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）（12 件，うち国際共著 3 件）

1. Maria Herminia M. Balgos, Mary Clare Sison Escaño, Rafael B. Jaculbia, Tien Quang Nguyen, Elizabeth Ann P. Prieto, Elmer S. Estacio, Arnel A. Salvador, Armando S. Somintac, Masahiko Tani, Norihiko Hayazawa, Yousoo Kim: “Atomically precise delineation of As antisite defect states from undoped gallium arsenide host lattice by STM/STS measurements and DFT calculations”, Physica Status Solidi B, **259** (7), 2100652 (2022) (Published online: 16 March 2022) (DOI: 10.1002/pssb.202100652) (International)

2. E. M. Khutoryan, A. N. Kuleshov, S. S. Ponomarenko, K. A. Lukin, Y. Tatematsu, M. Tani: “Hybrid Bulk-Surface Modes Excited by a Sheet Electron Beam in THz Cherenkov Oscillator”, IEEE Transactions on Electron Devices **69**(6), 3407–3412 (2022) (Published: June 2022) (DOI: 10.1109/TED.2022.3168526) (International)

3. Masaki Nishiura, Shun Adachi, Kenji Tanaka, Shin Kubo, Naoki Kenmochi, Takashi Shimozuma, Ryoma Yanai, Teruo Saito, Hideo Nuga, Ryosuke Seki: “Collective Thomson scattering diagnostic with *in situ* calibration system for velocity space analysis in large helical device”, Review of Scientific Instruments **93**(5), 053501 (7 pages) (2022) (Published Online: 02 May 2022) (DOI: 10.1063/5.0079296)

4. Valynn Katrine Mag-usara, Mary Clare Escaño, Christopher E. Petoukhoff, Garik Torosyan, Laura Scheuer, Julien Madéo, Jessica Afalla, Miezel L. Talara, Joselito E. Muldera, Hideaki Kitahara, David R. Bacon, Makoto Nakajima, Keshav Dani, Evangelos Th. Papaioannou, René Beigang, Masahiko Tani: “Optimum excitation wavelength and photon energy threshold for spintronic terahertz emission from Fe/Pt bilayer,” iScience, **25**(7), 104615 (2022) (Published online: July 15, 2022) (DOI: 10.1016/j.isci.2022.104615) (International)

5. Setsuko Komatsu, Yoshie Tsutsui, Takashi Furuya, Hisateru Yamaguchi, Keisuke Hitachi, Kunihiro Tsuchida, Masahiko Tani: “Proteomic and Biochemical Approaches Elucidate the Role of Millimeter-Wave Irradiation in Wheat Growth under Flooding Stress”, International Journal of Molecular Sciences, **23**(18), 10360 (2022) (Published: 08 September 2022) (DOI: 10.3390/ijms231810360)

6. Takayasu Kawasaki, Yuusuke Yamaguchi, Hideaki Kitahara, Akinori Irizawa, Masahiko Tani: “Exploring Biomolecular Self-Assembly with Far-Infrared Radiation”, Biomolecules **12**(9), 1326 (2022) (Published: 19 September 2022) (DOI: 10.3390/biom12091326)

7. Hideyuki Uematsu, Naoki Higashitani, Ayaka Yamaguchi, Akinori Fukuishima, Takayuki Asano, Seitaro Mitsudo, Shinji Sugihara, Masachika Yamane, Toshihira Irisawa, Yukihiro Ozaki, Shuichi Tanoue: “Effects of polycarbonate crystals, π-π interactions, and chemical bonds at an interface on the interfacial adhesion between polycarbonate and reinforcing fibers”, Surfaces and Interfaces, **34**, 102300 (2022) (Published: November 2022) (DOI: 10.1016/j.surfin.2022.102300)

8. Miezel Talara, Dmitry Bulgarevich, Kana Kobayashi, Hideaki Kitahara, Takashi Furuya, Mary Clare Escaño, Makoto Watanabe, Masahiko Tani: “Impact of various spintronic antenna structures driven by a 795-nm pump beam to terahertz (THz) wave generation,” Applied Physics Express **15**(12), 122002 (2022) (Published online: 11 November 2022) (DOI: 10.35848/1882-0786/ac99b5)

9. S. Funada, Y. Ishikawa, M. Kimata, K. Hayashi, T. Sano, K. Sugi, Y. Fujii, S. Mitsudo, Y. Shiota, T. Ono, T. Moriyama: “Electrical Detection of Antiferromagnetic Dynamics in Gd-Co Thin Films Using 154-GHz Gyrotron Irradiation,” Physical Review Applied **19**, L031003 (2023) (Published online: 16 March 2023) (DOI: 10.1103/PhysRevApplied.19.L031003)

10. M.V. Balois-Oguchi, N. Hayazawa, S. Yasuda, K. Ikeda, T.Q. Nguyen, M.C. Escaño, T. Tanaka: “Probing strain and doping along a graphene wrinkle using tip-enhanced raman spectroscopy”, J. Phys. Chem. C 127(12) 5982–5990 (2023) (Published online: 15 March 2023) (DOI: 10.1021/acs.jpcc.2c08529)

11. Hideyuki Uematsu, Kou Yoshida, Ayaka Yamaguchi, Akinori Fukushima, Shinji Sugihara, Masachika Yamane, Yukihiro Ozaki, Shuichi Tanoue: “Enhancement of interfacial shear strength due to cooperative π-π interaction between polyphenylene sulfide and carbon fiber and molecular orientation of polyphenylene sulfide via the π-π interaction,” Composites Part A: Applied Science and Manufacturing, **165**, 107355 (2023) (Published online: 05 December 2022) (DOI: 10.1016/j.compositesa.2022.107355)

