IRMMW-THz 2023

48th CONFERENCE ON INFRARED, MILLIMETER, AND TERAHERTZ WAVES

17 -22 September 2023
Montreal, Quebec, Canada

Conference Program

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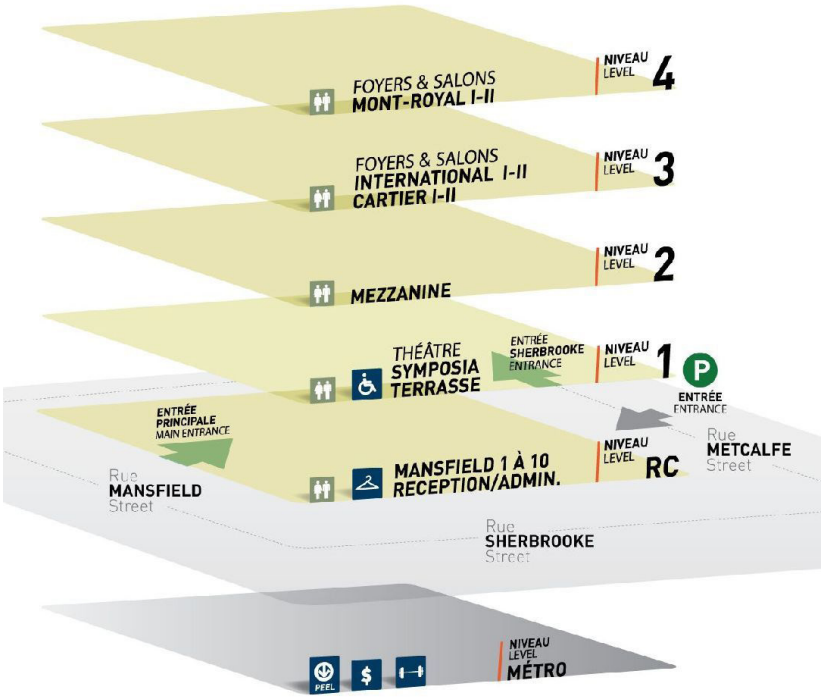

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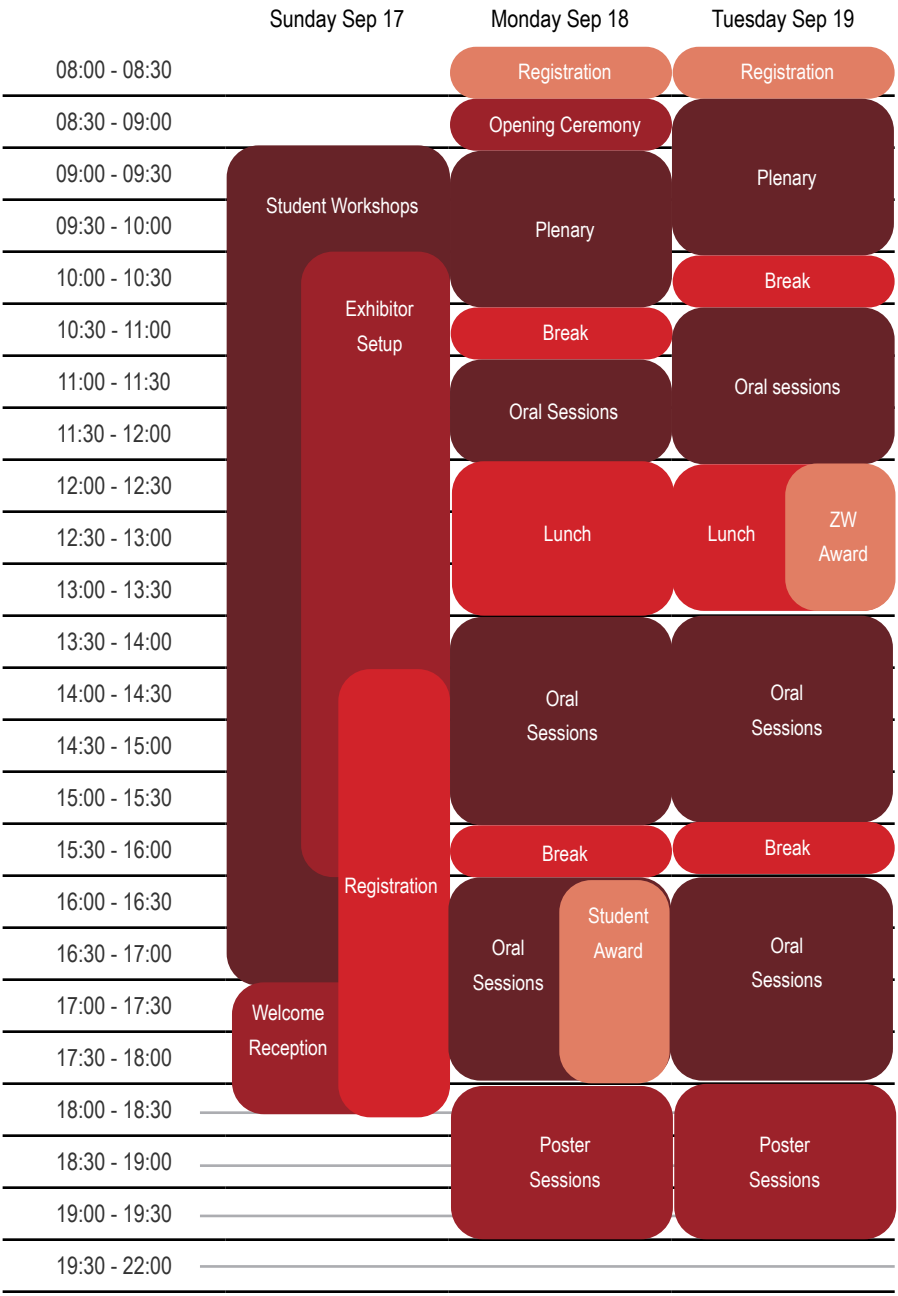

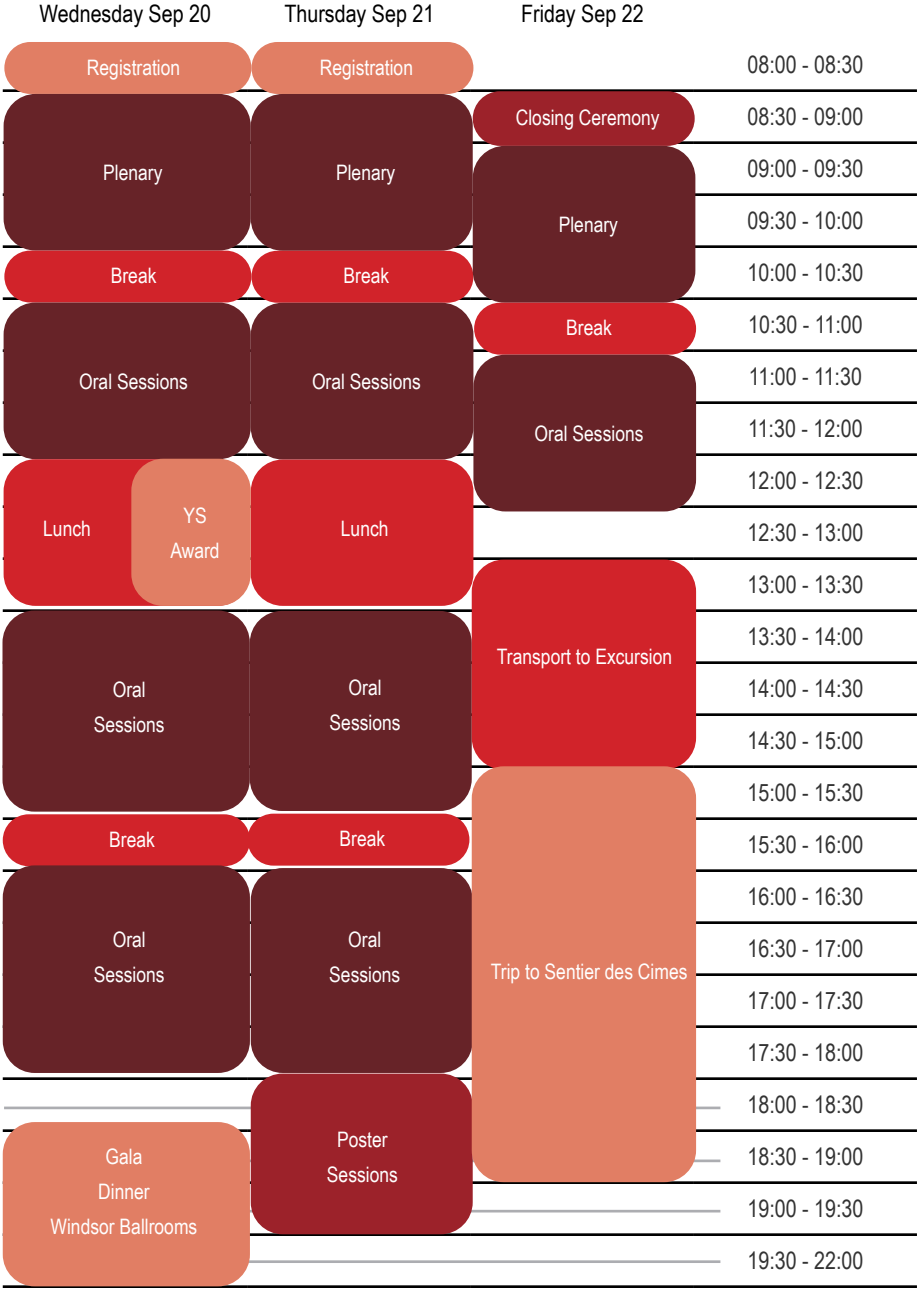
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Welcome to IRMMW-THz 2023

Dear Colleagues,

It is a pleasure to welcome you to the 2023 48th International Conference on Infrared Millimeter and Terahertz Waves (IRMMW-THz), which is being held in Montreal, Canada from Sept. 17 - 22, 2023. This is the first time IRMMW-THz comes to Canada and we are very happy to host you in the vibrant and alive city of Montreal. The IRMMW-THz scientific community is very well represented in Canada with many academic groups, companies and government organizations involved in various aspects of interest to our field of research. IRMMW-THz 2023 is organized by a Local Organizing Committee composed of scientists working in the many disciplines that comprise the IRMMW-THz community and coming from both university and government-based research institutes in Canada and in the US close to the border.

IRMMW-THz 2023 is a live-only event with no hybrid component this year. The fully in-person conference is being hosted at Centre Mont-Royal, located one block from McGill University main campus and easily accessible from all major public transportation routes that connect you to the rest of the amazing city of Montreal. Centre Mont-Royal is modern conference facility that has hosted many prestigious meetings and is ideally suited to host our modest sized conference, with a spacious symposium theatre for the plenary talks and easily accessible breakout rooms for our five parallel sessions. Conference exhibitors and poster sessions will be hosted in the Foyer International (3rd floor) and Foyer Mont-Royal (4th floor), providing plenty of opportunities for networking and social engagement. In addition to this printed conference program, the program is also accessible via the Whova digital platform and mobile app, where networking and notifications will be communicated during our event.

I welcome all of you, and encourage you to attend the technical activities, meet our sponsors and exhibitors and enjoy the social program of the 48th IRMMW-THz conference. It is going to be a memorable event, with high quality technical content, a convenient conference center and a safe, student-friendly city with many attractions to take in.

Sincerely,
Professor David Cooke, Conference Chair, on behalf of the Local Organizing Committee.

General Information

Conference Overview

The International Conference on Infrared, Millimeter and THz Waves is a truly multidisciplinary event, which covers wide ranges of Physics and Engineering topics and consequently attracts the attention of a very diverse audience. The Local Organizing Committee of the 2023 Conference in Montreal has recognized this multidisciplinary nature and decided to focus the technical program on four different thematic topics and one general Applications topic. The different topic areas and their co-Chairs are: **Sources & Detectors** (Prof. Lu Wang, ICFO); **Multi-Physics** (Prof. Chiko Otani, RIKEN); **Material Science** (Prof. Lyubov Titova, WPI); and **Engineering in Systems** (Prof. Joo-Hiuk Son, Seoul U.). **Applications** is also recognized as a separate topic so that the audience and presenters that are more interested in the practice of new technology will find many targeted papers.

All the co-Chairs will contribute to the composition of this portion fo the program, witH the ultimate responsibility falling on Profs. Tsuneyuki Ozaki and Francois Blanchard. As a consequence, the TPC members were asked to specify a specific “Topic of competence” (despite the fact that many experienced authors have expertise in more than one area), in their roles as reviewers. In addition, each major Topic was further subdivided to facilitate the sorting of submitted papers and their assignment to specific reviewers.

Over 700 papers from 34 countries were submitted to the conference this year. The papers were reviewed and ranked by the TPC (technical program committee). The accepted papers have been divided into ten plenary talks, 45 keynote talks, 359 oral presentations distributed in five parallel sessions, and 312 poster presentations. In addition, a student workshop is held on the Sunday, organized by Prof. Jean Michel-Menard. The workshop will feature four tutorial speakers and a networking event with selected industrial representatives from small to large companies.

The largest topic by paper submission with 224 papers in total was **Sources & Detectors**, consistent with previous years. This topic was subdivided to reflect the diversity of instruments and techniques that enable us to generate and measure tearhertz radiation. This topic area now has 4 sessions on Electronic-Based Sources and Detectors and 8 sessions on Laser-Based Sources and Detectors. Highlights in this area are Monday’s opening Plenary session from Prof. Robert Boyd highlighting the nonlinear optics of THz generation and Tuesday’s Plenary session from Prof. Tobias Kampfrath discussing spintronic THz sources and applications for photonics.

The Multi-Physics topic saw 104 papers submitted which allowed us to create a very inspiring program with a mix of oral and poster presentations. Based on the accepted papers, oral sessions were dedicated for THz Driven Electron Sources, Ultrafast and Nonlinear Phenomena and Spectroscopy. Highlighted are the Monday Plenary of Prof. Steven Jamison, discussing THz-driven electron manipulation and acceleration and Wednesday's Plenaries from Prof. Koichiro Tanaka on THz High Harmonic Generation Spectroscopy and Prof. Matthias Hoffmann on THz pump, x-ray probe experiments at LCLS.

More than 170 abstracts were submitted to the Material Science topic, which has led to a broad and very interesting program. This program contains oral sessions dedicated to THz emission and spectroscopy of condensed matter, nanomaterials, 2D-materials, time-resolved spectroscopy, strong light-matter coupling, nanoscopy and near-field microscopy, metamaterials, metasurfaces and plasmonics. Vibrant posters sessions are planned on Monday, Tuesday and Thursday. Highlighted are Thursday's Plenary from Prof. Martin Dressel, this year's Kenneth J. Button Prize winner, discussing the low energy electrodynamics of correlated electron systems, and Friday's Plenaries from Prof. Hannah Joyce on THz properties of nanowires and Prof. Jun Kono discussing THz cavity sensing of quantum vacuum dressed materials.

The Engineering in Systems topic area received more than 130 papers enabling a very inspiring program with a solid mix of oral and poster presentations. Based on the accepted papers, 8 oral sessions have been dedicated to Metrology, Passive and Active Sensing, Passive Components, Novel Imaging Techniques and Nondestructive Testing. Prof. Mona Jarrahi's Plenary on plasmonic detection of THz light on Tuesday morning will discuss recent impressive results.

The THz field now spans a broad range of Applications. 98 papers will be presented in this topic area. These range from one of the earliest applications, Astronomy, to Defense & Security, and Biomedical topics. Of special interest are recent applications in Agri-Food and Telecom. Thursday's Plenary by Prof. Thomas Kuerner will highlight recent progress in THz 6G communications.

The IRMMW-THz 2023 conference has received this year a large number of sponsorships, 24 in total. We have one gold sponsor, nineteen silver sponsors, one friend and three institutional sponsors from the Montreal

area. You can find their information in the exhibition and sponsors section. We would like to thank these sponsorships for enabling us to offer a complete conference experience this year. In addition, we thank Tourisme Montréal for initial organizational support and financial support of our international conference. During this week, there will be a live and online exhibition with ~20 companies and institutions. We invite you to visit this exhibition through the week.

The conference social program includes a welcome reception on Sunday evening, a gala dinner on Wednesday at the Windsor Ballroom, Montreal, and an excursion to visit the charming Laurentian region of Quebec, complete with a nature walk and a night of entertainment. Interactive poster sessions are on Monday, Tuesday and Thursday, where attendees can enjoy the presentations along with some beverages and snacks.

The Local Organizing Committee is happy to welcome you to Montreal and wishes you a very pleasant stay and a fruitful conference experience at IRMMW-THz 2023!

Committees

Conference Chair

David G. Cooke, McGill University

Local Organizing Committee

Michael Ruggiero - Website and creative assets
Francois Legare - Exhibition and sponsorship
Ke Wu - Exhibition and sponsorship
Luca Razzari -
Denis Seletskiy - Volunteer organization
Jean-Michel Menard - Student workshop
Denis Morris - Swiss Prize
Ksenia Dolgaleva - Volunteer
Luca Razzari - Volunteer
Maksim Skorobogatiy - Volunteer
Giacomo Balistreri - Secretariat

Professional Conference Organization

Jenna Beak - Conference management
Alissa Higuchi - Exhibitor and sponsor management
Una Xu - Registration management

Technical Program Committee Chairs

Tsuneyuki Ozaki - TPC co-chair
Francois Blanchard - TPC co-chair
Lu Wang - Topic track chair (Sources & Detectors)
Chiko Otani - Topic track chair (Multi-Physics)
Lyubov Titova - Topic track chair (Material Science)
Joo-Hiuk Son - Topic track chair (Engineering & Systems)

Technical Program Committee

Alfred Leitenstorfer
Andrea Markelz
Angelo Freni
Antonio Clemente
Axel Zeitler
Carlo Sirtori
Christelle Kadlec
Christoph Lange
Clara Saraceno
Daniel Mittleman
Dejan Filipovic
Dmitry Turchinovich
Daniel Molter
Dmitry Removich
Edmund Linfield
Emma MacPherson
Erio Gandini
Frank Hegmann
Frank Vanvliet
Giacomo Scalari
Gian Piero
Gintaras Valusis
Guillaume Ducournau
Guillermo Carpintero
Hartmut Roskos
Heinz-Wilhelm Hübers
Hiroaki Minamide
Huabing Wang
Huang Senlin
Ibraheem Al-Naib
Igal Brener
Ileana-Cristina Benea-Chelmus
Irmantas Kasalynas
Jan Stake
Jean François Roux
Jérôme Faist
Jian-Rong Gao
Jinjun Feng
John Jelonnek
Jos Oomens
József András Fülöp
Juliette Mangeney
Juncheng Cao
Karl Unterrainer
Kazuhiko Hirakawa
Kazuue Fujita
Louis Jofre-Roca
Manfred Helm
Marco Peccianti
Masahiro Asada
Masayoshi Tonouchi
Matt Reid
Mauro Ettorre
Meng-ju ReneeSher
Michael Bakunov
Michele Ortolani
Mikhail Glyavin
Minah Seo
Netty Honingh
Nuria Llombart
Patrick Mounaix
Peiheng Wu
Pernille Klarskov
Peter Siegel
Peter Haring
Peter Uhd Jepsen
Ramón Gonzalo
Rebecca Milot
Riccardo Ozzola
Roger A. Lewis
Rostislav Mikhaylovskiy
Sascha Preu
Stefano Alberti
Tae-Inn Jeon
Taiichi Otsuji
Toshihiko Kiwa
Tyler Cocker
Withawat Withayachumnankul
Vince Wallace
Xavier Ropagnol

Practical Information

Reception Desk

During the welcome reception, attendees can register and obtain their badges and delegate bags. The reception desk is located on the Mezzanine level (2nd floor) of the conference center.

Internet Access

Wireless internet access is available in the conference center by joining
Network: CMR
User IRMMWTHz Password: 1THz300um

Whova Mobile App

IRMMW-THz is again using the Whova app to enhance your experience and provide instant access to the conference agenda, which can be updated in real time. In addition, Whova provides opportunities to engage with the community and exhibitors and we encourage everyone to download and use the app.

Coffee Break and Refreshments

Coffee, tea and treats are served during the morning and afternoon coffee breaks in the 3rd floor Foyer. During the poster session, drinks and snacks will be served in the 3rd and 4th floor Foyers as well.

Lunch Breaks

Due to financial constraints this year, lunch is not provided at the conference venue. Attendees are given 1.5 hours to for lunch each day. Many options are available for all price ranges. Large capacity options are the Eaton Centre food court or the TimeOut Market, both a 5 minute walk from the conference centre and can be reached via the underground.

Official Language and Time Zone

The official language of the conference is English, which should be used for all presentations, posters, and open discussions. The conference program follows the EDT time zone.

Information for Presenters

PLENARY TALKS 45 min. (40 min. presentation + 5 min. discussion)
KEYNOTE TALKS 30 min. (25 min. presentation + 5 min. discussion)
STANDARD ORAL TALKS 15 min. (12 min. presentation + 3 min. discussion)

The oral sessions will be held in the Symposia theatre and the breakout session rooms Cartier I & II and International I & II located on the 3rd floor of the conference centre. For in-person presenters, it is not possible to use your own computer. Please bring your slides (pptx or pdf format only) on a USB device and upload them during any break before the session. All presenters should introduce themselves to the Chair of the sessions at least 15 minutes before the start of the session.

POSTER PRESENTATIONS

Poster sessions will be presented live and in person during Monday, Tuesday and Thursday sessions, located on the 3rd and 4th levels of the conference center. Refreshments will be served during the poster sessions, and attendees will also have the possibility to interact with exhibitors in the same space. Posters can also be uploaded to the Whova app and attendees can interact with authors via the app. The poster presenters are asked to respond to these questions.

All poster boards are 4H x 8W feet in size. The maximum size your poster should be is 3.75 H x 7.5 W in size. The boards will be grey and Velcro or pins may be used to mount poster materials (push pins provided). The poster does not necessarily have to fill the entire working area but must not be larger than the board. The board must be oriented in landscape (long dimension is horizontal).

Information for Session Chairs

Session chairs should arrive in their assigned rooms at least 15 minutes before the start of their session and check the attendance of all speakers. There will be student assistance for managing the session and the questions, as well as any audio/visual problems. If a speaker is missing, please communicate this to the student assistant in the room. Please do not fill in the time of any missing talk by moving forward with the next scheduled talk in the session.

Policy on Paper Presentation for All Participants

The policy of the IRMMW-THz Society is that at least one of the authors of an accepted paper must be present at the conference to present said paper (orally or at a poster session). If the author is not present at the assigned session where the paper is being presented, the paper will be removed from the final digest of manuscripts that is archived on IEEEXplore. This policy will be strictly enforced.

Photography/Videography

Please note that photographs and footage by a photographer will be taken throughout the IRMMW-THz 2023. Attendees cannot record or photograph in-person presentations or posters.

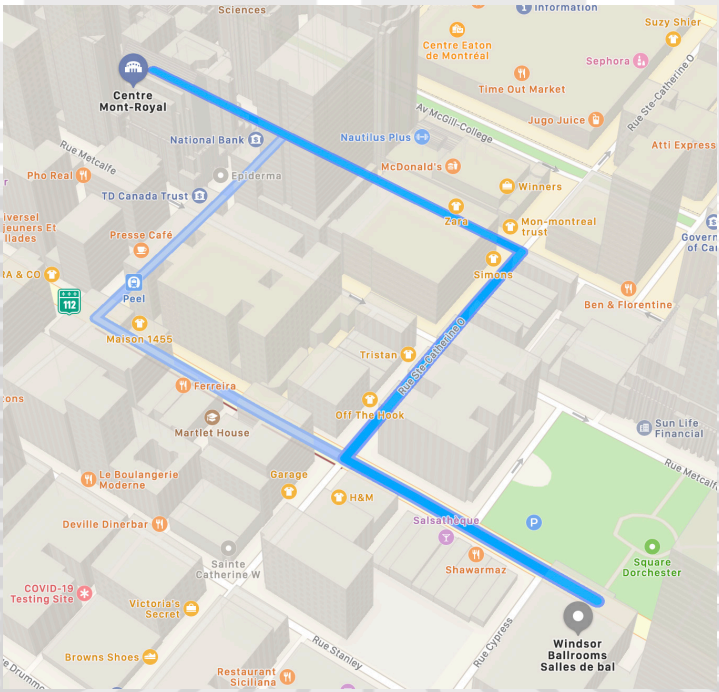
Social Program

Welcome Reception

The welcome reception will take place on Sunday, Sept. 17th from 17:00 to 19:00 at Centre Mont-Royal. During the event, in-person attendees can register and obtain their conference welcome packages including their badges. Attendees can register at the registration desk located on the Mezzanine at any time during the conference starting at 8:30.

Conference Dinner

The gala conference banquet will take place starting with cocktails from 18:30 - 19:30, followed by dinner to 22:00 at the beautiful Windsor Ballrooms located at 1170 rue Peel, only an 8 minute walk from Centre Mont-Royal. The conference will use both the Victorian style Salon Windsor and the French Rennaissance style Salon Versailles, both constructed in 1908. Speeches will be broadcast between rooms. Joining the two adjacent ballrooms is Peacock Alley, named so for the peacock designs in the stained glass windows. Your conference badge is required to enter the Gala so please bring it with you.



Excursion: Sentiers des Cimes and Party in the Laurentians

Following the conference on Friday, buses will take participants to a beautiful tree-top hike along a boardwalk at the Sentiers des Cimes. At the end of the boardwalk is a gradual spiral up a 40 m high tower, overlooking the Laurentian forests for a panoramic view of the Fall leaves changing color. Aftwards, the group will return to the buses for a short trip to a lodge for a BBQ and music from a talented Québecois band. After the party, the buses will return the participants to the conference centre. There is a limited option for those who wish to remain to reserve a chalet for the weekend and take in the sites.

Montreal Night Life

Montreal is world-renowned for its active night life, celebrating good times through food, music, art and entertainment. Whether it's finding an amazing restaurant or discovering a hidden speakeasy, the local volunteers can help you explore Montreal and discover something for you. Please do not hesitate to ask for tips from the locals to make the most of your Montreal experience.

About IRMMW-THz

The International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW- THz), begun in 1974, is the oldest and largest continuous forum specifically devoted to the field of ultra-high frequency electronics and applications. In 2004 the original conference series – International Conference on Infrared and Millimeter Waves (IRMMW) joined up with the International Conference on THz Electronics to form the Joint 29th International Conference on Infrared and Millimeter Waves and the 12th International Conference on Terahertz Electronics (IRMMW-THz 2004). In 2008 the conference name was shortened to the 33rd International Conference on Infrared, Millimeter, and Terahertz Waves, keeping the same general acronym: IRMMW-THz 20XX. In 2009 the conference series was formally incorporated into a mutual benefit science society registered in the state of California, USA. The society was granted full non-profit status as a US 501c3 corporation in May 2016. The International Society of Infrared, Millimeter, and Terahertz Waves (IRMMW-THz) has the mission statement: “Promoting the worldwide collection, dissemination and exchange of scientific and technical knowledge in the areas and disciplines involving infrared, millimeter, and terahertz waves.” The IRMMW-THz Society has a permanent Board of Directors, official By-Laws, and independent financial resources, and will assure the continuation of the conference series for the foreseeable future.

The IRMMW conference and its long standing accompanying monthly publication, The Journal of Infrared, Millimeter and Terahertz Waves, were among the very first scientific outlets for the burgeoning field of far infrared components and instruments that arose in the mid 1970s. The scope of the conference extends from millimeter wave devices, components and systems to far-infrared detectors and instruments and encompasses micro- and nano-scale structures to large-scale accelerators and Tokamaks and their applications. In 2011 a new focused THz journal, IEEE Transactions on Terahertz Science and Technology was added to the list of linked technical outlets for members of the IRMMW-THz Society.

The international organizing committee is composed of world-recognized experts from countries across the globe. The conference typically alternates between the Americas, Asia and Europe on a three year cycle. Past conferences have been supported by US agencies such as IEEE, APS, DOE and DoD and dozens of local societies within the hosting countries. In 2003 both the IRMMW and THz Electronics conferences were held sequentially in Japan. Total attendees for both events was 520 registrants from 18 countries with 340 submitted papers. After 2003 the two conferences joined and attendance in 2004 (Karlsruhe, Germany) exceeded 450 scientists from 28 countries with over 400 contributed papers. From 2005 to 2019 the attendance grew slowly reaching a peak of over 1000 for our 44th conference in 2019 in Paris, France. Covid 19 forced the 2020 and 2021 venues (Buffalo, NY, USA and Chengdu, China) to all virtual platforms, but the attendance was well over 1100 at each event and paper counts were above 800 for each of these venues. Last year in Delft, Netherlands, we returned to a globally attended in person meeting run in a hybrid live/online format with over 700 submitted papers.

The conference continues to thrive and grow with the THz field as we move back to fully live and in person event in our 48th IRMMW-THz conference here in Montreal, Canada.

Sandwiched between the optical on the short wavelength side and radio on the long wavelength extreme, the Terahertz or Far-Infrared has long been considered the last remaining scientific gap in the electromagnetic spectrum. Due to the historic role the IRMMW conference has played in bridging this gap by bringing together international researchers in many diverse fields – from space science to nuclear fusion – and recently chemistry and biology, the organizing committees would again like to reach out to scientists in adjacent fields who can benefit from recent developments in the far-IR.

In the last few years interest in terahertz imaging and spectroscopy from the biology, security, ultra-fast chemistry and health science communities has grown exponentially as new instrumentation and techniques have begun to make their way into many laboratories world-wide. This is especially the case in Europe and Japan, both of which have thriving cross-disciplinary programs supporting new applications in this frequency domain.

As a consequence, the conference organizing committees have significantly expanded the scope and the participating research communities. They have now included a special focus on terahertz techniques and applications, including both the traditional radio frequency domain, and the new fast pulse time domain approaches to generating, detecting and using high frequency energy. The conference offers the attendee a chance to hear and participate in a wide range of topic areas that span all aspects of Infrared, Terahertz and Millimeter-Wave (IR, THz, and MMW) technology and applications from quantum physics, chemistry, and biology to radio astronomy, plasma physics and security.

Over the coming years we are looking forward to very well attended and internationally supported cross-disciplinary conference venues that will set IRMMW-THz up as the pre-eminent conference for information exchange in the “Terahertz Gap.”

Past and Future Conferences

IRMMW-THz 2025 (50th)
Aug. 17-22, Helsinki, Finland

IRMMW-THz 2024
Sept. 1 - 6, Perth, Australia

IRMMW-THz 2023
Sept. 17-22, Montreal, Canada

IRMMW-THz 2022
Aug. 28 - Sept. 2, Delft, The Netherlands (hybrid)

IRMMW-THz 2021
Aug. 29 - Sept. 3, Chengdu, China (virtual)

IRMMW-THz 2020
Nov. 8 - 13, Buffalo, NY, USA (virtual)

IRMMW-THz 2019
Sept. 1 - 6, Paris, France

IRMMW-THz 2018
Sept. 9 - 14, Nagoya, Japan

IRMMW-THz 2017
Aug. 27 - Sept. 1, Cancun, Mexico

IRMMW-THz 2016
Sept. 25 - 30, Copenhagen, Denmark

IRMMW-THz 2015
Aug. 23 - 28, Hong Kong, China

IRMMW-THz 2014
Sept. 14 - 19, Tucson, AZ, USA

IRMMW-THz 2013
Oct. 1 - 6, Mainz, Germany

IRMMW-THz 2012
Sept. 30 - Oct. 5, Wollongong, Australia

IRMMW-THz 2011
Oct. 2 - 7, Houston, TX, USA

IRMMW-THz 2010
Sept. 5 - 10, Rome, Italy

IRMMW-THz 2009
Sept. 21 - 25, Busan, Korea

IRMMW-THz 2008
Sept. 15 - 19, Pasadena, CA, USA

IRMMW-THz 2007
Sept. 2 - 7, Cardiff, UK

IRMMW-THz 2006
Sept. 18 - 22, Shanghai, China

IRMMW-THz 2005
Sept 19 - 23, Williamsburg, VA, USA

IRMMW-THz 2004
Sept. 27 - Oct. 1, Karlsruhe, Germany

IRMMW-THz 2003
Sept. 29 - Oct. 3, Otsu, Japan

IRMMW-THz 2002
Sept. 22 - 26, San Diego, CA, USA

IRMMW-THz 2001
Sept.10 - 13, Toulouse, France

IRMMW-THz 2000
Sept. 12 - 15, Beijing, China

IRMMW-THz 1999
Sept. 6 - 10, Monterey, CA, USA

IRMMW-THz 1998
Sept. 7 - 11, Colchester, UK

IRMMW-THz 1997
July 20 - 25, Wintergreen, VA, USA

IRMMW-THz 1996
July 14 - 19, Berlin, Germany

IRMMW-THz 1995
Dec. 11 - 14, Orlando, USA

IRMMW-THz 1994
Oct. 17 - 20, Sendai, Japan

IRMMW-THz 1993
Sept. 6 - 10, Colchester, UK

IRMMW-THz 1992
Dec. 14 - 17, Pasadena, CA, USA

IRMMW-THz 1991
Aug. 26 - 30, Lausanne, Switzerland

IRMMW-THz 1990
Dec. 10 - 14, Orlando, USA

IRMMW-THz 1989
Oct. 2 - 6, Wuerzburg, France

IRMMW-THz 1988
Dec. 5 - 9, Honolulu, HI, USA

IRMMW-THz 1987
Dec. 14 - 18, Orlando, FL, USA

IRMMW-THz 1986
Oct. 20 - 24, Tirrenia, Pisa, Italy

IRMMW-THz 1985
Dec. 9 - 13, Orlando, FL, USA

IRMMW-THz 1984
Oct. 22 - 26, Takarazuka, Japan

IRMMW-THz 1983
Dec. 12 - 17, Miami Beach, FL, USA

IRMMW-THz 1982
Feb. 14 - 18, Marseille, France

IRMMW-THz 1981
Dec. 7 - 12, Miami Beach, FL, USA

IRMMW-THz 1980
Oct. 6 - 10, Wuerzburg, Germany

IRMMW-THz 1979
Dec. 10 - 15, Miami Beach, FL, USA

IRMMW-THz 1978
Mar. 29 - Apr. 1, Guildford, UK

IRMMW-THz 1976
Dec. 6 - 11, Puerto Rico, USA

IRMMW-THz 1974
June 5 - 7, Atlanta, GA, USA

Prizes and Awards

Kenneth J. Button Prize

The Kenneth J. Button Prize is awarded annually at the International Conference on Infrared, Millimeter and Terahertz Waves in recognition of outstanding contributions to the science of infrared, millimeter, and terahertz waves. The Prize is named after the founder of the Conference Series and is administered by the Infrared, Millimeter, and Terahertz Society. It consists of a medal and a cash prize of $3000. At each annual meeting of the Conference, the Kenneth J. Button Prize Committee meets to consider the nominations that have been submitted and elects the recipient of the Prize for the following year. The presentation is made at the following annual meeting of the Conference and the recipient is normally invited to give a plenary lecture at that meeting

In 1990 an award called “The Infrared and Millimeter Wave Prize,” to be awarded “for outstanding contributions to the field of infrared and millimeter waves,” was initiated by the Program Council (now known as the International Organizing Committee) and awarded in the first instance to Kenneth J Button, founder of the conference series. The following year it was agreed by the Program Council to rename the Prize “The Kenneth J Button Prize” in recognition of Ken Button’s outstanding contributions to the Infrared and Millimeter Wave Community, both as a scientist and as the initiator and driving force of this series of conferences. In September 2013, the criterion for awarding the Prize was changed to its present form: “for outstanding contributions to the science of infrared, millimeter, and terahertz waves”

Any scientist active in the field of the Conference may make a nomination for the K J Button Prize. The closing date for receipt of nominations for the following year is generally April 15, but check this web site each year to make certain. The closing date will be strictly observed. Any nominations received after that date will be carried forward to the following year.

2023 Winner

Martin Dressel
Universität Stuttgart, Germany

“for contributions to the understanding of novel materials by advancing spectroscopic methods in the microwave, terahertz, and infrared spectral ranges”

Plenary Talk, Thurs. 8:30 - 9:15 (Th-PL-1-1)

IRMMW-THz Society Exceptional Service Award

In 2010 the IRMMW-THz Society Board voted to institute an annual award honoring Exceptional Service to the Society and the IRMMW-THz Community at large. This award recognizes a single individual who has contributed continuously, and over a long period of time, to the goals of the IRMMW-THz Society and to the expansion of influence and organization of our technical community. The prize consists of a certificate, a compendium of all past IRMMW-THz conference brochures, and a waiver of the registration fee for attendance at the conference for the year in which the award is given.

Nominations are open to anyone from the IRMMW-THz community. Winners are selected by vote of the IRMMW-THz International Organizing Committee at the conference which precedes the award. Nominations are open two months prior to the conference, and consist of a nominee name and affiliation and short write up describing the relevant contributions that would warrant receipt of the award (no CV's or paper lists, please, this is a Community Service award). Nominations should be sent to the IRMMW-THz General Secretary: Peter H. Siegel at phs@caltech.edu. Winners will be announced at the IRMMW-THz Conference Banquet each year.

2023 Winner

Xi-Cheng Zhang
Institute of Optics, University of Rochester, NY, USA

Prizes and Awards

IRMMW-THz Zhenyi Wang Award

In 2021, at the behest of Professor Shenggang Liu, the IRMMW-THz Society Board is introducing the "Zhenyi Wang award for Excellence in IRMMW-THz" to recognize outstanding female contributors to Infrared, Millimeter, and Terahertz wave science, technology and applications. The Award consists of a cash prize of 15,000 Yuan (approximately USD2200 in 2022) and a certificate of recognition stating the research achievements of the award recipient. A committee of worldwide technical experts in IRMMW-THz science and applications evaluates nominations received for the award each year. The first recipient of the prize was announced at the 46th IRMMW-THz Conference, in Chengdu, China in September 2021. Subsequent winners are announced shortly following each conference in the given year (2024 will be announced after the 48th IRMMW-THz in Montreal). Each Award recipient will be invited to deliver a keynote presentation at the next conference in our series.

Application for the Award is open to women scientists and engineers with a PhD or equivalent degree in Physics, Electrical and Electronic Engineering, Chemistry, Biology or any other relevant IRMMW-THz inclusive research field, of any nationality, from academia, industry, private, or national laboratories. Applicants must have finished their PhD within the last twelve years (plus one more year for each child) on the closing date of the application of the award. Applicants should have an outstanding publication record and must be in a position of independently directing a research group or program (e.g. beyond a post-doctoral position).
Members of the Awards Committee, the Local, or the International Organizing Committee of the IRMMW-THz Society are ineligible for the award.

2023 Winner

Clara Saraceno
Ruhr Universität Bochum Germany

"for achievements in the development of high-power laser-driven Terahertz sources."

Invited Tutorial
Sunday

Prizes and Awards

Young Scientist Award

In 2016 the IRMMW-THz Society Board voted to institute a Young Scientist Award to recognize interdisciplinary, outstanding scientific work by a young scientist who has made innovative contributions and discoveries in the field of infrared, millimeter, and Terahertz waves. The Award consists of a cash prize of $2000 and a certificate of recognition of the research achievements of the award recipient. At each annual meeting of the Conference, the Young Scientist Award Committee meets to evaluate the applications that have been submitted and elects the recipient of the Prize for the following year. The Award recipient will be invited to deliver a keynote presentation to the IRMMW-THz Conference following the selection.

Eligibility Requirements for Applicants:

Application for the Award is open to young scientists with a PhD in Physics, Electrical and Electronic Engineering, Chemistry, and Biology or any other relevant research field, of any nationality from academia, industry, or national laboratories.

1. Applicants must be within 10 years after obtaining the PhD, but not over the age of 40, on the closing date of the application for the award.

2. The applicants should have a solid publication record and have published at least one article as a lead author in a high ranking international journal.

3. Members of the Award Committee are ineligible for the award.

2023 Winner

Valeria Giliberti
Center for Life Nano Science, Istituto Italiano di Tecnologia, Rome, Italy

"for important breakthroughs in the domain of biophysical research with infrared near-field techniques"

Invited Keynote Talk
Thurs. Sept. 21, 15:30 - 16:00 (Th-PM2-3-1)

IRMMW-THz 2023

Prizes and Awards

Best Student Presentation Award

In 2011, the IRMMW-THz Society Board voted to implement an annual Best Student Presentation Award to recognize original contributions to the conference from outstanding student attendees. A cash prize is awarded to 1st, 2nd and 3rd place papers through a committee selection and voting process. During the 2023 submission process, students have the opportunity to sign up for the competition for the Best Student Presentation Award during the abstract submission process.

Based on the reviews of all these papers, the Award Committee will select the IRMMW- THz 2023 Best Student Presentation Award finalists. The finalists will present their work to the Student Award Committee in a closed session during the conference. The winner will be announced during the award ceremony.

