

A simple modular active power electronic transformer

Roasto, Indrek; Strzelecki, Ryszard Proceedings : 2014 IEEE 23rd International Symposium on Industrial Electronics (ISIE) : Grand Cevahir Hotel and Convention Center, Istanbul, Turkey, 01-04 June, 2014 / p. 1976-1980 : ill

Analysis and static mode optimization of simultaneous inductive and capacitive coupled wireless power transfer system

Shevchenko, Viktor; Pakhaliuk, Bohdan; **Husev, Oleksandr**; **Vinnikov, Dmitri**; Strzelecki, Ryszard; Khomenko, Maksym 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 / 5 p <https://doi.org/10.1109/RTUCON60080.2023.10413112>

Analytical comparison between capacitor assisted and diode assisted cascaded quasi-Z-source inverters

Vinnikov, Dmitri; **Roasto, Indrek**; **Jalakas, Tanel**; Strzelecki, Ryszard; Adamowicz, Marek Przegląd elektrotechniczny = Electrical review 2012 / p. 212-217 : ill
https://www.researchgate.net/publication/290652933_Analytical_comparison_between_capacitor_assisted_and_diode_assisted_cascaded_quasi-Z-source_inverters

Application of ultracapacitors in low-voltage power supply systems of light rail vehicles

Hõimoja, Hardi; **Vinnikov, Dmitri**; Strzelecki, Ryszard The 2009 World Congress on Electronics and Electrical Engineering : WCEEENG'09 : April 6-9, 2009, Cairo, Egypt 2009 / [5] p

Automatic position detection and transmitting activation of dynamic wireless power transfer system with air capacitor

Pakhaliuk, Bohdan; **Husev, Oleksandr**; **Shevchenko, Viktor**; Kroics, Kaspars; Stepins, Deniss; Strzelecki, Ryszard Wireless Power Week (WPW) : Proceedings 2022 / p. 487-491 <https://doi.org/10.1109/WPW54272.2022.9853972>

Battery technologies in electric vehicles : improvements in electric battery packs

Mohseni, Parham; **Husev, Oleksandr**; **Vinnikov, Dmitri**; Strzelecki, Ryszard; Romero-Cadaval, Enrique; Tokarski, Igor IEEE industrial electronics magazine 2023 / p. 55-65 <https://doi.org/10.1109/MIE.2023.3252265> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cascaded quasi-Z-source inverters for renewable energy generation systems

Adamowicz, Marek; Strzelecki, Ryszard; **Vinnikov, Dmitri** Proceedings of 5th International Conference and Exhibition on Ecological Vehicles and Renewable Energies : March 25-28, 2010, Grimaldi Forum, Monaco 2010 / [8] p

CCM and DCM operation analysis of cascaded quasi-z-source inverter

Vinnikov, Dmitri; **Roasto, Indrek**; Strzelecki, Ryszard; Adamowicz, Marek Proceedings of IEEE International Symposium on Industrial Electronics : ISIE'2011 : 27-30 June 2011, Gdansk, Poland 2011 / p. 159-164 : ill

Comparative evaluation of multicoil inductive power transfer approaches based on Z-source network

Pakhaliuk, Bohdan; **Husev, Oleksandr**; Strzelecki, Ryszard; Shevchenko, Viktor; Maksym, Khomenko 2019 IEEE 2nd Ukraine Conference on Electrical and Computer Engineering (UKRCON) 2019 / 5 p <https://doi.org/10.1109/UKRCON.2019.8880002>

Comparison of 2- and 3-level Half-Bridge DC/DC converters for high-voltage high-power applications

Vinnikov, Dmitri; Strzelecki, Ryszard Przegląd elektrotechniczny = Electrical review 2009 / 10, p. 217-221
https://www.researchgate.net/publication/283654804_Comparison_of_2-and_3-level_half-bridge_DCDC_converters_for_high-voltage_high-power_applications

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

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

Comparison of three-phase isolated DC/DC converters with Z- and quasi-Z-source inverters

