Chi Nan University); Eric S. Li (National Taiwan University of Technology);

00:00 A 36–39 GHz Power Amplifier with Built-in Linearizer Using 0.1-µm GaAs pHEMT Process
Jeng-Han Tsai (National Taiwan Normal University); Y.-C. Yu (National Taiwan Normal University); C.-L. Lin (National Taiwan Normal University);

00:00 On the Design Consideration for Prototyping of Flexible Phase-difference Butler Matrix
Zulfı İ (Institut Teknologi Bandung); Joko Suryana (Bundung Institute of Technology); Achmad Munir (Institut Teknologi Bandung);

00:00 Power Transfer Maximization through Locally Planar Layered Media of Focused Bessel-shaped Beams in Near-field
Santi Concetto Pavone (University of Catania); Gino Sorbell o (University of Catania);

00:00 Efficient Channel Estimation for LIS-based Systems
Inês Gonçalves Soares de Almeida (Universidade Autonoma de Lisboa); Joao Guerreiro (Instituto de Telecomunicacaes); Rui Dinis (Universidade Nova de Lisboa);

00:00 On the Performance of LDPC Codes over Radio Stripes System
Ali Gashtashi (Universidade Autonoma de Lisboa); Mario Marques da Silva (Universidade Autonoma de Lisboa); Rui Dinis (Universidade Nova de Lisboa);
Session 2P12b
Advanced RF and Microwave Technologies for New Mobility Applications

Tuesday PM, July 4, 2023
Room South Room 224
Organized by Sang-Min Han
Chaired by Sang-Min Han, Yongchae Jeong

00:00 Miniaturized Four Port MIMO Antenna for URLLC and Virtual MIMO Applications
Osama Azz (Ghulam Ishaq Khan Institute of Engineering Sciences and Technology); Mubib Ur Rahman (Polytechnique Montreal);

00:00 Utilizing Transmission Lines for Efficient Energy Harvesting in 5G Networks
Maryam Eshaghi (University of Windsor); Rashid Rashidzadeh (University of Windsor);

00:00 The Method of De-embedding without the TRL Calibration Board
Minseong Kim (Soonchunhyang University); Sohui Kim (Soonchunhyang University); Jieun Kim (Soonchunhyang University); Heaseong Cha (SAWNICS Co., Ltd.);
Soon Hong Ahn (SAWNICS Co., Ltd.); Youna Jang (Soonchunhyang University); Dal Ahn (Soonchunhyang University);

00:00 Design of Compact and High Selective RF Front-end Module for Low-band 5G and IoT Applications
Trong-Hieu Le (Electric Power University); Manh Cuong Ho (Electric Power University); Le Cuong Nguyen (Electric Power University);

00:00 Compact Microwave Device Designs with DGSs for Mobility Applications
Sang-Min Han (Soonchunhyang University); Won Sang Yoon (Hoseo University); Jongsik Lim (Soonchunhyang University); Dal Ahn (Soonchunhyang University);

00:00 Deep Reinforcement Learning-based Auto-tuning Algorithm for Cavity Filters
Daniel Poul Mtowe (Soonchunhyang University); Seong-Ho Son (Soonchunhyang University); Dal Ahn (Soonchunhyang University); Dong Min Kim (Soonchunhyang University);

00:00 Magnetless Nonreciprocal Bandpass Filter Using Time-modulated Resonators
Girdhari Chaudhary (Jeonbuk National University); Phanam Pech (Jeonbuk National University);
Sandy Saron (Jeonbuk National University); Yongchae Jeong (Jeonbuk National University);

00:00 Unequal Termination Impedances Bandpass Filter Based on Different-mode Substrate Integrated Waveguide Cavity
Phanam Pech (Jeonbuk National University); Sandy Saron (Jeonbuk National University); Girdhari Chaudhary (Jeonbuk National University); Yongchae Jeong (Jeonbuk National University);

00:00 A Design of Multilayer Interdigital Bandpass Filter Using Low-temperature Co-fired Ceramic (LTCC) Technology
Sohui Kim (Soonchunhyang University); Minseong Kim (Soonchunhyang University); Dae-Ung Lee (Huba Research Institute); Hyung-Sik Park (Huba Research Institute);
Youna Jang (Soonchunhyang University); Dal Ahn (Soonchunhyang University);

00:00 A Size-reduced CPW Ring Hybrid Coupler Using a Phase Converting Structure
Jongsik Lim (Soonchunhyang University); Donghun Kang (Soonchunhyang University); Kyung-min Park (Soonchunhyang University); Gil-Young Lee (Air Force Academy); Sang-Min Han (Soonchunhyang University);
Dal Ahn (Soonchunhyang University); Yongchae Jeong (Jeonbuk National University);

Session 2P13
Poster Session 3

Tuesday PM, July 4, 2023
8:00 AM - 12:00 AM
Room Forum Hall Foyer 1

00:00 Glare Points in Laser Flow Cytometry
Alexander Putz (Physikalisch-Technische Bundesanstalt); M. Hussels (Physikalisch-Technische Bundesanstalt); Jonas Gienger (Physikalisch-Technische Bundesanstalt);

00:00 A Single-layer Polarization-insensitive Broadband Absorber for X-band Applications
Cheng-Yen Chung (Yuan Ze University); Ching-Nan Chiu (Yuan Ze University); Chu-Kuo Chen (Ministry of Economic Affairs); Ye-Hong Chen (Ministry of Economic Affairs);

00:00 Utilization of Transmission Phase Shift Method for Characterizing Properties of Material Encapsulated by Rectangular Waveguide
Sulistyaningsih (Institut Teknologi Bandung); Zulfi (Institut Teknologi Bandung); Umar Khayam (Institut Teknologi Bandung); Achmad Munir (Institut Teknologi Bandung);
Design of Conical Lens-corrected Horn Antennas by Means of a Method Using Higher-order Free-spurious Finite Elements
José M. Gil (Universidad Politécnica de Madrid); M. A. González De Aza (Universidad Politécnica de Madrid); Alfonso Gómez García (Universidad de Extremadura); Rafael Gómez Alcalá (Universidad de Extremadura); J. García (Universidad Politécnica de Madrid); Jesús Rubio (Universidad de Extremadura);

Mesh Simplification Method Based on Monte-Carlo Algorithm
Ce Ding (Zhejiang University); Lizhen Yang (Zhejiang University); Ruoming Zhang (Zhejiang University); Yuechen Zhao (Zhejiang University); Han Wang (Zhejiang University); Yuzuan Li (Zhejiang University); Hai Liu (Zhejiang University);

Hybrid Modes of Spatial Dispersion Based on Biaxial Anisotropic Materials
Xiao Peng Liu (Hangzhou Dianzi University); Mingzhu Li (Hangzhou Dianzi University); Guang Chen (Hangzhou City College); Liang Peng (Hangzhou City University); Zhu Hong Lin (Hangzhou City College);

Study on the Mechanism of the Effect of High Power Microwave on the Optical-electrical Characteristics of Solar Cells
Tao Liu (Xidian University); Genrui Hua (Laser Fusion Research Center); Shiyuan Zhao (Xidian University); Xiao-Wei Shi (Xidian University); Le Xu (Xidian University);

Effect of a Gold Nanoparticles Monolayer on the Enhancement of Silicon Quantum Dots Photoluminescence
Sichuan University; Xidian University; Shaanxi University; Zhejiang University;

Formation of Bound States in the Continuum in Double Trapezoidal Grating
Jicheng Wang (Jiangnan University); Ying Hu (Optical Control Telian (Shanghai) Information Technology Co., Ltd.);

Large Area Spin-locked Topological Edge and Corner State in Dielectric Photonic Crystal
Bei Yan (Southern University of Science and Technology); Zhen Gao (Southern University of Science and Technology);

Nonlinearity-tuned Optical Spin-orbit Interaction of Graphene-wrapped Nanoparticles
Xiaoying Gu (Soochow University); Yuchen Sun (Soochow University); Lei Gao (Soochow University); Andrey V. Novitsky (Belarusian State University); Wenjing Yu (Jiangsu University of Technology); Dongliang Gao (Soochow University);

Cross-shaped Graphene Enabled Coding Metasurface for Dynamic THz Beam Steering
Qian Wang (Shanghai University); Fengguan Yang (Shanghai University);

Displacement Sensor Based on Quasi Bound States in the Continuum of Localized Spoof Surface Plasmons
Si-Qi Li (Peking University); Fan-Hong Li (Peking University); Yu Zhu (Peking University); Chao-Hai Du (Peking University);

Study of Active Terahertz Chiral Metasurfaces
Meng Liu (Shandong University of Science and Technology);

Ultraviolet Chiral Shells Towards High Performance Full-Stokes Polarimeters
Shanshan Huang (Sichuan University); Shilin Xian (Sichuan University); Xiu Yang (Sichuan University); Jinglei Du (Sichuan University); Yidong Hou (Sichuan University);

Low-k Surface Functionalization by He and Ar Electron Beam rf Plasma: Complex Simulation Approach
Alexander Solovykh (Lomonosov Moscow State University); A. A. Sycheva (Lomonosov Moscow State University); Ekaterina N. Voronina (Lomonosov Moscow State University); O. V. Proshina (Lomonosov Moscow State University); T. V. Rakhimova (Lomonosov Moscow State University); A. P. Palov (Lomonosov Moscow State University); A. T. Rakhimov (Lomonosov Moscow State University);

A Novel Demultiplexer Solution for Silica-titania Platform-based Photonic Integrated Circuits
Muhammad Ali Butt (Warsaw University of Technology); L. Kozlowski (Warsaw University of Technology); M. Dudek (Warsaw University of Technology); M. Shabbaz (Warsaw University of Technology); E. Kilicaslan (Warsaw University of Technology); Z. Dziekan (Warsaw University of Technology); A. Kazmierczak (Warsaw University of Technology); Ryszard Piramidowicz (Warsaw University of Technology);

Development of the Strain Measurement Calibration Technique for Road Pavement Structural Health Monitoring Applications Using Optical FBG Sensors
Janis Braunfelds (Riga Technical University); Uģis Senkans (Riga Technical University); Peteris Skels (Riga Technical University); Juris Porins (Riga Technical University); Viktors Haritonovs (Riga Technical University); Sandis Spolitis (Riga Technical University); Vjaceslaus Bobrows (Riga Technical University);

Experimental Demonstration of WDM-PON Transmission System Based on the FWM-assisted Optical Frequency Comb Generator
Rihards Murnieks (Riga Technical University); Armunds Ostrovskis (Riga Technical University); Kaspars Zakis (Riga Technical University); Ilja Lyashuk (Riga Technical University); Oskars Ozolins (Riga Technical University); Sandis Spolitis (Riga Technical University); Vjaceslaus Bobrows (Riga Technical University);

Efficient Indoor Perovskite Solar Cells via Surface Defect Passivation of Electron Transporting Layer
Bing-Huang Jiang (Ming Chi University of Technology); Chih-Ping Chen (Ming Chi University of Technology);
Theoretical Realization of Half-vortices and Skyrmions of Exciton-polaritons in a Magnetic Field
Ting-Wei Chen (National Pingtung University); Shih-Da Jheng (Chinese Culture University); Szu-Cheng Cheng (Chinese Culture University);

High Precision Spectrum Measurement of Millimeter Waves by Electro-optic Detection Using a 40 GHz Actively Mode-locked Laser Diode
Isao Morohashi (National Institute of Information and Communications Technology (NICT)); Norihiko Sekine (National Institute of Information and Communications Technology); Isao Hosako (National Institute of Information and Communications Technology);

Fabrication of Lensed Fibers with Arc Fusion Splicer for Telecommunication Applications
Arvīds Sedulis (Riga Technical University); Armunds Ostrovskis (Riga Technical University); Kaspars Zakis (Riga Technical University); Kristaps Rubals (Riga Technical University); Dilan Enrique Ortiz Blanco (Riga Technical University); Dmitrij Prigunovs (Riga Technical University); Jānis Alnis (University of Latvia); Vjaceslavs Bobrovs (Riga Technical University); Sandis Spolitis (Riga Technical University);

Aircraft Video Transmission Communication System Based on the Forward Error Correction Codes
Aleksandr Krotov (Riga Technical University); Mikhail Krotov (Riga Technical University); Tomis Salsgals (Riga Technical University); Svitlana Matsenko (Riga Technical University); Vjaceslavs Bobrovs (Riga Technical University);

About Optical Sensors for Water Quality Monitoring
Ferdenan A. Mkrtchyan (V. A. Kotelnikov’s Institute of Radioengineering and Electronics, Russian Academy of Sciences); V. Yu. Soldatov (Kotelnikov Institute of Radioengineering and Electronics, Fryazino Branch, RAS); M. A. Mkrtchyan (Kotelnikov Institute of Radioengineering and Electronics, Fryazino Branch, RAS);

Achieving High Resolution Temperature Measurement with Michelson Interferometer Utilizing Polymer Filled Hollow Core Fiber
Ghum Abbas Lashari (Wuhan University of Technology);

A Highly Sensitive Surface-plasmonic Sensor Using Hyperbolic Columnar Thin Film in the Grating-coupled Configuration
Kiran Mujeed (Quaid-i-Azam University);

Polarization Based Optical Microscopy for Better Resolution
Nagendra Prasad Yadav (Hubei Polytechnic University);

Plasmonic Molecular Rectennas to Produce Electricity from Light
David Duché (Aix Marseille University); H. Abdoul Yasset Barhwal (Aix Marseille University); E. Sanchez Adamie (Aix Marseille University); V. Jangis (Aix Marseille University); C. Ruiz Herrero (Aix Marseille University); O. Margeat (Aix Marseille University); B. Sciaccia (Aix Marseille University); J. Le Rouzo (Aix Marseille University); J. Ackermann (Aix Marseille University); J-J. Simon (Aix Marseille University); L. Escoubas (Aix-Marseille University);

N-elements Pyramidal Horn Antenna Arrays for Ku Band Applications
Cristina Adelaida Heiman (University Politehnica of Bucharest);

Radio Frequency Energy Harvesting Chip for ISM-915 MHz Band Wireless Transmitter
Guo-Ming Sung (National Taipei University of Technology); Hung-Yu Chou (National Taiwan University of Technology); Zong-Wei Chen (National Taipei University of Technology); Chih-Ping Yu (National Taipei University of Technology);

Analysis on Interference Impact of 5G in 6 GHz Band on Fixed Service Stations
Guntis Ancans (Riga Technical University); Arnis Ancans (Riga Technical University); Vjaceslavs Bobrovs (Riga Technical University);

Dual-band Patch Antenna with Operating Frequency Tuning Capability Based on Varactor Diode
Dwi Andi Nurmantri (Telkom University); Muhammad Farhan Maulana (Institut Teknologi Bandung); Achmad Munir (Bandung Institute of Technology);

A Compensation for Elevated Sidelobe of Radiation Pattern of Antenna Array Caused by Amplitude and Phase Discretization Based on Deep Reinforcement Learning
Shiyuan Zhang (Beihang University); Chuan Shi (Beihang University); Ou Pan (Beihang University); Ming Bai (Beihang University);

A Novel Modified Wilkinson Power Divider with Controllable 2nd Harmonic Impedance Matching
Yunsik Park (Korea Electronics Technology Institute); Hyeonsook Kang (Hillntoe Inc.); Youngmin Kim (Hillntoe Inc.); Jongin Ryu (Korea Electronics Technology Institute);

A Decision Method for Precise Load Modulation of Doherty PA Using Reactance Elimination
Yunsik Park (Korea Electronics Technology Institute); Hyeonsook Kang (Hillntoe Inc.); Youngmin Kim (Hillntoe Inc.); Jongin Ryu (Korea Electronics Technology Institute);

An Efficient Design Method for Planar Inverted F-shaped Antenna Based on Optimization of Genetic Algorithm
Yuan Yang Du (Tongji University); Mei Song Tong (Tongji University);
00:00 Design and Calibration of a Microstrip Planar Sensor Based on a Doubly Coupled Ring Resonator for Measuring the Dielectric Constant
Tae-Eon Park (Korea Testing Laboratory); Jae-Suk Lee (Korea Testing Laboratory); Jae-Lim Chang (Korea Testing Laboratory);
00:00 Nature-inspired MIMO Antenna for a 5G Base Station
Carolina Gouveia (Instituto de Telecomunicacoes); Rita Almeida (Instituto Superior de Engenharia de Lisboa); Pedro Pinho (University of Aveiro);
00:00 Relay Provisioning Simulator for Maximizing 5G MIMO Capacity in an Indoor Environment
Eun-Jin Kim (Korea Advanced Institute of Science and Technology); Seung-Won Keum (Korea Advanced Institute of Science and Technology); Ju-Yong Lee (Korea Advanced Institute of Science and Technology);
00:00 A Wideband and High-Isolation MIMO Slot Antenna for 5G Smartphone Applications
Xiao Jie Lu (Tongji University); Min Ye (Tongji University); Ren Yuan Liu (Tongji University); Mei Song Tong (Tongji University);
00:00 A Spoo Surface Plasmon Polaritons Frequency Scanning Antenna Based on Coplanar Waveguides
Zhen Wang (Tongji University); Xiao Yu Li (Tongji University); Xiaojing Jia Lu (Tongji University); Ji Yuan Duan (Tongji University); Mei Song Tong (Tongji University);
00:00 Ka-band Diffraction Radiation Antenna
00:00 High Gain Dual-band Compact Antenna Array for Millimeter Wave Applications
Saba Tarir (Ghulam Ishaq Khan Institute of Engineering Sciences and Technology); Waleed Tarir Sethi (Ghulam Ishaq Khan Institute of Engineering Sciences and Technology); Arbab Abdul Rahim (GIK Institute of Engineering Sciences and Technology);
00:00 Analysis of Characteristics of Low-loss for Wireless Charging Coil
Jung-Ick Moon (Electronics and Telecommunications Research Institute); Sang-Won Kim (Electronics and Telecommunications Research Institute (ETRI)); Gwangzeen Ku (Electronics and Telecommunications Research Institute (ETRI)); Seong-Min Kim (Electronics and Telecommunications Research Institute); In-Kui Cho (Electronics and Telecommunications Research Institute);
00:00 Experimental Results of Rain Rate and Drop Size Distribution in Athens-Greece, for the Estimation of Rain Attenuation in E- and D-band
Petros Kontos (School of Pedagogical and Technological Education); Ioannis Kontos (School of Pedagogical and Technological Education); Spiros N. Livieratos (School of Pedagogical and Technological Education);
00:00 Locating Low-category Tropical Cyclones from Geostationary Satellite Images Using Convolutional Neural Network
Han Wang (Ocean University of China); Qing Xu (Hohai University); Xiaobin Yin (Ocean University of China);
00:00 Target Distance Measurement Technique by Neural Network Learning in Microwave Complex Scattering Environment
Janghoon Jeong (Soomchunhyang University); Dong-won Kwon (Soomchunhyang University); Seong-tae Hwang (Soomchunhyang University); Seong-Ho Son (Soomchunhyang University);
00:00 A Rain Cell Extraction Method for Gaofen-3 Dual-polarization Data
Xianen Wei (Aerospace Information Research Institute, Chinese Academy of Sciences); Wenjia Zhao (Aerospace Information Research Institute, Chinese Academy of Sciences); Yongsheng Xu (Aerospace Information Research Institute, Chinese Academy of Sciences); Jin-song Chong (Aerospace Information Research Institute, Chinese Academy of Sciences);
00:00 Representativeness Error Tracing in SSS Products Based on Quadruple Collocation Analysis
Jin Wang (Qingdao University); Yifan Li (Qingdao University); Meijie Liu (Qingdao University);
00:00 Improved Electromagnetic Inverse Scattering with M-Net Model Incorporating Diffraction Tomography
Ming Jin (Shanghai Normal University); Xi Rui Yang (Shanghai Normal University); Chunxiao Yang (Shanghai Normal University); Mei Song Tong (Tongji University);
00:00 Satellite Observations of Geladandong Glacier Variation from 1999 to 2020
Xudong Liu (Guilin University of Technology); Ying Yang (Nanjing University of Science and Technology); Kun-Shan Chen (Guilin University of Technology);
00:00 Combination of Physical Information with Deep Learning for the Study of Electromagnetic Scattering Characteristics
Xianggang Wang (Zhejiang University); Zheng Zhang (Zhejiang University); Chao Yang (Zhejiang University); Yang Du (Zhejiang University);
00:00 Orbit Angular Momentum of Plasma May Be a New Detection Technology for Solar Flares
Liang Dong (Yunnan Observatories, Chinese Academy of Sciences); Jian Jia Yi (Xi’an Jiaotong University);
Session 3A1
Specific Approaches in Computational Electromagnetics as Applied to Modern Nanophotonics 3

Wednesday AM, July 5, 2023
Room Club E
Organized by Maha Ben Rhouma
Chaired by Maha Ben Rhouma

00:00 AI for Photonics and Topological Physics
Keynote
Marin Soljačić (Massachusetts Institute of Technology);

00:00 Design for Quality: Multifunctional Metasurface Flat
Invited Optics
Fan Yang (Massachusetts Institute of Technology);
Hung-I Lin (Massachusetts Institute of Technology);
Juejun Hu (Massachusetts Institute of Technology);
Tian Gu (Massachusetts Institute of Technology);

00:00 Optimization of Silicon Nanoantenna for Optical Phased Arrays
Invited
Andreas Paul Srauch (University of Paderborn);
Henna Farheen (University of Paderborn);
Viktor Myroshnychenko (); Jens Forstner (University of Paderborn);

00:00 Comparative Analysis of the Far- and Near-field Response of Ensembles of Nanostructures
Invited
Alejandro Manjuecas (CSIC & University of New Mexico);

00:00 Spintronic Stacks for Enhanced Emission of Terahertz Radiation and Polarization Control
Invited
Dominik Sokoluk (State Research Center OPTIMAS);
Jan Kappa (State Research Center OPTIMAS);
Laura Scheuer (TU Kaiserslautern);
Evangelos Th. Papaoannou (TU Kaiserslautern);
Marco Rahm (University of Kaiserslautern);

00:00 Multiphysics Simulations in Nanophotonics
Invited
Dmitry N. Chigrin (DWI Leibniz Institute for Interactive Materials);

00:00 Enhanced Harris Hawks Optimizer with a Well-selected Initial Population: Application to the Inverse Design of Metagratings
Kofi Edee (Clermont Universite);

00:00 Efficient Multi-emitter Near Field Response Calculation for Multilayer Graphene Environments
Invited
Devashish Pandey (Technical University of Denmark);
Sanshui Xiao (Technical University of Denmark);
Martin Wubs (Technical University of Denmark);

00:00 Electromagnetics in Media with Disorder: Enabling Convolution Dispersion in the Time Domain
Invited
Ludmila J. Prokopeva (Purdue University);
S. N. Choudhury (Purdue University);
K. Pagadala (Purdue University);
Alexander V. Kildishev (Purdue University);

00:00 Extremely Localized Plasmon Mode and Its Susceptibility to the External Electric Field
Invited
Xuewen Chen (Huazhong University of Science and Technology);

00:00 Symmetry and Topology in Photonic Crystals
Invited
Thomas Christensen (Technical University of Denmark (DTU));

Session 3A2
Organic, Perovskite, and Quantum Dot Optoelectronics 2

Wednesday AM, July 5, 2023
Room Club D
Organized by Tae-Woo Lee, Wallace C. H. Choy
Chaired by Tae-Woo Lee, Wallace C. H. Choy

00:00 Organic Photovoltaics Using Environmentally Friendly Non-halogenated Processing Solvents and Non-toxic Additives
Invited
Taeshik Earmme (Hanyang University);

