

**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>

**Analysis of cost function composition based on the horizon time prediction of an indirect MPC current control in single-phase grid-connected PV inverters**

**Pimentel, Sergio Pires**; **Husev, Oleksandr**; **Vinnikov, Dmitri**; **Stepenko, Serhii** 2019 IEEE 60th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), 7-9 October 2019 : conference proceedings 2019 / 6 p. : ill <https://doi.org/10.1109/RTUCON48111.2019.8982377>

**Analytical approach for maximizing self-consumption of nearly zero energy buildings- case study : Baltic region**

**Ahmadihangar, Roya**; Karami, Hossein; **Husev, Oleksandr**; **Blinov, Andrei**; **Rosin, Argo**; Jonaitis, Audrius; Sanjari, Mohammad Javad Energy 2022 / art. 121744, 11 p. : ill <https://doi.org/10.1016/j.energy.2021.121744> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Artificial Intelligence in the hierarchical control of ac, dc and hybrid ac/dc microgrids – A review**

Gutiérrez-Escalona, J.; Roncero-Clemente, C.; **Husev, Oleksandr**; **Matiushkin, Oleksandr**; Blaabjerg, Frede IEEE Access 2024 / 20 p <https://doi.org/10.1109/ACCESS.2024.3486382>

**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>

**Back-to-back energy router based on common-ground inverters**

Azizi, Mohammadreza; **Rahimpour, Saeed**; **Husev, Oleksandr**; **Veligorskyi, Oleksandr** 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / p. 1-6 <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227480>

**Battery size optimization with customer PV installations and domestic load profile**

**Shabbir, Noman**; **Kütt, Lauri**; **Astapov, Victor**; Jawad, Muhammad; Allik, Alo; **Husev, Oleksandr** IEEE Access 2022 / p. 13012-13025 : ill <https://doi.org/10.1109/ACCESS.2022.3147977> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**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](#)

**Bidirectional operation of the single-phase neutral-point-clamped quasi-Z-source inverter**

**Husev, Oleksandr**; **Zakis, Janis**; **Vinnikov, Dmitri**; Savenko, O. 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. 221-224 : ill

**Bidirectional twisted single-stage single-phase buck-boost DC-AC converter**

**Husev, Oleksandr**; **Matiushkin, Oleksandr**; Roncero-Clemente, Carlos; **Vinnikov, Dmitri**; Chopyk, Vasilii Energies 2019 / art. 3505, 14 p. : ill <https://doi.org/10.3390/en12183505> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Buck-boost unfolded inverter as a novel solution for single-phase PV systems**

**Husev, Oleksandr**; **Matiushkin, Oleksandr**; **Vinnikov, Dmitri**; Roncero, Carlos; Romero-Cadaval, Enrique; **Kütt, Lauri** IECON 2018 - 44th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2018 / p. 6116-6121 : ill <https://doi.org/10.1109/IECON.2018.8592899>

**Carrier based modulation with capacitor balancing for three-level neutral-point-clamped qZS inverter**

Romero-Cadaval, Enrique; Roncero-Clemente, Carlos; **Husev, Oleksandr**; **Vinnikov, Dmitri** 2015 9th International Conference on Compatibility and Power Electronics (CPE) : proceedings : Faculty of Science and Technology (FCT), Caparica, Lisbon, Portugal, 24-26 June, 2015 2015 / p. 57-62 : ill <http://dx.doi.org/10.1109/CPE.2015.7231049>

**Carrier level-shifted based control method for the PWM 3L-T-Type qZS inverter with capacitor imbalance compensation**

Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; Ruiz-Cortes, Mercedes; **Husev, Oleksandr** IEEE transactions on industrial electronics 2018 / p. 8297-8306 : ill <https://doi.org/10.1109/TIE.2018.2814020> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**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](#)

### **CCM operation analysis of the single-phase three-level quasi-Z-source inverter**

**Husev, Oleksandr**; Roncero-Clemente, Carlos; **Stepenko, Serhii**; **Vinnikov, Dmitri**; Romero-Cadaval, Enrique 15th International Power Electronics and Motion Control Conference, EPE-PEMC 2012 ECCE Europe, Novi Sad, Serbia 2012 / p. DS1b.21-1-DS1b.21-6 : ill <https://ieeexplore.ieee.org/document/6397221>

### **Closed-loop control system design for wireless charging of low-voltage EV batteries with time-delay constraints**

Shevchenko, Viktor; Pakhaliuk, Bohdan; Zakis, Janis; Veligorskyi, Oleksandr; Luszcz, Jaroslaw; **Husev, Oleksandr**; Lytvyn, Oksana; **Matiushkin, Oleksandr** Energies 2021 / art. 3934, 21 p. : ill <https://doi.org/10.3390/en14133934> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Coil design for wireless power transfer with series-parallel compensation**

Shevchenko, Viktor; **Husev, Oleksandr**; Pakhaliuk, Bohdan; Karlov, Olexii; Kondratenko, Igor 2019 IEEE 2nd Ukraine Conference on Electrical and Computer Engineering (UKRCON) 2019 / p. 401-407 <https://doi.org/10.1109/UKRCON.2019.8879877>

### **Common mode voltage reduction and neutral-point voltage balance for quasi-Z-source three-level neutral-point-clamped inverters**

Liu, Wenjie; Yang, Yongheng; Li, Weilin; Zhang, Xiaobin; **Husev, Oleksandr**; **Vinnikov, Dmitri** International Power Electronics Conference (IPEC-Himeji 2022- ECCE Asia) 2022 / p. 934-939 <https://doi.org/10.23919/IPEC-Himeji2022-ECCE53331.2022.9806905>

### **Common-ground energy router structure with enhanced reliability and protection = Ühise nulljuhtmega suurendatud töökindluse ja kaitsega energiaruuter**

**Rahimpour, Saeed** 2024 <https://doi.org/10.23658/taltech.45/2024> [https://www.ester.ee/record=b5694226\\*est](https://www.ester.ee/record=b5694226*est) <https://digikogu.taltech.ee/et/Item/520b18fc-f0a8-4a08-ade8-d3b890d253ff>

### **Comparative analysis of buck-boost inverters based on unfolding circuit versus H5, H6, HERIC topologies**

**Matiushkin, Oleksandr**; **Husev, Oleksandr**; **Vinnikov, Dmitri**; **Vosoughi Kurdkandi, Naser** 2022 International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM) 2022 / p. 547-552 <https://doi.org/10.1109/SPEEDAM53979.2022.9842282>

### **Comparative analysis of high power density bidirectional DC-DC converters for portable energy storage applications**

Tytelmaier, Kostiantyn; Zakis, Janis; **Husev, Oleksandr**; **Vinnikov, Dmitri** Elektronika ir elektrotehnika = Electronics and electrical engineering 2018 / p. 33-41 : ill <https://doi.org/10.5755/j01.eie.24.6.22287> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Comparative analysis of machine learning techniques for non-intrusive load monitoring**

**Shabbir, Noman**; **Vassiljeva, Kristina**; **Hokmabad, Hossein Nouroollahi**; **Husev, Oleksandr**; **Petlenkov, Eduard**; **Belikov, Juri** Electronics 2024 / art. 1420 <https://doi.org/10.3390/electronics13081420> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Comparative analysis of qZS-based bidirectional DC-DC converter for storage energy application**

**Matiushkin, Oleksandr**; **Husev, Oleksandr**; Tytelmaier, Kostiantyn; Kroics, Kaspars; Veligorskyi, Oleksandr; Zakis, Janis Technological Innovation for Smart Systems : 8th IFIP WG 5.5/SOCOLNET Advanced Doctoral Conference on Computing, Electrical and Industrial Systems, DoCEIS 2017, Costa de Caparica, Portugal, May 3-5, 2017 : proceedings 2017 / p. 409-418 [http://dx.doi.org/10.1007/978-3-319-56077-9\\_40](http://dx.doi.org/10.1007/978-3-319-56077-9_40)

### **Comparative evaluation of common-ground converters for dual-purpose application**

**Hemmati Shahsavari, Tala**; **Rahimpour, Saeed**; **Vosoughi Kurdkandi, Naser**; Fesenko, Artem; **Matiushkin, Oleksandr**; **Husev, Oleksandr**; **Vinnikov, Dmitri** Energies 2023 / art. 2977 <https://doi.org/10.3390/en16072977> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Comparative evaluation of dual-purpose converters suitable for application in dc and ac grids**

**Husev, Oleksandr**; **Matiushkin, Oleksandr**; **Jalakas, Tanel**; **Vinnikov, Dmitri**; **Vosoughi Kurdkandi, Naser** IEEE journal of emerging and selected topics in power electronics 2024 / p. 1337-1347 <https://doi.org/10.1109/JESTPE.2023.3243857>

### **Comparative evaluation of isolated dc-dc converters for low power applications**

**Azizi, Mohammadreza**; **Husev, Oleksandr**; **Vinnikov, Dmitri**; Veligorskyi, Oleksandr 2022 IEEE 20th International Power Electronics and Motion Control Conference (PEMC) : Brasov, Romania, 25-28 Sept. 2022 : proceedings 2022 / p. 7-12 <https://doi.org/10.1109/PEMC51159.2022.9962944>

### **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>

### **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.

**Comparative study of the phase-integrated converter as universal power converter**

**Husev, Oleksandr; Matiushkin, Oleksandr; Vinnikov, Dmitri; Vosoughi Kurdkandi, Naser;** Kouro, Samir Annual IEEE Conference on Applied Power Electronics Conference and Exposition (APEC) 2022 / p. 58-63  
<https://doi.org/10.1109/APEC43599.2022.9773553> Conference Proceedings at Scopus Article at Scopus

**A comparison between three-phase conventional two-stage ac-dc and single-stage matrix converter approaches**

**Mohseni, Parham; Emiliani, Pietro; Husev, Oleksandr; Vinnikov, Dmitri; Mackay, Laurens** 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 6 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227438>

**A comparison of a discrete-time PI and an indirect MPC current controllers for a single-phase grid-connected inverter operating with distorted grid and significant computation feedback delay**

