

### **Active front-end DC grid-forming converter design with power balancing capability**

**Verbytskyi, Ievgen; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144688>

### **Active redundancy in isolated DC-DC converters: A modular solution for fault tolerance**

**Shirodkar, Aditya; Banavath, Satish Naik; Yadav, Neelesh; Chub, Andrii; Mandrioli, Riccardo** 2025 IEEE 19th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2025 / 5 p <https://doi.org/10.1109/CPE-POWERENG63314.2025.11027280>

### **Adaptive chaotic class topper optimization to solve Non-convex CHPED problems in power systems**

**Gupta, Pradeep Kumar; Tuttelberg, Kaur; Kilter, Jako** 2024 IEEE PES Innovative Smart Grid Technologies - Asia (ISGT Asia) 2024 / 6 p. <https://doi.org/10.1109/ISGTAsia61245.2024.10876314>

### **An adaptive class topper optimization for scheduling thermal generation with cubic fuel cost function**

**Gupta, Pradeep Kumar; Gupta, Anju Kumari; Tuttelberg, Kaur; Kilter, Jako** 2025 15th International Conference on Power, Energy, and Electrical Engineering (CPEEE) 2025 / p. 195-199 <https://doi.org/10.1109/CPEEE64598.2025.10987339>

### **Additively manufactured spoke-type permanent magnet rotors : Solutions to multidisciplinary design challenges and comparison with traditional design**

**Ajamloo, Akbar Mohammadi; Tiismus, Hans; Kallaste, Ants; Ibrahim, Mohamed N.; Sergeant, Peter** IEEE transactions on energy conversion 2025 / 12 p. <http://doi.org/10.1109/TEC.2025.3619827> <https://ieeexplore.ieee.org/document/11197694>

### **Analysis of a reconfigurable non-isolated DC-DC converter for DC microgrid applications**

**Yadav, Vinod Kumar; Chub, Andrii** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://ieeexplore.ieee.org/document/11144731> <https://doi.org/10.1109/ICDCM63994.2025.11144731>

### **A benchmark of DC-DC converters for DC fast charging stations of electric vehicles**

**Mathew, Honey Mol; Arena, Gabriele; Chub, Andrii; De Carne, Giovanni; Vinnikov, Dmitri; Lukianov, Mykola** 2024 9th IEEE Workshop on the Electronic Grid (eGRID) 2024 / 6 p <https://doi.org/10.1109/eGRID62045.2024.10842879>

### **Capacitive vs Inductive Coupling Based DC-DC Converter Operating in MHz Switching Frequency Range**

**Pourjafar, Saeed; Mohseni, Parham; Husev, Oleksandr; Strezelecki, Ryszard; Matiushkin, Oleksandr** 2025 IEEE Applied Power Electronics Conference and Exposition (APEC) 2025 / p. 2173-2178 <https://doi.org/10.1109/APEC48143.2025.10977156>

### **Comparative evaluation of the air core magnetic design for MHz+ switching frequency**

**Matiushkin, Oleksandr; Pakhaliuk, Bohdan; Gutierrez-Escalona, Javier; Romero-Cadaval, Enrique; Husev, Oleksandr; Zakis, Janis** Applied sciences 2025 / art. 8820 <https://doi.org/10.3390/app15168820>

### **Comparative power quality analysis of right and left shunt UPQC topologies**

**Kumar, Pradeep; Gupta, Pradeep Kumar** Proceedings of the International Conference on Systems, Control and Automation (ICSCA 2023) 2025 / p. 607-624 [https://doi.org/10.1007/978-981-97-7384-8\\_52](https://doi.org/10.1007/978-981-97-7384-8_52)

### **Comparative Study of Advanced Heatsink Structures for Improved Thermal Performance in Axial Flux Motors**

**Sarap, Martin; Singh, Shalini; Kallaste, Ants; Qureshi, Ahmed Jawad; Tiismus, Hans; Vaimann, Toomas; Shams Ghahfarokhi, Payam** IEEE Access 2025 / p. 100850-100860 <https://doi.org/10.1109/ACCESS.2025.3577289>

### **Comprehensive Diagnostic Assessment of Inverter Failures in a Utility-Scale Solar Power Plant : A Case Study Based on Field and Laboratory Validation**

