

Oral Presentations (at 13th floor of Science Tower I)

Note

All invited talks are 30-minute talks. Contributed presentations are allotted 15 minutes.

Please leave time (5 minutes) for discussions. For oral presentations, you can connect your own PC to LCD projector via standard RGB cable (mini D-sub 15 pin connector). If you will not bring your own PC but you have your presentation file with you, please let us know in advance. You are encouraged to test your presentation prior to the start of your session.

Oct. 16 (Wed)

IW-FIRT 2024

Start Time	Session	No.	Time	Presenter (Affiliation)	Title	Chair.
9:10	Opening remarks		0:10	Executive Vice President, University of Fukui: Shin-ichiro Suye (University of Fukui, Japan)		
9:20	Opening talk		0:10	Chairman of IW-FIRT2024: Yoshinori Tatematsu (FIR-UF)		
9:40	Gyrotrons	16-01	0:30	Yuusuke Yamaguchi (FIR-UF)	Development of High-Frequency Gyrotron System for Application to Life Science Research	Masafumi Fukunari (FIR-UF)
10:10	Break		0:15			
10:25	Gyrotrons	16-02	0:30	Eunmi Choi (UNIST, Korea)	Introduction to Recent Effort in Development of Dual Frequency THz Gyrotron	
10:55		16-03	0:30	Houxiu Xiao (Huazhong University of Science and Technology, China)	Development of Terahertz Gyrotrons for Frontier Scientific Applications in WHMFC	
11:25	Lunch		1:50			
13:15	Magnetic resonance, Material processing	16-04	0:30	Yuya Ishikawa (FIR-UF)	Recent Progress on Development of High-Frequency Electron Spin Resonance Apparatus of FIR-UF	Yutaka Fujii (FIR-UF)
13:45		16-05	0:30	Zhonwen Ouyang (Huazhong University of Science and Technology, China)	Introduction to Wuhan ESR facility and its applications in quantum magnets	
14:15		16-06	0:30	Zhang Qi (Zhejiang University, China)	Detecting biomolecules with solid spin quantum sensors	
14:45		16-07	0:30	La Agusú (Universitas Haluoleo, Indonesia)	Study on the Sintering Process of Advanced Ceramics Using a 28 Gyrotron Sintering Facility	
15:15	Break		0:25			
15:40	Application of highpower/ highfrequency radiation sources	16-08	0:30	Masahiro Sato (Chiba University, Japan)	Spin- and phonon-current rectification with electromagnetic waves	Masahiko Tani (FIR-UF)
16:10		16-09	0:30	Takahiro Moriyama (Nagoya University, Japan)	Electrical detection of antiferromagnetic dynamics: toward THz spectroscopy for nanoscale antiferromagnets	
16:40		16-10	0:30	Gakushi Tsuji (University of Fukui, Japan)	Analysis of biochemical reaction in liposomes after terahertz wave irradiation	
17:10		16-11	0:15	Ayuto Manabe (The University of Tokyo, Japan)	Dependency of Propagation Velocity of 303 GHz Argon Discharges on the Gas Pressure	
17:25		16-12	0:15	Yuye Wang (Tianjin University, China)	Study of glioma detection based on terahertz wave and Raman spectroscopy technology	

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Oct. 17 (Thu)

IW-FIRT 2024

Start Time	Session	No.	Time	Presenter (Affiliation)	Title	Chair.
9:00	Terahertz spectroscopy	17-01	0:30	Takashi Furuya (FIR UF)	High-resolution detection of free-induction decay from gas-phase molecules by broadband terahertz pulse excitation	Mary Clare Escaño (FIR-UF)
9:30		17-02	0:30	Chan-Shan Yang(National Taiwan Normal University, Taiwan)	THz Quasi-BIC Devices: Potential for Modulation and Sensing	
10:00		17-03	0:15	Joel Edouard Nkeck (École de technologie supérieure (ÉTS), Canada)	Terahertz single-shot up-converted parametric spectrometer	
10:15	Break		0:25			
10:40	Terahertz spectroscopy	17-04	0:30	Elmer S. Estacio (The University of the Philippines Diliman, Philippines)	Improving GaAs-based Terahertz Photoconductive Antenna Emitter Performance: Design enhancements in both the visible light absorption and in terahertz emission characteristics	Seitaro Mitsudo (University of Fukui, Japan)
11:10		17-05	0:15	Yugo Oshima (RIKEN, Japan)	Sub-Terahertz ESR study of the molecular π -d electron system	
11:25	Lunch		1:50			