**Pimentel, Sergio Pires; Husev, Oleksandr; Vinnikov, Dmitri; Stepenko, Serhii; Kütt, Lauri;** Rodriguez, Jose 2019 IEEE 15th Brazilian Power Electronics Conference and 5th IEEE Southern Power Electronics Conference (COBEP/SPEC) 2019 / 6 p.: ill <https://doi.org/10.1109/COBEP/SPEC44138.2019.9065396>

**Comparison of grid-connected flyback-based microinverter with primary and secondary side decoupling approach**

**Afshari, Hossein; Husev, Oleksandr; Vinnikov, Dmitri; Matiushkin, Oleksandr; Vosoughi Kurdkandi, Naser** 2022 IEEE 63th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCon): conference proceedings 2022 / p. 1-6 <https://doi.org/10.1109/RTUCon56726.2022.9978855>

**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 MPPT algorithms for three-level neutral-point-clamped qZ-Source inverter [Electronic resource]**

Roncero-Clemente, Carlos; **Husev, Oleksandr;** Minambres-Marcos, Victor; **Stepenko, Serhii;** Romero-Cadaval, Enrique; **Vinnikov, Dmitri** CPE 2013 : 2013 International Conference on Compatibility and Power Electronics (CPE) : June 5-7, 2013, Ljubljana, Slovenia : conference proceedings 2013 / p. 80-85 : ill [CD-ROM] <https://ieeexplore.ieee.org/document/6601133>

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

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

**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

**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

**Comprehensive comparison of grid-connected flyback-based microinverter with primary and secondary side decoupling approach**

**Afshari, Hossein; Husev, Oleksandr; Matiushkin, Oleksandr; Pourjafar, Saeed;** Kurdkandi, Naser Vosoughi; **Vinnikov, Dmitri** IEEE transactions on industry applications 2024 / p. 9080-9089 <https://doi.org/10.1109/TIA.2024.3452069>

**Comprehensive comparison of isolated high step-up dc-dc converters for low power application**

**Pourjafar, Saeed; Afshari, Hossein; Mohseni, Parham; Husev, Oleksandr; Matiushkin, Oleksandr; Shabbir, Noman** IEEE open journal of power electronics 2024 / p. 1149–1161 <https://doi.org/10.1109/OJPEL.2024.3433554>

**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. 143226-143236 <https://doi.org/10.1109/ACCESS.2024.3471691>

**Congestion control strategies for increased renewable penetration of photovoltaic in LV distribution networks**

**Shabbir, Noman; Kütt, Lauri; Astapov, Victor; Husev, Oleksandr; Ahmadihangar, Roya; Wen, Fushuan; Kull, Karl** Energy reports 2022 / p. 217-223 <https://doi.org/10.1016/j.egyr.2022.10.184> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

**Control scheme of a Three-Phase Three-Level NPC qZ-Source inverter with LCL filter for RES applications**

Roncero-Sanches, Pedro; Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Husev, Oleksandr; Makovenko, Elena**

Proceedings of the IECON 2016 - 42nd Annual Conference of the IEEE Industrial Electronics Society : Florence, Italy, October 24-27 2016 2016 / p. 6540-6547 <https://doi.org/10.1109/IECON.2016.7793338> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

#### **A control strategy for a grid-connected PV system with unbalanced loads compensation**

Fernao Pires, Vitor; **Husev, Oleksandr**; Vinnikov, Dmitri; Martins, Joao 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. 154-159 : ill <https://doi.org/10.1109/CPE.2015.7231065>

#### **Controller design for interleaved bidirectional dc-dc converter with coupled inductors**

Tytelmaier, Kostiantyn; **Husev, Oleksandr**; Veligorskyi, Oleksandr; Khomenko, Maksym; Khomenko, Oleh 2017 IEEE First Ukraine Conference on Electrical and Computer Engineering (UKRCON) : May 29 - June 2, 2017, Kyiv, Ukraine : conference proceedings 2017 / p. 570-573 : ill <https://doi.org/10.1109/UKRCON.2017.8100306>

#### **Controlling a battery energy storage system to support residential photovoltaic installations**

Fernao Pires, Vitor; Martins, Joao; Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Husev, Oleksandr** 2017 IEEE International Symposium on Industrial Electronics (ISIE) : Edinburgh International Conference Centre, Edinburgh, Scotland, United Kingdom, 19-21 June, 2017 : proceedings 2017 / p. 1769-1774 : ill <https://doi.org/10.1109/ISIE.2017.8001516>

#### **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](#)

#### **Current control strategy of a grid connected three-level neutral-point-clamped qZS inverter**

Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Husev, Oleksandr**; Vinnikov, Dmitri; Stepenko, Serhii 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 2013 / p. 97-101 : ill

#### **Day-ahead PV output power forecasting utilizing boosting recursive lightGBM-LSTM framework**

Hokmabad, Hossein Nouroollahi; **Husev, Oleksandr**; Vinnikov, Dmitri; Belikov, Juri; Petlenkov, Eduard IEEE PES Innovative Smart Grid Technologies Conference Europe (ISGT Europe 2023) : proceedings 2023 / 5 p <https://doi.org/10.1109/ISGTEUROPE56780.2023.10408090>

#### **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>

#### **DC microgrid: state of art, driving force, challenges and perspectives**

**Husev, Oleksandr**; Vinnikov, Dmitri Power Systems Research and Operation : Selected Problems III 2024 / p. 149-190 [https://doi.org/10.1007/978-3-031-44772-3\\_8](https://doi.org/10.1007/978-3-031-44772-3_8) [Article collection metrics at Scopus](#) [Article at Scopus](#)

#### **DC nano grid control in the residential energy router with the presence of constant power loads**

Najafzadeh, Mahdiyyeh; Vinnikov, Dmitri; **Husev, Oleksandr**; Roasto, Indrek 2022 IEEE 7th International Energy Conference (ENERGYCON) 2022 / p. 1-6 <https://doi.org/10.1109/ENERGYCON53164.2022.9830523>

#### **DC-link capacitor minimization in residential energy router through battery utilization**

Najafzadeh, Mahdiyyeh; Vinnikov, Dmitri; **Husev, Oleksandr**; Jalakas, Tanel; Roasto, Indrek 2021 IEEE 15th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : Florence, Italy, 14-16 July 2021 2021 / p. 1-6 : ill <https://doi.org/10.1109/CPE-POWERENG50821.2021>

#### **DC-ready flyback-based micro-converter**

Afshari, Hossein; **Husev, Oleksandr**; Matiushkin, Oleksandr; Vinnikov, Dmitri; Roncero-Clemente, Carlos 2024 IEEE 18th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2024 / 6 p <https://doi.org/10.1109/CPE-POWERENG60842.2024.10604344>

#### **DC-ready photovoltaic solar converter**

Matiushkin, Oleksandr; **Husev, Oleksandr**; Vinnikov, Dmitri; Kurnitski, Jarek PCIM Europe 2023 : Conference proceedings 2023 / 7 p <https://doi.org/10.30420/566091094> [Conference proceedings at Scopus](#) [Article at Scopus](#)

#### **Design and analysis of a DC solid-state circuit breaker for residential energy router application**

Rahimpour, Saeed; **Husev, Oleksandr**; Vinnikov, Dmitri Energies 2022 / art. 9434 <https://doi.org/10.3390/en15249434> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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

Shults, Tatiana; **Husev, Oleksandr**; Blaabjerg, Frede 2015 IEEE 5th International Conference on Power Engineering, Energy and

Electrical Drives (POWERENG) : proceedings : May 11-13, 2015, Riga, Latvia 2015 / p. 564-569 : ill  
<http://dx.doi.org/10.1109/PowerEng.2015.7266378>

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

Fesenko, Artem; **Matiushkin, Olexsandr; Husev, Olexsandr; 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 and simulation verification of low power wireless charging battery system for electric bicycle**

Shevchenko, Viktor; **Husev, Olexsandr**; Pakhaliuk, Bohdan; Kondratenko, Igor 2018 IEEE 3rd International Conference on Intelligent Energy and Power Systems (IEPS) 2018 / p. 22-27 <https://doi.org/10.1109/IEPS.2018.8559531>

**Design of LCL-filter for grid-connected buck-boost inverter based on unfolding circuit**

**Matiushkin, Olexsandr; Husev, Olexsandr; Vinnikov, Dmitri; Kütt, Lauri** 2019 Electric Power Quality and Supply Reliability Conference (PQ) & 2019 Symposium on Electrical Engineering and Mechatronics (SEEM), Kärda, Estonia, June 12-15, 2019 : proceedings 2019 / 4 p. : ill <https://doi.org/10.1109/PQ.2019.8818248>

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

**Shults, Tatiana; Husev, Olexsandr**; 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>

**Development of a battery sizing tool for nearly zero energy buildings**

**Ahmadihangar, Roya; Husev, Olexsandr; Blinov, Andrei**; Karami, Hossein; **Rosin, Argo** IECON 2020 The 46th Annual Conference of the IEEE Industrial Electronics Society 2020 / p. 5149-5154 : ill <https://doi.org/10.1109/IECON43393.2020.9254557> [Conference proceeding](#) [Article at Scopus](#) [Article at WOS](#)

**Development of single-loop current sensorless control for bidirectional three-phase PWM rectifier**

Suzdalenko, Alexander; **Zakis, Janis; Husev, Olexsandr** 2015 56th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) 2015 / p. 211-214 : ill

**Digital control strategy for interleaved quasi-Z-source inverter with active power decoupling**

**Stepenko, Serhii; Husev, Olexsandr; Pires Pimentel, Sergio; Vinnikov, Dmitri**; Roncero-Clemente, Carlos; **Makovenko, Elena** IECON 2018 - 44th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2018 / p. 3725-3730 : ill

**Distorted grid and significant computation feedback delay**

Pimentel, Sergio Pires; **Husev, Olexsandr; Vinnikov, Dmitri; Stepenko, Serhii; Kütt, Lauri**; Rodriguez, Jose 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. 1481-1486 <http://toc.proceedings.com/52923webtoc.pdf>

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

**Husev, Olexsandr; Vinnikov, Dmitri**; Kouro, Samir; Blaabjerg, Frede; Roncero-Clemente, Carlos IEEE industrial electronics magazine 2023 <https://doi.org/10.1109/MIE.2022.3230219>