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Invited
Taiho Park (Pohang University of Science and Technology (POSTECH));
00:00
Large-scale and Efficient Light-emitting Diodes Based on Halide Perovskite Quantum Materials
Zhiyong Fan (The Hong Kong University of Science and Technology);
00:00
Perovskite Nanocrystal Emitters for Bright, Efficient and Stable Light-emitting Diodes
Tae-Woo Lee (Seoul National University);
00:00
2D Sn-based Perovskites for Optoelectronic Applications
Chu-Chen Chueh (National Taiwan University);
00:00
Near Infra-red Perovskite Imaging Arrays with High Performance and Stability
Wallace C. H. Choy (The University of Hong Kong);
00:00
Development of Organic Semiconducting Materials for Organic Electronics
Yun-Hi Kim (Gyeongsang National University);
00:00
Novel Pixel Structures for Light Extraction of OLED Displays
Chang-Chih Wu (National Taiwan University);
00:00
Highly Efficient Halide-based Perovskite Light-emitting Diodes Using Multifunctional Conjugated Molecular Additives
Myoung Hoon Song (Ulsan National Institute of Science and Technology (UNIST)); Han Young Woo (Korea University);
00:00
High-brightness Microcavity OLEDs: Overcoming Angular Color-shifts through Polaritons, and Monolithic Integration for Brain Implants
Malte C. Gather (University of Cologne);
00:00
Radiative and Non-radiative Recombination in Organic Photovoltaics
Koen Vandewal (Hasselt University);
00:00
Quantitative Plasmonic Microscopy towards Single Molecule Detection
Hui Yu (Shanghai Jiao Tong University);
00:00
Pixel-diversity Interferometric Imaging: A New Paradigm in Digital Biosensing
M. Selim Unlu (Boston University); Iris Celebi (Boston University); Mete Aslan (Boston University);
00:00
Substrate Signature in Interferometric Scattering Microscopy: Identification, Metrology Implication and Its Removal
Xuewen Chen (Huazhong University of Science and Technology);
00:00
Optical Phase Imaging and Phase Shaping with Coherent and Incoherent Light
A. Aggoun (Sorbonne Université); J. M. Panadés (Sorbonne Université); H. Robert (Sorbonne Université); B. Royez (Sorbonne Université); P. Berto (Sorbonne Université); Gilles Tessier (Sorbonne Université);
00:00
Advancing Single Molecule Localization Microscopy: New Devices, New Methods and New Possibilities
Zhen-Li Huang (Hainan University);
00:00
Optical Wafer Inspection at Advanced Technology Nodes
Jinlong Zhu (Huazhong University of Science and Technology); Jianmin Liu (Huazhong University of Science and Technology); Honggang Gu (Huazhong University of Science and Technology); Hao Huang (Huazhong University of Science and Technology); Shiyan Liu (Huazhong University of Science and Technology);
00:00
Optical Characterization of Low-loss Phase Change Material Sb2S3 Based on Quantitative Phase Microscopy
Wenyu Chen (Huazhong University of Science and Technology); Zhe Yu (Huazhong University of Science and Technology); Shiyan Liu (Huazhong University of Science and Technology); Jinlong Zhu (Huazhong University of Science and Technology);
00:00
Optical Measurement of Photonic Nanostructures Based on Quantitative Phase Microscopy
Zedi Li (Huazhong University of Science and Technology); Yijun Xie (Hubei University of Technology); Renlong Zhu (Hubei University of Technology); Jingyi Wang (Hubei University of Technology); Zhengqiong Dong (Hubei University of Technology); Xiangdong Zhou (Hubei University of Technology); Lei Nie (Hubei University of Technology); Shiyan Liu (Huazhong University of Science and Technology); Jinlong Zhu (Huazhong University of Science and Technology);
00:00
Far-field Deep Sub-wavelength Defect Inspection Using Structured Light Field Illumination Microscopy
Jinsong Zhang (Huazhong University of Science and Technology); Shiyan Liu (Huazhong University of Science and Technology); Jinlong Zhu (Huazhong University of Science and Technology);
Session 3A4
FocusSession.SC1: Casimir Effect and Radiative Heat Transfer 5

Wednesday AM, July 5, 2023
Room Club B
Organized by Mauro Antezza, Matthias Krüger

00:00 Thermodynamic Consistency of Driven Quantum Optimal Master Equations
Invited
Ariane Soret (University of Luxenbourg);

00:00 Guided Resonant Modes Yield SuperPlanckian Radiation
Invited
Sebastian Volz (The University of Tokyo);

00:00 Parallel Plate Force Metrology: Status and Perspectives
Invited
René I. P. Sedmik (TU Wien);

00:00 Quantum Trapping in Glycerol and the Effect of Spatial Inhomogeneity
Invited
Victoria Esteso (Istituto Nazionale di Ottica);

00:00 Measurement of Near-field Thermal Radiation for Artifical Optical Surfaces
Invited
Shen Zhan (Zhejiang University); Yongdi Dang (Zhejiang University); Yi Zhou (Zhejiang University); Yuxuan Li (Zhejiang University); Xinran Li (Zhejiang University); Yi Jin (Zhejiang University); Yangui Ma (Zhejiang University);

00:00 Near-field Radiative Heat Transfer Measurements Using Nanomechanical Resonators
Invited
Mathieu Giroux (University of Ottawa); Chang Zhang (University of Ottawa); Michel Stephan (University of Ottawa); Maxime Brazeau (University of Ottawa); Raphael St-Gelais (University of Ottawa);

00:00 Quantum Devices at the Verge of a Phase Transition
Invited
Alberto Imparato (Aarhus University);

00:00 Low-noise Magnetic-field Shaping Systems for Quantum Technologies
Invited
T. Mark Fromhold (University of Nottingham);

00:00 Radiative Thermal Diode: Rational Design and Theoretical Limit
Invited
Bai Song (Peking University);

00:00 Quantum Fluctuation Forces between Trapped Nanospheres
Invited
Clemens Jakubec (University of Vienna); Uros Delic (University of Vienna); Pablo Solano (Universidad de Concepción); Markus Axelmeyer (University of Vienna); Kanupriya Sinha (Arizona State University);

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Session 3A5a
FocusSession.SC3: Advanced Photonic Technologies for Spectroscopic Applications 1

Wednesday AM, July 5, 2023
Room Club A
Organized by Wei Dong Chen, Vincenzo Spagnolo, Ulrike Willer
Chaired by Wei Dong Chen, Vincenzo Spagnolo

00:00 Recent Advances in QEPAS-based H₂S Detection
Invited
Marilena Giglio (University and Politecnico of Bari); Mariagrazia Oliveira (University and Politecnico of Bari); Andrea Zifarelli (Università degli Studi di Bari and Politecnico di Bari); Giansergio Menduni (Politecnico and University of Bari); Angelo Sampaolo (University and Politecnico of Bari); Pietro Patimisco (Università degli Studi di Bari and Politecnico di Bari); Vincenzo Spagnolo (University and Politecnico of Bari);

00:00 Development of a Quantum Cascade Laser-based Sensor for HONO and N₂O₄ Monitoring at 7.8 μm
Invited
Xiaoyuan Cui (Anhui University); Yafan Li (Anhui University); Chaochao Jiang (Anhui University); Xiaohan Cui (Anhui University); Benli Yu (Anhui University);

00:00 Highly Sensitive Silicon Based Micro-electromechanical Resonator for Photoacoustic Gas Sensing
Invited
Tarek Seoudi (Université de Montpellier, CNRS); J. Charenson (Université de Montpellier, CNRS); W. Trzpil (Université de Montpellier, CNRS); F. Pages (Université de Montpellier, CNRS); D. Ayache (Université de Montpellier, CNRS); R. Rousseau (Université de Montpellier, CNRS); A. Vicet (Université de Montpellier, CNRS); M. Bahriz (Université de Montpellier, CNRS);

00:00 Laser Sensing Based on Photoacoustic Techniques: Resonators Studies and Applications
Invited
Aurore Vicet (Université de Montpellier); Diba Ayache (Université de Montpellier); Julien Charenson (Université de Montpellier, CNRS); T. Seoudi (Université de Montpellier, CNRS); E. Kniazeva (Université de Montpellier, CNRS); E. Rosenkrantz (Université de Montpellier), F. Gouzi (Montpellier University, Montpellier University Hospital); Michael Bahriz (Université de Montpellier);

00:00 Exhaled Breath Analysis by Quartz Enhanced Photoacoustic Spectroscopy
Invited
Diba Ayache (Université de Montpellier); Julien Charenson (Université de Montpellier); Tarek Seoudi (Université de Montpellier, CNRS); Nicolas Molnari (Montpellier University, Montpellier University Hospital); F. Gouzi (Montpellier University, Montpellier University Hospital); Michael Bahriz (Université de Montpellier); Aurore Vicet (Université de Montpellier);
00:00 High-finesse Optical Cavity Based on Prism Retroreflectors for Broadband Cavity Enhanced Absorption Spectroscopy
Ruyue Cui (Shanxi University); Gaoxuan Wang (Université du Littoral Côte d’Opale); Azer P. Yalin (Colorado State University); Lingshuo Meng (Université du Littoral Côte d’Opale); Cécile Coeur (Université du Littoral Côte d’Opale); Lei Dong (Shanxi University); Wei Dong Chen (Université du Littoral Côte d’Opale);

00:00 Ground-based Measurement of Carbon Dioxide in the Atmospheric Column Using Portable Laser Heterodyne Radiometer
Tingting Wei (Shanxi University); Jingjing Wang (Université du Littoral Côte d’Opale); Tu Tan (Anhui Institute of Optics & Fine Mechanics, Chinese Academy of Sciences); Zhensong Cao (Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Xiaoming Gao (Anhui Institute of Optics and Fine Mechanics, Chinese Academy of Sciences); Pascal Jeseck (Université Pierre et Marie-Curie (Paris 6)); Yao-Veng Te (Université Pierre et Marie-Curie (Paris 6)); Stéphane Plus (Université de Lille); Lei Dong (Shanxi University); Wei Dong Chen (Université du Littoral Côte d’Opale);

Session 3A6a
Metasurface Holography and Its Advanced Applications

Wednesday AM, July 5, 2023
Room Terrace 2A
Organized by Guoxing Zheng, Lingling Huang

00:00 Exact Analytical Quantum Theory for Strong-field Pulsed Photoelectron Emission from Biased Surfaces and Nanogaps
Peng Zhang (Michigan State University); Yi Luo (Singapore University of Technology and Design); Yang Zhou (Michigan State University); Lan Jin (Michigan State University);

00:00 Single-photon Emission under Spatial Topological Transition
Ziyian Qin (Zhejiang University); Lian Shen (Zhejiang University); Huaping Wang (Zhejiang University); Hongsheng Chen (Zhejiang University); Xiao Lin (Zhejiang University);

Session 3A5b
Light-matter Interaction in Nanophotonics 1

Wednesday AM, July 5, 2023
Room Club A
Organized by Lian Shen, Mikhail Y. Shalaginov, Huaping Wang
Chaired by Lian Shen, Mikhail Y. Shalaginov

00:00 Deterministically Fabricated Quantum Dot Devices for Invited Applications in Photonic Quantum Information Technology
Johannes Schall (Technische Universität); Jan Niklas Donges (Technische Universität); Lucas Brenner (Technische Universität); Martin Von Helversen (Technische Universität); Seen Rödi (Technische Universität); Stephan Reitzenstein (Technische Universität Berlin);

00:00 Statistical Characterization of Coherent Random Lasing Invited from Subwavelength Quasi-2D Perovskite Films
Colton Fruhling (Purdue University); Alexandra Boltasseva (Purdue University); Vladimir M. Shalaev (Purdue University); Alexander V. Kildishev (Purdue University);

00:00 Dynamic Modeling of Mode-locked Quantum Cascade Invited Lasers
Christian Jiruschek (Technical University of Munich);

00:00 Optical Encryption with Metasurfaces and Computational Imaging
Hongchao Liu (University of Macau);

00:00 Design Method of Broadband Metasurfaces for Generating a Two-dimensional Gaussian Beam from a Normal Incident Plane Wave with the Same Amplitude Distribution
Tsutomu Nagayama (Kagoshima University);

00:00 On-chip Meta-optics for AR Holographic Displays
Zhongyang Li (Wuhan University);

00:00 On-chip Metasurface for Multiplexed Guided-wave Holography
Wenwen Li (Zhejiang University); Bo Xiong (Zhejiang University); Tao Chu (Zhejiang University); Wei Ma (Zhejiang University);

00:00 Degeneracy Unlocks Metasurfaces’ Information Capacity: Near- and Far-field Functionality Integration
Zhou Zhou (Wuhan University); Zile Li (Wuhan University); Guoxing Zheng (Wuhan University);

00:00 Broadband Polarization-insensitive Meta-Holographic Displays
Isma Javed (Information Technology University of the Punjab); Azhar Javed Satti (Information Technology University of the Punjab); Muhammad Ashar Naveed (Information Technology University of the Punjab); Muhammad Qasim Mehmoond (Information Technology University (ITU));

00:00 Metasurface-enabled Multifunctional Holographic Display
Cheng Zhang (Huazhong University of Science and Technology)

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Session 3A6b
Active Optical Metasurfaces and Metamaterials

Wednesday AM, July 5, 2023
Room Terrace 2A
Organized by Tian Gu
Chaired by Tian Gu

00:00 Design of Broadband Metamaterial Absorbers for C- and X-band Applications
Ramesh Amugothu (NIT Warangal); Damera Vakula (National Institute of Technology);

00:00 Manipulation of the Optical Properties of Plasmonic Metamaterials by Application of Magnetic and Electric Fields
Yakov M. Strelniker (Bar-Ilan University); David J. Bergman (Tel Aviv University);

00:00 Light Upconversion and Routing by a Dielectric Metasurface
A. Di Francescantonio (Politecnico Milano); A. Zilli (Politecnico Milano); D. Rocco (Università degli Studi di Brescia); F. Conti (Politecnico Milano); V. Vinel (CNRS, Université de Paris); A. Borne (CNRS, Université de Paris); M. Morassi (Université Paris-Saclay); A. Lemaître (Université Paris-Saclay); P. Biongi (Politecnico Milano); L. Duó (Politecnico Milano); C. De Angelis (University of Brescia); G. Leo (CNRS, Université de Paris); M. Celehrano (Politecnico Milano); Marco Finazzi (Politecnico di Milano);

00:00 Reconfigurable, Ultrathin, All-dielectric, Mid-IR Metamaterial Perfect Absorber Based on Phase-change Material GST-225
Roy Avrahamy (Ben-Gurion University of the Negev); B. Milgrom (The Jerusalem College of Technology); Mark Auslander (Ben-Gurion University of the Negev); Amiel Avraham Ishaaya (Ben-Gurion University of the Negev);

00:00 Tunable Filter Array Based on Vanadium Oxide for Spectral Imaging
Tingbao Guo (Zhejiang University); Zhi Zhang (Zhejiang University); Ziyian Lin (Zhejiang University); Saileng Hou (Royal Institute of Technology & Zhejiang University);

00:00 Scalable Hydrogel-based Platform for Humidity-driven Dynamic Meta-display
Chenjie Dai (Wuhan University); Zejing Wang (Wuhan University); Wanlin Hu (Wuhan University); Zhongyang Li (Wuhan University);

Session 3A7
Recent Advances in Topological Photonics and Acoustics

Wednesday AM, July 5, 2023
Room Terrace 2B
Organized by Hai-Xiao Wang, Zhiwang Zhang, Weiwei Zhu
Chaired by Hai-Xiao Wang

00:00 Vectorial Valley Contrasting Physics in a Three-dimensional Phononic Crystal
Invited
Invited
Haoran Xue (Nanyang Technological University); Baile Zhang (Nanyang Technological University);

00:00 Amorphous Topological Scattering Networks
Zhe Zhang (Ecole Polytechnique Federale de Lausanne (EPFL)); Pierre Delplace (Université de Lyon); Romain Fleury (Ecole Polytechnique Federale de Lausanne (EPFL));

00:00 Topological Interfacial Coupling Spawning Multiplexed Light Processing
Invited
Invited
Xinrong Xie (Zhejiang University); Hongsheng Chen (Zhejiang University); Hongtao Lin (Zhejiang University); Fei Gao (Zhejiang University);

00:00 Non-Hermitian Delocalization
Invited
Guancong Ma (Hong Kong Baptist University);

00:00 Non-Abelian Nodal Links in Topological Metamaterials
Invited
Invited
Biao Yang (National University of Defence Technology);

00:00 Topological Defects Induced Anomalous States in Photonic Crystals and Their Tunability
Invited
Invited
Feng Liu (Ningbo University); Qinghua He (Ningbo University); Shiwei Tang (Ningbo University);

00:00 Granular Metamaterials: Symmetry and Topology
Invited
Li-Yang Zheng (Shenzhen Campus of Sun Yat-sen University);

00:00 Valley Higher-order Weyl Semimetals
Invited
Invited
Zhan Xiong (Zhejiang Normal University); Zhikang Lin (Soochow University); Hai-Xiao Wang (Guangxi Normal University); Shiyang Liu (Zhejiang Normal University); Yizian Qian (Zhejiang Normal University); Tian-Hua Jiang (Soochow University);

00:00 Symmetry-protected Braiding of Topological Edge States
Invited
Invited
Yang Long (Nanyang Technological University); Baile Zhang (Nanyang Technological University);

00:00 Nonreciprocal Large-area Waveguide Modes in All-dielectric Photonic Crystals
Invited
Invited
Li Liang (Nanjing University); Chengpeng Liang (Nanjing University); Xiao Zhang (Nanjing University); Longzheng Fan (Nanjing University); Yin Poo (Nanjing University);
00:00 The Non-Hermitian Non-equipartition Theorem in Optical Trapping
Jack Ng (Southern University of Science and Technology);

Session 3A8
Quantum Computation and Quantum Simulation

Wednesday AM, July 5, 2023
Room South Room 220
Organized by Xiaolong Su, Gang Li
Chaired by Xiaolong Su, Gang Li

00:00 Realization of Quantum State Transfer and Quantum Gates by Use of Single Photons with Different Degrees of Freedom
Fuli Li (Xi’an Jiaotong University);

00:00 Simulations of Topological Phases with Solid-state Spins in a Nitrogen-vacancy Center
Dong-Ling Deng (Tsinghua University);

00:00 Time-multiplexed Programmable Continuous-variable Photonic Quantum Computing
Shuntaro Takeda (The University of Tokyo);

00:00 An Integrated Source for Gaussian Boson Sampling
Kai-Hong Luo (Paderborn University); Jan-Lucas Eickmann (Paderborn University); Florian Lutkewitte (Paderborn University); Simone Atzeni (Paderborn University); Laura Padberg (Paderborn University); Michael Steve Stefszky (Paderborn University); Harald Herrmann (University of Paderborn); Benjamin Brecht (Paderborn University); Christine Silberhorn (Paderborn University);

00:00 Generation, Manipulation and Application of Quantum Light Sources Based on Atomic Ensembles
Jietai Jing (East China Normal University);

00:00 Realization of Strong Coupling between Deterministic Single-atom Arrays and a High-finesse Miniature Optical Cavity
Gang Li (Shanxi University);

00:00 High-dimensional Bell Test without Detection Loophole
Biheng Liu (University of Science and Technology of China);

00:00 Detecting Quantum State with Shadow Tomography
He Lu (Shandong University);

00:00 Simulators of Quantum Fluids Using Atomic Vapors
Feng Li (Xi’an Jiaotong University);

00:00 Quantum Information Processing with Continuous Variables over Optical Fiber
Jinbia Feng (Shanxi University); Yuanji Li (Shanxi University); Kuanshou Zhang (Shanxi University);

00:00 Theoretical and Experimental Explorations of Variational Quantum Learning Models
Weikang Li (Tsinghua University); Dong-Ling Deng (Tsinghua University);

00:00 Digital Quantum Simulation of Floquet Topological States
Wenjie Jiang (Tsinghua University); Dong-Ling Deng (Tsinghua University);

00:00 Simulating Many-body Non-Hermitian Skin Effect in Cold Atoms
Haowei Li (University of Science and Technology of China); Wei Yi (University of Science and Technology of China);

00:00 Sample Complexity of Learning Parametric Quantum Circuits
Qi Ye (Tsinghua University); Haoyuan Cai (Tsinghua University); Dong-Ling Deng (Tsinghua University);

00:00 Deep Quantum Neural Networks Equipped with Backpropagation on a Superconducting Processor
Zhide Lu (Tsinghua University); Dong-Ling Deng (Tsinghua University);

00:00 Digital Simulation of Non-Abelian Anyons with 68 Superconducting Qubits
Zheng-Zhi Sun (Tsinghua University); Dong-Ling Deng (Tsinghua University);

Session 3A9a
Scientific Machine Learning in Electromagnetic Modeling and Analysis

Wednesday AM, July 5, 2023
Room South Room 221
Organized by Ping Li, Li Jun Jiang

00:00 A Study on Machine Learning Assisted Accelerated Design of Microwave Structures
Zhao Zhou (Aalborg University); Zhaohui Wei (Aalborg University); Jian Ren (Xidian University); Nan Sun (Nanjing University of Aeronautics and Astronautics); Jiali Kang (Xi’an Jiaotong University); Ying Zeng Yin (Xidian University); Ming Shen (Aalborg University);

00:00 Joint Application of Analytic Hierarchy Process (AHP) and Bayesian Networks (BN) to Electromagnetic Environment Effects (E3) Assessment
Congguang Mao (Northwest Institute of Nuclear Technology); Chuangbao Du (Northwest Institute of Nuclear Technology); Zheng Liu (Northwest Institute of Nuclear Technology); Dongyang Sun (Northwest Institute of Nuclear Technology); Xin Nie (Northwest Institute of Nuclear Technology);
Session 3A10
5. FocusSession.SC5: Inverse Scattering and Imaging via Machine Learning

Wednesday AM, July 5, 2023
Room South Room 222
Organized by Xudong Chen, Tiantian Yin
Chaired by Tiantian Yin

00:00 Physics-guided Loss Functions Impact Performance of Invited Deep-learning-based Inverse-scattering-problem Solver
Zicheng Liu (Northwestern Polytechnical University);
Magank Roy (UiT The Arctic University of Norway); Dilip K. Prasad (UiT — The Arctic University of Norway);
Krishna Agarwal (UiT — The Arctic University of Norway);
00:00 Reconstruction-free Face Verification with Lensless Camera and Neural Network
Yinger Zhang (Zhejiang University); Zhengjie Huang (Zhejiang University); Jingxin Tang (Zhejiang University);
Jiangtao Huangfu (Zhejiang University);
00:00 Reverse Time Migration Method of Linear Frequency Modulation Ground Penetrating Radar Based on gprMax
Jianrong Geng (Fudan University); Hongxia Ye (Fudan University);
00:00 Key Points in Inverse Scattering Problems
Invited
Rocco Pierri (Università degli Studi della Campania “Luigi Vanvitelli”); Raffaele Solmone (Università degli Studi della Campania “Luigi Vanvitelli”);

00:00 Global Seamless 250-m 8-day Leaf Area Index (LAI) and Fraction of Absorbed Photosynthetically Active Radiation (FAPAR) Products Development Using a Bidirectional Long Short-term Memory (Bi-LSTM) Model
Han Ma (The University of Hong Kong); Shundin Liang (The University of Hong Kong);

00:00 A Scalable Deep Learning Model for Simultaneous Reconstruction and Transmitter Localization in Inverse Scattering
Girija Ramesan Karthik (Indian Institute of Science); Prasanta Kumar Ghosh (Indian Institute of Science);

00:00 3D Inverse Scattering Imaging Based on Machine Learning
Naike Du (Beijing Institute of Technology); Jing Wang (Beijing Institute of Technology); Xinhui Zhang (Beijing Institute of Technology); Xiuzhu Ye (Beijing Institute of Technology);

00:00 A Deep Learning-based Approach for Millimeter-wave Short-range Imaging
Tiantian Yin (National University of Singapore); Xudong Chen (National University of Singapore);

00:00 Physics-assisted Deep-learning for Microwave Tomography: Merging Inverse Scattering Techniques with Artificial Intelligence
A. Yago Ruiz (IREA — Institute for Electromagnetic Sensing of the Environment); Rosa Scapaticci (Institute for Electromagnetic Sensing of the Environment); Roberta Palmeri (National Research Council); Marta Cavagnaro (Sapienza University of Rome); Lorenzo Crocco (National Research Council);