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13:15	THz devices and nonlinearity	Invited1	0:30	村田 博司 (三重大学)	PPLN・光電融合	Ikufumi Katayama (Yokohama National University)
13:45		Oral1	0:15	掛谷 一弘 (京都大学)	Frequency modulated terahertz radiation from superconducting Josephson plasma emitters	
14:00		Oral2	0:15	齊藤 祐希 (東京農工大学)	テラヘルツ光源搭載用3.0THz帯積層構造メタレンズアンテナの設計	
14:15		Oral3	0:15	岡本 章宏 (大阪大学)	THz磁気光学エリプソメトリにおける表面伝導モデルを用いた解析	
14:30		Oral4	0:15	白井 亜美 (東京大学)	偏光分解テラヘルツ分光法を用いたシリコンのバレー及び軌道自由度が与える伝導特性の研究	
14:45		Invited2	0:30	吉田 昭二 (筑波大学)	光波駆動STMによる表面ダイナミクス計測	
15:15	Break		0:30	Group Photo		
15:45	Poster		1:00	Presenters with odd-numbered posters		
16:45			1:00	Presenters with even-numbered posters		
17:45	Break		0:15			
18:00	Banquet		2:00	Academy Hall		

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Oct. 18 (Fri)

S-FTS 2024

Start Time	Session	No.	Time	Presenter (Affiliation)	Title	Chair.
9:00	THz detection and imaging	Oral5	0:15	田中 志貴 (名古屋大学)	LiTaO3を用いたテラヘルツパラメトリック検出の低周波領域の高感度化	Shin-ichiro Hayashi (NICT)
9:15		Oral6	0:15	千葉 初奈 (千葉大学)	テラヘルツ領域における円偏光分離素子の開発	
9:30		Oral7	0:15	嶺 颯太 (名古屋大学)	広帯域テラヘルツ波の周波数領域におけるワンショット検出	
9:45		Oral8	0:15	梅津枝里子 (スペクトルデザイン)	高出力テラヘルツ小型光源を用いたイメージング	
10:00		Invited3	0:30	Shang-Hua Yang (国立清華大学)	A Hybrid Optical-Digital Neural Network for Terahertz Computational Imaging	
10:30	Break		0:15			
10:45	THz spectroscopy	Oral9	0:15	王 喆 (名古屋大学)	重水素置換によるTHz領域セルロース結晶の帰属	Katsuhiko Miyamoto (Chiba University)
11:00		Oral10	0:15	中島 周作 (理化学研究所)	澱粉の化学的特性とTHz帯における吸収ピークの関係性	
11:15		Oral11	0:15	Feroz Ahmed (筑波大学)	Terahertz spectroscopic evaluation of absorption and mobility of water in hyaluronic acid solutions	
11:30		Invited4	0:30	富永 依里子 (広島大学)	Control of point defects in low-temperature-grown dilute bismide compound semiconductors towards fabrication of photoconductive antennas for terahertz wave emission and detection	
12:00		Invited5	0:30	Mary Clare Escaño (福井大学)	Defect Mechanisms of Sub-band Gap Excitations in LT-GaAs Photoconductive Antenna	
12:30	Lunch		1:15			
13:45	Light-matter interaction and THz generation	Invited6	0:30	Kyungmin Lee, Bumki Min (KAIST)	Light-matter interactions in photonic temporal crystals	Masaya Nagai (Osaka University)
14:15		Invited7	0:30	黒山 和幸 (東京大学)	半導体ナノ構造とオンチップテラヘルツ光共振器のコヒーレント結合状態の観測	
14:45		Invited8	0:30	林 伸一郎 (NICT)	サブテラヘルツ波パラメトリック発生	
15:15	Break		0:15			
15:30	THz communications	Invited9	0:30	永妻 忠夫 (大阪大学・東京大学)	Photonics-empowered Sub-terahertz Wireless Communications	Kazutoshi Kato (Kyushu University)
16:00		Invited10	0:30	高野 恭弥 (東京理科大) ベルギー時間 午前 9時00分	300 GHz 帯2次元フェーズドアレー-CMOS 送信機	
16:30	Closing		0:10	Nasahiko Tani (FIR-UF)		

