

IRMMW-THz 2023

48th CONFERENCE ON INFRARED,
MILLIMETER AND TERAHERTZ
WAVES



17 -22 September 2023
Montreal, Quebec, Canada



M O N T R E A L

Conference Program

18 September 2023

08:30 - 09:00 **Opening Ceremony**

**Symposia
Theatre**

09:00 - 09:45 **Plenary Session 1**

**Symposia
Theatre**

09:00 **Nonlinear Optics Of THz Radiation** **Mo-PL-1-1**
Robert Boyd*
University of Ottawa, 25 Templeton Street, room 456, Canada

09:45 - 10:30 **Plenary Session 2**

**Symposia
Theatre**

09:45 **THz-driven Acceleration And Manipulation Of Electron Beams** **Mo-PL-2-1**
Steven Jamison*¹; Graeme Burt²; Darren Graeme³; Robert Appleby³; Morgan
Hibberd³
¹Lancaster University, Department of Physics, Bailrigg, Lancaster, United
Kingdom; ²Lancaster University, Lancaster, United Kingdom; ³Manchester
University, Manchester, United Kingdom

11:00 - 12:00 **Quantum-Cascade Lasers I**

**Symposia
Theatre**

11:00 **Terahertz Near-field Mapping Of Plasmon-polaritons In Layered Nano
Materials** **Mo-AM-1-1**
Miriam Vitiello*
CNR Nano, Piazza San Silvestro 12, Pisa, Italy

11:30 **Spectral Shaping In Ultra-Thin Terahertz Quantum Cascade Laser Pairs** **Mo-AM-1-2**
Marie C. Ertl*¹; Michael Jaidl¹; Benedikt Limbacher¹; Dominik Theiner¹;
Miriam Giparakis²; Maximilian Beiser²; Aaron M. Andrews²; Gottfried
Strasser²; Juraj Darmo¹; Karl Unterrainer¹
¹Institute of Photonics, Gusshausstrasse 27-29, Vienna, Austria; ²Institute of
Solid State Electronics, Gusshausstrasse 25a, Vienna, Austria

11:45 **THz Optical Solitons Formation In Double Ring Quantum Cascade Lasers** **Mo-AM-1-3**
Paolo Micheletti*¹; Urban Senica¹; Andres Forrer¹; Sara Cibella²; Guido
Torrioli²; Martin Frankié³; Mattias Beck³; Jerome Faist³; Giacomo Scalari³
¹ETH Zurich, ETH Hönggerberg, HPT F10 Auguste-Piccard-Hof 1, Zurich,
Switzerland; ²CNR-Istituto di Fotonica e Nanotecnologie, Via del Fosso del
Cavaliere, 100, Roma, Italy; ³ETH Zurich, ETH Honggerberg, Auguste-
Piccard-Hof 1, Zurich, Switzerland

11:00 - 12:00 **THz Driven Electron Sources**

Cartier I

11:00	Terahertz Surface Plasmon Polariton Amplification And Its Application In Electron Accelerations Ye Tian; Yushan Zeng* Shanghai Institute of Optics and Fine Mechanics (SIOM), No.390, Qinghe Rd., Jiading Dist., Shanghai, China	Mo-AM-2-1
11:30	THz-driven Electron Emission From Metallic Surfaces Tobias Buchmann*; Matej Sebek; Simon Lange; Peter Uhd Jepsen DTU Elektro, Otto Mønstedts Plads 343, Kongens Lyngby, Denmark	Mo-AM-2-2
11:45	Terahertz-induced Electron Emission From Thin Films Matej Sebek* ¹ ; Tobias Olaf Buchmann ² ; Jie Ji ³ ; Yinqiu Zhou ³ ; Abhay Shivayogimath ³ ; Peter Bøggild ³ ; Simon Jappe Lange ² ; Peter Uhd Jepsen ² ¹ DTU, 343 Ørsted Pl., Lyngby, Denmark; ² DTU, 343 Ørsted Pl., Denmark; ³ DTU, 309 Fysikvej, Denmark	Mo-AM-2-3

11:00 - 12:00 Biosensors **Cartier II**

11:00	Sensitive Biosensor Chip Based On Metamaterials And Microcavity Used To Detecting Living Cells Kanglong Chen* ¹ ; Xiaofang Zhao ² ; Lulu Han ¹ ; Jun Yang ² ; Cunjun Ruan ³ ¹ Beihang University, No. 37 Xueyuan Road, Haidian District, Beijing, China; ² Peking University Third Hospital, 49 North Garden Rd., Haidian District, Beijing, China; ³ Beihang University, Professor Cunjun Ruan, Beihang University No. 37 Xu, Beijing, China	Mo-AM-3-1
11:15	Selective Biodetection Platform For Melanoma Diagnosis Using Functionalized THz Metamaterials Merle Richter* ¹ ; Yannik Loth ¹ ; Anna Katharina Wigger ¹ ; Nicole Rachinger ² ; Daniela Nordhoff ¹ ; Daniel Stock ¹ ; Anja Katrin Bosserhoff ² ; Peter Haring Bolívar ¹ ¹ University of Siegen, Hoelderlinstrasse 3, Siegen, Germany; ² Friedrich-Alexander University Erlangen-Nürnberg, Fahrstrasse 17, Germany	Mo-AM-3-2
11:30	Breathalyzer-based Prompt Coronavirus Screening Test Using Terahertz Spectroscopy Of Viruses In LC-Resonant Metamaterial Nano-Antenna Array Rudrarup Sengupta* ¹ ; Heena Khand ² ; Gabby Sarusi ² ¹ Ben Gurion University of the Negev, Marcus Family Campus Ben-Gurion University of the Negev P.O.B. 653, Beer-Sheva, Israel; ² Ben-Gurion University of the Negev, Marcus Family Campus P.O.B 653, Israel	Mo-AM-3-3
11:45	Terahertz Ultrasensitive Biosensor Based On Wide-area And Intense Light-matter Interaction Supported By QBIC Yan Peng* ¹ ; Binwei Liu ² ; Wu Xu ³ ; Yiming Zhu ³ ; Songlin Zhuang ³ ¹ University of Shanghai for Science and Technology, Jungong Rd. 516, Shanghai, China; ² USST, Jungong Rd. 516, Yangpu Direct, Shanghai, China; ³ USST, Jungong Rd. 516, Yangpu Direct, China	Mo-AM-3-4

11:00	In-fab Assessment Of Heat Budget In 3D NAND Flash Devices Using Terahertz Wave-based Metrology System Inkeun Baek*; Sungyoon Ryu; Ikseon Jeon; Yoonkyung Jang; Suhwan Park; Eun Hyuk Choi; Wontae Kim; Martin Priwisch; Taejoong Kim; Myungjun Lee; Yusin Yang Samsung Electronics Co., Ltd., 1-1, Samsungjeonja-ro, Hwaseong-si, Korea, Republic of	Mo-AM-4-1
11:30	Reference Materials For THz Spectroscopy Mira Naftaly* National Physical Laboratory, National Physical Laboratory, Hampton Road, United Kingdom	Mo-AM-4-2
11:45	Single-shot Ultrafast Terahertz Imaging Junliang Dong* ¹ ; Pei You ² ; Alessandro Tomasino ² ; Aycan Yurtsever ² ; Roberto Morandotti ² ¹ Institut national de la recherche scientifique, 1650 Boul. Lionel Boulet, Varennes, Canada; ² Institut national de la recherche scientifique, 1650 Boul. Lionel Boulet, Canada	Mo-AM-4-3

11:00	Nonparaxial Imaging Using Terahertz Structured Light Gintaras Valusis* ¹ ; Rusne Ivaskevičiūtė-Povilauskienė ¹ ; Paulius Kizevičius ¹ ; Ernestas Nacius ¹ ; Domas Jokubauskis ¹ ; Kestutis Ikamas ² ; Alvydas Lisauskas ² ; Ieva Matulaitiene ¹ ; Karolis Mundrys ¹ ; Sergey Orlov ¹ ; Linas Minkevicius ³ ¹ Center for Physical Sciences and Technology (FTMC), Saulėtekio ave. 3, Vilnius, Lithuania; ² Vilnius University, Saulėtekio ave. 3, Vilnius, Lithuania; ³ Center for Physical Sciences and Technology (FTMC), Saulėtekio ave. 3, Lithuania	Mo-AM-5-1
11:30	Multi-Modal Image Acquisition For AI-based Bulky Waste Sorting (incl. Terahertz Synthetic Aperture Radar) Dovilė Čibiraitė-Lukenskienė* ¹ ; Dominik Gundacker ¹ ; Friedrich Schlüter ² ; Jochen Aderhold ² ; Manuel Bihler ³ ; Michael Heizmann ³ ; Lukas Roming ⁴ ; Robin Gruna ⁴ ; Joachim Jonuscheit ¹ ; Fabian Friederich ¹ ¹ Fraunhofer ITWM, Fraunhofer-Platz 1, Kaiserslautern, Germany; ² Fraunhofer WKI, Bienroder Weg 54E, Brunswick, Germany; ³ KIT Institute of Industrial Information Technology, Hertzstraße 16, Karlsruhe, Germany; ⁴ Fraunhofer IOSB, Fraunhoferstraße 1, Karlsruhe, Germany	Mo-AM-5-2
11:45	A Multi-Channel Terahertz Tomography Setup Karl Henrik May*; Andreas Keil; Fabian Friederich; Georg von Freymann Fraunhofer ITWM, Fraunhofer-Platz 1, Kaiserslautern, Germany	Mo-AM-5-3

13:00	Quantum Sensing In The Terahertz Frequency Range Mirco Kutas*; Björn Haase; Jens Klier; Georg von Freymann; Daniel Molter Fraunhofer Institute for Industrial Mathematics ITWM, Fraunhofer-Platz 1, Kaiserslautern, Germany	Mo-PM1-1-1
13:30	Research On 1THz Carbon-based Backward Wave Oscillator Fan Deng* ¹ ; Wenxin Liu ² ; Jianliang Wang ² ¹ Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing, China, Beijing, China, Beijing, China, Beijing, China, China; ² Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing, China, Beijing, China, Beijing, China, Beijing, China	Mo-PM1-1-2
13:45	Noncollinear Parametric Detection Of Broadband Terahertz Pulses Sota Mine ¹ ; Gabriel Gandubert ² ; Léo Guiramand ² ; Xavier Ropagnol ² ; Kosuke Murate ³ ; François Blanchard* ² ¹ Ecole de technologie superieure, 1100 rue Notre-Dame ouest, Montreal, Canada; ² Ecole de technologie superieure, 1100 rue Notre-Dame ouest, Montreal, Canada; ³ Nagoya University, Furocho, Chikusa, Nagoya, 4648603, Nagoya, Japan	Mo-PM1-1-3
14:00	Sensitive Detection Of Terahertz Pulses Via Parametrically Upconverted Near-infrared Photons Défi Junior Jubgang Fandio*; Aswin Vishnuradhan; Eeswar Kumar Yalavarthi; Wei Cui; Nicolas Couture; Angela Gamouras; Jean-Michel Ménard University of Ottawa, Department of Physics, 25 Templeton St, Ottawa, Canada	Mo-PM1-1-4
14:15	Terahertz Parametric Generation By Collinear Injection Seeding Sota Mine*; Naoya Yamamoto; Kodo Kawase; Kosuke Murate Nagoya University, Furo-cho, Chikusa-ku, Nagoya, Japan	Mo-PM1-1-5
14:30	Tunable Backward THz-Wave Parametric Oscillator Centered At A High Frequency Of 0.870 THz Joselito Muldera* ¹ ; Kouji Nawata ² ; Yuma Takida ³ ; Deepika Yadav ⁴ ; Hiroaki Minamide ⁵ ¹ RIKEN, 519-1399 Aramaki-aza Aoba, Aoba-ku, Sendai, Japan; ² Department of Information and Communication Engineering, Tohoku Institute of Technology, 35-1 Kasumi-cho, Yagiyama Taihaku-ku, Sendai, Japan; ³ Tera- Photonics Research Team, RIKEN Center for Advanced Photonics, RIKEN, 519-1399 Aramaki-Aoba, Sendai City, Japan; ⁴ Tera-Photonics Research Team, RIKEN Center for Advanced Photonics, RIKEN, RIKEN, 519-1399 Aramaki- aza Aoba, Japan; ⁵ Tera-Photonics Research Team, RIKEN Center for Advanced Photonics, RIKEN, 519-1399 Aramaki-Aoba, Sendai, Japan	Mo-PM1-1-6
14:45	Pulse Train Terahertz Wave Parametric Generation Kosuke Murate* ¹ ; Sota Mine ¹ ; Toshiki Kinoshita ¹ ; Shin'ichiro Hayashi ² ; Kodo Kawase ¹ ¹ Nagoya University, Furocho, Chikusa, Nagoya, Japan; ² National Institute of Information and Communications Technology, 4-2-1, Nukui-Kitamachi, Koganei, Japan	Mo-PM1-1-7

13:00 - 15:00 High Field THz Generation I**Cartier I**

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- 13:00 **Laser-driven Terahertz Pulses: From GV/m To TV/m Field Strengths** **Mo-PM1-2-1**
Bergé Luc*
Commissariat à l'Energie Atomique et aux Energies Alternatives, CEA, DAM, DIF, Arpajon, France
- 13:30 **Laser-induced Gas Breakdown By A Train Of Femtosecond long-wave Infrared FEL Pulses** **Mo-PM1-2-2**
Ryoichi Hajima*¹; Keigo Kawase¹; James K. Koga¹; Heishun Zen²; Hideaki Ohgaki²
¹National Institutes for Quantum Science and Technology, Umemidai 8-1-7, Kizugawa, Japan; ²Kyoto University, Gokasho, Uji, Japan
- 13:45 **Generation Of Naturally Down-Chirped Few-Cycle Pulse From Free-Electron Laser Oscillator And Its Pulse Compression** **Mo-PM1-2-3**
Heishun Zen*¹; Hideaki Ohgaki²; Ryoichi Hajima³
¹Institute of Advanced Energy, Kyoto University, Gokasho, Uji, Japan; ²Institute of Advanced Energy, Kyoto University, Gokasho, Uji, Japan; ³National Institutes for Quantum and Radiological Science and Technology, 8-1-7 Umemi-dai, Kizugawa, Japan
- 14:00 **Shot-to-Shot Detection Of The Carrier Envelope Phase Evolution In A THz FEL** **Mo-PM1-2-4**
J. Michael Klopff*; Igor Ilyakov; Alexey Ponomaryov; Alexej Pashkin; Jan-Christoph Deinert; Thales V. A. G. de Oliveira; Pavel Evtushenko; Manfred Helm; Stephan Winnerl; Sergey Kovalev
Helmholtz-Zentrum Dresden-Rossendorf (HZDR), Bautzner Landstraße 400, Dresden, Germany
- 14:15 **Characterization Of High Energy THz Sources With Proton Radiography** **Mo-PM1-2-5**
Gerrit Bruhaug*¹; Hans Rinderknecht¹; Mingsheng Wei¹; Yiwen E²; Kareem Garriga²; Xi-Cheng Zhang²; Gilbert Collins¹; J. R. Rygg¹
¹Laboratory for Laser Energetics, 250 East River Road, Rochester, United States; ²University of Rochester, 500 Joseph C. Wilson Blvd., Rochester, United States
- 14:30 **Repetition Rate Dependence Of High-Power THz Generation In The Tilted-Pulse Front Geometry In Lithium Niobate** **Mo-PM1-2-6**
Celia Millon*¹; Samira Mansourzadeh¹; Tim Vogel²; Clara Saraceno²
¹Ruhr University Bochum, Universitätstraße, 150, Bochum, Germany; ²Ruhr University Bochum, Universitätstraße, 150, Germany
- 14:45 **Ultra-broadband Terahertz Radiation By Supercontinuum Generation And Optical Rectification In A Dispersion-engineered Waveguide: A Numerical Study** **Mo-PM1-2-7**
Aleksi Gaier*; Ileana-Cristina Benea-Chelms
EPFL, Hybrid photonic laboratory, EPFL, Switzerland, Lausanne, Switzerland
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13:00 - 15:00 2D Materials & Condensed Matter**Cartier II**

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- 13:00 **Band Transport By Large Fröhlich Polarons In MXenes** **Mo-PM1-3-1**
Wenhao Zheng*; Hai Wang; Mischa Bonn

Max Planck Institute for Polymer Research, Ackermannweg 10, Mainz,
Germany

- 13:30 **Probing The Photoionization Of Liquid Water With Broadband Terahertz** Mo-PM1-3-2
Fabio Novelli*¹; Kaixuan Chen²; Adrian Buchmann¹; Thorsten Ockelmann¹;
Claudius Hoberg¹; Teresa Head-Gordon³; Martina Havenith¹
¹Ruhr University Bochum, Universitaetstr. 150, Bochum, Germany; ²Chemical
Sciences Division, Lawrence Berkeley National Laboratory, Berkeley,
California 94720, USA, United States; ³Chemical Sciences Division, Lawrence
Berkeley National Laboratory; Kenneth S. Pitzer Center for Theo, Berkeley,
California 94720, USA, United States
- 13:45 **Interface Potential Estimation On VO₂/Si Heterojunction By Terahertz** Mo-PM1-3-3
Emission Spectroscopy With Temperature Variation
Dongxun Yang*¹; Fumikazu Murakami¹; Shingo Genchi²; Hidekazu Tanaka²;
Masayoshi Tonouchi¹
¹Institute of Laser Engineering, Osaka University, 2-6 Yamadaoka, Suita, Osaka,
Japan; ²SANKEN, Osaka University, 8-1 Mihogaoka, Ibaraki, Osaka, Japan
- 14:00 **Terahertz Emission Spectroscopy On Eu-doped GaN Superlattice LEDs** Mo-PM1-3-4
Fumikazu Murakami*¹; Atsushi Takeo²; Brandon Mitchell³; Volkmar Dierolf⁴;
Yasufumi Fujiwara²; Masayoshi Tonouchi¹
¹Osaka University, 2-6 Yamada-oka, Suita, Japan; ²Osaka University, 2-1
Yamada-oka, Suita, Japan; ³West Chester University, 700 S High St, West
Chester, United States; ⁴Lehigh University, 27 Memorial Dr W, Bethlehem,
United States
- 14:15 **Terahertz Emission Enhancement Of Gallium-Arsenide-Based** Mo-PM1-3-5
Photoconductive Antennas With AAO-Patterned Gold Nanoparticles
Regine Loberternos*¹; Hannah Bardolaza¹; Neil Irvin Cabello¹; Hideaki
Kitahara²; John Paul Ferrolino¹; Ivan Cedrick Verona¹; Lourdes Nicole Dela
Rosa¹; Vince Paul Juguilon¹; Alexander De Los Reyes¹; Arnel Salvador¹;
Armando Somintac¹; Masahiko Tani²; Elmer Estacio¹
¹University of the Philippines, National Institute of Physics, University of the
Philippines, Diliman, Quezon City, Philippines; ²Research Center for
Development of Far-Infrared Region, 3-9-1 Bunkyo, Fukui-shi, Japan
- 14:30 **Enhancement Of Terahertz Emission In Gallium Telluride Under Pressure** Mo-PM1-3-6
Kai Zhang*¹; Fuhai Su²; Tianwu Wang³
¹GBA branch of Aerospace Information Research Institute, Chinese Academy
of Sciences, B7 of Technology Enterprise Accelerator, No.11 of Kaiyuan
Avenue, Huangpu District, Guangzhou City, Guangzhou, China; ²Key
Laboratory of Materials Physics, Institute of Solid State Physics, HFIPS,
Chinese Academy of Sci, 350 Shushanhu Road Hefei 230031, Anhui, Hefei,
China; ³GBA branch of Aerospace Information Research Institute, Chinese
Academy of Sciences, Huangpu District, Guangzhou City, B7 of Technology
Enterprise Accelerator, No.11 of Kaiyuan Avenue, Guangzhou, China
- 14:45 **Second Harmonic And Hyper-Rayleigh Generation Of (111) Silicon Wafer** Mo-PM1-3-7
Laetitia Dalstein; Marc Tondusson; Jerome Degert; Eric Freysz*

13:00 - 15:00	QCLs & Electronic Sources	International I
13:00	<p>Phase Tuning Technique To Enhance The Output Power Of Sheet Beam Folded Waveguide Traveling Wave Tube</p> <p>Yuan Zheng*¹; Yuxin Wang²; Shaomeng Wang³; Ping Zhang³; Shengpeng Yang³; Yubin Gong¹</p> <p>¹University of Electronic Science and Technology of China, Qingshuihe Campus:No.2006, Xiyuan Ave, West Hi-Tech Zone, Chengdu, China;</p> <p>²University of Electronic Science and Technology of China, Qingshuihe Campus:No.2006, Xiyuan Ave, West Hi-Tec, Chengdu, China; ³University of Electronic Science and Technology of China, Qingshuihe Campus:No.2006, Xiyuan Ave, West Hi-Tec, China</p>	Mo-PM1-4-1
13:15	<p>Grating-Groove-Ladder Slow Wave Structure For W-band Traveling Wave Tube</p> <p>Jingrui Duan*¹; Zhigang Lu¹; Zhanliang Wang²; Shaomeng Wang²; Huarong School²; Yubin Gong²</p> <p>¹Yangtze Delta Region Institute (Huzhou), No. 819 Xisai Mountain Road, Huzhou, China; ²University of Electronic Science and Technology of China, Xiyuan Avenue No. 2006, Chengdu, China</p>	Mo-PM1-4-2
13:30	<p>Additive Fabrication For Upper-Millimeter-Wave Traveling Wave Tube Amplifiers</p> <p>Alan Cook*; Colin Joye; Franklin Wood; Benjamin S. Albright; Reginald Jaynes; Jeffrey Calame</p> <p>U.S. Naval Research Laboratory, 4555 Overlook Ave SW, Washington, United States</p>	Mo-PM1-4-3
13:45	<p>Universal CUSP-Type Electron Gun For Helical Gyro-TWTs For DNP-NMR Applications</p> <p>Max Vöhringer*¹; Alexander Marek²; Stefan Illy²; Gert Gantenbein²; Manfred Thumm²; Chuanren Wu²; John Jelonnek²</p> <p>¹Karlsruhe Institute of Technology (KIT), Hermann-von- Helmholtz-Platz 1, Eggenstein-Leopoldshafen, Germany; ²Karlsruhe Institute of Technology (KIT), Hermann-von- Helmholtz-Platz 1, Germany</p>	Mo-PM1-4-4
14:00	<p>Novel Split-well Resonant-phonon Terahertz Quantum Cascade Laser Supporting Clean Four-level System.</p> <p>Asaf Albo*¹; Nathalie Lander Gower¹; Shiran Levy²; Silvia Piperno²; Sadvikas J. Addamane³; John L. Reno³</p> <p>¹Bar Ilan University, Bar-Ilan University Ramat Gan , 5290002 , Israel, Bar-Ilan University Ramat Gan , 5290002 , Israel, Ramat Gan, Israel; ²Bar Ilan University, Bar Ilan University, Bar-Ilan University Ramat Gan , 5290002 , Israel, Ramat Gan, Israel; ³Sandia National Laboratories, New Mexico, United States</p>	Mo-PM1-4-5
	<p>High-power Density, Single Plasmon, Terahertz Quantum Cascade Lasers</p>	

14:15	Via Transverse Mode Control	Mo-PM1-4-6
	Chao Song ¹ ; Mohammed Salih ² ; Lianhe Li ² ; Juliette Mangeney ¹ ; Jerome Tignon ¹ ; Giles Davies ² ; Edmund Linfield ² ; Sukhdeep Dhillon* ³ ¹ CNRS/ENS, 24 rue Lhomond, Paris, France; ² School of Electronic and Electrical Engineering, University of Leeds, United Kingdom; ³ CNRS, 24 rue Lhomond, Paris, France	
14:30	Amplitude Stabilization Of A THz Quantum-Cascade Laser Using A Photonic Integrated Circuit	Mo-PM1-4-7
	Sanchit Kondawar* ¹ ; Nicholas North ¹ ; Yingjun Han ¹ ; Diego Pardo ² ; Nick Brewster ² ; Mohammed Salih ¹ ; Michael Horbury ¹ ; Lianhe Li ¹ ; Paul Dean ¹ ; Brian Ellison ¹ ; Iman Kundu ³ ; Alexander Valavanis ¹ ¹ University of Leeds, Woodhouse, Leeds, LS2 9JT, United Kingdom; ² STFC Rutherford Appleton Laboratory, Harwell Oxford, Didcot, OX11 0QX, United Kingdom; ³ Optalysis Ltd, Wakefield, WF10 5HW, United Kingdom	
14:45	Widely Tunable Room-temperature Quantum-cascade Laser Sources In The Sub-THz To THz Frequency Range	Mo-PM1-4-8
	Kazuue Fujita*; Shohei Hayashi; Akio Ito; Masahiro Hitaka; Tatsuo Dougakiuchi; Atsushi Nakanishi Hamamatsu Photonics K.K., 5000 Hirakuchi Hamakita-ku, 5000 Hirakuchi Hamakita-ku, Hamamatsu, Japan	

13:00 - 15:00	Telecom 1	International II
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13:00	Utilizing High-Intensity Optical Subcarrier Signal For Conversion Gain Enhancement Of A UTC-PD-Integrated HEMT Photonic Double-Mixer	Mo-PM1-5-1
	Tsung-Tse Lin* ¹ ; Dai Nakajima ¹ ; Kazuki Nishimura ¹ ; Mitsuki Watanabe ¹ ; Keisuke Kasai ¹ ; Masato Yoshida ¹ ; Tetsuya Suemitsu ² ; Taiichi Otsuji ¹ ; Akira Satou ¹ ¹ Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, Japan; ² Tohoku University, 6-6-10 Aramaki-aoba, Sendai, Japan	
13:30	200 Gbit/s THz Tunneling Demultiplexer In The 300 GHz Band	Mo-PM1-5-2
	Daniel Headland ¹ ; Withawat Withayachumnankul ² ; Masayuki Fujita ³ ; Tadao Nagatsuma ⁴ ; Pascal Szriftgiser ⁵ ; Guillaume Ducournau* ⁶ ¹ Optoelectronics and Laser Technology Group, Department of Electronics Technology, Universidad Carlos III de Madrid, Leganés, Spain; ² Terahertz Engineering Laboratory, The University of Adelaide, Australia; ³ Grad. School of Engineering Science, Osaka University, Toyonaka, Japan; ⁴ Grad. School of Engineering Science, Osaka University, Toyonaka, Japan; ⁵ PhLAM Laboratoire de Physique des Lasers, Cité Scientifique, Villeneuve d'Ascq, France; ⁶ IEMN CNRS - Univ of Lille, Avenue Poincaré, Avenue Poincaré, Villeneuve d'Ascq, France	
13:45	Coherent THz Wireless Communication Using A Microcomb And Photonic LO	Mo-PM1-5-3

Brendan Heffernan*¹; Yuma Kawamoto²; Keisuke Maekawa²; James Greenberg¹; Rubab Amin¹; Takashi Hori³; Tatsuya Tanigawa³; Tadao Nagatsuma²; Antoine Rolland¹

¹IMRA America, Inc., 1551 S. Sunset St., Suite C, Longmont, United States;

²Osaka University, 1-3 Machikaneyama, Building D, 3rd floor, Toyonaka,

Japan; ³IMRA America, Inc., 2-1 Asahi-machi, Kariya, Japan

14:00 **Analyzing Performance Limitations Of THz Communication Systems Under Off-Axis Conditions And Channel Blockage** **Mo-PM1-5-4**

Xuan-Wei Miao*¹; Pouya Torkaman²; Fu-Kai Shih³; Po-Cheng Su²; Kai-Ming Feng³; Shang-Hua Yang²

¹Department of Electrical Engineering, National Tsing Hua University, No.101, Section 2, Kuang-Fu Road, Hsinchu, Taiwan; ²Institute of Electronics Engineering, National Tsing Hua University, No.101, Section 2, Kuang-Fu Road, Hsinchu, Taiwan, Taiwan; ³Institute of Communication Engineering, National Tsing Hua University, No.101, Section 2, Kuang-Fu Road, Hsinchu, Taiwan, Taiwan

14:15 **Multiband OFDM-Based THz Wireless Communication System** **Mo-PM1-5-5**

PO-CHENG SU*¹; Pouya Torkaman¹; Xuan-Wei Miao¹; Fu-Kai Shih¹; Kai-Ming Feng²; Shang-Hua Yang²

¹Institute of Electronics Engineering, National Tsing Hua University, No.101, Section 2, Kuang-Fu Road, Hsinchu City, Taiwan; ²Department of Electrical Engineering, National Tsing Hua University, No.101, Section 2, Kuang-Fu Road, Hsinchu City, Taiwan

14:30 **Improved OFDM THz Communication System Performance Through Noise Suppression And Channel Estimation Via Channel Matrix Pruning Technique** **Mo-PM1-5-6**

pouya torkaman¹; Shang-Hua Yang²; Kai-Ming Feng³; Xuan-Wei Miao¹; Po-Cheng Su*¹; Fu-Kai Shih¹

¹National Tsing Hua university, No. 101, Sec. 2, Kuang-Fu Rd., Hsinchu 30013, Taiwan, R.O.C., Hsinchu, Taiwan; ²National Tsing Hua University-institute of electronics engineering, No. 101, Sec. 2, Kuang-Fu Rd- Hsinchu, Hsinchu, Taiwan; ³National Tsing Hua university-Institute of Communication Engineering, No. 101, Sec. 2, Kuang-Fu Rd., Hsinchu 30013, Taiwan, R.O.C., Hsinchu, Taiwan

14:45 **140 Gbit/s Wireless Sub-THz Communication Using Ultra-Low Phase Noise Light Source** **Mo-PM1-5-7**

keisuke maekawa*¹; Takashi Hori²; Weijie Gao³; Toki Yoshioka³; James Greenberg⁴; Brendan Heffernan⁴; Antoine Rolland⁴; Tadao Nagatsuma⁵

¹Osaka university, I-502 1-3 Machikaneyamacho Toyonaka, Osaka, Toyonaka, Japan; ²IMRA America, 2-1 Asahi-machi, Kariya, Aichi, Japan, Japan; ³Osaka university, 1-3 Machikaneyamacho Toyonaka, Japan; ⁴IMRA America, 1551 South Sunset St, Suite C, Longmont, Colorado, United States; ⁵Osaka

15:30 - 17:30	Advanced THz Sources I	Symposia Theatre
15:30	<p>A 300-GHz Slotline-coupled Double-oscillator Emitter Integrated In 65-nm CMOS Marta Ferreras*; Jesús Grajal Information Processing and Telecommunications Center, Universidad Politécnica de Madrid, Avda. Complutense 30, ETSI Telecomunicación, Madrid, Spain</p>	Mo-PM2-1-1
15:45	<p>High-Power And High-Efficiency 1.3 THz Transmitter Using Discrete Schottky Diode Technology Diego Moro-Melgar*; Artur Negrus; Eduard Mueller; Frank Gorski; Ion Opra; Oleg Cojocari ACST GmbH, Josef-Bautz-Str. 15, Hanau, Germany</p>	Mo-PM2-1-2
16:00	<p>Stabilizing A SiGe BiCMOS Transmitter On A Molecular Absorption Line Alexandra Glück*; Nick Rothbart; Heinz-Wilhelm Hübers German Aerospace Center (DLR), Rutherfordstraße 2, Berlin, Germany</p>	Mo-PM2-1-3
16:15	<p>Observation Of Terahertz Vector Beam Generated Directly In ZnTe Crystal Seigo Ohno*¹; Hiroaki Iwase² ¹Tohoku university, 6-3 Aramaki Aoba, Sendai, Sendai, Japan; ²Tohoku university, 6-3 Aramaki Aoba, Sendai, Japan</p>	Mo-PM2-1-4
16:30	<p>Photonic Terahertz Source Frequency Stabilized To The Part Per Trillion Level Through Molecular Spectroscopy James Greenberg*; Brendan Heffernan; Antoine Rolland IMRA America, Inc., 1551 S Sunset St, Suite C, Longmont, United States</p>	Mo-PM2-1-5
16:45	<p>High Spectral Purity Solid-state Dual-frequency Laser For The Generation Of Ultra-low Phase Noise Millimeter-wave To Terahertz CW Signals Loic MORVAN¹; José-Javier Fernandez-Pacheco*¹; Daniel Dolfi¹; Vincent Crozatier¹; Fabien Bretenaker² ¹Thales Research and Technology - France, 1 avenue Augustin Fresnel, Palaiseau, France; ²Université Paris-Saclay, CNRS, Ecole Normale Supérieure Paris-Saclay, Bâtiment 505, Campus d'Orsay,, Orsay, France</p>	Mo-PM2-1-6
17:00	<p>Nanowire-based THz Polarimetry Michael Johnston* University of Oxford, Clarendon Laboratory, Parks Rd, Oxford, United Kingdom</p>	Mo-PM2-1-7
15:30 - 17:30	Spectroscopy I	Cartier I
15:30	<p>Quantitative Measurement Of The Dispersion Of ?(3) In Silica And Silicon Nitride In The 1-25 THz Range Binbin Zhou; Mattias Rasmussen; Siqi Yan; Narwan Kabir Noori; Oliver Nagy; Yunhong Ding; Simon Jappe Lange; Peter Uhd Jepsen* Technical University of Denmark, DTU Electro, Blg. 343, Kongens Lyngby,</p>	Mo-PM2-2-1

16:00	Denmark Refractive Index And Extinction Coefficient Measurement Of Reflective THZ-FDS Based On SSKK Method For Solid Sample	Mo-PM2-2-2
	Yubo Wu* ¹ ; Cunjun Ruan ² ; Yufeng Jiao ² ¹ Beihang University, No. 37 Xueyuan Road, Haidian District, Beijing, China; ² Beihang University, No. 37 Xueyuan Road, Haidian District, China	
16:15	Using Terahertz Time-domain Spectroscopy To Measure Coating Thickness On Li-ion Electrodes	Mo-PM2-2-3
	Faezeh Zarrin Khat* ¹ ; Alasdair Pentland ¹ ; Carl Reynolds ² ; Emma Kendrick ² ; Philip F. Taday ¹ ¹ TeraView LTD, 1, Enterprise Cambridge Research Park, Cambridge, United Kingdom; ² School of Metallurgy and Materials, University of Birmingham, Birmingham, United Kingdom	
16:30	Terahertz Resonant Nano-spectrum Of Red Mineral Pigments	Mo-PM2-2-4
	Xiaoqiuyan Zhang* ¹ ; Tianyu Zhang ² ; Zhuocheng Zhang ² ; Xingxing Xu ² ; Feng Xiao ² ; Shigao Zhao ² ; Min Hu ² ¹ University of Electronic Science and Technology of China, No.2006, Xiyuan Ave, West Hi-Tech Zone, 611731, Chengdu, China; ² University of Electronic Science and Technology of China, No.2006, Xiyuan Ave, West Hi-Tech Zone, 611731, China	
16:45	Dielectric Characterization Of Low-Loss Glasses And Polymers For 6G Microelectronic Packaging Applications	Mo-PM2-2-5
	Min Zhai ¹ ; Pragna Bhaskar ² ; Haolian Shi ¹ ; Madhavan Swaminathan ² ; Alexandre Locquet ¹ ; David Citrin* ¹ ¹ Georgia Tech Europe, 2 Rue Marconi, Metz, France; ² Georgia Institute of Technology, 225 N Ave NW, Atlanta, United States	
17:00	Ultrathin MXene Assemblies Reaching Thin-film Absorption Limit In 0.5-10 THz	Mo-PM2-2-6
	Tao Zhao*; Hujie Wan; Tianpeng Ding; Peiyao Xie; Jinlin Xie; Min Hu; Xu Xiao University of Electronic Science and Technology of, No.2006, Xiyuan Ave, West Hi-Tech Zone, Chengdu, China	
17:15	Nonlinear Refractive Index Of Solids At THz Frequency	Mo-PM2-2-7
	Soheil Zibod* ¹ ; Ksenia Dolgaleva ² ¹ University of Ottawa, 25 Templeton Street, Room 344, Ottawa, Canada; ² University of Ottawa, 25 Templeton Street, Ottawa, Canada	

15:30 - 17:30 Condensed Matter I **Cartier II**

15:30	Observation Of Terahertz Spin Hall Conductivity Spectrum In Bulk GaAs At Room Temperature	Mo-PM2-3-1
	Tomohiro Fujimoto*; Takayuki Kurihara; Yuta Murotani; Natsuki Kanda; Tomohiro Tamaya; Changsu Kim; Jun Yoshinobu; Hidefumi Akiyama; Takeo Kato; Ryusuke Matsunaga The Institute for Solid State Physics, The University of Tokyo, 5-1-5	

Kashiwanoha, Kashiwa, Japan

- 16:00 **Optical Pump THz Probe Spectroscopy On Metal-Organic Frameworks** Mo-PM2-3-2
Jens Neu*¹; Sarah Ostresh²; James Nyakuchema³; Jier Huang⁴
¹University of North Texas (UNT), 210 Avenua A, Room 324, Denton, United States; ²Yale University, 225 Prospect Street, United States; ³Marquette University, Milwaukee, United States; ⁴Boston College, Chestnut Hill, MA, United States
- 16:15 **Investigating The Effect Of Crystal Morphology On Optoelectronic Properties Of Zinc Phosphide Thin Films Via Optical-pump Terahertz Probe Spectroscopy** Mo-PM2-3-3
Yinghong Huang*¹; Xinyun Liu¹; Rajrupa Paul²; Elias Stutz²; Mahdi Zamani²; Djamshid Damry¹; Léa Buswel²; Simon Steinvall²; Jean-Baptiste Leran²; Mirjana Dimitrievska²; Anna Fontcuberta i Morral²; Jessica Boland¹
¹The Univeristy of Manchester, Oxford Road, Manchester, United Kingdom; ²École Polytechnique Fédérale de Lausanne, 1015, Lausanne, Swaziland
- 16:30 **Ultrafast THz Dynamics Of Photocarriers In CsPbBr3 Microcrystals** Mo-PM2-3-4
Sheng Lee*¹; Kyeongdeuk Moon²; Muhammad Shoaib²; Seokhyoung Kim²; Tyler Cocker¹
¹Department of Physics and Astronomy, Michigan State University, East Lansing, United States; ²Department of Chemistry, Michigan State University, East Lansing, United States
- 16:45 **Bandwidth-Activated Anharmonic Coupling** Mo-PM2-3-5
Megan Nielson*; Lauren M. Davis; Aldair Alejandro; Brittany Knighton; Claire Rader; Jeremy A Johnson
Brigham Young University, BNSN C100 BYU, Provo, United States
- 17:00 **Probing How Dynamics, Disorder And Temperature Influence The Vibrational Spectra Of Molecular Crystals** Mo-PM2-3-6
Andrew Burnett*; Calum Towler; John Kendrick
University of Leeds, School of Chemistry, Woodhouse Lane, Leeds, United Kingdom
- 17:15 **Accounting For Nonlinear Photoconductivity In Time-Resolved Terahertz Spectroscopy** Mo-PM2-3-7
Leya Lopez*¹; J. Steven Dodge²; Derek G. Sahota²
¹Department of Physics, Simon Fraser University, 8888 University Dr, Burnaby, Canada; ²Simon Fraser University, 8888 University Dr W, Burnaby, Canada

15:30 - 17:30 Quantum-Cascade Lasers II International I

- 15:30 **Quantum-cascade Lasers For Terahertz High-resolution Spectroscopy** Mo-PM2-4-1
Xiang Lu*¹; Benjamin Röben²; Klaus Biermann¹; Lutz Schrottke¹; Jente Wubs³; Uwe Macherius³; Klaus-Dieter Weltman³; Jean-Pierre H. van Helden³; Holger T. Grahn¹

¹Paul-Drude-Institut für Festkörperelektronik, Leibniz-Institut im
Forschungsverbund Berlin e. V, Hausvogteiplatz 5-7, Berlin, Germany;

²Physikalisch-Technische Bundesanstalt (PTB), Institut Berlin, Abbestraße 2-
12, Berlin, Germany; ³Leibniz Institute for Plasma Science and Technology
(INP), Felix-Hausdorff-Str. 2, Greifswald, Germany

- 16:00 **Five-Stack Heterogeneous Terahertz Quantum Cascade Laser For Ultra-Broadband Emission** Mo-PM2-4-2
Michael Jaidl*¹; Maximilian Beiser²; Miriam Giparakis²; Martin A. Kainz¹;
Dominik Theiner¹; Benedikt Limbacher¹; Marie C. Ertl¹; Aaron M. Andrews²;
Gottfried Strasser²; Juraj Darmo¹; Karl Unterrainer¹
¹TU Wien, Gusshausstrasse 27-29, Vienna, Austria; ²TU Wien,
Gusshausstrasse 25a, Vienna, Austria
- 16:15 **Integration Of A 2.1-THz Quantum Cascade Laser Within An IEEE WM-130 Rectangular Metallic Waveguide** Mo-PM2-4-3
Mohammed Salih*¹; Sanchit Kondawar¹; Nick Brewster²; Lianhe Li¹; Edmund
Linfield¹; Hui Wang²; Peter Huggard²; Joshua Freeman¹; Daniel Gerber²;
Alexander Valavanis¹
¹School of Electronic and Electrical Engineering, Woodhouse, Leeds, United
Kingdom; ²RAL Space, Harwell Campus, Didcot, United Kingdom
- 16:30 **Optical Beatnote Detection From A Portable THz QCL Comb At 80 K By Direct Free Space Mixing In A High-frequency Hot Electron Bolometer** Mo-PM2-4-4
Sara Cibella*¹; Guido Torrioli²; Pasquale Carelli²; Alessandro Gaggero²;
Ennio Giovine²; Filippo Bolli³; Urban Senica⁴; Mattias Beck⁴; Jerome Faist⁴;
Giacomo Scalari⁴
¹IFN-CNR, Via del Fosso del Cavaliere 100, via del fosso del cavaliere 100,
Rome, Italy; ²IFN-CNR, IFN-CNR, via del fosso del cavaliere 100, roma,
Italy; ³Department of Electronic Engineering, University of Rome Torvergata,
Via del Politecnico 1, rome, Italy; ⁴Institute for Quantum Electronics,
Department of Physics, ETH Zürich, Auguste-Piccard-Hof 1 8093 Zürich,
Schweiz, Zürich, Switzerland
- 16:45 **Strongly Modulated Quantum Cascade Lasers For Broadband And Fast Doppler-Based FTIR Spectroscopy** Mo-PM2-4-5
Alessio Cargioli*¹; Diego Picciocchi¹; Mathieu Bertrand¹; Sargis Hakobyan²;
Richard Maulini²; Stéphane Blaser²; Tobias Gresch²; Antoine Muller²; Jerome
Faist¹
¹ETH Zurich, Auguste-Piccard-Hof 1, Switzerland; ²Alpes Lasers, Avenue des
Pâquiers 1, Switzerland
- 17:00 **QCL-based THz Optical Wireless Communication Link** Mo-PM2-4-6
Alessia Sorgi*¹; Marco Meucci¹; Ali Umair¹; Francesco Cappelli¹; Leonardo
Viti²; Miriam Serena Vitiello²; Jacopo Catani¹; Luigi Consolino¹
¹National Institute of Optics-CNR (CNR-INO), via Nello Carrara 1, Sesto
Fiorentino, Italy; ²NEST, CNR - Istituto Nanoscienze, Piazza San Silvestro 12,

17:15	Pisa, Italy Broadband Antenna-coupled THz Quantum Cascade Laser Frequency Combs With Inverse-designed Waveguide Facets	Mo-PM2-4-7
	Urban Senica*; Sebastian Gloor; Paolo Micheletti; Mattias Beck; Jérôme Faist; Giacomo Scaraf	
	ETH Zurich, Auguste-Piccard-Hof 1, Zurich, Switzerland	
15:30 - 17:30	Telecom 2	International II
15:30	Absolute Security With Diffraction Grating In Terahertz Communication Links Yasaman Shiri ¹ *; Chia-Yi Yeh ¹ ; Zhaoji Fang ¹ ; Rabi Shrestha ¹ ; Hichem Guerboukha ¹ ; John Malowicki ² ; Ngwe Thawdar ² ; Daniel Mittleman ¹ ¹ Brown University, School of Engineering, 184 Hope Street, Providence, United States; ² Air Force Research Laboratory, 26 Electronic Pkwy, Rome, United States	Mo-PM2-5-1
15:45	Load Analysis Of Wireless Backhaul Links At 300 GHz Bo Kum Jung*; Thomas Kürner TU Braunschweig, Institut für Nachrichtentechnik, Schleinitzstraße 22, Braunschweig, Germany	Mo-PM2-5-2
16:00	TeraHertz Vs Microwaves Ray-Launching Model In A 0.45 THz Indoor Wireless Scenario Leyre Azpilicueta ¹ ; Alper Schulze ² ; Mikel Celaya-Echarri ¹ ; Fidel A. Rodríguez-Corbo ³ ; Christopher Sumner ⁴ ; Morgan Dryhurst ⁴ ; Raed. M. Shubair ⁵ ; Francisco Falcone ¹ ; Miguel Navarro-Cia* ⁴ ¹ Universidad Publica de Navarra, Av. Cataluña, s/n, Spain; ² Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute HHI, Einsteinufer 37, Germany; ³ Tecnologico de Monterrey, Av. Eugenio Garza Sada 2501 Sur, Mexico; ⁴ University of Birmingham, Edgbaston Campus, United Kingdom; ⁵ New York University Abu Dhabi, Saadiyat Marina District, United Arab Emirates	Mo-PM2-5-3
16:15	Continuous Asymmetric Beam Steering With A Reconfigurable Intelligent Surface In The Ka-Band At 31 GHz Alexander Wolff ¹ *; Lars Franke ² ; Steffen Klingel ² ; Janis Krieger ² ; Lukas Mueller ² ; Ralf Stemler ² ; Marco Rahm ² ¹ RPTU Kaiserslautern-Landau, Paul-Ehrlich-Strasse 11, Kaiserslautern, Germany; ² RPTU Kaiserslautern-Landau, Paul-Ehrlich-Strasse 11, Germany	Mo-PM2-5-4
16:30	Rough Surfaces Scattering And Mobility-Resilient Terahertz Wireless Links Ruiyi Shen*; Yasaman Ghasempour Princeton University, 41 Olden St, Engineering Quadrangle, Princeton, United States	Mo-PM2-5-5
16:45	An 83.2 Gbps SISO Wireless Communication System Utilizing	Mo-PM2-5-6

Polarization And Frequency Division Multiplexing

Zheng Wang*; Haoyi Cao; Weipeng Wang; Hongxin Zeng; Lin Huang; Ziqiang Yang; Yaxin Zhang

University of Electronic Science and Technology of China, Qingshuihe Campus of UESTC, No.2006, Xiyuan Avenue, Chengdu, China

17:00 **The Multipath Propagation Characteristics Of THz In Indoor Test-Room Environments** **Mo-PM2-5-7**

Jong Ho Kim*¹; Jinhyung Oh¹; Jang Seok Choi²; Jae Ho Seok²

¹Electronics and Telecommunications Research Institute, 218 Gajeong-ro, Yuseong-gu, Daejeon, Korea, Republic of; ²National Radio Research Agency, 767, Bitgaram-ro, Naju-si, Jeollanam-do, Korea, Republic of

17:15 **Analysis Of Radio Propagation Characteristics In Data Center Environment With Rack In Terahertz Band** **Mo-PM2-5-8**

Jinhyung Oh*¹; Jong Ho Kim¹; Jang Seok Choi²; Jae Ho Seok²

¹Electronics and Telecommunications Research Institute, Ga-jeong ro 218, Yuseong gu, Daejeon, Korea, Republic of; ²National Radio Research Agency, Bitgaram-ro 767, Naju-si, Jeollanam-do, Korea, Republic of

17:30 - 19:00 **Poster Session 1**

Foyer (3rd floor)

6G Communications Push For Effective THz Sensing Technology: MOSFET Rectification Model Needs To Be Refounded

Mo-P1-01

Fabrizio Palma*¹; Renato Cicchetti²; Stefano Perticaroli³; Orlandino Testa²

¹Rome University La Sapienza, Dip. DIET, Università di Roma La Sapienza, v. Eudossiana 18, Roma, 320 4357 257, Roma, Italy; ²Rome University La Sapienza, Rome University La Sapienza, Dip. DIET, Università di Roma La Sapienza, Roma, Italy; ³Radio Analog Micro Electronics, Roma, Italy, Roma, Italy

Novel 0.22-THz Extended Interaction Oscillator Based On The Four-Sheet-Beam Orthogonal Interconnection Structure

Mo-P1-02

Zhenhua Wu*; Jielong Li; Diwei Liu; Wei Wang; Zongjun Shi; Renbin Zhong; Kaichun Zhang; Min Hu; Zhaoyun Duan; Yanyu Wei; Yubin Gong; Shenggang Liu

University of Electronic Science and Technology of China, UESTC, Chengdu, China, Chengdu, China

Selecting Hazelnuts By Coupling A Self-organizing Map (SOM) And An Experimental System Operating In Transmission Configuration.

