

### Ⅲ) 研究成果の公表の状況

#### 1) 論文

##### 1-1 原著論文

(査読有り総説・レビューを含む) (21件, うち国際共著12件)

1. 仲川 晃平, I Putu Abdi Karya, 浅野 貴行, 光藤 誠太郎, 小森 貴文, 高尻 雅之, “Bi<sub>2</sub>Te<sub>3</sub> 薄膜のマイクロ波加熱による異方的な結晶成長”, 日本電磁波エネルギー応用学会論文誌, **7**, 18–24 (2023) (Published online: 15 December 2023) (DOI: 10.32304/jemeajournal.7.0\_18) (2023年度記載漏れによる補遺)
2. Hideyuki Uematsu, Maya Ishikawa, Ayaka Yamaguchi, Shinji Sugihara, Shotaro Nishitsuji, Fumihiro Nishimura, Masachika Yamane, Kazumasa Kawabe, Yukihiro Ozaki, Shuichi Tanoue, “Enhancement of flexural properties of carbon fiber-reinforced polyamide 6 via oriented crystallization of polyamide 6 among carbon fibers”, *Composites Part A: Applied Science and Manufacturing*, **176**, 107837 (2024), (Published online: 12 October 2023) (DOI: 10.1016/j.compositesa.2023.107837) (2023年度記載漏れによる補遺)
3. Setsuko Komatsu, Takumi Nishiuchi, Takashi Furuya, Masahiko Tani, “Millimeter-wave irradiation regulates mRNA-expression and the ubiquitin-proteasome system in wheat exposed to flooding stress”, *Journal of Proteomics*, Vol. **294**, Article No. 105073 (Published online: 11 January 2024) (<https://doi.org/10.1016/j.jprot.2024.105073>) (2023年度記載漏れによる補遺)
4. Hideyuki Uematsu, Toumu Aratama, Ayaka Yamaguchi, Akinori Fukushima, Shinji Sugihara, Fumihiro Nishimura, Masachika Yamane, Yukihiro Ozaki, Shuichi Tanoue, “Influence of Polyetheretherketone radicals on interfacial interaction with carbon fiber and crystal formation of Polyetheretherketone at the interphase”, *Surfaces and Interfaces*, **49**, 104409, (2024), (Published online: 30 April 2024) (DOI: 10.1016/j.surfin.2024.104409)
5. Osamu Morikawa, Ai Hattori, Kohji Yamamoto, Kazuyoshi Kurihara, Takashi Furuya, Fumiyoishi Kuwashima, Hideaki Kitahara, Masahiko Tani: “Accurate measurement of a THz beam radius through a knife-edge technique with a photoconductive antenna detector,” *Journal of the Optical Society of America B*, Vol. **41**, No. 5, 1254-1260 (2024). (published 1 May 2024) (<https://doi.org/10.1364/JOSAB.522107>)

