Bibliography

[1] "Trends in electric cars – Global EV Outlook 2024 – Analysis," IEA. Accessed: Jan. 05, 2025. [Online]. Available: https://www.iea.org/reports/global-ev-outlook-2024/trends-in-electric-cars

[2] Y. Miao, P. Hynan, A. von Jouanne, and A. Yokochi, "Current Li-Ion Battery Technologies in Electric Vehicles and Opportunities for Advancements," *Energies*, vol. 12, no. 6, Art. no. 6, Jan. 2019, doi: 10.3390/en12061074.

[3] Y. Ding, Z. P. Cano, A. Yu, J. Lu, and Z. Chen, "Automotive Li-Ion Batteries: Current Status and Future Perspectives," *Electrochem. Energy Rev.*, vol. 2, no. 1, pp. 1–28, Mar. 2019, doi: 10.1007/s41918-018-0022-z.

[4] S. S. G. Acharige, Md. E. Haque, M. T. Arif, N. Hosseinzadeh, K. N. Hasan, and A. M. T. Oo, "Review of Electric Vehicle Charging Technologies, Standards, Architectures, and Converter Configurations," *IEEE Access*, vol. 11, pp. 41218–41255, 2023, doi: 10.1109/ACCESS.2023.3267164.

[5] M. Yilmaz and P. T. Krein, "Review of battery charger topologies, charging power levels, and infrastructure for plug-in electric and hybrid vehicles," *IEEE Trans. Power Electron.*, vol. 28, no. 5, pp. 2151–2169, 2013, doi: 10.1109/TPEL.2012.2212917.

[6] P. Bryła, S. Chatterjee, and B. Ciabiada-Bryła, "Consumer Adoption of Electric Vehicles: A Systematic Literature Review," *Energies*, vol. 16, no. 1, Art. no. 1, Jan. 2023, doi: 10.3390/en16010205.

[7] I. Khan *et al.*, "Guest Editorial: Fast, Superfast, and Ultra-Superfast Intelligent and Smart Charging Solutions for Electric Vehicles," *IEEE Trans. Ind. Appl.*, vol. 58, no. 5, pp. 5518–5519, Sep. 2022, doi: 10.1109/TIA.2022.3187675.

[8] P. P. Singh, F. Wen, I. Palu, S. Sachan, and S. Deb, "Electric Vehicles Charging Infrastructure Demand and Deployment: Challenges and Solutions," *Energies*, vol. 16, no. 1, Art. no. 1, Jan. 2023, doi: 10.3390/en16010007.

[9] X. Qu, H. Han, S.-C. Wong, C. K. Tse, and W. Chen, "Hybrid IPT Topologies With Constant Current or Constant Voltage Output for Battery Charging Applications," *IEEE Trans. Power Electron.*, vol. 30, no. 11, pp. 6329–6337, Nov. 2015, doi: 10.1109/TPEL.2015.2396471.

[10] S. Askari and H. Farzanehfard, "Fixed Frequency Highly Efficient Resonant Converter With Low Component Count for CC and CV Charges of Electric Vehicles Batteries," *IEEE Trans. Intell. Transp. Syst.*, vol. 25, no. 10, pp. 13494–13500, Oct. 2024, doi: 10.1109/TITS.2024.3394680.

[11] Y. H. Liu, C. H. Hsieh, and Y. F. Luo, "Search for an optimal five-step charging pattern for li-ion batteries using consecutive orthogonal arrays," *IEEE Trans. Energy Convers.*, vol. 26, no. 2, pp. 654–661, Jun. 2011, doi: 10.1109/TEC.2010.2103077.

[12] R. K. Singh and S. Mishra, "A modified average current-mode controller for converter-based optimal battery charging," *2011 IEEE Veh. Power Propuls. Conf. VPPC 2011*, 2011, doi: 10.1109/VPPC.2011.6043211.

[13] P.-J. Liu, T.-F. Chen, and H.-S. Yang, "A Li-Ion Battery Charger With Variable Charging Current and Automatic Voltage-Compensation Controls for Parallel Charging," *IEEE J. Emerg. Sel. Top. Power Electron.*, vol. 10, no. 1, pp. 997–1006, Feb. 2022, doi: 10.1109/JESTPE.2021.3088890.

[14] V. B. Vu, D. H. Tran, and W. Choi, "Implementation of the Constant Current and Constant Voltage Charge of Inductive Power Transfer Systems with the Double-

Sided LCC Compensation Topology for Electric Vehicle Battery Charge Applications," *IEEE Trans. Power Electron.*, vol. 33, no. 9, pp. 7398–7410, Sep. 2018, doi: 10.1109/TPEL.2017.2766605.

[15] Z. Fang, H. Yue, Z. Wei, Z. Zhang, and Z. Huang, "A Control-Free Series Resonant Converter for Battery Charging With Automatic CC-to-CV Profile and Whole-Process High Efficiency," *IEEE Trans. Power Electron.*, vol. 38, no. 7, pp. 8666–8675, Jul. 2023, doi: 10.1109/TPEL.2023.3269044.

[16] D. Aggeler, F. Canales, H. Zelaya - De La Parra, A. Coccia, N. Butcher, and O. Apeldoorn, "Ultra-fast DC-charge infrastructures for EV-mobility and future smart grids," *IEEE PES Innov. Smart Grid Technol. Conf. Eur. ISGT Eur.*, 2010, doi: 10.1109/ISGTEUROPE.2010.5638899.

[17] J. C. G. Justino, T. M. Parreiras, and B. J. C. Filho, "Hundreds kW Charging Stations for e-Buses Operating under Regular Ultra-Fast Charging," *IEEE Trans. Ind. Appl.*, vol. 52, no. 2, pp. 1766–1774, Mar. 2016, doi: 10.1109/TIA.2015.2495279.

[18] M. Vasiladiotis, A. Rufer, and A. Béguin, "Modular converter architecture for medium voltage ultra fast EV charging stations: Global system considerations," *2012 IEEE Int. Electr. Veh. Conf. IEVC 2012*, 2012, doi: 10.1109/IEVC.2012.6183228.

[19] D. Christen, S. Tschannen, and J. Biela, "Highly efficient and compact DC-DC converter for ultra-fast charging of electric vehicles," *15th Int. Power Electron. Motion Control Conf. Expo. EPE-PEMC 2012 ECCE Eur.*, 2012, doi: 10.1109/EPEPEMC.2012.6397481.