**Dynamic behaviour of qZS-based bi-directional DC/DC converter in supercapacitor charging mode [Electronic resource]**

**Zakis, Janis; Vinnikov, Dmitri; Husev, Olexsandr**; Rankis, Ivars SPEEDAM 2012 : Sorrento (Italy) - June 20-22, 2012 : 21st edition of the International Symposium on Power Electronics, Electrical drives, Automation and Motion 2012 / p. 764-768 : ill [CD-ROM] <https://ieeexplore.ieee.org/document/6264554>

**Effect of double-slope modulation signals on conducted emissions and efficiency of strongly coupled magnetic resonance WPT systems**

Stepins, Deniss; **Zakis, Janis**; Audze, Janis; **Husev, Olexsandr**; Shevchenko, Viktor; Pakhaliuk, Bohdan 2019 IEEE 60th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) 2019 / 4 p <https://doi.org/10.1109/RTUCON48111.2019.8982351>

**Effect of hybrid modulation on performance of wireless battery charger operating in CC/CV mode**

Stepins, Deniss; Kathari, N.; **Zakis, Janis; Husev, Olexsandr**; Pakhaliuk, Bohdan; Shevchenko, Viktor IECON 2021 – 47th Annual Conference of the IEEE Industrial Electronics Society 2021 / 6 p <https://doi.org/10.1109/IECON48115.2021.9589544>

**Efficiency and loss distribution analysis of the 3L-Active NPC qZS inverter**

Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; Fernao Pires, Vitor; **Husev, Olexsandr** 2018 IEEE 12th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG 2018) : Doha, Qatar, 10-12 April 2018 2018 / p. 449-454 : ill <https://doi.org/10.1109/CPE.2018.8372560>

**Efficiency study of the single-phase solar qZS-based inverter**

**Husev, Oleksandr; Stepenko, Serhii; Vinnikov, Dmitri;** Roncero, Carlos; Santasheva, Elena; Romero-Cadaval, Enrique IECON 2019 - 45th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2019 / p. 4399-4404  
<https://doi.org/10.1109/IECON.2019.8926655> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**Energy storage and forecasting error impact analysis in photovoltaic equipped residential nano-grids**  
**Hokmabad, Hossein Nouroollahi; Husev, Oleksandr; Belikov, Juri; Vinnikov, Dmitri; Petlenkov, Eduard** 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 6 p.  
<https://doi.org/10.1109/CPE-POWERENG58103.2023.10227406>

**Enhancing PV hosting capacity and mitigating congestion in distribution networks with deep learning based PV forecasting and battery management**  
**Shabbir, Noman; Kütt, Lauri; Astapov, Victor; Daniel, Kamran;** Jawad, Muhammad; **Husev, Oleksandr; Rosin, Argo;** Martins, Joao Applied energy 2024 / art. 123770 <https://doi.org/10.1016/j.apenergy.2024.123770>

**Evaluation of losses in three-level neutral-point-clamped and T-type quasi-Z-source inverters with modified carrier based modulation method**  
Ruiz-Cortes, M.; Romero-Cadaval, Enrique; Roncero-Clemente, Carlos; Gonzalez-Romera, Eva; **Husev, Oleksandr** 2017 11th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG 2017) : Cadiz, Spain, 4-6 April 2017 2017 / p. 638-643 : ill <https://doi.org/10.1109/CPE.2017.7915247>

**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 comparison of two-level full-SiC and three-level Si-SiC quasi-Z-source inverters for PV applications**  
**Stepenko, Serhii; Husev, Oleksandr; Vinnikov, Dmitri;** Roncero-Clemente, Carlos; **Pires Pimentel, Sergio; Santasheva, Elena** Energies 2019 / 2509 ; 17 p. : ill <https://doi.org/10.3390/en12132509> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Experimental comparison of two-level full-SiC and three-level Si-SiC quasi-Z-source inverters for PV applications**  
**Stepenko, Serhii; Husev, Oleksandr; Vinnikov, Dmitri;** Roncero-Clemente, Carlos; **Pimentel, Sergio Pires; Santasheva, Elena** Emerging converter topologies and control for grid connected photovoltaic systems 2021 / P. 121-137 : ill  
<https://doi.org/10.3390/books978-3-03943-910-2>

**Experimental efficiency and thermal parameters evaluation in Full-SiC Quasi-Z-Source inverter**  
**Pimentel, Sergio Pires; Husev, Oleksandr; Vinnikov, Dmitri; Pires Pimentel, Sergio;** Prystupa, Anatoliy 2019 IEEE 60th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), 7-9 October 2019 : conference proceedings 2019 / 6 p. : ill <https://doi.org/10.1109/RTUCON48111.2019.8982288>

**Experimental evaluation of a new carrier-based modulation method for a three-level T-type quasi-impedance-source inverter**  
Gutierrez-Escalona, Javier; Roncero-Clemente, Carlos; Barrero-Gonzalez, Fermin; **Husev, Oleksandr; Gonzalez-Romera, Eva;** **Milanes-Montero, Maria Isabel** IET power electronics 2022 / p. 337-348 <https://doi.org/10.1049/pel2.12234> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**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 results of parallel active filter implementation in nonideal power grid**  
**Husev, Oleksandr; Blinov, Andrei; Vinnikov, Dmitri** Technological Innovation for Value Creation : third IFIP WG 5.5/SOCOLNET Doctoral Conference on Computing, Electrical and Industrial Systems, DoCEIS 2012, Costa de Caparica, Portugal, February 27-29, 2012 : proceedings 2012 / p. 291-298 : ill [https://link.springer.com/chapter/10.1007/978-3-642-28255-3\\_32](https://link.springer.com/chapter/10.1007/978-3-642-28255-3_32)

**Experimental verification of DC/DC converter with full-bridge active rectifier**  
**Blinov, Andrei;** Ivakhno, Volodymyr; Zamaruev, Vladimir; **Vinnikov, Dmitri; Husev, Oleksandr** IECON 2012 : 38th Annual Conference of the IEEE Industrial Electronics Society : Industrial Electronics for Sustainable Development 2012 / p. 5179-5184 : ill  
<https://ieeexplore.ieee.org/document/6389549>

**Exploratory data analysis based short-term electrical load forecasting : a comprehensive analysis**  
Javed, Umar; Ijaz, Khalid; **Shabbir, Noman; Kütt, Lauri; Husev, Oleksandr** Energies 2021 / art. 5510  
<https://doi.org/10.3390/en14175510> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**A family of bidirectional solid-state circuit breakers with increased safety in DC microgrids**

**Rahimpour, Saeed; Husev, Oleksandr; Vinnikov, Dmitri** IEEE transactions on industrial electronics 2023 / p. 10919-10929  
<https://doi.org/10.1109/TIE.2023.3337493>

**Fault management techniques to enhance the reliability of power electronic converters : an overview**

**Rahimpour, Saeed; Husev, Oleksandr; Vinnikov, Dmitri; Vosoughi Kurdkandi, Naser; Tarzamni, Hadi** IEEE Access 2023 / p. 13432-13446 <https://doi.org/10.1109/ACCESS.2023.3242918> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Feasibility investigation for residential battery sizing considering EV charging demand**

**Shabbir, Noman; Kütt, Lauri; Daniel, Kamran; Astapov, Victor; Raja, Hadi Ashraf; Iqbal, Muhammad Naveed; Husev, Oleksandr** Sustainability 2022 / art. 1079 <https://doi.org/10.3390/su14031079> [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 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 of a DC house connected to a conventional AC distribution network**

**Hokmabad, Hossein Nouroollahi; Shabir, Noman; Astapov, Victor; Petlenkov, Eduard; Husev, Oleksandr; Belikov, Juri** 2024 IEEE 18th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2024 / 6 p <https://doi.org/10.1109/CPE-POWERENG60842.2024.10604419>

**Feasibility study of high-power density of modified isolated CLLC DC-DC interface with wide range of voltage/current regulation**

**Husev, Oleksandr; Matiushkin, Oleksandr; Mohseni, Parham; Canales, Francisco** PCIM Europe 2024 2024 / 10 p <https://doi.org/10.30420/566262111>

**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 interleaving approach for buck-boost inverter with unfolding circuit**

**Fesenko, Artem; Matiushkin, Oleksandr; Husev, Oleksandr; Khandakji, Kamal; Velihorskyi, Oleksandr** 2019 IEEE 2nd Ukraine Conference on Electrical and Computer Engineering : UKRCON-2019 : conference proceedings 2019 / p. 415-419 : ill <https://doi.org/10.1109/UKRCON.2019.8879966>

**Feasibility study of interleaving approach for Quasi-Z-Source inverter**

**Stepenko, Serhii; Husev, Oleksandr; Vinnikov, Dmitri; Fesenko, Artem; Matiushkin, Oleksandr** Electronics 2020 / art. 277, 11 p. : ill <https://doi.org/10.3390/electronics9020277> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Feasibility study of model predictive control for grid-connected twisted buck-boost inverter**

**Matiushkin, Oleksandr; Husev, Oleksandr; Rodriguez, Jose; Young, Hector; Roasto, Indrek** IEEE transactions on industrial electronics 2022 / p. 2488-2499 <https://doi.org/10.1109/TIE.2021.3068663> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**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>

**Forward-based DC-DC converter with eliminated leakage inductance problem**

**Matiushkin, Oleksandr; Husev, Oleksandr; Afshari, Hossein; Romero-Cadaval, Enrique; Roncero-Clemente, Carlos** IEEE transactions on industrial electronics 2025 / p. 1638-1648 <https://doi.org/10.1109/TIE.2024.3429626>

**FPGA control of the neutral point clamped quasi-Z-source inverter**

**Stepenko, Serhii; Husev, Oleksandr; Vinnikov, Dmitri; Ivanets, Sergey** BEC 2012 : 2012 13th Biennial Baltic Electronics Conference : proceedings of the 13th Biennial Baltic Electronics Conference : October 3-5, 2012, Tallinn, Estonia 2012 / p. 263-266 : ill

**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

**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](#)

**Global MPPT for interleaved buck-boost DC-DC converter**

**Matiushkin, Oleksandr; Husev, Oleksandr; Fesenko, Artem; 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 / 7 p. : ill <https://doi.org/10.1109/RTUCON51174.2020.9316589>

