

Active power electronic transformer as a power conditioner for nonlinear loads [Electronic resource]

Roasto, Indrek; Romero-Cadaval, Enrique; Martins, Joao; **Jalakas, Tanel** CPE 2013 : 2013 International Conference on Compatibility and Power Electronics (CPE) : June 5-7, 2013, Ljubljana, Slovenia : conference proceedings 2013 / p. 63-68 : ill [CD-ROM]

Advanced course of power electronics : laboratory works

Jalakas, Tanel; Vodovozov, Valery; Vinnikov, Dmitri 2008 https://www.ester.ee/record=b2375135*est

An improved high-power DC/DC converter for distributed power Generation [Electronic resource]

Vinnikov, Dmitri; Roasto, Indrek; Jalakas, Tanel EPQU'09 : 10th International Conference on Electrical Power Quality and Utilisation : 15-17 September 2009, Lodz, Poland 2009 / [6] p. [CD-ROM]

Analysis and design of 3.3 kV IGBT based three-level DC/DC converter with high-frequency isolation and current doubler rectifier

Vinnikov, Dmitri; Jalakas, Tanel; Roasto, Indrek Scientific journal of Riga Technical University. Serija 4, Power and electrical engineering 2009 / p. 97-102 : ill

Analysis and design of ultracapacitor-boosted back-up power supply for tramcars [Electronic resource]

Hõimoja, Hardi; Vinnikov, Dmitri; Jalakas, Tanel EUROCON 2009 : International IEEE Conference devoted to the 150-anniversary of Alexander S. Popov : May 18-23, 2009 Saint Petersburg, Russia 2009 / p. 598-604 [CD-ROM]
<https://ieeexplore.ieee.org/document/5167691>

Analysis of battery charger topologies for an electric vehicle

Jalakas, Tanel; Roasto, Indrek; Vinnikov, Dmitri BEC 2012 : 2012 13th Biennial Baltic Electronics Conference : proceedings of the 13th Biennial Baltic Electronics Conference : October 3-5, 2012, Tallinn, Estonia 2012 / p. 223-226 : ill

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

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

Analysis of implementation possibilities and benefits of three-level half-bridge NPC topology in static auxiliary converters for rolling stock [Electronic resource]

Vinnikov, Dmitri; Jalakas, Tanel; Roasto, Indrek POWERENG 2009 : 2nd International Conference on Power Engineering, Energy and Electrical Drives : 18-20 March, 2009, Lisbon, Portugal 2009 / p. 587-592 : ill. [CD-ROM]
<https://ieeexplore.ieee.org/document/4915180>

Analysis of switching conditions of IGBTs in modified sine wave qZSIs operated with different shoot-through control methods

Vinnikov, Dmitri; Roasto, Indrek; Zakis, Janis; Ott, Silver; Jalakas, Tanel Elektronika ir elektrotechnika = Electronics and electrical engineering 2011 / p. 45-50 : ill
https://www.researchgate.net/publication/269779178_Analysis_of_Switching_Conditions_of_IGBTs_in_Modified_Sine_Wave_qZSIs_Operated_with_Different_Shoot-Through_Control_Methods

Analysis of switching properties of different high voltage IGBTs operating under hard-switching conditions

Blinov, Andrei; Jalakas, Tanel; Vinnikov, Dmitri; Laugis, Juhan BEC 2010 : 2010 12th Biennial Baltic Electronics Conference : proceedings of the 12th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 4-6, 2010, Tallinn, Estonia 2010 / p. 323-326 : ill

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

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

Application of hysteresis voltage control for three-level neutral point clamped voltage source inverter

Kolmakov, Nikolay; Bakhovtsev, Igor A.; Jalakas, Tanel 2015 56th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) 2015 / p. 195-198 : ill

A battery cell balancing method with linear mode bypass current control

Gallardo-Lozano, Javier; Romero-Cadaval, Enrique; **Jalakas, Tanel; Hõimoja, Hardi** 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. 245-248 : ill

