

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](#)

Boost half-bridge DC-DC converter with reconfigurable rectifier for ultra-wide input voltage range applications

Vinnikov, Dmitri; Chub, Andrii; Liivik, Elizaveta; Blaabjerg, Frede; Siwakoti, Yam P. 2018 IEEE Applied Power Electronics Conference and Exposition (APEC 2018), San Antonio, Texas, USA, 4-8 March 2018 2018 / p. 1528-1532 : ill <https://doi.org/10.1109/APEC.2018.8341219> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Clustering-based penalty signal design for flexibility utilization

Rosin, Argo; Ahmadihangar, Roya; Azizi, Elnaz; Sahoo, Subham; Vinnikov, Dmitri; Blaabjerg, Frede; Dragicevic, Tomislav; Bolouki, Sadegh IEEE Access 2020 / p. 208850-208860 <https://doi.org/10.1109/ACCESS.2020.3038822> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Common-mode voltage analysis and reduction for the quasi-Z-source inverter with a split inductor

Liu, Wenjie; Yang, Yongheng; Kerekes, Tamas; Liivik, Elizaveta; Vinnikov, Dmitri; Blaabjerg, Frede Applied sciences 2020 / art. 8713, 13 p. : ill <https://doi.org/10.3390/app10238713> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comparative analysis of reliability for string and central inverter PV systems in accordance with the FMECA

Dumic, Boris; Liivik, Elizaveta; Popadic, Bane; Blaabjerg, Frede; Milicevic, Dragan; Katic, Vladimir 2020 IEEE 11th International Symposium on Power Electronics for Distributed Generation Systems (PEDG), 28 Sept.-1 Oct. 2020, Dubrovnik, Croatia 2020 / p. 591-596 <https://doi.org/10.1109/PEDG48541.2020.9244404>

Comparison of impedance-source networks for two and multilevel buck-boost inverter applications

Husev, Oleksandr; Blaabjerg, Frede; Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; Vinnikov, Dmitri; Siwakoti, Yam P.; Strzelecki, Ryszard IEEE transactions on power electronics 2016 / p. 7564-7579 : ill <https://doi.org/10.1109/TPEL.2016.2569437> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comparison of three-phase three-level voltage source inverter with intermediate dc-dc boost converter and quasi-Z-source inverter

Panfilov, Dmitry; Husev, Oleksandr; Blaabjerg, Frede; Zakis, Janis; Khandakji, Kamal IET Power Electronics 2016 / p. 1238 - 1248 <https://doi.org/10.1049/iet-pel.2015.0539> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Critical parameter analysis and design of the Quasi-Z-Source inverter

Liu, Wenjie; Yang, Yongheng; Liivik, Elizaveta; Vinnikov, Dmitri; Blaabjerg, Frede 2019 IEEE 2nd Ukraine Conference on Electrical and Computer Engineering : UKRCON-2019 : conference proceedings 2019 / p. 474-480 : ill <https://doi.org/10.1109/UKRCON.2019.8879831>

Cyber-physical microgrids : toward flexible energy districts

Rosin, Argo; Ahmadihangar, Roya; Martins, Joao; Sahoo, Subham; Blaabjerg, Frede Cyber Security for Microgrids 2022 / p. 161-178 : ill https://doi.org/10.1049/PBPO196E_ch8

Design and comparison of three-level three-phase T-source inverters

Shults, Tatiana; Husev, Oleksandr; Blaabjerg, Frede 2015 IEEE 5th International Conference on Power Engineering, Energy and Electrical Drives (POWERENG) : proceedings : May 11-13, 2015, Riga, Latvia 2015 / p. 564-569 : ill <http://dx.doi.org/10.1109/PowerEng.2015.7266378>

Design for accelerated testing of DC-link capacitors in photovoltaic inverters based on mission profiles

Sangwongwanich, Ariya; Shen, Yanfeng; Chub, Andrii; Liivik, Elizaveta; Vinnikov, Dmitri; Wang, Huai; Blaabjerg, Frede IEEE transactions on industry applications 2021 / p. 741-753 <https://doi.org/10.1109/TIA.2020.3030568> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Design of three-phase three-level CIC T-source inverter with maximum boost control

Shults, Tatiana; Husev, Oleksandr; Roncero-Clemente, Carlos; Blaabjerg, Frede; Strzelecki, Ryszard IECON 2015 - Yokohama : 41st Annual Conference of the IEEE Industrial Electronics Society : November 9-12, 2015, Pacifico Yokohama, Yokohama, Japan 2015 / p. 004447-004452 : ill <http://dx.doi.org/10.1109/IECON.2015.7392792>

Dual-purpose converters for DC or AC grid as energy transition solution : perspectives and challenges

