

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>

Accuracy analysis of dual active bridge simulations under different integration methods

Arena, Gabriele; **Vinnikov, Dmitri; Chub, Andrii**; de Carne, Giovanni 2022 AEIT International Annual Conference (AEIT) : October 3-5, 2022 2022 / p. 1-6 <https://doi.org/10.23919/AEIT56783.2022.9951711>

Active clamped dual current-fed bidirectional DC-DC converter for wide voltage range applications

Chauhan, Sachin; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri 2024 IEEE 65th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) 2024 / 7 p <https://doi.org/10.1109/RTUCON62997.2024.10830838>

Active front end converters with voltage balancing capability

Verbytskyi, Ievgen; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri; Kyselova, Anna 2024 IEEE 65th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) 2024 / 5 p <https://doi.org/10.1109/RTUCON62997.2024.10830902>

Active front-end DC grid-forming converter design with power balancing capability

Verbytskyi, Ievgen; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144688>

Active redundancy in fault tolerance : A modular switch level solution with synchronous switching

Shirodkar, Aditya; Banavath, Satish Naik; **Chub, Andrii**; Mandrioli, Riccardo; Ricco, Mattia 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144667>

Active redundancy in isolated DC-DC converters: A modular solution for fault tolerance

Shirodkar, Aditya; Banavath, Satish Naik; **Yadav, Neelesh; Chub, Andrii**; Mandrioli, Riccardo 2025 IEEE 19th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2025 / 5 p <https://doi.org/10.1109/CPE-POWERENG63314.2025.11027280>

Addressing cross-coupling issues in magnetically integrated three-port DC-DC converters

Carvalho da Silva, Edivan Laercio; Blinov, Andrei; Sohail, Umer; **Chub, Andrii** 2024 IEEE 21st International Power Electronics and Motion Control Conference (PEMC) 2024 / 5 p <https://doi.org/10.1109/PEMC61721.2024.10726373>

Air-core coupled inductor based modular solid-state circuit breaker with reduced components for DC buildings

Pogulaguntla, Aditya; Dsa, Daniel; Yagna, Griddaluru Venkata; Banavath, Satish Naik; **Carvalho da Silva, Edivan Laercio; Chub, Andrii; Vinnikov, Dmitri** IEEE journal of emerging and selected topics in power electronics 2024 / 12 p <https://doi.org/10.1109/JESTPE.2024.3485735>

Alalisvoolu tagasitulek - unistus või reaalsus?

Roasto, Indrek; Vinnikov, Dmitri; Blinov, Andrei; Chub, Andrii; Carvalho da Silva, Edivan Laercio Elektriala 2023 / lk. 22-25 : ill, portr https://www.ester.ee/record=b1240496*est

Analysis and design of asymmetric quad-active-bridge converter

Chub, Andrii; Costa, Levy; Liserre, Marco 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. 5367-5372 : ill <https://doi.org/10.1109/IECON.2017.8216930>

Analysis of a reconfigurable non-isolated DC-DC converter for DC microgrid applications

Yadav, Vinod Kumar; Chub, Andrii 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://ieeexplore.ieee.org/document/11144731> <https://doi.org/10.1109/ICDCM63994.2025.11144731>

Analysis of buck mode realization possibilities in quasi-Z-source DC-DC converters with voltage doubler rectifier

Zakis, Janis; Rankis, Ivars; **Liivik, Liisa; Chub, Andrii** 2015 IEEE 5th International Conference on Power Engineering, Energy and Electrical Drives (POWERENG) : proceedings : May 11-13, 2015, Riga, Latvia 2015 / p. 570-575 : ill <http://dx.doi.org/10.1109/PowerEng.2015.7266379>

Analysis of design requirements and optimization possibilities of partial power converter for photovoltaic string applications in DC microgrids

Chub, Andrii; Hassanpour, Naser; Yadav, Neelesh; Jalakas, Tanel; Blinov, Andrei; Vinnikov, Dmitri IEEE Access 2024 / p. 14605-14619 <https://doi.org/10.1109/ACCESS.2024.3354375> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Analysis of fault-tolerant operation capabilities of an isolated bidirectional current-source DC-DC converter

Blinov, Andrei; Kosenko, Roman; Chub, Andrii; Ivakhno, Volodymyr Energies 2019 / art. 3203, p. 14 : ill

Analysis of holdup time for DC grid-forming isolated active front-end converters

Carvalho da Silva, Edivan Laercio; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri IECON 2022 - 48th Annual Conference of the IEEE Industrial Electronics Society 2022 / p. 1-6 <https://doi.org/10.1109/IECON49645.2022.9969075> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Andrii Chub: teadustöö on põnevam kui töö ettevõttes

Chub, Andrii Mente et Manu 2022 / lk. 12-17 : fot https://www.ester.ee/record=b1242496*est

Application of boundary conduction mode control in galvanically isolated buck-boost converter

Mashinchi Maheri, Hamed; Vinnikov, Dmitri; Chub, Andrii 3rd International Conference on Smart Grid and Renewable Energy (SGRE) 2022 / p. 1-6 <https://doi.org/10.1109/SGRE53517.2022.9774105>

Assessment of mixed energy storage system considering high spatial resolution data from a real PV installation

Rogowski, Szymon; Hasan, Sayeed; Chub, Andrii; Sibinski, Maciej 2024 19th Biennial Baltic Electronics Conference (BEC) 2024 / 6 p <https://doi.org/10.1109/BEC61458.2024.10737964> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Asymmetric snubberless current-fed full-bridge isolated DC-DC converters

Kosenko, Roman; Blinov, Andrei; Vinnikov, Dmitri; Chub, Andrii Scientific Journal of Riga Technical University. Electrical, control and communication engineering 2018 / p. 5-11 : ill <https://doi.org/10.2478/ecce-2018-0001>

Asymmetrical PWM control of galvanically isolated impedance-source series resonant DC-DC converters

Vinnikov, Dmitri; Zakis, Janis; Chub, Andrii; Liivik, Elizaveta 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. 341-346 : ill <https://doi.org/10.1109/CPE.2016.7544211>

Asymmetrical quasi-Z-source half-bridge DC-DC converters

Vinnikov, Dmitri; Chub, Andrii; Liivik, Liisa 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. 369-372 : ill <http://dx.doi.org/10.1109/CPE.2015.7231103>

A benchmark of DC-DC converters for DC fast charging stations of electric vehicles

Mathew, Honey Mol; Arena, Gabriele; Chub, Andrii; De Carne, Giovanni; Vinnikov, Dmitri; Lukianov, Mykola 2024 9th IEEE Workshop on the Electronic Grid (eGRID) 2024 / 6 p <https://doi.org/10.1109/eGRID62045.2024.10842879>

Bidirectional DC circuit breaker with improved performance during commissioning and reclosing

Pogulaguntla, Aditya; Raghavendra I, Venkata; Banavath, Satish Naik; Chub, Andrii; Sreekanth, Thamballa; Krishnamoorthy, Harish Sarma 24th European Conference on Power Electronics and Applications (EPE'22 ECCE Europe) 2022 / p. P1-P9 <https://ieeexplore.ieee.org/document/9907667>

Bidirectional DC-DC converter for modular residential battery energy storage systems

Chub, Andrii; Vinnikov, Dmitri; Kosenko, Roman; Liivik, Liisa; Galkin, Ilya IEEE transactions on industrial electronics 2020 / p. 1944-1955 : ill <https://doi.org/10.1109/TIE.2019.2902828> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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](#)

Bidirectional soft switching current source DC-DC converter for residential DC microgrids

Blinov, Andrei; Kosenko, Roman; Chub, Andrii; Vinnikov, Dmitri IECON 2018 - 44th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2018 / p. 6059-6064 : ill <https://doi.org/10.1109/IECON.2018.8591103>

Bidirectional soft-switching dc-dc converter for battery energy storage systems

Blinov, Andrei; Kosenko, Roman; Chub, Andrii; Vinnikov, Dmitri IET power electronics 2018 / p. 2000-2009 : ill <https://doi.org/10.1049/iet-pel.2018.5054> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Bidirectional solid-state DC circuit breaker for the protection of residential and Commercial DC buildings

Aditya, P.; Yagna, V.; Banath, T.; Chub, Andrii; Banavath, Satish Naik 2023 IEEE 8th Southern Power Electronics Conference and 17th Brazilian Power Electronics Conference (SPEC/COBEP) 2023 / 6 p <https://doi.org/10.1109/SPEC56436.2023.10407460>

Bidirectional SSCB for residential DC microgrids with reduced voltage and current stress during fault interruption

Aditya, P.; Banavath, Satish Naik; Lidozzi, Alessandro; 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-POWERENG58103.2023.10227379>

Bidirectional wide voltage range series-parallel resonant buck-boost DC-DC converter

Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri 2024 IEEE 21st International Power Electronics and Motion Control Conference (PEMC) 2024 / 5 p <https://doi.org/10.1109/PEMC61721.2024.10726369>

Bipolar duty cycle control for dual side LCC compensated inductive power transfer system for wide output voltage range

Kishan, D.; Chub, Andrii; Vinod, Marupuru IECON Proceedings (Industrial Electronics Conference) IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2025 / 4 p <https://doi.org/10.1109/IECON55916.2024.10905524> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Black start and fault tolerant operation of isolated matrix converter for DC microgrids

Emiliani, Pietro; Blinov, Andrei; Chub, Andrii; de Carne, Giovanni; Vinnikov, Dmitri IECON 2022 - 48th Annual Conference of the IEEE Industrial Electronics Society 2022 / 5 p <https://doi.org/10.1109/IECON49645.2022.9968735> [Conference proceedings at Scopus](#) [Article at Scopus](#)

