Appendix A

List of Publications

A.1 Published:

- Singh, Kumar Abhishek, and Kalpana Chaudhary. "Design and development of a new three-phase AC-DC single-stage wind energy conversion system." IET Power Electronics 14, no. 2 (2021), DOI: 10.1049/pel2.12034.
- Singh, Kumar Abhishek, Ashish Prajapati, and Kalpana Chaudhary. "High gain compact interleaved boost converter with reduced voltage stress for PV application." IEEE Journal of Emerging and Selected Topics in Power Electronics (2021), DOI: 10.1109/JESTPE.2021.3120802.

A.2 Revision Submitted:

- Singh, Kumar Abhishek, and Kalpana Chaudhary. "High gain boost converter with ripple free input current for solar power integration in DC microgridd." in IEEE Journal of Emerging and Selected Topics in Power Electronics
- Singh, Kumar Abhishek, and Kalpana Chaudhary. "Single-stage integration of pmsg based wind energy conversion system in DC microgrid." Electric Power Systems Research.

References

- M. Meraj, M. S. Bhaskar, A. Iqbal, N. Al-Emadi, and S. Rahman, "Interleaved Multilevel Boost Converter with Minimal Voltage Multiplier Components for High-Voltage Step-Up Applications," *IEEE Transactions on Power Electronics*, vol. 35, no. 12, pp. 12816–12833, 2020.
- [2] T. Nouri, N. V. Kurdkandi, and M. Shaneh, "A Novel Interleaved High Step-Up Converter with Built-In Transformer Voltage Multiplier Cell," *IEEE Transactions* on Industrial Electronics, vol. 68, no. 6, pp. 4988–4999, 2021.
- M. L. Alghaythi, R. M. O'Connell, N. E. Islam, M. M. S. Khan, and J. M. Guerrero,
 "A High Step-Up Interleaved DC-DC Converter with Voltage Multiplier and Coupled Inductors for Renewable Energy Systems," *IEEE Access*, vol. 8, pp. 123 165–123 174, 2020.
- Y. Zeng, H. Li, W. Wang, B. Zhang, and T. Q. Zheng, "High-Efficient High-Voltage-Gain Capacitor Clamped DC-DC Converters and Their Construction Method," *IEEE Transactions on Industrial Electronics*, vol. 68, no. 5, pp. 3992–4003, 2021.
- [5] Y. Cao, V. Samavatian, K. Kaskani, and H. Eshraghi, "A Novel Nonisolated Ultra-High-Voltage-Gain DC-DC Converter With Low Voltage Stress," *IEEE Transactions* on Industrial Electronics, vol. 64, no. 4, pp. 2809–2819, 2017.
- [6] A. Torkan and M. Ehsani, "A Novel Nonisolated Z-Source DC-DC Converter for Photovoltaic Applications," *IEEE Transactions on Industry Applications*, vol. 54, no. 5, pp. 4574–4583, 2018.
- [7] A. K. Mishra and B. Singh, "High Gain Single Ended Primary Inductor Converter with Ripple Free Input Current for Solar Powered Water Pumping System Utilizing

Cost-Effective Maximum Power Point Tracking Technique," *IEEE Transactions on Industry Applications*, vol. 55, no. 6, pp. 6332–6343, 2019.

- [8] B. R. D. Almeida and F. L. Tofoli, "Three-Phase Grid-Connected WECS With," *IEEE Transactions on Sustainable Energy*, vol. 9, no. 4, pp. 1508–1517, 2018.
- [9] J. Khodabakhsh, E. Mohammadi, and G. Moschopoulos, "PMSG-Based wind energy conversion systems integration into DC microgrids with a novel compact converter," *IEEE Access*, vol. 8, pp. 83583–83595, 2020.
- [10] IRENA, "Climate Change and Renewable Energy: National policies and the role of communities, cities and regions," IRENA, Tech. Rep. June, 2019. [Online]. Available: www.irena.org
- [11] F. Blaabjerg, Y. Yang, D. Yang, and X. Wang, "Distributed Power-Generation Systems and Protection," *Proceedings of the IEEE*, vol. 105, no. 7, pp. 1311–1331, 2017.
- [12] M. Abbasi and J. Lam, "A Step-Up Transformerless, ZV-ZCS High-Gain DC/DC Converter with Output Voltage Regulation Using Modular Step-Up Resonant Cells for DC Grid in Wind Systems," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 5, no. 3, pp. 1102–1121, 2017.
- [13] J. Chen, T. Lin, C. Wen, and Y. Song, "Design of a Unified Power Controller for Variable-Speed Fixed-Pitch Wind Energy Conversion System," *IEEE Transactions* on Industrial Electronics, vol. 63, no. 8, pp. 4899–4908, 2016.
- [14] J. Zeng, J. Ning, X. Du, T. Kim, Z. Yang, and V. Winstead, "A Four-Port DC-DC Converter for a Standalone Wind and Solar Energy System," *IEEE Transactions* on Industry Applications, vol. 56, no. 1, pp. 446–454, 2020.
- [15] U. K. Kalla, B. Singh, S. S. Murthy, C. Jain, and K. Kant, "Adaptive sliding mode control of standalone single-phase microgrid using hydro, wind, and solar PV arraybased generation," *IEEE Transactions on Smart Grid*, vol. 9, no. 6, pp. 6806–6814, 2018.