Husev, Oleksandr; Vinnikov, Dmitri; Kouro, Samir; Blaabjerg, Frede; Roncero-Clemente, Carlos IEEE industrial electronics magazine 2024 / p. 46-57 <https://doi.org/10.1109/MIE.2022.3230219> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Effect of mission profile resolution on photovoltaic energy yield prediction in Python and MATLAB

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Vinnikov, Dmitri; Blaabjerg, Frede 2021 IEEE 15th International Conference on

Flexibility investigation of price-responsive batteries in the microgrids cluster

Ahmadihangar, Roya; Azizi, Elnaz; Subham, Sahoo; **Håring, Tobias; Rosin, Argo; Vinnikov, Dmitri;** Dragicevic, Tomislav; Blaabjerg, Frede Proceedings : 2020 IEEE 14th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : Online - Setúbal, Portugal, 08 - 10 July, 2020 2020 / p. 456-461 : ill <https://doi.org/10.1109/CPE-POWERENG48600.2020.9161667>

Galvanically isolated quasi-Z-source DC-DC converter with a novel ZVS and ZCS technique

Husev, Oleksandr; Liivik, Liisa; Blaabjerg, Frede; Chub, Andrii; Vinnikov, Dmitri; Roasto, Indrek IEEE transactions on industrial electronics 2015 / p. 7547-7556 : ill <https://doi.org/10.1109/TIE.2015.2455522> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Impedance network impact on the controller design of the QZSI for PV applications

Liu, Wenjie; Yang, Yongheng; Kerekes, Tamas; **Liivik, Elizaveta;** Blaabjerg, Frede 2020 IEEE 21st Workshop on Control and Modeling for Power Electronics (COMPEL), Aalborg, Denmark, November 9-12, 2020 2020 / 6 p <https://doi.org/10.1109/COMPEL49091.2020.9265708>

Inductor Current Ripple Analysis and Reduction for Quasi-Z-Source Inverters with An Improved ZSVM6 Strategy

Liu, Wenjie; Yang, Yongheng; Kerekes, Tamas; **Vinnikov, Dmitri;** Blaabjerg, Frede IEEE transactions on power electronics 2021 / p. 7693-7704 <https://doi.org/10.1109/TPEL.2020.3043102> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

LCCT-derived three-level three-phase inverters

Shults, Tatiana; Husev, Oleksandr; Blaabjerg, Frede; **Zakis, Janis;** Khandakji, Kamal IET power electronics 2017 / p. 996-1002 <https://doi.org/10.1049/iet-pel.2016.0023> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Magnetically integrated high step-up resonant DC-DC converter for distributed photovoltaic systems

Vinnikov, Dmitri; Chub, Andrii; Liivik, Elizaveta; Blaabjerg, Frede IECON 2017 - 43rd Annual Conference of the IEEE Industrial Electronics Society : proceedings : China National Convention Center, Beijing, China, 29. October - 01. November, 2017 2017 / p. 7691-7697 : ill <https://doi.org/10.1109/IECON.2017.8217348>

Maximizing energy harvest of the impedance source PV Microconverter under partial shading conditions

Vinnikov, Dmitri; Chub, Andrii; Liivik, Elizaveta; Blaabjerg, Frede; Kouro, Samir CPE-POWERENG 2018 : Conference program : 12th IEEE International Conference on Compatibility, Power Electronics and Power Engineering, 10-12 April, 2018, Doha, Qatar 2018 / 7 p.: ill <https://indd.adobe.com/view/bdbda104-4e24-4d7b-88b1-f84ccfd20748> <https://doi.org/10.1109/CPE.2018.8372556>

Mission profile resolution impacts on the thermal stress and reliability of power devices in PV inverters

Sangwongwanich, Ariya; Zhou, D.; **Liivik, Elizaveta;** Blaabjerg, Frede Microelectronics reliability 2018 / p. 1003-1007 <https://doi.org/10.1016/j.microrel.2018.06.094>

Mission profile-based accelerated testing of DC-link capacitors in photovoltaic inverters

Sangwongwanich, Ariya; Shen, Yanfeng; **Chub, Andrii; Liivik, Elizaveta; Vinnikov, Dmitri;** Wang, Huai; Blaabjerg, Frede Thirty-Fourth Annual IEEE Applied Power Electronics Conference and Exposition, March 17 – 21, 2019, Anaheim, California 2019 / p. 2833-2840 : ill <https://doi.org/10.1109/APEC.2019.8721794> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

MPPT and GMPPT Implementation for Buck-Boost Mode Control of quasi-Z-Source Inverter

Husev, Oleksandr; Vinnikov, Dmitri; Roncero-Clemente, Carlos; Blaabjerg, Frede; Strzelecki, Ryszard IEEE transactions on industrial electronics 2022 / p. 11348 - 11358 <https://doi.org/10.1109/TIE.2021.3125658> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

