

Accelerated global MPPT for multimode series resonant DC-DC converter

Sidorov, Vadim; Chub, Andrii; Vinnikov, Dmitri 2021 IEEE 15th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : Florence, Italy, 14-16 July 2021 2021 <https://doi.org/10.1109/CPE-POWERENG50821.2021.9501077>

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

Comparison of voltage buck control methods for series resonant converter

Sidorov, Vadim 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 2021 / p. 55-56 : ill https://www.ester.ee/record=b5457278*est

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>

Efficiency improvement of step-up series resonant DC-DC converter in buck operating mode

Sidorov, Vadim; 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/RTUCON51174.2020.9316574>

Feasibility study of universal power electronics interface operation in 350 V and 700 V residential DC microgrids

Sidorov, Vadim; Chub, Andrii; Vinnikov, Dmitri 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 7 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227441>

High-efficiency quad-mode parallel PV power optimizer for DC microgrids

Sidorov, Vadim 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. 59-60 : ill https://www.ester.ee/record=b5504019*est

High-efficiency quad-mode parallel PV power optimizer for DC microgrids

Sidorov, Vadim; Chub, Andrii; Vinnikov, Dmitri IEEE transactions on industry applications 2023 / p. 1002-1012
<https://doi.org/10.1109/TIA.2022.3208879> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

High-frequency split-bobbin transformer design with adjustable leakage inductance

Rahman, Showrov; Sidorov, Vadim; Chub, Andrii; Vinnikov, Dmitri 2021 IEEE 62nd International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), 15-17 Nov. 2021 : conference proceedings 2021 / p. 1-5 : ill <https://doi.org/10.1109/RTUCON53541.2021.9711708>

Impact of transformer turns ratio on the power losses and efficiency of the wide range isolated buck-boost converter for photovoltaic applications

Mashinchi Maheri, Hamed; Vinnikov, Dmitri; Chub, Andrii; Sidorov, Vadim; Liivik, Elizaveta Energies 2020 / art. 5645, 21 p
<https://doi.org/10.3390/en13215645> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

Implementation of burst control based on sigma-delta modulation in low-cost microcontroller

Sidorov, Vadim; Chub, Andrii; Vinnikov, Dmitri IEEE Workshop on Computers in Power Electronics 2022 / 6 l
<https://doi.org/10.1109/COMPEL53829.2022.9830023>

Implementation of global maximum power point tracking in photovoltaic microconverters: A survey of challenges and opportunities

Vinnikov, Dmitri; Chub, Andrii; Kosenko, Roman; Sidorov, Vadim; Lindvest, Andre IEEE journal of emerging and selected topics in power electronics 2023 / p. 2259-2280: ill <https://doi.org/10.1109/JESTPE.2021.3137521> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

Input source identification algorithm For isolated buck-boost DC-DC converter

Sidorov, Vadim; Chub, Andrii; Vinnikov, Dmitri IEEE Workshop on Computers in Power Electronics 2022 / 6 p
<https://doi.org/10.1109/COMPEL53829.2022.9829973>

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
<https://doi.org/10.1109/ACCESS.2023.3260640> 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](#)

Performance improvement of PWM control methods for voltage step-down in series resonant DC–DC converters

Sidorov, Vadim; Chub, Andrii; Vinnikov, Dmitri Energies 2020 / art. en13174569 ; 18 p <https://doi.org/10.3390/en13174569> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Power loss model and efficiency analysis of the quasi-Z-Source isolated buck-boost converter with wide input voltage and load range

Mashinchi Maheri, Hamed; Vinnikov, Dmitri; Chub, Andrii; Sidorov, Vadim 2020 IEEE 61st International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), Riga, Latvia, Nov. 5-7, 2020 : conference proceedings 2021 / 8 p. : ill <https://doi.org/10.1109/RTUCON51174.2020.9316587>

Series-resonant DC-DC interface converter for battery integration into DC microgrids

Sidorov, Vadim; Chub, Andrii; Vinnikov, Dmitri 2022 IEEE 20th International Power Electronics and Motion Control Conference (PEMC) : Brasov, Romania, 25-28 Sept. 2022 : proceedings 2022 / p. 307-310 <https://doi.org/10.1109/PEMC51159.2022.9962929>

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>

Survey of topology morphing control techniques for performance enhancement of galvanically isolated DC-DC converters

Sidorov, Vadim; Chub, Andrii; Vinnikov, Dmitri; Peng, Fang Zheng IEEE Open Journal of the Industrial Electronics Society 2022 / p. 751-777 : ill <https://doi.org/10.1109/OJIES.2022.3225265> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Zero-redundancy fault-tolerant resonant dual active bridge converter for more electric aircrafts

Chub, Andrii; Buticchi, Giampaolo; Sidorov, Vadim; Vinnikov, Dmitri 2022 IEEE 13th International Symposium on Power Electronics for Distributed Generation Systems (PEDG) 2022 / 6 l. <https://doi.org/10.1109/PEDG54999.2022.9923154>

Topology morphing control of low-cost PV microconverters

Mashinchi Maheri, Hamed; Vinnikov, Dmitri; Chub, Andrii; Sidorov, Vadim 2021 IEEE 19th International Power Electronics and Motion Control Conference (PEMC), 25-29 April 2021, Gliwice, Poland : proceedings 2021 <https://doi.org/10.1109/PEMC48073.2021.9432496>

Topology morphing control with soft transients for multimode series resonant DC-DC converter

Sidorov, Vadim; Chub, Andrii; Vinnikov, Dmitri 2021 IEEE 22nd International Conference of Young Professionals in Electron Devices and Materials (EDM) 2021 / p. 331–336 <https://doi.org/10.1109/EDM52169.2021.9507621>

Topology-morphing photovoltaic microconverter with wide MPPT voltage window and post-fault operation capability

Vinnikov, Dmitri; Chub, Andrii; Zinchenko, Denys; Sidorov, Vadim IEEE Access 2020 / art. 9171332, p. 153941-153955 : ill <https://doi.org/10.1109/ACCESS.2020.3017805> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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Sidorov, Vadim 2023 <https://doi.org/10.23658/taltech.17/2023> <https://digikogu.taltech.ee/et/Item/96dbe736-5976-431c-ae55-7fc2d4ead55e> https://www.eester.ee/record=b5558654*est

Voltage step-down methods for series resonant DC-DC converters

Sidorov, Vadim 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. 141-142 : ill https://www.eester.ee/record=b5291755*est