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](#)

Buck-boost resonant Z-source parital power converter

Abdelrahim Abdelghafour, Omar Mohamed; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri 3rd International Conference on Smart Grid and Renewable Energy (SGRE) 2022 / p. 1-6 <https://doi.org/10.1109/SGRE53517.2022.9774095>

CCM and DCM analysis of Quasi-Z-Source derived push-pull DC/DC converter

Chub, Andrii; Husev, Oleksandr; Blinov, Andrei; Vinnikov, Dmitri Journal of microelectronics, electronic components and materials 2014 / p. 224-234 : ill [http://www.midem-drustvo.si/Journal%20papers/MIDEM_44\(2014\)3p224.pdf](http://www.midem-drustvo.si/Journal%20papers/MIDEM_44(2014)3p224.pdf) [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Coil-to-coil efficiency of ISS-compensated inductive wireless power transfer links operating with load-independent output voltage at fixed frequency

Belenky, A.; Chub, Andrii; Kuperman, A. 2023 International Conference on Clean Electrical Power (ICCEP) 2023 / p. 617-621 : ill <https://doi.org/10.1109/ICCEP57914.2023.10247404>

Comparative analysis of semiconductor power losses of galvanically isolated quasi-Z-source and full-bridge boost DC-DC converters

Kosenko, Roman; Liivik, Liisa; Chub, Andrii; Velihorskyi, Oleksandr Scientific Journal of Riga Technical University. Electrical, control and communication engineering 2015 / p. 5-12 : ill <https://doi.org/10.1515/ecce-2015-0001>

Comparative evaluation of a DAB converter and SRC for DC buildings application

Carvalho da Silva, Edivan Laercio; Chub, Andrii; Blinov, Andrei; Banavath, Satish Naik; Vinnikov, Dmitri 2024 IEEE 21st International Power Electronics and Motion Control Conference (PEMC) 2024 / 6 p <https://doi.org/10.1109/PEMC61721.2024.10726346>

Comparative feasibility study of partial power converter for interfacing battery energy storage into power system of future circular collider

Chub, Andrii; Niinemägi, Joosep; Colmenero, Manuel; Aguglia, Davide Proceedings of the Estonian Academy of Sciences 2024 / p. 396-415 <https://doi.org/10.3176/proc.2024.4.08>

Comparative study of possible implementations of the flexible power electronic interface for wide-range high step-up applications in DC microgrid

Khan, Salman; Chub, Andrii; Vinnikov, Dmitri; Kasper, Matthias; Deboy, Gerald 2024 IEEE 18th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2024 / 6 p <https://doi.org/10.1109/CPE-POWERENG60842.2024.10604370>

Comparative study of rectifier topologies for quasi-Z-source derived push-pull converter

Chub, Andrii; Husev, Oleksandr; Vinnikov, Dmitri Elektronika ir elektrotehnika = Electronics and electrical engineering 2014 / p. 29-34 : ill <https://doi.org/10.5755/j01.eee.20.6.7264> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comparison and verification of boost control methods for full soft-switching bidirectional current-fed isolated full-bridge DC-DC converter [Online resource]

Kosenko, Roman; Chub, Andrii; Blinov, Andrei 2016 II International Young Scientists Forum on Applied Physics and Engineering (YSF-2016) : forum proceedings 2016 / p. 6-9 : ill <https://doi.org/10.1109/YSF.2016.7753748>

Comparison of full power and partial power buck-boost DC-DC converters for residential battery energy storage applications

Hassanpour, Naser; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri 2022 IEEE 16th International Conference on Compatibility, Power Electronics, and Power Engineering (CPE-POWERENG) 2022 / 6 p <https://doi.org/10.1109/CPE-POWERENG54966.2022.9880862>

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>

Comparison of performance of phase-shift and asymmetrical pulse width modulation techniques for the novel galvanically isolated buck-boost dc-dc converter for photovoltaic applications

Vinnikov, Dmitri; Chub, Andrii; Kosenko, Roman; Zakis, Janis; **Liivik, Elizaveta** IEEE journal of emerging and selected topics in power electronics 2017 / p. 624-637 : ill <https://doi.org/10.1109/JESTPE.2016.2631628> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Comprehensive comparative analysis of impedance-source networks for DC and AC application

Husev, Oleksandr; Shults, Tatiana; **Vinnikov, Dmitri; Chub, Andrii** Electronics 2019 / 21 p. : ill <https://doi.org/10.3390/electronics8040405> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A comprehensive review on DC fast charging stations for electric vehicles: standards, power conversion technologies, architectures, energy management, and cybersecurity

Arena, Gabriele; **Chub, Andrii;** Lukianov, Mykola; Strzelecki, Ryszard; **Vinnikov, Dmitri;** de Carne, Giovanni IEEE open journal of power electronics 2024 / p. 1573-1611 <https://doi.org/10.1109/OJPEL.2024.3466936> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Conducted EMI emission evaluation considerations for test site and in-situ evaluation of DC microgrid supplied power converters

Kütt, Lauri; Daniel, Kamran; Sharma, Hetal; Parker, Martin; Chub, Andrii 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144729>

Control of multiport partial power converters for PV-battery systems integration in DC microgrids

Yadav, Neelesh; Mitra, Tuhin; Makkieh, Ahmad; **Chub, Andrii** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144705>

Controlled bidirectional DC circuit breaker with zero negative current for high load shift applications

Raghavendra I, Venkata; Naik, Satish B.; Sreekanth, Thamballa; **Chub, Andrii** IEEE transactions on industry applications 2022 / p. 6942-6951 <https://doi.org/10.1109/TIA.2022.3193345> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Current sensorless control for half-bridge based AC/DC PFC converter with consideration of conduction losses

Suzdalenko, Alexander; **Chub, Andrii** International journal of circuit theory and applications 2016 / p. 2072-2084 : ill <https://doi.org/10.1002/cta.2212> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Current-fed dual inductor push-pull partial power converter

Abdelrahim Abdelghafour, Omar Mohamed; Vinnikov, Dmitri; Chub, Andrii; Blinov, Andrei 2022 IEEE 20th International Power Electronics and Motion Control Conference (PEMC) : Brasov, Romania, 25-28 Sept. 2022 : proceedings 2022 / p. 327-332 <https://doi.org/10.1109/PEMC51159.2022.9962937>

Current-fed partial power converter for photovoltaic applications in DC microgrids

Jalakas, Tanel; Kosenko, Roman; Chub, Andrii; Vinnikov, Dmitri; Blinov, Andrei IECON 2021 – 47th Annual Conference of the IEEE Industrial Electronics Society 2021 / p. 1-5 : ill <https://doi.org/10.1109/IECON48115.2021.9589899> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

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>

DC fast charging of electric vehicles : a review on architecture and power conversion technology

Arena, Gabriele; **Emiliani, Pietro; Chub, Andrii; Vinnikov, Dmitri;** de Carne, Giovanni 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 6 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227492>

DC grid interface converter based on three-phase isolated matrix topology with phase-shift modulation

Emiliani, Pietro; Blinov, Andrei; Chub, Andrii; de Carne, Giovanni; **Vinnikov, Dmitri** 2022 IEEE 13th International Symposium on Power Electronics for Distributed Generation Systems (PEDG) 2022 / 6 l. <https://doi.org/10.1109/PEDG54999.2022.9923256>

DC integration of residential photovoltaic systems : a survey

Abdelrahim Abdelghafour, Omar Mohamed; Chub, Andrii; Vinnikov, Dmitri; Blinov, Andrei IEEE Access 2022 / p. 66974-66991 <https://doi.org/10.1109/ACCESS.2022.3185788> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

The DC transformer power electronic building block : powering next-generation converter design

Flores-Bahamonde, Freddy; Renaudineau, Hugues; **Chub, Andrii** IEEE industrial electronics magazine 2023 / p. 21-35

<https://doi.org/10.1109/MIE.2022.3147168> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

DC voltage sensorless predictive control of a high-efficiency PFC single-phase rectifier based on the versatile buck-boost converter

González-Castaño, Catalina; Restrepo, Carlos; Sanz, Fredy; **Chub, Andrii**; Giral, Roberto Sensors 2021 / art. 5107

<https://doi.org/10.3390/s21155107> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Design and control for high reliability power electronics: state of the art and future trends

Alcaide, A. M.; Buticchi, Giampaolo; **Chub, Andrii**; Dalessandro, L. IEEE journal of emerging and selected topics in industrial electronics 2024 / p. 50-61 <https://doi.org/10.1109/JESTIE.2023.3287513>

Design and Control of Bidirectional Step-Up/Down Partial Power Converters for DC Microgrid Applications = Alalisvoolu mikrovõrkudele osavõimsuse töötusega kahe-suunalise töste-langetusmuunduri projekteerimine ja juhtimine

Hassanpour, Naser 2025 https://www.ester.ee/record=b5746961*est <https://digikogu.taltech.ee/et/Item/daec7687-5e83-467e-8e6a-45b1e4a15a64> <https://doi.org/10.23658/taltech.30/2025>

Design and development of solid state circuit breaker with residual current protection for residential prosumer DC microgrids

Jalakas, Tanel; **Chub, Andrii**; Roasto, Indrek; Vinnikov, Dmitri; Kurnitski, Jarek Proceedings of the Estonian Academy of Sciences 2025 / p. 281-290 <https://doi.org/10.3176/proc.2025.2S.02>

Design and implementation of dual-mode LLC resonant converter for charging 400 V and 800 V onboard plug-in electric vehicles

Vinusha, Bussa; Kalpana, R.; Kishan, Dharavath; **Chub, Andrii** 2025 IEEE 19th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2025 / 6 p <https://doi.org/10.1109/CPE-POWERENG63314.2025.11027270>

