

テラヘルツ光源研究チーム / Tera-Photonics Research Team

(1) 原著論文 (accept) を含む / Original Papers

1. Tamura, K., Tang, C., Ogiura, D., Suwa, K., Fukidome, H., Takida, Y., Minamide, H., Suemitsu, T., Otsuji, T., and Satou, A., “Fast and sensitive terahertz detection with a current-driven epitaxial-graphene asymmetric dual-grating-gate field-effect transistor structure”, *APL Photonics*, 7, 12, 126101 (2022).
2. Wang, Y., Hu, C., Yan, C., Chen, K., Takida, Y., Minamide, H., Xu, D., and Yao, J., “Highly sensitive multi-stage terahertz parametric upconversion detection based on a KTiOPO₄ crystal”, *Opt. Lett.*, 47, 22 (2022).
3. Suzuki, D., Takida, Y., Kawano, Y., Minamide, H., Terasaki, N., “Carbon nanotube-based, serially connected terahertz sensor with enhanced thermal and optical efficiencies”, *Sci. Technol. Adv. Mater.*, 23, 1, 2090855 (2022).
4. Han, Z., Takida, Y., Ohno, S., and Minamide, H., “Terahertz Fresnel-zone-plate thin-film lens based on high-transmittance doublelayer metamaterial phase shifter”, *Opt. Express*, 30, 11, 18730-18742 (2022).
5. Tokizane, Y., Ohno, S., Takida, Y., Shikata, J., and Minamide, H., “Incident-angle-dependent extraordinary transmission of the terahertz bull’s eye structure”, *Physical Review Applied*, 17, 5, 054020 (2022).
6. 南出泰丞, 縄田耕二, 瀧田佑馬, 野竹孝志, “バックワード・テラヘルツ波パラメトリック発振の研究と非破壊検査応用”, *レーザー研究*, 50, 4, 172-176, (2022).

(2) 著書・解説など / Book Editions, Review Papers

1. 南出泰丞, “レーザーとテラフォトニクス —光と電波の技術が融合する領域—”, *レーザー研究*, 50, 6, 283, (2022).

(3) 招待講演 / Invited Talks

1. Minamide, H., “Backward terahertz-wave parametric oscillation and its future advancement and perspectives”, *International Symposium on Ultrafast Intense Laser Science (ISUILS)*, Honolulu, USA, December (2022).
2. Minamide, H., “RIKEN advanced tera-photonics research”, *The 40th SPP Physics Conference and Annual Meeting*, Legazpi City, Philippines, October (2022).

3. Minamide, H., “Intense multicycle Terahertz-wave generation for electron acceleration”, 11th International Workshop on Infrared Microscopy and Spectroscopy with Accelerator Based Sources (WIRMS 2022), Hiroshima, Japan, October (2022).
4. Minamide, H., “Mirrorless backward terahertz-wave parametric oscillator”, International Conference on Microwave & THz Technologies, Wireless Communications and OptoElectronics 2022 (IRPhE’ 2022), Online, September (2022).
5. Minamide, H., “Advanced laser-driven terahertz-wave parametric source for nondestructive testing applications”, The IEEE Summer Topicals Meeting Series, Cabo San Lucas, Mexico, July (2022). (Plenary)
6. Minamide, H., “Advanced Terahertz-wave source and applications based on nonlinear optics”, AES2022, Marrakech, Morocco and Online (Hybrid), May (2022).
7. Ohno, S., “Phase control of THz-wave in multi-port waveguide structure coupled with bull’s-eye antenna”, AES2022, Marrakech, Morocco and Online (Hybrid), May (2022).
8. Minamide, H., “Thin-film-type advanced Terahertz-wave optics based on metamaterials(tentative)”, Metamaterials and Plasmonics World Forum (PlasmoMat-2022), online, May (2022). (Keynote).
9. Minamide, H., “High-intensity 300-GHz Terahertz-wave generation based on nonlinear optical down-conversion”, International Workshop on Breakdown Science and High Gradient Technology (HG2022), online, May (2022).
10. Han, Z., Ohno, S., and Minamide, H., “THz wave spectral phase singularity in transmission type double-layer metamaterial”, The 11th Advanced Lasers and Photon Sources Conference (ALPS2022), ALPS22-02, Yokohama, Japan, April (2022).
11. 南出泰亜、縄田耕二、時実悠、瀧田佑馬、野竹孝志, “バックワード非線形光学波長変換によるテラヘルツ波発生検出技術の開発”, 光・量子ビーム科学合同シンポジウム (OPTO2022) 京都府木津川市, 6月29日 (2022).
12. 瀧田佑馬, “高出力バックワード・テラヘルツ波パラメトリック光源の研究開発と非破壊検査応用”, テラヘルツテクノロジーフォーラム第14回テラヘルツビジネスセミナー, ハイブリッド, 東京都, 6月15日 (2022).

(4) 会議、シンポジウム、セミナー主催 / Meeting, Symposiums and Seminars

1. RIKEN-NICT-East Asia Receiver Joint Workshop, December 14, 2022.
2. CLEO-PR 2022, July 31- August 5, 2022.

(5) 特許出願 / Patent Applications

1. 山本修作, 梶川敬介, 神納祐一郎, 南出泰亜, 縄田耕二, “検査装置”, 特願 2022-036002, 2022 年 3 月 9 日
2. 山本修作, 梶川敬介, 神納祐一郎, 南出泰亜, 縄田耕二, “検査装置”, 特願 2022-036204, 2022 年 3 月 9 日

(6) 特筆すべき事項・トピックス (雑誌表紙などの掲載記事) / Topics

1. マイナビニュース, “室温下の高速高感度テラヘルツ検出素子実現にグラフェンが有用 東北大など”, 2022 年 12 月 16 日.
2. 日経クロステック, “新原理グラフェントランジスタによる高速・高感度テラヘルツ波の検出に成功”, 2023 年 1 月 18 日.