**Grid-connected buck-boost inverter based on unfolding circuit**

**Matiushkin, Oleksandr; Husev, Oleksandr; Vinnikov, Dmitri; Gordienko, Vyacheslav** 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.2018.8659824>

**Grid-connected PV system based on a single-phase three-level qZS inverter**

Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Husev, Oleksandr; Vinnikov, Dmitri**; Stepenko, Serhii Proceedings : IECON 2013 - 39th Annual Conference of the IEEE Industrial Electronics Society : Austria Center Vienna, Vienna, Austria, 10-14 November, 2013 2013 / p. 5979-5984 : ill <https://doi.org/10.1109/IECON.2013.6700116> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

**Grid-connected single-phase 3L-T-type qZS inverter for renewable energy**

Roncero-Clemente, Carlos; **Husev, Oleksandr**; Ruiz-Cortes, Mercedes; Romero-Cadaval, Enrique; Barrero-Gonzalez, Fermin; Gonzalez-Romera, Eva IECON 2019 - 45th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2019 / p. 5003-5007 : ill <https://doi.org/10.1109/IECON.2019.8926888> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**Grid-connected three-phase 3L-T-type qZS inverter for renewable energy**

Roncero-Clemente, Carlos; **Husev, Oleksandr**; Barrero-Gonzalez, Fermin; Gonzalez-Romera, Eva; Milanés-Montero, Maria Isabel; Romero-Cadaval, Enrique 2020 IEEE 14th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : proceedings 2020 / p. 114-119 <https://doi.org/10.1109/CPE-POWERENG48600.2020.9161512>

**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](#)

**Grounding and isolation requirements in DC microgrids: overview and critical analysis**

Azizi, Mohammadreza; **Husev, Oleksandr**; Veligorskyi, Oleksandr; Rahimpour, Saeed; Roncero-Clemente, Carlos Energies 2023 / art. 7747, 23 p. : ill <https://doi.org/10.3390/en16237747> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**A high step-up non-isolated dc-dc converter with low voltage stress across transistor**

**Pourjafar, Saeed**; Hemmati Shahsavari, Tala; Hashemzadeh, Seyed Majid; **Husev, Oleksandr; Matiushkin, Oleksandr; Vinnikov, Dmitri** IEEE transactions on industrial electronics 2024 / p. 15755-15767 <https://doi.org/10.1109/TIE.2024.3383025>

**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](#)

**Impedance-source DC solid-state circuit breakers : an overview**

**Rahimpour, Saeed; Husev, Oleksandr; Vinnikov, Dmitri** 2022 International Symposium on Power Electronics, Electrical Drives, Automation and Motion (SPEEDAM) 2022 / p. 186-191 <https://doi.org/10.1109/SPEEDAM53979.2022.9842138>

**Impedance-source networks : features, benefits and challenges for industrial application : keynote address**

**Husev, Oleksandr** 29th International Workshop on Electric Drives: Advances in Power Electronics for Electric Drives (IWED) 2022 / p. 1 <https://doi.org/10.1109/IWED54598.2022.9722589>

**Implementation of MPPT hill climbing technique for forward based DC-DC converter**

**Matiushkin, Oleksandr; Husev, Oleksandr**; Romero-Cadaval, Enrique; Roncero-Clemente, Carlos 2024 IEEE 18th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2024 / 6 p <https://doi.org/10.1109/CPE-POWERENG60842.2024.10604422>

**Improved DC-Link voltage transient response and stability issues in energy router with fuzzy logic control method**

**Najafzadeh, Mahdiyyeh; Husev, Oleksandr; Roasto, Indrek; Jalakas, Tanel** 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/RTUCON51174.2020.9316477>

**An improved nine-level switched capacitor-based inverter with voltage boosting capability and limitation of capacitor current spikes for PV applications**

**Vosoughi Kurdkandi, Naser;** Marangalu, Milad Ghavipanjeh; Naderi, Yahya; **Husev, Oleksandr;** Hosseini, Seyed Hossein; Siwakoti, Yam P.; Mehri-Sani, Ali IET renewable power generation 2023 / p. 725-749 <https://doi.org/10.1049/rpg2.12630> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**An improved ZVS high step-up converter based on coupled inductor and built-in transformer**

Nouri, Tohid; **Vosoughi Kurdkandi, Naser; Husev, Oleksandr** IEEE transactions on power electronics 2021 / p. 13802-13816 : ill <https://doi.org/10.1109/TPEL.2021.3088092> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Improvements on the carrier-based control method for a three-level T-type, quasi-impedance-source inverter**

Barrero-Gonzalez, Fermin; Roncero-Clemente, Carlos; Milanes-Montero, Maria Isabel; **Husev, Oleksandr** Electronics 2019 / art. 677, 12 p. : ill <https://doi.org/10.3390/electronics8060677> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Indirect model predictive control for inverter connected to distorted grid with significant computation delay**

**Husev, Oleksandr;** Pimentel, Sergio Pires; **Vinnikov, Dmitri; Kütt, Lauri;** Rodriguez, Jose IECON 2019 - 45th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2019 / p. 6483-6488 : ill <https://doi.org/10.1109/IECON.2019.8927279>

**An indirect model predictive current control (CCS-MPC) for grid-connected single-phase three-level NPC quasi-z-source PV inverter**

**Pires Pimentel, Sergio; Husev, Oleksandr; Vinnikov, Dmitri;** Roncero-Clemente, Carlos; **Stepenko, Serhii** 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.2018.8659840>

**Induction generator with direct control and a limited number of measurements on the side of the converter connected to the power grid**

Kasprovicz, 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>

**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

**Interleaved single-phase quasi-Z-source inverter with special modulation technique**

Roncero-Clemente, Carlos; **Husev, Oleksandr;** Stepenko, Serhii; Romero-Cadaval, Enrique; **Vinnikov, Dmitri** 2017 IEEE First Ukraine Conference on Electrical and Computer Engineering (UKRCON) : May 29 - June 2, 2017, Kyiv, Ukraine : conference proceedings 2017 / p. 593-598 : ill <https://doi.org/10.1109/UKRCON.2017.8100310>

**Isolated high step-up current-fed DC-DC converter with low input current ripple and wide full-soft-switching capability**

**Mohseni, Parham; Pourjafar, Saeed; Matiushkin, Oleksandr; Husev, Oleksandr; Vinnikov, Dmitri** IEEE transactions on industry applications 2025 / 11 p <https://doi.org/10.1109/TIA.2025.3544985>

**LCCT-derived three-level three-phase inverters**

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

**LCL-filter design and application**

**Husev, Oleksandr; Matiushkin, Oleksandr** Distributed energy systems : design, modeling, and control 2023 / p. 283-294 <https://doi.org/10.1201/9781003229124-18>

**Machine learning and deep learning techniques for residential load forecasting : a comparative analysis**

**Shabbir, Noman; Kütt, Lauri; Raja, Hadi Ashraf; Ahmadiyahangar, Roya; Rosin, Argo; Husev, Oleksandr** 2021 IEEE 62nd International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON); conference proceedings 2021 / p. 1-5 <https://doi.org/10.1109/RTUCON53541.2021.9711741>

**Maximum boost control for interleaved single-phase quasi-Z-source inverter**

Roncero-Clemente, Carlos; **Stepenko, Serhii; Husev, Oleksandr;** Romero-Cadaval, Enrique; **Vinnikov, Dmitri** 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. 7698-7703 : ill <https://doi.org/10.1109/IECON.2017.8217349>

**Model predictive control for buck-boost inverter based on unfolding circuit**

**Matiushkin, Oleksandr; Husev, Oleksandr; Vinnikov, Dmitri;** Roncero-Clemente, Carlos 2019 IEEE 2nd Ukraine Conference on Electrical and Computer Engineering : UKRCON-2019 : conference proceedings 2019 / p. 431-436 : ill <https://doi.org/10.1109/UKRCON.2019.8879870>

**Model predictive control of a single-stage flying inductor based buck-boost grid-connected common-ground inverter**

**Rahimpour, Saeed; Matiushkin, Oleksandr; Kurdkandi, Naser Vosoughi; Najafzadeh, Mahdiyyeh; Husev, Oleksandr; Vinnikov, Dmitri** 2021 IEEE 62nd International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) 2021 / p. 1-6 <https://doi.org/10.1109/RTUCON53541.2021.9711711>

**Model predictive control of photovoltaic bidirectional dc-dc converter with coupled inductors**

Khomenko, Maksym; Veligorskyi, Oleksandr; **Husev, Oleksandr;** Tytelmaier, Kostiantyn; Yershov, Roman 2017 IEEE First Ukraine Conference on Electrical and Computer Engineering (UKRCON) : May 29 - June 2, 2017, Kyiv, Ukraine : conference proceedings 2017 / p. 578-583 : ill <https://doi.org/10.1109/UKRCON.2017.8100308>

**Model-free deep reinforcement learning-based current control for the dual-purpose dc-dc/ac power converter**

Gutierrez-Escalona, Javier; Roncero-Clemente, Carlos; **Husev, Oleksandr; Matiushkin, Oleksandr;** Barrero-Gonzalez, Fermin; Gonzalez-Romera, Eva 2024 IEEE 18th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2024 / 6 p <https://doi.org/10.1109/CPE-POWERENG60842.2024.10604305>

**Modeling of grid-connected quasi-Z-source series resonant topology based microinverter**

**Roasto, Indrek; Jalakas, Tanel; Husev, Oleksandr** 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. 192-195 : ill <https://doi.org/10.1109/CPE.2016.7544183>

**Modified DQ control approach for three-phase inverter**

**Makovenko, Elena; Husev, Oleksandr;** Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Vinnikov, Dmitri** 2017 IEEE 58th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) : proceedings : Latvia, Riga, 12-13 October, 2017 2017 / [3] p. : ill <http://dx.doi.org/10.1109/RTUCON.2017.8124800>

**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](#)

**Multifunctional energy router for residential applications = Multifunktsionaalne energiaruuter eramutele**

**Najafzadeh, Mahdiyyeh** 2022 <https://doi.org/10.23658/taltech.25/2022> <https://digikogu.taltech.ee/et/Item/6914b8ca-7ca5-49d1-868a-a6de9192f8b4> [https://www.ester.ee/record=b5501867\\*est](https://www.ester.ee/record=b5501867*est)