Mo-P1-03

Manuel Greco*¹; Sabino Giarnetti²; Emilio Giovenale³; Andrea Taschin³;

Luca Senni³; Fabio Leccese¹; Andrea Doria³

¹Roma Tre University, Via della Vasca Navale, 84, Roma, Italy; ²Se.Te.L., Via Casamari, 6, Via Marentino, 134, Roma, Italy; ³Fusion and Nuclear Dept, ENEA, Via Enrico Fermi, 45, Frascati, Italy

Phase-sensitive Silicon CMOS TeraFETs

Mo-P1-04

Michael Shur*¹; Xueqing Liu²; Trond Ytterdal³

¹Rensselaer Polytechnic Institute, 9433 van Arsdale Drive, 9433 van Arsdale Drive, Vienna, United States; ²Rensselaer Polytechnic Institute, Rensselaer Polytechnic Institute, 9433 van Arsdale Drive, Troy, United States; ³University of Trondheim, s O.S. Bragstads Plass Address: N-7491, Trondheim, Norway

All-printable And Mechanically-aligned Broadband Image Sensor Array Sheets

Mo-P1-05

Yuto Matsuzaki*¹; Daiki Sakai¹; Yuto Aoshima¹; Daiki Shikichi¹; Raito Ota¹; Satsuki Yasui²; Kou Li²; Yukio Kawano¹

¹Chuo University, 1-13-27, Kasuga, Bunkyo-ku, Japan; ²Tokyo Institute of Technology, 2-12-1, Ookayama, Meguro-ku, Japan

All-printable Stretchable Broadband Photo-thermoelectric Camera Sheets

Mo-P1-06

Daiki Sakai*; Yuto Aoshima; Yuto Matsuzaki; Kou Li; Yukio Kawano
Department of Science and Engineering, Chuo University, 1-13-27 Kasuga, Bunkyo-ku, Japan

Design Of A Circular Electron Injection Electron Optical System For 0.34 Terahertz Traveling Wave Tube

Mo-P1-07

Hang Ren*¹; Sheng Yu²; WeiHua Ge³; Rutai Chen³; Yubo Liu³; Tao Wang³

¹University of Electronic Science and Technology of China, No.2006 Xiyuan Avenue, Gaoxin District (West Zone), Chengdu, ChengDu, China; ²University Of Electronic Science And Technology Of China, No.2006 Xiyuan Avenue, Gaoxin District (West Zone), University of Electronic Science and Technology of China Chengdu, China, China; ³University of Electronic Science and Technology of China, University of Electronic Science and Technology o, Chengdu, China

A WR-3 Full Band Frequency Tripler Based On Planar Schottky Diode

Mo-P1-08

Jianghua Yu*; Yazhou Dong; Hongji Zhou; Hailong Guo; Jun Zhou; Yaxin Zhang

University of Electronic Science and Technology of China, Chengdu China, China

Numerical Research On Multi-objective Optimization Of Vacuum Electronic Devices Based On G-NSGA-II

Mo-P1-09

jianhuang liu¹; laqun liu*¹; yulan hu²; huihui wang²; dagang liu²

¹Yangtze Delta Region Institute (Huzhou), University of Electronic Science and Technology of China, Building B1, Science and Technology Innovation Complex, No. 819, Xisaishan Road, Huzhou, China; ²School of Electronic Science and Engineering, University of Electronic Science and Technology of Chi, No.4, Section 2, North Jianshe Road, China

THz Detection In P-Type FETs

Mo-P1-10

Przemyslaw Zagrajek*¹; Michal Zaborowski²; Jacek Marczewski²; Daniel Tomaszewski²

¹Institute of Optoelectronics, Military University of Technology, ul. gen. S. Kaliski 2, Warsaw, Poland; ²Institute of Microelectronics and Photonics, Lukaszewicz Research Center, al. Lotnikow 32/46, Warsaw, Poland

- Terahertz Detector Integrated With Photonic Crystals Waveguide On Chip** **Mo-P1-11**
- Xu Yan*¹; Xuecou Tu²; Yunjie Rui²; Chen Zhang²; Xiaoqing Jia²; Lin Kang²; Jian Chen²; Peiheng Wu²
- ¹Research Institute of Superconductor Electronics (RISE), School of Electronic Science and Engineerin, 163 Xianlin Road, Qixia District, Nanjing, Jiangsu Province, 210023, Nanjing City, China; ²Research Institute of Superconductor Electronics, School of Electronic Science and Engineering, Nanj, Jiangsu Province Nanjing, Qixia District, Xianlin R, China
- Study Of 0.65THz Extended Interaction Amplifier Based On Folded Waveguide Cavity** **Mo-P1-12**
- Yang Dong*¹; Jingyu Guo²; Shaomeng Wang²; Duo Xu²; Youfeng Yang²; Yuxin Wāng²; Yuxin Wang²; Yuan Zheng²; Ping Zhang²; Zhanliang Wang²; Yubin Gong²
- ¹ University of Electronic Science and Technology of China, No. 2006 Xiyuan Avenue, High-Tech District (West District), Chengdu, China, Chengdu, China; ²University of Electronic Science and Technology of China, No. 2006 Xiyuan Avenue, High-Tech District (West D, China
- A Full-band Tripler Based On A GaAs Monolithic For 460-700 GHz** **Mo-P1-13**
- Yazhou Dong*¹; Shixiong Liang²; Hongji Zhou³; Jianghua Yu³; Hailong Guo³; Jun Zhou³; Hongxin Zeng³; Yaxin Zhang³
- ¹Huzhou Key Laboratory of Terahertz Integrated Circuits and Systems, Yangtze Delta Region Institute (, 819 Xisaishan Road, Huzhou City, Zhejiang Province, Huzhou, China; ²China Electronics Technology Group Corporation, 113 Hezuo Road, Shijiazhuang 050051, China, China; ³Huzhou Key Laboratory of Terahertz Integrated Circuits and Systems, Yangtze Delta Region Institute (, 819 Xisaishan Road, Huzhou City, Zhejiang Province, China
- Fabrication Error Study Of W-band Planar Beam-Wave Interaction Structure** **Mo-P1-14**
- Monodipa Sarkar*¹; Niraj Kumar²
- ¹CSIR-Central Electronics Engineering Research Institute, CSIR-CEERI, OH-12, Pilani, India; ²CSIR-Central Electronics Engineering Research Institute, CSIR-CEERI Campus, Pilani, India
- Terahertz Radiation Source Based On Two-stage Capillary Plasma Channel** **Mo-P1-15**
- Shengpeng Yang*¹; Mi Tian¹; Bingyang Liang²; Yubin Gong¹
- ¹University of electronic science and technology of China (UESTC), No.2006, Xiyuan Ave, West Hi-Tech Zone, 611731, Chengdu, Sichuan, P.R.China, Chengdu, China; ²Xi'an University of Science and Technology, Yanta Road No. 58, Xi'an, China
- Crosstalk Resistant Integrated Uni-Traveling Carrier Photodetector** **Mo-P1-16**
- Souvaraj De¹; Ranjan Das¹; Karanveer Singh¹; Younus Mandalawi¹; Thomas Kleine-Ostmann*²; Thomas Schneider¹

¹TU Braunschweig, Schleinitzstraße 22, 38106 Braunschweig, Braunschweig, Germany; ²PTB Braunschweig, Bundesallee 100, 38116 Braunschweig, Braunschweig, Germany

Tunable Continuous-wave Terahertz Generator Based On Difference Frequency Generation With DAST Crystal **Mo-P1-17**

Zelong Wang*; Yuye Wang; Haibin Li; Meilan Ge; Degang Xu
Tianjin University, 92 Weijin Road, Nankai District, Tianjin, China, Tianjin, China

Influence Of Current In The Spintronics Terahertz Emitter **Mo-P1-18**

Da Tian*; Caihong Zhang; Hongsong Qiu; Jingbo Wu; Kebin Fan; Biaobing Jin; Jian Chen; Peiheng Wu
Nanjing University, No. 163 Xianlin Avenue, Qixia District, Nanjing, China, Nanjing, China

Electric Field Measurement For A 320GHz Wave By Rydberg-atom Based Sensor **Mo-P1-19**

Motohiro Kumagai*; Shigeo Nagano; Shin'ichiro Hayashi; Norihiko Sekine
National Institute of Information and Communications Technology, 4-2-1 Nukuikitamachi Koganei, Tokyo, Japan

Frequency Controlled Terahertz Wave Parametric Generation By A Spectral Drill Cavity **Mo-P1-20**

Shin'ichiro Hayashi*¹; Seigo Ohno²; Katsuhiko Miyamoto³; Yoshiharu Urata⁴; Norihiko Sekine¹

¹National Institute of Information and Communications Technology, 4-2-1 Nukui-Kitamachi, Koganei, Japan; ²Tohoku University, 6-3, Aramaki Aza-Aoba, Aoba, Sendai, Japan; ³Chiba University, 1-33, Yayoi-cho, Inage-ku, Chiba, Japan; ⁴PHLUXi, Inc., 5-3-32 Nakayama, Aoba, Sendai, Japan

High Peak Power Mid-infrared Optical Parametric Oscillator And Amplifier Based On BaGa4Se7 **Mo-P1-21**

Kai Chen*¹; Degang Xu¹; Jining Li¹; Kai Zhong¹; Yuye Wang¹; Jiyong Yao²; Jianquan Yao¹

¹Tianjin University, Weijin Road No.92, Nankai District, Tianjin, China;

²Technical Institute of Physics and Chemistry CAS, Zhongguancun East Road No.29, Haidian District, Beijing, China

Full-Wave Analysis Of A Complex Gyrotron Cavity With Coupled Smooth-Walled And Corrugated Resonators **Mo-P1-22**

Vitalii Shcherbinin*¹; Tetiana Tkachova²; Oksana Andrieieva²; Manfred Thumm¹; John Jelonnek¹

¹Karlsruhe Institute of Technology, Hermann-von-Helmholtz-Platz 1, Eggenstein-Leopoldshafen, Germany; ²Kharkiv Institute of Physics and Technology, Akademicheskaya St. 1, Kharkiv, Ukraine

Calculation Model Of Klystron **Mo-P1-23**

Jinji Li*¹; Hao Li²; Lei Huang²

¹University of Electronic Science and Technology of China, No. 2006, Xiyuan

Avenue, High-tech Zone, Chengdu, Sichuan, Chengdu, China; ²University of Electronic Science and Technology of China, No. 2006, Xiyuan Avenue, High-tech Zone, Chengdu, Chengdu, China

A Novel G-band Dual Sheet Beam Sine Waveguide Traveling-wave Tube **Mo-P1-24**

Shuanzhu Fang¹; Yuanqing Xiao²; Tiejang Wang²; Mengyao Tang²; Fangfang Song²; Jun Luo*¹; Yanyu Wei³

¹China Electronic Product Reliability and Environmental Testing Research Institute, Guangzhou, China, Guangzhou, China; ²China Electronic Product Reliability and Environmental Testing Research Institute, Guangzhou, China, China; ³University of Electronic Science and Technology of China, Chengdu, China, China

Study And Design Of KFE Compact Gyrotron For KSTAR ECH System **Mo-P1-25**

Sunggug Kim*¹; sonjong wang²; Mi Joung²; Jongwon Han²; Inhyok Rhee²

¹Korea institute of Fusion Energy, Gwahak-ro 169-148, Daejeon, Korea, Republic of; ²Korea institute of Fusion Energy, Gwahak-ro 169-148, Korea, Republic of

Study On Electromagnetic Characteristics Of Millimeter Wave Double Inner Conductor Bragg Structure **Mo-P1-26**

xueyong ding*¹; shifeng wang²; liansheng wang²; shuai yuan¹

¹sanya university, Department Of Polytechnic, Sanya university, Sanya, sanya, China; ²sanya university, Department Of Polytechnic, Sanya university, Sanya, 海南省三亚市迎宾大道学院\$, sanya, China

Investigation Of The Cause Of Two-beam Radiation In A Multi-frequency Gaussian Beam Output Gyrotron FU CW GVII **Mo-P1-27**

Yoshinori Tatematsu*; Yoshiki Koshido; Masafumi Fukunari; Yuusuke Yamaguchi

University of Fukui, 3-9-1 Bunkyo, Fukui, Japan

Theoretical Study Of Losses In A 170 GHz Gyrotron with Confocal Resonator **Mo-P1-28**

Youwei Yang*

Nuclear Power Institute of China, No. 328, Section 1, Changshun Avenue, Chengdu, China

Design Of A 28GHz Third Harmonic Gyrotron **Mo-P1-29**

Zhuofeng Li*¹; Kai Jia²; Yinghui Liu²

¹University of Electronic Science and Technology of China, Qingshuihe Campus of UESTC, No.2006, Xiyuan Avenue, West Hi-tech Zone, Chengdu, China; ²University of Electronic Science and Technology of China, Qingshuihe Campus of UESTC, No.2006, Xiyuan Avenue, Chengdu, China

Bowtie Loaded Meander Antenna With Asymmetric Multi-source Excitation **Mo-P1-30**

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Effects Of Stoichiometric Ratio Of NbN Films On The Performance Of **Mo-P1-31**

Hot Electron Bolometer Direct Detection

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Stabilization Of Lasing Frequency Of THz-QCLs In Free-running Using An External LED Light

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Mo-P1-32**MBE Growth Of 3 μ M-thick InGaSb/AlInGaSb QCL Structures**

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Mo-P1-33**Sheet-Beam Higher Order Mode Extended Interaction Oscillator At 0.34THz**

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Mo-P1-34**Additive Manufacturing And Characterization Of Hollow Core Metal And Topas waveguides For Sensor Systems**

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Mo-P1-35**Dielectric Properties Of Epoxy Composites Based On Ferroelectric And MWCNTs At THz Frequency Range**

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Daria Frolova; Kristina Lang; Grigorii Kuleshov

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Mo-P1-36**Terahertz Spectroscopy On CO₂-CH₄ β -hydroquinone Clathrate Replacement Reaction**

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Mo-P1-37**THz Spectroscopy Of Cometary Simulants**

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- Quantification Of Anomalous Blueshifting With Increasing Temperature In The Terahertz Modes Of D-Glutamine** **Mo-P2-01**
 Thomas Sanders*; Jackson Allen; Joseph Horvat; Roger Lewis
 University of Wollongong, Northfields Ave, Wollongong, Australia
- Nonlinear Study For Pair-Breaking In Superconducting Films Under Intense Terahertz Radiation** **Mo-P2-02**
 Jie Tian; Hao Zhang*
 Chongqing University of Science and Technology, 20 Daxuecheng East Road, Shapingba District, Chongqing, China
- Electro-Optical Determination Of The Spectral Characteristics Of Components For THz-based Plasma Diagnostic** **Mo-P2-03**
 Marco Zerbinì¹; Massimo Alonzo²; Luca Senni²; Andrea Taschin²; Andrea Doria¹; Emilio Giovenale¹; Giuseppe Galatola-Teka¹
¹ENEA CR Frascati, via Enrico Fermi, 45, Frascati, Italy; ²ENEA, via E. Fermi, 45, Italy
- The Method For Removing Splits In The Phase Singularity Of An Optical Vortex Generated By A Spiral Mirror** **Mo-P2-04**
 Yuki Goto*¹; Toru Ii Tsujimura²; Shin Kubo²
¹National Institute for Fusion Science, 322-6, Oroshi-cho, Toki, Japan; ²Chubu University, 1200 Matsumotocho, Kasugai, Japan
- Current Status Of The ECH Gyrotron System On The DIII-D Tokamak** **Mo-P2-05**
 Yuri Gorelov*; Antonio Torrezan; Mike Ross; Nikolai de Boucaud; Perry Nesbet; Alex Laut
 General Atomics, 3550 General Atomics Court, San Diego, United States
- Rhodochrosite At High Temperatures: A Terahertz Perspective On Structural Dynamics** **Mo-P2-06**
 Naini Bajaj*¹; Aparajita Bandyopadhyay²; Amartya Sengupta¹
¹Indian Institute of Technology Delhi, Department of Physics, New Delhi, India; ²Indian Institute of Technology Delhi, DRDO-Industry-Academia Center of Excellence, New Delhi, India
- Further Optimization Of Resonant GHz Wave Absorption Coatings** **Mo-P2-07**
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- Time Resolved Hyper-Raman Surface Spectroscopy Of (100) Silicon** **Mo-P2-08**
 Laetitia Dalstein; Marc Tondusson; Jerome Degert; Eric Freysz*
 Univ. Bordeaux, 351 cours de la liberation, Talence, France
- Terahertz And Dc Conductivity Of Pyrolyzed Photoresist Films** **Mo-P2-09**
 Justinas Jorudas*¹; Hamza Rehman²; Georgy Fedorov²; Maria Cojocari²; Petri Karvinen²; Andrzej Urbanowicz¹; Daniil Pashnev¹; Irmantas Kasalynas¹; Yuri Svirko²; Polina Kuzhir²

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Terahertz Time-Domain Spectroscopic Study Of Boson Peak Of Hydrogen-Bonded Glass-Forming Glycerol

Mo-P2-10

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Generation Of The THz Spin Current In Hematite Contributed By Spin Seebeck Effect

Mo-P2-11

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Observation Of Anthracene Crystallization Under Irradiation Of Terahertz Free-Electron Laser

Mo-P2-12

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Temperature Dependence Of The Conductivity Of InSb Measured By Terahertz Time-Domain Spectroscopy

Mo-P2-13

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A HEMT-embedded Metasurface For Terahertz Beam-Scanning Based On Amplitude-Phase Quantization Error Optimization

Mo-P2-14

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Two-dimensional Niobium Carbide MXene, Nb₂CTx: Intrinsic And Photoexcited Carrier Dynamics

Mo-P2-15

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Magnetostatic Field Assisted Tunability And Polarization Conversion In Patterned Graphene Terahertz Metamaterials

Mo-P2-16

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A Physics-driven Neural Network Framework For End-to-end Inverse Design Of Metasurface-based Holograms

Mo-P2-17

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Reconfigurable Sub-terahertz Transmission And Reflection Integrated Metasurfaces Synergizing Polarization-encoding And Wavefront Manipulation

Mo-P2-18

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Active Terahertz Metasurface Devices

Mo-P2-19

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Active Broadband Terahertz Metasurface Based On Mechanical

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Deformation Of Liquid Crystal Elastomer

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Graphene-Integrated Metasurface For THz Reconfigurable Polarization Converter

Mo-P2-21

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Electric-Field-Coupled Inductive-Capacitive Resonators For Terahertz Electromagnetically Induced Transparency Metamaterials

Mo-P2-22

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CRISPR/cas12-powered Platform For Specific And Sensitive Detection Of CtDNA Using A Terahertz Metamaterial Biosensor

Mo-P2-23

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Morphological Dependence Of All-dielectric Terahertz Metasurfaces

Mo-P2-24

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Multi-band Terahertz Switch Realized With Plasmon-induced Transparency Based On A Graphene Metamaterial Structure

Mo-P2-25

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Metamaterial Fresnel Zone Plate For Backward Terahertz-wave Parametric Oscillator Applications

Mo-P2-26

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Electromechanically Reconfigurable Plasmonic Cantilevers

Mo-P2-27

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Mutual Coupling Effects Between Meta-atoms For Enhanced Bandwidth

Mo-P2-28

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Ultra-broadband Impedance-matched Terahertz Absorption Of Drude-Smith Type Thin-film Materials

Mo-P2-29

Tianyu Zhang*; Peiyao Xie; Ran Wang; Shenggang Liu; Min Hu
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Correcting Pixel Errors For Terahertz Spatial Light Modulation Via Binary Erasure Codes

Mo-P2-30

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Infrared Photocurrent Imaging And Spectroscopy With An Atomic-force-microscopy Probe

Mo-P2-31

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Generalized Phase-extraction Of Amplitude And Phase Contrast In Coherent THz-s-SNOM Based On Laser Feedback Interferometry.

Mo-P2-32

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A Terahertz Absorption Modulator Based On GaAs Schottky Diodes

Mo-P2-33

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A Low Insertion Loss 140GHz Terahertz Modulator Based On GaAs-diodes

Mo-P2-34

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A High Power Capacity Terahertz On-chip Modulator Based On SRR

Mo-P2-35

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Design Of A 220 GHz Terahertz Wide-Band Common Emitter Low Noise Amplifier Chip

Mo-P2-36

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A 3-bit Terahertz Phase Shifter Based On GaAs Diodes

Mo-P2-37

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On-Chip Terahertz Circulator Based On Time-varying Coupled Resonators

Mo-P2-38

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This Study Explores The Use Of Passive And Flexible Optics Elements To Achieve THz Beam Profile Engineering For Imaging Applications Via Mechanical Bending.

Mo-P2-39

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THz High-gain PTFE Low-profile Vortex Antenna

Mo-P2-40

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A Low-Profile CPW-Fed Wideband Terahertz Antenna Based On UC-PBG Structures For Wireless Applications

Mo-P2-41

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Terahertz Super-Resolution Image Reconstruction By Frequency Mapping

Mo-P2-42

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3-D Printed Dual-band Dual-polarized Metalens Antenna

Mo-P2-43

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Terahertz Reflection Vibrometry For Analyzing Metal Foil Displacement Induced By Single Cavitation Bubble Collapse

Mo-P2-44

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Emission Angle Of THz Beam From Nonlinear Quantum Cascade Laser And The Effect Of Imaging Result

Mo-P2-45

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Evidence Of Capillary Action In Multilayered Fibrous Media Observed With THz Spectroscopy

Mo-P2-46

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Terahertz Radar And Deep Learning-Based Detection Of Soft Foreign Objects In Food Products: An Automatic Inspection Approach

Mo-P2-47

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Qualitative Identification And Quantitative Detection Of ?-lactose Solutions Using High Power THz-ATR Spectroscopy

Mo-P2-48

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- Concept Of A Near-field Antenna-scanner For Mm-wave Applications** **Mo-P2-49**
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Germany
- Simple And Affordable Spectrum Analyzer For The THz Radiation Range** **Mo-P2-50**
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Military University of Technology, gen. Sylwestra Kaliskiego 2, Warsaw,
Poland
- Evaluation Of The Reliability Factors On Illicit Drugs On-Site
Identification Based On Portable Terahertz Time Domain Spectroscopy** **Mo-P2-51**
Zi Xi Josie Lim¹; Nan Zhang*¹; Wei Ji Phua¹; Angeline Tang²; Lijie Yu²; Jia
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- Demonstration Of A 245 GHz Real-Time Wireless Communication Link
With 30 Gbps Data Rate** **Mo-P2-52**
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Ultimo, Sydney, Australia; ³Commonwealth Scientific and Industrial Research
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- Loss And Dispersion Limitations Of THz Surface Wave Links** **Mo-P2-53**
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- Blockage Prediction In Directional MmWave Links Using Liquid Time
Constant Network** **Mo-P2-54**
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United States; ³Aalborg University, Selma Lagerlöfs Vej 312, Aalborg,
Denmark
- Millimeter-wave--Infrared Multi-wavelength Computed Tomography** **Mo-P2-55**
Daiki Shikichi*¹; Raito Ota¹; Kou Li²; Daiki Sakai¹; Takeru Suyama³; Hiroki
Okawa⁴; Satoshi Ikehata³; Imari Sato³; Yukio Kawano¹
¹Chuo University, 1-13-27, Kasuga, Bunkyo-ku, Japan; ²Tokyo Institute of
Technology, 2-12-1, Ookayama, Meguro-ku, Japan; ³National Institute of
Informatics, 2-1-2, Hitotsubashi, Chiyoda-ku, Japan; ⁴Kanagawa Institute of

- Industrial Science and Technology, 705-1, Imaizumi, Ebina-shi, Japan
System For Automatic Detection Of Defects In Composite Structures **Mo-P2-56**
Kamil Kaminski*¹; Norbert Palka¹; Marcin Maciejewski¹; Marcin Kowalski¹;
Elzbieta Czerwinska¹; Przemyslaw Zagrajek¹; Piotr Synaszko²; Krzysztof
Dragan²
¹Military University of Technology, 2 Kaliski Str, Warsaw, Poland; ²Air Force
Institute of Technology, 6 Ksiaze Boleslaw Str., Warsaw, Poland
- Encoder-Based Synchronization For ECOPS High-Speed Terahertz Raster
Scanner** **Mo-P2-57**
Marcin Maciejewski*; Kamil Kaminski; Norbert Palka
Military University Of Technology, ul. gen. Sylwestra Kaliskiego 2, Warsaw,
Poland
- High-resolution Visualization Of The Temperature Changes In A Tissue-
equivalent Phantom For THz Frequencies Using Fluorescent
Thermoprobe** **Mo-P2-58**
Shota Yamazaki*; Maya Mizuno; Tomoaki Nagaoka
National Institute of Information and Communications Technology,
Nukuikitamachi 4-2-1, Koganei, Tokyo, Japan
- Terahertz Time-domain Spectroscopy For The Analysis Of Latex Film
Formation** **Mo-P2-59**
Gonçalo Costa*¹; Emily Brogden¹; Jacob Young¹; Arturo Hernandez-Serrano¹;
Rayko Stantchev²; Stefan Bon¹; Emma MacPherson¹
¹University of Warwick, University of Warwick, Coventry, United Kingdom;
²National Sun Yat-sen University, National Sun Yat-sen University,
Department of Physics, Kaohsiung, Taiwan
- Advanced Experimental Investigations On Cooling Concepts Of Cavities
For Megawatt-Class CW Gyrotrons** **Mo-P2-60**
Sebastian Stanculovic*¹; Konstantinos Avramidis²; Rosa Difonzo³; Eleonora
Gajetti³; Gerd Gantenbein¹; Stefan Illy¹; John Jelonnek¹; Alberto Leggieri⁴;
Tobias Ruess¹; Tomasz Rzesnicki¹; Laura Savoldi³
¹Karlsruhe Institute of Technology, Kaiserstr. 12, Karlsruhe, Germany;
²National and Kapodistrian University of Athens (NKUA), Athens, Greece;
³Politecnico di Torino, Corso Duca degli Abruzzi, 24,, Torino, Italy; ⁴THALES
MIS, 2 Rue Marcel Dassault, Vélizy-Villacoublay, France
- Diamond Dielectric Characterization With Superconducting LC Micro-
resonators** **Mo-P2-61**
Francesco Mazzocchi*; Dirk Strauß; Theo Scherer
Karlsruhe Institute Of Technology, Hermann Von Helmholtz Platz 1,
Eggenstein Leopoldshafen, Germany
- Towards Fracture Toughness Measurements Of MPA CVD Diamond In
Nuclear Fusion Devices** **Mo-P2-62**
Gaetano Aiello*¹; Pablo Estebanez²; Bronislava Gorr³; Andreas Meier³;

Sabine Schreck³; Theo Scherer³; Dirk Strauss³; Christoph Wild⁴; Eckhard Woerner⁴

¹Karlsruhe Institute of Technology, Hermann-von-Helmholtz-Platz 1, Eggenstein-Leopoldshafen, Germany; ²Fusion for Energy, Josep Pla 2 Torres Diagonal Litoral B3, Barcelona, Spain; ³Karlsruhe Institute of Technology, Hermann-von-Helmholtz-Platz 1, Eggenstein Leopoldshafen, Germany;

⁴Diamond Materials GmbH & Co. KG, Hans-Bunte-Str. 19, Freiburg, Germany

Experimental And Theoretical Study Of Terahertz Spectrum On Luteolin Mo-P2-63

Ting Zeng*¹; Gan Zhang²; Qin Huang²; Jun Zhou³; Sen Gong³

¹School of Medicine, Chengdu Medical College, No. 783, Xindu Avenue, Xindu District, No.2006, Xiyuan Ave, West Hi-Tech Zone, Chengdu, China;

²School of Medicine, Chengdu Medical College, No. 783, Xindu Avenue, Xindu District, China; ³School of Electronic Science and Engineering, University of Electronic Science and Technology of Chi, No.2006, Xiyuan Ave, West Hi-Tech Zone, China

A Novel Local Symmetry Peak Finding Method For Terahertz Content Extraction Through Multilayer Structures Mo-P2-64

Yuqing Cui*; Yafei Xu; Xingyu Wang; Liuyang Zhang

Xi'an Jiaotong University, No 28 Xianning West Road, Beilin District, Xi'an, China

High Frequency Signal Generation From Aliased Signals In A Direct Digital Synthesizer For Terahertz Applications Mo-P2-65

Eunsang Kwon*

THz Scanning System, 218, Gajeong-ro, Yuseong-gu, Daejeon, Republic of Korea, Daejeon, Korea, Republic of

Nondestructive Structural Observation Of Paintings Using Infrared, Millimeter And THz Pulsed Waves Mo-P2-66

Kaori Fukunaga*¹; Yoshimi Ueno²

¹National Institute of ICT, Nukui-Kita 4-2-1, Koganei, Japan; ²C. R. S. Corporation, Tokyo, Japan

19 September 2023

08:30 - 09:15 Plenary Session 3

**Symposia
Theatre**

08:30 **Plasmonic Terahertz Camera For Real-Time Terahertz Imaging** Tu-PL1-1
Mona Jarrahi*
University of California Los Angeles, 420 Westwood Plaza, 420 Westwood Plaza, Los Angeles, United States

09:15 - 10:00 Plenary Session 4

**Symposia
Theatre**

09:15 **Terahertz Spintronics: New Insights Into Magnetic Phenomena and Their** Tu-PL2-2-1

10:30 - 12:00 Laser Sources & Detectors II		Symposia Theatre
10:30	Investigation Of RTD THz Oscillator With Wide Frequency Tuning Capability Enes Mutlu* ¹ ; Wen Li ¹ ; Benedikt Sievert ² ; Robin Kress ¹ ; Simone Clochiatti ¹ ; Andreas Rennings ² ; Anton Grygoriev ¹ ; Werner Prost ¹ ; Daniel Erni ² ; Nils Weimann ¹ ¹ University of Duisburg-Essen, Lotharstr. 55 (ZHO), Duisburg, Germany; ² University of Duisburg-Essen, Bismarckstr. 81, Duisburg, Germany	Tu-AM-1-1
10:45	Resonant-Tunneling Diode With Spiral Bias Connections For Circularly Polarized Radiation Mingxiang Stephen Li* ¹ ; Safumi Suzuki ² ; Christophe Fumeaux ¹ ; Withawat Withayachumnankul ¹ ¹ Terahertz Engineering Laboratory, The University of Adelaide, The University of Adelaide, SA, 5005, Australia; ² Department of Electrical and Electronic Engineering, Tokyo Institute of Technology, 2-12-1 Ookayama, Meguro-ku, Tokyo 152-8552, Japan, Japan	Tu-AM-1-2
11:00	On-wafer Characterisation Of Resonant-tunnelling Diodes Up To 1.1 THz Patrik Blomberg*; Jan Stake; Josip Vukusic; Vladimir Drakinskiy Chalmers University of Technology, Chalmersplatsen 4, Gothenburg, Sweden	Tu-AM-1-3
11:15	A Simple View On Large-Signal Resonant-Tunneling-Diode Dynamics Petr Ourednik*; Dinh Tuan Nguyen; Michael Feiginov TU Wien, Gusshausstrasse 25/354, Vienna, Austria	Tu-AM-1-4
11:30	Conventional Vs. Island THz Slot-Antenna Resonant-Tunneling-Diode Oscillators Dinh Tuan Nguyen* ¹ ; Petr Ourednik ² ; Michael Feiginov ² ¹ Technical University of Vienna, Karlsplatz 13, Vienna 1040, Austria, Vienna, Austria; ² Technical University of Vienna, Karlsplatz 13, Vienna 1040, Austria, Austria	Tu-AM-1-5
11:45	Nonlinear Optical Response In Resonant Tunneling Diode Terahertz Oscillators Takashi Arikawa* ¹ ; Seiga Yamasaki ² ; Koichiro Tanaka ² ¹ University of Hyogo, 2167 Shosha, Himeji, Japan; ² Kyoto University, Oiwakecho, Kitashirakawa, Sakyo-ku, Kyoto, Japan	Tu-AM-1-6
10:30 - 12:00 Ultrafast Phenomena & Spectroscopy		Cartier I

10:30	<p>Terahertz Cavity Phonon Polaritons In The Deep-Strong Coupling Regime Tu-AM-2-1</p> <p>Andrey Baydin*¹; Manukumara Manjappa²; Sobhan Subhra Mishra³; Hongjing Xu⁴; Jacques Doumani⁵; Fuyang Tay⁶; Dasom Kim⁵; Felix Hernandez⁷; Paulo Rappi⁸; Eduardo Abramof⁸; Ranjan Singh³; Junichiro Kono⁵</p> <p>¹Rice University, 6100 Main St., Houston, United States; ²Indian Institute of Science, CV Raman Road, Bengaluru, India; ³Nanyang Technological University, Singapore, Singapore; ⁴Rice University, 6100 Main St, Houston, United States; ⁵Rice University, 6100 Main St, United States; ⁶Rice University, 6100 Main St., United States; ⁷Universidade de São Paulo, Av. Prof. Luciano Gualberto 315, Brazil; ⁸Instituto Nacional de Pesquisas Espaciais, Av. dos Astronautas, 1.758. Jd. Granja, Brazil</p>
11:00	<p>A Novel Terahertz Line Array Detection Scheme Of Polarimeter-interferometer System On EAST Tu-AM-2-2</p> <p>Huihui Yan*; Haiqing Liu; Shouxin Wang; Hui Lian; Weiming Li Institute Of Plasma Physics, Chinese Academy Of Sciences, No. 350 shushanhu Road, Hefei, Anhui, China, Hefei, China</p>
11:15	<p>Research On The EAST Plasma Density Diagnostics By The Terahertz Spectroscopy Using Asynchronous Sampling And Single-shot Schemes Tu-AM-2-3</p> <p>Haitao Tao¹; Ming Fang¹; Haiqing Liu²; Cuizhen Wang²; Susu Hu³; Yinxian Jie³; Chun Zhou*³</p> <p>¹School of Electronic and Information Engineering, Anhui University, Hefei, China; ²Institute of Energy, Hefei Comprehensive National Science Center, Hefei, China; ³Institute of Plasma Physics, Hefei Institutes of Physics Science, Chinese Academy of Sciences, Hefei, China</p>
11:30	<p>Terahertz Time Domain Spectroscopy For Characterizing Properties Of Carbon Nanotube Yarns Tu-AM-2-4</p> <p>Laura Londono*¹; Natalie Frey²; Andrew Fitzgerald²; Lyubov TITOVA²; Kateryna Kushnir²</p> <p>¹Worcester Polytechnic Ins, 100 Institute Rd, 100 Institute Rd, Worcester, United States; ²Worcester Polytechnic Ins, Worcester Polytechnic Ins, 100 Institute Rd, Worcester, United States</p>
11:45	<p>Terahertz Torsional Dynamics And Their Influence On Electron-Phonon Coupling In Organic Semiconductors Tu-AM-2-5</p> <p>Michael Ruggiero* University of Vermont, 82 University Place, Burlington, United States</p>

10:30 - 12:00 Semimetals **Cartier II**

10:30	<p>Terahertz And Multi-terahertz Spectroscopy Of Light-driven 3D Dirac Semimetal Cd₃As₂ Tu-AM-3-1</p>
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	Yuta Murotani*; Ryusuke Matsunaga The Institute for Solid State Physics, The University of Tokyo, 5-1-5 Kashiwanoha, Kashiwa, Chiba, Japan	
11:00	Kerr Effect And Self-focusing In Nodal Semimetals In Terahertz Regime Chao Zhang* University of Wollongong, Northfield Avenue, Wollongong, Australia	Tu-AM-3-2
11:15	Terahertz Characterization Of Charge Carrier Dynamics In 3D Dirac Semi-metal Cd3As2 Nanowires Yahya Saboon* ¹ ; Xinyu Liu ¹ ; Thorsten Hesjedal ² ; Michael Johnston ³ ; Laura Herz ³ ; Jessica Boland ⁴ ¹ The University of Manchester, Photon Science Institute, Department of EEE, Manchester, United Kingdom; ² University of Oxford, Department of Physics, Clarendon Laboratory, room 149, Oxford, United Kingdom; ³ University of Oxford, Clarendon Laboratory, United Kingdom; ⁴ The University of Manchester, Photon Science Institute, United Kingdom	Tu-AM-3-3
11:30	THz-induced Carrier Multiplication In TaAs Weyl Semimetal Sarah Houver* ¹ ; Davide Soranzio ² ; Simone Biasco ² ; Chandra Shekhar ³ ; Claudia Felser ³ ; Elsa Abreu ² ; Matteo Savoini ² ; Steven Johnson ² ¹ Université Paris Cité, 10 rue Alice Domon et Léonie Duquet, Paris, France; ² ETH Zurich, Auguste-Piccard-Hof 1, 8093 Zürich, Switzerland; ³ Max-Planck-Institute for Chemical Physics of Solids, Nöthnitzer Straße, 40 01187 Dresden, Germany	Tu-AM-3-4
10:30 - 12:00	Waveguide	International I
10:30	Research And Development Of Corporate-feed Waveguide Slot Array Antennas In 120GHz And 350GHz Bands Jiro Hirokawa* Tokyo Institute of Technology, S3-20, 2-12-1 Ookayama, Meguro, Tokyo, Japan	Tu-AM-4-1
11:00	Time-Domain Integration Of Broadband Terahertz Pulses Via Tapered Two-Wire Waveguide Giacomo Balistreri* ¹ ; Alessandro Tomasino ² ; Junliang Dong ¹ ; Aycan Yurtsever ¹ ; Salvatore Stivala ³ ; José Azaña ¹ ; Roberto Morandotti ¹ ¹ Institut National de la Recherche Scientifique, 1650, Boulevard Lionel Boulet, Varennes, Canada; ² Institut National de la Recherche Scientifique, 1650, Boulevard Lionel-Boulet, Varennes, Canada; ³ University of Palermo, Viale delle Scienze, Palermo, Italy	Tu-AM-4-2
11:15	Low-loss, 1-m Long Length, Hollow-core THz Waveguide Operating At 1 THz, Based On Anti-resonant Guiding Mechanism Georges HUMBERT* ¹ ; Jean-Louis AUGUSTE ¹ ; Guillaume DUCOURNAU ² ;	Tu-AM-4-3