Egorov, Mikhail; **Vinnikov, Dmitri**; Strzelecki, Ryszard; Adamowicz, Marek 7th International Symposium "Topical Problems in the Field of Electrical and Power Engineering" : Doctoral School of Energy and Geotechnology. II : [Narva-Jõesuu, Estonia, 16.06-19.06.2009] 2009 / p. 9-14 : ill

Compensation topologies in IPT Systems : standards, requirements, classification, analysis, comparison and application

Shevchenko, Viktor; **Husev, Oleksandr**; Strzelecki, Ryszard IEEE Access 2019 / art. 2937891, p. 120559-120580 : ill
<https://doi.org/10.1109/ACCESS.2019.2937891> [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>

Concept of wireless low-voltage DC socket for the residential house application

Shevchenko, Viktor; **Husev, Oleksandr**; **Pakhaliuk, Bohdan**; **Vinnikov, Dmitri**; Strzelecki, Ryszard IEEE Access 2024 / p.

Cost-effective piggyback forward dc-dc converter

Matiushkin, Oleksandr; Husev, Oleksandr; Afshari, Hossein; Vinnikov, Dmitri; Strzelecki, Ryszard 2024 IEEE Applied Power Electronics Conference and Exposition (APEC) 2024 / p. 2106-2111 <https://doi.org/10.1109/APEC48139.2024.10509355> Conference proceedings at Scopus Article at Scopus Article at WOS

Dc leakage current in isolated grid-connected dc nanogrid - origins and elimination methods

Azizi, Mohammadreza; **Husev, Oleksandr**; Veligorskyi, Oleksandr; Turzvnski, Marek; Strzelecki, Ryszard 2024 IEEE 18th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2024 / 6 p <https://doi.org/10.1109/CPE-POWERENG60842.2024.10604426>

Decentralized control of a UPS systems operating in parallel

Strzelecki, Ryszard; **Vinnikov, Dmitri** BEC 2008 : 2008 International Biennial Baltic Electronics Conference : proceedings of the 11th Biennial Baltic Electronics Conference : Tallinn University of Technology : October 6-8, 2008, Tallinn, Estonia 2008 / p. 297-300 : ill

Design and development of the middle-frequency isolation transformer for the high-voltage DC/DC converter [Electronic resource]

Vinnikov, Dmitri; Lehtla, Tõnu; Strzelecki, Ryszard; **Galkin, Ilja** The 4th International Scientific Conference of The Military Technical College [Korby El-Kobbah, Cairo, Egypt] : 27-29 May 2008. Proceedings of the 6th ICEENG Conference : 27-29 May, 2008 2008 / p. EE045 [CD-ROM] https://iceeng.journals.ekb.eg/article_34344_6860ebd9ad2e69cac2e12bfe8d5546c.pdf

Design and evaluation of a base module of active power electronic transformer

Roasto, Indrek; Minambres-Marcos, Victor; Romero-Cadaval, Enrique; Strzelecki, Ryszard 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. 384-389 : ill <http://dx.doi.org/10.1109/CPE.2015.7231106>

Design and experimental validation of a single-stage PV string inverter with optimal number of interleaved buck-boost cells

Fesenko, Artem; **Matiushkin, Oleksandr; Husev, Oleksandr; Vinnikov, Dmitri**; Strzelecki, Ryszard; Kołodziejek, Piotr Energies 2021 / art. 2448, p., 17 p. : ill <https://doi.org/10.3390/en14092448> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

Design guidelines of new step-up DC/DC converter for fuel cell powered distributed generation systems

Zakis, Janis; Vinnikov, Dmitri; Roasto, Indrek; Strzelecki, Ryszard 8th International Symposium "Topical Problems in the Field of Electrical and Power Engineering" : Doctoral School of Energy and Geotechnology. II : [Pärnu, January 11-16, 2010 : proceedings] 2010 / p. 33-41 : ill

Design of a simple modular active power electronic transformer

Strzelecki, Ryszard; **Roasto, Indrek**; Romero-Cadaval, Enrique Proceedings : IECON 2014 - 40th Annual Conference of the IEEE Industrial Electronics Society : Sheraton Hotel Dallas, Dallas, TX, USA, 30. October-01. November, 2014 2014 / p. 1410-1415 : ill <https://doi.org/10.1109/IECON.2014.7048686> Conference proceedings at Scopus Article at Scopus Article at WOS