IW-FIRT 2024 Poster Presentations (15:45 - 17:45 on October 17 at 13th floor of Science Tower I)

Note

The poster board size is 110 cm in width and approx. 160 cm in height. Please use detachable stick tape to put up your posters on the poster boards. **DO NOT use pushpins.** The detachable stick tape is available in the poster session room. A presenter should be in front of each poster board during the following time:

Odd number: 15:45 - 16:45; even number: 16:45 - 17:45

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No.	Presenter (Affiliation)	Title
IW-FIRT P-01	Runfeng Tang (Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, China)	TERA-GYRO: A Comprehensive Gyrotron Analysis Code Package in WHMFC
IW-FIRT P-02	Shota Yamazaki (National Institute of Information and Communications Technology, Japan)	3D Temperature Measurement in Corneal Equivalent Phantoms at THz Frequencies
IW-FIRT P-03	Xianfei Chen (Wuhan National High Magnetic Field Center, Huazhong University of Science and Technology, China)	Development of a 1.2 THz third harmonic gyrotron with a novel electron beam
IW-FIRT P-04	Tetsushi Shirotori (FIR-UF)	Development of a Quasi-Optical Mode Converter Using a Helically Cut Antenna for Multiple High-Order TE Mode Generation
IW-FIRT P-05	Jin Tanaka (FIR-UF)	Development of a Millimeter-Wave Detector Utilizing Visible Light Emission From a Carbon Fiber
IW-FIRT P-06	Xinyi Shen (University of Science and Technology of China, China)	In Situ Infrared Spectroscopic Evidence of Enhanced Electrochemical CO ₂ Reduction on AuFe ₁
IW-FIRT P-07	Dmitry Bulgarevich (National Institute for Materials Science (NIMS), Japan)	Simulated Magnetic Field Sensitivity Requirements for Magneto-Optical Imaging
IW-FIRT P-08	Rayko I. Stantchev (Department of Physics, University of Warwick, United Kingdom)	Terahertz imaging for monitoring the drying process of water-based polymer dispersions
IW-FIRT P-09	Fumiyoshi Kuwashima (Fukui Univ. of Tech., Japan)	Stabilization of THz waves using chaotic supremacy
IW-FIRT P-10	Toshiki Kinoshita (Department of Electronics, Nagoya University, Japan)	Terahertz parametric detection utilizing pulse train pump beam
IW-FIRT P-11	Tomoki Tanetani (Department of Electronics, Nagoya University, Japan)	Single-Pixel Spectroscopic Imaging Through Packaging Materials Using a Terahertz Parametric Generator
IW-FIRT P-12	Kenneth Jay Alaba (National Institute of Physics, University of the Philippines Diliman, Philippines)	Finite-difference time-domain simulation of spiral phase plate-induced orbital angular momentum in terahertz pulses
IW-FIRT P-13	Kosuke Murate (Department of Electronics, Nagoya University, Japan)	Extremely Large Angular Tolerance of Terahertz Parametric Detector
IW-FIRT P-14	Jiaming Zhang (Institute of Laser Engineering, Osaka University, Japan)	Electron Dynamics of Vector Vortex Laser Irradiation on Semiconductors
IW-FIRT P-15	Kristiene Joy Fernandez (Materials Science and Engineering Program, College of Science, University of the Philippines Diliman, Philippines)	External cavity length-dependence of quasi-terahertz time-domain spectroscopy with moderate optical feedback
IW-FIRT P-16	Lourdes Nicole Dela Rosa (National Institute of Physics, University of the Philippines Diliman, Philippines)	Investigation of the THz emission of dipole and spiral photoconductive antennas with metal line arrays
IW-FIRT P-17	Ruochen Dai (Institute of Laser Engineering, Osaka university, Japan)	Micrometer-Scale Terahertz Imaging Utilizing Spintronic Emitters
IW-FIRT P-18	Haruto Kobashi (Institute of Laser Engineering, Osaka University, Japan)	Distinguishing Caries and Normal Tissues of Tooth Using Terahertz Waves
IW-FIRT P-19	Zhang Xuelian (Shanghai Normal University, China)	Moiré photonic superlattice-induced transparency at magic angle in a terahertz metasurface composed of triple layer square lattices