00:00 Electromagnetic Inverse Scattering via Deep Learning
Invited
Martina Teresa Bevacqua (Università Mediterranea di Reggio Calabria); Cosimo Ieracitano (Università Mediterranea di Reggio Calabria); Nadia Mamone (Università Mediterranea di Reggio Calabria); Francesco Carlo Morabito (Università Mediterranea di Reggio Calabria); Tommaso Isernia (Università Mediterranea di Reggio Calabria); Loreto Di Donato (University of Catania);

00:00 Electromagnetic Inverse Design via Inverse Scattering
Keynote and Deep Learning Procedures
Tommaso Isernia (Università Mediterranea di Reggio Calabria); R. Palmeri (National Council of Research (IREA-CNR)); A. Ruiz (National Council of Research (IREA-CNR)); R. Scapaticci (National Council of Research (IREA-CNR)); L. Crocco (National Council of Research (IREA-CNR));
00:00 Exploring Low Band 5G Technology Impact in Human Cerebral Organoids and Experimental Setup
Andrea Rosca (Instituto de Salud Carlos III, Chronical Diseases Research Functional Unit); Raquel Coronel (Instituto de Salud Carlos III, Chronical Diseases Research Functional Unit); Isabel Liste (Instituto de Salud Carlos III, Chronical Diseases Research Functional Unit); Oscar J. Sudrez (Direccion General de Telecomunicaciones y Tecnologias de la Informacion); Pablo Marina (Instituto de Salud Carlos III, Telemedicine and eHealth Research Unit); Victoria López (Instituto de Salud Carlos III, Chronical Diseases Research Functional Unit); Mónica Torres-Ruiz (Instituto de Salud Carlos III, Environmental Health National Center); Victoria Ramos (Health Institute Carlos III);

00:00 Implementation of Time Reversal Focusing on Hyperthermia Treatment of Brain Tumours
Michaela Černá (Czech Technical University in Prague); Tomas Drizdal (Erasmus MC, Daniel den Hoed Cancer Center);

00:00 Use of RF Signal Attenuation & Delay for the Detection of Pulmonary Oedema
Thomas Coombs (Cambridge University); Ari Ercole (University of Cambridge); Michael J. Crisp (University of Cambridge);

00:00 Antennas, Array, Theory and Applications 1

**Session 3A12**

**Wednesday AM, July 5, 2023**
**Room South Room 224**

00:00 Exploring Low Band 5G Technology Impact in Human Cerebral Organoids and Experimental Setup
Andrea Rosca (Instituto de Salud Carlos III, Chronical Diseases Research Functional Unit); Raquel Coronel (Instituto de Salud Carlos III, Chronical Diseases Research Functional Unit); Isabel Liste (Instituto de Salud Carlos III, Chronical Diseases Research Functional Unit); Oscar J. Sudrez (Direccion General de Telecomunicaciones y Tecnologias de la Informacion); Pablo Marina (Instituto de Salud Carlos III, Telemedicine and eHealth Research Unit); Victoria López (Instituto de Salud Carlos III, Chronical Diseases Research Functional Unit); Mónica Torres-Ruiz (Instituto de Salud Carlos III, Environmental Health National Center); Victoria Ramos (Health Institute Carlos III);

00:00 Overview of Methods for Collision Avoidance for Unmanned Aerial Vehicles
Petra Marcoň (Brno University of Technology); P. Raichl (Brno University of Technology); Jiří Janoušek (Brno University of Technology);

00:00 Multi-sensor Data Analysis in Terms of Autonomous Drone Flight without GPS
Gregoire Issassis (BURES-SUR-YVETTE); Petra Marcoň (Brno University of Technology); Jiří Janoušek (Brno University of Technology); Lukáš Venkříček (Brno University of Technology);

00:00 Concentration and Mobility of Air Ions in the Environment of the Cisarska Cave (Moravia)
Zdeněk Roubal (Brno University of Technology); Zoltán Szabó (Brno University of Technology); Radim Kadlec (Brno University of Technology); Lukáš Zdražil (Brno University of Technology);

00:00 Overview of Methods for Collision Avoidance for Unmanned Aerial Vehicles
Petra Marcoň (Brno University of Technology); P. Raichl (Brno University of Technology); Jiří Janoušek (Brno University of Technology);

**Session 3A11b**

**Extended/Unconventional Electromagnetic Theory, EHD(Electro-hydrodynamics)/EMHD(Electromagnetohydrodynamics), and Electro-biology**

**Wednesday AM, July 5, 2023**
**Room South Room 223**
Organized by Eva Gescheidtova
Chairied by Petr Marcoň

00:00 Investigating Different Coil Configurations during Magnetic Nanoparticles Hyperthermia for Prostate Cancer
Amro A. Nour (American University of Kuwait (AUK)); Fridon Shubitidze (Dartmouth College);

00:00 Sensing Plasma Jet Electromagnetic Signals
Roman Pernica (Brno University of Technology); Zoltán Szabó (Brno University of Technology); Jiří Zakal (Brno University of Technology); Radim Kadlec (Brno University of Technology); Miloš Klíma (Brno University of Technology); Pavel Fiala (Brno University of Technology);

00:00 Motion of a Charge Density and the Speed of Light in Vacuum Revisited
Namik Yener (Istanbul Gedik University);

00:00 Concentration and Mobility of Air Ions in the Environment of the Cisarska Cave (Moravia)
Zdeněk Roubal (Brno University of Technology); Zoltán Szabó (Brno University of Technology); Radim Kadlec (Brno University of Technology); Lukáš Zdražil (Brno University of Technology);

00:00 Overview of Methods for Collision Avoidance for Unmanned Aerial Vehicles
Petra Marcoň (Brno University of Technology); P. Raichl (Brno University of Technology); Jiří Janoušek (Brno University of Technology);

00:00 Multi-sensor Data Analysis in Terms of Autonomous Drone Flight without GPS
Gregoire Issassis (BURES-SUR-YVETTE); Petra Marcoň (Brno University of Technology); Jiří Janoušek (Brno University of Technology); Lukáš Venkříček (Brno University of Technology);
Session 3A13
Poster Session 4

Wednesday AM, July 5, 2023
14:00 PM - 18:00 PM
Room Forum Hall Foyer 1
Resonance Properties of Tamm-plasmon-polariton with Dual Photonic Crystals
Shih-Yuan Li (National Yang Ming Chiao Tung University); Jiu-Shian Huang (National Yang Ming Chiao Tung University); She-Chang Jeng (National Yang Ming Chiao Tung University);

Topological Zero Mode Induced by Local Non-Hermitian Modulation
Zhukua Deng (Huazhong University of Science and Technology); Dingshan Gao (Huazhong University of Science and Technology);

GHz-metasurface with Enhanced Permeability Bandwidth Consisting of Multi-Lorentzian Resonance Superposition
Yun Hyeong (Korea Advanced Institute of Science and Technology (KAIST)); Hyeonjin Park (Korea Advanced Institute of Science and Technology (KAIST)); Jonghua Shin (Korea Advanced Institute of Science and Technology (KAIST));

Study on the Tunable Bandgap of One-dimensional Anisotropic Weyl Semimetal Photonic Crystal Linlin Dai (Beijing University of Posts and Telecommunications); Limei Qi (Qufu Normal University);

Design of a Multi-layer Dual-band Frequency Selective Surface Bandpass Filter
Mohammad Nasrat Zaquin (Macquarie University); Ali Labbakhsh (Macquarie University);

Distinguishing Thermal from Non-thermal (“hot”) Carriers in Illuminated Molecular Junctions
Yonatan Dubi (Ben-Gurion University); Jung Wai Un (Ben-Gurion University); Yonatan Sivan (Ben-Gurion University);

Arduino-based Temperature Sensor Organization and Design
Daniils Aleksandrov Moisejs (Riga Technical University); Aleksandrs Ipatovs (Riga Technical University); Elans Grabs (Riga Technical University); Dmitrijs Prigunovs (Riga Technical University);

Demonstration of 512-TR-PPM Fiber Optical Transmission Link
Sandis Spolitis (Riga Technical University); Arturs Abolins (Riga Technical University);

Infrared Spectrum Regulation of One-dimensional Photonic Crystal Thin Films with Ge_Sb Te
Zichen Deng (Huazhong University of Science and Technology); Yarui Su (Huazhong University of Science and Technology); Peng Zhou (Huazhong University of Science and Technology); Xian Wang (Huazhong University of Science and Technology); Rongzhou Gong (Huazhong University of Science and Technology);

SiNx Passivation Effect for AlGaInP-based Red LEDs with the Same Light Emission Area and Different-sized Arrays
Je-Sung Lee (Gwangju Institute of Science and Technology (GIST)); Seung-Hyun Mun (Gwangju Institute of Science and Technology (GIST)); Kyung-Pil Kim (Gwangju Institute of Science and Technology (GIST)); Sunwoo Shin (Gwangju Institute of Science and Technology (GIST)); Dong-Seon Lee (Gwangju Institute of Science and Technology (GIST));

A Study on Circuit Components Based on Single-mode Sub-wavelength Grating NRD Guide
Kessuke Kazama (Muroran Institute of Technology); Akito Iguchi (Muroran Institute of Technology); Yasuhide Tsuji (Muroran Institute of Technology);

Leak Detection for Nuclear Safety Boundary System Using Heat and Radiation Resistant Fiber Bragg Grating Sensor
Youngwoong Kim (Korea Atomic Energy Research Institute); Young-Gwan Hwang (Korea Atomic Energy Research Institute); Gukbeen Ryu (Korea Atomic Energy Research Institute); Jong-Yeol Kim (Korea Atomic Energy Research Institute);

Optical Properties by Heterojunction of ZnO-nanorod and Graphene
Hak Dong Cho (Dongguk University); Juwon Lee (Dongguk University); Jong-Kuon Lee (Cheongju University); Deuk Young Kim (Dongguk University);

An Adaptive Spectrophotometer — Refractometer for Determinate of the Quality of Aqueous Solution
M. A. Mkrtchyan (Kotelnikov Institute of Radioengineering and Electronics, Fryazino Branch, RAS); V. Yu. Soldatov (Kotelnikov Institute of Radioengineering and Electronics, Fryazino Branch, RAS); Ferdenant A. Mkrtchyan (Kotelnikov Institute of Radioengineering and Electronics, Fryazino Branch, RAS);

Graphene Oxide Quantum Dots for Bioimaging
Sukhyun Kang (Korea Institute of Industrial Technology); Kang Min Kim (Korea Institute of Industrial Technology); Hyuksu Han (Konkuk University); Sungwook Mhin (Kyonggi University);

Localized Electron Wave Packets in Graphene Monolayer Induced by Non-classical Electromagnetic Field
Darya A. Starodubtseva (Lomonosov Moscow State University); Ekaterina N. Voronina (Lomonosov Moscow State University); Olga V. Tikhonova (Lomonosov Moscow State University);
Broadband Cavity-enhanced Extinction Measurements of Aerosol Extinction in a Coastal City of Kerala
Salma Jose (National Institute of Technology Calicut); Shebin John (National Institute of Technology Calicut); Arun P. Thomas (National Institute of Technology Calicut); Ashish George (National Institute of Technology Calicut); Abhilash Sukumarappillai (National Institute of Technology Calicut); K. Satheesan (National Institute of Technology Calicut); Ravi Varma (National Institute of Technology Calicut);

Study on the Electrospray Deposited PEDOT:PSS Thin Film Using an Electrohydrodynamic Jet Printer for Inverted Quantum Dots Light-emitting Diodes
Tuan Canh Nguyen (Hoseo University); Woon-Seop Choi (Hoseo University);

Determination of the Gouy Phase of Bessel-Gaussian Beams
Lyubomir Stoyanov (Friedrich Schiller University); Alexander Stefanov (Sofia University); Alexander Dreischuh (Sofia University “St. Kliment Ohridski”); Gerhard G. Paulus (Friedrich Schiller University);

Design of D-band Quasi Yagi-Uda Antenna on Low-loss Flexible Substrate for Beyond 5G and 6G Daisuke Yamanaka (AGC Inc.); Osamu Kagaya (Asahi Glass Co., Ltd);

Design and Implementation of Vivaldi Antenna with Modified Marchand Balun for V2X Communication
Joko Suryana (Bandung Institute of Technology); Zharfa Haidan Nafiah (Bandung Institute of Technology); Zulfi (Bandung Institute of Technology); Achmad Munir (Bandung Institute of Technology);

Characterization of Rainfall Rate Distribution for Satellite Networks
Guangguang Yang (Foshan University); Yuanzxin Song (Foshan University); David Ndzu (University of the West of Scotland); Hui Duan (Foshan University);

Impact of Two-handed Grip on Quasi-omnidirectional Coverage of mmWave 5G Handset
Christopher Patrick Larmour (Queen’s University Belfast); Yangli Li (Queen’s University Belfast); Aobo Li (Queen’s University Belfast); Neil Buchanan (Queen’s University Belfast); Vincent F. Fusco (Queen’s University Belfast); Dmitriy E. Zelenchuk (Queen’s University Belfast); Muhammad Ali Babar Abbasi (Queen’s University Belfast);

Design and Analysis of a Compact Frequency Beam-scanning Leaky-wave Antenna Based on Slow-wave Half-mode Substrate Integrated Waveguide and Roof Surface Plasmon Polariotons
Yuxi Liu (South China Normal University); Yuming Zhang (Zhejiang University); Sailing He (Royal Institute of Technology & Zhejiang University);

A Novel Frequency Modulation Receiver Built in System on a Programmable Chip Based on Digital Signal Processing Technique
Ya Ming Xie (Tongji University); Guo Chun Wan (Tongji University); Mei Song Tong (Tongji University);

A Multiband Dipole Antenna Based on Mandelbrot Fractal Geometry
Wei Jia Dou (Tongji University); Ming Xuan Li (Tongji University); Yuan Chu Xu (Tongji University); Dan Ni Lin (Tongji University); Mei Song Tong (Tongji University);

Design and Characterization of RF Power Amplifier Driven by GaN Transistor for 5G Communication
Sarah Rahagu (Institut Teknologi Bandung); Junas Haidi (Institut Teknologi Bandung); Achmad Munir (Institut Teknologi Bandung);

Modelling of the Powerline Communication Bursty Impulsive Noise
Florence Chelangat (University of KwaZulu-Natal (UKZN)); Thomas Joachim Odhiambo Afallo (University of KwaZulu-Natal (UKZN));

Optimal Side-lobe Reduction Technique for Series-fed Microstrip Patch Antennas in Sub-THz
Jaewoong Jung (Korea Electronics Technology Institute); Yansik Park (Korea Electronics Technology Institute); Jongin Ryu (Korea Electronics Technology Institute);

Beamforming Techniques for Terminal Tracking in Next-generation Fare Payment System
Dong-Jin Lee (Korea Railroad Research Institute); Tae-Ki An (Korea Railroad Research Institute); Kyung-Hee Kim (Korea Railroad Research Institute); Jong-Gyu Hwang (Korea Railroad Research Institute);

An Accurate Anti-collision Algorithm of Chipless RFID Tags Based on Deep Learning
Jintao Yang (Shanghai University of Engineering Science); Shu Jia Yan (Shanghai University of Engineering Science); Qiang Chen (Shanghai University of Engineering Science); Ji Yuan Duan (Tongji University); Mei Song Tong (Tongji University);

Equal Filtering Power Divider for WIFI Application
Eugene A. Ogodho (University of Hertfordshire, College Lane); Azurka N. Ukala (University of Hertfordshire, College Lane);

All Metal Focused Transmitarray Antenna Using II Shaped Slot Elements for Microwave Measurements
Zheng Zhang (Xidian University); Yiwei Zhai (Xidian University);

Design and Performance Analysis of a Dielectric-less, Thin and Sturdy Slotted Array Antenna for High Power and Mobile-satellite Applications
Md Zahidul Islam (Macquarie University); Mst Nishat Yasmin Koli (Macquarie University); Ali Labbakhsh (Macquarie University);

Novel SSPP Sensor System with Octagon-shaped Unit Cell for Liquid Analyte Dielectric Constant Detection
Shaik Amanwali (SRM University AP Andhrapradesh); Rishitej Chaparla (SRM University AP Andhrapradesh); Sreenivasulu Tapakula (SRM University AP Andhrapradesh); K. M. Divya Chaturvedi (SRM University-AP);
Optimization of Particle-light Scattering for Maximal Polariton Smith-Purcell Emission

Invited

David Barcons Ruiz (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology); Eduardo J. C. Dias (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology); F. Javier García de Abajo (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology);

00:00 Gate-tunable Negative Refraction of Mid-infrared Polaritons

Hai Hu (CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology); Na Chen (CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology); Hanchao Teng (CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology); Renwen Yu (Stanford University); Mengfei Xue (The Institute of Physics, Chinese Academy of Sciences); Ke Chen (CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology); Yuchuan Xiao (CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology); Yunpeng Qu (CAS Center for Excellence in Nanoscience, National Center for Nanoscience and Technology); De-Bo Hu (National Center for Nanoscience and Technology); Jianing Chen (Institute of Physics, Chinese Academy of Science); Zhipei Sun (Aalto University); Peining Li (Huazhong University of Science and Technology); F. Javier García de Abajo (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology); Qing Dai (National Center for Nanoscience and Technology);

00:00 Hyperbolic Polaritons Interacting with Molecules

Invited

Alexey Yu. Nikitin (Donostia International Physics Center (DIPC));

00:00 Transverse Polaritonic Hypercrystals

Invited

Hanan Herzig Sheinfux (ICFO); Minwoo Jung (Cornell University); Lorenzo Orsini (ICFO); Matteo Ceccanti (ICFO); Aditya Mahalanabis (Cornell University); Daniel Martinez-Cercós (ICFO); Jacopo Torre (ICFO); David Barcons Ruiz (ICFO); Eli Janzen (Kansas State University); James H. Edgar (Kansas State University); Valerio Pruneri (ICFO); Gennady Shvets (Cornell University); Frank H. L. Koppens (ICFO — The Institute of Photonics Sciences (Barcelona));

00:00 Image Polaritons in van der Waals Crystals

Invited

Min Seok Jang (Korea Advanced Institute of Science and Technology);

00:00 Phonon Polariton Metamaterials

Keynote

Luis Martin-Moreno (Universidad de Zaragoza);

00:00 Hyperbolic Polaritonics in Bulk Natural Crystals

Invited

Guangwei Hu (Nanyang Technological University);

Session 3P1b

AI in Nanophotonic and Metamaterials Design

Wednesday PM, July 5, 2023

Room Club E

Organized by Mehdi Keshavarz-Hedayati

Chaired by Mehdi Keshavarz-Hedayati
00:00 High-baudrate SiP and InP Modulators for Future Artificial Intelligence Photonic-assisted Hardware
Oskars Ozolins (Riga Technical University); Armands Ostrovsks (Riga Technical University); Toms Salgals (Riga Technical University); Benjamin Krüger (Keysight Technologies Deutschland GmbH); Fabio Pittalà (Keysight Technologies Deutschland GmbH); Mahdieh Jorjarifar (KTH Royal Institute of Technology); Richard Schatz (Royal Institute of Technology (KTH)); Di Che (Nokia Bell Labs); Yasuhiro Matsui (Coherent); Thomas Dippon (Keysight Technologies Deutschland GmbH); Michael Koenigsmann (Keysight Technologies Deutschland GmbH); Yuchuan Fan (RISE Research Institutes of Sweden); Marek Chacinski (Royal Institute of Technology (KTH)); Urban Westergren (KTH Royal Institute of Technology); Lu Zhang (Zhejiang University); Haik Mardoyan (Nokia Bell Labs); Sandis Spolitis (Riga Technical University); Sergey Popov (KTH Royal Institute of Technology); Xianbin Yu (Zhejiang University); Markus Gruen (Keysight Technologies Deutschland GmbH); Vjaceslav Bobrows (Riga Technical University); Hadrien Louchet (VPI Photonics GmbH); Xiaodan Pang (KTH Royal Institute of Technology);

00:00 Deep Learning Enabled Inverse Design of Multifunctional Metasurfaces
Wei Ma (Zhejiang University);

00:00 Routing, Switching and Computing Using Electromagnetic Waves
Victor Pacheco-Pena (Newcastle University);

00:00 Optical Metasurface Design via Machine Learning and Genetic Algorithm
Lei Xu (Nottingham Trent University);

00:00 Waves for AI: From ELM and RC to Deep Neural Networks
Ali Momeni (Swiss Federal Institute of Technology in Lausanne (EPFL)); Romain Fleury (Swiss Federal Institute of Technology in Lausanne (EPFL));

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Session 3P2
Organic, Perovskite, and Quantum Dot Optoelectronics 3

Wednesday PM, July 5, 2023
Room Club D
Organized by Taewoo Lee, Wallace C. H. Choy
Chaired by Wallace C. H. Choy

00:00 Energy Landscaping in Layered Perovskite Emitters
Keynote
Tze Chien Sum (Nanyang Technological University);

00:00 Multidentate Ligands for Enhanced Bandgap Stability
Invited in Red and Blue Perovskite LEDs: Current Progress and Future Directions
Yasser Hassan (Qatar University);

00:00 Organic Photodetectors for Biometric Monitoring and
Invited Machine Learning-promoted Intelligent Detection
Bing-Huang Jiang (Ming Chi University of Technology); Chih-Ping Chen (Ming Chi University of Technology);

00:00 All-in-one Process for Color Tuning and Patterning of
Invited Perovskite Quantum Dot Light-emitting Diodes
Jung-Yong Lee (Korea Advanced Institute of Science and Technology (KAIST));

00:00 Micro- and Nanopatterning of Halide Perovskites with
Invited Crystal Engineering for Emerging Photoelectronics
Beomjin Jeong (Ewha Womans University); Hyoun Han (Yonsei University); Cheolmin Park (Yonsei University);

00:00 Strategies for Improving the Performance of Sn-based
Invited Perovskite Solar Cells
Feng Yan (The Hong Kong Polytechnic University);

00:00 Recent Advances in Organic Solar Cell Technology
Keynote
Gang Li (Hong Kong Polytechnic University);

00:00 Defect Engineering of Metal-halide Perovskites for Next-generation Optoelectronic Devices
Hobeom Kim (Gwangju Institute of Science and Technology (GIST));

00:00 Exploring Intersystem Crossing in Rashba Band Structures towards Harvesting Light-emitting Excitons Based on 2D-superlattice Perovskite
Bin Hu (University of Tennessee);

00:00 Unraveling the Origin of Spectral Instability of Perovskite Light-emitting Diodes and Pioneering Deep-blue Emissive Quasi-2D Perovskites
Dong Ha Kim (Ewha Womans University);

00:00 Ultra-stable and Efficient Perovskite Light-emitting Diodes
Dawei Di (Zhejiang University);

00:00 Ultralow-voltage Operation of Light-emitting Diodes
Yaziao Lian (Zhejiang University); Dongchen Lan (Zhejiang University); Shiyu Xing (Zhejiang University); Bingbing Guo (Zhejiang University); Zhixiang Ren (Zhejiang University); Runchen Lai (Zhejiang University); Chen Zou (Zhejiang University); Baodan Zhao (Zhejiang University); Richard H. Friend (University of Cambridge); Dawei Di (Zhejiang University);
00:00 Beam Shaping and Measurement Based on All-integrated Reconfigurable Meshes — A New Tool for Microscopy
Peter Bänzer (University of Graz); J. Büttow (University of Graz); V. Sharma (University of Graz); D. Brandmüller (University of Graz); J. S. Eismann (Max Planck Institute for the Science of Light);

00:00 Interferometric Scattering Detection and Microscopy
Keynote
Vahid Sandoghdar (Max-Planck-Institute for the Science of Light);

00:00 Discriminative Non-destructive Testing from Different Chip Layers by Photoacoustic Remote Sensing
Jijing Chen (Tianjin University); Yihan Pi (Tianjin University); Jiao Li (Tianjin University); Zhen Tian (Tianjin University);

00:00 Multiscale Modeling and Analysis for High-fidelity Interferometric Scattering Microscopy
Shupet Lin (Huazhong University of Science and Technology); Pu Zhang (Huazhong University of Science and Technology); Marek Piliarik (Institute of Photonics and Electronics of the CAS); Xuewen Chen (Huazhong University of Science and Technology);

