

Teng Long

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Electrical Engineering Division, Department of Engineering, University of Cambridge
9 JJ Thomson Ave, Cambridge, CB3 0FA, U.K.

Phone: +44 1223 748316; Email: TL322@cam.ac.uk; URL: <https://tenglong.eng.cam.ac.uk>

Education

- 2009-2013 PhD in Engineering, University of Cambridge
- 2008-2009 BENG (1ST HON) in Electrical Engineering, University of Birmingham
- 2005-2008 BENG in Electrical Engineering, Huazhong University of Science and Technology, China

Current positions

- 2022-present *Professor of Power Electronics*, Department of Engineering, University of Cambridge
- 2021-2022 *University Associate Professor*, Department of Engineering, University of Cambridge
- 2016-2021 *University Lecturer*, Department of Engineering, University of Cambridge
- 2017-present *Fellow and Director of Studies in Engineering*, Peterhouse, University of Cambridge

Appointments held

- 2013-2016 *Power Electronics Engineer*, General Electric (GE) Power Conversion, Rugby, U.K.

Other Appointments and Affiliations

- 2021-present Founder, Cambridge Integrations Ltd.
- 2021-present Founder, EPIC Tech Ltd, www.nenglixin.com
- 2017-2018 Guest Associate Editor: IEEE Transactions on Power Electronics, IEEE Journal of Emerging and Selected Topics in Power Electronics, IEEE Open Journal of Vehicular Technology
- 2015-present Chartered Engineer (CEng)

Research grants

Cumulative to date: **£2,973,221**

- 2023-2024 UK Engineering and Physical Science Research Council (EPSRC) IMPACT ACCELERATION ACCOUNT, 'High bandwidth current sensor for high speed power electronics', (G116766), Principal Investigator, **£146,097**
- 2022-2025 Industrial sponsorship from NIO Ltd, 'Intelligent and integrated (i2-pack) power modules for EVs', (G114992), Principal Investigator, **£381,595**
- 2021-2025 UK Engineering and Physical Science Research Council (EPSRC) iCASE grant, 'Optimal passive filter topology for advanced power electronics converters', (G108997, G106255), Principal Investigator, **£142,696**
- 2020-2022 UK Engineering and Physical Science Research Council (EPSRC) Global Challenges Research Fund (GCRF): 'Affordable Perovskite Solar Irrigation Systems for Small-holder Farmers in Ethiopia (AP-SISSFE)'(EP/To2030X/1), Co-Investigator, entitlement: **£328,358**, total: £938,246
- 2021-2022 Industrial sponsorship from the Centre for Advanced Photonics and Electronics (CAPE) and Electronics, 'High Efficiency VRM Electromagnetic Technology Research' (G11154), Principal Investigator, **£117,583**
- 2020-2023 Industrial sponsorship from CBMM Technology Suisse, 'Nanocrystalline alloy (FeCuNbSiB) based

