

Adaptive virtual inertia-damping system based on model predictive control for low-inertia microgrids

Fawzy, Asmaa; **Bakeer, Abualkasim Ahmed Ali; Magdy, Gaber**; Atawi, Ibrahim E.; Roshdy, Mohamed IEEE Access 2021 / p. 109718 - 109731 <https://doi.org/10.1109/ACCESS.2021.3101887> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comparison of (N+1) redundancy and fault tolerance approaches in single-stage series-connected isolated MVAC to LVDC converters

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Blinov, Andrei; Bayhan, Sertac; **Vinnikov, Dmitri** 2023 International Conference on Clean Electrical Power (ICCEP) 2023 / p. 469-474 : ill <https://doi.org/10.1109/ICCEP57914.2023.10247478>

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 Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2021 / 5 p. : ill <https://doi.org/10.1109/CPE-POWERENG50821.2021.9501222>

Efficient fixed-switching modulated finite control set-model predictive control based on artificial neural networks

Bakeer, Abualkasim Ahmed Ali; Alhasheem, Mohammed; Peyghami, Saeed Applied Sciences (Switzerland) 2022 / art. 3134 <https://doi.org/10.3390/app12063134> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Enhancing grid-forming converters control in hybrid AC/DC microgrids using bidirectional virtual inertia support

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Abid, Abderahmane; Zaid, Sherif A.; Alghamdi, T. A. H.; Salama, Hossam S. Processes 2024 / art. 139 <https://doi.org/10.3390/pr12010139> <https://www.mdpi.com/2227-9717/12/1/139/htm> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Fault diagnosis of output-side diode-bridge in isolated DC-DC series resonant converter

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Vinnikov, Dmitri 2022 IEEE 7th International Energy Conference (ENERGYCON) 2022 <https://doi.org/10.1109/ENERGYCON53164.2022.9830339>

Fault-tolerant galvanically isolated DCIDC converters with zero redundancy = Null-liiasusega veatolerantsed galvaanilise isolatsiooniga alalispingemuundurid

Bakeer, Abualkasim Ahmed Ali 2023 <https://doi.org/10.23658/taltech.18/2023> <https://digikogu.taltech.ee/et/Item/a9433801-e32e-4f98-af87-454e414646f4> https://www.ester.ee/record=b5558648*est

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](#)

Generative adversarial network and CNN-LSTM based short-term power load forecasting

Liu, Y.; Liang, Z.; Li, X.; **Bakeer, Abualkasim Ahmed Ali** 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / p. 1-6 <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227473>

Hybrid PWM for step-up series resonant DC-DC converter integrated with bridgeless rectifier

Bakeer, Abualkasim Ahmed Ali 20th International Symposium "Topical problems in the field of electrical and power engineering. Doctoral school of energy and geotechnology. III" : Tallinn, Estonia, September 8-10, 2021 2022 / p. 61-62 : ill https://www.ester.ee/record=b5457278*est

Improved cost function definition for fixed switching frequency FCS-MPC with SVPWM

Bakeer, Abualkasim Ahmed Ali; Alhasheem, Mohammed; **Chub, Andrii** 2021 22nd International Middle East Power Systems Conference (MEPCON) 2021 / p. 360-365 <https://doi.org/10.1109/MEPCON50283.2021.9686235>

Integration of PV system with SMES based on model predictive control for utility grid reliability improvement

Bakeer, Abualkasim Ahmed Ali; Salama, Hossam S.; Vokony, Istvan Protection and Control of Modern Power Systems 2021 / art. 14 <https://doi.org/10.1186/s41601-021-00191-1> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Mitigation of pulsed power load effect on power system using FLC-SMES

Salama, Hossam S.; **Bakeer, Abualkasim Ahmed Ali**; Vokony, Istvan; **Chub, Andrii** Energy reports 2022 / p. 463-471 <https://doi.org/10.1016/j.egy.2021.11.054> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Model predictive control-based dual input split source inverter for PV applications

Abu-Zaher, Mustafa; Aly, Mokhtar; Zhuo, Fang; Ahmed, Mostafa; Rodriguez, Jose; **Bakeer, Abualkasim Ahmed Ali**; Hassan, Alaaeldien IECON Proceedings (Industrial Electronics Conference) IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2024 / 6 p <https://doi.org/10.1109/IECON55916.2024.10905950> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Model-free predictive control for improved performance and robustness of three-phase quasi Z-source inverters

Abid, Abderahmane; **Bakeer, Abualkasim Ahmed Ali**; Albalawi, Hani; Bouzidi, Mansour; Lashab, Abderezak; **Chub, Andrii**; Zaid, Sherif A. IEEE Access 2024 / p. 87850-87863 <https://doi.org/10.1109/ACCESS.2024.3417397> [Journal metrics at Scopus](#) [Article at Scopus](#)