Session 3P3b
Optica Fiber Sensing and Instrument

Wednesday PM, July 5, 2023
Room Club C
Organized by Dengwei Zhang
Chaired by Dengwei Zhang

00:00 Fiber Optic Devices for High-resolution Refractive Index Sensing
S. Pevec (University of Maribor); M. Njegovec (University of Maribor); J. Javornik (University of Maribor); Denis Donlagic (University of Maribor);

00:00 Nanoprinted On-chip Hollow-core Waveguides: A Novel Platform for Integrated Gas Sensing
Markus A. Schmidt (Institute of Photonic Technology);

00:00 Two-stage Preamplification for ϕ-OTDR Distributed Acoustic Sensing
Leonardo Rossi (IMM Institute); Lun-Kai Cheng (TNO); Win De Jong (TNO); Rob Jansen (TNO); Gabriele Bolognini (Consiglio Nazionale delle Ricerche, IMM Institute);

00:00 Optical Fibers Shape Sensing Accuracy under Different Uncertainty Sources: A Monte Carlo Experiment
Francesco Palietelli (Università degli Studi di Bologna); Leonardo Rossi (IMM, National Research Council); Filippo Bastianini (SOCOTEC Photonics); Gabriele Bolognini (IMM, National Research Council); Raffaella Di Sante (University of Bologna);
Mid-infrared Optical Fiber Sensors for Non-invasive Identification of (Bio)chemicals
Jean-Luc Adam (Université de Rennes 1); Catherine Boussard-Pdélél (University of Rennes 1); Xiang Hua Zhang (Université de Rennes, CNRS, ISCR (Institut des Sciences Chimiques de Rennes) — UMR 6226);

Evaluation Study on Remote Radiation Sensor Using Long Liquid Light Guide
Jae Hyung Park (Chung-Ang University); Jinhong Kim (Chung-Ang University); Siwon Song (Chung-Ang University); Seunghyeon Kim (Chung-Ang University); Bongsow Lee (Chung-Ang University);

Optical Fiber Sensing Probe for Asphaltene Monitoring in Crude Oil
V. Sarakatsianos (Institute of Electronic Structure and Laser — Hellas (FORTH)); E. Antoniou (Technical University of Crete); E. Chamalaki (Technical University of Crete); Maria Konstantaki (Foundation for Research and Technology-Hellas (FORTH)); N. Pasadakis (Technical University of Crete); Stauros Pissadakis (Institute of Electronic Structure and Laser (IESL));

Predicted Useful Life-time of an Optical Silica Fiber Intended for Space Applications
Ephraim Suhr (Portland State University);

Plasmonic SnO₂ Nanocomposite with Segregated Ag Particles for Gas Sensor Application
Peter I. Gaiduk (Belarusian State University);

Session 3P4a
Power Electronics

Wednesday PM, July 5, 2023
Room Club B
Organized by Jiri Lettl
Chaired by Jiri Lettl

High-efficiency and High-power-density Semiconductor Converters
Jiri Lettl (Czech Technical University in Prague); Tomas Kupka (Czech Technical University in Prague); Pavel Skarolek (Czech Technical University in Prague); Jiri Zdenek (Czech Technical University in Prague);

Time Variable Dead-time in GaN Based Bridgeless Converter
Pavel Skarolek (Czech Technical University in Prague); Jiri Lettl (Czech Technical University in Prague);

Output Power Change Analysis at Temperature Variation in Case of Synchronous Bi-directional DC/DC Converter Using Wide Band Gap Devices
Kusuma Priya Krovi (Czech Technical University in Prague); Pavel Skarolek (Czech Technical University in Prague); Jan Bauer (Czech Technical University in Prague); Jiri Lettl (Czech Technical University in Prague);

Limiting the Interference of Semiconductor Converters on the Power Supply Network Using Tuned Filters
Petr Kofinek (Skybergtech s.r.o.); Lubomír Musálek (CTU FS); Jaroslav Novák (CTU FS);

Comparison of Estimation Techniques for Railway Traction Vehicle Wheel Slip Control
Petr Pichlík (Czech Technical University in Prague); Jiri Zdenek (Czech Technical University in Prague); Jiri Lettl (Czech Technical University in Prague);

A Hybrid Electromagnetic-triboelectric Nanogenerator as a Self-powered Sensor for Moving Directions
Snezana M. Djuric (University of Novi Sad); Jelena M. Bjeleka (University of Novi Sad); Nikola M. Djuric (University of Novi Sad);

THD Analysis of Converter Power Station 25 kV 50 Hz
Ladislav Cerman (University of Pardubice); Ondřej Sadílek (University of Pardubice); Vlastimal Hebelka (University of Pardubice);

Efficiency Analysis of the 25 kV/50 Hz Traction Network with Static Frequency Converters
Ladislav Mynář (University of Pardubice); Vlastimil Hebelka (University of Pardubice); Jaroslav Novák (University of Pardubice); Ondřej Sadílek (University of Pardubice); Jiri Lettl (Czech Technical University in Prague);

Wireless Energy System with Three-dimensional Transmitting Coil for Capsule Endoscope
Liangmengcheng Zhu (University of Science and Technology of China);

Session 3P4b
State-of-the-Art Terahertz Science and Technology

Wednesday PM, July 5, 2023
Room Club B
Organized by Massimo Petrarca
Chaired by Massimo Petrarca

Study of Paraffin-embedded Lung Cancer Tumor Using Terahertz Splicing Spectroscopy
Huimin Wang (China University of Petroleum (East China)); Bin Wang (China University of Petroleum); Lanchang Xing (China University of Petroleum); Muzhi Gao (China University of Petroleum (East China)); Jiaqin Deng (Ceyear Technologies Co., Ltd); Chuan Li (The Affiliated Hospital of Qingdao University); Linlin Qu (The Affiliated Hospital of Qingdao University); Shihong Shao (The Affiliated Hospital of Qingdao University);
A Novel Particle in Liquid Biosensor Based on Terahertz Spoof Surface Plasmon Polariton Transmission Line
Muzhi Gao (China University of Petroleum (East China)); Jianqin Deng (41st Institute of China Electronic Technology Group Corporation); Bin Wang (China University of Petroleum); Lanchang Xing (China University of Petroleum); Linlin Qu (The Affiliated Hospital of Qingdao University); Dawei Jiang (China University of Petroleum (East China)); Gaoyang Zhu (Shandong University of Science and Technology);

Terahertz Continuous-waves Spectroscopy (THz-CW): A Reliable High-resolution Approach Applied to the Cultural Heritage Field for the Characterization of Coloring Materials
Candida Moffa (Sapienza University of Rome); Fernando Piamonte Magbo Jr. (Sapienza University of Rome); Luigi Palumbo (Sapienza University of Rome); Anna Candida Felici (Sapienza University of Rome); Massimo Petrarra (Sapienza University of Rome);

THz Transition from Fano Resonances to Bound States in the Continuum in 3D Printed Photonic Structures
Mauro Missori (Institute for Complex Systems, National Research Council (ISC-CNR)); Laura Pilozzi (Institute for Complex Systems, National Research Council (ISC-CNR)); Claudio Conti (University Sapienza);

Single-shot Ultrafast Imaging with Terahertz Waves
Junliang Dong (Institut National de la Recherche Scientifique (INRS-EMT)); Pei You (Institut National de la Recherche Scientifique (INRS-EMT)); Alessandro Tomasinio (Institut National de la Recherche Scientifique (INRS-EMT)); Aykan Yurtsever (Institut National de la Recherche Scientifique (INRS-EMT)); Roberto Morandotti (Institut National de la Recherche Scientifique (INRS-EMT));

Comb Emission of a THz QCL Characterized by Fourier Transform Analysis over Different Current Regimes
Francesco Cappelli (CNR-INO — Istituto Nazionale di Ottica — Italian National Institute of Optics); A. Sorgi (CNR-INO, Istituto Nazionale di Ottica); R. Eramo (CNR-INO, Istituto Nazionale di Ottica); Paolo De Natale (CNR-INO, Istituto Nazionale di Ottica); E. Riccardi (NEST, CNR — Istituto Nanoscienze and Scuola Normale Superiore); V. Pistore (NEST, CNR — Istituto Nanoscienze and Scuola Normale Superiore); M. S. Vitiello (NEST, CNR — Istituto Nanoscienze and Scuola Normale Superiore); Luigi Consolino (INO, Istituto Nazionale di Ottica — CNR);

On the THz Radiation Mechanisms at the Base of On-axis Emission in Relativistic Laser-plasma Interactions
Alessandro Curcio (INFN LNF);
00:00 Saturated-absorption CAvity Ring-down (SCAR) Spectroscopy for Molecular Detection in Real-world Applications down to ppq Sensitivity
Saverio Bartalini (CNR — INO, Istituto Nazionale di Ottica); Pablo Cancio Pastor (CNR-INO — Istituto Nazionale di Ottica); M. G. Delli Santi (CNR-INO — Istituto Nazionale di Ottica); Iacopo Galli (CNR-INO, Istituto Nazionale di Ottica); G. Giusfredi (PqSense S.r.l.); Pasquale Maddaloni (CNR-INO, Istituto Nazionale di Ottica); Davide Mazzotti (CNR-INO, Istituto Nazionale di Ottica); Paolo De Natale (CNR-INO, Istituto Nazionale di Ottica);

00:00 Spectroscopic Measurements of Pollution and Climate — Some Recent Developments
M. K. Ravi Varma (National Institute of Technology Calicut);

00:00 Gas Spectroscopy Approaches Exploiting Tuning Fork-based Light Detectors for Both Contact and Non-contact Sensing
Angelo Sampaolo (University and Politecnico di Bari); Pietro Patimisco (Università degli Studi di Bari and Politecnico di Bari); Andrea Zifarelli (Università degli Studi di Bari and Politecnico di Bari); Gianluca Giglio (Politecnico and University of Bari); Michele Gianella (Politecnico di Bari); Angelo Sampaolo (University and Politecnico of Bari);

00:00 Precise Control of Mid-IR QCL Frequency Combs for High Resolution Gas Spectroscopy
Gerard Wysocki (Princeton University);

00:00 Around the “Atmospheric World” under a Balloon: A Long-duration Observation of the Equatorial Tropopause with the Pico-SDLA Tunable Diode Laser Spectrometers
Melanie Ghysels-Dubois (Université de Reims); Georges Durruty (UFR Sciences Exactes et Naturelles); Nadir Amarouche (INSU Division Technique); Emmanuel Riviere (Université de Reims); Fabien Frérot (INSU Division Technique); Jean-Christophe Samake (INSU Division Technique); Albert Hertzog (CNRS, Laboratoire de Météorologie Dynamique); Riwal Plougonven (CNRS, Laboratoire de Météorologie Dynamique);

00:00 Agricultural Greenhouse Gas Emissions through Open-path Laser Spectroscopy
Mark A. Zondlo (Princeton University);

00:00 Mid-IR Spectroscopy with a Cryo-cooled Multipass Cell for Rare Isotopic Species in Environmental Applications
Bela Tuzson (Laboratory for Air Pollution/Environmental Technology); A. Nataraj (Laboratory for Air Pollution/Environmental Technology); Michele Gianella (Laboratory for Air Pollution/Environmental Technology); Jerome Faist (ETH Zurich); Lukas Emmenegger (Laboratory for Air Pollution/Environmental Technology);

00:00 Multi-mode Fiber Evanescent Field Sensor for Measurement of Liquids Based on Spectral Modal Interference Pattern
Maryam Maleki (Clausthal University of Technology); Günter Flächeneker (Fraunhofer Heinrich Hertz Institute); Wolfgang Schade (Fraunhofer Heinrich Hertz Institute); Ulrike Willer (Clausthal University of Technology);

00:00 Direct Measurement of HO2 Radical Concentration Using Cavity-enhanced Absorption Spectroscopy in the Near-infrared Spectral Region
Minh-Nhu Ngoc (Université du Littoral Côte d’Opale); Tong Nguyen-Ba (Université du Littoral Côte d’Opale); Christa Fittschen (Université de Lille); Cordic Schoemancker (Université de Lille); Melanie Ghysels-Dubois (Université de Reims); Wei Dong Chen (Université du Littoral Côte d’Opale);

Session 3P6a
Optical Metasurfaces for Novel Applications

Wednesday PM, July 5, 2023
Room Terrace 2A
Organized by Tao Li
Chaired by Tao Li

00:00 Metasurface-enabled Multifunctional Holographic Display
Cheng Zhang (Huazhong University of Science and Technology);

00:00 Tailoring the Optical Lineshapes of Metasurfaces
Xiaoying Zheng (Fudan University); Jing Lin (Fudan University); Xiuyue Zhang (Fudan University); Qiu Meng (Fudan University); Shiyi Xiao (Fudan University); Qiong He (Fudan University); Lei Zhou (Fudan University);

00:00 Metalenses for Emerging Virtual Reality and Augmented Reality
Haowen Liang (Sun Yat-Sen University);

00:00 Multi-dimensional Dielectric Metasurfaces Driven by Advanced Nanofabrication
Yue Qiang Hu (Hunan University);

00:00 Planar Wide-angle-imaging Camera Enabled by Metalens Array
Ji Chen (Southeast University);

00:00 Smith-purcell Radiation from Highly Mobile Carriers in 2D Quantum Materials
Wu Lin (Singapore University of Technology and Design (SUTD));

00:00 Transparent Materials with Diffuse Reflection
Hong Chen Chu (Nanjing University); Xiang Xiong (Nanjing University); Tongtong Song (Nanjing University); Ru-Wen Peng (Nanjing University); Mu Wang (Nanjing University); Yun Lai (Nanjing University);
00:00 Large-scale Achromatic Flat Lens by Light Coherence Optimization
Xingjian Xiao (Nanjing University); Yunwei Zhao (Nanjing University); Xin Ye (Nanjing University); Chen Chen (Nanjing University); Xinnou Lu (Southern University of Science and Technology); Yansen Rong (Southern University of Science and Technology); Junhong Deng (Southern University of Science and Technology); Guizin Li (Southern University of Science and Technology); Shi-Ning Zhu (Nanjing University); Tao Li (Nanjing University);

00:00 Chip-scale Metalens Microscope for Wide-field and Depth-of-field Imaging
Xin Ye (Nanjing University); Xiao Qian (Nanjing University); Xingjian Xiao (Nanjing University); Chen Chen (Nanjing University); Shi-Ning Zhu (Nanjing University); Tao Li (Nanjing University);

Session 3P6b
Metasurfaces and 2D Metamaterials in Microwave Region

Wednesday PM, July 5, 2023
Room Terrace 2A
Organized by Jian Jia Yi, Shah Nawaz Burokur
Chaired by Jian Jia Yi

00:00 Design of Metagratings for Manipulating Wavefronts
Z. Tan (Xi’an Jiaotong University); J. Yi (Xi’an Jiaotong University); Badreddine Ratni (Paris Nanterre University); Shah Nawaz Burokur (Paris Nanterre University);

00:00 Dual-band Maximal Intrinsic Chirality Empowered by a Pair of Bound States in the Continuum
Xin Qi (Tongji University); Yong Sun (Tongji University); Hong Chen (Tongji University); Chao Wu (Tongji University);

00:00 Local Design and Global Optimization of Cloak Using Neural Network
Zheng Zhen (Zhejiang University); Bin Zheng (Zhejiang University); Chao Qian (Zhejiang University); Huan Lu (Zhejiang University); J. Q. Chen (China Aeronautical Establishment); Y. N. B. Han (China Aeronautical Establishment); S. Q. Zhang (Zhejiang University); Hongsheng Chen (Zhejiang University);

00:00 Spectroscopic Study of the Excitonic Structure in Monolayer MoS2 under Multi-variate Physical and Chemical Stimuli
Viktor Bender (Humboldt-Universitat zu Berlin); Tobias Bucher (Friedrich-Schiller-Universitat Jena); Nasim Mohammed (Friedrich Schiller University Jena); Yuzuan Xie (Friedrich Schiller University Jena); Isabelle Staude (Friedrich-Schiller-Universitat Jena); Falk Eilenberger (Friedrich Schiller University); Kurt Busch (Max-Born Institute for Nonlinear Optics and Short Pulse Spectroscopy); Thomas Pertsch (Friedrich-Schiller-Universitat); Bayarjargal N. Tugchin (Friedrich Schiller University Jena);

00:00 Design of Non-resonant High-transmission Metasurfaces with Ultra-wide Bandwidth and Flexible Operating Frequencies in Microwave Region
Xiaojing Li (Tongji University); Wuan Zheng (Tongji University); Tong Hao (Tongji University);

00:00 Transmission Meta-cloak of Multi-layer Metasurfaces in X-band
Ruichen Li (Zhejiang University); Bin Zheng (Zhejiang University); Peng Li (China Aeronautical Establishment); Yajing Han (China Aeronautical Establishment); Hongsheng Chen (Zhejiang University);

00:00 Design of Switchable Frequency Selective Rasorber Based on Embedded Diamond Resonator
Yi Li (Xi’an University); Peng Ren (Xi’an University); Ruijie Chen (Xi’an University); Zheng Xiang (Xi’an University);

Session 3P7
Physical and Topological Properties of Waves in Complex Media 2

Wednesday PM, July 5, 2023
Room Terrace 2B
Organized by Igor Tsukerman, Andrei V. Lavrinenko
Chaired by Igor Tsukerman, Andrei V. Lavrinenko

13:30 Electromagnetic Phenomena at Time Interfaces in Bianisotropic Media
M. H. Mostafa (Aalto University); M. S. Mirmoosa (Independent Researcher); Sergei A. Tretyakov (Aalto University);

14:00 Photonic Network Meta-crystals: From Non-Abelian Topology to Hedgehog Surface States
Che Ting Chan (The Hong Kong University of Science and Technology);

14:20 A Semi-analytical Theory for Photonic Materials Structured in Space and Time
Carsten Rockstuhl (Karlsruhe Institute of Technology); A. Lamprianidis (Karlsruhe Institute of Technology); P. Garg (Karlsruhe Institute of Technology); D. Beutel (Karlsruhe Institute of Technology);
14:40 Reflecting a Microwave Pulse with a Fast, Photodiode Controlled Time-boundary in a Microstrip Line
Thomas R. Jones (Purdue University); Alexander V. Kildishev (Purdue University); Dimitrios Peroulis (Purdue University);

14:55 Invited
Continuum of Bound States in a Non-Hermitian Model
Yidong Chong (Nanyang Technological University); Qiang Wang (Nanyang Technological University); C. Zhu (Nanyang Technological University); X. Zheng (Nanyang Technological University); H. Xue (Nanyang Technological University); B. Zhang (Nanyang Technological University);

15:15 Chirality-induced Topological Phase in Plasmonic Metasurfaces
Leeju Singh (Ariel University); Maayan Fox (Ariel University); Yuri Gorodetski (Ariel University);

16:00 Topological Photonics in Lattices of Sub-wavelength Resonators
Sergey E. Skipetrov (Universit´e Grenoble Alpes, CNRS, LPMMC); Pierre Walles (Universit´e Grenoble Alpes, CNRS, LPMMC);

16:15 Low-symmetrical Topological Graphene Metasurfaces with Quantum Valley and Spin Hall Effects
Long Chen (Southeast University); Zhuhao Lan (University College London); Xiong Wei Wu (Southeast University); Qian Ma (Southeast University); Jianwei You (Southeast University); Tie Jun Cui (Southeast University);

16:30 Invited
Nonlinearity, Fast and Slow, and How to Enhance Them, Intrinsically or Extrinsically
Jacob B. Khurgin (Johns Hopkins University);

17:00 Time-reversal Asymmetry in Nonlinear Metasurfaces
S. Boroviks (Swiss Federal Institute of Technology Lausanne (EPFL)); Andrei Kisilev (Swiss Federal Institute of Technology Lausanne (EPFL)); Karim Achouri (Swiss Federal Institute of Technology Lausanne (EPFL)); Olivier J. F. Martin (Swiss Federal Institute of Technology Lausanne (EPFL));

17:20 Topological Photonics as a Tool for Precision Measurement of Mechanical Forces
R. Sato (Technical University of Denmark); C. V. Bertelsen (Technical University of Denmark); M. Dimaki (Technical University of Denmark); W. E. Swendsen (Technical University of Denmark); Andrei V. Lavriienko (Technical University of Denmark);

17:35 Understanding Acoustic Bound States in the Continuum from a Topological Perspective
Francesc Alcina (Catalan Institute of Nanoscience and Nanotechnology (ICN2));

17:50 Invited
Topology Optimization of Periodic Media and Devices for Wave-phenomena
Rasmus Ellebæk Christiasen (Technical University of Denmark);
Session 3P9
Advanced Numerical Methods and Techniques in Computational Electromagnetics 2

Wednesday PM, July 5, 2023
Room South Room 221
Organized by Mei Song Tong, Maokun Li, Gaobiao Xiao
Chaired by Mei Song Tong, Gaobiao Xiao

00:00 Polarizability of a Semiconductor Nanoparticle as a Generalized Network Function
Zi Wang (Illinois Institute of Technology); Thomas T. Y. Wong (Illinois Institute of Technology);

00:00 Wide-angle Metasurface Polarization Converter Based on Corner-truncated Square Patch
Xiaoyi Wang (Ecole Polytechnique de Montreal); Guo-Min Yang (Fudan University); Wei-Ran Li (Fudan University);

00:00 A 2-bit Reconfigurable Metasurface Element with Integrated Phase Shifters
Wei-Ran Li (Fudan University); Xiaocha Liu (Fudan University); Guo-Min Yang (Fudan University); Ya-Qiu Jin (Fudan University);

00:00 Ionospheric Effects and Correction of Earth Low Band Spaceborne Down-looking Radar Signals
Yunlong Dong (Fudan University); Hongxia Ye (Fudan University);

00:00 Computation of the Physical Optics Integral on T-spline Surfaces
Ruoming Zhang (Zhejiang University); Han Wang (Zhejiang University); Yuhao Shen (Zhejiang University); Xirun Yin (Zhejiang University); Lizen Yang (Zhejiang University); Yuzuan Li (Zhejiang University); Hai Lin (Zhejiang University);

00:00 Solving Drift Diffusion Equations on Non-uniform Spatial and Temporal Domains
Ergun Simsek (University of Maryland Baltimore County); Ishraaq Md Anjum (University of Maryland Baltimore County); Curtis R. Menguk (University of Maryland Baltimore County);

00:00 Comprehensive Analysis of a Slow Wave Structure for an X-band MILO
Sofia Bertolami (University of Roma “Tor Vergata”); Lorenzo Valletti (University of Rome “Tor Vergata”); Stefano Fantauzzi (University of Rome “Tor Vergata”); Franco Di Paolo (University of Roma “Tor Vergata”);

00:00 Rapid Prediction of Wide Angular Optical Responses from Composite Plasmonic Nanoparticles
Ting Wan (Nanjing University of Posts and Telecommunications); Zhengwen Liao (Nanjing University of Posts and Telecommunications); Shihao Ma (Nanjing University of Posts and Telecommunications); Shang Li (Nanjing University of Posts and Telecommunications); Xuechun Wang (Nanjing University of Posts and Telecommunications);

00:00 GPU Acceleration of Method of Moment (MoM) Code Using OpenACC
G. Akshaya (Indian Institute of Science); Yoginder Kumar Negi (Indian Institute of Science); N. Balakrishnan (Indian Institute of Science);

00:00 Tridiagonal Preconditioner for Volume Electric Field Integral Equation Solution
Yoginder Kumar Negi (Indian Institute of Science); N. Balakrishnan (Indian Institute of Science);

00:00 High-efficiency and High-resolution Diffraction Grating in the Near-IR Region
Yiming Liu (Huawei Technologies Co., Ltd.); Konstantin Biloshenko (Huawei Technologies Co., Ltd.); Emil Aslanov (Huawei Technologies Co., Ltd.); Fernando Munoz Fernandez (Huawei Technologies Co., Ltd.);

