

RESEARCH PUBLICATIONS:

Dr. K. C. Jana, Associate Professor, EE Dept., IIT(ISM) Dhanbad

(a) International Journal Published (SCI/SCIE Indexed Journal) Year wise: (Total 54)

2025

1. Suryakant Kumar, Khalid Raza Khan, Vedantham Lakshmi Srinivas, Ram Khelawan Saket, Gauri Shankar, and **Kartick Chandra Jana** "Electric Vehicle Fast Charging Integrated with Hybrid Renewable Sources for V2G and G2V Operation", accepted for publication to **IEEE Transactions on Industry Applications** 2025 (**Q1 Journal, SCIE, IF: 4.2**).
2. Rai, A., Shrivastava, A., **Jana, K. C.**, Liu, J., Singh, K., Jayalakshmi, N. S., & Agrawal, A. (2025). Meta-machine learning framework for robust short-term solar power prediction across different climatic zones. *Engineering Applications of Artificial Intelligence*, 147, 110295, (Q1 Journal, SCIE, IF: 8.0).
3. S. Tripathi, A. Shrivastava, & **K. C. Jana**, "EO based fuzzy optimal controller for solar MPPT and battery charging circuit for EV charging application", *International Journal of Dynamics and Control (Springer)* 13 (2), 66, (**Q2 Journal, SCIE, IF: 2.2**) (2025), DOI: 10.1007/s40435-024-01582-6.
4. Ankit Kumar Soni, **Kartick Chandra Jana**, Deepak Kumar Gupta, Pradipta Kumar Pal, and Amit kumar V. Jha "Design and Analysis of an Adaptive Global Maximum Power Point Tracking Algorithm for Enhanced Partial Shading Detection and GMPP Tracking" accepted in *Arabian Journal for Science and Engineering*, 2025 (**Q2 Journal, SCIE, IF:2.6**).

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5. Khalid Raza Khan, Suryakant Kumar, Vedantham Lakshmi Srinivas, Ram Khelawan Saket, **Kartick Chandra Jana**, and Gauri Shankar, "Voltage Stabilization Control with Hybrid Renewable Power Sources in DC Microgrid" Accepted for publication to **IEEE Transactions on Industry Applications**, 2024 (**Q1 Journal, SCIE, IF: 4.2**).
6. Sandeep Tripathy, Ashish Shrivastava, and **Kartick C. Jana**, "An Efficient Energy Management System for a Microgrid System Considering the Volatility of Hybrid Renewable Energy" has been accepted for publication in the **International Journal of Hydrogen Energy** (**Q1 Journal, SCIE, IF: 8.1**), Dec 2024. DOI: 10.1109/TIA.2024.3520087.
7. Bikramaditya Chandan, Pradipta Kumar Pal, **Kartick Chandra Jana**, and Yam P. Siwakoti, "Performance Evaluation of a New Transformerless Grid-Connected Six-Level Inverter with Integrated Voltage Boosting", **IEEE Journal of Emerging and Selected Topics in Power Electronics (JESTPE)**, Vol. 12(5), 4361-4376, 2024 (**Q1 Journal, SCIE, IF: 4.6**), 2024, DOI: 10.1109/JESTPE.2024.3427766.
8. Chandan, B., Pal, P. K., & **Jana, K. C.**, "Performance Evaluation of a 17-Level Octuple Boost Inverter for a Grid-connected PV System" *IEEE Access*, Vol. 12(), 87284-87298 (2024), (**Q1 Journal, SCIE, IF: 5.462**), DOI: 10.1109/ACCESS.2024.3409171.

