

2025年度研究業績 (Achievements 2025)

1 学術論文誌掲載論文(査読付き) (Academic Journals)

1. Yoshimichi Ohki, Naoshi Hirai, and Yasuhiro Tanaka, “Effects of exposure to radiation and steam on silicone rubber cables removed from a nuclear power plant,” *High Volt.*, vol. 11, pp. 482–493, 2026. DOI: 10.1049/hve2.70096. (Open Access)
2. (国際共同論文) Zhen Li, Heng Zhang, He Gao, Ji Liu, Yoshimichi Ohki, George Chen, and Shengtao Li, “Surface Flashover in 50 years: III. Extreme Environments and Industrial Challenges,” *High Volt.*, vol. 11, pp. 100–142, 2025. DOI: 10.1049/hve2.70150. (Open Access & Early Access)
3. Yoshimichi Ohki, Naoshi Hirai, and Yasuhiro Tanaka, “Conservativeness of the Accelerated Aging Method for Nuclear Power Cables,” *IEEEJ Transactions on Electrical and Electronic Engineering*, vol. 21, pp. 470-477, 2026. DOI: 10.1002/tee.70145.
4. Yoshimichi Ohki, Naohiro Hozumi, and Yasuhiro Tanaka, “Current Integration Method as a Highly Reliable Tool for Measuring Dielectric Properties”, *IEEE Electrical Insulation Magazine*, vol. 42, no. 2, pp. 20 – 32. March 2026. DOI: 10.1109/MEI.2026.11440083.
5. Yoshimichi Ohki “News from Japan - Development of Material Recyclable Cross-Linked Polyethylene for Greener Societies (Part 2),” *IEEE Electrical Insulation Magazine*, Vol. 41, No. 3, pp. 37 - 41, May/June 2025. DOI: 10.1109/MEI.2025.11023209.
6. Yoshimichi Ohki “News from Japan - Novel Diagnosis Method for Insulation Degradation Using a Quartz Crystal Microbalance,” *IEEE Electrical Insulation Magazine*, Vol. 41, No. 4, pp. 39 - 42, July/Aug 2025. DOI: 10.1109/MEI.2025.11039228.
7. Yoshimichi Ohki “News from Japan - Toshiba Develops Epoxy Resin Cured Using Wood-Derived Phenol,” *IEEE Electrical Insulation Magazine*, Vol. 41, No. 5, pp. 30 - 33, Sept/Oct 2024. DOI: 10.1109/MEI.2025.11230321.
8. Yoshimichi Ohki “News from Japan - Takaoka Toko Develops Vegetable-Oil-based Epoxy Resins for Molded Power Equipment,” *IEEE Electrical Insulation Magazine*, Vol. 41, No. 6, pp. 35 - 37, Nov/Dec 2025. DOI: 10.1109/MEI.2025.11217435.
9. Yoshimichi Ohki “News from Japan - Development of DC Deepwater XLPE Cable for Depths up to 1,500 m,” *IEEE Electrical Insulation Magazine*, Vol. 42, No. 1, pp. 37 - 41, Jan/Feb 2026. DOI: 10.1109/MEI.2026.11306327.

10. Yoshimichi Ohki “News from Japan - Development of Low-Dielectric-Constant Insulating Resins for 5G/6G Communication,” IEEE Electrical Insulation Magazine, Vol. 42, No. 2, pp. 42 - 44, Mar/Apr 2026. DOI: 10.1109/MEI.2026.11440074.