Bidirectional operation of the power electronic interface for nearly-zero energy buildings

Roasto, Indrek; Jalakas, Tanel; Rosin, Argo 2018 20th European Conference on Power Electronics and Applications (EPE'18

Combined active frequency drift islanding detection method for NZEB energy router

Jalakas, Tanel; Roasto, Indrek; Najafzadeh, Mahdiyyeh 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/RTUCON48111.2019.8982258>

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

Comparative study of capacitor-assisted extended boost qZSIs operating in continuous conduction mode

Vinnikov, Dmitri; Roasto, Indrek; Jalakas, Tanel BEC 2010 : 2010 12th Biennial Baltic Electronics Conference : proceedings of the 12th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 4-6, 2010, Tallinn, Estonia 2010 / p. 297-300 : ill

Control of bidirectional grid-forming inverter for nearly zero energy buildings

Roasto, Indrek; Jalakas, Tanel; Rosin, Argo 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.2018.8659848>

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

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

DC droop control strategies and tuning principles

Roasto, Indrek; Blinov, Andrei; Vinnikov, Dmitri; Mackay, Laurens; Jalakas, Tanel 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 <https://doi.org/10.1109/RTUCON60080.2023.10412947>

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>

Design and development challenges of power electronics converters for the rolling stock

Jalakas, Tanel; Vinnikov, Dmitri; Laugis, Juhan Intelligent Technologies in Logistics and Mechatronics Systems : ITELMS'2008 : proceedings of the 3rd International Workshop : May 22-23, 2008, Panevezys, Lithuania 2008 / p. 17-22 : ill

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

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

Design and development of three-level half-bridge NPC converter with dual 3.3 kV IGBT modules

Jalakas, Tanel; Vinnikov, Dmitri; Roasto, Indrek 6th International Symposium "Topical Problems in the Field of Electrical and Power Engineering" : Doctoral School of Energy and Geotechnology : [Kuressaare, January 12-17, 2009] 2009 / p. 43-48 : ill

Design and testing of an universal autonomous surface vehicle

Roasto, Indrek; Jalakas, Tanel; Mölder, Heigo; Möller, Taavi; Tabri, Kristjan; Enok, Mart 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. 705-710 : ill <https://doi.org/10.1109/PEMC48073.2021.9432567>

Design issues of SSCBs for residential DC microgrid

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

Design of multiphase single-switch impedance-source converters

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

Design of solid state circuit breaker

Jalakas, Tanel; Chub, Andrii; Roasto, Indrek; Vinnikov, Dmitri 2022 IEEE 63th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON): conference proceedings 2022 / p. 1-5
<https://doi.org/10.1109/RTUCON56726.2022.9978903>

Development and application of energy producing solar pavement in Estonia

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

Development of 50-kW isolated DC/DC converter with high-voltage IGBTs

Vinnikov, Dmitri; Jalakas, Tanel; Laugis, Juhan Przegląd elektrotechniczny 2007 / p. 103-107

Development of 50-kW isolated DC/DC converter with high-voltage IGBTs [Electronic resource]

Jalakas, Tanel; Vinnikov, Dmitri; Laugis, Juhan Proceedings of 5th International Conference 2007 : Compatibility in Power Electronics : 29 May - 1 June 2007, Gdynia, Poland 2007 / [6] p. [CD-ROM]

Development of auxiliary power supplies for the 3.0 kV DC rolling stock

Vinnikov, Dmitri; Laugis, Juhan; Jalakas, Tanel ISIE2007 : 2007 IEEE International Symposium on Industrial Electronics : June 4-7, 2007, Vigo, Spain : abstract book 2007 / p. 61 <https://ieeexplore.ieee.org/document/4374624>

Development of auxiliary power supplies for the 3.0 kV DC rolling stock [Electronic resource]

