

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

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

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

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

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

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

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

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

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 of capacitor-related mid-voltage point shift problems in high-voltage half-bridge DC/DC converters

Roasto, Indrek; Vinnikov, Dmitri; Lehtla, Tõnu PESC 08 : 39th IEEE Annual Power Electronics Specialists Conference : Rhodes, Greece, 15-19 June 2008 : book of one page paper summaries 2008 / p. 573 <https://ieeexplore.ieee.org/stamp/stamp.jsp?arnumber=4592517>

Analysis of capacitor-related mid-voltage point shift problems in high-voltage half-bridge DC/DC converters

Roasto, Indrek; Vinnikov, Dmitri; Lehtla, Tõnu Proceedings of 2008 IEEE 39th Annual Power Electronics Specialists Conference : PESC 2008 : Rhodes, Greece, 15-19 June 2008 2008 / p. 3619-3622

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 state of the art and development trends in soft-switched half-bridge DC/DC converters

Egorov, Mikhail; Vinnikov, Dmitri; Vodovozov, Valery 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. 49-54 : ill

Application of cycle skipping modulation in buck-boost photovoltaic microconverters

Maheri, Hamed Mashinchi; Vinnikov, Dmitri; Chub, Andrii; Sidorov, Vadim; Galkin, Ilja IEEE transactions on industry applications 2022 / p. 4804-4815 <https://doi.org/10.1109/TIA.2022.3163083> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

AS Metrosert alalispinge tugietalonide uurimistulemused

Adalbert, Taimi; Laaneots, Rein EVS Teataja 1999 / 12, lk. 14-18

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

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

Bidirectional isolated hexamode DC-DC converter

Sidorov, Vadim; Chub, Andrii; Vinnikov, Dmitri IEEE transactions on power electronics 2022 / p. 12264-12278 <https://doi.org/10.1109/TPEL.2022.3170229> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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

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

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

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

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

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

Comparison of decoupling control strategies for multiple active bridge DC-DC converter

Cai, Yicong; Buticchi, Giampaolo; Gu, Chunyang; Li, Jing; Carvalho da Silva, Edivan Laercio; Zhang, He 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023
<https://doi.org/10.1109/CPE-POWERENG58103.2023.10227395>

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

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

Comparison of interface converter topologies for small- or medium-power wind-hydrogen systems

Andrijanovič, Anna; Vinnikov, Dmitri; Hõimoja, Hardi; Klytta, Marius 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. 122-127 : ill

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

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

Control of a three-input DC-DC converter suitable for DC motors

Alizadeh Asl, Amin; Hosseini, Seyed Hossein; Vosoughi Kurdkandi, Naser; Alizadeh Asl, Ramin International transactions on electrical energy systems 2022 / art. 4264649, 20 p. : ill <https://doi.org/10.1155/2022/4264649> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Control system simulation of a 40kW half-bridge isolated DC/DC converter [Electronic resource]

Roasto, Indrek; Vinnikov, Dmitri EPE 2007 : 12th European Conference on Power Electronics and Applications : 2-5 September 2007, Aalborg, Denmark 2007 / [10] p. [CD-ROM] <https://ieeexplore.ieee.org/document/4417224>

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-fed partial power converter for photovoltaic applications in DC microgrids

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

Cycle-skipping technique based on sigma-delta modulation in series resonant DC transformer

Pittala, Lohith Kumar; Chub, Andrii; Sidorov, Vadim; Khan, Salman; Ricco, Mattia; Mandrioli, Riccardo 2025 IEEE Seventh International Conference on DC Microgrids (ICDCM) 2025 / 5 p <http://ieeexplore.ieee.org/document/11144699>
<https://doi.org/10.1109/ICDCM63994.2025.11144699>

DC integration of residential photovoltaic systems : a survey

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

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

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

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

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

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

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

Efficiency optimization of the high-power isolated DC/DC converters through THD and losses reduction in isolation transformers [Electronic resource]

Vinnikov, Dmitri; Bolgov, Viktor International Conference on Renewable Energies and Power Quality : ICREPQ'09 : Valencia, Spain, 15th to 17th April, 2009 2009 / [7] p. : ill. [CD-ROM] https://www.researchgate.net/publication/237808470_Efficiency_Optimization_of_the_High-Power_Isolated_DCDC_Converters_through_THD_and_Losses_Reduction_in_Isolation_Transformers