2 国際会議発表 (Conference Presentations)

1. **Invited** Yoshimichi Ohki, Naoshi Hirai, Baskarasethuptathi Thangabalan, Shunsuke Shinogi, Yasuhiro Tanaka, and Naohiro Hozumi, “Physical Quantities Measurable by the Current Integration Method - Conductivity, Space Charge, and Permittivity -,” 2025 IEEE International Conference on Electrical Materials and Power Equipment (ICEMPE2025), pp. 1-4, Aug. 3-6, 2025, Harbin, China. DOI: 10.1109/ICEMPE66159.2025.11122990.
2. Yoshimichi Ohki, Naoshi Hirai, and Yasuhiro Tanaka, “Effects of installation in a nuclear power plant on the insulation properties of silicone rubber insulated cables,” 24th Int. Symp. High Volt. Eng., Aug. 24-29, 2025, Karuizawa, Japan.
3. Yoshimichi Ohki, Naoshi Hirai, and Takashi Kurihara, “Dielectric Properties of XLPE Insulation of Cables Harvested from a Nuclear Power Plant,” IEEE Conference on Electrical Insulation and Dielectric Phenomena, pp. 85-88, Sept. 14 – 17, 2025, Manchester, UK. DOI: 10.1109/CEIDP61707.2025.11218489.
4. Shunsuke Shinogi, Baskarasethuptathi Thangabalan, Kodai Kano, Hiroaki Miyake, Yasuhiro Tanaka, Yoshimichi Ohki, “Relationship Between Discharge Characteristics of the Current Integrated Charge Method and the Amount of Accumulated Charge in Insulating Materials,” Jicable HVDC 2025, YR1-35, Oct. 2025, Turin, Italy.

3 国内会議発表 (Conference Presentations in Japan)

1. **招待講演** 大木義路, “高分子絶縁体の目から鱗な誘電・絶縁挙動”, エポキシ樹脂技術協会公開技術講座, 荻窪, 1-2, July 22-23, 2025.
2. 大木義路, 平井直志 “高分子絶縁体には二種類ある(その1)”, 電気学会基礎・材料共通部門大会, 芝浦工業大学, 4-A-a2-2, Sept. 3-5, 2025.
3. **招待講演** 大木義路, 穂積直裕, 田中康寛 “電流積分法の理論的基礎”, 電気学会第56回電気電子絶縁材料システムシンポジウム, 姫路, SP-5, Sept. 8-11, 2025.
4. 大木義路, 平井直志, 田中康寛 “原子力発電所用低圧ケーブル絶縁高分子の耐環境性 (I) シリコーンゴム” 電気学会誘電・絶縁材料/電線・ケーブル合同研究会, 秋田大学オンライン, DEI-25-103/EWC-25-021, Nov. 14, 2025.
5. 大木義路, 平井直志 “高分子絶縁体には二種類ある(その2 : 詳細版)—それぞれの主たる伝導キャリアと誘電挙動—” 電気学会誘電・絶縁材料/放電・プラズマ・パル

スパワー/高電圧合同研究会, 長崎大学, DEI-26-009/ EPP-26-009/ HV-26-009, Feb. 3, 2026.

6. 大木義路, 平井直志 “ナノコンポジットにおける樹脂とフィラーの相互作用”, 電気学会誘電・絶縁材料研究会, 名古屋大学, DEI-26-033, Feb. 24, 2026.
7. 大木義路, 平井直志, 田中康寛 “シリコーンゴムの伝導電荷”, 電気学会令和8年全国大会, 東北学院大学, 2-032, March 12-14, 2026.
8. 大木義路, 平井直志, 田中康寛 “原子力発電所用低圧ケーブル絶縁高分子の耐環境性 (II) 架橋ポリエチレン” 電気学会誘電・絶縁材料/電線・ケーブル合同研究会, 電気学会本部, DEI-26-034/EWC-26-006, March 23, 2026.

4. 受賞 (Awards)

1. Top Cited Article (Among the papers published between Jan. 1, 2023 and Dec. 31, 2023) (Wiley, High Voltage) 2025年4月15日
2. 電気学会 名誉員称号受領, 2025年6月2日
3. 電気学会 電気規格調査会 名誉委員称号受領, 2025年7月22日
4. 2025 Highly Ranked Scholar by ScholarGPS: The outstanding quality of your scholarly contributions have placed you in the top 0.05% of all scholars worldwide according to the most recent 2025 ScholarGPS. 2025年12月30日