12. Mary Clare Escaño, Tien Quang Nguyen, 泉明宏, 谷正彦, “高効率テラヘルツデバイス開発のための第一原理計算に基づく STM シミュレーションによる低温成長 GaAs のバルク欠陥の直接同定”（特集「革新的材料-デバイスの創出を見据えた分野横断的表面科学研究」），表面と真空(Vac. Surf. Sci.), **66**(1), 4–9（2023）(published: August 1, 2022) (DOI: 10.1380/vss.66.4), レビュー（査読有）

１－２　国際会議論文（査読あり）（1 件）

1. Eduard Khutoryan, Sergey Vlasenko, Alexei Kuleshov, Sergiy Ponomarenko, Kostyantyn Lukin, Yoshinori Tatematsu, Masahiko Tani: “Hybrid Bulk-Surface Modes Excited in the THz Cherenkov Oscillator with the Double Grating”, Proceedings of 2022 IEEE 2nd Ukrainian Microwave Week (UkrMW), pp. 238–241 (Published: 13 February 2023) (DOI: 10.1109/UkrMW58013.2022.10037038)

１－３　国際会議論文（査読無し）（9 件）

1. J. C. Afalla, J. E. Muldera, S. Takamizawa, T. Fukuda, K. Ueno, M. Tani, M. Hase: “Interlayer Phonon Modes of $MoSe_2$ and WSe_2 Observed by THz Emission Spectroscopy”, Proceedings of the 2022 Conference on Lasers and Electro-Optics Pacific Rim, Technical Digest Series (Optica Publishing Group, 2022), paper CTuP3C_03. (https://opg.optica.org/abstract.cfm?URI=CLEOPR-2022-CTuP3C_03)

2. Mary Clare Escaño, Tien Quang Nguyen, Valynn Katrine Mag-usara, Miezel Talara, Masahiko Tani: “Structural and electronic origin of spin-dependent interface resistance in spintronic Fe/Pt THz emitter by first-principles calculations”. 2022 47th International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz), pp. 1-2 (2022) (Published: Sept. 26, 2022) (DOI: 10.1109/IRMMW-THz50927.2022.9895634)

3. Yoshinori Tatematsu, Kazuki Nakagawa, Shingo Ito, Masafumi Fukunari, Yuusuke Yamaguchi: “Observation of fundamental mode oscillations in Gyrotron FU CW GVII”, 47th International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz), pp. 1-2 (2022) (Published: Sept. 26, 2022) (DOI 10.1109/IRMMW-THz50927.2022.9895864)

4. Yuusuke Yamaguchi, Masato Watanabe, Masaki Higashide, Masafumi Fukunari, Yoshinori Tatematsu, Teruo Saito: “Introduction of Three-Stage Cavity Resonator in a Multi-Frequency Sub-THz Gyrotron”, 47th International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz), pp. 1-2 (2022) (Published: Sept. 26, 2022) (DOI 10.1109/IRMMW-THz50927.2022.9895863)

5. Takayasu Kawasaki, Yuusuke Yamaguchi, Hideaki Kitahara, Akinori Irizawa, Masahiko Tani: “Structural Regulation of Fiber Biomaterials by Far-IR Radiation”, 47th International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz), pp. 1-2 (2022) (Published: Sept. 26, 2022) (DOI: 10.1109/IRMMW-THz50927.2022.9895731)

6. S. Mitsudo; T. Sano; H. Nishio; K. Hayashi; Y. Ishikawa; Y. Fujii: “Application of high frequency gyrotron to pulsed ESR measurement”, 47th International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz), pp. 1-1 (2022) (Published: Sept. 26, 2022) (DOI: 10.1109/IRMMW-THz50927.2022.9895649)

7. H. Kitahara, T. Furuya, M. C. Escaño, M. Tani: “Terahertz Time-domain Spectroscopy System Using Sub-Bandgap Excitation of Photo-conductive Antenna Made with Low-Temperature Grown Gallium Arsenide”, 47th International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz), pp. 1-1 (2022) (Published: Sept. 26, 2022) (DOI: 10.1109/IRMMW-THz50927.2022.9895475)

8. J. P. C. Afalla, J. E. Muldera, S. Takamizawa, T. Fukuda, K. Ueno, M. Tani, M. Hase: “THz emission spectroscopy of interlayer phonons in $MoSe_2$”, 47th International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz), pp. 1-2 (2022) (Published: Sept. 26, 2022) (DOI: 10.1109/IRMMW-THz50927.2022.9895569)

9. F. Kuwashima, M. Jarrahi, S. Cakmakyapan, O. Morikawa, T. Shirao, K. Iwao, K. Kurihara, H. Kitahara, T. Furuya, K. Wada, M. Nakajima, M. Tani: “High stability of optical beat in laser chaos for THz wave near the threshold level”, 47th International Conference on Infrared, Millimeter, and Terahertz Waves (IRMMW-THz), pp. 1-2 (2022) (Published: Sept. 26, 2022) (DOI: 10.1109/IRMMW-THz50927.2022.9895881)

１－４　総説・レビュー・その他の論文等（1 件）

1. 石川裕也, “極低温・高周波 ESR 装置開発に関する研究”, 電子スピンサイエンス, **21**(1), 26–31 (2023) (published: March 15, 2023), 解説（査読無）