[20] P. Franzese *et al.*, "Fast DC Charging Infrastructures for Electric Vehicles: Overview of Technologies, Standards, and Challenges," *IEEE Trans. Transp. Electrification*, pp. 1–1, 2023, doi: 10.1109/TTE.2023.3239224.

[21] C. Viana, M. Pathmanathan, and P. W. Lehn, "Multi-Frequency Traction-to-Auxiliary Integrated EV Drivetrain: Eliminating the Need for an Auxiliary Power Module," in *2022 24th European Conference on Power Electronics and Applications (EPE'22 ECCE Europe)*, Sep. 2022, pp. 1–8. Accessed: Oct. 14, 2024. [Online]. Available: https://ieeexplore.ieee.org/document/9907422

[22] S. Kim and F.-S. Kang, "Multifunctional Onboard Battery Charger for Plug-in Electric Vehicles," *IEEE Trans. Ind. Electron.*, vol. 62, no. 6, pp. 3460–3472, Jun. 2015, doi: 10.1109/TIE.2014.2376878.

[23] R. K. Singh and S. Mishra, "A modified average current-mode controller for converter-based optimal battery charging," in *2011 IEEE Vehicle Power and Propulsion Conference*, 2011, pp. 1–6. doi: 10.1109/VPPC.2011.6043211.

[24] Y. S. Dow, H. I. Son, and H. D. Lee, "A study on half bridge LLC resonant converter for battery charger on board," *8th Int. Conf. Power Electron. - ECCE Asia Green World Power Electron. ICPE 2011-ECCE Asia*, pp. 2694–2698, 2011, doi: 10.1109/ICPE.2011.5944758.

[25] J. Deng, S. Li, S. Hu, C. C. Mi, and R. Ma, "Design methodology of LLC resonant converters for electric vehicle battery chargers," *IEEE Trans. Veh. Technol.*, vol. 63, no. 4, pp. 1581–1592, 2014, doi: 10.1109/TVT.2013.2287379.

[26] D. Shu, H. Wang, and M. Zhou, "Universal Control Scheme to Achieve Seamless Dynamic Transition of Dual-Active-Bridge Converters Using Zero-Current-Prediction," *IEEE Trans. Ind. Electron.*, vol. 69, pp. 5826–5834, 2021, doi: 10.1109/TIE.2021.3090696.

[27] L. Li, G. Xu, D. Sha, Y. Liu, Y. Sun, and M. Su, “Review of Dual-Active-Bridge Converters With Topological Modifications,” *IEEE Trans. Power Electron.*, vol. 38, no. 7, pp. 9046–9076, Jul. 2023, doi: 10.1109/TPEL.2023.3258418.
[28] B. Zhao, Q. Song, W. Liu, and Y. Sun, “Overview of dual-active-bridge isolated bidirectional DC-DC converter for high-frequency-link power-conversion system,” *IEEE Trans. Power Electron.*, vol. 29, no. 8, pp. 4091–4106, 2014, doi: 10.1109/TPEL.2013.2289913.
[29] C. M. H. Bai and C. W. S. Gargies, “Operation , design and control of dual H-bridge-based isolated bidirectional DC – DC converter,” vol. 1, no. 4, pp. 507–517, 2008, doi: 10.1049/iet-pel.
[30] J. Everts, J. Van Den Keybus, and J. Driesen, “Switching control strategy to extend the ZVS operating range of a dual active bridge AC/DC converter,” *IEEE Energy Convers. Congr. Expo. Energy Convers. Innov. Clean Energy Future ECCE 2011 Proc.*, pp. 4107–4114, 2011, doi: 10.1109/ECCE.2011.6064328.
[31] X. F. He, Z. Zhang, Y. Y. Cai, and Y. F. Liu, “A variable switching frequency hybrid control for ZVS dual active bridge converters to achieve high efficiency in wide load range,” *Conf. Proc. - IEEE Appl. Power Electron. Conf. Expo. - APEC*, pp. 1095–1099, 2014, doi: 10.1109/APEC.2014.6803443.
[32] B. Zhao, Q. Song, and W. Liu, “Power characterization of isolated bidirectional dual-active-bridge dc-dc converter with dual-phase-shift control,” *IEEE Trans. Power Electron.*, vol. 27, no. 9, pp. 4172–4176, 2012, doi: 10.1109/TPEL.2012.2189586.
[33] C. Du, W. Guo, S. Guo, W. Cai, and Q. Shi, “Transient Current Optimal Control of the Hybrid Three Level Dual Active Bridge Converters Based on Triple-Phase-Shifting Control,” *Proc. 2021 IEEE 12th Int. Symp. Power Electron. Distrib. Gener. Syst. PEDG 2021*, Jun. 2021, doi: 10.1109/PEDG51384.2021.9494170.
[34] J. Huang, Y. Wang, Z. Li, and W. Lei, “Unified Triple-Phase-Shift Control to Minimize Current Stress and Achieve Full Soft-Switching of Isolated Bidirectional DC–DC Converter,” *IEEE Trans. Ind. Electron.*, vol. 63, no. 7, pp. 4169–4179, Jul. 2016, doi: 10.1109/TIE.2016.2543182.
[35] A. Taylor, G. Liu, H. Bai, A. Brown, P. M. Johnson, and M. McAmmond, “Multiple-Phase-Shift Control for a Dual Active Bridge to Secure Zero-Voltage Switching and Enhance Light-Load Performance,” *IEEE Trans. Power Electron.*, vol. 33, no. 6, pp. 4584–4588, Jun. 2018, doi: 10.1109/TPEL.2017.2769638.
[36] S. Chaurasiya and B. Singh, “A Load Adaptive Hybrid DPS Control For DAB to Secure Minimum Current Stress and Full ZVS Operation Over Wide Load and Voltage Conversion Ratio,” *IEEE Trans. Ind. Appl.*, Mar. 2022, doi: 10.1109/TIA.2022.3219806.
[37] Y. Shen, X. Sun, W. Li, X. Wu, and B. Wang, “A Modified Dual Active Bridge Converter with Hybrid Phase-Shift Control for Wide Input Voltage Range,” *IEEE Trans. Power Electron.*, vol. 31, no. 10, pp. 6884–6900, Oct. 2016, doi: 10.1109/TPEL.2015.2510033.
[38] Y.-C. Liu, C. Chen, K.-D. Chen, Y.-L. Syu, and N. A. Dung, “High-Frequency and High-Efficiency Isolated Two-Stage Bidirectional DC–DC Converter for Residential Energy Storage Systems,” *IEEE J. Emerg. Sel. Top. Power Electron.*, vol. 8, no. 3, pp. 1994–2006, Sep. 2020, doi: 10.1109/JESTPE.2019.2953117.
[39] A. K. Rathore and V. R. Vakacharla, “A Simple Technique for Fundamental Harmonic Approximation Analysis in Parallel and Series-Parallel Resonant Converters,” *IEEE Trans. Ind. Electron.*, vol. 67, no. 11, pp. 9963–9968, Nov. 2020, doi: 10.1109/TIE.2019.2952820.