IW-FIRT P-20	Zhenyu Zhao (Shanghai Normal University, China)	Enhanced electromagnetic interference shielding from terahertz band to middle infrared region in alkane-grafted Ti ₃ C ₂ T _x MXene thin-films
IW-FIRT P-21	Al Jerome Magsino (University of the Philippines Los Baños, Philippines)	Terahertz spectroscopy of iron oxide-graphene oxide composites
IW-FIRT P-22	Alexander De Los Reyes (RIKEN Center for Advanced Photonics, Japan)	High-brightness, narrow-linewidth, broadband frequency-tunable THz wave source for advanced interferometry
IW-FIRT P-23	Ryosuke Michishita (Graduate School of Science and Engineering, Kansai University, Japan)	Development of an electron gun generating a picosecond sheet-like beam
IW-FIRT P-24	I Putu Abdi Karya (Department of Applied Physics, University of Fukui, Japan)	Electromagnetic wave application on catalytic decomposition of various plastic waste into Hydrogen (H ₂) and Carbon Nanotubes (CNTs)
IW-FIRT P-25	Muhammad Al Jalali (Department of Applied Physics, University of Fukui, Japan)	Microwave Performance on The Extraction of Nickel From Nickel Laterite Ore Using Roasting-Leaching Method
IW-FIRT P-26	Yota Kageyama (Department of Applied Physics, University of Fukui, Japan)	Synthetic methane production using waste-derived crude hydrogen by microwave heating
IW-FIRT P-27	Kohei Nakagawa (FIR-UF)	Cycle Dependence of Hydrogen Gas Produced from Cellulose by Microwave Irradiation
IW-FIRT P-28	Miku Tsuruo (Department of Applied Physics, University of Fukui, Japan)	Study on Application of Microwave Vacuum Distillation Method for Recycling Fukui Ume Plums Vinegar
IW-FIRT P-29	Shunsuke Ishii (Graduate School of Science, Kobe University, Japan)	THz ESR measurements of the perovskite oxide Bi _{0.5} Pb _{0.5} CoO ₃
IW-FIRT P-30	Susumu Okubo (Molecular Photoscience Research Center, Kobe University, Japan)	Terahertz ESR Measurements of CsFeCl ₃ with an anomalous high field phase
IW-FIRT P-31	Ryo Hirata (Graduate school of science, Kobe University, Japan)	Development of terahertz ESR system and optical devices using a 3D printer
IW-FIRT P-32	Takahiro Sakurai (Research Facility Center for Science and Technology, Kobe University, Japan)	Development and Application of High Pressure THz Electron Spin Resonance Measurement Technique
IW-FIRT P-33	Takero Ito (FIR-UF)	Multi-frequency force-detection electron spin resonance system using a high-power light source compact gyrotron
IW-FIRT P-34	Kyosuke Yabushita (FIR-UF)	X-band ESR Measurements of Electromagnetically Sintered BaTiO ₃
IW-FIRT P-35	Akinori Ohashi (FIR-UF)	Evaluation of transport properties of lightly P-doped Si for resistivity-detection-type electron-spin-resonance measurement
IW-FIRT P-36	Hayato Ito (FIR-UF)	Transport property measurement of lightly doped Si:P for electrically detected electron spin resonance
IW-FIRT P-37	Shumpei Kojima (Department of Applied Physics, University of Fukui, Japan)	Magnetic ordering of frustrated magnet MCu ₃ (OH) ₆ Cl ₂ (M=Ni,Co)
IW-FIRT P-38	Keisuke Kawagita (FIR-UF)	Development of a pulsed high-field electron spin resonance system using a millimeter-wave band compact gyrotron
IW-FIRT P-39	Masato Takahashi (FIR-UF)	Characterization of a new photoactivated semiconductor switch for a Pulsed-ESR device using a gyrotron
IW-FIRT P-40	Yamato Katayama (FIR-UF)	Design and evaluation of a quasi-optical transmission system for echo measurement by pulsed ESR
IW-FIRT P-41	Yutaka Kurachi (FIR-UF)	Development of ultra-small microwave resonators for electron spin resonance measurements
IW-FIRT P-42	Yamato Terui (Department of Applied Physics, University of Fukui, Japan)	Measurement of a permittivity by using an inexpensive vector network analyzer
IW-FIRT P-43	Takuma Iwamoto (Department of Applied Physics, University of Fukui, Japan)	Microwave-assisted synthesis and magnetic property of chromic material CuMoO ₄