Vinnikov, Dmitri; Laugis, Juhan; Jalakas, Tanel ISIE2007 : 2007 IEEE International Symposium on Industrial Electronics : June 4-7, 2007, Vigo, Spain 2007 / p. 359-364 [CD-ROM] <https://ieeexplore.ieee.org/document/4374624>

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

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

Effects of voltage transients on the DC droop control in residential nanogrids

Roasto, Indrek; Blinov, Andrei; Vinnikov, Dmitri; Jalakas, Tanel 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 5 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227464>

Electric vehicle fast charger high voltage input multiport converter topology analysis [Electronic resource]

Jalakas, Tanel; Roasto, Indrek; Vinnikov, Dmitri CPE 2013 : 2013 International Conference on Compatibility and Power Electronics (CPE) : June 5-7, 2013, Ljubljana, Slovenia : conference proceedings 2013 / p. 326-331 : ill [CD-ROM]

Electric vehicle multiport fast charger based on the concept of active power electronic transformer

Jalakas, Tanel; Roasto, Indrek; Gallardo-Lozano, Javier; Romero-Cadaval, Enrique 2014 16th European Conference on Power Electronics and Applications (EPE'14-ECCE Europe) : Lappeenranta, Finland, 26-28 August 2014. Vol. 3 2014 / p. 2168-2176 : ill

Electronics and semiconductor engineering : laboratory works

Jalakas, Tanel; Vodovozov, Valery; Vinnikov, Dmitri 2008 https://www.ester.ee/record=b2373748*est

Elektroonika ja jõupooljuhttehnika : laboratoorsete tööde juhendid

Jalakas, Tanel; Jansikene, Raik 2008 http://www.ester.ee/record=b2373860*est

Energiat tootev teekatend nüüd ka Eestis

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

Energy router based energy management system for nearly zero energy buildings

Najafzadeh, Mahdiyyeh; Roasto, Indrek; Jalakas, Tanel 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/RTUCON48111.2019.8982366>

Evaluation of different high-voltage switch solutions for high-power converters used in rolling stock [Electronic resource]

Vinnikov, Dmitri; Laugis, Juhan; Jalakas, Tanel ISIE08 : 2008 IEEE International Symposium on Industrial Electronics : 30 June - 2 July 2008, Cambridge, United Kingdom 2008 / p. 214-219 : ill. [CD-ROM] <https://ieeexplore.ieee.org/document/4677124>

Evaluation of different loss calculation methods for high-voltage IGBT-s under small load conditions

Jalakas, Tanel; Vinnikov, Dmitri; Laugis, Juhan EPE-PEMC 2008 : 2008 13th International Power Electronics and Motion Control Conference : 1-3 September 2008, Poznan, Poland : abstracts 2008 / p. 50 <https://ieeexplore.ieee.org/document/4635442>

Evaluation of different loss calculation methods for high-voltage IGBT-s under small load conditions [Electronic resource]

Jalakas, Tanel; Vinnikov, Dmitri; Laugis, Juhan EPE-PEMC 2008 : 2008 13th International Power Electronics and Motion Control Conference : 1-3 September 2008, Poznan, Poland : proceedings 2008 / p. 1286-1290 : ill. [CD-ROM] <https://ieeexplore.ieee.org/document/4635442>

Experimental analysis of extended boost quasi-Z-source inverters

Ott, Silver; Jalakas, Tanel; Vinnikov, Dmitri; Roasto, Indrek BEC 2012 : 2012 13th Biennial Baltic Electronics Conference : proceedings of the 13th Biennial Baltic Electronics Conference : October 3-5, 2012, Tallinn, Estonia 2012 / p. 259-262 : ill

Experimental analysis of extended boost quasi-Z-source inverters

Ott, Silver; Jalakas, Tanel; Roasto, Indrek; 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. 65-67 : ill

Experimental study of new integrated DC/DC converter for hydrogen-based energy storage

