

AC losses analysis approaches for electric vehicle motors with hairpin winding configuration

Shams Ghahfarokhi, Payam; Podgornovs, Andrejs; Marques Cardoso, Antonio J.; **Kallaste, Ants**; Belahcen, Anouar; **Vaimann, Toomas** IECON 2021 - 47th Annual Conference of the IEEE Industrial Electronics Society, 2021 2021 / p. 1-4 : ill <https://doi.org/10.1109/IECON48115.2021.9589339> [Conference Proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

AC magnetic loss reduction of SLM processed Fe-Si for additive manufacturing of electrical machines

Tiismus, Hans; **Kallaste, Ants**; Belahcen, Anouar; **Tarraste, Marek**; **Vaimann, Toomas**; **Rassõlkin, Anton**; **Asad, Bilal**; **Ghahfarokhi, Payam Shams** Energies 2021 / 13 p. : ill <https://doi.org/10.3390/en14051241> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Acoustic noise computation of electrical motors using the boundary element method

Sathyan, Sabin; Aydin, Ugur; **Belahcen, Anouar** Energies 2020 / art. 0245 <https://doi.org/10.3390/en13010245> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Active magnetic bearing calibration to compute levitation force in a bearingless synchronous reluctance motor drive

Mukherjee, Victor; **Belahcen, Anouar**; Hinkkanen, Marko Doctoral School of Energy and Geotechnology II : closing conference of the project : Pärnu, Estonia, January 12-17, 2015 2015 / p. 165-168 : ill

Additive Manufacturing and Performance of E-Type Transformer Core

Tiismus, Hans; **Kallaste, Ants**; Belahcen, Anouar; **Rassõlkin, Anton**; **Vaimann, Toomas**; **Ghahfarokhi, Payam Shams** Energies 2021 / art. 3278 <https://doi.org/10.3390/en14113278> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Additive manufacturing of prototype axial flux switched reluctance electrical machine

Tiismus, Hans; **Kallaste, Ants**; **Belahcen, Anouar**; **Vaimann, Toomas**; **Rassõlkin, Anton** 2021 28th International Workshop on Electric Drives : Improving Reliability of Electric Drives (IWED) 2021 / 4 p. : ill <https://doi.org/10.1109/IWED52055.2021.9376337>

Adjusted electrical equivalent circuit model of induction motor with broken rotor bars

Rassõlkin, Anton; **Vaimann, Toomas**; **Belahcen, Anouar**; **Kallaste, Ants**; Petrov, Aleksei; Plokhov, Igor; Kotelnikov, Aleksandr PQ2016 : the 10th International Conference 2016 Electric Power Quality and Supply Reliability Conference (PQ) : August 29-31, 2016, Tallinn, Estonia : proceedings 2016 / p. 213-218 : ill <https://doi.org/10.1109/PQ.2016.7724115>

Adjusted electrical equivalent circuit model of induction motor with broken rotor bars and eccentricity faults

Petrov, Aleksei; Plokhov, Igor; **Rassõlkin, Anton**; **Vaimann, Toomas**; **Kallaste, Ants**; **Belahcen, Anouar** Proceeding of the 2017 IEEE 11th International Symposium on Diagnostics for Electric Machines, Power Electronics and Drives (SDEMPED) : [Tinos (Greece), August 29 - September 01, 2017] 2017 / p. 58-64 : ill <https://doi.org/10.1109/DEMPED.2017.8062334>

Air-gap eccentricity analysis of slow-speed slotless permanent magnet synchronous generator

Kangro, Rait; **Kallaste, Ants**; **Vaimann, Toomas**; **Belahcen, Anouar** PQ2014 : the 9th International 2014 Electric Power Quality and Supply Reliability Conference (PQ) : June 11-13, 2014, Rakvere, Estonia : proceedings 2014 / p. 225-228 : ill

Analysis of a three-phase induction motor using the dynamic state space model

Asad, Bilal; **Vaimann, Toomas**; **Belahcen, Anouar** 17th International Symposium "Topical Problems in the Field of Electrical and Power Engineering". Doctoral school of energy and geotechnology. III : Kuressaare, Estonia, January 15-20, 2018 2018 / p. 65-69 : ill http://ise.elnet.ee/record=b2950017~S2*est

Analysis of electromagnetic force ripple in a bearingless synchronous reluctance motor

Mukherjee, Victor; Rasilo, Paavo; Martin, Florian; **Belahcen, Anouar** IEEE transactions on magnetics 2021 / art. 9277612, 8 p. : ill <https://doi.org/10.1109/TMAG.2020.3041703> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Analysis of the eccentricity in a low-speed slotless permanent-magnet wind generator

Kallaste, Ants; **Belahcen, Anouar**; **Kilk, Aleksander**; **Vaimann, Toomas** PQ2012 : 8th International Conference : 2012 Electric Power Quality and Supply Reliability : June 11-13, 2012, Tartu, Estonia : conference proceedings 2012 / p. 47-52 : ill <https://ieeexplore.ieee.org/document/6256199>

Analysis of the local and global forces acting on the coil structure of a modular slotless permanent magnet generator

Kallaste, Ants; **Vaimann, Toomas**; **Belahcen, Anouar**; **Shams Ghahfarokhi, Payam**; **Rassõlkin, Anton** Scientific Journal of Riga Technical University. Electrical, control and communication engineering 2019 / p. 9-14 : ill <https://doi.org/10.2478/ecce-2019-0002>

Analysis of the vibration magnitude of an induction motor with different numbers of broken bars

Martinez, Javier; **Belahcen, Anouar**; Muetze, Annette IEEE transactions on industry applications 2017 / p. 2711-2720 : ill <http://dx.doi.org/10.1109/TIA.2017.2657478>

Analytical model for magnetic anisotropy of non-oriented steel sheets

Martin, Florian; Singh, Deepak; **Belahcen, Anouar**; Rasilo, Paavo; Haavisto, Ari; Arkkio, Antero COMPEL : the international journal for computation and mathematics in electrical and electronic engineering 2015 / p. 1475-1488 : ill <http://dx.doi.org/10.1108/COMPEL-02->

Analytical model including rotor eccentricity for bearingless synchronous reluctance motors

Saarakkala, Seppo E.; Mukherjee, Victor; **Belahcen, Anouar** 2018 XIII International Conference on Electrical Machines (ICEM 2018) : Alexandroupoli, Greece, 3-6 September 2018 2018 / p. 1388-1394 : ill <https://doi.org/10.1109/ICELMACH.2018.8506892>

Analytical solution of the magnetic field and EMF calculation in ironless BLDC motor

Liu, Xiangdong; Hu, Hengzai; Zhao, Jing; **Belahcen, Anouar**; Tang, Liang; Yang, Lei IEEE transactions on magnetics 2016 / art. 8100510, [10] p. : ill <https://doi.org/10.1109/TMAG.2015.2481862>

Analytical thermal model and flow network analysis suitable for open self-ventilated machines

Shams Ghahfarokhi, Payam; Kallaste, Ants; Belahcen, Anouar; Vaimann, Toomas IET Electric Power Applications 2020 / p. 929-936 : ill <https://doi.org/10.1049/iet-epa.2019.1020> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Anisotropic and strain-dependent model of magnetostriction in electrical steel sheets

Belahcen, Anouar; Singh, Deepak; Rasilo, Paavo; Martin, Florian; Ghalamestani, Setareh Gorji; Vandevelde, Lieven IEEE transactions on magnetics 2015 / p. 200-204 : ill <http://dx.doi.org/10.1109/TMAG.2014.2361681>

Armature reaction field and inductance calculation of ironless BLDC motor

Liu, Xiangdong; Hu, Hengzai; Zhao, Jing; **Belahcen, Anouar**; Tang, Liang IEEE transactions on magnetics 2016 / art. 8200214, [14] p. : ill <https://doi.org/10.1109/TMAG.2015.2489605>

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 2020 / 4 p <https://doi.org/10.1109/IWED48848.2020.9069566>

Axial synchronous magnetic coupling modeling and printing with selective laser melting

Tiismus, Hans; Kallaste, Ants; Vaimann, Toomas; Rassõlkin, Anton; Belahcen, Anouar 2019 IEEE 60th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), 7-9 October 2019 : conference proceedings 2019 / 4 p. : ill <https://doi.org/10.1109/RTUCON48111.2019.8982344>

Bearing fault analysis of BLDC motor for electric scooter application

Kudelina, Karolina; Asad, Bilal; Vaimann, Toomas; Belahcen, Anouar; Rassõlkin, Anton; Kallaste, Ants; Lukichev, Dmitry Designs 2020 / art. 42, 18 p. : ill <https://doi.org/10.3390/designs4040042> [Journal metrics at Scopus](#) [Article at Scopus](#)

Broken bar indicators for cage induction motors and their relationship with the number of consecutive broken bars

Martinez, Javier; **Belahcen, Anouar**; Arkkio, Antero Electric power applications, IET 2013 / p. 633-642 : ill

Broken rotor bar fault detection of the grid and inverter-fed induction motor by effective attenuation of the fundamental component