- [16] K. Strunz, E. Abbasi, and D. N. Huu, "DC microgrid for wind and solar power integration," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 2, no. 1, pp. 115–126, 2014.
- [17] A. A. A. Radwan and Y. A. R. I. Mohamed, "Grid-Connected Wind-Solar Cogeneration Using Back-to-Back Voltage-Source Converters," *IEEE Transactions on Sustainable Energy*, vol. 11, no. 1, pp. 315–325, 2020.
- [18] I. Anand, S. Senthilkumar, D. Biswas, and M. Kaliamoorthy, "Dynamic Power Management System Employing a Single-Stage Power Converter for Standalone Solar PV Applications," *IEEE Transactions on Power Electronics*, vol. 33, no. 12, pp. 10352–10362, 2018.
- [19] C. Correa-Betanzo, H. Calleja, C. Aguilar, A. R. Lopez-Nunez, and E. Rodriguez, "Photovoltaic-based DC microgrid with partial shading and fault tolerance," *Journal* of Modern Power Systems and Clean Energy, vol. 7, no. 2, pp. 340–349, 2019.
- [20] B. F. Nehme, T. K. Akiki, A. Naamane, and N. K. M'Sirdi, "Real-Time Thermoelectrical Model of PV Panels for Degradation Assessment," *IEEE Journal of Photovoltaics*, vol. 7, no. 5, pp. 1362–1375, 2017.
- [21] R. Anilkumar, G. Devriese, and A. K. Srivastava, "Voltage and Reactive Power Control to Maximize the Energy Savings in Power Distribution System with Wind Energy," *IEEE Transactions on Industry Applications*, vol. 54, no. 1, pp. 656–664, 2018.
- "Design [22] K. Κ. Chaudhary, development Α. Singh and and of а AC-DC single-stage three-phase wind energy conversion system," new IETPower Electronics, no. April, pp. 1–11, 2020. [Online]. Available: https://ietresearch.onlinelibrary.wiley.com/doi/10.1049/pel2.12034
- [23] A. W. Bizuayehu, D. Z. Fitiwi, and J. P. Catalao, "Advantages of optimal storage location and size on the economic dispatch in distribution systems," *IEEE Power* and Energy Society General Meeting, vol. 2016-Novem, no. 3, pp. 1336–1345, 2016.