[40] Z. Pavlović, J. A. Oliver, P. Alou, Ó. Garcia, and J. A. Cobos, "Bidirectional Dual Active Bridge Series Resonant Converter with pulse modulation," in *2012 Twenty-Seventh Annual IEEE Applied Power Electronics Conference and Exposition (APEC)*, Feb. 2012, pp. 503–508. doi: 10.1109/APEC.2012.6165867.
[41] C. Sun, X. Jiang, L. Cao, and K. H. Loo, "Total Suppression of High-Frequency Transient Oscillations in Dual-Active-Bridge Series-Resonant Converter by Trajectory-Switching Modulation," *IEEE Trans. Power Electron.*, vol. 37, no. 6, pp. 6511–6529, Jun. 2022, doi: 10.1109/TPEL.2021.3138150.
[42] L. Corradini, D. Seltzer, D. Bloomquist, R. Zane, D. Maksimović, and B. Jacobson, "Minimum Current Operation of Bidirectional Dual-Bridge Series Resonant DC/DC Converters," *IEEE Trans. Power Electron.*, vol. 27, no. 7, pp. 3266–3276, Jul. 2012, doi: 10.1109/TPEL.2011.2181421.
[43] C. Yu *et al.*, "High Efficiency Bidirectional Dual Active Bridge (DAB) Converter Adopting Boost-Up Function for Increasing Output Power," *IEEE Trans. Power Electron.*, vol. 37, no. 12, pp. 14678–14691, Dec. 2022, doi: 10.1109/TPEL.2022.3192048.
[44] J. Wu, P. Wen, X. Sun, and X. Yan, "Reactive Power Optimization Control for Bidirectional Dual-Tank Resonant DC–DC Converters for Fuel Cells Systems," *IEEE Trans. Power Electron.*, vol. 35, no. 9, pp. 9202–9214, Sep. 2020, doi: 10.1109/TPEL.2020.2971733.
[45] S. Mukherjee, J. M. Ruiz, and P. Barbosa, "A High Power Density Wide Range DC-DC Converter for Universal Electric Vehicle Charging," *IEEE Trans. Power Electron.*, vol. 38, no. 2, pp. 1998–2012, Feb. 2023, doi: 10.1109/TPEL.2022.3217092.
[46] S. Mukherjee, J. M. Ruiz, and P. Barbosa, "A High Power Density Wide Range DC–DC Converter for Universal Electric Vehicle Charging," *IEEE Trans. Power Electron.*, vol. 38, no. 2, pp. 1998–2012, Feb. 2023, doi: 10.1109/TPEL.2022.3217092.
[47] A. Mirtchev and E. Tatakis, "Design Methodology Based on Dual Control of a Resonant Dual Active Bridge Converter for Electric Vehicle Battery Charging," *IEEE Trans. Veh. Technol.*, vol. 71, no. 3, pp. 2691–2705, Mar. 2022, doi: 10.1109/TVT.2022.3142681.
[48] F. Musavi, M. Craciun, D. S. Gautam, W. Eberle, and W. G. Dunford, "An LLC resonant dc-dc converter for wide output voltage range battery charging applications," *IEEE Trans. Power Electron.*, vol. 28, no. 12, pp. 5437–5445, 2013, doi: 10.1109/TPEL.2013.2241792.
[49] Y. Liao *et al.*, "Single-Stage DAB-LLC Hybrid Bidirectional Converter with Tight Voltage Regulation under DCX Operation," *IEEE Trans. Ind. Electron.*, vol. 68, no. 1, pp. 293–303, Jan. 2021, doi: 10.1109/TIE.2020.2965495.
[50] P. P. Nachankar, H. M. Suryawanshi, P. Chaturvedi, D. Atkar, C. L. Narayana, and D. Govind, "Design of Electric Vehicle Battery Charger With Reduced Switching Frequency Variation," *IEEE Trans. Ind. Appl.*, vol. 58, no. 6, pp. 7432–7444, 2022, doi: 10.1109/TIA.2022.3195187.
[51] S. Mukherjee, J. M. Ruiz, and P. Barbosa, "A High Power Density Wide Range DC-DC Converter for Universal Electric Vehicle Charging," *IEEE Trans. Power Electron.*, vol. 38, no. 2, pp. 1998–2012, Feb. 2023, doi: 10.1109/TPEL.2022.3217092.
[52] Z. Li, B. Xue, and H. Wang, "An Interleaved Secondary-Side Modulated LLC Resonant Converter for Wide Output Range Applications," *IEEE Trans. Ind.*

Electron., vol. 67, no. 2, pp. 1124–1135, Feb. 2020, doi: 10.1109/TIE.2019.2897507.

[53] X. Tang, Y. Xing, H. Wu, and J. Zhao, "An improved LLC resonant converter with reconfigurable hybrid voltage multiplier and PWM-Plus-PFM hybrid control for wide output range applications," *IEEE Trans. Power Electron.*, vol. 35, no. 1, pp. 185–197, Jan. 2020, doi: 10.1109/TPEL.2019.2914945.

[54] L. A. D. Ta, N. D. Dao, and D. C. Lee, "High-Efficiency Hybrid LLC Resonant Converter for On-Board Chargers of Plug-In Electric Vehicles," *IEEE Trans. Power Electron.*, vol. 35, no. 8, pp. 8324–8334, Aug. 2020, doi: 10.1109/TPEL.2020.2968084.

[55] Y. Wang, Z. Dongye, R. Kheirollahi, H. Zhang, S. Zheng, and F. Lu, "Review of Load-Independent Constant-Current and Constant-Voltage Topologies for Domino-Type Multiple-Load Inductive Power Relay System," *IEEE J. Emerg. Sel. Top. Ind. Electron.*, vol. 3, no. 2, pp. 199–210, Oct. 2020, doi: 10.1109/JESTIE.2020.3033539.