List of Finalists

Tomohiro Fujimoto Observation of Terahertz Spin Hall Conductivity Spectrum in Bulk GaAs at Room Temperature	Mo-MP2-3
Harrison Lees Single-Mode Rib Waveguide For The Terahertz Range Using 3D Printed Alumina	We-PM2-4
Ahmed Jaber Light-matter Coupling Between Organic Molecules And A THz Metasurface	We-PM2-4
Josef Freudenstein Attoclocking Delocalized Bloch Electrons With Multi-terahertz Fields	Th-Am-2-4
Huiliang Ou Single-Mode Rib Waveguide For The Terahertz Range Using 3D Printed Alumina	We-PM2-4
Mirco Kutas Quantum Sensing In The Terahertz Frequency Range	Mo-PM1-1

Swiss THz Award

The Swiss Terahertz Company is sponsoring a prize for the conference IRMMW-THz 2023, held in Montreal. This year's award will recognize an outstanding innovation in terahertz technologies. The prize is … that will be donated to the laboratory hosting the winner of the competition.A short-list of candidates will be selected by members of the Local Organizing Committee, based on the quality of their abstract, and the relevance and impact of their work to innovations in THz technologies. These candidates will be informed that their paper will be considered for the prize. The selection of the winner will be made by a jury of three members of the Technical Program Committee, based on the articles considered in this competition.

The prize: Brisk module consisting of BNA organic crystal emitter and Regi microbolometer camera detector. BNA (swissterahertz.com)

Previous years winners:

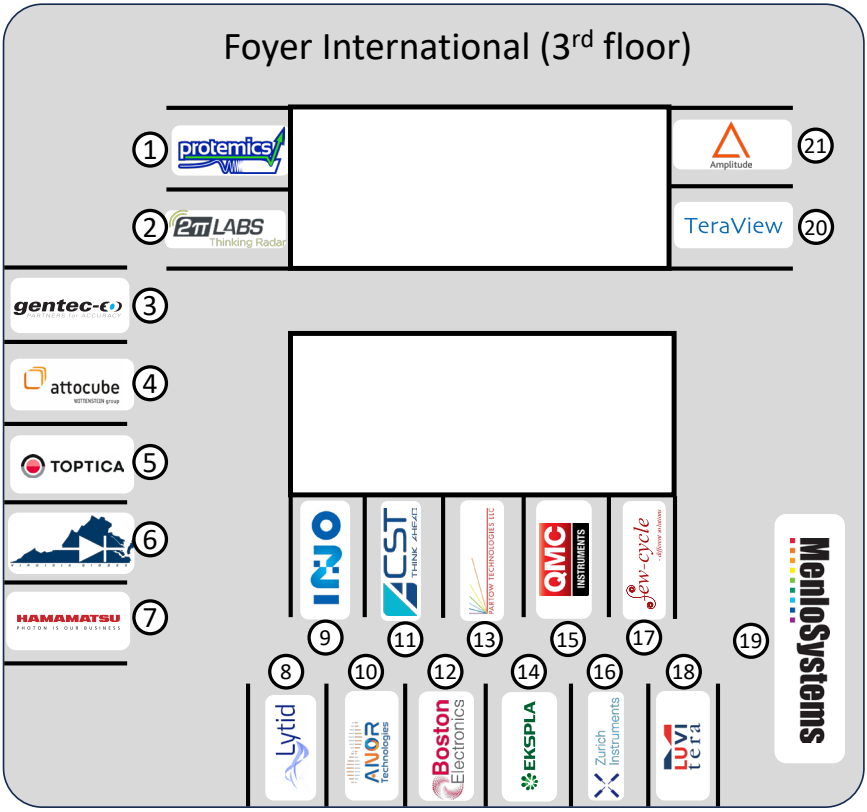
2022: IRMMW Delft - Dai Nakajima, Tohoku University, Japan

2021: IRMMW Buffalo - Samira Mansourzadeh, Univ. Bochum, Germany

2019: IRMMW Paris - Dovilė Čibiraitė Goethe Univ. Frankfurt, Germany

Exhibition and Sponsors

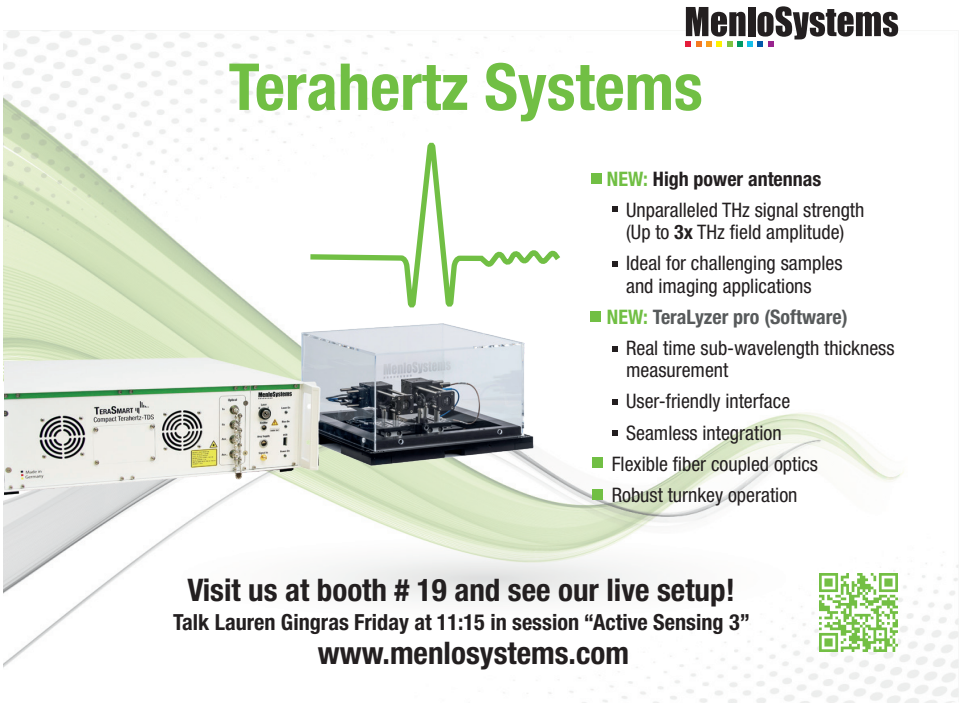
The live exhibition will take place in the Foyer International on the third floor of the conference center. The Foyer will serve as a hub between the breakout sessions and coffee and refreshment stations during the regular breaks and the poster sessions.



Exhibition and Sponsors

Gold Sponsor

Menlo Systems GmbH is a leading developer and global supplier of instrumentation for high-precision metrology. The company with headquarters in Martinsried near Munich is known for its Nobel Prize winning optical frequency comb technology. With subsidiaries in the US, Japan, and China and a global distributor network, Menlo Systems is closely connected to its customers from science and industry. The main product lines are optical frequency combs, time and frequency distribution, terahertz systems, ultrafast and ultra-stable lasers, and corresponding control electronics. Besides standard products, Menlo Systems develops and manufactures custom made solutions for laser- based precision measurements. Complete systems for quantum technology applications combine Menlo Systems' core competencies and provide the enabling technology for the Quantum Revolution 2.0.



Exhibition and Sponsors

Silver Sponsors

VDI manufactures state-of-the-art test and measurement equipment for mm-wave and THz applications. These products include Vector Network Analyzer, Spectrum Analyzer and Signal Generator Extension Modules that extend the capability of high performance microwave measurement tools to higher frequencies. VDI's component products include detectors, mixers, frequency multipliers and custom systems for reliable operation at frequencies between 50 GHz and 2 THz. All VDI components include in-house fabricated GaAs Schottky diodes and microelectronic filter structures.

ACST is the leading European supplier of high-power frequency multipliers and THz sources. With 17 years of experience in terahertz solutions, we are a strong partner in the field of Radioastronomy, communications, and scientific instrumentation, but also for industrial applications like MM/SubMM-Wave imaging for security and non-destructive quality control. Our high-performance products and our wide range from semiconductor components over MM-Wave and THz modules up to THz sources and full systems serve the demand in scientific research, laboratory instrumentation, industry, security, and space. For more information visit our website or talk to us during the conference. www.acst.de

Created in 2001, Amplitude Laser Group manufactures and commercializes ultrafast lasers for scientific, medical, and industrial applications. Leading the international market since the outset, Amplitude is known for its excellence across a large array of products: diode-pumped ultrafast solid-state lasers, ultra-high energy Ti:Sapphire ultrafast lasers, and a full line of high-energy solid-state laser products. The group consists of three manufacturing locations and several commercial offices in Europe, Asia, and North America. Its 450 employees are committed to creating and developing innovative lasers, manufactured to the most rigorous standards including ISO 9001 and ISO 13485.

ANOR Technologies is a deep-tech company delivering a unique service redefining spectroscopy by leveraging Artificial Intelligence (AI) and Cloud Computing. Our solution is delivered via cloud services, combining portable devices or industrial sensors with AI-powered mobile or web applications. We manage multiple varieties of spectrometer devices, spectral data and create AI models utilising our cloud platforms, SenstrioAI & SentrioSwift, allow users to build models and are crucial in applications such as: coating measurement, drug &explosive detection, plastic sorting, and food safety detection.

Exhibition and Sponsors

attocube's business sector 'Nanoscale Analytics' develops and produces innovative solutions for nanoscale imaging and spectroscopy. The neaSCOPE system is an ultra-stable, easy-to-use instrument for tip-enhanced optical measurements with remarkable scientific impact. Our technology overcomes the limitations of conventional instruments and enables a spatial resolution of 20 nanometers in the VIS to THz spectral range. Customers from academia and industry rely on attocube's groundbreaking 'Nanoscale Analytics' technology.

Gentec-EO is a leader in the laser beam measurement field with 50 years of experience. We design and manufacture a complete range of instruments to characterize your laser's performance: laser power meters, laser energy meters, terahertz radiometers, high-speed joulemeters, beam profilers, and custom measurement solutions. Our products are sold around the world, with distributors and representatives in over 35 countries and offices in Canada, USA, and Japan.

Hamamatsu Corporation is the North American subsidiary of Hamamatsu Photonics K.K. (Japan), a leading manufacturer of devices for the generation and measurement of infrared, visible, and ultraviolet light. These devices include photodiodes, silicon photomultipliers, photomultiplier tubes, scientific light sources, infrared detectors, photoconductive detectors, and image sensors. The parent company is dedicated to the advancement of photonics through extensive research. This corporate philosophy results in state-of-the-art products which are used throughout the world in scientific, industrial, and commercial applications.

INO is the largest center of expertise in optics and photonics in Canada. For the past 30 years, it has created and developed customized solutions to meet the needs of companies working in various lines of business throughout Quebec and Canada. As a high-tech leader, INO has implemented more than 6,500 solutions, carried out 74 technology transfers, and contributed to the creation of 35 new companies, providing employment to more than 2,000 people.

Protemics GmbH develops and sells terahertz full-system solutions for the areas of non-destructive testing and THz technology research. Our products and services are based on our pioneering Terahertz microprobe device series TeraSpike – the ideal tool for applications requiring THz measurements with micron-scale resolution at high measurement speeds.

Exhibition and Sponsors

2π-LABS GmbH is a high-tech radar sensor company focusing on robust and reliable MMIC-based wideband sub-THz-spectroscopy solutions. The company is headquartered in Bochum, Germany. The 2πSENSE software defined highly versatile D-band (126 - 182 GHz with 56 GHz bandwidth) radar sensor & technology platform enables fast, cost effective & accurate network analyzer like measurements for a wide variety of industrial and scientific applications. The covered applications are 1µm accurate ranging, wideband SAR & real aperture focus imaging and in-line material inspection for process control applications. In addition, the versatility of the 2πSENSE radar technology enables research-oriented usage at universities and institutes with a low barrier to entry.

At few-cycle Inc. we develop optical technologies for ultrafast laser science.Our aim is to redefine optical parametric amplification by providing the highest conversion efficiencies and high peak power IR pulses of up to 2.5TW.

We also offer unique femtosecond laser upgrades based on hollow-core fiber systems for pulse compression. Special high efficiency fibers developed for Yb lasers reach >90% throughput at average power levels beyond 100W. Our fibers have also been used to compress Yb pulses with more than 70mJ of pulse energy.

TOPTICA develops and manufactures high-end laser systems for scientific and industrial applications. The portfolio includes terahertz systems, diode lasers, ultrafast fiber lasers, frequency combs and continuous-wave fiber lasers and amplifiers. Over a dozen Nobel laureates all acknowledge the world-class exceptional specifications of TOPTICA's lasers, as well as their reliability and longevity.

TOPTICA provides terahertz spectrometers as well as components for both time-domain and frequency-domain techniques. Our products, including the TeraFlash pro and TeraFlash smart, set new standards in terms of dynamic range, bandwidth and measurement speed.

EKSPLA focuses on the design and manufacturing of advanced lasers and employs more than 30 years' experience.
The ability to effectively tailor products for specific applications and requirements is one of the main competences of EKSPLA.
80 out of the 100 top universities use EKSPLA lasers.
For researchers demanding a wide tuning range, high conversion efficiency and narrow line-width, EKSPLA tunable lasers are an excellent choice. All models feature hands-free wavelength tuning, valuable optical components protection system as well as wide range of accessories and extension units, offering probably the widest tuning range: from 192 nm to 18000 nm.

Exhibition and Sponsors

Partow technologies has developed electro-optic modulators and photo-mixers based on thin film lithium niobate technology. We produce thin film lithium niobate substrates using in house wafer bonding tool. We produce photonic devices on thin film lithium niobate substrates. Partow fiber coupled photonic modulators operate at THz range and can be used for detection of THz signals in time domain THz spectroscopic applications. Partow photo-mixers can be used for generation of THz signals in the range of 0.5THz to 5THz.

TeraView

TeraView (https://teraview.com/) is the world's first and leading company solely focused on the application of terahertz light to provide solutions to customer issues. A spin out from the Toshiba Corporation and Cambridge University, TeraView has developed its proprietary technology across a number of markets. These include fault analysis and quality assurance for semiconductor chips used in mobile computing and communications, as well as non-destructive inspection of high value coatings used in the automotive, pharmaceutical, food and solar industries. With the largest number of systems in the field, as well as applications know-how made available to customers via a team of dedicated engineers using intellectual property and knowledge in peer-reviewed scientific publications, TeraView is uniquely placed to deliver the business benefits of terahertz to customers. Headquartered in Cambridge UK, sales and customer support are available throughout the Far East, North America and Europe either directly or through a network of distributors.of terahertz to customers. Headquartered in Cambridge UK, sales and customer support are available throughout the Far East, North America and Europe either directly or through a network of distributors.

QMC Instruments Ltd. has been proud to serve the terahertz research community since 1976; indeed since before it was known as the terahertz community! When the conference next comes to the Americas we will be celebrating our golden jubilee. We are based in the UK where we liaise very closely with academic colleagues at Cardiff University.
We make detectors covering the range from 30 GHz to 30 THz. They include superconducting transition edge bolometers and semiconductor hot-electron bolometers. Our bespoke cryogenic system design capability includes detectors housed in helium reservoir cryostats, although more recently almost all systems are built in pulse tube coolers which operate continuously.Cooling platforms include sub-Kelvin designs and large format platforms for millimetre-wave imaging applications. In addition we offer passive optical components such as metal mesh filters, polarisers and wave-plates.

Lytid develops and commercializes advanced photonic products for industry and academy. Our goal is valorizing state-of-the-art terahertz (THz) and Infrared (IR) technologies into high- performance and accessible products. Diverse core technologies are employed by Lytid, including Quantum Cascade Lasers, electronic multiplied sources based on planar GaAs Schottky diodes, InGaAs SWIR scientific camera and mmw/sub-THz FMCW sensors. Our portfolio is developed with the aim of making these technologies available to demanding users who want to explore IR and THz applications, while delivering a plug&play, user-friendly product. Our systems are compact, powerful, reliable, easy-to-use and fully integrated, releasing the users from the complexity of the technologies.

Boston Electronics provides a wide range of infrared (IR), terahertz (THz), MMW, ultraviolet (UV), and visible detectors, sources, lasers, signal/image processing electronics and microscopy solutions. This makes us a unique resource for your electro-optical needs. We are known throughout the industry as having strong application support, advantaged products and deep experience in electro-optics technologies and markets; thus, making us a perfect partner for your product and research needs. We are agents for Lytid, SAS in North America and INO in the United States providing THz and MMW sales and application in the market. www.boselec.com

Friends

Eravant, located in Torrance, California, operates from a 60,000-square-foot design, manufacturing, assembly, and testing facility focused on supplying a global customer base with millimeter wave and sub-THz (18 to 330 GHz) components, subassemblies, and test equipment. Eravant is known for supporting the customer every step of the way from lab set-up, to R&D and prototype, and through program or volume production. We are an AS9100D certified, ITAR-registered, women-owned small business designing and manufacturing in the United States. The company's vision is to make millimeter wave and sub-THz accessible by lowering budget, knowledge, and experience barriers so more engineers and scientists can work to realize the technology of the future.

Institutional Sponsors

V I R G I N I A D I O D E S

VDI manufactures state-of-the-art test and measurement equipment for mm-wave and THz applications. These products include Vector Network Analyzer, Spectrum Analyzer and Signal Generator Extension Modules that extend the capability of high performance microwave measurement tools to higher frequencies. VDI's component products include detectors, mixers, frequency multipliers and custom systems for reliable operation at frequencies between 50 GHz and 2 THz. All VDI components include in-house fabricated GaAs Schottky diodes and microelectronic filter structures.


ERAVANT
FORMERLY SAGE MILLIMETER
MAKING MMW ACCESSIBLE
MMW & SUB-THZ COMPONENTS, SUBASSEMBLIES, & TEST EQUIPMENT
FROM DC TO 330 GHz
WOMEN OWNED
RoHS
ITAR
DEKRA

Scientific Program

Plenary Speakers

Robert Boyd, University of Ottawa
Nonlinear Optics of IR and THz Radiation

This contribution presents a brief overview of research in infrared and terahertz nonlinear optics. The talk will include a discussion of early work including difference-frequency generation, infrared detection by upconversion via sum-frequency generation, and frequency down-shifting by stimulated Raman scattering. The talk will also include more recent work including nonlinear optical means for THz generation and consideration of the extremely largeTHz third-order nonlinear optical response resulting from phonon resonances.

Steven Jamison, Lancaster University
THz-driven Acceleration And Manipulation Of Electron Beams

Laser-derived THz sources are capable of acceleration or deflection of electron beams, with femtosecond temporal control. When combined with electron beam dynamics in free-space or magnetic transport systems, actively driven synchronization of electron beams to lasers becomes achievable. Maximizing the interaction between THz and electron beams requires solving challenges such as slow-light systems to obtain velocity phase-matching between wave and particle beam; generation of electromagnetic modes or interaction configurations that provide an electric field polarization collinear with wave and particle propagation; and design of dispersion free, or minimal dispersion, structures that maximizes the THz-electron interaction. Research of the THz acceleration group at Cockcroft Institute in these areas includes mode-tailored spintronic sources, high-field PPLN generation, slow-wave travelling source schemes, and dielectric and corrugated waveguide structures. The acceleration and manipulation of both relativistic and 100keV electron beams have been demonstrated. Relativistic beam concepts and are being developed further for ultrafast temporal compression and active synchronization control of high-energy beams, while boosting 100keV beams to MeV levels underpins the development of THz-driven electron injector technology.

Mona Jarrahi, UCLA Los Angeles
Plasmonic Terahertz Camera For Real-Time Terahertz Imaging

We present a terahertz camera based on a plasmonic focal-plane array that can generate ultrafast temporal and hyperspectral terahertz images with an imaging speed exceeding 16 fps. We demonstrate super-resolving both shape and depth information of imaged objects with a lateral/depth resolution as small as 60/10 μm and an effective number of pixels exceeding 1-kilo-pixels.

Tobias Kampfrath, Freie Universität Berlin
Terahertz Spintronics: New Insights Into Magnetic Phenomena and Their Application In Terahertz Photonics

By applying terahertz time-domain techniques to spintronic nanostructures, new insights into the ultrafast dynamics of electron spins can be gained. Relevant applications such as the spintronic generation and detection of terahertz electromagnetic fields emerge.

Koichiro Tanaka, Kyoto University
High Harmonic Spectroscopy For Many-body Dynamics In Solids

We report our recent results on high harmonic generation in crystalline solids, and the effect of many-body correlations on extreme nonlinear optical process driven by intense infrared field. Our observations indicate that high harmonic generation can be a new spectroscopic tool to investigate ultrafast non-equilibrium dynamics of the many-body system.

Matthias Hoffmann, SLAC National Accelerator Laboratory
Terahertz Pump/X-ray Probe Experiments At LCLS

I will give a summary of THz experiments using ultrafast x-ray pulses from free electron lasers as a probe. The first part will be a brief review of our past and current capabilities at SLAC and highlight results that we were able to achieve during the first ten years of operation of LCLS. The second part of the talk will focus at the the future capabilities of LCLS-II (which is coming on-line this year) and how we will scale to much higher repetition rates to enable new and exciting science.

Martin Dressel, Universität Stuttgart

Electrodynamics Of Solids: Low-Energy Spectroscopy Of Correlated Electrons

Electronic correlations in solids, though often neglected for simple materials, can become decisive effects leading to novel states of matter. Spectroscopic investigations have to adjust to the small energy scales of relevance here, μeV or meV. Hence, the crucial optical experiments are conducted in the far-infrared range, at THz and microwave frequencies or even below. In recent years, significant advances in methods, materials and understanding allowed us to shed new light on the electrodynamic properties of correlated electron systems, answer pertinent questions and reveal unexpected properties.

Thomas Keurner, Technische Universitaet Braunschweig

THz Communications On The Way Towards Its Application On 6G

Already a couple of years ago THz communications have not only become an attractive new research area on channel modeling but also triggered a couple of projects heading to develop appropriate technological solutions to enable the set-up of hardware demonstrators. In parallel discussions and activities in standardization and regulation already took off. In October 2017, IEEE published Std. IEEE 802.15.3d-2017 the worldwide first wireless communications standard operating in the 300 GHz frequency band. At the World Radio Conference 2019 (WRC-2019) 160 GHz of spectrum has been identified for the use of THz communications and ETSI has recently kicked-off an ETSI ISG THz targeting future standardization in 3GPP. The speaker has been actively involved in all those areas. The contribution will provide a brief overview on the current status of the development of THz Communication systems focusing on past and ongoing large research projects in Europe, recent results on advanced channel characterization at 300 GHz, current activities at IEEE 802 and ETSI and at hardware demonstrators operating in this frequency range.

Hannah Joyce, University of Cambridge

Nanowires In Terahertz Photonics: Harder, Better, Stronger, Faster

By virtue of their quasi one-dimensional geometries, III-V semiconductor nanowires present unique capabilities for terahertz photonic devices. Ultrafast terahertz polarisation modulators and miniature terahertz photoconductive detectors are two examples of such nanowire-based devices. By the same token, terahertz methods such as terahertz conductivity spectroscopy offer unparalleled insight into the electronic processes that dictate the performance of nanowire-based devices.

Jun Kono, Rice University

Quantum Vacuum Dressed Materials in Terahertz Cavities

This talk is about studying solids placed in terahertz cavities to uncover exotic new phases and phenomena in “ultrastrongly driven” materials in the complete absence of any external fields -- other than the fluctuating vacuum, or zero-point, electromagnetic fields. Judicious engineering of such fluctuating quantum vacuum fields surrounding condensed matter inside high-Q and small-mode-volume terahertz cavities can lead to nonintuitive and ulrastrong modifications of electronic states, producing a quantum-vacuum-dressed material with novel properties. Recent theoretical predictions include cavity-enhanced, cavity-induced, and/or cavity-mediated electron-phonon coupling and superconductivity, electron pairing, anomalous Hall effect, ferroelectric phase transitions, quantum spin liquids, and photon condensation. This talk will describe our recent studies of various solid-state systems in terahertz cavities in search of such vacuum-induced phases of matter.

Sunday 17 September

Student Workshop, Tutorials and Industrial Panel

The student workshop will be held at the Rutherford Physics Building (3600 University St.) on the Downtown Campus of McGill University. Due to the limited capacity of the available space, participation is limited to students who first registered to the workshop. Starting from the Roddick Gates (A) located at Sherbrooke and McGill College, McGill's main entrance, a walking map to the building is given below to the Rutherford Physics Building (B). Students are asked to show up between 8:45- 9:00 am to receive their conference badges, required to enter the workshop.

Student Workshop

09:00-17:00	**Student workshop** **Sunday Sept. 17, 2023** **Rutherford Physics Building, McGill** **Chairperson: Jean-Michel Menard, Univ. of Ottawa**
08:45-09:00	Arrival and registration
09:00 - 09:10	Introduction
09:10 - 10:10	**Probing ultrafast nanoscale dynamics with terahertz scanning tunneling microscopy** Frank Hegmann, University of Alberta
10:10 - 10:30	Coffee Break
10:30 - 11:30	**Terahertz characterization of biomacromolecules and biological water** Andrea Markelz, University of Buffalo
11:30 - 13:00	Lunch (provided)
13:00 - 14:00	**High average power, few-cycle terahertz sources and applications** Clara Saraceno, Ruhr University Bochum *Recipient of the 2023 IRMMW-THz Zhenyi Wang Award*
14:00 - 14:15	Coffee Break
14:15 - 15:15	**Tilted pulse front pumped optical rectification-based THz sources** János Hebling, University of Pécs
15:15 - 16:45	**Discussion panel** Alexei Halpin (Council of Canadian Academies Lauren Gingras (Menlo) Mariia Zhulbdybina (TRAQC)
16:45 - 17:00	**Conclusion**
17:30	**Reception at the Centre Mont-Royal**

Monday 18 September

	Symposia Theatre	Cartier I	Cartier II
08:00-09:00	Opening Ceremonies		
09:00-10:00	Plenary 1 9:00-9:45		
10:00-11:00	Plenary 2 9:45-10:30		
11:00-12:00	Oral Session 11:00-12:00	Oral Session 11:00-12:00	Oral Session 11:00-12:00
12:00-13:00			
13:00-14:00	Oral Session 13:30-15:30	Oral Session 13:30-15:30	Oral Session 13:30-15:30
14:00-15:00			
15:00-16:00			
16:00-17:00	Oral Session 16:00-18:00	Oral Session 16:00-18:00	Oral Session 16:00-18:00
17:00-18:00			
18:00-19:00			

International I	International II	Third Floor Foyer	Fourth Floor Hall
		AM Break	
Oral Session 11:00-12:00	Oral Session 11:00-12:00		
Oral Session 13:30-15:30	Oral Session 13:30-15:30		
		PM Break	
Oral Session 16:00-18:00	Oral Session 16:00-18:00		
		Poster Sessions 18:00-19:30	Poster Sessions 18:00-19:30

Monday 18 September

8:30-9:00	**Opening Ceremony** **Chairperson(s): David Cooke**	**Symposia Theatre**
9:00-9:45	**Plenary Session 1** **Chairperson(s): Lyubov Titova**	**Symposia Theatre**
09:00	**Nonlinear Optics Of THz Radiation** Robert Boyd* University of Ottawa, 25 Templeton Street, room 456, Canada	**Mo-PL-1-1**
	Plenary Session 2 **Chairperson(s): Lyubov Titova**	**Symposia Theatre**
09:45	**THz-driven Acceleration And Manipulation Of Electron Beams** Steven Jamison*[1]; Graeme Burt[2]; Darrren Graeme[3]; Robert Appleby[3]; Morgan Hibberd[3] [1]Lancaster University, Department of Physics, Bailrigg, Lancaster, United Kingdom; [2]Lancaster University, Lancaster, United Kingdom; [3]Manchester University, Manchester, United Kingdom	**Mo-PL-2-1**
11:00-12:00	**Quantum-Cascade Lasers I** **Chairperson(s): Xiang Lu**	**Symposia Theatre**
11:00	**Terahertz Near-field Mapping Of Plasmon-polaritons In Layered Nano Materials** Miriam Vitiello* CNR Nano, Piazza San Silvestro 12, Pisa, Italy	**Mo-AM-1-1**
11:30	**Spectral Shaping In Ultra-Thin Terahertz Quantum Cascade Laser Pairs** Marie C. Ertl*[1]; Michael Jaidl[1]; Benedikt Limbacher[1]; Dominik Theiner[1]; Miriam Giparakis[2]; Maximilian Beiser[2]; Aaron M. Andrews[2]; Gottfried Strasser[2]; Juraj Darmo[1]; Karl Unterrainer[1] [1]Institute of Photonics, Gusshausstrasse 27-29, Vienna, Austria; [2]Institute of Solid State Electronics, Gusshausstrasse 25a, Vienna, Austria	**Mo-AM-1-2**
11:45	**THz Optical Solitons Formation In Double Ring Quantum Cascade Lasers**	**Mo-AM-1-3**

Paolo Micheletti*[1]; Urban Senica[1]; Andres Forrer[1]; Sara Cibella[2]; Guido Torrioli[2]; Martin Frankié[3]; Mattias Beck[3]; Jerome Faist[3]; Giacomo Scalari[3]
[1]ETH Zurich, ETH Hönggerberg, HPT F10 Auguste-Piccard-Hof 1, Zurich, Switzerland; [2]CNR-Istituto di Fotonica e Nanotecnologie, Via del Fosso del Cavaliere, 100, Roma, Italy; [3]ETH Zurich, ETH Honggerberg, Auguste-Piccard-Hof 1, Zurich, Switzerland

11:00-12:00	THz Driven Electron Sources Chairperson(s): Steven Jamison	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 Mønsteds 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 Chairperson(s): Jiro Hirokawa	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 UniversityNo. 37 Xu, Beijing, China	Mo-AM-3-1
11:15	**Selective Biodetection Platform For Melanoma Diagnosis Using Functionalized THz Metamaterials**	Mo-AM-3-2

	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	
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**
11:00-12:00	**Metrology I** **Chairperson(s): Peter Uhd Jepsen**	**International I**
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**	**Mo-AM-4-3**

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

11:00-12:00	Novel Imaging Techniques I Chairperson(s): Hartmut Roskos	International II
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

13:30-15:30	Laser Sources & Detectors I Chairperson(s): Robert Boyd	Symposia Theatre
13:30	**Quantum Sensing In The Terahertz Frequency Range**	Mo-PM1-1-1

Mirco Kutas*; Björn Haase; Jens Klier; Georg von Freymann; Daniel Molter
Fraunhofer Institute for Industrial Mathematics ITWM, Fraunhofer-Platz 1, Kaiserslautern, Germany

14:00 **Research On 1THz Carbon-based Backward Wave Oscillator** **Mo-PM1-1-2**

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

14:15 **Noncollinear Parametric Detection Of Broadband Terahertz Pulses** **Mo-PM1-1-3**

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

14:30 **Sensitive Detection Of Terahertz Pulses Via Parametrically Upconverted Near-infrared Photons** **Mo-PM1-1-4**

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

14:45 **Terahertz Parametric Generation By Collinear Injection Seeding** **Mo-PM1-1-5**

Sota Mine*; Naoya Yamamoto; Kodo Kawase; Kosuke Murate
Nagoya University, Furo-cho, Chikusa-ku, Nagoya, Japan

15:00 **Tunable Backward THz-Wave Parametric Oscillator Centered At A High Frequency Of 0.870 THz** **Mo-PM1-1-6**

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

15:15	**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**

13:30-15:30	**High Field THz Generation I** **Chairperson(s): Koichiro Tanaka**	**Cartier I**
13:30	**Laser-driven Terahertz Pulses: From GV/m To TV/m Field Strengths** Bergé Luc* Commissariat à l'Energie Atomique et aux Energies Alternatives, CEA, DAM, DIF, Arpajon, France	**Mo-PM1-2-1**
14:00	**Laser-induced Gas Breakdown By A Train Of Femtosecond long-wave Infrared FEL Pulses** Ryoichi Hajima*[1]; Keigo Kawase[1]; James K. Koga[1]; Heishun Zen[2]; Hideaki Ohgaki[2] [1]National Institutes for Quantum Science and Technology, Umemidai 8-1-7, Kizugawa, Japan; [2]Kyoto University, Gokasho, Uji, Japan	**Mo-PM1-2-2**
14:15	**Generation Of Naturally Down-Chirped Few-Cycle Pulse From Free-Electron Laser Oscillator And Its Pulse Compression** Heishun Zen*[1]; Hideaki Ohgaki[2]; Ryoichi Hajima[3] [1]Institute of Advanced Energy, Kyoto University, Gokasho, Uji, Japan; [2]Instiute of Advanced Energy, Kyoto University, Gokasho, Uji, Japan; [3]National Institutes for Quantum and Radiological Science and Technology, 8-1-7 Umemi-dai, Kizugawa, Japan	**Mo-PM1-2-3**

14:30	**Shot-to-Shot Detection Of The Carrier Envelope Phase Evolution In A THz FEL**	**Mo-PM1-2-4**
	J. Michael Klopf*; 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	
14:45	**Characterization Of High Energy THz Sources With Proton Radiography**	**Mo-PM1-2-5**
	Gerrit Bruhaug*[1]; Hans Rinderknecht[1]; Mingsheng Wei[1]; Yiwen E[2]; Kareem Garriga[2]; Xi-Cheng Zhang[2]; Gilbert Collins[1]; J. R. Rygg[1] [1]Laboratory for Laser Energetics, 250 East River Road, Rochester, United States; [2]University of Rochester, 500 Joseph C. Wilson Blvd., Rochester, United States	
15:00	**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 Mansourzadeh[1]; Tim Vogel[2]; Clara Saraceno[2] [1]Ruhr University Bochum, Universität straße, 150, Bochum, Germany; [2]Ruhr University Bochum, Universität straße, 150, Germany	
15:15	**Ultra-broadband Terahertz Radiation By Supercontinuum Generation And Optical Rectification In A Dispersion-engineered Waveguide: A Numerical Study**	**Mo-PM1-2-7**
	Aleksei Gaier*; Ileana-Cristina Benea-Chelmus EPFL, Hybrid photonic laboratory, EPFL, Switzerland, Lausanne, Switzerland	
13:30-15:30	**2D Materials & Condensed Matter** **Chairperson(s): Takayuki Kurihara**	**Cartier II**
13:30	**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	
14:00	**Probing The Photoionization Of Liquid Water With Broadband Terahertz**	**Mo-PM1-3-2**

Fabio Novelli*[1]; Kaixuan Chen[2]; Adrian Buchmann[1]; Thorsten Ockelmann[1]; Claudius Hoberg[1]; Teresa Head-Gordon[3]; Martina Havenith[1]
[1]Ruhr University Bochum, Universitaetstr. 150, Bochum, Germany; [2]Chemical Sciences Division, Lawrence Berkeley National Laboratory, Berkeley, California 94720, USA, United States; [3]Chemical Sciences Division, Lawrence Berkeley National Laboratory; Kenneth S. Pitzer Center for Theo, Berkeley, California 94720, USA, United States

14:15 **Interface Potential Estimation On VO2/Si Heterojunction By Terahertz Emission Spectroscopy With Temperature Variation** **Mo-PM1-3-3**

Dongxun Yang*[1]; Fumikazu Murakami[1]; Shingo Genchi[2]; Hidekazu Tanaka[2]; Masayoshi Tonouchi[1]
[1]Institute of Laser Engineering, Osaka University, 2-6 Yamadaoka,Suita,Osaka, Japan; [2]SANKEN, Osaka University, 8-1 Mihogaoka, Ibaraki, Osaka, Japan

14:30 **Terahertz Emission Spectroscopy On Eu-doped GaN Superlattice LEDs** **Mo-PM1-3-4**

Fumikazu Murakami*[1]; Atsushi Takeo[2]; Brandon Mitchell[3]; Volkmar Dierolf[4]; Yasufumi Fujiwara[2]; Masayoshi Tonouchi[1]
[1]Osaka University, 2-6 Yamada-oka, Suita, Japan; [2]Osaka University, 2-1 Yamada-oka, Suita, Japan; [3]West Chester University,, 700 S High St, West Chester, United States; [4]Lehigh University, 27 Memorial Dr W, Bethlehem, United States

14:45 **Terahertz Emission Enhancement Of Gallium-Arsenide-Based Photoconductive Antennas With AAO-Patterned Gold Nanoparticles** **Mo-PM1-3-5**

Regine Loberternos*[1]; Hannah Bardolaza[1]; Neil Irvin Cabello[1]; Hideaki Kitahara[2]; John Paul Ferrolino[1]; Ivan Cedrick Verona[1]; Lourdes Nicole Dela Rosa[1]; Vince Paul Juguilon[1]; Alexander De Los Reyes[1]; Arnel Salvador[1]; Armando Somintac[1]; Masahiko Tani[2]; Elmer Estacio[1]
[1]University of the Philippines, National Institute of Physics, University of the Philippines, Diliman, Quezon City, Philippines; [2]Research Center for Development of Far-Infrared Region, 3-9-1 Bunkyo, Fukui-shi, Japan

15:00 **Enhancement Of Terahertz Emission In Gallium Telluride Under Pressure** **Mo-PM1-3-6**

Kai Zhang*[1]; Fuhai Su[2]; Tianwu Wang[3]
[1]GBA branch of Aerospace Information Research Institute, Chinese Academy of Sciences, B7 of Technology Enterprise Accelerator, No.11 of Kaiyuan Avenue, Huangpu District,Guangzhou City, Guagnzhou, China; [2]Key Laboratory of Materials Physics, Institute of Solid State Physics, HFIPS, Chinese Academy of Sci, 350 Shushanhu Road Hefei 230031, Anhui, Hefei, China; [3]GBA 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

15:15	**Second Harmonic And Hyper-Rayleigh Generation Of (111) Silicon Wafer**	**Mo-PM1-3-7**

Laetitia Dalstein; Marc Tondusson; Jerome Degert; Eric Freysz*
Univ. Bordeaux, 351 cours de la liberation, Talence, France

13:30-15:30	**QCLs & Electronic Sources** **Chairperson(s): Giacomo Scalari**	**International I**
13:30	**Phase Tuning Technique To Enhance The Output Power Of Sheet Beam Folded Waveguide Traveling Wave Tube**	**Mo-PM1-4-1**

Yuan Zheng*[1]; Yuxin Wang[2]; Shaomeng Wang[3]; Ping Zhang[3]; Shengpeng Yang[3]; Yubin Gong[1]
[1]University of Electronic Science and Technology of China, Qingshuihe Campus:No.2006, Xiyuan Ave, West Hi-Tech Zone, Chengdu, China; [2]University of Electronic Science and Technology of China, Qingshuihe Campus:No.2006, Xiyuan Ave, West Hi-Tec, Chengdu, China; [3]University of Electronic Science and Technology of China, Qingshuihe Campus:No.2006, Xiyuan Ave, West Hi-Tec, China

13:45	**Grating-Groove-Ladder Slow Wave Structure For W-band Traveling Wave Tube**	**Mo-PM1-4-2**

Jingrui Duan*[1]; Zhigang Lu[1]; Zhanliang Wang[2]; Shaomeng Wang[2]; Huarong School[2]; Yubin Gong[2]
[1]Yangtze Delta Region Institute (Huzhou), No. 819 Xisai Mountain Road, Huzhou, China; [2]University of Electronic Science and Technology of China, Xiyuan Avenue No. 2006, Chengdu, China

14:00	**Additive Fabrication For Upper-Millimeter-Wave Traveling Wave Tube Amplifiers**	**Mo-PM1-4-3**

Alan Cook*; Colin Joye; Franklin Wood; Benjamin S. Albright; Reginald Jaynes; Jeffrey Calame
U.S. Naval Research Laboratory, 4555 Overlook Ave SW, Washington, United States

14:15 **Universal CUSP-Type Electron Gun For Helical Gyro-TWTs For DNP-NMR Applications** **Mo-PM1-4-4**

Max Vöhringer*[1]; Alexander Marek[2]; Stefan Illy[2]; Gert Gantenbein[2]; Manfred Thumm[2]; Chuanren Wu[2]; John Jelonnek[2]
[1]Karlsruhe Institute of Technology (KIT), Hermann-von-Helmholtz-Platz 1, Eggenstein-Leopoldshafen, Germany; [2]Karlsruhe Institute of Technology (KIT), Hermann-von-Helmholtz-Platz 1, Germany

14:30 **Novel Split-well Resonant-phonon Terahertz Quantum Cascade Laser Supporting Clean Four-level System.** **Mo-PM1-4-5**

Asaf Albo*[1]; Nathalie Lander Gower[1]; Shiran Levy[2]; Silvia Piperno[2]; Sadhvikas J. Addamane[3]; John L. Reno[3]
[1]Bar Ilan University, Bar-Ilan University Ramat Gan , 5290002 , Israel, Bar-Ilan University Ramat Gan , 5290002 , Israel, Ramat Gan, Israel; [2]Bar Ilan University, Bar Ilan University, Bar-Ilan University Ramat Gan , 5290002 , Israel, Ramat Gan, Israel; [3]Sandia National Laboratories, New Mexico, United States

