

Additively manufactured advanced thermal management solutions for electrical machines = Kihitlisandusmeetodil valmistatud täiustatud jahutuslahendused elektrimasinatele

Sarap, Martin 2025 https://www.ester.ee/record=b5755150*est <https://digikogu.taltech.ee/et/Item/e8fe803d-bbda-41c5-b78d-3aef7b1fd504>
<https://doi.org/10.23658/taltech.54/2025>

Additively manufactured and topology optimized heatsink for a propulsion motor

Sarap, Martin; Kallaste, Ants; Vaimann, Toomas; Shams Ghahfarokhi, Payam 2024 International Conference on Electrical Machines (ICEM) 2024 / 6 p <https://doi.org/10.1109/ICEM60801.2024.10700108>

Analysis of advanced passive heatsinks for electrical machines enabled by additive manufacturing

Sarap, Martin; Kallaste, Ants; Shams Ghahfarokhi, Payam; Vaimann, Toomas 2023 IEEE Workshop on Electrical Machines Design, Control and Diagnosis (WEMDCD) : proceedings 2023 / 6 p. : ill <https://doi.org/10.1109/WEMDCD55819.2023.10110940>

Comparative Study of Advanced Heatsink Structures for Improved Thermal Performance in Axial Flux Motors

Sarap, Martin; Singh, Shalini; **Kallaste, Ants;** Qureshi, Ahmed Jawad; **Tiismus, Hans; Vaimann, Toomas;** Shams Ghahfarokhi, Payam IEEE Access 2025 / p. 100850-100860 <https://doi.org/10.1109/ACCESS.2025.3577289>

Design of an additively manufactured polymer composite electrical machine

Sarap, Martin; Kallaste, Ants; Naseer, Muhammad Usman; Tiismus, Hans; Rjabtšikov, Viktor; Shams Ghahfarokhi, Payam; Vaimann, Toomas; Aman, Alexander; Kutia, Mykhailo 2023 IEEE 17th International Conference on Compatibility, Power Electronics and Power Engineering (CPE-POWERENG) 2023 / 5 p <https://doi.org/10.1109/CPE-POWERENG58103.2023.10227413>

Design of an additively manufactured thermal solution for an axial flux switched reluctance motor

Sarap, Martin; Singh, Shalini; **Kallaste, Ants;** Jawad Qureshi, Ahmed Jawad; **Tiismus, Hans; Vaimann, Toomas;** Shams Ghahfarokhi, Payam Case studies in thermal engineering 2025 / art. 105805 <https://doi.org/10.1016/j.csite.2025.105805>

Determining the thermal conductivity of additively manufactured metal specimens

Sarap, Martin; Kallaste, Ants; Shams Ghahfarokhi, Payam; Tiismus, Hans; Vaimann, Toomas 2022 29th International Workshop on Electric Drives: Advances in Power Electronics for Electric Drives (IWED) 2022 / 4 p <https://doi.org/10.1109/IWED54598.2022.9722591>

Direct conductor cooling of outer-rotor machine enabled by additive manufacturing

Sarap, Martin; Kallaste, Ants; Shams Ghahfarokhi, Payam; Tiismus, Hans; Vaimann, Toomas 2023 IEEE International Conference on Electric Machines and Drives (IEMDC) 2023 / 4 p <https://doi.org/10.1109/IEMDC55163.2023.10238858>

Direct conductor cooling of outer-rotor machine enabled by additive manufacturing

Sarap, Martin 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. 31-32 : ill https://www.ester.ee/record=b5570906*est

The effect of build direction on the thermal conductivity of additively manufactured AIS10Mg and silicon-steel samples

Sarap, Martin; Kallaste, Ants; Shams Ghahfarokhi, Payam; Tiismus, Hans; Vaimann, Toomas 2022 International Conference on Electrical Machines (ICEM) 2022 / p. 538-543 <https://doi.org/10.1109/ICEM51905.2022.9910944>

The effect of build direction on the thermal conductivity of additively manufactured AIS10Mg and silicon-steel samples : [conference paper]

Sarap, Martin 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. 29-30 : ill https://www.ester.ee/record=b5504019*est

Electrical and thermal anisotropy in additively manufactured AISi10Mg and Fe-Si samples

Sarap, Martin; Tiismus, Hans; Kallaste, Ants; Saarna, Mart; Kolnes, Märt; Shams Ghahfarokhi, Payam; **Vaimann, Toomas** Machines 2025 / art. 1 <https://doi.org/10.3390/machines13010001>

Experimental investigation of high viscosity on oil spray cooling system with hairpin winding

Shams Ghahfarokhi, Payam; Kallaste, Ants; Podgornovs, Andrejs; Cardoso, Antonio J. Marques; **Vaimann, Toomas; Sarap, Martin; Rjabtšikov, Viktor** 2023 IEEE 14th International Symposium on Diagnostics for Electrical Machines, Power Electronics and Drives (SDEMPED) 2023 / p. 234-238 <https://doi.org/10.1109/SDEMPED54949.2023.10271484>

3D-prinditud jahuti muudab elektrimasinad töökindlamaks ja tõhusamaks

Sarap, Martin novaator.err.ee 2023 [3D-prinditud jahuti muudab elektrimasinad töökindlamaks ja tõhusamaks](https://novaator.err.ee/3D-prinditud-jahuti-muudab-elektrimasinad-tookindlamaks-ja-tohusamaks)

Preliminary design analysis of an axial flux yokeless stator switched reluctance machine

Hussain, Shahid; Kallaste, Ants; Naseer, Muhammad Usman; Sarap, Martin; Tiismus, Hans; Vaimann, Toomas 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/RTUCON60080.2023.10413130>

Topology optimization and additive manufacturing of a loudspeaker soft magnetic core

Sarap, Martin; Pärtel, Marcus; Kallaste, Ants; Tiismus, Hans; Vaimann, Toomas 2024 International Conference on Electrical and Computer Engineering Researches (ICECER) 2024 / 5 p <https://doi.org/10.1109/ICECER62944.2024.10920438>

Utilization of additive manufacturing in the thermal design of electrical machines : a review

Sarap, Martin; Kallaste, Ants; Shams Ghahfarokhi, Payam; Tiismus, Hans; Vaimann, Toomas Machines 2022 / art. 251 <https://doi.org/10.3390/machines10040251> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)