- magnetic cores in high power Inductive Power Transfer (IPT) for Wireless EV charging'(G105565), Principal Investigator, **£338,344**
- 2020-2021 Industrial sponsorship from the Centre for Advanced Photonics and Electronics (CAPE) and Electronics, 'High Efficiency DC-DC converter' (G108175), Principal Investigator, **£139,963**
- 2020-2022 Cambridge University-Nanjing Centre of Technology and Innovation, 'High power density 48V DC-DC converters for datacentre applications' (G106613), **£197,625**
- 2018-2021 UK Engineering and Physical Science Research Council (EPSRC): New Investigator Award, 'Enhancement of Inductive Power Transfer (IPT) for Wireless EV Charging'(EP/R036799/1), Principal Investigator, **£261,765**
- 2018-2020 Innovate UK: Innovation in Vehicle-to-Grid (V2G) Systems R&D Grants, 'Universal modular Vehicle-to-Grid bi-directional on-board charger with SiC technologies'(TS/R016968/1), Principal Investigator (Academic), **£264,716**
- 2018-2021 Industrial sponsorship from the SAIC Motor UK Technical Centre Ltd, 'Next generation SiC based integrated inverter/charger for 800V EVs'(RG96662), Principal Investigator, **£294,620**
- 2020-2021 Innovate UK ATF: moving the UK automotive sector to zero emissions competition, 'Scalable high efficiency DC-DC converter for electric vehicles (EVs) applications', Principal Investigator (Academic), **£118,345**
- 2018-2019 EPSRC Global Challenges Research Fund (GCRF) PUMP-PRIMING FUND, 'Low cost high performance solar inverters for Tanzania' (G100049), Principal Investigator, **£80,000**
- 2018-2019 Industrial sponsorship from the Wuxi Silent Electric System Technology Ltd, 'Supercapacitor based energy storage in electric systems for ships' (RG95400), Principal Investigator, **£55,579**
- 2017-2018 EPSRC Global Challenges Research Fund (GCRF) Internal Grant, 'A low cost high performance solar inverter'(RG92550), Principal Investigator, **£26,370**
- 2017-2018 Isaac Newton Trust, 'Intelligent Transformers for Future Internet of Energy' (RG74916), Principal Investigator, **£25,000**

Undergraduate teaching

- Paper 2P5: *Electrical Power*, Part IB Engineering Tripos (2nd Year), Co-Lecturer
- Module 3B3: *Switching-Mode Electronics*, Part IIA Engineering Tripos (3rd Year), Module Leader
- Module 3B4: *Electric Drive Systems*, Part IIA Engineering Tripos (3rd Year), Co-Lecturer
- Project GB2: *Electrical Power Project*, Part IIA Engineering Tripos (3rd Year), Project Leader

Academic service

- 2024 External Member of Validation Panel of the *MSc of Electric Vehicles* Programme, Department of Electrical and Electronic Engineering, The Hong Kong Polytechnic University
- 2023 Academic Tenure Review Panel, Nanyang Technological University
- 2023 External Member of Programme Approval Panel of the *BEng/MEng Electrical and Electronic Engineering* Programme, the University of Leicester
- 2023 Academic Tenure Review Panel, ShanghaiTech University
- 2023 Academic Tenure Review Panel, Zhejiang University

PhD Examination

- 2024 External *PhD* Examiner: "DESIGN AND ANALYSIS OF MULTIPLE DEGREE-OF-FREEDOM ELECTRICAL MACHINES WITH HELICAL MOTION", Nanyang Technological University
- 2023 External *PhD* Examiner: "PERMANENT MAGNET BIASED INDUCTORS", Aalborg University
- 2022 External *PhD* Examiner: "High Efficiency High Power Density PFC Converter for Wireless Power

- Transfer System”, Technical University of Denmark
- 2021 External *PhD* Examiner: “Stability Analysis of Virtual Synchronous Machine Control Strategy in Power System”, University of Birmingham
- 2020 External *PhD* Examiner: “Inductive Power Transfer Magnetics for Roadways”, University of Auckland
- 2019 External *PhD* Examiner: “Integration of switched impedance network in Ultra Sparse Matrix Converter for enhanced operating range”, Indian Institute of Technology, Varanasi
- 2019 External *PhD* Examiner: “Application and Evaluation of GaN Technology in High Performance DC-DC Converters”, University of Manchester
- 2019 External *EngD* Examiner: “Inductive Charging for Electric Vehicles”, University of Warwick
- 2019 External *PhD* Examiner: “Improved Misalignment Tolerance of Bi-Directional IPT Systems”, University of Auckland