**Multiport converter with integrated energy storage for hydrogen buffer interfacing with renewable energy systems [Electronic resource]**

**Andrijanovitš, Anna; Blinov, Andrei; Husev, Oleksandr; Vinnikov, Dmitri** 2012 IEEE International Conference on Industrial Technology : proceedings CD 2012 / p. 235-240 : ill [CD-ROM] <https://ieeexplore.ieee.org/document/6209943>

**Multi-step ahead short-term residential DC load forecasting : A comparative study of NGBost-based algorithms**

**Shabbir, Noman; Husev, Oleksandr; Hokmabad, Hossein Nourollahi; Daniel, Kamran; Jawad, Muhammad; Martins, Joao** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144710>

**Multivariable optimal control of wireless power transfer systems with series-parallel compensation**

Pakhaliuk, Bohdan; **Husev, Oleksandr;** Shevchenko, Viktor; Zakis, Janis; Stepins, Deniss 2019 IEEE 60th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) 2019 / 5 p <https://doi.org/10.1109/RTUCON48111.2019.8982314>

**Neuro-fuzzy control system for active filter with load adaptation [Electronic resource]**

**Husev, Oleksandr;** Ivanets, Sergey; **Vinnikov, Dmitri** CPE 2011 : 7th International Conference-Workshop Compatibility and Power Electronics : June 1-3, 2011, Tallinn, Estonia : conference guide 2011 / p. 28-33 [CD-ROM] <https://ieeexplore.ieee.org/document/5942202>

**Neutral-point-clamped quasi-Z-source inverter with field-programmable gate array based control**

**Stepenko, Serhii; Husev, Oleksandr; Vinnikov, Dmitri** 12th International Symposium "Topical Problems in the Field of Electrical and Power Engineering." Doctoral School of Energy and Geotechnology II : Kuressaare, Estonia, June 11-16, 2012 2012 / p. 76-77 : ill

**Three-level neutral-point-clamped quasi-Z-source inverter with maximum power point tracking for photovoltaic systems**  
Roncero-Clemente, Carlos; Stepenko, Serhii; **Husev, Oleksandr**; Minambres-Marcos, Víctor; Romero-Cadaval, Enrique; **Vinnikov, Dmitri** Technological innovation for the Internet of things : 4th IFIP WG 5.5/SOCOLNET Doctoral Conference on Computing, Electrical and Industrial Systems : DoCEIS 2013 : Costa de Caparica, Portugal, April 15-17, 2013 : proceedings 2013 / p. 334-342  
[https://doi.org/10.1007/978-3-642-37291-9\\_36](https://doi.org/10.1007/978-3-642-37291-9_36) [https://link.springer.com/chapter/10.1007/978-3-642-37291-9\\_36](https://link.springer.com/chapter/10.1007/978-3-642-37291-9_36) [Article collection metrics at Scopus](#) [Article at Scopus](#)

**A new flying capacitor-based buck-boost converter for dual-purpose applications**  
**Hemmati Shahsavari, Tala; Vosoughi Kurdkandi, Naser; Husev, Oleksandr**; Babaei, Ebrahim; Sabahi, Mehran; Khoshkbar-Sadigh, Arash; **Vinnikov, Dmitri** IEEE journal of emerging and selected topics in industrial electronics 2023 / p. 447-459  
<https://doi.org/10.1109/JESTIE.2023.3238322>

**New high-gain step-up DC/DC converter for a fuel cell interfacing in hydrogen buffer**  
**Vinnikov, Dmitri; Husev, Oleksandr; Andrijanovič, Anna; Roasto, Indrek** Технічна електродинаміка 2011 / p. 93-100 : ill

**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 hysteresis current control for grid connected single-phase three-level quasi-Z-source inverter**  
**Husev, Oleksandr; Vinnikov, Dmitri**; Roncero-Clemente, Carlos; Romero-Cadaval, Enrique APEC 2014 : Twenty-Ninth Annual IEEE Applied Power Electronics Conference and Exposition : March 16–20, 2014, Fort Worth Convention Center - Fort Worth, Texas 2014 / p. 1765-1770 : ill <https://doi.org/10.1109/APEC.2014.6803544> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**New interleaved single-phase quasi-Z-source inverter with active power decoupling**  
**Stepenko, Serhii**; Roncero-Clemente, Carlos; **Husev, Oleksandr; Makovenko, Elena**; Pires Pimentel, Sergio; **Vinnikov, Dmitri** 2018 IEEE 12th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG 2018) : Doha, Qatar, 10-12 April 2018 2018 / p. 437-442 : ill <https://doi.org/10.1109/CPE.2018.8372558>

**New modulation technique for three-level quasi-Z-source inverter**  
Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Husev, Oleksandr; Vinnikov, Dmitri** 12th International Symposium "Topical Problems in the Field of Electrical and Power Engineering." Doctoral School of Energy and Geotechnology II : Kuressaare, Estonia, June 11-16, 2012 2012 / p. 68-71 : ill

**New operation strategy for a grid-connected three-phase three-level NPC qZS inverter based on power losses**  
Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Husev, Oleksandr**; Martins, Joao Elektronika ir elektrotehnika = Electronics and electrical engineering 2016 / p. 60 - 65 <https://doi.org/10.5755/j01.eie.22.3.15316> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**A new seven-level transformer-less grid-tied inverter with leakage current limitation and voltage boosting feature**  
**Vosoughi Kurdkandi, Naser**; Marangalu, Milad Ghavipanjeh; **Husev, Oleksandr**; Aghaie, Amir; Islam, Md. Rabiul; Siwakoti, Yam P.; Muttaqi, Kashem; Hosseini, Seyed Hossein IEEE journal of emerging and selected topics in industrial electronics 2023 / p. 228-241 <https://doi.org/10.1109/JESTIE.2022.3205546>

**New shoot-through control methods for qZSI-based DC/DC converters**  
**Roasto, Indrek; Vinnikov, Dmitri; Zakis, Janis; Husev, Oleksandr** IEEE transactions on industrial informatics 2013 / p. 640-647 : ill <https://doi.org/10.1109/TII.2012.2224353> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**A New Single Source Five-Level Common Ground Switched Capacitor based Inverter**  
**Hemmati Shahsavari, Tala; Husev, Oleksandr**; Babaei, Ebrahim; Sabahi, Mehran; **Vinnikov, Dmitri**; Khoshkbar-Sadigh, Arash 2022 IEEE 7th International Energy Conference (ENERGYCON) 2022 <https://doi.org/10.1109/ENERGYCON53164.2022.9830422>

**A new single-phase flying inductor-based common grounded converter for dual-purpose application**  
**Husev, Oleksandr; Vosoughi Kurdkandi, Naser**; Marangalu, Milad Ghavipanjeh; **Vinnikov, Dmitri**; Hosseini, Seyed Hossein IEEE transactions on industrial electronics 2023 / p. 7913-7923 <https://doi.org/10.1109/TIE.2022.3215832> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Novel concept of solar converter with universal applicability for DC and AC microgrids**  
**Husev, Oleksandr; Matiushkin, Oleksandr; Vinnikov, Dmitri**; Roncero-Clemente, Carlos; Kouro, Samir IEEE transactions on industrial electronics 2022 / p. 4329-4341 : ill <https://doi.org/10.1109/TIE.2021.3086436> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Novel concept of universal AC/DC-DC onboard battery charger for electric vehicles**

**Mohseni, Parham; Husev, Oleksandr; Vinnikov, Dmitri;** Kasper, Matthias; Deboy, Gerald 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 6 p <https://doi.org/10.1109/ICDCM63994.2025.11144698>

### **Novel dual-purpose cost-effective forward-based micro-converter**

**Afshar, Hossein; Husev, Oleksandr; Matiushkin, Oleksandr; Vinnikov, Dmitri** 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <http://doi.org/10.1109/ICDCM63994.2025.11144743>

### **Novel family of flying inductor-based single-stage buck-boost inverters**

**Vosoughi Kurdkandi, Naser; Husev, Oleksandr; Matiushkin, Oleksandr; Vinnikov, Dmitri** IEEE journal of emerging and selected topics in power electronics 2022 / p. 6020-6032 <https://doi.org/10.1109/JESTPE.2022.3161113> [Journal metrics at Scopus](#)  
[Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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

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

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

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

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

**Husev, Oleksandr;** Strzelecki, Ryszard; Blaabjerg, Frede; Chopyk, Vasiliy; **Vinnikov, Dmitri** IEEE transactions on power electronics 2016 / p. 7580-7591 : ill <https://doi.org/10.1109/TPEL.2016.2569535> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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

**Husev, Oleksandr** 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. 39-40 : ill [https://www.eester.ee/record=b5183874\\*est](https://www.eester.ee/record=b5183874*est)

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

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

### **Novel family of single-stage buck-boost inverters based on unfolding circuit : [conference paper]**

**Matiushkin, Oleksandr; Husev, Oleksandr** 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. 128-129 : ill [http://ise.elnet.ee/record=b2950043~S2\\*est](http://ise.elnet.ee/record=b2950043~S2*est)

### **Novel family of universal DC-DC/AC converters**

**Husev, Oleksandr** 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. 31-32 : ill [https://www.eester.ee/record=b5291755\\*est](https://www.eester.ee/record=b5291755*est)

### **A novel flying inductor based grid-connected inverter with buck-boost ability**

**Vosoughi Kurdkandi, Naser; Husev, Oleksandr; Rahimpour, Saeed;** Roncero-Clemente, Carlos; **Matiushkin, Oleksandr; Vinnikov, Dmitri** IECON 2022 - 48th Annual Conference of the IEEE Industrial Electronics Society 2022 / 6 p <https://doi.org/10.1109/IECON49645.2022.9968954> [Conference proceedings at Scopus](#) [Article at Scopus](#)

### **A novel high-voltage half-bridge converter with phase-shifted active rectifier [Electronic resource]**

**Blinov, Andrei;** Ivakhno, Volodymyr; Zamaruev, Vladimir; **Vinnikov, Dmitri; Husev, Oleksandr** 2012 IEEE International Conference on Industrial Technology : proceedings CD 2012 / p. 967-970 : ill [CD-ROM] <https://ieeexplore.ieee.org/document/6210062>