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9. Pradipta Kumar Pal, **Kartick Chandra Jana**, Yam P. Siwakoti, Jagabar Sathik Mohamed Ali, and Frede Blaabjerg, "A Switched-Capacitor Multilevel Inverter with Modified Pulse-Width Modulation and Active DC-Link Capacitor Voltage Balancing" **IEEE Journal of Emerging and Selected Topics in Power Electronics (JESTPE)**, Vol. 12, No. 2, April 2024 (**Q1 Journal, SCIE, IF: 5.462**), DOI [10.1109/JESTPE.2023.3285690](https://doi.org/10.1109/JESTPE.2023.3285690).
10. Bidyut Mahato, Saikat Majumdar, **Kartick Chandra Jana**, Ebrahim Babaei, Dushmanta Kumar Mohanta, "A New Switch-Diode Cell-Based Single-Phase Cascaded Multilevel Inverter", **Soft Computing**, 27 (19), 13719-13738 (Springer) (**Q2 Journal, SCIE, IF: 3.732**), [10.1007/s00500-023-09006-x](https://doi.org/10.1007/s00500-023-09006-x).
11. Amit Rai, Ashish Shrivastava, and **Kartick C. Jana**, "Differential Attention Net: Multi-Directed Differential Attention Based Hybrid Deep Learning Model for Solar Power Forecasting" **Energy**, 263(2023), Part C, 2023, 125746 (**Q1 Journal, SCI, IF:8.857**), [10.1016/j.energy.2022.125746](https://doi.org/10.1016/j.energy.2022.125746).
12. Sandeep Tripathy, Ashish Shrivastava, and **Kartick C. Jana**, "Chimp optimization-based fuzzy controller for Hybrid electric vehicle speed control using electronic throttle plate, **Optimal Control, Applications and Methods**, 45 (1), Jan/Feb 2024, p.p. 163-184 (**Q3 Journal, SCIE, IF: 1.95**), [10.1002/oca.3051](https://doi.org/10.1002/oca.3051).

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13. Saikat Majumdar, Pradipta Kumar Pal, Samrat Paul, Bidyut Mahato, **Kartick Chandra Jana** & Frede Blaabjerg, "Performance Evaluation of a 15-level Inverter using Two DC Sources with Lower Standing Voltage", **International Journal of Electronics**, Vol. 111, Iss. 2, p.223-237 (2022), (**SCIE Q3, IF:1.336**), [10.1080/00207217.2022.2163300](https://doi.org/10.1080/00207217.2022.2163300).