[56] J. Park, M. Kim, and S. Choi, "Fixed frequency series loaded resonant converter based battery charger which is insensitive to resonant component tolerances," *Conf. Proc. - 2012 IEEE 7th Int. Power Electron. Motion Control Conf. - ECCE Asia IPEMC 2012*, vol. 2, pp. 918–922, 2012, doi: 10.1109/IPEMC.2012.6258917.

[57] C. Hu, R. Wang, Y. Shi, X. Jia, and D. Xu, "A Fixed Frequency Zero-Voltage-Switching On-Board EV Charger," *IEEE Open J. Power Electron.*, vol. 3, pp. 75–83, 2022, doi: 10.1109/OJPEL.2021.3133618.

[58] J. Min and M. Ordonez, "Bidirectional Resonant Frequency Tracking for CLLC Converters Based on Voltage Falling Edges," *2021 IEEE Energy Convers. Congr. Expo. ECCE 2021 - Proc.*, pp. 1793–1797, 2021, doi: 10.1109/ECCE47101.2021.9594977.

[59] H. Wang and Z. Li, "A PWM LLC type resonant converter adapted to wide output range in PEV charging applications," *IEEE Trans. Power Electron.*, vol. 33, no. 5, pp. 3791–3801, May 2018, doi: 10.1109/TPEL.2017.2713815.

[60] V. R. Vakacharla, A. K. Rathore, R. K. Singh, and S. K. Mishra, "Fixed-Frequency Current-Fed LCL Series Resonant Soft-Switching Converter With Capacitive Doubler," *IEEE Trans. Ind. Appl.*, vol. 57, no. 6, pp. 6611–6621, 2021, doi: 10.1109/TIA.2021.3114269.

[61] H. Wang and F. Blaabjerg, "Reliability of Capacitors for DC-Link Applications in Power Electronic Converters—An Overview," *IEEE Trans. Ind. Appl.*, vol. 50, no. 5, pp. 3569–3578, Sep. 2014, doi: 10.1109/TIA.2014.2308357.

[62] D. Sha, F. You, and X. Wang, "A High-Efficiency Current-Fed Semi-Dual-Active Bridge DC-DC Converter for Low Input Voltage Applications," *IEEE Trans. Ind. Electron.*, vol. 63, no. 4, pp. 2155–2164, Apr. 2016, doi: 10.1109/TIE.2015.2506625.

[63] L. Gu, X. Zhang, and P. Li, "Hybrid-PWM-Controlled Current-Fed Bidirectional Series Resonant Converter with Low Current Ripple and Wide Voltage Gain," *IEEE Trans. Ind. Electron.*, vol. 68, no. 8, pp. 7125–7136, Aug. 2021, doi: 10.1109/TIE.2020.3000090.

[64] D. Sha, X. Wang, and D. Chen, "High-Efficiency Current-Fed Dual Active Bridge DC-DC Converter With ZVS Achievement Throughout Full Range of Load Using Optimized Switching Patterns," *IEEE Trans. Power Electron.*, vol. 33, no. 2, pp. 1347–1357, Feb. 2018, doi: 10.1109/TPEL.2017.2675945.

[65] X. Pan, H. Li, Y. Liu, T. Zhao, C. Ju, and A. K. Rathore, "An Overview and Comprehensive Comparative Evaluation of Current-Fed-Isolated-Bidirectional

DC/DC Converter," *IEEE Trans. Power Electron.*, vol. 35, no. 3, pp. 2737–2763, Mar. 2020, doi: 10.1109/TPEL.2019.2931739.
[66] A. K. Rathore and U. R. Prasanna, "Comparison of soft-switching voltage-fed and current-fed bi-directional isolated Dc/Dc converters for fuel cell vehicles," in *IEEE International Symposium on Industrial Electronics*, 2012, pp. 252–257. doi: 10.1109/ISIE.2012.6237093.
[67] H. Wu, K. Sun, Y. Li, and Y. Xing, "Fixed-Frequency PWM-Controlled Bidirectional Current-Fed Soft-Switching Series-Resonant Converter for Energy Storage Applications," *IEEE Trans. Ind. Electron.*, vol. 64, no. 8, pp. 6190–6201, Aug. 2017, doi: 10.1109/TIE.2017.2682020.
[68] M. A. Awal *et al.*, "Medium Voltage Solid State Transformer for Extreme Fast Charging Applications," in *2023 IEEE Applied Power Electronics Conference and Exposition (APEC)*, Mar. 2023, pp. 1528–1535. doi: 10.1109/APEC43580.2023.10131285.
[69] S. Shao *et al.*, "Modeling and Advanced Control of Dual-Active-Bridge DC-DC Converters: A Review," *IEEE Trans. Power Electron.*, vol. 37, no. 2, pp. 1524–1547, Feb. 2022, doi: 10.1109/TPEL.2021.3108157.
[70] L. Li, G. Xu, D. Sha, Y. Liu, Y. Sun, and M. Su, "Review of Dual-Active-Bridge Converters With Topological Modifications," *IEEE Trans. Power Electron.*, vol. 38, no. 7, pp. 9046–9076, Jul. 2023, doi: 10.1109/TPEL.2023.3258418.
[71] O. Zayed, A. Elezab, A. Abuelnaga, and M. Narimani, "A Dual-Active Bridge Converter with a Wide Output Voltage Range (200-1000 V) for Ultra-Fast DC-Connected EV Charging Stations," *IEEE Trans. Transp. Electrification*, pp. 1–1, 2022, doi: 10.1109/TTE.2022.3232560.
[72] J. Zhang, J. S. Lai, R. Y. Kim, and W. Yu, "High-power density design of a soft-switching high-power bidirectional dc-dc converter," *IEEE Trans. Power Electron.*, vol. 22, no. 4, pp. 1145–1153, Jul. 2007, doi: 10.1109/TPEL.2007.900462.
[73] S. Chaurasiya and B. Singh, "A Bidirectional Fast EV Charger for Wide Voltage Range Using Three-Level DAB Based on Current and Voltage Stress Optimization," *IEEE Trans. Transp. Electrification*, vol. 9, no. 1, pp. 1330–1340, Mar. 2023, doi: 10.1109/TTE.2022.3201979.
[74] A. H. Ismail, H. Cao, A. Al-Hmoud, Z. Ma, X. Du, and Y. Zhao, "A 3.3 kV Silicon Carbide MOSFET Based Building Block for Medium-Voltage Ultra-Fast DC Chargers," *Conf. Proc. - IEEE Appl. Power Electron. Conf. Expo. - APEC*, vol. 2023-March, pp. 1693–1700, 2023, doi: 10.1109/APEC43580.2023.10131643.
[75] M. C. Mira, Z. Zhang, K. L. Jørgensen, and M. Andersen, "Fractional Charging Converter With High Efficiency and Low Cost for Electrochemical Energy Storage Devices," *IEEE Trans. Ind. Appl.*, vol. 55, pp. 7461–7470, 2019, doi: 10.1109/TIA.2019.2921295.
[76] J. W. Zapata, S. Kouro, G. Carrasco, H. Renaudineau, and T. Meynard, "Analysis of Partial Power DC–DC Converters for Two-Stage Photovoltaic Systems," *IEEE J. Emerg. Sel. Top. Power Electron.*, vol. 7, pp. 591–603, 2019, doi: 10.1109/JESTPE.2018.2842638.
[77] V. M. Iyer, S. Gulur, S. Bhattacharya, and R. Ramabhadran, "A Partial Power Converter Interface for Battery Energy Storage Integration with a DC Microgrid," *2019 IEEE Energy Convers. Congr. Expo. ECCE 2019*, pp. 5783–5790, Sep. 2019, doi: 10.1109/ECCE.2019.8912590.
[78] K. Zheng, W. Zhang, X. Wu, L. Jing, and H. Zhao, "Partial-Power Conversion for Increased Energy Storage Capability of Li-Ion Battery Energy Storage System,"