00:00 An SIE-GSTC Solver for Simulation of Three-dimensional Mono- and Bi-anisotropic Metasurfaces
Sebastian Celis Sierra (King Abdullah University of Science and Technology (KAUST)); Ran Zhao (King Abdullah University of Science and Technology (KAUST)); Hakan Bagci (King Abdullah University of Science and Technology (KAUST))

00:00 Augmented Müller Equations for Low-frequency Modeling of Penetrable Objects
Li Zhang (Tongji University); Ajay K. Poddar (Synergy Microwave Corp); Ulrich L. Rohde (Synergy Microwave Corp); Mei Song Tong (Tongji University);

00:00 Utilization of Multiple Huygens Surfaces in Ray Tracing Scenarios Involving Diffractions
Han Na (Technical University of Munich); Thomas F. Eibert (Technical University of Munich);

00:00 Investigation of Convergence Improvement to Speed-up of Full-wave Electromagnetic Field Analysis Solver Based on Parallel FEM
Amane Takei (University of Miyazaki); H. Kawai (Toyo University);

00:00 Static Surface Mode Expansion for the Full-Wave Scattering from Penetrable Objects
Carlo Forestiere (Università degli Studi di Napoli Federico II); G. Gravina (Università degli Studi di Napoli Federico II); G. Miano (Università degli Studi di Napoli Federico II); Guglielmo Gravina (Università degli Studi di Napoli Federico II); A. Tamburrino (Italian Air Force);

00:00 Effect of Lightning Channel Inclination on the Current Flowing in Different Parts of the Steel Reinforced Concrete Building during a Direct Stroke to the Building
Vinoda Shivanand (Indian Institute of Science);

00:00 Analysis of a Circular Waveguide Coated with Magnetized Ferrite Layer
Mariam Hossam Mohammed Helmi (The British University in Egypt); Hassan Ragheb (The British University in Egypt);
Session 3P10a
Inverse Scattering Problems: Theory and Applications in Imaging and Design

Wednesday PM, July 5, 2023
Room South Room 222

Organized by Loreto Di Donato, Martina Teresa Bevacqua

Chaired by Loreto Di Donato, Martina Teresa Bevacqua
Session 3P10b
Direct and Inverse Scattering in Complex Geometry Media

Wednesday PM, July 5, 2023
Room South Room 222
Organized by Matteo Pastorino, Giuseppe Schettini

00:00 Inverse Design of Microwave Post-wall Waveguides-based Filters
Alexandre Khuchua (Free University of Tbilisi); Mikheil Iashvili (Free University of Tbilisi); Arkadi Akopian (Iowa State University); Koki Watanabe (Fukuoka Institute of Technology); Daniel Erni (University of Duisburg-Essen, Campus Duisburg); Vakhtang Jandieri (University of Duisburg-Essen);

00:00 Inverse Algorithm Applied on an Antireflective Meta-surface to Enhance the Transmitted Wave for Ground Penetrating Radar Applications
Simon Marcellin (Avignon Université — INRAE); S. Arhab (Avignon Université — INRAE); O. Lombard (Avignon Université — INRAE); G. Lefèvre-Mesguich (Avignon Université — INRAE);

00:00 Improved Field Transmission toward an Implanted Device
Ludovica Tognolatti (Roma Tre University); Cristina Ponti (Roma Tre University); Giuseppe Schettini (Roma Tre University);

00:00 Quantitative Imaging of Buried Targets through a Variable-exponent Finite-element Approach
Valentina Schenone (University of Genoa); Alessandro Fedeli (University of Genoa); Claudio Estatico (University of Genoa); Matteo Pastorino (University of Genoa); Andrea Randazzo (University of Genoa);

00:00 Machine Learning Approach to Enhanced Resolution of Inverse Scattering for Cancer Detection
Sandra Costanzo (University of Calabria); Alexandra Flores (University of Calabria); Giovanni Buonanno (University of Calabria);

Session 3P11
Recent Advancements in EM Technologies for Medicine

Wednesday PM, July 5, 2023
Room South Room 223
Organized by Lorenzo Crocco, Jan Vrba, Jr.
Chaired by Lorenzo Crocco, Jan Vrba, Jr.

00:00 A New Approach to Design a Hyperthermia Applicator for Focused Intracranial Heating of Childhood Brain Tumors
M. Zanoli (Chalmers University of Technology); Hana Dobšíček Trefna (Chalmers University of Technology);

00:00 Design of a Sierpinski Fractal Antenna for Breast Tumors Diagnosis
Isabella Porcu (University of Cagliari); Claudia Maciò (University of Cagliari); Giacomo Muntoni (University of Cagliari); Alessandro Fantini (University of Cagliari);

00:00 2D Numerical Dataset for Microwave SVM-based Brain Stroke Classification
Tomáš Pokorny (Czech Technical University in Prague); Ondřej Fiser (Czech Technical University in Prague); Tomáš Dřížďal (Czech Technical University in Prague); Jan Vrba, Jr. (Czech Technical University in Prague);

00:00 Monitoring of Liver RF Ablation Using UWB Radar: A Numerical Study
Jakub Kollar (Czech Technical University in Prague); Tomáš Dřížďal (Czech Technical University in Prague); Marek Novák (Czech Technical University in Prague); Ondřej Fiser (Czech Technical University in Prague);

00:00 Microwave Thermal Ablation: Advancements and Future Perspectives
K. Vidjak (Sapienza University of Rome); F. Lipporace (Sapienza University of Rome); Marta Cavagnaro (Sapienza University of Rome);

00:00 The Power of Numerical Simulations in Advancing Treatment Planning during Microwave Hyperthermia
Ksenia Kulakova (Czech Technical University in Prague); Jan Vrba, Jr. (Czech Technical University in Prague); Tomáš Dřížďal (Czech Technical University in Prague);

00:00 Microwave Thermometry of Brain Tumors: A 2D Computational Feasibility Study
Jan Redr (Czech Technical University in Prague); Jan Vrba, Jr. (Czech Technical University in Prague); Tomáš Dřížďal (Czech Technical University in Prague); Roberta Palmeri (National Research Council); Rosa Scapaticci (Institute for Electromagnetic Sensing of the Environment); Lorenzo Crocco (National Research Council);
Session 3P12
Josephson Transmission Line and Travelling-Wave Parametric Amplifiers

Wednesday PM, July 5, 2023
Room South Room 224
Organized by Eugene Kogan
Chaired by Eugene Kogan

00:00 A Microwave Imaging 3D Stroke Monitoring Device: Experimental Validation and Realistic Head Models
Jorge Alberto Tobon Vasquez (Politecnico di Torino);
David Orlando Rodriguez-Duarte (Politecnico di Torino);
Cristina Origlia (Politecnico di Torino);
Martina Gugliermi (Politecnico di Torino);
Rosa Scapaticci (Institute for Electromagnetic Sensing of the Environment);
Lorenzo Crocco (National Research Council);
Francesca Vipiana (Politecnico di Torino);

00:00 Dielectric Permittivity Analysis of Healthy and Fatty
Dielectric Characterization of Interstitial Fluid Phan-
00:00 Novel Microwave Antenna for Deep Tissue Heating
Dielectric Characterization of Interstitial Fluid Phan-
00:00 Dielectric Permittivity Analysis of Healthy and Fatty
Liver in Microwave Range
00:00 Microwave Breast Cancer Screening, Early Detection
Invited

00:00 Use of EM Technology for Inducing Therapeutic Mod-
erate Hyperthermia in Cancer Treatment: Status and Ongoing Developments
Hans Crezee (Amsterdam University Medical Centers);

00:00 The Effect of Thermal Fluctuations on the Process of Interaction of the Kink with Heterogeneous Region of the System
Jacek Gatlik (Pedagogical University of Krakow);
Tomasz Dobrowolski (Pedagogical University of Krakow);

00:00 Shock Waves in the Josephson Transmission Line
Eugene Kogan (Bar-Ilan University);

00:00 The Kinks and the Solitons in the Discrete Josephson Transmission Line
Eugene Kogan (Bar-Ilan University);

00:00 Random Number Generation Utilizing Timing Jitters of Single-Flux-Quantum Propagation
Yoshinao Mizugaki (The University of Electro-Communications);
Kenta Sato (The University of Electro-Communications);
Hiroshi Shimada (University of Electro-Communications);
Takeshi Onomi (Fukuoka Institute of Technology);

00:00 Transmission Lines in VLSI Complexity Single Flux
Quantum Systems
Tahereh Jabbari (University of Rochester);
Eby G. Friedman (University of Rochester);

00:00 Dissipative Quantum Models for Flux-driven Parametric Amplification in Dispersive Josephson Transmission Lines
Michael Haider (Technical University of Munich);

00:00 Experimental Characterization of RF-SQUIDs Based Josephson Traveling Wave Parametric Amplifier Exploiting Resonant Phase Matching Scheme
Luca Fasolo (Istituto Nazionale di Ricerca Metrologica (INRiM)); Luca Oberto (Istituto Nazionale di Ricerca Metrologica (INRiM)); Alessio Verna (Istituto Nazionale di Ricerca Metrologica (INRiM)); Emanuele Enrico (Istituto Nazionale di Ricerca Metrologica (INRiM));

00:00 Topological Amplification in a Josephson Junction Array with a Global Four-wave Mixing Pump
Tomas Ramos (IFF-CSIC);

00:00 Photon-Instanton Collider Implemented by a Superconducting Circuit: Splitting a Single Photon
Amir Burshtein (Tel-Aviv University); Moshe Goldstein (Tel Aviv University);

00:00 Quantum Information Processing with 1D Josephson Invited
Metamaterials
Archana Kamal (Yale University);

00:00 Superconductor-insulator Transition in Two- and Three- dimensional Percolation System with Josephson Junctions
Yakov M. Strelniker (Bar-Ilan University);
Emma Mogilko (Bar-Ilan University);
Leonid Burlachkov (Bar-Ilan University); Avid Frydman (Bar-Ilan University); Shlomo Havlin (Bar-Ilan University);
00:00 Josephson Traveling Wave Parametric Amplifiers as Quantum Source of Entangled Photons for Microwave Quantum Radar Applications
Emanuele Enrico (Istituto Nazionale di Ricerca Metrologica (INRIM)); Luca Fasolo (Istituto Nazionale di Ricerca Metrologica (INRIM)); Patrizia Lierer (University of Palermo);

00:00 Josephson Transmission Lines for Analog Quantum Simulations
Roman Kuzmin (University of Wisconsin-Madison);

00:00 Harmonic Generation in a One-dimensional Josephson Medium
Searbhán Gearóid Ó Peatáin (Lancaster University); J. M. Williams (National Physical Laboratory); S. Kafanov (Lancaster University); Yu. A. Pashkin (Lancaster University);

00:00 Low-energy Collective Charge Excitations in High-Te Cuprate Superconductors
Vyacheslav M. Silkin (Donostia International Physics Center (DIPC)); D. V. Efremov (IFW Leibniz Institute for Solid State and Materials Research);

00:00 Continuous Control of Terahertz Second-harmonic
Zhenniao Zhu (Southern University of Science and Technology); Zhen Gao (Southern University of Science and Technology);

00:00 Unveiling the Behaviour of 4-Aminobenzenethiol Using Polarization-multiplexed Metalens Doublet Enabling Three-dimensional Varifocal Device and Alignment-guiding Hologram
Joonkyo Jung (KAIST); Hyeonhee Kim (KAIST); Jonghwa Shin (Korea Advanced Institute of Science and Technology (KAIST));

00:00 Research on Scattering Characteristics of Swarm Targets
Jing-Yue Sun (Beijing Institute of Technology); Kun-Yi Gao (Beijing Institute of Technology); Xin-Qing Sheng (Beijing Institute of Technology);

00:00 Observation of Multiple Rotons and Multidirectional Roton-like Dispersion Relations in Acoustic Metamaterials
Yu. A. Pashkin (Macquarie University); Hatem Rmli (King Abdulaziz University);

00:00 Electromagnetic Signature of Hilbert Curve-based Chipless RFID Tags Using Numerical Analysis
Mohammad Nasrat Zagun (Macquarie University);

00:00 A Gesture Segmentation Algorithm Based on CSI-quotient Distance
Jaipeng Hu (Chongqing University of Posts and Telecommunications); Wei He (Chongqing University of Posts and Telecommunications); Yue Jin (Chongqing University of Posts and Telecommunications);

00:00 A Gesture Segmentation Algorithm Based on CSI-quotient Distance
Jaipeng Hu (Chongqing University of Posts and Telecommunications); Wei He (Chongqing University of Posts and Telecommunications); Yue Jin (Chongqing University of Posts and Telecommunications);

00:00 A Gesture Segmentation Algorithm Based on CSI-quotient Distance
Jaipeng Hu (Chongqing University of Posts and Telecommunications); Wei He (Chongqing University of Posts and Telecommunications); Yue Jin (Chongqing University of Posts and Telecommunications);

00:00 Continuous Control of Terahertz Second-harmonic Phase in Metasurface
Chen Wang (Tsinghua University); Yongzheng Wen (Tsinghua University); Shiqiang Zhao (Tsinghua University); Kaizin Yu (Tsinghua University); Ji Zhou (Tsinghua University);

00:00 A Gesture Segmentation Algorithm Based on CSI-quotient Distance
Jaipeng Hu (Chongqing University of Posts and Telecommunications); Wei He (Chongqing University of Posts and Telecommunications); Yue Jin (Chongqing University of Posts and Telecommunications);

00:00 Acoustic Metamaterials Based on Superlattice Vortex Domains and Their Performance Tuning
Zheng Si Zheng (Zhejiang University);

00:00 Terahertz Super-resolution Targets Classifier Based on Machine Learning
Jin Zhao (Peking University); Ming-Zhe Chong (Peking University); Yue-Yi Zhang (Peking University); Zong-Kun Zhang (Peking University); Pu-Kun Liu (Peking University);

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Session 3P13
Poster Session 5

Wednesday PM, July 5, 2023
8:00 AM - 12:00 AM
Room Forum Hall Foyer 1

00:00 NNBL 8226 Artificial Network Calibration
Leszek Nowosielski (Military University of Technology); Bartosz Dudzinski (Military University of Technology); Rafał Przesmycki (Military University of Technology); Marek Bugaj (Military University of Technology);

00:00 A Stationary Charge Density and Radiation at Infinite Speed of Light
Namik Yener (Istanbul Gedik University);

00:00 Compact Broadband Circularly Dichroic Spectrometer
Yu-Cheng Liang (National Sun Yat-sen University); Yi Chen (National Yang Ming Chiao Tung University); Chun-Ta Wang (National Sun Yat-sen University); Shie-Chang Jeng (National Yang Ming Chiao Tung University); Chao-Kuei Lee (National Sun-Yat-Sen University);

00:00 Accurate Solutions of Volume Integral Equations Based on Nystrom-like Point-matching Scheme
Dun Ting Zhang (Tongji University); Bao Qi Wang (Tongji University); Mei Song Tong (Tongji University);

00:00 Trans-dimensional MT Inversion Based Physical Parameter Domain Tree Structure
Shengqi Tian (Central South University); Rongwen Guo (Central South University);
00:00 The Spatial Light Modulator-based OAM Shuffle Opti-
cal Vortex Hopping Scheme Protecting against Regres-
sion Prediction of Artificial Intelligence
Yao-Tang Chang (Ko Yuan University); Xuan-
Wen Guo (Data Science Consultant); Chin-
Shun Chuang (Ko Yuan University); Ching-
Liang Chang (Taiwan Semiconductor Manufacturing
Co., Ltd. (TSMC));

00:00 Propagation Losses Algorithm for Indoor Wireless Sen-
sor Network
Romualds Beļinskis (Riga Technical University); Niko-
lajs Bogdanovs (Riga Technical University); Ju-
rijs Titiavičs (Riga Technical University); Aleksan-
drs Ipatovs (Riga Technical University); Jānis Klūga (Riga Technical University); Dmitrijs Čulkovs (Riga Technical University);

00:00 Programmable Delay Line Based High-speed PPM Modu-
lator with 50 ps Time Resolution
Pauls Eriks Sics (Riga Technical University); Os-
kars Selis (Riga Technical University); Sandis Migla (Riga Technical University); Maris Zeltins (Riga Technical University); Sandis Spolīts (Riga Technical University); Viktors Kurtenoks (Eventech LTD); Ar-
turs Abolins (Riga Technical University);

00:00 Magnetic Field Effect on the Lasing Threshold of GaAs
Nanowires on Iron Substrate
Gyanan Aman (University of Cincinnati); Mykhaylo Ly-
aczewych (The Australian National University); Hark Hoe Tan (The Australian National University); Chennupati Jagadish (The Australian National University); Heidrun Schmitzer (Xavier University); Martin Fränzl (University of Leipzig); Marc Ca-
hay (University of Cincinnati); Hans-Peter Wagner (University of Cincinnati);

00:00 Performance Analysis of Hybrid Raman-EDFA Ampli-
fier in WDM Transmission Systems
Dmitrijs Prignonov (Riga Technical University); Pa-
triks Mores (Riga Technical University); Mareks Par-
ffjonovs (Riga Technical University); Toms Salgals (Riga Technical University); Ricards Kudojars (Riga Technical University); Vjaceslaus Bobrows (Riga Technical University);

00:00 Analyzing Water Body Indices for Coastal Semantic
Segmentation
Conor O’Sullivan (The ADAPT SFI Research Centre); Seannus Coveney (Env-Geo Environmental Geoinforma-
tics); Xavier Monteys (Geological Survey Ireland); Soumabhabra Dev (The ADAPT SFI Research Centre);

00:00 A TE/TM Polarization-independent Frequency Upcon-
version Based on Polarization Coupling
Tingting Ding (Shanghai University of Engineering Sci-
ence); Yongzhi Tang (Shanghai Jiao Tong University); Shu Jia Yan (Shanghai University of Engineering Sci-
ence); Xianfeng Chen (Shanghai Jiao Tong University); Mei Song Tong (Tongji University);

00:00 Tracking Rotational and Conformational Dynamics of
Single Molecules Using Scattered Light
Milan Vula (Institute of Photonics and Electronics, Czech Academy of Sciences); Ivan Kopal (Institute of Photonics and Electronics, Czech Academy of Sciences); Marek Piliarik (Institute of Photonics and Electronics ASCR);

00:00 Encryption and Eavesdropping in Underwater Wireless
Optical Communication
Amir Handelman (Holon Institute of Technology);

00:00 Analysis of Excitation of 2D-nanostructures by a Quan-
tum Field under Conditions of Nonlinearity
Irina A. Tereshchenko (Lomonosov Moscow State Uni-
versity); Olga V. Tikhonova (Lomonosov Moscow State University);

00:00 Visible Band Integrating Nephelometer for Aerosol Scat-
tering Measurements
Rau Varma (National Institute of Technology Calicut);

00:00 A Compact Hemisphere Shape Antenna with Reconfig-
urable Pattern for UAVs in 5G Applications
Chi-Che Hsieh (National Formosa University); Wen-
Chung Liu (National Formosa University);

00:00 Liquid Crystal based Ku-band Phase Shifter Using 3D
Printed Frame
Seunggo Nam (Korea Electronics Technology Institute); Sehwan Choi (Korea Electronics Technology Institute); Ho-Jun Lee (Korea Electronics Technology Institute);

00:00 Inkjet-printed and Photonically Sintered Antennas
Based on Copper Nanoparticles
Matthias Paul (University of Applied Sciences Vienna); Rudolf Oberpertinger (University of Applied Sciences Vi-
enna); Christoph Mehofer (University of Applied Sci-
ces Vienna); Markus Wellenzohn (University of Ap-
plicated Sciences Vienna);

00:00 Investigating Different Methods for Generating a
FMCW Signal on a Software Defined Radio
Aishwarya Vasudevan (Fraunhofer IMS); Sebas-
tian Boller (Fraunhofer Institute for Microelec-
tronic Circuits and Systems (IMS)); Mirco Meiners (Hochschule Bremen); Anton Grabmaier (Fraunhofer Institute for Microelectronic Circuits and Systems (IMS));

00:00 The Modeling of Space-to-frequency Mapping Leaky-
wave Antenna Array with Controllable Radiation Ele-
ments
Yiming Zhang (Zhejiang University); Yuangong Yao (Zhejiang University); Yuxi Liu (South China Normal University); Sailing He (Royal Institute of Technology & Zhejiang University);

00:00 A Novel Multiphysics Simulation Method for Packaging
Analysis of Chips Based on MOOSE
Peng Rui Zhang (Tongji University); Yi Ming Liu (Tongji University); Jun Cheng Gao (Tongji University); Yuan Yang Du (Tongji University); Mei Song Tong (Tongji University);
00:00 A Multiband Microstrip Patch Antenna with Mandelbrot Fractal Structure
Rui Hao Xi (Tongji University); Yuan Chu Xu (Tongji University); Dan Ni Lin (Tongji University); Mei Song Tong (Tongji University);

00:00 Surface Roughness Effects of Fabrication Technology on Metallic Waveguide in D-band for 6G RF Communications
Dang-Oh Kim (Korea Advanced Institute of Science and Technology); Sang-Min Oh (Korea Advanced Institute of Science and Technology); Ju-Yong Lee (Korea Advanced Institute of Science and Technology); Dong-Ho Cho (Korea Advanced Institute of Science and Technology (KAIST));

00:00 A Novel Contactless Power Supply Device Based on Electromagnetic Induction
Rong Song (Shanghai University of Engineering Science); Shu Jia Yan (Shanghai University of Engineering Science); Peng Wu (Shanghai University of Engineering Science); Mei Song Tong (Tongji University);

00:00 Design of TE_{01}/TE_{02} Dual-mode Output Window for X/Ku Dual-band Gyrokystron
Xiaoyan Wang (Aerospace Information Research Institute, Chinese Academy of Sciences); Jinyong Fang (Aerospace Information Research Institute, Chinese Academy of Sciences); Jianguan Wu (Aerospace Information Research Institute, Chinese Academy of Sciences); Kai Peng (Aerospace Information Research Institute, Chinese Academy of Sciences);

00:00 Electro-optic Probe-based Antenna Measurement System for 5G Mobile Terminal End-fire Radiation Antenna
In-June Hwang (Korea Research Institute of Standards and Science); Young-Pyo Hong (Korea Research Institute of Standards and Science); Dong-Joon Lee (Korea Research Institute of Standards and Science);

00:00 Design of Reconfigurable Microstrip Antenna with DGS for 5G Applications
Jyosri M. Karra (North Carolina A&T State University); Abdullah Ergolu (Purdue University);

00:00 Analysis and Design of a Harmonically Tuned RF Power Amplifier with Dual-band Output Network
Antra Saxena (Nazarbayev University); Deepayan Banerjee (Indraprastha Institute of Information Technology Delhi); Mohammad S. Hashmi (Indraprastha Institute of Information Technology Delhi);

00:00 A Flexible and Stretchable Transmission Line of Spoof Surface Plasmon Polaritons at Microwave Frequencies
Jiazuan Wei (Southeast University); Weihan Li (Southeast University); Wen Xuan Tang (Southeast University); Tie Jun Cui (Southeast University);

00:00 Performance Evaluation of UAV Based NOMA for 6G Networks
Neelam Mounika (National Institute of Technology Warangal); Anuradha Sandru (National Institute of Technology Warangal);

00:00 Microwave Tomographic Imaging of Impenetrable Objects
Gregory Samuelsohn (Shamoon College of Engineering);

00:00 A Sub-1GHz Wearable Radar Sensor for Artery Detection
Chia-Hung Chang (National Yunlin University of Science and Technology); Wei-Wen Hu (National Formosa University); Ching-Hsiang Yang (National Yunlin University of Science and Technology); Chi-Sen Tai (National Yunlin University of Science and Technology); Cheng-Yu Yu (National Yunlin University of Science and Technology); Ji-Yuan Li (National Yunlin University of Science and Technology); Jing Lu (National Yunlin University of Science and Technology);

00:00 Determination of the Best Channel for Remote Sensing Inversion of Thermal Infrared Surface Temperature Based on FY-3D MERSI-II Data
Minghao Sun (Hebei GEO University); Guofei Shang (Hebei GEO University); Xia Zhang (Hebei GEO University);