Design considerations of dual-active bridge DC grid-forming converter for DC buildings

Carvalho da Silva, Edivan Laercio; Sidorova, Aleksandra; Blinov, Andrei; **Chub, Andrii**; Vinnikov, Dmitri IEEE transactions on industrial electronics 2024 / p. 10601-10611 <https://doi.org/10.1109/TIE.2023.3331125> [Journal metrics at Scopus](#) [Article at Scopus](#)

[Journal metrics at WOS](#) [Article at WOS](#)

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 issues of SSCBs for residential DC microgrid

Jalakas, Tanel; **Chub, Andrii**; Roasto, Indrek; Vinnikov, Dmitri 2024 IEEE 65th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) 2024 / 6 p <https://doi.org/10.1109/RTUCON62997.2024.10830826>

Design of multiphase single-switch impedance-source converters

Chub, Andrii; Vinnikov, Dmitri; Liivik, Liisa; Jalakas, Tanel; Blinov, Andrei IECON 2018 - 44th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2018 / p. 3718-3724 : ill <https://doi.org/10.1109/IECON.2018.8591361>

Design of solid state circuit breaker

Jalakas, Tanel; **Chub, Andrii**; Roasto, Indrek; Vinnikov, Dmitri 2022 IEEE 63th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON): conference proceedings 2022 / p. 1-5

<https://doi.org/10.1109/RTUCON56726.2022.9978903>

Development and application of energy producing solar pavement in Estonia

Jalakas, Tanel; **Chub, Andrii**; Vinnikov, Dmitri; Spalatu, Nicolae; Gudkova, Viktoria; Krunks, Malle; Mere, Arvo; Lahi, Allan 2022 IEEE 63th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON): conference proceedings 2022 / 5 p. : ill <https://doi.org/10.1109/RTUCON56726.2022.9978908>

Development of a power electronics controller with RISC-V based core for security-critical applications

Swakath, S. U.; Kshirsagar, Abhijit; Kondepu, Koteswararao; Banavath, Satish Naik; **Chub, Andrii**; Vinnikov, Dmitri 2022 IEEE 63th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON): conference proceedings 2022 / p. 1-5 <https://doi.org/10.1109/RTUCON56726.2022.9978737>

A DFT-based approach for condition monitoring of switch-mode power converters

Kütt, Lauri; Tiivel, Tuuli; Parker, Martin; Valgur, Laur; Jarkovoi, Marek; **Chub, Andrii** 2024 IEEE 65th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) 2024 / 5 p

Droop control implementation in bidirectional step-up/down Partial power converter for battery energy storage applications

Hassanpour, Naser; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri 2023 IEEE 64th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), Riga, Latvia, October 9-10, 2023 : conference proceedings 2023 / 6 p <https://doi.org/10.1109/RTUCON60080.2023.10413064>

Dual-Mode magnetically integrated photovoltaic microconverter with adaptive mode change and global maximum power point tracking

Mashinchi Maheri, Hamed; Vinnikov, Dmitri; Chub, Andrii; Korkh, Oleksandr; Rosin, Argo; Babaei, Ebrahim IET renewable power generation 2021 / p. 86-98 <https://doi.org/10.1049/rpg2.12007> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Dynamic reconfiguration for wide output voltage range isolated buck-boost PFC converter

Verbytskyi, Ievgen; Nadeem, Mohammad Mahad; Blinov, Andrei; Carvalho da Silva, Edivan Laercio; Chub, Andrii; Vinnikov, Dmitri 2023 IEEE 8th Southern Power Electronics Conference and 17th Brazilian Power Electronics Conference (SPEC/COBEP) 2023 / 5 p. : ill <https://doi.org/10.1109/SPEC56436.2023.10407792>

Eesti teadlaste nutikad minuundurid hoogustavad energiapööret

Vinnikov, Dmitri; Chub, Andrii novaator.err.ee 2024 [Eesti teadlaste nutikad minuundurid hoogustavad energiapööret](#)

Effect of droop control curves on the efficiency of dual-active bridge converters

Carvalho da Silva, Edivan Laercio; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri IECON 2023- 49th Annual Conference of the IEEE Industrial Electronics Society IECON Proceedings (Industrial Electronics Conference) 2023 / 6 p <https://doi.org/10.1109/IECON51785.2023.10312056> [Conference proceedings at Scopus](#) [Article at Scopus](#)

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>

Efficiency improvement from topology modification of the single-switch isolated quasi-Z-source DC-DC converter [Online resource]

Liivik, Elizaveta; Chub, Andrii; Vinnikov, Dmitri 2016 57th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) : October 13, 14, 2016 : conference proceedings 2016 / [7] p. : ill <https://doi.org/10.1109/RTUCON.2016.7763118>

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>

An efficient non-inverting buck-boost converter with improved step up/down ability

Abdelrahim Abdelghafour, Omar Mohamed; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri; Pefitsis, Dimosthenis Energies 2022 / art. 4550 <https://doi.org/10.3390/en15134550> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Electric power management and control in DC buildings—state-of-the-art and emerging technologies

Blinov, Andrei; Roasto, Indrek; Chub, Andrii; Emiliani, Pietro; Vinnikov, Dmitri Power Quality : Infrastructures and Control 2023 / p. 67-96 https://doi.org/10.1007/978-981-19-7956-9_3

An electrolytic capacitor-less multiple-output LED driver with a universal input voltage

Awad, Khaled; Abdelrahim Abdelghafour, Omar Mohamed; Gaafar, Mahmoud A.; Orabi, Mohamed; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri 2022 IEEE 7th International Energy Conference (ENERGYCON) 2022 / 6 l. <https://doi.org/10.1109/ENERGYCON53164.2022.9830255>

An embedded half-bridge Γ -Z-source inverter with reduced voltage stress on capacitors

Mashinchi Maheri, Hamed; Vinnikov, Dmitri; Nozadian, Mohsen Hasan Babayi; Shokati Asl, Elias; Babaei, Ebrahim; Chub, Andrii Energies 2021 / art. 6433, 21 p. : ill <https://doi.org/10.3390/en14196433> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Energiat tootev teekatend nüüd ka Eestis

Jalakas, Tanel; Chub, Andrii; Vinnikov, Dmitri; Spalatu, Nicolae; Gudkova, Viktoria; Krunks, Malle; Mere, Arvo; Lahi, Allan; Lindvest, Andre Elektriala 2023 / lk. 14-16 : portr., fot https://www.ester.ee/record=b1240496*est

Energy management implementation approach for droop-controlled residential DC nanogrids

Hasan, Sayeed; Chub, Andrii; Yadav, Neelesh; Blinov, Andrei; Kurnitski, Jarek; Vinnikov, Dmitri 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144665>

Energy management in residential DC microgrids - droop control-based approach

Hasan, Sayeed; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri Future Frontiers : PhD Conference on Emerging Technologies : Book of Abstracts 2025 / p. 23 ; poster 14 https://tuit.ut.ee/sites/default/files/2025-05/PhD%20Conference%202025%20Book%20of%20Abstracts_pub3.pdf

Energy yield assessment methodology for photovoltaic microinverters

Chub, Andrii; Kosenko, Roman; Korkh, Oleksandr; Vinnikov, Dmitri; Kouro, Samir 2019 IEEE 15th Brazilian Power Electronics Conference and 5th IEEE Southern Power Electronics Conference (COBEP/SPEC 2019) Santos, Brazil, 1-4 December 2019 / p. 1178-1183 : ill <http://toc.proceedings.com/52923webtoc.pdf>

Enhancement of residential PV energy storage system by supercapacitor battery – high spatial resolution data analysis

Rogowski, Szymon; Hasan, Sayeed; Chub, Andrii; Sibinski, Maciej Proceedings of the Estonian Academy of Sciences 2025 / p. 269-280 <https://doi.org/10.3176/proc.2025.2S.01>

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/html> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Evaluation of dual-active bridge converter for DC energy buildings

Carvalho da Silva, Edivan Laercio; Blinov, Andrei; Sidorova, Aleksandra; 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-POWERENG58103.2023.10227460>

Evaluation of GaN HEMTs for high-voltage stage of isolated DC-DC converters

Chub, Andrii; Zdanowski, Mariusz; Blinov, Andrei; Rabkowski, Jacek 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. 375-379 : ill <https://doi.org/10.1109/CPE.2016.7544217>

Evaluation of low- and high-voltage GaN transistors in soft-switching DC-DC converter

Blinov, Andrei; Kosenko, Roman; Chub, Andrii 2017 IEEE First Ukraine Conference on Electrical and Computer Engineering (UKRCON) : May 29 - June 2, 2017, Kyiv, Ukraine : conference proceedings 2017 / p. 544-547 : ill <https://doi.org/10.1109/UKRCON.2017.8100299>

Experimental analysis of wide input voltage range qZS-derived push-pull DC/DC converter for PMSG-based wind turbines

Blinov, Andrei; Vinnikov, Dmitri; Husev, Oleksandr; Chub, Andrii PCIM Europe 2013 : International Exhibition and Conference for Power Electronics, Intelligent Motion, Renewable Energy and Energy Management, Nuremberg, 14.-16. May 2013 : proceedings 2013 / p. 1435-1444 : ill

Experimental performance validation of Z-source DC circuit breaker for high impedance faults

Pogulaguntla, Aditya; Naik Banavath, Satish; Chub, Andrii; Vinnikov, Dmitri; Singh, Rajendra 2024 IEEE Sixth International Conference on DC Microgrids (ICDCM) 2024 / 5 p <https://doi.org/10.1109/ICDCM60322.2024.10664702>