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

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

Digital current mode control algorithms for high-power half-bridge DC/DC converters

Roasto, Indrek; Vinnikov, Dmitri; Jalakas, Tanel; Strzelecki, Ryszard Przegląd elektrotechniczny 2011 / p. 180-186 : ill <http://www.red.pe.org.pl/articles/2011/8/36.pdf>

Evaluative analysis of 2- and 3-level DC/DC converters for high-voltage high-power applications [Electronic resource]

Vinnikov, Dmitri; Egorov, Mikhail; Strzelecki, Ryszard 6th International Conference-Workshop Compatibility and Power Electronics : May 20-22, 2009 : CPE 2009 : conference proceedings 2009 / p. 432-437 [CD-ROM]

Experimental Investigation of high frequency 3L-NPC qZS inverter for photovoltaic application

Husev, Oleksandr; Stepenko, Serhii; Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; Strzelecki, Ryszard Proceedings : IECON 2013 - 39th Annual Conference of the IEEE Industrial Electronics Society : Austria Center Vienna, Vienna, Austria, 10-14 November, 2013 2013 / p. 5969-5974 : ill <https://doi.org/10.1109/IECON.2013.6700114> Conference Proceedings at Scopus Article at Scopus

Experimental study of voltage-fed quasi-z-source inverter based isolated DC/DC converter

Vinnikov, Dmitri; Roasto, Indrek; Strzelecki, Ryszard Electrical engineering research report 2009 / [7] p

Feasibility study GaN transistors application in the novel split-coils inductive power transfer system with T-Type inverter
Shevchenko, Viktor; Pakhaliuk, Bohdan; **Husev, Oleksandr**; Veligorskyi, Oleksandr; Stepins, Deniss; Strzelecki, Ryszard Energies 2020 / art. 4535, 16 p. : ill <https://doi.org/10.3390/en13174535> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Feasibility study GaN transistors application in the novel split-coils inductive power transfer system with T-type inverter
Shevchenko, Viktor; Pakhaliuk, Bohdan; **Husev, Oleksandr**; Veligorskyi, Oleksandr; Stepins, Deniss; Strzelecki, Ryszard Industrial and Technological Applications of Power Electronics Systems 2021 / p. 315-330 <https://doi.org/10.3390/en13174535>

Feasibility study of inductor coupling in three-level neutral-point-clamped quasi-Z-source DC/AC converter
Zakis, Janis; Husev, Oleksandr; Strzelecki, Ryszard PQ2014 : the 9th International 2014 Electric Power Quality and Supply Reliability Conference (PQ) : June 11-13, 2014, Rakvere, Estonia : proceedings 2014 / p. 273-276 : ill

Feasibility study of three-phase modular converter for dual-purpose application in DC and AC microgrids
Roncero-Clemente, Carlos; **Husev, Oleksandr**; **Matiushkin, Oleksandr**; Gutierrez-Escalona, Javier; Barrero-Gonzalez, Fermin; **Vinnikov, Dmitri**; Strzelecki, Ryszard IEEE journal of emerging and selected topics in power electronics 2024 / p. 1348-1358 <https://doi.org/10.1109/JESTPE.2023.3247960>

Four level inverter's DC bus voltage balancing with 3-Terminal DAB converter
Grabarek, Maciej; Strzelecki, Ryszard; Tomasov, Valentin S.; **Vinnikov, Dmitri** 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. 396-401 : ill <https://doi.org/10.1109/CPE.2016.7544221>