Asad, Bilal; Vaimann, Toomas; Belahcen, Anouar; Kallaste, Ants; Rassõlkin, Anton; Iqbal, Muhammad Naveed IET electric power applications 2019 / p. 2005-2014 <https://doi.org/10.1049/iet-epa.2019.0350> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Broken rotor bar fault diagnostic of inverter fed induction motor using FFT, Hilbert and Park's vector approach

Asad, Bilal; Vaimann, Toomas; Belahcen, Anouar; Kallaste, Ants 2018 XIII International Conference on Electrical Machines (ICEM 2018) : Alexandroupoli, Greece, 3-6 September 2018 2018 / p. 2352-2358 : ill <https://doi.org/10.1109/ICELMACH.2018.8506957>

Calorimetric system for measurement of synchronous machine losses

Rasilo, Paavo; Ekström, J.; Haavisto, Ari; **Belahcen, Anouar**; Arkkio, Antero IET electric power applications 2012 / p. 286-294 : ill <https://homepages.tuni.fi/paavo.rasilo/pubs/Rasilo2012a.pdf>

Challenges of additive manufacturing of electrical machines

Tiismus, Hans; Kallaste, Ants; Belahcen, Anouar; Rassõlkin, Anton; Vaimann, Toomas 2019 IEEE 12th International Symposium on Diagnostics for Electrical Machines, Power Electronics and Drives (SDEMPED), 27-30 Aug. 2019, Toulouse, France : proceedings 2019 / p. 44-48 : ill <https://doi.org/10.1109/DEMPED.2019.8864850>

Changing of magnetic flux density distribution in a squirrel-cage induction motor with broken rotor bars

Vaimann, Toomas; Belahcen, Anouar; Kallaste, Ants Elektronika ir elektrotehnika = Electronics and electrical engineering 2014 / p. 11-14 : ill

Combined deterministic algorithm and metaheuristic technique for fast and accurate resolution of optimization problems

Martin, Florian; Aydin, Ugur; Sundaria, Ravi; Rasilo, Paavo; **Belahcen, Anouar** 21st International Conference on the Computation of Electromagnetic Fields (Compumag 2017) : Daejeon, South Korea, 18-22 June 2017 2017 / p. 3-4 : ill

Combined FE and particle swarm algorithm for optimization of high speed PM synchronous machine

Belahcen, Anouar; Martin, Florian; El Hadi Zaim, Mohammed; Dlala, Emad; Kolondzovski, Zlatko COMPEL : the international journal for computation and mathematics in electrical and electronic engineering 2015 / p. 475-484 : ill <http://dx.doi.org/10.1108/COMPEL-07-2014-0168>

Combined FE and two dimensional spectral analysis of broken cage faults in induction motors

Martinez, Javier; **Belahcen, Anouar**; Arkkio, Antero Proceedings : IECON 2013 - 39th Annual Conference of the IEEE Industrial Electronics Society : Vienna, Austria, 10-14 November, 2013 2013 / p. 2674-2679 : ill

Comparative analysis of wind generator energy efficiency based on machine design

Kallaste, Ants; Vaimann, Toomas; Kilk, Aleksander; Belahcen, Anouar 2014 55th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) : proceedings 2014 / p. 9-12 : ill

Comparative study of field-oriented control model in application for induction and synchronous reluctance motors for life-cycle analysis

Autsou, Siarhei; Saroka, Viktor; Karpovich, Dzmitry; **Rassölkin, Anton; Gevorkov, Levon; Vaimann, Toomas; Kallaste, Ants; Belahcen, Anouar**; Rassölkin, Anton 2018 25th International Workshop on Electric Drives: Optimization in Control of Electric Drives (IWED) 2018 / p. 1-5 : ill <https://doi.org/10.1109/IWED.2018.8321371>

Comparative study of inner and outer rotor bearingless synchronous reluctance motors

Mukherjee, Victor; Sokolov, Maxim; Pippuri, Jenni; Hinkkanen, Marko; **Belahcen, Anouar** The journal of engineering 2019 / p. 4375–4379 <http://dx.doi.org/10.1049/joe.2018.8195>

Comparative study of slow-speed slotless synchronous generator using SmCo and NdFeB permanent magnets

Korn, Norman; Vaimann, Toomas; Kallaste, Ants; Belahcen, Anouar PQ2014 : the 9th International 2014 Electric Power Quality and Supply Reliability Conference (PQ) : June 11-13, 2014, Rakvere, Estonia : proceedings 2014 / p. 247-250 : ill

Comparison of model order reduction methods for a switched reluctance machine characterization

Boumesbah, Allaa Eddine; Martin, Florian; Krebs, Guillaume; **Belahcen, Anouar**; Marchand, Claude IEEE transactions on magnetics 2021 / art. 9355193, 7 p. : ill <https://doi.org/10.1109/TMAG.2021.3059969> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A comparison of the vector control of synchronous reluctance motor and permanent magnet-assisted synchronous reluctance motor

Heidari, Hamidreza; Rassölkin, Anton; Kallaste, Ants; Vaimann, Toomas; Andriushchenko, Ekaterina; Belahcen, Anouar; Razzaghi, Arash 2021 XVIII International Scientific Technical Conference Alternating Current Electric Drives (ACED) : proceedings 2021 / 6 p. : ill <https://doi.org/10.1109/ACED50605.2021.9462265>

Comprehensive computations of the response of faulty cage induction machines

Belahcen, Anouar; Martinez, Javier; **Vaimann, Toomas** Proceedings of the 2014 International Conference on Electrical Machines (ICEM) 2014 / p. 1504-1509 : ill

Computation of hysteresis torque and losses in a bearingless synchronous reluctance machine

Belahcen, Anouar; Mukherjee, Victor; Martin, Florian; Rasilo, Paavo 21st International Conference on the Computation of Electromagnetic Fields (Compumag 2017) : Daejeon, South Korea, 18-22 June 2017 2017 / p. 214-215 : ill [http://www.compumag.org/CMAG2017/\[PA-A5-10\]_129.pdf](http://www.compumag.org/CMAG2017/[PA-A5-10]_129.pdf)

Computation of hysteresis torque and losses in a bearingless synchronous reluctance machine

Belahcen, Anouar; Mukherjee, Victor; Martin, Florian; Rasilo, Paavo IEEE transactions on magnetics 2018 / art. 7300804, 4 p. : ill <https://doi.org/10.1109/TMAG.2017.2765080> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Computation of magnetic forces using degenerated air-gap element

Sathyan, Sabin; **Belahcen, Anouar**; Kataja, Juhani; Henrotte, Francois; Benabou, Abdelkader; Le Menach, Yvonnick IEEE transactions on magnetics 2017 / 7401304, 4 p. : ill <https://doi.org/10.1109/TMAG.2017.2656239>

Computation of stator vibration of an induction motor using nodal magnetic forces [Online resource]

Sathyan, Sabin; **Belahcen, Anouar**; Kataja, Juhani; **Vaimann, Toomas**; Sobra, Jan 2016 XXII International Conference on Electrical Machines (ICEM) : SwissTech Convention Center, Lausanne, Switzerland, 04-07 September, 2016 : proceedings 2016 / p. 2198-2203 : ill <https://doi.org/10.1109/ICELMACH.2016.7732827>

Condition monitoring of electrical machines and its relation to industrial internet

Belahcen, Anouar; Gytakis, Konstantinos N.; Martinez, Javier; Climente-Alarcon, Vicente; **Vaimann, Toomas** 2015 IEEE Workshop on Electrical Machines Design, Control and Diagnosis (WEMDCD) : proceedings : Castello del Valentino, Torino, Italy, 26-27 March, 2015 2015 / p. 233-241 : ill <http://dx.doi.org/10.1109/WEMDCD.2015.7194535>

Constrained algorithm for the selection of uneven snapshots in model order reduction of a bearingless motor

Mukherjee, Victor; Far, Mehrnaz Farzam; Martin, Florian; **Belahcen, Anouar** IEEE transactions on magnetics 2017 / art. 7205304, 4 p. : ill <http://dx.doi.org/10.1109/TMAG.2017.2664505>

Contribution of Maxwell stress in air on the deformations of induction machines

Fonteyn, Katarzyna Anna; **Belahcen, Anouar**; Rasilo, Paavo; Kouhia, Reijo; Arkkio, Antero Journal of electrical engineering and technology 2012 / p. 336-341 : ill <https://ieeexplore.ieee.org/document/5664487>

Corrections to “Opportunities and Challenges of Utilizing Additive Manufacturing Approaches in Thermal Management of Electrical Machines”

Ghahfarokhi, Payam Shams; Podgornovs, Andrejs; **Kallaste, Ants**; Marques Cardoso, Antonio J.; **Belahcen, Anouar**; Vaimann, Toomas; Tiismus, Hans; **Asad, Bilal** IEEE Access 2021 / p. 62532 <https://doi.org/10.1109/ACCESS.2021.3074827> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Cost efficiency analysis of slow-speed slotless permanent magnet synchronous generator using different magnetic materials

Laurit, Sten; **Kallaste, Ants**; **Vaimann, Toomas**; **Belahcen, Anouar** PQ2014 : the 9th International 2014 Electric Power Quality and Supply Reliability Conference (PQ) : June 11-13, 2014, Rakvere, Estonia : proceedings 2014 / p. 221-224 : ill

Cost-efficient real-time condition monitoring and fault diagnostics system for BLDC motor using IoT and Machine learning