Experimental study of high step-up quasi-Z-source DC-DC converter with synchronous rectification

Liivik, Liisa; Chub, Andrii; Vinnikov, Dmitri; Zakis, Janis 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. 409-414 : ill <http://dx.doi.org/10.1109/CPE.2015.7231110>

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 approach for photovoltaic module-level power electronic applications

Vinnikov, Dmitri; Chub, Andrii; Korkh, Oleksandr; Malinowski, Mariusz 2020 IEEE 14th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : proceedings 2020 / p. 438-444 : ill <https://doi.org/10.1109/CPE-POWERENG48600.2020.9161599>

Fault-tolerant bidirectional series resonant DC-DC converter with minimum number of components

Vinnikov, Dmitri; Chub, Andrii; Korkh, Oleksandr; Malinowski, Mariusz 2019 IEEE Energy Conversion Congress and Exposition, ECCE, 2019-09-29 - 2019-10-03, Baltimore, MD, USA 2019 / p. 1359–1363 <https://doi.org/10.1109/ECCE.2019.8912292>

Fault-tolerant galvanically isolated DC/DC 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->

Fault-tolerant high step-up DC-DC converters

Chub, Andrii 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. 67-68 : ill https://www.ester.ee/record=b5291755*est

FCS-model predictive control of a quadratic buck converter for more efficient data centers

Azadi, Shirin; Flores-Bahamonde, Freddy; Alireza Davari, S.; Torres-Pinzon, C. A.; **Chub, Andrii**; Rodriguez, Jose 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 5 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227387>

Feasibility study of cascading of full soft-switching current-fed naturally clamped DC-DC converters

Kosenko, Roman; Chub, Andrii; Blinov, Andrei 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. 384-389 : ill <https://doi.org/10.1109/CPE.2016.7544219>

Feasibility study of Si and SiC MOSFETs in high-gain DC/DC converter for renewable energy applications

Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri; Rang, Toomas Proceedings : IECON 2013 - 39th Annual Conference of the IEEE Industrial Electronics Society : Austria Center Vienna, Vienna, Austria, 10-14 November, 2013 2013 / p. 5975-5978 : ill <https://doi.org/10.1109/IECON.2013.6700115> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

Feasibility Study of Snow Removal from PV Module Using Universal Power Electronic Interface

Chauhan, Sachin; Chub, Andrii; Hasan, Sayeed; Lavrov, Artur; Kurnitski, Jarek; Vinnikov, Dmitri 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p

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>

A full bridge series-series resonant IPT system optimized for charging electric vehicle batteries across an extensive range

Kishan, Dharavath; Vinod, Marupuru; **Chub, Andrii** 2024 IEEE 18th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2024 / 6 p <https://doi.org/10.1109/CPE-POWERENG60842.2024.10604397>

Full soft-switching bidirectional current-fed DC-DC converter

Chub, Andrii; Kosenko, Roman; Blinov, Andrei; Ivakhno, Volodymyr; Zamaruev, Volodymyr; Styslo, Bogdan 2015 56th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCon) 2015 / p. 189-194 : ill

Full soft-switching bidirectional isolated current-fed dual inductor push-pull DC-DC converter for battery energy storage applications [Online resource]

Kosenko, Roman; Zakis, Janis; Blinov, Andrei; Chub, Andrii; Veligorskyi, Oleksandr 2016 57th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCon) : October 13, 14, 2016 : conference proceedings 2016 / [8] p. : ill <https://doi.org/10.1109/RTUCon.2016.7763138>

Full soft-switching high step-up current-fed DC-DC converters with reduced conduction losses

Kosenko, Roman; Husev, Oleksandr; Chub, Andrii 2015 IEEE 5th International Conference on Power Engineering, Energy and Electrical Drives (POWERENG) : proceedings : May 11-13, 2015, Riga, Latvia 2015 / p. 170-175 : ill <http://dx.doi.org/10.1109/PowerEng.2015.7266313>

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](#)

Full-soft-switching high step-up bidirectional isolated current-fed push-pull DC-DC converter for battery energy storage applications [Online resource]

Kosenko, Roman; Chub, Andrii; Blinov, Andrei Proceedings of the IECON2016 - 42nd Annual Conference of the Industrial Electronics Society : Florence (Italy), October 24-27, 2016 2016 / p. 6548-6553 : ill <https://doi.org/10.1109/IECON.2016.7794014> [Conference Proceedings at Scopus](#) [Article at scopus](#) [Article at WOS](#)

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](#)

Galvanically isolated quasi-Z-source DC-DC converters with combined energy transfer for renewable energy sources integration

Chub, Andrii; Vinnikov, Dmitri; Jalakas, Tanel 2015 IEEE International Conference on Industrial Technology (ICIT 2015) : Seville, Spain, 17-19 March 2015 / p. 2896-2900 : ill <https://doi.org/10.1109/ICIT.2015.7125525> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Grid integration issues of PMSG-based residential wind turbines

Chub, Andrii; Jalakas, Tanel; Milczarek, Adam; **Kallaste, Ants; Malinowski, Mariusz** PQ2014 : the 9th International 2014 Electric Power Quality and Supply Reliability Conference (PQ) : June 11-13, 2014, Rakvere, Estonia : proceedings 2014 / p. 147-154 : ill

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](#)

High gain DC-AC high-frequency link inverter with improved quasi-resonant modulation

Blinov, Andrei; Korkh, Oleksandr; Chub, Andrii; Vinnikov, Dmitri; Peftitsis, Dimosthenis; Norrga, Staffan; Galkin, Ilya IEEE transactions on industrial electronics 2022 / p. 1465-1476 : ill <https://doi.org/10.1109/TIE.2021.3060657> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

High-efficiency partial power converter for integration of second-life battery energy storage systems in DC microgrids

Hassanpour, Naser; Chub, Andrii; Yadav, Neelesh; Blinov, Andrei; Vinnikov, Dmitri IEEE Open Journal of the Industrial Electronics Society 2024 / p. 87850-87863 <https://doi.org/10.1109/OJIES.2024.3389466> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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-efficiency single-stage onboard charger for electrical vehicles

Zinchenko, Denys; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri; Verbytskyi, Ievgen; Bayhan, Sertac IEEE Transactions on Vehicular Technology 2021 / p. 12581-12592 : ill <https://doi.org/10.1109/TVT.2021.3118392> [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 (RTUON), 15-17 Nov. 2021 : conference proceedings 2021 / p. 1-5 : ill <https://doi.org/10.1109/RTUON53541.2021.9711708>

High-performance buck-boost partial power quasi-Z-source series resonance converter

Abdelrahim Abdelghafour, Omar Mohamed; Chub, Andrii; Mashinchi Maheri, Hamed; Blinov, Andrei; Vinnikov, Dmitri IEEE Access 2022 / p. 13017-130189 <https://doi.org/10.1109/ACCESS.2022.3225751> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

High-performance quasi-Z-source series resonant DC-DC converter for photovoltaic module-level power electronics applications

Vinnikov, Dmitri; Chub, Andrii; Liivik, Elizaveta; Roasto, Indrek IEEE transactions on power electronics 2017 / p. 3634-3650 : ill <https://doi.org/10.1109/TPEL.2016.2591726> [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; Rifo, 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>

Hybrid DC-DC converters with topology morphing control and post-fault operation capability

Vinnikov, Dmitri; Chub, Andrii; Korkh, Oleksandr; Blinov, Andrei; Liivik, Elizaveta Electrimacs 2019 : Selected Papers, Vol. 1 2020 / p. 433-445 https://doi.org/10.1007/978-3-030-37161-6_33 [Conference proceeding at Scopus](#) [Article at Scopus](#)

A hybrid modulation approach for step-up/ down partial power converter with improved MPPT efficiency around zero partiality

Yadav, Neelesh; Chub, Andrii; Hassanpour, Naser; Blinov, Andrei; Vinnikov, Dmitri; Galkin, Ilya IEEE transactions on industry applications 2025 <https://doi.org/10.1109/TIA.2025.3525607>

Hybrid residual current device and solid state circuit breaker for residential DC microgrids

Jalakas, Tanel; Chub, Andrii; Roasto, Indrek; Vinnikov, Dmitri 2024 19th Biennial Baltic Electronics Conference (BEC) 2024 / 5 p <https://doi.org/10.1109/BEC61458.2024.10737970> [Article at Scopus](#) [Conference proceedings at Scopus](#) [Article at WOS](#)

Hysteresis current control with distributed shoot-through states for impedance source inverters

Husev, Oleksandr; Chub, Andrii; Romero-Cadaval, Enrique; Roncero-Clemente, Carlos; **Vinnikov, Dmitri** International journal of circuit theory and applications 2016 / p. 783-797 : ill <https://doi.org/10.1002/cta.2106> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

IEEE Industrial Electronics Society students and young professionals just after the pandemic time [students and young professionals news]

Jasinski, Marek; Turzynski, Marek; **Vinnikov, Dmitri; Chub, Andrii** IEEE industrial electronics magazine 2022 / p. 89-100
<https://doi.org/10.1109/MIE.2022.3212247>

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](#)

Impedance-source galvanically isolated DC/DC converters : state of the art and future challenges

Liivik, Liisa; Chub, Andrii; Vinnikov, Dmitri 2014 55th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) : proceedings 2014 / p. 67-74 : ill

Implementation issues of droop controlled DC nanogrids: State of charge management of battery energy storage and impact of sensor gain tolerance

Hasan, Sayeed; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri 2024 IEEE 65th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) 2024 / 6 p <https://doi.org/10.1109/RTUCON62997.2024.10830832>

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 p
<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](#)

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>

Improved maximum power point tracking algorithm for step-up/down partial power converters operating around zero partiality