- [24] D. Li and C. N. M. Ho, "A Module-Based Plug-n-Play DC Microgrid with Fully Decentralized Control for IEEE Empower a Billion Lives Competition," *IEEE Transactions on Power Electronics*, vol. 36, no. 2, pp. 1764–1776, 2021.
- [25] O. M. Akeyo, V. Rallabandi, N. Jewell, and D. M. Ionel, "The Design and Analysis of Large Solar PV Farm Configurations with DC-Connected Battery Systems," *IEEE Transactions on Industry Applications*, vol. 56, no. 3, pp. 2903–2912, 2020.
- [26] M. Jahanpour-Dehkordi, S. Vaez-Zadeh, and J. Mohammadi, "Development of a Combined Control System to Improve the Performance of a PMSG-Based Wind Energy Conversion System Under Normal and Grid Fault Conditions," *IEEE Transactions on Energy Conversion*, vol. 34, no. 3, pp. 1287–1295, 2019.
- [27] R. Li and F. Shi, "Control and optimization of residential photovoltaic power generation system with high efficiency isolated bidirectional dc-dc converter," *IEEE Access*, vol. 7, pp. 116 107–116 122, 2019.
- [28] H. T. Nguyen, G. Yang, A. H. Nielsen, and P. H. Jensen, "Combination of synchronous condenser and synthetic inertia for frequency stability enhancement in low-inertia systems," *IEEE Transactions on Sustainable Energy*, vol. 10, no. 3, pp. 997–1005, 2019.
- [29] S. Sathyan, H. M. Suryawanshi, A. B. Shitole, M. S. Ballal, and V. B. Borghate, "Soft-Switched Interleaved DC/DC Converter as Front-End of Multi-Inverter Structure for Micro Grid Applications," *IEEE Transactions on Power Electronics*, vol. 33, no. 9, pp. 7645–7655, 2018.
- [30] P. Kou, D. Liang, and L. Gao, "Distributed Coordination of Multiple PMSGs in an Islanded DC Microgrid for Load Sharing," *IEEE Transactions on Energy Conver*sion, vol. 32, no. 2, pp. 471–485, 2017.
- [31] M. Baseer, G. Mokryani, R. H. A. Zubo, and S. Cox, "Planning of HMG with high penetration of renewable energy sources," *IET Renewable Power Generation*, vol. 13, no. 10, pp. 1724–1730, 2019.

- [32] M. Nasir, H. A. Khan, A. Hussain, L. Mateen, and N. A. Zaffar, "Solar PV-based scalable DC microgrid for rural electrification in developing regions," *IEEE Transactions on Sustainable Energy*, vol. 9, no. 1, pp. 390–399, 2018.
- [33] H. Choi, M. Ciobotaru, M. Jang, and V. G. Agelidis, "Performance of Medium-Voltage DC-Bus PV System," *IEEE Transactions on Sustainable Energy*, vol. 6, no. 2, pp. 464–473, 2015.
- [34] H. Pourfarzad, M. Saremi, and T. Jalilzadeh, "An extended high-voltage-gain DC-DC converter with reduced voltage stress on switches/diodes," *Electrical Engineering*, vol. 102, no. 4, pp. 2435–2452, 2020. [Online]. Available: https://doi.org/10.1007/s00202-020-01040-4
- [35] J. Liu, K. Wang, Z. Zheng, C. Li, and Y. Li, "A Dual-Active-clamp quasi-resonant isolated boost converter for pv integration to medium-voltage dc grids," *IEEE Jour*nal of Emerging and Selected Topics in Power Electronics, vol. 8, no. 4, pp. 3444– 3456, 2020.
- [36] M. Veerachary and N. Kumar, "Analysis and Design of Quadratic following Boost Converter," *IEEE Transactions on Industry Applications*, vol. 56, no. 6, pp. 6657– 6673, 2020.
- [37] H. Zhu, D. Zhang, H. S. Athab, B. Wu, and Y. Gu, "PV isolated three-port converter and energy-balancing control method for PV-battery power supply applications," *IEEE Transactions on Industrial Electronics*, vol. 62, no. 6, pp. 3595–3606, 2015.
- [38] A. K. Singh, A. K. Mishra, K. K. Gupta, P. Bhatnagar, and T. Kim, "An Integrated Converter with Reduced Components for Electric Vehicles Utilizing Solar and Grid Power Sources," *IEEE Transactions on Transportation Electrification*, vol. 6, no. 2, pp. 439–452, 2020.
- [39] A. Anand and B. Singh, "Cuk-SEPIC Based Bridgeless PFC Dual Output Converter Fed SRM Drive," India International Conference on Power Electronics, IICPE, vol. 2018-Decem, pp. 1–7, 2018.
- [40] M. S. Bhaskar, M. Meraj, A. Iqbal, and S. Padmanaban, "Nonisolated Symmetrical Interleaved Multilevel Boost Converter with Reduction in Voltage Rating of Ca-

pacitors for High-Voltage Microgrid Applications," *IEEE Transactions on Industry* Applications, vol. 55, no. 6, pp. 7410–7424, 2019.