Raja, Hadi Ashraf; **Raval, Hardik**; **Vaimann, Toomas**; **Kallaste, Ants**; **Rassõlkin, Anton**; **Belahcen, Anouar** Diagnostika '22 : 2022 International Conference on Diagnostics in Electrical Engineering : conference proceedings 2022 / 4 p. <https://doi.org/10.1109/Diagnostika55131.2022.9905102>

Coupled magneto-mechanical analysis of iron sheets under biaxial stress

Aydin, U.; Rasilo, Paavo; Singh, Deepak; Lehtikoinen, Antti; **Belahcen, Anouar**; Arkkio, Antero IEEE transactions on magnetics 2016 / art. 2000804, [4] p. : ill <https://doi.org/10.1109/TMAG.2015.2496207>

Coupled wave-equation and eddy-current model for modelling and measuring propagating stress-waves

Peussa, Tommi; **Belahcen, Anouar** Archives of electrical engineering 2015 / p. 215-226 : ill <http://dx.doi.org/10.1515/ae-2015-0018>

Custom simplified machine learning algorithms for fault diagnosis in electrical machines

Raja, Hadi Ashraf; **Asad, Bilal**; **Vaimann, Toomas**; **Kallaste, Ants**; **Rassõlkin, Anton**; **Belahcen, Anouar** Diagnostika '22 : 2022 International Conference on Diagnostics in Electrical Engineering : Conference proceedings 2022 / 4 p. <https://doi.org/10.1109/Diagnostika55131.2022.9905174>

Demagnetization in permanent magnet slotless generator using Halbach array

Kallaste, Ants; **Kilk, Aleksander**; **Belahcen, Anouar**; **Vaimann, Toomas**; **Janson, Kuno** Proceedings of the 13th International Scientific Conference Electric Power Engineering 2012 : EPE 2012 : Brno. Vol. 2 2012 / p. 1053-1057 : ill https://www.researchgate.net/publication/262674411_Demagnetization_in_Permanent_Magnet_Slotless_Generator_Using_Halbach_Array

Demagnetization on permanent magnet machine with Halbach array

Kallaste, Ants; **Belahcen, Anouar**; **Kilk, Aleksander** 13th International Symposium "Topical Problems in the Field of Electrical and Power Engineering." Doctoral School of Energy and Geotechnology II : Pärnu, Estonia, January 14-19, 2013 2013 / p. 81-84 : ill

Design of a research laboratory drive system for a synchronous reluctance motor for vector control and performance analysis

Heidari, Hamidreza; **Rassõlkin, Anton**; **Kallaste, Ants**; **Vaimann, Toomas**; **Andriushchenko, Ekaterina**; **Belahcen, Anouar** Inventions 2021 / art. 64, 21 p. : ill <https://doi.org/10.3390/inventions6040064> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Design of permanent magnet assisted synchronous reluctance machine

Kallaste, Ants; **Vaimann, Toomas**; **Belahcen, Anouar** Proceedings : 2014 15th International Scientific Conference on Electric Power Engineering (EPE) 2014 / p. 579-582 : ill

Design of slow-speed slotless SmCo permanent magnet synchronous generator for wind applications

Vaimann, Toomas; **Kallaste, Ants**; **Korn, Norman**; **Laurit, Sten**; **Belahcen, Anouar** Proceedings : 2014 15th International Scientific Conference on Electric Power Engineering (EPE) 2014 / p. 339-342 : ill

Design optimization of permanent magnet clutch

Andriushchenko, Ekaterina; **Kallaste, Ants**; **Belahcen, Anouar**; **Heidari, Hamidreza**; **Vaimann, Toomas**; **Rassõlkin, Anton** 2020 International Conference on Electrical Machines (ICEM), 23-26 August 2020, Gothenburg, Sweden : online : proceedings 2020 / p. 436-440 <https://doi.org/10.1109/ICEM49940.2020.9270726>

Design optimization of permanent magnet clutch with Ārtap framework

Andriushchenko, Ekaterina; Kaska, Jan; **Kallaste, Ants; Belahcen, Anouar; Vaimann, Toomas; Rassõlkin, Anton** Periodica polytechnica electrical engineering and computer science 2021 / p. 106-112 <https://doi.org/10.3311/PPee.17007> [Journal metrics at Scopus](#) [Article at Scopus](#)

Detection of broken bars in frequency converter fed induction motor using Park's vector approach

Vaimann, Toomas; Belahcen, Anouar; Martinez, Javier; **Kilk, Aleksander** PQ2012 : 8th International Conference : 2012 Electric Power Quality and Supply Reliability : June 11-13, 2012, Tartu, Estonia : conference proceedings 2012 / p. 53-56 : ill https://www.researchgate.net/publication/261051228_Detection_of_broken_bars_in_frequency_converter_fed_induction_motor_using_Park's_vector_approach

Detection of induction motor broken bars in grid and frequency converter supply

Vaimann, Toomas; Belahcen, Anouar; Martinez, Javier; **Kilk, Aleksander** 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. 112 : ill

Detection of induction motor broken bars in grid and frequency converter supply

Vaimann, Toomas; Belahcen, Anouar; Martinez, Javier; **Kilk, Aleksander** Przegląd elektrotechniczny 2014 / p. 90-94 : ill

Determination of core losses using an inverse modeling technique

Osemwinyen, Osaruyi; Hemeida, Ahmed; **Ghahfarokhi, Payam Shams; Belahcen, Anouar** IEEE Access 2022 / p. 29224-29232 <https://doi.org/10.1109/ACCESS.2022.3158365> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Determination of forced convection coefficient over a flat side of coil

Ghahfarokhi, Payam Shams; Kallaste, Ants; Vaimann, Toomas; Rassõlkin, Anton; Belahcen, Anouar 2017 IEEE 58th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) : proceedings : Latvia, Riga, 12-13 October, 2017 2017 / [4] p. : ill <https://doi.org/10.1109/RTUCON.2017.8124759>

Determination of heat transfer coefficient for the air forced cooling over a flat side of coil

Ghahfarokhi, Payam Shams; Kallaste, Ants; Belahcen, Anouar; Vaimann, Toomas Scientific Journal of Riga Technical University. Electrical, control and communication engineering 2019 / p. 15-20 : ill <https://doi.org/10.2478/ecce-2019-0003>

Determination of heat transfer coefficient from housing surface of a totally enclosed fan-cooled machine during passive cooling

Shams Ghahfarokhi, Payam; Podgornovs, Andrejs; **Kallaste, Ants;** Cardoso, Antonio J. Marques; Belahcen, Anouar; **Vaimann, Toomas; Asad, Bilal; Tiismus, Hans** Machines 2021 / art. 120 <https://doi.org/10.3390/machines9060120> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Determination of heat transfer coefficient of finned housing of a TEFC variable speed motor

Shams Ghahfarokhi, Payam; Kallaste, Ants; Podgornovs, Andrejs; **Belahcen, Anouar; Vaimann, Toomas; Asad, Bilal** Electrical Engineering 2021 / p. 1009–1017 : ill <https://doi.org/10.1007/s00202-020-01132-1> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Determination of natural convection heat transfer coefficient over the fin side of a coil system

Shams Ghahfarokhi, Payam; Belahcen, Anouar; Kallaste, Ants; Vaimann, Toomas; Rassõlkin, Anton International journal of heat and mass transfer 2018 / p. 677-682 : ill <https://doi.org/10.1016/j.ijheatmasstransfer.2018.05.071> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Determination of thermal convection coefficient from coil's flat plate side

Ghahfarokhi, Payam Shams; Kallaste, Ants; Belahcen, Anouar 16th International Symposium "Topical Problems in the Field of Electrical and Power Engineering. Doctoral School of Energy and Geotechnology III" : Pärnu, Estonia, January 16-21, 2017 2017 / p. 130-132 : ill http://www.ester.ee/record=b4650094*est

Development of analytical thermal analysis tool for synchronous reluctance motors

Shams Ghahfarokhi, Payam; Kallaste, Ants; Podgornovs, Andrejs; Belahcen, Anouar; Vaimann, Toomas IET electric power applications 2020 / p. 1828-1836 <https://doi.org/10.1049/iet-epa.2020.0237> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Domain decomposition approach for efficient time-domain finite-element computation of winding losses in electrical machines

Lehikoinen, Antti; Ikäheimo, Jouni; Arkkio, Antero; **Belahcen, Anouar** IEEE transactions on magnetics 2017 / art. 7400609, 9 p. : ill <https://doi.org/10.1109/TMAG.2017.2681045>

Dynamic modeling of the demagnetization in Halbach array permanent magnet machines

Kallaste, Ants; Belahcen, Anouar; Vaimann, Toomas COMPUMAG 2013 : [proceedings] 2013 / p. 1-2 : ill

Dynamic state space model based analysis of a three-phase induction motor using nonlinear magnetization inductance

Asad, Bilal; Vaimann, Toomas; Rassõlkin, Anton; Belahcen, Anouar 2018 19th International Scientific Conference on Electric Power Engineering (EPE 2018) : Brno, Czech Republic, 16 - 18 May 2018 / p. 260-265 : ill
<https://doi.org/10.1109/EPE.2018.8396039>