IEEE Trans. Ind. Electron., vol. 71, no. 5, pp. 4742–4752, May 2024, doi: 10.1109/TIE.2023.3283710.

[79] J. Rojas, H. Renaudineau, S. Kouro, and S. Rivera, "Partial power DC-DC converter for electric vehicle fast charging stations," *Proc. IECON 2017 - 43rd Annu. Conf. IEEE Ind. Electron. Soc.*, vol. 2017-Janua, pp. 5274–5279, Dec. 2017, doi: 10.1109/IECON.2017.8216913.

[80] P. Granello, T. Soeiro, N. H. van der Blij, and P. Bauer, "Revisiting the Partial Power Processing Concept: Case Study of a 5 kW 99.11 % Efficient Flyback Converter-Based Battery Charger," *IEEE Trans. Transp. Electrification*, vol. PP, p. 1, 2022, doi: 10.1109/TTE.2022.3170286.

[81] S. Rivera *et al.*, "Partial-Power Converter Topology of Type II for Efficient Electric Vehicle Fast Charging," *IEEE J. Emerg. Sel. Top. Power Electron.*, vol. 10, no. 6, pp. 7839–7848, Dec. 2022, doi: 10.1109/JESTPE.2021.3117910.

[82] J. Anzola *et al.*, "Resonant Dual Active Bridge Partial Power Converter for Electric Vehicle Fast Charging Stations," *2021 IEEE Veh. Power Propuls. Conf. VPPC 2021 - Proc.*, 2021, doi: 10.1109/VPPC53923.2021.9699166.

[83] T. Kanstad, M. B. Lillholm, and Z. Zhang, "Highly Efficient EV Battery Charger Using Fractional Charging Concept with SiC Devices," *2019 IEEE Appl. Power Electron. Conf. Expo. APEC*, vol. null, pp. 1601–1608, 2019, doi: 10.1109/APEC.2019.8722191.

[84] O. Abdel-Rahim, A. Chub, A. Blinov, D. Vinnikov, N. Hassanpour, and A. Chub, "Step-Up Current-Source Partial Power Converter for PV Systems," in *2022 IEEE 13th International Symposium on Power Electronics for Distributed Generation Systems (PEDG)*, Jun. 2022, pp. 1–6. doi: 10.1109/PEDG54999.2022.9923250.

[85] M. Forouzesh, Y. P. Siwakoti, S. A. Gorji, F. Blaabjerg, and B. Lehman, "Step-Up DC–DC Converters: A Comprehensive Review of Voltage-Boosting Techniques, Topologies, and Applications," *IEEE Trans. Power Electron.*, vol. 32, no. 12, pp. 9143–9178, Dec. 2017, doi: 10.1109/TPEL.2017.2652318.

[86] V. M. Iyer, S. Gulur, G. Gohil, and S. Bhattacharya, "An approach towards extreme fast charging station power delivery for electric vehicles with partial power processing," *IEEE Trans. Ind. Electron.*, vol. 67, no. 10, pp. 8076–8087, Oct. 2020, doi: 10.1109/TIE.2019.2945264.

[87] X. Wu, Y. Xia, J. Du, X. Gao, and S. Nikolay, "Multistage Constant Current Charging Strategy Based on Multiobjective Current Optimization," *IEEE Trans. Transp. Electrification*, vol. 9, no. 4, pp. 4990–5001, Dec. 2023, doi: 10.1109/TTE.2022.3187012.

[88] G. A. Mudiyanselage, N. Keshmiri, and A. Emadi, "A Review of DC-DC Resonant Converter Topologies and Control Techniques for Electric Vehicle Applications," *IEEE Open J. Power Electron.*, vol. 4, pp. 945–964, 2023, doi: 10.1109/OJPEL.2023.3331180.

[89] H. Wouters and W. Martinez, "Bidirectional Onboard Chargers for Electric Vehicles: State-of-the-Art and Future Trends," *IEEE Trans. Power Electron.*, vol. 39, no. 1, pp. 693–716, Jan. 2024, doi: 10.1109/TPEL.2023.3319996.

[90] I.-O. Lee, "Hybrid PWM-Resonant Converter for Electric Vehicle On-Board Battery Chargers," *IEEE Trans. Power Electron.*, vol. 31, pp. 3639–3649, 2016, doi: 10.1109/TPEL.2015.2456635.

[91] Y.-J. Kim and J.-Y. Lee, "Full-Bridge+SRT Hybrid DC/DC Converter for a 6.6-kW EV On-Board Charger," *IEEE Trans. Veh. Technol.*, vol. 65, no. 6, pp. 4419–4428, Jun. 2016, doi: 10.1109/TVT.2016.2535237.