Vinnikov, Dmitri; Andrijanovič, Anna; Roasto, Indrek; Jalakas, Tanel 2011 10th International Conference on Environment and Electrical Engineering (EEEIC), 8-11 May 2011, Rome, Italy : conference proceedings 2011 / [4 p.] : ill
<https://ieeexplore.ieee.org/document/5874667>

Experimental study of shoot-through control methods for qZSI-based DC/DC converters [Electronic resource]

Roasto, Indrek; Vinnikov, Dmitri; Jalakas, Tanel; Zakis, Janis; Ott, Silver SPEEDAM 2010 : International Symposium on Power Electronics, Electrical Drives, Automation and Motion : Pisa, Italy, 14th-16th June, 2010 : proceedings 2010 / p. 29-34 : [CD-ROM]
<https://ieeexplore.ieee.org/document/5542046>

Experimental verification of light electric vehicle charger multiport topology

Jalakas, Tanel; Zakis, Janis 2015 9th International Conference on Compatibility and Power Electronics (CPE) : proceedings : Faculty of Science and Technology (FCT), Caparica, Lisbon, Portugal, 24-26 June, 2015 2015 / p. 415-418 : ill
<http://dx.doi.org/10.1109/CPE.2015.7231111>

Experimentally adjusted modelling and simulation technique for a catamaran autonomous surface vessel

Astrov, Igor; Udal, Andres; Mölder, Heigo; Jalakas, Tanel; Möller, Taavi International Conference on Electrical, Computer, and Energy Technologies, ICECET 2022, Prague, Czech Republic, July 20-22, 2022 2022 / 7 p. : ill
<https://doi.org/10.1109/ICECET55527.2022.9873069>

Extended boost quasi-Z-source inverters : possibilities and challenges

Vinnikov, Dmitri; Roasto, Indrek; Jalakas, Tanel; Ott, Silver Elektronika ir elektrotehnika = Electronics and electrical engineering 2011 / p. 51-56 : ill https://www.researchgate.net/publication/229042778_Extended_Boost_Quasi-Z_Source_Inverters_Possibilities_and_Challenges

Feasibility study of half- and full-bridge isolated DC/DC converters in high-voltage high-power applications

Vinnikov, Dmitri; Jalakas, Tanel; Egorov, Mikhail EPE-PEMC 2008 : 2008 13th International Power Electronics and Motion Control Conference : 1-3 September 2008, Poznan, Poland : abstracts 2008 / p. 49
<https://ieeexplore.ieee.org/document/4635441/similar#similar>

Feasibility study of half- and full-bridge isolated DC/DC converters in high-voltage high-power applications [Electronic resource]

Vinnikov, Dmitri; Jalakas, Tanel; Egorov, Mikhail EPE-PEMC 2008 : 2008 13th International Power Electronics and Motion Control Conference : 1-3 September 2008, Poznan, Poland : proceedings 2008 / p. 1271-1277 : ill. [CD-ROM]
<https://ieeexplore.ieee.org/document/4635441/similar#similar>

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

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

Grid integration issues of PMSG-based residential wind turbines

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

Grid reactive power compensation by using electric vehicles

Gallardo-Lozano, Javier; Romero-Cadaval, Enrique; Minambres-Marcos, Victor; **Vinnikov, Dmitri; Jalakas, Tanel; Hõimoja, Hardi** PQ2014 : the 9th International 2014 Electric Power Quality and Supply Reliability Conference (PQ) : June 11-13, 2014, Rakvere, Estonia : proceedings 2014 / p. 19-24 : ill

High-voltage IGBT based converters for rolling stock : possibilities and challenges

Roasto, Indrek; Jalakas, Tanel; Vinnikov, Dmitri 2011 <https://www.amazon.com/HIGH-VOLTAGE-BASED-CONVERTERS-ROLLING-STOCK/dp/3843391211>