14. Amit Rai, Ashish Shrivastava, and **Kartick C. Jana**, "An Empirical Analysis of Machine Learning Algorithms for Solar Power Forecasting in High Dimensional Uncertain Environment", **IETE Technical Review**, Vol. 40, No. 4, 558–573 2022 (**SCIE Q3, IF:2.2**), [10.1080/02564602.2022.2136270](https://doi.org/10.1080/02564602.2022.2136270).
15. Bidyut Mahato, Saikat Majumdar, **Kartick Chandra Jana**, Amit Agrawal, Ashish Shrivastava, "A Generalized Series-Connected Multilevel Inverter (MLI) Based on Reduced Power Electronic Devices for Symmetrical/Asymmetrical Sources", **Arabian Journal for Science and Engineering**, Vol. 48, p.p. 5907–5924 (2023) (**SCIE Q2, IF: 2.334**), [10.1007/s13369-022-07066-z](https://doi.org/10.1007/s13369-022-07066-z).
16. Pradipta Kumar Pal, **Kartick Chandra Jana**, Yam P. Siwakoti, Saikat Majumdar, and Frede Blaabjerg, "An Active-Neutral-Point-Clamped Switched-Capacitor Multilevel Inverter with Quasi-Resonant Capacitor Charging" **IEEE Transactions on Power Electronics**, 37(12), p.p-14888-15001, Dec 2022 (Q1 Journal, **SCI, IF: 6.153**), [10.1109/TPEL.2022.3187736](https://doi.org/10.1109/TPEL.2022.3187736).
17. Srihari Gude, **Kartick Chandra Jana**, Antonino Laudani, Sudhakar Babu Thanikanti, "Parameter extraction of photovoltaic cell based on a multi-objective approach using nondominated sorting cuckoo search optimization", **Journal of Solar Energy**, 239(2022), p.p.- 359-374, 2022 (Q2 Journal, **SCIE, IF: 5.742**), [10.1016/j.solener.2022.05.007](https://doi.org/10.1016/j.solener.2022.05.007).
18. Amit Rai, Ashish Shrivastava, and **Kartick C. Jana**. "A robust auto encoder-gated recurrent unit (AE-GRU) based deep learning approach for short term solar power forecasting." *Optik*, 252 (2022): 168515 (Q2 Journal, **SCI, IF: 2.84**), [10.1016/j.jpleo.2021.168515](https://doi.org/10.1016/j.jpleo.2021.168515).
19. Srihari Gude, **Kartick Chandra Jana**, "A multiagent system based cuckoo search optimization for parameter identification of photovoltaic cell using Lambert W-function." **Applied Soft Computing**, vol. 120 (2022): 108678 (Q1 Journal, **SCIE, IF: 6.725**), [10.1016/j.asoc.2022.108678](https://doi.org/10.1016/j.asoc.2022.108678).
20. Saikat Majumdar, **Kartick Chandra Jana**, Pradipta Kumar Pal, Ariya Sangwongwanich, and Frede Blaabjerg, "Design and Implementation of a Single source 17-level Inverter for a Single-phase Transformer-less Grid-Connected Photovoltaic Systems", **IEEE Journal of Emerging and Selected Topics in Power Electronics**, 10(4), p.p-4469-4485, Aug 2022 (Q1 Journal, **SCIE, IF:4.47**), [10.1109/JESTPE.2021.3133369](https://doi.org/10.1109/JESTPE.2021.3133369).
21. Samrat Paul, **Kartick Chandra Jana**, Saikat Majumdar, Pradipta Kumar Pal, and Bidyut Mahato, "Performance Analysis of a Multi-module Staircase (MM-STC) Type Multilevel Inverter with Reduced Component Count and Improved Efficiency", **IEEE Journal of Emerging and Selected Topics in Power Electronics**, 10(6), Dec 2022, p.p- 6619-6633 (Q1 Journal, **SCIE, IF:4.47**), [10.1109/JESTPE.2021.3133346](https://doi.org/10.1109/JESTPE.2021.3133346).

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22. Amit Rai, Ashish Shrivastava, **Kartick C. Jana**, "A CNN-BiLSTM based deep learning model for mid-term solar radiation prediction", *International Transactions on Electrical Energy Systems*, 31(9), e12664 (DOI: 10.1002/2050-7038.12664) (Q2 Journal, **SCIE, IF:2.86**), 2021, [10.1002/2050-7038.12664](https://doi.org/10.1002/2050-7038.12664).
23. Amit Rai, Ashish Shrivastava, **Kartick C. Jana** & N. S. Jayalakshmi, "Techno-economic-environmental and sociological study of a microgrid for the electrification of difficult un-electrified isolated villages", *Journal of Sustainable Energy, Grids and Networks (Elsevier)*, 28(2021), 100548 (Q1 Journal, **SCIE, IF:3.899**), [10.1016/j.segan.2021.100548](https://doi.org/10.1016/j.segan.2021.100548).
24. Amit Rai, Ashish Shrivastava, and **Kartick C. Jana**, "A Cost-Emission Based Multi-Objective Dynamic Economic Dispatch Considering Solar-Wind Curtailment Cost", *IETE Journal of Research* (doi.org/10.1080/03772063.2021.1958071), (**SCIE, IF:1.03**), [10.1080/03772063.2021.1958071](https://doi.org/10.1080/03772063.2021.1958071).
25. B Mahato, S Majumdar, **K C Jana**, P Thakura, D Kumar Mohanta, "Experimental Verification of a New Scheme of MLI Based on Modified T-Type Inverter and Switched-Diode Cell with Lower Number of Circuit Devices", *Electric Power Components and Systems*, 48(16-17), p.p-1814-1834, 2021 (**SCIE, IF:1.071**), [10.1080/15325008.2021.1906793](https://doi.org/10.1080/15325008.2021.1906793).
26. Saikat Majumdar, Bidyut Mahato and **K. C. Jana**, "Analysis and implementation of a generalized switched-capacitor multi-level inverter having the lower total standing voltage", *IET Power Electronics*, 13(17), p.p. 4031-4042 (doi:10.1049/iet-pel.2020.0458), (Q2 Journal, **SCIE, IF: 2.67**), 2021, [10.1049/iet-pel.2020.0458](https://doi.org/10.1049/iet-pel.2020.0458).
27. B. Mahato, S. Majumdar, S. Paul, P K Pal, K. C. Jana, "A New and Modular Back-to-Back Connected T-Type Inverter for Minimum Number of Power Devices, TSV, and Cost Factor", *IETE Technical Review*, 39(2), p.p. 357-374 (2022), (**SCIE, IF:1.618**), [10.1080/02564602.2020.1860838](https://doi.org/10.1080/02564602.2020.1860838).
28. Ankit Kumar Soni, **Kartick Chandra Jana**, and Deepak Kumar Gupta, "Variable Step-size Adaptive Maximum Power Point Tracking Algorithm for Solar Cell under Partial Shading Conditions", *IETE Journal of Research*, 69(3), p.p-1562-1577 (Q3 Journal, **SCIE, IF:1.03**), 2021, [10.1080/03772063.2020.1871425](https://doi.org/10.1080/03772063.2020.1871425).
29. Saikat Majumdar, Bidyut Mahato, and **K. C. Jana**, "Analysis of most optimal Multi-unit Multi-level inverter having minimum components and lower standing voltage", *IETE Technical Review*, 38(5), 2021, p.p- 520-536 (Q3 Journal, **SCIE, IF: 1.618**), [10.1080/02564602.2020.1799874](https://doi.org/10.1080/02564602.2020.1799874).