- [41] T. Liu, M. Lin, and J. Ai, "High Step-Up Interleaved dc-dc Converter with Asymmetric Voltage Multiplier Cell and Coupled Inductor," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 8, no. 4, pp. 4209–4222, 2020.
- [42] V. J. Samuel, G. Keerthi, and M. Prabhakar, "Ultra-high gain DC-DC converter based on interleaved quadratic boost converter with ripple-free input current," *International Transactions on Electrical Energy Systems*, vol. 30, no. 11, pp. 1–24, 2020.
- [43] S. B. Santra, D. Chatterjee, Y. P. Siwakoti, and F. Blaabjerg, "Generalized Switch Current Stress Reduction Technique for Coupled-Inductor based Single Switch High Step-Up Boost Converter," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 9, no. 2, pp. 1863–1875, 2020.
- [44] M. Lakshmi and S. Hemamalini, "Nonisolated High Gain DC DC Converter for DC Microgrids," *IEEE Transactions on Industrial Electronics*, vol. 65, no. 2, pp. 1205–1212, 2018.
- [45] T. Shanthi, S. U. Prabha, and K. Sundaramoorthy, "Non-Isolated n-Stage High Step-up DC-DC Converter for Low Voltage DC Source Integration," *IEEE Trans*actions on Energy Conversion, vol. 36, no. 3, pp. 1625–1634, 2021.
- [46] V. Karthikeyan, S. Kumaravel, and G. Gurukumar, "High Step-Up Gain DC-DC Converter with Switched Capacitor and Regenerative Boost Configuration for Solar PV Applications," *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 66, no. 12, pp. 2022–2026, 2019.
- [47] K. Zaoskoufis and E. C. Tatakis, "An Improved Boost-Based dc/dc Converter with High-Voltage Step-Up Ratio for DC Microgrids," *IEEE Journal of Emerging and* Selected Topics in Power Electronics, vol. 9, no. 2, pp. 1837–1853, 2021.
- [48] B. P. R. Baddipadiga, V. A. K. Prabhala, and M. Ferdowsi, "A Family of High-Voltage-Gain DC-DC Converters Based on a Generalized Structure," *IEEE Transactions on Power Electronics*, vol. 33, no. 10, pp. 8399–8411, 2018.

- [49] N. Zhang, G. Zhang, K. W. See, and B. Zhang, "A single-switch quadratic buckboost converter with continuous input port current and continuous output port current," *IEEE Transactions on Power Electronics*, vol. 33, no. 5, pp. 4157–4166, 2018.
- [50] J. L. Ramos, R. M. Varona, M. G. O. Lopez, L. H. D. Saldierna, and L. Cordoba, "Control Strategy of a Quadratic Boost Converter With Voltage Multiplier Cell for High-Voltage Gain," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 5, no. 4, pp. 1761–1770, 2017.
- [51] V. F. Pires, A. Cordeiro, D. Foito, and J. F. Silva, "High step-up DC-DC converter for fuel cell vehicles based on merged quadratic boost-Cuk," *IEEE Transactions on Vehicular Technology*, vol. 68, no. 8, pp. 7521–7530, 2019.
- [52] A. Kumar and P. Sensarma, "Ripple-Free Input Current High Voltage Gain DC-DC Converters with Coupled Inductors," *IEEE Transactions on Power Electronics*, vol. 34, no. 4, pp. 3418–3428, 2019.
- [53] R. Hu, J. Zeng, J. Liu, Z. Guo, and N. Yang, "An Ultrahigh Step-Up Quadratic Boost Converter Based on Coupled-Inductor," *IEEE Transactions on Power Electronics*, vol. 35, no. 12, pp. 13 200–13 209, 2020.
- [54] P. C. Heris, Z. Saadatizadeh, and E. Babaei, "A New Two Input-Single Output High Voltage Gain Converter with Ripple-Free Input Currents and Reduced Voltage on Semiconductors," *IEEE Transactions on Power Electronics*, vol. 34, no. 8, pp. 7693– 7702, 2019.
- [55] H. Ardi, A. Ajami, and M. Sabahi, "A novel high step-up DC-DC converter with continuous input current integrating coupled inductor for renewable energy applications," *IEEE Transactions on Industrial Electronics*, vol. 65, no. 2, pp. 1306–1315, 2018.
- [56] N. Rana, S. Banerjee, S. K. Giri, A. Trivedi, and S. S. Williamson, "Modeling, analysis and implementation of an improved interleaved buck-boost converter," *IEEE Transactions on Circuits and Systems II: Express Briefs*, vol. 68, no. 7, pp. 2588– 2592, 2021.

