

Analysis of common mode and rapidly varying voltage profile on stator current harmonics of an inverter-fed induction motor

Sardar, Muhammad Usman; Vaimann, Toomas; Kütt, Lauri; Kallaste, Ants; Asad, Bilal; Kudelina, Karolina; Akbar, Siddique 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. : ill <https://doi.org/10.1109/RTUCON60080.2023.10413067>

Artificial intelligence in monitoring and diagnostics of electrical energy conversion systems

Vaimann, Toomas; Rassõlkin, Anton; Kallaste, Ants; Pomarnacki, Raimondas; Belahcen, Anouar; Van Khang, Hyunh 2020 27th International Workshop on Electric Drives: MPEI Department of Electric Drives 90th Anniversary (IWED), Moscow, Russia, January 27-30, 2020 / 4 p <https://doi.org/10.1109/IWED48848.2020.9069566>

Broken rotor bar fault detection using machine learning: Optimal frequency resolution

Koveshnikov, Semen; Bouharrouti, Nada El; Kudelina, Karolina; Naseer, Muhammad Usman; Vaimann, Toomas; Belahcen, Anouar 2024 International Conference on Electrical Machines (ICEM) 2024 / 6 p <https://doi.org/10.1109/ICEM60801.2024.10700228>

Condition monitoring and fault detection for electrical machines using IOT

Raja, Hadi Ashraf; Vaimann, Toomas; Rassõlkin, Anton; Kallaste, Ants Proceedings of the Future Technologies Conference (FTC) 2022. Volume 2 2023 / p. 162-173 https://doi.org/10.1007/978-3-031-18458-1_12 [Conference proceedings at Scopus](#) [Article at Scopus](#)

Digital twin service unit development for an EV induction motor fault detection

Rjabtšikov, Viktor; Mohamed, Mahmoud Ibrahim Hassanin; Asad, Bilal; Rassõlkin, Anton; Vaimann, Toomas; Kallaste, Ants; Kuts, Vladimir; Stepień, Mariusz; Krawczyk, Mateusz 2023 IEEE International Conference on Electric Machines and Drives (IEMDC) 2023 / 5 p <https://doi.org/10.1109/IEMDC55163.2023.10239085>

Extended checkers for control part of routers in network-on-chips

Hariharan, Ranganathan; Niazmand, Behrad; Hollstein, Thomas; Raik, Jaan; Jervan, Gert MEDIAN 2015 : the 4th Workshop on Manufacturable and Dependable Multicore Architectures at Nanoscale : March 13, 2015, Grenoble, France 2015 / p. 36-39 : ill

Fault detection and protection strategy for multi-terminal HVDC grids using wavelet analysis

Kaur, Jashandeep; Jayasooriya, Manilka; Iqbal, Muhammad Naveed; Daniel, Kamran; Shabbir, Noman; Peterson, Kristjan Energies 2025 / art. 1147 <https://doi.org/10.3390/en18051147>

From online fault detection to fault management in network-on-chips : a ground-up approach

Azad, Siavoosh Payandeh; Niazmand, Behrad; Janson, Karl; Nevin, George; Oyeniran, Adeboye Stephen; Putkaradze, Tsotne; Apneet Kaur; Raik, Jaan; Jervan, Gert; Ubar, Raimund-Johannes; Hollstein, Thomas Proceedings 2017 IEEE 20th International Symposium on Design and Diagnostics of Electronic Circuit & Systems (DDECS) : April 19-21, 2017, Dresden, Germany 2017 / p. 48-53 : ill <https://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=7934553>

Heat pump induction motor faults caused by soft starter topology — case study

Kudelina, Karolina; Vaimann, Toomas; Rassõlkin, Anton; Kallaste, Ants; Huynh, Van Khang 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. 454-459 : ill <https://doi.org/10.1109/PEMC48073.2021.9432506>

A hierarchical approach for devising area efficient concurrent online checkers

Niazmand, Behrad; Azad, Siavoosh Payandeh; Ghasempouri, Tara; Raik, Jaan; Jervan, Gert Proceedings 2nd IEEE International Test Conference in Asia : ITC-Asia 2018, 15-17 August 2018, Harbin, China 2018 / p. 139-144 : ill <https://doi.org/10.1109/ITC-Asia.2018.00034>