Effect of Magnetic Forces and Magnetostriction on the Stator Vibrations of a Bearingless Synchronous Reluctance Motor
Mukherjee, Victor; Rasilo, Paavo; Martin, Florian; **Belahcen, Anouar** IEEE transactions on magnetics 2019 / 4 p. : ill
<https://doi.org/10.1109/TMAG.2019.2894739> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Effect of mechanical stress on excess loss of electrical steel sheets
Singh, Deepak; Rasilo, Paavo; Martin, Florian; **Belahcen, Anouar**; Arkkio, Antero IEEE transactions on magnetics 2015 / [4] p. : ill
<http://dx.doi.org/10.1109/TMAG.2015.2449779>

Effect of mechanical stress on magnetization and magnetostriction strain behavior of non-oriented Si-Fe steels at different directions and under pseudo-DC conditions
Lahyaoui, Otmame; Lanfranchi, Vincent; Buiron, Nicolas; Martin, Florian; Aydin, Ugur; **Belahcen, Anouar** International journal of applied electromagnetics and mechanics 2019 / p. 299-312 <https://doi.org/10.3233/JAE-180106>

Effect of multi-axial stress on iron losses of electrical steel sheets
Aydin, Ugur; Rasilo, Paavo; Martin, Florian; **Belahcen, Anouar** Journal of magnetism and magnetic materials 2019 / p. 19-27 : ill
<https://doi.org/10.1016/j.jmmm.2018.08.003>

Effect of PM parameters variability on the operation quantities of a wind generator
Kallaste, Ants; Belahcen, Anouar; Vaimann, Toomas 2015 IEEE Workshop on Electrical Machines Design, Control and Diagnosis (WEMDCD) : proceedings : Castello del Valentino, Torino, Italy, 26-27 March, 2015 / p. 242-247 : ill
<http://dx.doi.org/10.1109/WEMDCD.2015.7194536>

Effect of punching the electrical sheets on optimal design of a permanent magnet synchronous motor
Martin, Florian; Aydin, Ugur; Sundaria, Ravi; Rasilo, Paavo; **Belahcen, Anouar**; Arkkio, Antero IEEE Transactions on Magnetics 2018 / art. 8102004 <https://doi.org/10.1109/TMAG.2017.2768399> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Effect of rotor pole-shoe construction on losses of inverter-fed synchronous motors
Rasilo, Paavo; **Belahcen, Anouar**; Arkkio, Antero IEEE transactions on industry applications 2014 / p. 208-217 : ill

Effect of rotor pole-shoe construction on losses of inverter-fed synchronous motors
Rasilo, Paavo; **Belahcen, Anouar**; Arkkio, Antero Proceedings : 2012 XXth International Conference on Electrical Machines : Palais des Congrès et des Expositions de Marseille Marseille, France, 02-05 September, 2012 / p. 1282-1286 : ill

Effects of stator core welding on an induction machine – measurements and modeling
Sundaria, Ravi; Daem, Andries; Osemwinyen, Osaruyi; Lehtikoinen, Antti; Sergeant, Peter; Arkkio, Antero; **Belahcen, Anouar** Journal of Magnetism and Magnetic Materials 2020 / art. 166280 <https://doi.org/10.1016/j.jmmm.2019.166280> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Electrical resistivity of additively manufactured silicon steel for electrical machine fabrication
Tiismus, Hans; Kallaste, Ants; Vaimann, Toomas; Rassõlkin, Anton; Belahcen, Anouar 2019 Electric Power Quality and Supply Reliability Conference (PQ) & 2019 Symposium on Electrical Engineering and Mechatronics (SEEM), Kärda, Estonia, June 12-15, 2019 : proceedings 2019 / 4 p. : ill <https://doi.org/10.1109/PQ.2019.8818252>

EMSA 2016 publications chairs preface
Manzin, Alessandra; Asenjo, Agustina; **Belahcen, Anouar**; Butta, Mattia IEEE transactions on magnetics 2017 / 0200603, p. 1-3 : fot
<https://doi.org/10.1109/TMAG.2017.2670446>

Environmental and life cycle cost analysis of a synchronous reluctance machine [Online resource]
Rassõlkin, Anton; Orlova, Svetlana; **Vaimann, Toomas; Belahcen, Anouar; Kallaste, Ants** 2016 57th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCon) : October 13, 14, 2016 : conference proceedings 2016 / [5] p. : ill <https://doi.org/10.1109/RTUCon.2016.7763127>

Environmental considerations in lifecycle based optimization of electrical machines
Vaimann, Toomas; Kallaste, Ants; Bolgov, Viktor; Belahcen, Anouar Proceedings of the 2015 16th International Scientific Conference on Electric Power Engineering (EPE) : May 20-22, 2015, Czech Republic 2015 / p. 209-214 : ill
<http://dx.doi.org/10.1109/EPE.2015.7161057>

Equivalent strain and stress models for the effect of mechanical loading on the permeability of ferromagnetic materials
Rasilo, Paavo; Aydin, Ugur; Martin, Florian; **Belahcen, Anouar**; Kouhia, Reijo; Daniel, Laurent IEEE transactions on magnetics 2019 / art. 2002104, <https://doi.org/10.1109/TMAG.2018.2890407>

Estimation of additional losses due to random contacts at the edges of stator of an electrical machine

Shah, Sahas Bikram; Rasilo, Paavo; **Belahcen, Anouar**; Arkkio, Antero COMPEL : the international journal for computation and mathematics in electrical and electronic engineering 2015 / p. 1501-1510 : ill <http://dx.doi.org/10.1108/COMPEL-02-2015-0083>

Example of automatic safety systems based on power line communication and Microsoft Azure

Daukaev, Kamil; Rassõlkin, Anton; Belahcen, Anouar 16th International Symposium "Topical Problems in the Field of Electrical and Power Engineering. Doctoral School of Energy and Geotechnology III" : Pärnu, Estonia, January 16-21, 2017 2017 / p. 95-96 : ill http://www.ester.ee/record=b4650094*est

Experimental determination and numerical evaluation of core losses in a 150-kVA wound-field synchronous machine

Rasilo, Paavo; **Belahcen, Anouar**; Arkkio, Antero Electric power applications, IET 2013 / p. 97-105 : ill

Experimental prototype of high-efficiency wind turbine based on Magnus effect

Lukin, Aleksandr; Demidova, Galina; Lukichev, Dmitry; Rassõlkin, Anton; Kallaste, Ants; Vaimann, Toomas; Belahcen, Anouar 2020 27th International Workshop on Electric Drives: MPEI Department of Electric Drives 90th Anniversary (IWED), Moscow, Russia, January 27-30, 2020 2020 / 6 p <https://doi.org/10.1109/IWED48848.2020.9069565>

Flexible identification procedure for thermodynamic constitutive models for magnetostrictive materials

Rasilo, Paavo; Singh, Deepak; Jeronen, Juha; Aydin, Ugur; Martin, Florian; **Belahcen, Anouar**; Daniel, Laurent; Kouhia, Reijo Proceedings of the Royal Society. A, Mathematical, physical & engineering sciences 2019 / 21 p <https://doi.org/10.1098/rspa.2018.0280>

Flux-weakening control for IPMSM employing model order reduction

Far, Mehrnaz Farzam; Mustafa, Bilal; Martin, Florian; Rasilo, Paavo; **Belahcen, Anouar** 2018 XIII International Conference on Electrical Machines (ICEM 2018) : Alexandroupoli, Greece, 3-6 September 2018 2018 / p. 1510–1516 : ill <http://doi.org/10.1109/ICELMACH.2018.8506693>

Generation of unmeasured loading levels data for condition monitoring of induction machine using machine learning

Billah, Md Masum; Saberi, Alireza Nemat; Hemeida, Ahmed; Martin, Florian; **Kudelina, Karolina; Asad, Bilal; Naseer, Muhammad Usman**; Mukherjee, Victor; Belahcen, Anouar IEEE transactions on magnetics 2023 <https://doi.org/10.1109/TMAG.2023.3312267>

Hairpin windings for electric vehicle motors : modeling and investigation of AC loss-mitigating approaches

Ghahfarokhi, Payam Shams; Podgornovs, Andrejs; Cardoso, Antonio J. Marques; **Kallaste, Ants**; Belahcen, Anouar; **Vaimann, Toomas** Machines 2022 / art. 1029 <https://doi.org/10.3390/machines10111029> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Hairpin windings manufacturing, design, and AC losses analysis approaches for electric vehicle motors

Ghahfarokhi, Payam Shams; Podgornovs, Andrejs; Cardoso, Antonio J. Marques; **Kallaste, Ants**; Belahcen, Anouar; **Vaimann, Toomas** 2021 11th International Electric Drives Production Conference (EDPC) : 7-9 Dec. 2021 2021 / p. 1-7 <https://doi.org/10.1109/EDPC53547.2021.9684208>

Harmonic spectrum analysis of induction motor with broken rotor bar fault

Asad, Bilal; Vaimann, Toomas; Kallaste, Ants; Belahcen, Anouar 59th Annual International Scientific Conference on Power and Electrical Engineering : November 12, 13, 2018, Riga Technical University (RTUCON) : conference proceedings 2018 / 7 p. : ill <https://doi.org/10.1109/RTUCON.2018.8659842>