[92] R. Kushwaha, V. Khadkikar, and A. Edpuganti, "Electric Vehicle On-Board Fast Charging Through Converter Maximum Switch Utilization," *IEEE Trans. Power Electron.*, vol. 39, no. 1, pp. 998–1014, Jan. 2024, doi: 10.1109/TPEL.2023.3321760.
[93] N. D. Dao, D.-C. Lee, and Q. D. Phan, "High-Efficiency SiC-Based Isolated Three-Port DC/DC Converters for Hybrid Charging Stations," *IEEE Trans. Power Electron.*, vol. 35, no. 10, pp. 10455–10465, Oct. 2020, doi: 10.1109/TPEL.2020.2975124.
[94] A. Khaligh and M. D'Antonio, "Global Trends in High-Power On-Board Chargers for Electric Vehicles," *IEEE Trans. Veh. Technol.*, vol. 68, no. 4, pp. 3306–3324, Apr. 2019, doi: 10.1109/TVT.2019.2897050.
[95] "IEEE Standard for Technical Specifications of a DC Quick and Bidirectional Charger for Use with Electric Vehicles," *IEEE Std 203011-2021 Revis. IEEE Std 203011-2015*, pp. 1–147, Feb. 2022, doi: 10.1109/IEEESTD.2022.9714435.
[96] G. R. Chandra Mouli, J. Schijffelen, M. van den Heuvel, M. Kardolus, and P. Bauer, "A 10 kW Solar-Powered Bidirectional EV Charger Compatible With Chademo and COMBO," *IEEE Trans. Power Electron.*, vol. 34, no. 2, pp. 1082–1098, Feb. 2019, doi: 10.1109/TPEL.2018.2829211.
[97] C. Shi, Y. Tang, and A. Khaligh, "A Single-Phase Integrated Onboard Battery Charger Using Propulsion System for Plug-in Electric Vehicles," *IEEE Trans. Veh. Technol.*, vol. 66, no. 12, pp. 10899–10910, Dec. 2017, doi: 10.1109/TVT.2017.2729345.
[98] R. Pradhan, N. Keshmiri, and A. Emadi, "On-Board Chargers for High-Voltage Electric Vehicle Powertrains: Future Trends and Challenges," *IEEE Open J. Power Electron.*, vol. 4, pp. 189–207, 2023, doi: 10.1109/OJPEL.2023.3251992.
[99] N. G. F. dos Santos, A. Toebe, P. H. B. Löbler, L. Schuch, M. L. da S. Martins, and C. Rech, "A High-Efficient Single-Switch Switched-Capacitor Partial Power Converter for On-Board Chargers," *IEEE Trans. Power Electron.*, pp. 1–11, 2024, doi: 10.1109/TPEL.2024.3443519.
[100] V. Veerakgoundar and S. Subramaniam, "Non-Active Power Mitigation of Partial Power Processing DC-DC Converter for Onboard EV Charger," in *2023 IEEE 2nd Industrial Electronics Society Annual On-Line Conference (ONCON)*, Dec. 2023, pp. 1–6. doi: 10.1109/ONCON60463.2023.10431187.
[101] N. G. F. dos Santos, J. R. R. Zientarski, and M. L. da S. Martins, "A ZCS/ZVS DC–DC Partial Power Converter with Reconfigurable H-Bridge and Variable Turns Ratio for an Integrated On-Board Charger," *IEEE Trans. Power Electron.*, pp. 1–17, 2024, doi: 10.1109/TPEL.2024.3426947.
[102] J. Anzola *et al.*, "Resonant Dual Active Bridge Partial Power Converter for Electric Vehicle Fast Charging Stations," *2021 IEEE Veh. Power Propuls. Conf. VPPC*, vol. null, pp. 1–6, 2021, doi: 10.1109/VPPC53923.2021.9699166.
[103] C. Wang, P. Zheng, and J. Bauman, "A Review of Electric Vehicle Auxiliary Power Modules: Challenges, Topologies, and Future Trends," *IEEE Trans. Power Electron.*, vol. 38, no. 9, pp. 11233–11244, Sep. 2023, doi: 10.1109/TPEL.2023.3288393.
[104] Y. Tang, J. Lu, B. Wu, S. Zou, W. Ding, and A. Khaligh, "An Integrated Dual-Output Isolated Converter for Plug-in Electric Vehicles," *IEEE Trans. Veh. Technol.*, vol. 67, no. 2, pp. 966–976, Feb. 2018, doi: 10.1109/TVT.2017.2750076.
[105] L. Zhu, H. Bai, A. Brown, and L. Keuck, "A Current-fed Three-port DC/DC Converter for Integration of On-board Charger and Auxiliary Power Module in Electric Vehicles," in *2021 IEEE Applied Power Electronics Conference and*

Exposition (APEC), Jun. 2021, pp. 577–582. doi: 10.1109/APEC42165.2021.9487263.

[106] J. Lee and J. Won, "Multifunctional Onboard Charger for Electric Vehicles Integrating a Low-Voltage DC–DC Converter and Solar Roof," *IEEE J. Emerg. Sel. Top. Power Electron.*, vol. 12, no. 1, pp. 283–294, Feb. 2024, doi: 10.1109/JESTPE.2023.3309974.

[107] M. Nasr, K. Gupta, C. da Silva, C. H. Amon, and O. Trescases, "SiC based on-board EV power-hub with high-efficiency DC transfer mode through AC port for vehicle-to-vehicle charging," in *2018 IEEE Applied Power Electronics Conference and Exposition (APEC)*, Mar. 2018, pp. 3398–3404. doi: 10.1109/APEC.2018.8341591.

[108] U. B S, V. Khadkikar, H. H. Zeineldin, S. Singh, H. Otrok, and R. Mizouni, "Direct Electric Vehicle to Vehicle (V2V) Power Transfer Using On-Board Drivetrain and Motor Windings," *IEEE Trans. Ind. Electron.*, vol. 69, no. 11, pp. 10765–10775, Nov. 2022, doi: 10.1109/TIE.2021.3121707.

[109] T. J. C. Sousa, V. Monteiro, J. C. A. Fernandes, C. Couto, A. A. N. Meléndez, and J. L. Afonso, "New Perspectives for Vehicle-to-Vehicle (V2V) Power Transfer," in *IECON 2018 - 44th Annual Conference of the IEEE Industrial Electronics Society*, Oct. 2018, pp. 5183–5188. doi: 10.1109/IECON.2018.8591209.

[110] L. Zhu, H. Bai, A. Brown, and A. Körner, "An Ultra-high Gain Current-fed Universal Auxiliary Power Module for 400V/800V Electric Vehicles," *Conf. Proc. - IEEE Appl. Power Electron. Conf. Expo. - APEC*, vol. 2023-March, pp. 885–891, 2023, doi: 10.1109/APEC43580.2023.10131628.