Yadav, Neelesh; Hassanpour, Naser; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri IEEE journal of emerging and selected topics in power electronics 2024 / p. 1984-1994 <https://doi.org/10.1109/JESTPE.2024.3354843> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Improved modulation method for full-bridge AC-DC HF-link converter

Blinov, Andrei; Korkh, Oleksandr; Chub, Andrii; Vinnikov, Dmitri 2020 IEEE International Conference on Industrial Technology, Buenos Aires Institute of Technology (ITBA) Buenos Aires, Argentina, 26-28 February, 2020 : proceedings 2020 / p. 1173-1177 : ill
<https://doi.org/10.1109/ICIT45562.2020.9067128> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Improved switched-inductor quasi-switched-boost inverter with low input current ripple

Chub, Andrii; Liivik, Liisa; Zakis, Janis; Vinnikov, Dmitri 2015 56th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) 2015 / p. 221-226 : ill

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>

Input voltage range extension methods in the series-resonant DC-DC converters

Chub, Andrii; Vinnikov, Dmitri; Lai, Jih-Sheng 2019 IEEE 15th Brazilian Power Electronics Conference and 5th IEEE Southern Power Electronics Conference (COBEP/SPEC 2019) Santos, Brazil, 1-4 December 2019 2019 / p. 1493-1499
<http://toc.proceedings.com/52923webtoc.pdf>

Input-parallel output-series cascading possibilities of single-switch galvanically isolated quasi-Z-source DC-DC converters

Liivik, Elizaveta; Chub, Andrii; Vinnikov, Dmitri 2016 2nd International Conference on Intelligent Energy and Power Systems (IEPS) : Kyiv, Ukraine, June 7-11, 2016 : conference proceedings 2016 / [6] p. : ill <https://doi.org/10.1109/IEPS.2016.7521873>

Input-parallel output-series connection of isolated quasi-Z-source DC-DC converters

Chub, Andrii; Husev, Oleksandr; Vinnikov, Dmitri PQ2014 : the 9th International 2014 Electric Power Quality and Supply Reliability Conference (PQ) : June 11-13, 2014, Rakvere, Estonia : proceedings 2014 / p. 277-284 : ill

Jõuelektroonika edendab päikeseenergiahooneid

Horisont 2022 / lk. 4 : fot https://www.ester.ee/record=b1072243*est

Light-load efficiency improvement of galvanically isolated quasi-Z-source DC-DC converter for photovoltaic applications

Mashinchi Maheri, Hamed; Chub, Andrii; Vinnikov, Dmitri 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/COMPEL49091.2020.9265800>

Low-cost photovoltaic microinverter with ultra-wide MPPT voltage range

Liivik, Elizaveta; Chub, Andrii; Kosenko, Roman; Vinnikov, Dmitri 2017 6th International Conference on Clean Electrical Power : Renewable Energy Resources Impact : Santa Margherita Ligure, 27-29 June 2017 2017 / p. 46-52 : ill <https://doi.org/10.1109/ICCEP.2017.8004790>

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>

Magnetically integrated multiport converter for energy management in DC-powered buildings

Carvalho da Silva, Edivan Laercio; Chub, Andrii; Blinov, Andrei; Banavath, Satish Naik; Vinnikov, Dmitri Eletrônica de Potência 2024 / art. 202445 <https://doi.org/10.18618/REP.e202445%20%20>

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>

Maximum power point tracking algorithm for step-up/down partial power converters with improved performance around zero partiality

Yadav, Neelesh; Chub, Andrii; Hassanpour, Naser; Blinov, Andrei; 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-POWERENG58103.2023.10227506>

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](#)

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-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](#) [Journal metrics at WOS](#) [Article at WOS](#)

Modified high voltage gain soft-switched quasi-switched boost inverter

Abbasi Aghdam Meinagh, Farhad; Babaei, Ebrahim; Vinnikov, Dmitri; Chub, Andrii 2019 IEEE International Conference on Industrial Technology, ICIT 2019 : Melbourne, Australia, 13-15 February 2019 : proceedings 2019 / p. 1087-1092 : ill <https://doi.org/10.1109/ICIT.2019.8755041>

Modified Q-Z-Source DC Circuit Breaker for Next-Generation Electric Aircrafts

Aditya, P.; Venkata Raghavendra, I.; Banavath, Satish Naik; Chub, Andrii; Song, Xiaoqing; Vinnikov, Dmitri; Wang, Fred 2023 IEEE Applied Power Electronics Conference and Exposition (APEC) 2023 / p. 1049–1056 <https://doi.org/10.1109/APEC43580.2023.10131532> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Modular MV naturally balanced converter with high-frequency isolation and no DC-Link capacitor for EV fast charging

Blinov, Andrei; Chub, Andrii; Guler, Naki; Bayhan, Sertac; Parsa, Leila; Vinnikov, Dmitri IEEE Transactions on Transportation Electrification 2024 / 9 p <https://doi.org/10.1109/TTE.2024.3399329>

An MPPT algorithm for PV systems based on a simplified photo-diode model

Restrepo, Carlos; Gonzalez-Castano, Catalina; Munoz, Javier; Chub, Andrii; Vidal-Idiarte, Enric; Giral, Roberto IEEE Access 2021 /

p. 33189-33202 <https://doi.org/10.1109/ACCESS.2021.3061340> [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](#)

Multi-mode quasi-Z-source series resonant DC/DC converter for wide input voltage range applications

Vinnikov, Dmitri; Chub, Andrii; Roasto, Indrek; Liivik, Liisa Applied Power Electronics Conference and Exposition : APEC 2016 : Long Beach Convention & Entertainment Center, March 20-24, 2016 2016 / p. 2533-2539 : ill <https://doi.org/10.1109/APEC.2016.7468221> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Multiphase galvanically isolated impedance-source DC-DC converter for residential renewable energy applications

Vinnikov, Dmitri; Chub, Andrii; Liivik, Elizaveta 2017 IEEE International Symposium on Industrial Electronics (ISIE) : Edinburgh International Conference Centre, Edinburgh, Scotland, United Kingdom, 19-21 June, 2017 : proceedings 2017 / p. 1775-1780 : ill <https://doi.org/10.1109/ISIE.2017.8001517>

Multiphase quasi-z-source DC-DC converters for residential distributed generation systems

Chub, Andrii; Vinnikov, Dmitri; Liivik, Elizaveta; Jalakas, Tanel IEEE transactions on industrial electronics 2018 / p. 8361-8371 : ill <https://doi.org/10.1109/TIE.2018.2801860> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Multiport current fed push/pull partial power converter for battery integration in DC microgrid

Yadav, Neelesh; Chub, Andrii 2024 IEEE 18th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2024 / 6 p <https://doi.org/10.1109/CPE-POWERENG60842.2024.10604406>

Multi-port i-AFE converter for grid-interactive buildings: design requirements and efficiency evaluation

Carvalho da Silva, Edivan Laercio; Blinov, Andrei; Chub, Andrii; Galkin, Ilya; Vinnikov, Dmitri 2023 IEEE 8th Southern Power Electronics Conference and 17th Brazilian Power Electronics Conference (SPEC/COBEP) 2023 / 5 p <https://doi.org/10.1109/SPEC56436.2023.10408230>

New high-gain non-inverting buck-boost converter

Abdelrahim Abdelghafour, Omar Mohamed; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri IECON 2021 – 47th Annual Conference of the IEEE Industrial Electronics Society 2021 / p. 1-6 : ill <https://doi.org/10.1109/IECON48115.2021.9590003> [Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

New single-switch input current ripple free boost DC-DC converter

Mashinchi Maheri, Hamed; Mohammadzadeh Shahir, Farzad; Babaei, Ebrahim; **Chub, Andrii** 2021 IEEE 62nd International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON): conference proceedings 2021 / p. 1-5 : ill <https://doi.org/10.1109/RTUCON53541.2021.9711685>

New trends in galvanically isolated impedance-source DC-DC energy conversion

Chub, Andrii Doctoral School of Energy and Geotechnology II : closing conference of the project : Pärnu, Estonia, January 12-17, 2015 2015 / p. 49-50 : ill

Novel approach immune to partial shading for photovoltaic energy harvesting from building integrated PV (BIPV) solar roofs

Chub, Andrii; Korkh, Oleksandr; Kosenko, Roman; Vinnikov, Dmitri 2018 20th European Conference on Power Electronics and Applications (EPE'18 ECCE Europe) : Riga, Latvia, 17-21 September 2018 2018 / p. 2243-2252 : ill <https://ieeexplore.ieee.org/document/8515623>

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 isolated power conditioning unit for micro wind turbine applications

Chub, Andrii; Husev, Oleksandr; Blinov, Andrei; Vinnikov, Dmitri IEEE transactions on industrial electronics 2017 / p. 5984-5993 : ill <https://doi.org/10.1109/TIE.2016.2645890> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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](#)

Operation of the step-up/down bidirectional partial power converter near zero series voltage

Hassanpour, Naser; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 5 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227425>

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](#)

Overview of single-stage isolated AC-DC topologies for interfacing DC and AC grids

Carvalho da Silva, Edivan Laercio; **Blinov, Andrei**; **Chub, Andrii**; **Vinnikov, Dmitri** IEEE 13th International Symposium on Power

Electronics for Distributed Generation Systems (PEDG) 2022 / 6 p. <https://doi.org/10.1109/PEDG54999.2022.9923249>

An overview of wide-voltage range isolated DC-DC converters

Khan, Salman; **Chub, Andrii**; **Vinnikov, Dmitri** 2023 IEEE 64th International Scientific Conference on Power and Electrical