Harmonics distortion in inverter-fed motor-drive systems : case study

Heidari, Hamidreza; Rassõlkin, Anton; Kallaste, Ants; Vaimann, Toomas; Belahcen, Anouar 2019 Electric Power Quality and Supply Reliability Conference (PQ) & 2019 Symposium on Electrical Engineering and Mechatronics (SEEM), Kärda, Estonia, June 12-15, 2019 : proceedings 2019 / 4 p. : ill <https://doi.org/10.1109/PQ.2019.8818230>

A High-performance open-source finite element analysis library for magnetics in MATLAB

Lehikoinen, Antti; Davidsson, T.; Arkkio, Antero; **Belahcen, Anouar** 2018 XIII International Conference on Electrical Machines (ICEM 2018) : Alexandroupoli, Greece, 3-6 September 2018 2018 / p. 486–492 : ill <http://doi.org/10.1109/ICELMACH.2018.8507235>

Hilbert transform, an effective replacement of Park's vector modulus for the detection of rotor faults

Asad, Bilal; Vaimann, Toomas; Kallaste, Ants; Rassõlkin, Anton; Belahcen, Anouar 2019 Electric Power Quality and Supply Reliability Conference (PQ) & 2019 Symposium on Electrical Engineering and Mechatronics (SEEM), Kärda, Estonia, June 12-15, 2019 : proceedings 2019 / 4 p. : ill <https://doi.org/10.1109/PQ.2019.8818227>

Homogenization of multiscale eddy current problem by localized orthogonal decomposition method

Ren, Xiaotao; Hannukainen, Antti; **Belahcen, Anouar** IEEE transactions on magnetics 2019 / art. 7500204, 4 p <https://doi.org/10.1109/TMAG.2019.2917400>

Homogenization technique for axially laminated rotors of synchronous reluctance machines

Martin, Florian; **Belahcen, Anouar**; Lehikoinen, Antti; Rasilo, Paavo IEEE transactions on magnetics 2015 / [6] p. : ill <http://dx.doi.org/10.1109/TMAG.2015.2463262>

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

flux

Pando-Acedo, Jaime; **Rassölkin, Anton**; Lehtikoinen, 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>

Hybrid thermal model of a synchronous reluctance machine

Shams Ghahfarokhi, Payam; **Kallaste, Ants**; **Belahcen, Anouar**; **Vaimann, Toomas**; **Rassölkin, Anton** Case studies in thermal engineering 2018 / p. 381-389 : ill <https://doi.org/10.1016/j.csite.2018.05.007> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Hysteresis loss evaluation of additively manufactured soft magnetic core

Tiismus, Hans; **Kallaste, Ants**; **Belahcen, Anouar**; **Rassölkin, Anton**; **Vaimann, Toomas** 2020 International Conference on Electrical Machines (ICEM), 23-26 august 2020, Gothenburg, Sweden : online : proceedings 2020 / p. 1657-1661 <https://doi.org/10.1109/ICEM49940.2020.9270836>

Hysteresis measurements and numerical losses segregation of additively manufactured silicon steel for 3D printing electrical machines

Tiismus, Hans; **Kallaste, Ants**; **Belahcen, Anouar**; **Vaimann, Toomas**; **Rassölkin, Anton**; Lukichev, Dmitry Applied sciences 2020 / art. 6515, 15 p <https://doi.org/10.3390/app10186515> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Identification of synchronous machine magnetization characteristics from calorimetric core-loss and no-load curve measurements

Rasilo, Paavo; Abdallah, Ahmed Abou-Elyazied; **Belahcen, Anouar**; Arkkio, Antero; Dupré, Luc IEEE transactions on magnetics 2015 / [4] p. : ill <http://dx.doi.org/10.1109/TMAG.2014.2354055>

Impact of wind parks on the efficiency of thermal power plants [Electronic resource]

Astapov, Victor; Šuvalova, Jelena; **Vaimann, Toomas**; **Kallaste, Ants**; **Belahcen, Anouar** Proceedings of the 8th International Scientific Symposium on Electrical Power Engineering ELEKTROENERGETIKA 2015 : September 16-18, 2015, Stara Lesna, Slovak Republic 2015 / p. 589-592 : ill. [CD-ROM]

Implementation of different magnetic materials in outer rotor PM generator

Kudrjavitsev, Oleg; Kilk, Aleksander; **Vaimann, Toomas**; **Belahcen, Anouar**; **Kallaste, Ants** 2015 IEEE 5th International Conference on Power Engineering, Energy and Electrical Drives (POWERENG) : proceedings : May 11-13, 2015, Riga, Latvia 2015 / p. 74-78 : ill <http://dx.doi.org/10.1109/PowerEng.2015.7266298>

Importance of iron-loss modeling in simulation of wound-field synchronous machines

Rasilo, Paavo; **Belahcen, Anouar**; Arkkio, Antero IEEE transactions on magnetics 2012 / p. 2495-2504 : ill

Improved sampling algorithm for stochastic modelling of random-wound electrical machines

Lehtikoinen, Antti; Chiodetto, Nicola; Arkkio, Antero; **Belahcen, Anouar** The journal of engineering 2019 / p. 3976-3980 <https://doi.org/10.1049/joe.2018.8093>

Improving legibility of motor current spectrum for broken rotor bars fault diagnostics

Asad, Bilal; **Vaimann, Toomas**; **Kallaste, Ants**; **Rassölkin, Anton**; **Belahcen, Anouar**; Iqbal, Muhammad Naveed Scientific Journal of Riga Technical University. Electrical, control and communication engineering 2019 / p. 1-8 : ill <https://doi.org/10.2478/ecce-2019-0001>

Induction machine fault detection using smartphone recorded audible noise

Vaimann, Toomas; Sobra, Jan; **Belahcen, Anouar**; **Rassölkin, Anton**; Rolak, Michal; **Kallaste, Ants** IET science, measurement and technology 2018 / p. 554-560 : ill <https://doi.org/10.1049/iet-smt.2017.0104> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Influence of magnet material selection on the design of slow-speed permanent magnet synchronous generators for wind applications

Kallaste, Ants; **Vaimann, Toomas**; **Belahcen, Anouar** Elektronika ir elektrotehnika = Electronics and electrical engineering 2017 / p. 31-38 : ill <http://dx.doi.org/10.5755/j01.eie.23.1.17581>

Influence of magnetic forces and magnetostriction on the vibration behavior of an induction motor

Sathyan, Sabin; Aydin, Ugur; Lehtikoinen, Antti; **Belahcen, Anouar**; **Vaimann, Toomas**; Kataja, Juhani International journal of applied electromagnetics and mechanics 2019 / p. 825-834 <https://doi.org/10.3233/JAE-171045> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Investigation of the causes behind the vibrations of a high-speed solid-rotor induction motor

Sathyan, Sabin; **Belahcen, Anouar**; Lehtikoinen, Antti; Aydin, Ugur; Boxberg, Fredrik Journal of sound and vibration 2019 / art. 114976, 14 p <https://doi.org/10.1016/j.jsv.2019.114976> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Investigation of the forces acting on the coils of a Modular Slotless Permanent Magnet Generator

Kallaste, Ants; Vaimann, Toomas; Rassõlkin, Anton; Belahcen, Anouar 21st International Conference on the Computation of Electromagnetic Fields (Compumag 2017) : Daejeon, South Korea, 18-22 June 2017 / p. 707-708 : ill
[http://www.compumag.org/CMAG2017/\[PD-M3-9\]_727.pdf](http://www.compumag.org/CMAG2017/[PD-M3-9]_727.pdf)

IoT based tools for data acquisition in electrical machines and robotics

Raja, Hadi Ashraf; Vaimann, Toomas; Rassõlkin, Anton; Kallaste, Ants; Belahcen, Anouar 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. 737-742 : ill <https://doi.org/10.1109/PEMC48073.2021.9432553>

Iron losses, magnetoelasticity and magnetostriction in ferromagnetic steel laminations

Rasilo, Paavo; Singh, Deepak; **Belahcen, Anouar**; Arkkio, Antero IEEE transactions on magnetics 2013 / p. 2041-2044 : ill

Life cycle analysis of electrical motor-drive system based on electrical machine type

Rassõlkin, Anton; Belahcen, Anouar; Kallaste, Ants; Vaimann, Toomas; Heidari, Hamidreza; Asad, Bilal Proceedings of the Estonian Academy of Sciences 2020 / p. 162-177 : ill <https://doi.org/10.3176/proc.2020.2.07> [journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Lifecycle analysis of different motors from the standpoint of environmental impact

Orlova, Svetlana; Rassõlkin, Anton; Kallaste, Ants; Vaimann, Toomas; Belahcen, Anouar Latvian journal of physics and technical sciences 2016 / p. 37-46 : ill <http://dx.doi.org/10.1515/lpts-2016-0042>

Lifecycle-based design and optimization of electrical motor-drives - challenges and possibilities

Vaimann, Toomas; Kallaste, Ants; Kilk, Aleksander; Belahcen, Anouar The 3rd International Conference on Electric Power and Energy Conversion Systems (EPECS 2013) : [proceedings] 2013 / p. 1-4 : ill

LightGBM-based fault diagnosis of rotating machinery under changing working conditions using modified recursive feature elimination