Jean-Francois LAMPIN²

¹XLIM Research Institute, 123 av. A. Thomas, LIMOGES, France; ²IEMN, Institute of Electronics, Microelectronics and Nanotechnology, Cité Scientifique - Avenue Poincaré, Villeneuve d'Ascq, France

11:30 **Low-loss Coplanar Waveguide To WR-5 Waveguide E-plane Transition With Bias-Tee.** **Tu-AM-4-4**

Himanshu Gohil*¹; Hui Wang¹; Diego Pardo²; James Seddon³; Cyril Renaud³; Peter Huggard¹

¹Science and Technology Facilities Council - UKRI, R25, RAL Space, Harwell Campus, Didcot, United Kingdom; ²Kings College London, Kings College London, London, United Kingdom; ³University College London, University College London, London, United Kingdom

11:45 **Terahertz Integrated Polarization Rotator Based On Effective-Medium-Clad Waveguide** **Tu-AM-4-5**

Weijie Gao*¹; Withawat Withayachumnankul²; Masayuki Fujita¹; Tadao Nagatsuma¹

¹Graduate School of Engineering Science, Osaka University, 1-3 Machikaneyamacho, Toyonaka, Osaka, Japan; ²Terahertz Engineering Laboratory, The University of Adelaide, Adelaide, South Australia, Australia

10:30 - 12:00 Antenna Imaging Techniques I **International II**

10:30 **Complementary Harmonic Suppression Of Radiation At 300/600 GHz By A Pair Of Frequency-Selective Surfaces Fabricated On Polyimide Membranes** **Tu-AM-5-1**

Hui Yuan*¹; Meng Zhang²; Daniel Erni³; Hartmut G. Roskos⁴

¹Goethe University Frankfurt am Main, Max-Von-Laue Str.1, Frankfurt am Main, Germany; ²University Duisburg-Essen, Bismarckstr. 81 (BA), Duisburg, Germany; ³University Duisburg-Essen, Bismarckstr. 81 (BA), Germany; ⁴Goethe-University Frankfurt am Main, Max-Von-Laue Str.1, Frankfurt am Main, Germany

11:00 **A Tightly-Sampled Focal Plane Array In 22 Nm CMOS With Integrated Direct-Detectors For Terahertz Imaging Applications** **Tu-AM-5-2**

Martijn Hoogelander; Robbin van Dijk; Maria Alonso-delPino*; Marco Spirito; Nuria Llombart

Delft University of Technology, Mekelweg 4, Delft, Netherlands

11:15 **A Shaped Quartz Lens Antenna For Wide Scanning Sub-millimeter Imaging Systems** **Tu-AM-5-3**

Huasheng Zhang*; Shahab Oddin Dabironezare; Nuria Llombart

Delft University of Technology, Delft University of Technology, Delft, Netherlands

Near-field Characterization Of A GHz Branchline Coupler Using A THz

11:30	Microscope Marius Neumann*; Paul Julius Ritter; Julius Mumme; Meinhard Schilling; Benedikt Hampel Technische Universität Braunschweig, Hans-Sommer-Str. 66, Braunschweig, Germany	Tu-AM-5-4
11:45	Multi-Spectral Photonic THz Imaging Using MUTC-PDs And Dielectric Rod Waveguide Antennas Israa Mohammad*; Thomas Haddad; Sumer Makhoulf; Andreas Stöhr University of Duisburg-Essen, Lotharstraße 55, Duisburg, Germany	Tu-AM-5-5
13:00 - 15:00	Laser Sources & Detectors III	Symposia Theatre
13:00	High Sensitivity Spectroscopic Measurement With A Highly Nonlinear THz-PMT And An Is-TPG Naoya Kawai* ¹ ; Hisanari Takahashi ² ; Kota Katsuyama ¹ ; Yuma Takida ³ ; Tobias Olaf Buchmann ⁴ ; Matej Sebek ⁴ ; Simon Jappe Lange ⁴ ; Peter Uhd Jepsen ⁴ ; Hiroaki Minamide ³ ; Hiroshi Satozono ² ; Takayuki Ohmura ¹ ¹ HAMAMATSU PHOTONICS K.K., 314-5, Shimokanzo, Iwata City, Japan; ² HAMAMATSU PHOTONICS K.K., 5000, Hirakuchi, Hamamatsu City, Japan; ³ RIKEN, 519-1399 Aramaki-aza Aoba, Sendai City, Japan; ⁴ DTU Electro, 2800 Kongens Lyngby, Denmark	Tu-PM1-1-1
13:15	Simultaneous Measurement Of Orthogonal Terahertz Fields Enabled Via A THz MODEM (modulator/demodulator) Scheme Huiliang Ou* ¹ ; Rayko Stantchev ² ; Mykhaylo Semtsiv ³ ; William Masselink ³ ; James Lloyd-Hughes ⁴ ; Emma MacPherson ⁴ ¹ University of Warwick, Gibbet Hill Rd, Coventry, United Kingdom; ² National Sun Yat-Sen University, 70 Lienhai Rd, Kaohsiung, Taiwan; ³ Humboldt University of Berlin, Unter den Linden 6, Germany; ⁴ University of Warwick, Gibbet Hill Rd, United Kingdom	Tu-PM1-1-2
13:30	Graphene Field-effect Transistors As THz Detectors: Distinguishing Between Resistive Self-mixing And The Hot-carrier Thermoelectric Effect Florian Ludwig ¹ ; Andrey Generalov* ² ; Jakob Holstein ¹ ; Anton Murros ² ; Klaara Viisanen ² ; Mika Prunnila ² ; Hartmut G. Roskos ¹ ¹ Goethe University Frankfurt, Max-von-Laue-Strasse 1, Frankfurt am Main, Germany; ² VTT Technical Research Centre of Finland, Tietotie 3, Espoo, Finland	Tu-PM1-1-3
13:45	A Novel Scattering-type THz Microprobe With Integrated Source And Detector For Contact-free, High-speed Surface Imaging At Sub-μm-resolution Martin Priwisch ¹ ; Michael Nagel ² ; Alexander Michalski ² ; Denise Priwisch ¹ ; Yoonkyung Jang ¹ ; Ikseon Jeon ¹ ; Inkeun Baek* ¹	Tu-PM1-1-4

	¹ Samsung Electronics Co., Ltd., 1-1 Samsungjeonja, Hwaseong-si, Korea, Republic of; ² Protemics GmbH, Otto-Blumenthal-Strasse 25, Aachen, Germany	
14:00	The In-plane Photoelectric Effect For Terahertz Detection In Two- And Quasi-one-dimensional Electron Systems Wladislaw Michailow* ¹ ; Sergey Mikhailov ² ; Nikita Almond ¹ ; Harvey Beere ¹ ; David Ritchie ¹ ¹ Cavendish Laboratory, University of Cambridge, JJ Thomson Avenue, Cambridge, United Kingdom; ² Institute of Physics, University of Augsburg, Universitätsstraße 1, Augsburg, Germany	Tu-PM1-1-5
14:15	On-Chip Direct Laser Writing Of Spectral Filter Structures For Terahertz Field-Effect Transistors Michael Kocybik* ¹ ; Jakob Holstein ² ; Erik Waller ¹ ; Alvydas Lisauskas ² ; Hartmut Roskos ² ; Maris Bauer ¹ ; Fabian Friederich ¹ ¹ Fraunhofer-Institute for Industrial Mathematics ITWM, Fraunhofer-Platz 1, Kaiserslautern, Germany; ² Goethe-Universität Frankfurt am Main, Max-von-Laue-Straße 1, Frankfurt am Main, Germany	Tu-PM1-1-6
14:30	Design And Characterization Of A Hairpin Filter At GHz Frequencies Using A THz Microscope For Near-Field Analysis Paul Julius Ritter*; Marius Neumann; Julius Mumme; Meinhard Schilling; Benedikt Hampel Technische Universität Braunschweig, Hans-Sommer-Str. 66, Braunschweig, Germany	Tu-PM1-1-7
14:45	Implementation Of A Multi-element Detector Consisting Of An 8x8 Network Of Patch-antenna-coupled TeraFETs For Gas Spectroscopy With THz-QCLs Jakob Holstein* ¹ ; Michael Horbury ² ; Nicholas North ² ; Harry Godden ² ; Lianhe Li ² ; Joshua Freeman ² ; Alexander Valavanis ² ; Edmund Linfield ² ; Alvydas Lisauskas ¹ ; Hartmut G. Roskos ¹ ; Anastasiya Krysl ¹ ¹ Goethe University of Frankfurt, Max-vonLaue Straße 1, Frankfurt am Main, Germany; ² School of Electronic and Electrical Engineering, Woodhouse, Leeds LS2 9JT, United Kingdom	Tu-PM1-1-8

13:00 - 15:00 Spectroscopy II

Cartier I

13:00	Breath Analysis Of COPD Patients By Terahertz/Millimeter-Wave Gas Spectroscopy -- A Proof-of-Principle Study Nick Rothbart* ¹ ; Rembert Koczulla ² ; Olaf Holz ³ ; Klaus Schmalz ⁴ ; Heinz-Wilhelm Hübers ¹ ¹ German Aerospace Center (DLR), Rutherfordstr. 2, Berlin, Germany; ² Schoen Klinik Berchtesgadener Land, Malterhoeh 1, Germany; ³ Fraunhofer ITEM, Feodor-Lynen-Straße 15, Germany; ⁴ IHP, Im Technologiepark 25, Germany	Tu-PM1-2-1
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- 13:15 **Investigating The Rigidity Of Ortho-terphenyl** **Tu-PM1-2-2**
 Johanna Koelbel*¹; Michael T. Ruggiero²; J. Axel Zeitler³; Daniel M. Mittleman¹
¹Brown University, Department of Engineering, 184 Hope Street, Providence, United States; ²University of Vermont, Department of Chemistry, 82 University Pl, Burlington, United States; ³University of Cambridge, Department of Chemical Engineering, Philippa Fawcett Drive, Cambridge, United Kingdom
- 13:30 **Analytical Terahertz Wave Absorption Spectroscopy Of Dimethyl Ether** **Tu-PM1-2-3**
 Ingrid Wilke*¹; Megan N. Powers²; Timothy E. Rice²; Arshad Chowdhury²; Muhammad Waleed Mansha³; Mona M. Hella³; Matthew A. Oehlschlaeger⁴
¹Rensselaer Polytechnic Institute, Department of Physics, 110 8th St., Troy, United States; ²Rensselaer Polytechnic Institute, Department of Mechanical Engineering, 110 8th Street, Troy, United States; ³Rensselaer Polytechnic Institute, Department of Electrical Engineering, 110 8th St., Troy, United States; ⁴Rensselaer Polytechnic Institute, Department of Mechanical Engineering, 110 8th St., Troy, United States
- 13:45 **Real-Time Terahertz Absorption Spectroscopy Of Methanol And Deuterated-Methanol Vapour, Using A TeraFET Detector Array** **Tu-PM1-2-4**
 Michael Horbury*¹; Nicholas North²; Jakob Holstein³; Harry Godden²; Lianhe Li²; Joshua Freeman²; Edmund Linfield²; Hartmut Roskos³; Alvydas Lisauskas³; Alexander Valavanis²
¹University of Leeds, University of Leeds, Leeds, United Kingdom; ²University of Leeds, University of Leeds, United Kingdom; ³Johan Wolfgang Goethe-Universität, D-60438 Frankfurt am Main, Germany
- 14:00 **Mapping Of Kidney Stone By Far-Infrared Spectroscopy** **Tu-PM1-2-5**
 Verdad Agulto*¹; Wangxuan Zhao¹; Mihoko Maruyama²; Masae Takahashi³; Kosaku Kato¹; Valynn Katrine Mag-usara¹; Masato Ota¹; Yutaro Tanaka²; Yusuke Mori²; Masashi Yoshimura¹; Makoto Nakajima¹
¹Institute of Laser Engineering, Osaka University, Suita, Osaka, Japan; ²Graduate School of Engineering, Osaka University, Suita, Osaka, Japan; ³Graduate School of Science, Tohoku University, Sendai, Miyagi, Japan
- 14:15 **The Temperature Dependent Changes In The Terahertz Absorption Spectrum Due To The Self-assembly Of Quadruplexes In A Solution Of The Nucleoside Guanosine Monophosphate** **Tu-PM1-2-6**
 Yu Heng Tao*¹; Simon Schulke²; Gerhard Schwaab²; Steffen Murke²; Simone Pezzotti²; Stuart Hodgetts¹; Alan Harvey¹; Vincent Wallace¹; Martina Havenith²
¹The University of Western Australia, 35 Stirling Highway, Crawley, Australia; ²Ruhr-Universität Bochum, Universitätsstraße 150, Bochum, Germany

14:30	<p>Liquid-Liquid Phase Separation Of Protein By Trivalent Heavy Metal Ions: Ion-specific Alteration Of Water Structure Exposed By THz Study</p> <p>Ria Saha*¹; Rajib Mitra²</p> <p>¹S. N. Bose National Centre for Basic Sciences, JD Block, Sector 3, Salt Lake City, Kolkata - 700106, India, Kolkata, India; ²S. N. Bose National Centre for Basic Sciences, JD Block, Sector 3, Salt Lake City, Kolkata - 7001, Kolkata, India</p>	Tu-PM1-2-7
14:45	<p>Sensing Alcohol Contamination In Water by THz Time Domain Ellipsometry</p> <p>Zahra Mazaheri*¹; Gian Paolo Papari²; Antonello Andreone³</p> <p>¹federico II university of Naples, Via Vicinale Cupa Cintia, 26, 80126 Naples NA, naples, Italy; ²Department of Physics "E. Pancini", Università di Napoli Federico II, Naples, 80126 ITALY, Via Vicinale Cupa Cintia, 26, 80126 Naples NA, Italy; ³Department of Physics "E. Pancini", Università di Napoli Federico II, Naples, 80126 ITALY, Via Vicinale Cupa Cintia, 26, 80126 Naples NA, Italy</p>	Tu-PM1-2-8
13:00 - 15:00	Condensed Matter II	Cartier II
13:00	<p>THz Spontaneous Magnon Fluctuations And Room-temperature Spin Switching In The Orthoferrite Sm_{0.7}Er_{0.3}FeO₃</p> <p>Takayuki Kurihara*¹; Marvin Weiss²; Andreas Herbst²; Julius Schlegel²; Tobias Dannegger²; Martin Evers²; Andreas Donges²; Makoto Nakajima³; Sebastian T.B. Goennenwein²; Ulrich Nowak²; Alfred Leitenstorfer²</p> <p>¹The University of Tokyo, 5-1-5 Kashiwanoha, Kashiwa, Japan; ²Department of Physics, University of Konstanz, Universitaetsstrasse 10, Konstanz, Germany; ³Osaka University, 2-6Yamadaoka, Suita, Japan</p>	Tu-PM1-4-1
13:30	<p>Differentiation Of The Microstructures Of Agarose Hydrogels Using Terahertz Time Domain Spectroscopy (THz-TDS)</p> <p>Mark Justine Zapanta*; Annelies Postelmans; Wouter Saeys KU Leuven, Kasteelpark Arenberg 30, Heverlee, Belgium</p>	Tu-PM1-4-2
13:45	<p>Low-Frequency Vibrational Spectroscopy And Crystal Structure Predictions For Fumaric Acid And Maleic Acid</p> <p>Salvatore Zarrella; Timothy Korter* Syracuse University, Department of Chemistry, 111 College Place, Syracuse, United States</p>	Tu-PM1-4-3
14:00	<p>Probing Ultrafast Non-equilibrium Dynamics In An Organic-dimer Mott Insulator With Terahertz-infrared Continuum Probe Pulses</p> <p>Konstantin Warawa¹; Yassine Agarmani¹; Harald Schubert¹; Martin Dressel²; Michael Lang¹; Hartmut G. Roskos*¹; Mark D. Thomson¹</p> <p>¹Goethe-University Frankfurt, Max-von-Laue-Str. 1, Frankfurt am Main, Germany; ²Universität Stuttgart, Pfaffenwaldring 57, Stuttgart, Germany</p>	Tu-PM1-4-4

14:15 **Crystal Symmetry Effects On Protein Structural Vibrational Signatures** **Tu-PM1-4-5**
 Andrea Markelz¹; Alexander McNulty-Romaguera*²; Jeffrey McKinney³;
 Deepu George⁴; Timothy Lafave⁵; Alex Davie⁶; Tod Romo⁷; Alan Grossfield⁷;
 Jason Benedict⁸; Xiaotong Zhang⁸
¹University at Buffalo, 239 Fronczak Hall, Buffalo, United States; ²University
 at Buffalo, 239 Fronczak Hall, United States; ³Pledge TX, 45 Dan Rd, Canton,
 United States; ⁴Zygo Corporation, Laurel Brook Road, United States;
⁵University at Buffalo, 239 Fronczak, United States; ⁶IDEX Health & Science,
 LLC, West Henrietta, NY, United States; ⁷University of Rochester Medical
 Center, Rochester, NY, United States; ⁸University at Buffalo, Buffalo, NY,
 United States

14:30 **Emission Of Coherent THz Magnons In An Antiferromagnetic Insulator
 Triggered By Ultrafast Spin--phonon Interactions** **Tu-PM1-4-6**
 Enzo Rongione¹; Oliver Gueckstock²; Maximilian Mattern³; Olena Gomonay⁴;
 Meer Hendrik⁴; Christian Schmitt⁴; Rafael Ramos⁵; Takashi Kikkawa⁶; Martin
 Micica⁷; Eiji Saitoh⁵; Jairo Sinova⁴; Henri Jaffrès¹; Juliette Mangeney⁸;
 Sebastian Goennenwein⁹; Stephan Gerpraegs¹⁰; Tobias Kampfrath²; Mathias
 Kläui⁴; Matias Bargheer³; Tom Seifert²; Sukhdeep Dhillon*⁸; Romain Lebrun⁸
¹Unité Mixte de Physique, CNRS, Thales, Université Paris-Saclay, Palaiseau,
 France; ²Institute of Physics, Freie Universität Berlin, Freie Universität Berlin,
 Germany; ³Institut für Physik und Astronomie, Universität Potsdam,
 Universität Potsdam, Germany; ⁴Institute of Physics, Johannes Gutenberg-
 University Mainz, Germany; ⁵WPI Advanced Institute for Materials Research,
 Tohoku University, Tohoku University, Japan; ⁶Department of Applied
 Physics, The University of Tokyo, The University of Tokyo, Japan;
⁷ENS/CNRS, 24 rue Lhomond, Paris, France; ⁸CNRS, 24 rue Lhomond, Paris,
 France; ⁹Department of Physics, University of Konstanz, University of
 Konstanz, Germany; ¹⁰Walther-Meißner-Institut, Bayerische Akademie der
 Wissenschaften, Bayerische Akademie der Wissenschaften, Germany

13:00 - 15:00 Space, Environment, Communications and Spectroscopy **International
 I**

13:00 **Stratospheric Balloon Missions For High Resolution Submillimeter-FIR
 Astronomical Spectroscopy** **Tu-PM1-4-1**
 Paul Goldsmith*
 Jet Propulsion Laboratory, 4800 Oak Grove Dr., Pasadena, United States

13:30 **Silicon Meta-Optics For Compact Space-Based Optical Systems** **Tu-PM1-4-2**
 Conner Ballew*; Sven van Berkel; Subash Khanal; Cecilia Leung; Leslie
 Tamppari; Goutam Chattopadhyay
 Jet Propulsion Laboratory, 4800 Oak Grove Dr, Pasadena, United States

13:45	<p>Radiometric Calibration Of A Hyperspectral Microwave Sounder Natalia Bliankinshtein*¹; Philip Gabriel²; Olivier Auriacombe³; Yi Huang⁴; Mengistu Wolde⁵; Shiqi Xu⁵; Lei Liu⁴; Jean-Christophe Angevain⁶ ¹National Research Council of Canada, 1200 Montreal road U-61, Ottawa, Canada; ²Horizon Science and Technology, Wolfville, Canada; ³Omnisys Instruments AB, Gothenburg, Sweden; ⁴McGill University, Montreal, Canada; ⁵National Research Council of Canada, Ottawa, Canada; ⁶European Space Agency, Noordwijk, Netherlands</p>	Tu-PM1-4-3
14:00	<p>On The Design Of Wide Band Multi-lens Focal Plane Arrays For The TIFUUN Instrument Alexandra Mavropoulou¹; Shahab Oddin Dabironezare*¹; Jochem Baselmans²; Akira Endo¹ ¹Delft University of Technology, Mekelweg 4, Delft, Netherlands; ²Netherlands Institute for Space Research, SRON, Niels Bohrweg 4, Leiden, Netherlands</p>	Tu-PM1-4-4
14:15	<p>Two-Dimensional Fixed-Frequency Terahertz Beam Steering Based On Displacement Controlled Leaky-Waveguides Naoki Tanaka*; Yasuaki Monnai The University of Tokyo, 4-6-1, Komaba, Meguro-ku, Japan</p>	Tu-PM1-4-5
14:30	<p>MmWave Vs FSO Propagation: First Results From An Experimental Testbed In Italy Elizabeth Verdugo¹; Lorenzo Luini²; Carlo Riva²; Gianluca Galzerano³; Laura Resteghini*⁴; Christian Mazzucco⁴; Roberto Nebuloni¹ ¹IEIIT, Consiglio Nazionale delle Ricerche, Piazza L. da Vinci, 32, Milan, Italy; ²DEIB, Politecnico di Milano, Via Ponzio 34/5, Milan, Italy; ³IFN, Consiglio Nazionale delle Ricerche, Piazza L. da Vinci, 32, Milan, Italy; ⁴Huawei Technologies Italia S.r.l., Centro Direzionale Milano 2, Palazzo Verrocchio Se, Milan, Italy</p>	Tu-PM1-4-6

13:00 - 15:00	Chemistry, Biology & Medicine I	International II
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13:00	<p>Terahertz-driven Electron Field Emission And Ion Field Evaporation: Application To Atom Probe Tomography Angela Vella*¹; Michella Karam¹; Jonathan Houard¹; Ganesh Damarla¹; Said Idlahcen²; Anna Martinez³; Domenico Paparo³; Ammar Hideur² ¹Univ Rouen Normandie, Groupe de Physique des Matériaux, Avenue de l'Université BP 12, Saint Etienne du Rouvray, France; ²Univ Rouen Normandie, CORIA, Avenue de l'Université, Saint Etienne du Rouvray, France; ³Dipartimento di Fisica 'E. Pancini', Università 'Federico II', Monte S. Angelo, via Cintia, Napoli, Italy</p> <p>Detection Of Nucleocapsid Proteins Of COVID-19 Using A Terahertz</p>	Tu-PM1-5-1
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- 13:30 **Chemical Microscope** **Tu-PM1-5-2**
 Xue Ding*¹; Sayaka Tsuji²; Mana Murakami³; Jin Wang⁴; Hirofumi Inoue Inoue⁵; Toshihiko Kiwa⁵
¹Okayama University, ,3-1-1 Tsushimanaka kitaku, Okayama, Japan;
²Okayama University, Okayama University, 3-1-1 Tsushima-naka,kita-ku, Japan; ³Okayama University, Okayama University, 3-1-1 Tsushimanaka kitaku, Japan; ⁴Okayama University, Okayama University, 3-1-1 Tsushimanaka kita-ku, Japan; ⁵Okayama University, Okayama University, Japan
- 13:45 **Terahertz ATR Sensing Of Cell Membrane Permeabilization during Trypsin Proteolysis** **Tu-PM1-5-3**
 Guilhem Gallot*¹; Blandine Lordon²
¹Laboratory for Optics and Biosciences, Route De Saclay, Palaiseau, France;
²Laboratory for Optics and Biosciences, route de Saclay, Palaiseau, France
- 14:00 **Out Of Focus Terahertz Reflection Measurements For The Determination Of The Porosity Of Pharmaceutical Tablets Based On The Refractive Index** **Tu-PM1-5-4**
 Moritz Anuschek*¹; Thomas Kvistgaard Vilhelmsen²; J. Axel Zeitler³; Jukka Rantanen⁴
¹University of Copenhagen/Novo Nordisk A/S, Universitetsparken 2, K benhavn, Denmark; ²Novo Nordisk A/S, Novo Nordisk Park 1, Maalov, Denmark; ³University of Cambridge, Philippa Fawcett Dr, Cambridge, United Kingdom; ⁴University of Copenhagen, Universitetsparken 2, Copenhagen, Denmark
- 14:15 **Broadband Mm-wave Sealed-volume Liquid Bio-sensor Exploiting Tailored Delocalization Of Modal Fields In A Micro-scale Silicon Waveguide** **Tu-PM1-5-5**
 Daniel Headland*¹; Daniel C. Gallego²; Muhsin Ali²; Ashish Kumar¹; Marina Moreno Mayorga³; Horacio Lamela¹; Jos  M. S nchez-Puelles³; Guillermo Carpintero¹
¹Universidad Carlos III de Madrid, Av. de la Universidad 30, Legan s, Spain;
²LeapWave Technologies, Parque Tecnol gico, Av. Gregorio Peces Barba, Legan s, Spain; ³Consejo Superior de Investigaciones Cient ficas, C. Ramiro de Maeztu, 9, Madrid, Spain
- 14:30 **Evaluation Of Reflective Properties Of Meta-atoms Using Point Terahertz Sources And Its Application In Microfluidics** **Tu-PM1-5-6**
 Luwei Zheng*; Kazuki Hara; Masayoshi Tonouchi; Kazunori Serita
 Osaka University, Suita, Osaka, Japan, Osaka, Japan, Japan
- 14:45 **Polarization-Sensitive THz Time-Domain Imaging Of 27 By 27 Mm2 Field Of View At About 0.5 Frames Per Second Using The PHASR Scanner 3.0** **Tu-PM1-5-7**
 Zachery Harris*¹; Kuangyi Xu²; M. Hassan Arbab¹

¹SUNY at Stony Brook, Bioengineering, 100 Nicolls Rd., Stony Brook, United States; ²Stony Brook University, Bioengineering, 100 Nicolls Rd., Stony Brook, United States

15:30 - 17:30	Laser Sources & Detectors IV	Symposia Theatre
15:30	Terahertz Electrometry Via Infrared Spectroscopy Of Atomic Vapor Shuying Chen*; Dominic J. Reed; Andrew R. MacKellar; Lucy A. Downes; Nourah F. A. Almuhaw; Matthew J. Jamieson; Charles S. Adams; Kevin J. Weatherill Department of Physics, Durham University, Durham, United Kingdom	Tu-PM2-1-1
16:00	Investigation Of Fast Frequency Selective Qualitative Terahertz Spectroscopy Rejeena R Sebastian*; Redwan Ahmad; Xavier Ropagnol; François Blanchard École de technologie supérieure ÉTS, 100 Notre-Dame St W, Montreal, Quebec H3C 1K3, Montreal, Canada	Tu-PM2-1-2
16:15	Rapid-Scan High-Resolution Frequency-Domain THz Spectroscopy With Dynamical Phase Control Yuto Shoji* ¹ ; Eiji Ohmichi ¹ ; Hideyuki Takahashi ² ; Hitoshi Ohta ² ¹ Kobe University, 1-1 Rokkodai, Nada, Kobe, Japan; ² Molecular Photoscience Research Center, Kobe University, 1-1 Rokkodai, Nada, Kobe, Japan	Tu-PM2-1-3
16:30	10 THz Bandwidth With A Fiber-Coupled THz Time-Domain Spectrometer Tina-Celine Hesselmann*; Lars Liebermeister; Alexander Dohms; Steffen Breuer; Shahram Keyvaninia; Marko Gruner; Konstantin Wenzel; Martin Schell; Robert Kohlhaas Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute, Einsteinufer 37, Berlin, Germany	Tu-PM2-1-4
16:45	Single-shot Spectrometers And Realtime THz Digitizers, Using Diversity Electro-Optic Sampling (DEOS) Eléonore Roussel ¹ ; Christophe Sz waj ¹ ; Clément Evain ¹ ; Bernd Steffen ² ; Christopher Gerth ² ; Marie Kristin Czwalinna ² ; Bahram Jalali ³ ; Serge Bielawski* ⁴ ¹ PhLAM UMR CNRS8523, Lille University, Bat. P5, France; ² Deutsches Elektronen-Synchrotron DESY, Notkestr. 85, Hamburg, Germany; ³ UCLA, University of California Los Angeles, United States; ⁴ PhLAM UMR CNRS8523, Lille University, Bat. P5, Villeneuve d'Ascq, France	Tu-PM2-1-5
17:00	Single-Shot Terahertz Waveform Detection By Chirped-Pulse Up-Conversion Spectroscopy With Dispersion Compensation Ryo Tamaki* ¹ ; Jun Takeda ² ; Ikufumi Katayama ² ¹ KISTEC, 705-1 Shimoimaizumi, Ebina, Japan; ² Yokohama National	Tu-PM2-1-6

17:15	<p>University, 79-5 Tokiwadai, Hodogaya, Yokohama, Japan</p> <p>Comparative Study Of Terahertz Chemical Microscopy And Flexible ISFET Approaches For Calcium Ion Detection</p> <p>Sota Yoshida*¹; Toshihiko Kiwa¹; Jin Wang¹; Kenji Sakai²</p> <p>¹Okayama univercity, Kita-ku, Tsushima-naka 1-1-1, Okayama city, Japan;</p> <p>²Doshisha univercity, Tatara-Toya 1-3, Kyotanabe city, Japan</p>	Tu-PM2-1-7
15:30 - 17:30	Ultrafast & Nonlinear Phenomena I	Cartier I
15:30	<p>Quantitative Terahertz Magnetometry</p> <p>Dmitry Turchinovich*¹; Wentao Zhang²</p> <p>¹Universität Bielefeld, Universitätsstr. 25, Bielefeld, Germany; ²Universität Bielefeld, Universitätsstr. 25, Germany</p>	Tu-PM2-2-1
16:00	<p>Terahertz Field-Driven Nonlinear Magnonics In Antiferromagnets</p> <p>Zhuquan Zhang*¹; Frank Gao²; Zi-Jie Liu¹; Yu-Che Chien¹; Alexander von Hoegen¹; Jonathan Curtis³; Prineha Narang³; Edoardo Baldini²; Keith Nelson¹</p> <p>¹Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, United States; ²The University of Texas at Austin, Main Building (MAI) 110 Inner Campus Drive Austin, Austin, United States; ³UCLA, 405 Hilgard Avenue, Los Angeles, United States</p>	Tu-PM2-2-2
16:15	<p>Femtosecond Laser-induced Ultrafast Magnetization In Two-dimensional Magnetic Material-antiferromagnetic Heterostructures</p> <p>Peiyan Li*¹; Sai Chen¹; Shanshan Liu²; Faxian Xiu²; Wei He³; Xiaojun Wu¹</p> <p>¹Beihang University, No. 37 Xueyuan Road, Haidian District, Beijing, China;</p> <p>²Fudan university, 57 Wudong Road, Yangpu District, Shanghai, China;</p> <p>³Institute of Physics, Chinese Academy of Sciences, 55 Zhongguancun East Road, Haidian District, Beijing, China</p>	Tu-PM2-2-3
16:30	<p>Hysteresis-induced Multistability In A Nonlinear Terahertz Split Ring Resonator</p> <p>Gervais Dolvis Leutcho*; Lyne Woodward; François Blanchard</p> <p>École de technologie supérieure (ÉTS), 1100 R. Notre Dame O, Montréal, Canada</p>	Tu-PM2-2-4
16:45	<p>High Field Terahertz Time-Domain Spectroscopy Of Lactose Monohydrate</p> <p>Thomas Gill*; Andrew Burnett; Connor Kidd; Aniela Dunn; Joshua Freeman; Edmund Linfield; Alexander Davies; Paul Dean; Calum Towler; Lianhe Li</p> <p>University of Leeds, University of Leeds, Woodhouse Lane, Leeds, United Kingdom</p>	Tu-PM2-2-5
17:00	<p>Terahertz Nonlinear Photonics Based On The Ultrafast Thermodynamics Of Quantum Materials</p> <p>Klaas-Jan Tielrooij*</p>	Tu-PM2-2-6

- 15:30 **Efficient Terahertz Harmonic Generation In Topological Metamaterials** **Tu-PM2-3-1**
 Sergey Kovalev*¹; Klaas Tielrooij²; Igor Ilyakov³; Jan Deinert³; Thales Oliveira³; Alexej Ponomaryov³; Alessandro Principi⁴; Alexander Block²; Sabin Varghese²; Steffen Schreyeck⁵; Karl Brunner⁵; David Reig²; Grzegorz Karczewski⁵; Carmen Carbonell²; Sergio Valenzuela²; Laurens Molenkamp⁵; Tobias Kiessling⁵; Georgy Astakhov³
¹Helmholtz-Zentrum Dresden-Rossendorf, Bautzner Landstrasse 400, Dresden, Germany; ²Catalan Institute of Nanoscience, Barcelona, Spain; ³Helmholtz-Zentrum Dresden-Rossendorf, Bautzner Landstrasse 400, Germany; ⁴University of Manchester, Manchester, United Kingdom; ⁵Universität Würzburg, Würzburg, Germany
- 16:00 **Observation Of Terahertz Emission From Topological Material Candidate SrCd₂Sb₂ Single Crystals** **Tu-PM2-3-2**
 Po-Wei Gong¹; Yi-Cheng Cheng¹; Pei-Tsung Yang¹; Xin-Yun Chang¹; Jiun-Haw Chu²; Cheng-Chien Chen³; Jiunn-Yuan Lin¹; Chih-Wei Luo¹; Chien-Ming Tu*¹
¹Department of Electrophysics, National Yang Ming Chiao Tung University, No. 1001, Daxue Rd. East Dist., Hsinchu, Taiwan; ²Department of Physics, University of Washington, Physics-Astronomy Building, Rm. C121, Box 351560, Seattle, United States; ³Department of Physics, University of Alabama at Birmingham, Campbell Hall, Rm.310, 1300 University Blvd., Birmingham, United States
- 16:15 **Topological Materials For Helicity-dependent THz Emission** **Tu-PM2-3-3**
 Abdul Mannan*¹; Yahya Saboon¹; Chelsea Xia²; Djamshid Damry¹; Piet Schoenherr²; Dharmalingam Prabhakaran²; Laura M Herz²; Thorsten Hesjedal²; Michael Johnston²; Jessica Louise Boland¹
¹Photon Science Institute, Department of Electrical and Electronic Engineering, University of Manchester, Oxford Rd, Manchester, United Kingdom; ²Condensed Matter Group, Clarendon Laboratory, University of Oxford, Parks Rd, Oxford, United Kingdom
- 16:30 **Terahertz Surface Plasmon Resonance In Dirac Electron System Topological Insulator (Sb, Bi)₂(Te, Se)₃** **Tu-PM2-3-4**
 Hinano Sugimoto*¹; Kana Nishimura²; Hitoshi Tabata²
¹the University of Tokyo, Engineering Building 5, 7-3-1 Hongo, Bunkyo-ku, Tokyo-to, Japan; ²the University of Tokyo, Engineering Building 5, 7-3-1 Hongo, Bunkyo-ku, Japan
- Temperature Dependence Of Intrinsic Spin Orbit Coupling Gap In**

16:45 **Graphene Probed By Terahertz Photoconductivity** **Tu-PM2-3-5**

Kenneth Maussang*¹; Khalid Dinar¹; Cédric Bray²; Christophe Consejo¹; Juan Antonio Delgado-Notario³; Sergey Krishtopenko²; Ivan Yahniuk⁴; Sebastian Gerbert¹; Sandra Ruffenach²; Erwin Moench⁵; Kornelia Indykiewicz⁶; Benjamin Benhamou -- Bui¹; Benoit Jouault²; Jérémie Torres¹; Yahya Moubarak Meziani⁷; Wojciech Knap²; August Yurgens⁸; Sergey Ganichev⁴; Frédéric Teppe²

¹University of Montpellier, Place Eugène Bataillon, Montpellier, France;

²CNRS, Place Eugène Bataillon, Montpellier, France; ³Universidad de Salamanca, USAL-Nanolab, Salamanca, Spain; ⁴University of Regensburg, Terahertz Centre, Regensburg, Germany; ⁵University of Regensburg, Terahertz Center, Regensburg, Germany; ⁶Wroclaw University of Science and Technology, , Wroclaw University of Science and Technology, Wroclaw, Poland; ⁷Salamanca University, USAL-Nanolab, Salamanca, Spain; ⁸Chalmers University of Technology, Chalmers University of Technology, Göteborg, Sweden

17:00 **Tunable Plasmonic Graphene Antenna Array For Communications At THz Frequencies** **Tu-PM2-3-6**

Elana P. de Santana*¹; Daniel Stock¹; Zhenxing Wang²; Kun-Ta Wang²; Sergi Abadal³; Max Lemme²; Peter Haring Bolívar¹

¹University of Siegen, Hölderlinstr. 3, Siegen, Germany; ²AMO GmbH, Otto-Blumenthal-Straße 25, Aachen, Germany; ³Technical University of Catalonia, Jordi Girona, 1-3, Mòdul D6, Barcelona, Spain

17:15 **Tuneable Terahertz Frequency-selective Absorber Based On A Graphene/gold Bilayer Metasurface** **Tu-PM2-3-7**

Andrew Squires*¹; Xiang Gao²; Jia Du¹; Zhaojun Han¹; Dong han Seo³; James Cooper¹; Adrian Murdock¹; Simon Lam¹; Ting Zhang¹; Tim van der Laan¹

¹CSIRO, 36 Bradfield Road, Lindfield, Australia; ²Beijing Institue of technology, Haidan District, China; ³Korea Institute of Energy technology, Naju, Korea, Republic of

15:30 - 17:30 Passive Components **International I**

15:30 **A Spiral Phase Plate Prepared Via High-resolution 3D Printing For THz Vortex Beam Generation** **Tu-PM2-4-1**

Andreea Aura Paraipan*¹; Innem V. A. K. Reddy²; Giacomo Balistreri³; Luca Zanotto³; Diana Gonzales-Hernandez⁴; Mostafa Shalaby⁵; Roberto Morandotti¹; Carlo Liberale⁴; Luca Razzari¹

¹INRS, 1650 Blvd. Lionel Boulet, Varennes, Canada; ²King Abdullah University of Science and Technology, Thuwal 23955-6900, Kingdom of Saudi Arabia, Saudi Arabia; ³INRS Énergie, Matériaux et Télécommunications, 1650 Blvd. Lionel Boulet, Varennes, Canada; ⁴King Abdullah University of Science and Technology, Thuwal 23955-6900, Saudi Arabia; ⁵Swiss Terahertz Research-Zürich, Swiss Terahertz GmbH, 8005 Zürich, Switzerland

- 15:45 **Fabrication Of Freestanding THz Band-pass Filters** **Tu-PM2-4-2**
Erwin Hack*; Ivan Shorubalko; Jil Graf; Peter Zolliker; Elena Mavrona
Empa, Uberlandstrasse 129, Dubendorf, Switzerland
- 16:00 **A High Q-Factor 270 GHz 3D-printed Photonic Crystal Slot Resonator** **Tu-PM2-4-3**
Yixiong Zhao*¹; Masoud Sakaki²; Niels Benson³; Jan Balzer⁴
¹University of Duisburg-Essen, Faculty of Engineering, Chair of Communication Systems (NTS), Bismarckstrasse 81, Duisburg, Germany;
²University of Duisburg Essen, Institute of Technology for Nanostructures (NST), Bismarckstrasse 81, Duisburg, Germany; ³University Duisburg Essen, Institute of Technology for Nanostructures (NST), Bismarckstr. 81, Duisburg, Germany; ⁴University of Duisburg-Essen, Chair of Communication Systems (NTS), Bismarckstrasse 81, Duisburg, Germany
- 16:15 **A Combined 60/170 GHz Notch Filter For Collective Thomson Scattering At ITER** **Tu-PM2-4-4**
Dietmar Wagner*¹; Walter Kasperek²; Fritz Leuterer¹; Harald Schütz¹; Jörg Stober¹; Manfred Thumm³
¹Max Planck Institute for Plasma Physics, Boltzmannstr. 2, Garching, Germany; ²University of Stuttgart, Pfaffenwaldring 31, Stuttgart, Germany; ³KIT Karlsruhe, Kaiserstr. 12, Karlsruhe, Germany
- 16:30 **Monte Carlo Evaluation Of The Effects Of Higher Order Modes In High-power Millimeter-wave Systems** **Tu-PM2-4-5**
Burkhard Plaum*
University of Stuttgart, IGVP, Pfaffenwaldring 31, Stuttgart, Germany
- 16:45 **Terahertz CPS-based Spoof Surface Plasmon Polariton Filter On Silicon Nitride Substrate** **Tu-PM2-4-6**
Mohsen Haghghat*; Thomas Darcie; Levi Smith
University of Victoria, 3800 Finnerty Road, Victoria, Canada
- 17:00 **Lattice Type Dependence Of Transmittance Spectrum In Moth-eye Antireflective Structures** **Tu-PM2-4-7**
Rikuo Koike*; Shotaro Kawano; Haruyuki Sakurai; Kuniaki Konishi; Norikatsu Mio
The University of Tokyo, 7-3-1, Hongo, Bunkyo-ku, Japan
- 17:15 **Masked Stereolithography 3D-printed Terahertz Diffractive Lens** **Tu-PM2-4-8**
Po-Jen Yu*¹; Tsung-Chieh Tseng²; Yu-Hang Wang¹; You-Chia Chang²; Shang-Hua Yang¹
¹Institute of Electronics Engineering, National Tsing Hua University, Hsinchu

300, Taiwan, No. 101, Sec. 2, Guangfu Rd., East Dist., Hsinchu, Taiwan;

²Department of Photonics and Institute of Electro-Optical Engineering,
National Yang Ming Chiao Tung, 1001 University Road, Hsinchu, Taiwan

15:30 - 17:30	Chemistry, Biology & Medicine II	International II
15:30	Retrieving The Dynamic Hydration Profile Of Skin In Vivo With A Handheld Terahertz Probe Xuefei Ding*; A. I. Hernandez-Serrano; Emma Pickwell-MacPherson University of Warwick, Department of Physics, Coventry, United Kingdom	Tu-PM2-5-1
16:00	Slush-skin Thickness Measurements With Terahertz Time-Domain Spectroscopy Daniel Molter*; Stefan Duran; Jens Klier; Dmytro Kharik; Dominik Gundacker; Joachim Jonuscheit; Georg von Freymann Fraunhofer ITWM, Fraunhofer-Platz 1, Kaiserslautern, Germany	Tu-PM2-5-2
16:15	Pulsed Terahertz Time Domain Spectroscopy For Evaluating Treatment Efficacy: Initial Validation In Monitoring Pancreatic Ductal Adenocarcinoma Debamitra Chakraborty* ¹ ; Bradley N. Mills ² ; Jing Cheng ¹ ; Ivan Komissarov ¹ ; Scott A Gerber ² ; Roman Sobolewski ¹ ¹ University of Rochester, University of Rochester, Rochester, United States; ² University of Rochester Medical Center, University of Rochester Medical Center, Rochester, United States	Tu-PM2-5-3
16:30	Hyperbolic-elliptical Lenses For Rapid THz Reflection Imaging Of Curved Biological Surfaces Arjun Virk*; Zachery Harris; Hassan Arbab Stony Brook University, 100 Nicolls Road, Stony Brook, United States	Tu-PM2-5-4
16:45	In-vivo Stratum Corneum Hydration Inspection Using A Non-invasive Terahertz Hand-held Scanner Arturo Hernandez Serrano*; Emma Pickwell-MacPherson University of Warwick, Gibbet Hill Road, Coventry, United Kingdom	Tu-PM2-5-5
17:00	Using THz-ATR Spectroscopy For Detecting Mimicked Interstitial Fluid Flow In Ex Vivo Skin Lorenza Pia Foglia*; Bjørn Hübschmann Mølvig; Mads Ehrhorn; Miriam Galbiati; Simon Jappe Lange; Peter Uhd Jepsen Technical University of Denmark, Ørsted's Plads, Building 343, Kongens Lyngby, Denmark	Tu-PM2-5-6
17:15	Wavefront Modified Spherical Vector Beams For THz Cornea Imaging Joel Lamberg* ¹ ; Faezeh Zarrinkhat ² ; Alekski Tamminen ¹ ; Juha Ala-Laurinaho ¹ ; Zachary Taylor ¹	Tu-PM2-5-7

17:30 - 19:00 Poster Session 3

Foyer (3rd floor)

Recent Advances In THz Clinotrons

Tu-P1-01

Alexei Kuleshov*¹; Sergey Vlasenko²; Sergey Kishko²; Sergey Ponomarenko³; Eduard Khutoryan²

¹O. Ya. Usikov Institute for Radiophysics and Electronics of NAS of Ukraine, 12 ac. Proskura str., Kharkiv, Ukraine; ²O. Ya. Usikov Institute for Radiophysics and Electronics of NAS of Ukraine, 12 ac. Proskura str., Ukraine; ³Max Planck Institute for Plasma Physics, Greifswald, 17491 Germany, Germany

THz Detection Optimization Of Antenna Coupled AlGaIn/GaN High Electron Mobility Transistors

Tu-P1-02

Maxim Moscotin*¹; Justinas Jorudas¹; Miroslav Saniuk¹; Pawel Prystawko²; Sergey Rumyantsev²; Wojciech Knap²; Grzegorz Cywinski²; Irmantas Kasalynas¹

¹Center for Physical Sciences and Technology (FTMC), Sauletekio av. 3, Vilnius, Lithuania; ²Institute of High Pressure Physics PAS, Polish Academy of Sciences, ul. Sokolowska 29/37, Warsaw, Poland

Amplified Mode Switching Effect In THz Field Effect Transistors With Grating Gate

Tu-P1-03

Michael5184218830 Shur*¹; John Mikalopas²; Gregory Aizin²

¹Rensselaer Polytechnic Institute, 9433 van Arsdale Drive, 9433 van Arsdale Drive, Vienna, United States; ²Kingsborough College of the City University of NYC, Kingsborough College of the City University of NYC, 2001 Oriental Blvd, Brooklyn, United States

Algorithm For Determination Of Cutoff Frequency Of Noise Floor Level For Terahertz Time-domain Signals.