High-voltage pulse transformer for IOT modulators

Jalakas, Tanel; Janson, Kuno; Mölder, Heigo; Roasto, Indrek IET electric power applications 2020 / p. 2348-2354
<https://doi.org/10.1049/iet-epa.2019.0877> [Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS](#)

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

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

Impedance network-based diode-clamped multilevel inverter voltage balancing with cascaded voltage multiplier

Ebrahimi, Ali; Babaei, Ebrahim; Mousavi, S. M. J.; Mashinchi Maheri, Hamed; Jalakas, Tanel 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/RTUCON60080.2023.10413166>

Implementation of snubber circuits in power converters with high-voltage IGBTs

Jalakas, Tanel; Blinov, Andrei; Mölder, Heigo; Lehtla, Tõnu 8th International Symposium "Topical Problems in the Field of Electrical and Power Engineering" : Doctoral School of Energy and Geotechnology. II : [Pärnu, January 11-16, 2010 : proceedings] 2010 / p. 42-45 : ill

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>

Interlock delay time minimization and its impact on the high-voltage half-bridge DC/DC converter

Jalakas, Tanel; Vinnikov, Dmitri; Lehtla, Tõnu; Bolgov, Viktor 6th International Conference-Workshop Compatibility and Power Electronics : May 20-22, 2009 : CPE 2009 : conference proceedings 2009 / p. 438-443 [CD-ROM]

Interlock delay time minimization and its impact on the high-voltage half-bridge DC/DC converter [Electronic resource]

Jalakas, Tanel; Vinnikov, Dmitri; Lehtla, Tõnu; Bolgov, Viktor 2009 Compatibility and Power Electronics CPE 2009 : 6th International Conference-Workshop 2009 / p. 438-443 : ill. [CD-ROM]

Investigation of radiated emissions of a galvanically isolated qZS DC-DC converter

Jalakas, Tanel; Jarkovoi, Marek; Roasto, Indrek; Zakis, Janis; Garganeev, Alexander 2015 IEEE 5th International Conference on Power Engineering, Energy and Electrical Drives (POWERENG) : proceedings : May 11-13, 2015, Riga, Latvia 2015 / p. 176-181 : ill <http://dx.doi.org/10.1109/PowerEng.2015.7266314>

Jõuelektroonika : laboratoorse tööde juhendid

Jalakas, Tanel; Jansikene, Raik 2008 http://www.ester.ee/record=b2375029*est

Jõuelektroonika erikursus : laboratoorse tööde juhendid

Jalakas, Tanel 2008 http://www.ester.ee/record=b2375053*est

Kõrgema kasuteguriga alalispingemuundur alternatiivsetele energiaallikatele

Jalakas, Tanel Inseneeria 2011 / lk. 50-51 : ill https://www.ester.ee/record=b1519314*est

Laboratory setup for teaching an advanced course of power electronics

Jalakas, Tanel; Vinnikov, Dmitri; Vodovozov, Valery 5th International Symposium "Topical Problems in the Field of Electrical and Power Engineering". Doctoral School of Energy and Geotechnology : Kuressaare, January 14-19, 2008 2008 / p. 149-154 : ill

Light load operation of 6,5 kV 200 A IGBTs in half-bridge configuration [Electronic resource]

Jalakas, Tanel; Vinnikov, Dmitri; Laugis, Juhan 19th International Symposium on Power Electronics, Electrical Drives, Automation and Motion : Speedam 2008 : Ischia (Italy), June 11th-13th, 2008 : conference proceedings 2008 / p. 1373-1378 : ill. [CD-ROM] https://www.researchgate.net/publication/4357162_Light_Load_Operation_of_65_kV_200_A_IGBTs_in_Half-Bridge_Configuration

Loss calculation methods of half-bridge square-wave inverters

Blinov, Andrei; Vinnikov, Dmitri; Jalakas, Tanel Elektronika ir elektrotehnika = Electronics and electrical engineering 2011 / p. 9-14 : ill <https://eejournal.ktu.lt/index.php/elt/article/view/604>