Invited talk

- 2023 *Keynote*: “Ultra-Compact and Efficient Power Supply Enabling AI Computing”, The 2023 Silk Road International Symposium on the Cooperation and Integration of Industry, Education, Research and Application of Electrical Engineering, 13 Dec 2023, Xi’an, China
- 2023 *Keynote*: “From Device to System, can we Design Power Converter without Physical Boundary?”, The 4th Asia-Pacific Conference on Silicon Carbide and Related Materials (APCSCRM 2023), 10-13 Nov 2023, Beijing, China
- 2023 *Workshop*: “Soft-switching converters at MV level”, European Conference on Power Electronics and Applications EPE 2023 ECCE Europe, 4-8 Aug 2023, Aalborg, Denmark
- 2022 *Workshop*: “From Device to System, can we Design Power Converter without Physical Boundary?”, European Center for Power Electronics (ECPE) Workshop on Embedding and Advanced Integration Technologies in Power Electronics, 23-24 Nov 2022, Graz, Austria
- 2022 *Tutorial*: “Power converter design from SiC bare dies – can we break the physical boundaries of power device package?”, International Microelectronics And Packaging Society (iMAPS) workshop on Power Electronics for Sustainable Mobility, 26 Oct 2022, Milan, Italy
- 2022 *Workshop*: “Niobium nanocrystalline applications: Soft magnetic ribbon in power electronics”, European Center for Power Electronics (ECPE) Workshop on Design, Technology, Simulation and Application Aspects of Magnetic Components in Power Electronics, 22-23 Sept 2022, Toulouse, France
- 2022 *Keynote*: “From Device to System, can we Design Power Converter without Physical Boundary?”, The 2022 Annual ShanghaiTech Symposium on Information Science and Technology (ASSIST 2022), 27-28 Aug 2022, Shanghai, China
- 2021 *Invited Lecture*: “Unlock the potential of Wide Band Gap Power Electronics”, invited by Tsinghua University
- 2021 *Invited Lecture*: “Power electronics in electric vehicles”, invited by Tongji University
- 2021 *Invited Lecture*: “Power electronics in power conversion systems”, invited by Zhejiang University
- 2020 *Seminar*: “Power Electronics in Electric Vehicles”, Symposium on Power Electronics Challegnes and Solutions for the Integration of Electric Vehicle Charging Network, Indian Institute of Technology (BHU) Varanasi, sponsored by Ministry of Education, Government of India
- 2019 *Seminar*: “Unlock the potential of Wide Band Gap (WBG) Power Semiconductors”, IEEE Power electronics Society New Zealand South Chapter, University of Canterbury, Christchurch, New Zealand
- 2019 *Keynote*: “Unlock the potential of Wide Band Gap (WBG) Power Semiconductors”, The second Asia-Pacific Conference on Silicon Carbide and Related Materials (APCSCRM 2019), Beijing, China
- 2019 *Tutorial*: “WBG Devices, Circuits and Measurement”, International Exhibition and Conference for Power Electronics, Intelligent Motion, Renewable Energy and Energy Management (PCIM), Nuremberg, Germany
- 2019 *Keynote*: “Power conversion systems in Electric Vehicles”, China EV100 Forum annual meeting, Beijing, China

Award, Impact, and Publicity

- 2023 Second Prize of the 2022 IEEE Energy Conversion Congress and Exposition (ECCE 2022) William Portnoy Award by IEEE- IAS Power Electronics Devices and Components Committee (PEDCC), “Methodology for Large-signal Loss Characterization of Ferroelectric Class II MLCC in High-frequency Range”
- 2021 Founder of EPIC Tech, a start-up company and raised multi-million RMB venture capital URL: [Link](#)
- 2021 CAPE Acron CAPA Postgraduate Research Award 2021 (£2,000) for “Intelligent Power Module based on Parallel SiC Dies with Improved Efficiency and EMI Performance” URL: [Link](#)
- 2021 First Prize (EUR 10,000) of *Power-Up* Global Power Electronics Challenge organised by Huawei Technology Nuremberg Centre for the “Paralleled soft-switching technology for high efficiency power converters.” URL: [Link](#)
- 2020 CAPE Acron Blue Sky Award 2020 (£20,000) for “Flexible and Ultralight Wireless Power Transfer System up 1 kW Power Rating with Nanocrystalline Flake Ribbon” URL: [Link](#)
- 2018 Winner of Trinity College Bradfield Prize for start-up company, £10,000 cash and free office from the Bradfield Innovation Centre for the business plan of “Magnetically Geared Induction Machine Drive for Battery/Hybrid Vehicles” Ranked Number 1 among 84 applications
- 2018 Article published by *The Engineer*, “Research puts electric vehicles on track for improved inductive charging.” URL: [Link](#)
- 2018 Article published by *Vice* for my research on internet of drones, “Energy Neutral Drone Swarms Can Spy on You Without Taking a Break” URL: [Link](#)
- 2018 Live radio interview by *BBC World Service* for my research on internet of drones, “Energy Neutral Internet of Drones” URL: [Link](#)