Saberi, Alireza Nemat; **Belahcen, Anouar**; Sobra, Jan; **Vaimann, Toomas** IEEE Access 2022 / p. 81910-81925
<https://doi.org/10.1109/ACCESS.2022.3195939> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Loss model for the effects of steel cutting in electrical machines

Sundaria, Ravi; Nair, D. G.; Lehtikoinen, Antti; Arkkio, Antero; **Belahcen, Anouar** 2018 XIII International Conference on Electrical Machines (ICEM 2018) : Alexandroupoli, Greece, 3-6 September 2018 / p. 1260-1266 : ill
<http://doi.org/10.1109/ICELMACH.2018.8506822>

Magnetic equivalent circuit and Lagrange interpolation function modeling of induction machines under broken bar faults

Hemeida, Ahmed; Billah, Md Masum; **Kudelina, Karolina; Asad, Bilal; Naseer, Muhammad Usman**; Guo, Baocheng; Martin, Floran; Rasilo, Paavo; **Belahcen, Anouar** IEEE transactions on magnetics 2023 <https://doi.org/10.1109/TMAG.2023.3306207>

Magnetic properties of reduced Dy NdFeB permanent magnets and their usage in electrical machines

Vaimann, Toomas; Kallaste, Ants; Kilk, Aleksander; Belahcen, Anouar IEEE AFRICON 2013 : [proceedings] 2013 / p. 1124-1128 : ill

Magneto-mechanical modeling of electrical steel sheets

Aydin, Ugur; Rasilo, Paavo; Martin, Floran; Singh, Deepak; Daniel, Laurent; **Belahcen, Anouar**; Rekik, Mahmoud; Hubert, Olivier; Kouhia, Reijo; Arkkio, Antero Journal of magnetism and magnetic materials 2017 / p. 82-90 : ill
<https://doi.org/10.1016/j.jmmm.2017.05.008>

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>

Mixed-order finite-element modeling of magnetic material degradation due to cutting

Sundaria, Ravi; Lehtikoinen, Antti; Hannukainen, Antti; Arkkio, Antero; **Belahcen, Anouar** IEEE transactions on magnetics 2018 / art. 7402008, 8 p. : ill <http://dx.doi.org/10.1109/TMAG.2018.2811385>

Model for stress-dependent hysteresis in electrical steel sheets including orthotropic anisotropy

Rasilo, Paavo; Steentjes, S.; **Belahcen, Anouar**; Kouhia, Reijo; Hameyer, Kay IEEE transactions on magnetics 2017 / art. 2001004, 4 p. : ill <http://dx.doi.org/10.1109/TMAG.2017.2659784>

Model of magnetic anisotropy of non-oriented steel sheets for finite-element method

Martin, Floran; Singh, Deepak; Rasilo, Paavo; **Belahcen, Anouar**; Arkkio, Antero IEEE transactions on magnetics 2016 / [4] p. : ill
<http://dx.doi.org/10.1109/TMAG.2015.2488100>

Model order reduction of bearingless reluctance motor including eccentricity

Far, Mehrnaz Farzam; Mukherjee, Victor; **Belahcen, Anouar** 2018 XIII International Conference on Electrical Machines (ICEM 2018) : Alexandroupoli, Greece, 3-6 September 2018 / p. 2243–2249 : ill <http://doi.org/10.1109/ICELMACH.2018.8506758>

Model order reduction of electrical machines with multiple inputs

Farzam Far, Mehrnaz; **Belahcen, Anouar**; Rasilo, Paavo; Clenet, Stephane; Pierquin, Antoine IEEE transactions on industry applications 2017 / p. 3355-3360 : ill <http://dx.doi.org/10.1109/TIA.2017.2681967>

Modeling of hysteresis losses in ferromagnetic laminations under mechanical stress

Rasilo, Paavo; Singh, Deepak; Aydin, U.; Martin, Florian; Kouhia, Reijo; **Belahcen, Anouar**; Arkkio, Antero IEEE transactions on magnetics 2016 / art. 7300204, [4] p. : ill <http://dx.doi.org/10.1109/TMAG.2015.2468599>

Modeling the Effect of Multiaxial Stress on Magnetic Hysteresis of Electrical Steel Sheets : A Comparison

Aydin, Ugur; Rasilo, Paavo; Martin, Florian; Singh, Deepak; **Belahcen, Anouar** IEEE transactions on magnetics 2017 / art. 2000904, 4 p. : ill <http://dx.doi.org/10.1109/TMAG.2017.2658676>

Modelling anisotropy in non-oriented electrical steel sheet using vector Jiles-Atherton model

Upadhaya, Brijesh; Martin, Florian; Rasilo, Paavo; Handgruber, Paul; **Belahcen, Anouar**; Arkkio, Antero COMPEL : The international journal for computation and mathematics in electrical and electronic engineering 2017 / p. 764-773 : ill <http://dx.doi.org/10.1108/COMPEL-09-2016-0399>

Modelling of magnetic and electric circuits

Demenko, Andrzej; **Belahcen, Anouar**; Hameyer, Kay; Pietrowski, Wojciech; Brock, Stefan COMPEL : The international journal for computation and mathematics in electrical and electronic engineering 2017 / p. 578-579 <http://dx.doi.org/10.1108/COMPEL-02-2017-0054>

A modified dynamic model of single-sided linear induction motors considering longitudinal and transversal effects

Heidari, Hamidreza; Rassölkin, Anton; Razzaghi, Arash; Vaimann, Toomas; Kallaste, Ants; Andriushchenko, Ekaterina; **Belahcen, Anouar**; Lukichev, Dmitry Electronics 2021 / art. 933, 14 p. : ill <https://doi.org/10.3390/electronics10080933> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Modified winding function-based model of squirrel cage induction motor for fault diagnostics

Asad, Bilal; Vaimann, Toomas; **Belahcen, Anouar**; Kallaste, Ants; Rassölkin, Anton; Iqbal, Muhammad Naveed IET electric power applications 2020 / p. 1722-1734 <https://doi.org/10.1049/iet-epa.2019.1002> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Multi-sensor fault diagnosis of induction motors using random forests and support vector machine

Saberi, Alireza Nemat; Sandirasegaram, Sarvavignoban; **Belahcen, Anouar**; Vaimann, Toomas; Sobra, Jan 2020 International Conference on Electrical Machines (ICEM), 23-26 august 2020, Gothenburg, Sweden : online : proceedings 2020 / p. 1404–1410 <https://doi.org/10.1109/ICEM49940.2020.9270689>

Natural convection from flat side's of coil system

Ghahfarokhi, Payam Shams; Kallaste, Ants; Vaimann, Toomas; **Belahcen, Anouar** 2018 19th International Scientific Conference on Electric Power Engineering (EPE 2018) : Brno, Czech Republic, 16 - 18 May 2018 / p. 288-292 : ill <https://doi.org/10.1109/EPE.2018.8395967>

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>

A Novel vector control strategy for a six-phase induction motor with low torque ripples and harmonic currents

Heidari, Hamidreza; Rassölkin, Anton; Vaimann, Toomas; Kallaste, Ants; Taheri, Asghar; Holakooie, Mohammad Hosein; **Belahcen, Anouar** Energies 2019 / art. 1102, 14 p. : ill <https://doi.org/10.3390/en12061102> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

The oil spray cooling system of automotive traction motors : the state of the art

Ghahfarokhi, Payam Shams; Podgornovs, Andrejs; Kallaste, Ants; Cardoso, Antonio J. Marques; **Belahcen, Anouar**; Vaimann, Toomas IEEE Transactions on Transportation Electrification 2023 / p. 428-451 <https://doi.org/10.1109/TTE.2022.3189596>

Oil spray cooling with hairpin windings in high-performance electric vehicle motors

Shams Ghahfarokhi, Payam; Podgornovs, Andrejs; Kallaste, Ants; Vaimann, Toomas; **Belahcen, Anouar**; Cardoso, Antonio J. Marques 2021 28th International Workshop on Electric Drives : Improving Reliability of Electric Drives (IWED) 2021 / 5 p <https://doi.org/10.1109/IWED52055.2021.9376390>

Operation and principles of bearingless synchronous reluctance machines

Belahcen, Anouar 18th International Symposium "Topical Problems in the Field of Electrical and Power Engineering". Doctoral

Opportunities and challenges of utilizing additive manufacturing approaches in thermal management of electrical machines

Ghahfarokhi, Payam Shams; Podgornovs, Andrejs; **Kallaste, Ants;** Cardoso, Antonio J. Marques; **Belahcen, Anouar; Vaimann, Toomas; Tiismus, Hans; Asad, Bilal** IEEE Access 2021 / art. 9364970, p. 36368-36381 : ill
<https://doi.org/10.1109/ACCESS.2021.3062618> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Optimization of a 3D-printed permanent magnet coupling using genetic algorithm and Taguchi method

Andriushchenko, Ekaterina; **Kallaste, Ants; Belahcen, Anouar; Vaimann, Toomas; Rassõlkin, Anton; Heidari, Hamidreza; Tiismus, Hans** Electronics 2021 / art. 494, 16 p. : ill <https://doi.org/10.3390/electronics10040494> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Orthogonal interpolation method for order reduction of a synchronous machine model