- [57] S.-w. Lee and H.-l. Do, "Zero-Ripple Input-Current High-Step-Up Boost SEPIC DC – DC Converter With Reduced Switch-Voltage stress," *IEEE Transactions on Power Electronics*, vol. 32, no. 8, pp. 6170–6177, 2017.
- [58] —, "Isolated SEPIC DC DC Converter With Ripple-Free Input Current and Lossless Snubber," *IEEE Transactions on Industrial Electronics*, vol. 65, no. 2, pp. 1254–1262, 2018.
- [59] H. Seok, B. Han, B. H. Kwon, and M. Kim, "High step-up resonant DC-DC converter with ripple-free input current for renewable energy systems," *IEEE Transactions on Industrial Electronics*, vol. 65, no. 11, pp. 8543–8552, 2018.
- [60] Y. Shi, R. Li, Y. Xue, and H. Li, "High-frequency-link-based grid-tied PV system with small DC-link capacitor and low-frequency ripple-free maximum power point tracking," *IEEE Transactions on Power Electronics*, vol. 31, no. 1, pp. 328–339, 2016.
- [61] D. Vinnikov, A. Chub, E. Liivik, I. Roasto, and D. C. Dc, "High-Performance Quasi-Z -Source Series Resonant Power Electronics Applications," *IEEE Transactions on Power Electronics*, vol. 32, no. 5, pp. 3634–3650, 2017.
- [62] K. Yari, S. H. Shahalami, and H. Mojallali, "A novel nonisolated buck-boost converter with continuous input current and semiquadratic voltage gain," *IEEE Journal* of Emerging and Selected Topics in Power Electronics, vol. 9, no. 5, pp. 6124–6138, 2021.
- [63] A. Mahmood, M. Zaid, J. Ahmad, M. A. Khan, S. Khan, Z. Sifat, C. H. Lin, A. Sarwar, M. Tariq, and B. Alamri, "A Non-Inverting High Gain DC-DC Converter with Continuous Input Current," *IEEE Access*, vol. 9, pp. 54710–54721, 2021.
- [64] G. Li, X. Jin, X. Chen, and X. Mu, "A Novel Quadratic Boost Converter With Low Inductor Currents," CPSS Transactions on Power Electronics and Applications, vol. 5, no. 1, pp. 1–10, 2020.
- [65] Y. Wang, Y. Qiu, Q. Bian, Y. Guan, and D. Xu, "A Single Switch Quadratic Boost High Step Up DC-DC Converter," *IEEE Transactions on Industrial Electronics*, vol. 66, no. 6, pp. 4387–4397, 2019.

- [66] S. W. Lee and H. L. Do, "Quadratic Boost DC-DC Converter with High Voltage Gain and Reduced Voltage Stresses," *IEEE Transactions on Power Electronics*, vol. 34, no. 3, pp. 2397–2404, 2019.
- [67] Texas Instruments, "98.6Design for HEV/EV Onboard Charger," TI Designs, TIDA-01604, no. March, pp. 1–72, 2018.
- [68] R. Barrera-Cardenas and M. Molinas, "Comparative study of wind turbine power converters based on medium-frequency AC-link for offshore DC-grids," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 3, no. 2, pp. 525–541, 2015.
- [69] H. Wu, Y. Zhang, and Y. Jia, "Three-Port Bridgeless PFC-Based Quasi Single-Stage Single-Phase AC-DC Converters for Wide Voltage Range Applications," *IEEE Transactions on Industrial Electronics*, vol. 65, no. 7, pp. 5518–5528, 2018.
- [70] X. Lin and F. Wang, "AC-DC bridgeless buck converter with high PFC performance by inherently reduced dead zones," *IET Power Electronics*, vol. 11, no. 9, pp. 1–7, 2018.
- [71] E. H. Ismail, "Bridgeless SEPIC rectifier with unity power factor and reduced conduction losses," *IEEE Transactions on Industrial Electronics*, vol. 56, no. 4, pp. 1147–1157, 2009.
- [72] V. Bist and B. Singh, "A Unity Power Factor Bridgeless Isolated Cuk Converter-Fed Brushless DC Motor Drive," *IEEE Transactions on Industrial Electronics*, vol. 62, no. 7, pp. 4118–4129, 2015.
- [73] B. Singh and V. Bist, "Improved power quality bridgeless Cuk converter fed brushless DC motor drive for air conditioning system," *IET Power Electronics*, vol. 6, no. 5, pp. 902–913, 2013.
- [74] S. W. Lee and H. L. Do, "Single-Stage Bridgeless AC-DC PFC Converter Using a Lossless Passive Snubber and Valley Switching," *IEEE Transactions on Industrial Electronics*, vol. 63, no. 10, pp. 6055–6063, 2016.