6. Ali Khumaeni, Wahyu Setia Budi, Rinda Hedwig, M. A. Gondal, Koo Hendrik Kurniawan, Masahiko Tani, "Spectrochemical Analysis of Stainless Steel Using 355 nm and 1064 nm Nd:YAG Laser-induced Breakdown Spectroscopy", *Arabian Journal for Science and Engineering* **49**, 10193–10200 (2024) (Published: 02 May 2024) ([DOI: 10.1007/s13369-024-09015-4](https://doi.org/10.1007/s13369-024-09015-4))
7. Mary Clare Escaño, Tien Quang Nguyen, "Enhanced Rashba and exchange effects in bridge-structure graphene on Ni(111) from DFT with spin-orbit coupling calculations", *Physica E: Low-dimensional Systems and Nanostructures*, **163**, 116033 (2024) (published online 22 June 2024) (DOI: 10.1016/j.physe.2024.116033)
8. Makiko Kakikawa, Risa Matsuzuka and Yuusuke Yamaguchi, "Effect of terahertz radiation on drug activity in bacterial cells", *Journal of Electromagnetic Waves and Applications* **38**, 1514-1522 (2024) (Published online: 22 July 2024) (DOI: 10.1080/09205071.2024.2380386)
9. Ali Khumaeni, Wahyu Setia Budi, Rinda Hedwig, Kazuyoshi Kurihara, Masahiko Tani, Koo Hendrik Kurniawan: "Enhancement of signal intensity of elements in human blood serum using a metal mesh-enhanced CO<sub>2</sub> laser-induced breakdown spectroscopy in ambient He gas," *Talanta Open*, Vol. **9**, Paper No. 100322 (August 2024) ([DOI: 10.1016/j.talo.2024.100322](https://doi.org/10.1016/j.talo.2024.100322)) (International)
10. L. Agus, T. Azis, Irman, Fitrianti, A.T. Nurwahida, S. Mitsudo, Alimin, "The Effect of Doping Concentration in the Work Electrodes of Graphene-Mn<sub>x</sub>O<sub>y</sub> and Test on Glucose by Cyclic Voltametry", *International Journal of Acta Material*, **1**, 1, 26-39 (2024) (Published online: 1 September 2024) (DOI: 10.62749/ijactmat.v1i1.5)(International)
11. L. Agus, Amiruddin, M. Nalis, S. Mitsudo, Y. Fujii, Y. Ishikawa, Alimin, "Effect of pH and Stirring Speed on the  $\gamma$ -Fe<sub>2</sub>O<sub>3</sub> Material Properties Synthesized from Iron Sand by Using Co-Precipitation Method", *International Journal of Acta Material*, **1**, 1, 40-50 (2024) (Published online: 1 September 2024) (DOI: 10.62749/ijactmat.v1i1.6)(International)
12. M. H. Balgos, N. Hayazawa, M. Tani, T. Tanaka: "Single pulse shaping for higher harmonic demodulation in terahertz time-domain spectroscopy," *Applied Physics Letters*, Vol. **125**, Issue 17, Paper No. 171104 (2024) (October 22, 2024) (<https://doi.org/10.1063/5.0228361>) (International)

13. 葉 京武, 高澤 一輝, 山口 勇輝, 鈴木 敬和, 谷 正彦, 神成 文彦:「ヘテロダイン型 EO サンプリングを用いた単一ショット THz 波超高速バーストイメージング」(査読有), レーザー研究, **52** 巻, 11 号, pp.618-626 (2024 年 11 月 20 日発行)
14. T. Hattori, A. Fukuoka, K. Kawagita, K. Tada, Y. Ishikawa, Y. Yamaguchi, Y. Tatematsu, Y. Fujii, M. Kimata, S. Kimura, D. Kan, J. Ohe, T. Moriyama, “Inter- and Intrasublattice Spin Mixing Conductance of the Antiferromagnetic Spin Pumping Effect in  $\alpha$ -Fe<sub>2</sub>O<sub>3</sub>/Pt”, *Physical Review Letters*, **133**, 256701 (2024) (Published online: 17 December 2024) (DOI: 10.1103/PhysRevLett.133.256701)
15. Zhen-yu ZHAO, Hideaki KITAHARA, Chen-Hao ZHANG, Masahiko TANI: “Enhancement of mid infrared absorbance by alkane-grafted Ti<sub>3</sub>C<sub>2</sub>T<sub>x</sub> MXene thin-films”, *Journal of Infrared and Millimeter Waves, China*, Vol.**43**, No.6, pp.733-737 (2024). (DOI: 10.11972/j.issn.1001-9014.2024.06.001)
16. E. Khutoryan, A. Kuleshov, S. Ponomarenko, K. Lukin, P. Melezhik, S. Vlasenko, Y. Tatematsu, and M. Tani, “Coupling of Spoof Surface Plasmon Polariton With Multiple-Order Smith–Purcell Radiation in THz Cherenkov Oscillator”, *Transactions on Electron Devices*, **72**, 1383 (2025) (Published online: 8 January 2025) (DOI: 10.1109/TED.2024.3524206) (International)
17. J. Muhammad, K. Nakagawa, I P. A. Karya, A. Ndita, L. O. M. Darusman, T. Iwamoto, Y. Terui, L. Agus, I. N. Sudiana, F. Nishimura, T. Nishiumi, T. Asano, H. Kikuchi, S. Mitsudo, “Microwave-Assisted Roasting-Leaching of Nickel from Indonesian Nickel Laterite Ore”, *International Journal of Acta Material*, **1**, 2, 73-83 (2025) (Published online: 26 February 2025) (DOI: 10.62749/ijactmat.v1i2.10)
18. Vitalii I. Shcherbinin, Tetiana I. Tkachova, Anton V. Hlushchenko, Yoshinori Tatematsu, Manfred Thumm, John Jelonnek, “High Azimuthal Mode Selectivity of a Cavity with Mode-Joining Corrugations for High-Harmonic Gyrotrons”, *J Infrared Milli Terahz Waves* **46**, 1 (2025) (Published online: 20 November 2024) (DOI: 10.1007/s10762-024-01022-8)
19. Y. Tatematsu, Y. Yamaguchi, M. Fukunari, M. Hayakawa, R. Kai, Y. Kawai, R. Matoba, K. Sasaki, T. Shirotori, G. Suzuki, J. Tanaka, M. Mizuno, and T. Nagaoka, “First Experiment of a 600-GHz CW Gyrotron Developed as Light Source for EMF Exposure Assessment”, *IEEE Electron Device Letters*, **46**, 310-313 (2025), (Published online: 09 December 2024) (DOI: 10.1109/LED.2024.3513448)