Maintenance information system for vehicles

Jalakas, Tanel 2nd International Symposium "Topical Problems of Education in the Field of Electrical and Power Engineering" : Kuressaare, Estonia, January 17-22, 2005 2005 / p. 80-81 : ill

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>

Modernisation issues of diesel-electric shunting locomotive power units

Hõimoja, Hardi; Jalakas, Tanel; Rosin, Argo; Rassõlkin, Anton Scientific journal of Riga Technical University. Serija 4, Power

and electrical engineering 2010 / p. 57-62 : ill <https://ui.adsabs.harvard.edu/abs/2010SJRUP..26...58H/abstract>

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

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

Multiport interface converter with an energy storage for nanogrids

Roasto, Indrek; Rosin, Argo; Jalakas, Tanel IECON 2018 - 44th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2018 / p. 6088–6093 : ill <https://doi.org/10.1109/IECON.2018.8591104>

New fuel cell power conditioning system for supplying dedicated loads

Vinnikov, Dmitri; Roasto, Indrek; Jalakas, Tanel; Lehtla, Tõnu; Laugis, Juhan 2010 9th International Conference on Environment and Electrical Engineering : Prague, Czech Republic, 16-19 May 2010 2010 / p. 341-344 : ill <https://ieeexplore.ieee.org/document/5489939>

A new high step-up NPC-based switched-capacitor seven-level grid-tied inverter for PV applications

Marangalu, Milad Ghavipanjeh; Mashinchi Maheri, Hamed; **Vinnikov, Dmitri; Jalakas, Tanel** 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/RTUCON60080.2023.10413150>

A new high-power DC/DC converter for residential fuel cell power systems [Electronic resource]

Vinnikov, Dmitri; Jalakas, Tanel; Roasto, Indrek 11th Spanish Portuguese Conference on Electrical Engineering (11CHLIE) : 1-4 of July 2009, Zaragoza, Spain 2009 / [6] p. [CD-ROM]

New step-up DC/DC converter with high-frequency isolation

Vinnikov, Dmitri; Roasto, Indrek; Jalakas, Tanel IECON 2009 : 35th Annual Conference of the IEEE Industrial Electronics Society. ICELE 2009 : 3rd IEEE International Conference on E-learning in Industrial Electronics : Porto, Portugal, 3-5 November 2009 : abstracts 2009 / p. 280 <https://ieeexplore.ieee.org/document/5415000>

New step-up DC/DC converter with high-frequency isolation

Vinnikov, Dmitri; Roasto, Indrek; Jalakas, Tanel IECON 2009 : 35th Annual Conference of the IEEE Industrial Electronics Society : Porto, Portugal, 3-5 November 2009 : preprint proceedings 2009 / p. 667-672 : ill <https://ieeexplore.ieee.org/document/5415000>

Non-shoot-through mode behavior of DC/DC converters with a quasi Z source inverter

Jalakas, Tanel; Roasto, Indrek; Vinnikov, Dmitri 15th International Power Electronics and Motion Control Conference, EPE-PEMC 2012 ECCE Europe, Novi Sad, Serbia 2012 / 4 p. : ill <https://ieeexplore.ieee.org/document/6397204>

Output rectifier for the high-voltage high-frequency isolated DC/DC converter

Jalakas, Tanel; Vinnikov, Dmitri; Laugis, Juhan Scientific proceedings of Riga Technical University. Serija 4, Power and electrical engineering 2007 / p. 84-95 : ill

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 analysis of protection methods in residential DC microgrids

Jalakas, Tanel; Banavath, Satish Naik; Chub, Andrii; Roasto, Indrek; Vinnikov, Dmitri 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 6 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227388>

PIC microcontroller learning system

Jalakas, Tanel; Möller, Taavi; Roasto, Indrek 3rd International Symposium "Topical Problems of Education in the Field of Electrical and Power Engineering" : Doctoral School of Energy and Geotechnology : Kuressaare, Estonia, January 16-21, 2006 2006 / p. 99-101 : ill

