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Monday, September 24, 2012

08:30 - 10:30 **Monday Plenary** Hope Theatre
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Harvard University, United States

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[1]Department of Physics and International Laser Center, Lomonosov Moscow State University, Russian Federation; [2]Faculty of Physics and International Laser Center, Lomonosov Moscow State University, Russian Federation; [3]Wuhan National Laboratory For Optoelectronics, Huazhong University of Science & Technology, China; [4]The Institute of Optics University of Rochester, United States

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[1]National Institute of Information and Communications Technology, Japan; [2]Fujitsu Laboratories Ltd., Japan

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[1]Max-Planck-Institut fuer Plasmaphysik, Germany; [2]Max-Planck-Institut für Plasmaphysik, Germany; [3]Karlsruhe Institute of Technology, Germany; [4]Institut für Plasmaforschung, Universität Stuttgart, Germany; [5]Institute of Applied Physics, RAS, Russian Federation; [6]GYCOM Ltd, Russian Federation; [7]KIT Karlsruhe, Germany; [8]IPF Stuttgart, Germany

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[1]Ecole Normale Superieure, France; [2]INSP, France; [3]Polish Academy of Sciences, Poland; [4]Polish Academy of Sciences, France

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[1]Consiglio Nazionale delle Ricerche, Italy; [2]Université Montpellier 2 and CNRS, France; [3]Scuola Normale Superiore, Italy; [4]Cambridge University, United Kingdom; [5]Zurich Physics Department, Institute of Quantum Electronics, ETH Hönggerberg, Switzerland

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[1]The Institute of Applied Physics of the Russian Academy of Sciences, Russian Federation; [2]Budker Institute of Nuclear Physics SB RAS, Russian Federation; [3]Karlsruhe Institute of Technology, IHM, Germany

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[1]Physikalisch-Technische Bundesanstalt (PTB), Germany; [2]Universität Marburg, Germany; [3]Helmholtz-Zentrum für Infektionsforschung, Germany; [4]Universität Würzburg, Germany

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[1]Purple Mountain Observatory, China; [2]Smithsonian Astrophysical Observatory, United States; [3]National Astronomical Observatory of Japan, Japan; [4]University of New South Wales, Australia; [5]Tianjin Normal University, China; [6]Nanjing Institute of Astronomical Optics & Technology, China

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[1]IEMN, France; [2]IPR, France

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[1]Laboratoire Pierre Aigrain, France; [2]University of Cambridge, United Kingdom; [3]University Paris VII, France

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[1]CEA-Leti, France; [2]CEA-INAC SBT, France; [3]Université Paris 7, France

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[1]German Aerospace Center (DLR), Germany; [2]Institute of Crystal Growth, Germany; [3]FOM-Institute for Plasma Physics, Netherlands; [4]Institute for Physics of Microstructures, Russian Federation

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[1]Physikalisch-Technische Bundesanstalt (PTB), Germany; [2]Institut für Nachrichtentechnik, TU Braunschweig, Germany

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[1]Helmholtz-Zentrum Dresden-Rossendorf, Germany; [2]Micro- and Nanostructure Center, Vienna University of Technology, Austria; [3]Fraunhofer-Institute for Applied Solid State Physics, Germany

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[1]Wroclaw University of Technology, Poland; [2]Wroclaw Medical University, Poland; [3]University of Wroclaw, Poland; [4]Military University of Technology, Poland

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[1]Wroclaw University of Technology, Poland; [2]Wroclaw Medical University, Poland; [3]Military University of Technology, Poland

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[1]National Academy of Agricultural Science, Korea, Republic of; [2]NAAS, Korea, Republic of; [3]KRISS, Korea, Republic of; [4]University of Seoul, Korea, Republic of

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[1]Centro de Astrobiologia (CSIC-INTA), Spain; [2]Universidad Complutense de Madrid, Spain; [3]Instituto de Microelectronica de Madrid (CSIC), Spain

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[1]Shanghai Institute of Technical Physics, Chinese Academy of Sciences, China; [2]State Key Laboratory of Crystal Materials, Shandong University, China

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[1]Wroclaw University of Technology, Poland; [2]Polish Academy of Sciencies, Poland; [3]Military University of Technology, Poland

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[1]Teravil Ltd, Lithuania; [2]Center for Physical Science and Technology, Lithuania; [3]University of Dundee, United Kingdom

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[1]Fachbereich Physik, Philipps-University Marburg, Germany; [2]Center for Med. Phys. and Biomed.

Engineering and MR-Center of Excellence, Med. University of Vienna, Austria; [3]RECENDT - Research Center for Non Destructive Testing GmbH, Austria

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[1]Military Academy of Technology, Poland; [2]Military University of Technology, Institute of Optoelectronics, Poland; [3]Military University of Technology, Faculty of Mechanical Engineering, Poland

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[1]School of Electronic Engineering, Beijing University of Posts and Telecommunications, China; [2]School of Engineering and Materials Science, Queen Mary University of London, United Kingdom; [3]School of Electronic Engineering and Computer Science, Queen Mary University of London, United Kingdom; [4]London Centre for Nanotechnology, Imperial College, United Kingdom

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[1]Department of Engineering Physics, Tsinghua University, China; [2]Institute of Applied Electronics, Chinese Academy of Engineering Physics (CAEP/IAE), China

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[1]University of Arizona, United States; [2]University of Southern California, United States

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Zhiming Huang; Junhao Chu
Shanghai Institute of Technical Physics, China

Tuesday, September 25, 2012

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[1]University of Strathclyde, United Kingdom; [2]University of Oxford, United Kingdom

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[1]Ioffe Institute, Russian Federation; [2]St. Petersburg Academic University - Nanotechnology Research and Education Centre of the Russian Aca, Russian Federation; [3]National Research University of Information

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Sergey Sarkisov[1]; Maxim Nazarov[2]; Alexander Shkurinov[3]; Oleg Tolbanov[1]
[1]Siberian Physical and Technical Institute of Tomsk State University, Russian Federation; [2]Institute on Laser and Information Technologies of the RAS, Russian Federation; [3]Department of Physics, M.V. Lomonosov Moscow State University, Russian Federation

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[1]School of Electrical & Electronic Engineering, The University of Adelaide, Australia; [2]School of Information Science and Engineering, Lanzhou University, China; [3]School of Electrical and Computer Engineering, RMIT University, Australia

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Terahertz Research Center, Institute of Electronic Engineering, China Academy of Engineering Physics, China

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[1]University of Fukui, Japan; [2]Nagoya University, Japan

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Research Center for Development of Far-Infrared Region, University of Fukui, Japan

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[1]Molecular Photoscience Research Center, Kobe University, Japan; [2]Center for Supports to Research and Education Activities, Kobe University, Japan; [3]Graduate School of Science, Kobe University, Japan; [4]Department of Chemistry, Hiroshima University, Japan; [5]Department of Applied Physics, University of Fukui, Japan

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[1]University of Regensburg - Faculty of Physics, Germany; [2]A. F. Ioffe Institute, St. Petersburg, Russian Federation; [3]Department of Physics, Chemistry and Biology (IFM), Linköping University, Sweden; [4]Chalmers University of Technology, Göteborg,, Sweden; [5]Chalmers University of Technology, Göteborg, Sweden

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[1]Japan Atomic Energy Agency, Japan; [2]Osaka University, Japan; [3]Institute for Molecular Science, Japan

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[1]Novosibirsk State University, Novosibirsk, Russian Federation; [2]Budker Institute of Nuclear Physics SB RAS, Novosibirsk, Russian Federation; [3]Scientific and Technological Center for Unique Instrumentation RAS, Moscow, Russian Federation

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[1]CSIRO Materials Science and Engineering, Australia; [2]CSIRO ICT Centre, Australia; [3]Imperial College London, United Kingdom

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[1]Nagoya Institute of Technology, Japan; [2]Yamagata University, Japan; [3]Saitama University, Japan; [4]RIKEN, Japan

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[1]Research Center for Development of Far-Infrared Region, University of Fukui, Japan; [2]University of Nizhny Novgorod, Russian Federation; [3]Nagoya University, Japan; [4]Faculty of Education and Regional Studies, University of Fukui, Japan

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[1]Research Center for Development of Far-Infrared Region, University of Fukui, Japan; [2]University of Nizhny Novgorod, Russian Federation; [3]Nagoya University, Japan

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RIKEN ASI, Tera-Photonics Lab., Japan

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[1]University of Arizona, College of Optical Sciences, United States; [2]Fachbereich Physik, Philipps-Universität Marburg, Germany

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[1]Philipps-Universität Marburg, Germany; [2]Military University of Technology, Poland; [3]University of Manchester, United Kingdom

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[1]INO, Istituto Nazionale di Ottica - CNR, Italy; [2]LENS, European Laboratory for Non-Linear Spectroscopy, Italy; [3]NEST, Istituto Nanoscienze − CNR, Italy

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[1]Samsung Advanced Institute of Technology, Korea, Republic of; [2]Calabazas Creek Research, Inc, United States

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[1]Seoul National University, Korea, Republic of; [2]Institute of Cytology and Genetics, Russian Federation; [3]Budker Institute of Nuclear Physics, Russian Federation; [4]Korea Atomic Energy Research Institute, Korea, Republic of; [5]College of Medicine, Seoul National University, Korea, Republic of; [6]Agency for Defense Development, Korea, Republic of; [7]Center for THz-Bio Application Systems, Korea, Republic of

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[1]Kanazawa Medical University, Japan; [2]Tokyo Metropolitan University, Japan; [3]National Institute of Information and Communications Technology, Japan; [4]Utsunomiya University, Japan; [5]Nagoya Institute of Technology, Japan

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[1]Seoul national University, Korea, Republic of; [2]112-23 Department of Physics and Astronomy, Seoul

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[1]National Institute for Materials Science (NIMS), Japan; [2]Kotel'nikov Institute of Radio Engineering and Electronics, Russian Federation; [3]Universitaet Tuebingen, Germany; [4]Nanjing University, China

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[1]Korea Electrotechnology Research Institute, Korea, Republic of; [2]Institute of Radio Physics and Electronics of NASU, Ukraine

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[1]University of Tsukuba, CREST-JST, WPI-MANA, Japan; [2]AIST, Japan; [3]JAEA, Japan; [4]University of Central Florida, United States

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[1]Ruhr-Universität Bochum, Germany; [2]LPA ENS, France; [3]University of Leeds, United Kingdom