Tu-P1-04

Edgar Santiago Reyes Reyes*¹; Ramon Carriles Jaimes¹; Enrique Castro Camus²

¹Centro de Investigaciones en Óptica, A.C., Loma del Bosque 115, Leon, Mexico; ²Philipps-Universität Marburg, Renthof 5, Marburg, Germany

Coherent Emission From A Linear Array Of RTDs

Tu-P1-05

Fanqi Meng*¹; Zhenling Tang²; Jahnabi Hazarika³; Safumi Suzuki²; Roskos Hartmut G.³

¹Goethe University Frankfurt, Max von Laue street 1, Frankfurt am Main, Germany; ²Tokyo Institute of Technology, O-okayama 2-12-1-S9-3, Meguro-

ku., Tokyo, Japan; ³Goethe University Frankfurt, Max von Laue street 1, Frankfurt, Germany

Passive Compensation Method For Permanent Magnet Undulator Based On Temperature Compensation Alloy **Tu-P1-06**

Longgang Yan*; Peng Li; Lijun Chen

Institute of Applied Electronic, Mianshan Road 64, Mianyang, China

Fabrication And Characterization Of Low Barrier Height InAs/GaxIn1-xAs/InAs Heterostructure Diodes Toward Millimeter-wave Detection **Tu-P1-07**

Moto Inoue*; Masatoshi Koyama; Toshihiko Maemoto; Shigehiko Sasa

Osaka Institute of Technology, 5-16-1 Ohmiya, Asahi-ku, Osaka, Japan

Design Of Rectangular Microstrip Patch Antenna For Early Breast Cancer Screens **Tu-P1-08**

Xuanxuan Zhang*¹; Lixia Yang²; Haiqing Liu³; Zhiyong Zou⁴; Weiming Li⁵; Cuizhen Wang⁶; Yuan Yao⁵

¹anhui university, Anhui University, 111 Jiulong Road, Shushan District, Hefei

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A High-Order Mode Terahertz Extended Interaction Oscillator With Three Electron Beams **Tu-P1-09**

Youfeng Yang*; Ping Zhang; Yuan Zheng; Yang Dong; Shaomeng Wang;

Zhanliang Wang; Zhigang Lu; Yubin Gong

University of Electronic Science and Technology of China, Qingshuihe

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Concept Design Of Collective Thomson Scattering Applied To EAST **Tu-P1-10**

Jingshuo Zhang*; Chengming Qu; Lifu Zhang; Zhengwei Wu; Ge Zhuang;

Jinlin Xie

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A Design And Performance Of A Low-cost THz Imaging System Using InP Gunn Diode Emitter, Paraffin Wax Optics And Commercially Available GaAs HEMTs **Tu-P1-11**

Linas Minkevicius*¹; Vincas Tamosiunas²; Ignotas Bucius²; Domas

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A Novel Broadband Port-Access Scheme To Interface Several Waveguide Bands To A Single Schottky Barrier Diode Detector

Tu-P1-12

Muhsin Ali*¹; Daniel Headland²; Alejandro Rivera-Lavado¹; Oleg Cojocari³; Andreas Stöhr⁴; Guillermo Carpintero²

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On The Experimental Characterization Of Generated And Received Pulses Of Photoconductive Antennas

Tu-P1-13

Huasheng Zhang*; Juan Bueno; Paolo Sberna; Nuria Llombart; Andrea Neto
Delft University of Technology, Delft University of Technology, Delft, Netherlands

Improved Large Area Photoconductive Antenna Design For High Field THz Generation

Tu-P1-14

Connor Kidd*; Mark Rosamond; Thomas Gill; Lianhe Li; Edmund Linfield; Alexander Davies; Joshua Freeman
School of Electrical and Electronic engineering, University of Leeds, Woodhouse Lane, Leeds, United Kingdom

Improvement In The Detection Efficiency Of Terahertz (THz) Time-domain Spectroscopy (TDS) By Applying An Alternating Magnetic Field Bias In Spintronic Emitter

Tu-P1-15

Hideaki Kitahara¹; Katsuyuki Ishii²; Miezal Talara¹; Takashi Furuya¹; Mary Escaño¹; Masahiko Tani*¹; Dmitry Bulgarevich³; Dongfeng He³; Makoto Watanabe³

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Dimensioning Photoconductive Connected Array Sources To Maximize The Radiated Power.

Tu-P1-16

Martijn Huiskes*¹; Juan Bueno¹; Nuria Llombart²; Andrea Neto²

¹Delft University of Technology, Mekelweg 4, Delft, Netherlands; ²Delft University of Technology, Mekelweg 4, Netherlands

Impact Of Antenna Metal's Thicknesses And Structures On Terahertz (THz) Wave Generation Performance Of Spintronic Emitters

Tu-P1-17

Miezal Talara¹; Dmitry Bulgarevich²; Kana Kobayashi¹; Hideaki Kitahara¹; Takashi Furuya¹; Mary Clare Escaño¹; Makoto Watanabe²; Masahiko Tani*¹

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Recording THz Pulse Shapes At 88 MHz Repetition Rate Using Photonic Time-stretch, At Synchrotron SOLEIL

Tu-P1-18

Christophe Szwej¹; Eléonore Roussel¹; Clément Evain¹; Marc Le Parquier¹; Pascale Roy²; Laurent Manceron²; Jean-Blaise Brubach²; Marie-Agnès Tordeux²; Marie Labat²; Serge Bielawski*³

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Terahertz Detection Using A Ridge Waveguide

Tu-P1-19

Sota Mine*¹; Gabriel Gandubert²; Xavier Ropagnol²; Kosuke Murate³; François Blanchard²

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The Measurement Of The Coating Uniformity Of Lithium Iron Phosphate Cathodes On Metal Substrates With Terahertz Time-domain Spectroscopy

Tu-P1-20

Faezeh Zarrin Khat*¹; Alasdair Pentland¹; Carl Reynolds²; Emma Kendrick²; Philip F. Taday¹

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Thermoelectric Effect In Carbon Nanotube Films For THz And IR Ultra-broadband Photodetectors

Tu-P1-21

Yue Wang*; Guangcheng Sun; Xiaoju Zhang; Zijian Cui; Xinmei Wang
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LT-GaAs Metasurfaces As Continuous-wave THz Detectors Operating In The Telecommunications Band

Tu-P1-22

James Seddon*¹; Lucy Hale²; Hyunseung Jung³; Sarah Norman⁴; Sadvikas Addamane⁵; Igal Brener⁵; Cyril Renaud⁶; Oleg Mitrofanov⁶

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- Experimental Investigations On Effects Of The Magnetic Field Taper On A Continuously Frequency-Tunable Gyrotron** **Tu-P1-23**
- Tao Song*¹; Wei Wang¹; Diwei Liu²
¹University of Electronic Science and Technology of China, No.2006, Xiyuan Ave, West Hi-Tech Zone, Chengdu, China; ²University of Electronic Science and Technology of China, No.2006, Xiyuan Ave, West Hi-Tech Zone, 611731, Chengdu, China
- Study Of The Pill-box Window For The High-power Microwave Transmission Line** **Tu-P1-24**
- Shouqi Xiong*; Zaojin Zen; Yi Jiang; Xinrui Hu; Guowu Ma; Hongbin Chen
 Institute of Applied Electronics, China Academy of Engineering Physics, No. 64 Mianshan Road, Mianyang, China
- Dependence Of Efficiency Degradation Caused By Beam Misalignment On The Azimuthal Index In Gyrotrons** **Tu-P1-25**
- Xianfei Chen*; Houxiu Xiao; Xiaotao Han
 Huazhong University of Science and Technology, Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, Hongshan District, Luoyu road, 1037, Wuhan, China
- Temperature Control Of Irradiated Biological Samples With Pulse Repetition Frequency Modulation Of A Gyrotron** **Tu-P1-26**
- Yuusuke Yamaguchi*; Masafumi Fukunari; Yoshinori Tatematsu
 Research Center for Development of Far-Infrared Region, University of Fukui, 3-9-1 Bunkyo, Fukui, Japan
- Experiments On Efficient Fifth-Harmonic Multiplication in A Conventional V-Band Gyrotron** **Tu-P1-27**
- Mikhail Glyavin*¹; Gregory Denisov²; Irina Zotova²; Andrey Malkin²; Alexander Sergeev²; Roman Rozental²; Andrey Fokin²; Vladimir Belousov²; Mikhail Shmelev²; Alexey Chirkov²; Alexander Tsvetkov²; Ilya Bandurkin²
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- Advances In Terahertz Detection With Graphene Field-effect Transistors** **Tu-P1-28**
- Dmitry Svintsov*¹; Dmitry Mylnikov¹; Elena Titova¹; Denis Bandurin²; Kostya Novoselov²
¹Moscow Institute of Physics and Technology, 9 Institutsky lane, Dolgoprudny, Russian Federation; ²National University of Singapore, 21 Lower Kent Ridge Road, Singapore, Singapore
- Modulation--doped Multiple CdTe Quantum Wells As THz Detectors, Filters And Emitters** **Tu-P1-29**

Jerzy Łusakowski*¹; Dmitriy Yavorskiy²; Krzysztof Karpierz³; Andrzej Fraczak¹; Mikołaj Grymuza¹; Eryk Imos¹; Adam Siemaszko¹; Wiktoria Solarska¹; Maciej Zaremba¹; Rafal Zdunek¹; Zbigniew Adamus⁴; Tomasz Slupinski⁴; Tomasz Wojtowicz⁴

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³University of Warsaw, Faculty of Physics, Pasteura 5, Poland; ⁴Institute of Physics, Polish Academy of Sciences, Lotników 32/46, Warsaw, Poland

Status Of The Heterodyne Superconductor-Insulator-Superconductor Receivers For The LCT

Tu-P1-30

Minran Chen¹; Boxun Wang¹; Yao Li¹; Shuqin Wang¹; Duo Cao*²; Feng Liu¹; Yi Zhang¹; Wangzhou Shi¹

¹Shanghai Normal University, 100 Guilin Road, China; ²Shanghai Normal University, 100 Guilin Road, Shanghai, China

Multilayer Vacuum Window Design For Submillimeter Telescope Receivers

Tu-P1-31

Yi Zhang*¹; Duo Cao²; Feng Liu²

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Real-Time Analysis Of THz Quantum-Cascade Laser Signals Using A Field Effect Transistor Array

Tu-P1-32

Nicholas North*¹; Jakob Holstein²; Michael Horbury¹; Harry Godden³; Lianhe Li³; Joshua Freeman³; Edmund Linfield³; Hartmut Roskos²; Alvydas Lisauskas²; Alexander Valavanis³

¹University of Leeds, University of Leeds, Woodhouse, Leeds, United Kingdom; ²Johan Wolfgang Goethe-Universität, D-60438 Frankfurt am Main, Frankfurt, Germany; ³University of Leeds, University of Leeds, Woodhouse, leeds, United Kingdom

Growth Response Of Escherichia Coli Bacterial Cells On Exposure To 1.25 Wm-2 Synchrotron-sourced Terahertz Radiation

Tu-P1-33

Zoltan Vilagosh*¹; The Hong Phong Peter Nguyen²; Palalle Tharushi Perera²; Denver Linklater²; Dominique Appaddo³; Jitraporn Vongsvivut³; Mark J. Tobin³; Rodney Croft⁴; Elena P. Ivanova²

¹RMIT, Melbourne Australia, 124 La Trobe St., Melbourne, Australia; ²RMIT, University, 124 La Trobe St., Melbourne, Australia; ³ANSTO– Australian Synchrotron, 800 Blackburn Road, Clayton, Australia; ⁴University of Wollongong, Illawarra Health & Medical Research Institute., Northfields Avenue., Wollongong, Australia

- Compact Single-shot Electro-optic Detection System For THz Pulses With Femtosecond Time Resolution At MHz Repetition Rates** **Tu-P1-34**
 Bernd Steffen*; Marie Kristin Czwalinna
 Deutsches Elektronen-Synchrotron DESY, Notkestr. 85, Hamburg, Germany
- Research On W-band Sheet-Electron-Beam Vacuum-Tube Power Amplifier And Oscillator** **Tu-P1-35**
 Ivan Chistyakov¹; Vladimir Titov²; Roman Torgashov²; Andrey Starodubov²; Igor Navrotsky¹; Dmitriy Zolotykh¹; Nikita Ryskin*²
¹Saratov Branch, Kotelnikov Institute of Radio Engineering and Electronics RAS, 38 Zelenaya st., 1 Panfilova st., Saratov, Russian Federation; ²Saratov Branch, Kotelnikov Institute of Radio Engineering and Electronics RAS, 38 Zelenaya st., 83 Astrakhanskaya st., Saratov, Russian Federation
- Free Induction Decay Signals Stimulated And Detected By Photomixing** **Tu-P1-36**
 Francis Hindle¹; François Parnet²; François Bondu²; Guillaume Ducournau³; Jean-François Lampin³; Gael Mouret¹; Goulc'hen Loas²; Emilien Peytavit*⁴
¹LPCA, Dunkerque, France; ²Institut FOTON, Rennes, France; ³IEMN, Villeneuve d'Ascq, France; ⁴IEMN, IEMN Avenue Poincaré, Villeneuve d'Ascq, France
- Low Temperature Permittivity And Loss Tangent Of Zirconia From 220 To 325 GHz** **Tu-P1-37**
 Guangjiang Li*; Sudheer Jawla; Michael Shapiro; Richard Temkin
 Plasma Science and Fusion Center, Massachusetts Institute of Technology, 190 Albany Street, Cambridge, United States
- Terahertz ATR Sheds Light On Real-time Exchange Kinetics Occurring Through Plasma Membrane During Photodynamic Therapy** **Tu-P1-38**
 Xiujun Zheng¹; Blandine Lordon*¹; Anne-Françoise Mingotaud²; Patricia Vicendo²; Rachel Brival²; Isabelle Fourquaux³; Laure Gibot²; Guilhem Gallot¹
¹Laboratory for Optics and Biosciences, Route De Saclay, Palaiseau, France; ²IMRCP, Université de Toulouse, Toulouse, France; ³Centre de Microscopie Electronique Appliquée à la Biologie, Université de Toulouse, Toulouse, France

17:30 - 19:00 Poster Session 4

Foyer (4th floor)

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- Modeling With TESLA-family Of 2.5D Large-signal Codes: Predicting Performance And Stability Of The Experimental Mm-wave TWTs** **Tu-P2-01**
 Igor Chernyavskiy*¹; Alexander Vlasov¹; Alan Cook¹; Thomas Antonsen²
¹US Naval Research Laboratory, 4555 Overlook Ave SW, Washington, United States; ²Leidos, Reston, United States

Charge-transfer Dyes In A Polymer Matrix: an Avenue Towards Large Area THz Emitters?

Tu-P2-02

Felix Gorka*¹; Goretti Guadalupe Hernandez Cardoso¹; Enrique Castro-Camus¹; Henning Menzel²; Tasja Schwenke²; Li Zhao³; Florens Kurth³; Wolfgang Kowalsky³; Hans-Hermann Johannes³; Martin Koch¹

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Braunschweig, Hagenring 30, Braunschweig, Germany; ³TU Braunschweig, Schleinitzstr. 22, Braunschweig, Germany

Output Coupling Optimization For An Optically Pumped CH₃OH Gas Laser

Tu-P2-03

Xuan Li*¹; Zhiyong Zou²; Jiaying Xie³; Haiqing Liu³; Yinxian Jie³

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NanoMi: A Modular Platform For Terahertz-integrated UTEM

Tu-P2-04

Samuel Ruttiman*¹; Makoto Schreiber¹; Mark Salomons²; Darren Homeniuk²; Xuanhao Wang³; Olivier Adkin-Kaya⁴; Mohammad Kamal⁴; Jesus Alejandro Marin Calzada¹; Patrick Price²; Martin Cloutier²; Misa Hayashida²; Ray Egerton¹; Ken Harada⁵; Yoshio Takahashi⁶; Heiko Muller⁷; Marek Malac²; Frank Hegmann¹

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Terahertz-induced Influence On The Octanol-water Phase Separation

Tu-P2-05

Qin Zhang*; Kaicheng Wang; Lixia Yang; Shaomeng Wang; Yubin Gong
University of Electronic Science and Technology of China, No.2006, Xiyuan Ave, West Hi-Tech Zone, Chengdu, China

Infrared Nanospectroscopy And Terahertz Irradiation Of Pathological Protein Aggregates

Tu-P2-06

Antonia Intze¹; Raffaella Polito¹; Maria Eleonora Temperini¹; Valeria Giliberti²; Michele Ortolani*¹

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Study On Isoniazid-Succinic Acid Cocrystal Using Terahertz Spectroscopy And DFT Calculations **Tu-P2-07**

Jiale Zhang*¹; Mei Wan²; Jiyuan Fang²; Yaqi Jing²; Zhi Hong²; Yong Du²

¹China Jiliang University, Hangzhou, Hangzhou, China; ²China Jiliang University, Hangzhou, China

THz Spectroscopic Electron Paramagnetic Resonance Of The Fe³⁺ Defect In GaN **Tu-P2-08**

Viktor Rindert*¹; Steffen Richter¹; Sean Knight¹; Vanya Darakchieva¹; Mathias Schubert²

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²University of Nebraska-Lincoln, Department of Electrical and Computer Engineering, Walter Scott Engineering Center, United States

Terahertz Response Of An Interacting Confined Electron-Hole Pair **Tu-P2-09**

Filip Klimovic*; Tomáš Ostatnický

Charles University, Faculty of Mathematics and Physics, Ke Karlovu 3, Prague 2, Czech Republic

Crystal Structure And Vibrational Analysis Of Pyrazinamide-Glutaric Acid Based On Terahertz Spectroscopy And DFT Calculation **Tu-P2-10**

Yaqi Jing*; Mei Wan; Jiale Zhang; Jiyuan Fang; Zhi Hong; Yong Du

China Jiliang University, Hangzhou, Hangzhou, China

We Study The Atmospheric THz Transmission Properties Over A Wide Range Of Temperature And Humidity Conditions: From 6 To 45°C And Relative Humidity From 20 To 90%. **Tu-P2-11**

Martin Koch*¹; Enrique Castro-Camus²; Fatima Taleb²; Juan Viana²

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Temperature Dependence Of The Dielectric Function Of Dehydrated Biological Samples In The THz Band **Tu-P2-12**

Jan Helminiak*¹; Mariana Alfaro-Gomez²; Goretti Guadalupe Hernandez-Cardoso¹; Martin Koch¹; Enrique Castro-Camus¹

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Signal Processing System For Solid Source Interferometer On EAST **Tu-P2-13**

Jiamin Zhang*¹; Yuan Yao²; Tianyi Ruan³; Yao Zhang²; Haiqing Liu²; Yinxian Jie²; Bili Ling²

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Sensitive Terahertz Photoresponse Of A Three-Dimensional Dirac Semimetal **Tu-P2-14**

Meng Chen*; Yingxin Wang; Ziran Zhao

Tsinghua University, Tsinghua University, Haidian District, Beijing, China

Effect Of The Degree Of Sulfation On The Hydration State Of Agarose Gels Investigated Using Terahertz Time Domain Spectroscopy (THz-TDS) **Tu-P2-15**

Mark Justine Zapanta*; Annelies Postelmans; Wouter Saeys

KU Leuven, Kasteelpark Arenberg 30, Heverlee, Belgium

THz-near IR Hyper-Raman Surface Spectroscopy Of Silicon Wafer Surface **Tu-P2-16**

Laetitia Dalstein*; Marc Tondusson; Jerome Degert; Eric Freysz

Univ. Bordeaux, 351 cours de la liberation, Talence, France

Influence Of Substrate Temperature On Preparation Of High-Tc Superconducting NbN Thin Film For SIS Tunnel Junction **Tu-P2-17**

Fangting Lin*; Xingyue Zhang; Xiaoyong He

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Terahertz Longitudinal Conductivity Of Epitaxial Mn₃Sn Thin Films **Tu-P2-18**

Tinggui Yin*; Tianyu Zhang; Dong Gao; Fu Tang; Zechuan Bin; Jun Qin;

Longjiang Deng; Shigao Zhao; Qingying Yi; Shenggang Liu; Lei Bi; Min Hu

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Near-Perfect THz Absorber With Wide Range Tunability **Tu-P2-19**

Omnia Samy¹; Taiichi Otsuji²; Amine El Moutaouakil*¹

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Arab Emirates; ²Research Institute of Electrical Communication (RIEC),

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Terahertz Direct High-order Modulator Based On Coding Multi-subarray Metasurface **Tu-P2-20**

Ao Zhu*¹; Lan Wang¹; Shixiong Liang²; Wei Wang³; Yaxin Zhang⁴; Ziqiang Yang⁵

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and Engineering, University of Electronic Science and Technology of Ch,

Chendu, China

Frequency Spectrum Prediction Of Metamaterial Absorbers Based On **Tu-P2-21**

Semi-Random Matrix Generation Method Combined With Deep Learning
Jianian Wang*; Renbin Zhong; Benzhen Guo; Jianhui Fang; Qian Wu; Boli Xu; Qimeng Liu; Jiale Dong; Huimin Zhang
University of Electronic Science and Technology of China, No.2006, Xiyuan Avenue, West Hi-tech Zone, Chengdu, China

Ultrafast Non-equilibrium Carrier Dynamics In Vertical Graphene

Tu-P2-22

Peiyao Xie*¹; Tianyu Zhang²; Tao Zhao²; Wenjie Fu²; Shenggang Liu²; Min Hu²

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Novel Cherenkov Threshold In Nonlocal Graphene Hyperbolic Metamaterials

Tu-P2-23

Ran Wang*; Tianyu Zhang; Shenggang Liu; Min Hu
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Infrared Attenuate Total Reflection Cell With A Functionalized Surface

Tu-P2-24

Ulrich Schade*¹; Ljiljana Puskar²; Ronny Golnak²; Sasha Veber³; Jörg Beckmann⁴

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Trace Detection Of Furazolidone Based On Terahertz Meta-surface Sensors

Tu-P2-25

Xujun Xu*¹; Tingting Yuan²; Jingwen Wu²; Jianjun Liu²; Yong Du²

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THz Optical Characterization Of Novel Chalcogenide Phase Change Materials

Tu-P2-26

Krishna Kumar*¹; Miroslavna Kovylna²; Daniil Pashnev³; Surya R. Ayyagari³; Irmantas Kasalynas³; Borja Vidal²; Carlos García-Meca¹

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Dual-band Tunable Absorber Of Terahertz Metamaterial Based On Gallium Arsenide

Tu-P2-27

Tingting Yuan*¹; Jingwen Wu²; Xujun Xu²; Jianjun Liu²; Yong Du²

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Terahertz Near-Field Imaging For Buried Structures

Tu-P2-28

Pingchuan Ma*; Daniel M. Mittleman

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Microscopic Study On The Essence Of Enamel Demineralization By Terahertz Near-field Technique

Tu-P2-29

Feng Xiao*¹; Xiaoqiuyan Zhang²; Li Cheng³; Aopeng Zhang³; Jingjing Luo³; Fanglong Wu³; Hongmei Zhou³; Tao Hu³; Min Hu⁴

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Temperature Dependent Dynamics Of Charge Carriers In Tellurium-Hyperdoped Silicon

Tu-P2-30

KM Ashikur Rahman*¹; Mohd Saif Shaikh²; Qianao Yue¹; S. Senali Dissanayake¹; Shengqiang Zhou²; Meng-Ju Sher¹

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A Terahertz QPSK Phase Shifter Based On Insertion Micro-structure Chips

Tu-P2-31

Meng Hao*¹; Huajie Liang²; Ziqiang Yang³; Dan Liang⁴; Kexiang Hu⁴; Lin Zou⁴

¹Huzhou Key Laboratory of Terahertz Integrated Circuits and Systems, Yangtze Delta Region Institute o, Huzhou, China, Chengdu, China, Huzhou, China; ²Huzhou Key Laboratory of Terahertz Integrated Circuits and Systems, Yangtze Delta Region Institute o, Huzhou, China, Huzhou, China, Huzhou, China; ³University of Electronic Science and Technology of China, Chengdu, China, China; ⁴Huzhou Key Laboratory of Terahertz Integrated Circuits and Systems, Yangtze Delta Region Institute o, Huzhou, China, Huzhou, China

Terahertz-capillary Electrophoresis (THz-CE) For Direct Detection Of Separated Substances In Solutions

Tu-P2-32

Keiko Kitagishi*¹; Kazunori Serita²; Masayoshi Tonouchi²; Takayuki Kawai³

¹Osaka University, 2-6 Yamadoka, 3-34-23, Suita, Japan; ²Osaka University, 2-

6 Yamadaoka, Suita, Japan; ³Kyushu University, 744Motooka, Nishi-ku, Fukuoka, Japan

Development Of Data Labeling Techniques For Terahertz Image-based AI Cancer Diagnosis

Tu-P2-33

Myeong Suk Yim*¹; Yun Heung Kim²; Byeong Cheol Yoo²; Hyun Ju Choi²; Seung Jae Oh³; Youngbin Ji¹

¹Gimhae Biomedical Industry Promotion Agency, 80-59, Golden root-ro, Juchon-myeon, Gimhae-si, Korea, Republic of; ²Deepnoid.Inc, Seoul, Korea, Republic of; ³YUHS-KRIBB Medical Convergence Research Institute, Seoul, Korea, Republic of

90~99 GHz Image-Rejection Mixer In 0.14-um MHEMT Technology

Tu-P2-34

Woojin Chang*¹; Byoung-Gue Min²; Jong-Yul Park²; Dong Min Kang²

¹ETRI, 218 Gajeong-ro, Yuseong-gu, Daejeon, Korea, Republic of; ²ETRI, 218 Gajeong-ro, Yuseong-gu, Korea, Republic of

Analysis Methods Comparison On A W-Band Corrugated Horn Antenna

Tu-P2-35

Abdallah Chahadih*¹; Cristian Franceschet²; Bruno Maffei³

¹Institut d'astrophysique spatiale, 121 Rue Jean Teillac, 91440 Bures-sur-Yvette, 121 Rue Jean Teillac, Bures sur Yvette, France; ²Dipartimento di Fisica, Università degli Studi di Milano & INFN, Via Giovanni Celoria 16 - 20133 Milano (Lombardia), Italy; ³Institut d'astrophysique spatiale, 121 Rue Jean Teillac, 91440 Bures-sur-Yvette, France

Design Of 340 GHz High-Gain Monopulse Antenna For Terahertz Capture And Tracking System

Tu-P2-36

Caixia Wang*¹; Zhongbo Zhu²; Xiaohe Cheng³; Sheng Li²; Wei Shao²; Xiaojun Li²

¹National Key Laboratory of Science and Technology on Space Microwave, CAST Xi'an, 504 East Chang'an Street, Aerospace Base, Xi'an City, Shaanxi Province, Xi'an, China; ²National Key Laboratory of Science and Technology on Space Microwave, CAST Xi'an, 504 East Chang'an Street, Aerospace Base, Xi'an Ci, China; ³Beijing University of Posts and Telecommunications, No.10 Xitucheng Road, Haidian District, Beijing, China

Design Of THz Low-Loss Flexible Waveguide Structure

Tu-P2-37

Wei Shao*; Caixia Wang; Sheng Li; Zhongbo Zhu; Xiaojun Li
National Key Laboratory of Science and Technology on Space Microwave, CAST Xi'an, No.504, East Chang'an Street, Xi'an, Shaanxi,China, Xi'an, China

Design Of A 220 GHz Fourth-harmonic Mixer Based On Schottky Diode

Tu-P2-38

Xuechun Sun*¹; Penglin Yang¹; Tianchi Zhou¹; Jiahao Yang¹; Hongji Zhou¹; Jingrui Liang¹; Jia Zhang¹; Jun Zhou¹; Yaxin Zhang¹; Shixiong Liang²; Wei Wang²

¹Huzhou Key Laboratory of Terahertz Integrated Circuits and Systems, Yangtze Delta Region Institute (, No. 819, Xisaishan Road, Huzhou City, Zhejiang Pro, Huzhou, China; ²National Key Laboratory of Solid-State Microwave Devices and Circuits, Hebei Semiconductor Research, Xinhua District, Shijiazhuang City, Hebei Province, China

THz Topological Waveguides In 600 GHz Frequency Region.

Tu-P2-39

Abdu Subahan Mohammed*¹; Edouard Lebouvier²; Gaëtan Lévêque³; Yan Pennec³; Marc Faucher³; Alberto Amo⁴; Pascal Szriftgiser⁴; Guillaume Ducournau³

¹University of Lille, Univ. Lille, CNRS, Centrale Lille, ISEN, UPHF, UMR 8520 - IEMN, F-59652 Villeneuve d'Ascq, France., IEMN, F-59652 Villeneuve d'Ascq, France, Lille, France; ²V-MICRO SAS, V-MICRO SAS, Avenue Poincaré, 59650, Villeneuve d'Ascq, Lille, France; ³University of Lille, Univ. Lille, CNRS, Centrale Lille, ISEN, UPHF, UMR, IEMN, F-59652 Villeneuve d'Ascq, France, Lille, France; ⁴University of Lille, PhLAM Laboratoire de Physique des Lasers,, Atomes et Molécules, 59650 Villeneuve d'Ascq, France, Lille, France

Reconfigurable Terahertz Holograms With Cascaded Diffractive Optical Elements

Tu-P2-40

Wei Jia; Dajun Lin; Berardi Sensale-Rodriguez*
University of Utah, 50 S Central Campus Dr., Salt Lake City, United States

Iterative Design Of Multiple-Input Single-Output Structures For THz Signal Multiplexing

Tu-P2-41

Mateusz Surma*¹; Mateusz Kaluza¹; Patrycja Czerwinska¹; Pawel Komorowski²; Przemyslaw Zagrajek²; Agnieszka Siemion¹

¹Faculty of Physics, Warsaw University of Technology, Koszykowa 75, Warsaw, Poland; ²Institute of Optoelectronics, Military University of Technology, gen. S. Kaliskiego 2, Warsaw, Poland

3D Printed Diffractive Optical Elements For THz Spatial Multiplexing

Tu-P2-42

Mateusz Kaluza*¹; Mateusz Surma¹; Pawel Komorowski²; Przemyslaw Zagrajek²; Agnieszka Siemion¹

¹Warsaw University of Technology, Koszykowa 75, Warsaw, Poland; ²Military University of Technology, gen. S. Kaliskiego 2, Warsaw, Poland

Research On Multipath Artifacts For Typical Concave Objects In Millimeter Wave Security Imaging

Tu-P2-43

PeiSheng Liang*; Chi Zhang; Di Wu; Cheng Liu; Tao Song; Wei Wang; DiWei Liu

University of Electronic Science and Technology of China, Qingshuihe Campus, University of Electronic Science and Technology of China No.2006, Xiyuan Ave West, No.4,Section 2,North Jianshe Road,Chengdu,P.R.China, Chengdu, China

- Fast Spectrometer Based On Software-defined Radio For Plasma Diagnostics** **Tu-P2-44**
 Di Pan*; Yucheng Cai; Chengming Qu; Xinhang Xu; Lifu Zhang; Jingshuo Zhang; Jinlin Xie
 Department of Plasma Physics and Fusion Engineering, USTC, No. 96, Jinzhai Road, Hefei City, Anhui Province, China
- A Novel Fresnel Elliptical Reflector For MMW And THz Near Field Imaging** **Tu-P2-45**
 Nazli Kazemi*¹; petr Musilek²; Fazel Ghiasvand³
¹University of Alberta, University of Alberta, Donadeo Innovation Centre for Engineering - 9211 116 Street NW, Edmonton, Canada; ²University of Alberta, University of Alberta, Donadeo Innovation Centre for Engineering - 9211 116 Street NW, Edmonton, Canada; ³University of Tabriz, Tabriz, Iran, Iran
- Frequency-diverse Phase Holograms With Spatial Filtering For Submillimeter-wave Imaging** **Tu-P2-46**
 Samu-Ville Pälli*; Aleksi Tamminen; Juha Ala-Laurinaho; Sazan Rexhepi; Zachary Taylor
 Aalto University, Maarintie 8, Espoo, Finland
- VMD-based Methods For Denoising Terahertz Signals Obtained From Biological Tissue** **Tu-P2-47**
 Mohamed Boutaayamou*; Jacques G. Verly
 University of Liège, Quartier Polytech 1, 10, Allée de la découverte, Liège, Belgium
- Terahertz Spectra Study Of Quercetin And Quercitrin From Ecdysantherarosea** **Tu-P2-48**
 Ting Zeng*¹; Sen Gong²; Jun Zhou²; Yagang Zhang²
¹Chengdu Medical College, No. 783, Xindu Avenue, Xindu District, Chengdu, Sichuan Province, Chengdu, China; ²University of Electronic Science and Technology of China, No.2006, Xiyuan Ave, West Hi-Tech Zone, China
- OSAS-B: A 4.7-THz Heterodyne Spectrometer For Atomic Oxygen In The Mesosphere And Lower Thermosphere** **Tu-P2-49**
 Martin Wienold*¹; Alexey Semenov¹; Heiko Richter¹; Enrico Dietz¹; Sven Frohmann¹; Patrick Dern¹; Xiang Lü²; Lutz Schrottke²; Bernd Klein³; Heinz-Wilhelm Hübers⁴
¹German Aerospace Center (DLR), Rutherfordstr. 2, Berlin, Germany; ²Paul-Drude-Institut, Hausvogteiplatz 5-7, Berlin, Germany; ³Max-Planck-Institut für Radioastronomie, Auf dem Hügel 69, Bonn, Germany; ⁴German Aerospace Center (DLR), Rutherfordstr. 2, Germany
- An Improved Photonic Crystal Resonator For Sensing Applications At 100 GHz** **Tu-P2-50**

- Yixiong Zhao*; Xuan Liu; Jan C. Balzer
University Duisburg-Essen, Bismarckstr. 81, Duisburg, Germany
Standardizing Terahertz Time-domain Experimental Data And Processing **Tu-P2-51**
- Jongmin Lee¹; Chi Ki Leung²; Mingrui Ma²; Axel Zeitler*²
¹University of Cambridge, Department of Chemical Engineering and
Biotechnology, United Kingdom; ²University of Cambridge, Department of
Chemical Engineering and Biotechnology, Philippa Fawcett Drive, Cambridge,
United Kingdom
- A 124.9 GHz Traveling Wave Switch Direct Modulator Using Different
Switch Units** **Tu-P2-52**
- Tianchi Zhou*
University of Electronic Science and Technology of China, No.2006, Xiyuan
Ave, West Hi-Tech Zone, No.2006, Xiyuan Ave, West Hi-Tech Zone, 611731,
Sichuan,China, Chengdu, China
- THz Communication System At 1.8 THz By Photonics-Based Transmitter
And Electronics-based Receiver** **Tu-P2-53**
- Isao Morohashi*¹; Yoshihisa Irimajiri¹; Akira Kawakami¹; Tadashi
Kishimoto¹; Pham Tien Dat¹; Atsushi Kanno²; Norihiko Sekine¹; Iwao
Hosako¹
¹National Institute of Information and Communications Technology, 4-2-1
Nukui-Kitamachi, Koganei, Tokyo, Japan; ²Nagoya Institute of Technology, 4-
2-1 Nukui-Kitamachi, Koganei, Tokyo, Japan
- A Minimalist Terahertz Direct Modulator-based Real-time High-speed
Communication System** **Tu-P2-54**
- Yi Hao*¹; Ding Kesen¹; You Jinlong¹; Wang Wei²; Liang Shixiong²; Sen
Gong¹; Zhang Yaxin¹
¹UESTC, No.2006, Xiyuan Avenue, West Hi-tech Zone, China,
China,Chengdu,, China; ²National Key Laboratory of Application Specific
Integrated Circuit, Hebei Semiconductor Research Ins, China,Chengdu,, China
- Integratable 3D Printed Terahertz Horn Coupler** **Tu-P2-55**
- Qigejian Wang*¹; Haisu Li²; Syed Daniyal Ali Shah³; Boris Kuhlme⁴;
Shaghik Atakaramians⁵
¹The University of New South Wales, School of Electrical Engineering and
Telecommunications (G17), UNSW Sydney, Kensington, Australia; ²Institute
of Lightwave Technology, Beijing Jiaotong University, Institute of Lightwave
Technology, Beijing Jiaotong University, Beijing, China; ³School of EET,
UNSW Sydney, School of EET, UNSW Sydney, Kensington, Australia;
⁴School of Physics, The University of Sydney, School of Physics, The
University of Sydney, Camperdown, Australia; ⁵The University of New South
Wales, School of EET (G17), UNSW Sydney, Kensington, Australia

- A Concept For The Efficient Integration Of Reconfigurable Intelligent Surfaces Into A Ray Tracing Framework** **Tu-P2-56**
 Christoph Herold*; Thomas Kürner
 Technische Universität Braunschweig, Schleinitzstraße 22, Braunschweig, Germany
- Terahertz Sensor Based On Topological Photonic Waveguide** **Tu-P2-57**
 Xuejiao Xu*; Zhijie Mei; Xudong Liu; Yiwen Sun
 Shenzhen University, No.1066, Xueyuan Avenue, Nanshan District, Shenzhen, China
- Nondestructive Inspection Of Bridge Tendon Using A THz A-scanner** **Tu-P2-58**
 Dae-Su Yee*; Ji Sang Yahng; Seung Hyun Cho
 Korea Research Institute of Standards and Science, 267 Gajeong-ro, Yuseong-gu, Daejeon, Korea, Republic of
- Real-time On-line Thickness Measurement Of Supercapacitor Electrode Coating Using Terahertz Technology** **Tu-P2-59**
 Zhengxian Gao*¹; Chun Wang²; Xu Zheng²; Chen Li²; Xiaoqing Jia³; Xuecou Tu³; Lin Kang³; Jian Chen³; Peiheng Wu³
¹Nanjing University, Chentian Industrial Zone, Baotian 1st Road, Shenzhen, China; ²Shenzhen Institute of Terahertz Technology and Innovation, Chentian Industrial Zone, Baotian 1st Road, Shenzhen, China; ³Nanjing University, Xianlin Ave 163, Nanjing, China
- Coatings Thickness Detection On Anisotropic Materials With Sparse Decomposition Method** **Tu-P2-60**
 Yulei Huang¹; Weixing Li¹; Lin Ke²; Meiqiang Zhu¹; Nan Zhang*³
¹China University of Mining and Technology, No1 Daxue Road, Xuzhou, China; ²Agency for Science, Technology and Research, Singapore, 2 Fusionopolis Way, Singapore, Singapore; ³Suzhou TeraScan Technologies Co Ltd, Creative Industrial Park 22-404, Suzhou Industrial Park, Suzhou, China
- Terahertz Nondestructive Characterization Of Tertiary Mill Scale On Commercial Hot-rolled Steel Strips** **Tu-P2-61**
 Min Zhai¹; Alexandre Locquet¹; Cyrielle Roquelet²; Jean-Luc Borean²; Philip Meilland²; David Citrin*¹
¹Georgia Tech Europe, 2 Rue Marconi, Metz, France; ²ArcelorMittal Maizières Research SA, Voie Romaine, BP 30320, Maizières-lès-Metz, France
- Microprobe-based Terahertz Near-field Imaging Of Highly Scattering Pharmaceutical Coatings On Small Tablets** **Tu-P2-62**
 Michael Nagel*¹; Matthias Wolfgang²; Martin Spoerk²; Johannes G. Khinast³; Simon Sawallich¹; Alexander Michalski¹
¹Protomics GmbH, Otto-Blumenthal-Str. 25, Aachen, Germany; ²Research Center Pharmaceutical Engineering GmbH, Inffeldgasse 13, Graz, Austria; ³Graz University of Technology, Inffeldgasse 13, Graz, Austria

Sparse Synthetic Antenna Array For 3D Imaging And Spectroscopy In The Terahertz Range **Tu-P2-63**