### **A novel hysteresis power point optimizer for distributed solar power generation**

Veligorskyi, Oleksandr; **Husev, Oleksandr; Kosenko, Roman; Vinnikov, Dmitri** Scientific Journal of Riga Technical University. Electrical, control and communication engineering 2018 / p. 12-22 : ill <https://doi.org/10.2478/ecce-2018-0002>

### **Novel inductive power transfer approach based on Z-source network with compensation circuit**

Pakhaliuk, Bohdan; **Husev, Oleksandr;** Shevchenko, Viktor; Veligorskyi, Oleksandr; Kroics, Kaspars 2018 IEEE 38th International Conference on Electronics and Nanotechnology (ELNANO 2018) : Kyiv, Ukraine, 24-26 April 2018 2018 / p. 699-704 : ill <http://dx.doi.org/10.1109/ELNANO.2018.8477455>

### **Novel Interlinking Converter Approach for Islanded Hybrid Microgrids based on the Modular Dual-Purpose Power**

## Converter

Gutiérrez-Escalona, Javier; Roncero-Clemente, Carlos; **Husev, Oleksandr; Matiushkin, Oleksandr**; Milanés-Montero, María Isabel; Romero-Cadaval, Enrique 2025 International Aegean Conference on Electrical Machines and Power Electronics & International Conference on Optimization of Electrical and Electronic Equipment 2025

## A novel isolated Buck-Boost DC-DC converter with wide range of voltage regulations

**Afshari, Hossein; Husev, Oleksandr; 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-POWERENG58103.2023.10227443>

## Novel isolated high step-up DC-DC converter with wide input voltage regulation range

**Pourjafar, Saeed; Mohseni, Parham; Matiushkin, Oleksandr; Husev, Oleksandr; 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/RTUCon60080.2023.10413102>

## 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 quasi-Z-source derived inverter with unfolding circuit and battery storage

**Makovenko, Elena; Husev, Oleksandr; Vinnikov, Dmitri** 2018 IEEE 12th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG 2018) : Doha, Qatar, 10-12 April 2018 2018 / p. 431-436 : ill <https://doi.org/10.1109/CPE.2018.8372557>

## A novel single-phase common-grounded converter based on switched-capacitor

Kurdkandi, Naser Vosoughi; **Husev, Oleksandr; Matiushkin, Oleksandr; Vinnikov, Dmitri**; Gao, Wei; Chunting, Chris Mi IEEE transactions on power electronics 2024 / p. 16201-16216 <https://doi.org/10.1109/TPEL.2024.3444769>

## 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>

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

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

## Operation possibility of grid connected quasi-Z-source inverter with energy storage and renewable energy generation in wide power range

Kroics, Kaspars; **Zakis, Janis**; Suzdalenko, Alexander; **Husev, Oleksandr**; Tytelmaier, Kostiantyn; Khandakji, Kamal 2017 IEEE First Ukraine Conference on Electrical and Computer Engineering (UKRCON) : May 29 - June 2, 2017, Kyiv, Ukraine : conference proceedings 2017 / p. 564-569 : ill <https://doi.org/10.1109/UKRCON.2017.8100303>

## Operation strategy and shoot-through indirect control method for three-phase Z-source inverters

Roncero-Clemente, Carlos; **Husev, Oleksandr**; Romero-Cadaval, Enrique; **Vinnikov, Dmitri**; Milanés-Montero, María Isabel 2015 IEEE 5th International Conference on Power Engineering, Energy and Electrical Drives (POWERENG) : proceedings : May 11-13, 2015, Riga, Latvia 2015 / p. 576-581 : ill <http://dx.doi.org/10.1109/PowerEng.2015.7266380>

## Optimal LCL-filter study for buck-boost inverter based on unfolding circuit

**Matiushkin, Oleksandr; Husev, Oleksandr; Vinnikov, Dmitri**; Roncero-Clemente, Carlos Proceedings : 2020 IEEE 14th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) : Online - Setúbal, Portugal, 08 - 10 July, 2020 2020 / p. 467-472 : ill <https://doi.org/10.1109/CPE-POWERENG48600.2020.9161683>

## 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](#)

## Optimal tuning of resonant and repetitive based controller for single-phase buck-boost inverter with unfolding circuit

**Husev, Oleksandr; Belikov, Juri; Matiushkin, Oleksandr; Vinnikov, Dmitri; Ahmadiyahangar, Roya; Vosoughi Kurdkandi, Naser** IEEE journal of emerging and selected topics in industrial electronics 2022 / p. 954-965 <https://doi.org/10.1109/JESTIE.2021.3121190>

## Optimization and implementation of the proportional-resonant controller for grid-connected inverter with significant computation delay

**Husev, Oleksandr**; Roncero-Clemente, Carlos; **Makovenko, Elena; Pires Pimentel, Sergio; Vinnikov, Dmitri**; Martins, Joao IEEE transactions on industrial electronics 2020 / p. 1201 -1211 <https://doi.org/10.1109/TIE.2019.2898616> [Journal metrics at Scopus](#)

**Optimizing size and economic feasibility assessment of photovoltaic and energy storage setup in residential applications**  
**Nourollahi Hokmabad, Hossein; Husev, Oleksandr; Kurnitski, Jarek; Belikov, Juri** Sustainable energy, grids and networks  
2024 / art. 101385, 15 p. : ill <https://doi.org/10.1016/j.segan.2024.101385> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Output filter design for grid connected single phase three-level quasi-Z-source inverter [Electronic resource]**  
**Husev, Oleksandr; Stepenko, Serhii;** Roncero-Clemente, Carlos; **Vinnikov, Dmitri;** Romero-Cadaval, Enrique CPE 2013 : 2013 International Conference on Compatibility and Power Electronics (CPE) : June 5-7, 2013, Ljubljana, Slovenia : conference proceedings 2013 / p. 46-51 : ill [CD-ROM]

**Output voltage control system for a three-level neutral-point clamped quasi-Z-source inverter**  
Roncero-Clemente, Carlos; **Husev, Oleksandr;** Stepenko, Serhii; Romero-Cadaval, Enrique; **Vinnikov, Dmitri** Przegląd elektrotechniczny = Electrical review 2013 / p. 76-80 : ill <http://pe.org.pl/articles/2013/5/16.pdf> [Journal metrics at Scopus](#) [Article at Scopus](#)

**Overview of advanced functionalities for residential photovoltaic inverter connected to the grid**  
**Makovenko, Elena; Husev, Oleksandr;** Romero-Cadaval, Enrique 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. 99-102 : ill [http://ise.elnet.ee/record=b2950024~S2\\*est](http://ise.elnet.ee/record=b2950024~S2*est)

**An Overview of bidirectional AC-DC grid connected converter topologies for low voltage battery integration**  
Kroics, Kaspars; **Husev, Oleksandr;** Tytelmaier, Kostiantyn; **Zakis, Janis;** Veligorskyi, Oleksandr International Journal of Power Electronics and Drive System (JPEDS) 2018 / p. 1223-1239 : ill <https://doi.org/10.11591/ijpeds.v9.i3.pp1223-1239>

**Overview of control methods of DC-AC grid connected converter**  
**Makovenko, Elena; Husev, Oleksandr** 16th International Symposium "Topical Problems in the Field of Electrical and Power Engineering. Doctoral School of Energy and Geotechnology III" : Pärnu, Estonia, January 16-21, 2017 2017 / p. 69-71 : ill [http://www.ester.ee/record=b4650094\\*est](http://www.ester.ee/record=b4650094*est)

**Overview of impedance source networks for voltage source inverters**  
**Shults, Tatiana; Husev, Oleksandr; Zakis, Janis** 2015 16th International Conference of Young Specialists on Micro/Nanotechnologies and Electron Devices (EDM 2015) : Erlagol (Altai Republic), Russia, 29 June-3 July 2015 2015 / p. 514-520 : ill

**An overview of lifetime management of power electronic converters**  
**Rahimpour, Saeed; Tarzamni, Hadi; Vosoughi Kurdkandi, Naser; Husev, Oleksandr; Vinnikov, Dmitri;** Tahami, Farzad IEEE Access 2022 / p. 109688-109711 <https://doi.org/10.1109/ACCESS.2022.3214320> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**P and Q control strategy for single phase Z/qZ source inverter based on d-q frame**  
Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Husev, Oleksandr; Vinnikov, Dmitri** Proceedings : 2014 IEEE 23rd International Symposium on Industrial Electronics (ISIE) : Grand Cevahir Hotel and Convention Center, Istanbul, Turkey, 01-04 June, 2014 2014 / p. 2048-2053 : ill

**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

**Passive power decoupling approach for three-level single-phase impedance source inverter based on resonant and PID controllers**  
**Makovenko, Elena; Husev, Oleksandr; Zakis, Janis;** Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Vinnikov, Dmitri** 2017 11th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG 2017) : Cadiz, Spain, 4-6 April 2017 2017 / p. 516-521 : ill <https://doi.org/10.1109/CPE.2017.7915225>

**PCB design impact on GaN-Based converter operation**  
**Husev, Oleksandr; Jalakas, Tanel; Vinnikov, Dmitri; Vosoughi Kurdkandi, Naser;** Persson, Eric 2023 IEEE Applied Power Electronics Conference and Exposition (APEC), 19-23 March 2023 : proceedings 2023 / p. 640-650  
<https://doi.org/10.1109/APEC43580.2023.10131547> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**Performance evaluation of the universal photovoltaic string converter during the operation in DC microgrid environment**  
**Matiushkin, Oleksandr; Vinnikov, Dmitri; Husev, Oleksandr** IECON 2021 – 47th Annual Conference of the IEEE Industrial Electronics Society, 2021 2021 / p. 1-6 : ill <https://doi.org/10.1109/IECON48115.2021.9589473> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

**Photovoltaic string converter with universal compatibility with AC and DC microgrids = Alalis- ja vahelduvvoolu mikrovõrkudega ühilduv universaalne muundur päikese-elektrijaamadele**

**Matiushkin, Oleksandr** 2022 <https://doi.org/10.23658/taltech.27/2022> <https://digikogu.taltech.ee/et/item/b818b684-924e-4fda-b414-fe8b7adba165> [https://www.ester.ee/record=b5502078\\*est](https://www.ester.ee/record=b5502078*est)

