

# Teng Long

• Last updated: November 29, 2021 •

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## 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

- 2021-present *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 Associate Editor: IEEE Open Journal of Vehicular Technology
- 2019-present Member of Technical Committee, IET Power Electronics and Machine Drives (PEMD) Conference
- 2021-present Member of Technical Committee, IEEE Workshop on Control and Modelling for Power Electronics
- 2017-2018 Guest Associate Editor: IEEE Journal of Emerging and Selected Topics in Power Electronics
- 2015-present Chartered Engineer (CEng)
- 2013-present Member of IEEE and IET
- 2019-present Member of Finance Committee of Peterhouse

## Research grants

Cumulative to date: **£2,445,529**

- 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/T02030X/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

- Module 3B3: *Switching-Mode Electronics*, Part IIA Engineering Tripos (3rd Year), Lecture 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

### External examination

- 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

- 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 Challenges 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

### Research Impact and Publicity

- 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 and Associate Researchers

- 2018-2021 Dr Hui Zhao, Postdoc, now Faculty of Fudan University
- 2018-2021 Dr Chaoqiang Jinag, Postdoc, now Faculty of the Hong Kong City University
- 2018-2021 Dr Yanfeng Shen, Postdoc, now Senior Engineer of Danfoss GmbH
- 2017-2020 Dr Daniel Gaona-Erazo, PhD student, now Senior Engineer of Huawei Nuremberg
- 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
- 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 Dr Teng Long

• Last updated: November 29, 2021 •

• \*: Corresponding Author

### Peer-reviewed Journal Papers

- [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*, accepted to publish, 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*, accepted to publish, 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-Eraza, 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)
- [J20] 2020 Y. Xia, W. Wei, **T. Long**, F. Blaabjerg and P. Wang, “New Analysis Framework for Transient Stability Evaluation of DC Microgrids,” *IEEE Transactions on Smart Grid*, vol. 11, no. 4, pp. 2794-2804, July 2020, doi: 10.1109/TSG.2020.2964583, (11 pages)
- [J19] 2020 R. Hou, Y. Shen, H. Zhao, H. Hu, J. Lu and **T. Long\***, “Power Loss Characterization and Modeling for GaN-Based Hard-Switching Half-Bridges Considering Dynamic on-State Resistance,” *IEEE Transactions on Transportation Electrification*, vol. 6, no. 2, pp. 540-553, Jun. 2020, doi: 10.1109/TTE.2020.2989036, (14 pages)
- [J18] 2020 N. Ezra and **T. Long\***, “Dual range flyback topology for high efficiency at dual voltage mains,” *IET Power Electronics*, vol. 13, no. 8, pp. 1565-1574, 17 6 2020, doi: 10.1049/iet-pel.2019.1371, (10 pages)
- [J17] 2020 Y. Shen, H. Wang, F. Blaabjerg, H. Zhao and **T. Long\***, “Thermal Modeling and Design Optimization of PCB Vias and Pads”, *IEEE Transactions on Power Electronics*, vol. 35, no. 1, pp. 882-900, Jan. 2020. doi: 10.1109/TPEL.2019.2915029, (19 pages)