Former Supervisees

- 2021-2023 Dr Zhichao Luo, Postdoc, now Associate Professor of South China University of Technology, China
- 2021-2022 Dr Mingxiao Li, Postdoc, now Senior Power Electronics Engineer, Northvolt, Sweden
- 2018-2021 Dr Hui Zhao, Postdoc, now Faculty of Fudan University
- 2018-2021 Dr Chaoqiang Jiang, Postdoc, now Faculty of the Hong Kong City University
- 2018-2021 Dr Yanfeng Shen, Postdoc, now Senior Engineer of Danfoss GmbH, Germany
- 2019-2023 Dr Yunlei Jiang, PhD student, now Senior Engineer of SpaceX
- 2017-2020 Dr Daniel Gaona-Erazo, PhD student, now Senior Engineer of Huawei Nuremberg Research Centre
- 2017-2020 Dr Saikat Ghosh, PhD student, now Senior Engineer of AVL Ltd.
- 2016-2019 Dr Kumaran Nathan, PhD student, now Consultant of BCG London
- 2022-2023 Dr Hengyu Wang, Visiting Scholar, now Faculty of Zhejiang University
- 2019-2021 Dr Yanghong Xia, Visiting Scholar, now Faculty of Zhejiang University
- 2017-2019 Dr Yupeng Yuan, Visiting Scholar, now Faculty of Wuhan University of Technology