Equivalence of circuit models of dc-dc PWM converters

Niculescu, Elena; Vinatoru, M. BEC'98 : the 6th Biennial Conference on Electronics and Microsystems Technology, October 7-9, 1998, Tallinn, Estonia : proceedings 1998 / p. 101-104: ill

EV battery charging converters with wide output DC voltage range

Nadeem, Mohammad Mahad; Blinov, Andrei; Vinnikov, Dmitri 2023 IEEE 64th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), Riga, Latvia, October 9-10, 2023 : conference proceedings 2023 / 6 p <https://doi.org/10.1109/RTUCON60080.2023.10412960>

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 verification of novel bi-directional qZSI based DC/DC converter for short term energy storage systems [Electronic resource]

Zakis, Janis; Vinnikov, Dmitri; Roasto, Indrek; Ribickis, Leonids International Conference on Renewable Energies and Power Quality (ICREPQ'11) : Las Palmas de Gran Canaria (Spain), 13th to 15th April 2011 2011 / [5] p. : ill. [CD-ROM] <https://www.icrepq.com/icrepq%2711/550-zakis.pdf>

Fault-tolerant galvanically isolated DC/DC converters with zero redundancy = Null-iiiasusega veatolerantsed galvaanilise isolatsiooniga alalispingemuundurid

Bakeer, Abualkasim Ahmed Ali 2023 <https://doi.org/10.23658/taltech.18/2023> <https://digikogu.taltech.ee/et/Item/a9433801-e32e-4f98-af87-454e414646f4> https://www.ester.ee/record=b5558648*est

Feasibility study of 200 kW half-bridge and full-bridge DC/DC converters with 6.5 kV IGBTs

Vinnikov, Dmitri; Lehtla, Madis 19th International Symposium on Power Electronics, Electrical Drives, Automation and Motion : Speedam 2008 : Ischia (Italy), June 11th-13th, 2008 : conference proceedings 2008 / p. 1537-1541 : ill. [CD-ROM] <https://ieeexplore.ieee.org/document/4581238>

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>

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>

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

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

A 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>

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

Hassanpour, Naser; Chub, Andrii; Yadav, Neelesh; Blinov, Andrei; Vinnikov, Dmitri IEEE Open Journal of the Industrial Electronics Society 2024 / 15 p <https://doi.org/10.1109/OJIES.2024.3389466>

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

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

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

Sidorov, Vadim 21st International Symposium "Topical problems in the field of electrical and power engineering. Doctoral school of energy and geotechnology. III" : Pärnu, Estonia, June 15-18, 2022 2022 / p. 59-60 : ill https://www.eester.ee/record=b5504019*est

High-efficiency single-stage onboard charger for electrical vehicles

Zinchenko, Denys; Blinov, Andrei; Chub, Andrii; Vinnikov, Dmitri; Verbytskyi, Ievgen; Bayhan, Sertac IEEE Transactions on Vehicular Technology 2021 / p. 12581-12592 : ill <https://doi.org/10.1109/TVT.2021.3118392> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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

Rahman, Showrov; Sidorov, Vadim; Chub, Andrii; Vinnikov, Dmitri 2021 IEEE 62nd International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCon), 15-17 Nov. 2021 : conference proceedings 2021 / p. 1-5 : ill <https://doi.org/10.1109/RTUCon53541.2021.9711708>

Impedance-source inverter-based high-power DC/DC converter for fuel cell applications

Egorov, Mikhail; Vinnikov, Dmitri; Strzelecki, Ryszard; Adamowicz, Marek 8 IEEE International Conference on Environment and Electrical Engineering : Karpacz, Poland, 10-13 May 2009 2009 / p. 57-60 : ill <http://eeeic.org/proc/papers/109.pdf>

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

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

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

Yadav, Neelesh; Hassanpour, Naser; Chub, Andrii; Blinov, Andrei; Vinnikov, Dmitri IEEE journal of emerging and selected topics in power electronics 2024 / p. 1984-1994 <https://doi.org/10.1109/JESTPE.2024.3354843>