14:45 **High-power Density, Single Plasmon, Terahertz Quantum Cascade Lasers 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

15:00 **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

15:15 **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

13:30-15:30	Telecom 1 Chairperson(s): Thomas Kürner	International II
13:30	**Utilizing High-Intensity Optical Subcarrier Signal For Conversion Gain Enhancement Of A UTC-PD-Integrated HEMT Photonic Double-Mixer** 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 Aramakiaoba, Sendai, Japan	Mo-PM1-5-1
14:00	**200 Gbit/s THz Tunneling Demultiplexer In The 300 GHz Band** Daniel Headland[1]; Withawat Withayachumnankul[2]; Masayuki Fujita[3]; Tadao Nagatsuma[4]; Pascal Szriftgiser[5]; Guillaume Ducournau*[6] [1]1Optoelectronics 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	Mo-PM1-5-2
14:15	**Coherent THz Wireless Communication Using A Microcomb And Photonic LO** Brendan Heffernan*[1]; Yuma Kawamoto[2]; Keisuke Maekawa[2]; James Greenberg[1]; Rubab Amin[1]; Takashi Hori[3]; Tatsuya Tanigawa[3]; Tadao Nagatsuma[2]; Antoine Rolland[1] [1]IMRA America, Inc., 1551 S. Sunset St., Suite C, Longmont, United States; [2]Osaka University, 1-3 Machikaneyama, Building D, 3rd floor, Toyonaka, Japan; [3]IMRA America, Inc., 2-1 Asahi-machi, Kariya, Japan	Mo-PM1-5-3
14:30	**Analyzing Performance Limitations Of THz Communication Systems Under Off-Axis Conditions And Channel Blockage**	Mo-PM1-5-4

Xuan-Wei Miao*[1]; Pouya Torkaman[2]; Fu-Kai Shih[3]; Po-Cheng Su[2]; Kai-Ming Feng[3]; Shang-Hua Yang[2]
[1]Department of Electrical Engineering, National Tsing Hua University, No.101, Section 2, Kuang-Fu Road, Hsinchu, Taiwan; [2]Institute of Electronics Engineering, National Tsing Hua University, No.101, Section 2, Kuang-Fu Road, Hsinchu, Taiwan, Taiwan; [3]Institute of Communication Engineering, National Tsing Hua University, No.101, Section 2, Kuang-Fu Road, Hsinchu, Taiwan, Taiwan

14:45 **Multiband OFDM-Based THz Wireless Communication System** **Mo-PM1-5-5**

PO-CHENG SU*[1]; Pouya Torkaman[1]; Xuan-Wei Miao[1]; Fu-Kai Shih[1]; Kai-Ming Feng[2]; Shang-Hua Yang[2]
[1]Institute of Electronics Engineering, National Tsing Hua University, No.101, Section 2, Kuang-Fu Road, Hsinchu City, Taiwan; [2]Department of Electrical Engineering, National Tsing Hua University, No.101, Section 2, Kuang-Fu Road, Hsinchu City, Taiwan

15:00 **Improved OFDM THz Communication System Performance Through Noise Suppression And Channel Estimation Via Channel Matrix Pruning Technique** **Mo-PM1-5-6**

pouya torkaman[1]; Shang-Hua Yang[2]; Kai-Ming Feng[3]; Xuan-Wei Miao[1]; Po-Cheng Su*[1]; Fu-Kai Shih[1]
[1]National Tsing Hua university, No. 101, Sec. 2, Kuang-Fu Rd., Hsinchu 30013, Taiwan, R.O.C., Hsinchu, Taiwan; [2]National Tsing Hua University- institute of electronics engineering, No. 101, Sec. 2, Kuang-Fu Rd- Hsinchu, Hsinchu, Taiwan; [3]National Tsing Hua university-Institute of Communication Engineering, No. 101, Sec. 2, Kuang-Fu Rd., Hsinchu 30013, Taiwan, R.O.C., Hsinchu, Taiwan

15:15 **140 Gbit/s Wireless Sub-THz Communication Using Ultra-Low Phase Noise Light Source** **Mo-PM1-5-7**

keisuke maekawa*[1]; Takashi Hori[2]; Weijie Gao[3]; Toki Yoshioka[3]; James Greenberg[4]; Brendan Heffernan[4]; Antoine Rolland[4]; Tadao Nagatsuma[5]
[1]Osaka university, I-502 1-3 Machikaneyamacho Toyonaka, Osaka, Toyonaka, Japan; [2]IMRA America, 2-1 Asahi-machi, Kariya, Aichi, Japan, Japan; [3]Osaka university, 1-3 Machikaneyamacho Toyonaka, Japan; [4]IMRA America, 1551 South Sunset St, Suite C, Longmont, Colorado, United States; [5]Osaka university, 1-3 Machikaneyama, Toyonaka, Osaka, Japan, Japan

16:00-17:45	Advanced THz Sources I Chairperson(s): Tobias Kampfrath	Symposia Theatre
16:00	**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	**Mo-PM2-1-1**
16:15	**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	**Mo-PM2-1-2**
16:30	**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	**Mo-PM2-1-3**
16:45	**Observation Of Terahertz Vector Beam Generated Directly In ZnTe Crystal** Seigo Ohno*[1]; Hiroaki Iwase[2] [1]Tohoku university, 6-3 Aramaki Aoba, Sendai, Sendai, Japan; [2]Tohoku university, 6-3 Aramaki Aoba, Sendai, Japan	**Mo-PM2-1-4**
17:00	**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	**Mo-PM2-1-5**
17:15	**High Spectral Purity Solid-state Dual-frequency Laser For The Generation Of Ultra-low Phase Noise Millimeter-wave To Terahertz CW Signals** Loic MORVAN[1]; José-Javier Fernandez-Pacheco*[1]; Daniel Dolfi[1]; Vincent Crozatier[1]; Fabien Bretenaker[2] [1]Thales Research and Technology - France, 1 avenue Augustin Fresnel, Palaiseau, France; [2]Université Paris-Saclay, CNRS, Ecole Normale Supérieure Paris-Saclay, Bâtiment 505, Campus d'Orsay,, Orsay, France	**Mo-PM2-1-6**
17:30	**Nanowire-based THz Polarimetry**	**Mo-PM2-1-7**

Michael Johnston*
University of Oxford, Clarendon Laboratory, Parks Rd, Oxford, United Kingdom

16:00-18:00	Spectroscopy I Chairperson(s): Sebastian Maehrlein	Cartier I
16:00	**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, Denmark	Mo-PM2-2-1
16:30	**Refractive Index And Extinction Coefficient Measurement Of Reflective THZ-FDS Based On SSKK Method For Solid Sample** 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	Mo-PM2-2-2
16:45	**Using Terahertz Time-domain Spectroscopy To Measure Coating Thickness On Li-ion Electrodes** 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	Mo-PM2-2-3
17:00	**Terahertz Resonant Nano-spectrum Of Red Mineral Pigments** 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	Mo-PM2-2-4
17:15	**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

17:30	**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

17:45	**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

16:00-18:00	**Condensed Matter I**	**Cartier II**
	Chairperson(s): Mischa Bonn	
16:00	**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

16:30	**Optical Pump THz Probe Spectroscopy On Metal-Organic Frameworks**	**Mo-PM2-3-2**

Jens Neu*[1]; Sarah Ostresh[2]; James Nyakuchema[3]; Jier Huang[4]
[1]University of North Texas (UNT), 210 Avenua A, Room 324, Denton, United States; [2]Yale University, 225 Prospect Street, United States; [3]Marquette University, Milwaukee, United States; [4]Boston College, Chestnut Hill, MA, United States

16:45	**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 Liu[1]; Rajrupa Paul[2]; Elias Stutz[2]; Mahdi Zamani[2]; Djamshid Damry[1]; Léa Buswel[2]; Simon Steinvall[2]; Jean-Baptiste Leran[2]; Mirjana Dimitrievska[2]; Anna Fontcuberta i Morral[2]; Jessica Boland[1]
[1]The Univeristy of Manchester, Oxford Road, Manchester, United Kingdom; [2]École Polytechnique Fédérale de Lausanne, 1015, Lausanne, Swaziland

17:00	**Ultrafast THz Dynamics Of Photocarriers In CsPbBr3 Microcrystals**	**Mo-PM2-3-4**

Sheng Lee*[1]; Kyeongdeuk Moon[2]; Muhammad Shoaib[2]; Seokhyoung Kim[2]; Tyler Cocker[1]
[1]Department of Physics and Astronomy, Michigan State University, East Lansing, United States; [2]Department of Chemistry, Michigan State University, East Lansing, United States

17:15	**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

17:30	**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

17:45	**Accounting For Nonlinear Photoconductivity In Time-Resolved Terahertz Spectroscopy**	**Mo-PM2-3-7**

Leya Lopez*[1]; J. Steven Dodge[2]; Derek G. Sahota[2]
[1]Department of Physics, Simon Fraser University, 8888 University Dr, Burnaby, Canada; [2]Simon Fraser University, 8888 University Dr W, Burnaby, Canada

16:00-18:00	**Quantum-Cascade Lasers II** **Chairperson(s): Miriam Vitiello**	**International I**
16:00	**Quantum-cascade Lasers For Terahertz High-resolution Spectroscopy**	**Mo-PM2-4-1**

Xiang Lu*[1]; Benjamin Röben[2]; Klaus Biermann[1]; Lutz Schrottke[1]; Jente Wubs[3]; Uwe Macherius[3]; Klaus-Dieter Weltman[3]; Jean-Pierre H. van Helden[3]; Holger T. Grahn[1]
[1]Paul-Drude-Institut für Festkörperelektronik, Leibniz-Institut im Forschungsverbund Berlin e. V, Hausvogteiplatz 5-7, Berlin, Germany; [2]Physikalisch-Technische Bundesanstalt (PTB), Institut Berlin, Abbestraße 2-12, Berlin, Germany; [3]Leibniz Institute for Plasma Science and Technology (INP), Felix-Haussdorff-Str. 2, Greifswald, Germany

16:30 **Broadband Antenna-coupled THz Quantum Cascade Laser Frequency Combs With Inverse-designed Waveguide Facets** **Mo-PM2-4-2**

Urban Senica*; Sebastian Gloor; Paolo Micheletti; Mattias Beck; Jérôme Faist; Giacomo Scalar
ETH Zurich, Auguste-Piccard-Hof 1, Zurich, Switzerland

16:45 **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 Kondawar[1]; Nick Brewster[2]; Lianhe Li[1]; Edmund Linfield[1]; Hui Wang[2]; Peter Huggard[2]; Joshua Freeman[1]; Daniel Gerber[2]; Alexander Valavanis[1]
[1]School of Electronic and Electrical Engineering, Woodhouse, Leeds, United Kingdom; [2]RAL Space, Harwell Campus, Didcot, United Kingdom

17:00 **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 Torrioli[2]; Pasquale Carelli[2]; Alessandro Gaggero[2]; Ennio Giovine[2]; Filippo Bolli[3]; Urban Senica[4]; Mattias Beck[4]; Jerome Faist[4]; Giacomo Scalari[4]
[1]IFN-CNR, Via del Fosso del Cavaliere 100, via del fosso del cavaliere 100, Rome, Italy; [2]IFN-CNR, IFN-CNR, via del fosso del cavaliere 100, roma, Italy; [3]Department of Electronic Engineering, University of Rome Torvergata, Via del Politecnico 1, rome, Italy; [4]Institute for Quantum Electronics, Department of Physics, ETH Zürich, Auguste- Piccard-Hof 1 8093 Zürich, Schweiz, Zürich, Switzerland

17:15 **Strongly Modulated Quantum Cascade Lasers For Broadband And Fast Doppler-Based FTIR Spectroscopy** **Mo-PM2-4-5**

	Alessio Cargioli*[1]; Diego Piciocchi[1]; Mathieu Bertrand[1]; Sargis Hakobyan[2]; Richard Maulini[2]; Stéphane Blaser[2]; Tobias Gresch[2]; Antoine Muller[2]; Jerome Faist[1] [1]ETH Zurich, Auguste- Piccard-Hof 1, Switzerland; [2]Alpes Lasers, Avenue des Pâquiers 1, Switzerland	
17:30	**QCL-based THz Optical Wireless Communication Link**	**Mo-PM2-4-6**
	Alessia Sorgi*[1]; Marco Meucci[1]; Ali Umair[1]; Francesco Cappelli[1]; Leonardo Viti[2]; Miriam Serena Vitiello[2]; Jacopo Catani[1]; Luigi Consolino[1] [1]National Institute of Optics-CNR (CNR-INO), via Nello Carrara 1, Sesto Fiorentino, Italy; [2]NEST, CNR - Istituto Nanoscienze, Piazza San Silvestro 12, Pisa, Italy	
17:45	**Five-Stack Heterogeneous Terahertz Quantum Cascade Laser For Ultra-Broadband Emission**	**Mo-PM2-4-7**
	Michael Jaidl*[1]; Maximilian Beiser[2]; Miriam Giparakis[2]; Martin A. Kainz[1]; Dominik Theiner[1]; Benedikt Limbacher[1]; Marie C. Ertl[1]; Aaron M. Andrews[2]; Gottfried Strasser[2]; Juraj Darmo[1]; Karl Unterrainer[1] [1]TU Wien, Gusshausstrasse 27-29, Vienna, Austria; [2]TU Wien, Gusshausstrasse 25a, Vienna, Austria	
16:00-18:00	**Telecom 2** **Chairperson(s): Paul Goldsmith**	**International II**
16:00	**Absolute Security With Diffraction Grating In Terahertz Communication Links**	**Mo-PM2-5-1**
	Yaseman 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	
16:15	**Load Analysis Of Wireless Backhaul Links At 300 GHz**	**Mo-PM2-5-2**
	Bo Kum Jung*; Thomas Kürner TU Braunschweig, Institut für Nachrichtentechnik, Schleinitzstraße 22, Braunschweig, Germany	
16:30	**TeraHertz Vs Microwaves Ray-Launching Model In A 0.45 THz Indoor Wireless Scenario**	**Mo-PM2-5-3**

Leyre Azpilicueta[1]; Alper Schultze[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

16:45	**Continuous Asymmetric Beam Steering With A Reconfigurable Intelligent Surface In The Ka-Band At 31 GHz**	**Mo-PM2-5-4**

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

17:00	**Rough Surfaces Scattering And Mobility-Resilient Terahertz Wireless Links**	**Mo-PM2-5-5**

Ruiyi Shen*; Yasaman Ghasempour
Princeton University, 41 Olden St, Engineering Quadrangle, Princeton, United States

17:15	**An 83.2 Gbps SISO Wireless Communication System Utilizing Polarization And Frequency Division Multiplexing**	**Mo-PM2-5-6**

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

17:30	**The Multipath Propagation Characteristics Of THz In Indoor Test-Room Environments**	**Mo-PM2-5-7**

Jong Ho Kim*[1]; Jinhyung Oh[1]; Jang Seok Choi[2]; Jae Ho Seok[2]
[1]Electronics and Telecommunications Research Institute, 218 Gajeong-ro, Yuseong-gu, Daejeon, Korea, Republic of; [2]National Radio Research Agency, 767 , Bitgaram-ro, Naju-si, Jeollanam-do, Korea, Republic of

17:45	**Analysis Of Radio Propagation Characteristics In Data Center Environment With Rack In Terahertz Band**	**Mo-PM2-5-8**

Jinhyung Oh*[1]; Jong Ho Kim[1]; Jang Seok Choi[2]; Jae Ho Seok[2]
[1]Electronics and Telecommunications Research Institute, Ga-jeong ro 218, Yu-seong gu, Daejeon, Korea, Republic of; [2]National 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 Cicchetti[2]; Stefano Perticaroli[3]; Orlandino Testa[2]
[1]Rome University La Sapienza, Dip. DIET, Università di Roma La Sapienza, v. Eudossiana 18, Roma, 320 4357 257, Roma, Italy; [2]Rome University La Sapienza, Rome University La Sapienza, Dip. DIET, Università di Roma La Sapienza, Roma, Italy; [3]Radio 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 Giarnetti[2]; Emilio Giovenale[3]; Andrea Taschin[3]; Luca Senni[3]; Fabio Leccese[1]; Andrea Doria[3]
[1]Roma Tre University, Via della Vasca Navale, 84, Roma, Italy; [2]Se.Te.L., Via Casamari, 6, Via Marentino, 134, Roma, Italy; [3]Fusion and Nuclear Dept, ENEA, Via Enrico Fermi, 45, Frascati, Italy

Phase-sensitive Silicon CMOS TeraFETs **Mo-P1-04**

Michael Shur*[1]; Xueqing Liu[2]; Trond Ytterdal[3]
[1]Rensselaer Polytechnic Institute, 9433 van Arsdale Drive, 9433 van Arsdale Drive, Vienna, United States; [2]Rensselaer Polytechnic Institute, Rensselaer Polytechnic Institute, 9433 van Arsdale Drive, Troy, United States; [3]University of Trondheim, s O.S. Bragstads PlassAddress: N-7491, Trondheim, Norway

All-printable And Mechanically-aligned Broadband Image Sensor Array Sheets **Mo-P1-05**

Yuto Matsuzaki*[1]; Daiki Sakai[1]; Yuto Aoshima[1]; Daiki Shikichi[1]; Raito Ota[1]; Satsuki Yasui[2]; Kou Li[2]; Yukio Kawano[1]
[1]Chuo University, 1-13-27, Kasuga, Bunkyo-ku, Japan; [2]Tokyo 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 Yu[2]; WeiHua Ge[3]; Rutai Chen[3]; Yubo Liu[3]; Tao Wang[3]
[1]University of Electronic Science and Technology of China, No.2006 Xiyuan Avenue, Gaoxin District (West Zone), Chengdu, ChengDu, China; [2]University 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; [3]University 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 liu[1]; laqun liu*[1]; yulan hu[2]; huihui wang[2]; dagang liu[2]
[1]Yangtze 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; [2]School 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 Zaborowski[2]; Jacek Marczewski[2]; Daniel Tomaszewski[2]
[1]Institute of Optoelectronics, Military University of Technology, ul. gen. S. Kaliski 2, Warsaw, Poland; [2]Institute of Microelectronics and Photonics, Lukasiewicz Research Center, al. Lotnikow 32/46, Warsaw, Poland

Terahertz Detector Integrated With Photonic Crystals Waveguide On Chip **Mo-P1-11**

Xu Yan*[1]; Xuecou Tu[2]; Yunjie Rui[2]; Chen Zhang[2]; Xiaoqing Jia[2]; Lin Kang[2]; Jian Chen[2]; Peiheng Wu[2]
[1]Research Institute of Superconductor Electronics (RISE), School of Electronic Science and Engineerin, 163 Xianlin Road, Qixia District, Nanjing, Jiangsu Province, 210023, Nanjing City, China; [2]Research 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 Guo[2]; Shaomeng Wang[2]; Duo Xu[2]; Youfeng Yang[2]; Yuxin Wāng[2]; Yuxin Wang[2]; Yuan Zheng[2]; Ping Zhang[2]; Zhanliang Wang[2]; Yubin Gong[2]
[1] University of Electronic Science and Technology of China, No. 2006 Xiyuan Avenue, High-Tech District (West District), Chengdu, China, Chengdu, China; [2]University 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 Liang[2]; Hongji Zhou[3]; Jianghua Yu[3]; Hailong Guo[3]; Jun Zhou[3]; Hongxin Zeng[3]; Yaxin Zhang[3]
[1]Huzhou Key Laboratory of Terahertz Integrated Circuits and Systems, Yangtze Delta Region Institute (, 819 Xisaishan Road, Huzhou City, Zhejiang Province, Huzhou, China; [2]China Electronics Technology Group Corporation, 113 Hezuo Road, Shijiazhuang 050051, China, China; [3]Huzhou 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 Kumar[2]
[1]CSIR-Central Electronics Engineering Research Institute, CSIR-CEERI, OH-12, Pilani, India; [2]CSIR-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 Tian[1]; Bingyang Liang[2]; Yubin Gong[1]
[1]University of electronic science and technology of China (UESTC), No.2006, Xiyuan Ave, West Hi-Tech Zone, 611731, Chengdu, Sichuan, P.R.China, Chengdu, China; [2]Xi'an University of Science and Technology, Yanta Road No. 58, Xi'an, China

Crosstalk Resistant Integrated Uni-Traveling Carrier Photodetector **Mo-P1-16**

Souvaraj De[1]; Ranjan Das[1]; Karanveer Singh[1]; Younus Mandalawi[1]; Thomas Kleine-Ostmann*[2]; Thomas Schneider[1]
[1]TU Braunschweig, Schleinitzstraße 22, 38106 Braunschweig, Braunschweig, Germany; [2]PTB 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 Ohno[2]; Katsuhiko Miyamoto[3]; Yoshiharu Urata[4]; Norihiko Sekine[1]
[1]National Institute of Information and Communications Technology, 4-2-1 Nukui-Kitamachi, Koganei, Japan; [2]Tohoku University, 6-3, Aramaki Aza-Aoba, Aoba, Sendai, Japan; [3]Chiba University, 1-33, Yayoi-cho, Inage-ku, Chiba, Japan; [4]PHLUXi, 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 Xu[1]; Jining Li[1]; Kai Zhong[1]; Yuye Wang[1]; Jiyong Yao[2]; Jianquan Yao[1]
[1]Tianjin University, Weijin Road No.92, Nankai District, Tianjin, China; [2]Technical 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 Tkachova[2]; Oksana Andrieieva[2]; Manfred Thumm[1]; John Jelonnek[1]
[1]Karlsruhe Institute of Technology, Hermann-von-Helmholtz-Platz 1, Eggenstein-Leopoldshafen, Germany; [2]Kharkiv Institute of Physics and Technology, Akademicheskaya St. 1, Kharkiv, Ukraine

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

Jinji Li*[1]; Hao Li[2]; Lei Huang[2]
[1]University of Electronic Science and Technology of China, No. 2006, Xiyuan Avenue, High-tech Zone, Chengdu, Sichuan, Chengdu, China; [2]University 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 Fang[1]; Yuanqing Xiao[2]; Tieyang Wang[2]; Mengyao Tang[2]; Fangfang Song[2]; Jun Luo*[1]; Yanyu Wei[3]
[1]China Electronic Product Reliability and Environmental Testing Research Institute, Guangzhou, China, Guangzhou, China; [2]China Electronic Product Reliability and Environmental Testing Research Institute, Guangzhou, China, China; [3]University 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 wang[2]; Mi Joung[2]; Jongwon Han[2]; Inhyok Rhee[2]
[1]Korea institute of Fusion Energy, Gwahak-ro 169-148, Daejeon, Korea, Republic of; [2]Korea 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 wang[2]; liansheng wang[2]; shuai yuan[1]
[1]sanya university, Department Of Polytechnic, Sanya university, Sanya, sanya, China; [2]sanya university, Department Of Polytechnic, Sanya university, Sanya, [illegible]$, 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 Jia[2]; Yinghui Liu[2]
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Bowtie Loaded Meander Antenna With Asymmetric Multi-source Excitation **Mo-P1-30**

Mei Yu*[1]; Jin Shi[2]; Weiwei Xu[3]; Huabing Wang[3]; Jian Chen[3]; Peiheng Wu[3]
[1]Nantong University, Seyuan Road 9, Nantong, China; [2]Nantong University, Seyuan Road 9, China; [3]Nanjing University, Xianlin Avenue 163, China

Effects Of Stoichiometric Ratio Of NbN Films On The Performance Of Hot Electron Bolometer Direct Detection **Mo-P1-31**

Hongkai Shi*; Runfeng Su; Tao Xu; Yijun Zhe; Xiaoqing Jia; Lin Kang; Xuecou Tu; Jian Chen; Peiheng Wu
Nanjing University, Xianlin Ave 163, Nanjing, China

Stabilization Of Lasing Frequency Of THz-QCLs In Free-running Using An External LED Light **Mo-P1-32**

Yoshihisa Irimajiri*
National Institute of Information and Communications Technology, 4-2-1, Nukui-kita, Koganei, Tokyo, Japan

MBE Growth Of 3 µM-thick InGaSb/AlInGaSb QCL Structures **Mo-P1-33**

Hiroaki Yasuda*; Norihiko Sekine; Iwao Hosako
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Sheet-Beam Higher Order Mode Extended Interaction Oscillator At 0.34THz **Mo-P1-34**

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Additive Manufacturing And Characterization Of Hollow Core Metal And Topas waveguides For Sensor Systems **Mo-P1-35**

Abhijeet Shrotri*[1]; Amlan kusum Mukherjee[2]; Sven Lohoefener[1]; Andre Springer[1]; Oliver Stuebbe[1]; Sascha Preu[2]
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Dielectric Properties Of Epoxy Composites Based On Ferroelectric And MWCNTs At THz Frequency Range **Mo-P1-36**

Alexander Badin*; Tatyana Shematilo; Victoria Moskalenko; Diana Pidotova; Daria Frolova; Kristina Lang; Grigorii Kuleshov
National Research Tomsk State University, Lenina av.36, Tomsk, Russian Federation

Terahertz Spectroscopy On CO2-CH4 β-hydroquinone Clathrate Replacement Reaction **Mo-P1-37**

Katharine Bancroft*[1]; Johanna Koelbel[1]; Michael Ruggiero[2]; Daniel Mittleman[1]
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THz Spectroscopy Of Cometary Simulants **Mo-P1-38**

Linus Stöckli*; Mathias Brändli; Daniele Piazza; Rafael Ottersberg; Axel Murk; Antoine Pommerol; Nicolas Thomas
University of Bern, Sidlerstrasse 5, Bern, Switzerland

17:30-19:00	Poster Session 2	Foyer (4th floor)
	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 Zerbini*[1]; Massimo Alonzo[2]; Luca Senni[2]; Andrea Taschin[2]; Andrea Doria[1]; Emilio Giovenale[1]; Giuseppe Galatola-Teka[1] [1]ENEA CR Frascati, via Enrico Fermi, 45, Frascati, Italy; [2]ENEA, 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 Tsujimura[2]; Shin Kubo[2] [1]National Institute for Fusion Science, 322-6, Oroshi-cho, Toki, Japan; [2]Chubu 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 Bandyopadhyay[2]; Amartya Sengupta[1]
[1]Indian Institute of Technology Delhi, Department of Physics, New Delhi, India; [2]Indian Institute of Technology Delhi, DRDO-Industry-Academia Center of Excellence, New Delhi, India

Further Optimization Of Resonant GHz Wave Absorption Coatings **Mo-P2-07**

Andreas Hentrich*[1]; Burkhard Plaum[2]; Andreas Killinger[3]; Günter Tovar[1]
[1]University of Stuttgart, Pfaffenwaldring 31, Stuttgart, Germany; [2]University of Stuttgart, Pfaffenwaldring 31, Germany; [3]University of Stuttgart, Allmandring 7b, Germany

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 Rehman[2]; Georgy Fedorov[2]; Maria Cojocari[2]; Petri Karvinen[2]; Andrzej Urbanowicz[1]; Daniil Pashnev[1]; Irmantas Kasalynas[1]; Yuri Svirko[2]; Polina Kuzhir[2]
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Terahertz Time-Domain Spectroscopic Study Of Boson Peak Of Hydrogen-Bonded Glass-Forming Glycerol **Mo-P2-10**

Dan Kyotani*[1]; Soo-Han Oh[1]; Yasuhiro Fujii[2]; Suguru Kitani[3]; Yohei Yamamoto[1]; Tatsuya Mori[1]
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Generation Of The THz Spin Current In Hematite Contributed By Spin Seebeck Effect **Mo-P2-11**

Hongsong Qiu*
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Observation Of Anthracene Crystallization Under Irradiation Of Terahertz Free-Electron Laser **Mo-P2-12**

Youwei Wang[1]; Mihiko Maruyama[2]; Masato Ota[1]; Kosaku Kato[1]; Verdad C. Agulto[1]; Valynn Katrine Mag-usara[1]; Hiroshi Y. Yoshikawa[2]; Katsuo Tsukamoto[2]; Yuka Tsuri[3]; Goro Isoyama[4]; Takashi Onuma[5]; Ryutaro Shimada[5]; Tomohiko Tateshima[5]; Kazufumi Takano[6]; Yutaro Tanaka[2]; Shigeyoshi Usami[2]; Masayuki Imanishi[2]; Mori Yusuke[2]; Masashi Yoshimura[1]; Makoto Nakajima*[1]
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Temperature Dependence Of The Conductivity Of InSb Measured By Terahertz Time-Domain Spectroscopy **Mo-P2-13**

Shuang Liu*[1]; Verdad C. Agulto[1]; Toshiyuki Iwamoto[2]; Kosaku Kato[1]; Valynn KATRINE Mag-usara[1]; Masato Ota[1]; Shamika Dolas[3]; Nathan Newman[3]; Liviu Nedelcu[4]; Masahiko Tani[5]; Masashi Yoshimura[1]; Makoto Nakajima[1]
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A HEMT-embedded Metasurface For Terahertz Beam-Scanning Based On Amplitude-Phase Quantization Error Optimization **Mo-P2-14**

Tianyu Hu*; Feng Lan; Yaxin Zhang; Tianyang Song; Luyang Wang; Ziqiang Yang
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Two-dimensional Niobium Carbide MXene, Nb2CTx: Intrinsic And Photoexcited Carrier Dynamics **Mo-P2-15**

Andrew M. Fitzgerald*[1]; Kateryna Kushnir[1]; Emily Sutherland[1]; Erika Colin-Ulloa[1]; Tarek El-Melegy[2]; Mary Hassig[2]; Julia Martin[1]; Ken Ngo[3]; Ronald L. Grimm[1]; Joshua R. Uzarski[3]; Michel W. Barsoum[2]; N. Aaron Deskins[1]; Lyubov V. Titova[1]
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Magnetostatic Field Assisted Tunability And Polarization Conversion In Patterned Graphene Terahertz Metamaterials **Mo-P2-16**

Zesen Zhou[1]; Zhilong Gan[1]; Fanqi Meng*[2]; Lei Cao[1]
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A Physics-driven Neural Network Framework For End-to-end Inverse Design Of Metasurface-based Holograms **Mo-P2-17**

Wei Wei*; Ping Tang; Jingzhu Shao; Jiang Zhu; Xiangyu Zhao; Chongzhao Wu
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Reconfigurable Sub-terahertz Transmission And Reflection Integrated Metasurfaces Synergizing Polarization-encoding And Wavefront Manipunation **Mo-P2-18**

Lan Chen*[1]; Feng Lan[2]; Tianyu Hu[2]; Tianyang Song[2]; Luyang Wang[2]; Yaxin Zhang[2]; Ziqiang Yang[2]
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Active Terahertz Metasurface Devices **Mo-P2-19**

Yan Zhang*[1]; Xinke Wang[2]; Guocui Wang[2]
[1]Capital Normal University, Xisanhuan Beilu 105, Beijing, China; [2]Capital Normal University, Xisanhuan Beilu 105, China

Active Broadband Terahertz Metasurface Based On Mechanical Deformation Of Liquid Crystal Elastomer **Mo-P2-20**

Xiaolin Zhuang[1]; Jianqiang Gu*[1]; Wei Zhang[2]; Youwen An[1]; Dan Luo[2]
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Graphene-Integrated Metasurface For THz Reconfigurable Polarization Converter **Mo-P2-21**

Lizhao Song; Andrew Squires*; Jia Du
CSIRO, 36 Bradfield Road, Lindfield, Australia

Electric-Field-Coupled Inductive-Capacitive Resonators For Terahertz Electromagnetically Induced Transparency Metamaterials **Mo-P2-22**

Haotian Ling*[1]; Zhaolin Li[2]; Ke Li[2]; Ruiqi Zhao[1]; Pengfei Ma[1]; Yongping Zhou[1]; Jingxuan Li[1]; Xiaoyu Xu[1]; Yu Feng[1]; Yevhen Yashchyshyn[3]; Xudong Zou[1]; Yifei Zhang[2]
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CRISPR/cas12-powered Platform For Specific And Sensitive Detection Of CtDNA Using A Terahertz Metamaterial Biosensor **Mo-P2-23**

Jianfang Zhu; Jingjing Zhao; Zhengfang Qian; Shuting Fan*
College of Physics and Optoelectronic Engineering, Shenzhen University, 3688 Nanhai Road, Shenzhen, Guangdong Province, China

Morphological Dependence Of All-dielectric Terahertz Metasurfaces **Mo-P2-24**

Jisoo Kyoung*
Dankook University, Dankook University 119, Dandae-ro, Dongnam-gu, Cheonan-si, Korea, Republic of

Multi-band Terahertz Switch Realized With Plasmon-induced Transparency Based On A Graphene Metamaterial Structure **Mo-P2-25**

Youpeng Yang; Shuting Fan*; Zhengfang Qian
College of Physics and Optoelectronic Engineering, Shenzhen University, 3688 Nanhai Road, Shenzhen, Guangdong Province, China

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**

Surya Revanth Ayyagari*[1]; Alexey Basharin[2]; Simonas Indrisiūnas[3]; Daniil Pashnev[3]; Vytautas Janonis[3]; Polina Kuzhir[4]; Irmantas Kasalynas[3]
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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**

Zihang Wu*[1]; Hongxin Zeng[2]; Wei Wang[3]; Shu Liu[2]; Xilin Zhang[2]
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Infrared Photocurrent Imaging And Spectroscopy With An Atomic-force-microscopy Probe **Mo-P2-31**

Tommaso Venanzi[1]; Valeria Giliberti[2]; Maria Eleonora Temperini[1]; Simone Sotgiu[1]; Raffaella Polito[1]; Francesco Mattioli[3]; Camilla Coletti[4]; Stefano Roddaro[5]; Leonetta Baldassarre[1]; Michele Ortolani*[1]
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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**

Chunyang Bi[1]; Sen Gon*[2]; Huajie Liang[3]; Lin Zou[4]; Ziqiang Yang[5]; Yaxin Zhang[5]; *[5.81]
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A Low Insertion Loss 140GHz Terahertz Modulator Based On GaAs-diodes **Mo-P2-34**

Jinlong You*[1]; Shixiong Liang[2]; Kesen Ding[3]; Hao Yi[3]; Sen Gong[3]; Yaxin Zhang[3]; Wei Wang[4]
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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**

Lian Hu*[1]; Ziqiang Yang[1]; Qingfeng Li[2]; Qinwen Tong[2]; Yaxin Zhang[1]
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A 3-bit Terahertz Phase Shifter Based On GaAs Diodes **Mo-P2-37**

Huajie Liang*[1]; Shaokang Gu[2]; Lin Zou[3]; Shixiong Liang[4]; Yaxin Zhang[2]; Ziqiang Yang[2]
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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**

Linas Minkevičius*[1]; Rusnė Ivaskevičiūtė-Povilauskienė[1]; Vladislovas Cizas[2]; Ernestas Nacius[2]; Ignas Grigelionis[2]; Karolis Redeckas[2]; Matas Bernatonis[2]; Sergej Orlov[2]; Gintaras Valusis[2]
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THz High-gain PTFE Low-profile Vortex Antenna **Mo-P2-40**

Wenbo Li[1]; Kai Huang[1]; Hongxin Zeng*[1]; Wei Wang[2]; Yaxin Zhang[1]; Ziqiang Yang[1]
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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**

Ting Zhu[1]; Guangyou Fang[1]; Emma Pickwell-MacPherson[2]; Xuequan Chen*[1]
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3-D Printed Dual-band Dual-polarized Metalens Antenna **Mo-P2-43**

Yilong Cai*; Wenqiang Deng; Yuxuan Xie; Shuyan Zhu
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Terahertz Reflection Vibrometry For Analyzing Metal Foil Displacement Induced By Single Cavitation Bubble Collapse **Mo-P2-44**

Vladyslav Cherniak*[1]; Jan C. Balzer[1]; Bettar Ould El Mocta[2]; Hemant Sagar[2]
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Emission Angle Of THz Beam From Nonlinear Quantum Cascade Laser And The Effect Of Imaging Result **Mo-P2-45**

Atsushi Nakanishi*[1]; Shohei Hayashi[2]; Hiroshi Satozono[2]; Kazuue Fujita[2]
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Evidence Of Capillary Action In Multilayered Fibrous Media Observed With THz Spectroscopy **Mo-P2-46**

Irina Nefedova*[1]; Roman Grigoriev[2]; Aleksi Tamminen[2]; Helena Rodilla[3]; Emma MacPherson[4]; Zachary Taylor[2]
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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**

Seungeon Song[1]; Donghoon Kwak[1]; Youngduk Kim[1]; Jonghun Lee*[2]
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Qualitative Identification And Quantitative Detection Of ?-lactose Solutions Using High Power THz-ATR Spectroscopy **Mo-P2-48**

Wei Shi*[1]; Haiqing Wang[2]; Lei Hou[3]; Lei Yang[4]; Cheng Ma[3]; Yusong Zhang[4]; Chunhui Li[4]; Hong Liu[4]
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Concept Of A Near-field Antenna-scanner For Mm-wave Applications **Mo-P2-49**

David Ulm; Nora Meyne; Kai Baaske; Thomas Kleine-Ostmann*
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Simple And Affordable Spectrum Analyzer For The THz Radiation Range **Mo-P2-50**

Paweł Komorowski*; Przemysław Zagrajek; Norbert Pałka
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Evaluation Of The Reliability Factors On Illicit Drugs On-Site Identification Based On Portable Terahertz Time Domain Spectroscopy **Mo-P2-51**

Zi Xi Josie Lim[1]; Nan Zhang*[1]; Wei Ji Phua[1]; Angeline Tang[2]; Lijie Yu[2]; Jia Yi Kwang[2]; Angeline Tiong Whei Yap[2]; Lin Ke[3]
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Demonstration Of A 245 GHz Real-Time Wireless Communication Link With 30 Gbps Data Rate **Mo-P2-52**

Ting Zhang[1]; Hao Zhang[2]; Xiaojing Huang[2]; Hajime Suzuki[3]; Joseph Pathikulangara[3]; Ken Smart[3]; Jia Du*[1]; Jay Guo[2]
[1]Commonwealth Scientific and Industrial Research Organization, 36 Bradfield RD, West Lindfield, Sydney, Australia; [2]University of Technology, Sydney, Ultimo, Sydney, Australia; [3]Commonwealth Scientific and Industrial Research Organization, Marsfield, Sydney, Australia

Loss And Dispersion Limitations Of THz Surface Wave Links **Mo-P2-53**

Jie Qing[1]; Miguel Navarro-Cia*[2]
[1]University of Electronic Science and Technology, Chenghua District, China; [2]University of Birmingham, Edgbaston Campus, United Kingdom

Blockage Prediction In Directional MmWave Links Using Liquid Time Constant Network **Mo-P2-54**

Martin Hedegaard Nielsen[1]; Chia-Yi Yeh*[2]; Ming Shen[3]; Muriel Médard[1]
[1]Massachusetts Institute of Technology, 50 Vassar St, Cambridge, United States; [2]Massachusetts Institute of Technology,, 50 Vassar St, Cambridge, United States; [3]Aalborg University, Selma Lagerløfs Vej 312, Aalborg, Denmark

Millimeter-wave--Infrared Multi-wavelength Computed Tomography **Mo-P2-55**

Daiki Shikichi*[1]; Raito Ota[1]; Kou Li[2]; Daiki Sakai[1]; Takeru Suyama[3]; Hiroki Okawa[4]; Satoshi Ikehata[3]; Imari Sato[3]; Yukio Kawano[1]
[1]Chuo University, 1-13-27, Kasuga, Bunkyo-ku, Japan; [2]Tokyo Institute of Technology, 2-12-1, Ookayama, Meguro-ku, Japan; [3]National Institute of Informatics, 2-1-2, Hitotsubashi, Chiyoda-ku, Japan; [4]Kanagawa 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 Palka[1]; Marcin Maciejewski[1]; Marcin Kowalski[1]; Elzbieta Czerwinska[1]; Przemyslaw Zagrajek[1]; Piotr Synaszko[2]; Krzysztof Dragan[2]
[1]Military University of Technology, 2 Kaliski Str, Warsaw, Poland; [2]Air 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 Brogden[1]; Jacob Young[1]; Arturo Hernandez-Serrano[1]; Rayko Stantchev[2]; Stefan Bon[1]; Emma MacPherson[1]
[1]University of Warwick, University of Warwick, Coventry, United Kingdom; [2]National 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 Avramidis[2]; Rosa Difonzo[3]; Eleonora Gajetti[3]; Gerd Gantenbein[1]; Stefan Illy[1]; John Jelonnek[1]; Alberto Leggieri[4]; Tobias Ruess[1]; Tomasz Rzesnicki[1]; Laura Savoldi[3]
[1]Karlsruhe Institute of Technology, Kaiserstr. 12, Karlsruhe, Germany; [2]National and Kapodistrian University of Athens (NKUA), Athens, Greece; [3]Politecnico di Torino, Corso Duca degli Abruzzi, 24,, Torino, Italy; [4]THALES 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 Estebanez[2]; Bronislava Gorr[3]; Andreas Meier[3]; Sabine Schreck[3]; Theo Scherer[3]; Dirk Strauss[3]; Christoph Wild[4]; Eckhard Woerner[4]
[1]Karlsruhe Institute of Technology, Hermann-von-Helmholtz-Platz 1, Eggenstein-Leopoldshafen, Germany; [2]Fusion for Energy, Josep Pla 2 Torres Diagonal Litoral B3, Barcelona, Spain; [3]Karlsruhe Institute of Technology, Hermann-von-Helmholtz-Platz 1, Eggenstein Leopoldshafen, Germany; [4]Diamond 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 Zhang[2]; Qin Huang[2]; Jun Zhou[3]; Sen Gong[3]
[1]School of Medicine, Chengdu Medical College, No. 783, Xindu Avenue, Xindu District, No.2006, Xiyuan Ave, West Hi-Tech Zone, Chengdu, China; [2]School of Medicine, Chengdu Medical College, No. 783, Xindu Avenue, Xindu District, China; [3]School 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 Ueno[2]
[1]National Institute of ICT, Nukui-Kita 4-2-1, Koganei, Japan; [2]C. R. S. Corporation, Tokyo, Japan