**Kull, Karl; Asad, Bilal; Naseer, Muhammad Usman; Kallaste, Ants; Vaimann, Toomas** Sensors 2025 / art. 3717 <https://doi.org/10.3390/s25123717>

### **A Comprehensive Study of Partial Discharge Based Extrinsic Aging in Nomex Insulation Films : Modeling, Simulation and Measurement**

**Choudhary, Maninder; Shafiq, Muhammad; Bhattarai, Abhinav; Kiitam, Ivar; Taklaja, Paul; Palu, Ivo** Electric Power Systems Research 2025 / art. 111663 <https://doi.org/10.1016/j.epsr.2025.111663>

### **Conducted EMI emission evaluation considerations for test site and in-situ evaluation of DC microgrid supplied power converters**

**Kütt, Lauri; Daniel, Kamran; Sharma, Hetal; Parker, Martin; Chub, Andrii** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144729>

### **Control of multiport partial power converters for PV-battery systems integration in DC microgrids**

**Yadav, Neelesh; Mitra, Tuhin; Makkieh, Ahmad; Chub, Andrii** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144705>

### **A coupled inductor-based SSCB with reduced components for DC microgrid protection**

Pithanisetty, Prasanth; Dsa, Daniel; Banavath, Satish Naik; **Carvalho, Edivan Laercio**; De Carne, Giovanni; **Vinnikov, Dmitri** IEEE transactions on power electronics 2025 / p. 11428-11441 <https://doi.org/10.1109/TPEL.2025.3551740> [Article at Scopus](#)

### **Curved Airgap Topology : A Promising Strategy for Enhancing Axial-Flux Machine Performance Metrics**

**Naseer, Muhammad Usman; Kallaste, Ants; Vaimann, Toomas; Asad, Bilal** International Conference on the Computation of Electromagnetic Fields (COMPUMAG) 2025

### **Cycle-skipping technique based on sigma-delta modulation in series resonant DC transformer**

Pittala, Lohith Kumar; **Chub, Andrii**; Sidorov, Vadim; **Khan, Salman**; Ricco, Mattia; Mandrioli, Riccardo 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <http://ieeexplore.ieee.org/document/11144699>  
<https://doi.org/10.1109/ICDCM63994.2025.11144699>

### **Data-driven quantification and aggregation of demand-side flexibility for symmetrical bidding in energy balancing markets**

**Shahid, Arqum; Ahmadiyahangar, Roya; Kilter, Jako; Rosin, Argo** Electric Power Systems Research 2025 / art. 111823  
<https://doi.org/10.1016/j.epsr.2025.111823>

### **Deep Transfer Learning Approach Using Filtered Time-Frequency Representations of Current Signals for Bearing Fault Detection in Induction Machines**

El Bouharrouti, Nada; Nemat Saberi, Alireza; Hussain Khan, Muhammad Dayyan; **Kudelina, Karolina; Naseer, Muhammad Usman**; Belahcen, Anouar IET Electric Power Applications 2025 <https://doi.org/10.1049/elp2.70074>

### **Design and development of solid state circuit breaker with residual current protection for residential prosumer DC microgrids**

**Jalakas, Tanel; Chub, Andrii; Roasto, Indrek; Vinnikov, Dmitri; Kurnitski, Jarek** Proceedings of the Estonian Academy of Sciences 2025 / p. 281-290 <https://doi.org/10.3176/proc.2025.2S.02>

### **Design and implementation of dual-mode LLC resonant converter for charging 400 V and 800 V onboard plug-in electric vehicles**

Vinusha, Bussa; Kalpana, R.; Kishan, Dharavath; **Chub, Andrii** 2025 IEEE 19th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2025 / 6 p <https://doi.org/10.1109/CPE-POWERENG63314.2025.11027270>

### **Dual-purpose dc-dc/ac PWM modular power converter as dual-output hybrid converter**

Roncero-Clemente, Carlos; Gutierrez-Escalona, Javier; **Matiushkin, Oleksandr**; Husev, Oleksandr; Romero-Cadaval, Enrique; Fernao Pires, V. Renewable energy and power quality journal 2025 / p. 183-187 <https://doi.org/10.52152/4563>