A new modulated finite control set-model predictive control of quasi-Z-source inverter for PMSM drives

Ahmed, Abdelsalam A.; **Bakeer, Abualkasim Ahmed Ali**; Alhelou, Hassan Haes; Siano, Pierluigi; Mossa, Mahmoud A. Electronics (Switzerland) 2021 / art. 2814 <https://doi.org/10.3390/electronics10222814> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A new virtual synchronous generator design based on the SMES system for frequency stability of low-inertia power grids

Magdy, Gaber; Bakeer, Abualkasim Ahmed Ali; Nour, Morsy; **Petlenkov, Eduard** Energies 2020 / art. 5641, 17 p. : ill <https://doi.org/10.3390/en13215641> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optimal ultra-local model control integrated with load frequency control of renewable energy sources based microgrids

Bakeer, Abualkasim Ahmed Ali; Magdy, Gaber; **Chub, Andrii**; Jurado, Francisco; Rihan, Mahmoud Energies 2022 / art. 9177 <https://doi.org/10.3390/en15239177> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optimized modulation scheme for four-leg quasi Z-source inverter : reducing power loss and improving output quality

Abid, Abderahmane; **Bakeer, Abualkasim Ahmed Ali**; Albalawi, Hani; Zellouma, Laid; Bouzidi, Mansour; Lashab, Abderezak; Rabhi, Boualaga; **Chub, Andrii** IEEE Access 2023 / p. 94125-94137 <https://doi.org/10.1109/ACCESS.2023.3305263> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

An overview and comprehensive comparative evaluation of constant-frequency voltage buck control methods for series resonant DC–DC converters

Sidorov, Vadim; **Chub, Andrii**; **Vinnikov, Dmitri**; **Bakeer, Abualkasim Ahmed Ali** IEEE Open Journal of the Industrial Electronics Society 2021 / p. 65 - 79 <https://doi.org/10.1109/OJIES.2020.3048003> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Predictive control based on ranking multi-objective optimization approaches for a quasi-Z source inverter

Bakeer, Abualkasim Ahmed Ali; Magdy, Gaber; **Chub, Andrii**; **Vinnikov, Dmitri** CSEE journal of power and energy systems 2021 / p. 1152-1160 : ill <https://doi.org/10.17775/CSEEPES.2020.01310> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Reliability analysis of battery energy storage system for various stationary applications

Bakeer, Abualkasim Ahmed Ali; **Chub, Andrii**; **Shen, Yanfeng**; Sangwongwanich, Ariya Journal of energy storage 2022 / art. 104217 <https://doi.org/10.1016/j.est.2022.104217> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Reliability assessment of photovoltaic Buck-Boost microconverter for Estonian climate conditions

Bakeer, Abualkasim Ahmed Ali; **Chub, Andrii**; **Vinnikov, Dmitri** 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 6 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227505>

Reliability evaluation of isolated buck-boost DC-DC series resonant converter

Bakeer, Abualkasim Ahmed Ali; **Chub, Andrii**; **Shen, Yanfeng** IEEE open journal of power electronics 2022 / p. 131-141 <https://doi.org/10.1109/OJPEL.2022.3157200> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Reliability evaluation of isolated buck-boost DC-DC series resonant converter : [conference paper]

Bakeer, Abualkasim Ahmed Ali 21st International Symposium "Topical problems in the field of electrical and power engineering. Doctoral school of energy and geotechnology. III" : Pärnu, Estonia, June 15-18, 2022 2022 / p. 55-56 : ill https://www.ester.ee/record=b5504019*est

Robust decentralized model predictive load-frequency control design for time-delay renewable power systems

Magdy, Gaber; **Bakeer, Abualkasim Ahmed Ali**; Alhasheem, Mohammed International journal of emerging electric power systems 2021 / p. 617-628 : ill <https://doi.org/10.1515/ijeeps-2021-0109> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Robust operation of four-leg voltage source inverter using model-free predictive control

Bakeer, Abualkasim Ahmed Ali; Abid, Abderahmane; Albalawi, Hani A.; Magdy, Gaber; **Chub, Andrii**; Zaid, Sherif A. Journal of Electrical Engineering & Technology 2025 / p. 685-702 <https://doi.org/10.1007/s42835-024-02018-z>

Self-healing photovoltaic microconverter with zero redundancy and accurate low-cost fault detection

Bakeer, Abualkasim Ahmed Ali; **Chub, Andrii**; **Vinnikov, Dmitri** IEEE transactions on industrial electronics 2024 / p. 646-656 <https://doi.org/10.1109/TIE.2023.3250836> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Series resonant DC-DC converter with an AC-switch-based full-bridge boost rectifier