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[1]Institut für Optik und Atomare Physik, Technische Universität Berlin, Germany; [2]Institut für Planetenforschung, Deutsches Zentrum für Luft- und Raumfahrt, Russian Federation; [3]Helmholtz-Zentrum Dresden-Rossendorf, Germany; [4]Institute for Physics of Microstructures, Russian Academy of Sciences, Russian Federation

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[1]Imperial College London, United Kingdom; [2]NPL, United Kingdom

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[1]Kotelnikov Institute of Radio Engineering and Electronics of RAS, Russian Federation; [2]Kotel'nikov Institute of Radio Engineering and Electronics, Russian Ac. Sci., Russian Federation; [3]Ioffe Physico-Technical Institute, Russian Ac. Sci., Russian Federation; [4]Nizhni Novgorod State University, Russian Federation; [5]IES, Université Montpellier 2, CNRS, France

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[1]Department of Physics and Astronomy, Seoul National University, Korea, Republic of; [2]School of Electrical Engineering and Computer Science, Seoul National University, Korea, Republic of; [3]Department of Dermatology, College of Medicine, Seoul National University, Korea, Republic of; [4]Department of Biomedical Science, College of Medicine, Seoul National University, Korea, Republic of

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[1]Karlsruhe Institute of Technology, Germany; [2]Physikalisch-Technische Bundesanstalt, Germany; [3]German Institute of Planetary Research, Germany; [4]Technische Universität Berlin, Germany; [5]Helmholtz Zentrum Berlin für Materialien und Energie, Germany; [6]Institute of Planetary Research, Germany; [7]Karsruhe Institute of Technology, Germany; [8]Karsruhe Institute of Tehcnology, Germany; [9]Physikalisch-Tswchnischee Bundesanstalt, Germany

Tue-Pos-37 17:30 **Simulations of Charge Transport in Semiconductor Nanostructures for Interpretation of THz Conductivity Spectra** 497

Vit Zajac[1]; Petr Kužel[2]; Hynek Němec[2]

[1]Faculty of Mathematics and Physics, Charles University in Prague, Czech Republic; [2]Institute of Physics, Academy of Sciences of the Czech Republic, Czech Republic

Tue-Pos-38 17:30 **InP-based Resonant Tunneling Diode with High Peak-to-valley Current Ratio for Terahertz Application** 498

Wei Wang; Hao Sun; Lingyun Li; Xiaowei Sun

Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China

Tue-Pos-39 17:30 **Geometry Optimization of THz Sub-harmonic Schottky Mixer Diodes** 500

Aik Yean Tang; Tomas Bryllert; Jan Stake

Chalmers University of Technology, Sweden

Tue-Pos-40 17:30 **Parallel Adaptivity in Beam Optics Analyzer** 502

Thuc Bui[1]; Mike Read[1]; Robert Ives[1]; Saurabh Tendulkar[2]; Mark Beall[2]

[1]Calabazas Creek Research, Inc., United States; [2]Simmetrix, United States

Tue-Pos-41 17:30 **Analytic bandwidth expressions of travelling-wave photodetectors for broadband terahertz emitters** 504

Jeong Woo Park[1]; Jun-Hwan Shin[2]; Han-Cheol Ryu[2]; Sang-Pil Han[2]; Namje Kim[2]; Hyunsung Ko[2]; Kyung Hyun Park[2]; Jun-Hwan Shin[2]; Han-Cheol Ryu[2]; Sang-Pil Han[2]; Namje Kim[2]; Hyunsung Ko[2]; Kyung Hyun Park[2]

[1]THz photonics Creative Research Center, ETRI, Korea, Republic of; [2]ETRI, Korea, Republic of

Tue-Pos-42 17:30 **Plasmon Resonances and Rectifying of Terahertz Radiation in GaN and InGaAs-based Field-effect Transistors** 506

Lin Wang; Weida Hu; Xiaoshuang Chen

National Laboratory for Infrared Physics, Shanghai Institute of Technical Physics,Chinese Academy of, China

Tue-Pos-43 17:30 **First-principles Study of Defects Distribution and defect complexes with different Arsenic forms Doping Source in HgCdTe** 508

Ziyan Wang; Yan Huang; Wei Lu; Xiaoshuang Chen

Shanghai Institute of Technical Physics, Chinese Academy of Sciences, China

Tue-Pos-44 17:30 **The guidance for bowtie antennas design in near-field enhancement applications** 510

Guanhai Li[1]; Lujun Huang[2]; Weida Hu[2]; Xiaoshuang Chen[2]; Wei Lu[2]

[1]National Lab for Infrared Physics, Shanghai Institute of Technical Physics, China; [2]Shanghai Institute of Technical Physics, Chinese Academy of Sciences, China

Tue-Pos-45 17:30 **A PCBTransition for Waveguide to Microstrip at W Band** 512

Z.X. Wang[1]; D.P. Fan[2]

[1]State key lab. of millimeter waves, Southeast university, China; [2]State key lab. of millimeter waves, Southeast University, China

Tue-Pos-46 17:30 **2 MW CW RF Load for ECH Systems** 514

Lawrence Ives; Max Mizuhara; George Collins

Calabazas Creek Research, Inc., United States

Tue-Pos-47 17:30 **Motion Stability of Equilibrium Electrons with Off-Axis Guiding Centers in Conventional and Reversed Guide Field FEL** 516

Xiao-Li Huang; Shi-Chang Zhang; Xiao-Li Huang; Yu-Pin Ji; Shi-Jian Wang

Xihua University, China

Tue-Pos-48 17:30 **Effect of Plasma Frequency on Electron Phase-Orbits in FEL** 518

Shi-Chang Zhang[1]; Yu-Pin Ji[2]; Shi-Jian Wang[2]; Yong-Gen Xu[2]; Xiao-Xu Liu[2]

[1]Xihua University, Comoros; [2]Xihua University, China

Tue-Pos-49 17:30 **Parameters Analysis of Nonlinear Saturation Power in a FEL Amplifier** 520

Shi-Chang Zhang; Xiao-Xu Liu; Yu-Pin Ji; Shi-Jian Wang; Jin-Yue Xu; Yong-Gen Xu

Xihua University, China

Tue-Pos-50 17:30 **Relationship between Polarization Independent Terahertz Transmission and Structural Folding Angle of Slots** 522

Joong Wook Lee; Jin-Kyu Yang; Ik-Bu Sohn; Chul Kang; Chul-Sik Kee

GIST, Korea, Republic of

Tue-Pos-51 17:30 **Terahertz Propagation on Metallic Nanostructures using FDTD Method** N/A

Jorge Sosa-Pedroza[1]; Mauro Enciso-Aguilar[2]; Manuel Benavides-Cruz[3]
[1]Instituto Politecnico Nacional ESIME Posgrado en Telecomunicaciones, Mexico; [2]Instituto Politécnico Ncional ESIME, Mexico; [3]Universidad Veracruzana Poza Rica, Mexico

Tue-Pos-52 17:30 **Transmission in Planar Metallic Photonic Crystal Folded Waveguide** 523
Qianzhong Xue
Institute Of Electronics Chinese Academy Of Scences, China

Tue-Pos-53 17:30 **Terahertz coupling and transmission via sub-wavelength eccentric coaxial aperture** 525
Jun Zhou; Renbin Zhong; Shenggang Liu
University of Electronic Science and Technology of China, China

Tue-Pos-54 17:30 **Thermal behavior of InGaAs-THz photoconductive antennas** 527
Ole Peters[1]; Michael Schwerdtfeger[1]; Roman Dietz[2]; Rafal Wilk[3]; Rainer Scheunemann[3]; Ronald Holzwarth[3]; Martin Koch[1]
[1]Universität Marburg, Germany; [2]HHI Fraunhofer Institute, Germany; [3]Menlo Systems GmbH, Germany

Tue-Pos-55 17:30 **Study on the transmission characteristics of metal wire** 529
Renbin Zhong; Weihao Liu; Jun Zhou; Shenggang Liu
Terahertz S&T Research Center, University of Electronic Science and Technology of China, China

Tue-Pos-56 17:30 **Analysis of the waves in the plasma guided by a dielectric loaded coaxial slow wave structure** 531
S. J Jian; Y.R. Pan; S.H Lin; C. S. Kou
National Tsing Hua university, Taiwan

Tue-Pos-57 17:30 **Chemosensitive sensors based on THz/infrared properties of planar metamaterials** 532
Christoph Drexler
University of Regensburg, Germany

Tue-Pos-58 17:30 **PIC Simulation of a Conventional W-band Gyrotron Oscillator** 533
Zhi-Hui Geng; Pu-Kun Liu
Institute of Electronics, Chinese Academy of Sciences, China

Tue-Pos-59 17:30 **Terahertz Polarization Splitter Based On Hollow Core Fiber Using Index-Matching Coupling Method** N/A
Yu Hou; Hao Zhang; Fei Fan; Xianghui Wang; Shengjiang Chang
Institute of Modern Optics, Nankai University, China

Tue-Pos-60 17:30 **Design and Experiment Demonstration of a 94 GHz second-harmonic Gyrotron** 534
Ying-hui Liu
University of Electronic Science and Technology of China, China

Tue-Pos-61 17:30 **Propagation of broadband THz surface plasmon through thick and thin polymer layers** 536
Maksim Nazarov[1]; Evgeni Bezus[2]; Alexander Shkurinov[3]
[1]ILIT RAS, Russian Federation; [2]IPCI RAS, Russian Federation; [3]MSU, Russian Federation

Tue-Pos-62 17:30 **Millimeter waves for moisture testing and treatment culture objects** 538
Svetlana von Gratowski; Vjacheslav Meriakri
Kotel'nikov Institute of Radioengineering and Electronics Russian Academy of Sciences. Fryazino Bran, Russian Federation

Tue-Pos-63 17:30 **Terahertz Absorption Spectra of nanometer-confined water at low temperatures** 539
Hiroshi Murakami
Japan Atomic Energy Agency, Japan

Tue-Pos-64 17:30 **RCS Prediction of Planar Slotted Waveguide Array Antenna in Terahertz Regime** 540
Chunchun Li; Bin Deng; Yuliang Qin; Hongqiang Wang; Xiang Li
Institute of Space Information Technology, China

Tue-Pos-65 17:30 **Study of scattering characteristics for perfectly electrical conducting sphere in terahertz regime** N/A
Ruijun Wang; Bin Deng; Hongqiang Wang; Yuliang Qin
Institute of Space Information Technology, China

Wednesday, September 26, 2012

08:30 - 10:30 **Wednesday Plenary** Hope Theatre
Chair: Peter Siegel

Wed-Plen-1 08:30 **Cyclotron Masers and Gyrotrons** N/A
Gregory S. Nusinovich
University of Maryland, United States