### **Dual-purpose dc-dc/ac PWM modular power converter as grid-forming unit in a droop-controlled ac nanogrid**

Roncero-Clemente, Carlos; Escalona, Javier-Gutiérrez; **Matiushkin, Oleksandr**; Pires, V. Fernão; Milanés-Montero, María Isabel; **Romero-Cadaval, Enrique** IECON Proceedings (Industrial Electronics Conference) IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2024 / 6 p <https://doi.org/10.1109/IECON55916.2024.10906022> [Conference proceedings at Scopus](#)  
[Article at Scopus](#)

### **Dynamic Time Warping Technique for Condition Monitoring of High Voltage Circuit Breakers**

**Asefi, Sajjad; Kilter, Jako** 2025 15th International Conference on Power, Energy, and Electrical Engineering (CPEEE) 2025 / p. 38-42 <https://doi.org/10.1109/CPEEE64598.2025.10987408>

### **Effect of Bulk Capacitor on Harmonics of Energy-Efficient Devices**

**Daniel, Kamran; Kütt, Lauri**; Lehtonen, Matti; **Shabbir, Noman; Iqbal, Muhammad Naveed**; Martins, Joao; Simson, Päivo IEEE Access 2025

### **Effect of parasitic components in voltage drop and design consideration of the switched impedance inverter**

**Hasan Babayi Nozadian, Mohsen; Vinnikov, Dmitri; Mashinchi Maheri, Hamed** IET power electronics 2025 / p. 1-15  
<https://doi.org/10.1049/pel2.70024> <https://ietresearch.onlinelibrary.wiley.com/doi/full/10.1049/pel2.70024>

### **Electrical aging and lifetime study of nomex insulation influenced by partial discharges**

**Choudhary, Maninder; Kiitam, Ivar; Palu, Ivo** Electric power systems research 2025 / art. 112000  
<https://doi.org/10.1016/j.epsr.2025.112000>

### **Electrical drive : performance, design and control**

**Vodovozov, Valery** 2025 <https://www.morebooks.shop/shop-ui/shop/product/9786209082733>

### **Energy in Conventional Warfare**

Jakson, Heiki; Byrne, James Brendan; Cecchetti, Emanuele Nicola; Ciampor, Jan; Hajek, Jaroslav; Hausler, Maximilian 2016  
<https://www.enseccoe.org/publications/energy-in-conventional-warfare/>

### **Energy management implementation approach for droop-controlled residential DC nanogrids**

Hasan, Sayeed; Chub, Andrii; Yadav, Neelesh; Blinov, Andrei; Kurnitski, Jarek; Vinnikov, Dmitri 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144665>

### **Energy-efficient autonomous systems - capacity building cross-border educational initiative**

Kunicina, Nadezda; Plonis, Darius; Bruzgiene, Rasa; Rassõlkin, Anton 2025 IEEE 12th Workshop on Advances in Information, Electronic and Electrical Engineering (AIEEE) 2025 / 5 p <https://doi.org/10.1109/AIEEE66149.2025.11050877>

### **Enhanced control strategy for three-level T-type converters in hybrid power-to-X systems**

Sassonker Elkayam, Moria; Vinnikov, Dmitri Applied sciences 2025 / art. 2409 <https://doi.org/10.3390/app15052409>

### **Enhancement of residential PV energy storage system by supercapacitor battery – high spatial resolution data analysis**

Rogowski, Szymon; Hasan, Sayeed; Chub, Andrii; Sibinski, Maciej Proceedings of the Estonian Academy of Sciences 2025 / p. 269-280 <https://doi.org/10.3176/proc.2025.2S.01>

### **Evaluating the Power Mismatch Dynamics of Deeply Renovated Apartment Buildings with On-site PV Panels in Estonia**

Olayiwola, Tofopefun Nifise; Thalfeldt, Martin; Kuusk, Kalle; Blinov, Andrei Clima 2025 : 15th REHVA HVAC World Congress 2025

### **Exploring the Landscape of End User Energy Flexibility: A Systematic Review of Technologies, Challenges, and Opportunities**

Maask, Vahur; Agabus, Hannes; Tiismus, Hans; Astapov, Victor; Ahmadiyahangar, Roya; Korõtko, Tarmo; Rosin, Argo IEEE Access 2025 / p. 146579-146602 <https://doi.org/10.1109/ACCESS.2025.3599989> <https://ieeexplore.ieee.org/document/11129056>