Bakeer, Abualkasim Ahmed Ali; **Chub, Andrii**; **Vinnikov, Dmitri** Annual IEEE Conference on Applied Power Electronics Conference and Exposition (APEC) 2021 / p. 1985-1990 <https://doi.org/10.1109/APEC42165.2021.9487113> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Series resonant DC-DC converter with single-switch full-bridge boost rectifier operating at fixed switching frequency

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Vinnikov, Dmitri 2020 IEEE 11th International Symposium on Power Electronics for Distributed Generation Systems (PEDG), 28 Sept.-1 Oct. 2020, Dubrovnik, Croatia 2020 / p. 270-275
<https://doi.org/10.1109/PEDG48541.2020.9244438>

Shade-tolerant PV microconverters

Sidorov, Vadim; Bakeer, Abualkasim Ahmed Ali; Maheri, Hamed Mashinchi; Hassanpour, Naser; Rahman, Showrov; Chub, Andrii Distributed Energy Systems 2023 / p. 1-22 <https://doi.org/10.1201/9781003229124-17>

Short-circuit fault detection and remedial in full-bridge rectifier of series resonant DC-DC converter based on inductor voltage signature

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Vinnikov, Dmitri 2020 IEEE 61st International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), Riga, Latvia, Nov. 5-7, 2020 : conference proceedings 2020 / 6 p. : ill
<https://doi.org/10.1109/RTUCON51174.2020.9316482>

A sophisticated modeling approach for photovoltaic systems in load frequency control

Bakeer, Abualkasim Ahmed Ali; Magdy, Gaber; Chub, Andrii; Bevrani, Hassan International journal of electrical power and energy systems 2022 / art. 107330, 12 p. : ill <https://doi.org/10.1016/j.ijepes.2021.107330> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Step-Up series resonant DC-DC converter with bidirectional-switch-based boost rectifier for wide input voltage range photovoltaic applications

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Vinnikov, Dmitri Energies 2020 / Art. 3747 <https://doi.org/10.3390/en13143747> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Step-Up series-resonant DC-DC converter with switched mode rectifier operating at fixed switching frequency

Chub, Andrii; Bakeer, Abualkasim Ahmed Ali; Vinnikov, Dmitri 2020 IEEE 11th International Symposium on Power Electronics for Distributed Generation Systems (PEDG), 28 Sept.-1 Oct. 2020, Dubrovnik, Croatia 2020 / p. 597-601
<https://doi.org/10.1109/PEDG48541.2020.9244312>

Study of MOSFET post-fault operation in fault-tolerant DC-DC converters

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Vinnikov, Dmitri 2022 IEEE 7th International Energy Conference (ENERGYCON) 2022 / Code 181231, 5 p <https://doi.org/10.1109/ENERGYCON53164.2022.9830216>

Superconducting energy storage technology-based synthetic inertia system control to enhance frequency dynamic performance in microgrids with high renewable penetration

Magdy, Gaber; Bakeer, Abualkasim Ahmed Ali; Alhasheem, Mohammed Protection and Control of Modern Power Systems 2021 / Art. 36 <https://doi.org/10.1186/s41601-021-00212-z> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Uninterruptible power supply: an optimal passivity-based control scheme

Bakeer, Abualkasim Ahmed Ali; Alhasheem, Mohammed; Elhelw, Hadi M. 2023 IEEE Power and Energy Society Innovative Smart Grid Technologies Conference, ISGT 2023 2023 / art. 187411 <https://doi.org/10.1109/ISGT51731.2023.10066406>

Wide input voltage range operation of the series resonant DC-DC converter with bridgeless boost rectifier

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Vinnikov, Dmitri; Rosin, Argo Energies 2020 / p. 4220-4237
<https://doi.org/10.3390/en13164220> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Wide range series resonant DC-DC converter with a reduced component count and capacitor voltage stress for distributed generation

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Blinov, Andrei; Lai, Jih-Sheng Energies 2021 / art. 2051
<https://doi.org/10.3390/en14082051> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Virtual inertia emulation through virtual synchronous generator based superconducting magnetic energy storage in modern power system

Salama, Hossam S.; Bakeer, Abualkasim Ahmed Ali; Magdy, Gaber; Vokony, Istvan Journal of Energy Storage 2021 / Art. 103466
<https://doi.org/10.1016/j.est.2021.103466> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Voltage step-up PWM methods for series resonant DC-DC converter

Bakeer, Abualkasim Ahmed Ali 19th International Symposium "Topical problems in the field of electrical and power engineering. Doctoral school of energy and geotechnology. III" : Tartu, Estonia, January 14-17, 2020 2020 / p. 123-124 : ill
https://www.ester.ee/record=b5291755*est