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

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

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>

Kõrgema kasuteguriga alalispingemuundur alternatiivsetele energiallikatele

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

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>

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

Carvalho da Silva, Edivan Laercio; Chub, Andrii; Blinov, Andrei; Banavath, Satish Naik; Vinnikov, Dmitri Eletrônica de

Mathematical models of cascaded quasi-impedance source converter

Vinnikov, Dmitri; Roasto, Indrek; Zakis, Janis Технічна електродинаміка 2010 / 1, p. 59-64 : ill
<https://ortus.rtu.lv/science/lv/publications/11212>

Metrosert alalispinge tugietalonide uurimistulemused

Adelbert, T.; Laaneots, Rein EVS Teataja 1999 / 12, lk. 14-18

Modeling, analysis, and implementations of charging systems for vehicle electrification

Vinnikov, Dmitri; Blinov, Andrei; Rathore, Akshay Kumar Vehicle electrification in modern power grids : Disruptive perspectives on power electronics technologies and control challenges 2024 / p. 75-99 <https://doi.org/10.1016/B978-0-443-13969-7.00004-7>

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

Andrijanovičs, 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>

Multiport DC/DC converters for renewable energy systems : general topologies and control methods

Andrijanovičs, Anna 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 18 of Subsection of Power Electronic Converters and Applications 2012 / 6 p. : ill

Multiport DC/DC converters for renewable energy systems : general topologies and control methods

Andrijanovičs, Anna 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. 121 : ill

A new coupled-inductor-based buck/boost DC/DC converter with soft switching for DC microgrid applications

Maheri, Hamed Mashinchi; Heris, Pedram Chavoshpour; Saadatizadeh, Zahra; Babaei, Ebrahim; Vinnikov, Dmitri IEEE 15th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2021 / p. 1-6
<https://doi.org/10.1109/CPE-POWERENG50821.2021.9501195>

New DC/DC converter for electrolyser interfacing with stand-alone renewable energy system

Blinov, Andrei; Andrijanovičs, Anna 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. 123 : ill <https://intapi.sciendo.com/pdf/10.2478/v10314-012-0004-1>

New DC/DC converter for electrolyser interfacing with stand-alone renewable energy system

Blinov, Andrei; Andrijanovičs, Anna 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 23 of Subsection of Power Electronic Converters and Applications 2012 / 6 p. : ill <https://intapi.sciendo.com/pdf/10.2478/v10314-012-0004-1>

New DC/DC converter for electrolyser interfacing with stand-alone renewable energy system

Blinov, Andrei; Andrijanovičs, Anna Scientific Journal of Riga Technical University. Electrical, control and communication engineering 2012 / p. 24-29 : ill <https://intapi.sciendo.com/pdf/10.2478/v10314-012-0004-1>

A new flying capacitor-based buck-boost converter for dual-purpose applications

Hemmati Shahsavar, 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 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 / p. 1204-1209 : ill
<https://ieeexplore.ieee.org/document/6165972>

New high-gain transformerless DC/DC boost converter system

Ahmed, Hassan Yousif; **Abdelrahim Abdelghafour, Omar Mohamed**; Ali, Ziad M. Electronics 2022 / art. 734
<https://doi.org/10.3390/electronics11050734> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

New isolated interface converter for PMSG based variable speed wind turbines

Vinnikov, Dmitri; Bisenieks, Lauris; Galkin, Ilja Przegląd elektrotechniczny = Electrical review 2012 / p. 75-80 : ill
https://alephfiles.rtu.lv/TUA01/000042552_e.pdf

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

Mashinchi Maheri, Hamed; Mohammadzadeh Shahir, Farzad; Babaei, Ebrahim; **Chub, Andrii** 2021 IEEE 62nd International

Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON): conference proceedings 2021 / p. 1-5 : ill <https://doi.org/10.1109/RTUCON53541.2021.9711685>

New voltage mode control method for the quasi-Z-source-based isolated DC/DC converters [Electronic resource]