Publication List of Prof Teng Long

• Last updated: February 15, 2024 •

• *: Corresponding Author

Peer-reviewed Journal Papers

- [J63] 2024 Y. Wang, C. Q. Jiang, C. Chen, X. Wang, X. Li, and **T. Long**, “Design and Analysis of Inductive Power Transfer System Using Nanocrystalline Flake Ribbon Core,” *IEEE Journal of Emerging and Selected Topics in Power Electronics*, accepted to publish, doi: 10.1109/JESTPE.2024.3358857. (14 pages)
- [J62] 2024 Z. Wang, W. Ying, Y. Zeng, S. Wang, C. Jiang, **T. Long**, J. Qiu, K. Liu, H. Zhao “Equally Split PCB Inductor (ESPI) Design for High Energy Density and Low Near-Field Radiation,” *IEEE Transactions on Industrial Electronics*, accepted to publish, doi: 10.1109/TPEL.2024.3355498. (5 pages)
- [J61] 2023 Z. Luo, X. Li, C. Jiang, Z. Li and **T. Long***, “Permeability-Adjustable Nanocrystalline Flake Ribbon in Customized High-Frequency Magnetic Components,” *IEEE Transactions on Power Electronics*, vol. 39, no. 3, pp. 3477-3485, March 2024, doi: 10.1109/TPEL.2023.3341797 (9 pages)
- [J60] 2023 Y. Zhuge, J. Liang, M. Fu, **T. Long**, and H. Wang, “Comprehensive Overview of Power Electronics Intensive Solutions for High-Voltage Pulse Generators,” *IEEE Open Journal of Power Electronics*, vol. 5, pp. 1-20, 2024, doi: 10.1109/OJPEL.2023.3340220. (20 pages)
- [J59] 2023 Y. Wang, C. Q. Jiang, C. Chen, T. Ma, X. Li, and **T. Long**, “Hybrid Nanocrystalline Ribbon Core and Flake Ribbon For High-Power Inductive Power Transfer Applications,” *IEEE Transactions on Power Electronics*, vol. 39, no. 1, pp. 1898-1911, Jan. 2024, doi: 10.1109/TPEL.2023.3328036. (14 pages)
- [J58] 2023 M. Lu, M. Qin, J. Kacatl, E. Suresh, **T. Long**, and S. M. Goetz, “A Novel Direct-Injection Universal Power Flow and Quality Control Circuit” *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 11, no. 6, pp. 6028-6041, Dec. 2023, doi: 10.1109/JESTPE.2023.3321882, (14 pages)
- [J57] 2023 Y. Wang, **T. Long**, M. Zou, P. Sun, J. Gong, L. Wang, L. Shillaber, F. Blaabjerg, K. Jiang, Z. Zeng, “Transmission Line Rogowski Coil: Isolated Current Sensor With Bandwidth Exceeding 3 GHz for Wide-Bandgap Device” *IEEE Transactions on Power Electronics*, 2023, vol. 38, no. 11, pp. 13599-13605, doi: 10.1109/TPEL.2023.3306103, (7 pages)
- [J56] 2023 R. Zhang, S. Wang, **T. Long**, J. Qiu, K. Liu and H. Zhao, “The Magnetized Capacitance, First Resonant Frequency, and Electromagnetic Analysis of Inductors With Ferrite Cores” *IEEE Transactions on Industrial Electronics*, vol. 71, no. 6, pp. 5734-5744, June 2024, doi: 10.1109/TIE.2023.3294611, (11 pages)
- [J55] 2023 B. Hu, Y. Jiang, L. Shillaber, H. Wang, C. Li, **T. Long***, “Optically-Triggered Self-Adaptive Zero Voltage Switching” *IEEE Transactions on Power Electronics*, 2023, vol. 38, no. 9, pp. 10600-10605, doi: 10.1109/TPEL.2023.3288458, (6 pages)
- [J54] 2023 T. Lackie, Y. Jiang, L. Shillaber, **T. Long***, “Motor Overvoltage Mitigation by Active Cancellation of Reflections Using Parallel SiC Devices with a Coupled Inductor” *IEEE Transactions on Power Electronics*, 2023, vol. 38, no. 9, pp. 11368-11384, doi: 10.1109/TPEL.2023.3288458, (18 pages)