Tuesday 19 September

	Symposia Theatre	Cartier I	Cartier II
08:00-09:00	Plenary 1 8:30-9:15		
09:00-10:00	Plenary 2 9:15-10:00		
10:00-11:00	Oral Session 10:30-12:00	Oral Session 10:30-12:00	Oral Session 10:30-12:00
11:00-12:00			
12:00-13:00	ZW Awards 12:00-13:30		
13:00-14:00	Oral Session 13:30-15:30	Oral Session 13:30-15:30	Oral Session 13:30-15:30
14:00-15:00			
15:00-16:00			
16:00-17:00	Oral Session 16:00-18:00	Oral Session 16:00-18:00	Oral Session 16:00-18:00
17:00-18:00			
18:00-19:00			

International I	International II	Third Floor Foyer	Fourth Floor Hall
		AM Break	
Oral Session 10:30-12:00	Oral Session 10:30-12:00		
Oral Session 13:30-15:30	Oral Session 13:30-15:30		
		PM Break	
Oral Session 16:00-18:00	Oral Session 16:00-18:00		
		Poster Sessions 18:00-19:30	Poster Sessions 18:00-19:30

Tuesday 19 September

08:30-09:15	Plenary Session 3 Chairperson(s): Frank Hegmann	Symposia Theatre
08:30	**Plasmonic Terahertz Camera For Real-Time Terahertz Imaging** Mona Jarrahi* University of California Los Angeles, 420 Westwood Plaza, 420 Westwood Plaza, Los Angeles, United States	Tu-PL1-1
09:15-10:00	**Plenary Session 4** **Chairperson(s): Frank Hegmann**	**Symposia Theatre**
09:15	**Terahertz Spintronics: New Insights Into Magnetic Phenomena and Their Application In Terahertz Photonics** Tobias Kampfrath* Freie Universität Berlin, Arnimallee 14, Berlin, Germany	Tu-PL2-2-1
10:30-12:00	**Laser Sources & Detectors II** **Chairperson(s): Hiroaki Minamide**	**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**	Tu-AM-1-3

Patrik Blomberg*; Jan Stake; Josip Vukusic; Vladimir Drakinskiy
Chalmers University of Technology, Chalmersplatsen 4, Gothenburg, Sweden

11:15 **A Simple View On Large-Signal Resonant-Tunneling-Diode Dynamics** **Tu-AM-1-4**

Petr Ourednik*; Dinh Tuan Nguyen; Michael Feiginov
TU Wien, Gusshausstrasse 25/354, Vienna, Austria

11:30 **Conventional Vs. Island THz Slot-Antenna Resonant-Tunneling-Diode Oscillators** **Tu-AM-1-5**

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

11:45 **Nonlinear Optical Response In Resonant Tunneling Diode Terahertz Oscillators** **Tu-AM-1-6**

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

10:30-12:00 **Ultrafast Phenomena & Spectroscopy** **Cartier I**

Chairperson(s): Dmitry Turchinovich

10:30 **Terahertz Cavity Phonon Polaritons In The Deep-Strong Coupling Regime** **Tu-AM-2-1**

Andrey Baydin*[1]; Manukumara Manjappa[2]; Sobhan Subhra Mishra[3]; Hongjing Xu[4]; Jacques Doumani[5]; Fuyang Tay[6]; Dasom Kim[5]; Felix Hernandez[7]; Paulo Rappl[8]; Eduardo Abramof[8]; Ranjan Singh[3]; Junichiro Kono[5]
[1]Rice University, 6100 Main St., Houston, United States; [2]Indian Institute of Science, CV Raman Road, Bengaluru, India; [3]Nanyang Technological University, Singapore, Singapore; [4]Rice University, 6100 Main St, Houston, United States; [5]Rice University, 6100 Main St, United States; [6]Rice University, 6100 Main St., United States; [7]Universidade de São Paulo, Av. Prof. Luciano Gualberto 315, Brazil; [8]Instituto Nacional de Pesquisas Espaciais, Av. dos Astronautas, 1.758. Jd. Granja, Brazil

11:00 **A Novel Terahertz Line Array Detection Scheme Of Polarimeter-interferometer System On EAST** **Tu-AM-2-2**

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

11:15	**Research On The EAST Plasma Density Diagnostics By The Terahertz Spectroscopy Using Asynchronous Sampling And Single-shot Schemes** Haitao Tao[1]; Ming Fang[1]; Haiqing Liu[2]; Cuizhen Wang[2]; Susu Hu[3]; Yinxian Jie[3]; Chun Zhou*[3] [1]School of Electronic and Information Engineering, Anhui University, Hefei, China; [2]Insitute of Energy, Hefei Comprehensive National Science Center, Hefei, China; [3]Institute of Plasma Physics, Hefei Institutes of Physics Science, Chinese Academy of Sciences, Hefei, China	**Tu-AM-2-3**
11:30	**Terahertz Time Domain Spectroscopy For Characterizing Properties Of Carbon Nanotube Yarns** Laura Londono*[1]; Natalie Frey[2]; Andrew Fitzgerald[2]; Lyubov TITOVA[2]; Kateryna Kushnir[2] [1]Worcester Polytechnic Ins, 100 Institute Rd, 100 Institute Rd, Worcester, United States; [2]Worcester Polytechnic Ins, Worcester Polytechnic Ins, 100 Institute Rd, Worcester, United States	**Tu-AM-2-4**
11:45	**Terahertz Torsional Dynamics And Their Influence On Electron-Phonon Coupling In Organic Semiconductors** Michael Ruggiero* University of Vermont, 82 University Place, Burlington, United States	**Tu-AM-2-5**
10:30-12:00	**Semimetals** **Chairperson(s): Jigang Wang**	**Cartier II**
10:30	**Terahertz And Multi-terahertz Spectroscopy Of Light-driven 3D Dirac Semimetal Cd3As2** Yuta Murotani*; Ryusuke Matsunaga The Institute for Solid State Physics, The University of Tokyo, 5-1-5 Kashiwanoha, Kashiwa, Chiba, Japan	**Tu-AM-3-1**
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**	**Tu-AM-3-3**

Yahya Saboon*[1]; Xinyn 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

11:30	**THz-induced Carrier Multiplication In TaAs Weyl Semimetal**	**Tu-AM-3-4**

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

10:30-12:00	**Waveguide** **Chairperson(s): Vince Wallace**	**International I**
10:30	**Research And Development Of Corporate-feed Waveguide Slot Array Antennas In 120GHz And 350GHz Bands**	**Tu-AM-4-1**

Jiro Hirokawa*
Tokyo Institute of Technology, S3-20, 2-12-1 Ookayama, Meguro, Tokyo, Japan

11:00	**Time-Domain Integration Of Broadband Terahertz Pulses Via Tapered Two-Wire Waveguide**	**Tu-AM-4-2**

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

11:15	**Low-loss, 1-m Long Length, Hollow-core THz Waveguide Operating At 1 THz, Based On Anti-resonant Guiding Mechanism**	**Tu-AM-4-3**

Georges HUMBERT*[1]; Jean-Louis AUGUSTE[1]; Guillaume DUCOURNAU[2]; Jean-Francois LAMPIN[2]
[1]XLIM Research Institute, 123 av. A. Thomas, LIMOGES, France; [2]IEMN, 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 Wang[1]; Diego Pardo[2]; James Seddon[3]; Cyril Renaud[3]; Peter Huggard[1]
[1]Science and Technology Facilities Council - UKRI, R25, RAL Space, Harwell Campus, Didcot, United Kingdom; [2]Kings College London, Kings College London, London, United Kingdom; [3]University 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 Withayachumnankul[2]; Masayuki Fujita[1]; Tadao Nagatsuma[1]
[1]Graduate School of Engineering Science, Osaka University, 1-3 Machikaneyamacho, Toyonaka, Osaka, Japan; [2]Terahertz Engineering Laboratory, The University of Adelaide, Adelaide, South Australia, Australia

10:30-12:00	**Antenna Imaging Techniques I** **Chairperson(s): Peter Siegel**	**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 Zhang[2]; Daniel Erni[3]; Hartmut G. Roskos[4]
[1]Geothe University Frankfurt am Main, Max-Von-Laue Str.1, Frankfurt am Main, Germany; [2]University Duisburg-Essen, Bismarckstr. 81 (BA), Duisburg, Germany; [3]University Duisburg-Essen, Bismarckstr. 81 (BA), Germany; [4]Goethe-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	
11:30	**Near-field Characterization Of A GHz Branchline Coupler Using A THz Microscope**	**Tu-AM-5-4**
	Marius Neumann*; Paul Julius Ritter; Julius Mumme; Meinhard Schilling; Benedikt Hampel Technische Universität Braunschweig, Hans-Sommer-Str. 66, Braunschweig, Germany	
11:45	**Multi-Spectral Photonic THz Imaging Using MUTC-PDs And Dielectric Rod Waveguide Antennas**	**Tu-AM-5-5**
	Israa Mohammad*; Thomas Haddad; Sumer Makhlouf; Andreas Stöhr University of Duisburg-Essen, Lotharstraße 55, Duisburg, Germany	
13:30-15:30	**Laser Sources & Detectors III** **Chairperson(s): Mona Jarrahi**	**Symposia Theatre**
13:30	**High Sensitivity Spectroscopic Measurement With A Highly Nonlinear THz-PMT And An Is-TPG**	**Tu-PM1-1-1**
	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	
13:45	**Simultaneous Measurement Of Orthogonal Terahertz Fields Enabled Via A THz MODEM (modulator/ demodulator) Scheme**	**Tu-PM1-1-2**

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

14:00	**Graphene Field-effect Transistors As THz Detectors: Distinguishing Between Resistive Self-mixing And The Hot-carrier Thermoelectric Effect**	**Tu-PM1-1-3**

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

14:15	**A Novel Scattering-type THz Microprobe With Integrated Source And Detector For Contact-free, High-speed Surface Imaging At Sub-µm-resolution**	**Tu-PM1-1-4**

Martin Priwisch[1]; Michael Nagel[2]; Alexander Michalski[2]; Denise Priwisch[1]; Yoonkyung Jang[1]; Ikseon Jeon[1]; Inkeun Baek*[1]
[1]Samsung Electronics Co., Ltd., 1-1 Samsungjeonja, Hwaseong-si, Korea, Republic of; [2]Protemics GmbH, Otto-Blumenthal-Strasse 25, Aachen, Germany

14:30	**The In-plane Photoelectric Effect For Terahertz Detection In Two- And Quasi-one-dimensional Electron Systems**	**Tu-PM1-1-5**

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

14:45	**On-Chip Direct Laser Writing Of Spectral Filter Structures For Terahertz Field-Effect Transistors**	**Tu-PM1-1-6**

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

15:00	**Design And Characterization Of A Hairpin Filter At GHz Frequencies Using A THz Microscope For Near-Field Analysis**	**Tu-PM1-1-7**

Paul Julius Ritter*; Marius Neumann; Julius Mumme; Meinhard Schilling; Benedikt Hampel
Technische Universität Braunschweig, Hans-Sommer-Str. 66, Braunschweig, Germany

15:15	**Implementation Of A Multi-element Detector Consisting Of An 8×8 Network Of Patch-antenna-coupled TeraFETs For Gas Spectroscopy With THz-QCLs**	Tu-PM1-1-8

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]2School of Electronic and Electrical Engineering, Woodhouse, Leeds LS2 9JT, United Kingdom

13:30-15:30	**Spectroscopy II**	**Cartier I**

Chairperson(s): Masaya Nagai

13:30	**Breath Analysis Of COPD Patients By Terahertz/Millimeter-Wave Gas Spectroscopy -- A Proof-of-Principle Study**	Tu-PM1-2-1

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

13:45	**Investigating The Rigidity Of Ortho-terphenyl**	Tu-PM1-2-2

Johanna Koelbel*[1]; Michael T. Ruggiero[2]; J. Axel Zeitler[3]; Daniel M. Mittleman[1]
[1]Brown University, Department of Engineering, 184 Hope Street, Providence, United States; [2]University of Vermont, Department of Chemistry, 82 University Pl, Burlington, United States; [3]University of Cambridge, Department of Chemical Engineering, Philippa Fawcett Drive, Cambridge, United Kingdom

14:00	**Analytical Terahertz Wave Absorption Spectroscopy Of Dimethyl Ether**	Tu-PM1-2-3

Ingrid Wilke*[1]; Megan N. Powers[2]; Timothy E. Rice[2]; Arshad Chowdhury[2]; Muhammad Waleed Mansha[3]; Mona M. Hella[3]; Matthew A. Oehlschlaeger[4]
[1]Rensselaer Polytechnic Institute, Department of Physics, 110 8th St., Troy, United States; [2]Rensselaer Polytechnic Institute, Department of Mechanical Engineering, 110 8th Street, Troy, United States; [3]Rensselaer Polytechnic Institute, Department of Electrical Engineering, 110 8th St., Troy, United States; [4]Rensselaer Polytechnic Institute, Department of Mechanical Engineering, 110 8th St., Troy, United States

14:15 **Real-Time Terahertz Absorption Spectroscopy Of Methanol And Deuterated-Methanol Vapour, Using A TeraFET Detector Array** **Tu-PM1-2-4**

Michael Horbury*[1]; Nicholas North[2]; Jakob Holstein[3]; Harry Godden[2]; Lianhe Li[2]; Joshua Freeman[2]; Edmund Linfield[2]; Hartmut Roskos[3]; Alvydas Lisauskas[3]; Alexander Valavanis[2]
[1]University of Leeds, University of Leeds, Leeds, United Kingdom; [2]University of Leeds, University of Leeds, United Kingdom; [3]Johan Wolfgang Goethe-Universität, D-60438 Frankfurt am Main, Germany

14:30 **Mapping Of Kidney Stone By Far-Infrared Spectroscopy** **Tu-PM1-2-5**

Verdad Agulto*[1]; Wangxuan Zhao[1]; Mihoko Maruyama[2]; Masae Takahashi[3]; Kosaku Kato[1]; Valynn Katrine Mag-usara[1]; Masato Ota[1]; Yutaro Tanaka[2]; Yusuke Mori[2]; Masashi Yoshimura[1]; Makoto Nakajima[1]
[1]Institute of Laser Engineering, Osaka University, Suita, Osaka, Japan; [2]Graduate School of Engineering, Osaka University, Suita, Osaka, Japan; [3]Graduate School of Science, Tohoku University, Sendai, Miyagi, Japan

14:45 **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 Schulke[2]; Gerhard Schwaab[2]; Steffen Murke[2]; Simone Pezzotti[2]; Stuart Hodgetts[1]; Alan Harvey[1]; Vincent Wallace[1]; Martina Havenith[2]
[1]The University of Western Australia, 35 Stirling Highway, Crawley, Australia; [2]Ruhr-Universität Bochum, Universitätsstraße 150, Bochum, Germany

15:00 **Liquid-Liquid Phase Separation Of Protein By Trivalent Heavy Metal Ions: Ion-specific Alteration Of Water Structure Exposed By THz Study** **Tu-PM1-2-7**

	Ria Saha*[1]; Rajib Mitra[2] [1]S. N. Bose National Centre for Basic Sciences, JD Block, Sector 3, Salt Lake City, Kolkata - 700106, India, Kolkata, India; [2]S. N. Bose National Centre for Basic Sciences, JD Block, Sector 3, Salt Lake City, Kolkata - 7001, Kolkata, India	
15:15	**Sensing Alcohol Contamination In Water by THz Time Domain Ellipsometry** Zahra Mazaheri*[1]; Gian Paolo Papari[2]; Antonello Andreone[3] [1]federico II university of Naples, Via Vicinale Cupa Cintia, 26, 80126 Naples NA, naples, Italy; [2]1Department of Physics "E. Pancini", Università di Napoli Federico II, Naples, 80126 ITALY, Via Vicinale Cupa Cintia, 26, 80126 Naples NA, Italy; [3]Department of Physics "E. Pancini", Università di Napoli Federico II, Naples, 80126 ITALY, Via Vicinale Cupa Cintia, 26, 80126 Naples NA, Italy	**Tu-PM1-2-8**
13:30-15:30	**Condensed Matter II** **Chairperson(s): Renee Sher**	**Cartier II**
13:30	**THz Spontaneous Magnon Fluctuations And Room-temperature Spin Switching In The Orthoferrite Sm0.7Er0.3FeO3** Takayuki Kurihara*[1]; Marvin Weiss[2]; Andreas Herbst[2]; Julius Schlegel[2]; Tobias Dannegger[2]; Martin Evers[2]; Andreas Donges[2]; Makoto Nakajima[3]; Sebastian T.B. Goennenwein[2]; Ulrich Nowak[2]; Alfred Leitenstorfer[2] [1]The University of Tokyo, 5-1-5 Kashiwanoha, Kashiwa, Japan; [2]Department of Physics, University of Konstanz, Universitaetsstrasse 10, Konstanz, Germany; [3]Osaka University, 2-6Yamadaoka, Suita, Japan	**Tu-PM1-3-1**
14:00	**Differentiation Of The Microstructures Of Agarose Hydrogels Using Terahertz Time Domain Spectroscopy (THz-TDS)** Mark Justine Zapanta*; Annelies Postelmans; Wouter Saeys KU Leuven, Kasteelpark Arenberg 30, Heverlee, Belgium	**Tu-PM1-3-2**
14:15	**Low-Frequency Vibrational Spectroscopy And Crystal Structure Predictions For Fumaric Acid And Maleic Acid** Salvatore Zarrella; Timothy Korter* Syracuse University, Department of Chemsitry, 111 College Place, Syracuse, United States	**Tu-PM1-3-3**
14:30	**Probing Ultrafast Non-equilibrium Dynamics In An Organic-dimer Mott Insulator With Terahertz-infrared Continuum Probe Pulses**	**Tu-PM1-3-4**

Konstantin Warawa[1]; Yassine Agarmani[1]; Harald Schubert[1]; Martin Dressel[2]; Michael Lang[1]; Hartmut G. Roskos*[1]; Mark D. Thomson[1]
[1]Goethe-University Frankfurt, Max-von-Laue-Str. 1, Frankfurt am Main, Germany; [2]Universität Stuttgart, Pfaffenwaldring 57, Stuttgart, Germany

14:45 **Crystal Symmetry Effects On Protein Structural Vibrational Signatures** **Tu-PM1-3-5**

Andrea Markelz[1]; Alexander McNulty-Romaguera*[2]; Jeffrey McKinney[3]; Deepu George[4]; Timothy Lafave[5]; Alex Davie[6]; Tod Romo[7]; Alan Grossfield[7]; Jason Benedict[8]; Xiaotong Zhang[8]
[1]University at Buffalo, 239 Fronczak Hall, Buffalo, United States; [2]University at Buffalo, 239 Fronczak Hall, United States; [3]Pledge TX, 45 Dan Rd, Canton, United States; [4]Zygo Corporation, Laurel Brook Road, United States; [5]University at Buffalo, 239 Fronczak, United States; [6]IDEX Health & Science, LLC, West Henrietta, NY, United States; [7]University of Rochester Medical Center, Rochester, NY, United States; [8]University at Buffalo, Buffalo, NY, United States

15:00 **Emission Of Coherent THz Magnons In An Antiferromagnetic Insulator Triggered By Ultrafast Spin--phonon Interactions** **Tu-PM1-3-6**

Enzo Rongione[1]; Oliver Gueckstock[2]; Maximilian Mattern[3]; Olena Gomonay[4]; Meer Hendrik[4]; Christian Schmitt[4]; Rafael Ramos[5]; Takashi Kikkawa[6]; Martin Micica[7]; Eiji Saitoh[5]; Jairo Sinova[4]; Henri Jaffrès[1]; Juliette Mangeney[8]; Sebastian Goennenwein[9]; Stephan Gerpraegs[10]; Tobias Kampfrath[2]; Mathias Kläui[4]; Matias Bargheer[3]; Tom Seifert[2]; Sukhdeep Dhillon*[8]; Romain Lebrun[8]
[1]Unité Mixte de Physique, CNRS, Thales, Université Paris-Saclay, Palaiseau, France; [2]Institute of Physics, Freie Universität Berlin, Freie Universität Berlin, Germany; [3]Institut für Physik und Astronomie, Universität Potsdam, Universität Potsdam, Germany; [4]Institute of Physics, Johannes Gutenberg-University Mainz, Germany; [5]WPI Advanced Institute for Materials Research, Tohoku University, Tohoku University, Japan; [6]Department of Applied Physics,The University of Tokyo, The University of Tokyo, Japan; [7]ENS/CNRS, 24 rue Lhomond, Paris, France; [8]CNRS, 24 rue Lhomond, Paris, France; [9]Department of Physics, University of Konstanz, University of Konstanz, Germany; [10]Walther-Meißner-Institut, Bayerische Akademie der Wissenschaften, Bayerische Akademie der Wissenschaften, Germany

13:30-15:30	Space, Environment, Communications and Spectroscopy Chairperson(s): Tsung-Tse Lin	International I
13:30	**Stratospheric Balloon Missions For High Resolution Submillimeter-FIR Astronomical Spectroscopy** Paul Goldsmith* Jet Propulsion Laboratory, 4800 Oak Grove Dr., Pasadena, United States	Tu-PM1-4-1
14:00	**Silicon Meta-Optics For Compact Space-Based Optical Systems** Conner Ballew*; Sven van Berkel; Subash Khanal; Cecilia Leung; Leslie Tamppari; Goutam Chattopadhyay Jet Propulsion Laboratory, 4800 Oak Grove Dr, Pasadena, United States	Tu-PM1-4-2
14:15	**Radiometric Calibration Of A Hyperspectral Microwave Sounder** Natalia Bliankinshtein*[1]; Philip Gabriel[2]; Olivier Auriacombe[3]; Yi Huang[4]; Mengistu Wolde[5]; Shiqi Xu[5]; Lei Liu[4]; Jean-Christophe Angevain[6] [1]National Research Council of Canada, 1200 Montreal road U-61, Ottawa, Canada; [2]Horizon Science and Technology, Wolfville, Canada; [3]Omnisys Instruments AB, Gothenburg, Sweden; [4]McGill University, Montreal, Canada; [5]National Research Council of Canada, Ottawa, Canada; [6]European Space Agency, Noordwijk, Netherlands	Tu-PM1-4-3
14:30	**On The Design Of Wide Band Multi-lens Focal Plane Arrays For The TIFUUN Instrument** Alexandra Mavropoulou[1]; Shahab Oddin Dabironezare*[1]; Jochem Baselmans[2]; Akira Endo[1] [1]Delft University of Technology, Mekelweg 4, Delft, Netherlands; [2]Netherlands Institute for Space Research, SRON, Niels Bohrweg 4, Leiden, Netherlands	Tu-PM1-4-4
14:45	**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	Tu-PM1-4-5
15:00	**MmWave Vs FSO Propagation: First Results From An Experimental Testbed In Italy**	Tu-PM1-4-6

Elizabeth Verdugo[1]; Lorenzo Luini[2]; Carlo Riva[2]; Gianluca Galzerano[3]; Laura Resteghini*[4]; Christian Mazzucco[4]; Roberto Nebuloni[1]
[1]IEIIT, Consiglio Nazionale delle Ricerche, Piazza L. da Vinci, 32, Milan, Italy; [2]DEIB, Politecnico di Milano, Via Ponzio 34/5, Milan, Italy; [3]IFN, Consiglio Nazionale delle Ricerche, Piazza L. da Vinci, 32, Milan, Italy; [4]Huawei Technologies Italia S.r.l., Centro Direzionale Milano 2, Palazzo Verrocchio Se, Milan, Italy

13:30-15:30	**Chemistry, Biology & Medicine I** **Chairperson(s): Daniel Molter**	**International II**
13:30	**Terahertz-driven Electron Field Emission And Ion Field Evaporation: Application To Atom Probe Tomography** Angela Vella*[1]; Michella Karam[1]; Jonathan Houard[1]; Ganesh Damarla[1]; Said Idlahcen[2]; Anna Martinez[3]; Domenico Paparo[3]; Ammar Hideur[2] [1]Univ Rouen Normandie, Groupe de Physique des Matériaux, Avenue de l'Université BP 12, Saint Etienne du Rouvray, France; [2]Univ Rouen Normandie, CORIA, Avenue de l'Université, Saint Etienne du Rouvray, France; [3]Dipartimento di Fisica 'E. Pancini', Università 'Federico II', Monte S. Angelo, via Cintia, Napoli, Italy	**Tu-PM1-5-1**
14:00	**Detection Of Nucleocapsid Proteins Of COVID-19 Using A Terahertz Chemical Microscope** Xue Ding*[1]; Sayaka Tsuji[2]; Mana Murakami[3]; Jin Wang[4]; Hirofumi Inoue Inoue[5]; Toshihiko Kiwa[5] [1]Okayama University, ,3-1-1 Tsushimanaka kitaku, Okayama, Japan; [2]Okayama University, Okayama University, 3-1-1 Tsushima-naka,kita-ku, Japan; [3]Okayama University, Okayama University, 3-1-1 Tsushimanaka kitaku, Japan; [4]Okayama University, Okayama University, 3-1-1 Tsushimanaka kita-ku, Japan; [5]Okayama University, Okayama University, Japan	**Tu-PM1-5-2**
14:15	**Terahertz ATR Sensing Of Cell Membrane Permeabilization during Trypsin Proteolysis** Guilhem Gallot*[1]; Blandine Lordon[2] [1]Laboratory for Optics and Biosciences, Route De Saclay, Palaiseau, France; [2]Laboratory for Optics and Biosciences, route de Saclay, Palaiseau, France	**Tu-PM1-5-3**
14:30	**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 Vilhelmsen[2]; J. Axel Zeitler[3]; Jukka Rantanen[4]
[1]University of Copenhagen/Novo Nordisk A/S, Universitetsparken 2, København, Denmark; [2]Novo Nordisk A/S, Novo Nordisk Park 1, Maalov, Denmark; [3]University of Cambridge, Philippa Fawcett Dr, Cambridge, United Kingdom; [4]University of Copenhagen, Universitetsparken 2, Copenhagen, Denmark

14:45	**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. Gallego[2]; Muhsin Ali[2]; Ashish Kumar[1]; Marina Moreno Mayorga[3]; Horacio Lamela[1]; José M. Sánchez-Puelles[3]; Guillermo Carpintero[1]
[1]Universidad Carlos III de Madrid, Av. de la Universidad 30, Leganés, Spain; [2]LeapWave Technologies, Parque Tecnológico, Av. Gregorio Peces Barba, Leganés, Spain; [3]Consejo Superior de Investigaciones Cientí□ficas, C. Ramiro de Maeztu, 9, Madrid, Spain

15:00	**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

15:15	**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 Xu[2]; M. Hassan Arbab[1]
[1]SUNY at Stony Brook, Bioengineering, 100 Nicolls Rd., Stony Brook, United States; [2]Stony Brook University, Bioengineering, 100 Nicolls Rd., Stony Brook, United States

16:00-18:00	**Laser Sources & Detectors IV** **Chairperson(s): Rebecca Milot**	**Symposia Theatre**
16:00	**Terahertz Electrometry Via Infrared Spectroscopy Of Atomic Vapor**	Tu-PM2-1-1

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

16:30 **Investigation Of Fast Frequency Selective Qualitative Terahertz Spectroscopy** **Tu-PM2-1-2**

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

16:45 **Rapid-Scan High-Resolution Frequency-Domain THz Spectroscopy With Dynamical Phase Control** **Tu-PM2-1-3**

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

17:00 **10 THz Bandwidth With A Fiber-Coupled THz Time-Domain Spectrometer** **Tu-PM2-1-4**

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

17:15 **Single-shot Spectrometers And Realtime THz Digitizers, Using Diversity Electro-Optic Sampling (DEOS)** **Tu-PM2-1-5**

Eléonore Roussel[1]; Christophe Szwaj[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

17:30 **Single-Shot Terahertz Waveform Detection By Chirped-Pulse Up-Conversion Spectroscopy With Dispersion Compensation** **Tu-PM2-1-6**

Ryo Tamaki*[1]; Jun Takeda[2]; Ikufumi Katayama[2]
[1]KISTEC, 705-1 Shimoimaizumi, Ebina, Japan; [2]Yokohama National University, 79-5 Tokiwadai, Hodogaya, Yokohama, Japan

17:45	**Comparative Study Of Terahertz Chemical Microscopy And Flexible ISFET Approaches For Calcium Ion Detection** Sota Yoshida*[1]; Toshihiko Kiwa[1]; Jin Wang[1]; Kenji Sakai[2] [1]Okayama univercity, Kita-ku, Tsushima-naka 1-1-1, Okayama city, Japan; [2]Doshisha univercity, Tatara-Toya 1-3, Kyotanabe city, Japan	Tu-PM2-1-7
16:00-18:00	**Ultrafast & Nonlinear Phenomena I** **Chairperson(s): Andrey Baydin**	**Cartier I**
16:00	**Quantitative Terahertz Magnetometry** Dmitry Turchinovich*[1]; Wentao Zhang[2] [1]Universität Bielefeld, Universitätsstr. 25, Bielefeld, Germany; [2]Universität Bielefeld, Universitätsstr. 25, Germany	Tu-PM2-2-1
16:30	**Terahertz Field-Driven Nonlinear Magnonics In Antiferromagnets** Zhuquan Zhang*[1]; Frank Gao[2]; Zi-Jie Liu[1]; Yu-Che Chien[1]; Alexander von Hoegen[1]; Jonathan Curtis[3]; Prineha Narang[3]; Edoardo Baldini[2]; Keith Nelson[1] [1]Massachusetts Institute of Technology, 77 Massachusetts Avenue, Cambridge, United States; [2]The University of Texas at Austin, Main Building (MAI) 110 Inner Campus Drive Austin, Austin, United States; [3]UCLA, 405 Hilgard Avenue, Los Angeles, United States	Tu-PM2-2-2
16:45	**Femtosecond Laser-induced Ultrafast Magnetization In Two-dimensional Magnetic Material-antiferromagnetic Heterostructures** Peiyan Li*[1]; Sai Chen[1]; Shanshan Liu[2]; Faxian Xiu[2]; Wei He[3]; Xiaojun Wu[1] [1]Beihang University, No. 37 Xueyuan Road, Haidian District, Beijing, China; [2]Fudan university, 57 Wudong Road, Yangpu District, Shanghai, China; [3]Institute of Physics, Chinese Academy of Sciences, 55 Zhongguancun East Road,Haidian District,Beijing, China	Tu-PM2-2-3
17:00	**Hysteresis-induced Multistability In A Nonlinear Terahertz Split Ring Resonator** Gervais Dolvis Leutcho*; Lyne Woodward; François Blanchard École de technologie supérieure (ÉTS), 1100 R. Notre Dame O, Montréal, Canada	Tu-PM2-2-4
17:15	**High Field Terahertz Time-Domain Spectroscopy Of Lactose Monohydrate**	Tu-PM2-2-5

	Thomas Gill*; Andrew Burnett; Connor Kidd; Aniela Dunn; Joshua Freeman; Edmund Linfield; Alexander Davies; Paul Dean; Calum Towler; Lianhe Li University of Leeds, University of Leeds, Woodhouse Lane, Leeds, United Kingdom	
17:30	**Terahertz Nonlinear Photonics Based On The Ultrafast Thermodynamics Of Quantum Materials** Klaas-Jan Tielrooij* Eindhoven University of Technology, Den Dolech 2, Eindhoven, Netherlands	**Tu-PM2-2-6**
16:00-18:00	**Topological & 2D Materials** **Chairperson(s): Taiichi Otsuji**	**Cartier II**
16:00	**Efficient Terahertz Harmonic Generation In Topological Metamaterials** Sergey Kovalev*[1]; Klaas Tielrooij[2]; Igor Ilyakov[3]; Jan Deinert[3]; Thales Oliveira[3]; Alexej Ponomaryov[3]; Alessandro Principi[4]; Alexander Block[2]; Sabin Varghese[2]; Steffen Schreyeck[5]; Karl Brunner[5]; David Reig[2]; Grzegorz Karczewski[5]; Carmen Carbonell[2]; Sergio Valenzuela[2]; Laurens Molenkamp[5]; Tobias Kiessling[5]; Georgy Astakhov[3] [1]Helmholtz-Zentrum Dresden-Rossendorf, Bautzner Landstrasse 400, Dresden, Germany; [2]Catalan Institute of Nanoscience, Barcelona, Spain; [3]Helmholtz-Zentrum Dresden-Rossendorf, Bautzner Landstrasse 400, Germany; [4]University of Manchester, Manchester, United Kingdom; [5]Universität Würzburg, Würzburg, Germany	**Tu-PM2-3-1**
16:30	**Observation Of Terahertz Emission From Topological Material Candidate SrCd2Sb2 Single Crystals** Po-Wei Gong[1]; Yi-Cheng Cheng[1]; Pei-Tsung Yang[1]; Xin-Yun Chang[1]; Jiun-Haw Chu[2]; Cheng-Chien Chen[3]; Jiunn-Yuan Lin[1]; Chih-Wei Luo[1]; Chien-Ming Tu*[1] [1]Department of Electrophysics, National Yang Ming Chiao Tung University, No. 1001, Daxue Rd. East Dist., Hsinchu, Taiwan; [2]Department of Physics, University of Washington, Physics-Astronomy Building, Rm. C121, Box 351560, Seattle, United States; [3]Department of Physics, University of Alabama at Birmingham, Campbell Hall, Rm.310, 1300 University Blvd., Birmingham, United States	**Tu-PM2-3-2**
16:45	**Topological Materials For Helicity-dependent THz Emission**	**Tu-PM2-3-3**

Abdul Mannan*[1]; Yahya Saboon[1]; Chelsea Xia[2]; Djamshid Damry[1]; Piet Schoenherr[2]; Dharmalingam Prabhakaran[2]; Laura M Herz[2]; Thorsten Hesjedal[2]; Michael Johnston[2]; Jessica Louise Boland[1]
[1]Photon Science Institute, Department of Electrical and Electronic Engineering, University of Manchester, Oxford Rd, Manchester, United Kingdom; [2]Condensed Matter Group, Clarendon Laboratory, University of Oxford, Parks Rd, Oxford, United Kingdom

17:00 **Terahertz Surface Plasmon Resonance In Dirac Electron System Topological Insulator (Sb, Bi)2(Te, Se)3** **Tu-PM2-3-4**

Hinano Sugimoto*[1]; Kana Nishimura[2]; Hitoshi Tabata[2]
[1]the University of Tokyo, Engineering Building 5, 7-3-1 Hongo, Bunkyo-ku, Tokyo-to, Japan; [2]the University of Tokyo, Engineering Building 5, 7-3-1 Hongo, Bunkyo-ku, Japan

17:15 **Temperature Dependance Of Intrinsic Spin Orbit Coupling Gap In Graphene Probed By Terahertz Photoconductivity** **Tu-PM2-3-5**

Kenneth Maussang*[1]; Khalid Dinar[1]; Cédric Bray[2]; Christophe Consejo[1]; Juan Antonio Delgado-Notario[3]; Sergey Krishtopenko[2]; Ivan Yahniuk[4]; Sebastian Gerbert[1]; Sandra Ruffenach[2]; Erwin Moench[5]; Kornelia Indykiewicz[6]; Benjamin Benhamou -- Bui[1]; Benoit Jouault[2]; Jérémie Torres[1]; Yahya Moubarak Meziani[7]; Wojciech Knap[2]; August Yurgens[8]; Sergey Ganichev[4]; Frédéric Teppe[2]
[1]University of Montpellier, Place Eugène Bataillon, Montpellier, France; [2]CNRS, Place Eugène Bataillon, Montpellier, France; [3]Universidad de Salamanca, USAL-Nanolab, Salamanca, Spain; [4]University of Regensburg, Terahertz Centre, Regensburg, Germany; [5]University of Regensburg, Terahertz Center, Regensburg, Germany; [6]Wroclaw University of Science and Technology, , Wroclaw University of Science and Technology, Wroclaw, Poland; [7]Salamanca University, USAL-Nanolab, Salamanca, Spain; [8]Chalmers University of Technology, Chalmers University of Technology, Göteborg, Sweden

17:30 **Tunable Plasmonic Graphene Antenna Array For Communications At THz Frequencies** **Tu-PM2-3-6**

Elana P. de Santana*[1]; Daniel Stock[1]; Zhenxing Wang[2]; Kun-Ta Wang[2]; Sergi Abadal[3]; Max Lemme[2]; Peter Haring Bolívar[1]
[1]University of Siegen, Hölderlinstr. 3, Siegen, Germany; [2]AMO GmbH, Otto-Blumenthal-Straße 25, Aachen, Germany; [3]Technical University of Catalonia, Jordi Girona, 1-3, Mòdul D6, Barcelona, Spain

17:45	**Tuneable Terahertz Frequency-selective Absorber Based On A Graphene/gold Bilayer Metasurface** Andrew Squires*[1]; Xiang Gao[2]; Jia Du[1]; Zhaojun Han[1]; Dong han Seo[3]; James Cooper[1]; Adrian Murdock[1]; Simon Lam[1]; Ting Zhang[1]; Tim van der Laan[1] [1]CSIRO, 36 Bradfield Road, Lindfield, Australia; [2]Beijing Institue of technology, Haidan District, China; [3]Korea Institute of Energy technology, Naju, Korea, Republic of	**Tu-PM2-3-7**

16:00-18:00	**Passive Components** **Chairperson(s): Hui Yuan**	**International I**
16:00	**A Spiral Phase Plate Prepared Via High-resolution 3D Printing For THz Vortex Beam Generation** Andreea Aura Paraipan*[1]; Innem V. A. K. Reddy[2]; Giacomo Balistreri[3]; Luca Zanotto[3]; Diana Gonzales-Hernandez[4]; Mostafa Shalaby[5]; Roberto Morandotti[1]; Carlo Liberale[4]; Luca Razzari[1] [1]INRS, 1650 Blvd. Lionel Boulet, Varennes, Canada; [2]King Abdullah University of Science and Technology, Thuwal 23955-6900, Kingdom of Saudi Arabia, Saudi Arabia; [3]INRS Énergie, Matériaux et Télécommunications, 1650 Blvd. Lionel Boulet, Varennes, Canada; [4]King Abdullah University of Science and Technology, Thuwal 23955-6900, Saudi Arabia; [5]Swiss Terahertz Research-Zürich, Swiss Terahertz GmbH, 8005 Zürich, Switzerland	**Tu-PM2-4-1**
16:15	**Fabrication Of Freestanding THz Band-pass Filters** Erwin Hack*; Ivan Shorubalko; Jil Graf; Peter Zolliker; Elena Mavrona Empa, Uberlandstrasse 129, Dubendorf, Switzerland	**Tu-PM2-4-2**
16:30	**A High Q-Factor 270 GHz 3D-printed Photonic Crystal Slot Resonator** Yixiong Zhao*[1]; Masoud Sakaki[2]; Niels Benson[3]; Jan Balzer[4] [1]University of Duisburg-Essen, Faculty of Engineering, Chair of Communication Systems (NTS), Bismarckstrasse 81, Duisburg, Germany; [2]University of Duisburg Essen, Institute of Technology for Nanostructures (NST), Bismarckstrasse 81, Duisburg, Germany; [3]University Duisburg Essen, Institute of Technology for Nanostructures (NST), Bismarckstr. 81, Duisburg, Germany; [4]University of Duisburg-Essen, Chair of Communication Systems (NTS), Bismarckstrasse 81, Duisburg, Germany	**Tu-PM2-4-3**