Wed-Plen-2 09:15 **Terahertz in biomedical research** N/A
Derek Abbott
University of Adelaide, Australia

Thursday, September 27, 2012

08:30 - 10:30 **Thursday Plenary** Hope Theatre
Chair: Rene Beigang

Thu-Plen-1 08:30 **High power NovoFEL: developments and new results** 542

Gennady Kulipanov
Budker Institute of Nuclear Physica SB RAS, Russian Federation

Thu-Plen-2 09:15 **Nonlinear carrier dynamics induced by intense terahertz wave** N/A
Koichiro Tanaka
Kyoto University, Japan

11:00 - 12:30 **Thursday-A-1: Novel Sources V** Communications Centre 1

Chair: Owen Marshall

Thu-A-1-1 11:00 **(Invited) Laser-excited Radiation from a Thin Wire** 543
Yen-Chieh Huang
HOPE Laboratory, Taiwan

Thu-A-1-2 11:30 **(Invited) Pulsed THz emission from low temperature grown Be-doped InGaAs/InAlAs photoconductive switches at 1030 nm excitation** 546
Roman J.B. Dietz[1]; Rafal Wilk[2]; Björn Globisch[1]; Helmut Roehle[1]; Dennis Stanze[1]; Sven Ullrich[1]; Steffen Schumann[3]; Norman Born[3]; Nino Voss[3]; Matthias Stecher[3]; Martin Koch[3]; Bernd Sartorius[1]; Martin Schell[1]
[1]Fraunhofer HHI, Germany; [2]Menlo Systems, Germany; [3]Universität Marburg, Germany

Thu-A-1-3 12:00 **Extrinsic photoconductivity at 1550 nm and 1030 nm for THz Generation** 549
John Middendorf; Elliott Brown
Wright State University, United States

Thu-A-1-4 12:15 **Automodulation processes in THz resonant backward wave oscillator with low focusing magnetic field** 551
Matlabjon Sattorov[1]; Eduard Khutoryan[2]; Konstantin Lukin[2]; Gun-Sik Park[3]; Ohjoon Kwon[1]
[1]Seoul National University and Seoul-Teracom, Inc, Korea, Republic of; [2]A. Usikov Institute for Radio Physics and Electronics, Ukraine; [3]Seoul National University, Center for THz-Bio Application Systems and and Seoul-Teracom, Inc, Korea, Republic of

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11:00 - 12:30 **Thursday-A-2: Gyro-Oscillators and Amplifiers IV** Communications Centre 2

Chair: Kwo Ray Chu

Thu-A-2-1 11:00 **(Invited) W-band Gyro-devices using Cusp Electron Gun and Helically Corrugated Waveguides** 553
Wenlong He; Craig Donaldson; Liang Zhang; Paul McElhinney; Alan Phelps; Kevin Ronald; Adrian Cross
University of Strathclyde, United Kingdom

Thu-A-2-2 11:30 **Progress on 140 GHz, 1 MW, CW Series Gyrotrons for W7-X** 556
John Jelonnek[1]; Harald Braune[2]; Günther Dammertz[1]; Volker Erckmann[3]; Jens Flamm[1]; Gerd Gantenbein[1]; Frank Hollmann[3]; Walter Kasparek[4]; Stefan Kern[5]; Heinrich Laqua[6]; Francois Legrand[7]; Wolfgang Leonhardt[1]; Gerald Litaer[8]; Carsten Lechte[9]; Frank Noke[10]; Frank Purps[10]; Andrey Samartsev[1]; Andreas Schlaich[1]; martin Schmid[11]; Manfred Thumm[1]; Peter Uhren[10]; Lothar Jonitz[10]; Francois Legrand[12]
[1]Karlsruhe Institute for Technology, Germany; [2]Max-Planck-Institute fuer Plasmaphysik Garching, Germany; [3]Max-Planck-Institut fuer Plasmaphysik (IPP), Germany; [4]Universitaet Stuttgart, Insititut fuer Plasmaforschung (IPF), Germany; [5]Karlsruhe Instittute for Technology, Germany; [6]Max-Planck-Institut fuer Plasmaphysik (IPP), Teilinstitut Greifswald, Germany; [7]Thales Electron Devices, France; [8]Thales electron Devices, France; [9]IPF, Stuttgart, Germany; [10]Max-Planck-Institut fuer Plasmaphysik, Germany; [11]Karslruhe Institute for Technology, Germany; [12]Thales Electron Devices (TED), France

Thu-A-2-3 11:45 **Experimental results on a modular-gyrotron operating at 0.26THz for 400MHz DNP/NMR spectroscopy application** 558
Minh-Quang Tran[1]; Jean-Philippe Hogge[1]; Stefano Alberti[1]; Jean-Philippe Ansermet[2]; Falk Braunmueller[1]; Cuanillon Philippe[3]; Dubray Jeremie[1]; Damien Fasel[1]; Emile De Rijk[4]; Trach-Minh Tran[1]; Quentin Vuillemin[1]
[1]EPFL-CRPP, Switzerland; [2]EPFL-LPMN, Switzerland; [3]EPFL-ICMP, Switzerland; [4]EPFL-LPMN/SWISSTO12, Switzerland

Thu-A-2-4 12:00 **Studies on a 0.5 MW, 42 GHz CW, Conventional Cavity Gyrotron** 560
M. V. Kartikeyan[1]; Parth Kalaria[1]; Manfred Thumm[2]
[1]Indian Institute of Technology, Roorkee, India; [2]Karlsruhe Institute of Technology, India

Thu-A-2-5 12:15 **Modes selection of the dual-frequency operation terahertz coaxial gyrotron with two electron beams** 562
Diwei Liu
University of Electronic Science and Technology of China, China

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11:00 - 12:15 **Thursday-A-3: Security** Communications Centre 3

Chair: Cunlin Zhang

Thu-A-3-1 11:00 **3-D broadband terahertz synthetic aperture imaging** 564
Samuel Henry; Gabriel Kniffin; Lisa Zurk

Portland State University, United States

Thu-A-3-2 11:15 **Broadband terahertz analysis of energetic materials – composition and preparation dependencies** 566
Anna Katharina Huhn[1]; Elena Saenz[2]; Peter de Maagt[2]; Peter Haring Bolivar[1]
[1]University of Siegen, Germany; [2]ESA-ESTEC, Netherlands

Thu-A-3-3 11:30 **Scaled bistatic radar cross section measurements with a fiber-coupled THz time domain spectrometer** 568
Ralf Gente[1]; Christian Jansen[1]; Robert Geise[2]; Ole Peters[1]; Michael Gente[1]; Norman Krumbholz[3]; Christoph Möller[1]; Stefan Busch[1]; Martin Koch[1]
[1]Philipps Universität Marburg, Germany; [2]Institute for Electromagnetic Compatibility, Braunschweig, Germany; [3]Terahertz Communications Laboratory, Braunschweig, Germany

Thu-A-3-4 11:45 **Data Processing of Terahertz Signals for In situ Explosives Detection and Component Analysis via Terahertz Time-Domain Spectroscopy** 570
Jindoo Choi; Sung Yoon Ryu; Wonsik Kwon; Kyung-Soo Kim; Soohyun Kim
Korea Advanced Institute of Science and Technology (KAIST), Korea, Republic of

Thu-A-3-5 12:00 **Study on Free Electrons Generated by Concealed Radioactive Materials under Controlled Gaseous Environment** 572
Dongsung Kim
UNIST, Korea, Republic of

11:00 - 12:30 **Thursday-A-4: Spectroscopy of Organic Materials** Communications Centre 4

Chair: Patrick Mounaix

Thu-A-4-1 11:00 **(Invited) Material Characterization at Low Frequencies Using THz and Raman Spectroscopy** 574
Yasar Kutuvantavida[1]; Grant Williams[2]; Elise Pogson[3]; Delower Bhuiyan[4]; Krunal Radhanpura[3]; Roger Lewis[3]
[1]Industrial Research Limited and Massey University, New Zealand; [2]MacDiarmid Institute, Victoria University of Wellington, New Zealand; [3]University of Wollongong, Australia; [4]Industrial Research Limited, New Zealand

Thu-A-4-2 11:30 **Conduction Properties in Polyaniline-Polyethylene Composites in the Terahertz Region** 577
Alvin Karlo Tapia; Keisuke Tominaga
Kobe University, Japan

Thu-A-4-3 11:45 **Vibrational spectra of nylon-6, nylon-6/6, nylom-11 and nylon-12 studied by terahertz spectroscopy** 579
Hal Suzuki[1]; Shinya Ishii[1]; Chiko Otani[1]; Hiromichi Hoshina[1]; Yusuke Morisawa[2]; Harumi Sato[3]; Shigeki Yamamoto[3]; Yukihiro Ozaki[3]; Tetsuji Uchiyama[4]
[1]RIKEN, Terahertz Sensing & Imaging Laboratory, Japan; [2]Kinki University, Japan; [3]Kwansei Gakuin University, Japan; [4]Miyagi University of Education, Japan

Thu-A-4-4 12:00 **pH dependence of carrier transport in PEDOT:PSS films investigated by THz and IR-UV spectroscopy** 581
Masatsugu Yamashita[1]; Takahiko Sasaki[2]; Hidenori Okuzaki[3]; Chiko Otani[1]
[1]RIKEN, Japan; [2]Tohoku University, Japan; [3]Yamanashi University, Japan

Thu-A-4-5 12:15 **Temperature Dependence of Conductivity of PEDOT:PSS in Terahertz Region** 583
Yusuke Yamada[1]; Masatsugu Yamashita[2]; Takahiko Sasaki[3]; Hidenori Okuzaki[4]; Chiko Otani[1]
[1]THz sensing and imaging laboratory, RIKEN ASI and Grad. Sch. Sci. Tohoku Univ, Japan; [2]THz sensing and imaging laboratory, RIKEN ASI, Japan; [3]IMR Tohoku Univ, Japan; [4]Inter.Grad. Sch. of Med. and Eng Univ. Yamanashi, Japan

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11:00 - 12:30 **Thursday-A-5: Novel Receivers III** Communications Centre 5

Chair: Haring Bolivar

Thu-A-5-1 11:00 **(Invited) A Terahertz Oscillator based on GaN-HFET with Integrated Antenna for Frequency Mixing and Rectification** 585
Alessandra Di Gaspare[1]; Michele Ortolani[2]; Roberto Casini[1]; Vittorio Foglietti[1]; Valeria Giliberti[2]; Ennio Giovine[1]; Florestano Evangelisti[3]; Sergey Sadofev[4]; Raffaella Calarco[4]
[1]CNR-Institute for Photonics and Nanotechnologies, Italy; [2]Università di Roma "La Sapienza", Italy; [3]Università di Roma "RomaTre", Italy; [4]Paul-Drude-Institut für Festkörperelektronik, Germany