Engineering of Riga Technical University (RTUCON), Riga, Latvia, October 9-10, 2023 : conference proceedings 2023 / 6 p

<https://doi.org/10.1109/RTUCON60080.2023.10413144>

P3R – Partial power post regulator for DC buildings application

Carvalho, Edivan Laercio; **Chub, Andrii**; **Blinov, Andrei**; Rathore, Akshay Kumar; **Vinnikov, Dmitri** IECON Proceedings

(Industrial Electronics Conference) IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2024 / 6 p

<https://doi.org/10.1109/IECON55916.2024.10905720> [Conference proceedings at Scopus](#) [Article at Scopus](#)

P3R : partial power postregulated gridforming converter for prosumer DC buildings

Carvalho da Silva, Edivan Laercio; **Chub, Andrii**; **Hassanpour, Naser**; **Blinov, Andrei**; Rathore, Akshay Kumar; **Vinnikov, Dmitri** IEEE transactions on industrial electronics 2025 / p. 1628-1637

<https://doi.org/10.1109/TIE.2024.3423358>

Partial buck-boost resonant power converter for residential PV applications

Abdelrahim Abdelghafour, Omar Mohamed; **Chub, Andrii**; **Blinov, Andrei**; **Vinnikov, Dmitri** 2022 IEEE 7th International Energy

Conference (ENERGYCON) 2022 / 5 l. <https://doi.org/10.1109/ENERGYCON53164.2022.9830394>

Partial Power Processing and its Emerging Applications : Chapter 7

Hassanpour, Naser; **Chub, Andrii**; **Blinov, Andrei**; Kouro, Samir Power electronics for next-generation drives and energy systems,

Vol. 1: converters and control for drives 2022 / p. 211-242 https://digital-library.theiet.org/content/books/10.1049/pbpo207f_ch7

Passive modular structure of a SEPIC based DC/DC converter

Chub, Andrii; **Husev, Oleksandr**; **Vinnikov, Dmitri** 2014 IEEE International Conference on Intelligent Energy and Power Systems

(IEPS) : conference proceedings : June 2-6, 2014, Kyiv, Ukraine 2014 / p. 81-85 : ill

Performance analysis of partial power converter in DC microgrid with active front-end converter

Yadav, Neelesh; **Hasan, Sayeed**; Galkin, Ilya; **Chub, Andrii** 2025 IEEE Seventh International Conference on DC Microgrids

(ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144718>

Performance analysis of protection methods in residential DC microgrids

Jalakas, Tanel; Banavath, Satish Naik; **Chub, Andrii**; **Roasto, Indrek**; **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-POWERENG58103.2023.10227388>

Performance comparison of voltage-fed and current-fed series resonant converters for high step-up DC-DC applications

Khan, Salman; **Chub, Andrii**; **Vinnikov, Dmitri** 2025 IEEE 19th International Conference on Compatibility, Power Electronics and

Power Engineering (CPE-POWERENG) 2025 / 6 p <https://doi.org/10.1109/CPE-POWERENG63314.2025.11027290>

Performance evaluation of step-up /down partial power converters based on current-fed DC-DC topologies

Yadav, Neelesh; **Hassanpour, Naser**; **Chub, Andrii**; **Blinov, Andrei**; **Vinnikov, Dmitri**; Galkin, Ilya; Abdelrahim Abdelghafour,

Omar Mohamed IEEE transactions on industry applications 2024 / p. 7111-7124 <https://doi.org/10.1109/TIA.2024.3413050>

Performance evaluation of step-up/down current-source partial power converters for PV applications

Abdelrahim Abdelghafour, Omar Mohamed; **Chub, Andrii**; **Blinov, Andrei**; **Vinnikov, Dmitri** 2022 IEEE 63th International

Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON): conference proceedings 2022 / 5

Performance evaluation of step-up/down partial power converters based on current-fed DC-DC topologies

Yadav, Neelesh; Hassanpour, Naser; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri; Galkin, Ilya; Abdelrahim Abdelghafour, Omar Mohamed IEEE transactions on industry applications 2024 / p. 7111-7124 : ill <https://doi.org/10.1109/TIA.2024.3413050> [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](#)

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 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 microconverter with integrated sub-modular power optimizer

Maheri, Hamed Mashinchi; Chub, Andrii; Vinnikov, Dmitri; Blinov, Andrei IEEE 15th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2021 / p. 1-6 <https://doi.org/10.1109/CPE-POWERENG50821.2021.9501179>

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>

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/CSEEJPES.2020.01310> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Protection and common mode voltage of The Push-Pull Partial Power Converter

Abdelrahim Abdelghafour, Omar Mohamed; Vinnikov, Dmitri; Chub, Andrii; Blinov, Andrei IEEE Conference on Power Electronics and Renewable Energy : Luxor, Egypt, February, 19-21, 2023 2023 <https://doi.org/10.1109/CPERE56564.2023.10119636>

Protection and control implementation for bidirectional step-up/down partial power converter for droop-controlled DC microgrids

Yadav, Neelesh; Chub, Andrii; Hassanpour, Naser; Blinov, Andrei; Vinnikov, Dmitri IEEE transactions on industry applications 2025 / 11 p <https://doi.org/10.1109/TIA.2025.3561767>

Protection of bidirectional Step-Up/Down partial power converter against short circuit and open circuit faults and mode transition issues

Hassanpour, Naser; Chub, Andrii; Blinov, Andrei; Yadav, Neelesh; Hasan, Sayeed; Vinnikov, Dmitri 2024 IEEE 18th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2024 / 6 p <https://doi.org/10.1109/CPE-POWERENG60842.2024.10604315>

PV module level DC-DC converters with wide input voltage regulation range - implementation challenges and application benefits

Chub, Andrii 18th International Symposium "Topical Problems in the Field of Electrical and Power Engineering". Doctoral School of Energy and Geotechnology III : Toila, Estonia, January 14-19, 2019 : [proceedings] 2019 / p. 25-26 : ill https://www.ester.ee/record=b5183874*est

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>

Quasi-Z-source half-bridge DC-DC converter for photovoltaic applications

Vinnikov, Dmitri; Chub, Andrii; Husev, Oleksandr; Zakis, Janis 2015 IEEE International Conference on Industrial Technology (ICIT 2015) : Seville, Spain, 17-19 March 2015 2015 / p. 2935-2940 : ill <https://doi.org/10.1109/ICIT.2015.7125531> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Reconfigurable three-switch leg multi-port boost inverters with novel modulation schemes for hybrid DC/AC microgrid

systems

Reddy, M. Rama Narayana; Reddy, B. Dastagiri; Prabhakaran, Prajof; **Chub, Andrii**; Kouro, Samir IEEE Access 2025 / p. 77124-77146 <https://doi.org/10.1109/ACCESS.2025.3565791> <https://ieeexplore.ieee.org/document/10980297>

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 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 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 the universal power electronic interface converter for PV applications

Khan, Salman; Chub, Andrii; Vinnikov, Dmitri; Kasper, Matthias; Deboy, Gerald 2024 IEEE 21st International Power Electronics and Motion Control Conference (PEMC) 2024 / 8 p <https://doi.org/10.1109/PEMC61721.2024.10726360>

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>

Reliability study of input side capacitors in impedance-source PV microconverters

Liivik, Elizaveta; Vinnikov, Dmitri; Chub, Andrii; Shen, Yanfeng IECON 2019 - 45th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2019 / p. 5026–5032 : ill <https://doi.org/10.1109/IECON.2019.8927173> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Research, design and implementation of galvanically isolated impedance-source DC-DC converters = Galvaaniliselt isoleeritud impedantsallikaga alalispingemuundurite uurimine, süntees ja rakendamine

Chub, Andrii 2016 <http://digi.lib.ttu.ee/ii/?6209> https://www.ester.ee/record=b4601191*est

Resonant DC transformer for grid-interactive energy efficient buildings

Carvalho da Silva, Edivan Laercio; Blinov, Andrei; Chub, Andrii; Rathore, Akshay Kumar; **Vinnikov, Dmitri** 2024 IEEE 18th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2024 / 6 p <https://doi.org/10.1109/CPE-POWERENG60842.2024.10604353>

Reverse power flow control possibilities of galvanically isolated impedance-source DC-DC converters

Chub, Andrii; Vinnikov, Dmitri; Liivik, Elizaveta 2017 11th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG 2017) : Cadiz, Spain, 4-6 April 2017 2017 / p. 522-527 : ill <https://doi.org/10.1109/CPE.2017.7915226>

A review of communication protocols and control strategies in DC microgrids : an experimental validation focus

Veliz, Antonio; Riffo, Sebastian; Restrepo, Carlos; Rivera, Marco; Garces-Ruiz, Alejandro; **Chub, Andrii**; Gonzalez-Castano, Catalina; Flores-Bahamonde, Freddy 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 6 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227442>

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](#)

Review of isolated matrix inverters : topologies, modulation methods and applications

Korkh, Oleksandr; Blinov, Andrei; Vinnikov, Dmitri; Chub, Andrii Energies 2020 / art. 2394, 30 p. : ill <https://doi.org/10.3390/en13092394> [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](#)

SEPIC-based modular DC/DC converter

Chub, Andrii 14th International Symposium "Topical problems in the field of electrical and power engineering. Doctoral school of energy and geotechnology. II" : Pärnu, Estonia, January 13-18, 2014 2014 / p. 53-55 : ill

Series buck-boost partial power converter based on the push-pull converter

Abdelrahim Abdelghafour, Omar Mohamed; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri IECON 2022 : 48th Annual Conference of the IEEE Industrial Electronics Society : 17-20 Oct. 2022 2022 / code. 184962 <https://doi.org/10.1109/IECON49645.2022.9968574> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