Manal Ait Assou*; Georges Humbert; Aurelian Crunteanu; Cyril Decroze
XLIM, 123 Albert Thomas Avenue, Limoges, France

Assessment Of Anti-corrosion Coatings Adhesion Using Terahertz Time Domain Reflection Spectroscopy. **Tu-P2-64**

Vincent Wallace*
University of Western Australia, 35 Stirling Highway, Perth, Australia

Defects Detection In Indian Timber Wood Using THz Imaging Technique **Tu-P2-65**

Mercy Latha A*
Council Of Scientific And Industrial Research-Central Electronics Engineering Research Institute (CS, Near to BITS, Pilani Campus, Pilani, Jhunjhunu, India

20 September 2023

08:30 - 09:15 Plenary Session 5 **Symposia Theatre**

08:30 **High Harmonic Spectroscopy For Many-body Dynamics In Solids** **We-PL-1-1**

Koichiro Tanaka*¹; Kento Uchida²

¹Kyoto University, Oiwake, Kitashirakawa, Sakyo, Kyoto-shi, Japan; ²Kyoto University, Oiwake, Kitashirakawa, Sakyo, Kyoto, Japan

09:15 - 10:00 Plenary Session 6 **Symposia Theatre**

09:15 **Terahertz Pump/X-ray Probe Experiments At LCLS** **We-PL-2-1**

Matthias Hoffmann*

SLAC National Accelerator Laboratory, 2575 Sand Hill Road, Menlo Park, United States

10:30 - 12:00 Laser Sources & Detectors V **Symposia Theatre**

10:30 **Broadband GaP Contact Grating Terahertz Source Pumped At 3.9 μM** **We-AM-1-1**

ABHISHEK GUPTA*¹; ROKAS JUTAS²; CLAUDIA GOLLNER²;

AUDRIUS PUGZLYS²; ANDRIUS BALTUSKA²; JOZSEF FULOP¹

¹ELI-ALPS, Wolfgang Sandner utca 3, SZEGED, Hungary; ²Photonics Institute, TU Wien, Vienna, Austria

11:00 **A New Screening Methodology For Terahertz Generation Crystals** **We-AM-1-2**

(Enoch) Sin-Hang Ho*¹; gabriel Valdivia Berroeta²; Zachary Zaccardi³;

Sydney Pettit³; Bruce Palmer³; Matthew Lutz³; Claire Rader³; Brittan Hunter³;

Natalie Green³; Connor Barlow³; Coriantumr Wayment³; Daisy Harmon³;
Paige Petersen³; Stacey Smith³; David Michaelis³; Jeremy Johnson³
¹Brigham Young University, Brigham Young University, Provo, United States;
²Boehringer Ingelheim Inc., Connecticut, USA., United States; ³Brigham
Young University, C100 BNSN, Brigham Young University, Provo, United
States

11:15 **Intense Broadband THz Generation In The Organic Crystal BNA By
Compression Of Ytterbium Laser Pulses Based On A Gas-filled Hollow-
core Fiber** **We-AM-1-3**

Young-Gyun Jeong*¹; Luca Zanotto¹; Dong-Jae Seo²; Yujin Nam²; Xin Jin¹;
Jisoo Kyoung²; Bruno E. Schmidt³; Mostafa Shalaby⁴; Luca Razzari¹
¹INRS-EMT, 1650 Boul. Lionel-Boulet, Varennes, Canada; ²Dankook
University, 119 Dandae-ro, Dongnam-gu, Cheonan, Korea, Republic of; ³few-
cycle Inc., 1650 Boul. Lionel-Boulet, Varennes, Canada; ⁴Swiss Terahertz
GmbH, Technoparkstrasse 1, Zürich, Switzerland

11:30 **Characterization Of Organic Nonlinear Optical Crystals For THz
Applications** **We-AM-1-4**

Hirohisa Uchida*¹; Chisa Koyama²; Kohei Hayase³; Kosuke Murate³; Kodo
Kawase³; Kei Takeya⁴
¹ARKRAY Inc., Yosuien-nai, 59 Gansuin-cho, Kamigyo-ku, Japan; ²ARKRAY
Inc., Yosuien-nai, 59 Gansuin-cho, Kamigyo-ku, Japan; ³Nagoya University,
Chikusa-ku, Nagoya, Japan; ⁴Institute for Molecular Science, Okazaki, Japan

11:45 **Improved Terahertz Generation Through Heterogenous Multi-Layered
Organic Crystal Structures** **We-AM-1-5**

Aldair Alejandro*; Daisy Ludlow; Paige Petersen; Kayla Holland; Fatoumata
N'diaye; Tanner Manwaring; David Michaelis; Jeremy Johnson
Brigham Young University, BNSN C100, Provo, United States

10:30 - 12:00 Spectroscopy III **Cartier I**

10:30 **Terahertz Multispectral Sub-Wavelength Tomography Using A Solid-
Immersion Lens** **We-AM-2-1**

Da-Hye Choi*; Mugeon Kim; Dong Woo Park; Eui Su Lee; IL-Min Lee
Electronics and Telecommunications Research Institute, 218 Gajeong-ro,
Yuseong-gu, Daejeon, Korea, Daejeon, Korea, Republic of

10:45 **Detecting Crystallization Of Norfloxacin In Paper Tablets After Wet
Granulation By Terahertz Time-domain Spectroscopy** **We-AM-2-2**

Lara Heidrich*¹; Ayat Abdelkader²; Jan Ornik¹; Enrique Castro-Camus¹;
Cornelia M. Keck²; Martin Koch¹
¹Philipps-Universität Marburg, Renthof 5, Marburg, Germany; ²Philipps-
Universität Marburg, Robert-Koch-Straße 4, Marburg, Germany

11:00	<p>Towards Single-pulse Terahertz Spectroscopy At MHz Rates</p> <p>Nicolas Couture*¹; Wei Cui²; Markus Lippl³; Rachel Ostic²; Défi Jubgang²; Aswin Vishnuradhan²; Eeswar Yalavarthi²; Angela Gamouras⁴; Nicolas Joly⁵; Jean-Michel Ménard²</p> <p>¹University of Ottawa, 25 Templeton St., Ottawa, Canada; ²University of Ottawa, 25 Templeton St., Canada; ³Max Planck Institute for the Science of Light, Staudtstraße 2, Germany; ⁴National Research Council Canada, 1200 Montreal Rd., Canada; ⁵Friedrich-Alexander University, Schloßplatz 4, Germany</p>	We-AM-2-3
11:15	<p>The Effect Of Terahertz Scattering On Loss Coefficient In Granular Compacts</p> <p>Keir N Murphy*¹; Daniel Markl²; Alison Nordon³; Mira Naftaly⁴</p> <p>¹Univeristy of Strathclyde, 99 George St, Glasgow, United Kingdom; ²University of Strathclyde, 99 George St, Glasgow, United Kingdom; ³University of Strathclyde, 99 George St., Glasgow, United Kingdom; ⁴National Physical Laboratory, Hampton Rd, Teddington, United Kingdom</p>	We-AM-2-4
11:30	<p>Characterization Of Morphology-Dependent Transport In Lead-Halide Perovskite Printed Films Using Time-Resolved Terahertz Spectroscopy</p> <p>Nils Refvik*¹; Lennart Reb²; Christoph Lindenmeir²; Charles Jensen¹; Howe Simpson¹; Damini Vrushabendrakumar³; Karthik Shankar³; Peter Müller-Buschbaum²; Frank Hegmann¹</p> <p>¹Department of Physics, University of Alberta, 4-181 CCIS, Edmonton, Canada; ²TUM School of Natural Sciences, Department of Physics, Chair for Functional Materials, James-Franck-Str. 1 85748, Garching, Germany; ³Department of Electrical and Computer Engineering, University of Alberta, Donadeo Innovation Centre for Engineering, Edmonton, Canada</p>	We-AM-2-5
11:45	<p>Enhanced Liquid Sensing With 3D Printed Terahertz Photonic Crystals</p> <p>Marcel Grzeslo; Jonas Tebart; Rihab Hamad; Andreas Stöhr; Andreas Klein* University Duisburg-Essen, Lotharstr. 55, Duisburg, Germany</p>	We-AM-2-6
10:30 - 12:00	Superconductivity & Condensed Matter	Cartier II
10:30	<p>Higgs Coherence Spectroscopy Of A Parametrically Driven Superconductor</p> <p>JIGANG WANG* Ames National Laboratory, Department of Physics and Astronomy, AMES, United States</p>	We-AM-3-1
11:00	<p>Tunable THz Beam Splitter Based On Superconducting NbN</p> <p>Yan Teng; Yuhua Xiao; Shaochen Li; Chun Li; Ling Jiang* Nanjing Forestry university, Nanjing Forestry University, China</p> <p>THz And Mid-Infrared Linear Dichroism In The High Tc Superconductor</p>	We-AM-3-2

11:15	La2-xSrxCuO4	We-AM-3-3
	Deepu George ¹ ; Andrea Markelz ¹ ; John Cerne* ¹ ; Xi He ² ; Ivan Bozovic ² ; Timothy LaFave Jr. ¹ ¹ University at Buffalo, State University of New York, 239 Fronczak Hall, Department of Physics, University at Buffalo, SUNY, Buffalo, United States; ² Brookhaven National Laboratory, Condensed Matter Physics & Materials Science Dept., Bldg. 480 P.O. Box 5000, Upton, United States	
11:30	Status Of The Spurious Evidence For Photoinduced Superconductivity	We-AM-3-4
	Steve Dodge*; Leya Lopez; Derek Sahota Simon Fraser University, 8888 University Drive, Burnaby, Canada	
11:45	Terahertz Excitation Of Chiral Phonons Probed Via The Faraday Effect	We-AM-3-5
	Jeremy Johnson* ¹ ; Megan Nielson ² ; Sin-Hang (Enoch) Ho ² ; Aldair Alejandro ² ; Matthew Lutz ² ; Clayton Moss ² ¹ Brigham Young University, C312 BNSN BYU, Provo, United States; ² Brigham Young University, C371 BNSN BYU, Provo, United States	

10:30 - 12:00	Antenna Imaging Techniques II	International I
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10:30	Terahertz Single Pixel Imaging Via Spatial Polarization Modulating Masks	We-AM-4-1
	Seth Lowry* ¹ ; Matt Reid ² ; Christopher Collier ¹ ¹ University of British Columbia, Okanagan campus, 1137 Alumni Ave, Kelowna, Canada; ² University of Northern British Columbia, 3333 University Way, Prince George, Canada	
10:45	Multi-color Terahertz Spatial Light Modulator For Single-pixel Imaging	We-AM-4-2
	Chenyu Wang*; Yu Liao; Xudong Liu; Yiwen Sun Department of Biomedical Engineering, School of Medicine, Shenzhen University, No.1066 Xueyuan Avenue, Nanshan District, Shenzhen, China	
11:00	Antenna For Free Space-coupled Third-order Sub-harmonic Coherent Detector Array In The 300 GHz Band	We-AM-4-3
	Meng Zhang* ¹ ; Zhenming Tian ² ; Benedikt Sievert ² ; Christian Preuss ² ; Nils Weimann ² ; Andreas Rennings ² ; Daniel Erni ² ¹ University of Duisburg-Essen, Bismarckstrasse 81, Duisburg, Germany; ² University of Duisburg-Essen, Bismarckstrasse 81, Germany	
11:15	Improved Phase Retrieval Techniques For Millimeter Wave Beams In Noisy Environments	We-AM-4-4
	Alex Laut*; Kyle Thackston; Lavanya Periasamy; James Anderson General Atomics, PO Box 85608, San Diego, United States	
11:30	Analysis Of Surface Roughness With 3D SAR Imaging At 1.5 THz	We-AM-4-5
	Aman Batra* ¹ ; Yevhen Ivanenko ² ; Viet T. Vu ² ; Michael Wiemeler ¹ ; Mats I.	

Pettersson²; Diana Goehringer³; Thomas Kaiser¹

¹Universität Duisburg-Essen, Bismarckstr. 81, Duisburg, Germany; ²Blekinge Institute of Technology, Valhallavägen 1, Karlskrona, Sweden; ³Technische Universität Dresden, Nöthnitzer Str. 46, Dresden, Germany

10:30 - 12:00	Chemistry, Biology & Medicine III	International II
10:30	Towards The Detection Of Heavy Metals In Plants Using THz Lisa Kreuzer* ¹ ; Fabian Brix ² ; Petra Düchting ² ; Sebastian Gassel ¹ ; Carsten Brenner ¹ ; Milan Deumer ³ ; Robert Kohlhaas ³ ; Ute Krämer ² ; Martin R. Hofmann ¹ ¹ Ruhr University Bochum, Photonics and Terahertz Technology, Universitaetsstraße 150, Bochum, Germany; ² Ruhr University Bochum, Molecular Genetics and Physiology of Plants, Universitätsstraße 150, Bochum, Germany; ³ Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute, Einsteinufer 37, Berlin, Germany	We-AM-5-1
11:00	Comprehensive Data Analysis And Machine Learning Models For Automatic Identification Of Chemical Compounds Based On Terahertz Spectra Zi Xi Josie Lim ¹ ; Nan Zhang* ¹ ; Wei Ji Phua ¹ ; Lijie Yu ² ; Jia Yi Kwang ² ; Angeline Tang ² ; Angeline Tiong Whei Yap ² ; Yee-Fun Lim ³ ; Lin Ke ⁴ ¹ Anor Technologies Pte Ltd, 75 Ayer Rajah Crescent, #01-08, Singapore, Singapore; ² Health Sciences Authority, Singapore, 11 Outram Road, Singapore, Singapore; ³ Agency for Science, Technology and Research, Singapore, 2 Fusionopolis Way, Singapore, Singapore; ⁴ Agency for Science, Technology and Research, Singapore, 2 Fusionopolis Way, Singapore, Singapore	We-AM-5-2
11:15	In-line Non-destructive Multi-wavelength Medicine Quality Inspection Yuya Kinoshita*; Sayaka Hirokawa; Kou Li; Daiki Sakai; Yuto Matsuzaki; Yuto Aoshima; Raito Ota; Daiki Shikichi; Yukio Kawano Chuo university, Japan, #1609, 1-13-27 Kasuga, Bunkyo-ku, Japan	We-AM-5-3
11:30	Machine Learning Classification Of Breast And Oral Fresh Cancer Tissue Based On Terahertz Imaging Jyotirmayee Dash* ¹ ; Arun Jana ² ; Lenin B ¹ ; Shyamsundar Mandyam ¹ ; Bala Pesala ¹ ¹ TeraLumen Solutions Pvt. Ltd., Siruseri, Chennai, India; ² TeraLumen Solutions Pvt. Ltd., Siruseri., Chennai, India	We-AM-5-4

13:00 - 15:00 Laser Sources & Detectors VI

Symposia
Theatre

13:00	<p>Terahertz Hot-Electron Bolometric Detectors Based On Metal/Black-AsP/Graphene FETs: Proposal And Evaluation</p> <p>Taiichi Otsuji*¹; Victor Ryzhii¹; Chao Tang²; Maxim Ryzhii³; Vladimir Mitin⁴; Michael Shur⁵</p> <p>¹RIEC, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, Japan; ²FRIS, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, Japan; ³University of Aizu, Ikkicho, Aizuwakamatsu, Japan; ⁴University at Buffalo, SUNY, 12 Capen Hall, Buffalo, United States; ⁵Rensselaer Polytechnic Institute, 110 8th Street, Troy, United States</p>	We-PM1-1-1
13:15	<p>Fast THz Detection By An Asymmetric-Dual-Grating-Gate Graphene-Channel FET Based On Plasmonic And Photothermoelectric Effects</p> <p>Koichi Tamura*¹; Shinnosuke Uchigasaki¹; Hironobu Seki¹; Chao Tang¹; Daichi Ogiura¹; Kento Suwa¹; Hirokazu Fukidome¹; Yuma Takida²; Hiroaki Minamide²; Tetsuya Suemitsu³; Taiichi Otsuji¹; Akira Satou¹</p> <p>¹RIEC, Tohoku university, 2-1-1 Katahira, Aoba-ku, Sendai, Japan; ²RIKEN Center for Advanced Photonics, RIKEN, 519-1399 Aramaki-za-aoba, Aoba-ku, Sendai, Japan; ³New Industry Creation Hatchery Center, Tohoku University, 6-6-10 Aramaki-za-aoba, Aoba-ku, Sendai, Japan</p>	We-PM1-1-2
13:30	<p>Influence Of Antenna Parameters On Terahertz Photoelectric Tunable-step Detector Operation</p> <p>Ran Chen*; Harvey Beere; David Ritchie; Wladislaw Michailow</p> <p>University of Cambridge, Cavendish Laboratory, University of Cambridge, J. J. Thomson Avenue, Cambridge, United Kingdom</p>	We-PM1-1-3
13:45	<p>Integrated Ultra-Broadband THz Photodiode With Silicon Rod Waveguide Interface</p> <p>Shuya Iwamatsu*¹; Muhsin Ali²; José Luis Fernandez-Estevez¹; Marcel Grzeslo¹; Sumer Makhlof³; Guillermo Carpintero⁴; Andreas Stöhr¹</p> <p>¹University of Duisburg-Essen, Lotharstr. 55, Duisburg, Germany; ²LeapWave Technologies, Avenida Gregorio Peces-Barba 1, Leganés, Spain; ³Microwave Photonics GmbH, Essener Str. 5, Oberhausen, Germany; ⁴Universidad Carlos III de Madrid, Avenida de la Universidad 30, Leganés, Spain</p>	We-PM1-1-4
14:00	<p>Ultra-Compact And Room-Temperature Focal Plane Assemblies For Lunar Advanced Filter Observing Radiometer For Geologic Exploration</p> <p>Giacomo Mariani*; Matt Kenyon; Byeongho Eom</p> <p>NASA Jet Propulsion Laboratory, 4800 Oak Grove Dr, Pasadena, United States</p>	We-PM1-1-5
14:15	<p>BABAR-ERI: Black Array Of Broadband Absolute Radiometers -- Earth Radiation Imager</p> <p>Christopher Yung*¹; Cameron Straatsma²; Nathan Tomlin¹; David Harber²; Odele Coddington²; John Lehman¹; Michelle Stephens¹</p> <p>¹National Institute of Standards and Technology, 325 Broadway, Boulder,</p>	We-PM1-1-6

United States; ²Laboratory for Atmospheric and Space Physics, 1234
Innovation Dr, Boulder, United States

14:30 **On Cold Operation Of An SiGe HBT As A Broadband Low-NEP THz Direct Detector** **We-PM1-1-7**

Janusz Grzyb*¹; Marcel Andree¹; Bernd Heinemann²; Holger Ruecker²;
Ullrich Pfeiffer¹

¹University of Wuppertal, Rainer-Gruenter-Str. 21, Wuppertal, Germany; ²IHP-
Leibniz-Institut fuer Innovative Mikroelektronik, Im Technologiepark 25,
Frankfurt (Oder), Germany

14:45 **A Broadband Dual-Polarized Low-NEP SiGe HBT Terahertz Direct Detector For Polarization-Sensitive Imaging** **We-PM1-1-8**

Marcel Andree*¹; Vishal Jagtap²; Janusz Grzyb²; Ullrich Pfeiffer²

¹University of Wuppertal, Rainer-Gruenter Str. 21, Adersstraße 48, Wuppertal,
Germany; ²University of Wuppertal, Rainer-Gruenter Str. 21, Germany

13:00 - 15:00 Nonlinear THz Phenomena **Cartier I**

13:00 **Nonlinear THz Control Of Lead Halide Perovskite Lattices In 3, 2, And 1 Dimensions** **We-PM1-2-1**

Sebastian F. Maehrlein*¹; Joanna M. Urban¹; Maximilian Frenzel¹; Marie
Cherasse¹; Gaell Trippé-Allard²; Abdelaziz Jouaiti³; Sylvie Ferlay³;
Emmanuelle Deleporte²

¹Fritz Haber Institute of the Max Planck Society, Faradayweg 4-6, Berlin,
Germany; ²Université Paris-Saclay, ENS Paris-Saclay, 4 Av. des Sciences, Gif-
sur-Yvette, France; ³Université de Strasbourg-CNRS, 4 Rue Blaise Pascal,
Strasbourg, France

13:30 **Interplay Between Intervalley Scattering And Impact Ionization Induced By Intense Terahertz Pulse In InSb Thin Films** **We-PM1-2-2**

Carlos Miguel Garcia Rosas*¹; Xavier Ropagnol¹; Leo Guiramand²; Francois
Blanchard²; Tsuneyuki Ozaki¹

¹Institut National de la Recherche Scientifique, 1650 boulevard Lionel Boulet,
Varenes, Canada; ²École de technologie supérieure, 1100 rue Notre-Dame
Ouest, Montreal, Canada

13:45 **High-harmonic Generation In P-doped Si By Band Non-parabolicity, Energy-dependent Relaxation And Dopant Photo-ionization** **We-PM1-2-3**

Fanqi Meng*¹; Frederik Walla²; Sergey Kovalev³; Jan-Christoph Deinert³;
Igor Ilyakov³; Min Chen³; Alexey Ponomaryov³; Sergey G. Pavlov⁴; Heinz-
Wilhelm Hübers⁴; Nikolay V. Abrosimov⁵; Christoph Jungemann⁶; Hartmut.G
Roskos²; Mark D. Thomson²

¹Goethe University Frankfurt, Max von Laue street 1, Frankfurt am Main, Germany; ²Goethe University Frankfurt, Max von Laue street 1, Frankfurt, Germany; ³Helmholtz-Zentrum Dresden-Rossendorf, Bautzner Landstr. 400, Dresden, Germany; ⁴German Aerospace Center (DLR), Rutherfordstr. 2, Berlin, Germany; ⁵Leibniz-Institut für Kristallzüchtung (IKZ), Max-Born Str. 2, Berlin, Germany; ⁶RWTH Aachen, Kackertstr 15, Aachen, Germany

- 14:00 **Ultrafast Carrier Dynamics In Germanium Driven By Strong THz Field** **We-PM1-2-4**
ABHISHEK GUPTA*¹; VINEET GUPTA²; JANOS BOHUS²; KALYANI CHORDIYA²; MOUSUMI KAHALY²; ASHUTOSH SHARMA²; JOZSEF FULOP²
¹ELI-ALPS, Wolfgang Sandner utca 3, SZEGED, Hungary; ²ELI-ALPS, WOLFGANG SANDNER UTCA 3, SZEGED, Hungary
- 14:15 **High-field Terahertz Carrier Dynamics In Ge And GaAs** **We-PM1-2-5**
Matthew Lutz*; Clayton Moss; Josue Dominguez; Jeremy Johnson
Brigham Young University, Ezra Taft Benson Building, Campus Dr, Provo, United States
- 14:30 **Martensite Transformation Triggered With Intense THz Pulses** **We-PM1-2-6**
Masaya Nagai*¹; Yuhei Higashitani¹; Masaaki Ashida¹; Koichi Kusakabe²; Hirohiko Niioka³; Azusa Hattori⁴; Hidekazu Tanaka⁴; Goro Isoyama⁵; Norimasa Ozaki⁶
¹Osaka University, Machikaneyama 1-3, Toyonaka, Japan; ²University of Hyogo, 3-2-1 Kouto, Kamigori, Japan; ³Osaka University, 2-8, Yamadaoka, Suita, Japan; ⁴Osaka, 8-1 Mihogaoka, Ibaraki, Japan; ⁵Osaka University, 8-1 Mihogaoka, Ibaraki, Japan; ⁶Osaka University, 2-1 Yamadaoka, Ibaraki, Japan

13:00 - 15:00 Metasurfaces & Plasmonics I **Cartier II**

- 13:00 **Vectorial Currents And Broadband Terahertz Vector Beams With Optoelectronic Metasurfaces** **We-PM1-3-1**
Jacob Pettine*¹; Lauren Gingras²; Peter Adel²; Chun-Chieh Chang³; Rohit Prasankumar⁴; Ronald Holzwarth⁵; Antoinette Taylor³; Shizeng Lin³; Prashant Padmanabhan³; Hou-Tong Chen³
¹Los Alamos National Laboratory, PO Box 1663, Los Alamos, United States; ²Menlo Systems, Bunsenstrasse 5, Germany; ³Los Alamos National Laboratory, PO Box 1663, United States; ⁴Intellectual Ventures, Bellevue, United States; ⁵Menlo Systems, Martinsried, Germany
- 13:30 **Continuous 3D Multimodal Buckling Modulated Chiral Responses In Reconfigurable Terahertz Metamaterials** **We-PM1-3-2**
Donghai Han*; Liuyang Zhang

- 13:45 **Sensitivity Enhancement Of THz Meta-Material By Decoupling Its Resonance From Substrate's Fabry-Pérot Oscillations** **We-PM1-3-3**
 Xi'an Jiaotong University, No. 28, West Xianning Road, Xi'an, China
 Heena Khand*¹; Rudrarup Sengupta²; Gabby Sarusi²
¹Ben Gurion University of the Negev, Marcus Family Campus Ben-Gurion University of the Negev P.O.B. 653, Beer-Sheva, Israel; ²Ben-Gurion University of the Negev, Marcus Family Campus P.O.B 653, Israel
- 14:00 **1-bit Terahertz Time-space-coding Metasurfaces With Refined Wavefront Modulation For Harmonic Beam Scanning Enhancement** **We-PM1-3-4**
 Munan Yang*¹; Feng Lan¹; Yaxin Zhang¹; Dongfang Shen²; Tianyang Song³; Luyang Wang³; Ziqiang Yang¹
¹Yangtze Delta Region Institute (Huzhou), University of Electronic Science and Technology of China, H, 404B, Research Institute Building, University of Electronic Science and Technology of China (Qingshu, Chengdu, China; ²School of Electronic Science and Engineering, University of Electronic Science and Technology of Chi, 404B, Research Institute Building, University of E, Chengdu, China; ³School of Electronic Science and Engineering, University of Electronic Science and Technology of Chi, 404B, Research Institute Building, University of Electronic Science and Technology of China (Qingshu, Chengdu, China
- 14:15 **High-efficiency And Wideband Five-order Geometric-Phase Coding Metasurfaces For Sub-terahertz RCS Reduction** **We-PM1-3-5**
 Haobin Sun*¹; Feng Lan²; Munan Yang³; Tianyang Song³; Luyang Wang⁴; Yaxin Zhang⁴; Ziqiang Yang⁴
¹School of Electronic Science and Engineering, University of Electronic Science and Technology, Cheng, NO.2006, XIyuan Ave, West Hi-Tech Zone, Chengdu, Chengdu, China; ²School of Electronic Science and Engineering, University of Electronic Science and Technology, Cheng, NO. 2006, XIyuan Ave, West Hi-Tech Zone, Chengdu, China; ³School of Electronic Science and Engineering, University of Electronic Science and Technology, Cheng, NO. 2006, XIyuan Ave, West Hi-Tech Zone, Chengdu, The Yangtze Delta Region Institute (Huzhou), University of Electronic Science and Technology of Chin, Chengdu, China; ⁴School of Electronic Science and Engineering, University of Electronic Science and Technology, Cheng, NO. 2006, XIyuan Ave, West Hi-Tech Zone, Chengdu, Chengdu, China
- 14:30 **Coherent Thermal Emission From Circular N-GaN Surface Relief Gratings** **We-PM1-3-6**
 Vytautas Janonis*¹; Evaldas Valasevicius¹; Pawel Prystawko²; Irmantas Kasalynas¹
¹Center for Physical Sciences and Technology, Saulėtekio ave. 3., Vilnius, Lithuania; ²Institute of High Pressure Physics PAS, Ul Sokolowska 29 37, Warsaw, Poland

14:45 **Absorptive Infrared Metasurface On 100 Nm-Thick Dielectric Membrane** We-PM1-3-7

Harumi Asada*; Takehito Suzuki
Tokyo University of Agriculture and Technology, #405 Building 5, 2-24-16
Naka-cho, Koganei-shi, Tokyo, Japan

13:00 - 15:00 THz Microscopy

**International
I**

13:00 **Continuous Carrier-Envelope Phase Control For Terahertz-Driven Scanning Probe Microscopy Of 2D Semiconductors** We-PM1-4-1

Bruno Schuler*¹; Jonas Allerbeck¹; Joel Kuttruff²; Laric Bobzien¹; Lysander Huberich¹; Maxim Tsarev²

¹Empa - Swiss Federal Laboratories for Materials Science and Technology, Ueberlandstrasse 129, Duebendorf, Switzerland; ²University of Konstanz, Universitaetsstrasse 10, Konstanz, Germany

13:15 **Surface Oxidisation Layer Identification Of Indium Nitride Nanoparticles Via S-SNOM** We-PM1-4-2

Xinyun Liu*¹; Rajiv Prinja²; Tom Vincent³; Baset Gholizadeh³; Daniel Johnson³; Nazir Kherani⁴; Jessica Boland³

¹University of Manchester, 2.323 Photon Science Institute, University of Manchester, Manchester, United Kingdom; ²Department of Electrical & Computer Engineering, University of Toronto, Department of Electrical & Computer Engineering, Canada; ³University of Manchester, Photon Science Institute, University of Manchester, Manchester, United Kingdom;

⁴Department of Electrical & Computer Engineering, University of Toronto, Department of Electrical & Computer Engineering, U, Canada

13:30 **Scattering-type Near-Field Optical Microscopy Characterization Of Topological Insulator Bi₂Te₃ Nanowires** We-PM1-4-3

Daniel Johnson*¹; Tom Vincent¹; Xinyun Liu¹; Baset Gholizadeh¹; P. Schöenherr²; Thorsten Hesjedal²; Olga Kazakova³; Nathaniel Huang³; Jessica Boland¹

¹University of Manchester, Photon Science Institute, Alan Turing Building, Manchester, United Kingdom; ²University of Oxford, Clarendon Laboratory, Parks Road, Oxford, United Kingdom; ³National Physical Laboratory, Hampton Road, Teddington, United Kingdom

13:45 **Nanoscale Charge Motion In GaAs Nanobars Studied By Terahertz Spectroscopy** We-PM1-4-4

Hynek Nemeč*¹; Vova Pushkarev²; Tomas Ostatnicky³; Petr Kuzel²

¹Institute of Physics of the Czech Academy of Sciences, Na Slovance 2, Praha,

14:00	<p>Czech Republic; ²Institute of Physics of the Czech Academy of Sciences, Na Slovance 2, Czech Republic; ³Charles University, Faculty of Mathematics and Physics, Ke Karlovu 3, Praha, Czech Republic</p> <p>Charge Carrier Profiling With MIR And THz S-SNOM</p> <p>Cristiane N. Santos*¹; Édouard Lebouvier¹; Benjamin Walter²; Sophie Eliet¹; Nicolas Chevalier³; Jean-Michel Hartmann³; Romain Peretti¹; Marc Faucher¹; Jean-François Lampin¹</p> <p>¹IEMN - CNRS, Avenue Henri Poincaré, Villeneuve d'Ascq, France; ²Vmicro SAS, Avenue Henri Poincaré, Villeneuve d'Ascq, France; ³Univ. Grenoble Alpes, F-38000 Grenoble, MINATEC Campus, F-38054 Grenoble, France</p>	We-PM1-4-5
14:15	<p>Investigating WTe2 Atomic-Scale Defects In K-space Using THz Scanning Tunneling Microscopy</p> <p>Vedran Jelic; Stefanie Adams*; Mohamed Hassan; Trevor Hickie; Tyler L. Cocker</p> <p>Michigan State University, 567 Wilson Rd, East Lansing, United States</p>	We-PM1-4-6
14:30	<p>Multilayer Permittivity And Thickness Extraction In Infrared Scanning Near-field Optical Microscopy Using Deep Learning</p> <p>Dario Siebenkotten*; Clemens Elster; Bernd Kästner</p> <p>Physikalisch-Technische Bundesanstalt, Abbestraße 2-12, Berlin, Germany</p>	We-PM1-4-7
14:45	<p>A General Approach To THz Near-Field Waveform Sampling in A Lightwave-Driven Scanning Tunneling Microscope Junction</p> <p>Vedran Jelic¹; Mohamed Hassan*¹; Stefanie Adams¹; Kaedon Cleland-Host¹; Spencer E. Ammerman²; Tyler L. Cocker¹</p> <p>¹Michigan State University, 567 Wilson Rd, East Lansing, United States; ²Swiss Federal Laboratories for Materials Science and Technology, Ueberlandstrasse 129, 8600, Dubendorf, Switzerland</p>	We-PM1-4-8
13:00 - 15:00	Novel Imaging Techniques II	International II
13:00	<p>Depth Reconstruction For Reference-Free THz Holography Based On Physics-Informed Deep Learning</p> <p>Mingjun Xiang*¹; Hui Yuan²; Lingxiao Wang¹; Kai Zhou¹; Hartmut Roskos²</p> <p>¹Frankfurt Institute for Advanced Studies, Ruth-Moufang-Straße 1, Frankfurt am Main, Germany; ²Goethe-Universität Frankfurt am Main, Ruth-Moufang-Straße 1, Frankfurt am Main, Germany</p>	We-PM1-5-1
13:30	<p>Subsurface Defect Detection And Classification In 3D THz Images Of Glass Fiber Reinforced Thermoplastic Based On 3D Convolutional Neural Network</p> <p>Aya Souliman*; Yashkumar Darji; Matthias Kahl; Michael Möller; Peter Haring Bolívar</p> <p>University of Siegen, Hölderlinstr. 3, Siegen, Germany</p>	We-PM1-5-2

- 13:45 **Ultra-Wideband Terahertz 3D Imaging With Aspherical Telecentric F- θ Optics** **We-PM1-5-3**
 Shiva Mohammadzadeh*¹; Jens Klier¹; Jörg Seewig²; Georg von Freymann¹; Fabian Friederich¹
¹Fraunhofer ITWM, Fraunhofer-Platz 1, Kaiserslautern, Germany; ²Institute for Measurement and Sensor Technology, RPTU Kaiserslautern, Gottlieb-Daimler-Straße, Gebäude 44, Kaiserslautern, Germany
- 14:00 **Digital Holographic Diffraction Tomography Based On Physics-enhanced Deep Neural Network Using Continuous-wave Terahertz** **We-PM1-5-4**
 Jie Zhao*¹; Xiaoyu Jin²; Dayong Wang²; Lu Rong²; Yunxin Wang²; Shufeng Lin²
¹Beijing University of Technology, Ping Leyuan No. 100, Chaoyang District, Beijing, China; ²Beijing University of Technology, Ping Leyuan No. 100, Chaoyang District, China
- 14:15 **Automatic Analysis Of Images From The THz TDS Reflection Scanner** **We-PM1-5-5**
 Norbert Pałka*¹; Kamil Kaminski¹; Marcin Maciejewski¹; Piotr Synaszko²; Krzysztof Dragan³
¹Military University of Technology, 2 Kaliski Str., Warsaw, Poland; ²Air Force Institute of Technology, 6 Książę Bolesław Str., Warsaw, Poland; ³Air Force Institute of Technology, 6 Książę Bolesław Str., Poland
- 14:30 **Two- And Four-step Phase Shifting Methods For Terahertz Holography** **We-PM1-5-6**
 Rusnė Ivaskevičiūtė-Povilauskienė*¹; Linas Minkevičius¹; Domas Jokubauskis¹; Agnieszka Semion²; Gintaras Valusis³
¹Center for Physical Sciences and Technology, Saulėtekio Ave. 3, Vilnius, Lithuania; ²Warsaw University of Technology, 75 Koszykowa, Warsaw, Poland; ³Center for Physical Sciences and Technology, Sauletekio Ave. 3, Vilnius, Lithuania
- 14:45 **SiGe MIMO In-line Imager With 12x64 Elements For Real-time 3D Image Acquisition** **We-PM1-5-7**
 Matthias Kahl*¹; Raphael Hussung²; Andreas Keil²; Esref Turkmen³; Diego Moro-Melgar⁴; Oleg Cojocari⁴; Wojciech Debski³; Fabian Friederich²; Peter Haring Bolivar¹
¹University of Siegen, Hoelderlinstrasse 3, Siegen, Germany; ²Fraunhofer ITWM, Fraunhofer-Platz 1, Kaiserslautern, Germany; ³Silicon Radar GmbH, Im Technologiepark 1, Frankfurt (Oder), Germany; ⁴ACST GmbH, Josef-Bautz-Straße 15, Hanau, Germany

15:30	<p>500 GHz Field-Resolved Detection In Thin-film Lithium Niobate Devices</p> <p>Alessandro Tomasino*¹; Amirhassan Shams-Ansari²; Marko Loncar²; Ileana-Cristina Benea-Chelmus¹</p> <p>¹EPFL, STI IEM HYLAB, Lausanne, Switzerland; ²Harvard School of Engineering and Applied Sciences, Harvard University, Cambridge, United States</p>	We-PM2-1-1
16:00	<p>Spatiotemporal Imaging Of Near-Fields From A Tilted Pulse Front THz Source</p> <p>Annika Gabriel*; Mohamed Othman; Matthias Hoffmann; Emilio Nanni</p> <p>SLAC National Accelerator Laboratory, 2575 Sand Hill Rd., Menlo Park, United States</p>	We-PM2-1-2
16:15	<p>High-intensity THz Pulses Generation In Lithium Niobate Using A Reflective Echelon Scheme</p> <p>Ammar Hideur¹; Anna Martinez*²; Rezki Bechecker³; Léo Guiramand⁴; François Blanchard⁴; Xavier Ropagnol⁴; Said Idlahcen³; Thomas Godin³; Jonathan Houard⁵; Domenico Paparo⁶; Angela Vella⁵</p> <p>¹Université de Rouen Normandy, 675, Avenue de l'Université, Saint Etienne du Rouvray, France; ²Università 'Federico II', Monte S. Angelo, via Cintia, Italy; ³Université de Rouen Normandie, 675, Avenue de l'Université, Saint Etienne du Rouvray, France; ⁴École de technologie supérieure, Québec H3C 1K3, Montréal, Canada; ⁵Université de Rouen Normandie, Avenue de l'Université, Saint Etienne du Rouvray, France; ⁶Università 'Federico II', Monte S. Angelo, via Cintia, Napoli, Italy</p>	We-PM2-1-3
16:30	<p>Scaling Tilted-pulse-front Based THz Setups By Control Of The Spatio-temporally Coupled Pump Pulse Parameters</p> <p>Tobias Kroh¹; Nicholas Matlis*²; Franz Kaertner²</p> <p>¹Deutsches Elektronen-Synchrotron DESY, Notkestr. 85, Hamburg, Germany; ²Deutsches Elektronen-Synchrotron (DESY), Notkestr. 85, Hamburg, Germany</p>	We-PM2-1-4
16:45	<p>Generation Of 208 KV/cm Peak Field At 2.6 THz In GaP</p> <p>Wei Cui*¹; Eeswar Yalavarthi¹; Aswin Vishnu Radhan¹; Mohammad Bashirpour¹; Angela Gamouras²; Jean-Michel Ménard¹</p> <p>¹University of Ottawa, 25 Templeton Street, Ottawa, Canada; ²National Research Council Canada, 1200 Montreal Road, Ottawa, Canada</p>	We-PM2-1-5
17:00	<p>Lithium Niobate Based Single-Cycle THz Source With 643mW Of Average Power</p> <p>Tim Vogel*; Clara J. Saraceno</p> <p>Ruhr-University Bochum, Universitaetsstr. 150, Postbox 17, ID 2, Bochum, Germany</p>	We-PM2-1-6

- 15:30 **Spin-momentum Locking And Ultrafast Spin-charge Conversion In Ultrathin Epitaxial Bi1-xSbx Topological Insulator** **We-PM2-2-1**
 Jean-Marie GEORGE*¹; Enzo RONGIONE²; Laetitia BARINGTHON¹; Diana SHE¹; Gilles PATRIARCHE³; Romain LEBRUN⁴; Aristide LEMAITRE³; Martina MORASSI³; Nicolas REYREN¹; Francois BERTRAN⁵; Sukhdeep DHILLON⁶; Patrick LE FEVRE⁵; Henri JAFFRES¹
¹CNRS, 1 Av Augustin Fresnel, Unite mixte de Physique CNRS Thales, Palaiseau, France; ²Thales, 1 Av Augustin Fresnel, Unite mixte de Physique CNRS Thales, Palaiseau, France; ³CNRS, Université Paris-Saclay, CNRS, C2N, Centre de Nanosciences et de Nanotechnologies, Palaiseau, France; ⁴Thales, 1 Av Augustin Fresnel, France; ⁵Synchrotron Soleil, Synchrotron SOLEIL, L'Orme des Merisiers, Départementale 128, St Aubin, France; ⁶CNRS, ENS, Université PSL, CNRS, Sorbonne Université, Un, 2Laboratoire de Physique de l'Ecole Normale Supérieure, Paris, France
- 16:00 **Enhancement Effect Of A Neodymium Magnet Mount On Terahertz Electromagnetic Waves From The Ultrafast Photocurrent And From Coherent LO Phonon In A GaAs-based Epilayer** **We-PM2-2-2**
 Hideo Takeuchi*¹; Yusuke Sengi²; Shungo Matsuoka²; Kai Matsunaga²
¹Osaka Metropolitan Univesity, 3-3-138 Sugimoto, Sumiyoshi, Osaka, Japan; ²Osaka City Univesity, 3-3-138 Sugimoto, Sumiyoshi, Osaka, Japan
- 16:15 **Coated Spintronic Emitters For Improved THz Time-domain Spectroscopy** **We-PM2-2-3**
 Ford Wagner*¹; Simas Melnikas²; Joel Cramer³; Djamshid Damry¹; Chelsea Xia¹; Kun Peng¹; Gerhard Jakob³; Mathias Kläui³; Simonas Kicas²; Michael Johnston¹
¹University of Oxford, Clarendon Laboratory, Parks Road, Oxford, United Kingdom; ²Center for Physical Sciences and Technology, Savanoriu ave.231, Vilnius, Lithuania; ³Johannes Gutenberg University, Institute of Physics, Mainz, Germany
- 16:30 **Spintronic Terahertz Emitter On A Fiber Tip** **We-PM2-2-4**
 Felix Paries*¹; Nicolas Tiercelin²; Geoffrey Lezier²; Matthias Vanwolleghem²; Maria-Andromachi Systaki³; Gerhard Jakob³; Martin Jourdan³; Mathias Kläui³; Zdenek Kaspar⁴; Tom Seifert⁴; Tobias Kampfrath⁴; Georg von Freymann⁵; Daniel Molter¹
¹Fraunhofer ITWM, Fraunhofer-Platz 1, Kaiserslautern, Germany; ²Université de Lille, CNRS, Centrale Lille, Université de Polytechnique des Hauts-de-France, Av. Henri Poincaré, Lille, France; ³Institut für Physik, Johannes-Gutenberg-Universität Mainz, Staudingerweg 7, Mainz, Germany;

⁴Department of Physics, Freie Universität Berlin, Physikinstitut der FU, Arnimallee 14, Berlin, Germany; ⁵Department of Physics and Research Center OPTIMAS, RPTU Kaiserslautern-Landau, Erwin-Schroedinger-Str. 46, Kaiserslautern, Germany

16:45 **Spintronic Coding Surface For THz Generation And Manipulation** **We-PM2-2-5**