Roasto, Indrek; Vinnikov, Dmitri 2012 IEEE International Conference on Industrial Technology : proceedings CD 2012 / p. 655-660 : ill [CD-ROM] <https://ieeexplore.ieee.org/document/6210011>

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>

A novel extendable high gain step up DC-DC converter

Mashinchi Maheri, Hamed; Salehi Vala, Sama; Basit Mirza, Abdul; Babaei, Ebrahim; Vinnikov, Dmitri 2021 IEEE 62nd International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON): conference proceedings 2021 / p. 1-6 <https://doi.org/10.1109/RTUCON53541.2021.9711745>

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 universal power electronic interface for integration of pv modules and battery energy storages in residential DC microgrids

Sidorov, Vadim; Chub, Andrii; Vinnikov, Dmitri; Lindvest, Andre IEEE Access 2023 / p. 30845-30858 <https://doi.org/10.1109/ACCESS.2023.3260640> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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

Khan, Salman; Chub, Andrii; Vinnikov, Dmitri 2023 IEEE 64th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), Riga, Latvia, October 9-10, 2023 : conference proceedings 2023 / 6 p <https://doi.org/10.1109/RTUCON60080.2023.10413144>

P3R – Partial power post regulator for DC buildings application

Carvalho, Edivan Laercio; Chub, Andrii; Blinov, Andrei; Rathore, Akshay Kumar; Vinnikov, Dmitri IECON Proceedings (Industrial Electronics Conference) IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2024 / 6 p <https://doi.org/10.1109/IECON55916.2024.10905720> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Performance benchmarking of Si and GaN MOSFETs in isolated buck-boost DC-DC converter

Mashinchi Maheri, Hamed; Vinnikov, Dmitri; Rahman, Showrov 2021 IEEE 62nd International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), 15-17 Nov. 2021 : conference proceedings 2021 / p. 1-6 : ill <https://doi.org/10.1109/RTUCON53541.2021.9711696>

Performance comparison of boost and quasi-Z-source converters

Andrijanovičs, Anna; Rankis, Ivars; Zakis, Janis Технічна електродинаміка : тематичний випуск : силова електроніка та енергоефективність 2012 / p. 30-35 : ill <https://ortus.rtu.lv/science/en/publications/16524>

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

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

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

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

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

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

Photovoltaic microconverter with integrated sub-modular power optimizer

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

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

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

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

Quasi-Z-source-based isolated DC/DC converters for distributed power generation

Vinnikov, Dmitri; Roasto, Indrek IEEE transactions on industrial electronics 2011 / p. 192-201 : ill <https://ieeexplore.ieee.org/document/5409567>

Reliability assessment of photovoltaic Buck-Boost microconverter for Estonian climate conditions

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Vinnikov, Dmitri 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 6 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227505>

Reliability evaluation of isolated buck-boost DC-DC series resonant converter

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Shen, Yanfeng IEEE open journal of power electronics 2022 / p. 131-141 <https://doi.org/10.1109/OJPEL.2022.3157200> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Reliability evaluation of isolated buck-boost DC-DC series resonant converter : [conference paper]

Bakeer, Abualkasim Ahmed Ali 21st International Symposium "Topical problems in the field of electrical and power engineering. Doctoral school of energy and geotechnology. III" : Pärnu, Estonia, June 15-18, 2022 2022 / p. 55-56 : ill https://www.ester.ee/record=b5504019*est

Reliability evaluation of the universal power electronic interface converter for PV applications

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

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/i/?6209> https://www.ester.ee/record=b4601191*est

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

Self-healing photovoltaic microconverter with zero redundancy and accurate low-cost fault detection

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Vinnikov, Dmitri IEEE transactions on industrial electronics 2024 / p. 646-656 <https://doi.org/10.1109/TIE.2023.3250836>

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

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

Series resonant DC-DC converter with an AC-switch-based full-bridge boost rectifier

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Vinnikov, Dmitri Annual IEEE Conference on Applied Power Electronics Conference and Exposition (APEC) 2021 / p. 1985-1990 <https://doi.org/10.1109/APEC42165.2021.9487113> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Simplified digital average current mode control algorithm for half- or full-bridge isolated DC/DC converters