Thu-A-5-2 11:30 **Comparison of THz Emitters and Detectors pumped at 1560 nm: DAST, ErAs:InGaAs and LTG GaAs** 588
Frank Ospald; Wissem Zouaghi; Jan-Martin Rämer; René Beigang
University of Kaiserslautern, Germany

Thu-A-5-3 11:45 **Asymmetric Dual-Grating Gate InGaAs/InAlAs/InP HEMTs for Ultrafast and Ultrahigh Sensitive Terahertz Detection** 590
Hiromasa Ito[1]; Stephane Boubanga Tombet[2]; Yudai Tanimoto[2]; Tetsuya Suemitsu[2]; Vicheslav Popov[3];

Taiichi Otsuji[2]
[1]RIKEN Sendai, Japan; [2]Research Institute of Electrical Communication, Tohoku University, Japan; [3]Institute of Radio Engineering and Electronics, Russian Federation

Thu-A-5-4 12:00 **Gate-Voltage Tunable Terahertz Detection by a GaAs/AlGaAs Quantum Device** 592
Daichi Suzuki; Shunri Oda; Yukio Kawano
Tokyo Institute of Technology, Japan

Thu-A-5-5 12:15 **Terahertz Radiation Detection through a Micro-Scale Antenna and a Silicon-Based Quantum Dot** 594
Luca Crespi; Tetsuo Kodera; Yukio Kawano; Shunri Oda
Tokyo Institute of Technology, Japan

14:00 - 15:30 **Thursday-B-1: Novel Components V** Communications Centre 1

Chair: Alexander Argyros

Thu-B-1-1 14:00 **Asymmetric Double Grating Gate Detector Fabricated on Industrial Pseudomorphic AlGaAs/InGaAs/AlGaAs Heterostructure** 596
Alessandra Di Gaspare[1]; Roberto Casini[1]; Nina Dyakonova[2]; Christoph Drexler[3]; Valeria Giliberti[1]; Michele Ortolani[1]; Wojciech Knap[2]; Sergey Ganichev[3]
[1]CNR-Institute for Photonics and Nanotechnologies and Sapienza University, Italy; [2]Laboratoire Charles Coulomb, CNRS and Université Montpellier 2, France; [3]Terahertz Center, University of Regensburg, Germany

Thu-B-1-2 14:15 **Terahertz frequency agility of uncooled antenna-coupled microbolometer arrays** 598
Jérémy Lalanne-Dera; Jérôme Meilhan; Serge Gidon; Gilles Lasfargues; Stéphane Pocas; Jean-Louis Ouvrier-Buffet
CEA-Leti, France

Thu-B-1-3 14:30 **Optically controlled Terahertz Filtering, Beam Steering, and Imaging** 600
Stefan Busch[1]; Steffen Schumann[1]; Benedikt Scherger[1]; Christian Jansen[1]; Maik Scheller[1]; Bernd Fischer[2]; Martin Koch[1]
[1]Philipps-Universität Marburg, Germany; [2]French-German Research Institute of Saint Louis, France

Thu-B-1-4 14:45 **Study of diffractive optical elements using high-power radiation of terahertz Novosibirsk free electron laser** 602
Boris Knyazev[1]; Yulia Choporova[1]; Vasily Gerasimov[1]; Maxim Vlasenko[2]; Vladimir Pavelyev[3]; Boris Volodkin[4]; Agafonov Andrey[4]; Konstantin Tukmakov[4]; Andrey Kaveev[5]; Grigory Kropotov[5]; Ekaterina Tsygankova[5]; Mikhail Stupak[6]; Irina Palchikova[6]
[1]Novosibirsk State University, Novosibirsk, Russian Federation; [2]Budker Institute of Nuclear Physics SB RAS, Novosibirsk, Russian Federation; [3]Image Processing Systems Institute RAS, Samara, Russian Federation; [4]Samara State Aerospace University, Samara, Russian Federation; [5]TYDEX, J. S. Co, St. Peterburg, Russian Federation; [6]Technological Design Institute of Scientific Instrument Engineering SB RAS, Novosibirsk, Russian Federation

Thu-B-1-5 15:00 **Polymer Fiber Bragg Grating Notch Filters for the THz Region** 604
Shu Fan Zhou; Hau Ping Chan; Laurence Reekie; Yuk Tak Chow; Po Sheun Chung; Kwai Man Luk
City University of Hong Kong, Hong Kong

Thu-B-1-6 15:15 **Continuous-wave coherent homodyne detection with balanced electro-optical phase modulation** 606
Jae-Young Kim; Ho-Jin Song; Katsuhiro Ajito; Makoto Yaita; Naoya Kukutsu
NTT corp. NTT Microsystem Integration Labs., Japan

14:00 - 15:30 **Thursday-B-2: Waveguides III** Communications Centre 2

Chair: Tahsin Akalin

Thu-B-2-1 14:00 **(Invited) Dark and Bright Surface Plasmon Resonances of Metal Meshes for Mid-Infrared Sensing at the Nanoscale** 608
Michele Ortolani[1]; Odeta Limaj[2]; Alessandra Di Gaspare[1]; Valeria Giliberti[1]; Francesco Mattioli[1]; Roberto Leoni[1]; Stefano Lupi[2]
[1]CNR Institute for Photonics and Nanotechnology, Italy; [2]Sapienza University of Rome, Italy

Thu-B-2-2 14:30 **Sub-diffraction modes in fibers with uniaxial metamaterial cladding** 611
Shaghik Atakaramians; Alexander Argyros; Simon Fleming; Boris Kuhlmey
The University of Sydney, Australia

Thu-B-2-3 14:45 **Characterization of the Complex Permittivity of Thin Films Using a Slow-wave Coplanar Strips Resonator** 613
Ali Karami Horestani; Christophe Fumeaux; Said Al-Sarawi; Derek Abbott
The University of Adelaide, Australia

Thu-B-2-4 15:00 **THz Beam Steering Based on Plasmonic Waveguide Scattering with Tunable Gratings** 615
Yasuaki Monnai[1]; Kristian Altmann[2]; Martin Koch[2]; Hartmut Hillmer[3]; Hiroyuki Shinoda[1]
[1]The University of Tokyo, Japan; [2]University of Marburg, Germany; [3]University of Kassel, Germany

Thu-B-2-5 15:15 **Terahertz wave radiation source based on two-section periodical waveguide structures** 617

Shenggang Liu[1]; Sen Gong[1]; Weihao Liu[1]; Yaxin Zhang[2]; Jun Zhou[2]; Ping Zhang[2]

[1] University of Electronic Science and Technology of China, China; [2]University of Electronic Science and Technology of China, China

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14:00 - 15:30 **Thursday-B-3: Imaging** Communications Centre 3

Chair: Rene Beigang

Thu-B-3-1 14:00 **(Invited) All-electronic terahertz imaging: planar emitters and detectors at 220 GHz in CMOS technology** 621

Alvydas Lisauskas[1]; Bassam Khamaisi[2]; Sebastian Boppel[1]; Martin Mundt[1]; Viktor Krozer[1]; Eran Socher[2]; Hartmut Roskos[1]

[1]University of Frankfurt, Germany; [2]School of Electrical Engineering, Tel-Aviv University, Israel

Thu-B-3-2 14:30 **Terahertz confocal microscopy with a quantum cascade laser source** 622

Pasqualantonio Pingue[1]; Alessandro Tredicucci[1]; Ugo Siciliani de Cumis[1]; Ji-Hua Xu[1]; Luca Masini[1]; Pier Alberto Benedetti[2]; Miriam Serena Vitiello[1]

[1]NEST, CNR-NANO and Scuola Normale Superiore, Italy; [2]IPCF - CNR, Italy

Thu-B-3-3 14:45 **Quantitative Mapping of Large Area Graphene Conductance** 624

Jonas Due Buron[1]; Dirch Petersen[1]; Peter Bøggild[1]; David Cooke[2]; Michael Hilke[2]; Jie Sun[3]; Eric Whiteway[2]; Ole Hansen[1]; Peter Nielsen[4]; August Yurgens[3]; Peter Jepsen[1]

[1]Technical University of Denmark, Denmark; [2]McGill University, Canada; [3]Chalmers University of Technology, Sweden; [4]Capres A/S, Denmark

Thu-B-3-4 15:00 **Continuous-wave terahertz near-field spectroscopy and imaging with a micro-machined photo-mixer probe-tip** 626

Michael Nagel[1]; Christopher Matheisen[2]; Anselm Deninger[3]; Heinrich Kurz[1]

[1]AMO GmbH, Germany; [2]RWTH Aachen University, Germany; [3]Toptica Photonics AG, Germany

Thu-B-3-5 15:15 **PS-THz imaging: analysis of orientation and birefringence** 628

Stefan Katletz[1]; Michael Pfleger[1]; Harald PÃ¼hringer[1]; Martin Mikulics[2]; Nico Vieweg[3]; Ole Peters[3]; Benedikt Scherger[3]; Maik Scheller[3]; Martin Koch[3]; Karin Wiesauer[1]

[1]Recendt GmbH, Austria; [2]Peter GrÃ¼nberg Institute (PGI-9), Forschungszentrum JÃ¼lich, Germany; [3]Fachbereich Physik, Philipps UniversitÃ¤t Marburg, Germany

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14:00 - 15:30 **Thursday-B-4: Spectroscopy of Solids I** Communications Centre 4

Chair: Heinz-Wilhelm Huebers

Thu-B-4-1 14:00 **(Invited) TiO2 microspheres metamaterials with negative permeability in the terahertz range** 630

Cathy Elissalde[1]; Patrick Mounaix[2]; Riad Yahioui[2]; Christelle Kadlec[3]; Filip Kadlec[3]; Petr Kuzel[3]; F Dominec[3]; Mario Maglione[1]

[1]ICMCB, France; [2]LOMA UMR 5798, France; [3]Institute of Physics, Academy of Sciences of the Czech Republic, Czech Republic

Thu-B-4-2 14:30 **(Invited) Spin resonance in EuTiO3 probed by GHz time-domain ellipsometry** 632

Dook van Mechelen[1]; Dirk van der Marel[2]; Iris Crassee[2]; Taras Kolodiazhnyi[3]