Grid-forming operation of energy-router based on model predictive control with improved dynamic performance
Najafzadeh, Mahdiyyeh; Strzelecka, Natalia; **Husev, Oleksandr**; **Roasto, Indrek**; Nassereddine, Kawsar; **Vinnikov, Dmitri**; Strzelecki, Ryszard Energies 2022 / 14 p. : ill <https://doi.org/10.3390/en15114010> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Impedance-source inverter-based high-power DC/DC converter for fuel cell applications
Egorov, Mikhail; Vinnikov, Dmitri; Strzelecki, Ryszard; Adamowicz, Marek 8 IEEEIC International Conference on Environment and Electrical Engineering : Karpacz, Poland, 10-13.May 2009 2009 / p. 57-60 : ill <http://eeeic.org/proc/papers/109.pdf>

Induction generator with direct control and a limited number of measurements on the side of the converter connected to the power grid
Kasproicz, Andrzej Bogdan; **Husev, Oleksandr**; Strzelecki, Ryszard Energies 2023 / art. 63, 23 p. : ill <https://doi.org/10.3390/en16010063> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Inductive bifilar coil based wireless charging system for autonomous electric boat
Pakhaliuk, Bohdan; **Husev, Oleksandr**; **Shevchenko, Viktor**; Kroics, Kaspars; Stepins, Deniss; Strzelecki, Ryszard IEEE 31st International Symposium on Industrial Electronics (ISIE) 2022 / p. 758-761 <https://doi.org/10.1109/ISIE51582.2022.9831731>

Industrial and technological applications of power electronics systems
2021 <https://doi.org/10.3390/books978-3-0365-0823-8>

Modified inductive multi-coil wireless power transfer approach based on Z-source network
Pakhaliuk, Bohdan; **Husev, Oleksandr**; Shevchenko, Viktor; Zakis, Janis; Khomenko, Maksym; Strzelecki, Ryszard IEEE journal of emerging and selected topics in power electronics 2021 / p. 4906-4917: ill <https://doi.org/10.1109/JESTPE.2020.3041565> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

MPPT and GMPPT Implementation for Buck-Boost Mode Control of quasi-Z-Source Inverter
Husev, Oleksandr; Vinnikov, Dmitri; Roncero-Clemente, Carlos; Blaabjerg, Frede; Strzelecki, Ryszard IEEE transactions on industrial electronics 2022 / p. 11348 - 11358 <https://doi.org/10.1109/TIE.2021.3125658> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

New high-gain step-up DC/DC converter with high-frequency isolation
Vinnikov, Dmitri; Zakis, Janis; Husev, Oleksandr; Strzelecki, Ryszard 2012 Twenty-Seventh Annual IEEE Applied Power Electronics Conference and Exposition (APEC), Orlando (FL), USA, 5-9 Feb. 2012 2012 / p. 1204-1209 : ill <https://ieeexplore.ieee.org/document/6165972>

New step-up DC/DC converter for fuel cell powered distributed generation systems: some design guidelines
Vinnikov, Dmitri; Strzelecki, Ryszard; Zakis, Janis; **Roasto, Indrek** Przegląd elektrotechniczny 2010 / 8, p. 245-252 <https://www.semanticscholar.org/paper/New-Step-Up-DC-DC-Converter-for-Fuel-Cell-Powered-Vinnikov-Roasto/00d1f7e78e0fe0d6e2a114c0515e6eb5eb196f4e>

Novel family of modified qZS buck-boost multilevel inverters with reduced switch count
Husev, Oleksandr; Strzelecki, Ryszard; **Blaabjerg, Frede**; Chopyk, Vasilii; **Vinnikov, Dmitri** 2015 9th International Conference on Compatibility and Power Electronics (CPE) : proceedings : Faculty of Science and Technology (FCT), Caparica, Lisbon, Portugal,

Novel family of single-phase modified impedance-source buck-boost multilevel inverters with reduced switch count
Husev, Oleksandr; Strzelecki, Ryszard; Blaabjerg, Frede; Chopyk, Vasily; **Vinnikov, Dmitri** IEEE transactions on power electronics 2016 / p. 7580-7591 : ill <https://doi.org/10.1109/TPEL.2016.2569535> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Novel single-stage buck-boost inverter with unfolding circuit