00:00 Efficient Discrimination of Small Target with Low-velocity from Sea Clutter
Inoh Choi (Korea Maritime and Ocean University); Sangbin Cha (Pukyong National University); Sewon Yoon (Pukyong National University); Sanghong Park (Pukyong National University);

00:00 NeSDDeepNet: A Fusion Framework for Multi-step Forecasting of Near-surface Air Pollutants
Prasanjit Dey (Technological University Dublin); Soumyabrata Dev (The ADAPT SFI Research Centre); Bianca Schoen-Phelan (Technological University Dublin);

00:00 Dependence of Radar Penetration Depth on Roughness of Soil Surface
Chenhao Zeng (Guilin University of Technology); Ying Yang (Nanjing University of Science and Technology); Kun-Shan Chen (Guilin University of Technology);

00:00 Sensor Data Analysis and Fusion for GPS-free Drone Flight
Gregoire Issassis (BURES-SUR-YVETTE); Petr Marcovi (Brno University of Technology); Jiří Janoušek (Brno University of Technology);

00:00 Similarity Measurement of HAR Multi-sensor Data for Siamese Neural Networks
Lun Ma (Chang’an University); Xin Liu (Chang’an University); Daihe Wang (Chang’an University); Yue Yang (Chang’an University); Guisheng Liao (Xi’an University); Luntan Li (Chang’an University);

00:00 Real-time Laser-induced Charge Jump Signal Tracked by the Diamond NV Center
Yanan Lu (Tsinghua University);

00:00 Demonstration of Quantum Clock Synchronization Based on Sagnac Effect of Frequency Entangled Photons
Yueui Zhai (Shaanxi University of Science & Technology); Wang Li (Shaanxi University of Science & Technology);
00:00 Boron Nitride: A Two-dimensional Material for Quantum Technologies
Yong P. Chen (Purdue University and Aarhus University);

00:00 A Filter Approach to Attenuate the Effects of Venous Effects in Task-based fMRI Data
Renzhou Gui (Tongji University); Aobo Zhang (Tongji University); Shuai Liu (Tongji University); Mei Song Tong (Tongji University);

00:00 A Novel LCR Impedance Detection System with Low Cost and High Precision Based on Microcontroller Unit
Ya Ming Xie (Tongji University); Guo Chun Wan (Tongji University); Mei Song Tong (Tongji University);

00:00 A Low-power Crystal Oscillator with Adjustable Drive Current
Lei Zhao (Tongji University); Ji Yuan Duan (Tongji University); Mei Song Tong (Tongji University);

00:00 Influence of Grain Size on Magnetic Properties of LaMnO$_3$ Nanocrystals and Nanoceramics
Robert Tomala (Institute of Low Temperature and Structure Research, PAS); Dmitry Karpinsky (Namangan Engineering-Construction Institute); Pawel Gluchowski (Nanoceramics Inc.); Daniela Kujawa (Nanoceramics Inc.); Yury Gerasymchuk (Institute of Low Temperature and Structure Research, PAS);

00:00 Building Uncooled Infrared Camera Based on One Atom Invited Thick Graphene
Debashis Chanda (University of Central Florida);

00:00 Comparison of Predictive Torque Control with Direct Torque Control in the Case of AC Motor Drive Fed by a Three-phase Bridge Voltage Source Inverter
Pavel Karlowsky (Czech Technical University in Prague); Jiri Lettl (Czech Technical University in Prague);

00:00 Far-field Photonic Spin Texture of Thermal Radiation from a Non-isothermal Nano-antenna
Parry Y. Chen (Ben-Gurion University); Roy Ayash (Ben-Gurion University); Chinmay Khandekar (Purdue University); Yonatan Sivan (Ben-Gurion University); Z. Jacob (Ben-Gurion University);

00:00 Tunable Liquid-solid Hybrid Thermal Metamaterials
Peng Jin (Fudan University);

00:00 Excitation and Control of Plasmons Using Thermal Effects
Eduardo J. C. Dias (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology); Renwen Yu (The Barcelona Institute of Science and Technology); F. Javier García de Abajo (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology);

00:00 Near-field Heat Exchange Driven by the Acoustic Vibration Modes between Polar Materials at the Atomic Scale
Philippe Ben-Abdallah (Universite Paris-Sud 11);

00:00 Non-reciprocity and Breakdown of Detailed Balance in Near-field Thermal Radiation
Seend-Age Bihs (Carl von Ossietzky Universitat);

00:00 Experimental Realization of Topological Edge States in Pure Diffusion Systems
Hao Hu (Nanjing University of Aeronautics and Astronautics); Yihao Yang (Zhejiang University); Baile Zhang (Nanyang Technological University); Yu Luo (Nanyang Technological University);

00:00 Thermal Metamaterials in Heat Conduction, Radiation and Thermomechanical Manipulation
Qingxiang Ji (Harbin Institute of Technology); Luamer Kadic (University Bourgogne Franche-Comte); Jun Liang (Beijing Institute of Technology); Changguo Wang (Harbin Institute of Technology);

00:00 Metasurface-induced Nanoscale Inhomogeneity for Hot-electrons-assisted Photo-thermoelectric Devices
Jingzuan Wei (University of Electronic Science and Technology of China);

00:00 Non-reciprocity in Macroscopic Heat Transfer
Ying Li (Zhejiang University); Ran Ju (Zhejiang University); Pei-Chao Cao (Zhejiang University); Dong Wang (Zhejiang University); Minghong Qi (Zhejiang University); Hongsheng Chen (Zhejiang University);

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Session 4A1b
Plasmonic Metamaterials and Their Applications

Thursday AM, July 6, 2023
Room Club E
Organized by Wen Xuan Tang, Bin Yang
Chaired by Xuanru Zhang, Xinyu Li

00:00 Engineering Two-dimensional Plasmonic Nanosheets Arrays as Spacer for Enhanced Solar Membrane Distillation of Seawater
Edison Huixiang Ang (Nanyang Technological University, National Institute of Education);

00:00 Leaky-wave-enabled Anti-parity-time Plasmonics
Yuneng Yang (Zhejiang University); Ying Li (Zhejiang University); Er Ping Li (Zhejiang University — UIUC Institute); Hongsheng Chen (Zhejiang University); Fei Gao (Zhejiang University);

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00:00 Deep-subwavelength Resonances and Sensing Applications of Spoof Localized Surface Plasmons
Xuanru Zhang (Southeast University);

00:00 Deep Learning Algorithm Enabled Highly-Precise and Broadband Full-Stokes Polarimeters
Xiu Yang (Sichuan University); Yidong Hou (Sichuan University);

00:00 Microwave Plasmonic Exceptional Points for Enhanced Sensing
Zhen Liao (Hangzhou Dianzi University);

00:00 Third-order Nonlinear Optical Susceptibility of Polyani-line and Silver Nanoparticle Metafluids
G. Guercio (Université Paris Cité); M. Lafitte (Univ. Bordeaux); V. Ponsinet (CNRS, Université de Bordeaux); Olivier Mondain-Monval (Université de Bordeaux); Giuseppe Leo (CNRS, Université de Paris); A. Baron (CNRS, Université de Bordeaux);

00:00 A Flexible and Stretchable Transmission Line of Spoof Surface Plasmon Polaritons at Microwave Frequencies
Jiaxuan Wei (Southeast University); Weihan Li (Southeast University); Xiaoyang Zhou (Southeast University); Wen Xuan Tang (Southeast University); Tie Jan Cui (Southeast University);

Session 4A2a
Advanced Optical and Digital Signal Processing in Optical Communication Networks
Thursday AM, July 6, 2023
Room Club D
Organized by Mingming Tan, Tianhua Xu
Chaired by Feng Wen

00:00 Reducing Equalization-enhanced Phase Noise via Carrier Phase Recovery in the Presence of Variable Matched-filter Bandwidth
Xingwen Yi (Sun Yat-Sen University); Huayin Wang (Sun Yat-Sen University); Jing Zhang (University of Electronic Science and Technology of China);

00:00 Multi-Point-to-Point Optical Access with Reliable Bandwidth Guarantee for Latency Sensitive Applications
Jinlong Wei (Peng Cheng Laboratory);

00:00 Electro-optic Tunable Laser Cavity with Nanosecond Switching Speed Based on Silicon Nitride-organic Hybrid Waveguide
Shengpeng Zhang (University of Electronic Science and Technology of China); Yuzin Chen (University of Electronic Science and Technology of China); Lianghai Dong (University of Electronic Science and Technology of China); Kaizin Chen (University of Electronic Science and Technology of China); Chen Liu (Huawei Technologies Co., Ltd.); Jieyun Wu (University of Electronic Science and Technology of China);

00:00 Impact of Crosstalk on Mode-division Multiplexing (MDM)-based Multi-beamforming System
Yansong Mo (University of Electronic Science and Technology of China); Feng Wen (University of Electronic Science and Technology of China); Jie Gu (Southwest China Research Institute of Electronic Equipment); Kun Qu (University of Electronic Science and Technology of China);

00:00 A Chebyshev Spectral Method for Nonlinear Fourier Transform
Vishal K. Vaibhav (Indian Institute of Technology Delhi);

00:00 Design and Analysis of HPCF Sensor Model for Different Milk Sensing
Ravindra Kumar Sharma (Singhania University);
Sunil Sharma (Rajasthan Technical University); Ajay Kumar Bairwa (Doordarshan Kendra Jaipur); Bibhu Dash (University of the Cumberlands);
Meraj F. Ansari (University of the Cumberlands); Nikhitha Yathiraju (University of the Cumberlands);

00:00 Wavelength-division Multiplexing Channel Equalization through Semiconductor Optical Amplifier (SOA)-driven Reservoir Computing
Yinke Yang (University of Electronic Science and Technology of China); Rui Zhang (University of Electronic Science and Technology of China); Huiwen Luo (University of Electronic Science and Technology of China); Feng Yang (Lab of Holographic Optical Sensing, Marolabs Co., Ltd.); Bao-Jian Wu (University of Electronic Science and Technology of China); Kun Qu (University of Electronic Science and Technology of China);

Session 4A2b
Nanophotonics, Biophotonics and Advanced Photonic Materials 1
Thursday AM, July 6, 2023
Room Club D

00:00 Nanostructures for Photocatalysis — From Regular to Dendritic Architectures
Z. Fusco (Australian National University); A. Riaz (Australian National University); Christin David (Friedrich-Schiller Universität Jena); F. J. Beck (Australian National University);

00:00 Super-Plackian Behavior in Nanostructures. Application to Photoluminescence
Agustin Pérez-Madrid (University of Barcelona); I. Santamaría-Holek (Universidad Nacional Autónoma de México, Campus Juriquilla);
Comparative Study of the Performance of Plasmonic Nanoantenna for Fluorescence Enhancement in On-chip Photonic Technologies
Jose Luis Montaño-Priede (Donostia International Physics Center (DIPC)); Mario Zapata-Herrera (CFM (CSIC-UPV/EHU)); Rubén Esteban (CFM (CSIC-UPV/EHU)); Nerea Zabala (University of the Basque Country UPV-EHU); Javier Azpuru (Donostia International Physics Center (DIPC) and Centro Mixto de Física de Materiales (CSIC-UPV/EHU));

Dielectric Mie Voids: Confining Light in Air Mario Hentschel (University of Stuttgart); Kirill L. Kosheley (Australian National University); Florian Sterl (University of Stuttgart); Steffen Both (University of Stuttgart); Julian Karst (University of Stuttgart); Lida Shamsafar (University of Stuttgart); Thomas Weiss (University of Graz); Yuri S. Kheshar (Australian National University); Harald W. Giessen (University of Stuttgart);

Sub-femtoliter Refractive Index Sensing Using Mie Voids Serkan Arslan (University of Stuttgart); Hannah Tran (University of Stuttgart); Julian Karst (University of Stuttgart); Lida Shamsafar (University of Stuttgart); Thomas Weiss (University of Stuttgart); Harald W. Giessen (University of Stuttgart); Mario Hentschel (University of Stuttgart);

Metasurface Empowered Lithium Niobate Optical Phased Array with an Enlarged Field-of-view Zhizhang Wang (Nanjing University); Wange Song (Nanjing University); Yuxin Chen (Nanjing University); Bin Fang (Nanjing University); Jiaojie Ji (Nanjing University); Haoran Xin (Nanjing University); Shining Zhu (Nanjing University); Tao Li (Nanjing University);

High Quality Nanocavities through Multimodal Confinement of Hyperbolic Polaritons in Hexagonal Boron Nitride Hanan Herzig Sheinfuz (ICFO); Lorenzo Orsini (ICFO); Minwoo Jung (Cornell University); Iacopo Torre (ICFO); Matteo Ceccanti (ICFO); Rinu Maniyara (ICFO); David Barcons Ruiz (ICFO); Alexander Höger (Technische Universität Munchen); Ricardo Bertini (ICFO); Sebastián Castilla (ICFO); Niels C. H. Hesp (ICFO); Eli Janzen (Kansas State University); Alexander Holleitner (Technische Universität Munchen); Valerio Pruneri (ICFO); James H. Edgar (Kansas State University); Gennady Sheets (Cornell University); Frank H. L. Koppens (ICFO — The Institute of Photonics Sciences (Barcelona));

Reconfigurable Meta-optics Based on Phase-change Materials Mikhail Y. Shalaginov (Massachusetts Institute of Technology); Fan Yang (Massachusetts Institute of Technology); Yifei Zhang (Massachusetts Institute of Technology); Hung-I Lin (Massachusetts Institute of Technology); Sensong An (University of Massachusetts Lowell); Cosmin Popescu (Massachusetts Institute of Technology); Myungkoo Kang (University of Central Florida); Kathleen A. Richardson (University of Central Florida); Juejun Hu (Massachusetts Institute of Technology); Tian Gu (Massachusetts Institute of Technology);

Terahertz Single-mode Quantum Cascade Lasers Emitted from Topological Cavities Song Han (Zhejiang University); Jieyuan Cai (Nanyang Technological University); Yunda Chua (Nanyang Technological University); Yongquan Zeng (University of Leeds); Qi Jie Wang (Nanyang Technological University);

Multiple Brillouin Zone Winding of Topological Edge States for Slow Light Applications Fujia Chen (Zhejiang University); Hongsheng Chen (Zhejiang University); Wen-Yan Yin (Zhejiang University); Yihao Yang (Zhejiang University);

Gain-assistant Amplitude Modulation of Hyperbolic Metamaterials Lu Song (Zhejiang University); Tong Cai (Airforce Engineering University); Jiangang Liang (Air Force Engineering University); Lian Shen (Zhejiang University);

Manipulate Merging Bound States in the Continuum on a Quasi-flat Band without Breaking Symmetry Xin Qi (Tongji University); Yong Sun (Tongji University); Hong Chen (Tongji University); Yufei Wang (Institute of Semiconductors, CAS); Wanhua Zheng (Institute of Semiconductors, CAS);

Effect of Gold Nanoparticle Interaction with Silicon Nitride Waveguides for Biosensing Applications Kyle Preston (SiPhox Inc.); Ebrahim Al Johani (SiPhox Inc.); Sarat Gundavarapu (SiPhox Inc.); Cole Chapman (SiPhox Inc.); Guojun Chen (SiPhox Inc.); Michael Dubrovsky (SiPhox Inc.); Diedrik Vermeulen (SiPhox Inc.);
Session 4A4a
Liquid Crystals and Related Technologies

Thursday AM, July 6, 2023
Room Club B
Organized by Seiji Fukushima, Hirotugu Kikuchi
Chaired by Seiji Fukushima

00:00 Hole-patterned Electrode Liquid Crystal Lens with Optically Compensated Bend Modes
Jui-En Lee (National Yang Ming Chiao Tung University); Yu-Kai Hong (National Yang Ming Chiao Tung University); Jui-Wen Pan (National Yang Ming Chiao Tung University); Shie-Chang Jeng (National Yang Ming Chiao Tung University);

00:00 Light Beam Steering Demonstration by Using Liquid Crystal Loaded Metasurface
Takato Teshima (Kagoshima University); Seiji Fukushima (Kagoshima University); Tsutomu Nagayama (Kagoshima University); Toshio Watanabe (Kagoshima University; HIROTSUGU KIKUCHI (Kyushu University);

00:00 Voltage Tunable Beam-splitter Using Long-period Waveguide Gratings
Rajat Chauhan (Indian Institute of Technology Roorkee); Vipul Rastogi (Indian Institute of Technology Roorkee); Uma Shankar Tripathi (Instruments Research & Development Establishment);

00:00 Observation of Electrical Control of Branched Flow of Light
Shan-Shan Chang (Xiamen University); Ke-Hui Wu (Xiamen University); Lujian Chen (Xiamen University); Peng Chen (Nanjing University); Huanyang Chen (Xiamen University); Jian-Hua Jiang (Soochow University); Yan-Qing Lu (Nanjing University); Jinhui Chen (Xiamen University);

00:00 Design of a Broadband Flat Metasurface Lens by Using One-dimensional Meander Microstrip-line Structures
Izumi Suhara (Kagoshima University); Tsutomu Nagayama (Kagoshima University); Seiji Fukushima (Kagoshima University); Toshio Watanabe (Kagoshima University);

00:00 Lattice Orientation of Photo-patterned Blue Phase Liquid Crystal
Masaori Ozaki (Osaka University); Kazuma Nakajima (Osaka University); Shogo Mitsubashi (Osaka University); Yuji Tsukamoto (Osaka University);

00:00 Fluid-infiltrated On-axis Ultra-compact Reconfigurable Intelligent Surface for Application of Free Space Optical Communication
Ramna Khalid (Information Technology University (ITU) of the Punjab); Muhammad Zubair (Information Technology University (ITU)); Muhammad Qasim Mehmood (Information Technology University (ITU));

Session 4A4b
Subwavelength Nanostructure Metasurface for Optical Filters, Sensors, Nonlinear Optics, and Solar Energy Harvesting

Thursday AM, July 6, 2023
Room Club B
Organized by Junpeng Guo

00:00 Ellipsometric Modeling and Reflectance Analysis of Plasmonic Indium Nanoparticles
Haotian Zhang (Fudan University); Lei Peng (Fudan University); Yuting Yang (Fudan University); Xiaojie Sun (Fudan University); Songyou Wang (Fudan University); Rongjun Zhang (Fudan University); Liangyao Chen (Fudan University); Young Pak Lee (Hanyang University); Yu-Xiang Zheng (Fudan University);

00:00 Hybrid Metal-dielectric Subwavelength Structure Narrow Linewidth Optical Filter
Rong He (Fudan University); Cheng Chen (Fudan University); Rongjun Zhang (Fudan University); Liangyao Chen (Fudan University); Junpeng Guo (University of Alabama in Huntsville);

00:00 Luminescence Mechanism of Ligand-induced Interface States in Silicon Quantum Dots
Jian Zhou (Fudan University); Fengyang Ma (Fudan University); Rong Yang (Fudan University); Kai Chen (Fudan University); Wuyan Zhao (Fudan University); Chong Qiao (Nanyang Institute of Technology); Wansheng Su (National Taiwan Science Education Center); Ming Lu (Fudan University); Yu-Xiang Zheng (Fudan University); Rongjun Zhang (Fudan University); Liangyao Chen (Fudan University); Songyou Wang (Fudan University);
Session 4A5a
Metasurfaces 1
Thursday AM, July 6, 2023
Room Club A
Chaired by Peng Mei

00:00 Implementing Index Modulation on Intelligent Spatiotemporal Metasurfaces
Xiaoyue Zhu (Zhejiang University);

00:00 Filling Index Modulation on Intelligent Spatiotemporal Metasurfaces
Hongsheng Chen (Zhejiang University);

00:00 Characterizations of Millimeter-wave Reconfigurable Intelligent Surfaces in the Near-field Region
Peng Mei (Aalborg University); Gert Frølund Pedersen (Aalborg University); Shuai Zhang (Aalborg University);

00:00 Confining Acoustic Field via Metacage Based on Phase Invited
Gradient Metasurfaces
Yue Gao (Soochow University); Yadong Xu (Soochow University);

00:00 Realization of Programmable Chessboard Mushroom-type Metasurface for Beamforming Applications
Abdelghafour Abraray (Instituto de Telecomunicacoes); Ricardo A. M. Pereira (Instituto de Telecomunicacoes); Keivan Kabotari (University of Aveiro); Stanislav Maslovski (University of Aveiro);

00:00 Intelligent Metasurface System for Automatic Tracking of Multiple Targets and Wireless Communications Based on Computer Vision
Weihan Li (Air Force Engineering University); Wen Xuan Tang (Southeast University); Tie Jan Cui (Southeast University);

00:00 Assessment and Optimization of Disordered Distribution Reflecting Metasurfaces for Computational Imaging
Aobo Li (Queen’s University Belfast); Mengran Zhao (Queen’s University Belfast); Babar Abbasi (Queen’s University Belfast); Okan Yurduseven (Queen’s University Belfast);

Session 4A5b
Recent Advances on Artificial Electromagnetic Materials and Applications
Thursday AM, July 6, 2023
Room Club A
Organized by Yungui Ma, Sailing He
Chaired by Yungui Ma, Sailing He

00:00 Bending Waveguides for In-plane Superlens and Dispersionless Coupling
Wang Song (Nanjing University); Tao Li (Nanjing University);

00:00 Optical Imaging Based on Metasurfaces
Invited
Shu-Ming Wang (Nanjing University);

00:00 Topological Classification of Topological Gapped Systems via Machine Learning
Yang Long (Nanyang Technological University); Baile Zhang (Nanyang Technological University);

00:00 A Road toward Zero-spacing Photonic Waveguides and Circuits
Tongtong Song (Nanjing University); Yun Lai (Nanjing University);

00:00 High-speed Duplex FSO System Assisted by a Wide-field-of-view Metasens
Nan He (Zhejiang University); Tingbiao Guo (Zhejiang University); Jianning Tian (Zhejiang University); Ji Du (Zhejiang University); Yi Jin (Zhejiang University); Sailing He (Royal Institute of Technology & Zhejiang University);

Session 4A8
Quantum Chip
Thursday AM, July 6, 2023
Room South Room 220
Organized by Xian-Min Jin
Chaired by Xian-Min Jin

00:00 Theoretical Design Ge/Si Quantum Wells towards Si-based Spin Qubits
Invited
Jun-Wei Luo (Institute of Semiconductors, Chinese Academy of Sciences);

00:00 Quantum Control in Circuit Quantum Electrodynamics via Shortcuts to Adiabaticity
Xia Chen (University of the Basque Country);

00:00 Density Matrix Exponentiation and Its Applications
Invited
Dawei Lu (Southern University of Science and Technology);

00:00 Neural-network-assisted Quantum Magnetometry: Theory and Experiment
Invited
Yue Ban (Basque Research and Technology Alliance (BRTA));
00:00 Dragging Photocurrent with Propagating Sound Waves
Invited
Cheng Zhang (Fudan University);

00:00 Recent Advances in Quantum Artificial Intelligence
Invited
Dong-Ling Deng (Tsinghua University);

00:00 Towards the Hybrid Photonic-atomic Chip Platform
Invited
Based on a GaN-on-sapphire Chip
Guo-Yong Xiang (University of Science and Technology of China, CAS);

00:00 Environmental Effect on Topological Phase in Superconducting Quantum Chips
Invited
Yu-Xi Liu (Tsinghua University);

00:00 Deterministically Fabricated Integrated Quantum Photonic Circuits Based on Semiconductor Quantum Dots
Invited
Shulun Li (Technische Universität); Yuhui Yang (Technische Universität); Peter Schnauber (Technische Universität); Johannes Schall (Technische Universität); Martin Von Helversen (Technische Universität); Chirag Palekar (Technische Universität); Hanqing Liu (Institute of Semiconductors, Chinese Academy of Sciences); Leo Roche (Technische Universität); Sven Rodt (Technische Universität); Hai-Qiao Ni (Institute of Semiconductors, Chinese Academy of Sciences); Yu Zhang (Institute of Semiconductors, Chinese Academy of Sciences); Zhichuan Niu (Institute of Semiconductors, Chinese Academy of Sciences); Stephan Rettensteiihn (Technische Universität Berlin);