[1]ABB Corporate Research, Switzerland; [2]Universite de Geneve, Switzerland; [3]National Institute of Materials Science, Japan

Thu-B-4-3 15:00 **Observation of Spontaneous Spin Reorientation in ErFeO3 with Terahertz Time Domain Spectroscopy** 633

Keita Yamaguchi; Takayuki Kurihara; Yasuo Minami; Makoto Nakajima; Tohru Suemoto

Institute for Solid State Physics, The University of Tokyo, Japan

Thu-B-4-4 15:15 **Film thickness dependence and multi-gap superconductivity in Fe-based Superconductors.** 635

Andrea Perucchi[1]; Leonetta Baldassarre[1]; Stefano Lupi[2]; Boby Joseph[3]; Paolo Dore[4]

[1]Sincrotrone Trieste S.C.p.A., Italy; [2]CNR-IOM and Universita di Roma "Sapienza", Italy; [3]Universita di Roma, Italy; [4]CNR-SPIN and Universita di Roma "Sapienza", Italy

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14:00 - 15:30 **Thursday-B-5: Quantum Cascade Lasers** Communications Centre 5

Chair: Gian Piero Gallerano

Thu-B-5-1 14:00 **(Invited) Terahertz Semiconductor Quantum Devices and Their Applications** 638

J. C. Cao

Shanghai Institute of Microsystem and Information Technology, Chinese Academy of Sciences, China

Thu-B-5-2 14:30 **The intrinsic linewidth of a THz quantum cascade laser** 640

Miriam Serena Vitiello[1]; Luigi Consolino[2]; Saverio Bartalini[2]; Andrea Taschin[2]; Alessandro Tredicucci[3]; Massimo Inguscio[4]; Paolo De Natale[2]

[1]Consiglio Nazionale delle Ricerche, Italy; [2]CNR- Istituto Nazionale di Ottica and LENS, Italy; [3]CNR-Istituto Nanoscienze, Italy; [4]LENS and Università degli Studi di Firenze, Italy

Thu-B-5-3 14:45 **Emission intensity from terahertz quantum cascade lasers under near-infrared optical pulse injection** 642

Yohei Sakasegawa[1]; Shingo Saito[1]; Norihiko Sekine[1]; Masaaki Ashida[2]; Iwao Hosako[1]

[1]National Institute of Information and Communications Technology, Japan; [2]Graduate School of Engineering Science, Osaka University, Japan

Thu-B-5-4 15:00 **Ultra-fast sampling of terahertz pulses from a quantum cascade laser using superconducting antenna-coupled NbN and YBCO detectors** 644

Paul Dean[1]; Alexander Valavanis[1]; Mohammed Salih[1]; Siddhant Chowdhury[1]; Edmund Linfield[1]; Giles Davies[1]; Alexander Scheuring[2]; A Stockhausen[2]; P Probst[2]; S Wuensch[2]; K Il"in[2]; Michael Siegel[2]

[1]University of Leeds, United Kingdom; [2]Karlsruhe Institute of Technology, Germany

Thu-B-5-5 15:15 **Injection seeding dynamics of THz quantum cascade lasers** 646

Joshua Freeman[1]; Nathan Jukam[2]; Jean Maysonnave[1]; Kenneth Maussang[1]; M. S. M. Ibrahim[3]; P. Cavalié[1]; P. Dean[3]; Surah Khanna[3]; David Steenson[3]; Edmund Linfield[3]; Giles Davies[3]; Sukhdeep Dhillon[1]; Jerome Tignon[1]

[1]Laboratoire Pierre Aigrain, Ecole Normale Supérieure, CNRS (UMR 8551), France; [2]Universität für Physik und Astronomie, Ruhr-Universität Bochum, Germany; [3]School of Electronic and Electrical Engineering, University of Leeds, United Kingdom

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16:00 - 17:30 **Thursday-C-1: Novel Components VI** Communications Centre 1

Chair: Peter Uhd Jepsen

Thu-C-1-1 16:00 **(Invited) Study of the two-color emission dynamics from a vertical-external-cavity surface-emitting laser** 647

Matthias Wichmann[1]; Alexej Chernikov[1]; Mohammad Khaled Shakfa[1]; Stephan W. Koch[1]; Maik Scheller[2]; Jerome V. Moloney[2]; Martin Koch[1]

[1]Philipps-Universität Marburg, Germany; [2]College of Optical Sciences, University of Arizona, United States

Thu-C-1-2 16:30 **Milliwatt level output power generated by photomixing in a GaAs photoconductor** 650

Emilien Peytavit[1]; Sylvie Lepilliet[1]; Frank Hindle[2]; Christophe Coinon[1]; Tahsin Akalin[1]; Guillaume Ducournau[1]; Gael Mouret[2]; Jean-Francois Lampin[1]

[1]IEMN CNRS/Lille University, France; [2]LPCA, Université du Littoral Côte d'Opale, France

Thu-C-1-3 16:45 **Experimental Demonstration of Terahertz Wave Generation Using a Frozen Wave on a Planar Transmission Line** 652

Jongsuck Bae; Tomoki Yamashita; Sanae Tsuchiya; Seiichiro Ariyoshi

Department of Engineering Physics, Electronics and Mechanics, Nagoya Institute of Technology, Japan

Thu-C-1-4 17:00 **Longitudinal Computer-Generated Holograms in Terahertz Lasers: Electronic Tuning and Frequency Control** 654

Subhasish Chakraborty[1]; Owen Marshall[1]; Md. Khairuzzaman[1]; Harvey Beere[2]; David Ritchie[2]

[1]The University of Manchester, United Kingdom; [2]University of Cambridge, United Kingdom

Thu-C-1-5 17:15 **Nonlinear optical conductance of a gapped graphene p-n junction in THz regime** 657

Shareef Sultan; Chao Zhang

University of Wollongong, Australia

16:00 - 17:30 **Thursday-C-2: Ultrafast and Nonlinear Measurements II** Communications Centre 2

Chair: Michael Johnston

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Chris Wood; Divyang Mistry; Lianhe Li; John Cunningham; Edmund Linfield; Giles Davies

University of Leeds, United Kingdom

Thu-C-2-2 16:30 **Surface plasmon-enhanced terahertz emission from single layer graphene** 662

Young-Mi Bahk[1]; Gopakumar Ramakrishnan[2]; Jong Ho Choi[1]; Hyeong-Ryeol Park[1]; Yong Hyup Kim[1]; Kwang Jun Ahn[1]; Paul Planken[2]; Dai-Sik Kim[1]

[1]Seoul National University, Korea, Republic of; [2]Delft University of Technology, Netherlands

Thu-C-2-3 16:45 **Photoexcited carrier dynamics in antiferromagnetic MnO studied by optical-pump THz-probe spectroscopy** 664

Junichi Nishitani; Takeshi Nagashima; Masanori Hangyo

Institute of Laser Engineering, Osaka University, Japan

Thu-C-2-4 17:00 **Ultrafast high-resolution THz time-domain spectroscopy** 666

Vitaly Kubarev[1]; Evgeny Chesnokov[2]; Pavel Koshlyakov[2]

[1]BINP, Russian Federation; [2]IKKC, Russian Federation

Thu-C-2-5 17:15 **Critical Comparison of Carrier Lifetime at 1.55 µm of Ion-Irradiated InGaAs, Cold-Implanted InGaAsP, and ErAs:GaAs** 668

Matthieu Martin[1]; Elliott, R. Brown[1]; Juliette Mangeney[2]; Andrè Feckecs[3]; Richard Arès[3]; Denis Morris[3]
[1]Wright State University, United States; [2]IEF, France; [3]Université de Sherbrooke, Canada

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16:00 - 17:30 **Thursday-C-3: Metrology II** Communications Centre 3

Chair: Withawat Withayachumnankul

Thu-C-3-1 16:00 **(Invited) Using THz frequency combs generated from unstabilized femtosecond lasers for near- and far-field characterization of GHz and THz emitters** 670
Heiko Füser[1]; Mark Bieler[1]; Alexander Geise[2]
[1]Physikalisch-Technische Bundesanstalt, Germany; [2]Astrium GmbH – Satellites, Germany

Thu-C-3-2 16:30 **Sample Size Limitations for Frequency-Swept Free-Space Material Characterization** 673
Graham Bell[1]; Axel Murk[2]; Richard Wylde[3]
[1]Thomas Keating Ltd, United Kingdom; [2]IAP, Univerity of Bern, Switzerland; [3]University of St.Andrews and Thomas Keating Ltd, United Kingdom

Thu-C-3-3 16:45 **Characterization of Quarter Wavelength Line as Measurement Standard for Scattering Parameter in the Frequency Range of W-band and D-band** 674
Masahiro Horibe; Ryoko Kishikawa
NMIJ-AIST, Japan

Thu-C-3-4 17:00 **Confidence of Waveguide VNA Measurement in the Frequency Range of W-band and D-band** 676
Ryoko Kishikawa; Masahiro Horibe
NMIJ-AIST, Japan

Thu-C-3-5 17:15 **Generation of Gapless Terahertz Frequency Comb** 678
Takeshi Yasui[1]; Yi-da Hsieh[2]; Yuki Iyonaga[2]; Yoshiyuki Sakaguchi[2]; Shuko Yokoyama[2]; Hajime Iyonaga[3]; Kaoru Minoshima[3]; Tsutomu Araki[2]
[1]University of Tokushima, Japan; [2]Osaka Univ., Japan; [3]AIST, Japan

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16:00 - 17:30 **Thursday-C-4: Biology and Medicine III** Communications Centre 4

Chair: Andrea Markelz

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Alexander Shkurinov[1]; Alexander Borodin[1]; Nikolay Brandt[1]; Andrey Chikishev[1]; Alexey Kargovsky[1]; Qin Luo[2]; Anna Mankova[1]; Inna Sakodynskaya[3]; Kejia Wang[2]; Haitao Zhao[2]; Xicheng Zhang[4]
[1]Department of Physics and International Laser Center, Lomonosov Moscow State University, Russian Federation; [2]Wuhan National Laboratory For Optoelectronics, Huazhong University of Science & Technology, China; [3]Department of Chemistry and International Laser Center, Lomonosov Moscow State University, Russian Federation; [4]The Institute of Optics University of Rochester, United States

Thu-C-4-2 16:30 **Arithmetic for Eliminating Detection Induced Terahertz Pulse Distortion and Its Application in Identifying Aging Medicine** N/A
Kun Meng
Institute of Fluid Physics, China Academy of Engineering Physics, China