30. Bidyut Mahato, Saikat Majumdar, Sambit Vatsyayan and **Kartick Chandra Jana**, "A New and Generalized Structure of MLI Topology with Half-bridge Cell with Minimum Number of Power Electronic Devices" Journal of IETE Technical Review, 38(2), 267-278 (2021) (doi.org/10.1080/02564602.2020.1726215), (**Q3 Journal SCIE, IF:1.618**), [10.1080/02564602.2020.1726215](https://doi.org/10.1080/02564602.2020.1726215).

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31. A. Sinha, **K. C. Jana**, "A Comprehensive Review on Control Strategies of Parallel-Interfaced Voltage Source Inverters for Distributed Power Generation System", IET Renewable Power Generation, 14(13), pp. 2297-2314, June 2020 (**Q2 Journal, SCIE, IF:3.605**), [10.1049/iet-rpg.2019.1067](https://doi.org/10.1049/iet-rpg.2019.1067).
32. S. Gude, **K. C. Jana**, "Parameter extraction of photo voltaic cell using an improved cuckoo search optimization", Solar Energy, 204(2020), p.p.280-293 (**Q2 Journal, SCI, IF: 4.674**), [10.1016/j.solener.2020.04.036](https://doi.org/10.1016/j.solener.2020.04.036).
33. Sandeep Tripathy, Ashish Shrivastava, and **Kartick C. Jana**, "Self-Tuning fuzzy controller for sun-tracker system using Gray Wolf Optimization (GWO) technique" ISA Transactions, 101(2020), p.p. 50-59 (Q1 Journal, **SCI, IF:4.34**), [10.1016/j.isatra.2020.01.012](https://doi.org/10.1016/j.isatra.2020.01.012).
34. B Mahato, S Majumdar, **K. C. Jana**, "A new and generalized structure of single-phase and three-phase cascaded multilevel inverter with reduced power components", International Transactions on Electrical Energy Systems, 30(2) (Wiley), July 2020 (Q2 Journal, **SCIE, IF:1.619**), [10.1002/2050-7038.12187](https://doi.org/10.1002/2050-7038.12187).
35. Saikat Majumder, Bidyut Mahato, **K. C. Jana**, "Implementation of an Optimum Reduced Components Multi-cell Multilevel (MC-MLI) Inverter for Lower Standing Voltage", IEEE Transaction on Industrial Electronics, 67(4), April 2020, p.p-2765-2775 (**Q1, Journal, SCI, IF: 7.503**), [10.1109/TIE.2019.2913812](https://doi.org/10.1109/TIE.2019.2913812).
36. Bidyut Mahato, Saikat Majumdar and **Kartick Chandra Jana**, "A New and Generalized MLI with Overall Lesser Power Electronic Devices," Journal of Circuits, Systems and Computers (Taylor & Fransis), 29(4), 2020. (**Q4 Journal SCIE, IF: 0.939**), [10.1142/S0218126620500589](https://doi.org/10.1142/S0218126620500589).
37. Bidyut Mahato, Saikat Majumdar and **Kartick Chandra Jana**, "Reduction of Power Electronic Devices in a Single-phase Generalized Multilevel Inverter," Journal of Circuits, Systems and Computers (Taylor & Fransis), 29(6), 2020 (**Q4 Journal, SCIE, IF: 0.939**), [10.1142/S0218126620500930](https://doi.org/10.1142/S0218126620500930).