16:45	**A Combined 60/170 GHz Notch Filter For Collective Thomson Scattering At ITER** Dietmar Wagner*[1]; Walter Kasparek[2]; Fritz Leuterer[1]; Harald Schütz[1]; Jörg Stober[1]; Manfred Thumm[3] [1]Max Planck Institute for Plasma Physics, Boltzmannstr. 2, Garching, Germany; [2]University of Stuttgart, Pfaffenwaldring 31, Stuttgart, Germany; [3]KIT Karlsruhe, Kaiserstr. 12, Karlsruhe, Germany	Tu-PM2-4-4
17:00	**Monte Carlo Evaluation Of The Effects Of Higher Order Modes In High-power Millimeter-wave Systems** Burkhard Plaum* University of Stuttgart, IGVP, Pfaffenwaldring 31, Stuttgart, Germany	Tu-PM2-4-5
17:15	**Terahertz CPS-based Spoof Surface Plasmon Polariton Filter On Silicon Nitride Substrate** Mohsen Haghighat*; Thomas Darcie; Levi Smith University of Victoria, 3800 Finnerty Road, Victoria, Canada	Tu-PM2-4-6
17:30	**Lattice Type Dependence Of Transmittance Spectrum In Moth-eye Antireflective Structures** Rikuo Koike*; Shotaro Kawano; Haruyuki Sakurai; Kuniaki Konishi; Norikatsu Mio The University of Tokyo, 7-3-1, Hongo, Bunkyo-ku, Japan	Tu-PM2-4-7
17:45	**Masked Stereolithography 3D-printed Terahertz Diffractive Lens** Po-Jen Yu*[1]; Tsung-Chieh Tseng[2]; Yu-Hang Wang[1]; You-Chia Chang[2]; Shang-Hua Yang[1] [1]Institute of Electronics Engineering, National Tsing Hua University, Hsinchu 300, Taiwan, No. 101, Sec. 2, Guangfu Rd., East Dist., Hsinchu, Taiwan; [2]Department of Photonics and Institute of Electro-Optical Engineering, National Yang Ming Chiao Tung, 1001 University Road, Hsinchu, Taiwan	Tu-PM2-4-8

16:00-18:00	**Chemistry, Biology & Medicine II** **Chairperson(s): Andrea Markelz**	**International II**
16:00	**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

16:30	**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
16:45	**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
17:00	**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
17:15	**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
17:30	**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, Ørsteds Plads, Building 343, Kongens Lyngby, Denmark	Tu-PM2-5-6
17:45	**Wavefront Modified Spherical Vector Beams For THz Cornea Imaging** Joel Lamberg*[1]; Faezeh Zarrinkhat[2]; Aleksi Tamminen[1]; Juha Ala-Laurinaho[1]; Zachary Taylor[1] [1]Aalto University, Maarintie 8, Espoo, Finland; [2]TeraView LTd, Enterprise Cambridge Research Park, Cambridge, United Kingdom	Tu-PM2-5-7

18:00-19:30	Poster Session 3	Foyer (3rd floor)

Recent Advances In THz Clinotrons — **Tu-P1-01**

Alexei Kuleshov*[1]; Sergey Vlasenko[2]; Sergey Kishko[2]; Sergey Ponomarenko[3]; Eduard Khutoryan[2]
[1]O. Ya. Usikov Institute for Radiophysics and Electronics of NAS of Ukraine, 12 ac. Proskura str., Kharkiv, Ukraine; [2]O. Ya. Usikov Institute for Radiophysics and Electronics of NAS of Ukraine, 12 ac. Proskura str., Ukraine; [3]Max Planck Institute for Plasma Physics, Greifswald, 17491 Germany, Germany

THz Detection Optimization Of Antenna Coupled AlGaN/GaN High Electron Mobility Transistors — **Tu-P1-02**

Maxim Moscotin*[1]; Justinas Jorudas[1]; Miroslav Saniuk[1]; Pawel Prystawko[2]; Sergey Rumyantsev[2]; Wojciech Knap[2]; Grzegorz Cywinski[2]; Irmantas Kasalynas[1]
[1]Center for Physical Sciences and Technology (FTMC), Sauletekio av. 3, Vilnius, Lithuania; [2]Institute 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 Mikalopas[2]; Gregory Aizin[2]
[1]Rensselaer Polytechnic Institute, 9433 van Arsdale Drive, 9433 van Arsdale Drive, Vienna, United States; [2]Kingsborough 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 Jaimes[1]; Enrique Castro Camus[2]
[1]Centro de Investigaciones en Óptica, A.C., Loma del Bosque 115, Leon, Mexico; [2]Philipps-Universität Marburg, Renthof 5, Marburg, Germany

Coherent Emission From A Linear Array Of RTDs — **Tu-P1-05**

Fanqi Meng*[1]; Zhenling Tang[2]; Jahnabi Hazarika[3]; Safumi Suzuki[2]; Roskos Hartmut G.[3]
[1]Goethe University Frankfurt, Max von Laue street 1, Frankfurt am Main, Germany; [2]Tokyo Institute of Technology, O-okayama 2-12-1-S9-3, Meguro-ku,, Tokyo, Japan; [3]Goethe 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 Yang[2]; Haiqing Liu[3]; Zhiyong Zou[4]; Weiming Li[5]; Cuizhen Wang[6]; Yuan Yao[5]
[1]anhui university, Anhui University, 111 Jiulong Road, Shushan District, Hefei City, Anhui Province, China, hefei, China; [2]School of Electronic and Information Engineering, Anhui University, Anhui University, No.111, Jiulong Road, Shushan Di, hefei, China; [3]Institute of Plasma Physics, Hefei Institutes of Physics Science, Chinese Academy of Sciences, Hefei, No.350, Shushan Lake Road, Luyang District, Hefei, China; [4]Insitute of Energy, Hefei Comprehensive National Science Center, Anhui, Hefei, No.350, Shushan Lake Road, Luyang District, Hefei, hefei, China; [5]Institute of Plasma Physics, Hefei Institutes of Physics Science, Chinese Academy of Sciences, Hefei, No.350, Shushan Lake Road, Luyang District, Hefei, hefei, China; [6]Insitute of Energy, Hefei Comprehensive National Science Center, Anhui, Hefei, No.350, Shushan Lake Road, Luyang District, Hefei, China

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 Campus:No. 2006, Xiyuan Avenue, Chengdu, Chengdu, China

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

Jingshuo Zhang*; Chengming Qu; Lifu Zhang; Zhengwei Wu; Ge Zhuang; Jinlin Xie
Department of Plasma Physics and Fusion Engineering, USTC, No. 96, Jinzhai Road, Hefei City, Anhui Province, Hefei, China

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 Tamosiunas[2]; Ignotas Bucius[2]; Domas Jokubauskis[1]; Karolis Redeckas[1]; Gintaras Valusis[1]
[1]Center for Physical Sciences and Technology, Savanoriu ave. 231, Vilnius, Lithuania; [2]Vilnius University, Sauletekio ave. 3, Vilnius, Lithuania

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 Headland[2]; Alejandro Rivera-Lavado[1]; Oleg Cojocari[3]; Andreas Stöhr[4]; Guillermo Carpintero[2]
[1]LeapWave Technologies, Avenida Gregorio Peces-Barba 1, Leganés, Spain; [2]Universidad Carlos III de Madrid, Avenida de la Universidad 30, Leganés, Spain; [3]ACST GmbH, D-63457 Hanau, Germany; [4]University of Duisburg-Essen, Lotharstr. 55, Duisburg, Germany

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 Kitahara[1]; Katsuyuki Ishii[2]; Miezel Talara[1]; Takashi Furuya[1]; Mary Escaño[1]; Masahiko Tani*[1]; Dmitry Bulgarevich[3]; Dongfeng He[3]; Makoto Watanabe[3]
[1]FIR, Univ. of Fukui, 3-9-1 Bunkyo, Fukui, Japan; [2]University of Fukui, 3-9-1 Bunkyo, Fukui, Japan; [3]National Institute for Materials Science, 1-2-1 Sengen, Tsukuba, Japan

Dimensioning Photoconductive Connected Array Sources To Maximize The Radiated Power. **Tu-P1-16**

Martijn Huiskes*[1]; Juan Bueno[1]; Nuria Llombart[2]; Andrea Neto[2]
[1]Delft University of Technology, Mekelweg 4, Delft, Netherlands; [2]Delft 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**

Miezel Talara[1]; Dmitry Bulgarevich[2]; Kana Kobayashi[1]; Hideaki Kitahara[1]; Takashi Furuya[1]; Mary Clare Escaño[1]; Makoto Watanabe[2]; Masahiko Tani*[1]
[1]Research Center for Development of Far-Infrared Region, University of Fukui, Bunkyo 3-9-1, Fukui, Japan; [2]Research Center for Structural Materials, National Institute for Materials Science, 1-2-1 Sengen, Tsukuba, Japan

Recording THz Pulse Shapes At 88 MHz Repetition Rate Using Photonic Time-stretch, At Synchrotron SOLEIL **Tu-P1-18**

Christophe Szwaj[1]; Eléonore Roussel[1]; Clément Evain[1]; Marc Le Parquier[1]; Pascale Roy[2]; Laurent Manceron[2]; Jean-Blaise Brubach[2]; Marie-Agnès Tordeux[2]; Marie Labat[2]; Serge Bielawski*[3]
[1]PhLAM UMR CNRS 8523, Lille University, Bat. P5, Villeneuve d'Ascq, France; [2]Synchrotron SOLEIL, Gif-sur-Yvette, France; [3]PhLAM Laboratory, Lille University, Lille University, Bat P5, Villeneuve d'Ascq, France

Terahertz Detection Using A Ridge Waveguide **Tu-P1-19**

Sota Mine*[1]; Gabriel Gandubert[2]; Xavier Ropagnol[2]; Kosuke Murate[3]; François Blanchard[2]
[1]École de technologie supérieure, Furo-cho, Chikusa-ku, Nagoya, Japan; [2]École de technologie supérieure, Montréal, QC, Canada; [3]Nagoya University, Furo-cho, Chikusa-ku, Nagoya, Japan

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 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

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
Xi'an University of Technology, No 5 Jinhua South Road, Xi'an, China

LT-GaAs Metasurfaces As Continuous-wave THz Detectors Operating In The Telecommunications Band **Tu-P1-22**

James Seddon*[1]; Lucy Hale[2]; Hyunseung Jung[3]; Sarah Norman[4]; Sadhvikas Addamane[5]; Igal Brener[5]; Cyril Renaud[6]; Oleg Mitrofanov[6]
[1]University College London, Department of Electronic & Electrical Engineering, Roberts Building,, University College London, Torrington Place,, London, United Kingdom; [2]University College London, Roberts Building, University College London, Torrington Place, London, United Kingdom; [3]Sandia National Laboratories, Sandia National Laboratories,, Albuquerque, United States; [4]University College London, Roberts Building Torrington Place, London, United Kingdom; [5]Sandia National Laboratories, Sandia National Laboratories, Albuquerque, United States; [6]University College London, Roberts Building, Torrington Place, London, United Kingdom

Experimental Investigations On Effects Of The Magnetic Field Taper On A Continuously Frequency-Tunable Gyrotron **Tu-P1-23**

Tao Song*[1]; Wei Wang[1]; Diwei Liu[2]
[1]University of Electronic Science and Technology of China, No.2006, Xiyuan Ave, West Hi-Tech Zone, Chengdu, China; [2]University 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 Denisov[2]; Irina Zotova[2]; Andrey Malkin[2]; Alexander Sergeev[2]; Roman Rozental[2]; Andrey Fokin[2]; Vladimir Belousov[2]; Mikhail Shmelev[2]; Alexey Chirkov[2]; Alexander Tsvetkov[2]; Ilya Bandurkin[2]
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Advances In Terahertz Detection With Graphene Field-effect Transistors **Tu-P1-28**

Dmitry Svintsov*[1]; Dmitry Mylnikov[1]; Elena Titova[1]; Denis Bandurin[2]; Kostya Novoselov[2]
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Modulation--doped Multiple CdTe Quantum Wells As THz Detectors, Filters And Emitters **Tu-P1-29**

Jerzy Łusakowski*[1]; Dmitriy Yavorskiy[2]; Krzysztof Karpierz[3]; Andrzej Fraczak[1]; Mikołaj Grymuza[1]; Eryk Imos[1]; Adam Siemaszko[1]; Wiktoria Solarska[1]; Maciej Zaremba[1]; Rafal Zdunek[1]; Zbigniew Adamus[4]; Tomasz Slupinski[4]; Tomasz Wojtowicz[4]
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Status Of The Heterodyne Superconductor-Insulator-Superconductor Receivers For The LCT **Tu-P1-30**

Minran Chen[1]; Boxun Wang[1]; Yao Li[1]; Shuqin Wang[1]; Duo Cao*[2]; Feng Liu[1]; Yi Zhang[1]; Wangzhou Shi[1]
[1]Shanghai Normal University, 100 Guilin Road, China; [2]Shanghai Normal University, 100 Guilin Road, Shanghai, China

Multilayer Vacuum Window Design For Submillimeter Telescope Receivers **Tu-P1-31**

Yi Zhang*[1]; Duo Cao[2]; Feng Liu[2]
[1]Shanghai Normal University, Guilin Road 100, Xuhui District, Shanghai, China; [2]Shanghai Normal University, Guilin Road, Xuhui District, China

Real-Time Analysis Of THz Quantum-Cascade Laser Signals Using A Field Effect Transistor Array **Tu-P1-32**

Nicholas North*[1]; Jakob Holstein[2]; Michael Horbury[1]; Harry Godden[3]; Lianhe Li[3]; Joshua Freeman[3]; Edmund Linfield[3]; Hartmut Roskos[2]; Alvydas Lisauskas[2]; Alexander Valavanis[3]
[1]University of Leeds, University of Leeds, Woodhouse, Leeds, United Kingdom; [2]Johan Wolfgang Goethe-Universität, D-60438 Frankfurt am Main, Frankfurt, Germany; [3]University 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 Nguyen[2]; Palalle Tharushi Perera[2]; Denver Linklater[2]; Dominique Appaddo[3]; Jitraporn Vongsvivut[3]; Mark J. Tobin[3]; Rodney Croft[4]; Elena P. Ivanova[2]
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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 Chistyakov[1]; Vladimir Titov[2]; Roman Torgashov[2]; Andrey Starodubov[2]; Igor Navrotsky[1]; Dmitriy Zolotykh[1]; Nikita Ryskin*[2]
[1]Saratov Branch, Kotelnikov Institute of Radio Engineering and Electronics RAS, 38 Zelenaya st., 1 Panfilova st., Saratov, Russian Federation; [2]Saratov 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 Hindle[1]; François Parnet[2]; François Bondu[2]; Guillaume Ducournau[3]; Jean-François Lampin[3]; Gael Mouret[1]; Goulc'hen Loas[2]; Emilien Peytavit*[4]
[1]LPCA, Dunkerque, France; [2]Institut FOTON, Rennes, France; [3]IEMN, Villeneuve d'Ascq, France; [4]IEMN, 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 Zheng[1]; Blandine Lordon*[1]; Anne-Françoise Mingotaud[2]; Patricia Vicendo[2]; Rachel Brival[2]; Isabelle Fourquaux[3]; Laure Gibot[2]; Guilhem Gallot[1]
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18:00-19:30	Poster Session 4	Foyer (4th floor)

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 Vlasov[1]; Alan Cook[1]; Thomas Antonsen[2]
[1]US Naval Research Laboratory, 4555 Overlook Ave SW, Washington, United States; [2]Leidos, 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 Cardoso[1]; Enrique Castro-Camus[1]; Henning Menzel[2]; Tasja Schwenke[2]; Li Zhao[3]; Florens Kurth[3]; Wolfgang Kowalsky[3]; Hans-Hermann Johannes[3]; Martin Koch[1]
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Output Coupling Optimization For An Optically Pumped CH3OH Gas Laser — **Tu-P2-03**

Xuan Li*[1]; Zhiyong Zou[2]; Jiaxing Xie[3]; Haiqing Liu[3]; Yinxian Jie[3]
[1]Institute of Plasma Physics, Hefei Institutes of Physical Science, Chinese Academy of Sciences, No.350, ShuShanHu Road Luyang District, Hefei, Anhui, 230031, P.R.China., No.96, JinZhai Road Baohe District, Hefei, Anhui, 230026, P.R.China., Hefei, China; [2]Institute of Energy, Hefei Comprehensive National Science Center, Hefei, Anhui, China; [3]Institute of Plasma Physics, Hefei Institutes of Physical Science, Chinese Academy of Sciences, No.350, ShuShanHu Road Luyang District, Hefei, Anh, China

NanoMi: A Modular Platform For Terahertz-integrated UTEM — **Tu-P2-04**

Samuel Ruttiman*[1]; Makoto Schreiber[1]; Mark Salomons[2]; Darren Homeniuk[2]; Xuanhao Wang[3]; Olivier Adkin-Kaya[4]; Mohammad Kamal[4]; Jesus Alejandro Marin Calzada[1]; Patrick Price[2]; Martin Cloutier[2]; Misa Hayashida[2]; Ray Egerton[1]; Ken Harada[5]; Yoshio Takahashi[6]; Heiko Muller[7]; Marek Malac[2]; Frank Hegmann[1]
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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 Intze[1]; Raffaella Polito[1]; Maria Eleonora Temperini[1]; Valeria Giliberti[2]; Michele Ortolani*[1]
[1]Sapienza University of Rome, Piazzale Aldo Moro 2, Dipartimento di Fisica, Rome, Italy; [2]Istituto Italiano di Tecnologia, Viale Regina Elena 291, Rome, Italy

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

Jiale Zhang*[1]; Mei Wan[2]; Jiyuan Fang[2]; Yaqi Jing[2]; Zhi Hong[2]; Yong Du[2]
[1]China Jiliang University, Hangzhou, Hangzhou, China; [2]China Jiliang University, Hangzhou, China

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

Viktor Rindert*[1]; Steffen Richter[1]; Sean Knight[1]; Vanya Darakchieva[1]; Mathias Schubert[2]
[1]Lund University, Solid State Physics, Sölvegatan 14, Lund, Sweden; [2]University 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*; Tomás 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-Camus[2]; Fatima Taleb[2]; Juan Viana[2]
[1]Philipps-Universität Marburg, Renthof 5, Marburg, Germany; [2]Philipps-Universität Marburg, Renthof 5, Germany

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

Jan Helminiak*[1]; Mariana Alfaro-Gomez[2]; Goretti Guadalupe Hernandez-Cardoso[1]; Martin Koch[1]; Enrique Castro-Camus[1]
[1]Philipps-Universität Marburg, Renthof 5, Marburg, Germany; [2]Universidad Autonoma de Aguascalientes, Avenida Universidad 940, Ciudad Universitaria, Aguascalientes, Mexico

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

Jiamin Zhang*[1]; Yuan Yao[2]; Tianyi Ruan[3]; Yao Zhang[2]; Haiqing Liu[2]; Yinxian Jie[2]; Bili Ling[2]
[1]Anhui University, Institutes of Physical Science and Information Technology, Anhui University, Hefei, Anhui 230601 P.R, Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, Anhui 230031 P.R. China, Hefei, China; [2]Institute of Plasma Physics, Chinese Academy of Sciences, Hefei, Anhui 230031, P.R. China, Hefei, China; [3]Anhui University, Hefei, Anhui 230031, P.R. China, Hefei, Anhui 230601 P.R. China, Hefei, China

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
Shanghai Normal University, No. 100, Guilin Road, Shanghai, China

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
University of Electronic Science and Technology of China, ChengDu, China, PiDu distribute XiYuan avenue No. 2006, Chengdu, China

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

Omnia Samy[1]; Taiichi Otsuji[2]; Amine El Moutaouakil*[1]
[1]UAE University, College of Engineering, P.O. Box No. 15551, Al Ain, United Arab Emirates; [2]Research Institute of Electrical Communication (RIEC), Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, Japan

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

Ao Zhu*[1]; Lan Wang[1]; Shixiong Liang[2]; Wei Wang[3]; Yaxin Zhang[4]; Ziqiang Yang[5]
[1]Huzhou Key Laboratory of Terahertz Integrated Circuits and Systems, Yangtze Delta Region Institute (, Huzhou, China; [2]National Key Laboratory of Application Specific Integrated Circuit, Hebei Semiconductor Research Ins, Shijiazhuang, Shijiazhuang, China; [3]National Key Laboratory of Application Specific Integrated Circuit, Hebei Semiconductor Research Ins, Shijiazhuang, China; [4]School of Electronic Science and Engineering, University of Electronic Science and Technology of Chi, Chendu, China; [5]School of Electronic Science and Engineering, University of Electronic Science and Technology of Ch, Chendu, China

Frequency Spectrum Prediction Of Metamaterial Absorbers Based On Semi-Random Matrix Generation Method Combined With Deep Learning **Tu-P2-21**

Jianian Wang*; Renbin Zhong; Benzheng 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 Zhang[2]; Tao Zhao[2]; Wenjie Fu[2]; Shenggang Liu[2]; Min Hu[2]
[1]University of Electronic Science and Technology of China, Chengdu, Chengdu, China; [2]University of Electronic Science and Technology of China, Chengdu, China

Novel Cherenkov Threshold In Nonlocal Graphene Hyperbolic Metamaterials **Tu-P2-23**

Ran Wang*; Tianyu Zhang; Shenggang Liu; Min Hu
University of Electronic Science and Technology of China, No.2006, Xiyuan Ave, West Hi-Tech Zone, Chengdu, China

Infrared Attenuate Total Reflection Cell With A Functionalized Surface **Tu-P2-24**

Ulrich Schade*[1]; Ljiljana Puskar[2]; Ronny Golnak[2]; Sasha Veber[3]; Jörg Beckmann[4]
[1]Helmholtz-Zentrum Berlin für Materialien und Energie, Albert-Einstein-Strasse 15, Berlin, Germany; [2]Helmholtz-Zentrum Berlin für Materialien und Energie, Albert-Einstein-Strasse 15, Germany; [3]Humboldt-Universität Berlin, Albert-Einstein-Strasse 15, Germany; [4]Bundesanstalt für Materialforschung und -prüfung, Unter den Eichen 87, Germany

Trace Detection Of Furazolidone Based On Terahertz Metasurface Sensors **Tu-P2-25**

Xujun Xu*[1]; Tingting Yuan[2]; Jingwen Wu[2]; Jianjun Liu[2]; Yong Du[2]
[1]China Jiliang University, Hangzhou, Hangzhou, China; [2]China Jiliang University, Hangzhou, China

THz Optical Characterization Of Novel Chalcogenide Phase Change Materials **Tu-P2-26**

Krishna Kumar*[1]; Miroslavna Kovylina[2]; Daniil Pashnev[3]; Surya R. Ayyagari[3]; Irmantas Kasalynas[3]; Borja Vidal[2]; Carlos García-Meca[1]
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Dual-band Tunable Absorber Of Terahertz Metamaterial Based On Gallium Arsenide **Tu-P2-27**

Tingting Yuan*[1]; Jingwen Wu[2]; Xujun Xu[2]; Jianjun Liu[2]; Yong Du[2]
[1]China Jiliang University, China zhejiang,Hangzhou, Hangzhou, China; [2]China Jiliang University, China zhejiang,Hangzhou, China

Terahertz Near-Field Imaging For Buried Structures **Tu-P2-28**

Pingchuan Ma*; Daniel M. Mittleman
Brown University, Department of Engineering, 184 Hope St., Providence, United States

Microscopic Study On The Essence Of Enamel Demineralization By Terahertz Near-field Technique **Tu-P2-29**

Feng Xiao*[1]; Xiaoqiuyan Zhang[2]; Li Cheng[3]; Aopeng Zhang[3]; Jingjing Luo[3]; Fanglong Wu[3]; Hongmei Zhou[3]; Tao Hu[3]; Min Hu[4]
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Temperature Dependent Dynamics Of Charge Carriers In Tellurium-Hyperdoped Silicon **Tu-P2-30**

KM Ashikur Rahman*[1]; Mohd Saif Shaikh[2]; Qianao Yue[1]; S. Senali Dissanayake[1]; Shengqiang Zhou[2]; Meng-Ju Sher[1]
[1]Wesleyan University, 265 Church St, Middletown, United States; [2]Helmholtz-Zentrum Dresden-Rossendorf, Institute of Ion Beam Physics and Materials Research, Bautzner Landstraße 400, Dresden, Germany

A Terahertz QPSK Phase Shifter Based On Insertion Micro-structure Chips **Tu-P2-31**

Meng Hao*[1]; Huajie Liang[2]; Ziqiang Yang[3]; Dan Liang[4]; Kexiang Hu[4]; Lin Zou[4]
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Terahertz-capillary Electrophoresis (THz-CE) For Direct Detection Of Separated Substances In Solutions **Tu-P2-32**

Keiko Kitagishi*[1]; Kazunori Serita[2]; Masayoshi Tonouchi[2]; Takayuki Kawai[3]
[1]Osaka University, 2-6 Yamadoka, 3-34-23, Suita, Japan; [2]Osaka University, 2-6 Yamadaoka, Suita, Japan; [3]Kyushu 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 Kim[2]; Byeong Cheol Yoo[2]; Hyun Ju Choi[2]; Seung Jae Oh[3]; Youngbin Ji[1]
[1]Gimhae Biomedical Industry Promotion Agency, 80-59, Golden root-ro, Juchon-myeon, Gimhae-si, Korea, Republic of; [2]Deepnoid.Inc, Seoul, Korea, Republic of; [3]YUHS-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 Min[2]; Jong-Yul Park[2]; Dong Min Kang[2]
[1]ETRI, 218 Gajeong-ro, Yuseong-gu, Daejeon, Korea, Republic of; [2]ETRI, 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 Franceschet[2]; Bruno Maffei[3]
[1]Institut d'astrophysique spatiale, 121 Rue Jean Teillac, 91440 Bures-sur-Yvette, 121 Rue Jean Teillac, Bures sur Yvette, France; [2]Dipartimento di Fisica, Università degli Studi di Milano & INFN, Via Giovanni Celoria 16 - 20133 Milano (Lombardia), Italy; [3]Institut 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 Zhu[2]; Xiaohe Cheng[3]; Sheng Li[2]; Wei Shao[2]; Xiaojun Li[2]
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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 Yang[1]; Tianchi Zhou[1]; Jiahao Yang[1]; Hongji Zhou*[1]; Jingrui Liang[1]; Jia Zhang[1]; Jun Zhou[1]; Yaxin Zhang[1]; Shixiong Liang[2]; Wei Wang[2]
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THz Topological Waveguides In 600 GHz Frequency Region. **Tu-P2-39**

Abdu Subahan Mohammed*[1]; Edouard Lebouvier[2]; Gaëtan Lévêque[3]; Yan Pennec[3]; Marc Faucher[3]; Alberto Amo[4]; Pascal Szriftgiser[4]; Guillaume Ducournau[3]
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Reconfigurable Terahertz Holograms With Cascaded Diffractive Optical Elements **Tu-P2-40**

Wei Jia; Dajun Lin; Berardi Sensale-Rodriguez*
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Iterative Design Of Multiple-Input Single-Output Structures For THz Signal Multiplexing **Tu-P2-41**

Mateusz Surma*[1]; Mateusz Kaluza[1]; Patrycja Czerwinska[1]; Pawel Komorowski[2]; Przemyslaw Zagrajek[2]; Agnieszka Siemion[1]
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3D Printed Diffractive Optical Elements For THz Spatial Multiplexing **Tu-P2-42**

Mateusz Kaluza*[1]; Mateusz Surma[1]; Pawel Komorowski[2]; Przemyslaw Zagrajek[2]; Agnieszka Siemion[1]
[1]Warsaw University of Technology, Koszykowa 75, Warsaw, Poland; [2]Military 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 Musilek[2]; Fazel Ghiasvand[3]
[1]University of Alberta, University of Alberta, Donadeo Innovation Centre for Engineering - 9211 116 Street NW, Edmonton, Canada; [2]University of Alberta, University of Alberta, Donadeo Innovation Centre for Engineering - 9211 116 Street NW, Edmonton, Canada; [3]University 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 Gong[2]; Jun Zhou[2]; Yagang Zhang[2]
[1]Chengdu Medical College, No. 783, Xindu Avenue, Xindu District, Chengdu, Sichuan Province, Chengdu, China; [2]University 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 Semenov[1]; Heiko Richter[1]; Enrico Dietz[1]; Sven Frohmann[1]; Patrick Dern[1]; Xiang Lü[2]; Lutz Schrottke[2]; Bernd Klein[3]; Heinz-Wilhelm Hübers[4]
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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 Lee[1]; Chi Ki Leung[2]; Mingrui Ma[2]; Axel Zeitler*[2]
[1]University of Cambridge, Department of Chemical Engineering and Biotechnolo, United Kingdom; [2]University of Cambridge, Department of Chemical Engineering and Biotechnology, Philippa Fawett 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 Irimajiri[1]; Akira Kawakami[1]; Tadashi Kishimoto[1]; Pham Tien Dat[1]; Atsushi Kanno[2]; Norihiko Sekine[1]; Iwao Hosako[1]
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A Minimalist Terahertz Direct Modulator-based Real-time High-speed Communication System **Tu-P2-54**

Yi Hao*[1]; Ding Kesen[1]; You Jinlong[1]; Wang Wei[2]; Liang Shixiong[2]; Sen Gong[1]; Zhang Yaxin[1]
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Integratable 3D Printed Terahertz Horn Coupler **Tu-P2-55**

Qigejian Wang*[1]; Haisu Li[2]; Syed Daniyal Ali Shah[3]; Boris Kuhlmey[4]; Shaghik Atakaramians[5]
[1]The University of New South Wales, School of Electrical Engineering and Telecommunications (G17), UNSW Sydney, Kensington, Australia; [2]Institute of Lightwave Technology, Beijing Jiaotong University, Institute of Lightwave Technology, Beijing Jiaotong University, Beijing, China; [3]School of EET, UNSW Sydney, School of EET, UNSW Sydney, Kensington, Australia; [4]School of Physics, The University of Sydney, School of Physics, The University of Sydney, Camperdown, Australia; [5]The 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 Wang[2]; Xu Zheng[2]; Chen Li[2]; Xiaoqing Jia[3]; Xuecou Tu[3]; Lin Kang[3]; Jian Chen[3]; Peiheng Wu[3]
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Coatings Thickness Detection On Anisotropic Materials With Sparse Decomposition Method **Tu-P2-60**

Yulei Huang[1]; Weixing Li[1]; Lin Ke[2]; Meiqiang Zhu[1]; Nan Zhang*[3]
[1]China University of Mining and Technology, No1 Daxue Road, Xuzhou, China; [2]Agency for Science, Technology and Research, Singapore, 2 Fusionopolis Way, Singapore, Singapore; [3]Suzhou 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 Zhai[1]; Alexandre Locquet[1]; Cyrielle Roquelet[2]; Jean-Luc Borean[2]; Philip Meilland[2]; David Citrin*[1]
[1]Georgia Tech Europe, 2 Rue Marconi, Metz, France; [2]ArcelorMittal 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 Wolfgang[2]; Martin Spoerk[2]; Johannes G. Khinast[3]; Simon Sawallich[1]; Alexander Michalski[1]
[1]Protemics GmbH, Otto-Blumenthal-Str. 25, Aachen, Germany; [2]Research Center Pharmaceutical Engineering GmbH, Inffeldgasse 13, Graz, Austria; [3]Graz 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

Wednesday 20 September

	Symposia Theatre	Cartier I	Cartier II
08:00-09:00	Plenary 1 8:30-9:15		
09:00-10:00	Plenary 2 9:15-10:00		
10:00-11:00	Oral Session 10:30-12:00	Oral Session 10:30-12:00	Oral Session 10:30-12:00
11:00-12:00			
12:00-13:00	YS Awards 12:00-13:30		
13:00-14:00	Oral Session 13:30-15:30	Oral Session 13:30-15:30	Oral Session 13:30-15:30
14:00-15:00			
15:00-16:00			
16:00-17:00	Oral Session 16:00-18:00	Oral Session 16:00-18:00	Oral Session 16:00-18:00
17:00-18:00			
18:00-19:00			

International I	International II	Third Floor Foyer	Fourth Floor Hall
		AM Break	
Oral Session 10:30-12:00	Oral Session 10:30-12:00		
Oral Session 13:30-15:30	Oral Session 13:30-15:30		
		PM Break	
Oral Session 16:00-18:00	Oral Session 16:00-18:00		

Wednesday 20 September

08:30-09:15	Plenary Session 5 Chairperson(s): François Blanchard	Symposia Theatre
08:30	**High Harmonic Spectroscopy For Many-body Dynamics In Solids** Koichiro Tanaka*[1]; Kento Uchida[2] [1]Kyoto University, Oiwake, Kitashirakawa, Sakyo, Kyoto-shi, Japan; [2]Kyoto University, Oiwake, Kitashirakawa, Sakyo, Kyoto, Japan	We-PL-1-1

09:15-10:30	Plenary Session 6 Chairperson(s): François Blanchard	Symposia Theatre
09:15	**Terahertz Pump/X-ray Probe Experiments At LCLS** Matthias Hoffmann* SLAC National Accelerator Laboratory, 2575 Sand Hill Road, Menlo Park, United States	We-PL-2-1

10:30-12:00	Laser Sources & Detectors V Chairperson(s): James Lloyd-Hughes	Symposia Theatre
10:30	**Broadband GaP Contact Grating Terahertz Source Pumped At 3.9 µM** ABHISHEK GUPTA*[1]; ROKAS JUTAS[2]; CLAUDIA GOLLNER[2]; AUDRIUS PUGZLYS[2]; ANDRIUS BALTUSKA[2]; JOZSEF FULOP[1] [1]ELI-ALPS, Wolfgang Sandner utca 3, SZEGED, Hungary; [2]Photonics Institute, TU Wien, Vienna, Austria	We-AM-1-1
11:00	**A New Screening Methodology For Terahertz Generation Crystals** (Enoch) Sin-Hang Ho*[1]; gabriel Valdivia Berroeta[2]; Zachary Zaccardi[3]; Sydney Pettit[3]; Bruce Palmer[3]; Matthew Lutz[3]; Claire Rader[3]; Brittan Hunter[3]; Natalie Green[3]; Connor Barlow[3]; Coriantumr Wayment[3]; Daisy Harmon[3]; Paige Petersen[3]; Stacey Smith[3]; David Michaelis[3]; Jeremy Johnson[3] [1]Brigham Young University, Brigham Young University, Provo, United States; [2]Boehringer Ingelheim Inc., Connecticut, USA., United States; [3]Brigham Young University, C100 BNSN, Brigham Young University, Provo, United States	We-AM-1-2
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 Zanotto[1]; Dong-Jae Seo[2]; Yujin Nam[2]; Xin Jin[1]; Jisoo Kyoung[2]; Bruno E. Schmidt[3]; Mostafa Shalaby[4]; Luca Razzari[1]
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11:30	**Characterization Of Organic Nonlinear Optical Crystals For THz Applications**	**We-AM-1-4**

Hirohisa Uchida*[1]; Chisa Koyama[2]; Kohei Hayase[3]; Kosuke Murate[3]; Kodo Kawase[3]; Kei Takeya[4]
[1]ARKRAY Inc., Yosuien-nai, 59 Gansuin-cho, Kamigyo-ku, Japan; [2]ARKRAY Inc., Yosuien-nai, 59 Gansuin-cho, Kamigyo-ku, Japan; [3]Nagoya University, Chikusa-ku, Nagoya, Japan; [4]Institute 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**
	Chairperson(s): Shuying Chen	
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 Abdelkader[2]; Jan Ornik[1]; Enrique Castro-Camus[1]; Cornelia M. Keck[2]; Martin Koch[1]
[1]Philipps-Universität Marburg, Renthof 5, Marburg, Germany; [2]Philipps-Universität Marburg, Robert-Koch-Straße 4, Marburg, Germany

11:00	**Towards Single-pulse Terahertz Spectroscopy At MHz Rates**	**We-AM-2-3**

Nicolas Couture*[1]; Wei Cui[2]; Markus Lippl[3]; Rachel Ostic[2]; Défi Jubgang[2]; Aswin Vishnuradhan[2]; Eeswar Yalavarthi[2]; Angela Gamouras[4]; Nicolas Joly[5]; Jean-Michel Ménard[2]
[1]University of Ottawa, 25 Templeton St., Ottawa, Canada; [2]University of Ottawa, 25 Templeton St., Canada; [3]Max Planck Institute for the Science of Light, Staudtstraße 2, Germany; [4]National Research Council Canada, 1200 Montreal Rd., Canada; [5]Friedrich-Alexander University, Schloßplatz 4, Germany

11:15	**The Effect Of Terahertz Scattering On Loss Coefficient In Granular Compacts**	**We-AM-2-4**

Keir N Murphy*[1]; Daniel Markl[2]; Alison Nordon[3]; Mira Naftaly[4]
[1]Univeristy of Strathclyde, 99 George St, Glasgow, United Kingdom; [2]University of Strathclyde, 99 George St, Glasgow, United Kingdom; [3]University of Strathclyde, 99 George St,, Glasgow, United Kingdom; [4]National Physical Laboratory, Hampton Rd, Teddington, United Kingdom

11:30	**Characterization Of Morphology-Dependent Transport In Lead-Halide Perovskite Printed Films Using Time-Resolved Terahertz Spectroscopy**	**We-AM-2-5**

Nils Refvik*[1]; Lennart Reb[2]; Christoph Lindenmeir[2]; Charles Jensen[1]; Howe Simpson[1]; Damini Vrushabendrakumar[3]; Karthik Shankar[3]; Peter Müller-Buschbaum[2]; Frank Hegmann[1]
[1]Department of Physics, University of Alberta, 4-181 CCIS, Edmonton, Canada; [2]TUM School of Natural Sciences, Department of Physics, Chair for Functional Materials, James-Franck-Str. 1 85748, Garching, Germany; [3]Department of Electrical and Computer Engineering, University of Alberta, Donadeo Innovation Centre for Engineering, Edmonton, Canada

11:45	**Enhanced Liquid Sensing With 3D Printed Terahertz Photonic Crystals**	**We-AM-2-6**

Marcel Grzeslo; Jonas Tebart; Rihab Hamad; Andreas Stöhr; Andreas Klein*
University Duisburg-Essen, Lotharstr. 55, Duisburg, Germany

10:30-12:00	**Superconductivity & Condensed Matter** **Chairperson(s): Martin Dressel**	**Cartier II**
10:30	**Higgs Coherence Spectroscopy Of A Parametrically Driven Superconductor**	**We-AM-3-1**

JIGANG WANG*
Ames National Laboratory, Department of Physics and Astronomy, AMES, United States

11:00	**Tunable THz Beam Splitter Based On Superconducting NbN**	**We-AM-3-2**
	Yan Teng; Yuhua Xiao; Shaochen Li; Chun Li; Ling Jiang* Nanjing Forestry university, Nanjing Forestry University, China	
11:15	**THz And Mid-Infrared Linear Dichroism In The High Tc Superconductor 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** **Chairperson(s): Zachary Taylor**	**International I**
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. Pettersson[2]; Diana Goehringer[3]; Thomas Kaiser[1]
[1]Universität Duisburg-Essen, Bismarckstr. 81, Duisburg, Germany; [2]Blekinge Institute of Technology, Valhallavägen 1, Karlskrona, Sweden; [3]Technische Universität Dresden, Nöthnitzer Str. 46, Dresden, Germany

10:30-12:00	**Chemistry, Biology & Medicine III**	**International II**
	Chairperson(s): Angela Vella	
10:30	**Towards The Detection Of Heavy Metals In Plants Using THz**	**We-AM-5-1**

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

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**

13:30-15:30	**Laser Sources & Detectors VI** **Chairperson(s): Matthias Hoffmann**	**Symposia Theatre**
13:30	**Terahertz Hot-Electron Bolometric Detectors Based On Metal/Black-AsP/Graphene FETs: Proposal And Evaluation** Taiichi Otsuji*[1]; Victor Ryzhii[1]; Chao Tang[2]; Maxim Ryzhii[3]; Vladimir Mitin[4]; Michael Shur[5] [1]RIEC, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, Japan; [2]FRIS, Tohoku University, 2-1-1 Katahira, Aoba-ku, Sendai, Japan; [3]University of Aizu, Ikkicho, Aizuwakamatsu, Japan; [4]University at Buffalo, SUNY, 12 Capen Hall, Buffalo, United States; [5]Rensselaer Polytechnic Institute, 110 8th Street, Troy, United States	**We-PM1-1-1**