- [75] H. Belkamel, H. Kim, and S. Choi, "Interleaved Totem-Pole ZVS Converter Operating in CCM for Single-Stage Bidirectional AC-DC Conversion with High-Frequency Isolation," *IEEE Transactions on Power Electronics*, vol. 36, no. 3, pp. 3486–3495, 2021.
- [76] S. Gangavarapu and A. K. Rathore, "Three-Phase Buck-Boost Derived PFC Converter for More Electric Aircraft," *IEEE Transactions on Power Electronics*, vol. 34, no. 7, pp. 6264–6275, 2019.
- [77] S. Gangavarapu, S. Member, A. K. Rathore, and S. Member, "Three-Phase Single-Stage-Isolated Cuk-Based PFC Converter," *IEEE Transactions on Power Electronics*, vol. 34, no. 2, pp. 1798–1808, 2019.
- [78] T. Jimichi, M. Kaymak, and R. W. De Doncker, "Comparison of single-phase and three-phase dual-active bridge DC-DC converters with various semiconductor devices for offshore wind turbines," 2017 IEEE 3rd International Future Energy Electronics Conference and ECCE Asia, IFEEC - ECCE Asia 2017, no. Mvdc, pp. 591-596, 2017.
- [79] Y. Tan, H. Zhang, and Y. Zhou, "Fault Detection Method for Permanent Magnet Synchronous Generator Wind Energy Converters Using Correlation Features among Three-phase Currents," *Journal of Modern Power Systems and Clean Energy*, vol. 8, no. 1, pp. 168–178, 2020.
- [80] K. Tan and S. Islam, "Optimum control strategies in energy conversion of PMSG wind turbine system without mechanical sensors," *IEEE Transactions on Energy Conversion*, vol. 19, no. 2, pp. 392–399, 2004.
- [81] A. G. Abo-Khalil and D. C. Lee, "MPPT control of wind generation systems based on estimated wind speed using SVR," *IEEE Transactions on Industrial Electronics*, vol. 55, no. 3, pp. 1489–1490, 2008.
- [82] K. Y. Lo, Y. M. Chen, and Y. R. Chang, "MPPT battery charger for stand-alone wind power system," *IEEE Transactions on Power Electronics*, vol. 26, no. 6, pp. 1631–1638, 2011.

- [83] O. Abdel-Rahim, "A New High Gain DC-DC Converter With Model-Predictive-Control Based MPPT Technique for Photovoltaic Systems," CPSS Transactions on Power Electronics and Applications, vol. 5, no. 2, pp. 191–200, 2020.
- [84] J. M. Guerrero, C. Lumbreras, D. D. Reigosa, P. Garcia, and F. Briz, "Control and Emulation of Small Wind Turbines Using Torque Estimators," *IEEE Transactions* on Industry Applications, vol. 53, no. 5, pp. 4863–4876, 2017.
- [85] H. Wang and F. Blaabjerg, "Reliability of capacitors for DC-link applications in power electronic converters - An overview," *IEEE Transactions on Industry Applications*, vol. 50, no. 5, pp. 3569–3578, 2014.
- [86] L. Gu, K. Yao, X. Ruan, and M. Xu, "Means of Eliminating Electrolytic Capacitor in AC/DC Power Supplies for LED Lightings," *IEEE Transactions on Power Electronics*, vol. 24, no. 5, pp. 1399–1408, 2009.
- [87] Y. Tang and A. Khaligh, "A multiinput bridgeless resonant AC-DC converter for electromagnetic energy harvesting," *IEEE Transactions on Power Electronics*, vol. 31, no. 3, pp. 2254–2263, 2016.
- [88] G. Chen and X. Cai, "Reconfigurable Control for Fault-Tolerant of Parallel Converters in PMSG Wind Energy Conversion System," *IEEE Transactions on Sustainable Energy*, vol. 10, no. 2, pp. 604–614, 2019.
- [89] K. Fischer, T. Stalin, H. Ramberg, J. Wenske, G. Wetter, R. Karlsson, and T. Thiringer, "Field-experience based root-cause analysis of power-converter failure in wind turbines," *IEEE Transactions on Power Electronics*, vol. 30, no. 5, pp. 2481–2492, 2015.
- [90] R. Errouissi, A. Al-Durra, and M. Debouza, "A novel design of PI current controller for PMSG-based wind turbine considering transient performance specifications and control saturation," *IEEE Transactions on Industrial Electronics*, vol. 65, no. 11, pp. 8624–8634, 2018.
- [91] P. Najafi, A. Hooshmand Viki, and M. Shahparasti, "Novel space vector-based control scheme with dc-link voltage balancing capability for 10 switch converter in bipo-