20. Biswajit Dey, Md. Sherajul Islam, Umama Pervin, Abdullah Al Mamun Mazumder, Takayuki Makino, Jeongwon Park, "Temperature-induced localized exciton dynamics in inorganic CsPbX<sub>3</sub> (X=I, Br, Cl) perovskite nanocrystals", *Journal of Luminescence*, **281**, 121199 (2025), (Published online: 19 March 2025) (DOI: 10.1016/j.jlumin.2025.121199)
21. Vlasenko Sergiy, Likhachev Oleksandr, Kovshov Yuriy, Kishko Sergiy, Ponomarenko Sergiy, Zabrodskiy Oleksandr, Kuleshov Oleksiy, Khutoryan Eduard, Steshenko Sergiy, Kirilenko Anatoliy, Arkusha Yuriy, Lukin Kostyantyn, Tani Masahiko, Tatematsu Yoshinori, "Development of Compact Cherenkov Devices with Sheet Electron Beams in Sub-THz and THz Frequency Ranges", *Radioelectronics and Communications Systems*, **67**, 105-119 (2024) (Published online: 25 March 2025) (DOI: 10.3103/S073527272403004X)

## 1 – 2 国際会議論文 (査読あり) (2件)

1. La Agus, A.J. Muhammad, S. Sulhajib, L.M. Darusman, I.N. Sudiana, L.O. Safiuddin, T. Iwamoto, Y. Terui, I.P.A. Karya, K. Nakagawa, T. Nishiumi, T. Asano, S. Mitsudo, Y. Ishikawa, Y. Fujii, Y. Tatematsu, "The effect of elemental contents on the dielectric permittivity of nickel laterite ores at 2.5 GHz", *Journal of Physics: Conference Series* **2945**, 012037, (2025), (Published online: 10 February 2025) (DOI: 10.1088/1742-6596/2945/1/012037) (International)
2. M. Tani, R. Awata, T. Namazuta, H. Kitahara, T. Furuya and M. C. Escaño, "Applications of Terahertz Time-Domain Coherent Raman Spectroscopy to Aqueous Solutions", 2024 Conference on Lasers and Electro-Optics Pacific Rim (CLEO-PR), Incheon, Korea, Republic of, 2024, pp. 1-2, doi: 10.1109/CLEO-PR60912.2024.10676472.