13:45	**Fast THz Detection By An Asymmetric-Dual-Grating-Gate Graphene-Channel FET Based On Plasmonic And Photothermoelectric Effects**	We-PM1-1-2
	Koichi Tamura*[1]; Shinnosuke Uchigasaki[1]; Hironobu Seki[1]; Chao Tang[1]; Daichi Ogiura[1]; Kento Suwa[1]; Hirokazu Fukidome[1]; Yuma Takida[2]; Hiroaki Minamide[2]; Tetsuya Suemitsu[3]; Taiichi Otsuji[1]; Akira Satou[1] [1]RIEC, Tohoku university, 2-1-1 Katahira, Aoba-ku, Sendai, Japan; [2]RIKEN Center for Advanced Photonics, RIKEN, 519-1399 Aramakiaza-aoba, Aoba-ku, Sendai, Japan; [3]New Industry Creation Hatchery Center, Tohoku University, 6-6-10 Aramakiaza-aoba, Aoba-ku, Sendai, Japan	
14:00	**Influence Of Antenna Parameters On Terahertz Photoelectric Tunable-step Detector Operation**	We-PM1-1-3
	Ran Chen*; Harvey Beere; David Ritchie; Wladislaw Michailow University of Cambridge, Cavendish Laboratory, University of Cambridge, J. J. Thomson Avenue, Cambridge, United Kingdom	
14:15	**Integrated Ultra-Broadband THz Photodiode With Silicon Rod Waveguide Interface**	We-PM1-1-4
	Shuya Iwamatsu*[1]; Muhsin Ali[2]; José Luis Fernandez-Estevez[1]; Marcel Grzeslo[1]; Sumer Makhlouf[3]; Guillermo Carpintero[4]; Andreas Stöhr[1] [1]University of Duisburg-Essen, Lotharstr. 55, Duisburg, Germany; [2]LeapWave Technologies, Avenida Gregorio Peces-Barba 1, Leganés, Spain; [3]Microwave Photonics GmbH, Essener Str. 5, Oberhausen, Germany; [4]Universidad Carlos III de Madrid, Avenida de la Universidad 30, Leganés, Spain	
14:30	**Ultra-Compact And Room-Temperature Focal Plane Assemblies For Lunar Advanced Filter Observing Radiometer For Geologic Exploration**	We-PM1-1-5
	Giacomo Mariani*; Matt Kenyon; Byeongho Eom NASA Jet Propulsion Laboratory, 4800 Oak Grove Dr, Pasadena, United States	
14:45	**BABAR-ERI: Black Array Of Broadband Absolute Radiometers -- Earth Radiation Imager**	We-PM1-1-6
	Christopher Yung*[1]; Cameron Straatsma[2]; Nathan Tomlin[1]; David Harber[2]; Odele Coddington[2]; John Lehman[1]; Michelle Stephens[1] [1]National Institute of Standards and Technology, 325 Broadway, Boulder, United States; [2]Laboratory for Atmospheric and Space Physics, 1234 Innovation Dr, Boulder, United States	

15:00	**On Cold Operation Of An SiGe HBT As A Broadband Low-NEP THz Direct Detector** Janusz Grzyb*[1]; Marcel Andree[1]; Bernd Heinemann[2]; Holger Ruecker[2]; Ullrich Pfeiffer[1] [1]University of Wuppertal, Rainer-Gruenter-Str. 21, Wuppertal, Germany; [2]IHP-Leibniz-Institut fue Innovative Mikroelektronik, Im Technologiepark 25, Frankfurt (Oder), Germany	We-PM1-1-7
15:15	**A Broadband Dual-Polarized Low-NEP SiGe HBT Terahertz Direct Detector For Polarization-Sensitive Imaging** Marcel Andree*[1]; Vishal Jagtap[2]; Janusz Grzyb[2]; Ullrich Pfeiffer[2] [1]University of Wuppertal, Rainer-Gruenter Str. 21, Adersstraße 48, Wuppertal, Germany; [2]University of Wuppertal, Rainer-Gruenter Str. 21, Germany	We-PM1-1-8
13:30-15:30	**Nonlinear THz Phenomena** **Chairperson(s): Guoqian Liao**	**Cartier I**
13:30	**Nonlinear THz Control Of Lead Halide Perovskite Lattices In 3, 2, And 1 Dimensions** Sebastian F. Maehrlein*[1]; Joanna M. Urban[1]; Maximilian Frenzel[1]; Marie Cherasse[1]; Gaell Trippé-Allard[2]; Abdelaziz Jouaiti[3]; Sylvie Ferlay[3]; Emmanuelle Deleporte[2] [1]Fritz Haber Institute of the Max Planck Society, Faradayweg 4-6, Berlin, Germany; [2]Université Paris-Saclay, ENS Paris-Saclay, 4 Av. des Sciences, Gif-sur-Yvette, France; [3]Université de Strasbourg-CNRS, 4 Rue Blaise Pascal, Strasbourg, France	We-PM1-2-1
14:00	**Interplay Between Intervalley Scattering And Impact Ionization Induced By Intense Terahertz Pulse In InSb Thin Films** Carlos Miguel Garcia Rosas*[1]; Xavier Ropagnol[1]; Leo Guiramand[2]; Francois Blanchard[2]; Tsuneyuki Ozaki[1] [1]Institut National de la Recherche Scientifique, 1650 boulevard Lionel Boulet, Varennes, Canada; [2]École de technologie supérieure, 1100 rue Notre-Dame Ouest, Montreal, Canada	We-PM1-2-2
14:15	**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 Walla[2]; Sergey Kovalev[3]; Jan-Christoph Deinert[3]; Igor Ilyakov[3]; Min Chen[3]; Alexey Ponomaryov[3]; Sergey G. Pavlov[4]; Heinz-Wilhelm Hübers[4]; Nikolay V. Abrosimov[5]; Christoph Jungemann[6]; Hartmut.G Roskos[2]; Mark D. Thomson[2]
[1]Goethe University Frankfurt, Max von Laue street 1, Frankfurt am Main, Germany; [2]Goethe University Frankfurt, Max von Laue street 1, Frankfurt, Germany; [3]Helmholtz-Zentrum Dresden-Rossendorf, Bautzner Landstr. 400, Dresden, Germany; [4]German Aerospace Center (DLR), Rutherfordstr. 2, Berlin, Germany; [5]Leibniz-Institut für Kristallzüchtung (IKZ), Max-Born Str. 2, Berlin, Germany; [6]RWTH Aachen, Kackertstr 15, Aachen, Germany

14:30 **Ultrafast Carrier Dynamics In Germanium Driven By Strong THz Field** **We-PM1-2-4**

ABHISHEK GUPTA*[1]; VINEET GUPTA[2]; JANOS BOHUS[2]; KALYANI CHORDIYA[2]; MOUSUMI KAHALY[2]; ASHUTOSH SHARMA[2]; JOZSEF FULOP[2]
[1]ELI-ALPS, Wolfgang Sandner utca 3, SZEGED, Hungary; [2]ELI-ALPS, WOLFGANG SANDNER UTCA 3, SZEGED, Hungary

14:45 **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

15:00 **Martensite Transformation Triggered With Intense THz Pulses** **We-PM1-2-6**

Masaya Nagai*[1]; Yuhei Higashitani[1]; Masaaki Ashida[1]; Koichi Kusakabe[2]; Hirohiko Niioka[3]; Azusa Hattori[4]; Hidekazu Tanaka[4]; Goro Isoyama[5]; Norimasa Ozaki[6]
[1]Osaka Univsersity, Machikaneyama 1-3, Toyonaka, Japan; [2]University of Hyogo, 3-2-1 Kouto, Kamigori, Japan; [3]Osaka University, 2-8, Yamadaoka, Suita, Japan; [4]Osaka, 8-1 Mihogaoka, Ibaraki, Japan; [5]Osaka Univsersity, 8-1 Mihogaoka, Ibaraki, Japan; [6]Osaka Univsersity, 2-1 Yamadaoka, Ibaraki, Japan

13:30-15:30 **Metasurfaces & Plasmonics I** **Cartier II**

Chairperson(s): Jean-Michel Ménard

13:30 **Vectorial Currents And Broadband Terahertz Vector Beams With Optoelectronic Metasurfaces** **We-PM1-3-1**

Jacob Pettine*[1]; Lauren Gingras[2]; Peter Adel[2]; Chun-Chieh Chang[3]; Rohit Prasankumar[4]; Ronald Holzwarth[5]; Antoinette Taylor[3]; Shizeng Lin[3]; Prashant Padmanabhan[3]; Hou-Tong Chen[3]
[1]Los Alamos National Laboratory, PO Box 1663, Los Alamos, United States; [2]Menlo Systems, Bunsenstraße 5, Germany; [3]Los Alamos National Laboratory, PO Box 1663, United States; [4]Intellectual Ventures, Bellevue, United States; [5]Menlo Systems, Martinsried, Germany

14:00	**Continuous 3D Multimodal Buckling Modulated Chiral Responses In Reconfigurable Terahertz Metamaterials**	**We-PM1-3-2**

Donghai Han*; Liuyang Zhang
Xi'an Jiaotong University, No. 28, West Xianning Road, Xi'an, China

14:15	**Sensitivity Enhancement Of THz Meta-Material By Decoupling Its Resonance From Substrate's Fabry-Pérot Oscillations**	**We-PM1-3-3**

Heena Khand*[1]; Rudrarup Sengupta[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

14:30	**1-bit Terahertz Time-space-coding Metasurfaces With Refined Wavefront Modulation For Harmonic Beam Scanning Enhancement**	**We-PM1-3-4**

Munan Yang*[1]; Feng Lan[1]; Yaxin Zhang[1]; Dongfang Shen[2]; Tianyang Song[3]; Luyang Wang[3]; Ziqiang Yang[1]
[1]Yangtze 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; [2]School of Electronic Science and Engineering, University of Electronic Science and Technology of Chi, 404B, Research Institute Building, University of E, Chengdu, China; [3]School 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

14:45	**High-efficiency And Wideband Five-order Geometric-Phase Coding Metasurfaces For Sub-terahertz RCS Reduction**	**We-PM1-3-5**

Haobin Sun*[1]; Feng Lan[2]; Munan Yang[3]; Tianyang Song[3]; Luyang Wang[4]; Yaxin Zhang[4]; Ziqiang Yang[4]
[1]School of Electronic Science and Engineering, University of Electronic Science and Technology, Cheng, NO.2006, XIyuan Ave, West Hi-Tech Zone, Chengdu, Chengdu, China; [2]School of Electronic Science and Engineering, University of Electronic Science and Technology, Cheng, NO. 2006, XIyuan Ave, West Hi-Tech Zone, Chengdu, China; [3]School 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; [4]School of Electronic Science and Engineering, University of Electronic Science and Technology, Cheng, NO. 2006, XIyuan Ave, West Hi-Tech Zone, Chengdu, Chengdu, China

15:00	**Coherent Thermal Emission From Circular N-GaN Surface Relief Gratings**	**We-PM1-3-6**
	Vytautas Janonis*[1]; Evaldas Valasevicius[1]; Pawel Prystawko[2]; Irmantas Kasalynas[1] [1]Center for Physical Sciences and Technology, Saulėtekio ave. 3., Vilnius, Lithuania; [2]Institute of High Pressure Physics PAS, Ul Sokolowska 29 37, Warsaw, Poland	
15:15	**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	
13:30-15:30	**THz Microscopy** **Chairperson(s): Masayoshi Tonouchi**	**International I**
13:30	**Continuous Carrier-Envelope Phase Control For Terahertz-Driven Scanning Probe Microscopy Of 2D Semiconductors**	**We-PM1-4-1**
	Bruno Schuler*[1]; Jonas Allerbeck[1]; Joel Kuttruff[2]; Laric Bobzien[1]; Lysander Huberich[1]; Maxim Tsarev[2] [1]Empa - Swiss Federal Laboratories for Materials Science and Technology, Ueberlandstrasse 129, Duebendorf, Switzerland; [2]University of Konstanz, Universitaetsstrasse 10, Konstanz, Germany	
13:45	**Surface Oxidisation Layer Identification Of Indium Nitride Nanoparticles Via S-SNOM**	**We-PM1-4-2**

Xinyun Liu*[1]; Rajiv Prinja[2]; Tom Vincent[3]; Baset Gholizadeh[3]; Daniel Johnson[3]; Nazir Kherani[4]; Jessica Boland[3]
[1]University of Manchester, 2.323 Photon Science Institute, University of Manchester, Manchester, United Kingdom; [2]Department of Electrical & Computer Engineering, University of Toronto, Department of Electrical & Computer Engineering,, Canada; [3]University of Manchester, Photon Science Institute, University of Manchester, Manchester, United Kingdom; [4]Department of Electrical & Computer Engineering, University of Toronto, Department of Electrical & Computer Engineering, U, Canada

14:00 **Scattering-type Near-Field Optical Microscopy Characterization Of Topological Insulator Bi2Te3 Nanowires** **We-PM1-4-3**

Daniel Johnson*[1]; Tom Vincent[1]; Xinyun Liu[1]; Baset Gholizadeh[1]; P. Schöenherr[2]; Thorsten Hesjedal[2]; Olga Kazakova[3]; Nathaniel Huáng[3]; Jessica Boland[1]
[1]University of Manchester, Photon Science Institute, Alan Turing Building, Manchester, United Kingdom; [2]University of Oxford, Clarendon Laboratory, Parks Road, Oxford, United Kingdom; [3]National Physical Laboratory, Hampton Road, Teddington, United Kingdom

14:15 **Nanoscale Charge Motion In GaAs Nanobars Studied By Terahertz Spectroscopy** **We-PM1-4-4**

Hynek Nemec*[1]; Vova Pushkarev[2]; Tomas Ostatnicky[3]; Petr Kuzel[2]
[1]Institute of Physics of the Czech Academy of Sciences, Na Slovance 2, Praha, Czech Republic; [2]Institute of Physics of the Czech Academy of Sciences, Na Slovance 2, Czech Republic; [3]Charles University, Faculty of Mathematics and Physics, Ke Karlovu 3, Praha, Czech Republic

14:30 **Charge Carrier Profiling With MIR And THz S-SNOM** **We-PM1-4-5**

Cristiane N. Santos*[1]; Édouard Lebouvier[1]; Benjamin Walter[2]; Sophie Eliet[1]; Nicolas Chevalier[3]; Jean-Michel Hartmann[3]; Romain Peretti[1]; Marc Faucher[1]; Jean-François Lampin[1]
[1]IEMN - CNRS, Avenue Henri Poincaré, Villeneuve d'Ascq, France; [2]Vmicro SAS, Avenue Henri Poincaré, Villeneuve d'Ascq, France; [3]Univ. Grenoble Alpes, F-38000 Grenoble, MINATEC Campus, F-38054 Grenoble, France

14:45 **Investigating WTe2 Atomic-Scale Defects In K-space Using THz Scanning Tunneling Microscopy** **We-PM1-4-6**

Vedran Jelic; Stefanie Adams*; Mohamed Hassan; Trevor Hickle; Tyler L. Cocker
Michigan State University, 567 Wilson Rd, East Lansing, United States

15:00	**Multilayer Permittivity And Thickness Extraction In Infrared Scanning Near-field Optical Microscopy Using Deep Learning**	We-PM1-4-7

Dario Siebenkotten*; Clemens Elster; Bernd Kästner
Physikalisch-Technische Bundesanstalt, Abbestraße 2-12, Berlin, Germany

15:15	**A General Approach To THz Near-Field Waveform Sampling in A Lightwave-Driven Scanning Tunneling Microscope Junction**	We-PM1-4-8

Vedran Jelic[1]; Mohamed Hassan*[1]; Stefanie Adams[1]; Kaedon Cleland-Host[1]; Spencer E. Ammerman[2]; Tyler L. Cocker[1]
[1]Michigan State University, 567 Wilson Rd, East Lansing, United States; [2]Swiss Federal Laboratories for Materials Science and Technology, Ueberlandstrasse 129, 8600, Dubendorf, Switzerland

13:30-15:30	**Novel Imaging Techniques II** **Chairperson(s): Gintaras Valusis**	**International II**
13:30	**Depth Reconstruction For Reference-Free THz Holography Based On Physics-Informed Deep Learning**	We-PM1-5-1

Mingjun Xiang*[1]; Hui Yuan[2]; Lingxiao Wang[1]; Kai Zhou[1]; Hartmut Roskos[2]
[1]Frankfurt Institute for Advanced Studies, Ruth-Moufang-Straße 1, Frankfurt am Main, Germany; [2]Goethe-Universität Frankfurt am Main, Ruth-Moufang-Straße 1, Frankfurt am Main, Germany

14:00	**Subsurface Defect Detection And Classification In 3D THz Images Of Glass Fiber Reinforced Thermoplastic Based On 3D Convolutional Neural Network**	We-PM1-5-2

Aya Souliman*; Yashkumar Darji; Matthias Kahl; Michael Möller; Peter Haring Bolívar
University of Siegen, Hölderlinstr. 3, Siegen, Germany

14:15	**Ultra-Wideband Terahertz 3D Imaging With Aspherical Telecentric F-θ Optics**	We-PM1-5-3

Shiva Mohammadzadeh*[1]; Jens Klier[1]; Jörg Seewig[2]; Georg von Freymann[1]; Fabian Friederich[1]
[1]Fraunhofer ITWM, Fraunhofer-Platz 1, Kaiserslautern, Germany; [2]Institute for Measurement and Sensor Technology, RPTU Kaiserslautern, Gottlieb-Daimler-Straße, Gebäude 44, Kaiserslautern, Germany

14:30 **Digital Holographic Diffraction Tomography Based On Physics-enhanced Deep Neural Network Using Continuous-wave Terahertz** **We-PM1-5-4**

Jie Zhao*[1]; Xiaoyu Jin[2]; Dayong Wang[2]; Lu Rong[2]; Yunxin Wang[2]; Shufeng Lin[2]
[1]Beijing University of Technology, Ping Leyuan No. 100, Chaoyang District, Beijing, China; [2]Beijing University of Technology, Ping Leyuan No. 100, Chaoyang District, China

14:45 **Automatic Analysis Of Images From The THz TDS Reflection Scanner** **We-PM1-5-5**

Norbert Pałka*[1]; Kamil Kaminski[1]; Marcin Maciejewski[1]; Piotr Synaszko[2]; Krzysztof Dragan[3]
[1]Military University of Technology, 2 Kaliski Str., Warsaw, Poland; [2]Air Force Institute of Technology, 6 Książe Bolesław Str., Warsaw, Poland; [3]Air Force Institute of Technology, 6 Książe Bolesław Str., Poland

15:00 **Two- And Four-step Phase Shifting Methods For Terahertz Holography** **We-PM1-5-6**

Rusnė Ivaskevičiūtė-Povilauskienė*[1]; Linas Minkevičius[1]; Domas Jokubauskis[1]; Agnieszka Semion[2]; Gintaras Valusis[3]
[1]Center for Physical Sciences and Technology, Saulėtekio Ave. 3, Vilnius, Lithuania; [2]Warsaw University of Technology, 75 Koszykowa, Warsaw, Poland; [3]Center for Physical Sciences and Technology, Sauletekio Ave. 3, Vilnius, Lithuania

15:15 **SiGe MIMO In-line Imager With 12x64 Elements For Real-time 3D Image Acquisition** **We-PM1-5-7**

Matthias Kahl*[1]; Raphael Hussung[2]; Andreas Keil[2]; Esref Turkmen[3]; Diego Moro-Melgar[4]; Oleg Cojocari[4]; Wojciech Debski[3]; Fabian Friederich[2]; Peter Haring Bolivar[1]
[1]University of Siegen, Hoelderlinstrasse 3, Siegen, Germany; [2]Fraunhofer ITWM, Fraunhofer-Platz 1, Kaiserslautern, Germany; [3]Silicon Radar GmbH, Im Technologiepark 1, Frankfurt (Oder), Germany; [4]ACST GmbH, Josef-Bautz-Straße 15, Hanau, Germany

16:00-18:00	High Field THz Generation II Chairperson(s): Luc Bergé	Symposia Theatre
16:00	**500 GHz Field-Resolved Detection In Thin-film Lithium Niobate Devices** Alessandro Tomasino*[1]; Amirhassan Shams-Ansari[2]; Marko Loncar[2]; Ileana-Cristina Benea-Chelmus[1] [1]EPFL, STI IEM HYLAB, Lausanne, Switzerland; [2]Harvard School of Engineering and Applied Sciences, Harvard University, Cambridge, United States	**We-PM2-1-1**
16:30	**Spatiotemporal Imaging Of Near-Fields From A Tilted Pulse Front THz Source** Annika Gabriel*; Mohamed Othman; Matthias Hoffmann; Emilio Nanni SLAC National Accelerator Laboratory, 2575 Sand Hill Rd., Menlo Park, United States	**We-PM2-1-2**
16:45	**High-intensity THz Pulses Generation In Lithium Niobate Using A Reflective Echelon Scheme** Ammar Hideur[1]; Anna Martinez*[2]; Rezki Becheker[3]; Léo Guiramand[4]; François Blanchard[4]; Xavier Ropagnol[4]; Said Idlahcen[3]; Thomas Godin[3]; Jonathan Houard[5]; Domenico Paparo[6]; Angela Vella[5] [1]Université de Rouen Normandy, 675, Avenue de l'Université, Saint Etienne du Rouvray, France; [2]Università 'Federico II', Monte S. Angelo, via Cintia, Italy; [3]Université de Rouen Normandie, 675, Avenue de l'Université, Saint Etienne du Rouvray, France; [4]École de technologie supérieure, Québec H3C 1K3, Montréal, Canada; [5]Université de Rouen Normandie, Avenue de l'Université, Saint Etienne du Rouvray, France; [6]Università 'Federico II', Monte S. Angelo, via Cintia, Napoli, Italy	**We-PM2-1-3**
17:00	**Scaling Tilted-pulse-front Based THz Setups By Control Of The Spatio-temporally Coupled Pump Pulse Parameters** Tobias Kroh[1]; Nicholas Matlis*[2]; Franz Kaertner[2] [1]Deutsches Elektronen-Synchrotron DESY, Notkestr. 85, Hamburg, Germany; [2]Deutsches Elektronen-Synchrotron (DESY), Notkestr. 85, Hamburg, Germany	**We-PM2-1-4**
17:15	**Generation Of 208 KV/cm Peak Field At 2.6 THz In GaP**	**We-PM2-1-5**

Wei Cui*[1]; Eeswar Yalavarthi[1]; Aswin Vishnu Radhan[1]; Mohammad Bashirpour[1]; Angela Gamouras[2]; Jean-Michel Ménard[1]
[1]University of Ottawa, 25 Templeton Street, Ottawa, Canada; [2]National Research Council Canada, 1200 Montreal Road, Ottawa, Canada

17:30	**Lithium Niobate Based Single-Cycle THz Source With 643mW Of Average Power**	**We-PM2-1-6**

Tim Vogel*; Clara J. Saraceno
Ruhr-University Bochum, Universitaetsstr. 150, Postbox 17, ID 2, Bochum, Germany

16:00-18:00	**Spintronics**	**Cartier I**
	Chairperson(s): Melanie Müller	
16:00	**Spin-momentum Locking And Ultrafast Spin-charge Conversion In Ultrathin Epitaxial Bi1-xSbx Topological Insulator**	**We-PM2-2-1**

Jean-Marie GEORGE*[1]; Enzo RONGIONE[2]; Laetitia BARINGTHON[1]; Diana SHE[1]; Gilles PATRIARCHE[3]; Romain LEBRUN[4]; Aristide LEMAITRE[3]; Martina MORASSI[3]; Nicolas REYREN[1]; Francois BERTRAN[5]; Sukhdeep DHILLON[6]; Patrick LE FEVRE[5]; Henri JAFFRES[1]
[1]CNRS, 1 Av Augustin Fresnel, Unite mixte de Physique CNRS Thales, Palaiseau, France; [2]Thales, 1 Av Augustin Fresnel, Unite mixte de Physique CNRS Thales, Palaiseau, France; [3]CNRS, Université Paris-Saclay, CNRS, C2N, Centre de Nanosciences et de Nanotechnologies, Palaiseau, France; [4]Thales, 1 Av Augustin Fresnel, France; [5]Synchrotron Soleil, Synchrotron SOLEIL, L'Orme des Merisiers, Départementale 128, St Aubin, France; [6]CNRS, ENS, Université PSL, CNRS, Sorbonne Université, Un, 2Laboratoire de Physique de l'Ecole Normale Supérieure, Paris, France

16:30	**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 Sengi[2]; Shungo Matsuoka[2]; Kai Matsunaga[2]
[1]Osaka Metropolitan Univesity, 3-3-138 Sugimoto, Sumiyoshi, Osaka, Japan; [2]Osaka City Univesity, 3-3-138 Sugimoto, Sumiyoshi, Osaka, Japan

16:45	**Coated Spintronic Emitters For Improved THz Time-domain Spectroscopy**	**We-PM2-2-3**

Ford Wagner*[1]; Simas Melnikas[2]; Joel Cramer[3]; Djamshid Damry[1]; Chelsea Xia[1]; Kun Peng[1]; Gerhard Jakob[3]; Mathias Klaeui[3]; Simonas Kicas[2]; Michael Johnston[1]
[1]University of Oxford, Clarendon Laboratory, Parks Road, Oxford, United Kingdom; [2]Center for Physical Sciences and Technology, Savanoriu ave.231, Vilnius, Lithuania; [3]Johannes Gutenberg University, Institute of Physics, Mainz, Germany

17:00 **Spintronic Terahertz Emitter On A Fiber Tip** **We-PM2-2-4**

Felix Paries*[1]; Nicolas Tiercelin[2]; Geoffrey Lezier[2]; Matthias Vanwolleghem[2]; Maria-Andromachi Systaki[3]; Gerhard Jakob[3]; Martin Jourdan[3]; Mathias Kläui[3]; Zdenek Kaspar[4]; Tom Seifert[4]; Tobias Kampfrath[4]; Georg von Freymann[5]; Daniel Molter[1]
[1]Fraunhofer ITWM, Fraunhofer-Platz 1, Kaiserslautern, Germany; [2]Université de Lille, CNRS, Centrale Lille, Université de Polytechnique des Hauts-de-France, Av. Henri Poincaré, Lille, France; [3]Institut für Physik, Johannes-Gutenberg-Universität Mainz, Staudingerweg 7, Mainz, Germany; [4]Department of Physics, Freie Universität Berlin, Physikinstitut der FU, Arnimallee 14, Berlin, Germany; [5]Department of Physics and Research Center OPTIMAS, RPTU Kaiserslautern-Landau, Erwin-Schroedinger-Str. 46, Kaiserslautern, Germany

17:15 **Spintronic Coding Surface For THz Generation And Manipulation** **We-PM2-2-5**

Sai Chen[1]; Hanchen Wang[2]; Jingyu Liu[3]; Peng Chen[4]; Mingxuan Zhang*[2]; Xiufeng Han[4]; Caihua Wan[4]; Haiming Yu[1]; Yan Zhang[3]; Xiaojun Wu[2]
[1]Beihang University, Beijing, Beijing, China; [2]Beihang University, No.38 Xueyuan Road, Beijing, China; [3]Capital Normal University, 105 West Third Ring North Road, Haidian District, Beijing, China; [4]Institute of Physics, Chinese Academy of Sciences, No. 8, South Third Street, Zhongguancun, Haidian District, Beijing, China

17:30 **Spintronic Inverse Spin Hall Photomixing Beyond 1THz** **We-PM2-2-6**

Pierre Kolejak[1]; Geoffrey Lezier[1]; Guillaume Ducournau[1]; Jean-François Lampin[1]; Tiercelin Nicolas[1]; Mathias Vanwolleghem*[2]
[1]Institut d'Electronique, de Microélectronique et de Nanotechnologies, Faculté des Sciences et Technologies - Université de LILLE, Avenue Poincaré, Villeneuve d'Ascq, France; [2]Institut d'Electronique, de Microélectronique et de Nanotechnologies, Faculté des Sciences et Technologies - Université de LILLE, Avenue Poincaré, Villeneuve d'Ascq, France

17:45	**THz Emission From Exchange-Coupled Fe/Ru/Ni Spintronic Emitters**	**We-PM2-2-7**
	Roman Adam*[1]; Christian Greb[2]; Daniel Bürgler[3]; Derang Cao[4]; Sarah Heidtfeld[5]; Fangzhou Wang[5]; Jing Cheng[6]; Debamitra Chakraborty[6]; Ivan Komissarov[6]; Hilde Hardtdegen[5]; Martin Mikulics[5]; Markus Buscher[5]; Claus Michael Schneider[5]; Roman Sobolewski[6] [1]Research Centre Julich, Wilhelm-Johnen-Straße, Juelich, Germany; [2]Research Centre Juelich, Wilhelm-Johnen-Straße, Germany; [3]Research Centre Julich, Wilhelm-Johnen-Straße, Julich, Germany; [4]Qingdao University, Qingdao, China; [5]Research Centre Julich, Wilhelm-Johnen-Straße, Germany; [6]University of Rochester, Rochester, United States	
16:00-18:00	**Metasurfaces & Plasmonics II** **Chairperson(s): Jacob Pettine**	**Cartier II**
16:00	**Light-matter Coupling Between Organic Molecules And A THz Metasurface**	**We-PM2-3-1**
	Ahmed Jaber*[1]; Michael Reitz[2]; Avinash Singh[3]; Ali Maleki[1]; Yongbao Xin[4]; Brian Sullivan[4]; Ksenia Dolgaleva[1]; Robert Boyd[1]; Claudiu Genes[2]; Jean-Michel Ménard[1] [1]University of Ottawa, 75 Laurier Ave E, Ottawa, Canada; [2]Max Planck Institute for the Science of Light, Staudtstraße 2, 91058, Erlangen, Germany; [3]University of Ottawa, 75 Laurier Ave E, Canada; [4]Iridian Spectral Technologies Ltd, 2700 Swansea Crescent, Ottawa, Canada	
16:30	**Simultaneous Terahertz Generation-manipulation By Nonlinear Metasurfaces**	**We-PM2-3-2**
	Yongchang Lu[1]; Qingwei Wang[1]; Xi Feng[1]; Li Niu[1]; Xueqian Zhang[1]; Quan Xu[1]; Yanfeng Li[1]; Jianqiang Gu[1]; Chunmei Ouyang[1]; Zhen Tian[1]; Weili Zhang[2]; Jiaguang Han*[3] [1]Tianjin University, Weijin Road 92#, China; [2]Oklahoma State University, Stillwater 74078, United States; [3]Tianjin University, Weijin Road 92#, Tianjin, China	
16:45	**Generating Terahertz Perfect Vortex Beam Via All-dielectric Metasurface**	**We-PM2-3-3**
	Fan Huang*[1]; Wanying Liu[1]; Jianqiang Gu[1]; Quan Xu[1]; Quanlong Yang[2] [1]Center for Terahertz Waves and College of Precision Instrument and Optoelectronics Engineering, Tian, No.92 Weijin Road, Nankai District, Tianjin, China, Tianjin, China; [2]School of Physics and Electronics, Central South University, South Lushan Road, Changsha, Hunan, Changsha, China	

17:00	**Broadband THz Bandpass Filters Based On Multi-layered Metasurfaces** Ali Maleki*[1]; Avinash Singh[2]; Ahmed Jaber[2]; Wei Cui[2]; Yongbao Xin[3]; Brian Sullivan[3]; Robert W. Boyd[2]; Jean-Michel Menard[1] [1]University of Ottawa, 25 Templeton St, Ottawa, Canada; [2]University of Ottawa, 25 Templeton St, Canada; [3]Iridian Spectral Technologies Ltd, 25 Templeton St, Canada	**We-PM2-3-4**
17:15	**Polarization Selective Dual Frequency Metasurface-based Resonant Thermal Terahertz Emitters On N-GaAs/GaAs** Ignas Grigelionis*[1]; Vladislovas Cizas[1]; Kestutis Ikamas[2]; Vytautas Jakstas[1]; Barbora Skelaite[2]; Domas Jokubauskis[1]; Andrius Biciunas[1]; Andrzej Urbanowicz[1]; Marius Treideris[1]; Renata Butkute[1]; Linas Minkevicius[1] [1]Center for Physical Sciences and Technology, Sauletekio ave. 3, Vilnius, Lithuania; [2]Vilnius University, Sauletekio ave. 3, Vilnius, Lithuania	**We-PM2-3-5**
17:30	**Electrically Tunable THz Metasurfaces Enabling Near-Unity Modulation Depth** Hou-Tong Chen*[1]; Chun-Chieh Chang[1]; Hichem Guerboukha[2]; Daniel Mittleman[2]; John Reno[3]; Michael Lilly[3]; Sadhvikas Addamane[3] [1]Los Alamos National Laboratory, PO Box 1663, MS K771, Los Alamos, United States; [2]Brown University, School of Engineering, Providence, United States; [3]Sandia National Laboratories, Center for Integrated Nanotechnologies, Albuquerque, United States	**We-PM2-3-6**
17:45	**Manipulation Of Terahertz Waves With A Right- Or Left-handed 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**
16:00-18:00	**Integrated Technologies 1** **Chairperson(s): Hongxin Zeng**	**International I**
16:00	**Single-Mode Rib Waveguide For The Terahertz Range Using 3D Printed Alumina**	**We-PM2-4-1**

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

16:30 **Characterization Of Flexible Micro Coaxial Cables In The WR03 Band** **We-PM2-4-2**

Benedikt Sievert*; Daniel Erni; Andreas Rennings
University of Duisburg-Essen, General and Theoretical Electrical Engineering, Bismarckstraße 81, Duisburg, Germany

16:45 **0.75—1.1THz Waveguide-Integrated Amplitude Modulator Based On InAs Photo-excitation** **We-PM2-4-3**

Julien Guise[1]; Hajasoa 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

17:00 **Frequency-dependent Resolution Using Asymmetric Terajet Microscopy** **We-PM2-4-4**

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

17:15 **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

17:30	**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 Michailow[2]; Matthew Tan[2]; Mohammed Salih[1]; Lianhe Li[1]; Harvey Beere[2]; David Ritchie[2]; Edmund Linfield[1]; Giles Davies[1]; John Cunningham[1] [1]University of Leeds, Woodhouse, Leeds, United Kingdom; [2]Cavendish Laboratory, Cavendish Laboratory, Cambridge, United Kingdom	
17:45	**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. Fiitzgerald[1]; Barry Cense[2]; Gavin Swartz[3]; Vincent Wallace[1] [1]Department of Physics, The University of Western Australia, 35 Stirling Hwy,, Crawley, Perth, Australia; [2]EECE, The University of Western Australia, 35 Stirling Hwy,, Crawley, Perth, Australia; [3]Division of Optometry, School of Allied Health, The University of Western Australia, 35 Stirling Hwy,, Crawley, Perth, Australia	
16:00-18:00	**Non-Destructive Testing I** **Chairperson(s): Shunichi Futatsumori**	**International II**
16:00	**Ancient Enamel Plate Characterized By Time Domain Spectro Imaging**	**We-PM2-5-1**
	Patrick Patrick Mounaix*[1]; Philip Taday[2]; Frederic Fauquet[3]; Rémy Chapoulie[4]; Aurélie Mounier[5]; Ayed Ben Amara[6] [1]University of Bordeaux, 351 cours de la Libération cedex, Talence, France; [2]Teraview Ltd, Cambridge, CB4 0DS, UK, United Kingdom; [3]Bordeaux University, 2Laboratoire IMS- UMR 5218 CNRS, Université Bordea, France; [4]Montaigne University, 3Archéosciences Bordeaux : Matériaux, Temps, Image, France; [5]Montaigne University, Archéosciences Bordeaux : Matériaux, Temps, Image, France; [6]Montaigne University, archéosciences Bordeaux : Matériaux, Temps, Image, France	
16:15	**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	

16:30	**Free-space Terahertz Spectrum Analysis With An Optoelectronic Hybrid System**	**We-PM2-5-3**
	Alexander Theis*; Michael Kocybik; Georg von Freymann; Fabian Friederich Fraunhofer ITWM, Fraunhofer-Platz 1, Kaiserslautern, Germany	
16:45	**Sub-Diffraction-Limit Mm-Wave Near-Field Imaging Using Truncated Silicon Rod**	**We-PM2-5-4**
	Yuma Kawamoto*[1]; Daniel Gallego[2]; Alejandro Rivera-Lavado[2]; Tadao Nagatsuma[1]; Daniel Headland[3]; Guillermo Carpintero[3] [1]Osaka University, 1-3 Machikaneyama, Toyonaka, Japan; [2]LeapWave Technologies, Parque Tecnológico, Av. Gregorio Peces Barba, 1, Leganes, Spain; [3]Universidad Carlos III de Madrid, Av. de la Universidad, 30, Leganes, Spain	
17:00	**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	
17:15	**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	
17:30	**Carbon Nanotube-based Transparent Stretchable Millimeter-wave--infrared Imager**	**We-PM2-5-7**
	HONGHAO LI*[1]; Norika Takahashi[2]; Yoshiaki Togami[2]; Masayuki Hamanaka[2]; Kou LI[2]; Yukio Kawano[2] [1]Chuo University, 1-13-27, Kasuga, Bunkyo-ku, Japan; [2]Chuo university, 1-13-27, Kasuga, Bunkyo-ku, Japan	
17:45	**THz-TDS With A GHz Single-cavity Dual-comb Laser**	**We-PM2-5-8**
	Justinas Pupeikis*[1]; Benjamin Willenberg[2]; Christopher Phillips[2]; Sandro Camenzind[2]; Ursula Keller[2]; Robert Kohlhaas[3]; Lars Liebermeister[3]; Bjorn Globisch[3] [1]ETH Zurich, Auguste-Piccard-Hof 1, Zurich, Switzerland; [2]ETH Zurich, Auguste-Piccard-Hof 1, Switzerland; [3]Fraunhofer Institute for Telecommunications, Einsteinufer 37, Germany	

Thursday 21 September

International I	International II	Third Floor Foyer	Fourth Floor Hall
		AM Break	
Oral Session 10:30-12:00	Oral Session 10:30-12:00		
Oral Session 13:30-15:30	Oral Session 13:30-15:30		
		PM Break	
Oral Session 16:00-18:00	Oral Session 16:00-18:00		
		Poster Sessions 18:00-19:30	Poster Sessions 18:00-19:30

Thursday 21 September

08:30-09:15	Plenary Session 7 Chairperson(s): Chiko Otani	Symposia Theatre
08:30	**Electrodynamics Of Solids: Low-Energy Spectroscopy Of Correlated Electrons** Martin Dressel* Universität Stuttgart, 1. Physikalisches Institut, Pfaffenwaldring 57, Stuttgart, Germany	Th-PL-1-1

09:15-10:30	Plenary Session 8 Chairperson(s): Chiko Otani	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 Chairperson(s): Sukhdeep Dhillon	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.**	Th-AM-1-3

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 Terahertz Integrated Circ, Huzhou, China

11:15 **Monolithically Integrated Optically Pumped InP-based THz-Mixer** **Th-AM-1-4**

Marcel Grzeslo*[1]; Andrej Lavrič[2]; Tim Brüning[1]; Jonas Tebart[1]; Shuya Iwamatsu[1]; Jose Luis Fernández Estévez[1]; Andreas Stöhr[1]
[1]University of Duisburg-Essen, Lotharstraße 55, Duisburg, Germany; [2]University of Ljubljana, Trzaska cesta 25, Ljubljana, Slovenia

11:30 **Terahertz Wave Generated By Photomixing Of Dual-wavelength Laser Lights Injection-locked To A 560-GHz-spacing Soliton Microcomb For THz Wireless Communication** **Th-AM-1-5**

Yu Tokizane*[1]; Shota Okada[2]; Kenji Nishimoto[2]; Hiroki Kishikawa[2]; Yasuhiro Okamura[2]; Naoya Kuse[2]; Atsushi Kanno[3]; Shintaro Hisatake[4]; Takeshi Yasui[2]
[1]Tokushima University, 2-1, Minami-Josanjima-cho, Tokushima, Japan; [2]Tokushima University, Tokushima, Japan; [3]Nagoya Institute of Technology, Aichi, Japan; [4]Gifu University, Gifu, Japan

11:45 **Fiber-coupled THz Transceiver Based On Rhodium-doped InGaAs With 6.5 THz Bandwidth And Up To 106 µW Emitted THz Power** **Th-AM-1-6**

Alexander Dohms*; Steffen Breuer; Shahram Keyvaninia; Marko Gruner; Lars Liebermeister; Martin Schell; Robert Kohlhaas
Fraunhofer Heinrich Hertz Institute, Einsteinufer 37, Berlin, Germany

10:30-12:00	Ultrafast & Nonlinear Phenomena II Chairperson(s): Klaas-Jan Tielrooij	Cartier I
10:30	**Bloch Wavefunction Interferometry Of Driven Electron-Hole States** Seamus O'Hara*[1]; Joseph Costello[2]; Qile Wu[3]; Kenneth West[4]; Loren Pfeiffer[4]; Mark S. Sherwin[5] [1]University of California, Santa Barbara, 717 Gayley Walk Apt 101, Goleta, United States; [2]Universtiy of California, Santa Barbara, Broida Hall, Santa Barbara, United States; [3]University of California, Santa Barbara, Broida Hall, United States; [4]Princeton University, B404 Engineering Quad, United States; [5]Univeristy of California, Santa Barbara, Broida Hall, Santa Barbara, United States	Th-AM-2-1
11:00	**Ultrafast Expansion Of Electron-hole Plasma In GaAs Probed By THz Radiation** Tomas Ostatnický*[1]; Filip Klimovič[1]; Tinkara Troha[2]; Filip Kadlec[2]; Petr Kuzel[2]; Hynek Němec[2] [1]Charles University, Faculty of Mathematics and Physics, Ke Karlovu 3, Praha 2, Czech Republic; [2]Institute of Physics ASCR, Na Slovance 2, Praha 8, Czech Republic	Th-AM-2-2
11:15	**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	Th-AM-2-3
11:30	**Attoclocking Delocalized Bloch Electrons With Multi-terahertz Fields** Josef Freudenstein*[1]; Markus Borsch[2]; Manuel Meierhofer[1]; Dmytro Afanasiev[1]; Christoph Peter Schmid[1]; Fabian Sandner[1]; Marlene Liebich[1]; Anna Girnghuber[1]; Matthias Knorr[1]; Mackillo Kira[2]; Rupert Huber[1] [1]University of Regensburg, Universitätsstraße 31, Regensburg, Germany; [2]University of Michigan, 1301 Beal Avenue, Ann Arbor, United States	Th-AM-2-4
11:45	**Ultrafast Dynamics Of Coulomb Electric Field Contraction by Relativistic Electron Bunch**	Th-AM-2-5