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38. Akanksha Sinha, **Kartick Chandra Jana**, Madan Kumar Das, "Control of an Asymmetrical Cascaded Multi-level Inverter for a Grid-Connected Photovoltaic system", IET Renewable Power Generation 2019, 13(9), pp. 1456-1465, (**Q2 Journal, SCIE, IF:3.605**), [10.1049/iet-rpg.2018.5230](https://doi.org/10.1049/iet-rpg.2018.5230).
39. Akanksha Sinha, **Kartick Chandra Jana**, Madan Kumar Das, "Control Strategy of PV-Fed, Grid-Interfaced, Seven-level T-Type Multi level Inverter for Distributed Power Generation", IET Power Electronics, 12(12), p.p-3208-3219, Oct 2019, (**Q2 Journal, SCIE, IF:2.839**), [10.1049/iet-pel.2019.0379](https://doi.org/10.1049/iet-pel.2019.0379).
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41. Bidyut Mahato, Saikat Majumdar and **Kartick Chandra Jana**, "Reduction in controlled power switches for a Single-phase Novel Multilevel Inverter" International Journal of Electronics, 106(8), p.p-1200-1215, Mar 2019 (**Q4 Journal, SCIE, IF:1.07**), [10.1080/00207217.2019.1582713](https://doi.org/10.1080/00207217.2019.1582713).
42. Saikat Majumder, Bidyut Mahato, **K.C.Jana**, "Optimum Structure-Based Multi-level Inverter with Doubling Circuit Configuration", Journal of Circuits, Systems and Computers, 28(11), 1950194 (2019), (DOI:10.1142/S0218126619501949), (**Q4 Journal, SCIE, IF: 0.939**), [10.1142/S0218126619501949](https://doi.org/10.1142/S0218126619501949).
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44. Amit Kr. Agrawal, Ashish Shrivastava, **K. C. Jana**, "A Universal Input, Single Stage AC-DC LED Driver for an Auditorium Light," Journal of Circuits, Systems, and Computers, 28(2), Feb, 2019 (**Q4 Journal, SCIE, IF:0.939**), [10.1142/S0218126619500245](https://doi.org/10.1142/S0218126619500245).
45. Bidyut Mahato, Parasuram Thakura, **Kartick Chandra Jana**, "Constant V/f Control & Frequency Control of Isolated winding Induction Motor using 9-Level Three-phase Inverter," Iranian Journal of Science and Technology, Transactions of Electrical Engineering (Springer), 43(1), pp.123-135, 2019 (**Q4 Journal, SCIE, IF:0.6**), [10.1007/S40998-018-0064-6](https://doi.org/10.1007/S40998-018-0064-6).