- [J16] 2020 Y. Liu, W. Xu, **T. Long** and F. Blaabjerg, “An Improved Rotor Speed Observer for Standalone Brushless Doubly-Fed Induction Generator Under Unbalanced and Nonlinear loads”, *IEEE Transactions on Power Electronics*, vol. 35, no. 1, pp. 775-788, Jan. 2020. doi: 10.1109/TPEL.2019.2915360, (14 pages)
- [J15] 2020 Yupeng Yuan, Jixiang Wang, Xinping Yan, Boyang Shen, **Teng Long**, “A review of multi-energy hybrid power system for ships,” *Renewable and Sustainable Energy Reviews*, vol. 132, pp. 110081, 2020, doi: 10.1016/j.rser.2020.110081, (15 pages)
- [J14] 2019 K. Nathan, S. Ghosh, Y. Siwakoti and **T. Long\***, “A New DC-DC Converter for Photovoltaic Systems: Coupled Inductors Combined Cuk-SEPIC Converter”, *IEEE Transactions on Energy Conversion*, vol. 34, no. 1, pp. 191-201, March 2019. doi: 10.1109/TEC.2018.2876454, (11 pages)
- [J13] 2019 Z. Li, X. Huang, L. Wu, **T. Long**, B. Shi and H. Zhang, “Open-Circuit Field Prediction of Interior Permanent-Magnet Motor Using Hybrid Field Model Accounting for Saturation”, *IEEE Transactions on Magnetics*, vol. 55, no. 7, pp. 1-7, July 2019, doi: 10.1109/TMAG.2019.2907023, (7 pages)
- [J12] 2018 **T. Long\***, M. Ozger, O. Cetinkaya, O. B. Akan, “Energy Neutral Internet of Drones”, *IEEE Communications Magazine*, vol. 56, no. 1, pp. 22-28, Jan. 2018. doi: 10.1109/MCOM.2017.1700454, (7 pages)
- [J11] 2018 G. Lyu, C. Zhuang, R. Zeng, **T. Long**, P. Palamer, “Physics-based Compact Model of Integrated Gate-Commutated Thyristor with Multiple Effects for High Power Application”, *IET Power Electronics*, 2018, 11(7): pp. 1239-1247, (9 pages)
- [J10] 2018 Yupeng Yuan, Jixiang Wang, Xinping Yan, Qing Li, **Teng Long**, “A design and experimental investigation of a large-scale solar energy/diesel generator powered hybrid ship”, *Energy*, Volume 165, Part A, 2018, pp. 965-978, (14 pages)
- [J9] 2018 Yuan, Y and Zhang, T and Shen, B and Yan, X and **Long, T**, “A Fuzzy Logic Energy Management Strategy for a Photovoltaic/Diesel/Battery Hybrid Ship Based on Experimental Database”, *Energies*, 2018, 11(9): 2211. <https://doi.org/10.3390/en11092211>, (15 pages)
- [J8] 2018 Duan Q, Liu S, Schlager H, **Long T.**, “Generalized vector control with reactive power control for brushless doubly-fed induction machines”, *Journal of Power Electronics*, vol. 18, no. 3, pp. 817-825, 2018. DOI: 10.6113/JPE.2018.18.3.817, (9 pages)
- [J7] 2018 Li Qin, Shi Liu, **Teng Long**, Muhammad Ali Shahzad, H. Inaki Schlager, Song An Yan, “Wind field reconstruction using dimension-reduction of CFD data with experimental validation”, *Energy*, Volume 151, 2018, pp. 272-288, <https://doi.org/10.1016/j.energy.2018.02.141>, (17 pages)
- [J6] 2017 G. Lyu, Z. Yu, R. Zeng, J. Liu, X. Zhang, **T. Long**, P. Palmer, “Optimization of Gate Commutated Thyristors for Hybrid DC Breakers”, *IET Power Electronics*, 2017 10(14): pp. 2002-2009, (8 pages)
- [J5] 2013 **T. Long\***, S. Shao, E. Abdi, R. A. McMahon and S. Liu, “Asymmetrical Low-Voltage Ride Through of Brushless Doubly Fed Induction Generators for the Wind Power Generation”, *IEEE Transactions on Energy Conversion*, vol. 28, no. 3, pp. 502-511, Sept. 2013, doi: 10.1109/TEC.2013.2261818, (10 pages)
- [J4] 2013 P. C. Roberts, **T. Long\***, R. A. McMahon, S. Shao, E. Abdi and J. M. Maciejowski, “Dynamic modelling of the brushless doubly fed machine”, *IET Electric Power Applications*, 2013, 7(7), pp.

544-556, (12 pages)

- [J3] 2013 **T. Long\***, S. Shao, P. Malliband, E. Abdi and R. A. McMahon, "Crowbarless Fault Ride-Through of the Brushless Doubly Fed Induction Generator in a Wind Turbine Under Symmetrical Voltage Dips", *IEEE Transactions on Industrial Electronics*, vol. 60, no. 7, pp. 2833-2841, July 2013, doi: 10.1109/TIE.2012.2208437, (9 pages)
- [J2] 2013 S. Shao, **T. Long\***, E. Abdi and R. A. McMahon, "Dynamic Control of the Brushless Doubly Fed Induction Generator Under Unbalanced Operation", *IEEE Transactions on Industrial Electronics*, vol. 60, no. 6, pp. 2465-2476, June 2013, doi: 10.1109/TIE.2012.22113136, (12 pages)
- [J1] 2013 E. Abdi, R. A. McMahon, P. Malliband, S. Shao, M. E. Mathekga, P. Tavner, S. Abdi, A. Oraee, **T. Long**, M. Tatlow, "Performance Analysis and Testing of a 250 kW Medium-speed Brushless Doubly-Fed Induction Generator", *IET Renewable Power Generation*, 2013, 7(6): pp. 631-638, doi: 10.1049/iet-rpg.2012.0234, (8 pages)