A series partial power converter based on dual active bridge converter for residential battery energy storage system

Hassanpour, Naser; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri; Abdelrahim Abdelghafour, Omar Mohamed 2021 IEEE 62nd International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), 15-17 Nov. 2021 : conference proceedings 2021 / p. 1-6 : ill <https://doi.org/10.1109/RTUCON53541.2021.9711725>

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>

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 photovoltaic microinverter with time adaptive seamless P-V curve sweep MPPT [Electronic resource]

Vinnikov, Dmitri; Kosenko, Roman; Chub, Andrii; Liivik, Elizaveta 19th European Conference on Power Electronics and Application : EPE'17 ECCE Europe : September 11-14, 2017, Warsaw, Poland 2017 / p. P1-P7 : ill. [USB] <https://doi.org/10.23919/EPE17ECCEEurope.2017.8099366>

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>

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](#)

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>

Simulation study of nonlinear PI-controller with quasi-Z-source derived push-pull converter

Chub, Andrii; Husev, Oleksandr; Vinnikov, Dmitri Scientific Journal of Riga Technical University. Electrical, control and communication engineering 2013 / p. 26-31 : ill

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](#)

Single-phase string solar qZS-based inverter: example of multi-objective optimization design

Husev, Oleksandr; Vinnikov, Dmitri; Roncero-Clemente, Carlos; Chub, Andrii; Romero-Cadaval, Enrique IEEE transactions on

industry applications 2021 / p. 3120-3130 : ill <https://doi.org/10.1109/TIA.2020.3034292> [Journal metrics at Scopus](#) [Article at Scopus](#)
[Journal metrics at WOS](#) [Article at WOS](#)

Single-stage series-connected isolated converters for MVAC to DC applications

Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri; Bayhan, Sertac Workshop on Smart Grid and Renewable Energy (SGRE) 2022 / 4 p <https://doi.org/10.1109/SGRE53517.2022.9774185>

Single-switch galvanically isolated quasi-Z-source DC-DC converter

Chub, Andrii; Vinnikov, Dmitri 2015 IEEE 5th International Conference on Power Engineering, Energy and Electrical Drives (POWERENG) : proceedings : May 11-13, 2015, Riga, Latvia 2015 / p. 582-586 : ill <http://dx.doi.org/10.1109/PowerEng.2015.7266381>

Single-switch galvanically isolated step-up DC-DC converter for residential photovoltaic applications [Online resource]

Vinnikov, Dmitri; Chub, Andrii; Liivik, Elizaveta Proceedings of the IECON2016 - 42nd Annual Conference of the Industrial Electronics Society : Florence (Italy), October 24-27, 2016 2016 / p. 6578-6582 : ill <https://doi.org/10.1109/IECON.2016.7793776>
[Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Single-switch impedance-source galvanically isolated DC-DC converter with combined energy transfer

Chub, Andrii; Vinnikov, Dmitri; Babaei, Ebrahim; **Liivik, Elizaveta; Korkh, Oleksandr;** Kouro, Samir 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.2018.8659851>

Sliding mode based control of dual boost inverter for grid connection

Lopez-Caiza, Diana; Flores-Bahamonde, Freddy; Kouro, Samir; Santana, Victor; Müller, Nicolas; **Chub, Andrii** Energies 2019 / art. 4241, 15 p.: ill <https://doi.org/10.3390/en1224241> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Smart transformer universal operation

Ko, Youngjong; **Chub, Andrii;** Costa, Levy; Andresen, Markus; Liserre, Marco 2018 IEEE Applied Power Electronics Conference and Exposition (APEC 2018), San Antonio, Texas, USA, 4-8 March 2018 2018 / p. 1609-1616 : ill <https://doi.org/10.1109/APEC.2018.8341232>

Snubberless boost full-bridge converters: analysis of soft switching performance and limitations

Blinov, Andrei; Kosenko, Roman; Chub, Andrii; Vinnikov, Dmitri International journal of circuit theory and applications 2019 / p. 1-25 : ill <https://doi.org/10.1002/cta.2626> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Soft start and protection of bidirectional buck-boost partial power converter

Hassanpour, Naser; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri 3rd International Conference on Smart Grid and Renewable Energy (SGRE) 2022 / p. 1-6 <https://doi.org/10.1109/SGRE53517.2022.9774133>

Soft switching bidirectional step-up/down partial power converter with reduced components stress

Hassanpour, Naser; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri IEEE transactions on power electronics 2023 / p. 14166-14177 <https://doi.org/10.1109/TPEL.2023.3289061> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Soft-start procedure for DC microgrid fed by PWM-controlled DAB converter

Carvalho, Edivan Laercio; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri 2025 IEEE 19th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2025 / 6 p <https://doi.org/10.1109/CPE-POWERENG63314.2025.11027167>

Solar optiverter - a novel hybrid approach to the photovoltaic module level power electronics

Vinnikov, Dmitri; Chub, Andrii; Kosenko, Roman; **Korkh, Oleksandr** IEEE transactions on industrial electronics 2019 / p. 3869-3880 <https://doi.org/10.1109/TIE.2018.2850036> [Tehnikaülikooli seade muudab päikesepaneelid märgatavalt tootlikumaks](#) [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Solar PV Generation and Consumption Dataset of an Estonian Residential Dwelling

Hasan, Sayeed; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri Scientific Data 2025 / art. 481 <https://doi.org/10.1038/s41597-025-04747-w>

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](#)

Startup implementation in universal power electronics interface with dual-standard output for DC microgrid applications

Chauhan, Sachin; Khan, Salman; Chub, Andrii; Vinnikov, Dmitri; Wunder, Bernd; Flores-Bahamonde, Freddy 2025 IEEE 19th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2025 / 6 p <https://doi.org/10.1109/CPE-POWERENG63314.2025.11027310>

State-of-the-art review of Z-source and quasi-Z-source DC/DC converter topologies

Chub, Andrii; Husev, Oleksandr; Ivanets, Sergii 13th International Symposium "Topical Problems in the Field of Electrical and Power Engineering." Doctoral School of Energy and Geotechnology II : Pärnu, Estonia, January 14-19, 2013 / p. 68-75 : ill

Steady-state analysis of qZS-derived push-pull DC/DC converter with wide input voltage regulation range [Electronic resource]

Husev, Oleksandr; Blinov, Andrei; Vinnikov, Dmitri; Chub, Andrii CPE 2013 : 2013 International Conference on Compatibility and Power Electronics (CPE) : June 5-7, 2013, Ljubljana, Slovenia : conference proceedings 2013 / p. 320-325 : ill [CD-ROM]

Step-up current-source partial power converter for PV systems

Abdelrahim Abdelghafour, Omar Mohamed; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri; Hassanpour, Naser IEEE 13th International Symposium on Power Electronics for Distributed Generation Systems (PEDG) 2022 / 6 l.

<https://doi.org/10.1109/PEDG54999.2022.9923250>

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>

Step-up/down partial power converter with enhanced MPPT efficiency around zero partiality

Yadav, Neelesh; Chub, Andrii; Hassanpour, Naser; Blinov, Andrei; Vinnikov, Dmitri 2023 IEEE 64th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), Riga, Latvia, October 9-10, 2023 :

conference proceedings 2023 / 6 p <https://doi.org/10.1109/RTUCON60080.2023.10412980>

Study of battery energy storage operation in droop-controlled residential DC nanogrid

Hasan, Sayeed; Chub, Andrii; Vinnikov, Dmitri; Blinov, Andrei 2024 IEEE 18th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2024 / 5 p <https://doi.org/10.1109/CPE-POWERENG60842.2024.10604364>

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>

Study on power losses of the full soft-switching current-fed DC/DC converter with Si and GaN devices

Chub, Andrii; Rabkowski, Jacek; Blinov, Andrei; Vinnikov, Dmitri IECON 2015 - Yokohama : 41st Annual Conference of the IEEE Industrial Electronics Society : November 9-12, 2015, Pacifico Yokohama, Yokohama, Japan 2015 / p. 13-18

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](#)

Switched-capacitor current-fed quasi-Z-source inverter

Chub, Andrii; Husev, Oleksandr; Zakis, Janis; Rabkowski, Jacek BEC 2014 : 2014 14th Biennial Baltic Electronics Conference : proceedings of the 14th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 6-8, 2014, Tallinn, Estonia 2014 / p. 229-232 : ill

Zero-current switching impedance-source DC-DC converter

Korkh, Oleksandr; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri IECON 2019 - 45th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2019 / p. 5051-5056 <https://doi.org/10.1109/IECON.2019.8927614> [Conference proceedings at Scopus](#) [Article at Scopus](#) [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>

Zero-voltage switching galvanically isolated current-fed full-bridge DC-DC converter

Chub, Andrii; Kosenko, Roman; Blinov, Andrei 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. 455-459 : ill <https://doi.org/10.1109/CPE.2016.7544231>

Three-mode reconfigurable rectifier for DC-DC converters with wide input voltage range

Chub, Andrii; Vinnikov, Dmitri; Kouro, Samir; Malinowski, Mariusz IECON 2019 - 45th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2019 / p. 4429-4435 <https://doi.org/10.1109/IECON.2019.8926994> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Three-phase bidirectional isolated AC-DC matrix-converter with full soft-switching range

Carvalho da Silva, Edivan Laercio; Blinov, Andrei; Emiliani, Pietro; Chub, Andrii; Vinnikov, Dmitri IEEE Access 2023 / p. 119270-119283 <https://doi.org/10.1109/ACCESS.2023.3327224> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A three-phase full soft-switching current-fed naturally clamped DC-DC converter for high-power energy storage applications