Sai Chen¹; Hanchen Wang²; Jingyu Liu³; Peng Chen⁴; Mingxuan Zhang^{*2}; Xiufeng Han⁴; Caihua Wan⁴; Haiming Yu¹; Yan Zhang³; Xiaojun Wu²

¹Beihang University, Beijing, Beijing, China; ²Beihang University, No.38 Xueyuan Road, Beijing, China; ³Capital Normal University, 105 West Third Ring North Road, Haidian District, Beijing, China; ⁴Institute of Physics, Chinese Academy of Sciences, No. 8, South Third Street, Zhongguancun, Haidian District, Beijing, China

17:00 **Spintronic Inverse Spin Hall Photomixing Beyond 1THz** **We-PM2-2-6**

Pierre Kolejak¹; Geoffrey Lezier¹; Guillaume Ducournau¹; Jean-François Lampin¹; Tiercelin Nicolas¹; Mathias Vanwolleghem^{*2}

¹Institut d'Electronique, de Microélectronique et de Nanotechnologies, Faculté des Sciences et Technologies - Université de LILLE, Avenue Poincaré, Villeneuve d'Ascq, France; ²Institut d'Electronique, de Microélectronique et de Nanotechnologies, Faculté des Sciences et Technologies - Université de LILLE, Avenue Poincaré, Villeneuve d'Ascq, France

17:15 **THz Emission From Exchange-Coupled Fe/Ru/Ni Spintronic Emitters** **We-PM2-2-7**

Roman Adam^{*1}; Christian Greb²; Daniel Bürgler³; Derang Cao⁴; Sarah Heidtfeld⁵; Fangzhou Wang⁵; Jing Cheng⁶; Debamitra Chakraborty⁶; Ivan Komissarov⁶; Hilde Hardtdegen⁵; Martin Mikulics⁵; Markus Buscher⁵; Claus Michael Schneider⁵; Roman Sobolewski⁶

¹Research Centre Julich, Wilhelm-Johnen-Straße, Juelich, Germany; ²Research Centre Juelich, Wilhelm-Johnen-Straße, Germany; ³Research Centre Julich, Wilhelm-Johnen-Straße, Julich, Germany; ⁴Qingdao University, Qingdao, China; ⁵Research Centre Julich, Wilhelm-Johnen-Straße, Germany; ⁶University of Rochester, Rochester, United States

15:30 - 17:30 Metasurfaces & Plasmonics II **Cartier II**

15:30 **Light-matter Coupling Between Organic Molecules And A THz Metasurface** **We-PM2-3-1**

Ahmed Jaber^{*1}; Michael Reitz²; Avinash Singh³; Ali Maleki¹; Yongbao Xin⁴; Brian Sullivan⁴; Ksenia Dolgaleva¹; Robert Boyd¹; Claudiu Genes²; Jean-Michel Ménard¹

¹University of Ottawa, 75 Laurier Ave E, Ottawa, Canada; ²Max Planck Institute for the Science of Light, Staudtstraße 2, 91058, Erlangen, Germany;

³University of Ottawa, 75 Laurier Ave E, Canada; ⁴Iridian Spectral Technologies Ltd, 2700 Swansea Crescent, Ottawa, Canada

16:00

Simultaneous Terahertz Generation-manipulation By Nonlinear Metasurfaces

We-PM2-3-2

Yongchang Lu¹; Qingwei Wang¹; Xi Feng¹; Li Niu¹; Xueqian Zhang¹; Quan Xu¹; Yanfeng Li¹; Jianqiang Gu¹; Chunmei Ouyang¹; Zhen Tian¹; Weili Zhang²; Jianguang Han*³

¹Tianjin University, Weijin Road 92#, China; ²Oklahoma State University, Stillwater 74078, United States; ³Tianjin University, Weijin Road 92#, Tianjin, China

16:15

Generating Terahertz Perfect Vortex Beam Via All-dielectric Metasurface

We-PM2-3-3

Fan Huang*¹; Wanying Liu¹; Jianqiang Gu¹; Quan Xu¹; Quanlong Yang²

¹Center for Terahertz Waves and College of Precision Instrument and Optoelectronics Engineering, Tian, No.92 Weijin Road, Nankai District, Tianjin, China, Tianjin, China; ²School of Physics and Electronics, Central South University, South Lushan Road, Changsha, Hunan, Changsha, China

16:30

Broadband THz Bandpass Filters Based On Multi-layered Metasurfaces

We-PM2-3-4

Ali Maleki*¹; Avinash Singh²; Ahmed Jaber²; Wei Cui²; Yongbao Xin³; Brian Sullivan³; Robert W. Boyd²; Jean-Michel Menard¹

¹University of Ottawa, 25 Templeton St, Ottawa, Canada; ²University of Ottawa, 25 Templeton St, Canada; ³Iridian Spectral Technologies Ltd, 25 Templeton St, Canada

16:45

Polarization Selective Dual Frequency Metasurface-based Resonant Thermal Terahertz Emitters On N-GaAs/GaAs

We-PM2-3-5

Ignas Grigelionis*¹; Vladislovas Cizas¹; Kestutis Ikamas²; Vytautas Jakstas¹; Barbora Skelaite²; Domas Jokubauskis¹; Andrius Biciunas¹; Andrzej Urbanowicz¹; Marius Treideris¹; Renata Butkute¹; Linas Minkevicius¹

¹Center for Physical Sciences and Technology, Sauletekio ave. 3, Vilnius, Lithuania; ²Vilnius University, Sauletekio ave. 3, Vilnius, Lithuania

17:00

Electrically Tunable THz Metasurfaces Enabling Near-Unity Modulation Depth

We-PM2-3-6

Hou-Tong Chen*¹; Chun-Chieh Chang¹; Hichem Guerboukha²; Daniel Mittleman²; John Reno³; Michael Lilly³; Sathvikas Addamane³

¹Los Alamos National Laboratory, PO Box 1663, MS K771, Los Alamos, United States; ²Brown University, School of Engineering, Providence, United States; ³Sandia National Laboratories, Center for Integrated Nanotechnologies, Albuquerque, United States

Manipulation Of Terahertz Waves With A Right- Or Left-handed

17:15	Metasurface For Directivity Enhancement Keita Mochizuki*; Harumi Asada; Takehito Suzuki Tokyo University of Agriculture and Technology, #405 Building 5, 2-24-16, Naka-cho, Koganei-shi, Tokyo, Japan	We-PM2-3-7
15:30 - 17:30	Integrated Technologies 1	International I
15:30	Single-Mode Rib Waveguide For The Terahertz Range Using 3D Printed Alumina Harrison Lees* ¹ ; Masoud Sakaki ² ; Daniel Headland ³ ; Niels Benson ⁴ ; Jan Balzer ⁴ ; Withawat Withayachumnankul ¹ ¹ The University of Adelaide, The University of Adelaide, Adelaide, Australia; ² University of Duisburg-Essen, University of Duisburg-Essen, Duisburg, Germany; ³ Universidad Carlos III de Madrid, Universidad Carlos III de Madrid, Spain; ⁴ University of Duisburg-Essen, University of Duisburg-Essen, Germany	We-PM2-4-1
16:00	Characterization Of Flexible Micro Coaxial Cables In The WR03 Band Benedikt Sievert*; Daniel Erni; Andreas Rennings University of Duisburg-Essen, General and Theoretical Electrical Engineering, Bismarckstraße 81, Duisburg, Germany	We-PM2-4-2
16:15	0.75–1.1THz Waveguide-Integrated Amplitude Modulator Based On InAs Photo-excitation Julien Guise ¹ ; Hajaso Ratovo ¹ ; Monique Thual ² ; Jeffrey Hesler ³ ; Theodore Reck ³ ; Emmanuel Centeno ⁴ ; Jean-Baptiste Rodriguez ¹ ; Laurent Cerutti ¹ ; Fernando Gonzalez-Posada ¹ ; Thierry Taliercio ¹ ; Stéphane Blin* ¹ ¹ IES, Univ Montpellier, CNRS, 860 rue St Priest, CC 05005, Montpellier, France; ² Institut Foton, Univ Rennes, CNRS, 6 rue Kerampont, Lannion, France; ³ VDI Inc, 979 Second street, S.E. Suite 309, Charlottesville, United States; ⁴ Institut Pascal, Univ Clermont-Auvergne, CNRS, Campus Universitaire des Cézeaux, Aubière, France	We-PM2-4-3
16:30	Frequency-dependent Resolution Using Asymmetric Terajet Microscopy Alesia Paddubskaya ¹ ; Nadzeya Valynets ¹ ; Andrey Novitsky ² ; Yanfeng Li* ³ ; Jiaguang Han ³ ; Oleg Minin ⁴ ; Igor Minin ⁴ ¹ Institute for Nuclear Problems of Belarusian State University, Bobruiskaya str. 11, 220006 Minsk, Belarus; ² Belarusian State University, Nezavisimosti av.4, 220030 Minsk, Belarus; ³ Tianjin University, Weijin Road 92, Nankai District, Tianjin, China; ⁴ Tomsk Polytechnic University, Lenina Ave. 30, 634050 Tomsk, Russian Federation	We-PM2-4-4
16:45	Photonic Integrated Phase Control For Continuous Wave Terahertz Spectroscopy	We-PM2-4-5

Lauri Schwenson*; Simon Nellen; Lars Liebermeister; Milan Deumer;
Sebastian Lauck; Martin Schell; Robert Kohlhaas
Fraunhofer Heinrich-Hertz-Institute, Einsteinufer 37, Berlin, Germany

17:00 **Improving The Performance Of THz Delivery From A Quantum Cascade Laser Within A Dry 3He Dilution Refrigerator** **We-PM2-4-6**

Matthew Vaughan*¹; Wladislaw Michailow²; Matthew Tan²; Mohammed Salih¹; Lianhe Li¹; Harvey Beere²; David Ritchie²; Edmund Linfield¹; Giles Davies¹; John Cunningham¹

¹University of Leeds, Woodhouse, Leeds, United Kingdom; ²Cavendish Laboratory, Cavendish Laboratory, Cambridge, United Kingdom

17:15 **Thickness And Refractive Index Calculation Of Contact Lenses Over Time Using Terahertz Imaging And Optical Coherence Tomography** **We-PM2-4-7**

Stephy Vijaya Kumar Jayasree*¹; Antony J. Fitzgerald¹; Barry Cense²; Gavin Swartz³; Vincent Wallace¹

¹Department of Physics, The University of Western Australia, 35 Stirling Hwy., Crawley, Perth, Australia; ²EECE, The University of Western Australia, 35 Stirling Hwy., Crawley, Perth, Australia; ³Division of Optometry, School of Allied Health, The University of Western Australia, 35 Stirling Hwy., Crawley, Perth, Australia

15:30 - 17:30 Non-Destructive Testing I **International II**

15:30 **Ancient Enamel Plate Characterized By Time Domain Spectro Imaging** **We-PM2-5-1**

Patrick Patrick Mounaix*¹; Philip Taday²; Frederic Fauquet³; Rémy Chapoulié⁴; Aurélie Mounier⁵; Ayed Ben Amara⁶

¹University of Bordeaux, 351 cours de la Libération cedex, Talence, France; ²Teraview Ltd, Cambridge, CB4 0DS, UK, United Kingdom; ³Bordeaux University, 2Laboratoire IMS- UMR 5218 CNRS, Université Bordea, France; ⁴Montaigne University, 3Archéosciences Bordeaux : Matériaux, Temps, Image, France; ⁵Montaigne University, Archéosciences Bordeaux : Matériaux, Temps, Image, France; ⁶Montaigne University, archéosciences Bordeaux : Matériaux, Temps, Image, France

15:45 **Terahertz FMCW Synthetic Aperture Imaging Based On RSMA For Nondestructive Testing** **We-PM2-5-2**

Zhen Ding; Jiajia Qian; Jun Zhou*; Luyang Liu; Xiuxiu Yang; Qianfei Wang; Yaxin Zhang
Yangtze Delta Region Institute (Huzhou), UESTC, No. 819, Xisaishan Road, Huzhou, Huzhou, China

16:00 **Free-space Terahertz Spectrum Analysis With An Optoelectronic Hybrid** **We-PM2-5-3**

System

Alexander Theis*; Michael Kocybik; Georg von Freymann; Fabian Friederich
Fraunhofer ITWM, Fraunhofer-Platz 1, Kaiserslautern, Germany

16:15 **Sub-Diffraction-Limit Mm-Wave Near-Field Imaging Using Truncated Silicon Rod** **We-PM2-5-4**

Yuma Kawamoto*¹; Daniel Gallego²; Alejandro Rivera-Lavado²; Tadao Nagatsuma¹; Daniel Headland³; Guillermo Carpintero³

¹Osaka University, 1-3 Machikaneyama, Toyonaka, Japan; ²LeapWave Technologies, Parque Tecnológico, Av. Gregorio Peces Barba, 1, Leganes, Spain; ³Universidad Carlos III de Madrid, Av. de la Universidad, 30, Leganes, Spain

16:30 **THz Signal Identification For Intelligent Characterization Under High-resolution Mode Based On The Pelee-ECA Network** **We-PM2-5-5**

Xingyu Wang*; Yafei Xu; Yuqing Cui; Liuyang Zhang
Xi'an Jiaotong University, No. 28 Xianning West Rd, Xi'an, Xi'an, ShaanXi, China, China

16:45 **Electric Potential Mapping Measurement For All-Solid-State Lithium-Ion Batteries Using A Terahertz Chemical Microscope** **We-PM2-5-6**

Taketo Yamaguchi*; Yusei Hosokawa; Ryota Tomie; Takumi Higuchi; Takashi Teranishi; Jin Wang; Kenji Sakai; Toshihiko Kiwa
Okayama University, 3-1-1 Tsushimanaka Kitaku, Okayama, Japan

17:00 **Carbon Nanotube-based Transparent Stretchable Millimeter-wave--infrared Imager** **We-PM2-5-7**

HONGHAO LI*¹; Norika Takahashi²; Yoshiaki Togami²; Masayuki Hamanaka²; Kou LI²; Yukio Kawano²

¹Chuo University, 1-13-27, Kasuga, Bunkyo-ku, Japan; ²Chuo university, 1-13-27, Kasuga, Bunkyo-ku, Japan

17:15 **THz-TDS With A GHz Single-cavity Dual-comb Laser** **We-PM2-5-8**

Justinas Pupeikis*¹; Benjamin Willenberg²; Christopher Phillips²; Sandro Camenzind²; Ursula Keller²; Robert Kohlhaas³; Lars Liebermeister³; Bjorn Globisch³

¹ETH Zurich, Auguste-Piccard-Hof 1, Zurich, Switzerland; ²ETH Zurich, Auguste-Piccard-Hof 1, Switzerland; ³Fraunhofer Institute for Telecommunications, Einsteinufer 37, Germany

21 September 2023

08:30 - 09:15 **Plenary Session 7**

**Symposia
Theatre**

Electrodynamics Of Solids: Low-Energy Spectroscopy Of Correlated

08:30	Electrons	Th-PL-1-1
	Martin Dressel* Universität Stuttgart, 1. Physikalisches Institut, Pfaffenwaldring 57, Stuttgart, Germany	
09:15 - 10:00	Plenary Session 8	Symposia Theatre
09:15	THz Communications On The Way Towards Its Application On 6G Thomas Kuerner* Technische Universitaet Braunschweig, Schleinitzsr. 22, Braunschweig, Germany	Th-PL-2-1
10:30 - 12:00	Advanced THz Sources II	Symposia Theatre
10:30	Fundamental Balanced Mixer Module For 300-GHz Band Based On Fermi-Level Managed Barrier Diode On SiC Platform Hiroshi Ito* ¹ ; Yuma Kawamoto ² ; Takahiro Ohara ² ; Tadao Nagatsuma ² ; Tadao Ishibashi ³ ¹ The University of Tokyo, 7-3-1 Hongo, Bunkyo-ku, Tokyo, Japan; ² Osaka University, Toyonaka, Osaka, Japan; ³ Wavepackets LLC, Naka-gun, Kanagawa, Japan	Th-AM-1-1
10:45	Power Combined Amplifiers For Terahertz Varactor Sources Theodore Reck*; Eric Bryerton; Jeffrey Hesler Virginia Diodes, 979 Second Street, Charlottesville, United States	Th-AM-1-2
11:00	Design And Optimization Of A High-Power Terahertz Doubler Based On Dual-Chip GaAs Monolithic Technology. Hongji Zhou* ¹ ; Shixiong Liang ² ; Yazhou Dong ³ ; Hailong Guo ³ ; Jianghua Yu ³ ; Jun Zhou ³ ; Jingrui Liang ³ ; Yaxin Zhang ³ ¹ Huzhou Key Laboratory of Terahertz Integrated Circuits and Systems, Yangtze Delta Region Institute (, Yangtze Delta Region Institute (Huzhou), University of Electronic Science and Technology of China, H, Qingshuihe Campus of UESTC, No.2006, Xiyuan Avenue, West Hi-tech Zone, Chengdu, Sichuan, P.R.China, Huzhou, China; ² National Key Laboratory of Solid-State Microwave Devices and Circuits, Hebei Semiconductor Research, National Key Laboratory of Solid-State Microwave D, National Key Laboratory of Solid-State Microwave Devices and Circuits, Hebei Semiconductor Research, Shijiazhuang, China; ³ Huzhou Key Laboratory of Terahertz Integrated Circuits and Systems, Yangtze Delta Region Institute (, Huzhou Key Laboratory of	Th-AM-1-3

11:15	<p>Terahertz Integrated Circ, Huzhou, China</p> <p>Monolithically Integrated Optically Pumped InP-based THz-Mixer</p> <p>Marcel Grzeslo*¹; Andrej Lavrič²; Tim Brüning¹; Jonas Tebart¹; Shuya Iwamatsu¹; Jose Luis Fernández Estévez¹; Andreas Stöhr¹</p> <p>¹University of Duisburg-Essen, Lotharstraße 55, Duisburg, Germany;</p> <p>²University of Ljubljana, Trzaska cesta 25, Ljubljana, Slovenia</p>	Th-AM-1-4
11:30	<p>Terahertz Wave Generated By Photomixing Of Dual-wavelength Laser Lights Injection-locked To A 560-GHz-spacing Soliton Microcomb For THz Wireless Communication</p> <p>Yu Tokizane*¹; Shota Okada²; Kenji Nishimoto²; Hiroki Kishikawa²; Yasuhiro Okamura²; Naoya Kuse²; Atsushi Kanno³; Shintaro Hisatake⁴; Takeshi Yasui²</p> <p>¹Tokushima University, 2-1, Minami-Josanjima-cho, Tokushima, Japan;</p> <p>²Tokushima University, Tokushima, Japan; ³Nagoya Institute of Technology, Aichi, Japan; ⁴Gifu University, Gifu, Japan</p>	Th-AM-1-5
11:45	<p>Fiber-coupled THz Transceiver Based On Rhodium-doped InGaAs With 6.5 THz Bandwidth And Up To 106 μW Emitted THz Power</p> <p>Alexander Dohms*; Steffen Breuer; Shahram Keyvaninia; Marko Gruner; Lars Liebermeister; Martin Schell; Robert Kohlhaas</p> <p>Fraunhofer Heinrich Hertz Institute, Einsteinufer 37, Berlin, Germany</p>	Th-AM-1-6
10:30 - 12:00	Ultrafast & Nonlinear Phenomena II	Cartier I
10:30	<p>Bloch Wavefunction Interferometry Of Driven Electron-Hole States</p> <p>Seamus O'Hara*¹; Joseph Costello²; Qile Wu³; Kenneth West⁴; Loren Pfeiffer⁴; Mark S. Sherwin⁵</p> <p>¹University of California, Santa Barbara, 717 Gayley Walk Apt 101, Goleta, United States; ²University of California, Santa Barbara, Broida Hall, Santa Barbara, United States; ³University of California, Santa Barbara, Broida Hall, United States; ⁴Princeton University, B404 Engineering Quad, United States; ⁵University of California, Santa Barbara, Broida Hall, Santa Barbara, United States</p>	Th-AM-2-1
11:00	<p>Ultrafast Expansion Of Electron-hole Plasma In GaAs Probed By THz Radiation</p> <p>Tomas Ostatnický*¹; Filip Klimovič¹; Tinkara Troha²; Filip Kadlec²; Petr Kuzel²; Hynek Němec²</p> <p>¹Charles University, Faculty of Mathematics and Physics, Ke Karlovu 3, Praha 2, Czech Republic; ²Institute of Physics ASCR, Na Slovance 2, Praha 8, Czech Republic</p>	Th-AM-2-2

11:15	<p>Ultrafast Optical Pump-probe Of Magnetic Kagome Metals Marcos Vinicius Goncalves Faria*; Ece Uykur; Stephan Winnerl; Oleksiy Pashkin; Manfred Helm Helmholtz-Zentrum Dresden-Rossendorf, Bautzner Landstraße 400, Dresden, Germany</p>	Th-AM-2-3
11:30	<p>Attoclocking Delocalized Bloch Electrons With Multi-terahertz Fields Josef Freudenstein*¹; Markus Borsch²; Manuel Meierhofer¹; Dmytro Afanasiev¹; Christoph Peter Schmid¹; Fabian Sandner¹; Marlene Liebich¹; Anna Girnghuber¹; Matthias Knorr¹; Mackillo Kira²; Rupert Huber¹ ¹University of Regensburg, Universitätsstraße 31, Regensburg, Germany; ²University of Michigan, 1301 Beal Avenue, Ann Arbor, United States</p>	Th-AM-2-4
11:45	<p>Ultrafast Dynamics Of Coulomb Electric Field Contraction by Relativistic Electron Bunch MAKOTO NAKAJIMA*¹; Masato Ota¹; Koichi Kan²; Youwei Wang¹; Verdad C Agulto¹; Kosaku Kato¹; Yasunobu Arikawa¹; Tatsunosuke Matsui³; Makoto Asakawa⁴ ¹Osaka university, 2-6 Yamadaoka, Suita, Japan; ²Osaka university, Ibaraki, Ibaraki, Japan; ³Mie University, Mie, Japan; ⁴Kansai University, Suita, Japan</p>	Th-AM-2-5
10:30 - 12:00	Condensed Matter & Semimetals	Cartier II
10:30	<p>Investigation Of Terahertz Tunable High Q-factor BIC Resonance Xiaoyong He* Shanghai Normal University, , No. 100 Guilin Road, Shanghai, China, Shanghai, China</p>	Th-AM-3-1
10:45	<p>Electrical Properties Of Thin Layers Of III/V Semiconductors Obtained By Terahertz Reflectometry And Transmissometry Konstantin Wenzel*¹; Steffen Breuer¹; Robert B. Kohlhaas¹; Martin Schell²; Lars Liebermeister² ¹Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute, Einsteinufer 37, Berlin, Germany; ²Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute, Einsteinufer 37, Hardenbergstraße 36, 10623 Berlin, Berlin, Germany</p>	Th-AM-3-2
11:00	<p>Strong Proton-Phonon Coupling In Perovskite-type Electrolyte Of Proton-Conducting Fuel Cell Masaya Nagai*¹; Hikaru Takehara¹; Masaaki Ashida¹; Yuji Okuyama²; Yukimune Kani³ ¹Osaka University, Machikaneyama 1-3, Toyonaka, Japan; ²University of Miyazaki, 1-1 Gakuenkibanadai-nishi, Miyazaki, Japan; ³Panasonic Holdings Corporation, 3-1-1 Yagumo-nakamachi, Moriguchi, Japan</p>	Th-AM-3-3

11:15	<p>Terahertz Spectroscopic Study Of Vibrational Density Of States In LiCl-6H₂O</p> <p>Soo Han Oh*¹; Dan Kyotani¹; Yasuhiro Fujii²; Suguru Kitani³; Yohei Yamamoto¹; Tatsuya Mori¹</p> <p>¹Department of Materials Science, University of Tsukuba, 1-1-1 Tennodai, Tsukuba, Ibaraki, Japan; ²Department of Physical Sciences, Ritsumeikan University, 1-1-1 Noji-higashi, Kusatsu, Shiga, Japan; ³Laboratory for Materials and Structures, Tokyo Institute of Technology, 4259 Nagatsuta-cho, Midori-ku,, Yokohama, Kanagawa, Japan</p>	Th-AM-3-4
11:30	<p>Charge-Carrier Dynamics In Mixed Lead-Tin 2D/3D Metal Halide Perovskites</p> <p>Jake Hutchinson¹; Edoardo Ruggeri²; Samuel Stranks²; Rebecca Milot*³</p> <p>¹University of Warwick, Department of Physics, Gibbet Hill Road, United Kingdom; ²University of Cambridge, Cambridge, United Kingdom; ³University of Warwick, Department of Physics, Gibbet Hill Road, Coventry, United Kingdom</p>	Th-AM-3-5
11:45	<p>Tailoring Ultrafast Carrier Dynamics In GeS And GeSe Via Cu Intercalation</p> <p>Sepideh Khanmohammadi¹; Kateryna Kushnir Friedman*¹; Catherine Tran²; Srihari Kastuar³; Erika Colin-Ulloa¹; Chinedu Ekuma⁴; Kristie Koski⁵; Lyubov Titova¹</p> <p>¹Worcester Polytechnic Institute, 100 Institute Rd, Worcester, United States; ²University of California Davis, 1 Shields Ave, Davis, United States; ³Lehigh University, 27 Memorial Dr W, Bethlehem, United States; ⁴Lehigh university, 27 Memorial Dr W, Bethlehem, United States; ⁵UC Davis, 1 Shields Ave, Davis, United States</p>	Th-AM-3-6
10:30 - 12:00	Integrated Technologies 2	International I
10:30	<p>Terahertz Meta-chips And High-speed Communication Systems</p> <p>Hongxin Zeng*; Yaxin Zhang; Sen Gong; Lin Huang; Ziqiang Yang</p> <p>UESTC: University of Electronic Science and Technology of China, UESTC: University of Electronic Science and Technology of China, No. 2006, Xiyuan Avenue, High-tech Zone (West Zone), Chengdu, Chengdu, China</p>	Th-AM-4-1
11:00	<p>Quasi-Optical LO Coupling Validation For A Planarly Integrated 2x2 Pixel Heterodyne Array At 1.95 THz</p> <p>Sven van Berkel*¹; Alain Maestrini¹; Cecile Jung-Kubiak¹; Sjoerd Bosma²; Maria Alonso-delPino²; Darren Hayton¹; Jacob Kooi¹; Jose Siles¹; Nuria Llombart²; Imran Mehdi¹; Goutam Chattopadhyay¹</p>	Th-AM-4-2

¹NASA Jet Propulsion Laboratory / California Institute of Technology, 4800 Oak Grove Drive, Pasadena, United States; ²Delft University of Technology, Mekelweg 4, Delft, Netherlands

11:15 **Full-Duplex Beamforming In The Sub-Terahertz Regime** **Th-AM-4-3**

Subhajit Karmakar*¹; Atsutse Kludze²; Jacques Doumani³; Andrey Baydin³; Junichiro Kono⁴; Yasaman Ghasempour⁵

¹Princeton University, Department of Electrical and Computer Engineering, Princeton University, Princeton NJ 08544, USA, Princeton, United States;

²Princeton University, Department of Electrical and Computer Engineering,, Princeton, United States; ³Rice University, Department of Electrical and Computer Engineering, Houston, United States; ⁴Rice University, Department of Electrical and Computer Engineering, Department of Physics and Astronomy, Houston, United States; ⁵Princeton University, Department of Electrical and Computer Engineering, Princeton, United States

11:30 **Packaging Technology For The Realization Of Tx And Rx Modules Based On RTD Devices** **Th-AM-4-4**

Christian Preuss*¹; Simone Clochiatti¹; Robin Kress¹; Enes Mutlu¹; Florian Vogelsang²; Werner Prost¹; Nils Pohl²; Nils Weimann¹

¹University of Duisburg-Essen, Lotharstrasse 55, Duisburg, Germany;

²University of Bochum, Universitätsstraße 150, Bochum, Germany

11:45 **Modeling, Fabrication And RF Performance Of A W-Band Breadboard Optical Model For LiteBIRD MHFT** **Th-AM-4-5**

Abdallah Chahadih*¹; Cristian Franceschet²; Bruno Maffei³; Marco De Petris⁴; Luca Lamagna⁴; Jon Gudmundsson⁵; Marco Bersanelli²

¹Institut d'astrophysique spatiale, 121 Rue Jean Teillac, Bures sur Yvette, France; ²Dipartimento di Fisica, Università degli Studi di Milano & INFN, Via Giovanni Celoria 16 - 20133 Milano (Lombardia), Italy; ³Institut

d'astrophysique spatiale, 121 Rue Jean Teillac, 91440 Bures-sur-Yvette, France;

⁴Dipartimento di Fisica, Università La Sapienza & INFN, Piazzale Aldo Moro, 2 - 00185 Roma, Italy; ⁵The Oskar Klein Centre, Department of Physics, Stockholm University, SE-106 91 Stockholm, Sweden, Sweden

10:30 - 12:00 **Non-Destructive Testing II** **International II**

10:30 **Scattering Measurements With A Moving Human At 60 And 300 GHz** **Th-AM-5-1**

Tobias Doeker*¹; Daniel Mittleman²; Thomas Kürner¹

¹Technische Universität Braunschweig, Schleinitzstr. 22, Braunschweig, Germany; ²Brown University, Box D, Providence, United States

Evaluation Of Small Bolt And Nut Detection Performance Using Airport

10:45	Runway Foreign Object Debris Detection System Based On A 96-GHz Millimeter-Wave Radar System Shunichi Futatsumori* ¹ ; Naruto Yonemoto ¹ ; Noriaki Hiraga ¹ ; Nobuhiko Shibagaki ² ; Yosuke Sato ² ; Kenichi Kashima ² ¹ Electronic Navigation Research Institute, National Institute of Maritime, Port and Aviation Technolo, 7-42-23, Jindaiji-higashi, Chofu, Chofu, Japan; ² Hitachi Kokusai Electric Inc., Minato-ku, Tokyo, Japan	Th-AM-5-2
11:00	CW-THz System For High Scan Rate Inline Thickness Measurements Niklas Schulz*; Carsten Brenner; Lisa C. Kreuzer; Nils Surkamp; Martin R. Hofmann Ruhr University Bochum, Universitätsstr. 150, Bochum, Germany	Th-AM-5-3
11:15	Influence Of Surface Roughness On Material Classification For Reflective THz-TDS Measurements Sebastian Gassel*; Martin R. Hofmann; Carsten Brenner Ruhr University Bochum, Universitätsstrasse 150, Bochum, Germany	Th-AM-5-4
11:30	Bound States In The Continuum Enabled THz Dielectric Metasurface For High Sensitivity Refractive-Index Sensing Marie Georgiades* ¹ ; James Seddon ² ; Cyril Renaud ¹ ¹ University College London, Torrington Place, London, United Kingdom; ² University College London, Torrington Place, Torrington Place, London, United Kingdom	Th-AM-5-5
11:45	Probing Live PN Junctions With Terahertz Waves Bryce Chung* ¹ ; Harrison Lees ¹ ; Chitchanok Chuengsatiansup ² ; Withawat Withayachumnankul ¹ ¹ The University of Adelaide, North Terrace, Adelaide, Australia; ² The University of Melbourne, Parkville, Melbourne, Australia	Th-AM-5-6

13:00 - 15:00	High Field THz Generation III	Symposia Theatre
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13:00	GW-TW Terahertz Radiation From Ultraintense Laser-plasma Interactions Guoqian Liao*; Hongyi Lei; Fangzheng Sun; Yutong Li Institute of Physics, Chinese Academy of Sciences, P.O. Box 603, Beijing, China	Th-PM1-1-1
13:30	Measuring The Electro-optic Response Of Quartz For Accurate Sampling Of Intense THz Fields Maximilian Frenzel*; Leona Nest; Joanna M. Urban; Michael S. Spencer; Sebastian F. Maehrlein Fritz-Haber-Institute of the Max-Planck-Society, Faradayweg 4-6, Berlin, Germany	Th-PM1-1-2
	Frequency-resolved Measurement Of Two-color Air Plasma Terahertz	

13:45	<p>Emission</p> <p>Emmanuel Abraham*¹; Eiji Hase²; Jérôme Degert¹; Eric Freysz¹; Takeshi Yasui³</p> <p>¹Bordeaux University, 351 cours de la Libération, Talence, France; ²Tokushima University, 2-1 Minami-Josanjima, Tokushima, Japan; ³Tokushima University, 2-1 Minami-Josanjima, Tokushima, Japan</p>	Th-PM1-1-3
14:00	<p>Evaluation Of Methods For Measuring The Field Of An Intense THz Pulse</p> <p>xavier ropagnol*¹; Carlos Miguel Garcia Rosas²; Hirohisa Uchida³; François Blanchard⁴; Tsuneyuki Ozaki²</p> <p>¹INRS-EMT, 1650 boulevard lionel boulet, Montreal, Canada; ²INRS, 1650 boulevard lionel boulet, 1650 boulevard lionel boulet, Varennes, Canada; ³Arkray INC, Kamigyo-Ku., Kyoto, Japan; ⁴ÉTS, 1100 rue notre dame, Montreal, Canada</p>	Th-PM1-1-4
14:15	<p>DC Electric Field Assisted Precise Control Of THz Radiation From Femtosecond Laser Plasma Filament In Air</p> <p>Tie-Jun Wang*¹; Juan Long²; Yuxin Leng²; Ruxin Li²; See Leang Chin³</p> <p>¹Chinese Academy of Sciences, No. 390 Qinghe Road, Jiading District, Shanghai, China; ²Chinese Academy of Sciences, No. 390 Qinghe Road, Jiading District, China; ³Laval University, 2375 rue de la Terrasse, Canada</p>	Th-PM1-1-5
14:30	<p>Single-shot Waveform Detection Of Air-plasma Based THz Sources</p> <p>Alexander Ohrt; Siyan Zhou; Long Cheng; Yunhong Ding; Peter Uhd Jepsen; Binbin Zhou*</p> <p>Department of Electrical and Photonics Engineering, Technical University of Denmark, Ørsteds Plads, Building 343, Kgs. Lyngby, Denmark</p>	Th-PM1-1-6
14:45	<p>High-repetition-rate, High-average-power Mid-infrared Optical Parametric Oscillator Based On BaGa4Se7 Pumped By A 1064 Nm Master-oscillator Power-amplifier Laser System</p> <p>Yue Sun*¹; Kai Chen¹; Kai Zhong¹; Degang Xu²; Chao Yan¹; Shuai Liu¹; Yuye Wang¹; Jining Li¹; Jiyong Yao³; Jianquan Yao¹</p> <p>¹School of Precision Instruments and Optoelectronics Engineering, Tianjin University, Tianjin, China, Tianjin, China; ²School of Precision Instruments and Optoelectronics Engineering, Tianjin University, Tianjin, China, Tianjin, China; ³Beijing Center for Crystal Research and Development, Chinese Academy of Sciences, Beijing, China</p>	Th-PM1-1-7

13:00 - 15:00	Gyro-Oscillators and Amplifiers I	Cartier I
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13:00	<p>Progress In High Power Gyrotron Development Projects At KIT</p> <p>Gerd Gantenbein*¹; Konstantinos Avramidis²; Benjamin Ell¹; Lena Delpech³; Lukas Feuerstein¹; Stefan Illy¹; John Jelonnek¹; Jianbo Jin¹; Laurent Krier¹;</p>	Th-PM1-2-1
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Heinrich Laqua⁴; Tobias Ruess¹; Tomasz Rzesnicki¹; Sebastian Stanculovic¹;
Manfred Thumm¹

¹Karlsruhe Institute of Technology, Kaiserstrasse 12, Karlsruhe, Germany;

²National and Kapodistrian University of Athens, Zografou GR-15784, Athens, Greece; ³CEA, Cedex, Saint-Paul-lez-Durance, France; ⁴Max Planck Institute for Plasma Physics, Wendelsteinstrasse 1, Greifswald, Germany

13:15 **Study Of 136/170 GHz Dual-Frequency Operation Based On The KIT 2 MW 170 GHz Coaxial-Cavity Pre-Prototype Gyrotron** Th-PM1-2-2

Tobias Ruess*; Gerd Gantenbein; Stefan Illy; Jianbo Jin; Tomasz Rzesnicki; Sebastian Stanculovic; Manfred Thumm; John Jelonnek
Karlsruhe Institute of Technology, Hermann-von-Helmholtz-Platz 1, Eggenstein-Leopoldshafen, Germany

13:30 **Progress In The Design Of Megawatt-Class Fusion Gyrotrons Operating At The Second Harmonic Of The Cyclotron Frequency** Th-PM1-2-3

Stefan Illy*¹; Konstantinos Avramidis²; Ioannis Chelis²; Benjamin Ell¹; Lukas Feuerstein¹; Gerd Gantenbein¹; Zisis Ioannidis³; John Jelonnek¹; Jianbo Jin¹; George Latsas²; Alexander Marek¹; Dimitrios Peponis²; Tomasz Rzesnicki¹; Manfred Thumm¹; Ioannis Tigelis²; Chuanren Wu¹

¹Karlsruhe Institute of Technology (KIT), Kaiserstr. 12, Karlsruhe, Germany; ²National and Kapodistrian University of Athens (NKUA), University Campus, Athens, Greece; ³National and Kapodistrian University of Athens (NKUA), Euripou Campus, Psachna, Greece

13:45 **Parasitic-modes Free, High-performance Operation Of The European 1 MW, 170 GHz Short-Pulse Prototype Gyrotron For ITER** Th-PM1-2-4

Tomasz Rzesnicki*¹; Konstantinos Avramidis²; Ioannis Chelis²; Gerd Gantenbein¹; Lukas Feuerstein¹; Stefan Illy¹; John Jelonnek¹; Jianbo Jin¹; Alberto Leggieri³; Francois Legrand³; Christophe Lievin³; Alexander Marek¹; Tobias Ruess¹; Sebastian Stanculovic¹; Manfred Thumm¹

¹Karlsruhe Institute of Technology (KIT), Kaiserstr. 12, Karlsruhe, Germany; ²National and Kapodistrian University of Athens (NKUA), University Campus, Athens, Greece; ³THALES, Vélizy-Villacoublay, France

14:00 **Resonant Ring With A Gain Of 32 For Use With A 1 MW 110 GHz Gyrotron** Th-PM1-2-5

Elliot Claveau*; Michael Shapiro; Richard Temkin
Massachusetts Institute of Technology, 77 Massachusetts Avenue, NW17, Cambridge, United States

14:15 **Nonlinear Theory Of Beam-wave Interaction In Gyrotron Cavities With Gradual And Abrupt Transitions** Th-PM1-2-6

Oleksandr Maksymenko*¹; Vitalii Shcherbinin¹; Manfred Thumm²; John

Jelonnek²

¹Institute for Pulsed Power and Microwave Technology, Karlsruhe Institute of Technology (KIT), Kaiserstr. 12, 76131 Karlsruhe, Germany, Akademicheskaya St. 1, 61108, Kharkiv, Ukraine, Eggenstein-Leopoldshafen, Germany; ²Institute for Pulsed Power and Microwave Technology, Karlsruhe Institute of Technology (KIT), Kaiserstr. 12, 76131 Karlsruhe, Germany, Eggenstein-Leopoldshafen, Germany

14:30 **Enhanced Performance Of 264 GHz EIO Subsystem** **Th-PM1-2-7**

Albert Roitman*; Doug Yake; Parth Gandhi; Dave Berry; Tom Sertic
CPI Canada, 45 River Drive, Georgetown, Canada

14:45 **A High-gain MMIC Power Amplifier Covering 55-115 GHz Based On 50-nm GaN HEMTs** **Th-PM1-2-8**

Bingfei Dou*¹; Qin Ge²; Jing Liu³; Xiaojiang Yao⁴

¹Hefei Science of China Microelectronics Innovation Center Co., Ltd., 5089, Wangjiang West Road, Hefei, China, Hefei, China; ²Industry and Information Technology Bureau of Shenzhen Municipality, Fuzhong 3rd Road, Futian, Shenzhen, Shenzhen, China; ³Hefei Science of China Microelectronics Innovation Center Co., Ltd., Hefei, 230000, China, Hefei, China; ⁴College of Integrated Circuit Science and Engineering, Nanjing University of Posts and Telecommunications, Nanjing, 210000, China, China

13:00 - 15:00 Spintronics, Plasmonics & Valleytronics **Cartier II**

13:00 **High-power Operation Of Spintronic Terahertz Emitters For THz-field-driven Scanning Probe Microscopy At MHz Repetition Rates** **Th-PM1-3-1**

Alkisti Vaitis¹; Vivien Sleziona¹; Luis E. Parra Lopéz¹; Tom S. Seifert²; Fabian Schulz³; Natalia Martín Sabanés⁴; Martin Wolf¹; Tobias Kampfrath²; Melanie Müller*¹

¹Fritz Haber Institute of the Max Planck Society, Faradayweg 4-6, Berlin, Germany; ²Freie Universität Berlin, Arnimallee 14, Berlin, Germany; ³CIC NanoGUNE-BRTA, Tolosa Hiribidea 76, San Sebastian, Spain; ⁴IMDEA Nanoscience, Faraday 9, Madrid, Spain

13:30 **Terahertz Time Domain Spectroscopy Of A Single Split Ring Resonator Coupled To An Amino Acid Crystal** **Th-PM1-3-2**

Théo Hannotte*; Adrien Pillet; Jean-François Lampin; Romain Peretti
IEMN, Cité Scientifique Avenue Henri Poincaré CS 60069, Villeneuve d'Ascq, France

13:45 **Terahertz Plasmons In Periodic Structures Of Epitaxial Graphene** **Th-PM1-3-3**

Arvind Singh*¹; Hynek Nemeč¹; Jan Kunc²; Petr Kuzel¹

¹Institute of Physics Czech Academy of Sciences, Na Slovance 2, 18200

Prague 8, Czech Republic, Prague, Czech Republic; ²Faculty of Mathematics and Physics Charles University, Ke Karlovu 3, Prague 2 12116, Czech Republic, Czech Republic

14:00

Different Terahertz Phases Of AlGaIn/GaN Grating-Gate Plasmonic Crystals

Th-PM1-3-4

Pavlo Sai¹; M. Dub¹; V. Korotyeyev²; M. Filipiak¹; M. Słowikowski¹; Yu. Ivonyak¹; D. But¹; G. Cywinski*¹; W. Knap¹

¹Institute of High Pressure Physics of the Polish Academy of Sciences, ul. Sokolowska 29/37, Warsaw, Poland; ²V. Ye. Lashkaryov Institute of Semiconductor Physics (ISP), NASU, 41 pr. Nauki, Kyiv, Ukraine

14:15

Spintronic THz Emitters Based On Transition Metals And Semi-metals/Pt Multilayers

Th-PM1-3-5

Sylvain Massabeau*¹; Jacques Hawecker²; Enzo Rongione¹; Anastasios Markou³; Sachin Krishna¹; Florian Godel¹; Sophie Collin¹; Romain Lebrun¹; Jérôme Tignon²; Juliette Mangeney²; Thomas Boulrier²; Jean-Marie George¹; Claudia Felser³; Henri Jaffrès¹; Sukhdeep Dhillon²

¹Unité Mixte de Physique CNRS, Thales, Université Paris-Saclay (UMPHY), 1 Avenue Augustin Fresnel, Palaiseau, France; ²Laboratoire de Physique de l'Ecole Normale Supérieure, ENS, Université PSL, CNRS, Sorbonne Université, 24 Rue Lhomond, Paris, France; ³Max-Planck-Institute for Chemical Physics of Solids, Nöthnitzer Straße 40, Dresden, Germany