**Power converter solutions for industrial PV applications — a review**

Verbytskyi, Ievgen; Lukianov, Mykola; Nasserredine, 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](#)

**Proportional resonant controller tuning in three-phase four-leg VSI based on particle swarm optimization**

Akhtar, Zeeshan; Zhu, Jiebei; **Husev, Oleksandr**; Vinnikov, Dmitri; Yu, Lujie 2021 IEEE 19th International Power Electronics and Motion Control Conference, The Silesian University of Technology Gliwice, Poland, 25 - 29 April, 2021 (PEMC) : proceedings 2021 / p. 851-856 : ill <https://doi.org/10.1109/PEMC48073.2021.9432607>

**PWM for single phase 3L Z/qZ-Source inverter with balanced power losses**

Roncero-Clemente, Carlos; **Husev, Oleksandr**; Jalakas, Tanel; Romero-Cadaval, Enrique; **Zakis, Janis**; Minambres-Marcos, Victor Elektronika ir elektrotehnika = Electronics and electrical engineering 2014 / p. 71-76 : ill <https://doi.org/10.5755/j01.eee.20.6.7270> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**qZS inverter as synchronverter in small-scale micro-grid**

Zakis, Janis; **Makovenko, Elena**; Zeng, Hao; **Husev, Oleksandr**; Kütt, Lauri Elektronika ir elektrotehnika = Electronics and electrical engineering 2018 / p. 58-62 : ill <https://doi.org/10.5755/j01.eie.24.2.20636> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Quasi-Z source T-type power converter for PV based commercial and industrial nanogrids with active functions strategy**

Barrero-Gonzalez, Fermin; Roncero-Clemente, Carlos; Milanes-Montero, Maria Isabel; Gonzalez-Romera, Eva; Romero-Cadaval, Enrique; **Husev, Oleksandr** Electronics 2020 / art. 1233, 18 p. : ill <https://doi.org/10.3390/electronics9081233> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Quasi-Z-source based string inverter for residential photovoltaic application = Kvaasi-impedants tüüpi allikaga muundur kodumajapidamistes kasutatavatele päikesepaneelidele**

**Santasheva, Elena** 2019 <https://digi.lib.ttu.ee/ii/?12312>

**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 / p. 2935-2940 : ill <https://doi.org/10.1109/ICIT.2015.7125531> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

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

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

**Recent contributions, future prospects and limitations of interlinking converter control in hybrid AC/DC microgrids**

**Najafzadeh, Mahdiyyeh**; **Ahmadihangar, Roya**; **Husev, Oleksandr**; Roasto, Indrek; Jalakas, Tanel; **Blinov, Andrei** IEEE Access 2021 / art. 9312595, p. 7960-7984 <https://doi.org/10.1109/ACCESS.2020.3049023> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

**Reinforcement Learning-based Energy Management Strategy for Flexible Hybrid ac/dc Microgrid**

Gutiérrez-Escalona, Javier; Roncero-Clemente, Carlos; **Husev, Oleksandr**; **Matiushkin, Oleksandr**; Barrero-González, Fermín; González-Romera, Eva IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2025 / 6 p <https://doi.org/10.1109/IECON55916.2024.10905501> [Conference proceedings at Scopus](#) [Article at Scopus](#)

**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](https://www.ester.ee/record=b4601191*est)

**Residential DC load forecasting using long short-term memory network (LSTM)**

**Shabbir, Noman**; **Ahmadihangar, Roya**; Rosin, Argo; **Husev, Oleksandr**; Jalakas, Tanel; Martins, Joao 2023 IEEE 11th International Conference on Smart Energy Grid Engineering (SEGE) 2023 / p. 131-136 <https://doi.org/10.1109/SEGE59172.2023.10274596>

**Resonant and Z-source multilevel inverters**

**Husev, Oleksandr**; Roncero-Clemente, Carlos Multilevel inverters : introduction and emergent topologies 2021 / p. 217-257 <https://doi.org/10.1016/B978-0-12-821668-2.00014-3>

## **Review and outlook of isolated capacitive coupling based converters**

**Pourjafar, Saeed; Husev, Oleksandr;** Roncero-Clemente, Carlos 2024 IEEE 18th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2024 / 6 p. <https://doi.org/10.1109/CPE-POWERENG60842.2024.10604421>

## **A review of hybrid converter topologies**

**Afshari, Hossein; Husev, Oleksandr; Matiushkin, Oleksandr; Vinnikov, Dmitri** Energies 2022 / art. 9341  
<https://doi.org/10.3390/en15249341> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

## **Review of novel topologies for PV applications**

**Makovenko, Elena; Husev, Oleksandr;** Roncero-Clemente, Carlos; Romero-Cadaval, Enrique Technological innovation for cyber-physical systems : 7th IFIP WG 5.5/SOCOLNET Advanced Doctoral Conference on Computing, Electrical and Industrial Systems, DoCEIS 2016, Costa de Caparica, Portugal, April 11-13, 2016 : proceedings 2016 / p. 369-377 : ill [https://doi.org/10.1007/978-3-319-31165-4\\_35](https://doi.org/10.1007/978-3-319-31165-4_35) [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

## **Short-term residential DC load forecasting using extreme gradient boost (XgBoost) algorithm**

**Shabbir, Noman; Husev, Oleksandr; Daniel, Kamran;** Jawad, Muhammad; **Rosin, Argo;** Martins, Joao 2024 IEEE 18th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2024 / 6 p  
<https://doi.org/10.1109/CPE-POWERENG60842.2024.10604392>

## **Short-term wind energy forecasting using deep learning-based predictive analytics**

**Shabbir, Noman; Kütt, Lauri;** Jawad, Muhammad; **Husev, Oleksandr** CMC-Computers, Materials & Continua 2022 / p. 1017-1033 <https://doi.org/10.32604/cmc.2022.024576> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

## **A simple space vector modulation method with DC-link voltage balancing and reduced common-mode voltage strategy for a three-level T-type quasi-Z source inverter**

Mayorga, Nicolas; Roncero-Clemente, Carlos; Llor, Ana M.; **Husev, Oleksandr** IEEE Access 2021 / art. 9447724, p. 82747-82760  
<https://doi.org/10.1109/ACCESS.2021.3087035> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

## **Simulation of grid connected three-level neutral-point-clamped qZS inverter using PSCAD**

Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Husev, Oleksandr; Vinnikov, Dmitri;** Stepenko, Serhii Scientific Journal of Riga Technical University. Electrical, control and communication engineering 2013 / p. 14-19 : ill

## **Simulation study of different modulation techniques for three-level quasi-Z-source inverter**

Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Husev, Oleksandr; Vinnikov, Dmitri** Riga Technical University 53rd International Scientific Conference dedicated to the 150th anniversary and the 1st Congress of World Engineers and Riga Polytechnical Institute/RTU Alumni : 11-12 October 2012, Riga, Latvija : [abstracts] 2012 / p. 120 : ill  
<https://intapi.sciendo.com/pdf/10.2478/v10314-012-0002-3>

## **Simulation study of different modulation techniques for three-level quasi-Z-source inverter**

Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Husev, Oleksandr; Vinnikov, Dmitri** Riga Technical University 53rd International Scientific Conference dedicated to the 150th anniversary and The 1st Congress of World Engineers and Riga Polytechnical Institute : RTU Alumni, Paper 14 of Subsection of Power Electronic Converters and Applications 2012 / 7 p. : ill

## **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

## **Simulation study of the grid-connected single-phase impedance-sourced NPC inverter with different control methods**

Roncero-Clemente, Carlos; **Husev, Oleksandr;** Romero-Cadaval, Enrique; **Zakis, Janis; Vinnikov, Dmitri;** Milanés-Montero, Maria Isabel 2015 IEEE International Conference on Industrial Technology (ICIT 2015) : Seville, Spain, 17-19 March 2015 2015 / p. 2949-2954 : ill <https://doi.org/10.1109/ICIT.2015.7125533> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

## **Simulation study of the three-level boost DC-DC converter with full ZVS for PV application**

Vorobei, Vasiliy; **Zakis, Janis; Husev, Oleksandr;** Veligorskyi, Oleksandr; Savenko, Oleksandr ICPE 2015 - ECCE Asia : 9th International Conference on Power Electronics - ECCE Asia : "Green World with Power Electronics" : June 1-5, 2015, 63 Convention Center, Seoul, Korea 2015 / p. 2038-2043 : ill <http://dx.doi.org/10.1109/ICPE.2015.7168058>

## **Single phase three-level neutral-point-clamped quasi-Z-source inverter**

**Husev, Oleksandr;** Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Vinnikov, Dmitri;** Stepenko, Serhii IET power electronics 2015 / p. 1-10 : ill <https://doi.org/10.1049/iet-pel.2013.0904> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

## **Single switch multi-winding wireless power transfer system based on Z-source network**

Kroics, Kaspars; **Husev, Oleksandr;** Pakhaliuk, Bohdan 2018 20th European Conference on Power Electronics and Applications (EPE'18 ECCE Europe) : Riga, Latvia, 17-21 September 2018 2018 / p. 2465-2474 : ill <https://ieeexplore.ieee.org/document/8515602>

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

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

### **Single-phase qZS-based PV inverter with integrated battery storage for distributed energy generation**

**Husev, Oleksandr; Makovenko, Elena; Vinnikov, Dmitri; Jalakas, Tanel** 2018 IEEE 12th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG 2018) : Doha, Qatar, 10-12 April 2018 2018 / p. 508-513 : ill <https://doi.org/10.1109/CPE.2018.8372570>

### **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-phase three-level qZ-source inverter connected to the grid with battery storage and active power decoupling function**

**Makovenko, Elena; Husev, Oleksandr;** Romero-Cadaval, Enrique; **Vinnikov, Dmitri; Stepenko, Serhii** 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.2018.8659843>

### **Single-phase three-level quasi-Z-source inverter with a new boost modulation technique**

**Husev, Oleksandr;** Stepenko, Serhii; Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Vinnikov, Dmitri** IECON 2012 : 38th Annual Conference of the IEEE Industrial Electronics Society : Industrial Electronics for Sustainable Development 2012 / p. 5852-5857 : ill <https://doi.org/10.1109/IECON.2012.6389127> <https://ieeexplore.ieee.org/document/6389127>