Hybrid FEA-Simulink modelling of permanent magnet assisted synchronous reluctance motor with unbalanced magnet flux

Pando-Acedo, Jaime; Rassõlkin, Anton; Lehtikainen, Antti; Vaimann, Toomas; Kallaste, Ants; Romero-Cadaval, Enrique; Belahcen, Anouar 2019 IEEE 12th International Symposium on Diagnostics for Electrical Machines, Power Electronics and Drives (SDEMPED), 27-30 Aug. 2019, Toulouse, France : proceedings 2019 / p. : 174-180 : ill <https://doi.org/10.1109/DEMPED.2019.8864925>

Impact of bearing faults on vibration level of BLDC motor

Kudelina, Karolina; Vaimann, Toomas; Rassõlkin, Anton; Kallaste, Ants IECON 2021 – 47th Annual Conference of the IEEE Industrial Electronics Society, 2021 / p. 1-6 : ill <https://doi.org/10.1109/IECON48115.2021.9589268> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

The impact of control environments on global parameters of electrical machines in case of broken rotor bars

Kudelina, Karolina; Raja, Hadi Ashraf; Autso, Siarhei; Asad, Bilal; Vaimann, Toomas; Rassõlkin, Anton; Kallaste, Ants Diagnostika '22 : 2022 International Conference on Diagnostics in Electrical Engineering : Conference proceedings 2022 / 4 p. <https://doi.org/10.1109/Diagnostika55131.2022.9905149>

The impact of load on global parameters of electrical machines in case of healthy and broken rotor bars

Kudelina, Karolina; Raja, Hadi Ashraf; Autsou, Siarhei; Asad, Bilal; Vaimann, Toomas; Rassõlkin, Anton; Kallaste, Ants; Shabbir, Noman 2022 18th Biennial Baltic Electronics Conference (BEC) 2022 / 5 l. <https://doi.org/10.1109/BEC56180.2022.9935614>

Machine learning enabled fault-detection algorithms for optical spectrum-as-a-service users

Patri, Sai Kireet; Dick, Isabella; **Kaeval, Kaida**; Müller, Jasper; Pedreno-Manresa, Jose-Juan; Autenrieth, Achim; Elbers, Jörg-Peter; Tikas, Marko; Mas-Machuca, Carmen 2023 International Conference on Optical Network Design and Modeling (ONDM) : proceedings 2023 / 6 p. : ill <https://ieeexplore.ieee.org/document/10144858>

Mechanical vibration analysis of induction machine under dynamic rotor eccentricity [Electronic resource]

Sobra, Jan; **Vaimann, Toomas; Belahcen, Anouar** 2016 17th International Scientific Conference on Electric Power Engineering (EPE) : proceedings 2016 / [4] p. : ill. [USB] <https://doi.org/10.1109/EPE.2016.7521732>

Multi-loop model reference adaptive control of fractional-order PID control systems

Alagoz, Baris Baykant; **Tepljakov, Aleksei; Petlenkov, Eduard**; Yeroglu, Celalettin 2017 40th International Conference on Telecommunications and Signal Processing TSP : July 5-7, 2017, Barcelona, Spain 2017 / p. 702-705 : ill <https://doi.org/10.1109/TSP.2017.8076078>

Necessity for implementation of inverse problem theory in electric machine fault diagnosis

Vaimann, Toomas; Belahcen, Anouar; Kallaste, Ants SDEMPED 2015 : 10th IEEE International Symposium on Diagnostics for Electric Machines, Power Electronics and Drives : Guarda, Portugal, September 1-4, 2015 : proceedings 2015 / p. 380-385 : ill <http://dx.doi.org/10.1109/DEMPED.2015.7303718>

Neuro-fuzzy approach for fault prediction of mechanical bearing faults using vibration analysis

Shirokova, Veroonika; Kudelina, Karolina; Raja, Hadi Ashraf; Rjabtsikov, Viktor; Barashkova, Tatjana; Nutonen, Karle IECON Proceedings (Industrial Electronics Conference) IECON 2024 - 50th Annual Conference of the IEEE Industrial Electronics Society 2024 / p. 1-6 <https://doi.org/10.1109/IECON55916.2024.10905990> [Conference proceedings at Scopus](#) [Article at Scopus](#)