Power electronic interface converter for resource efficient buildings

Roasto, Indrek; Rosin, Argo; Jalakas, Tanel IECON 2017 - 43rd Annual Conference of the IEEE Industrial Electronics Society : proceedings : China National Convention Center, Beijing, China, 29. October - 01. November, 2017 2017 <https://doi.org/10.1109/IECON.2017.8216617>

Power electronics : laboratory works

Jalakas, Tanel; Vodovozov, Valery; Vinnikov, Dmitri 2008 http://www.ester.ee/record=b2373811*est

Practical design guidelines of qZSI based step-up DC/DC converter

Zakis, Janis; Vinnikov, Dmitri; Roasto, Indrek; Jalakas, Tanel Scientific journal of Riga Technical University. Serija 4, Power and

electrical engineering 2010 / p. 107-114 : ill

https://www.researchgate.net/publication/258448386_Practical_Design_Guidelines_of_qZSI_Based_Step-Up_DCDC_Converter

Prediction of semiconductor losses in a high-power high-voltage DC/DC converter

Jalakas, Tanel; Vinnikov, Dmitri 4th International Symposium Topical Problems of Education in the Field of Electrical and Power Engineering. Doctoral School of Energy and Geotechnology : Kuressaare, Estonia, January 15-20, 2007 / p. 114-117 : ill

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

QZSI DC/DC converters in input-series output-parallel connection for distributed generation [Electronic resource]

Martinez, C.; **Jalakas, Tanel; Vinnikov, Dmitri**; Lazaro, A.; Barrado, A. SPEEDAM 2012 : Sorrento (Italy) - June 20-22, 2012 : 21st edition of the International Symposium on Power Electronics, Electrical drives, Automation and Motion 2012 / p. 952-957 : ill [CD-ROM] <https://ieeexplore.ieee.org/document/6264536>

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

Research and development of high-power high-voltage DC/DC converters = Võimsate kõrgepingeliste alalispingemuundurite uurimine ja vältimine

Jalakas, Tanel 2010 https://www.ester.ee/record=b2607120*est

Research and development of voltage converters based on 6,5 kV IGBTs

Jalakas, Tanel; Roasto, Indrek; Müür, Margus; Vinnikov, Dmitri; Laugis, Juhan International Youth Conference on Energetics IYCE-2007 : 31 May - 02 June, 2007, Budapest, Hungary : program & abstracts 2007 / p. 153-154 : ill

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>

Robot juhib laevu turvaliselt sadamasse või tööpostile

Tamm, Liivi Teejuht : maal, vees ja õhus : Transpordiameti digiajakiri 2025 / lk. 15-17 : fot <https://digiajakiri.transpordiamet.ee/view/820763828/14/>

Selection of the duty cycle variation range and its influence on the efficiency and operability of high-power converters operating at wide input voltage swing

Vinnikov, Dmitri; Roasto, Indrek; Jalakas, Tanel 7th International Symposium "Topical Problems in the Field of Electrical and Power Engineering" : Doctoral School of Energy and Geotechnology. II : [Narva-Jõesuu, Estonia, 16.06-19.06.2009] 2009 / p. 26-31 : ill

Simulation instruments to study power electronics of motor drives [Electronic resource]

Raud, Zoja; Vodovozov, Valery; Jalakas, Tanel; Laugis, Juhan 6th International Conference-Workshop Compatibility and Power Electronics : May 20-22, 2009 : CPE 2009 : conference proceedings 2009 / p. 306-310 [CD-ROM]

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>

Startup sequence for a grid connected single phase voltage source inverter

Roasto, Indrek; Jalakas, Tanel; Rosin, Argo 2017 IEEE International Symposium on Industrial Electronics (ISIE) : Edinburgh International Conference Centre, Edinburgh, Scotland, United Kingdom, 19-21 June, 2017 : proceedings 2017 / p. 1787-1791 : ill <https://doi.org/10.1109/ISIE.2017.8001519>