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47. Akanksha Sinha, **Kartick Chandra Jana**, Madan Kumar Das, "An Inclusive Review on different Multi-Level Inverter topologies, their Modulation and Control Strategies for a Grid Connected Photo-voltaic System", Journal of Solar Energy, ISSN: 0038-092X, 170(2018), pp.633-657 (**Q2 Journal, SCIE, IF:4.674**), [10.1016/j.solener.2018.06.001](https://doi.org/10.1016/j.solener.2018.06.001).
 48. Ravi Raushan, Bidyut Mahato, **Kartick Chandra Jana**, "Optimum Structure of a Generalized Three-phase Reduced Switch Multilevel Inverter," Electric Power Systems Research, 157(2018), p.p-10–19 (**Q2 Journal, SCIE, IF:3.022**), [10.1016/j.epsr.2017.11.017](https://doi.org/10.1016/j.epsr.2017.11.017).
 49. Madan Kr. Das, **Kartick Chandra Jana**, Akanksha Sinha, Performance Evaluation of an Asymmetrical Reduced Switched Multi-level Inverter for a Grid Connected P.V. System', IET Renewable Power Generation, 12(2), pp. 252-263, 2018 (**Q2 Journal, SCIE, IF: 3.605**), [10.1049/iet-rpg.2016.0895](https://doi.org/10.1049/iet-rpg.2016.0895).

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51. Ravi Raushan, Bidyut Mahato, **Kartick Chandra Jana**, "Comprehensive Analysis of a Novel Three-Phase Multilevel Inverter with Minimum Number of Switches", IET Power Electronics, 9(8), pp.1600–1607, 2016 (**Q2 Journal, SCIE: 2.839**), [10.1049/iet-pel.2015.0682](https://doi.org/10.1049/iet-pel.2015.0682).
52. **Kartick Chandra Jana**, Sujit Kumar Biswas, Suparna Kar Chowdhury, "Dual reference phase shifted PWM technique for a N-level inverter based grid connected solar photovoltaic system", IET Renewable Power Generation, 10(7), pp.928–935, 2016 (**Q2 Journal, SCIE, IF:3.605**), [10.1049/iet-rpg.2015.0393](https://doi.org/10.1049/iet-rpg.2015.0393).
53. **Kartick Chandra Jana**, Sujit Kumar Biswas, "Generalised switching scheme for a space vector pulse-width modulation-based N-level inverter with reduced switching frequency and harmonics", IET Power Electronics 8(12), p.p.2377–2385, Dec 2015, (**Q2 Journal, SCIE:2.839**), [10.1049/iet-pel.2015.0101](https://doi.org/10.1049/iet-pel.2015.0101).
54. **Kartick Chandra Jana**, Sujit Kumar Biswas, Suparna Kar Chowdhury, "Performance Evaluation of a Simple and General SVPWM based M-Level Inverter including Over-modulation Operation", IET Power Electronics, 6(4), p.p.809– 817, April 2013, (**Q2 Journal, SCIE: 2.839**), [10.1049/iet-pel.2012.0318](https://doi.org/10.1049/iet-pel.2012.0318).

(b) Journal of Patent, Govt. of India (Granted: 04 Nos./Published: 05 Nos.)

Granted Patent:

1. **Kartick Chandra Jana**, Gauri Shankar, Vedantham Lakshmi Srinivas, Khalid Raza Khan, Suryakant Kumar, and Ram Khelawan Saket "Voltage Stabilization Control with Hybrid Renewable Power Sources in DC Microgrid" Journal of Patent, Patent Office, Government of India, Patent Application No. 202431073196 (Patent Granted on 24/09/2025, Patent No: 571117).
2. Pradip Kumar Sadhu, Kaushik Neogi, Atanu Banerjee, G. Panda, N. Pal, **K. C. Jana**, "An Induction Curing System For Roof Treatment With Asphalt Concrete To Cure A Crack On Roof And A Method For The Same", Journal of Patent, Patent Office, Government of India, Journal No. 04/2016, publication date 22/01/2016, Application No. 1221/KOL/2015 (Patent Granted on 25/04/2023, Patent No: 429901).
3. Saikat Majumdar, Samrat Paul, **Kartick Chandra Jana**, Pradipta Kumar Pal, Bidyut Mahato, Santanu Ghorai, "Single source 17-level Inverter for a Single-phase Transformer-less grid-connected photovoltaic systems", Journal of Patent, Patent Office, Government of India, Journal No. 39/2022, publication date 30/09/2022, Application No.202231054886 A, (Patent Granted on 19/10/2023, Patent No: 460619).
4. Samrat Paul, Saikat Majumdar, **Kartick Chandra Jana**, Pradipta Kumar Pal, Bidyut Mahato, Santanu Ghorai, "A Dual DC Source Multilevel Inverter with Lower Standing Voltage", Journal of Patent, Patent Office, Government of India, Journal No. 36/2022, publication date 09/09/2022, Application No. 202231049084 A (Patent Granted on 26/09/2024, Patent No: 551182)

Published/Applied Patent:

1. Applied Patent (Application No. 202531025381 dated 20.03.2025) for "Multilevel Step-Down AC-to-DC Converter with Active Power-Factor Correction and Leakage Current Mitigation" in the name of inventors Mansi Singh, Pradipta Kumar Pal, Kalyan Chatterjee and **Kartick Chandra Jana** to the Indian Patent Office on 10th March, 2025.
2. Applied Patent (Application No. 202431093206 dated 28.11.2024) for "A multi-level switched-capacitor-based single source inverter generating boosted output voltage", in the name of inventors Bikramaditya

Chandan, Pradipta Kumar Pal, and **Kartick Chandra Jana** to the Indian Patent Office on 28th November, 2024.

3. Applied patent (Application No: 202231032196 Dated 06 / 06 / 2022) for “A hybrid renewable energy driven bidirectional wireless charging system for dynamic and static electric vehicle” in the name of inventors, Pradipta Kumar Sadhu, Anik Goswami, Sonal Mishra, Nitai Pal, Arijit Baral, Anirban Ghoshal and **Kartick Chandra Jana**, at Patent Office, Kolkata, Government of India.
4. Bidyut Mahato, Samrat Paul, **Kartick Chandra Jana**, Pradipta Kumar Pal, Saikat Majumdar, Santanu Ghorai “Modified T-type and Switched-diode Cell based Multi-level Inverter” Journal of Patent, Patent Office, Government of India, Journal No. 10/2023, publication date 10/03/2023, Application No.202331011159 A, p.p. 25202.
5. Samrat Paul, Saikat Majumdar, **Kartick Chandra Jana**, Pradipta Kumar Pal, Bidyut Mahato, Santanu Ghorai, “Multi-module Staircase (MM-STC) Type Multilevel Inverter with Reduced Component Count and Improved Efficiency”, Journal of Patent, Patent Office, Government of India, Journal No. 44/2022, publication date 04/11/2022, Application No.202231061068 A, p.p. 70188.

(c) Other Journals (Scopus/ESCI)

1. Sandeep Tripathi, Ashish Shrivastava, and **KC Jana**, “PO based adaptive sliding mode control for PV system under varying load condition,” accepted for publication in the journal Materials Today: Proceedings (Elsevier), 2023, [10.1016/j.matpr.2023.02.030](https://doi.org/10.1016/j.matpr.2023.02.030).
2. A Rai, A Shrivastava, **KC Jana**, “A Solution for Power Crisis and Environment Pollution from Electricity Generation-A Study of Sub-tropical Regions”, Smart Science 9 (1), 40-50, 2021, [10.1080/23080477.2021.1879430](https://doi.org/10.1080/23080477.2021.1879430).
3. **Saikat Majumdar, Bidyut Mahato, Kartick Chandra Jana**, “Open-Circuit Fault and Tolerant Method for 3-Level T- Type Inverter using Modified Space Vector PWM,” **Journal of Power Technologies, 100(3), 2020 (ESCI)**.
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