### **Fault detection and protection strategy for multi-terminal HVDC grids using wavelet analysis**

Kaur, Jashandeep; Jayasooriya, Manilka; Iqbal, Muhammad Naveed; Daniel, Kamran; Shabbir, Noman; Peterson, Kristjan Energies 2025 / art. 1147 <https://doi.org/10.3390/en18051147>

### **Feasibility Study of Snow Removal from PV Module Using Universal Power Electronic Interface**

Chauhan, Sachin; Chub, Andrii; Hasan, Sayeed; Lavrov, Artur; Kurnitski, Jarek; Vinnikov, Dmitri 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p

### **Forecasting Corona Losses on High Voltage Transmission Lines Using Machine Learning**

Gupta, Pradeep Kumar; Tuttelberg, Kaur; Kilter, Jako IEEE transactions on power delivery 2025 / p. 2696-2705 <https://doi.org/10.1109/TPWRD.2025.3593923>

### **From ADAS to Material-Informed Inspection : Review of Hyperspectral Imaging Applications on Mobile Ground Robots**

Valme, Daniil; Rassõlkin, Anton; Liyanage, Dhanushka Chamara Sensors 2025 / art. 2346 <https://doi.org/10.3390/s25082346> <https://www.mdpi.com/1424-8220/25/8/2346>

### **Full SiC threelevel Tltype quasiz source inverter as gridllforming unit in islanded nanogrid**

Gutiérrez-Escalona, Javier; RonceroClemente, Carlos; Matiushkin, Oleksandr; GonzálezRomera, Eva; Pires, V. Fernão; Romero Cadaval, Enrique IET renewable power generation 2025 / art. e70051 <https://doi.org/10.1049/rpg2.70051>

### **Holistic cyber-physical approach for the performance evaluation of communication and control systems in DC microgrids**

Véliz, Antonio; Contreras, René; Riffo, Sebastián; Restrepo, Carlos; Garcés-Ruiz, Alejandro; Chub, Andrii; González-Castaño, Catalina; Flores-Bahamonde, Freddy IEEE journal of emerging and selected topics in power electronics 2025 <https://doi.org/10.1109/JESTPE.2025.3564851> <https://ieeexplore.ieee.org/document/10977842>

### **Hybrid Attention-Based LSTM and XGBoost Model for Short-Term Residential Load Forecasting**

Shabbir, Noman; Shahid, Arqum; Daniel, Kamran; Jawad, M.; Rosin, Argo; Martins, Joao 2025 IEEE the 13th International Conference on Smart Energy Grid Engineering (SEGE 2025) 2025

### **Hybridll driven digital twin modelling framework for an EV propulsion drive system**

Ibrahim, Mahmoud; Rassõlkin, Anton IET Intelligent Transport Systems 2025 / art. e70099 <https://doi.org/10.1049/itr2.70099> [Scopus](https://doi.org/10.1049/itr2.70099)

### **Integrating Attention-Based LSTM with XGBoost for Improved Residential DC Load Forecasting**

Shabbir, Noman; Shahid, Arqum; Daniel, Kamran; Rosin, Argo; Kilter, Jako; Martins, Joao 2025 IEEE International Conference on Energy Technologies for Future Grids (ETFG) 2025

### **Isolated high step-up current-fed DC-DC converter with low input current ripple and wide full-soft-switching capability**

Mohseni, Parham; Pourjafar, Saeed; Matiushkin, Oleksandr; Husev, Oleksandr; Vinnikov, Dmitri IEEE transactions on industry applications 2025 / 11 p <https://doi.org/10.1109/TIA.2025.3544985>

### **Kolmogorov-Arnold networks for algorithm design in battery energy storage system applications**

**Zequera, Rolando Antonio Gilbert; Rassölkin, Anton; Vaimann, Toomas; Kallaste, Ants** Energy Reports 2025 / p. 2664-2677  
<https://doi.org/10.1016/j.egy.2025.02.002>

**Modelling of magnetization processes of 3D-printed Fe-Si components by means of an artificial neural network implemented in a Finite Element Scheme**