lar hybrid microgrid," *Sustainable Energy, Grids and Networks*, vol. 20, p. 100256, 2019.

- [92] R. Nair and G. Narayanan, "Emulation of Wind Turbine System Using Vector Controlled Induction Motor Drive," *IEEE Transactions on Industry Applications*, vol. 56, no. 4, pp. 4124–4133, 2020.
- [93] Y. Zhao, C. Wei, Z. Zhang, and Q. Wei, "A Review on Position / Speed Sensorless Control for," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 1, no. 4, pp. 203–216, 2013.
- [94] X. Guo, Y. Yang, B. Wang, and Z. Lu, "Generalized Space Vector Modulation for Current Source Converter in Continuous and Discontinuous Current Modes," *IEEE Transactions on Industrial Electronics*, vol. 67, no. 11, pp. 9348–9357, 2020.
- [95] A. Pal and K. Basu, "A Unidirectional Single-Stage Three-Phase Soft-Switched Isolated DC-AC Converter," *IEEE Transactions on Power Electronics*, vol. 34, no. 2, pp. 1142–1158, 2019.
- [96] M. Antivachis, "Analysis of a Synergetically Controlled Two-Stage Three-Phase DC/AC Buck-Boost Converter," CPSS Transactions on Power Electronics and Applications, vol. 5, no. 1, pp. 34–53, 2020.
- [97] S. Ohn, X. Zhang, R. Burgos, and D. Boroyevich, "Differential-Mode and Common-Mode Coupled Inductors for Parallel Three-Phase AC-DC Converters," *IEEE Transactions on Power Electronics*, vol. 34, no. 3, pp. 2666–2679, 2019.
- [98] T. Dragicevic and D. Vinnikov, "Guest Editorial Special Issue on Topology, Modeling, Control, and Reliability of Bidirectional DC/DC Converters in DC Microgrids," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 9, no. 2, pp. 1188–1191, 2021.
- [99] F. M. Alhuwaishel, A. K. Allehyani, S. A. S. Al-obaidi, and P. N. Enjeti, "A Medium-Voltage DC-Collection Grid for Multilevel Converter," *Ieee Journal of Emerging and Selected Topics in Power Electronics*, vol. 8, no. 4, pp. 3434–3443, 2020.