S-FTS 2024 Poster Presentations (15:45 - 17:45 on October 17 at 13th floor of Science Tower I)

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No.	Presenter (Affiliation)	Title
S-FTS Poster1	立川 冴子 (産業技術総合研究所)	テラヘルツ分光を用いた不透明容器内の非接触温度測定
S-FTS Poster2	後藤 亮哉 (横浜国立大学)	金属のフェムト秒レーザーアブレーションにおける放射テラヘルツ波振幅と加工深さの相関
S-FTS Poster3	高橋 功将 (スペクトルデザイン)	多重干渉縞を利用した産業用シリコンウエハの光学的評価
S-FTS Poster4	里園 浩 (浜松ホトニクス)	テラヘルツ波による流路中の反応モニタリング
S-FTS Poster5	趙 立民 (日本大学)	単層グラフェンの透過THz 波の主成分解析評価
S-FTS Poster6	高本 和也 (神戸大学)	広帯域誘電分光法を用いたリン脂質の疎水鎖長に対する水和水ダイナミクスの依存性
S-FTS Poster7	吉本 知生 (中央大学)	多点同時低振動数ラマン分光および多変量解析を用いた医薬品結晶多形の迅速識別とイメージング
S-FTS Poster8	Matsunaga Rikiei (名古屋大学)	THz時間領域分光法による木質材料の結晶性評価
S-FTS Poster9	Yuma Igo (神戸大学)	Electromagnetic field analysis of nested U-shaped antennas for enhancing broadband terahertz oscillating magnetic fields
S-FTS Poster10	代市 拓海 (千葉大学)	モアレ型メタ表面のテラヘルツ円偏光二色性イメージング
S-FTS Poster11	佐藤 魁哉 (千葉大学)	テラヘルツ高次ベクトルビームの発生
S-FTS Poster12	田中 悠太 (東京農工大学)	短焦点無偏光メタレンズと共鳴トンネルダイオードによる高指向性設計
S-FTS Poster13	足立 瑞季 (千葉大学)	差周波発生によるテラヘルツ高次光渦の発生
S-FTS Poster14	伊東 莉那 (千葉大学)	周波数可変なテラヘルツ光スキルミオンの生成
S-FTS Poster15	Hiroaki Iwase (東北大学)	情報エントロピーに基づくTHzベクトルビームの固有モード分解最適化
S-FTS Poster16	永山 俊輔 (東京工業大学)	共鳴トンネルダイオードテラヘルツ発振器への戻り光によるスペクトル変化の回路解析
S-FTS Poster17	小島 雅也 (東京工業大学)	外部信号で制御可能な共鳴トンネルダイオードテラヘルツ発振器
S-FTS Poster18	吉田 靖典 (日本大学)	電気光学変調コムによる300 GHz テラヘルツ伝送
S-FTS Poster19	菊原 拓海 (徳島大学)	マイクロ光コム駆動型560GHz帯THzベースバンド伝送
S-FTS Poster20	松村 雄大 (徳島大学)	OOK変調THz波と光コム注入同期CWレーザーを用いたTHz/光キャリア変換