### **Single-stage buck-boost inverters: a state-of-the-art survey**

Azizi, Mohammadreza; **Husev, Oleksandr; Vinnikov, Dmitri** Energies 2022 / art. 1622 <https://doi.org/10.3390/en15051622> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Small signal model of the buck-boost bidirectional DC-AC converter based on unfolding circuit**

**Matiushkin, Oleksandr; Husev, Oleksandr; Vinnikov, Dmitri** 2019 IEEE 60th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), 7-9 October 2019 : conference proceedings 2019 / 6 p <https://doi.org/10.1109/RTUCON48111.2019.8982329>

### **Small signal modeling of interleaved quasi-z-source inverter with active power decoupling circuit**

**Stepenko, Serhii; Husev, Oleksandr; Pires Pimentel, Sergio; Makovenko, Elena; Vinnikov, Dmitri** 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.2018.8659903>

### **Small signal modeling of interleaved quasi-z-source inverter with active power decoupling circuit**

**Stepenko, Serhii; Husev, Oleksandr; Pires Pimentel, Sergio; Makovenko, Elena; Vinnikov, Dmitri** 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.2018.8659903>

### **Stability analysis of the quasi-Z-source DC/DC converter based on small signal model [Electronic resource]**

**Husev, Oleksandr; Vinnikov, Dmitri; Roasto, Indrek** SPEEDAM 2012 : Sorrento (Italy) - June 20-22, 2012 : 21st edition of the International Symposium on Power Electronics, Electrical drives, Automation and Motion 2012 / p. 298-303 : ill [CD-ROM] <https://ieeexplore.ieee.org/document/6264524>

### **State-of-the-art activity recognition and prediction techniques applicable to the home energy management system**

Hokmabad, Hossein Nourollahi; **Belikov, Juri; Husev, Oleksandr; Vinnikov, Dmitri** 2022 IEEE 7th International Energy Conference (ENERGYCON) 2022 / art. 181231 : ill <https://doi.org/10.1109/ENERGYCON53164.2022.9830154>

### **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 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]

### **Supply air temperature control in air handling unit based on federated learning**

**Eik, Marika; Nourollahi Hokmabad, Hossein; Köse, Ahmet; Husev, Oleksandr; Belikov, Juri** 2024 IEEE Power and Energy Society General Meeting, PESGM 2024, Seattle, 21 July 25 July, 2024 2024 / 5 p. : ill <https://doi.org/10.1109/PESGM51994.2024.10688759> [Conference proceedings at Scopus](#) [Article at Scopus](#)

### **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

### **SVPWM capacitor balancing method for single-phase three-level NPC impedance-source inverters**

Shults, Tatiana; Filatova, Alena; Dybko, Maxim; **Husev, Oleksandr** 2018 19th International Conference of Young Specialists on Micro/Nanotechnologies and Electron Devices (EDM 2018) : Erlagol (Altai Republic), Russia, 29 June - 3 July 2018 2018 / p. 580-584 : ill <http://dx.doi.org/10.1109/EDM.2018.8434962>

### **SVPWM strategy for single-phase three-level impedance source inverter**

Shults, Tatiana; Sidorov, Andrey; **Husev, Oleksandr** 16th International Symposium "Topical Problems in the Field of Electrical and Power Engineering. Doctoral School of Energy and Geotechnology III" : Pärnu, Estonia, January 16-21, 2017 2017 / p. 144-147 : ill [http://www.ester.ee/record=b4650094\\*est](http://www.ester.ee/record=b4650094*est)

### **Techno-economic analysis and energy forecasting study of domestic and commercial photovoltaic system installations in Estonia**

**Shabbir, Noman; Kütt, Lauri; Raja, Hadi Ashraf;** Jawad, Muhammad; Allik, Alo; **Husev, Oleksandr** Energy 2022 / art. 124156 <https://doi.org/10.1016/j.energy.2022.124156> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Thermal management experience in GaN-based DC-DC converter**

**Mohseni, Parham; Husev, Oleksandr; 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-POWERENG60842.2024.10604322>

### **Three-level single-phase quasi-Z source inverter with active power decoupling circuit**

**Makovenko, Elena; Husev, Oleksandr;** Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Vinnikov, Dmitri** 18th International Conference of Young Specialists on Micro/Nanotechnologies and Electron Devices : proceedings : Erlagol, Altai - 29 June - 3 July, 2017 2017 / p. 497-502 : ill <https://doi.org/10.1109/EDM.2017.7981804>

### **Three-level three-phase quasi-Z-source neutral-point-clamped inverter with novel modulation technique for photovoltaic application**

**Husev, Oleksandr;** Roncero-Clemente, Carlos; Romero-Cadaval, Enrique; **Vinnikov, Dmitri; Jalakas, Tanel** Electric power systems research 2016 / p. 10-21 : ill <https://doi.org/10.1016/j.epsr.2015.08.018> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Three-level T-type qZ source inverter as grid-following unit for distributed energy resources**

Gutierrez-Escalona, Javier; Roncero-Clemente, Carlos; **Husev, Oleksandr;** Barrero-Gonzalez, Fermin; Llor, Ana M.; Fernao Pires, Vitor IEEE journal of emerging and selected topics in power electronics 2022 / p. 7772-7785 <https://doi.org/10.1109/JESTPE.2022.3193258> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **3L-T-type qZSI as grid-forming unit in AC microgrid**

Gutierrez-Escalona, Javier; Roncero-Clemente, Carlos; **Husev, Oleksandr;** Pires, Victor; Milanes-Montero, Maria Isabel; Gonzalez-Romera, Eva IECON 2022 – 48th Annual Conference of the IEEE Industrial Electronics Society 2022 / code 184962 <https://doi.org/10.1109/IECON49645.2022.9968571> [Conference Proceedings at Scopus](#) [Article at Scopus](#)

### **Three-phase three-level neutral-point-clamped qZ source inverter with active filtering capabilities**

Roncero-Clemente, Carlos; **Husev, Oleksandr;** Romero-Cadaval, Enrique; Martins, Joao; **Vinnikov, Dmitri;** Milanes-Montero, Maria Isabel 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. 216-220 : ill <http://dx.doi.org/10.1109/CPE.2015.7231075>

### **A three-phase unfolding-based PFC topology with two inductors for electric vehicles battery charging**

**Mohseni, Parham; Husev, Oleksandr; Vinnikov, Dmitri; Matiushkin, Oleksandr; Vosoughi Kurdkandi, Naser** 2023 IEEE 64th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), Riga, Latvia, October 9-11, 2023 : conference proceedings 2023 / 6 p <https://doi.org/10.1109/RTUCON60080.2023.10413182>

### **Topological review of quasi-switched boost inverters**

Barath, Jayakumar Geetha Nataraj; Soundarajan, Ayyasamy; Stepenko, Serhii; **Husev, Oleksandr; Vinnikov, Dmitri;** Nguyen, Minh-Khai Electronics 2021 / art. 1485 <https://doi.org/10.3390/electronics10121485> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Tracking of MPP for three-level neutral-point clamped qZ-source off-grid inverter in solar applications**

Roncero-Clemente, Carlos; **Husev, Oleksandr;** Minambres-Marcos, Victor; Romero-Cadaval, Enrique; Stepenko, Serhii; **Vinnikov, Dmitri** Journal of microelectronics, electronic components and materials 2013 / p. 212-221 : ill [https://www.researchgate.net/publication/259495902\\_Tracking\\_of\\_MPP\\_for\\_three-level\\_neutral-point\\_clamped\\_qZ-source\\_off-grid\\_inverter\\_in\\_solar\\_applications](https://www.researchgate.net/publication/259495902_Tracking_of_MPP_for_three-level_neutral-point_clamped_qZ-source_off-grid_inverter_in_solar_applications)

### **Transformerless boost AC/DC converter with the front-end active filter**

**Husev, Oleksandr** 7th International Conference-workshop Compatibility and Power Electronics : CPE 2011 : Tallinn, Estonia, June 3, 2011 : student forum 2011 / p. 77-81 : ill

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

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

### **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](#)

### **Voltage control tuning of a single-phase grid-Connected 3L qZS-based inverter for PV application**

**Pires Pimentel, Sergio**; **Husev, Oleksandr**; **Vinnikov, Dmitri**; Roncero-Clemente, Carlos; **Makovenko, Elena** 2018 IEEE 38th International Conference on Electronics and Nanotechnology (ELNANO 2018) : Kyiv, Ukraine, 24-26 April 2018 2018 / p. 692–698 : ill <https://doi.org/10.1109/ELNANO.2018.8477438>

### **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 source operation of the energy-router based on model predictive control**

**Roasto, Indrek**; **Husev, Oleksandr**; **Najafzadeh, Mahdiyyeh**; **Jalakas, Tanel**; Rodriguez, Jose Energies 2019 / art. 1892, 15 p. . ill <https://doi.org/10.3390/en12101892> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Визначення параметрів регулятора в системі керування DC/DC перетворювачем з квазі-імпедансною ланкою за умови стійкості для малого сигналу**

**Husev, Oleksandr** Технічна електродинаміка 2013 / с. 18-23 : ил [https://previous.techmed.org.ua/2013\\_5/st4.pdf](https://previous.techmed.org.ua/2013_5/st4.pdf) [Journal metrics at Scopus](#) [Article at Scopus](#)

### **Двухтактный квази-импедансный повышающий DC/DC преобразователь**

**Vinnikov, Dmitri**; **Husev, Oleksandr**; **Blinov, Andrei** Технічна електродинаміка : тематичний випуск : силова електроніка та енергоефективність 2012 / с. 36-42 : ил

### **Классификация изолированных DC/DC квази-импедансных преобразователей**

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

### **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]

### **Порівняння імпедансних ланок для перетворювачів з джерелом напруги**

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

### **Сравнительный анализ повышающих преобразователей для интеграции фотоэлектрических панелей в сеть [Компьют. файл]**

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

### **Трёхуровневый квази-импедансный инвертор с новым методом модуляции**

**Husev, Oleksandr**; **Stepenko, Serhii**; Clemente, C.; Kadaval, E.; **Vinnikov, Dmitri** Технічна електродинаміка : тематичний випуск : силова електроніка та енергоефективність 2012 / с. 47-52 : ил