MPPT performance enhancement of low-cost PV microconverters

Vinnikov, Dmitri; Chub, Andrii; Korkh, Oleksandr; Liivik, Elizaveta; Blaabjerg, Frede; Kouro, Samir Solar energy 2019 / p. 156-166 : ill <https://doi.org/10.1016/j.solener.2019.05.024> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Novel family of modified qZS buck-boost multilevel inverters with reduced switch count

Husev, Oleksandr; Strzelecki, Ryszard; Blaabjerg, Frede; Chopyk, Vasilii; Vinnikov, Dmitri 2015 9th International Conference on Compatibility and Power Electronics (CPE) : proceedings : Faculty of Science and Technology (FCT), Caparica, Lisbon, Portugal, 24-26 June, 2015 2015 / p. 98-105 : ill <http://dx.doi.org/10.1109/CPE.2015.7231056>

Novel family of quasi-Z-source DC/DC converters derived from current-fed push-pull converters

Chub, Andrii; Husev, Oleksandr; Vinnikov, Dmitri; Blaabjerg, Frede 2014 16th European Conference on Power Electronics and Applications (EPE'14-ECCE Europe) : Lappeenranta, Finland, 26-28 August 2014. Vol. 4 2014 / p. 3175-3184 : ill

Novel family of single-phase modified impedance-source buck-boost multilevel inverters with reduced switch count

Husev, Oleksandr; Strzelecki, Ryszard; Blaabjerg, Frede; Chopyk, Vasilii; Vinnikov, Dmitri IEEE transactions on power electronics

2016 / p. 7580-7591 : ill <https://doi.org/10.1109/TPEL.2016.2569535> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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

Husev, Olexsandr; Matiushkin, Olexsandr; Roncero-Clemente, Carlos; Blaabjerg, Frede; Vinnikov, Dmitri IEEE transactions on power electronics 2019 / p. 7662-7676 : ill <https://doi.org/10.1109/TPEL.2018.2879776> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Novel space vector pulse width modulation strategies for single-phase three-level NPC impedance-source inverters

Shults, Tatiana; **Husev, Olexsandr; Blaabjerg, Frede; Roncero, Carlos; Romero-Cadaval, Enrique; Vinnikov, Dmitri** IEEE transactions on power electronics 2019 / p. 4820-4830: ill <https://doi.org/10.1109/TPEL.2018.2859194> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Photovoltaic energy yield improvement in two-stage solar microinverters

Chub, Andrii; Vinnikov, Dmitri; Stepenko, Serhii; Liivik, Elizaveta; Blaabjerg, Frede Energies 2019 / art. 3774, 17 p. : ill <https://doi.org/10.3390/en12193774> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Photovoltaic energy yield improvement in two-stage solar microinverters

Chub, Andrii; Vinnikov, Dmitri; Stepenko, Serhii; Liivik, Elizaveta; Blaabjerg, Frede Emerging converter topologies and control for grid connected photovoltaic systems 2021 / p. 197-213 : ill <https://doi.org/10.3390/books978-3-03943-910-2>

Photovoltaic module characteristic influence on reliability of micro-inverters

Sangwongwanich, Ariya; **Liivik, Elizaveta; Blaabjerg, Frede** 2018 IEEE 12th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG 2018) : Doha, Qatar, 10-12 April 2018 2018 / p. 478-483 : ill <https://doi.org/10.1109/CPE.2018.8372565>

Preface to "Wind Turbines"

Blaabjerg, Frede; Liivik, Elizaveta Wind turbines 2019 / p. ix-xi <https://doi.org/10.3390/books978-3-03897-361-4>

Quadratic boost A-source impedance network

Siwakoti, Yam P.; **Blaabjerg, Frede; Chub, Andrii; Vinnikov, Dmitri** ECCE 2016 : IEEE Energy Conversion Congress & Expo : September 18-22, Milwaukee, WI : proceedings 2016 / [6] p. : ill <https://doi.org/10.1109/ECCE.2016.7855374>

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

Roncero-Clemente, Carlos; **Husev, Olexsandr; Matiushkin, Olexsandr; Vinnikov, Dmitri; Blaabjerg, Frede** IEEE transactions on power electronics 2022 / p. 11876-11886 <https://doi.org/10.1109/TPEL.2022.3179784> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Reliability analysis and energy yield of string-inverter considering monofacial and bifacial photovoltaic panels

Bouguerra, Sara; Yaiche, Mohamed Redha; Sangwongwanich, Ariya; **Blaabjerg, Frede; Liivik, Elizaveta** 2020 IEEE 11th International Symposium on Power Electronics for Distributed Generation Systems (PEDG), 28 Sept.-1 Oct. 2020, Dubrovnik, Croatia 2020 / p. 199-204 <https://doi.org/10.1109/PEDG48541.2020.9244425>