Thu-C-4-3 16:45 **Determination of relaxation time of DNA hydration water by THz-TDS** 683
Heyjin Son[1]; Da-Hye Choi[1]; Seonghoon Jung[2]; Jaehun Park[2]; Woong-Yang Park[3]; Oh Sang Kwon[4]; Gun-Sik Park[1]
[1]Department of Physics and Astronomy, Seoul National University, Korea, Republic of; [2]Pohang Accelerator Laboratory, Korea, Republic of; [3]Department of Biomedical Sciences, College of Medicine, Seoul National University, Korea, Republic of; [4]Department of Dermatology, College of Medicine, Seoul National University, Korea, Republic of

Thu-C-4-4 17:00 **Interpretive Modeling of THz Response of Biomolecules as Filter Circuits** 685
Oleksandr Sushko; Rostyslav Dubrovka; Robert Donnan
Queen Mary, University of London, School of Electronic Engineering and Computer Science, United Kingdom

Thu-C-4-5 17:15 **Far-infrared torsional modes of DNA components studied using highly sensitive broad-band terahertz Fourier transform spectroscopy.** 687
Carole Tucker[1]; Peter Weightman[2]
[1]Cardiff University, United Kingdom; [2]University of Liverpool, United Kingdom

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16:00 - 17:30 **Thursday-C-5: Spectroscopy of Solids II** Communications Centre 5

Chair: Hartmut Roskos

Thu-C-5-1 16:00 **(Invited) Multi-component response in multilayer graphene revealed through terahertz and infrared magneto-spectroscopy** 688
Chase Ellis[1]; Andreas Stier[2]; Deepu George[1]; Myoung-Hwan Kim[1]; Andrea Markelz[1]; John Cerne[1]; Joseph Tischler[3]; Evan Glaser[3]; Rachael Myers-Ward[4]; Joseph Tedesco[4]; Charles Eddy[4]; David Gaskill[4]

[1]Department of Physics, University at Buffalo, SUNY, United States; [2]The Institute of Quantum Matter, The Johns Hopkins University, United States; [3]Electronics Science and Technology Division Code 6877, Naval Research Laboratory, United States; [4]Power Electronics Materials Section Code 6877, Naval Research Laboratory, United States

Thu-C-5-2 16:30 **Terahertz Spectroscopy of Germanium Quantum Wells on Silicon Substrate for Terahertz Photonics** 691
Michele Ortolani[1]; Michele Virgilio[2]; Giovanni Pizzi[3]; Giuseppe Grosso[2]; Martin Wagner[4]; Dominik Stehr[4]; Manfred Helm[4]; Giovanni Capellini[5]; Monica De Seta[5]
[1]Sapienza University of Rome, Italy; [2]Univeristy of Pisa, Italy; [3]Scuola Normale Superiore, Italy; [4]HZDR, Germany; [5]Univeristy of Roma Tre, Italy

Thu-C-5-3 16:45 **Asymmetric tunneling MIM diode for high frequency application** 693
Jeong Hee Shin; Jaehan Im; Sang-Sik Shin; Inho Choi; Ji-Woong Choi; Jae Eun Jang
Daegu Gyeongbuk institute of science & technology (DGIST), Korea, Republic of

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Toshitaka Idehara[1]; Yoshinori Tatematsu[1]; Isamu Ogawa[1]; Toshimichi Fujiwara[2]; Shoji Asai[3]; Ray Dupree[4]
[1]University of Fukui, Japan; [2]Osaka University, Japan; [3]University of Tokyo, Japan; [4]Warwick University, United Kingdom

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Dominique Appadoo; Ruth Plathe
Australian Synchrotron, Australia

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Masato Shiraishi; Safumi Suzuki; Masahiro Asada
Tokyo Institute of Technology, Japan

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Fumiyoshi Kuwashima[1]; Takuya Shirao[1]; Masahiko Tani[2]; Kazuyoshi Kurihara[3]; Kohji Yamamoto[2]; Masanori Hangyo[4]; Takeshi Nagashima[4]; Hiroshi Iwasawa[5]
[1]Fukui University of Technology, Japan; [2]Research Center for Development of Far-Infrared Region, University of Fukui, Japan; [3]Faculty of Education and Regional Studies, University of Fukui, Japan; [4]Institute of Laser Engineering, Osaka University, Japan; [5]Professor Emeritus, University of Fukui, Japan

Thu-Pos-3 17:30 **A Tunable Far-infrared and THz Radiation Source by Laser-plasma-generated Electrons** 702
Zhan Jin
Photon Pioneers Center, Osaka University, Japan

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Takashi Tachiki; Hiroshi Katada; Takashi Uchida
National Defense Academy, Japan

Thu-Pos-5 17:30 **High-efficiency terahertz pulse generation via optical rectification by suppressing stimulated Raman scattering process** 707
Masaya Nagai; Eiichi Matsubara; Masaaki Ashida
Osaka Univ., Japan

Thu-Pos-6 17:30 **Exponential enhancement of terahertz emission by increasing length of plasma filament pumped by femtosecond laser pulses** 709
Junghun Shin[1]; Zhan Jin[2]; Tomonao Hosokai[2]; Ryosuke Kodama[1]
[1]Graduate School of Engineering, Osaka University, Japan; [2]Photon Pioneers Center, Osaka University, Japan

Thu-Pos-7 17:30 **Coherent THz spectroscopy with photomixers in cryogenic environments** 711
David Daughton[1]; Richard Higgins[1]; Scott Yano[1]; Joseph Demers[2]
[1]Lake Shore Cryotronics, United States; [2]EMCORE Corporation, United States

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Ping Zhang[1]; Yaxin Zhang[2]; Min Hu[2]; Jun Zhou[2]; Weihao Liu[2]; Shenggang Liu[2]
[1]Terahertz Science and Technology Research Center,University of Electronic Science and Technology of, China; [2]Terahertz Research Centre,University of Electronic Science and Technology of China, China

Thu-Pos-9 17:30 **Pseudospark Produced Micro-sized Electron Beams for Millimeter-wave and Terahertz Radiation Generation** 715
Huabi Yin[1]; David Bowes[1]; Wenlong He[1]; Adrian Cross[1]; Alan Phelps[1]; Kevin Ronald[1]; Daohui Li[2]; Xiaodong Chen[2]
[1]University of Strathclyde, United Kingdom; [2]Queen Mary, University of London, United Kingdom

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JaeSu Yu[1]; Chuk-Sik Kee[2]; JungWoo Leem[1]; Chul Kang[3]; Joong Wook Lee[3]
[1]Dep. Of electronics and Radio engineering, Kyung Hee Univ, Korea, Republic of; [2]Advanced photonics research institute/ GIST, Korea, Republic of; [3]Advanced photonics research institute, GIST, Korea, Republic of

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Norihiko Sekine[1]; Hiroshi Noguchi[2]; Yoshihiro Imajo[2]; Iwao Hosako[1]; Isao Morohashi[1]
[1]National Institute of Information and Communications Technology, Japan; [2]Stack Electronics Co., Ltd., Japan

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Neetesh Singh
University of Sydney, Australia

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Minsoo Kang
ETRI, Korea, Republic of

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Junichi Hamazaki; Norihiko Sekine; Shingo Saito; Iwao Hosako
National Institute of Information and Communications Technology (NICT), Japan

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Stefan Busch[1]; Lipeng Xu[1]; Matthias Stecher[1]; Graham E. Town[2]; Ole Bang[3]; Martin Koch[1]
[1]Philipps-Universität Marburg, Germany; [2]Macquarie University, Australia; [3]Technical University of Denmark, Denmark

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Benjamin Ung; Christophe Fumeaux; Hungyen Lin; Bernd Fischer; Brian Ng; Derek Abbott
School of Electrical & Electronic Engineering, The University of Adelaide, Australia

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[1]Laboratoire Charles Coulomb, France; [2]Laboratoire National des Champs Magnétiques Intenses, Toulouse, France; [3]NEST, Istituto Nanoscienze - CNR and Scuola Normale Superiore, Pisa, Italy

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Craig Robertson; Alan Young; Kevin Ronald; Adrian Cross; Colin Whyte
University of Strathclyde, United Kingdom

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Choonsup Lee; G Chattopadhyay
NASA JPL, United States

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Dmitry Pavelyev[1]; Yuri Koschurinov[1]; Yuan Ren[2]; Jian Rong Gao[3]; Niels Hovenier[3]; Darren Hayton[4]; Andrey Baryshev[5]; Andrey Chudchenko[6]
[1]Lobachevsky State university, Russian Federation; [2] 3Institute for Sp, Netherlands; [3]TU Delft, Netherlands, Netherlands; [4]Institute for Space Research,Netherlands, Netherlands; [5]3Istitute for Space Research, Netherlands, Netherlands; [6]3Institute for Space Research, Netherlands, Netherlands

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Liang Zhang[1]; Adrian Cross[1]; Wenlong He[1]; Colin Whyte[1]; Michael McStravick[1]; Alan Young[1]; Kevin Ronald[1]; Craig Robertson[1]; Alan Phelps[1]; Sergey Samsonov[2]; Sergey Mishakin[2]; Vladimir Bratman[2]; Gregory Denisov[2]; Nikolay Kolganov[2]
[1]University of Strathclyde, United Kingdom; [2]Institute of Applied Physics, Russian Federation

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Natsuki Kanda; Kuniaki Konishi; Makoto Kuwata-Gonokami
The Univ. of Tokyo, Japan

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Jeong Woo Park; Jun-Hwan Shin; Han-Cheol Ryu; Sang-Pil Han; Namje Kim; Hyunsung Ko; Kyung Hyun Park
ETRI, Korea, Republic of

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Lingna Yue[1]; Jin Xu[2]; Yanyan Tian[2]; Wenxiang Wang[2]; Xiaopei Xia[3]; Yanyu Wei[2]; Yubin Gong[2]
[1]School of Physical Electronics, Electronic Science and Technology of China, China; [2]School of Physical Electronics, University of Electronic Science and Technology of China, China; [3]School of Physical Electronics, University of Electronic Science and Technology of China, Chile

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Osaka Univ., Japan

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Anika Brömel; Uwe Schinkel; Solveig Anders; Torsten May; Hans-Georg Meyer
Insitute of Photonic Technology, Germany

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Bakunov Michael[1]; Yuya Yakiyama[2]; Keisuke Takano[2]; Masanori Hangyo[3]

[1]University of Nizhny Novgorod, Russian Federation; [2]Japan/Institute of Laser Engineering, Osaka University, Japan; [3]Institute of Laser Engineering, Osaka University, Japan