Stella, Marco; Faba, Antonio; Bertolini, Vittorio; Riganti-Fulginei, Francesco; Sabino, Lorenzo; **Tiismus, Hans; Kallaste, Ants;** Cardelli, Ermanno IEEE Open Journal of the Industrial Electronics Society 2025 / p. 1650-1662  
<http://doi.org/10.1109/OJIES.2025.3620857> <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=11202631&tag=1>

**Modern training courses increasing awareness of environmental protection**

Veg, Lukas; Jelen, M.; **Rassölkin, Anton;** Stępien, M.; Zygmanski, Marcin Przegląd elektrotechniczny = Electrical review 2025 / p. 68-72 <https://doi.org/10.15199/48.2025.05.14> <http://pe.org.pl/articles/2025/5/14.pdf>

**MPC based power management for off-grid photovoltaic hybrid inverters using Li-ion batteries and supercapacitors**

Gonschorowski, E.; Cardoso, Rafael; **Carvalho, Edivan Laercio;** de Oliveira Stein, Carlos Marcelo; Carati, Emerson Giovanni; Denardin, Gustavo Weber; da Costa, Jean Patric 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p  
<https://doi.org/10.1109/ICDCM63994.2025.11144663> [Conference at Scopus](#)

**Multi-step ahead short-term residential DC load forecasting : A comparative study of NGBoost-based algorithms**

**Shabbir, Noman; Husev, Oleksandr; Hokmabad, Hossein Nourollahi; Daniel, Kamran;** Jawad, Muhammad; Martins, Joao 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144710>

**Neuro-fuzzy approach for fault prediction of mechanical bearing faults using vibration analysis**

**Shirokova, Veroonika; Kudelina, Karolina; Raja, Hadi Ashraf; Rjabtsikov, Viktor; Barashkova, Tatjana; Nutonen, Karle** IECON Proceedings (Industrial Electronics Conference) IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2024 / p. 1-6 <https://doi.org/10.1109/IECON55916.2024.10905990> [Conference proceedings at Scopus](#) [Article at Scopus](#)

**Novel concept of universal AC/DC-DC onboard battery charger for electric vehicles**

**Mohseni, Parham; Husev, Oleksandr; Vinnikov, Dmitri;** Kasper, Matthias; Deboy, Gerald 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144698>

**Novel dual-purpose cost-effective forward-based micro-converter**

**Afshar, Hossein; Husev, Oleksandr; Matiushkin, Oleksandr; Vinnikov, Dmitri** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144743>

**Novel Interlinking Converter Approach for Islanded Hybrid Microgrids based on the Modular Dual-Purpose Power Converter**

Gutiérrez-Escalona, Javier; Roncero-Clemente, Carlos; **Husev, Oleksandr; Matiushkin, Oleksandr;** Milanés-Montero, María Isabel; Romero-Cadaval, Enrique 2025 International Aegean Conference on Electrical Machines and Power Electronics & International Conference on Optimization of Electrical and Electronic Equipment 2025

**An Overview of Autonomous Parking Systems : Strategies, Challenges, and Future Directions**

Olmos Medina, Javier Santiago; Maradey Lázaro, Jessica Gissella; **Rassölkin, Anton;** González Acuña, Hernán Sensors 2025 / art. 4328 <https://doi.org/10.3390/s25144328> <https://www.mdpi.com/1424-8220/25/14/4328>

**P3R – Partial power post regulator for DC buildings application**

**Carvalho, Edivan Laercio; Chub, Andrii; Blinov, Andrei;** Rathore, Akshay Kumar; **Vinnikov, Dmitri** IECON Proceedings (Industrial Electronics Conference) IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2024 / 6 p  
<https://doi.org/10.1109/IECON55916.2024.10905720> [Conference proceedings at Scopus](#) [Article at Scopus](#)

**Performance analysis of partial power converter in DC microgrid with active front-end converter**

**Yadav, Neelesh; Hasan, Sayeed;** Galkin, Ilya; **Chub, Andrii** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144718>

**Performance comparison of voltage-fed and current-fed series resonant converters for high step-up DC-DC applications**

**Khan, Salman; Chub, Andrii; Vinnikov, Dmitri** 2025 IEEE 19th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2025 / 6 p <https://doi.org/10.1109/CPE-POWERENG63314.2025.11027290>