- [J53] 2023 Xinru Li, Luke Shillaber, Zhichao Luo, Xufu Ren, Borong Hu, Chaoqiang Jiang, **T. Long***, “Toroidal Nanocrystalline Powder Core with Trapezoidal Cross Section” *IEEE Transactions on Magnetics*, 2023, vol. 59, no. 11, pp. 1-6, Nov. 2023, Art no. 2501306, doi: 10.1109/TMAG.2023.3287095, (6 pages)
- [J52] 2023 Yunlei Jiang, Borong Hu, Yanfeng Shen, Xufu Ren, Steve Sandler, Stephan Hofmann, **T. Long***, “Loss Characterization and Modeling of Class II Multilayer Ceramic Capacitors: A Synergic Material-Microstructure-Device Approach” *IEEE Transactions on Power Electronics*, 2023, vol. 38, no. 11, pp. 13535-13554, doi: 10.1109/TPEL.2023.3286818, (20 pages)
- [J51] 2023 Yupeng Yuan, Xiaoyu Wang, Liang Tong, Chengqing Yuan, Boyang Shen, **Teng Long**, “Enhancement method of series hybrid ship energy efficiency for speed and energy collaborative optimization” *IET Electrical Systems in Transportation*, 2023, accepted to publish, doi: 10.1049/els2.12085, (14 pages)
- [J50] 2023 X. Wang, Y. Yuan, L. Tong, C. Yuan, B. Shen and **T. Long**, “Energy Management Strategy for Diesel-Electric Hybrid Ship Considering Sailing Route Division Based on DDPG” *IEEE Transactions on Transportation Electrification*, 2023, accepted to publish, doi: 10.1109/TTE.2023.3263328, (16 pages)
- [J49] 2023 Hengyu Wang, Baozhu Wang, Lingxu Kong, Li Liu, Hu Chen, **Teng Long**, Florin Udrea, Kuang Sheng, “4H-SiC Trench Gate Lateral MOSFET With Dual Source Trenches for Improved Performance and Reliability,” *IEEE Transactions on Device and Materials Reliability*, 2023, vol. 23, no. 1, pp. 2-8, March 2023, doi: 10.1109/TDMR.2022.3222909, (7 pages)
- [J48] 2023 T. Ma, C. Jiang, J. Xiang, X. Wang, K. T. Chau and **T. Long**, “Modeling and Analysis of Wireless Power Transfer System via Unified Full-load Discrete-time Model,” *IEEE Transactions on Industrial Electronics*, vol. 70, no. 6, pp. 5626-5636, June 2023, doi: 10.1109/TPEL.2022.3189571, (11 pages)
- [J47] 2022 Y. Jiang, Y. Shen, L. Shillaber, B. Hu, C. Jiang and **T. Long***, “Hybrid-Mode Adaptive Zero-Voltage Switching for Single-Phase DC-AC Conversion with Paralleled SiC MOSFETs,” *IEEE Transactions on Power Electronics*, vol. 37, no. 12, pp. 14067-14081, Dec. 2022, doi: 10.1109/TPEL.2022.3189571, (16 pages)
- [J46] 2022 Z. Luo, X. Li, C. Jiang and **T. Long***, “Characterization of Nanocrystalline Flake Ribbon for High Frequency Magnetic Cores,” *IEEE Transactions on Power Electronics*, vol. 37, no. 12, pp. 14011-14016, Dec. 2022, doi: 10.1109/TPEL.2022.3189575, (6 pages)
- [J45] 2022 L. Shillaber, Y. Jiang, L. Ran and **T. Long***, “Ultra Fast Current Shunt (UFCS): A Gigahertz Bandwidth Ultra Low Inductance Current Sensor,” *IEEE Transactions on Power Electronics*, vol. 37, no. 12, pp. 15493-15504, Dec. 2022, doi: 10.1109/TPEL.2022.3184638, (12 pages)
- [J44] 2022 Y. Wang, Z. Zeng, **T. Long**, P. Sun, L. Wang and M. Zou, “Impedance-Matching Shunt: Current Sensor With Ultrahigh Bandwidth and Extremely Low Parasitics for Wide-Bandgap Device,” *IEEE Transactions on Power Electronics*, vol. 37, no. 10, pp. 11528-11533, Oct. 2022, doi: 10.1109/TPEL.2022.3175973, (6 pages)
- [J43] 2022 Z. Li, X. Huang, Z. Liu, L. Wu, **T. Long**, Y. Chen, X. Li, W. Ying, B. Shen and Y. Fang, “Investigation of Analytical Models for Surface-Mounted Permanent Magnet Motor Using Voltage Source Inverter,” *IEEE Transactions on Industry Applications*, vol. 58, no. 4, pp. 5015-5025, July-Aug. 2022, doi: 10.1109/TIA.2022.3176846, (8 pages)