Far, Mehrnaz Farzam; Martin, Florian; **Belahcen, Anouar;** Montier, Laurent; Henneron, Thomas IEEE transactions on magnetics 2018 / 8100506, p. 1-6 : ill <https://doi.org/10.1109/TMAG.2017.2768328> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Overview of control methods of reluctance machines with sensors and sensorless

Melentjev, Sergei; Belahcen, Anouar; Kallaste, Ants; Vaimann, Toomas 2014 55th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) : proceedings 2014 / p. 26-29 : ill

A parallel estimation system of stator resistance and rotor speed for active disturbance rejection control of six-phase induction motor

Heidari, Hamidreza; Rassõlkin, Anton; Holakooie, Mohammad Hosein; **Vaimann, Toomas; Kallaste, Ants; Belahcen, Anouar;** Lukichev, Dmitry Energies 2020 / 17 p <https://doi.org/10.3390/en13051121> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Park's vector approach for detection of broken rotor bars in frequency converter fed induced generator

Vaimann, Toomas; Belahcen, Anouar; Martinez, Javier; **Kilk, Aleksander** Proceedings of the 13th International Scientific Conference Electric Power Engineering 2012 : EPE 2012 : Brno. Vol. 2 2012 / p. 985-988 : ill

Possible manufacturing tolerance faults in design and construction of low speed slotless permanent magnet generator

Kallaste, Ants; Vaimann, Toomas; Belahcen, Anouar 2014 16th European Conference on Power Electronics and Applications (EPE'14-ECCE Europe) : Lappeenranta, Finland, 26-28 August 2014. Vol. 4 2014 / p. 3073-3082 : ill

Power losses analysis in thermal design of a synchronous reluctance motor

Shams Ghahfarokhi, Payam; Kallaste, Ants; Vaimann, Toomas; Belahcen, Anouar 2019 IEEE 60th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), 7-9 October 2019 : conference proceedings 2019 / 5 p. : ill <https://doi.org/10.1109/RTUCON48111.2019.8982256>

Reduced basis finite element modeling of electrical machines with multiconductor windings

Lehikoinen, Antti; Arkkio, Antero; **Belahcen, Anouar** IEEE transactions on industry applications 2017 / p. 4252-4259 : ill
<http://dx.doi.org/10.1109/TIA.2017.2696509>

Research on the performances and parameters of interior PMSM used for electric vehicles

Liu, Xiangdong; Chen, Hao; Zhao, Jing; **Belahcen, Anouar** IEEE transactions on industrial electronics 2016 / p. 3533-3545 : ill
<https://doi.org/10.1109/TIE.2016.2524415>

Re-use and recycling of different electrical machines

Rassõlkin, Anton; Kallaste, Ants; Orlova, Svetlana; **Gevorkov, Levon; Vaimann, Toomas; Belahcen, Anouar** Latvian journal of physics and technical sciences 2018 / p. 13-23 : ill <https://doi.org/10.2478/lpts-2018-0025> [Journal metrics at Scopus](#) [Article at Scopus](#)

A review of electrical machine design processes from the standpoint of software selection

Daukaev, Kamil; Rassõlkin, Anton; Kallaste, Ants; Vaimann, Toomas; Belahcen, Anouar 2017 IEEE 58th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON) : proceedings : Latvia, Riga, 12-13 October, 2017 2017 / [6] p. : ill <https://doi.org/10.1109/RTUCON.2017.8124818>

Review of electrical machine diagnostic methods applicability in the perspective of Industry 4.0

Asad, Bilal; Vaimann, Toomas; Rassõlkin, Anton; Kallaste, Ants; Belahcen, Anouar Scientific Journal of Riga Technical University. Electrical, control and communication engineering 2018 / p. 108-116 : ill <https://doi.org/10.2478/ecce-2018-0013>

Review of loss calculation reduction control methods of permanent magnet assisted reluctance drive

Melentjev, Sergei; Belahcen, Anouar; Kallaste, Ants; Rassõlkin, Anton; Vaimann, Toomas PQ2016 : the 10th International Conference 2016 Electric Power Quality and Supply Reliability Conference (PQ) : August 29-31, 2016, Tallinn, Estonia : proceedings

A review of synchronous reluctance motor-drive advancements

Heidari, Hamidreza; Rassölkin, Anton; Kallaste, Ants; Vaimann, Toomas; Andriushchenko, Ekaterina; Belahcen, Anouar; Lukichev, Dmitry Sustainability 2021 / art. 729, p. 1-37 <https://doi.org/10.3390/su13020729> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Review of the analytical flow model to predict the hydraulic behaviour in electrical machine

Ghahfarokhi, Payam Shams; Kallaste, Ants; Vaimann, Toomas; Belahcen, Anouar 2019 Electric Power Quality and Supply Reliability Conference (PQ) & 2019 Symposium on Electrical Engineering and Mechatronics (SEEM), Kärda, Estonia, June 12-15, 2019 : proceedings 2019 / 4 p. : ill <https://doi.org/10.1109/PQ.2019.8818271>

Review of thermal analysis of permanent magnet assisted synchronous reluctance machines

Ghahfarokhi, Payam Shams; Kallaste, Ants; Belahcen, Anouar; Vaimann, Toomas; Rassölkin, Anton PQ2016 : the 10th International Conference 2016 Electric Power Quality and Supply Reliability Conference (PQ) : August 29-31, 2016, Tallinn, Estonia : proceedings 2016 / p. 219-224 <https://doi.org/10.1109/PQ.2016.7724116>

Rotational single sheet tester for multiaxial magneto-mechanical effects in steel sheets

Aydin, Ugur; Martin, Florian; Rasilo, Paavo; Belahcen, Anouar IEEE transactions on magnetics 2019 / art. 2001810, 10 p. : ill <https://doi.org/10.1109/TMAG.2018.2889238>

Rotor fault diagnostic of inverter fed induction motor using frequency analysis

Asad, Bilal; Vaimann, Toomas; Belahcen, Anouar; Kallaste, Ants; Rassölkin, Anton 2019 IEEE 12th International Symposium on Diagnostics for Electrical Machines, Power Electronics and Drives (SDEMPED), 27-30 Aug. 2019, Toulouse, France : proceedings 2019 / p. 127-133 : ill <https://doi.org/10.1109/DEMPED.2019.8864903>

Segregation of iron losses from rotational field measurements and application to electrical machine

Belahcen, Anouar; Rasilo, Paavo; Arkio, Antero IEEE transactions on magnetics 2014 / p. 893-896 : ill

A Simple and efficient quasi-3D magnetic equivalent circuit for surface axial flux permanent magnet synchronous machines

Hemeida, Ahmed; Lehtikainen, Antti; Rasilo, Paavo; Vansompel, Hendrik; Belahcen, Anouar IEEE transactions on industrial electronics 2019 / p. 8318-8333 : ill <https://doi.org/10.1109/TIE.2018.2884212>

Sliding mean value subtraction-based DC drift correction of B-H curve for 3D-printed magnetic materials

Asad, Bilal; Tiismus, Hans; Vaimann, Toomas; Belahcen, Anouar; Kallaste, Ants; Rassölkin, Anton; Ghahfarokhi, Payam Shams Energies 2021 / art. 284, 10 p <https://doi.org/10.3390/en14020284> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Stator voltage analysis of frequency converter fed induction generator with broken rotor bars

Vaimann, Toomas; Belahcen, Anouar; Martinez, Javier; Kilk, Aleksander 13th International Symposium "Topical Problems in the Field of Electrical and Power Engineering." Doctoral School of Energy and Geotechnology II : Pärnu, Estonia, January 14-19, 2013 2013 / p. 249-251 : ill

Steady-state thermal model of a synchronous reluctance motor

Shams Ghahfarokhi, Payam; Belahcen, Anouar; Kallaste, Ants; Vaimann, Toomas; Rassölkin, Anton 59th Annual International Scientific Conference on Power and Electrical Engineering : November 12, 13, 2018, Riga Technical University (RTUCON) : conference proceedings 2018 / 5 p. : ill <https://doi.org/10.1109/RTUCON.2018.8659846>

Steady-state thermal modeling of salient pole synchronous generator

Ghahfarokhi, Payam Shams; Podgornovs, Andrejs; Kallaste, Ants; Cardoso, Antonio J. Marques; Belahcen, Anouar; Vaimann, Toomas; Kudrjavitsev, Oleg; Asad, Bilal; Iqbal, Muhammad Naveed Energies 2022 / art. 9460 <https://doi.org/10.3390/en15249460> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

A survey of broken rotor bar fault diagnostic methods of induction motor

Asad, Bilal; Vaimann, Toomas; Rassölkin, Anton; Kallaste, Ants; Belahcen, Anouar Scientific Journal of Riga Technical University. Electrical, control and communication engineering 2018 / p. 117-124 : ill <https://doi.org/10.2478/ecce-2018-0014>

Technologies for additive manufacturing of electrical machines

Tiismus, Hans; Kallaste, Ants; Vaimann, Toomas; Rassölkin, Anton; Belahcen, Anouar 2019 20th International Conference of Young Specialists on Micro/Nanotechnologies and Electron Devices (EDM) 2019 / p. 651-655 : ill <https://doi.org/10.1109/EDM.2019.8823462>