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Weiwei Xu; Deyue An; Peiheng Wu
Nanjing University, China

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Brad Gom[1]; Yuan Zhang[1]; David Naylor[1]; Philip Mauskopf[2]
[1]University of Lethbridge, Canada; [2]Cardiff University, United Kingdom

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Son Le Ngoc; Tachiki Takashi; Uchida Takashi
National Defense Academy, Japan

Thu-Pos-31 17:30 **THz detection with an HTS Josephson heterodyne oscillator** 759
John Macfarlane[1]; Jia Du[1]; Andrew Hellicar[2]
[1]CSIRO Materials Science and Engineering, Australia; [2]CSIRO ICT Centre, Australia

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[1]Laboratoire Charles Coulomb, France; [2]CEA-LETI, MINATEC Campus, France; [3]Institute of Radioelectronics, Warsaw Univ. of Technology, Poland; [4]Graduate School of Engineering Science, Osaka University, Japan

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[1]Laboratoire Charles Coulomb, France; [2]Research Institute of Electrical Communication, Tohoku University, Japan

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[1]CNRS, France; [2]UM2, France; [3]Universitat Rovira i Virgili, Spain; [4]RAS, Russian Federation

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[1]CNRS, France; [2]UM2, France; [3]Osaka University, Japan; [4]Osaka University, France

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Helmut Roehle; Roman Dietz; Bernd Sartorius; Martin Schell
Fraunhofer HHI, Germany

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Dehua Li; Jianjun Ma; Wei Zhou; Zhipeng Ju; Qiankun Li; Cao Qu
Shandong University of Science and Technology, China

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K. H. Miller[1]; E. Constable[2]; H. Berger[3]; D. B. Tanner[1]; J. Horvat[2]; R. A. Lewis[2]
[1]Department of Physics, University of Florida, Gainesville, Florida, USA, United States; [2]University of Wollongong, Australia; [3]Institute of Physics of Complex Matter, Ecole Polytechnique Federal de Lausanne, CH-1015 Lausanne, Switzerland

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Yosuke Miyamoto; Koki Kobayashi; Atsushi Ito; Kenji Ikushima
Tokyo University of Agriculture and Technology, Japan

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Hiroaki Yasuda
National Institute of Information and Communications Technology, Japan

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National Defense Academy, Japan

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Tsinghua University, China

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Maya Mizuno; Tatsuki Yasuda; Kaori Fukunaga

National Institute of Information and Communications Technology, Japan

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Yan Hou[1]; Yubin Gong[2]

[1]University of Electronic Science and Technology of China, China; [2]Key Laboratory of Science and Technology on Vacuum Electronics, School of Physical Electronics, China

Thu-Pos-45 17:30 **Quasioptical Setup for Transmission and Reflection Measurements** 787

Mikko Kotiranta; Bernd Hils; Berthold Batz; Viktor Krozer

Goethe University Frankfurt, Germany

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Fabien Destic[1]; Jean-Claude Mollier[1]; Yoann Petitjean[2]

[1]Université de Toulouse - ISAE, France; [2]IUT Mesures Physiques, Université Toulouse, France

Thu-Pos-47 17:30 **Experimental Investigation of a Metalized-Film Attenuator for Validation of Terahertz Time-Domain Spectroscopy** 791

Hitoshi Iida[1]; Moto Kinoshita[1]; Yozo Shimada[1]; Hideki Kuroda[2]; Keiko Kitagishi[2]; Yusuke Izutani[2]

[1]National Institute of Advanced Industrial Science and Technology, Japan; [2]Otsuka Electronics, Japan

Thu-Pos-48 17:30 **Measurement of frequency conversion losses with 3-mixer method for traceable mm-wave power measurement method in D-band** 793

Toshihide Tosaka; Katsumi Fujii; Kaori Fukunaga; Yasushi Matsumoto

NICT, Japan

Thu-Pos-49 17:30 **Development of Compatible Air-Gap Etalons Used with both Terahertz Wave and Near-Infrared Light** 795

Moto Kinoshita[1]; Hitoshi Iida[1]; Yozo Shimada[1]; Hideki Kuroda[2]; Keiko Kitagishi[2]; Yusuke Izutani[2]

[1]National Metrology Institute of Japan (NMIJ), AIST, Japan; [2]Otsuka Electronics, Japan

Thu-Pos-50 17:30 **Compensating for fibre-coupled power drift in THz-TDS systems** 797

Edward Parrott[1]; Hongkyu Park[2]; Emma Pickwell-MacPherson[2]

[1]The Chinese University of Hong Kong, United Kingdom; [2]The Hong Kong University of Science and Technology, Hong Kong

Thu-Pos-51 17:30 **Narrow-band THz coherent Cherenkov radiation in planar dielectric structure** 799

Jin Xu[1]; Huarong Gong[2]; Lingna Yue[2]; Wenxiang Wang[2]; Yubin Gong[2]; Yanyu Wei[2]

[1]National Key Laboratory of Science and Technology on Vacuum Electronics, School of Physical Electron, China; [2]University of Electronic Science and Technology of china, China

Thu-Pos-52 17:30 **Frequency-Swept Asynchronous-Optical-Sampling THz Time-Domain Spectroscopy** 801

TAKESHI YASUI[1]; Yuki Iyonaga[2]; Yi-da Hsieh[2]; Yoshiyuki Sakaguchi[2]; Shuko Yokoyama[2]; Hajime Inaba[3]; Kaoru Minoshima[3]; Tsutomu Araki[2]

[1]UNIVERSITY OF TOKUSHIMA, Japan; [2]Osaka Univ., Japan; [3]AIST, Japan

Thu-Pos-53 17:30 **Absolute frequency measurement for CW-THz wave using a fs pulse fiber laser and a photoconductive antenna** 803

Motohiro Kumagai; Shigeo Nagano; Hiroyuki Ito; Satoshi Ochiai; Yuko Hanado

NICT, Japan

Thu-Pos-54 17:30 **Development of a Multichannel Lock-In Amplifier for Terahertz Time-Domain Systems** 805

Carsten Gerth

Fraunhofer Institute for Optics and Precision Engineering (IOF), Germany

Thu-Pos-55 17:30 **Three-Dimensional Particle-in-Cell Simulation of Terahertz Extended Interaction Oscillator** 807

Wenxin Liu[1]; Wenxin Liu[2]; Yong Zhang[3]; Yong Wang[4]; pukun Liu[4]

[1]Institute of Electronics, Chinese Acasemy of Sciences, China; [2]Institute of Electronics, Chinese Academy of Science, China; [3]Institute of Electronics, Chines Academy of Science, China; [4]Institute of Electronics, Chinese Academy of Sciences, China

Thu-Pos-56 17:30 **Time Domain Modeling of Longitudinal Computer-Generated Holograms within Fabry-Pérot Lasers: Tunable Single Mode Selection** 809

Subhasish Chakraborty; Chen-Wei Hsin; Owen Marshall; Md. Khairuzzaman

The University of Manchester, United Kingdom

Thu-Pos-57 17:30 **Thermo-optic detection of quantum cascade laser radiation in the range ~2.2–2.9THz using a ZnTe crystal** 811

Dean Paul; Aziati Awang; Raed Alhathlool; Iman Kundu; Suraj Khanna; Liannhe Li; Edmund Linfield; Giles Davies

University of Leeds, United Kingdom

Thu-Pos-58 17:30 **Dispersion analyses of a slot-array-grating loaded rectangular waveguide structure** N/A

Tang Xiaopin; Yang Ziqiang

Terahertz Research Centre, China

Thu-Pos-59 17:30 **Design of Electron Optics System for Terahertz Extended Interaction Oscillator** 813

Yong Wang; Wenxin Liu; Yong Zhong; Pukun Liu

Institute of Electronics, Chinese Academy of Sciences, China

Thu-Pos-60 17:30 **Extended Interaction Oscillators and Amplifiers for compact sub-mmW sources** N/A

Brian Steer[1]; Albert Roitman[1]; Richard Dobbs[2]

[1]CPI Canada, Canada; [2]CPI Canada Inc., Canada

Thu-Pos-61 17:30 **Quasi-optical Devices for Terahertz Frequencies** 815
Benedikt Scherger; Maik Scheller; Norman Born; Christian Jansen; Steffen Wietzke; Nico Vieweg; Christian Jördens; Karin Wiesauer; Martin Koch
Philipps-Universität Marburg, Germany

Thu-Pos-62 17:30 **Photoconductivity Characteristic of Silicon in Millimeter-Wave Bands** 817
Xiaodong Chen[1]; Hansheng Su[2]; Bin Yang[2]; Junsheng Yu[1]; Xiaoming Liu[2]
[1]University of Electronic Science and Technology of China, China; [2]Queen Mary, University of London, United Kingdom

Thu-Pos-63 17:30 **Identification of Cellulosic Fiber by Terahertz Spectroscopy** 819
Toru Kurabayashi[1]; Kenichi Suzuki[1]; Shinichi Yodokawa[1]; Ken Ando[2]
[1]Akita University, Japan; [2]apan Dyerfs Inspection Institute, Japan

Thu-Pos-64 17:30 **Superradiant Terahertz Smith-Purcell Radiation Generated from Two Section Gratings with Three-Dimensional Particle-in-Cell Simulations** 821
Pukun Liu; Wenxin Liu; Yong Zhong; Yong Wang
Key Laboratory of High Power Microwave Sources and Technologies, China

Friday, September 28, 2012

08:30 - 10:30 **Friday Plenary** Hope Theatre
Chair: Chao Zhang

Fri-Plen-1 08:30 **Probing nanoscale materials with terahertz radiation** N/A
Tony Heinz
Columbia University, United States

Fri-Plen-2 09:15 **Some physics issues of THz gyrotrons** 823
Kwo Ray Chu
National Taiwan University, Taiwan

11:00 - 12:30 **Friday-A-1: Novel Components VII** Communications Centre 1
Chair: Masanori Hangyo

Fri-A-1-1 11:00 **(Invited) Terahertz photon helicity sensitive photoresponse in GaAs/AlGaAs high electron mobility transistors** 825
Christoph Drexler
University of Regensburg, Germany

Fri-A-1-2 11:30 **Stability of signals generated with a dual-frequency laser and a UTC photodiode up to 700 GHz** 826
Gregoire Pillet[1]; Joachim Börner[1]; Loic Morvan[1]; Daniel Dolfi[1]; Alexendre Beck[2]; Philipp Latzel[2]; Fabio Pavanello[2]; Guillaume Ducournau[2]; Jean-François Lampin[2]
[1]Thales Research & Technology, France; [2]IEMN Lille, France