- [J42] 2022 Noam Ezra, Toine Werner, **Teng Long***, “Dual Voltage Forward Topology for High Efficiency at Universal Mains,” *Electronics*, 11(7), 1009, 2022, doi: 10.3390/electronics11071009, (16 pages)
- [J41] 2022 Guanqi Wang, Jonathan McDonough, Vladimir Zivkovic, **Teng Long**, Zuankai Wang, and Steven Wang, “Terminal velocities of a deformed Leidenfrost liquid: Experiments and self-propulsion model,” *Phys. Rev. Fluids*, vol. 7, 033602, 2022, doi: 10.1103/PhysRevFluids.7.033602, (15 pages)
- [J40] 2021 C. H. T. Lee, W. Hua, **T. Long**, C. Jiang and L. V. Iyer, “A Critical Review of Emerging Technologies for Electric and Hybrid Vehicles,” *IEEE Open Journal of Vehicular Technology*, vol. 2, pp. 471-485, 2021, doi: 10.1109/OJVT.2021.3138894, (15 pages)
- [J39] 2021 G. Mou, Q. Luo, Y. Wei, J. Li, N. Kou, **T. Long**, Y. Li, “A Periodic-Steady-State Analysis Model in Time-Domain for Dual Active Bridge Converter,” *IEEE Transactions on Power Electronics*, vol. 37, no. 4, pp. 4121-4132, April 2022, doi: 10.1109/TPEL.2021.3127926, (13 pages)
- [J38] 2021 G. Qiu, YL. Ran, H. Jiang, **T. Long**, A. Forsyth, W. Shao, X. Hou, “A Fluxgate-based Current Sensor for DC Bias Elimination in a Dual Active Bridge Converter,” *IEEE Transactions on Power Electronics*, vol. 37, no. 3, pp. 3233-3246, March 2022, doi: 10.1109/TPEL.2021.3114354, (13 pages)
- [J37] 2021 Y. Shen, Y. Jiang, H. Zhao and **T. Long***, “Enabling Resonant Commutated Pole in Parallel Power FET Bridge Legs,” *IEEE Transactions on Power Electronics*, vol. 36, no. 12, pp. 13389-13403, Dec. 2021, doi: 10.1109/TPEL.2021.3085558, (15 pages)
- [J36] 2021 C. Jiang, D. E. Gaona, Y. Shen, H. Zhao, K. T. Chau and **T. Long***, “Low Frequency Medium Power Capacitor-Free Self-Resonant Wireless Power Transfer,” *IEEE Transactions on Industrial Electronics*, vol. 68, no. 11, pp. 10521-10533, Nov. 2021, doi: 10.1109/TIE.2020.3034867, (13 pages)
- [J35] 2021 Y. Jiang, Y. Shen, L. Shillaber, C. Jiang and **T. Long***, “Split Parallel Semi-Bridge Switching Cells for Full-Power-Range Efficiency Improvement,” *IEEE Transactions on Power Electronics*, vol. 36, no. 9, pp. 10889-10905, Sept. 2021, doi: 10.1109/TPEL.2021.3067819, (17 pages)
- [J34] 2021 D. E. Gaona-Erazo, C. Jiang and **T. Long***, “Highly Efficient 11.1 kW Wireless Power Transfer Utilizing Nanocrystalline Ribbon Cores,” *IEEE Transactions on Power Electronics*, vol. 36, no. 9, pp. 9955-9969, Sept. 2021, doi: 10.1109/TPEL.2021.3064902, (15 pages)
- [J33] 2021 Aswin Palanisamy, Yam P. Siwakoti, Akshay Mahajan, **Teng Long**, Omid Forati Kashani, Frede Blaabjerg, “A transformerless three-level three-phase boost PWM inverter for PV applications,” *IET Power Electronics*, vol. 14, pp. 1768– 1778, Aug. 2021, doi: 10.1049/pel2.12142, (11 pages)
- [J32] 2021 J. Qi, X. Yang, X. Lin, W. Chen, **T. Long**, K. Tian, X. Hou, X. Wang, “Comprehensive Assessment of Avalanche Operating Boundary of SiC Planar/Trench MOSFET in Cryogenic Applications,” *IEEE Transactions on Power Electronics*, vol. 36, no. 6, pp. 6954-6966, June 2021, doi: 10.1109/TPEL.2020.3034902, (13 pages)
- [J31] 2021 Y. Shen, Y. Jiang, H. Zhao, L. Shillaber, C. Jiang and **T. Long***, “Quadrilateral Current Mode (QCM) Paralleling of Power MOSFETs for Zero-Voltage Switching (ZVS),” *IEEE Transactions on Power Electronics*, vol. 36, no. 5, pp. 5997-6014, May 2021, doi: 10.1109/TPEL.2020.3029545, (18 pages)
- [J30] 2021 Gao, Chenxi and Wang, Jiawei and Huang, Yuan and Li, Zixuan and Zhang, Jiyan and Kuang, Haoze and Chen, Shuhao and Nie, Zanxiang and Huang, Shuyi and Li, Wei and Li, Yubo and Jin, Shunyu and Pan, Yuanjiang and **Long, Teng** and Luo, Jikui and Zhou, Hang and Wang, Xiaozhi,