**Performance investigation of active, semi-active and passive suspension using quarter car model**

Samaroo, Kyle; Awan, Abdul Waheed; Marimuthu, Siva; Iqbal, Muhammad Naveed; **Daniel, Kamran; Shabbir, Noman** Algorithms 2025 / art. 100 <https://doi.org/10.3390/a18020100>

**Performance optimization of a high-speed permanent magnet synchronous motor drive system for formula electric vehicle application**

**Ibrahim, Mahmoud; Järg, Oskar; Seppago, Raigo; Rassölkin, Anton** Sensors 2025 / art. 3156 <https://doi.org/10.3390/s25103156>  
<https://www.mdpi.com/1424-8220/25/10/3156>



### **Possible legal forms for energy communities (EC)**

**Metsik, Merilin; Eynizada, Narmin; Korõtko, Tarmo** 2025 13th International Conference on Smart Grid (icSmartGrid) 2025 / p. 230-237 <https://doi.org/10.1109/icSmartGrid66138.2025.11071819>

### **Power quality improvement in DG based distribution systems : A review**

**Nabian Dehaghani, Mitra; Korõtko, Tarmo; Rosin, Argo** Renewable and Sustainable Energy Reviews 2026 / art. 116184 <https://doi.org/10.1016/j.rser.2025.116184> <https://www.sciencedirect.com/science/article/pii/S1364032125008573>

### **Protection and control implementation for bidirectional step-up/down partial power converter for droop-controlled DC microgrids**

**Yadav, Neelesh; Chub, Andrii; Hassanpour, Naser; Blinov, Andrei; Vinnikov, Dmitri** IEEE transactions on industry applications 2025 / 11 p <https://doi.org/10.1109/TIA.2025.3561767>

### **PV Energy Communities in Residential Apartments : Technical Capacities and Economic Viability**

**Mutule, Anna; Borscevskis, Olegs; Astapov, Victor; Antoskova, Irina; Carroll, Paula; Kairisa, Evita** Sustainability 2025

### **Quantification of corona discharge intensity applied to sphere-plane configurations**

**Gupta, Pradeep Kumar; Ruiz, Jordi-Roger Riba; Tuttelberg, Kaur; Kilter, Jako** IEEE Transactions on Dielectrics and Electrical Insulation 2025 <https://doi.org/10.1109/TDEI.2025.3562196>

### **Reconfigurable three-switch leg multi-port boost inverters with novel modulation schemes for hybrid DC/AC microgrid systems**

**Reddy, M. Rama Narayana; Reddy, B. Dastagiri; Prabhakaran, Prajof; Chub, Andrii; Kouro, Samir** IEEE Access 2025 / p. 77124-77146 <https://doi.org/10.1109/ACCESS.2025.3565791> <https://ieeexplore.ieee.org/document/10980297>

### **Reinforcement Learning-based Energy Management Strategy for Flexible Hybrid ac/dc Microgrid**

**Gutiérrez-Escalona, Javier; Roncero-Clemente, Carlos; Husev, Oleksandr; Matiushkin, Oleksandr; Barrero-González, Fermín; González-Romera, Eva** IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2025 / 6 p <https://doi.org/10.1109/IECON55916.2024.10905501> [Conference proceedings at Scopus](#) [Article at Scopus](#)

### **Remote data transfer and comparative performance through PyBaMM and mathematical techniques in battery applications**

**Zequera, Rolando Antonio Gilbert; Rassõlkin, Anton; Belolipetskaja, Diana** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144690>

### **Review of technical solutions addressing voltage and operational challenges in a distribution grid with high penetration of intermittent RES**

**Astapov, Victor; Shabbir, Noman; Rosin, Argo; Kütt, Lauri; Maask, Vahur; Tiismus, Hans** Energy reports 2025 / p. 1738-1760 <https://doi.org/10.1016/j.egy.2025.08.019>

### **Review of the present state, development trends, and advancements of power electronic converters used in robotics**

**Vodovozov, Valery; Raud, Zoja** Energies 2025 / art. 2638 <https://doi.org/10.3390/en18102638>

### **Review of Trends in the Development of Power Rectifiers used in Robotics**

**Vodovozov, Valery; Raud, Zoja** 2025 IEEE International Conference on Interdisciplinary Approaches in Technology and Management for Social Innovation (IATMSI) 2025 / 6 p. <https://doi.org/10.1109/IATMSI64286.2025.10984733>