#### Peer-reviewed Conference Papers

- [C34] 2021 X. Li, C. Jiang, H. Zhao, B. Wen, Y. Jiang and T. Long, "Novel Flexible Nanocrystalline Flake Ribbons for High-Frequency Transformer Design," 2021 IEEE Applied Power Electronics Conference and Exposition (APEC), 2021, pp. 2891-2896, doi: 10.1109/APEC42165.2021.9487151, (6 pages)
- [C33] 2021 Y. Jiang, Y. Shen, X. Li and T. Long, "Partial Soft-switching Operation of Parallel Buck-type Semi-bridge Switching Cells with Coupled Inductors," 2021 IEEE Applied Power Electronics Conference and Exposition (APEC), 2021, pp. 1781-1786, doi: 10.1109/APEC42165.2021.9487377, (6 pages)
- [C32] 2021 G. Qiu, L. Ran, H. Jiang, T. Long, A. Forsyth and W. Shao, "A Method for Detecting DC Bias in Transformer of Dual Active Bridge DC-DC Converter," 2021 IEEE 12th Energy Conversion Congress and Exposition - Asia (ECCE-Asia), 2021, pp. 714-719, doi: 10.1109/ECCE-Asia49820.2021.9479006, (6 pages)
- [C31] 2020 D. E. Gaona and T. Long, "Design Considerations for High-power-density IPT Pads using Nanocrystalline Ribbon Cores," 2020 IEEE PELS Workshop on Emerging Technologies: Wireless Power Transfer (WoW), Seoul, Korea (South), 2020, pp. 377-382, doi: 10.1109/WoW47795.2020.9291288, (6 pages)
- [C30] 2020 Y. Jiang, Y. Shen, L. Shillaber and T. Long, "Design of a SiC-Based Switched CCM/TCM Inverter for High-speed Machine Drive with Low PWM-Induced Current Ripple," 2020 IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2020, pp. 5784-5789, doi: 10.1109/ECCE44975.2020.9236407, (6 pages)
- [C29] 2020 D. E. Gaona, H. El Khatib, T. Long and M. Saur, "Overmodulation Strategy for Deadbeat-Flux and Torque Control of IPMSM with Flux Trajectory Control in the Stationary Reference Frame," 2020 IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2020, pp. 6087-6095, doi: 10.1109/ECCE44975.2020.9236331, (9 pages)
- [C28] 2020 D. E. Gaona, H. El Khatib, T. Long and M. Saur, "Analysis of Implementation Methodologies of Deadbeat Direct-Torque and Flux Control (DB-DTFC) for IPMSMs in Stationary and Rotatory Reference Frames," 2020 IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2020, pp. 6071-6078, doi: 10.1109/ECCE44975.2020.9236396, (8 pages)

- [C27] 2020 L. Shillaber, L. Ran, Y. Shen and T. Long, "Gigahertz Current Measurement for Wide Band-gap Devices," 2020 IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2020, pp. 2357-2363, doi: 10.1109/ECCE44975.2020.9235662, (7 pages)
- [C26] 2020 N. Ezra and T. Long, "Dual Voltage Flyback Topology Operation With Efficiency Enhancers at Dual Voltage Mains," 2020 IEEE Energy Conversion Congress and Exposition (ECCE), Detroit, MI, USA, 2020, pp. 399-404, doi: 10.1109/ECCE44975.2020.9235714, (6 pages)
- [C25] 2020 H. Hu, S. Ghosh and T. Long, "Generalized Bidirectional Multilevel DC-DC Converter," 2020 IEEE Applied Power Electronics Conference and Exposition (APEC), New Orleans, LA, USA, 2020, pp. 1720-1726, doi: 10.1109/APEC39645.2020.9123993, (7 pages)
- [C24] 2020 S. Ghosh, D. Gaona, Y. Siwakoti and T. Long, "Synchronous Combined Cuk-SEPIC Converter for Single Phase Transformerless Solar Inverter," 2020 IEEE Applied Power Electronics Conference and Exposition (APEC), New Orleans, LA, USA, 2020, pp. 3225-3231, doi: 10.1109/APEC39645.2020.9124353, (6 pages)
- [C23] 2020 R. Barzegarkhoo, Y. P. Siwakoti, T. Long and F. Blaabjerg, "Five-Level Grid-Tied Inverter Employing Switched-Capacitor Cell with Common-Grounded Feature," 2020 IEEE Applied Power Electronics Conference and Exposition (APEC), New Orleans, LA, USA, 2020, pp. 3298-3303, doi: 10.1109/APEC39645.2020.9124516, (6 pages)
- [C22] 2019 Daniel E. Gaona, Saikat Ghosh, Teng Long, "Embedded compensation for DDQ/Bipolar-Q IPT Charging Pads", 2019 IEEE Energy Conversion Congress and Expo (ECCE), Baltimore, 2019, pp. 551-556, doi: 10.1109/ECCE.2019.8913244, (6 pages)
- [C21] 2019 Wucheng Ying, Hui Zhao, Yanfeng Shen, Zhaokai Li, Hao Hu, Teng Long, "Multi-Phase Input-Parallel Output-Parallel Dual Active Bridge with Inherent Current sharing and Optimized Integrated Transformer", 2019 IEEE Energy Conversion Congress and Expo (ECCE), Baltimore, MA, USA, 2019, pp. 1328-1333, doi: 10.1109/ECCE.2019.8912953, (6 pages)
- [C20] 2019 Yam P. Siwakoti, Teng Long, Reza Barzegarkhoo, and Frede Blaabjerg "A Dual Mode 5-Level Inverter with Wide Input", 2019 IEEE Energy Conversion Congress and Expo (ECCE), Baltimore, MA, USA, 2019, pp. 3609-3615, doi: 10.1109/ECCE.2019.8912556, (6 pages)
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