Roasto, Indrek; Vinnikov, Dmitri IECON 2009 : 35th Annual Conference of the IEEE Industrial Electronics Society. ICELIE 2009 : 3rd IEEE International Conference on E-learning in Industrial Electronics : Porto, Portugal, 3-5 November 2009 : abstracts 2009 / p. 166

Simplified digital average current mode control algorithm for half- or full-bridge isolated DC/DC converters

Roasto, Indrek; Vinnikov, Dmitri IECON 2009 : 35th Annual Conference of the IEEE Industrial Electronics Society : Porto, Portugal, 3-5 November 2009 : preprint proceedings 2009 / p. 1744-1749 : ill <https://ieeexplore.ieee.org/document/5414820/similar#similar>

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

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

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

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

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

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

Soft-switching capability analysis of a qZSI-based DC/DC converter

Zakis, Janis; Vinnikov, Dmitri; Roasto, Indrek 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. 301-304 : ill

Solving EMI problems of a high-frequency DC-DC converter

Vinnikov, Dmitri The 4th Research Symposium of Young Scientists : Actual Problems of Electrical Drives and Industry Automation : Tallinn, Estonia, May 17-21, 2003 2003 / p. 69-72 : ill

Some design consideration for the 6.5 Kv IGBT-based half-bridge DC/DC converter

Vinnikov, Dmitri The Brazilian journal of power electronics = Revista electronica de potencia 2008 / 2, p. 55-60 <https://sobraep.org.br/artigo/some-design-considerations-for-the-6-5-kv-igbt-based-half-bridge-dc-dc-converter/>

Some design considerations for the 6.5 kV IGBT-based half-bridge DC/DC converter

Vinnikov, Dmitri 9th Brazilian Power Electronics Conference : COBEP2007 : Blumenau, Brasil : book of abstracts 2007 / p. 966-971 <https://sobraep.org.br/artigo/some-design-considerations-for-the-6-5-kv-igbt-based-half-bridge-dc-dc-converter/>

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

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

State of the art and development trends of smart control systems for high voltage DC/DC converters

Roasto, Indrek; Vinnikov, Dmitri; Lehtla, Tõnu 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. 36-42 : ill

Steady state analysis of the galvanically isolated DC/DC converter with a commutating LC filter [Electronic resource]

Zakis, Janis; Vinnikov, Dmitri; Rankis, Ivars 2012 IEEE International Conference on Industrial Technology : proceedings CD 2012 / p. 838-843 : ill [CD-ROM] <https://ieeexplore.ieee.org/document/6210041>

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

Yadav, Neelesh; Chub, Andrii; Hassanpour, Naser; Blinov, Andrei; Vinnikov, Dmitri 2023 IEEE 64th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), Riga, Latvia, October 9-10, 2023 : conference proceedings 2023 / 6 p <https://doi.org/10.1109/RTUCON60080.2023.10412980>

Study of simple MPPT converter topologies for grid integration of photovoltaic systems

Zakis, Janis; Vinnikov, Dmitri Scientific journal of Riga Technical University. Serija 4, Power and electrical engineering 2011 / p. 67-72 : ill https://www.researchgate.net/publication/258547430_Study_of_Simple_MPPT_Converter_Topologies_for_Grid_Integration_of_Photovoltaic_Systems

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

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

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](#)

Three-phase four wire high-frequency link converter for residential DC grids

Emiliani, Pietro; Blinov, Andrei; de Carne, Giovanni; Arena, Gabriele; Vinnikov, Dmitri 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 5 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227416>

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

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

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

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

Topology morphing control of low-cost PV microconverters

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

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

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

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](#)

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

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

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

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

Wide voltage gain range galvanically isolated DC-DC converters - an overview

Khan, Salman 22nd International Symposium "Topical Problems in the Field of Electrical and Power Engineering". Doctoral School of Energy and Geotechnology III : Pärnu, Estonia, August 23-26, 2023 2023 / p. 61-62 : ill https://www.ester.ee/record=b5570906*est

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

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

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

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

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.techined.org.ua/2013_5/st4.pdf [Journal metrics at Scopus](#) [Article at Scopus](#)

Классификация изолированных DC/DC квази-импедансных преобразователей

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