00:00 Topology-optimized Computing Optical Chip: From Classical to Quantum
Invited
Lu He (Beijing Institute of Technology); Xiangdong Zhang (Beijing Computational Science Research Center);

00:00 Quantum Photonic Integrated Circuits
Invited
Klaus D. Jöns (Paderborn University);

00:00 A 2-D Green’s Function for Microwave Imaging in an Elliptically-layered Cylindrical PEC Enclosure
Invited
Andrea Randazzo (University of Genoa); Alessandro Fedeli (University of Genoa); Valentina Schenone (University of Genoa); Matteo Pastorino (University of Genoa);

00:00 Nonreflecting Boundary Condition for the Free Schrödinger Equation in 2D
Invited
Samardhi Yadav (Indian Institute of Technology Delhi); Vishal Vaibhav (Indian Institute of Technology Delhi);

00:00 Modeling Interference of Scattered and Incident Waves in Light Scattering Problems with Gaussian Beams
Invited
Jonas Gienger (Physikalisch-Technische Bundesanstalt);

00:00 Directional Near-field Coupling beyond Polarization Locking in Parallel-plate Waveguides
Invited
Chen Wang (Zhejiang University); Yuhang Zhong (Zhejiang University); Dashuang Liao (Zhejiang University); Huaping Wang (Zhejiang University); Liqiao Jing (Zhejiang University); Hongsheng Chen (Zhejiang University); Xiaolin Zhejiang University;

00:00 Sensitivity Simulation of Ultrasound Backscatter and Varying Cancellous Bone Microstructural Parameters
Invited
Xingxing Chou (Shaanxi University of Science and Technology); Jin Wang (Shaanxi University of Science and Technology);

00:00 CWA Modeling of a Matching Layer in a On-body Coupling System
Invited
Ludovica Tognolatti (Roma Tre University); Cristina Ponti (Roma Tre University); Giuseppe Schettini (Roma Tre University);

Session 4A9b
Novel Mathematical Methods in Electromagnetic

Thursday AM, July 6, 2023
Room South Room 221
Organized by Kazuya Kobayashi, Yuriy V. Shestopalov
Chaired by Kazuya Kobayashi

00:00 Plane Wave Diffraction by a Slit in an Infinite Plate with Fractional Boundary Conditions
Invited
Takashi Nagaoka (Ashikaga University); Keigo Yoshinari (Chuo University); Kazuya Kobayashi (Chuo University);

00:00 Fine Structure in Resonance Spectra of Optical Microcavities
Invited
M. P. van Ester (Leiden University); C. Koks (Leiden University);
Session 4A10a
Polarimetric Synthetic Aperture Radar in Ocean Remote Sensing Applications

Thursday AM, July 6, 2023
Room South Room 222
Organized by Jian Yang, Yanlei Du
Chaired by Yanlei Du

00:00 Ocean Wave Parameters Retrieval from Polarimetric SAR Images
Yawei Zhao (National Key Laboratory of Microwave Imaging Technology); Jinsong Chong (National Key Laboratory of Microwave Imaging Technology); Xuan Jin (National Key Laboratory of Microwave Imaging Technology);

00:00 Ship Detection Based on Polarimetric SAR Gradient and Complex Wishart Classifier
Junjun Yin (University of Science and Technology Beijing); Jian Yang (Tsinghua University);

00:00 Multi-feature Dimension Reduction GP-PNF Based Ship Detection of Polarimetric SAR
Chenghui Cao (First Institute of Oceanography, Ministry of Natural Resources); Xi Zhang (First Institute of Oceanography, Ministry of Natural Resources); Genwang Liu (First Institute of Oceanography, Ministry of Natural Resources); Jun-Min Meng (First Institute of Oceanography of State Oceanic Administration);

00:00 Iceberg Detection Using L-band Compact Polarimetric SAR
Genwang Liu (First Institute of Oceanography, Ministry of Natural Resources); Xi Zhang (First Institute of Oceanography, Ministry of Natural Resources); Chenghui Cao (First Institute of Oceanography, Ministry of Natural Resources); Jun-Min Meng (First Institute of Oceanography of State Oceanic Administration);

00:00 Iceberg Detection Using L-band Compact Polarimetric SAR
Genwang Liu (First Institute of Oceanography, Ministry of Natural Resources); Xi Zhang (First Institute of Oceanography, Ministry of Natural Resources); Chenghui Cao (First Institute of Oceanography, Ministry of Natural Resources); Jun-Min Meng (First Institute of Oceanography of State Oceanic Administration);

Session 4A10b
Advances in Random Medium Scattering Theory and Microwave Remote Sensing

Thursday AM, July 6, 2023
Room South Room 222
Organized by Shurun Tan, Yanlei Du
Chaired by Shurun Tan, Yanlei Du

00:00 Exceptional-point Sensors Enhanced by Noise
Zhipei Li (National University of Singapore); Chenghui Li (National University of Singapore); Chengwei Qu (National University of Singapore);

00:00 Disturbing Variability in Microwave Emission from Non-Gaussian Height Distributed Rough Surface
Ying Yang (Nanjing University of Science and Technology); Kun-Shan Chen (Guilin University of Technology);
Session 4A11
Electromagnetic Modeling and Inversion and Application

Thursday AM, July 6, 2023
Room South Room 223
Organized by Jianhua Li, Ganquan Xie

00:00 Novel GLHUA Electromagnetic Invisible Cloak Created by a Transformation from Negative Space to Positive Space and in Cloak without Exceeding Light Speed Propagation
Feng Xie (GL Geophysical Laboratory); Jianhua Li (GL Geophysical Laboratory); Lee Xie (GL Geophysical Laboratory); Ganquan Xie (GL Geophysical Laboratory, Lawrence Berkeley Laboratory);

00:00 New N Dimensional Maxwell Equations
Feng Xie (GL Geophysical Laboratory); Jianhua Li (GL Geophysical Laboratory); Lee Xie (GL Geophysical Laboratory); Ganquan Xie (GL Geophysical Laboratory, Lawrence Berkeley Laboratory);

00:00 Fast Hybrid Method (FHM) for Full-wave Simulations of Forests and Vegetation Fields in Microwave Remote Sensing of Soil Moisture at L-band
Jongwoo Jeong (University of Michigan); Leung Tsang (University of Michigan); Andreas Collieder (California Institute of Technology); Simon H. Yueh (California Institute of Technology);

00:00 Alternative Analysis and Calculation of Optical Doppler Effect and the Discussion of Time and Space
Shandong Zhao (Dayueling Super Sciences Computational Center);

00:00 Inversion by Aftershocks to Investigate Earthquake
Ganquan Xie (GL Geophysical Laboratory, Lawrence Berkeley Laboratory); Lee Xie (GL Geophysical Laboratory); Ernie Majer (Lawrence Berkeley National Laboratory); Feng Xie (GL Geophysical Laboratory); Jianhua Li (GL Geophysical Laboratory); Micheal Orlitaqibo (Yale University); Jian Sheng Liu (Wang Cheng Second High School); Yongyou Sun (Wang Cheng Second High School);
Three-dimensional Electrical Structure of the Crust-mantle in the Southern Section of the Longmenshan and Its Relation to the Lushan Earthquake
Gang Zhang (Southwest University of Science and Technology); Xueben Wang (Chenda Technology University); Yushu Tang (Southwest University of Science and Technology); Yu Ma (Southwest University of Science and Technology); Xinkai Zhang (Southwest University of Science and Technology); Dewei Li (Chenda Technology University); Chunmei Huang (Sichuan Earthquake Bureau); Xuelin Cai (Chenda Technology University);

Electromagnetic and Seismic Exploration on Global and Local Earthquake in the World
Lee Xie (GL Geophysical Laboratory); Ernest Major (Lawrence Berkeley National Laboratory); Jianhua Li (GL Geophysical Laboratory); Feng Xie (GL Geophysical Laboratory); Gang Zhang (Southwest University of Science and Technology); Xueben Wang (Chenda Technology University); Micheal Oristaglio (Yale University); Jiaqi Liu (Harbin Institute of Technology); Hong Liu (Institute of Geology and Geophysics, Chinese Academy of Sciences); Dazin Zuo (GL Geophysical Laboratory); Tieqi Wang (Dayuling Super Sciences Center); Jianpeng Zuo (Dayuling Super Scientific Computing Center); Youmin Li (Geophysical and Geology Institute, Chinese Academy of Sciences); Jianshu Luo (Jiaodong Scientific and Technology University); Shi-Gu Cao (HKUST Shenzhen-Hong Kong Collaborative Innovation Research Institute); Oleg Krawchenko (Federal Research Center, Computer Science and Control); Bin Mao (Qiaogi Town People’s Committee); Xianwei Zhou (Beijing Scientific Technology University); Huizhu Yang (Tsinghua University); Y. Z. Guo (Wuhan City Committee); Qibua Deng (Dongting Lake Research Institute); Aiqing Wu (Yangtze River Water Conservancy Committee); Qing Xie (Zexing Technology Company); Gang Long (Sichuan Ganzi Tibetan Autonomous Prefecture); Jing Li (Dayuling Super Sciences Center); Mohd Noh Karsiti (Universiti Teknologi PETRONAS); Genhua Shi (GL Geophysical Laboratory); Hanping Chin (GL Geophysical Laboratory); Gangquan Xie (GL Geophysical Laboratory, Lawrence Berkeley Laboratory);

Invited
Zhaoye Ma (Fudan University);

Metal Handwritten Digits Classification Based on X-band Diffractive Deep Neural Network
Ze Gu (Southeast University); Qian Ma (Southeast University); Tie Jun Cui (Southeast University);

A Programmable Diffractive Deep Neural Network Based on a Digital-coding Metasurface Array
Qian Ma (Southeast University); Che Liu (Southeast University); Tie Jun Cui (Southeast University);

Advances in Human Target Sensing with Wireless Signals
Xinyu Li (Southeast University); Siqi Huang (Southeast University); Jun Ming Hou (Southeast University); Che Liu (Southeast University); Jianwei You (Southeast University); Tie Jun Cui (Southeast University);

Artificial Neural Networks Based on Programmable Spoof Plasmonic Metamaterials
Xinzin Gao (City University of Hongkong); Qian Ma (Southeast University); Tie Jun Cui (Southeast University); Chi Hou Chan (City University of Hongkong);

Fast Design of Metasurface-based Microwave Absorber Using the Neuro-TF Approach
Yuheng Tu (Southeast University); Jianan Liu (Southeast University); Tian Qiu (Southeast University); Yunlang Cai (Southeast University); Jianan Zhang (Southeast University); Jianwei You (Southeast University); Tie Jun Cui (Southeast University);

Toward Electromagnetic Near-field Mutual Coupling Suppression with Active Janus Sources
Bo Xue (City University of Hong Kong); Alex M. H. Wong (City University of Hong Kong);

Topological Antichiral Surface States in a Magnetic Weyl Photonic Crystal
Zhen Gao (Southern University of Science and Technology);

Session 4P1b
Terahertz and Infrared Metamaterials, Devices and Applications
Thursday PM, July 6, 2023
Room Club E
Organized by Su Xu, Quan Xu
00:00 Terahertz Absorptance in MoS₂/Graphene Nanoribbon Heterostructures
Omnia Sammy (United Arab University); Taichi Otsuji (Tohoku University); Amine E. Moutaouakil (United Arab University);
00:00 Detection of Biological Sample by Using Terahertz Technology
Nagendra Prasad Yadav (Hubei Polytechnic University); Guozhen Hu (Hubei Polytechnic University); Rakesh Kumar Singh (SIET Prayagraj Uttar Pradesh);
00:00 Hybrid Bound States in the Continuum in Terahertz Laser Fabrication of Mid-infrared Anti-reflection Microstructures
Xiang-Chao Sun (Jilin University); Jia-Xin Zheng (Jilin University); Xue-Qing Liu (Jilin University);
00:00 Manipulating Terahertz Spoof Surface Plasmon Polaritons Based on Gradient Metallic Pillars
Xiaoqiang Su (Shanxi Datong University); Lijuan Dong (Shanxi Datong University); Liziang Liu (Shanxi Datong University); Yunlong Shi (Shanxi Datong University);
00:00 Terahertz Mie-resonant Metasurface
Quanlong Yang (Central South University);
00:00 Integrated On-chip Terahertz Spoof Surface-plasmon-polariton Devices
Ying Zhang (Yunnan Normal University);
00:00 Ultradirectional Coatings with Low Reflectance in the Visible and Near-infrared Spectral Band
Yan Wang (Changchun University of Technology);
00:00 Terahertz All-optical Imprint Devices Based on Phase Change Films
Zhen Tian (Tianjin University);
00:00 Research of Active Terahertz Chiral Metasurface
Meng Liu (Shandong University of Science and Technology);
00:00 Manipulation of the Nonlinear Plasmonic Bound State in the Continuum of Metasurfaces
Qun Ren (Tianjin University);
00:00 First Light at the Israeli THz Superradiant Free Electron Laser
Ariel Nasse (Ariel University);
00:00 Analysis of Phase Noise in Waveguide-integrated Optical Test Structures in Silicon Photonics
Vijayalakshmi Surendranath Shroff (University of Paderborn); Christian Kress (University of Paderborn); M. Bahamanian (University of Paderborn); J. Christoph Scheytt (University of Paderborn);
00:00 AIE Fluorophores for Laser and Random Laser Operation
Lech Sznitko (Wroclaw University of Science and Technology); Kamila Lupinska (Wroclaw University of Science and Technology);
00:00 Photocatalytic Coenzyme Regeneration in a Microfluidic Reactor for Artificial Photosynthesis of Glucose
Fengjia Xie (The Hong Kong Polytechnic University); Yajiao Zhu (The Hong Kong Polytechnic University); Chi Chung Tsai (The Hong Kong Polytechnic University); Huaping Jia (The Hong Kong Polytechnic University); Xuming Zhang (The Hong Kong Polytechnic University);
00:00 On the Scaling of Perovskite Solar Modules: The Role of Interface Engineering by 2D Materials
Sara Pescetelli (University of Rome Tor Vergata); Antonio Agresti (University of Rome Tor Vergata); H. Pazziak (University of Rome Tor Vergata); E. Leonardi (University of Rome Tor Vergata); F. Bonaccorso (University of Rome Tor Vergata); E. Kymakis (University of Rome Tor Vergata); Aldo Di Carlo (University of Rome Tor Vergata);
00:00 Generation of Isolated-attosecond Pulses from Water Window to keV Hard X-ray
Hsu-Hsin Chu (National Central University);
00:00 Localized Spectral Modes Generated in the Random Raman Laser Based on Multimode Fiber
Artem E. Kirik (Novosibirsk State University); Ilya D. Vatnik (Novosibirsk State University); Dmitry V. Charkin (Novosibirsk State University);
00:00 Evolution Investigation of Solitons in Fiber Lasers with Time-stretch Dispersive Fourier Transform Technique
Yanrong Song (Beijing University of Technology); Youshuo Cui (Beijing University of Technology); Jiu-Rong Tian (Beijing University of Technology);
00:00 Ultrafast Electron Dynamics of Graphene Quantum Dots: High Harmonic Generation
Suresh Gnawali (Georgia State University); Vadim Apalkov (Georgia State Univ);
00:00 Inverse Design of Light-matter Interactions
Robert Bennett (University of Glasgow);

Session 4P2
Optical Fiber, Laser, Sensors, Nano-optics and Others
Thursday PM, July 6, 2023
Room Club D

00:00 Spin Hall Angle of L1₂-Ordered Antiferromagnetic Mn₄Ir Assessed by Terahertz Emission Spectroscopy
Huiling Mao (Tokyo Institute of Technology); Yuta Sasaki (NIMS); Yuta Kobayashi (Kyoto University); Shinji Isogami (NIMS); Teruo Ono (Kyoto University); Takahiro Moriyama (Kyoto University); Yukiko K. Takahashi (NIMS); Kihiro T. Yamada (Tokyo Institute of Technology);
00:00 TMDC-based Topological Nanospaser: Single and Double Threshold Behavior and Ultrafast Pulse Pumping
Dalton C. Hanley (Georgia State University); S. Azar Oliaei Motlagh (Georgia State University); Rupesh Ghimire (Georgia State University); Fatemeh Nematollahi (Georgia State University); Vadym Apalkov (Georgia State University); Jhih-Sheng Wu (National Chiao Tung University);

00:00 60-GHz Range, +16-dBm High-power Narrow-band Photoreceiver Module
Toshimasa Umezawa (National Institute of Information and Communications Technology); Atsushi Matsumoto (National Institute of Information and Communications Technology); Atsushi Kanno (National Institute of Information and Communications Technology); Kouichi Akahane (National Institute of Information and Communications Technology);

00:00 Optical Beamforming Concepts for Wide-swath Synthetic Aperture Radar Systems
Josef Ydreborg (German Aerospace Centre (DLR)); Sigurd Huber (German Aerospace Centre (DLR)); Gerhard Krieger (German Aerospace Centre (DLR));

00:00 Detection of a Terahertz Wireless Signal Using Photonics-based System with Electro-optic Polymer Device
Kota Miyake (Gifu University); Hiromi Murakami (Gifu University); Takahiro Kaji (National Institute of Information and Communications Technology (NICT)); Atsushi Kanno (National Institute of Information and Communications Technology (NICT)); Isao Morohashi (National Institute of Information and Communications Technology (NICT)); Akira Otomo (National Institute of Information and Communications Technology (NICT)); Hiroki Kishikawa (Tokushima University); Takeshi Yasui (Tokushima University); Shintaro Hisatake (Gifu University);

00:00 Simple Fiber-wireless System in 130-GHz Band Using Optical Phase Modulator
Pham Tien Dat (National Institute of Information and Communications Technology); Kouichi Akahane (National Institute of Information and Communications Technology);

00:00 2D Mono Detection Spatially Super-resolved Microwave Imaging for Radar Applications
Isahar Gabay (Bar-Ilan University); Zeev Zalevsky (Bar-Ilan University);

00:00 Feasibility Study of Artificial Compound Eye Using Optical Fibers
Heng Jiang (The Hong Kong Polytechnic University); Yu Du (The Hong Kong Polytechnic University); Chi Chung Tsoi (The Hong Kong Polytechnic University); Xuming Zhang (The Hong Kong Polytechnic University);

00:00 Diffuse Optical Imaging Using Optimized Regularization Parameters through U-curve Method
Nian-Du Wu (National Central University); Min-Chun Pan (National Central University);

00:00 Computer Aided Diagnosis in Colorectal Cancer by Deep Learning Based on Ultrahigh Magnification Endoscopic Images
Changjiang Zhou (Research Center for Intelligent Sensing, Zhejiang Lab); Wenwu Zhu (Zhejiang Center for Medical Device Evaluation); Xiaorong Xu (Research Center for Intelligent Sensing, Zhejiang Lab); Liqiang Wang (Zhejiang University); Weiming Qi (Zhejiang Center for Medical Device Evaluation); Qing Yang (Zhejiang University);

00:00 Thermal Wavefront Shaping: Application in Fluorescent Microscopy
Hadrien M. L. Robert (Sorbonne Université); Chang Liu (Sorbonne Université); Nadja Rutz (ETH Zürich); Giulia Faini (Sorbonne Université); Anis Aggouni (Sorbonne Université); Filippo Del Bene (Sorbonne Université); Gilles Tessier (Sorbonne Université); Romain Quidant (ETH Zürich); Pascal Berto (Sorbonne Université);

00:00 Low Loss All-oxide Plasmon-assisted Electro-optic Modulator
Dhruv Fomra (University of Maryland); Md. Sojib (Virginia Commonwealth University); Vitality Aervatin (Virginia Commonwealth University); Umit Ozgur (Virginia Commonwealth University); Amit K. Agrawal (National Institute of Standards and Technology); Henri J. Lezec (National Institute of Standards and Technology); Nathaniel Kinsey (Virginia Commonwealth University);

00:00 The Use of Surface Characterization Techniques in Photonics
Hendrik C. Swart (University of the Free State);

00:00 Coordination Defects and Their Respective Role on the Photoinduced Changes in Ge-Sb-Se and Related Chalcogenide Thin Films
Tomas Halenkovic (University of Pardubice); Virginie Nazabal (Université de Rennes 1); Magdalena Kotrla (University of Pardubice); Marion Bailleul (University of Pardubice); Jan Gutwirth (University of Pardubice); Petr Nemec (University of Pardubice);
00:00 Tunable Optical Properties of Amorphous Al-doped Ga$_2$O$_3$ Films Prepared by Plasma Enhanced ALD
Weiming Liu (Fudan University); Xudan Zhu (Fudan University); Junbo He (Fudan University); Xin Chen (Shanghai Institute of Technical Physics, Chinese Academy of Science); Shuang Liu (Fudan University); Hong Zhou (Fudan University); Yifan Ding (Fudan University); Nuqi Wang (Fudan University); Rongjun Zhang (Fudan University);

00:00 Reveal the Modulation Effects of Monolayer h-BN on Optical Properties of the Graphene/h-BN/MoS$_2$ Heterostructures
Xudan Zhu (Fudan University); Junbo He (Fudan University); Weiming Liu (Fudan University); Jiahao Li (Fudan University); Yuziang Zheng (Fudan University); Songyou Wang (Fudan University); Liangyou Chen (Fudan University); Junhao Chu (Shanghai Institute of Technical Physics, Chinese Academy of Sciences); Rongjun Zhang (Fudan University);

00:00 Inverse Opal Photonic Crystals: Fabrication and Raman Enhancement Properties
Matin S. Ashurov (Westlake University); Sergey O. Klimonsky (Lomonosov Moscow State University); Alexey V. Kavokin (Westlake University);

00:00 Novel Ultra-thin Silicon Photonic Devices for Mid-infrared
Rongxiang Guo (Tianjin University); Qi He (Tianjin University); Tiegen Liu (Tianjin University); Zhengzhou Cheng (Tianjin University);

00:00 Mid-infrared Photonic Crystal Structure Based On-chip Spectrometer
Lipeng Xia (ShanghaiTech University); Yuhuan Sun (ShanghaiTech University); Ting Li (ShanghaiTech University); Peiqi Zhou (ShanghaiTech University); Yi Zou (ShanghaiTech University);

00:00 New Integrated Photonic Devices Based on Transformation Optics
Dingshan Gao (Huazhong University of Science and Technology); Shuyi Li (Huazhong University of Science and Technology); Lifeng Cai (Huazhong University of Science and Technology); Jianji Dong (Huazhong University of Science and Technology); Xinliang Zhang (Huazhong University of Science and Technology);

00:00 Strong Coupling Augmentation of Sensing at the Exceptional Points
Jingming Chen (Southern University of Science and Technology); Zhen Gao (Southern University of Science and Technology);

00:00 All-angle Reflectionless Negative Refraction of Topological Surface Waves
Yachao Liu (Shenzhen University);

00:00 Phase Manipulation of Electromagnetic Waves Achieved by Photonic Crystals
Xiao Zhang (Nanjing University); Chengpeng Liang (Nanjing University); Li Liang (Nanjing University); Longzhen Fan (Nanjing University); Yin Poo (Nanjing University);

00:00 Antichiral Surface States in Time-reversal-invariant Photonic Semimetals
Jian-Wei Liu (Sun Yat-Sen University); Fu-Long Shi (Sun Yat-Sen University); Ke Shen (Sun Yat-Sen University); Xiao-Dong Chen (Sun Yat-Sen University); Ke Chen (Sun Yat-Sen University); Winqie Chen (Sun Yat-Sen University); Jian-Wen Dong (Sun Yat-Sen University);

00:00 Photonic Anomalous Floquet Higher-order Topological Insulators
Weswei Zhu (National University of Singapore);

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Session 4P4b
Metamaterials, Plasmonics and Complex Media
Thursday PM, July 6, 2023
Room Club B

00:00 Controlling the Light Diffraction through a Single Subwavelength Metallic Slit via Phase Gradient
Songsong Li (Soochow University); Yanyan Cao (Soochow University); Yadong Xu (Soochow University);

