

Artificial Intelligence in the hierarchical control of ac, dc and hybrid ac/dc microgrids : A review

Gutiérrez-Escalona, J.; Roncero-Clemente, C.; Husev, Oleksandr; Matiushkin, Oleksandr; Blaabjerg, Frede IEEE Access 2024 / p. 157227-157246 <https://doi.org/10.1109/ACCESS.2024.3486382> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Bidirectional twisted single-stage single-phase buck-boost DC-AC converter

Husev, Oleksandr; Matiushkin, Oleksandr; Roncero-Clemente, Carlos; Vinnikov, Dmitri; Chopyk, Vasiliy Energies 2019 / art. 3505, 14 p. : ill <https://doi.org/10.3390/en12183505> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Buck-boost unfold inverter as a novel solution for single-phase PV systems

Husev, Oleksandr; Matiushkin, Oleksandr; Vinnikov, Dmitri; Roncero, Carlos; Romero-Cadaval, Enrique; Kütt, Lauri IECON 2018 - 44th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2018 / p. 6116-6121 : ill <https://doi.org/10.1109/IECON.2018.8592899>

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>

Closed-loop control system design for wireless charging of low-voltage EV batteries with time-delay constraints

Shevchenko, Viktor; Pakhaliuk, Bohdan; Zakis, Janis; Veligorskyi, Oleksandr; Luszcz, Jaroslaw; Husev, Oleksandr; Lytvyn, Oksana; Matiushkin, Oleksandr Energies 2021 / art. 3934, 21 p. : ill <https://doi.org/10.3390/en14133934> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comparative analysis of buck-boost inverters based on unfolding circuit versus H5, H6, HERIC topologies

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Matiushkin, Oleksandr; Husev, Oleksandr; Tytelmaier, Kostiantyn; Kroics, Kaspars; Veligorskyi, Oleksandr; Zakis, Janis Technological Innovation for Smart Systems : 8th IFIP WG 5.5/SOCOLNET Advanced Doctoral Conference on Computing, Electrical and Industrial Systems, DoCEIS 2017, Costa de Caparica, Portugal, May 3–5, 2017 : proceedings 2017 / p. 409-418 http://dx.doi.org/10.1007/978-3-319-56077-9_40

Comparative evaluation of common-ground converters for dual-purpose application

Hemmati Shahsavari, Tala; Rahimpour, Saeed; Vosoughi Kurdkandi, Naser; Fesenko, Artem; Matiushkin, Oleksandr; Husev, Oleksandr; Vinnikov, Dmitri Energies 2023 / art. 2977 <https://doi.org/10.3390/en16072977> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comparative evaluation of dual-purpose converters suitable for application in dc and ac grids

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Comparative study of the phase-integrated converter as universal power converter

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Comparison of grid-connected flyback-based microinverter with primary and secondary side decoupling approach

Afshari, Hossein; Husev, Oleksandr; Vinnikov, Dmitri; Matiushkin, Oleksandr; Vosoughi Kurdkandi, Naser 2022 IEEE 63th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON): conference proceedings 2022 / p. 1-6 <https://doi.org/10.1109/RTUCON56726.2022.9978855>

Comprehensive comparison of grid-connected flyback-based microinverter with primary and secondary side decoupling approach

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Comprehensive comparison of isolated high step-up dc-dc converters for low power application

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Cost-effective piggyback forward dc-dc converter

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DC-ready flyback-based micro-converter

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DC-ready photovoltaic solar converter

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Dead-beat-based model predictive current control for the dual-purpose dc-dc/ac PWM modular power converter

Roncero-Clemente, Carlos; Escalona, Javier-Gutierrez; Pires, V. Fernao; **Matiushkin, Oleksandr**; Milanés-Montero, Maria Isabel; Romero-Cadaval, Enrique 2024 IEEE 18th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2024 / 6 p <https://doi.org/10.1109/CPE-POWERENG60842.2024.10604328>

Design and experimental validation of a single-stage PV string inverter with optimal number of interleaved buck-boost cells

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Design of LCL-filter for grid-connected buck-boost inverter based on unfolding circuit

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

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

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Feasibility study of interleaving approach for buck-boost inverter with unfolding circuit

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

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Novel family of single-stage buck-boost inverters based on unfolding circuit

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

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Novel isolated high step-up DC-DC converter with wide input voltage regulation range

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A novel single-phase common-grounded converter based on switched-capacitor

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Photovoltaic string converter with universal compatibility with AC and DC microgrids = Alalis- ja vahelduvvoolu mikrovõrkudega ühilduv universaalne muundur päikese-elektrijaamadele

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Reactive power injection capability of buck-boost inverter with unfolding circuit

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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

Research development of bidirectional DC-DC/AC converter

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A review of hybrid converter topologies

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A three-phase unfolding-based PFC topology with two inductors for electric vehicles battery charging

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

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