Observer-based residual generation for nonlinear discrete-time systems

Kaldmäe, Arvo; Kotta, Ülle Proceedings of the Estonian Academy of Sciences 2018 / p. 325-336 <https://doi.org/10.3176/proc.2018.4.01> http://www.kirj.ee/public/proceedings_pdf/2018/issue_4/proc-2018-4-325-336.pdf [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

An overview of fuzzy logic approaches for fault diagnosis in energy conversion devices

Demidova, Galina; Rassõlkin, Anton; Vaimann, Toomas; Kallaste, Ants; Zakis, Janis; Suzdalenko, Alexander 2021 28th International Workshop on Electric Drives : Improving Reliability of Electric Drives (IWED) 2021 / 7 p <https://doi.org/10.1109/IWED52055.2021.9376389>

Preliminary analysis of bearing current faults for predictive maintenance

Kudelina, Karolina; Raja, Hadi Ashraf; Vaimann, Toomas; Kallaste, Ants; Pomarnacki, Raimondas; Hyunh, Van Khang 2023 IEEE International Conference on Electric Machines and Drives (IEMDC) 2023 / 5 p. : ill <https://doi.org/10.1109/IEMDC55163.2023.10238934>

Preliminary analysis of global parameters of induction machine for fault prediction in rotor bars

Kudelina, Karolina; Raja, Hadi Ashraf; Autsou, Siarhei; Asad, Bilal; Vaimann, Toomas; Rassõlkin, Anton; Kallaste, Ants 2022 IEEE 20th International Power Electronics and Motion Control Conference (PEMC) : Brasov, Romania, 25-28 Sept. 2022 : proceedings 2022 / p. 243-248 : ill <https://doi.org/10.1109/PEMC51159.2022.9962922>

Preliminary analysis of mechanical bearing faults for predictive maintenance of electrical machines

Kudelina, Karolina; Raja, Hadi Ashraf; Autsou, Siarhei; Naseer, Muhammad Usman; Vaimann, Toomas; Kallaste, Ants; Pomarnacki, Raimondas; Hyunh, Van Khang 2023 IEEE 14th International Symposium on Diagnostics for Electrical Machines, Power Electronics and Drives (SDEMPED) 2023 / p. 430-435 : ill <https://doi.org/10.1109/SDEMPED54949.2023.10271451>

Requirements to data acquisition and signal analysis for electrical grid condition monitoring

Anijärv, Toomas Erik; Shabbir, Noman; Kütt, Lauri; Iqbal, Muhammad Naveed 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 <https://doi.org/10.1109/RTUCON51174.2020.9316487>

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

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Vinnikov, Dmitri IEEE transactions on industrial electronics 2024 / p. 646-656 <https://doi.org/10.1109/TIE.2023.3250836> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Short-circuit fault detection and remedial in full-bridge rectifier of series resonant DC-DC converter based on inductor voltage signature

Bakeer, Abualkasim Ahmed Ali; Chub, Andrii; Vinnikov, Dmitri 2020 IEEE 61st International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), Riga, Latvia, Nov. 5-7, 2020 : conference proceedings 2020 / 6 p. : ill <https://doi.org/10.1109/RTUCON51174.2020.9316482>

Short-circuit protection circuits for silicon-carbide power transistors

Sadik, Diane-Perle; Colmenares, Juan; Tolstoy, Georg; **Rabkowski, Jacek** IEEE transactions on industrial electronics 2016 / p. 1995-2004 : ill <https://doi.org/10.1109/TIE.2015.2506628>

Vibration and stator current spectral analysis of induction machine operating under dynamic eccentricity

Sobra, Jan; **Belahcen, Anouar; Vaimann, Toomas** 2015 International Conference on Electrical Drives and Power Electronics (EDPE) : 18th International Conference, 7th Joint Slovakian-Croatian Conference : proceedings : Hotel Slovan, Tatranska Lomnica, The High Tatras, Slovakia, September 21-23, 2015 2015 / p. 285-290 : ill <http://dx.doi.org/10.1109/EDPE.2015.7325307>