- “A high-performance free-standing Zn anode for flexible zinc-ion batteries,” *Nanoscale*, vol. 13, no. 22, pp. 10100-10107, 2021, doi: 10.1039/D1NR01266E, (8 pages)
- [J29] 2021 Y. Xia and **T. Long***, “Chopperless Fault Ride-Through Control for DC Microgrids,” *IEEE Transactions on Smart Grid*, vol. 12, no. 2, pp. 965-976, March 2021, doi: 10.1109/TSG.2020.3027059, (12 pages)
- [J28] 2021 Wang, G., McDonough, J. R., Zivkovic, V., **Long, T.**, Wang, S., “From Thermal Energy to Kinetic Energy: Droplet Motion Triggered by the Leidenfrost Effect,” *Advanced Materials Interfaces*, 2021, 8, 2001249. <https://doi.org/10.1002/admi.202001249>, (13 pages)
- [J27] 2020 Y. P. Siwakoti, A. Palanisamy, A. Mahajan, S. Liese, **T. Long** and F. Blaabjerg, “Analysis and Design of a Novel Six-Switch Five-Level Active Boost Neutral Point Clamped Inverter”, *IEEE Transactions on Industrial Electronics*, vol. 67, no. 12, pp. 10485-10496, December 2020, doi:10.1109/TIE.2019.2957712, (12 pages)
- [J26] 2020 C. Jiang and X. Li and S. S. Ghosh and H. Zhao and Y. Shen and **T. Long***, “Nanocrystalline Powder Cores for High-Power High-Frequency Applications,” *IEEE Transactions on Power Electronics*, vol. 35, no. 10, pp. 10821-10830, Oct. 2020, doi: 10.1109/TPEL.2020.2979069, (10 pages)
- [J25] 2020 G. Chang, Y. Wu, S. Shao, Z. Huang and **T. Long***, “DC Bus Systems for Electrical Ships: Recent Advances and Analysis of a Real Case,” *IEEE Electrification Magazine*, vol. 8, no. 3, pp. 28-39, Sept. 2020, doi: 10.1109/MELE.2020.3005697, (12 pages)
- [J24] 2020 Y. Shen, L. Shillaber, H. Zhao, Y. Jiang and **T. Long***, “Desynchronizing Paralleled GaN HEMTs to Reduce Light-Load Switching Loss,” *IEEE Transactions on Power Electronics*, vol. 35, no. 9, pp. 9151-9170, Sept. 2020, doi: 10.1109/TPEL.2020.2970240, (20 pages)
- [J23] 2020 H. Zhao, Y. Shen, W. Ying, J. Qi, C. Jiang and **T. Long***, “Mixed Analog Digital (MAD) Converters for High Power Density DC-DC Conversions,” *IEEE Transactions on Power Electronics*, vol. 35, no. 8, pp. 7742-7748, Aug. 2020, doi: 10.1109/TPEL.2020.2967884, (6 pages)
- [J22] 2020 D. E. Gaona, S. Ghosh and **T. Long***, “Feasibility Study of Nanocrystalline-Ribbon Cores for Polarized Inductive Power Transfer Pads”, *IEEE Transactions on Power Electronics*, vol. 35, no. 7, pp. 6799-6809, July 2020, doi: 10.1109/TPEL.2019.2957774, (11 pages)
- [J21] 2020 H. Zhao, Y. Shen, W. Ying, S. S. Ghosh, M. R. Ahmed and **T. Long***, “A Single- and Three-Phase Grid Compatible Converter for Electric Vehicle (EV) On-Board Chargers”, *IEEE Transactions on Power Electronics*, vol. 35, no. 7, pp. 7545-7562, July 2020, doi: 10.1109/TPEL.2019.2956653, (18 pages)
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