

AI applications for power quality issues in distribution systems : A systematic review

Nabian Dehaghani, Mitra; Korötko, Tarmo; Rosin, Argo IEEE Access 2025 / p. 18346-18365/2025

<https://doi.org/10.1109/ACCESS.2025.3533702>

Analysis of black start strategies for microgrids with renewable distributed generation

Armstorfer, Andreas; Biechl, Helmuth; Rosin, Argo IECON 2019 - 45th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2019 / p. 2121–2125 : ill <https://doi.org/10.1109/IECON.2019.8926631> [Conference proceedings at Scopus Article at Scopus Article at WOS](#)

Analysis of microgrid configuration effects on energy efficiency

Peterson, Kristjan; Ahmadihangar, Roya; Shabbir, Noman; Vinnal, Toomas 2019 IEEE 60th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), 7-9 October 2019 : conference proceedings 2019 / 6 p. : ill <https://doi.org/>

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 / 20 p <https://doi.org/10.1109/ACCESS.2024.3486382>

Bidirectional isolated hexamode DC-DC converter

Sidorov, Vadim; Chub, Andrii; Vinnikov, Dmitri IEEE transactions on power electronics 2022 / p. 12264-12278

<https://doi.org/10.1109/TPEL.2022.3170229> [Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS](#)

Combined active frequency drift islanding detection method for NZEB energy router

Jalakas, Tanel; Roasto, Indrek; Najafzadeh, Mahdiyyeh 2019 IEEE 60th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), 7-9 October 2019 : conference proceedings 2019 / 6 p <https://doi.org/10.1109/RTUCON48111.2019.8982258>

Comparison of renewable electricity generation options with household electrical load patterns

Auväärt, Aivar; Rosin, Argo; Rosin, Kai; Drovta, Imre; Lehtla, Madis Proceedings : IECON 2013 - 39th Annual Conference of the IEEE Industrial Electronics Society : Austria Center Vienna, Vienna, Austria, 10-14 November, 2013 2013 / p. 1555-1560 : ill <https://ieeexplore.ieee.org/document/6699364> <https://doi.org/10.1109/IECON.2013.6699364> [Conference Proceedings at Scopus Article at Scopus](#)

Comparison of the impact of different household occupancies on load matching algorithms

Häring, Tobias; Ahmadihangar, Roya; Rosin, Argo; Biechl, Helmuth; Korötko, Tarmo 2019 Electric Power Quality and Supply Reliability Conference (PQ) & 2019 Symposium on Electrical Engineering and Mechatronics (SEEM), Kärda, Estonia, June 12-15, 2019 : proceedings 2019 / 6 p. : ill <https://doi.org/10.1109/PQ.2019.8818270>

Control of bidirectional grid-forming inverter for nearly zero energy buildings

Roasto, Indrek; Jalakas, Tanel; Rosin, Argo 59th Annual International Scientific Conference on Power and Electrical Engineering : November 12, 13, 2018, Riga Technical University (RTUCON) : conference proceedings 2018 / 6 p. : ill <https://doi.org/10.1109/RTUCON.2018.8659848>

Cooperative control of flywheel energy storage system and diesel generator for frequency regulation of microgrids using digital FIR filters

Faraji, M.; Mahdavi, Mohammad Saeed; **Gharehpetian, Gevork B.; Ahmadihangar, Roya; Rosin, Argo** 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 6 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227448>

A cyber attack taxonomy for microgrid systems

Bahsi, Hayretadin; Dola, Henry Ochieng; Khalil, Shaymaa Mamdouh; Korötko, Tarmo 2022 17th Annual System of Systems Engineering Conference (SOSE) 2022 / p. 324-331 <https://doi.org/10.1109/SOSE55472.2022.9812642>

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

Roncero-Clemente, Carlos; Escalona, Javier-Gutiérrez; Pires, V. Fernao; **Matiushkin, Oleksandr**; Milanés-Montero, María 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>