14:30

Layer-controlled Nonlinear Terahertz Valleytronics In Two-dimensional Semi-metal And Semiconductor PtSe2

Th-PM1-3-6

Minoosh Hemmat*¹; Sabrine Ayari¹; Martin Micica¹; Hadrien Vergnet¹; Guo Shasha²; Mehdi Arfaoui³; Xuechao Yu⁴; Daniel Vala⁵; Adrien Wright¹; Kamil Postava⁵; Juliette Mangeney¹; Francesca Carosella¹; Sihem Jaziri³; Qi Jie Wang⁴; Liu Zheng²; Jerome Tignon¹; Robson Ferreira¹; Emmanuel Baudin¹; Sukhdeep Dhillon¹

¹Laboratoire de Physique de l'Ecole normale supérieure, ENS, Université PSL, CNRS, Sorbonne Université, 24 rue Lhomond, France; ²School of Materials Science and Engineering, Nanyang Technological University, 50 Nanyang Avenue, Singapore; ³Science faculty of Tunisia, Université Tunis El Manar, Campus Universitaire 10, Tunisia; ⁴School of Electrical and Electronic Engineering & School of Physical and Mathematical Sciences, Nanyang Technological University, 50 Nanyang Avenue, Singapore; ⁵Faculty of Materials Science and Technology, VSB, Technical University of Ostrava, 17. listopadu 217, Czech Republic

14:45

Spintronic Terahertz Emission From Metal/PtSe2 Heterostructures

Th-PM1-3-7

Martin Micica*¹; Khasan Abdukayumov²; Fatima Ibrahim³; Celine Vergnaud³; Alain Marty³; Jean-Yves Veullen⁴; Pierre Mallet⁴; Isabelle Gomes de

Moraes³; Djordje Dosenovic⁵; Abdelkarim Ouerghi⁶; Vincent Renard⁷; Florie Mesple⁷; Frederic Bonell³; Hanako Okuno⁵; Mair Chshiev³; Jean-Marie George⁸; Henri Jaffres⁸; Sukhdeep Dhillon¹; Matthieu Jamet²

¹Laboratoire de Physique de l'Ecole Normale Supérieure, 24 rue Lhomond, Paris, France; ²Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, IRIG-Spintec, 38000, Grenoble, France; ³Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, IRIG-Spintec, 17 avenue des Martyrs, Grenoble, France; ⁴Université Grenoble Alpes, CNRS, Grenoble INP, Institut NEEL, 38000, Grenoble, France; ⁵Université Grenoble Alpes, CEA, IRIG-MEM, 38000 Grenoble, France, 38000, Grenoble, France; ⁶Université Paris-Saclay, CNRS, Centre de Nanosciences et de Nanotechnologies, 91120, Palaiseau, France; ⁷Université Grenoble Alpes, CEA, CNRS, IRIG-PHELIQS, 38000 Grenoble, 38000, Grenoble, France; ⁸Unité Mixte de Physique, CNRS, Thales, Université Paris-Saclay, F-91767, Palaiseau, France

13:00 - 15:00	Active Sensing 1	International I
13:00	<p>Nonlinear Ghost Imaging For Scattering-Assisted Terahertz Waveform Synthesis.</p> <p>Vittorio Cecconi¹; Vivek Kumar²; Juan Sebastian Toterogongora¹; Luke Peters¹; Luana Olivieri¹; Jacopo Bertolotti³; Alessia Pasquazi¹; Marco Peccianti*¹</p> <p>¹Loughborough University, Sir David Davies Building, Loughborough, United Kingdom; ²University of Sussex, Falmer, Brighton, United Kingdom; ³University of Exeter, Dept. of Physics and Astronomy, Exeter, United Kingdom</p>	Th-PM1-4-1
13:30	<p>3D Tensor Compressive Sensing THz Single-Pixel Imaging For Refractive Index Estimation</p> <p>Szu-Hsi Chen*¹; Chia-Ming Mai²; Yi-Chun Hung³; Shang-Hua Yang⁴; Yuan-Hao Huang⁵</p> <p>¹National Tsing Hua University, No, 101, Section II, Kuang-Fu Road, Electrical Eng, Hsinchu City, Taiwan; ²National Tsing Hua University, No, 101, Section II, Kuang-Fu Road, Electrical Eng, Hsinchu City, Taiwan; ³National Tsing Hua University, No, 101, Section II, Kuang-Fu Road, Electrical Eng, Hsinchu, Taiwan; ⁴National Tsing Hua University, No, 101, Section II, Kuang-Fu Road, Electrical Eng, Hsinchu, Taiwan; ⁵National Tsing Hua University, No, 101, Section II, Kuang-Fu Road, Electrical Engineering Depart. National Tsing Hua University, Hsinchu, Taiwan</p>	Th-PM1-4-2
13:45	<p>Learning-Based THz Multi-Layer Imaging With Model-Based Masks</p> <p>PU WANG*¹; Toshiaki Koike-Akino²; Petros Boufounos²; Wataru Tsujita²;</p>	Th-PM1-4-3

Genki Yamashita³; Tomonori Fukuta³; Makoto Nakajima⁴

¹Mitsubishi Electric Research Laboratories, 201 Broadway, Cambridge, United States; ²Mitsubishi Electric Research Laboratories, 201 Broadway, United States; ³Mitsubishi Electric Corporation Advanced Technology R&D Center, Amagasaki City, 661-8661, Japan; ⁴Osaka University, Osaka 565-0871, Japan

14:00 **Far-field Terahertz Electric-field Imaging Using A Polarization Image Sensor** **Th-PM1-4-4**

Léo Guiramand*; Xavier Ropagnol; François Blanchard
École de technologie supérieure, 1100 R. Notre Dame O, Montréal, Canada

14:15 **An Optoelectronic M-Sequence Radar For The Terahertz Range** **Th-PM1-4-5**

Kevin Kolpatzek*; Sinan Akdas; Jan C. Balzer; Andreas Czulwik
University of Duisburg-Essen, Bismarckstr. 81, Duisburg, Germany

14:30 **Frequency-multiplexing For Imaging At Submillimeter Waves** **Th-PM1-4-6**

Aleksi Tamminen*¹; Samu-Ville Pälli²; Juha Ala-Laurinaho²; Sazan Rexhepi²;
Zachary Taylor²

¹Aalto University, Maarintie 8, Espoo, Finland; ²Aalto University, Aalto University, Maarintie 8, Espoo, Finland

14:45 **Imaging Of Large-Area Graphene Using Terahertz Cross-Correlation Spectroscopy** **Th-PM1-4-7**

Bjørn Mølvgård*¹; Thorsten Bæk²; Jie Ji³; Peter Bøggild³; Simon Lange²; Peter Jepsen²

¹Technical University of Denmark, Ørsteds Plads 343, Kongens Lyngby, Denmark; ²Technical University of Denmark, Ørsteds Plads 343, Denmark;

³Technical University of Denmark, Fysikvej 311, Denmark

13:00 - 15:00 Metrology II **International II**

13:00 **Characterization Of Photonic-Assisted Free-Space Sub-THz Data Transmission** **Th-PM1-5-1**

Mohanad Dawood AlDabbagh¹; Jess Smith²; Thomas Kleine-Ostmann¹; Mira Naftaly*²; Irshaad Fatadin²

¹Physikalisch-Technische Bundesanstalt, Bundesallee 100, Braunschweig, Germany; ²National Physical Laboratory, Hampton Rd, Teddington, United Kingdom

13:15 **High Precision Molecular Laser Frequency Measurements Using A THz Frequency Comb** **Th-PM1-5-2**

Alexandra Khabbaz*¹; Jean-François Lampin¹; Luan Juppert²; Olivier Pirali²; Gael Mouret³; Francis Hindle³

¹IEMN-CNRS, Avenue Poincaré, Villeneuve d'Ascq, France; ²Institute of Molecular Sciences of Orsay, Rue André Rivière, France; ³Université du Littoral Côte d'Opale, Avenue Schumann, France

13:30 **Imaging The Stokes Vector Of Backscattered THz Speckle Fields Using The Two-Channel PHASR Scanner** Th-PM1-5-3

Kuangyi Xu*; Zachery B. Harris; M. Hassan Arbab
Stony Brook University, 100 Nicolls Road, Stony Brook, United States

13:45 **THz Dielectric Properties Of 3D Printable Silica Nanoparticle-based Photoresin** Th-PM1-5-4

Emil John Magaway*¹; Yeganeh Farahi¹; Stephen Hanham²; Zhenyu Zhang³; Adriana Guaidía-Moreno⁴; Miguel Navarro-Cía¹
¹University of Birmingham, School of Physics and Astronomy, Birmingham, United Kingdom; ²University of Birmingham, School of Engineering, Birmingham, United Kingdom; ³University of Birmingham, School of Chemical Engineering, Birmingham, United Kingdom; ⁴Nanoscribe GmbH, Eggenstein-Leopoldshafen, Germany

14:00 **Fast Scanning Terahertz Computed Tomography With A Telecentric F- θ Lens** Th-PM1-5-5

Lu Rong*¹; Ran Ning²; Shufeng Lin²; Jie Zhao²; Yunxin Wang²; Dayong Wang¹; Min Wan³
¹Beijing University of Technology, 100 Ping Le Yuan, Beijing, China; ²Beijing University of Technology, 100 Ping Le Yuan, China; ³University College Dublin, Belfield, Ireland

14:15 **On-wafer RF High-power Measurement With An LSMO Load At 40 GHz** Th-PM1-5-6

Thomas Quinten*¹; Lampin Jean-François²; Etienne Okada³; Victor Pierron¹; Chantal Gunther¹; Laurence Méchin¹; Benjamin Walter⁴; Bruno Guillet¹
¹GREYC (Caen university, CNRS, ENSICAEN), 6 Bd Maréchal Juin, Caen, France; ²Institut d'Electronique de Microélectronique et de Nanotechnologie (IEMN), Cité scientifique, avenue Poincaré, VILLENEUVE D'ASCQ, France; ³Institut d'Electronique de Microélectronique et de Nanotechnologie (IEMN), Cité scientifique, avenue Poincaré, VILLENEUVE D'ASCQ, France; ⁴Vmicro SAS, Avenue Poincaré, VILLENEUVE D'ASCQ, France

14:30 **How Accurate Are Reflection Measurements With TDS Systems?** Th-PM1-5-7

Andreas STEIGER*¹; Benjamin Röben²
¹PTB, ABBESTR., 2-12, Berlin, Germany; ²PTB, ABBESTR. 2-12, Berlin, Germany

14:45 **Optical Alignment For Non-contact In Vivo THz Sensing** Th-PM1-5-8

Jacob Young*¹; Emma pickwell-macpherson²; Rakyo Stantchev³

¹University of Warwick, University of Warwick, department of physics, Coventry, United Kingdom; ²University of Warwick, University of Warwick, department of physics, coventry, United Kingdom; ³National Sun Yat-sen University, National Sun Yat-sen University, department of physics, Kaohsiung City, Taiwan

15:30 - 17:30	Laser Sources & Detectors VII	Symposia Theatre
15:30	<p>Multi-pixel Addressable Photoconductive Arrays For THz Beam Shaping And Polarization Control</p> <p>James Lloyd-Hughes* University of Warwick, Department of Physics, Gibbet Hill Road, Coventry, United Kingdom</p>	Th-PM2-1-1
16:00	<p>Active Multipixel Photoconductive Emitter Technology For THz Beam Shaping And Steering</p> <p>Nishtha Chopra*¹; Justas Deveikis²; James Lloyd-Hughes³ ¹University of Warwick, University of Warwick, Gibbet Hill Road, 3.06 (MAS Building), Coventry, United Kingdom; ²University of Warwick, University of Warwick, Gibbet Hill Road, Coventry, United Kingdom; ³University of Warwick, University of Warwick, Gibbet Hill Road, Coventry, United Kingdom</p>	Th-PM2-1-2
16:15	<p>97% Throughput Hollow-Core Fibers For Pulse Compression Of High Power Yb Lasers</p> <p>Young-Gyun Jeong¹; Ivanov Maksym²; Pedram Ghaderi²; Etienne Doiron²; Riccardo Piccoli¹; Luca Zanotto¹; Gabriel Tempea²; Roberto Morandotti¹; Francois Legare¹; Luca Razzari¹; Bruno Schmidt*² ¹INRS-EMT, 1650 Blvd. Lionel Boulet, Varennes, Canada; ²few-cycle Inc., 1650 Blvd. Lionel Boulet, Varennes, Canada</p>	Th-PM2-1-3
16:30	<p>Terahertz Generation From Water Under Long Wavelength Excitation</p> <p>Yiwen E*; X.-C. Zhang University of Rochester, 480 Intercampus Dr, Rochester, United States</p>	Th-PM2-1-4
16:45	<p>Enhanced Terahertz Emission From Gallium Arsenide Nano-Hole Array Under Low Power Optical Pump</p> <p>Yangfan Gu*¹; Kemeng Wang²; Yongchang Lu²; Jianqiang Gu² ¹Tianjin University, Tianjin University, No.92, Weijin road, Nankai district, Tianjin, Tianjin, China; ²Tianjin University, No.92, Weijin road, Nankai district, Tianjin, China</p>	Th-PM2-1-5
17:00	<p>Tunable Pump Compression And Fast Modulation For Pulsed THz Generation</p> <p>Yazan Lampert*; Alessandro Tomasino; Shima Rajabali; Ileana-Cristina Benea-Chelmus Hybrid Photonic Laboratory, EPFL, BM 3136, Station 17, Switzerland</p>	Th-PM2-1-6

17:15	Optimization Of Multicycle THz Generation Using Versatile Optical Pulse Trains	Th-PM2-1-7
	Christian Rentschler*; Umit Demirbas; Zhelin Zhang; Mikhail Pergament; Nicholas H. Matlis; Franz X. Kaertner Deutsches Elektronen-Synchrotron DESY, Notkestrasse 85, Hamburg, Germany	
15:30 - 17:30	Nano & Quantum Devices	Cartier I
15:30	Mid-infrared Quantum Well Photodetectors With 100GHz 3dB-bandwidth At Room Temperature	Th-PM2-2-1
	Stefano Barbieri ¹ ; Quyang Lin ² ; Michael Hakl ² ; Jean-Francois Lampin ² ; Wenjian Wan ³ ; J. C. Cao ³ ; Hua Li ³ ; Emilien Paytavit ⁴ ¹ IEMN Laboratory - CNRS, Avenue Henri Poincaré, Villeneuve d'Ascq, France; ² IEMN Laboratory and CNRS, Avenue Henri Poincaré, Villeneuve d'Ascq, France; ³ Key Laboratory of Terahertz Solid State Technology, Shanghai, Shanghai, China; ⁴ IEMN Laboratory - CNRS, Avenue Henri Poincaré, Villeneuve d'Ascq, France	
16:00	Tunable Terahertz Cyclotron Emission From Two-dimensional Dirac Fermions	Th-PM2-2-2
	Benjamin Benhamou--Bui ¹ ; Sebastian Gebert ² ; Maria Szola ³ ; Christophe Consejo ³ ; Sergey Krishtopenko ³ ; Sandra Ruffenach ³ ; Jérémie Torres ³ ; Cédric Bray ³ ; Benoit Jouault ³ ; Kenneth Maussang ³ ; Milan Orlita ⁴ ; Xavier Baudry ⁵ ; Philippe Ballet ⁵ ; Sergey Morozov ⁶ ; Vladimir Gavrilenko ⁶ ; Nikolay Mikhailov ⁷ ; Sergey Dvoretiskii ⁷ ; Frederic Teppe ³ ¹ University of Montpellier, 163 rue Auguste Broussonnet, Campus Triolet Place Eugène Bataillon, Montpellier, France; ² University of Würzburg, Am Hubland 97074 Würzburg, Germany; ³ University of Montpellier, 163 rue Auguste Broussonnet, France; ⁴ LNCMI-G, 25 Martyrs Avenue, 38042 Grenoble Cedex 9, France; ⁵ CEA Leti, 17 avenue de Martyrs 38054 Grenoble, France; ⁶ Institute for Physics of Microstructures of Russian Academy of Sciences, Akademicheskaya Str., 7, Afonino, Nizhny Novgorod, Russian Federation; ⁷ A.V. Rzhanov Institute of Semiconductor Physics, Siberian Branch of Russian Academy of Sciences, ISP SB RAS, 13 Lavrentiev aven., Novosibirsk, 6300, Russian Federation	
16:15	Graphene-Coupled Highly Efficient THz Photomixer	Th-PM2-2-3
	Alaa Jabbar Jumaah ¹ ; Masoumeh Goudarzi ² ; Maira Beatriz Perez Sosa ² ; Jaime Gómez Rivas ² ; Hartmut G. Roskos ³ ; Shihab Al-Daffaie ² ¹ Eindhoven University of Technology, Groene Loper19, Eindhoven, Netherlands; ² Eindhoven University of Technology, Groene Loper 19,	

Eindhoven, Netherlands; ³Goethe-Universität Frankfurt am Main, Max-von-Laue-Straße 1, Frankfurt am Main, Germany

16:30 **Tunable Antenna-Coupled Intersubband Terahertz (TACIT) Mixer: Frequency-agile THz Heterodyne Detector Based On Intersubband Transitions In Single GaAs/AlGaAs Quantum Well** **Th-PM2-2-4**

Changyun Yoo*¹; Kenneth West²; Loren Pfeiffer²; Jonathan Kawamura¹; Mark Sherwin³; Boris Karasik¹

¹Jet Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, United States;

²Princeton University, Princeton University, Princeton, United States; ³UCSB, UCSB, Santa Barbara, United States

16:45 **THz Detection By Photomixing In Graphene** **Th-PM2-2-5**

Mark D. Thomson¹; Florian Ludwig¹; Jakob Holstein¹; Reiam Al-Mudhafar²; Shihab Al-Daffaie*³; Hartmut G. Roskos¹

¹Goethe-Universität, Max-von-Laue-Str. 1, Frankfurt am Main, Germany;

²Institute of Laser University of Baghdad, Baghdad, Baghdad, Iraq;

³Eindhoven University of Technology, Groene Loper 5., Eindhoven, Netherlands

17:00 **Superconducting Nanowire Single-Photon Detector Arrays For The Near-To Mid-Infrared** **Th-PM2-2-6**

Benedikt Hampel*; Richard P. Mirin; Sae Woo Nam; Varun B. Verma
National Institute of Standards and Technology, 325 Broadway, Boulder, United States

17:15 **Topological Quantum Materials For Ultra-Sensitive Terahertz Detection** **Th-PM2-2-7**
Lin Wang*

State Key Laboratory for Infrared Physics, Shanghai Institute of Technical Physics, Chinese Academy, 500 Yu-tian Road, China

15:30 - 17:30 Nanoscopy & Near-Field Effects **Cartier II**

15:30 **Mid-Infrared Nanospectroscopy To Probe Protein Conformation at The Nanoscale** **Th-PM2-3-1**

Antonia Intze¹; Maria Eleonora Temperini¹; Raffaella Polito²; Michele Ortolani²; Valeria Giliberti*¹

¹Istituto Italiano di Tecnologia, Center for Life Nano- and Neuro-Science, viale Regina Elena 291, Rome, Italy; ²Department of Physics, Sapienza University of Rome, Piazzale A. Moro 2, Italy

16:00 **Detector Development For Far-Infrared Near-Field Nanospectroscopy*** **Th-PM2-3-2**

G. Lawrence Carr*
Brookhaven Nat'l Lab, bldg. 741, Brookhaven Nat' Lab, Upton, United States

Time-resolved THz-TDS Nanoscopy For Probing Carrier Dynamics With

16:15	Femtosecond Temporal And Nanometer Spatial Resolution	Th-PM2-3-3
	Tobias Gokus*; Jonas Albert; Artem Danilov; Suman Paul; Andreas Huber attocube systems AG, Eglfinger Weg 2, Haar, Germany	
16:30	THz-pump / MIR-probe Nanospectroscopy On Si-doped GaAs-InGaAs Core-shell Nanowires	Th-PM2-3-4
	Andrei Luferau* ¹ ; Stephan Winner ¹ ; Susanne Kehr ² ; Maximilian Obst ² ; Felix Kaps ² ; Emmanouil Dimakis ¹ ; Alexej Pashkin ¹ ; Lukas Eng ² ; Manfred Helm ¹ ¹ Helmholtz-Zentrum Dresden-Rossendorf, Bautzner Landstraße 400, Dresden, Germany; ² Technische Universität Dresden, Nöthnitzer Str. 61, Dresden, Germany	
16:45	Revealing Near-field Mode Distribution In Terahertz Asymmetric Split-ring-resonators	Th-PM2-3-5
	Xingxing Xu*; Min Hu; Xiaoqiuyan Zhang; Fu Tang; Shigao Zhao; Shenggang Liu University of Electronic Science and Technology of China, pidu distribute, No. 2006 xiuyan avenue, Chengdu, China	
17:00	Thermal Near-field Spectroscopic Analysis On Dielectrics	Th-PM2-3-6
	Yusuke Kajihara* ¹ ; Kuan-Ting Lin ² ; Ryoko Sakuma ² ¹ The University of Tokyo, Komaba 4-6-1, Meguro-ku, Tokyo, Japan; ² The University of Tokyo, Komaba 4-6-1, Meguro-ku, Japan	
17:15	Near Field Analysis Of Individual High Quality Factor THz Resonators	Th-PM2-3-7
	Lucy Hale* ¹ ; Yuezhen Lu ² ; Abdullah Zaman ² ; Sadvikas Addamane ³ ; Igal Brener ³ ; Oleg Mitrofanov ¹ ; Riccardo Degl'Innocenti ² ¹ University College London, Electrical and Electronic Engineering, London, United Kingdom; ² Lancaster University, New Engineering Building, Gillow Ave, Bailrigg, Lancaster, United Kingdom; ³ Center for Integrated Nanotechnologies, Sandia National Laboratories, Albuquerque, United States	

15:30 - 17:30 Active Sensing 2

**International
I**

15:30	THz 3D Imaging Based On An Inverse Spherical Synthetic Aperture	Th-PM2-4-1
	Tobias Kubiczek*; Efe Satiroglu; Thorsten Schultze; Jan C. Balzer University of Duisburg-Essen, Bismarckstr. 81, Duisburg, Germany	
15:45	Low-Loss And High-Speed Generalized Terahertz Time-Domain Spectroscopic Ellipsometry	Th-PM2-4-2
	Hao Chen; Kaijie Wang; Guangyou Fang; Xuequan Chen* GBA Branch of Aerospace Information Research Institute, Chinese Academy of Sciences, Room 501, Building B7, Kai Yuan Da Dao No. 11, Huangpu District, Guangzhou, Guangzhou, China	

- 16:00 **Characterization Of Active Liquid Crystal: Comparison Using Continuous Th-PM2-4-3 And Time Domain Terahertz Techniques**
- Audrey Le Boulout*¹; Anastasiia Pusenkova²; Mariia Zhuldybina¹; Xavier Ropagnol³; Thomas Gisder⁴; Marc-Michael Meinecke⁴; Heiko Schroeder⁴; Heiko Gustav Kurz⁴; Tigran Galstian²; François Blanchard¹
- ¹École de technologie supérieure (ÉTS), 1100 Notre Dame Ouest, Montréal, Canada; ²Université Laval (ULaval), 2325 Rue de l'Université, Québec, Canada; ³INRS-ET, 1650, boul. Lionel-Boulet, Varennes, Canada; ⁴Volkswagen Group Innovation, Berliner Ring 2, Wolfsburg, Germany
- 16:15 **Optical Properties Of Wood Biomass Material obtained By Terahertz Ellipsometry** **Th-PM2-4-4**
- Atsushi Nakanishi*¹; Verdad Agulto²; Kosaku Kato²; Toshiyuki Iwamoto³; Hiroshi Satozono¹; Makoto Nakajima²
- ¹Hamamatsu Photonics K. K., 5000, Hirakuchi, Hamakita-ku, Hamamatsu, Japan; ²Osaka University, 2-6 Yamadaoka, Suita, Japan; ³Nippo Precision Co., Ltd., 734 Miyakubo, Hosakamachi, Nirasaki, Japan
- 16:30 **Terahertz Radar Sensing For Real-time Monitoring Of Powder Streams** **Th-PM2-4-5**
- Anis Moradikouchi*¹; Marlene Bonmann²; Tomas Bryllert²; Anders Sparén³; Jonas Johansson³; Staffan Folestad²; Jan Stake²; Helena Rodilla²
- ¹Chalmers University of Technology, Chalmersplatsen 4, Gothenburg, Sweden; ²Chalmers University of Technology, Chalmersplatsen 4, Sweden; ³AstraZeneca, Pepparedsleden 1, Mölndal, Sweden
- 16:45 **Flexible Terahertz Gas Sensing Platform: Combining Hollow Waveguide Gas Cells With An Opto-Electronic Light Source** **Th-PM2-4-6**
- Dominik Theiner*¹; Benedikt Limbacher¹; Michael Jaidl¹; Marie Ertl¹; Karl Unterrainer¹; Juraj Darmo¹; Michael Hlavatsch²; Boris Mizaikoff²
- ¹Photonics Institute, TU Wien, Gusshausstrasse 27-29, Vienna, Austria; ²Institute of Analytical and Bioanalytical Chemistry, University of Ulm, Albert-Einstein-Allee 11, Ulm, Germany
- 17:00 **Photoconductive THz Near-field Detectors Operated With A 1550 Nm CW-laser System For High Spatial- And Spectral-resolution Measurements** **Th-PM2-4-7**
- Simon Sawallich*¹; Anselm Deninger²; Alexander Michalski¹; Max C. Lemme³; Michael Nagel¹
- ¹Protomics GmbH, Otto-Blumenthal-Str. 25, Aachen, Germany; ²Toptica Photonics AG, Lochhamer Schlag 19, Graefelfing, Germany; ³ELD, RWTH Aachen University, Otto-Blumenthal-Str. 25, Aachen, Germany
- 17:15 **A Scanless Method For Terahertz Time-domain Imaging** **Th-PM2-4-8**

Luca Zanotto*¹; Giacomo Balistreri¹; Andrea Rovere¹; O-Pil Kwon²; Roberto Morandotti¹; Riccardo Piccoli³; Luca Razzari¹
¹INRS-EMT, 1650 boulevard Lionel-Boulet, Varennes, Canada; ²Ajou University, Suwon, 443-749, Korea, Republic of; ³Politecnico di Milano, Piazza Leonardo Da Vinci, 32, Milano, Italy

15:30 - 17:30 THz Quantum Optics & Near-Field Microscopy

**International
II**

15:30 Landau Polaritons In The Ultrastrong And Superstrong Coupling Regime In A Multimode Terahertz Photonic-Crystal Cavity Th-PM2-5-1

Fuyang Tay*¹; Ali Mojibpour¹; Stephen Sanders¹; Shuang Liang²; Hongjing Xu¹; Geoff Gardner²; Andrey Baydin¹; Michael Manfra²; Alessandro Alabastri¹; David Hagenmüller³; Junichiro Kono¹
¹Rice University, 6100 Main St, Houston, United States; ²Purdue University, 525 Northwestern Ave, West Lafayette, United States; ³Université de Strasbourg and CNRS, 8 All. Gaspard Monge, Strasbourg, France

16:00 Direct Measurement Of The THz Local Density Of Optical States Th-PM2-5-2

Jaime Gomez Rivas*¹; Stan ter Huurne²; Djero Peeters²
¹Eindhoven University of Technology, PO BOX 513, Eindhoven, Netherlands;
²Eindhoven University of Technology, P.O. Box 513, Eindhoven, Netherlands

16:15 Superconducting Josephson Probe Microscope Th-PM2-5-3

Ping Zhang*¹; Shoucheng Hou¹; Zixi Wang¹; Zihan Wei¹; Hongmei Du¹; Dingding Li¹; Yangyang Lv¹; Hancong Sun²; Yonglei Wang¹; Huabing Wang¹; Peiheng Wu¹
¹Research Institute of Superconductor Electronics, Nanjing University, 163 Xianlin Avenue, Nanjing, China; ²Purple Mountain Laboratories, 9 Mozhou East Road, Nanjing, China

16:30 Strong Light-matter Coupling In SiGe Quantum Wells Embedded In Terahertz Patch Antenna Cavities Th-PM2-5-4

Michele Ortolani*¹; Leonetta Baldassarre¹; Tommaso Venanzi¹; Fritz Berkmann¹; Enrico Talamas Simola²; Michele Montanari²; Elena Campagna²; Luciana Di Gaspare²; Sara Cibella³; Andrea Notargiacomo³; Ennio Giovine³; Cedric Corley-Wiciak⁴; Giovanni Capellini⁴; Michele Virgilio⁵; Giacomo Scalari⁶; Monica De Seta⁷
¹Sapienza University of Rome, Piazzale Aldo Moro 2, Dipartimento di Fisica, Rome, Italy; ²Roma Tre University, Department of Science, Via della Vasca

Navale, Rome, Italy; ³CNR Institute for Photonics and Nanotechnologies, Via Fosso del Cavaliere, Rome, Italy; ⁴IHP microelectronics, Technologiepark Ostbrandenburg, Frankfurt am Oder, Germany; ⁵University of Pisa, Largo Pontecorvo, Pisa, Italy; ⁶ETH Zurich, ETH Hönggerberg, HPT F 6, Zurich, Switzerland; ⁷Roma Tre University, Department of Science, Italy

16:45 **Quantum Algorithm Emulator For Implementation Of Deutsch-Jozsa Algorithm In The THz Region** **Th-PM2-5-5**

Zizwe Chase*¹; Ashley Blackwell²; Riad Yahiaoui²; Yi-Huan Chen²; Zhixiang Huang³; Xi Wang³; Thomas Searles²; Pai-Yen Chen²

¹University of Illinois at Chicago, 851 S. Morgan St., MC 154, Chicago, United States; ²University of Illinois at Chicago, 851 S. Morgan St., MC 154, United States; ³University of Delaware, 210 South College Ave., United States

17:00 **Terahertz Landau Polaritons In Nano-slots: Ultrastrong Coupling Under Extreme Spatial Confinement** **Th-PM2-5-6**

Dasom Kim*¹; Sunghwan Kim²; Dukhyung Lee²; Shuang Liang³; Fuyang Tay¹; Michael Manfra⁴; Dai-Sik Kim²; Junichiro Kono¹

¹Rice University, 6100 Main St., Houston, United States; ²UNIST, Ulsan, Korea, Republic of; ³Perdue University, West Lafayette, United States; ⁴Perdue, West Lafayette, United States

17:15 **Twin Beams Probe Pulses For Subcycle Sampling Of THz-MIR Fields** **Th-PM2-5-7**

Patrick Cusson*; Stéphane Virally; Denis Seletskiy
Polytechnique Montréal, 2500, chemin de Polytechnique, Montréal, Canada

17:30 - 19:00 **Poster Session 5**

Foyer (3rd floor)

Nanostructured THz Gunn Diode Using A Patch Antenna Combined With Side-contact And Field-plate Technologies **Th-P1-01**

Ahid S. Hajo*¹; Deniz Cicek¹; Yunus Celik¹; Armin Dadgar²; Oktay Yilmazoglu¹; Sascha Preu¹

¹TU Darmstadt, Merckstr. 25, Darmstadt, Germany; ²University Magdeburg, Merckstr. 25, Darmstadt, Germany

Design And Simulation Of Electron Optics System For 340 GHz Extended Interaction Klystron **Th-P1-02**

Kedong Zhao¹; Wenxin Liu*²; Xiangpeng Liu³; Cunjun Ruan⁴

¹Beihang University, 37 Xueyuan Road, Haidian District, Beijing, P.R. China, Beijing, China; ²Aerospace Information Research Institute Chinese Academy of Sciences, No.9 Dengzhuang South Road, Haidian District, Beij, No.1

Yanqihu East Rd, Huairou District, Beijing, PR China, China; ³Fan Gongxiu Honors College, Beijing University of Technology, 100 Pingleyuan, Chaoyang District, Beijing, China; ⁴Beihang University, 37 Xueyuan Road, Haidian District, Beijing, P.R., China

Introduction Of Inverted-HEMT Structure In A Grating-Gate Plasmonic THz Detector For Drastic Improvement Of The Pulse Response

Th-P1-03

Kenichi Narita*¹; Takumi Negoro¹; Yuma Takida²; Hiroaki Minamide²; Taiichi Otuji¹; Tetsuya Suemitsu³; Akira Satou¹

¹Tohoku Univ., 2-1-1 Katahira, Aoba-ku, Sendai, Japan; ²RIKEN Center for Advanced Photonics, 519-1399, Aramaki, Aoba-ku, Sendai, Japan; ³New Industry Creation Hatchery Center, 6-6-10, Aramaki, Aoba-ku, Sendai, Miyagi, Japan

Ion-Implanted GeSn Terahertz Photoconductive Antenna On Silicon

Th-P1-04

Pin-Han Lee¹; Wang-Chien Chen²; Shang-Hua Yang*³

¹National Tsing Hua University, 8F, No. 32, Jinshan 15th St., East Dist., Hsinchu City 300063, Taiwan (R.O.C.), Hsinchu, Taiwan; ²National Tsing Hua University, 8F, No. 32, Jinshan 15th St., East Dist., Hsinchu, Taiwan; ³National Tsing Hua University, R909 Delta Building, No. 101, Section 2, Kuang-fu, Taiwan

Terahertz Absorbance Of Sputtered Nanocrystalline TiO2 Thin Film

Th-P1-05

GURUVANDRA SINGH*¹; Subhash Nimanpure²; Amit Haldar³; Debankit Priyadarshi³; Amit Kumar Gangwar⁴; Preetam Singh⁵; SHOVON PAL⁶; Mukesh Jewariya⁵

¹Academy of Scientific and Innovative Research (AcSIR), Ghaziabad-201002, India, JRF HOSTEL NPL COLONY NEW RAJENDRA NAGAR, NEW DELHI, India; ²USAR, GGSIP University, East Campus, Surajmal Vihar, Delhi-110092, India, USAR, GGSIP, DELHI, India; ³School of Physical Sciences, NISER, Bhubaneshwar, Odisha-752050, India, NISER Bhubaneshwar, Bhubaneshwar, India; ⁴Academy of Scientific and Innovative Research (AcSIR), Ghaziabad-201002, India, CSIR-NPL, New Delhi, India; ⁵CSIR-National Physical Laboratory, Dr. K.S. Krishnan Marg, New Delhi-110012, India, CSIR NPL NEW DELHI, NEW DELHI, India; ⁶School of Physical Sciences, NISER, Bhubaneshwar, Odisha-752050, India, NISER Bhubaneshwar, Khurda, India

Optimization Of Substrate-lens-coupled CMOS Field-effect Transistor Detectors For 250 GHz By Pixel Binning Technique

Th-P1-06

Kestutis Ikamas*¹; Dmytro B. But²; Domantas Vizbaras¹; Cezary Kolacinski²; Alvydas Lisauskas¹

¹Institute of Applied Electrodynamics and Telecommunications, Vilnius

University, Sauletekio al. 3, Vilnius, Lithuania; ²CENTERA Laboratories, Institute of High Pressure Physics PAS, 19 Polezki Street, Warsaw, Poland

Reduction Of Spectral Linewidth Of Resonant-Tunneling-Diode THz Oscillators Due To External Feedback

Th-P1-07

Masahiro Asada*¹; Safumi Suzuki²

¹Tokyo Institute of Technology, 2-12-1-S9-3 Oookamaya, Meguro-ku, Tokyo, Japan; ²Tokyo Institute of Technology, 2-12-1-S9-3 Oookayama, Meguro-ku, Tokyo, Japan

0.34THz Longitudinal Double-Beams Staggered Double-Blade Backward Wave Oscillator

Th-P1-08

Peng He*¹; Liu Wenxin²

¹Chinese Academy of Sciences, No.5 Yanqi East Second Road, Huairou District, Beijing, Bei Jing, China; ²Chinese Academy of Sciences, No.5 Yanqi East Second Road, Huairou District, Bei, BEIJING, China

A Tunable Narrow-band THz Radiation Using Subwavelength Hole Array Layer

Th-P1-09

Ping Zhang*¹; Yin Dong²; Youfeng Yang²; Bingyang Liang²; Shengpeng Yang²; Yuan Zheng³; Shaomeng Wang²; Zhanliang Wang²; Yubin Gong²

¹University of Electronic Science and Technology of China, University of Electronic Science and Technology of China, Qingshuihe Campus: No. 2006, Xiyuan Avenue, Chengdu high tech Zone (West District), Chengdu, China; ²University of Electronic Science and Technology of China, University of Electronic Science and Technology of, Qingshuihe Campus: No. 2006, Xiyuan Avenue, Chengdu high tech Zone (West District), Chengdu, China; ³University of Electronic Science and Technology of China, University of Electronic Science and Technology of, Qingshuihe Campus, University of Electronic Science and Technology of China, No. 2006, Xiyuan Avenue, Chengdu, China

Terahertz Resonant-Tunneling-Diode Oscillator With Coupled OffsetFed Slot-Ring Antenna Pairs

Th-P1-10

Shoei Endo*¹; Safumi Suzuki²

¹Tokyo Institute of Technology, 807 S9 2-12-1 Oookayama, Meguro-ku, Japan; ²Tokyo Institute of Technology, 2-12-1-S9-3, Oookayama, Meguro-ku, Japan

Research On Ripple Suppression Of High-voltage Power Supply For Gyrotron cathode Based On Series Linear Filtering

Th-P1-11

Yang ChunHui*

华中科技大学, 华中科技大学, 中国湖北省武汉市华中科技大学, 武汉, China

Design And Analysis Of Electron Optics System For 0.67 THz Traveling Wave Tube

Th-P1-12

Jianliang Wang*¹; wenxin Liu²; Zhiqiang Zhang¹; Fan Deng³

¹Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing, China, BeiJing, China; ²Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing, China, BeiJing, BeiJing, ??, China; ³Aerospace Information Research Institute, Chinese Academy of Sciences, Beijing, China, BeiJing, BeiJing, China
Theoretical Investigation On Detecting Terahertz Waves By Rydberg Atoms

Th-P1-13

Lei Hou*¹; Qihui He¹; Junnan Wang¹; Lei Yang¹; Xiasi Sun²; Wei Shi¹
¹Xi'an University of Technology, No.5 South Jinhua Road, Shaanxi, China;
²Northwest Engineering Corporation Limited, No.18, East Zhangba Road, China

Limit Of Oscillation Frequency In Two-element Slot-ring Type RTD Oscillator Array

Th-P1-14

Taichi Sato*; Ta Mai; Safumi Suzuki
Tokyo Institute of Technology, S9-3 2-12-1 Ookayama Meguro-ku, Tokyo, Japan

Power Detection Of Solid-state Terahertz Transmitters: Terahertz Induced Thermoacoustic Signal And Its Characteristics

Th-P1-15

Weipeng Wang*; Lin Huang; Hongji Zhou; Sen Gong; Hongxin Zeng; Jun Zhou; Huajie Liang; Dan Liang; Tao Jiang; Cong Dai; Ziqiang Yang; Yaxin Zhang
Huzhou Key Laboratory of Terahertz Integrated Circuits and Systems, Yangtze Delta Region Institute (, 2006 Xiyuan Avenue, High tech Zone (West District), Chengdu, China

Two-dimensional Effects In Multicycle THz Generation With Tunable Pump Pulse Trains In Lithium Niobate

Th-P1-16

Christian Rentschler*; Umit Demirbas; Zhelin Zhang; Mikhail Pergament; Nicholas H. Matlis; Franz X. Kaertner
Deutsches Elektronen-Synchrotron DESY, Notkestrasse 85, Hamburg, Germany

Time-domain Measurements Of A ~300 GHz Split-ring Resonator Coupled To THz Goubau Line Waveguide By Evanescent Electric Field

Th-P1-17

Robyn Tucker*¹; SaeJune Park²; Said Ergoktas³; Lianhe Li³; Edmund Linfield³; Giles Davies³; John Cunningham³

¹University of Leeds, School of Electronic and Electrical Engineering, Woodhouse, Leeds, United Kingdom; ²Queen Mary, University of London, School of Engineering and Computer Science, United Kingdom; ³University of Leeds, School of Electronic and Electrical Engineering, United Kingdom

Manipulating The Refractive Index Of THz Generation Crystals

Th-P1-18

Megan Nielson*; Enoch (Sin-Hang) Ho; Paige Petersen; Kayla Holland; Tanner Manwaring; Kailyn Sorenson; David Michaelis; Jeremy A. Johnson

Brigham Young University, BNSN C100 BYU, Provo, United States

Adapting Terahertz Spintronic Emitters Towards Maximum Performance

Th-P1-19

Pierre Koleják*¹; Geoffrey Lezier¹; Lukás Halagacka²; Baptiste Mathmann¹; Daniel Vala²; Zuzana Gelnárová²; Yannick Dusch¹; Jean-François Lampin¹; Nicolas Tiercelin¹; Kamil Postava²; Mathias Vanwolleghem¹

¹Institut d'Electronique de Microélectronique et de Nanotechnologie, IEMN - CNRS UMR 8520, Avenue Poincaré, Lille, France; ²VSB-Technical University of Ostrava, 17. listopadu 15, Ostrava, Czech Republic

Self-referencing Reflection Sensor For Industrial Applications

Th-P1-20

Faezeh Zarrin Khat*; Bryan Cole; Alasdair Pentland; Philip F. Taday
TeraView LTD, 1, Enterprise Cambridge Research Park, Cambridge, United Kingdom

Monolithic Compact Terahertz Emitter And Detector

Th-P1-21

Gabriel Gandubert*¹; Xavier Ropagnol²; Denis Morris³; Francois Blanchard¹
¹ÉTS, 1100, rue Notre-Dame Ouest, Montréal, Canada; ²INRS - EMT Institut National de Recherche Scientifique, 1650 Lionel-Boulet Blvd., Varennes, Canada; ³Sherbrooke University, 2500, boulevard de l'Université, Sherbrooke, Canada

Shot-noise Limited Detection Of Terahertz Transients From Spintronic Emitters

Th-P1-22

Bédi Zagbayou*¹; Étienne Doiron¹; Frédéric Sirois¹; Tom Seifert²; Tobias Kampfrath²; Denis Seletskiy¹

¹École Polytechnique de Montréal, 2500 Chemin de Polytechnique, Montréal, Canada; ²Freie Universität Berlin, Kaiserswerther Str. 16-18, Berlin, Germany

Highly Efficient THz Waves Using Laser Chaos

Th-P1-23

Fumiyoshi Kuwashima*¹; Mona Jarrahi²; Semih Cakmakyapan²; Osamu Morikawa³; Takuya Shirao¹; Kazuyuki Iwao¹; Kazuyoshi Kurihara⁴; Hideaki Kitahara⁵; Takeshi Furuya⁵; Kenji Wada⁶; Yuki Kawakami⁷; Takeshi MORIYASU⁸; Makoto Nakajima⁹; Masahiko Tani⁵

¹Fukui Univ. of Tech., 3-6-1, Gakuen, Fukui, Japan; ²Electrical and Computer Engineering Department, University of California Los Angeles, 66-147E