### **A Scoping Review of Energy Consumption in Industrial Robotics**

**Muru, Johannes; Rassõlkin, Anton** Machines 2025 / art. 542 <https://doi.org/10.3390/machines13070542>

### **Solar PV Generation and Consumption Dataset of an Estonian Residential Dwelling**

**Hasan, Sayeed; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri** Scientific Data 2025 / art. 481 <https://doi.org/10.1038/s41597-025-04747-w>

### **Startup implementation in universal power electronics interface with dual-standard output for DC microgrid applications**

**Chauhan, Sachin; Khan, Salman; Chub, Andrii; Vinnikov, Dmitri; Wunder, Bernd; Flores-Bahamonde, Freddy** 2025 IEEE 19th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2025 / 6 p <https://doi.org/10.1109/CPE-POWERENG63314.2025.11027310>

### **State-of-the-Art Review of Emerging Trends in Renewable Energy Generation Technologies**

**Tiismus, Hans; Maask, Vahur; Astapov, Victor; Korõtko, Tarmo; Rosin, Argo** IEEE Access 2025 / p. 10820 - 10843 <https://doi.org/10.1109/ACCESS.2025.3528640>

### **Synthetic Data-Driven Detection of Broken Rotor Bars in Induction Machines Under Adjusted Noise Level**

**Nuha, Nurjahan Amin; Siddik Injam, Md Tanbir; El Bouharrouti, Nada; Hemeida, Ahmed; Kudelina, Karolina; Naseer, Muhammad**

**Usman;** Belahcen, Anouar 2025 IEEE Workshop on Electrical Machines Design, Control and Diagnosis (WEMDCD) 2025 / 6 p <https://doi.org/10.1109/WEMDCD61816.2025.11014141>

**Traction powered multiport DC-DC converter for bidirectional EV charging application – HIL simulation results**

Lukianov, Mykola; Romero Cadaval, Enrique; **Matiuskhin, Oleksandr;** Strzelecki, Ryszard 19th International Conference on Compatibility, Power Electronics and Power Engineering 2025

**Universal interlinking converter for prosumer DC buildings : Operation with different DC grid types**

**Carvalho, Edivan Laercio;** Mandrioli, Riccardo; Pittala, Lohith Kumar; **Blinov, Andrei;** **Chub, Andrii;** **Vinnikov, Dmitri** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144648>  
[Conference at Scopus](#)

**Utilizing the fuzzy logic algorithm for cartesian robot control system in conditions of mechanical damage transmission**

**Dunaeva, Olga;** **Autsou, Siarhei;** **Kudelina, Karolina;** **Roosileht, Mare** IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society IECON Proceedings (Industrial Electronics Conference) 2024 / 5 p <https://doi.org/10.1109/IECON55916.2024.10905445> [Conference proceedings at Scopus](#) [Article at Scopus](#)

**Wide voltage gain current-fed isolated buck-boost series-resonant DC-DC converter with active clamp for DC microgrid applications**

**Khan, Salman;** **Chub, Andrii;** **Vinnikov, Dmitri;** **Kasper, Matthias;** **Deboy, Gerald;** **Sachin, Chauhan** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144687>  
<https://ieeexplore.ieee.org/document/11144687>

**Wideband frequency response analysis for sensitive condition estimation of machine's turn insulation degradation faults**

**Sardar, Muhammad Usman;** **Vaimann, Toomas;** **Kütt, Lauri;** **Asad, Bilal;** **Kallaste, Ants;** **Land, Raul** 2025 IEEE Workshop on Electrical Machines Design, Control and Diagnosis (WEMDCD) 2025 / 6 p <https://doi.org/10.1109/WEMDCD61816.2025.11014207>

**Wide-range universal isolated DC-DC converter for EV charging applications**

**Blinov, Andrei;** **Chub, Andrii;** **Vinnikov, Dmitri** IECON Proceedings (Industrial Electronics Conference) IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2024 / 5 p <https://doi.org/10.1109/IECON55916.2024.10905692> [Conference proceedings at Scopus](#) [Article at Scopus](#)