The cluster computation-based hybrid FEM-analytical model of induction motor for fault diagnostics

Asad, Bilal; Vaimann, Toomas; Belahcen, Anouar; Kallaste, Ants; Rassölkin, Anton; Iqbal, Muhammad Naveed Advances in machine fault diagnosis 2022 / p. 27-41 <https://doi.org/10.3390/app10217572>

The cluster computation-based hybrid FEM–analytical model of induction motor for fault diagnostics

Asad, Bilal; Vaimann, Toomas; Belahcen, Anouar; Kallaste, Ants; Rassõlkin, Anton; Iqbal, Muhammad Naveed Applied sciences 2020 / art. 7572, 15 p. : ill <https://doi.org/10.3390/app10217572> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

The FEM based modeling and corresponding test rig preparation for broken rotor bars analysis

Asad, Bilal; Eensalu, Lauri; Vaimann, Toomas; Kallaste, Ants; Rassõlkin, Anton; Belahcen, Anouar 2019 IEEE 60th International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), 7-9 October 2019 : conference proceedings 2019 / 9 p. : ill <https://doi.org/10.1109/RTUCON48111.2019.8982350>

The low voltage start-up test of induction motor for the detection of broken bars

Asad, Bilal; Vaimann, Toomas; Belahcen, Anouar; Kallaste, Ants; Rassõlkin, Anton; Heidari, Hamidreza 2020 International Conference on Electrical Machines (ICEM), 23-26 august 2020, Gothenburg, Sweden : online : proceedings 2020 / p. 1481-1487 <https://doi.org/10.1109/ICEM49940.2020.9271018>

The modeling and investigation of slot skews and supply imbalance on the development of principal slotting harmonics in squirrel cage induction machines

Asad, Bilal; Vaimann, Toomas; Belahcen, Anouar; Kallaste, Ants; Rassõlkin, Anton; Khang, Huynh Van; Ghahfarokhi, Payam Shams; Naseer, Muhammad Usman; Iqbal, Muhammad Naveed IEEE Access 2021 / p. 165932-165946 <https://doi.org/10.1109/ACCESS.2021.3134331> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Thermal analysis of a SynRM using a thermal network and a hybrid model

Shams Ghahfarokhi, Payam; Belahcen, Anouar; Kallaste, Ants; Vaimann, Toomas; Gevorkov, Levon; Rassõlkin, Anton 2018 XIII International Conference on Electrical Machines (ICEM 2018) : Alexandroupoli, Greece, 3-6 September 2018 2018 / p. 2682-2688 : ill <https://doi.org/10.1109/ICELMACH.2018.8507002>

Thermal analysis of electromagnetic levitation coil [Electronic resource]

Ghahfarokhi, Payam Shams; Kallaste, Ants; Belahcen, Anouar; Vaimann, Toomas 2016 17th International Scientific Conference on Electric Power Engineering (EPE) : proceedings 2016 / [5] p. : ill. [USB] <https://doi.org/10.1109/EPE.2016.7521725>

Thermal analysis of salient pole synchronous machines by multiple model planes approach

Shams Ghahfarokhi, Payam; Kallaste, Ants; Podgornovs, Andrejs; Belahcen, Anouar; Vaimann, Toomas; Kudrjavitsev, Oleg 2020 International Conference on Electrical Machines (ICEM), 23-26 august 2020, Gothenburg, Sweden : online : proceedings 2020 / p. 1511–1517 <https://doi.org/10.1109/ICEM49940.2020.9270753>

Thermal analysis of totally enclosed fan cooled synchronous reluctance motor-state of art

Ghahfarokhi, Payam Shams; Kallaste, Ants; Vaimann, Toomas; Belahcen, Anouar IECON 2019 - 45th Annual Conference of the IEEE Industrial Electronics Society : proceedings 2019 / p. 4372-4377 : ill <https://doi.org/10.1109/IECON.2019.8927706> [Conference proceedings at Scopus](#) [Article at Scopus](#) [Article at WOS](#)

Thermal model of a synchronous reluctance motor

Ghahfarokhi, Payam Shams; Kallaste, Ants; Belahcen, Anouar 17th International Symposium "Topical Problems in the Field of Electrical and Power Engineering". Doctoral school of energy and geotechnology. III : Kuressaare, Estonia, January 15-20, 2018 2018 / p. 63-64 : ill http://ise.elnet.ee/record=b2950016~S2*est

Thermal modeling of a TEFC synchronous reluctance motor

Shams Ghahfarokhi, Payam; Podgornovs, Andrejs; Marques Cardoso, Antonio J.; Kallaste, Ants; Belahcen, Anouar; Vaimann, Toomas 2021 IEEE 62nd International Scientific Conference on Power and Electrical Engineering of Riga Technical University (RTUCON), 15-17 Nov. 2021 : conference proceedings 2021 / 4 p. : ill <https://doi.org/10.1109/RTUCON53541.2021.9711740>

Thermographic measurement and simulation of power losses due to interlaminar contacts in electrical sheets

Shah, Sahas Bikram; Osemwinyen, Osaruyi; Rasilo, Paavo; Belahcen, Anouar; Arkkio, Antero IEEE transactions on instrumentation and measurement 2018 / p. 2628–2634 : ill <https://doi.org/10.1109/TIM.2018.2829321>

3-D eddy current analysis in steel laminations of electrical machines as a contribution for improved iron loss modeling

Handgruber, Paul; Stermecki, Andrej; Biro, Oszkar; Belahcen, Anouar; Dlala, Emad Proceedings : 2012 XXth International Conference on Electrical Machines : Palais des Congrès et des Expositions de Marseille Marseille, France, 02-05 September, 2012 2012 / p. 16-22 : ill <https://ieeexplore.ieee.org/document/6510501>

Three-dimensional eddy-current analysis in steel laminations of electrical machines as a contribution for improved iron loss modeling

Handgruber, Paul; Stermecki, Andrej; Biro, Oszkar; Belahcen, Anouar; Dlala, Emad IEEE transactions on industry applications 2013 / p. 2044-2052 : ill

3D permeance model of induction machines taking into account saturation effects and its connection with stator current and shaft speed spectra

Martinez, Javier; **Belahcen, Anouar**; Arkkio, Antero IET electric power applications 2015 / p. 20-29 : ill <http://dx.doi.org/10.1049/iet-epa.2014.0013>

Transient modeling and recovery of non-stationary fault signature for condition monitoring of induction motors

Asad, Bilal; Vaimann, Toomas; Belahcen, Anouar; Kallaste, Ants; Rassõlkin, Anton; Ghahfarokhi, Payam Shams; **Kudelina, Karolina** Applied sciences 2021 / 17 p. : ill <https://doi.org/10.3390/app11062806> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

Transient modeling and recovery of non-stationary fault signature for condition monitoring of induction motors

Asad, Bilal; Vaimann, Toomas; Belahcen, Anouar; Kallaste, Ants; Rassõlkin, Anton; Ghahfarokhi, Payam Shams Advances in machine fault diagnosis 2022 / p. 43-59 <https://doi.org/10.3390/app11062806>

A 2D FEM model for transient and fault analysis of induction machines

Martinez, Javier; **Belahcen, Anouar**; Arkkio, Antero Przegląd elektrotechniczny = Electrical review 2012 / p. 157-160 : ill <http://pe.org.pl/articles/2012/7b/41.pdf>

A 2D magnetic and 3D mechanical coupled finite element model for the study of the dynamic vibrations in the stator of induction motors

Martinez, Javier; **Belahcen, Anouar**; Detoni, Joaquim G. Mechanical systems and signal processing 2016 / p. 640-656 : ill <http://dx.doi.org/10.1016/j.ymssp.2015.06.014>

Uncertainty propagation of iron loss from characterization measurements to computation of electrical machines

Belahcen, Anouar; Rasilo, Paavo; Nguyen, Thu-Trang; Clénet, Stephane COMPEL : The international journal for computation and mathematics in electrical and electronic engineering 2015 / p. 624-636 : ill <http://dx.doi.org/10.1108/COMPEL-10-2014-0271>

Uncertainty quantification of input parameters in a 2D finite-element model for broken rotor bar in an induction machine

Billah, Md Masum; Martin, Florian; **Belahcen, Anouar**; Balasubramanian, Aswin; **Vaimann, Toomas**; Sobra, Jan IEEE transactions on magnetics 2022 / art. 8205804 <https://doi.org/10.1109/TMAG.2022.3173663> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

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>

Vibration as fault indicator in electrical machines

Farzam Far, Mehmaz; **Belahcen, Anouar**; Arkkio, Antero; Roivainen, Janne Doctoral School of Energy and Geotechnology II : closing conference of the project : Pärnu, Estonia, January 12-17, 2015 2015 / p. 120-125 : ill

Winding function based analytical model of squirrel cage induction motor for fault diagnostics

Asad, Bilal; Vaimann, Toomas; Kallaste, Ants; Rassõlkin, Anton; Belahcen, Anouar 2019 26th International Workshop on Electric Drives : Improvement in Efficiency of Electric Drives (IWED) : Moscow Power Engineering Institute, Moscow, Russia, 30th of January - 2nd of February 2019 : proceedings 2019 / 6 p. : ill <https://doi.org/10.1109/IWED.2019.8664314>