[111] N. G. F. dos Santos, J. R. R. Zientarski, and M. L. da S. Martins, "A Review of Series-Connected Partial Power Converters for DC–DC Applications," *IEEE J. Emerg. Sel. Top. Power Electron.*, vol. 10, no. 6, pp. 7825–7838, Dec. 2022, doi: 10.1109/JESTPE.2021.3082869.

[112] K. A. Kim, P. S. Shenoy, and P. T. Krein, "Converter Rating Analysis for Photovoltaic Differential Power Processing Systems," *IEEE Trans. Power Electron.*, vol. 30, no. 4, pp. 1987–1997, Apr. 2015, doi: 10.1109/TPEL.2014.2326045.

[113] K. A. Kim, P. S. Shenoy, and P. T. Krein, "Converter Rating Analysis for Photovoltaic Differential Power Processing Systems," *IEEE Trans. Power Electron.*, vol. 30, no. 4, pp. 1987–1997, Apr. 2015, doi: 10.1109/TPEL.2014.2326045.

[114] R. V. Muñoz, H. Renaudineau, S. Rivera, and S. Kouro, "Evaluation of DC-DC buck-boost partial power converters for EV fast charging application," in *IECON 2021 – 47th Annual Conference of the IEEE Industrial Electronics Society*, Oct. 2021, pp. 1–6. doi: 10.1109/IECON48115.2021.9589068.

[115] N. G. F. dos Santos, J. R. R. Zientarski, and M. L. da S. Martins, "A Two-Switch Forward Partial Power Converter for Step-Up/Down String PV Systems," *IEEE Trans. Power Electron.*, vol. 37, no. 6, pp. 6247–6252, Jun. 2022, doi: 10.1109/TPEL.2021.3138299.

[116] J. R. R. Zientarski, M. L. Da Silva Martins, J. R. Pinheiro, and H. L. Hey, "Series-Connected Partial-Power Converters Applied to PV Systems: A Design Approach Based on Step-Up/Down Voltage Regulation Range," *IEEE Trans. Power Electron.*, vol. 33, no. 9, pp. 7622–7633, Sep. 2018, doi: 10.1109/TPEL.2017.2765928.

[117] J. R. R. Zientarski, M. L. da Silva Martins, J. R. Pinheiro, and H. L. Hey, "Evaluation of Power Processing in Series-Connected Partial-Power Converters," *IEEE J. Emerg. Sel. Top. Power Electron.*, vol. 7, no. 1, pp. 343–352, Mar. 2019, doi: 10.1109/JESTPE.2018.2869370.

[118] S. B. Althurthi, K. Rajashekara, and V. Rathore, "A Dual Power Path DC-DC Step Up/Down Partial Power Converter for Electric Vehicle Fast Charging," *2023 IEEE Energy Convers. Congr. Expo. ECCE*, vol. null, pp. 6365–6370, 2023, doi: 10.1109/ECCE53617.2023.10362321.

[119] X. Tao, F. Wang, and F. Zhuo, "A Four-quadrant Buck-boost Partial Power DC/DC Converter for Battery Energy Storage System," *2023 25th Eur. Conf. Power Electron. Appl. EPE23 ECCE Eur.*, vol. null, pp. 1–9, 2023, doi: 10.23919/EPE23ECCEEurope58414.2023.10264603.

[120] N. Hassanpour, A. Chub, A. Blinov, and D. Vinnikov, "Soft-Switching Bidirectional Step-Up/Down Partial Power Converter With Reduced Components Stress," *IEEE Trans. Power Electron.*, vol. 38, no. 11, pp. 14166–14177, Nov. 2023, doi: 10.1109/TPEL.2023.3289061.

[121] C. Liu, Z. Zhang, and M. A. E. Andersen, "Analysis and Evaluation of 99% Efficient Step-up/down Converter based on Partial Power Processing," *IEEE Trans. Ind. Electron.*, pp. 1–13, 2022, doi: 10.1109/TIE.2022.3198241.

[122] N. Hassanpour, A. Chub, A. Blinov, and D. Vinnikov, "Soft-Switching Bidirectional Step-Up/Down Partial Power Converter With Reduced Components Stress," *IEEE Trans. Power Electron.*, vol. 38, no. 11, pp. 14166–14177, Nov. 2023, doi: 10.1109/TPEL.2023.3289061.

[123] N. Yadav, N. Hassanpour, A. Chub, A. Blinov, and D. Vinnikov, "Improved Maximum Power Point Tracking Algorithm for Step-Up/Down Partial Power Converters Operating Around Zero Partiality," *IEEE J. Emerg. Sel. Top. Power Electron.*, vol. 12, pp. 1984–1994, 2024, doi: 10.1109/JESTPE.2024.3354843.

[124] Q. Bu, H. Wen, H. Shi, Y. Hu, and Y. Yang, "Universal Transient DC-Bias Current Suppression Strategy in Dual-Active-Bridge Converters for Energy Storage Systems," *IEEE Trans. Transp. Electrification*, vol. 7, pp. 509–526, 2021, doi: 10.1109/TTE.2020.3024200.

[125] F. Krismer and J. W. Kolar, "Closed Form Solution for Minimum Conduction Loss Modulation of DAB Converters," *IEEE Trans. Power Electron.*, vol. 27, pp. 174–188, 2012, doi: 10.1109/TPEL.2011.2157976.

[126] F. Krismer and J. W. Kolar, "Efficiency-optimized high-current dual active bridge converter for automotive applications," *IEEE Trans. Ind. Electron.*, vol. 59, no. 7, pp. 2745–2760, Jul. 2012, doi: 10.1109/TIE.2011.2112312.

[127] S. Srdic and S. Lukic, "Toward Extreme Fast Charging: Challenges and Opportunities in Directly Connecting to Medium-Voltage Line," *IEEE Electrification Mag.*, vol. 7, no. 1, pp. 22–31, Mar. 2019, doi: 10.1109/MELE.2018.2889547.

[128] O. Gsous, R. Rizk, A. Barbón, and R. Georgious, "Review of DC-DC Partial Power Converter Configurations and Topologies," *Energies*, vol. null, p. null, 2024, doi: 10.3390/en17061496.

[129] F. Xue, R. Yu, and A. Huang, "A Family of Ultrahigh Efficiency Fractional dc–dc Topologies for High Power Energy Storage Device," *IEEE J. Emerg. Sel. Top. Power Electron.*, vol. 9, no. 2, pp. 1420–1427, Apr. 2021, doi: 10.1109/JESTPE.2020.2966177.