- [100] M. Das, M. Pal, and V. Agarwal, "Novel High Gain, High Efficiency DC-DC Converter Suitable for Solar PV Module Integration with Three-Phase Grid Tied Inverters," *IEEE Journal of Photovoltaics*, vol. 9, no. 2, pp. 528–537, 2019.
- [101] M. Das and V. Agarwal, "Novel High-Performance Stand-Alone Solar PV System With High-Gain High-Efficiency," *IEEE Transactions on Industry Applications*, vol. 51, no. 6, pp. 4718–4728, 2015.
- [102] 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, 2019.
- [103] P. K. Sahu and M. D. Manjrekar, "Controller design and implementation of solar panel companion inverters," *IEEE Transactions on Industry Applications*, vol. 56, no. 2, pp. 2001–2011, 2020.
- [104] K. A. Singh, A. Prajapati, and K. Chaudhary, "High gain compact interleaved boost converter with reduced voltage stress for PV application," *IEEE Journal of Emerging and Selected Topics in Power Electronics*, vol. 6777, no. c, pp. 1–8, 2021.
- [105] C. Liu, J. Zhao, S. Wang, W. Lu, and K. Qu, "Active Identification Method for Line Resistance in DC Microgrid Based on Single Pulse Injection," *IEEE Transactions* on Power Electronics, vol. 33, no. 11, pp. 5561–5564, 2018.
- [106] World Bank, "Toward a Sustainable Energy Future for All," World Bank Group's Energy Sector, 2013.
- [107] A. J. Sabzali, E. H. Ismail, M. A. Al-Saffar, and A. A. Fardoun, "New bridgeless DCM sepic and Cuk PFC rectifiers with low conduction and switching losses," *IEEE Transactions on Industry Applications*, vol. 47, no. 2, pp. 873–881, 2011.
- [108] A. A. Fardoun, E. H. Ismail, A. J. Sabzali, and M. A. Al-Saffar, "New efficient bridgeless cuk rectifiers for PFC applications," *IEEE Transactions on Power Electronics*, vol. 27, no. 7, pp. 3292–3301, 2012.
- [109] H. T. Yang, H. W. Chiang, and C. Y. Chen, "Implementation of Bridgeless Cuk Power Factor Corrector With Positive Output Voltage," *IEEE Transactions on Industry Applications*, vol. 51, no. 4, pp. 3325–3333, 2015.

- [110] B. Su and Z. Lu, "An interleaved totem-pole boost bridgeless rectifier with reduced reverse-recovery problems for power factor correction," *IEEE Transactions on Power Electronics*, vol. 25, no. 6, pp. 1406–1415, 2010.
- [111] J. Gnanavadivel, P. Yogalakshmi, N. S. Kumar, and K. S. Veni, "Design and development of single phase AC- DC discontinuous conduction mode modified bridgeless positive output Luo converter for power quality improvement," *IET Power Electronics*, vol. 12, no. 11, pp. 2722–2730, 2019.
- [112] Y. H. Han and S. Heier, Grid Integration of Wind Energy Conversion Systems. John Wiley & Sons, 2000, vol. 21, no. 3-4.
- [113] I. Worighi, A. Maach, A. Hafid, O. Hegazy, and J. Van Mierlo, "Integrating renewable energy in smart grid system: Architecture, virtualization and analysis," *Sustainable Energy, Grids and Networks*, vol. 18, p. 100226, 2019.
- [114] A. U. Krismanto, N. Mithulananthan, H. Setiadi, E. Y. Setyawan, and M. Abdillah, "Impacts of grid-tied microgrid on stability and interaction of power systems considering RE uncertainties," *Sustainable Energy, Grids and Networks*, vol. 28, p. 100537, 2021.
- [115] V. Nayanar, N. Kumaresan, and N. Ammasai Gounden, "A Single-Sensor-Based MPPT Controller for Wind-Driven Induction Generators Supplying DC Microgrid," *IEEE Transactions on Power Electronics*, vol. 31, no. 2, pp. 1161–1172, 2016.
- [116] B. Rupam and G. Bhuvaneswari, "Low-Voltage Ride-Through of a Synchronous Wind Energy Conversion System," *IEEE Transactions on Industry Applications*, vol. 56, no. 1, pp. 752–762, 2020.
- [117] S. Liu, H. You, J. Li, S. Kai, and L. Yang, "Active disturbance rejection control based distributed secondary control for a low-voltage DC microgrid," *Sustainable Energy, Grids and Networks*, vol. 27, p. 100515, 2021.
- [118] H. Kord and S. M. Barakati, "Design an adaptive sliding mode controller for an advanced hybrid energy storage system in a wind dominated RAPS system based on PMSG," *Sustainable Energy, Grids and Networks*, vol. 21, p. 100310, 2020.

- [119] E. Agheb, N. Holtsmark, H. K. Høidalen, and M. Molinas, "High frequency wind energy conversion system for offshore DC collection grid—Part I: Comparative loss evaluation," Sustainable Energy, Grids and Networks, vol. 5, pp. 167–176, 2016.
- [120] P. R. Chetty, "Modelling and Analysis of Cuk Converter Using Current Injected Equivalent Circuit Approach," *IEEE Transactions on Industrial Electronics*, vol. IE-30, no. 1, pp. 56–59, 1983.
- [121] A. Mariscotti, "Power quality phenomena, standards, and proposed metrics for dc grids," *Energies*, vol. 14, no. 20, 2021.