Development of testing method for smart substations with prosumers

Korötko, Tarmo; Merisalu, Ülo; Mägi, Marek; Peterson, Kristjan; Pettai, Elmo Journal of microelectronics, electronic components and materials 2014 / p. 185-200 : ill <https://www.dlib.si/details/URN:NBN:SI:doc-N5PGZIFC> [Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS](#)

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](#)

Dynamic modeling of networks, microgrids, and renewable sources in the dq0 reference frame : a survey

Baimel, Dmitry; **Belikov, Juri**; Guerrero, Joseph M.; Levron, Yoash IEEE Access 2017 / p. 21323-21335 : ill

<https://doi.org/10.1109/ACCESS.2017.2758523> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Energy scheduling of battery storage systems in micro grids

Armstorfer, Andreas; Biechl, Helmuth; **Rosin, Argo** Scientific Journal of Riga Technical University. Electrical, control and communication engineering 2017 / p. 27-33 : ill <https://doi.org/10.1515/ecce-2017-0004>

Experimental prototype of high-efficiency wind turbine based on Magnus effect

Lukin, Aleksandr; **Demidova, Galina**; **Lukichev, Dmitry**; **Rassölkin, Anton**; **Kallaste, Ants**; **Vaimann, Toomas**; **Belahcen, Anouar** 2020 27th International Workshop on Electric Drives: MPEI Department of Electric Drives 90th Anniversary (IWED), Moscow, Russia, January 27-30, 2020 2020 / 6 p <https://doi.org/10.1109/IWED48848.2020.9069565>

Full-bridge fault-tolerant isolated DC-DC converters : overview of technologies and application challenges

Bakeer, Abualkasim Ahmed Ali; **Chub, Andrii**; **Vinnikov, Dmitri** IEEE Power Electronics Magazine 2022 / p. 45-55

<https://doi.org/10.1109/MPEL.2022.3196565> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Grid integration of DC buildings : standards, requirements and power converter topologies

Carvalho da Silva, Edivan Laercio; **Blinov, Andrei**; **Chub, Andrii**; **Emiliani, Pietro**; de Carne, Giovanni; **Vinnikov, Dmitri** IEEE open journal of power electronics 2022 / p. 798-823 <https://doi.org/10.1109/OJPEL.2022.3217741> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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>

Impact of load matching algorithms on the battery capacity with different household occupancies

Häring, Tobias; **Ahmadihangar, Roya**; **Rosin, Argo**; Biechl, Helmuth IECON 2019 - 45th Annual Conference of the IEEE

Industrial Electronics Society : proceedings 2019 / p. 2541-2547 <https://doi.org/10.1109/IECON.2019.8927495> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Inrush current measurement and modeling practical cases and primary methods

Tinno, Jan Markus; **Kütt, Lauri**; **Parker, Martin**; **Kulikov, Jan**; **Jaanus, Martin** 2024 IEEE 65th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) 2024 / 5 p

<https://doi.org/10.1109/RTUCON62997.2024.10830806>

Inverters for power systems with renewable sources: basic topologies and purposes

Yamnenko, Iuliia; Tereshchenko, Tetiana; Fedin, Ihor; **Carvalho da Silva, Edivan Laercio**; Kozhushko, Yuliia; Bondarenko, Oleksandr 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 6 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227384>

Leveraging the machine learning techniques for demand-side flexibility - a comprehensive review

Shahid, Arqum; **Ahmadihangar, Roya**; **Rosin, Argo**; **Blinov, Andrei**; **Korõtko, Tarmo**; **Vinnikov, Dmitri** Electric power systems research 2025 / art. 111185 <https://doi.org/10.1016/j.epsr.2024.111185>

Mathematical modeling and stability analysis of a microgrid in island operation

Beg, Nauman; **Armstorfer, Andreas**; **Rosin, Argo**; **Biechl, Helmuth** 2018 International Conference on Smart Energy Systems and Technologies (SEST), 10-12 September, 2018, Seville, Spain : conference proceedings 2018 / 6 p. : ill

<https://doi.org/10.1109/SEST.2018.8495694>

MIMO reinforcement learning based approach for frequency support in microgrids with high renewable energy penetration