Engineering IV, 420 Westwood Plaza, Los Ang, United States; ³Chair of Liberal Arts, Japan Coast Guard Academy, 5-1 Wakabacho, Kure, Japan;

⁴School of Education., University. of Fukui, 3-9-1 Bunkyo, Fukui, Japan;

⁵Research Center for Development of Far-Infrared Region, University of

Fukui, 3-9-1 Bunkyo, Fukui, Japan; ⁶Department of Physics and Electronics, Osaka Metropolitan University, 1-1 Gakuen-cho, Naka-ku, Sakai, Japan;

⁷Department of Electronics and Information Engineering, National Institute of Technology (KOSEN), Fuk, Geshi-Cho, Sabae, Japan; ⁸Faculty of Engineering,

University of Fukui, 3-9-1 Bunkyo, Fukui, Japan; ⁹Institute of Laser engineering, Osaka Univ., 2-6 Yamadaoka, Suita, Japan

Temperature-dependent THz Transients Emitted By Optically Excited FeNi/Pt Spintronic Emitters

Th-P1-24

Jing Cheng*¹; Daniel E Buegler²; Roman Adam³; Ivan Komissarov⁴; Debamitra Chakraborty⁵; Genyu Chen⁵; Roman Sobolewski⁵

¹university of rochester, 57 west squire drive, unit 8, Rochester, United States;

²Forschungszentrum Julich, Wilhelm-Johnen-Straße, Germany;

³Forschungszentrum, Wilhelm-Johnen-Straße, Germany; ⁴university of rochester, 601 Elmwood Avenue, United States; ⁵university of rochester, 601 Elmwood Avenue, United States

Efficient Terahertz Generation Via Optical Rectification In Halide Perovskites

Th-P1-25

Nathaniel Gallop¹; Dumitru Sirbu²; David Walker¹; James Lloyd-Hughes¹; Pablo Docampo³; Rebecca Milot*⁴

¹University of Warwick, Gibbet Hill Road, United Kingdom; ²University of Newcastle, Newcastle, United Kingdom; ³University of Glasgow, Glasgow, United Kingdom; ⁴University of Warwick, Department of Physics, Gibbet Hill Road, Coventry, United Kingdom

Conceptual Study And Design Of A Compact, Ultra-short Pulse Infrared/Terahertz Free Electron Laser

Th-P1-26

Ruixuan Huang*; Yelong Wei; Jian Pang; Qika Jia; Shancai Zhang; Guangyao Feng

University of Science and Technology of China, No.96 Jinzhai Rd, Hefei, China

High-Power, Ultra-Broadband THz Generation In Organic Crystal MNA

Th-P1-27

Samira Mansourzadeh*¹; Megan F. Nielson²; Alan Omar¹; Tim Vogel¹; David J. Michaelis²; Jeremy A. Johnson²; Clara J. Saraceno¹

¹Ruhr University Bochum, Universitätsstraße 150, Bochum, Germany;

²Brigham Young University, Provo, Utah 84602, United States

Spectral Range Broadening Of Multimode-Laser-Driven Terahertz Spectroscopy System Using Two Laser Diodes

Th-P1-28

Yuanhao Zeng*¹; Valynn Katrine Mag-usara²; Verdad C. Agulto²; Kosaku Kato²; Masato Ota²; Fumiyoshi Kuwashima³; Masashi Yoshimura²; Makoto Nakajima²

¹Institute of Laser Engineering, Osaka University, Yamadaoka 2-6, Suita, Osaka Japan, Suita city, Japan; ²Institute of Laser Engineering, Osaka University, Yamadaoka 2-6, Suita, Osaka Japan, Japan; ³Department of Electrical and Electronic Engineering, Fukui University of Technology, 3-6-1 Gakuen, Fukui, Japan, Japan

- Vibration Analysis Of A 0.34THz Traveling Wave Tube** **Th-P1-29**
Jianwei Zhong*¹; Wenxin Liu²; Fengyuan Zhang³; Peng He¹; Zhaochuan Zhang¹
¹Aerospace Information Research Institute, Chinese Academy of Sciences, No. 5, Yanqi East 2nd Road, Huairou District, Beijing, Beijing, China; ²Aerospace Information Research Institute, Chinese Academy of Sciences, No. 5, Yanqi East 2nd Road, Huairou District, Beijing, 北京市怀柔区雁栖东二路5号, Beijing, China; ³Aerospace Information Research Institute, Chinese Academy of Sciences, No. 5, Yanqi East 2nd Road, Huairou District, Beijing, Beijing, United States
- High-power And Pulse Test Of The 105/140 GHz Dual-Frequency MW-level Gyrotron** **Th-P1-30**
Linlin Hu*; Dimin Sun; Qili Huang; Tingting Zhuo; Peng Hu; Yi Jiang; Guowu Ma; Hongbin Chen; Hongge Ma
Institute of applied electronics, China academy of engineering physics, No. 64 Mianshan road, Mianyang, China
- A Dual-Frequency Mode Converter For A 70/105 GHz Gyrotron** **Th-P1-31**
Stephen Cauffman*; Monica Blank; Philipp Borchard; Kevin Felch
Communications & Power Industries, Inc., 811 Hansen Way, Palo Alto, United States
- Graphene Quantum Dot Bolometer Camera: Practical Approaches And Preliminary Results** **Th-P1-32**
abdelouahad el fatimy*
Université Mohammed VI Polytechnique, Mohammed VI Polytechnic University Lot 660, Hay Moulay Rachid Ben Guerir, 43150, Mohammed VI Polytechnic University Lot 660, Hay Moulay Rachid Ben Guerir, 43150, Benguerir, Morocco
- Printed Terahertz Metasurfaces For Multispectral Imaging By Thermo-conversion** **Th-P1-33**
Cyprien Brulon; baptiste fix*; Clément Verlhac; Patrick Bouchon
ONERA, 6 chemin de la vauve aux granges, Palaiseau, France
- CW Laser Emission Up To 5 THz Using Optically Pumped Water Molecules** **Th-P1-34**
Alexandra Khabbaz*¹; Jean-François Lampin²; Gael Mouret³; Luan Juppet⁴; Olivier Pirali⁴
¹Institut d'Electronique de Microélectronique et de Nanotechnologie (IEMN-CNRS), Avenue Poincaré, Villeneuve d'Ascq, France; ²IEMN-CNRS, Avenue Poincaré, Villeneuve d'Ascq, France; ³Université du Littoral Côte d'Opale, Avenue Schumann, Dunkerque, France; ⁴Institute of Molecular Sciences of Orsay, Rue André Rivière, France
- Development Of Multiple-Tunnel Slow-Wave Structures For Miniature W-band Traveling-Wave Tubes With Multiple Sheet Electron Beams** **Th-P1-35**

Alena Rostuntsova¹; Roman Torgashov¹; Dmitriy Nozhkin²; Andrey Rozhnev¹; Andrey Starodubov¹; Nikita Ryskin*¹

¹Saratov Branch, Institute of Radio Engineering and Electronic RAS, 38 Zelenaya st., 83 Astrakhanskaya st., Saratov, Russian Federation; ²Saratov Branch Institute of Radio Engineering and Electronic RAS, Saratov State University, 83 Astrakhanskaya st., Saratov, Russian Federation

Monte Carlo Simulations Of Signal Contrast Mechanisms In Broadband Terahertz Polarimetric Imaging Of Biological Tissues

Th-P1-36

Kuangyi Xu*; M. Hassan Arbab

Stony Brook University, 100 Nicolls Road, Stony Brook, United States

Investigation Of THz Absorption Spectra Of α -lactose Aqueous Solution

Th-P1-37

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Theoretical Study Of THz- Optoacoustic Signal Generation

Th-P1-38

Lianghao Guo*¹; Bingyang Liang²; Kaicheng Wang²; Qin Zhang²; Yuankun Sun²; Hui Ning²; Shaomeng Wang²; Yubin Gong²

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17:30 - 19:00 Poster Session 6

Foyer (4th floor)

The Reflectance Of Hydrated Melanin At 2.0 THz To 18.0 THz

Th-P2-01

Zoltan Vilagosh*¹; Negin Foroughimehr²; Elena P. Ivanova¹; Andrew W. Wood²

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Far-Infrared Absorption Properties Of Bone-Related Calcium Phosphates

Th-P2-02

Verdad Agulto*¹; Wangxuan Zhao¹; Mihoko Maruyama²; Yuga Ono²; Kosaku Kato¹; Yutaro Tanaka²; Hiroshi Yoshikawa²; Yusuke Mori²; Masashi Yoshimura¹; Makoto Nakajima¹

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- Non-contact Millimeter Wave Dielectric Spectroscopy On Aqueous Solution** **Th-P2-03**
- Che Min Wu*¹; Chia Chin Cheng²; Shang Hua Yang²
¹National Tsing Hua University, 101, Section 2, Kuang-Fu Road, Hsinchu 300044, Taiwan R.O.C., Hsing Chu City, Taiwan; ²National Tsing Hua University, National Tsing Hua University, 101, Section 2, Kuang-Fu Road,, Hsinchu City, Taiwan
- Discussion On Appropriate Evaluation Methods For Low Absorbers In The Case Of Terahertz Spectroscopy** **Th-P2-04**
- Kei Takeya*; Hideki Ishizuki; Takunori Taira
 Institute for Molecular Science, 38 Nishigonaka, Myodaiji, Okazaki, Japan
- Characterization Of Melanin Suspended In Alginate Biofilms At The THz Band Using FTIR And TDS Spectroscopy** **Th-P2-05**
- Mariana Alfaro*¹; Lidia Verduzco-Grajeda¹; Monica Ortiz-Martinez²; Elodie Strupiechonski³; Diego Gonzalez-Quijano¹; Nayeli Solis-Delgadillo¹
¹Universidad Autónoma de Aguascalientes, Av. Universidad 940, Aguascalientes, Mexico; ²CINVESTAV, Libramiento Norponiente 2000, Real de Juriquilla, Mexico; ³CIDESI, Av. Playa Pie de la Cuesta No. 702., Mexico
- Terahertz Generation In Al_xGa_{1-x}As/GaAs Heterostructured P-i-n Diodes** **Th-P2-06**
- Valerii Trukhin*¹; Il'ya Mustafin¹; Xiangyi Fan²; Vitalii Kalinovskiy³; Evgenii Kontrash³; Kseniya Prudchenko³; Ivan Tolkachev³
¹Ioffe Institute, 26 Politekhnicheskaya, Saint Petersburg, Russian Federation; ²ITMO University, Kronverksky Pr. 49, Saint Petersburg, Russian Federation; ³Ioffe Institute, Politehnicheskaya 26, Saint Petersburg, Russian Federation
- Multiphysics Simulation Of Low Frequency Terahertz Induced Thermoacoustic Signal Characteristics** **Th-P2-07**
- Luyang Liu; Lin Huang; Jun Zhou*; Zheng Liang; Zhen Ding; Yaxin Zhang
 Yangtze Delta Region Institute (Huzhou), UESTC, No. 819, Xisaishan Road, Huzhou, Huzhou, China
- Complex Third Order Nonlinear Optical Susceptibility In The Terahertz Region Evaluated By Free-Electron Laser** **Th-P2-08**
- Youwei Wang¹; T.N.K. Phan¹; Tomoki Shimizu¹; Masato Ota¹; Kosaku Kato¹; Koichi Kan²; Kosaku Kato¹; Valynn Katrine Mag-usara¹; Goro Isoyama²; Makoto Nakajima*¹
¹Osaka University, Institute of Laser Engineering, 2-6 Yamadaoka, Suita, Japan; ²Institute of Scientific and Industrial Research, Osaka University, 8-1, MIHOGAOKA, IBARAKI, Japan
- Femtosecond Circular Photogalvanic Effect In FeCo/graphene**

Ivan Komissarov*¹; Jing Cheng¹; Debamitra Chakraborty¹; Genyu Chen¹; Leszek Gładczuk²; Piotr Przysławski²; Iraida Demchenko³; Kostiantyn Nikiforov⁴; Serghej Prischepa⁵; Kiryl Niherysh⁶; Floriana Lombardi⁶; Adam Łaszcz⁷; Daniel Bürgler⁸; Roman Adam⁸; Roman Sobolewski¹

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Study Of Real-time Frequency Stabilization System Based On ZYNQ System For Dual Lasers

Th-P2-10

Yan Wang*¹; Yuan Yao²

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Quantitative Analysis Of Boson Peak Dynamics Of Glass Formers Based On Heterogeneous Elasticity Theory

Th-P2-11

Dan Kyotani*¹; Soo-Han Oh¹; Yasuhiro Fujii²; Suguru Kitani³; Yohei Yamamoto¹; Tatsuya Mori¹

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Room Temperature Photoluminescence In CdTe Grown By Liquid-Processed Vertical Bridgman Method

Th-P2-12

Hiroyasu Nakata*¹; Akira Fujimoto²; Yoshiyuki Harada³; Takeshi Hirai⁴; Shirou Sakuragi⁵; Yasuo Kanemitsu⁶

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Asahiku, Osaka, Japan; ⁴Ritsumeikan, Kusatsu, Kusatsu, Japan; ⁵Union Materials Inc., Kitasomagan, Japan; ⁶Osaka University, Machikaneyama, Toyonaka, Japan

Time-Domain Spectroscopy For Space Exploration At Terahertz Energy Scales

Th-P2-13

Yookyung Ha*¹; Jonas Woeste¹; Oliver Gueckstock²; Georgios Kourkafas³; Jovana Petrovic⁴; Mihailo Rabasovic⁵; Aleksandar Krmpot⁵; Tom S. Seifert²; Andrea Denker³; Tobias Kampfrath²; Nikola Stojanovic⁶; Michael Gensch⁶

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Temperature Dependence Of The Anisotropic Dielectric Properties Of Semi-insulating B-Ga2O3 In The Terahertz Region

Th-P2-14

Shuang Liu*¹; Verdad C. Agulto¹; Toshiyuki Iwamoto²; Kosaku Kato¹; Masato Ota¹; Ken Goto³; Hisashi Murakami³; Yoshinao Kumagai³; Masashi Yoshimura¹; Makoto Nakajima¹

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Chiral Nonlocal Terahertz Photoconductivity In Heterostructures Based On Topological Hg_{1-x}CdxTe Films

Th-P2-15

Aleksei Kazakov¹; Alexandra Galeeva¹; Alexey Artamkin¹; Anton Ikonnikov¹; Sergey Dvoretzky²; Nikolay Mikhailov²; Mikhail Bannikov³; Sergey Danilov⁴; Ludmila Ryabova¹; Dmitry Khokhlov*¹

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On-Chip THz Time-Domain Spectroscopy Sensor With Adjustable Sample Interaction By A Daughterboard

Th-P2-16

Jimin Lee*¹; Simon Sawallich²; Max Lemme¹; Michael Nagel²

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²Protomics GmbH, Otto-Blumenthal Strasse 25, Aachen, Germany

Thermal Transport Of Defect Graphene By Raman Spectroscopy. **Th-P2-17**

Sidi Abdelmajid AIT ABDELKADER*¹; Abdelouahed EL FATIMY²

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Catching A Terahertz Pulse In A Photonic Crystal Net Triggers Dynamic Frequency Conversion **Th-P2-18**

Aidan Schiff-Kearn*; David Cooke
McGill University, 3600 rue University, Montreal, Canada

Strong Coupling Of An EIT-like Metamaterial With Photons In A Photonic Crystal Cavity **Th-P2-19**

Fanqi Meng*¹; Lei Cao²; Aristeidis Karalis³; Hantian Gu²; Mark D. Thomson⁴; Hartmut.G Roskos⁴

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Free-electron Infrared Nonlinearities In Heavily Doped InGaAs Nanoantennas **Th-P2-20**

Michele Ortolani*¹; Tommaso Venanzi²; Andrea Rossetti³; Thomas Deckert³; Daniele Brida³; Marialilia Pea⁴; Adel Bousseksou⁵; Luca Lucia⁵; Raffaele Colombelli⁵; Huatian Hu⁶; Federico De Luca⁶; Cristian Ciraci⁶

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Planar Chiral Metasurface With Maximal Chirality Empowered By Toroidal Dipole Resonances **Th-P2-21**

Tian Ma*¹; Jiangkun Tian²; Jun Li¹

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**Terahertz Wave Absorbing Properties Of Double-coils Randomly
Distributed In Cellulose Nanofibers**

Th-P2-22

Kosaku Kato¹; Shiyu Feng¹; Zixi Zhao¹; Verdad Agulto*¹; Masato Ota¹; Ami Mizui²; Takaaki Kasuga²; Hirotaka Koga²; Masaya Nogi²; Motoharu Haga³; Minoru Ueshima⁴; Makoto Nakajima¹

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**Highly Sensitive Terahertz Metamaterial Sensor With Enhanced Spatial
Distribution Of Strong Electric Field**

Th-P2-23

Shanshan JIA¹; Zesen ZHOU¹; Fanqi Meng*²; Zhilong GAN¹; Lei CAO¹

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**Efficient And Broadband Terahertz Polarization Convertor Enabled By
An All-metal Stereo Reflective Metasurface**

Th-P2-24

Yuehong Xu*¹; Quan Xu²; Xueqian Zhang²; Xi Feng³; Yongchang Lu³; Xixiang Zhang⁴; Jianguang Han³; Weili Zhang⁵

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**Photo-Curing Resin With Carbon Nanotube/Cellulose Nanofiber
Composite Flakes As Electromagnetic Shielding Material**

Th-P2-25

Zixi Zhao*¹; Shiyu Feng²; Verdad C. Agulto²; Kosaku Kato²; Masato Ota²; Ami Mizui³; Takaaki Kasuga³; Hirotaka Koga³; Masaya Nogi³; Motoharu Haga⁴; Minoru Ueshima⁵; Nobuhiko Sarukura²; Masashi Yoshimura²; Makoto Nakajima²

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Terahertz Surface Plasmon Resonance Microscopy In The Otto Configuration

Th-P2-26

Ildus Khasanov*¹; Vasily Gerasimov²; Oleg Kasmeshkov³; Alexey Nikitin¹; Nghiem Thi Ha Lien⁴; Nguyen Quoc Hung⁵; Ta Thu Trang⁶

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Investigation Of Dual Frequency Terahertz Band-stop Filter Based On 3D Printed all-dielectric Metamaterials

Th-P2-27

Jin Leng*¹; Chengzhe Gao²; Yang Wu²; Gang Huang²; Qiwu Shi²

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Exciting Extended Bound States In The Continuum In Symmetry-Broken Scalable All Dielectric THz Metasurface

Th-P2-28

Guangcheng Sun; Yue Wang*; Xiaoju Zhang; Zijian Cui; Hui Hu
Xi'an University of Technology, No 5 Jinhua South Road, Xi'an, China

Development Of A 3D Printed Dual-Band MmWave And THz Near-Field Microscope For Skin Cancer Detection

Th-P2-29

Marcel Grzeslo; Jonas Tebart; Stefan Poess; Shuya Iwamatsu; Israa Mohammad; Andreas Stöhr; Andreas Klein*
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Terahertz Near-Field Response Of Graphene Devices

Th-P2-30

Zechuan Bin*; Xingxing Xu; Fu Tang; Tianyu Zhang; Tinggui Yin; Shigao Zhao; Qingying Yi; Shenggang Liu; Min Hu
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Towards A Versatile And Cost-Effective Lock-In Amplifier

Th-P2-31

Mads Ehrhorn*; Oscar G. Garcia; Edmund J. R. Kelleher; Simon J. Lange
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Deep Learning To Accelerate Terahertz Metamaterials Design For Biosensing Application

Th-P2-32

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Metallic 3D Printed Double-Ridged WR3.4 Interface for THz Power Combining

Th-P2-33

Rihab Hamad*¹; carlos Biurrun-Quel²; thomas haddad³; sumer maklouf³;
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Optimizing High-Performance Terahertz Sub-Harmonic Mixers With Customized Sparrow Search Algorithm

Th-P2-34

Jingrui Liang*¹; Jun Zhou²; Hongji Zhou²; Tianchi Zhou²; Xiuxiu Yang²;
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A Shared-focus, Multi-pass Sample Cell (SFSC) Useful For THz And Optical Spectroscopy

Th-P2-35

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Broadband Terahertz Plasmonic Multiplexers

Th-P2-36

Junliang Dong*¹; Alessandro Tomasino²; Giacomo Balistreri²; Pei You²;
Anton Vorobiov³; Étienne Charette²; Boris Le Drogoff²; Mohamed Chaker²;
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Palermo 90128, Italy; ⁵University of Brescia, Via Branze 38, Brescia 25123,
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THz Dielectric Directional Coupler Based On Effective Medium Cladding **Th-P2-37**

Nikolaos Xenidis*¹; Dmitri Lioubchenko¹; Joachim Oberhammer²

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Design Of A Terahertz Waveguide Diplexer With High Isolation **Th-P2-38**

Jia Zhang*¹; Tianchi Zhou²; Xuechun Sun²; Jiahao Yang³; Jingrui Liang²; Jun Zhou²; Yaxin Zhang²; Wei Wang⁴

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Typical Solutions Of Antenna On Chip (AoC) In Terahertz Band And Improved Structure For THz Applications **Th-P2-39**

Yuxin Ren*¹; Peng Wu²; Wenhua Chen³; Zhongjun Yu²

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Terahertz Side Arm Orthomode Transducer With High Isolation And High Cross-polarization Discrimination **Th-P2-40**

Wenbo Li*¹; Kai Huang¹; Hongxin Zeng¹; Wei Wang²; Yaxin Zhang¹; Ziqiang Yang¹

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Design Analysis Of Microwave Ablation Using Minimally Invasive Antenna In Human Liver **Th-P2-41**

Maleeha Khan*¹; Dennis Giannacopoulos²

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60 Lines Measurement In A Single Experiment Using Super-Resolution TDS **Th-P2-42**

Noureddin OSSEIRAN*¹; Aditya RAJ²; Sophie Eliet¹; Romain Peretti¹

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A Terahertz Wave Frequency Measurement System Based On Fabry-Pérot Resonator

Th-P2-43

Aiqin Wang*; Peisheng Liang; Tao Song; Wei Wang; Diwei Liu
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Lens Absorber Coupled MKIDs For Far Infrared Imaging Spectroscopy

Th-P2-44

Shahab Oddin Dabironezare*¹; Sven van Berkel²; Pierre M. Echternach²; Peter K. Day²; Charles M. Bradford²; Jochem Baselmans³

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Distinguish Proliferative And Apoptotic Glioma Cells With Terahertz Metamaterials

Th-P2-45

Ke Li¹; Qingtong Wang²; Yanpeng Shi¹; Hao Xue²; Gang Li²; Yifei Zhang*³

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Progress In Process Development Of La_{0.7}Sr_{0.3}MnO₃ Thin Films For Uncooled THz Bolometers

Th-P2-46

Thomas Quinten*¹; Yoann Lechaux¹; Victor Pierron¹; Chantal Gunther¹; Laurence Méchin¹; Jean-François Lampin²; Marc Faucher²; Benjamin Walter³; Bruno Guillet¹

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Absolute Security With Digital Beamforming For High-Frequency Links

Th-P2-47

Chia-Yi Yeh*¹; Muriel Médard¹; Daniel M. Mittleman²

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High-speed THz Imaging Using A HCN Laser And A HEMT THz Detector

Th-P2-48

Nu Zhang*¹; Haiqing Liu¹; Huihui Yan¹; Hongbei Wang²; Jiaxing Xie¹; Damao Yao¹

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Spectrally Efficient Optoelectronic Wireless Terahertz Communication System

Th-P2-49

Bashar Husain*; Kevin Kolpatzeck; Alexander Frömring; Lars Häring; Andreas Czulwik
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Metasurface Enabled THz Multi User Communications

Th-P2-50

Fahid Hassan¹; Jeffrey Lei²; Hichem Guerboukha*²; Hou-Tong Chen³; Chun-Chieh Chang³; Sathvikas Addamane⁴; Michael Lilly⁴; Edward Knightly¹; Daniel M. Mittleman⁵

¹Rice University, Rice University, United States; ²Brown University, 184 Hope St, Providence, United States; ³Los Alamos National Laboratory, Los Alamos National Laboratory, United States; ⁴Sandia National Laboratories, Sandia National Laboratories, United States; ⁵184 Hope St, 184 Hope St, Providence, United States

Electrically Small High Permittivity Lens Antenna Using Artificially Loaded Thermoplastics At 170 GHz

Th-P2-51

Nick van Rooijen*; Maria Alonso-delPino; Juan Bueno; Marco Spirito; Nuria Llombart
Delft university of technology, Mekelweg 4, Netherlands

Broad Angle Receiver For The THz Band

Th-P2-52

Yasith Amarasinghe*¹; Hichem Guerboukha²; Yaseman Shiri²; Rabi Shrestha²; Pernille Klarskov¹; Daniel Mittleman²

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Analysis Of Water Thin Films Terahertz Spectra As A Function Of Polarization Using A Modified Total Reflectance Accessory

Th-P2-53

Manuel Alejandro Justo Guerrero¹; Arturo Mendoza-Galván¹; Elodie Strupiechonski*²

¹CINVESTAV-Qro, Lib. Norponiente #2000, Mexico; ²CIDESI, Av. pie de la cuesta, Queretaro, Mexico

Extracting Error Bars On Refractive Index Retrieved In THz-TDS

Th-P2-55

Noureddin Osseiran¹; Jeyan Bichon²; Aditya Raj²; Sophie Eliet²; Romain PERETTI*³

¹CNRS IEMN, Univ. Lille, CNRS, Centrale Lille, Univ. Polytechn, Villeneuve d'ascq, France; ²CNRS IEMN, Avenue Poincaré, France; ³CNRS IEMN, Avenue Poincaré, Villeneuve d'ascq, France

Burning Depth Determination In Wood With THz 3D Imaging Based On An Inverse Linear Synthetic Aperture **Th-P2-56**

Tobias Kubiczek*; Thorsten Schultze; Jan C. Balzer
University of Duisburg-Essen, Bismarckstr. 81, Duisburg, Germany

Measurement Of The THz Stokes Vectors Using The PHASR Scanner: Precise Determination Of The Jones Matrix Of The Scanning System **Th-P2-57**

Zachery Harris*¹; Kuangyi Xu²; M. Hassan Arbab¹
¹SUNY at Stony Brook, Bioengineering, 100 Nicolls Rd., Stony Brook, United States; ²Stony Brook University, Bioengineering, 100 Nicolls Rd., Stony Brook, United States

Biological Response Of Human Skin Cells To 300 GHz Radiation **Th-P2-58**

Seung Jae Oh*¹; Inhee Maeng²; Hye Young Son³; Eui su Lee⁴; Ilmin Lee⁵; Kyung Hyun Park⁶
¹Yonsei University, 50-1 Yonsei-ro, Seoul, Korea, Republic of; ²Yonsei University, 50-1 Yonsei-ro, Korea, Republic of; ³Yonsei University, College of Medicine Yonsei University, Seoul, Korea, Republic of; ⁴Electronics and Telecommunications Research Institute, Daejeon, Korea, Republic of; ⁵Electronics and Telecommunications Research Institute (ETRI), Daejeon, Korea, Republic of; ⁶Electronics and Telecommunications Research Institute (ETRI), Daejeon, Korea, Republic of

Evaluation Of Potential Risks Associated With Cancel Cell Motility And Utilisation Of MMW Radiation In Anticancer Applications **Th-P2-59**

Sergii Romanenko¹; Anabel Sorolla²; Vincent Wallace*³
¹Bogomoletz Institute of Physiology, Bogomoletz str., Kyiv, Ukraine; ²Harry Perkins Institute of Medical Research, 6 Verdun St, Perth, Australia; ³The University of Western Australia, 35 Stirling Highway, Perth, Australia

Cryogenic Ultrafast Scattering-type Terahertz-probe Optical-Pump Microscopy (CUSTOM Facility) Capabilities At The University Of Manchester **Th-P2-60**

Baset Gholizadeh*¹; Richard Curry²; Jessica Boland²
¹Manchester, Office Number 2.319, Alan Turing Building, The University of Manchester, Manchester, United Kingdom; ²University of Manchester, The Photon Science Institute, Oxford rd, Manchester, United Kingdom

Porosity Inversion Of Multilayer Medium At THz Frequency **Th-P2-61**

Bingyang Liang*¹; Lixia Yang²; Ping Zhang²; Yuanguo Zhou¹; Shengpeng Yang²; Shaomeng Wang²; Yubin Gong²
¹Xi'an University of Science and Technology, No. 58 Yanta Middle Road, Beilin District, Xi'an, China; ²University of electronic science and technology of China, No. 2006, Xiyuan Avenue, High-tech Zone, Chengdu, China

Real-time Inspection Of Food Products Using Terahertz Imaging System **Th-P2-62**

Mercy Latha A*

Council Of Scientific And Industrial Research-Central Electronics Engineering Research Institute (CS, near to BITS, Pilani campus, Pilani, India

Dual-wavelength CW Lasers Injection-locked To Optical Comb Modes For Carrier Conversion From THz Wave To Near-infrared Light Via Electro-optical Polymer Modulator **Th-P2-63**

Yudai Matsumura*¹; Eiji Hase¹; Yu Tokizane¹; Naoya Kuse¹; Takeo

Minamikawa¹; Junichi Hujikata¹; Hiroki Kishikawa¹; Masanobu Haraguchi¹;

Yasuhiro Okamura¹; Takahiro Kaji²; Akira Otomo²; Atsushi Kanno²; Shintaro

Hisatake³; Takeshi Yasui¹

¹Tokushima University, 2-1, Minamijosanjima-cho., Tokushima, Japan;

²National Institute of Information and Communications Technology, 4-2-1,

Nukuikitamachi, Koganei, Japan; ³Gifu University, 1-1, Yanagito, Gifu, Japan

22 September 2023

08:30 - 09:00 Closing Ceremonies

**Symposia
Theatre**

09:00 - 09:45 Plenary Session 9

**Symposia
Theatre**

09:00 Nanowires In Terahertz Photonics: Harder, Better, Stronger, Faster **Fr-PL-1-1**

Hannah Joyce*¹; Stephanie Adeyemo²; Srabani Kar²; Jamie Lake²; Chawit Uswachoke²; Chennupati Jagadish³; Hoe Tan³; Yunyan Zhang⁴; Huiyun Liu⁵; Jessica Boland⁶; Djamshid Damry⁷; Michael Johnston⁷

¹University of Cambridge, 9 JJ Thomson Ave, Cambridge, United Kingdom;

²University of Cambridge, 9 JJ Thomson Ave, United Kingdom; ³Australian National University, Research School of Physics, Australia; ⁴Zhejiang

University, School of Micro-Nano Electronics, China; ⁵University College London, Department of Electronic and Electrical Engineerin, United Kingdom;

⁶University of Manchester, Photon Science Institute, United Kingdom;

⁷University of Oxford, Clarendon Laboratory, United Kingdom

09:45 - 10:30 Plenary Session 10

**Symposia
Theatre**

09:45 Quantum Vacuum Dressed Materials In Terahertz Cavities **Fr-PL-2-1**

11:00 - 12:30	tbd	Symposia Theatre
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11:00 - 12:30	Laser Sources & Detectors VIII	Cartier I
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11:00	High-performance Terahertz Optoelectronic Receivers Enabled By Monolithic Integration Of SBDs And UTC-PDs: Modelling And Design Iñigo Belio-Apaolaza* ¹ ; James Seddon ² ; José M. Pérez-Escudero ³ ; Iñigo Ederra ³ ; Cyril C. Renaud ¹ ¹ University College London, 8TH floor Roberts Building, Torrington Place, London, United Kingdom; ² University College London, 8TH floor Roberts Building, Torrington Place,, LONDON, United Kingdom; ³ Public University of NavarraPublic University of Navarra, Av. Cataluña, s/n, Spain	Fr-AM-2-1
11:15	Photoconductive, Continuous Wave THz Detectors Based On Rhodium Doped InGaAs With 125 DB Peak Dynamic Range Milan Deumer*; Shaffi Berrios; Steffen Breuer; Shahram Keyvaninia; Simon Nellen; Chris Phong Van Nguyen; Lars Liebermeister; Martin Schell; Robert Kohlhaas Fraunhofer Heinrich Hertz Institute, Einsteinufer 37, Berlin, Germany	Fr-AM-2-2
11:30	RF Waveform Noise Measurement By Electro-optic Sampling Filip Sosnicki*; Ali Golestani; Michal Karpinski University of Warsaw, Pasteura 5, Warszawa, Poland	Fr-AM-2-3
11:45	2 THz Receiver For Thermospheric Science With 7000K DSB Noise Temperature At Room Temperature Alain Maestrini* ¹ ; José Siles ² ; Choonsup Lee ¹ ; Robert Lin ¹ ; Liju Philip ¹ ; Imran Mehdi ¹ ¹ Jet Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, United States; ² Jet Propulsion Laboratory, 4800 Oak Grove Driver, Pasadena, United States	Fr-AM-2-4
12:00	Adaptive THz Beam Steering At UTC-PD Array By Genetic Algorithm Ming Che* ¹ ; Kazuya Kondo ² ; Ryo Doi ¹ ; Kazutoshi Kato ¹ ¹ Kyushu University, Kyushu University, 744 Motooka Nishi-ku, Fukuoka, Japan; ² Kyushu University, Kyushu University, 744 Motooka Nishi-ku, Japan	Fr-AM-2-5
12:15	Purely Photonic Wireless Link At 120 GHz With A Photoconductive Antenna As Heterodyne Receiver Milan Deumer; Lars Liebermeister*; Oliver Stiewe; Simon Nellen; Robert B. Kohlhaas; Robert Elschner; Colja Schubert; Ronald Freund; Martin Schell Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute,	Fr-AM-2-6

11:00 - 12:30	Metasurfaces & Plasmonics III	Cartier II
11:00	<p data-bbox="276 205 1356 283">Broadband Achromatic Terahertz Metalens Based On All-dielectric Sandwich-Shaped Meta-atoms</p> <p data-bbox="276 304 1356 493">Yi Xu*¹; Jianqiang Gu¹; Quanlong Yang²; Jianguang Han³ ¹Tianjin University, 92 Weijin Road, Nankai District, 605, Block C, Teaching Building No. 26, Tianjin, China; ²Central South University, 932 Lushan South Road, China; ³Guilin University of Electronic Technology, 1 Jinji Road, China</p>	Fr-AM-3-1
11:15	<p data-bbox="276 541 1356 619">Dielectric Interference Metasurface For Five-Channel Terahertz Field Control</p> <p data-bbox="276 640 1356 787">Tong Wu*¹; Xueqian Zhang²; Quan Xu²; Jianguang Han² ¹Tianjin University, Tianjin University No. 92, Weijin Road, Nankai District, Tianjin, China, Tianjin, China; ²Tianjin University, Tianjin University No. 92, Weijin Road, Nankai Dis, China</p>	Fr-AM-3-2
11:30	<p data-bbox="276 835 1356 913">Solid-state Intensity Modulator Based On A Single-layer Graphene-loaded Metasurface Operating At 2.4 THz</p> <p data-bbox="276 934 1356 1060">Ruqiao Xia*; Nikita Almond; Harvey Beere; David Ritchie; Wladislaw Michailow University of Cambridge, Cavendish Laboratory, 19 J J Thomson Avenue, Cambridge, United Kingdom</p>	Fr-AM-3-3
11:45	<p data-bbox="276 1108 1356 1186">Nonlinear Metasurfaces For Amplitude-controllable And Pump-handedness-selective THz Generation</p> <p data-bbox="276 1207 1356 1480">Qingwei Wang*¹; Xi Feng¹; Yongchang Lu¹; Li Niu²; Quan Xu²; Xueqian Zhang²; Jianguang Han³ ¹Tianjin University, 92 Weijin Road, Nankai District, Tianjin, China, Tianjin, China; ²Tianjin University, 92 Weijin Road, Nankai District, Tianjin, China, China; ³Tianjin University, 92 Weijin Road, Nankai District, Tianjin, China, No. 1, Jinji Road, Guilin, Guangxi, 541004, China, China</p>	Fr-AM-3-4
12:00	<p data-bbox="276 1528 1356 1606">Enhanced THz Field Detection Using A Bull's-eye Plasmonic Antenna</p> <p data-bbox="276 1627 1356 1753">Hesam Heydari*¹; Xitong Xie²; Aswin Vishnuradhan¹; Eeswar Kumar Yalavarthi¹; Arnaud Weck²; Angela Gamouras¹; Jean-Michel Ménard¹ ¹University of Ottawa, Department of Physics, Ottawa, Canada; ²University of Ottawa, Department of Mechanical Engineering, Ottawa, Canada</p>	Fr-AM-3-5
12:15	<p data-bbox="276 1801 1356 1879">A Planar Plasmonic Reflector For Polaritons</p> <p data-bbox="276 1900 1356 1984">Shima Rajabali*¹; Josefine Enkner¹; Erika Cortese²; Mattias Beck¹; Simone De Liberato²; Jerome Faist¹; Giacomo Scalari¹ ¹Institute of Quantum Electronics, ETH Zürich, Auguste-Piccard-Hof 1,</p>	Fr-AM-3-6

11:00 - 12:30 Active Sensing 3

**International
I**

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|-------|---|------------------|
| 11:00 | Terahertz Circular Dichroism Imaging Of Twisted-layered Moiré Metasurfaces

Katsuhiko Miyamoto* ¹ ; Seigo Ohno ² ; Souma Makihara ¹ ; Takumi Yoichi ¹ ; Takeo Minari ³ ; Takashige Omatsu ¹ ; Shota Tsuji ¹
¹ Chiba University, 1-33, Yayoi-cho, Inage-ku, Chiba, Japan; ² Tohoku University, 6-3, Aza-Aoba, Aoba-ku, Sendai, Japan; ³ National Institute for Materials Science, 1-1 Namiki, Tsukuba, Japan | Fr-AM-4-1 |
| 11:15 | A High Pump Power Commercial THz TDS System For The Hyperspectral Imaging Of New Classes Of Metasurfaces

Lauren Gingras* ¹ ; Jacob Pettine ² ; Peter Adel ¹ ; Ronald Holzwarth ¹ ; Hou-Tong Chen ²
¹ Menlo Systems, Bunsenstr. 5, Martinsried, Germany; ² Center for Integrated Nanotechnologies, Los Alamos National Laboratory, United States | Fr-AM-4-2 |
| 11:30 | High Q Tunable THz Plasmonic Metasurface Based On InSb Particles

Sina Aghili* ¹ ; Rasoul Alaei ² ; Aydin Amini ³ ; Ksenia Dolgaleva ²
¹ University of Ottawa, 75 Laurier Ave E, Ottawa, ON K1N 6N5, Ottawa, Canada; ² University of Ottawa, 75 Laurier Ave E, Ottawa, ON K1N 6N5, Canada; ³ McMaster University, 1280 Main St W, Hamilton, ON L8S 4L8, Canada | Fr-AM-4-3 |
| 11:45 | Phase-Correcting Millimeter-Wave Miter Bend Mirrors To Reduce Mode Conversion

Kyle Thackston* ¹ ; Alex Laut ² ; James Anderson ²
¹ General Atomics, 3550 General Atomics Ct, G13-502, San Diego, United States; ² General Atomics, 3550 General Atomics Ct, San Diego, United States | Fr-AM-4-4 |
| 12:00 | Electron Cyclotron Emission Diagnostics For Next Generation Nuclear Fusion Experiments, Such As DEMO

Marco Zerbini*; Massimo Alonzo; Giuliano Rocchi
ENEA CR Frascati, via E. Fermi, 45, Frascati, Italy | Fr-AM-4-5 |
| 12:15 | Optimized Terahertz Hyperspectral Analysis In The Frequency- And Time- Domains

Margaret Granger*; Alexa Urrea; Jeremy Johnson
Brigham Young University, BNSN C100, Provo, United States | Fr-AM-4-6 |

11:00 - 12:30	Metamaterials, plasmonics and nanomaterials	International II
11:00	<p data-bbox="276 220 1347 294">Dynamic Transmission Of Terahertz Waves Through Bifeo3 Film Under Out Of Plane Applied Bias</p> <p data-bbox="276 315 1347 430">Shreeya Rane*; Arun Jana; Palash Roy Choudhury; Dibakar Roy Chowdhury Mahindra University, Mahindra University Bahadurpally, Mahindra University Bahadurpally, Hyderabad, India</p>	Fr-AM-5-3
11:15	<p data-bbox="276 462 1347 535">Femtosecond Laser Induced Emission Of Coherent Terahertz Pulses From Ruthenium Thin Films</p> <p data-bbox="276 546 1347 808">Lorenzo Cruciani*¹; Stefan van Vliet¹; Alessandro Troglia²; Roland Bliem²; Klaasjan van Druten³; Paul Planken² ¹Advanced Research Center for Nanolithography, Science Park 106, Amsterdam, Netherlands; ²Advanced Research Center for Nanolithography, Science Park 106, Netherlands; ³University of Amsterdam, Science Park 904, Netherlands</p>	Fr-AM-5-1
11:30	<p data-bbox="276 850 1347 924">All-dielectric Tunable Q-factor Guided-mode Resonance Using Quasi-bound States In The Continuum</p> <p data-bbox="276 955 1347 1102">Hyeon Sang Bark* Gwangju Institute of Science and Technology, 123 Cheomdan-gwagiro(Oryung-dong), Advanced Photonics Research Institute 317, Gwangju, Korea, Republic of</p>	Fr-AM-5-2
11:45	<p data-bbox="276 1102 1347 1155">Printed Terahertz Spiral Zone Plate For Vortex Beam Generation</p> <p data-bbox="276 1165 1347 1428">Redwan Ahmad*¹; Léo Guiramand²; Mariia Zhuldybina²; Xavier Ropagnol²; Ngoc Duc Trinh³; Chloé Bois³; Francois Blanchard² ¹École de technologie supérieure (ÉTS), Apt 12, 4665 Avenue Bourret, Montreal, Canada; ²École de technologie supérieure (ÉTS), 1100 Notre-Dame St W, Montreal, Canada; ³Printability and Graphic Communications Institute (ICI), 999 Av. Émile-Journault, Montreal, Canada</p>	Fr-AM-5-4
12:00	<p data-bbox="276 1470 1347 1512">Photonic Crystal THz Leaky-Wave Antenna 3D-Printed In Alumina</p> <p data-bbox="276 1522 1347 1837">Hichem Guerboukha*¹; Masoud Sakaki²; Rabi Shrestha¹; Jingwen Li³; Niels Benson⁴; Daniel Mittleman⁵ ¹Brown University, 184 Hope St, Providence, RI 02912, Providence, United States; ²Universitat Duisburg-Essen, Universitat Duisburg-Essen, Germany; ³Jiangnan University, Jiangnan University, China; ⁴Universität Duisburg-Essen, Universität Duisburg-Essen, Germany; ⁵Brown University, 184 Hope St, Providence, RI 02912, United States, Providence, United States</p>	Fr-AM-5-5
12:15	<p data-bbox="276 1890 1347 1963">Microscope For Electromagnetic Field Distribution Imaging With Intrinsic Josephson Junctions</p>	Fr-AM-5-6

Zihan Wei*¹; Ping Zhang¹; Yangyang Lv¹; Hancong Sun²; Yonglei Wang¹;
Huabing Wang¹; Peiheng Wu¹

¹Nanjing University, Nanjing University Xianlin Campus, Nanjing, China;

²Purple Mountain Laboratories, Jiangning District, Nanjing, China