MAKOTO NAKAJIMA*[1]; Masato Ota[1]; Koichi Kan[2]; Youwei Wang[1]; Verdad C Agulto[1]; Kosaku Kato[1]; Yasunobu Arikawa[1]; Tatsunosuke Matsui[3]; Makoto Asakawa[4]
[1]Osaka university, 2-6 Yamadaoka, Suita, Japan; [2]Osaka university, Ibaraki, Ibaraki, Japan; [3]Mie University, Mie, Japan; [4]Kansai University, Suita, Japan

10:30-12:00	Condensed Matter & Semimetals Chairperson(s): Sarah Houver	Cartier II
10:30	**Investigation Of Terahertz Tunable High Q-factor BIC Resonance** Xiaoyong He* Shanghai Normal University, , No. 100 Guilin Road, Shanghai, China, Shanghai, China	Th-AM-3-1
10:45	**Electrical Properties Of Thin Layers Of III/V Semiconductors Obtained By Terahertz Reflectometry And Transmissometry** Konstantin Wenzel*[1]; Steffen Breuer[1]; Robert B. Kohlhaas[1]; Martin Schell[2]; Lars Liebermeister[2] [1]Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute, Einsteinufer 37, Berlin, Germany; [2]Fraunhofer Institute for Telecommunications, Heinrich Hertz Institute, Einsteinufer 37, Hardenbergstraße 36, 10623 Berlin, Berlin, Germany	Th-AM-3-2
11:00	**Strong Proton-Phonon Coupling In Perovskite-type Electrolyte Of Proton-Conducting Fuel Cell** Masaya Nagai*[1]; Hikaru Takehara[1]; Masaaki Ashida[1]; Yuji Okuyama[2]; Yukimune Kani[3] [1]Osaka University, Machikaneyama 1-3, Toyonaka, Japan; [2]University of Miyazaki, 1-1 Gakuenkibanadai-nishi, Miyazaki, Japan; [3]Panasonic Holdings Corporation, 3-1-1 Yagumo-nakamachi, Moriguchi, Japan	Th-AM-3-3
11:15	**Terahertz Spectroscopic Study Of Vibrational Density Of States In LiCl-6H2O** Soo Han Oh*[1]; Dan Kyotani[1]; Yasuhiro Fujii[2]; Suguru Kitani[3]; Yohei Yamamoto[1]; Tatsuya Mori[1] [1]Department of Materials Science, University of Tsukuba, 1-1-1 Tennodai, Tsukuba, Ibaraki, Japan; [2]Department of Physical Sciences, Ritsumeikan University, 1-1-1 Noji-higashi, Kusatsu, Shiga, Japan; [3]Laboratory for Materials and Structures, Tokyo Institute of Technology, 4259 Nagatsuta-cho, Midori-ku,, Yokohama, Kanagawa, Japan	Th-AM-3-4

11:30	**Charge-Carrier Dynamics In Mixed Lead-Tin 2D/3D Metal Halide Perovskites** Jake Hutchinson[1]; Edoardo Ruggeri[2]; Samuel Stranks[2]; Rebecca Milot*[3] [1]University of Warwick, Department of Physics, Gibbet Hill Road, United Kingdom; [2]University of Cambridge, Cambridge, United Kingdom; [3]University of Warwick, Department of Physics, Gibbet Hill Road, Coventry, United Kingdom	**Th-AM-3-5**
11:45	**Tailoring Ultrafast Carrier Dynamics In GeS And GeSe Via Cu Intercalation** Sepideh Khanmohammadi[1]; Kateryna Kushnir Friedman*[1]; Catherine Tran[2]; Srihari Kastuar[3]; Erika Colin-Ulloa[1]; Chinedu Ekuma[4]; Kristie Koski[5]; Lyubov Titova[1] [1]Worcester Polytechnic Institute, 100 Institute Rd, Worcester, United States; [2]University of California Davis, 1 Shields Ave, Davis, United States; [3]Lehigh University, 27 Memorial Dr W, Bethlehem, United States; [4]Lehigh university, 27 Memorial Dr W, Bethlehem, United States; [5]UC Davis, 1 Shields Ave, Davis, United States	**Th-AM-3-6**
10:30-12:00	**Integrated Technologies 2** **Chairperson(s): Withawat Withayachumnankul**	**International I**
10:30	**Terahertz Meta-chips And High-speed Communication Systems** Hongxin Zeng*; Yaxin Zhang; Sen Gong; Lin Huang; Ziqiang Yang 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	**Th-AM-4-1**
11:00	**Quasi-Optical LO Coupling Validation For A Planarly Integrated 2x2 Pixel Heterodyne Array At 1.95 THz** Sven van Berkel*[1]; Alain Maestrini[1]; Cecile Jung-Kubiak[1]; Sjoerd Bosma[2]; Maria Alonso-delPino[2]; Darren Hayton[1]; Jacob Kooi[1]; Jose Siles[1]; Nuria Llombart[2]; Imran Mehdi[1]; Goutam Chattopadhyay[1] [1]NASA Jet Propulsion Laboratory / California Institute of Technology, 4800 Oak Grove Drive, Pasadena, United States; [2]Delft University of Technology, Mekelweg 4, Delft, Netherlands	**Th-AM-4-2**
11:15	**Full-Duplex Beamforming In The Sub-Terahertz Regime**	**Th-AM-4-3**

Subhajit Karmakar*[1]; Atsutse Kludze[2]; Jacques Doumani[3]; Andrey Baydin[3]; Junichiro Kono[4]; Yasaman Ghasempour[5]
[1]Princeton University, Department of Electrical and Computer Engineering, Princeton University, Princeton NJ 08544, USA, Princeton, United States; [2]Princeton University, Department of Electrical and Computer Engineering,, Princeton, United States; [3]Rice University, Department of Electrical and Computer Engineering, Houston, United States; [4]Rice University, Department of Electrical and Computer Engineering, Department of Physics and Astronomy, Houston, United States; [5]Princeton 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 Clochiatti[1]; Robin Kress[1]; Enes Mutlu[1]; Florian Vogelsang[2]; Werner Prost[1]; Nils Pohl[2]; Nils Weimann[1]
[1]University of Duisburg-Essen, Lotharstrasse 55, Duisburg, Germany; [2]University 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 Franceschet[2]; Bruno Maffei[3]; Marco De Petris[4]; Luca Lamagna[4]; Jon Gudmundsson[5]; Marco Bersanelli[2]
[1]Institut d'astrophysique spatiale, 121 Rue Jean Teillac, Bures sur Yvette, France; [2]Dipartimento di Fisica, Università degli Studi di Milano & INFN, Via Giovanni Celoria 16 - 20133 Milano (Lombardia), Italy; [3]Institut d'astrophysique spatiale, 121 Rue Jean Teillac, 91440 Bures-sur-Yvette, France; [4]Dipartimento di Fisica, Università La Sapienza & INFN, Piazzale Aldo Moro, 2 - 00185 Roma, Italy; [5]The Oskar Klein Centre, Department of Physics, Stockholm University, SE-106 91 Stockholm, Sweden, Sweden

10:30-12:00	**Non-Destructive Testing II** **Chairperson(s): Patrick Mounaix**	**International II**
10:30	**Scattering Measurements With A Moving Human At 60 And 300 GHz**	**Th-AM-5-1**

Tobias Doeker*[1]; Daniel Mittleman[2]; Thomas Kürner[1]
[1]Technische Universität Braunschweig, Schleinitzstr. 22, Braunschweig, Germany; [2]Brown University, Box D, Providence, United States

10:45 **Evaluation Of Small Bolt And Nut Detection Performance Using Airport Runway Foreign Object Debris Detection System Based On A 96-GHz Millimeter-Wave Radar System** **Th-AM-5-2**

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

11:00 **CW-THz System For High Scan Rate Inline Thickness Measurements** **Th-AM-5-3**

Niklas Schulz*; Carsten Brenner; Lisa C. Kreuzer; Nils Surkamp; Martin R. Hofmann
Ruhr University Bochum, Universitätsstr. 150, Bochum, Germany

11:15 **Influence Of Surface Roughness On Material Classification For Reflective THz-TDS Measurements** **Th-AM-5-4**

Sebastian Gassel*; Martin R. Hofmann; Carsten Brenner
Ruhr University Bochum, Universitätsstrasse 150, Bochum, Germany

11:30 **Bound States In The Continuum Enabled THz Dielectric Metasurface For High Sensitivity Refractive-Index Sensing** **Th-AM-5-5**

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

11:45 **Probing Live PN Junctions With Terahertz Waves** **Th-AM-5-6**

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

13:30-15:30	High Field THz Generation III Chairperson(s): Alessandro Tomasino	Symposia Theatre
13:30	**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**
14:00	**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**
14:15	**Frequency-resolved Measurement Of Two-color Air Plasma Terahertz Emission** Emmanuel Abraham*[1]; Eiji Hase[2]; Jérôme Degert[1]; Eric Freysz[1]; Takeshi Yasui[3] [1]Bordeaux University, 351 cours de la Libération, Talence, France; [2]Tokushima University, 2-1 Minami-Josanjima, Tokushima, Japan; [3]Tokushima Universit, 2-1 Minami-Josanjima, Tokushima, Japan	**Th-PM1-1-3**
14:30	**Evaluation Of Methods For Measuring The Field Of An Intense THz Pulse** xavier ropagnol*[1]; Carlos Miguel Garcia Rosas[2]; Hirohisa Uchida[3]; François Blanchard[4]; Tsuneyuki Ozaki[2] [1]INRS-EMT, 1650 boulevard lionel boulet, Montreal, Canada; [2]INRS, 1650 boulevard lionel boulet, 1650 boulevard lionel boulet, Varennes, Canada; [3]Arkray INC, Kamigyo-Ku,, Kyoto, Japan; [4]ÉTS, 1100 rue notre dame, Montreal, Canada	**Th-PM1-1-4**
14:45	**DC Electric Field Assisted Precise Control Of THz Radiation From Femtosecond Laser Plasma Filament In Air** Tie-Jun Wang*[1]; Juan Long[2]; Yuxin Leng[2]; Ruxin Li[2]; See Leang Chin[3] [1]Chinese Academy of Sciences, No. 390 Qinghe Road, Jiading District, Shanghai, China; [2]Chinese Academy of Sciences, No. 390 Qinghe Road, Jiading District, China; [3]Laval University, 2375 rue de la Terrasse, Canada	**Th-PM1-1-5**
15:00	**Single-shot Waveform Detection Of Air-plasma Based THz Sources**	**Th-PM1-1-6**

	Alexander Ohrt; Siyan Zhou; Long Cheng; Yunhong Ding; Peter Uhd Jepsen; Binbin Zhou* Department of Electrical and Photonics Engineering, Technical University of Denmark, Ørsteds Plads, Building 343, Kgs. Lyngby, Denmark	
15:15	**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**	**Th-PM1-1-7**
	Yue Sun*[1]; Kai Chen[1]; Kai Zhong[1]; Degang Xu[2]; Chao Yan[1]; Shuai Liu[1]; Yuye Wang[1]; Jining Li[1]; Jiyong Yao[3]; Jianquan Yao[1] [1]School of Precision Instruments and Optoelectronics Engineering, Tianjin University, Tianjin, China, Tianjin, China; [2]School of Precision Instruments and Optoelectronics Engineering,, Tianjin University, Tianjin, China, Tianjin, China; [3]Beijing Center for Crystal Research and Development, Chinese Academy of Sciences, Beijing, China	
13:30-15:30	**Gyro-Oscillators and Amplifiers I** **Chairperson(s): Stefano Alberti**	**Cartier I**
13:30	**Progress In High Power Gyrotron Development Projects At KIT**	**Th-PM1-2-1**
	Gerd Gantenbein*[1]; Konstantinos Avramidis[2]; Benjamin Ell[1]; Lena Delpech[3]; Lukas Feuerstein[1]; Stefan Illy[1]; John Jelonnek[1]; Jianbo Jin[1]; Laurent Krier[1]; Heinrich Laqua[4]; Tobias Ruess[1]; Tomasz Rzesnicki[1]; Sebastian Stanculovic[1]; Manfred Thumm[1] [1]Karlsruhe Institute of Technology, Kaiserstrasse 12, Karlsruhe, Germany; [2]National and Kapodistrian University of Athens, Zografou GR-15784, Athens, Greece; [3]CEA, Cedex, Saint-Paul-lez-Durance, France; [4]Max Planck Institute for Plasma Physics, Wendelsteinstrasse 1, Greifswald, Germany	
13:45	**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	
14:00	**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 Avramidis[2]; Ioannis Chelis[2]; Benjamin Ell[1]; Lukas Feuerstein[1]; Gerd Gantenbein[1]; Zisis Ioannidis[3]; John Jelonnek[1]; Jianbo Jin[1]; George Latsas[2]; Alexander Marek[1]; Dimitrios Peponis[2]; Tomasz Rzesnicki[1]; Manfred Thumm[1]; Ioannis Tigelis[2]; Chuanren Wu[1]
[1]Karlsruhe Institute of Technology (KIT), Kaiserstr. 12, Karlsruhe, Germany; [2]National and Kapodistrian University of Athens (NKUA), University Campus, Athens, Greece; [3]National and Kapodistrian University of Athens (NKUA), Euripou Campus, Psachna, Greece

14:15 **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 Avramidis[2]; Ioannis Chelis[2]; Gerd Gantenbein[1]; Lukas Feuerstein[1]; Stefan Illy[1]; John Jelonnek[1]; Jianbo Jin[1]; Alberto Leggieri[3]; Francois Legrand[3]; Christophe Lievin[3]; Alexander Marek[1]; Tobias Ruess[1]; Sebastian Stanculovic[1]; Manfred Thumm[1]
[1]Karlsruhe Institute of Technology (KIT), Kaiserstr. 12, Karlsruhe, Germany; [2]National and Kapodistrian University of Athens (NKUA), University Campus, Athens, Greece; [3]THALES, Vélizy-Villacoublay, France

14:30 **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

14:45 **Nonlinear Theory Of Beam-wave Interaction In Gyrotron Cavities With Gradual And Abrupt Transitions** **Th-PM1-2-6**

Oleksandr Maksymenko*[1]; Vitalii Shcherbinin[1]; Manfred Thumm[2]; John Jelonnek[2]
[1]Institute 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; [2]Institute for Pulsed Power and Microwave Technology, Karlsruhe Institute of Technology (KIT), Kaiserstr. 12, 76131 Karlsruhe, Germany, Eggenstein-Leopoldshafen, Germany

15:00 **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

15:15	**A High-gain MMIC Power Amplifier Covering 55-115 GHz Based On 50-nm GaN HEMTs** Bingfei Dou*[1]; Qin Ge[2]; Jing Liu[3]; Xiaojiang Yao[4] [1]Hefei Science of China Microelectronics Innovation Center Co., Ltd,, 5089, Wangjiang West Road, Hefei, China, Hefei, China; [2]Industry and Information Technology Bureau of Shenzhen Municipality, Fuzhong 3rd Road, Futian, Shenzhen, Shenzhen, China; [3]Hefei Science of China Microelectronics Innovation Center Co., Ltd,, Hefei, 230000, China, Hefei, China; [4]College of Integrated Circuit Science and Engineering, Nanjing University of Posts and Telecommunica, Nanjing, 210000, China, China	**Th-PM1-2-8**
13:30-15:30	**Spintronics, Plasmonics & Valleytronics** **Chairperson(s): Jean-Marie George**	**Cartier II**
13:30	**High-power Operation Of Spintronic Terahertz Emitters For THz-field-driven Scanning Probe Microscopy At MHz Repetition Rates** Alkisti Vaitsi[1]; Vivien Sleziona[1]; Luis E. Parra Lopéz[1]; Tom S. Seifert[2]; Fabian Schulz[3]; Natalia Martín Sabanés[4]; Martin Wolf[1]; Tobias Kampfrath[2]; Melanie Müller*[1] [1]Fritz Haber Institute of the Max Planck Society, Faradayweg 4-6, Berlin, Germany; [2]Freie Universität Berlin, Arnimallee 14, Berlin, Germany; [3]CIC NanoGUNE-BRTA, Tolosa Hiribidea 76, San Sebastian, Spain; [4]IMDEA Nanoscience, Faraday 9, Madrid, Spain	**Th-PM1-3-1**
14:00	**Terahertz Time Domain Spectroscopy Of A Single Split Ring Resonator Coupled To An Amino Acid Crystal** Théo Hannotte*; Adrien Pillet; Jean-François Lampin; Romain Peretti IEMN, Cité Scientifique Avenue Henri Poincaré CS 60069, Villeneuve d'Ascq, France	**Th-PM1-3-2**
14:15	**Terahertz Plasmons In Periodic Structures Of Epitaxial Graphene** Arvind Singh*[1]; Hynek Nemec[1]; Jan Kunc[2]; Petr Kuzel[1] [1]Institute of Physics Czech Academy of Sciences, Na Slovance 2, 18200 Prague 8, Czech Republic, Prague, Czech Republic; [2]Faculty of Mathematics and Physics Charles University, Ke Karlovu 3, Prague 2 12116, Czech Republic, Czech Republic	**Th-PM1-3-3**
14:30	**Different Terahertz Phases Of AlGaN/GaN Grating-Gate Plasmonic Crystals**	**Th-PM1-3-4**

Pavlo Sai[1]; M. Dub[1]; V. Korotyeyev[2]; M. Filipiak[1]; M. Słowikowski[1]; Yu. Ivonyak[1]; D. But[1]; G. Cywinski*[1]; W. Knap[1]
[1]Institute of High Pressure Physics of the Polish Academy of Sciences, ul. Sokolowska 29/37, Warsaw, Poland; [2]V. Ye. Lashkaryov Institute of Semiconductor Physics (ISP), NASU, 41 pr. Nauki, Kyiv, Ukraine

14:45 **Spintronic THz Emitters Based On Transition Metals And Semi-metals/Pt Multilayers** **Th-PM1-3-5**

Sylvain Massabeau*[1]; Jacques Hawecker[2]; Enzo Rongione[1]; Anastasios Markou[3]; Sachin Krishnia[1]; Florian Godel[1]; Sophie Collin[1]; Romain Lebrun[1]; Jérôme Tignon[2]; Juliette Mangeney[2]; Thomas Boulier[2]; Jean-Marie George[1]; Claudia Felser[3]; Henri Jaffrès[1]; Sukhdeep Dhillon[2]
[1]Unité Mixte de Physique CNRS, Thales, Université Paris-Saclay (UMPHY), 1 Avenue Augustin Fresnel, Palaiseau, France; [2]Laboratoire de Physique de l'Ecole Normale Supérieure, ENS, Université PSL, CNRS, Sorbonne Universit, 24 Rue Lhomond, Paris, France; [3]Max-Planck-Institute for Chemical Physics of Solids, Nöthnitzer Straße 40, Dresden, Germany

15:00 **Layer-controlled Nonlinear Terahertz Valleytronics In Two-dimensional Semi-metal And Semiconductor PtSe2** **Th-PM1-3-6**

Minoosh Hemmat*[1]; Sabrine Ayari[1]; Martin Micica[1]; Hadrien Vergnet[1]; Guo Shasha[2]; Mehdi Arfaoui[3]; Xuechao Yu[4]; Daniel Vala[5]; Adrien Wright[1]; Kamil Postava[5]; Juliette Mangeney[1]; Francesca Carosella[1]; Sihem Jaziri[3]; Qi Jie Wang[4]; Liu Zheng[2]; Jerome Tignon[1]; Robson Ferreira[1]; Emmanuel Baudin[1]; Sukhdeep Dhillon[1]
[1]Laboratoire de Physique de l'Ecole normale superieure, ENS, Universite PSL, CNRS, Sorbonne Universit, 24 rue Lhomond, France; [2]School of Materials Science and Engineering, Nanyang Technological University, 50 Nanyang Avenue, Singapore; [3]Science faculty of Tunisia,Université Tunis El Manar, Campus Universitaire 10, Tunisia; [4]School of Electrical and Electronic Engineering & School of Physical and Mathematical Sciences, Nany, 50 Nanyang Avenue, Singapore; [5]Faculty of Materials Science and Technology, VSB, Technical University of Ostrava, 17. listopadu 217, Czech Republic

15:15 **Spintronic Terahertz Emission From Metal/PtSe2 Heterostructures** **Th-PM1-3-7**

Martin Micica*[1]; Khasan Abdukayumov[2]; Fatima Ibrahim[3]; Celine Vergnaud[3]; Alain Marty[3]; Jean-Yves Veuillen[4]; Pierre Mallet[4]; Isabelle Gomes de Moraes[3]; Djordje Dosenovic[5]; Abdelkarim Ouerghi[6]; Vincent Renard[7]; Florie Mesple[7]; Frederic Bonell[3]; Hanako Okuno[5]; Mair Chshiev[3]; Jean-Marie George[8]; Henri Jaffres[8]; Sukhdeep Dhillon[1]; Matthieu Jamet[2]
[1]Laboratoire de Physique de l'Ecole Normale Superieure, 24 rue Lhomond, Paris, France; [2]Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, IRIG-Spintec, 38000, Grenoble, France; [3]Univ. Grenoble Alpes, CEA, CNRS, Grenoble INP, IRIG-Spintec, 17 avenue des Martyrs, Grenoble, France; [4]Universite Grenoble Alpes, CNRS, Grenoble INP, Institut NEEL, 38000, Grenoble, France; [5]Universite Grenoble Alpes, CEA, IRIG-MEM, 38000 Grenoble, France, 38000, Grenoble, France; [6]Universite Paris-Saclay, CNRS, Centre de Nanosciences et de Nanotechnologies, 91120, Palaiseau, France; [7]Universite Grenoble Alpes, CEA, CNRS, IRIG-PHELIQS, 38000 Grenoble, 38000, Grenoble, France; [8]Unite Mixte de Physique, CNRS, Thales, Universite Paris-Saclay, F-91767, Palaiseau, France

13:30-15:30	**Active Sensing 1** **Chairperson(s): Luca Zanotto**	**International I**
13:30	**Nonlinear Ghost Imaging For Scattering-Assisted Terahertz Waveform Synthesis.** Vittorio Cecconi[1]; Vivek Kumar[2]; Juan Sebastian Totero gongora[1]; Luke Peters[1]; Luana Olivieri[1]; Jacopo Bertolotti[3]; Alessia Pasquazi[1]; Marco Peccianti*[1] [1]Loughborough University, Sir David Davies Building, Loughborough, United Kingdom; [2]University of Sussex, Falmer, Brighton, United Kingdom; [3]University of Exeter, Dept. of Physics and Astronomy, Exeter, United Kingdom	**Th-PM1-4-1**
14:00	**3D Tensor Compressive Sensing THz Single-Pixel Imaging For Refractive Index Estimation**	**Th-PM1-4-2**

Szu-Hsi Chen*[1]; Chia-Ming Mai[2]; Yi-Chun Hung[3]; Shang-Hua Yang[4]; Yuan-Hao Huang[5]
[1]National Tsing Hua University, No, 101, Section Ii, Kuang-Fu Road, Electrical Eng, Hsinchu City, Taiwan; [2]National Tsing Hua University, No, 101, Section Ii, Kuang-Fu Road, Electrical En, Hsinchu City, Taiwan; [3]National Tsing Hua University, No, 101, Section Ii, Kuang-Fu Road, Electrical Eng, Hsinchu, Taiwan; [4]National Tsing Hua University, No, 101, Section Ii, Kuang-Fu Road, Electrical En, Hsinchu, Taiwan; [5]National Tsing Hua University, No, 101, Section Ii, Kuang-Fu Road, Electrical Engineering Depart. National Tsing Hua University, Hsinchu, Taiwan

14:15 **Learning-Based THz Multi-Layer Imaging With Model-Based Masks** **Th-PM1-4-3**

PU WANG*[1]; Toshiak Koike-Akino[2]; Petros Boufounos[2]; Wataru Tsujita[2]; Genki Yamashita[3]; Tomonori Fukuta[3]; Makoto Nakajima[4]
[1]Mitsubishi Electric Research Laboratories, 201 Broadway, Cambridge, United States; [2]Mitsubishi Electric Research Laboratories, 201 Broadway, United States; [3]Mitsubishi Electric Corporation Advanced Technology R&D Center, Amagasaki City, 661-8661, Japan; [4]Osaka University, Osaka 565−0871, Japan

14:30 **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

14:45 **An Optoelectronic M-Sequence Radar For The Terahertz Range** **Th-PM1-4-5**

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

15:00 **Frequency-multiplexing For Imaging At Submillimeter Waves** **Th-PM1-4-6**

Aleksi Tamminen*[1]; Samu-Ville Pälli[2]; Juha Ala-Laurinaho[2]; Sazan Rexhepi[2]; Zachary Taylor[2]
[1]Aalto University, Maarintie 8, Espoo, Finland; [2]Aalto University, Aalto University, Maarintie 8, Espoo, Finland

15:15 **Imaging Of Large-Area Graphene Using Terahertz Cross-Correlation Spectroscopy** **Th-PM1-4-7**

Bjørn Mølvig*[1]; Thorsten Bæk[2]; Jie Ji[3]; Peter Bøggild[3]; Simon Lange[2]; Peter Jepsen[2]
[1]Technical University of Denmark, Ørsteds Plads 343, Kongens Lyngby, Denmark; [2]Technical University of Denmark, Ørsteds Plads 343, Denmark; [3]Technical University of Denmark, Fysikvej 311, Denmark

13:30-15:30	**Metrology II** **Chairperson(s): Inkeun Baek**	**International II**
13:30	**Characterization Of Photonic-Assisted Free-Space Sub-THz Data Transmission** Mohanad Dawood AlDabbagh[1]; Jess Smith[2]; Thomas Kleine-Ostmann[1]; Mira Naftaly*[2]; Irshaad Fatadin[2] [1]Physikalisch-Technische Bundesanstalt, Bundesallee 100, Braunschweig, Germany; [2]National Physical Laboratory, Hampton Rd, Teddington, United Kingdom	**Th-PM1-5-1**
13:45	**High Precision Molecular Laser Frequency Measurements Using A THz Frequency Comb** Alexandra Khabbaz*[1]; Jean-François Lampin[1]; Luan Juppet[2]; Olivier Pirali[2]; Gael Mouret[3]; Francis Hindle[3] [1]IEMN-CNRS, Avenue Poincaré, Villeneuve d´Ascq, France; [2]Institute of Molecular Sciences of Orsay, Rue André Rivière, France; [3]Université du Littoral Côte d'Opale, Avenue Schumann, France	**Th-PM1-5-2**
14:00	**Imaging The Stokes Vector Of Backscattered THz Speckle Fields Using The Two-Channel PHASR Scanner** Kuangyi Xu*; Zachery B. Harris; M. Hassan Arbab Stony Brook University, 100 Nicolls Road, Stony Brook, United States	**Th-PM1-5-3**
14:15	**THz Dielectric Properties Of 3D Printable Silica Nanoparticle-based Photoresin** Emil John Magaway*[1]; Yeganeh Farahi[1]; Stephen Hanham[2]; Zhenyu Zhang[3]; Adriana Guaidía-Moreno[4]; Miguel Navarro-Cía[1] [1]University of Birmingham, School of Physics and Astronomy, Birmingham, United Kingdom; [2]University of Birmingham, School of Engineering, Birmingham, United Kingdom; [3]University of Birmingham, School of Chemical Engineering, Birmingham, United Kingdom; [4]Nanoscribe GmbH, Eggenstein-Leopoldshafen, Germany	**Th-PM1-5-4**

14:30	**Fast Scanning Terahertz Computed Tomography With A Telecentric F-θ Lens** Lu Rong*[1]; Ran Ning[2]; Shufeng Lin[2]; Jie Zhao[2]; Yunxin Wang[2]; Dayong Wang[1]; Min Wan[3] [1]Beijing University of Technology, 100 Ping Le Yuan, Beijing, China; [2]Beijing University of Technology, 100 Ping Le Yuan, China; [3]University College Dublin, Belfield, Ireland	**Th-PM1-5-5**
14:45	**On-wafer RF High-power Measurement With An LSMO Load At 40 GHz** Thomas Quinten*[1]; Lampin Jean-François[2]; Etienne Okada[3]; Victor Pierron[1]; Chantal Gunther[1]; Laurence Méchin[1]; Benjamin Walter[4]; Bruno Guillet[1] [1]GREYC (Caen university, CNRS, ENSICAEN), 6 Bd Maréchal Juin, Caen, France; [2]Institut d'Electronique de Microélectronique et de Nanotechnologie (IEMN), Cité scientifique, avenue Poincaré, VILLENEUVE D'ASCQ, France; [3]Institut d'Electronique de Microélectronique et de Nanotechnologie (IEMN), Cité scientifique, avenue Poincaré, VILLENEUVE D'ASCQ, France; [4]Vmicro SAS, Avenue Poincaré, VILLENEUVE D'ASCQ, France	**Th-PM1-5-6**
15:00	**How Accurate Are Reflection Measurements With TDS Systems?** Andreas STEIGER*[1]; Benjamin Röben[2] [1]PTB, ABBESTR., 2-12, Berlin, Germany; [2]PTB, ABBESTR. 2-12, Berlin, Germany	**Th-PM1-5-7**
15:15	**Optical Alignment For Non-contact In Vivo THz Sensing** Jacob Young*[1]; Emma pickwell-macpherson[2]; Rakyo Stantchev[3] [1]University of Warwick, University of Warwick, department of physics, Coventry, United Kingdom; [2]University of Warwick, University of Warwick, department of physics, coventry, United Kingdom; [3]National Sun Yat-sen University, National Sun Yat-sen University, department of physics, Kaohsiung City, Taiwan	**Th-PM1-5-8**
16:00-18:00	**Laser Sources & Detectors VII** **Chairperson(s): Jozsef Fülop**	**Symposia Theatre**
16:00	**Multi-pixel Addressable Photoconductive Arrays For THz Beam Shaping And Polarization Control** James Lloyd-Hughes* University of Warwick, Department of Physics, Gibbet Hill Road, Coventry, United Kingdom	**Th-PM2-1-1**

16:30 **Active Multipixel Photoconductive Emitter Technology For THz Beam Shaping And Steering** **Th-PM2-1-2**

Nishtha Chopra*[1]; Justas Deveikis[2]; James Lloyd-Hughes[3]
[1]University of Warwick, University of Warwick, Gibbet Hill Road, 3.06 (MAS Building), Coventry, United Kingdom; [2]University of Warwick, University of Warwick, University of Warwick, Gibbet Hill Road, Coventry, United Kingdom; [3]University of Warwick, University of Warwick, Gibbet Hill Road, Coventry, United Kingdom

16:45 **97% Throughput Hollow-Core Fibers For Pulse Compression Of High Power Yb Lasers** **Th-PM2-1-3**

Young-Gyun Jeong[1]; Ivanov Maksym[2]; Pedram Ghaderi[2]; Etienne Doiron[2]; Riccardo Piccoli[1]; Luca Zanotto[1]; Gabriel Tempea[2]; Roberto Morandotti[1]; Francois Legare[1]; Luca Razzari[1]; Bruno Schmidt*[2]
[1]INRS-EMT, 1650 Blvd. Lionel Boulet, Varennes, Canada; [2]few-cycle Inc., 1650 Blvd. Lionel Boulet, Varennes, Canada

17:00 **Terahertz Generation From Water Under Long Wavelength Excitation** **Th-PM2-1-4**

Yiwen E*; X.-C. Zhang
University of Rochester, 480 Intercampus Dr, Rochester, United States

17:15 **Enhanced Terahertz Emission From Gallium Arsenide Nano-Hole Array Under Low Power Optical Pump** **Th-PM2-1-5**

Yangfan Gu*[1]; Kemeng Wang[2]; Yongchang Lu[2]; Jianqiang Gu[2]
[1]Tianjin University, Tianjin University, No.92, Weijin road, Nankai district, Tianjin, Tianjin, China; [2]Tianjin University, No.92, Weijin road, Nankai district, Tianjin, China

17:30 **Tunable Pump Compression And Fast Modulation For Pulsed THz Generation** **Th-PM2-1-6**

Yazan Lampert*; Alessandro Tomasino; Shima Rajabali; Ileana-Cristina Benea-Chelmus
Hybrid Photonic Laboratory, EPFL, BM 3136, Station 17, Switzerland

17:45 **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

16:00-18:00	Nano & Quantum Devices	Cartier I
	Chairperson(s): Hannah Joyce	
16:00	**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	
16:30	**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 Dvoretskii[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, Academicheskaya 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	
16:45	**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; [3]Goethe-Universität Frankfurt am Main, Max-von-Laue-Straße 1, Frankfurt am Main, Germany	

17:00	**Tunable Antenna-Coupled Intersubband Terahertz (TACIT) Mixer: Frequency-agile THz Heterodyne Detector Based On Intersubband Transitions In Single GaAs/AlGaAs Quantum Well** Changyun Yoo*[1]; Kenneth West[2]; Loren Pfeiffer[2]; Jonathan Kawamura[1]; Mark Sherwin[3]; Boris Karasik[1] [1]Jet Propulsion Laboratory, 4800 Oak Grove Drive, Pasadena, United States; [2]Princeton University, Princeton University, Princeton, United States; [3]UCSB, UCSB, Santa Barbara, United States	Th-PM2-2-4
17:15	**THz Detection By Photomixing In Graphene** Mark D. Thomson[1]; Florian Ludwig[1]; Jakob Holstein[1]; Reiam Al-Mudhafar[2]; Shihab Al-Daffaie*[3]; Hartmut G. Roskos[1] [1]Goethe-Universität, Max-von-Laue-Str. 1, Frankfurt am Main, Germany; [2]Institute of Laser University of Baghdad, Baghdad, Baghdad, Iraq; [3]Eindhoven University of Technology, Groene Loper 5,, Eindhoven, Netherlands	Th-PM2-2-5
17:30	**Superconducting Nanowire Single-Photon Detector Arrays For The Near- To Mid-Infrared** Benedikt Hampel*; Richard P. Mirin; Sae Woo Nam; Varun B. Verma National Institute of Standards and Technology, 325 Broadway, Boulder, United States	Th-PM2-2-6
17:45	**Topological Quantum Materials For Ultra-Sensitive Terahertz Detection** Lin Wang* State Key Laboratory for Infrared Physics, Shanghai Institute of Technical Physics, Chinese Academy, 500 Yu-tian Road, China	Th-PM2-2-7
16:00-18:00	**Nanoscopy & Near-Field Effects** **Chairperson(s): Daniel Mittleman**	**Cartier II**
16:00	**Mid-Infrared Nanospectroscopy To Probe Protein Conformation at The Nanoscale** Antonia Intze[1]; Maria Eleonora Temperini[1]; Raffaella Polito[2]; Michele Ortolani[2]; Valeria Giliberti*[1] [1]Istituto Italiano di Tecnologia, Center for Life Nano- and Neuro-Science, viale Regina Elena 291, Rome, Italy; [2]Department of Physics, Sapienza University of Rome, Piazzale A. Moro 2, Italy	Th-PM2-3-1
16:30	**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

16:45 **Time-resolved THz-TDS Nanoscopy For Probing Carrier Dynamics With 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

17:00 **THz-pump / MIR-probe Nanospectroscopy On Si-doped GaAs-InGaAs Core-shell Nanowires** **Th-PM2-3-4**

Andrei Luferau*[1]; Stephan Winnerl[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

17:15 **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 xiyuan avenue, Chengdu, China

17:30 **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

17:45 **Near Field Analysis Of Individual High Quality Factor THz Resonators** **Th-PM2-3-7**

Lucy Hale*[1]; Yuezhen Lu[2]; Abdullah Zaman[2]; Sadhvikas 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

16:00-18:00	Active Sensing 2 Chairperson(s): Kevin Kolpatzeck	International I
16:00	**THz 3D Imaging Based On An Inverse Spherical Synthetic Aperture** Tobias Kubiczek*; Efe Satiroglu; Thorsten Schultze; Jan C. Balzer University of Duisburg-Essen, Bismarckstr. 81, Duisburg, Germany	**Th-PM2-4-1**
16:15	**Low-Loss And High-Speed Generalized Terahertz Time-Domain Spectroscopic Ellipsometry** 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	**Th-PM2-4-2**
16:30	**Characterization Of Active Liquid Crystal: Comparison Using Continuous And Time Domain Terahertz Techniques** Audrey Le Bourlout*[1]; Anastasiia Pusenkova[2]; Mariia Zhuldybina[1]; Xavier Ropagnol[3]; Thomas Gisder[4]; Marc-Michael Meinecke[4]; Heiko Schroeder[4]; Heiko Gustav Kurz[4]; Tigran Galstian[2]; François Blanchard[1] [1]École de technologie supérieure (ÉTS), 1100 Notre Dame Ouest, Montréal, Canada; [2]Université Laval (ULaval), 2325 Rue de l'Université, Québec, Canada; [3]INRS-ET, 1650, boul. Lionel-Boulet, Varennes, Canada; [4]Volkswagen Group Innovation, Berliner Ring 2, Wolfsburg, Germany	**Th-PM2-4-3**
16:45	**Optical Properties Of Wood Biomass Material obtained By Terahertz Ellipsometry** Atsushi Nakanishi*[1]; Verdad Agulto[2]; Kosaku Kato[2]; Toshiyuki Iwamoto[3]; Hiroshi Satozono[1]; Makoto Nakajima[2] [1]Hamamatsu Photonics K. K., 5000, Hirakuchi, Hamakita-ku, Hamamatsu, Japan; [2]Osaka University, 2-6 Yamadaoka, Suita, Japan; [3]Nippo Precision Co., Ltd., 734 Miyakubo, Hosakamachi, Nirasaki, Japan	**Th-PM2-4-4**
17:00	**Terahertz Radar Sensing For Real-time Monitoring Of Powder Streams**	**Th-PM2-4-5**

	Anis Moradikouchi*[1]; Marlene Bonmann[2]; Tomas Bryllert[2]; Anders Sparén[3]; Jonas Johansson[3]; Staffan Folestad[2]; Jan Stake[2]; Helena Rodilla[2] [1]Chalmers University of Technology, Chalmersplatsen 4, Gothenburg, Sweden; [2]Chalmers University of Technology, Chalmersplatsen 4, Sweden; [3]AstraZeneca, Pepparedsleden 1, Mölndal, Sweden	
17:15	**Flexible Terahertz Gas Sensing Platform: Combining Hollow Waveguide Gas Cells With An Opto-Electronic Light Source**	**Th-PM2-4-6**
	Dominik Theiner*[1]; Benedikt Limbacher[1]; Michael Jaidl[1]; Marie Ertl[1]; Karl Unterrainer[1]; Juraj Darmo[1]; Michael Hlavatsch[2]; Boris Mizaikoff[2] [1]Photonics Institute, TU Wien, Gusshausstrasse 27-29, Vienna, Austria; [2]Institute of Analytical and Bioanalytical Chemistry, University of Ulm, Albert-Einstein-Allee 11, Ulm, Germany	
17:30	**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 Deninger[2]; Alexander Michalski[1]; Max C. Lemme[3]; Michael Nagel[1] [1]Protemics GmbH, Otto-Blumenthal-Str. 25, Aachen, Germany; [2]Toptica Photonics AG, Lochhamer Schlag 19, Graefelfing, Germany; [3]ELD, RWTH Aachen University, Otto-Blumenthal-Str. 25, Aachen, Germany	
17:45	**A Scanless Method For Terahertz Time-domain Imaging**	**Th-PM2-4-8**
	Luca Zanotto*[1]; Giacomo Balistreri[1]; Andrea Rovere[1]; O-Pil Kwon[2]; Roberto Morandotti[1]; Riccardo Piccoli[3]; Luca Razzari[1] [1]INRS-EMT, 1650 boulevard Lionel-Boulet, Varennes, Canada; [2]Ajou University, Suwon, 443-749, Korea, Republic of; [3]Politecnico di MIlano, Piazza Leonardo Da Vinci, 32, Milano, Italy	
16:00-18:00	**THz Quantum Optics & Near-Field Microscopy** **Chairperson(s): Marco Rahm**	**International II**
16:00	**Landau Polaritons In The Ultrastrong And Superstrong Coupling Regime In A Multimode Terahertz Photonic-Crystal Cavity**	**Th-PM2-5-1**