Skiparev, Vjatšeslav; **Belikov, Juri**; **Petlenkov, Eduard** 2021 IEEE Power & Energy Society General Meeting (PESGM), 26-29 July 2021 2021 / 5 p. : ill <https://doi.org/10.1109/PESGM46819.2021.9637942>

Modelling of solar-wind hybrid renewable energy system architectures

Mishra, Sambeet; **Koduvere, Hardi**; **Palu, Ivo**; **Kuhi-Thalfeldt, Reeli** 2016 IEEE International Energy Conference (ENERGYCON) : [Leuven, Belgium, 4-8 April 2016] 2016 / [6] p. : ill <https://doi.org/10.1109/ENERGYCON.2016.7513942>

Novel universal power electronic interface for integration of pv modules and battery energy storages in residential DC microgrids

Sidorov, Vadim; **Chub, Andrii**; **Vinnikov, Dmitri**; Lindvest, Andre IEEE Access 2023 / p. 30845-30858

Optimal energy management of grid-connected multi-microgrid systems considering demand-side flexibility : a two-stage multi-objective approach

Karimi, Hamid; Gharehpetian, Gevork B.; **Ahmadihangar, Roya; Rosin, Argo** Electric power systems research 2023 / art. 108902 <https://doi.org/10.1016/j.epsr.2022.108902> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Port-Hamiltonian framework in power systems domain : a survey

Tönso, Maris; Kaparin, Vadim; Belikov, Juri Energy Reports 2023 / p. 2918 - 2930 <https://doi.org/10.1016/j.egyr.2023.09.077> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Power smoothing in smart buildings using flywheel energy storage

Plaum, Freddy; Häring, Tobias; Ahmadihangar, Roya; Rosin, Argo Proceedings : 2020 IEEE 14th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : Online - Setúbal, Portugal, 08 - 10 July, 2020 2020 / p. 473-477 <https://doi.org/10.1109/CPE-POWERENG48600.2020.9161458>

Profit maximization by integrating demand response in multiple VPPs optimal scheduling

Asim Amin, M.; Suleman, Ahmad; **Korōtko, Tarmo**; Aziz, Saddam; **Naseer, Muhammad Usman**; Ahmad, Nisar 2022 International Conference on Electrical Engineering and Sustainable Technologies (ICEEST), 14th-15th December, 2022, Lahore, Pakistan : proceedings 2022 / 6 p <https://doi.org/10.1109/ICEEST56292.2022.10077867>

PV-battery assisted three-level T-Type inverter for AC residential nanogrid realized with small-scale HIL units

Gutierrez-Escalona, Javier; **Roncero-Clemente, Carlos**; Gonzalez-Romera, Eva; Milanes-Montero, Maria Isabel; Husev, Oleksandr; Romero-Cadaval, Enrique IEEE Access 2023 / p. 48007 - 48021 <https://doi.org/10.1109/ACCESS.2023.3276235> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Reinforcement learning based approach for virtual inertia control in microgrids with renewable energy sources

Škiparev, Vjatsjeslav; Belikov, Juri; Petlenkov, Eduard Proceedings of 2020 IEEE PES Innovative Smart Grid Technologies Europe (ISGT-Europe), 26-28 October, 2020 2020 / p. 1020-1024 <https://doi.org/10.1109/ISGT-Europe47291.2020.9248777>

Reinforcement learning based MIMO controller for virtual inertia control in isolated microgrids

Škiparev, Vjatsjeslav; Belikov, Juri; Petlenkov, Eduard; Levron, Yoash 2022 IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT-Europe) : proceedings 2022 / art. 184786, 5 p. : ill <https://doi.org/10.1109/ISGT-Europe54678.2022.9960447>

Voltage and reactive power control in islanded microgrids without communication link

Armstorfer, Andreas; Biechl, Helmuth; **Rosin, Argo** 2020 17th Biennial Baltic electronics conference, Tallinn, Estonia, October 6-8, 2020 : proceedings 2020 / 6 p. : ill <https://doi.org/10.1109/BEC49624.2020.9277219>