Reliability analysis of micro-inverters considering PV module variations and degradation rates

Liivik, Elizaveta; Sangwongwanich, Ariya; Blaabjerg, Frede 2018 20th European Conference on Power Electronics and Applications (EPE'18 ECCE Europe) : Riga, Latvia, 17-21 September 2018 2018 / p. 1475-1482 : ill <https://ieeexplore.ieee.org/document/8515325>

Reliability evaluation of an impedance-source PV microconverter

Shen, Yanfeng; **Liivik, Elizaveta; Blaabjerg, Frede; Vinnikov, Dmitri; Wang, Huai; Chub, Andrii** 2018 IEEE Applied Power Electronics Conference and Exposition (APEC 2018), San Antonio, Texas, USA, 4-8 March 2018 2018 / p. 1104-1108 : ill <https://doi.org/10.1109/APEC.2018.8341154> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Reliability evaluation of an impedance-source PV microconverter

Shen, Yanfeng; **Liivik, Elizaveta; Blaabjerg, Frede; Vinnikov, Dmitri; Wang, Huai; Chub, Andrii** 17th International Symposium "Topical Problems in the Field of Electrical and Power Engineering". Doctoral school of energy and geotechnology. III : Kuressaare, Estonia, January 15-20, 2018 2018 / p. 108-110 : ill http://ise.elnet.ee/record=b2950026~S2*est

Reliability of DC-link capacitors in two-stage micro-inverters under different PV module sizes

Sangwongwanich, Ariya; Shen, Yanfeng; **Chub, Andrii; Liivik, Elizaveta; Vinnikov, Dmitri; Wang, Huai; Blaabjerg, Frede** ICPE 2019 - ECCE Asia : 10th International Conference on Power Electronics - ECCE Asia : "Green World with Power Electronics" : May 27-30, 2019 BEXCO, Busan, Korea 2019 / p. 1867-1872 : ill <https://ieeexplore.ieee.org/xpl/conhome/8786807/proceeding>

A review of galvanically isolated impedance-source DC-DC converters

Chub, Andrii; Vinnikov, Dmitri; Blaabjerg, Frede; Peng, Fang Zheng IEEE transactions on power electronics 2016 / p. 2808-2828 : ill <https://doi.org/10.1109/TPEL.2015.2453128> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Sheppard-Taylor isolated high boost DC-DC converter

Chub, Andrii; Siwakoti, Yam P.; **Vinnikov, Dmitri**; Blaabjerg, Frede Thirty Second Annual IEEE Applied Power Electronics Conference and Exposition (APEC 2017) : March 26-30, 2017, Tampa, Florida 2017 / p. 1695-1699 : ill
<https://doi.org/10.1109/APEC.2017.7930927> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Single-phase 3L PR controlled qZS inverter connected to the distorted grid

Makovenko, Elena; **Husev, Oleksandr**; Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Blaabjerg, Frede** 2016 10th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : proceedings : Opera Nova's Congress Center, Bydgoszcz, Poland, 29. June - 01. July, 2016 2016 / p. 234-239 : ill <https://doi.org/10.1109/CPE.2016.7544191>

A single-phase reduced component count asymmetrical multilevel inverter topology

Chub, Andrii; Blaabjerg, Frede IEEE journal of emerging and selected topics in power electronics 2021 / p. 6780-6790 : ill
<https://doi.org/10.1109/JESTPE.2021.3066396> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Ultra-high step-up DC-DC converters based on center-tapped inductors

Tarzamni, Hadi; **Vosoughi Kurdkandi, Naser**; Gohari, Homayon Soltani; Lehtonen, Matti; **Husev, Oleksandr**; Blaabjerg, Frede IEEE Access 2021 / p. 136373-136383 : ill <https://doi.org/10.1109/ACCESS.2021.3117856> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Wear-out failure analysis of an impedance-source PV microinverter based on system-level electrothermal modeling

Shen, Yanfeng; **Chub, Andrii**; Wang, Huai; **Vinnikov, Dmitri**; **Liivik, Elizaveta**; Blaabjerg, Frede IEEE transactions on industrial electronics 2019 / p. 3914-3927 <https://doi.org/10.1109/TIE.2018.2831643> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Wear-out failure analysis of solar optiverter operating with 60- and 72-cell Si crystalline PV modules

Liivik, Liisa; **Chub, Andrii**; Sangwongwanich, Ariya; Shen, Yanfeng; **Vinnikov, Dmitri**; Blaabjerg, Frede IECON 2018 - 44th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2018 / p. 6134-6140 : ill
<https://doi.org/10.1109/IECON.2018.8592925>

Wind turbines

2018 <https://doi.org/10.3390/books978-3-03897-361-4>