### 1 – 3 国際会議論文 (査読無し) (8 件)

1. Masahiko Tani, Sakamoto Atsuya, Kitahara Hideaki, Takashi Furuya, and Mary Clare Escaño, “Enhancement of THz Heterodyne Electro-Optic Sampling Signal by Simple Polarization Filtering”, 2024 49th International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz), pp1-2 (2024) (published: 07 October 2024) (DOI: 10.1109/IRMMW-THz60956.2024.10697585)
2. Ivan Cedrick M. Verona; Hannah R. Bardolaza; Vince Paul P. Juguilon; Dmitry S. Bulgarevich; Makoto Watanabe; Masahiko Tani, Elmer S. Estacio, “Investigation of Spin-Current Lifetime in Fe/Pt Spintronic Terahertz Emitter using Double Optical Pump Technique”, 2024 49th International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz), pp1-2 (2024) (published: 07 October 2024) (DOI: 10.1109/IRMMW-THz60956.2024.10697854)
3. Alexei Kuleshov, Eduard Khutoryan, Sergey Vlasenko, Sergey Kishko, Sergey Ponomarenko, Masahiko Tani, Yoshinori Tatematsu, “Recent Advances in THz Clinotrons”, 2024 49th International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz), pp1-2 (2024) (published: 07 October 2024) (DOI: 10.1109/IRMMW-THz60956.2024.10697558)
4. Yuanhao Zeng, Kosaku Kato, Verdad C. Agulto, Fumiyoshi Kuwashima, Masahiko Tani, Masashi Yoshimura, Makoto Nakajima, “Beat-Frequency Terahertz Generation of CW Terahertz Spectroscopy System Using Dual Multimode-Laser Diodes Excitation”, 2024 49th International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz), pp1-2 (2024) (published: 07 October 2024) (DOI: 10.1109/IRMMW-THz60956.2024.10697879)
5. M. Fukunari, R. Okamoto, J. Tanaka, Y. Yamaguchi and Y. Tatematsu, “Visible light emission and electrical resistance of carbon fiber under millimeter-wave irradiation”, 2024 49th International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz), pp1-2 (2024) (published: 07 October 2024) (DOI: 10.1109/IRMMW-THz60956.2024.10697538)
6. M. Fukunari, Y. Tatematsu, Y. Yamaguchi, Y. Suzuki, T. Kamijo, A. Kik, M. Kojima, T. Tasaki, H. Sasaki, and M. Mizuno, “High-power sub-terahertz beam shaping for biological exposure experiments using a gyrotron”, 2024 49th International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz), pp1-2 (2024) (published: 07 October 2024) (DOI: 10.1109/IRMMW-THz60956.2024.10697766)

7. Y. Tatematsu, M. Fukunari, C. Umigishi, J. Tanaka, T. Shirotori and Y. Yamaguchi, "Design of a beam-direction correction mirror system for a multi-frequency Gaussian beam output gyrotron", 2024 49th International Conference on Infrared, Millimeter and Terahertz Waves (IRMMW-THz), pp1-2 (2024) (published: 07 October 2024) (DOI: 10.1109/IRMMW-THz60956.2024.10697565)
8. Fumiyo Kuwashima, Mona Jarrahi, Semih Cakmakyapan, Kenji Wada, Masanobu Haraguchi, Yuki Kawakami, Takeshi Moriyasu, Osamu Morikawa, Kazuyoshi Kurihara, Hideaki Kitahara, Takashi Furuya, Makoto Nakajima, and Masahiko Tani "Stable optical beats between laser longitudinal modes for THz waves using chaotic supremacy", Proc. SPIE **13365**, Terahertz, RF, Millimeter, and Submillimeter-Wave Technology and Applications XVIII, 1336502 (19 March 2025) (DOI: 10.1117/12.3040620)

#### 1 - 4 総説・レビュー・その他の論文等 (2件)

1. T. Makino, "Calculating the electronic structure of oxyhalides: insights into their optical transitions", Activity Report 2023 / Supercomputer Center, Institute of Solid-State Physics, The University of Tokyo, pp251-252, (ISSN 2188-5001)
2. 谷正彦, "スピン流を利用した広帯域テラヘルツ波発生素子" (特集「解説 長波長領域の精密工学」), 精密工学会誌 第 **90** 巻, pp342-347, (published: 2024 年 4 月 5 日)