Fri-A-1-4 12:00 **Terahertz Filters by using Metal slits** 828
Chul-Sik Kee[1]; Tae-In Jeon[2]; Eui Su Lee[2]; Sun-Goo Lee[1]
[1]GIST, Korea, Republic of; [2]Korea Maritime University, Korea, Republic of

Fri-A-1-5 12:15 **Robust, Long-Life Photocathodes for High Frequency RF Sources** 830
Lawrence Ives[1]; Eric Montgomery[2]; Blake Riddick[2]; Lou Falce[1]
[1]Calabazas Creek Research, Inc., United States; [2]University of Maryland, United States

Fri-A-1-6 12:30 **Terahertz Time-Domain Spectroscopy of CVD Diamond** 832
Kohji Yamamoto[1]; Hironori Iwasaki[1]; Shinsei Tsuji[1]; Ryouhei Yasuda[1]; Kazutoshi Fukui[1]; Masahiko Tani[1]; Takashi Shimozuma[2]; Satoshi Ito[2]; Teruo Saito[1]
[1]University of Fukui, Japan; [2]National Institute for Fusion Science, Japan

11:00 - 12:30 **Friday-A-2: Spectroscopy IV** Communications Centre 2
Chair: Vincent Wallace

Fri-A-2-1 11:00 **(Invited) Mapping and Sensing Microfluidic Chemical Reactions Using a Frequency Domain Terahertz System** 834
Lei Liu
Department of Electrical Engineering, United States

Fri-A-2-2 11:30 **Absorption spectra of hydrogen chloride and carbon monoxide in smoke** 835
Naofumi Shimizu[1]; Iwao Hosako[2]; Ken Matsuyama[3]
[1]NTT Microsystem Integration Labs., Japan; [2]NICT, Japan; [3]Tokyo University of Science, Japan

Fri-A-2-3 11:45 **Direct Measurement of the Hyperfine Structure of the Ground State Positronium using High Power Sub-THz Radiation** 837
Takayuki Yamazaki[1]; Akira Miyazaki[1]; Taikan Suehara[1]; Toshio Namba[1]; Shoji Asai[1]; Tomio Kobayashi[1]; Haruo Saito[2]; Yoshinori Tatematsu[3]; Isamu Ogawa[3]; Toshitaka Idehara[3]
[1]Department of Physics, Graduate School of Science, and International Center for Elementary Particle,

Japan; [2]Institute of Physics, Graduate School of Arts and Sciences, University of Tokyo, Japan; [3]Research Center for Development of Far-Infrared Region, University of Fukui, Japan

Fri-A-2-4 12:00 **Active Terahertz near-field probes for high-resolution free-carrier density imaging applications** 839
Michael Nagel[1]; Ali Safiei[2]; Tobias Pletzer[2]; Heinrich Kurz[1]
[1]AMO GmbH, Germany; [2]RWTH Aachen University, Germany

Fri-A-2-5 12:15 **THz frequency up-shift due to Doppler reflection from a moving plasma front in semiconductor media** 841
Slava Tzanova; Mark Thomson; Hartmut Roskos
University of Frankfurt, Germany

11:00 - 12:30 **Friday-A-3: Applications in Industry** Communications Centre 3
Chair: Ken Wood

Fri-A-3-1 11:00 **Terahertz spectral imaging using correlation processing** 843
Samuel Henry; Scott Schecklman; Lisa Zurk
Portland State University, United States

Fri-A-3-2 11:15 **Grain growth in submillimeter wave sintered alumina** 845
Seitaro Mitsudo; Ryo Ito; Sudiana I Nyoman; katsuhide Sako; Kazumasa Kuwayama
Research Center for Development of Far Infrared Region, University of Fukui, Japan

Fri-A-3-3 11:30 **Planar terahertz metamaterials for strain sensing** 847
Jining Li[1]; Charan M. Shah[2]; Withawat Withayachumnankul[1]; Benjamin S. Y. Ung[1]; Sharath Sriram[2]; Madhu Bhaskaran[2]; Shengjiang Chang[3]; Derek Abbott[1]
[1]School of Electrical and Electronic Engineering, The University of Adelaide, Australia; [2]Functional Materials and Microsystems Research Group, RMIT University, Australia; [3]Institute of Modern Optics, Nankai University, China

Fri-A-3-4 11:45 **Measurements of Paint Thickness of Automobiles by using THz Time-Domain Spectroscopy** 849
Keiko Kitagishi; Yusuke Izutani; Motonobu Akagi
Otsuka Electronics Co., Japan

Fri-A-3-5 12:00 **Towards an Improvement in Estimating Rust Degradation in Coated Steels** 851
Norikazu Fuse[1]; Maya Mizuno[2]; Tetsuo Fukuchi[3]; Tsuguhiro Takahashi[3]; Tsutomu Ishi[4]; Naoki Oda[4]; Kaori Fukunaga[2]
[1]Central Research Institute Electric Power Industry, Japan; [2]NICT, Japan; [3]CRIEPI, Japan; [4]NEC Co., Japan

Fri-A-3-6 12:15 **Chemometric Tools for Analysing Terahertz Fingerprints in a Postscanner** 853
Frank Ellrich[1]; Garik Torosyan[1]; Sabine Wohnsiedler[1]; Sebastian Bachtler[1]; Ali Hachimi[1]; Joachim Jonuscheit[1]; René Beigang[1]; Frank Platte[2]; Konstantinos Nalpantidis[2]; Thorsten Sprenger[3]; Daniel Hübsch[3]
[1]Fraunhofer IPM, Germany; [2]IANUS Simulation, Germany; [3]Hübner GmbH, Germany

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11:00 - 12:45 **Friday-A-4: Free Electron Lasers and Synchrotron Radiation** Communications Centre 4
Chair: Gian Piero Gallerano

Fri-A-4-1 11:00 **(Invited) Synchronous Generation of Powerful 4-mm Radiation in a Two-channel Planar FEM** 855
Stanislav Sinitsky[1]; Andrey Arzhannikov[2]; Petr Kalinin[2]; Sergei Kuznetsov[2]; Vasilii Stepanov[2]; Naum Ginzburg[3]; Nikolai Peskov[3]; Alexander Sergeev[3]; Vladislav Zaslavsky[3]; Manfred Thumm[4]
[1]Novosibirsk State University, Russian Federation; [2]Budker Institute of Nuclear Physics SB RAS, Russian Federation; [3]Institute of Applied Physics RAS, Russian Federation; [4]Karlsruhe Institute of Technology, Germany

Fri-A-4-2 11:30 **Detailed observation of modulation instability on THz NovoFEL** 858
Vitaly Kubarev
BINP, Russian Federation

Fri-A-4-3 11:45 **Terahertz-wave Generation using Metamaterial and Femtosecond Electron Bunch** 860
Koichi Kan[1]; Jinfeng Yang[1]; Atsushi Ogata[1]; Takafumi Kondoh[1]; Kimihiro Norizawa[1]; Yoichi Yoshida[1]; Masanori Hangyo[1]; Ryunosuke Kuroda[2]; Hiroyuki Toyokawa[2]
[1]Osaka University, Japan; [2]AIST, Japan

Fri-A-4-4 12:00 **Generation of Powerful Terahertz Pulses Based on Undulator and Cherenkov Mechanisms of Superradiance from Multi-Picosecond Electron Bunches** 862
Naum Ginzburg; Andrey Malkin; Alexander Sergeev; Vladislav Zaslavsky; Irina Zotova
Institue of Applied Physics RAS, Russian Federation

Fri-A-4-5 12:15 **High-Harmonic Terahertz Radiation from prebunched Electron Beam in the tapered Grating Structure** 863
Yaxin Zhang
Terahertz Science and Technology Research Center, University of Electronic Science and Technology of, China

Fri-A-4-6 12:30 **Status of Mid-Infrared Free-Electron Laser Facility in Kyoto University** 865

Heishun Zen; Kyohei Shimahashi; Marie Shibata; Hani Negm; Torgasin Konstantin; Kyohei Yoshida; Mahamed Omer; Ryota Kinjo; Yong-Woon Choi; Toshiteru Kii; Kai Masuda; Hideaki Ohgaki
Institute of Advanced Energy, Kyoto University, Japan

	11:00 - 12:45	**Friday-A-5: Imaging and Metrology III** Chair: Kiyomi Sakai	Communications Centre 5

Fri-A-5-1 11:00 **(Invited) GaN-based nano rectifiers for THz detection** 867
Paul Sangaré; Guillaume Ducournau; Bertrand Grimbert; Virginie Brandli; Marc Faucher; Christophe Gaquière
IEMN, France

Fri-A-5-2 11:30 **(Invited) Spectrum to Space Computed THz-Tomography** 869
Steffen Schumann; Stefan Busch; Michael Schwerdtferger; Benjamin Ewers; Maik Scheller; Christian Jansen; Bernd Michael Fischer; Martin Koch
Philipps-Universität Marburg, Germany

Fri-A-5-3 12:00 **Fast terahertz imaging with a quantum-cascade laser and a scanning mirror** 871
Nick Rothbart[1]; H. Richter[1]; M. Wienold[2]; L. Schrottke[2]; M. Giehler[2]; R. Hey[2]; H.T. Grahn[2]; H.-W. Hübers[1]
[1]German Aerospace Center (DLR), Germany; [2]Paul-Drude-Institut für Festkörperelektronik, Germany

Fri-A-5-4 12:15 **Optical Cross-Correlation of Millimeter Wave Signals Applied to Interferometric Radiometry** 873
Enrique Nova; Jordi Romeu; Francesc Torres; Antoni Broquetas; Lluis Jofre
Universitat Politècnica de Catalunya, Spain

Fri-A-5-5 12:30 **Terahertz Imaging Through Paint Layers** 875
Toru Kurabayashi; Shinichi Yodokawa; Satoshi Kosaka
Akita University, Japan

Additional Papers

Sub-Terahertz Quasi-Optical Reflectometer for CFRP Surface Inspection 877
V. Bezborodov, V. Kiselov, Y. Kuleshov, P. Nestov, S. Mizrakhi, I. Sherbatko, M. Yanovsky
Usikov Institute of Radiophysics and Electronics of National Academy of Sciences of Ukraine

Application of Terahertz Lasers Setup for the Investigation of the Influence of HHF-Radiation on the Tumor Process 879
V. Kiselov, V. Makolinets, N. Mitryaeva, V. Radionov
Usikov Institute of Radiophysics and Electronics of National Academy of Sciences of Ukraine