Chub, Andrii; Kosenko, Roman; Blinov, Andrei 2016 2nd International Conference on Intelligent Energy and Power Systems (IEPS) : Kyiv, Ukraine, June 7-11, 2016 : conference proceedings 2016 / [5] p. : ill <https://doi.org/10.1109/IEPS.2016.7521884>

A three-phase full soft-switching current-fed naturally clamped DC-DC converter for high-power fuel cell applications

Kosenko, Roman; Chub, Andrii; Blinov, Andrei 2016 2nd International Conference on Intelligent Energy and Power Systems (IEPS) : Kyiv, Ukraine, June 7-11, 2016 : conference proceedings 2016 / [5] p. : ill <https://doi.org/10.1109/IEPS.2016.7521882>

Three-port current fed push/pull partial power converter for integration of PV/battery systems in DC microgrids

Yadav, Neelesh; Chub, Andrii; Kütt, Lauri 2024 19th Biennial Baltic Electronics Conference (BEC) 2024 / 6 p <https://doi.org/10.1109/BEC61458.2024.10737934> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Three-port flyback converter for photovoltaic module integration in bipolar DC microgrids

Chub, Andrii; Zinchenko, Denys; Vinnikov, Dmitri; Blinov, Andrei 2020 IEEE International Conference on Industrial Technology, Buenos Aires Institute of Technology (ITBA) Buenos Aires, Argentina, 26-28 February, 2020 : proceedings 2020 / p. 909-914 <https://doi.org/10.1109/ICIT45562.2020.9067237> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

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>

A topology morphing partial power converter with variable turns ratio for integration of on-board battery chargers with DC buildings

Martins, Mario Lucio da Silva; Dos Santos, Niwton Gabriel Feliciani; **Chub, Andrii** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144713>

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](#)

Ultra-High gain modified SCLN based DC-DC converter with reduced device current stress

Sahoo, Gyana Manjari; Banavath, Satish Naik; Chub, Andrii; Vinnikov, Dmitri 2022 IEEE 63th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON): conference proceedings 2022 <https://doi.org/10.1109/RTUCON56726.2022.9978808>

Ultrawide voltage gain range microconverter for integration of silicon and thin-film photovoltaic modules in DC microgrids

Chub, Andrii; Vinnikov, Dmitri; Korkh, Oleksandr; Malinowski, Mariusz; Kouro, Samir IEEE transactions on power electronics 2021 / p. 13763-13778 <https://doi.org/10.1109/TPEL.2021.3084918> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Universal galvanically isolated DC-DC converters with topology morphing control = Universaalsed topoloogiat muutva juhtimisega galvaaniliselt isoleeritud alalispingemuundurid

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

Using electric vehicles to enhance power supply resilience of buildings during emergencies and critical situations

Carvalho da Silva, Edivan Laercio; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri; Kyselova, Anna 2024 IEEE 65th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) 2024 / 6 p <https://doi.org/10.1109/RTUCON62997.2024.10830812>

Utility-scale energy storage systems : a comprehensive review of their applications, challenges, and future directions

Luo, Wensheng; Stynski, Sebastian; **Chub, Andrii**; Franquelo, Leopoldo G.; Malinowski, Mariusz; **Vinnikov, Dmitri** IEEE industrial electronics magazine 2021 / p. 17-27 <https://doi.org/10.1109/MIE.2020.3026169> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Utility-scale energy storage systems : converters and control

Stynski, Sebastian; Luo, Wensheng; **Chub, Andrii**; **Vinnikov, Dmitri** IEEE industrial electronics magazine 2020 / p. 32-52 <https://doi.org/10.1109/MIE.2020.3011655> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Uudne tehnoloogia päikeseenergiahoonetele

Chub, Andrii Ehitaja 2022 / lk. 22-23 : fot https://www.ester.ee/record=b1072123*est <https://taltech.ee/uudised/jouelektronika-teadustoo-viljad-edendavad-paikeseenergia-tehnoloogiat>

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>

Versatile power electronic building block for residential DC microgrids

Vinnikov, Dmitri; **Chub, Andrii**; **Kosenko, Roman**; **Liivik, Elizaveta** 2018 International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM 2018) : Amalfi, Italy, 20-22 June 2018 2018 / p. 735-741 : ill <https://doi.org/10.1109/SPEEDAM.2018.8445317>

Wide input voltage range high step-up DC-DC converter with fault-tolerant operation capability

Vinnikov, Dmitri; **Chub, Andrii**; **Korkh, Oleksandr**; Kouro, Samir 2019 IEEE International Conference on Industrial Technology, ICIT 2019 : Melbourne, Australia, 13-15 February 2019 : proceedings 2019 / p. 1099-1104 : ill <https://doi.org/10.1109/ICIT.2019.8755040> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

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 input voltage range photovoltaic microconverter with reconfigurable buck-boost switching stage

Chub, Andrii; **Vinnikov, Dmitri**; **Kosenko, Roman**; **Liivik, Elizaveta** IEEE transactions on industrial electronics 2017 / p. 5974-5983 : ill <https://doi.org/10.1109/TIE.2016.2645891> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Wide output voltage range isolated buck-boost PFC converter with reconfigurable rectifier

Verbytskyi, Ievgen; **Nadeem, Mohammad Mahad**; **Blinov, Andrei**; **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-POWERENG58103.2023.10227389>

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](#)

Wide voltage gain current-fed isolated buck-boost series-resonant DC-DC converter with active clamp for DC microgrid applications

Khan, Salman; **Chub, Andrii**; **Vinnikov, Dmitri**; **Kasper, Matthias**; **Deboy, Gerald**; **Sachin, Chauhan** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <https://doi.org/10.1109/ICDCM63994.2025.11144687> <https://ieeexplore.ieee.org/document/11144687>

Wide-range operation of high step-up DC-DC converters with multimode rectifiers

Chub, Andrii; **Vinnikov, Dmitri**; **Korkh, Oleksandr**; **Jalakas, Tanel**; **Demidova, Galina** Electronics 2021 / art. 914, 20 p. : ill <https://doi.org/10.3390/electronics10080914> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Wide-range universal isolated DC-DC converter for EV charging applications

Blinov, Andrei; **Chub, Andrii**; **Vinnikov, Dmitri** IECON Proceedings (Industrial Electronics Conference) IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2024 / 5 p <https://doi.org/10.1109/IECON55916.2024.10905692> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Wind energy systems [Online resource]

Malinowski, Mariusz; Milczarek, Adam; **Vinnikov, Dmitri**; **Chub, Andrii** Power electronic converters and systems : frontiers and

applications 2016 / p. 351-394 : ill http://dx.doi.org/10.1049/PBPO074E_ch12 http://www.estee.ee/record=b4556286*est

Voltage distortion approach for output filter design for off-grid and grid-connected PWM inverters

Husev, Oleksandr; Chub, Andrii; Romero-Cadaval, Enrique; Roncero-Clemente, Carlos; **Vinnikov, Dmitri** Journal of power electronics 2015 / p. 278-287 : ill <https://doi.org/10.6113/JPE.2015.15.1.278> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Voltage gain extension techniques for high step-up galvanically isolated DC-DC converters

Vinnikov, Dmitri; Chub, Andrii; Korkh, Oleksandr; Liivik, Elizaveta; Blinov, Andrei 2020 IEEE International Conference on Industrial Technology, Buenos Aires Institute of Technology (ITBA) Buenos Aires, Argentina, 26-28 February, 2020 : proceedings 2020 / p. 1021-1027 : ill <https://doi.org/10.1109/ICIT45562.2020.9067115> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Классификация изолированных DC/DC квази-импедансных преобразователей

Chub, Andrii; Husev, Oleksandr; Vinnikov, Dmitri Вісник Національного Технічного Університету "ХПИ" 2013 / с. 15-21 : ил

Модель двухтактного квази-импедансного преобразователя для малого сигнала

Chub, Andrii Энергосбережение, энергетика, энергоаудит = Energy saving, power engineering, energy audit 2013 / с. 12-19 : ил

Модель двухтактного квази-импедансного преобразователя для малого сигнала [Компьют. файл]

Chub, Andrii Международная Научно-Техническая Конференция "Силовая Электроника и Энергоэффективность" : 23-27.IX 2013, Алушта, Крым 2013 / [3] с. : ил [CD-ROM]

Об экспериментальных испытаниях двухтактного квази-импедансного преобразователя постоянного напряжения с полупроводниковыми элементами на основе карбида кремния

Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri; Husev, Oleksandr Энергосбережение, энергетика, энергоаудит = Energy saving, power engineering, energy audit 2013 / с.51-58 : ил

Об экспериментальных испытаниях двухтактного квази-импедансного преобразователя постоянного напряжения с полупроводниковыми элементами на основе карбида кремния [Компьют. файл]

Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri; Husev, Oleksandr Международная Научно-Техническая Конференция "Силовая Электроника и Энергоэффективность" : 23-27.IX 2013, Алушта, Крым 2013 / [2] с. : ил [CD-ROM]

Обратимый двухзвенный преобразователь постоянного напряжения с разделенной коммутацией и с неизменным знаком входного и выходного напряжения

Ивахно, В.; Замаруев, В.; Стысю, Б.; **Vinnikov, Dmitri; Chub, Andrii; Kosenko, Roman** Вісник Національного Технічного Університету "ХПИ" 2015 / с. 402-407 : ил

Порівняння імпедансних ланок для перетворювачів з джерелом напруги

Husev, Oleksandr; Chub, Andrii; Vinnikov, Dmitri Технічна електродинаміка 2015 / с. 25-32 : іл <https://techne.org.ua/index.php/techne/article/view/926/803> [Journal metrics at Scopus](#) [Article at Scopus](#)