[130] "sensata-sendyne-safety-of-it-systems-whitepaper.pdf." Accessed: Dec. 06, 2024. [Online]. Available: https://www.sensata.com/sites/default/files/a/sensata-sendyne-safety-of-it-systems-whitepaper.pdf
[131] A. B. Khan and W. Choi, "Optimal Charge Pattern for the High-Performance Multistage Constant Current Charge Method for the Li-Ion Batteries," *IEEE Trans. Energy Convers.*, vol. 33, no. 3, pp. 1132–1140, Sep. 2018, doi: 10.1109/TEC.2018.2801381.
[132] I. Subotic, N. Bodo, and E. Levi, "An EV Drive-Train With Integrated Fast Charging Capability," *IEEE Trans. Power Electron.*, vol. 31, no. 2, pp. 1461–1471, Feb. 2016, doi: 10.1109/TPEL.2015.2424592.
[133] C. Viana and P. W. Lehn, "A Drivetrain Integrated DC Fast Charger With Buck and Boost Functionality and Simultaneous Drive/Charge Capability," *IEEE Trans. Transp. Electrification*, vol. 5, no. 4, pp. 903–911, Dec. 2019, doi: 10.1109/TTE.2019.2925211.
[134] S. Dutta, A. K. Rathore, and V. Khadkikar, "Single-Phase Bridgeless Converter for On-Board EV Charger With Flexible Charging Capabilities," *IEEE J. Emerg. Sel. Top. Ind. Electron.*, vol. 4, no. 4, pp. 1170–1180, Oct. 2023, doi: 10.1109/JESTIE.2023.3270107.
[135] S. Wang *et al.*, "Multifunction Capability of SiC Bidirectional Portable Chargers for Electric Vehicles," *IEEE J. Emerg. Sel. Top. Power Electron.*, vol. 9, no. 5, pp. 6184–6195, Oct. 2021, doi: 10.1109/JESTPE.2021.3052841.
[136] B. S. Umesh *et al.*, "A Combinatory AC and DC Charging Approach for Electric Vehicles," *IEEE Trans. Intell. Transp. Syst.*, pp. 1–10, 2024, doi: 10.1109/TITS.2024.3464591.
[137] J. Anzola, S. Sharma, I. Aizpuru, S. Bhattacharya, and J. S. Artal-Sevil, "Performance Improvement of a Silicon Partial Power Converter Over a Silicon Carbide Full Power Converter," *IEEE Trans. Transp. Electrification*, vol. 10, pp. 1680–1691, 2024, doi: 10.1109/TTE.2023.3292501.
[138] V. Veerakgoundar and S. Subramaniam, "Energy efficient Onboard EV Charger Employing Partial Power Processing DC-DC Converter," in *2023 IEEE International Transportation Electrification Conference (ITEC-India)*, Dec. 2023, pp. 1–6. doi: 10.1109/ITEC-India59098.2023.10471465.
[139] F. Hoffmann, J. Person, M. Andresen, M. Liserre, F. D. Freijedo, and T. Wijekoon, "A Multiport Partial Power Processing Converter With Energy Storage Integration for EV Stationary Charging," *IEEE J. Emerg. Sel. Top. Power Electron.*, vol. 10, no. 6, pp. 7950–7962, Dec. 2022, doi: 10.1109/JESTPE.2021.3102180.

List of Publications

A. Patents

[1] Indian Patent granted on 19 December 2023 entitled "A Novel DC/DC Converter with Both Current and Voltage Source Property for Optimal Battery Charging System" Application No.: 202111039649 Patent **Grant No.: 485742** Inventors: Dr. Rajeev Kumar Singh, **Warda Matin Khan**, Dr. Sachin Kumar Jain.

B. Journals

[1] **Warda Matin Khan**, R. K. Singh and R. Mahanty, "Current-Driven Bi-frequency Resonant Dual Active Bridge Converter for Optimal Battery Charging," in *IEEE Journal of Emerging and Selected Topics in Industrial Electronics*, vol. 5, no. 2, pp. 498-510, April 2024, doi: 10.1109/JESTIE.2023.3320067.

[2] **Warda Matin Khan**, R. K. Singh and R. Mahanty, "Current Driven Fractional Power Processor for Ultra-Fast Charging", in IEEE Transactions on Industrial Electronics, (Accepted for Publication on March 2025).

[3] **Warda Matin Khan**, R. K. Singh and R. Mahanty, “Inter-Operable Multi-Utility Fast Charger with V2Aux and V2V Capability”, in IEEE Transactions on Power Electronics, (under review).

C. Conferences

[1] **Warda Matin Khan**, R. K. Singh and R. Mahanty, "Current Fed Resonant Dual Active Bridge Converter with Dual Source Property for CC-CV Charging," *2022 IEEE Energy Conversion Congress and Exposition (ECCE)*, Detroit, MI, USA, 2022, pp. 1-7, doi: 10.1109/ECCE50734.2022.9947411.

[2] **Warda Matin Khan**, R. K. Singh and R. Mahanty, "Fractional Power Processing Architecture for Ultra-Fast Charging of Electric Vehicles," *IECON 2023- 49th Annual Conference of the IEEE Industrial Electronics Society*, Singapore, Singapore, 2023, pp. 1-6, doi: 10.1109/IECON51785.2023.10311866.

[3] **Warda Matin Khan**, Soumya Ranjan Meher, R. K. Singh, R. Mahanty, "Component Stress Minimization of Resonant DC/DC Converter Using Fractional Power Processing for Battery Charging," *2024 IEEE International Communications Energy Conference (INTELEC 24)*, Bangalore, India, August 4-7, 2024 pp. 1-5, doi: 10.1109/INTELEC60315.2024.10678983.

[4] **Warda Matin Khan**, R. Kumar Singh, R. Mahanty and V. N. Lal, "Fractional Power Based Multi-Utility Fast Charger with V2Aux and V2V Capability," *2024 IEEE Energy Conversion Congress and Exposition (ECCE)*, Phoenix, AZ, USA, 2024, pp. 2283-2288, doi: 10.1109/ECCE55643.2024.10861338.

[5] **Warda Matin Khan**, Souvik Karmakar, R. K. Singh, and R. Mahanty, "Quad-Operative Fractional Processor for Wide Battery Voltage EV Charging Applications," accepted for publication *in 2025 IEEE Energy Conversion Conference and Expo (ECCE25)*, Philadelphia, PA, USA, October 19-23, 2025.

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