Matiushkin, Oleksandr; **Husev, Oleksandr**; Strzelecki, Ryszard; Ivanets, Sergey; Fesenko, Artem 2017 IEEE First Ukraine Conference on Electrical and Computer Engineering (UKRCON) : May 29 - June 2, 2017, Kyiv, Ukraine : conference proceedings 2017 / p. 538-543 : ill <https://doi.org/10.1109/UKRCON.2017.8100298>

Optimal rotating receiver angles estimation for multicoil dynamic wireless power transfer

Pakhaliuk, Bohdan; Shevchenko, Viktor; Mućko, Jan; **Husev, Oleksandr**; Lukianov, Mykola; Kołodziejek, Piotr; Strzelecka, Natalia; Strzelecki, Ryszard Energies 2021 / art. 6144, 15 p. : ill <https://doi.org/10.3390/en14196144> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Performance improvement method for the voltage-fed qZSI with continuous input current

Vinnikov, Dmitri; Roasto, Indrek; Strzelecki, Ryszard; Adamowicz, Marek MELECON 2010 : the 15th IEEE Mediterranean Electrotechnical Conference : 25th-28th April 2010, Malta : book of abstracts 2010 / p. 135 <https://ieeexplore.ieee.org/document/5476229>

Power converter solutions for industrial PV applications — a review

Verbytskyi, Ievgen; Lukianov, Mykola; Nassereddine, Kawsar; Pakhaliuk, Bohdan; **Husev, Oleksandr**; Strzelecki, Ryszard Energies 2022 / art. 3295 <https://doi.org/10.3390/en15093295> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Preface to "Industrial and Technological Applications of Power Electronics Systems"

Strzelecki, Ryszard; Demidova, Galina; **Vinnikov, Dmitri** Industrial and Technological Applications of Power Electronics Systems 2021 / p. ix <https://doi.org/10.3390/books978-3-0365-0823-8>

Single-phase power electronics transformer with active functions for smart grid

Minambres-Marcos, Victor; Roasto, Indrek; Romero-Cadaval, Enrique; Strzelecki, Ryszard; Barrero-Gonzalez, Fermin 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. 528-533 : ill <http://dx.doi.org/10.1109/CPE.2015.7231131>

6.5 kV IGBT switch realization possibilities and their feasibility study for high-power applications

Vinnikov, Dmitri; Laugis, Juhan; Strzelecki, Ryszard; Egorov, Mikhail The 4th International Scientific Conference of The Military Technical College [Korby El-Kobbah, Cairo, Egypt] : 27-29 May 2008. Proceedings of the 6th ICEENG Conference : 27-29 May, 2008 2008 / p. EE051 [CD-ROM] https://iceeng.journals.ekb.eg/article_34406.html

Step-up DC/DC converters with cascaded quasi-Z-source network

Vinnikov, Dmitri; Roasto, Indrek; Strzelecki, Ryszard; Adamowicz, Marek IEEE transactions on industrial electronics 2012 / p. 3727-3736 : ill <https://ieeexplore.ieee.org/document/6096410>

Title: Models of the qZ-Converters

Vinnikov, Dmitri; Strzelecki, Ryszard Przegląd elektrotechniczny 2010 / 6, p. 80-84

Traction powered multiport DC-DC converter for bidirectional EV charging application – HIL simulation results

Lukianov, Mykola; Romero Cadaval, Enrique; **Matiushkin, Oleksandr**; Strzelecki, Ryszard 19th International Conference on Compatibility, Power Electronics and Power Engineering 2025

Two-stage quasi-Z-source network based step-up DC/DC converter

Vinnikov, Dmitri; Roasto, Indrek; Strzelecki, Ryszard; Adamowicz, Marek ISIE 2010 : IEEE International Symposium on Industrial Electronics : Bari, Italy, 4-7 July 2010 2010 / p. 1143-1148 : ill <https://ieeexplore.ieee.org/document/5636562>

Wireless charging station design for electric scooters : case study analysis

Shevchenko, Viktor; Pakhaliuk, Bohdan; Husev, Oleksandr; **Vinnikov, Dmitri**; Strzelecki, Ryszard Energies 2024 / art. 2472 <https://doi.org/10.3390/en17112472> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)