Startup strategy for grid connected PV micro inverter

Roasto, Indrek; Jalakas, Tanel BEC 2016 : 2016 15th Biennial Baltic Electronics Conference : proceedings of the 15th Biennial Baltic Electronics Conference : Tallinn University of Technology, October 3-5, 2016, Tallinn, Estonia 2016 / p. 187-190 : ill http://www.ester.ee/record=b2150914*est

Study of operating conditions of 3,3 kV dual IGBT modules in three-level neutral point clamped inverters

Blinov, Andrei; Jalakas, Tanel; Vinnikov, Dmitri Технічна електродинаміка 2010 / 1, p. 135-140 : ill

Switch-off behaviour of 6.5 kV IGBT modules in two-level voltage source inverter

Blinov, Andrei; Jalakas, Tanel; Vinnikov, Dmitri; Janson, Kuno Scientific journal of Riga Technical University. Serija 4, Power and electrical engineering 2010 / p. 121-126 : ill https://www.researchgate.net/publication/258448388_Switch-Off_Behaviour_of_65_kV_IGBT_Modules_in_Two-Level_Voltage_Source_Inverter

Synchronous rectification in quasi-Z-source converters : possibilities and challenges

Liivik, Liisa; Vinnikov, Dmitri; Jalakas, Tanel 2014 IEEE International Conference on Intelligent Energy and Power Systems (IEPS) : conference proceedings : June 2-6, 2014, Kyiv, Ukraine 2014 / p. 32-35 : ill

Teaduspreemia tehnikateaduste alal uurimuste tsükli "Uudsed alalispingemuundurid taastuenergeetikas" eest : Dimitri Vinnikov, Tanel Jalakas, Indrek Roasto

Vinnikov, Dmitri; Jalakas, Tanel; Roasto, Indrek Eesti Vabariigi teaduspreemiad 2014 2014 / lk. 64-74 : fot., ill

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](#)

Transient analysis of high-voltage half-bridge inverter during freewheeling states

Blinov, Andrei; Jalakas, Tanel; Vinnikov, Dmitri; Janson, Kuno 9th International Symposium "Topical problems in the field of electrical and power engineering". Doctoral school of energy and geotechnology. II : Pärnu, Estonia, June 14-19, 2010 2010 / p. 8-11 : ill

Uudsed alalispingemuundurid taastuenergeetikas

Vinnikov, Dmitri; Jalakas, Tanel; Roasto, Indrek Teadusmõtte Eestis (X). Tehnikateadused. 3 : [artiklikogumik] 2019 / lk. 216-226 : ill., fot https://www.ester.ee/record=b5208765*est

Uus täisautonoomne robotlaev Heli leiab kalaparvi

Jalakas, Tanel Teejuht : maal, vees ja õhus : Transpordiameti digiajakiri 2023 / lk. 16-17 : fot https://www.ester.ee/record=b5495900*est <https://transpordiamet.ee/digiajakiri-teejuht-talv-2023-nr8>

Versatile laboratory tools for advanced course of power electronics

Jalakas, Tanel; Vinnikov, Dmitri; Roasto, Indrek; Raud, Zoja; Egorov, Mikhail BEC 2008 : 2008 International Biennial Baltic Electronics Conference : proceedings of the 11th Biennial Baltic Electronics Conference : Tallinn University of Technology : October 6-8, 2008, Tallinn, Estonia 2008 / p. 277-280 : ill

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

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

Wind force model and adaptive control of catamaran model sailboat

Astrov, Igor; Udal, Andres; Mölder, Heigo; Jalakas, Tanel; Möller, Taavi 2022 8th International Conference on Automation, Robotics and Applications, ICARA 2022 2022 / p. 202-208 : ill <https://doi.org/10.1109/ICARA55094.2022.9738524>

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](#)