00:00 Asymmetric Acoustic Metagrating Enabled by Parity-time Symmetry
Jiaqi Quan (Soochow University); Yanyan Cao (Soochow University); Yadong Xu (Soochow University);

00:00 PT Phases Transition in One-dimensional Finite Periodic PT-symmetric Systems
Jeng Yi Lee (National Dong Hwa University); Pai-Yen Chen (University of Illinois at Chicago);

00:00 A Low-cost, Stable, and Accurate Electromagnetic Characterization of 3D Printing Filaments Using 3D-printed Waveguides for Microwave Applications
Ozgur Eris (Middle East Technical University); Ozlem Aydin Civi (Middle East Technical University); Ozgur Eriş (Middle East Technical University);

00:00 Computational Design and Analysis of Beam-generating Shells with Elliptical Cavities Made of Near-Zero-Index Materials
Ozgur Eris (Middle East Technical University); Ozgur Eriş (Middle East Technical University);

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Session 4P4a
Photonic Topological Meta-materials and Meta-crystals 2
Thursday PM, July 6, 2023
Room Club B
Organized by Biao Yang, Shaojie Ma
Chaired by Biao Yang, Shaojie Ma
Session 4P5a
Active and Reconfigurable Metasurfaces: Fundamentals and Applications
Thursday PM, July 6, 2023
Room Club A
Organized by Fuli Zhang

00:00 Achieving TE-polarized Transformation-invariant Metamaterials
Zhengjie Huang (Zhejiang University); Ya Luo (Nanyang Technological University); Yinger Zhang (Zhejiang University); Jingxin Tang (Zhejiang University); Xinyu Hong (Zhejiang University); Dexin Ye (Zhejiang University);

00:00 Plasmonic Nanopixels for Scalable Optical Displays
Jialong Peng (National University of Defense Technology);

00:00 Low-energy Free Electron Interaction with Illuminated Planar Surfaces: Recoil and Quantum Phenomena
Adamantios P. Synanidis (The Barcelona Institute of Science and Technology); P. André D. Gonçalves (The Barcelona Institute of Science and Technology); Claus Ropers (Max Planck Institute for Multidisciplinary Sciences); F. Javier García de Abajo (ICFO — Institut de Ciències Fotòniques, The Barcelona Institute of Science and Technology);

00:00 Plasmonic Enhancement of Gold Nanostructures for Solar Photocatalysis
Xuming Zhang (The Hong Kong Polytechnic University);

00:00 Reflectivity Spectra Study on Nano-scale Epitaxial Aluminum Films on Various Substrates
Yu-Hsun Wu (National Yang Ming Chiao Tung University); Thi-Hien Do (National Yang Ming Chiao Tung University); Sheng-Di Lin (National Yang Ming Chiao Tung University);

00:00 Anthropomorphic Abdominal Aortic Aneurysm Artificial Circulatory System for Medical Device Testing: 3D Reconstruction from CT Scans
Sofia Aversa (University of Galway); Bilal Amin (University of Galway); Nuno P. Silva (University of Galway); Muhammad Adnan Elahi (National University of Ireland Galway);

00:00 Chiral String Model for Nuclear Activity in Lightning Leader Plasma
Geert Cornelis Dijkhuis (Convectron N. V.);

00:00 An Ultrabroadband Reconfigurable Polarization Conversion Metasurface
Heng Yang (Soochow University); Yuan He (Tongji University); Mei Song Tong (Tongji University); Yunjing Zhang (Soochow University);

00:00 Epsilon-Near-Zero Coupled Surface Lattice Resonances as a Nonlinear Perceptron
Dhruv Fomra (University of Maryland); Adam Ball (Virginia Commonwealth University); Amit K. Agrawal (National Institute of Standards and Technology); Henri J. Lezec (National Institute of Standards and Technology); Nathaniel Kinsey (Virginia Commonwealth University);

00:00 A Wide-angle Programmable Metasurface Design Scheme for Millimeter-wave Radar Systems
Lu Liu (Jimei University); Yi Fei Huang (Southeast University); Hao Chi Zhang (Southeast University);

00:00 Tuning the Exotic Transport Properties of Twisted Bilayer Composites
Kenneth Morgan Golden (University of Utah);

00:00 Electrically Tunable Structural Color Filter Using a Phase Change Material
Ram Prakash S (Indian Institute of Technology Roorkee); Rajesh Kumar (IIT Roorkee); Anirban Mitra (Indian Institute of Technology Roorkee);

Session 4P5b
Metasurfaces 2
Thursday PM, July 6, 2023
Room Club A

00:00 Acoustic Metasurfaces for Ventilated Soundproofing and Configurable Camouflage
Chenkai Liu (Nanjing University); Jinjie Shi (Nanjing University); Xiaozhou Liu (Nanjing University); Johan Christensen (IMDEA Materials Institute); Nicholas X. Fang (University of Hong Kong); Yun Lai (Nanjing University);

00:00 Geometric Phase in Phase Gradient Metasurfaces
Yanyan Cao (Soochow University); Lu Xu (Soochow University); Yadong Xu (Soochow University);

00:00 Patch-type Electromagnetic Wave Focusing Metasurface for Wireless Power Transfer in Bio-Implantable Devices
Wonwoo Lee (Soongsil University); Semin Jo (Soongsil University); Hojin Lee (Soongsil University);

00:00 Tunable Asymmetric Transmission Enabled by the Acoustic Metasurface and Zero-index Metamaterials
Zhongming Gu (Tongji University); Xu Wang (Tongji University); Yong Li (Tongji University); Jie Zhu (Tongji University);

00:00 An Ultrasparse Dissipated-sound Metacage Enabled by Acoustic Metasurfaces
Houyou Long (Nanjing University); Ying Cheng (Nanjing University); Desheng Ding (Southeast University); Xiaojun Liu (Nanjing University);
00:00 Ultrasound Metasurface for Subwavelength Focusing and Thermal Effect  
  Jiajie He (Fudan University); Chuanxin Zhang (Fudan University); Xue Jiang (Fudan University); Dean Ta (Fudan University);

00:00 Spatiotemporal Acoustic Communication by a Single Sensor via Rotating Surface  
  Chuanxin Zhang (Fudan University); Jiajie He (Fudan University); Xue Jiang (Fudan University); Dean Ta (Fudan University);

00:00 Heterogeneous Transfer Learning Enable Diverse Metasurface Design  
  Jie Zhang (Zhejiang University); Hongsheng Chen (Zhejiang University); Chao Qian (Zhejiang University);

00:00 Silver-silica Metasurface for Refractometric Sensing Applications in the Terahertz Band  
  Arslan Asim (Dalhousie University); Michael Cada (Dalhousie University); Yuan Ma (Dalhousie University);

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Session 4P8a  
Quantum Measurement and Metrology  
Thursday PM, July 6, 2023  
Room South Room 220

Organized by Dawei Lu, Nanyang Xu  
Chaired by Ying Dong, Dawei Lu

00:00 Quantum Sensing Using Color Centers in Silicon Carbide  
  Junfeng Wang (Sichuan University);

00:00 Progress of Strontium Lattice Clock at USTC  
  Jie Li (University of Science and Technology of China); Xing-Yang Cai (University of Science and Technology of China); Zhi-Peng Jia (University of Science and Technology of China); De-Quan Kong (University of Science and Technology of China); Hai-Wei Yu (University of Science and Technology of China); Xian-Qing Zhu (University of Science and Technology of China); Xiao-Yong Liu (University of Science and Technology of China); De-Zhong Wang (University of Science and Technology of China); Xin-Yan Huang (University of Science and Technology of China); Ming-Yi Zhu (University of Science and Technology of China); Yu-Meng Yang (University of Science and Technology of China); Xiang-Pei Liu (University of Science and Technology of China); Xiao-Ming Zhai (University of Science and Technology of China); Peng Liu (University of Science and Technology of China); Xiao Jiang (University of Science and Technology of China); Ping Xu (University of Science and Technology of China); Hanning Dai (University of Science and Technology of China); Yu-Ao Chen (University of Science and Technology of China); Jian-Wei Pan (University of Science and Technology of China);

00:00 Entanglement-enhanced Quantum Metrology in Colored Noise by Quantum Zeno Effect  
  Xingye Long (Southern University of Science and Technology);

00:00 High Precision Free-space Time-frequency Transfer for Global Networks of Optical Clocks  
  Qi Shen (University of Science and Technology of China); Jian-Yu Guan (University of Science and Technology of China); Ji-Gang Ren (University of Science and Technology of China); Ting Zeng (University of Science and Technology of China); Lei Hou (University of Science and Technology of China); Min Li (University of Science and Technology of China); Yuan Cao (University of Science and Technology of China); Sheng-Kai Liao (University of Science and Technology of China); Juan Yin (University of Science and Technology of China); Cheng-Zhi Peng (University of Science and Technology of China); Hai-Feng Jiang (University of Science and Technology of China); Qiang Zhang (University of Science and Technology of China); Jian-Wei Pan (University of Science and Technology of China);

00:00 Microwave Electric Fields Sensing Based on Rydberg Atoms  
  Linjie Zhang (Shanxi University);

00:00 The New Schemes of Exhibiting Quantum Advantage via Quantum Correlations  
  Changliang Ren (Hunan Normal University);

00:00 Magnetic Field Detection Based on Nitrogen-vacancy Center in Diamond  
  Bing Chen (Hefei University of Technology);

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Session 4P8b  
Quantum Science and Technology  
Thursday PM, July 6, 2023  
Room South Room 220

00:00 Environment-modified Three-body Energy Transfer  
  Madeline C. Waller (University of Glasgow); Robert Bennett (University of Glasgow);

00:00 Local Optical Spin in Paraxial and Non-paraxial Light  
  Ben W. Butler (University of Glasgow);

00:00 MW-Magnon Systems for Quantum Transduction Applications  
  Bulat Rameev (Gebze Technical University);

00:00 Ultrafast Optical Pulse Compression in the Kerr Medium with Distributed Gain and Dispersion  
  Yingjia Li (Shanghai University); Koushik Paul (University of the Basque Country UPV/EHU); Xi Chen (University of the Basque Country);
Session 4P9
Computational Electromagnetics, Hybrid Methods and EMC

Thursday PM, July 6, 2023
Room South Room 221

00:00 Molecular Thermometry for Cryogenic Temperatures
Victoria Esteso (Istituto Nazionale di Ottica); R. Duquennoy (National Institute of Optics (CNR-INO)); R. C. Ng (Catalan Institute of Nanoscience and Nanotechnology (ICN2)); Maja Colautti (National Institute of Optics, CNR-INO); P. Lombardi (European Lab Nonlinear Spect LENS); Guillermo Arregui (Catalan Institute of Nanoscience and Nanotechnology (ICN2)); E. Chavez-Angel (Catalan Institute of Nanoscience and Nanotechnology (ICN2)); C. M. Sotomayor-Torres (Catalan Institute of Nanotechnology); P. D. Gacria (Instituto de Ciencia de Materiales de Madrid); Michael Hiske (McGill University); Costanza Toninelli (National Institute of Optics, CNR-INO);

FEM Modelling of Magnetostatic Modes in Hybrid Quantum Magnonic Systems
Maksut Maksutoglu (Gebze Technical University); Elif Avcina (Gebze Technical University); Farkhad Zainullin (Gebze Technical University); Kamil Çınar (Gebze Technical University); S. Çiğdem Yorulmaz (Gebze Technical University); Sergiy Tarapov (Gebze Technical University); Fikret Yildiz (Gebze Technical University); Bulat Rameev (Gebze Technical University);

00:00 Simulation of Pulses Propagation in Passive Transmission Lines
Lucas Iwanikow (University of Southern California); Yu-Chia Lin (University of Southern California);

00:00 Experimental Study on the Blow-off Kinetics of Bluff Body Stabilized Premixed Flame Utilizing High-speed Optical Measurements
Yi Gao (Shanghai Jiao Tong University);

00:00 Path Planning for Cellular-connected UAV Using Parabolic Equation-based Radio Wave Propagation Models
Hao Qin (University College Dublin); Zhaozhou Wu (University College Dublin); Xingqi Zhang (University College Dublin);

00:00 The PML Implementation of Electromagnetic Waves in Hyperbolic Media
Na Liu (Xiamen University); Yansheng Gong (Xiamen University); Ruichen Luo (Xiamen University); Guozhong Cai (Xiamen University); Huayang Chen (Xiamen University);

00:00 Inverse Filtering Signal Identification and Localization in a 2D Electromagnetic Reverberating Cavity
Alexandros Papamathaiou (ISAE-SUPAERO);
Daniel Opoka (ISAE-SUPAERO);

00:00 Contactless Macroscopic Quantum Sensing through Free-electron Decoherence
Cruz I. Velasco (ICFO — Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology); Valerio Di Giulio (ICFO — Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology); F. Javier Garcia de Abajo (ICFO — Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology);

00:00 Contactless Macroscopic Quantum Sensing through Free-electron Decoherence
Cruz I. Velasco (ICFO — Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology); Valerio Di Giulio (ICFO — Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology); F. Javier Garcia de Abajo (ICFO — Institut de Ciencies Fotoniques, The Barcelona Institute of Science and Technology);

00:00 High Order FDTD and HIE-FDTD
Tao Liu (Xidian University); Le Xu (Xidian University); Ting-Jun Liu (Xidian University); Yong Yang (Beijing Institute of Spacecraft Environment Engineering); Xiao-Wei Shi (Xidian University);

00:00 Number of words: 117
00:00 Feasibility Analysis of the Prediction of High Power Electromagnetic Environment from Antenna Current Response
Chuanbao Du (Northwest Institute of Nuclear Technology); Congguang Mao (Northwest Institute of Nuclear Technology); Zheng Liu (Northwest Institute of Nuclear Technology); Xin Nie (Northwest Institute of Nuclear Technology); Wei Wu (Northwest Institute of Nuclear Technology);

00:00 Strategy to Design Resistive FSSs Considering Effect of Dielectric Substrates for Circuit-analog Microwave Absorbers
Jin-Bong Kim (Korea Institute of Materials Science); Hong-Kyu Jang (Korea Institute of Materials Science); Jaecheol Oh (Korea Institute of Materials Science);

00:00 RF-front-end Hardware Perturbation Caused by Millimeter Waves
Benjamin Saggin (Univ Montpellier); Jeremy Raoult (Univ Montpellier);

00:00 Novel Design of Wideband Microwave Absorber Based on Aramil Paper Honeycomb Structure
Ye Han (Nanjing University of Posts and Telecommunications); Jiaque Chen (Nanjing University of Posts and Telecommunications); Qi Li (Nanjing University of Posts and Telecommunications); Wenquan Che (South China University of Technology); Quan Xue (South China University of Technology);

00:00 Performance Investigation on Tunable EM Wave Absorber Composed of Varactor Diode-loaded Open Ring Resonator
Budi Syihabuddin (Institut Teknologi Bandung); Mohammad Ridwan Effendi (Institut Teknologi Bandung); Achmad Munir (Institut Teknologi Bandung);

00:00 A Near Perfect Solar Selective Metamaterials Absorber for High Efficiency Solar Energy Harvesting
Buxiong Qi (Lanzhou University); Wenqiong Chen (Lanzhou University); Jingwei Zhang (Lanzhou University); Zhong-Lei Mei (Lanzhou University);

00:00 An Analytical Method for Electromagnetic Field in Planar-stratified Medium
Decheng Hong (Jilin University);

00:00 A Study on Detectable Diameter of a Metal Cylinder Embedded in Concrete Structures Using Doppler Sensors
Taissei Watanabe (Aoyama Gakuin University); Saburu Hiraoaka (Konica Minolta, Inc.); Osamu Hashimoto (Aoyama Gakuin University); Ryosuke Suga (Aoyama Gakuin University);

00:00 A Hidden Knowledge in Long-term EMF Monitoring of EMF RATEL Monitoring Network
Nikola Djuric (University of Novi Sad); Tamara Skoric (University of Novi Sad); Dragan Klijacic (University of Novi Sad); Vidak Otasevic (Regulatory Agency for Electronic Communications and Postal Services (RATEL)); Snezana M. Djuric (University of Novi Sad);

00:00 An Approach of the Electric Field Strength Prediction Using Time Series Analysis
Niksa Jakovljević (University of Novi Sad); Nikola M. Djuric (University of Novi Sad); Dragan Klijacic (University of Novi Sad); Tamara Skoric (University of Novi Sad); Vidak Otasevic (Regulatory Agency for Electronic Communications and Postal Services (RATEL));

00:00 Support Vector Machine to Recognize Hand Motions Using Body Worn Flexible Antenna
Subham Ghosh (National Institute of Technology Silchar); Banani Basu (National Institute of Technology); Marami Das (Gauhati Medical College Hospital);

00:00 Compensation Effect in the Conductive Polar Ionosphere
George V. Jandieri (VSB — Technical University of Ostrava); Nino F. Mchedlishvili (Georgian Technical University); Nika K. Tugushi (Georgian Technical University);

00:00 Some Peculiarities of the Angular Spectrum of Radio Waves Scattered in the Polar Ionospheric Plasma
George V. Jandieri (VSB — Technical University of Ostrava); Sophio Q. Barnovi (Georgian Technical University); Salome E. Mukhashavria (Georgian Technical University);

00:00 Quantitative Evaluation of Component Content in Hydrate-bearing Artificial Sediment with Clay
Xiaoxiao Li (China University of Petroleum (East China)); Bin Wang (China University of Petroleum); Lanchang Xing (China University of Petroleum); Muzhi Gao (China University of Petroleum (East China)); Jianqin Deng (41st Institute of China Electronic Technology Group Corporation); Ximmin Ge (China University of Petroleum (East China)); Zhoutuo Wei (China University of Petroleum (East China)); Chuan Li (The Affiliated Hospital of Qingdao University); Linlin Qu (The Affiliated Hospital of Qingdao University); Shihong Shao (The Affiliated Hospital of Qingdao University);

Session 4P10
Remote Sensing, Inverse Problems, Imaging, GPR, Radar and Sensing
Thursday PM, July 6, 2023
Room South Room 222

00:00 Efficient 3D Joint Inversion Enhanced by Deep Learning Techniques
Yanyan Hu (University of Houston); Xiaolong Wei (University of Houston); Xueqin Wu (University of Houston); Jiajia Sun (University of Houston); Jiefu Chen (University of Houston); Yueqin Huang (Cyentech Consulting LLC);

00:00 Some Peculiarities of the Angular Spectrum of Radio Waves Scattered in the Polar Ionospheric Plasma
George V. Jandieri (VSB — Technical University of Ostrava); Sophio Q. Barnovi (Georgian Technical University); Salome E. Mukhashavria (Georgian Technical University);

00:00 Quantitative Evaluation of Component Content in Hydrate-bearing Artificial Sediment with Clay
Xiaoxiao Li (China University of Petroleum (East China)); Bin Wang (China University of Petroleum); Lanchang Xing (China University of Petroleum); Muzhi Gao (China University of Petroleum (East China)); Jianqin Deng (41st Institute of China Electronic Technology Group Corporation); Ximmin Ge (China University of Petroleum (East China)); Zhoutuo Wei (China University of Petroleum (East China)); Chuan Li (The Affiliated Hospital of Qingdao University); Linlin Qu (The Affiliated Hospital of Qingdao University); Shihong Shao (The Affiliated Hospital of Qingdao University);
00:00 Design of a Highly Compact Self-multiplexing Antenna with SIW Technology for Quadband Applications
Souvik Kiran Kumar Dash (SRM Institute of Science and Technology); Qingsha S. Cheng (Southern University of Science and Technology); Lei Wang (Heriot-Watt University);

00:00 Low Cross-polarization over Full Bandwidth of SIW Cavity-backed Slot Antenna
Arvind Kumar (Vissvesvaraya National Institute of Technology); A. G. Keskar (Vissvesvaraya National Institute of Technology); Divya Chaturvedi (SRM University AP);

00:00 A Millimeter Wave Coupler with Arbitrary Coupling Coefficient Based on Novel SIW Topology
Yu Fei Pan (Guangzhou University); Ye Yang (City University of Hong Kong);

00:00 Substrate Integrated Waveguide Fed Stacked DRA for 5G NR FR2 Applications
Siddhartha Kumar Sahu (Indian Institute of Technology Guwahati); Rakshesh Singh Kshetrimayum (Indian Institute of Technology Guwahati); Soibam Aruna Chanu (Indian Institute of Technology Guwahati); Ramesh Kumar Sonkar (Indian Institute of Technology Guwahati);

00:00 Design and Analysis of Wearable Monopole Antenna Sensor
K. M. Divya Chaturvedi (SRM University); T. Ganesh (SRM University); Arvind Kumar (Vissvesvaraya National Institute of Technology);

00:00 Slotted Rectangular Microstrip Patch Antenna for Breast Cancer Detection
Sakshi Sharma (SRM University); K. M. Divya Chaturvedi (SRM University-AP);

00:00 A Compact Strain-induced SiGe PN Phase Shifter for High-speed on Chip Interconnects
Simran Kumari (Indian Institute of Technology Guwahati); Dhiman Kakati (Indian Institute of Technology Guwahati); Soibam Aruna Chanu (Indian Institute of Technology Guwahati); Rashmi Netam Satish (Indian Institute of Technology Guwahati); Ramesh Kumar Sonkar (Indian Institute of Technology Guwahati);

00:00 Photonic Crystal Based Asymmetric Parallel Waveguide Design Optimization for Hybrid WDM Applications
Rashmi Netam Satish (Indian Institute of Technology Guwahati); Soibam Aruna Chanu (Indian Institute of Technology Guwahati); Simran Kumari (Indian Institute of Technology Guwahati); Shamshad Alam (Indian Institute of Technology Guwahati); Basani Shiva Ganesh (Indian Institute of Technology Guwahati); Ramesh Kumar Sonkar (Indian Institute of Technology Guwahati);

00:00 Wideband Circularly Polarized Rectangular Dielectric Resonator Antenna Using Inverted U-shaped Ground Plane for Sub 6GHz and Upper Mid-bands 5G Applications
Rajkishor Kumar (Vellore Institute of Technology); Avinash Chandra (Vellore Institute of Technology); Divya Chaturvedi (SRM University AP);

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**Session 4P11a**

**Substrate Integrated Waveguide Based Circuits and Systems**

**Thursday PM, July 6, 2023**

**Room South Room 223**

Organized by Arvind Kumar

Chaired by Arvind Kumar

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**Session 4P11b**

**Antennas, Array, Theory and Applications 2**

**Thursday PM, July 6, 2023**

**Room South Room 223**
Rectangular Microstrip Slot Antenna with EBG Structure for Wearable WLAN/WiMAX Applications
Masum Imran Laskar (National Institute of Technology Silchar); Barun Dhabal (National Institute of Technology Silchar); Banani Basu (National Institute of Technology Silchar); Arnab Nandi (National Institute of Technology Silchar);

Performance Characterisation of Microstrip Antenna when Utilised for RF Power Harvesting in Manufacturing Environments
Azunka N. Ukala (University of Hertfordshire, College Lane); Martin Thomas (University of Hertfordshire, College Lane); Tiffany Cao (University of Hertfordshire, College Lane); Eugene A. Ogbodo (University of Hertfordshire, College Lane);

Azunka N. Ukala (University of Hertfordshire, College Lane); Uchenna Kesieme (University of Hertfordshire, College Lane); Eugene A. Ogbodo (University of Hertfordshire, College Lane); Tiffany Cao (University of Hertfordshire, College Lane);

Geodesic $H$-plane Horn Antennas Design Based on a Ray-tracing Technique
Mingzheng Chen (KTH Royal Institute of Technology); Francisco L. Mesa (Universidad de Sevilla); Oscar Quevedo-Teruel (KTH Royal Institute of Technology);

Localized Bessel Beams for Near-field Focused Antenna Arrays in Biomedical Contexts
Sandra Costanzo (University of Calabria); Giovanni Buonanno (University of Calabria);

Tolerance Analysis of Near-field Arrays for Biomedical Applications
Sandra Costanzo (University of Calabria); Giovanni Buonanno (University of Calabria);

A Compact, High Efficiency Van Atta Array
András Eszes (PPKE-ITK); Zsolt Szabo (PPKE-ITK);