Fuyang Tay*[1]; Ali Mojibpour[1]; Stephen Sanders[1]; Shuang Liang[2]; Hongjing Xu[1]; Geoff Gardner[2]; Andrey Baydin[1]; Michael Manfra[2]; Alessandro Alabastri[1]; David Hagenmüller[3]; Junichiro Kono[1]
[1]Rice University, 6100 Main St, Houston, United States; [2]Purdue University, 525 Northwestern Ave, West Lafayette, United States; [3]Université de Strasbourg and CNRS, 8 All. Gaspard Monge, Strasbourg, France

16:30 **Direct Measurement Of The THz Local Density Of Optical States** **Th-PM2-5-2**

Jaime Gomez Rivas*[1]; Stan ter Huurne[2]; Djero Peeters[2]
[1]Eindhoven University of Technology, PO BOX 513, Eindhoven, Netherlands; [2]Eindhoven University of Technology, P.O. Box 513, Eindhoven, Netherlands

16:45 **Superconducting Josephson Probe Microscope** **Th-PM2-5-3**

Ping Zhang*[1]; Shoucheng Hou[1]; Zixi Wang[1]; Zihan Wei[1]; Hongmei Du[1]; Dingding Li[1]; Yangyang Lv[1]; Hancong Sun[2]; Yonglei Wang[1]; Huabing Wang[1]; Peiheng Wu[1]
[1]Research Institute of Superconductor Electronics, Nanjing University, 163 Xianlin Avenue, Nanjing, China; [2]Purple Mountain Laboratories, 9 Mozhou East Road, Nanjing, China

17:00 **Strong Light-matter Coupling In SiGe Quantum Wells Embedded In Terahertz Patch Antenna Cavities** **Th-PM2-5-4**

Michele Ortolani*[1]; Leonetta Baldassarre[1]; Tommaso Venanzi[1]; Fritz Berkmann[1]; Enrico Talamas Simola[2]; Michele Montanari[2]; Elena Campagna[2]; Luciana Di Gaspare[2]; Sara Cibella[3]; Andrea Notargiacomo[3]; Ennio Giovine[3]; Cedric Corley-Wiciak[4]; Giovanni Capellini[4]; Michele Virgilio[5]; Giacomo Scalari[6]; Monica De Seta[7]
[1]Sapienza University of Rome, Piazzale Aldo Moro 2, Dipartimento di Fisica, Rome, Italy; [2]Roma Tre University, Department of Science, Via della Vasca Navale, Rome, Italy; [3]CNR Institute for Photonics and Nanotechnolgies, Via Fosso del Cavaliere, Rome, Italy; [4]IHP microelectronics, Technologiepark Ostbrandenburg, Frankfurt am Oder, Germany; [5]University of Pisa, Largo Pontecorvo, Pisa, Italy; [6]ETH Zurich, ETH Hönggerberg, HPT F 6, Zurich, Switzerland; [7]Roma Tre University, Department of Science, Italy

17:15 **Quantum Algorithm Emulator For Implementation Of Deutsch-Jozsa Algorithm In The THz Region** **Th-PM2-5-5**

Zizwe Chase*[1]; Ashley Blackwell[2]; Riad Yahiaoui[2]; Yi-Huan Chen[2]; Zhixiang Huang[3]; Xi Wang[3]; Thomas Searles[2]; Pai-Yen Chen[2]
[1]University of Illinois at Chicago, 851 S. Morgan St., MC 154, Chicago, United States; [2]University of Illinois at Chicago, 851 S. Morgan St., MC 154, United States; [3]University of Delaware, 210 South College Ave., United States

17:30	**Terahertz Landau Polaritons In Nano-slots: Ultrastrong Coupling Under Extreme Spatial Confinement**	**Th-PM2-5-6**

Dasom Kim*[1]; Sunghwan Kim[2]; Dukhyung Lee[2]; Shuang Liang[3]; Fuyang Tay[1]; Michael Manfra[4]; Dai-Sik Kim[2]; Junichiro Kono[1]
[1]Rice University, 6100 Main St., Houston, United States; [2]UNIST, Ulsan, Korea, Republic of; [3]Perdue Univeristy, West Lafayette, United States; [4]Perdue, West Lafayette, United States

17:45	**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

18:00-19:30	**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 Cicek[1]; Yunus Celik[1]; Armin Dadgar[2]; Oktay Yilmazoglu[1]; Sascha Preu[1]
[1]TU Darmstadt, Merckstr. 25, Darmstadt, Germany; [2]University Magdeburg, Merckstr. 25, Darmstadt, Germany

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

Kedong Zhao[1]; Wenxin Liu*[2]; Xiangpeng Liu[3]; Cunjun Ruan[4]
[1]Beihang University, 37 Xueyuan Road, Haidian District, Beijing, P.R. China, Beijing, China; [2]Aerospace 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; [3]Fan Gongxiu Honors College, Beijing University of Technology, 100 Pingleyuan, Chaoyang District, Beijing, China; [4]Beihang 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 Negoro[1]; Yuma Takida[2]; Hiroaki Minamide[2]; Taiichi Otuji[1]; Tetsuya Suemitsu[3]; Akira Satou[1]
[1]Tohoku Univ., 2-1-1 Katahira, Aoba-ku, Sendai, Japan; [2]RIKEN Center for Advanced Photonics, 519-1399, Aramaki, Aoba-ku, Sendai, Japan; [3]New 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 Lee[1]; Wang-Chien Chen[2]; Shang-Hua Yang*[3]
[1]National Tsing Hua University, 8F, No. 32, Jinshan 15th St., East Dist., Hsinchu City 300063, Taiwan (R.O.C.), Hsinchu, Taiwan; [2]National Tsing Hua University, 8F, No. 32, Jinshan 15th St., East Dist., Hsinchu, Taiwan; [3]National 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 Nimanpure[2]; Amit Haldar[3]; Debankit Priyadarshi[3]; Amit Kumar Gangwar[4]; Preetam Singh[5]; SHOVON PAL[6]; Mukesh Jewariya[5]
[1]Academy of Scientific and Innovative Research (AcSIR), Ghaziabad-201002, India, JRF HOSTEL NPL COLONY NEW RAJENDRA NAGAR, NEW DELHI, India; [2]USAR, GGSIP University, East Campus, Surajmal Vihar, Delhi-110092, India, USAR, GGSIP, DELHI, India; [3]School of Physical Sciences, NISER, Bhubaneshwar, Odisha-752050, India, NISER Bhubaneshwar, Bhubaneshwar, India; [4]2Academy of Scientific and Innovative Research (AcSIR), Ghaziabad-201002, India, CSIR-NPL, New Delhi, India; [5]CSIR-National Physical Laboratory, Dr. K.S. Krishnan Marg, New Delhi-110012, India, CSIR NPL NEW DELHI, NEW DELHI, India; [6]School 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. But[2]; Domantas Vizbaras[1]; Cezary Kolacinski[2]; Alvydas Lisauskas[1]
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Reduction Of Spectral Linewidth Of Resonant-Tunneling-Diode THz Oscillators Due To External Feedback **Th-P1-07**

Masahiro Asada*[1]; Safumi Suzuki[2]
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0.34THz Longitudinal Double-Beams Staggered Double-Blade Backward Wave Oscillator **Th-P1-08**

Peng He*[1]; Liu Wenxin[2]
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A Tunable Narrow-band THz Radiation Using Subwavelength Hole Array Layer **Th-P1-09**

Ping Zhang*[1]; Yin Dong[2]; Youfeng Yang[2]; Bingyang Liang[2]; Shengpeng Yang[2]; Yuan Zheng[3]; Shaomeng Wang[2]; Zhanliang Wang[2]; Yubin Gong[2]
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Terahertz Resonant-Tunneling-Diode Oscillator With Coupled OffsetFed Slot-Ring Antenna Pairs **Th-P1-10**

Shoei Endo*[1]; Safumi Suzuki[2]
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Research On Ripple Suppression Of High-voltage Power Supply For Gyrotron cathode Based On Series Linear Filtering **Th-P1-11**

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Design And Analysis Of Electron Optics System For 0.67 THz Traveling Wave Tube **Th-P1-12**

Jianliang Wang*[1]; wenxin Liu[2]; Zhiqiang Zhang[1]; Fan Deng[3]
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Theoretical Investigation On Detecting Terahertz Waves By Rydberg Atoms **Th-P1-13**

Lei Hou*[1]; Qihui He[1]; Junnan Wang[1]; Lei Yang[1]; Xiasi Sun[2]; Wei Shi[1]
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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
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Two-dimensional Effects In Multicycle THz Generation With Tunable Pump Pulse Trains In Lithium Niobate **Th-P1-16**

Umit Demirbas; Christian Rentschler*; 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 Park[2]; Said Ergoktas[3]; Lianhe Li[3]; Edmund Linfield[3]; Giles Davies[3]; John Cunningham[3]
[1]University of Leeds, School of Electronic and Electrical Engineering, Woodhouse, Leeds, United Kingdom; [2]Queen Mary, University of London, School of Engineering and Computer Science, United Kingdom; [3]University 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 Lezier[1]; Lukás Halagacka[2]; Baptiste Mathmann[1]; Daniel Vala[2]; Zuzana Gelnárová[2]; Yannick Dusch[1]; Jean-François Lampin[1]; Nicolas Tiercelin[1]; Kamil Postava[2]; Mathias Vanwolleghem[1]
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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 Ropagnol[2]; Denis Morris[3]; Francois Blanchard[1]
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Shot-noise Limited Detection Of Terahertz Transients From Spintronic Emitters **Th-P1-22**

Bédi Zagbayou*[1]; Étienne Doiron[1]; Frédéric Sirois[1]; Tom Seifert[2]; Tobias Kampfrath[2]; Denis Seletskiy[1]
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Highly Efficient THz Waves Using Laser Chaos **Th-P1-23**

Fumiyoshi Kuwashima*[1]; Mona Jarrahi[2]; Semih Cakmakyapan[2]; Osamu Morikawa[3]; Takuya Shirao[1]; Kazuyuki Iwao[1]; Kazuyoshi Kurihara[4]; Hideaki Kitahara[5]; Takeshi Furuya[5]; Kenji Wada[6]; Yuki Kawakami[7]; Takeshi MORIYASU[8]; Makoto Nakajima[9]; Masahiko Tani[5]
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Temperature-dependent THz Transients Emitted By Optically Excited FeNi/Pt Spintronic Emitters **Th-P1-24**

Jing Cheng*[1]; Daniel E Buergler[2]; Roman Adam[3]; Ivan Komissarov[4]; Debamitra Chaktraborty[5]; Genyu Chen[5]; Roman Sobolewski[5]
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Efficient Terahertz Generation Via Optical Rectification In Halide Perovskites **Th-P1-25**

Nathaniel Gallop[1]; Dumitru Sirbu[2]; David Walker[1]; James Lloyd-Hughes[1]; Pablo Docampo[3]; Rebecca Milot*[4]
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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. Nielson[2]; Alan Omar[1]; Tim Vogel[1]; David J. Michaelis[2]; Jeremy A. Johnson[2]; Clara J. Saraceno[1]
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Spectral Range Broadening Of Multimode-Laser-Driven Terahertz Spectroscopy System Using Two Laser Diodes **Th-P1-28**

Yuanhao Zeng*[1]; Valynn Katrine Mag-usara[2]; Verdad C. Agulto[2]; Kosaku Kato[2]; Masato Ota[2]; Fumiyoshi Kuwashima[3]; Masashi Yoshimura[2]; Makoto Nakajima[2]
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Vibration Analysis Of A 0.34THz Traveling Wave Tube **Th-P1-29**

Jianwei Zhong*[1]; Wenxin Liu[2]; Fengyuan Zhang[3]; Peng He[1]; Zhaochuan Zhang[1]
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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
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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**

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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 Lampin[2]; Gael Mouret[3]; Luan Juppet[4]; Olivier Pirali[4]
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Development Of Multiple-Tunnel Slow-Wave Structures For Miniature W-band Traveling-Wave Tubes With Multiple Sheet Electron Beams **Th-P1-35**

Alena Rostuntsova[1]; Roman Torgashov[1]; Dmitriy Nozhkin[2]; Andrey Rozhnev[1]; Andrey Starodubov[1]; Nikita Ryskin*[1]
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Monte Carlo Simulations Of Signal Contrast Mechanisms In Broadband Terahertz Polarimetric Imaging Of Biological Tissues **Th-P1-36**

Kuangyi Xu*; M. Hassan Arbab
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Investigation Of THz Absorption Spectra Of α-lactose Aqueous Solution **Th-P1-37**

Junnan Wang*[1]; Lei Hou[2]; Xiasi Sun[3]; Lei Yang[4]; Wei Shi[4]
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Theoretical Study Of THz- Optoacoustic Signal Generation **Th-P1-38**

Lianghao Guo*[1]; Bingyang Liang[2]; Kaicheng Wang[2]; Qin Zhang[2]; Yuankun Sun[2]; Hui Ning[2]; Shaomeng Wang[2]; Yubin Gong[2]
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18:00-19:30	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 Foroughimehr[2]; Elena P. Ivanova[1]; Andrew W. Wood[2]
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Far-Infrared Absorption Properties Of Bone-Related Calcium Phosphates — **Th-P2-02**

Verdad Agulto*[1]; Wangxuan Zhao[1]; Mihoko Maruyama[2]; Yuga Ono[2]; Kosaku Kato[1]; Yutaro Tanaka[2]; Hiroshi Yoshikawa[2]; Yusuke Mori[2]; Masashi Yoshimura[1]; Makoto Nakajima[1]
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Non-contact Millimeter Wave Dielectric Spectroscopy On Aqueous Solution — **Th-P2-03**

Che Min Wu*[1]; Chia Chin Cheng[2]; Shang Hua Yang[2]
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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-Grajeda[1]; Monica Ortiz-Martinez[2]; Elodie Strupiechonski[3]; Diego Gonzalez-Quijano[1]; Nayeli Solis-Delgadillo[1]
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Terahertz Generation In AlxGa1-xAs/GaAs Heterostructured P-i-n Diodes **Th-P2-06**

Valerii Trukhin*[1]; Il'ya Mustafin[1]; Xiangyi Fan[2]; Vitalii Kalinovsky[3]; Evgenii Kontrash[3]; Kseniya Prudchenko[3]; Ivan Tolkachev[3]
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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
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Complex Third Order Nonlinear Optical Susceptibility In The Terahertz Region Evaluated By Free-Electron Laser **Th-P2-08**

Youwei Wang[1]; T.N.K. Phan[1]; Tomoki Shimizu[1]; Masato Ota[1]; Kosaku Kato[1]; Koichi Kan[2]; Kosaku Kato[1]; Valynn Katrine Magusara[1]; Goro Isoyama[2]; Makoto Nakajima*[1]
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Femtosecond Circular Photogalvanic Effect In FeCo/graphene Nanobilayers **Th-P2-09**

Ivan Komissarov*[1]; Jing Cheng[1]; Debamitra Chakraborty[1]; Genyu Chen[1]; Leszek Gładczuk[2]; Piotr Przysłupski[2]; Iraida Demchenko[3]; Kostiantyn Nikiforov[4]; Serghej Prischepa[5]; Kiryl Niherysh[6]; Floriana Lombardi[6]; Adam Łaszcz[7]; Daniel Bürgler[8]; Roman Adam[8]; Roman Sobolewski[1]
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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 Yao[2]
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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 Oh[1]; Yasuhiro Fujii[2]; Suguru Kitani[3]; Yohei Yamamoto[1]; Tatsuya Mori[1]
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Room Temperature Photoluminescence In CdTe Grown By Liquinert-Processed Vertical Bridgman Method **Th-P2-12**

Hiroyasu Nakata*[1]; Akira Fujimoto[2]; Yoshiyuki Harada[3]; Takeshi Hirai[4]; Shirou Sakuragi[5]; Yasuo Kanemtsu[6]
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Time-Domain Spectroscopy For Space Exploration At Terahertz Energy Scales **Th-P2-13**

Yookyung Ha*[1]; Jonas Woeste[1]; Oliver Gueckstock[2]; Georgios Kourkafas[3]; Jovana Petrovic[4]; Mihailo Rabasovic[5]; Aleksandar Krmpot[5]; Tom S. Seifert[2]; Andrea Denker[3]; Tobias Kampfrath[2]; Nikola Stojanovic[6]; Michael Gensch[6]
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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. Agulto[1]; Toshiyuki Iwamoto[2]; Kosaku Kato[1]; Masato Ota[1]; Ken Goto[3]; Hisashi Murakami[3]; Yoshinao Kumagai[3]; Masashi Yoshimura[1]; Makoto Nakajima[1]
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Chiral Nonlocal Terahertz Photoconductivity In Heterostructures Based On Topological Hg1-xCdxTe Films **Th-P2-15**

Aleksei Kazakov[1]; Alexandra Galeeva[1]; Alexey Artamkin[1]; Anton Ikonnikov[1]; Sergey Dvoretsky[2]; Nikolay Mikhailov[2]; Mikhail Bannikov[3]; Sergey Danilov[4]; Ludmila Ryabova[1]; 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 Sawallich[2]; Max Lemme[1]; Michael Nagel[2]
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Thermal Transport Of Defect Graphene By Raman Spectroscopy. **Th-P2-17**

Sidi Abdelmajid AIT ABDELKADER*[1]; Abdelouahed EL FATIMY[2]
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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 Cao[2]; Aristeidis Karalis[3]; Hantian Gu[2]; Mark D. Thomson[4]; Hartmut.G Roskos[4]
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Free-electron Infrared Nonlinearities In Heavily Doped InGaAs Nanoantennas **Th-P2-20**

Michele Ortolani*[1]; Tommaso Venanzi[2]; Andrea Rossetti[3]; Thomas Deckert[3]; Daniele Brida[3]; Marialilia Pea[4]; Adel Bousseksou[5]; Luca Lucia[5]; Raffaele Colombelli[5]; Huatian Hu[6]; Federico De Luca[6]; Cristian Ciraci[6]
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Planar Chiral Metasurface With Maximal Chirality Empowered By Toroidal Dipole Resonances **Th-P2-21**

Tian Ma*[1]; Jiangkun Tian[2]; Jun Li[1]
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Terahertz Wave Absorbing Properties Of Double-coils Randomly Distributed In Cellulose Nanofibers **Th-P2-22**

Kosaku Kato[1]; Shiyu Feng[1]; Zixi Zhao[1]; Verdad Agulto*[1]; Masato Ota[1]; Ami Mizui[2]; Takaaki Kasuga[2]; Hirotaka Koga[2]; Masaya Nogi[2]; Motoharu Haga[3]; Minoru Ueshima[4]; Makoto Nakajima[1]
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Highly Sensitive Terahertz Metamaterial Sensor With Enhanced Spatial Distribution Of Strong Electric Field **Th-P2-23**

Shanshan JIA[1]; Zesen ZHOU[1]; Fanqi Meng*[2]; Zhilong GAN[1]; Lei CAO[1]
[1]Huazhong University of Science and Technology, 1037 Luoyu Road, Hongshan District, Wuhan City, China; [2]Physikalisches Institut Johann Wolfgang Goethe-Universität, Frankfurt am Main, Germany

Efficient And Broadband Terahertz Polarization Convertor Enabled By An All-metal Stereo Reflective Metasurface **Th-P2-24**

Yuehong Xu*[1]; Quan Xu[2]; Xueqian Zhang[2]; Xi Feng[3]; Yongchang Lu[3]; Xixiang Zhang[4]; Jiaguang Han[3]; Weili Zhang[5]
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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 Feng[2]; Verdad C. Agulto[2]; Kosaku Kato[2]; Masato Ota[2]; Ami Mizui[3]; Takaaki Kasuga[3]; Hirotaka Koga[3]; Masaya Nogi[3]; Motoharu Haga[4]; Minoru Ueshima[5]; Nobuhiko Sarukura[2]; Masashi Yoshimura[2]; Makoto Nakajima[2]
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Terahertz Surface Plasmon Resonance Microscopy In The Otto Configuration **Th-P2-26**

Ildus Khasanov*[1]; Vasily Gerasimov[2]; Oleg Kasmeshkov[3]; Alexey Nikitin[1]; Nghiem Thi Ha Lien[4]; Nguyen Quoc Hung[5]; Ta Thu Trang[6]
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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 Gao[2]; Yang Wu[2]; Gang Huang[2]; Qiwu Shi[2]
[1] College of Materials Science and Engineering, Sichuan University, Chengdu, Sichuan 610065, China, Chengdu, Sichuan Province, China; [2]College of Materials Science and Engineering, Sichuan University, Chengdu, Sichuan 610065, China, Chengdu, Sichuan Province, China

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*
University Duisburg-Essen, Lotharstr. 55, Duisburg, Germany

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
University of Electronic Science and Technology of China, Qingshuihe Campus, University of Electronic, Science and Technology, No. 2006 Xiyuan Avenue, Cooperative Street, Pidu District, Chengdu, Sichuan, Chengdu, China

Towards A Versatile And Cost-Effective Lock-In Amplifier **Th-P2-31**

Mads Ehrhorn*; Oscar G. Garcia; Edmund J. R. Kelleher; Simon J. Lange
Technical University of Denmark, Anker Engelunds Vej 1, Kgs. Lyngby, Denmark

Deep Learning To Accelerate Terahertz Metamaterials Design For Biosensing Application **Th-P2-32**

Mavis Gezimati*; Ghanshyam Singh
University of Johannesburg, Auckland Park Kingsway Campus, P.O Box 524. University of Johannesburg, Johannesburg-2006, South Afr, Johannesburg, South Africa

Metallic 3D Printed Double-Ridged WR3.4 Interface for THz Power Combining **Th-P2-33**

Rihab Hamad*[1]; carlos Biurrun-Quel[2]; thomas haddad[3]; sumer maklouf[3]; marcel Grzeslo[3]; andreas Klein[3]; andreas Stöhr[3]
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Optimizing High-Performance Terahertz Sub-Harmonic Mixers With Customized Sparrow Search Algorithm **Th-P2-34**

Jingrui Liang*[1]; Jun Zhou[2]; Hongji Zhou[2]; Tianchi Zhou[2]; Xiuxiu Yang[2]; Jiahao Yang[2]; Xuechun Sun[2]; Jia Zhang[2]; Yaxin Zhang[2]
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A Shared-focus, Multi-pass Sample Cell (SFSC) Useful For THz And Optical Spectroscopy **Th-P2-35**

Joseph Demers*; Harvard Harding; Ricardo Franco; Esteban Franco
Bakman Technologies, 16022 Arminta St, Suite 1, Los Angeles, United States

Broadband Terahertz Plasmonic Multiplexers **Th-P2-36**

Junliang Dong*[1]; Alessandro Tomasino[2]; Giacomo Balistreri[2]; Pei You[2]; Anton Vorobiov[3]; Étienne Charette[2]; Boris Le Drogoff[2]; Mohamed Chaker[2]; Aycan Yurtsever[2]; Salvatore Stivala[4]; Maria A. Vincenti[5]; Costantino De Angelis[5]; Detlef Kip[3]; Jose Azana[2]; Roberto Morandotti[2]
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THz Dielectric Directional Coupler Based On Effective Medium Cladding **Th-P2-37**

Nikolaos Xenidis*[1]; Dmitri Lioubchenko[1]; Joachim Oberhammer[2]
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Design Of A Terahertz Waveguide Diplexer With High Isolation **Th-P2-38**

Jia Zhang*[1]; Tianchi Zhou[2]; Xuechun Sun[2]; Jiahao Yang[3]; Jingrui Liang[2]; Jun Zhou[2]; Yaxin Zhang[2]; Wei Wang[4]
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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 Wu[2]; Wenhua Chen[3]; Zhongjun Yu[2]
[1]Chinese Academy of Sciences, Beijing, SHANXI, Beijing, China; [2]Chinese Academy of Sciences, Beijing, Beijing, China; [3]Tsinghua University, Beijing, China

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

Wenbo Li[1]; Kai Huang[1]; Hongxin Zeng*[1]; Wei Wang[2]; Yaxin Zhang[1]; Ziqiang Yang[1]
[1]University of Electronic Science and Technology of China, Chengdu,China, Chengdu, China; [2]Hebei Semiconductor Research Institute, Shijiazhuang,China, China

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

Maleeha Khan*[1]; Dennis Giannacopoulos[2]
[1]McGill University, Montreal,Canada, 1235 Rue Bishop, Montreal, Canada; [2]McGill University, 845 Sherbrooke St West, Montreal, Canada

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

Noureddin OSSEIRAN*[1]; Aditya RAJ[2]; Sophie Eliet[1]; Romain Peretti[1]
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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
University of Electronic Science and Technology of China, 2006 Xiyuan Avenue, Gaoxin West District, Chengdu, Chengdu, China

Lens Absorber Coupled MKIDs For Far Infrared Imaging Spectroscopy **Th-P2-44**

Shahab Oddin Dabironezare*[1]; Sven van Berkel[2]; Pierre M. Echternach[2]; Peter K. Day[2]; Charles M. Bradford[2]; Jochem Baselmans[3]
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Distinguish Proliferative And Apoptotic Glioma Cells With Terahertz Metamaterials **Th-P2-45**

Ke Li[1]; Qingtong Wang[2]; Yanpeng Shi[1]; Hao Xue[2]; Gang Li[2]; Yifei Zhang*[3]
[1]Shandong University, Shandong University, Building 3B, 1500 ShunHuaLu, Jinan, China; [2]Shandong University, Department of Neurosurgery, Qilu Hospital, Cheeloo, Jinan, China; [3]Shandong University, Building 3B, 1500 ShunHuaLu, Building 3B, 1500 ShunHuaLu, Jinan, China

Progress In Process Development Of La0.7Sr0.3MnO3 Thin Films For Uncooled THz Bolometers **Th-P2-46**

Thomas Quinten*[1]; Yoann Lechaux[1]; Victor Pierron[1]; Chantal Gunther[1]; Laurence Méchin[1]; Jean-François Lampin[2]; Marc Faucher[2]; Benjamin Walter[3]; Bruno Guillet[1]
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Absolute Security With Digital Beamforming For High-Frequency Links **Th-P2-47**

Chia-Yi Yeh*[1]; Muriel Médard[1]; Daniel M. Mittleman[2]
[1]MIT, 50 Vassar St, Room 36-512, Cambridge, United States; [2]Brown University, 184 Hope St, Barus and Holley Room 228, Providence, United States

High-speed THz Imaging Using A HCN Laser And A HEMT THz Detector **Th-P2-48**

Nu Zhang*[1]; Haiqing Liu[1]; Huihui Yan[1]; Hongbei Wang[2]; Jiaxing Xie[1]; Damao Yao[1]
[1]Institute of Plasma Physics, Chinese Academy of Sciences, No. 350 shushanhu Road, Hefei, China; [2]Institute of Energy, Hefei Comprehensive National Science Center, No. 350 shushanhu Road, China

Spectrally Efficient Optoelectronic Wireless Terahertz Communication System **Th-P2-49**

Bashar Husain*; Kevin Kolpatzeck; Alexander Frömming; Lars Häring; Andreas Czylwik
University of Duisburg-Essen, Bismarckstr. 81, Duisburg, Germany

Metasurface Enabled THz Multi User Communications **Th-P2-50**

Fahid Hassan[1]; Jeffrey Lei[2]; Hichem Guerboukha*[2]; Hou-Tong Chen[3]; Chun-Chieh Chang[3]; Sadhvikas Addamane[4]; Michael Lilly[4]; Edward Knightly[1]; Daniel M. Mittleman[5]
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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 Guerboukha[2]; Yaseman Shiri[2]; Rabi Shrestha[2]; Pernille Klarskov[1]; Daniel Mittleman[2]
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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 Guerrero[1]; Arturo Mendoza-Galván[1]; Elodie Strupiechonski*[2]
[1]CINVESTAV-Qro, Lib. Norponiente #2000, Mexico; [2]CIDESI, Av. pie de la cuesta, Queretaro, Mexico

Extracting Error Bars On Refractive Index Retrieved In THz-TDS **Th-P2-55**

Noureddin Osseiran[1]; Jeyan Bichon[2]; Aditya Raj[2]; Sophie Eliet[2]; Romain PERETTI*[3]
[1]CNRS IEMN, Univ. Lille, CNRS, Centrale Lille, Univ. Polytechn, Villeneuve d'ascq, France; [2]CNRS IEMN, Avenue Poincarré, France; [3]CNRS IEMN, Avenue Poincarré, 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 Xu[2]; M. Hassan Arbab[1]
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Biological Response Of Human Skin Cells To 300 GHz Radiation **Th-P2-58**

Seung Jae Oh*[1]; Inhee Maeng[2]; Hye Young Son[3]; Eui su Lee[4]; Ilmin Lee[5]; Kyung Hyun Park[6]
[1]Yonsei University, 50-1 Yonsei-ro, Seoul, Korea, Republic of; [2]Yonsei University, 50-1 Yonsei-ro, Korea, Republic of; [3]Yonsei University, College of Medicine Yonsei University, Seoul, Korea, Republic of; [4]Electronics and Telecommunications Research Institute, Daejeon, Korea, Republic of; [5]Electronics and Telecommunications Research Institute (ETRI),, Daejeon, Korea, Republic of; [6]Electronics 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 Romanenko[1]; Anabel Sorolla[2]; Vincent Wallace*[3]
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Cryogenic Ultrafast Scattering-type Terahertz-probe Optical-Pump Microscopy (CUSTOM Facility) Capabilities At The University Of Manchester **Th-P2-60**

Baset Gholizadeh*[1]; Richard Curry[2]; Jessica Boland[2]
[1]Manchester, Office Number 2.319, Alan Turing Building, The University of Manchester, Manchester, United Kingdom; [2]University 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 Yang[2]; Ping Zhang[2]; Yuanguo Zhou[1]; Shengpeng Yang[2]; Shaomeng Wang[2]; Yubin Gong[2]
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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 Hase[1]; Yu Tokizane[1]; Naoya Kuse[1]; Takeo Minamikawa[1]; Junichi Hujikata[1]; Hiroki Kishikawa[1]; Masanobu Haraguchi[1]; Yasuhiro Okamura[1]; Takahiro Kaji[2]; Akira Otomo[2]; Atsushi Kanno[2]; Shintaro Hisatake[3]; Takeshi Yasui[1]
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Friday 22 September

	Symposia Theatre	Cartier I	Cartier II
08:00	Closing Ceremonies		
09:00	Plenary 1 9:00-9:45		
10:00	Plenary 2 9:45-10:30		
11:00	Oral Session 11:00-12:30	Oral Session 11:00-12:30	Oral Session 11:00-12:30
12:00			
13:00			
14:00			
15:00			
16:00			
17:00			
18:00			

International I	International II	Third Floor Foyer	Fourth Floor Hall
		AM Break	
Oral Session 11:00-12:30	Oral Session 11:00-12:30		
		Bus Transfer to Sentier des Cimes 13:00-15:00	
		Sentier des Cimes 15:00-17:00	
		Transfer to Mount Tremblant 17:00-17:30	
		Party at Le Grand Lodge Mount Tremblant	

Friday 22 September

08:30-09:00	**Closing Ceremonies** **Chairperson(s): David Cooke**	**Symposia Theatre**
09:00-09:45	**Plenary Session 9** **Chairperson(s): Joo-Hiuk Son**	**Symposia Theatre**
09:00	**Nanowires In Terahertz Photonics: Harder, Better, Stronger, Faster** Hannah Joyce*[1]; Stephanie Adeyemo[2]; Srabani Kar[2]; Jamie Lake[2]; Chawit Uswachoke[2]; Chennupati Jagadish[3]; Hoe Tan[3]; Yunyan Zhang[4]; Huiyun Liu[5]; Jessica Boland[6]; Djamshid Damry[7]; Michael Johnston[7] [1]University of Cambridge, 9 JJ Thomson Ave, Cambridge, United Kingdom; [2]University of Cambridge, 9 JJ Thomson Ave, United Kingdom; [3]Australian National University, Research School of Physics, Australia; [4]Zhejiang University, School of Micro-Nano Electronics, China; [5]University College London, Department of Electronic and Electrical Engineerin, United Kingdom; [6]University of Manchester, Photon Science Institute, United Kingdom; [7]University of Oxford, Clarendon Laboratory, United Kingdom	**Fr-PL-1-1**
09:45-10:30	**Plenary Session 10** **Chairperson(s): Joo-Hiuk Son**	**Symposia Theatre**
09:45	**Quantum Vacuum Dressed Materials In Terahertz Cavities** Junichiro Kono* Rice University, 6100 Main St, MS-378, Houston, United States	**Fr-PL-2-1**
???	**tbd** **Chairperson(s): Tsuneyuki Ozaki**	**Symposia Theatre**
11:00-12:30	**Laser Sources & Detectors VIII** **Chairperson(s): Sergey Kovalev**	**Cartier I**
11:00	**High-performance Terahertz Optoelectronic Receivers Enabled By Monolithic Integration Of SBDs And UTC-PDs: Modelling And Design**	**Fr-AM-2-1**

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

11:15 **Photoconductive, Continuous Wave THz Detectors Based On Rhodium Doped InGaAs With 125 DB Peak Dynamic Range** **Fr-AM-2-2**

Milan Deumer*; Shaffi Berrios; Steffen Breuer; Shahram Keyvaninia; Simon Nellen; Chris Phong Van Nguyen; Lars Liebermeister; Martin Schell; Robert Kohlhaas
Fraunhofer Heinricht Hertz Institute, Einsteinufer 37, Berlin, Germany

11:30 **RF Waveform Noise Measurement By Electro-optic Sampling** **Fr-AM-2-3**

Filip Sosnicki*; Ali Golestani; Michal Karpinski
University of Warsaw, Pasteura 5, Warszawa, Poland

11:45 **2 THz Receiver For Thermospheric Science With 7000K DSB Noise Temperature At Room Temperature** **Fr-AM-2-4**

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

12:00 **Adaptive THz Beam Steering At UTC-PD Array By Genetic Algorithm** **Fr-AM-2-5**

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

12:15 **Purely Photonic Wireless Link At 120 GHz With A Photoconductive Antenna As Heterodyne Receiver** **Fr-AM-2-6**

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, Einsteinufer 37, Berlin, Germany

11:00-12:30	Metasurfaces & Plasmonics III Chairperson(s): Yushan Zeng	Cartier II
11:00	**Broadband Achromatic Terahertz Metalens Based On All-dielectric Sandwich-Shaped Meta-atoms** Yi Xu*[1]; Jianqiang Gu[1]; Quanlong Yang[2]; Jiaguang Han[3] [1]Tianjin University, 92 Weijin Road, Nankai District, 605, Block C, Teaching Building No. 26, Tianjin, China; [2]Central South University, 932 Lushan South Road, China; [3]Guilin University of Electronic Technology, 1 Jinji Road, China	Fr-AM-3-1
11:15	**Dielectric Interference Metasurface For Five-Channel Terahertz Field Control** Tong Wu*[1]; Xueqian Zhang[2]; Quan Xu[2]; Jiaguang Han[2] [1]Tianjin University, Tianjin University No. 92, Weijin Road, Nankai District, Tianjin ,China, Tianjin, China; [2]Tianjin University, Tianjin University No. 92, Weijin Road, Nankai Dis, China	Fr-AM-3-2
11:30	**Solid-state Intensity Modulator Based On A Single-layer Graphene-loaded Metasurface Operating At 2.4 THz** Ruqiao Xia*; Nikita Almond; Harvey Beere; David Ritchie; Wladislaw Michailow University of Cambridge, Cavendish Laboratory, 19 J J Thomson Avenue, Cambridge, United Kingdom	Fr-AM-3-3
11:45	**Nonlinear Metasurfaces For Amplitude-controllable And Pump-handedness-selective THz Generation** Qingwei Wang*[1]; Xi Feng[1]; Yongchang Lu[1]; Li Niu[2]; Quan Xu[2]; Xueqian Zhang[2]; Jiaguang Han[3] [1]Tianjin University, 92 Weijin Road, Nankai District, Tianjin, China, Tianjin, China; [2]Tianjin University, 92 Weijin Road, Nankai District, Tianjin, China, China; [3]Tianjin University, 92 Weijin Road, Nankai District, Tianjin, China, No. 1, Jinji Road, Guilin, Guangxi, 541004, China, China	Fr-AM-3-4
12:00	**Enhanced THz Field Detection Using A Bull's-eye Plasmonic Antenna** Hesam Heydarian*[1]; Xitong Xie[2]; Aswin Vishnuradhan[1]; Eeswar Kumar Yalavarthi[1]; Arnaud Weck[2]; Angela Gamouras[1]; Jean-Michel Ménard[1] [1]University of Ottawa, Department of Physics, Ottawa, Canada; [2]University of Ottawa, Department of Mechanical Engineering, Ottawa, Canada	Fr-AM-3-5
12:15	**A Planar Plasmonic Reflector For Polaritons**	Fr-AM-3-6

Shima Rajabali*[1]; Josefine Enkner[1]; Erika Cortese[2]; Mattias Beck[1]; Simone De Liberato[2]; Jerome Faist[1]; Giacomo Scalari[1]
[1]Institute of Quantum Electronics, ETH Zürich, Auguste-Piccard-Hof 1, Zürich, Switzerland; [2]School of Physics and Astronomy, University of Southampton, Southampton, United Kingdom

11:00-12:30	**Active Sensing 3** **Chairperson(s): Marco Peccianti**	**International I**
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 Alaee[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**	**Fr-AM-4-5**

	Marco Zerbini*; Massimo Alonzo; Giuliano Rocchi ENEA CR Frascati, via E. Fermi, 45, Frascati, Italy	
12:15	**Optimized Terahertz Hyperspectral Analysis In The Frequency- And Time- Domains**	**Fr-AM-4-6**
	Margaret Granger*; Alexa Urrea; Jeremy Johnson Brigham Young University, BNSN C100, Provo, United States	
11:00-12:30	**Metamaterials, plasmonics and nanomaterials** **Chairperson(s): Junichiro Kono**	**International II**
11:00	**Dynamic Transmission Of Terahertz Waves Through Bifeo3 Film Under Out Of Plane Applied Bias**	**Fr-AM-5-3**
	Shreeya Rane*; Arun Jana; Palash Roy Choudhury; Dibakar Roy Chowdhury Mahindra University, Mahindra University Bahadurpally, Mahindra University Bahadurpally, Hyderabad, India	
11:15	**Femtosecond Laser Induced Emission Of Coherent Terahertz Pulses From Ruthenium Thin Films**	**Fr-AM-5-1**
	Lorenzo Cruciani*[1]; Stefan van Vliet[1]; Alessandro Troglia[2]; Roland Bliem[2]; Klaasjan van Druten[3]; Paul Planken[2] [1]Advanced Research Center for Nanolithography, Science Park 106, Amsterdam, Netherlands; [2]Advanced Research Center for Nanolithography, Science Park 106, Netherlands; [3]University of Amsterdam, Science Park 904, Netherlands	
11:30	**All-dielectric Tunable Q-factor Guided-mode Resonance Using Quasi-bound States In The Continuum**	**Fr-AM-5-2**
	Hyeon Sang Bark* Gwangju Institute of Science and Technology, 123 Cheomdan-gwagiro(Oryung-dong), Advanced Photonics Research Institute 317, Gwangju, Korea, Republic of	
11:45	**Printed Terahertz Spiral Zone Plate For Vortex Beam Generation**	**Fr-AM-5-4**
	Redwan Ahmad*[1]; Léo Guiramand[2]; Mariia Zhuldybina[2]; Xavier Ropagnol[2]; Ngoc Duc Trinh[3]; Chloé Bois[3]; Francois Blanchard[2] [1]École de technologie supérieure (ÉTS), Apt 12, 4665 Avenue Bourret, Montreal, Canada; [2]École de technologie supérieure (ÉTS), 1100 Notre-Dame St W, Montreal, Canada; [3]Printability and Graphic Communications Institute (ICI), 999 Av. Émile-Journault, Montreal, Canada	
12:00	**Photonic Crystal THz Leaky-Wave Antenna 3D-Printed In Alumina**	**Fr-AM-5-5**

Hichem Guerboukha*[1]; Masoud Sakaki[2]; Rabi Shrestha[1]; Jingwen Li[3]; Niels Benson[4]; Daniel Mittleman[5]
[1]Brown University, 184 Hope St, Providence, RI 02912, Providence, United States; [2]Universitat Duisburg-Essen, Universitat Duisburg-Essen, Germany; [3]Jiangnan University, Jiangnan University, China; [4]Universität Duisburg-Essen, Universität Duisburg-Essen, Germany; [5]Brown University, 184 Hope St, Providence, RI 02912, United States, Providence, United States

12:15 **Microscope For Electromagnetic Field Distribution Imaging With Intrinsic Josephson Junctions** **Fr-AM-5-6**

Zihan Wei*[1]; Ping Zhang[1]; Yangyang Lv[1]; Hancong Sun[2]; Yonglei Wang[1]; Huabing Wang[1]; Peiheng Wu[1]
[1]Nanjing University, Nanjing University Xianlin Campus, Nanjing, China; [2]Purple Mountain Laboratories, Jiangning District, Nanjing, China

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