

### **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](#)

### **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>

### **Application of active thermography for the study of losses in components produced by laser powder Bed fusion**

**Quercio, Michele; Poskovic, Emir; Franchini, Fausto; Fracchia, Elisa; Ferraris, Luca; Canova, Aldo; Tenconi, Alberto; Tiismus, Hans; Kallaste, Ants** Journal of magnetism and magnetic materials 2024 / art. 171796 <https://doi.org/10.1016/j.jmmm.2024.171796>

### **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>

### **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>

### **Concepts of additively manufactured electrical machines and components**

**Vaimann, Toomas; Tiismus, Hans; Kallaste, Ants** 2023 23rd International Scientific Conference on Electric Power Engineering (EPE) 2023 / 6 p <https://doi.org/10.1109/EPE58302.2023.10149252>

### **Control challenges of 3D printed switched reluctance motor**

**Rassõlkin, Anton; Kallaste, Ants; Vaimann, Toomas; Tiismus, Hans** 2019 26th International Workshop on Electric Drives : Improvement in Efficiency of Electric Drives (IWED) : Moscow Power Engineering Institute, Moscow, Russia 30th of January - 02nd of February 2019 : proceedings 2019 / 5 p. : ill <https://doi.org/10.1109/IWED.2019.8664282>

### **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](#)

### **Design and performance of laser additively manufactured core induction motor**

**Tiismus, Hans; Kallaste, Ants; Naseer, Muhammad Usman; Vaimann, Toomas; Rassõlkin, Anton** IEEE Access 2022 / p. 50137-50152 <https://doi.org/10.1109/ACCESS.2022.3173317> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Design of an additively manufactured polymer composite electrical machine**

**Sarap, Martin; Kallaste, Ants; Naseer, Muhammad Usman; Tiismus, Hans; Rjabtšikov, Viktor; Ghahfarokhi, Payam Shams; 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>

### **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](#)

### **Determining the thermal conductivity of additively manufactured metal specimens**

**Sarap, Martin; Kallaste, Ants; Ghahfarokhi, Payam Shams; 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>

### **Development and testing of vertical take-off and landing aerial vehicle with tandem electric ducted fan motor**

**Pütsep, Kristjan; Nerep, Tõivo; Tiismus, Hans; Rassõlkin, Anton** Proceedings of the Estonian Academy of Sciences 2023 / p.

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

**Sarap, Martin; Kallaste, Ants; Ghahfarokhi, Payam Shams; 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>

### **Eddy current loss reduction prospects in laser additively manufactured soft magnetic cores**

**Tiismus, Hans; Kallaste, Ants; Vaimann, Toomas; Rassõlkin, Anton** 2022 International Conference on Electrical Machines (ICEM) 2022 / p. 1511-1516 <https://doi.org/10.1109/ICEM51905.2022.9910679>

### **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>

### **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), Kärdla, Estonia, June 12-15, 2019 : proceedings 2019 / 4 p. : ill <https://doi.org/10.1109/PQ.2019.8818252>

### **Experimental measurements and numerical modelling of additively manufactured Fe-Si cores**

**Stella, Marco; Faba, Antonio; Fulginei, F. Riganti; Quercio, Michele; Scorretti, Riccardo; Bertolini, Vittorio; Sabino, Luis Gustavo; Tiismus, Hans; Kallaste, Ants; Cardelli, Ermanno** Journal of magnetism and magnetic materials 2024 / art. 171752 <https://doi.org/10.1016/j.jmmm.2024.171752>

### **Hysteresis loss evaluation of additively manufactured soft magnetic core**

**Tiismus, Hans; Kallaste, Ants; Belahcen, Anouar; Rassõlkin, 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; Rassõlkin, 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

### **Iron losses evaluation of additively manufactured 6.5 % silicon steel**

**Tiismus, Hans** 19th International Symposium "Topical problems in the field of electrical and power engineering. Doctoral school of energy and geotechnology. III" : Tartu, Estonia, January 14-17, 2020 2020 / p. 103-104 : ill [https://www.ester.ee/record=b5291755\\*est](https://www.ester.ee/record=b5291755*est)

### **Isotroopse plaadi Lambi lainete teoreetiline ja eksperimentaalne uurimine**

**Tiismus, Hans** TTÜ üliõpilaste teadustööde konkursi kokkuvõtted : Tipika teaduskonverents, 24. november 2011, Tallinn 2011 / lk. 7

### **3D-printimine töötab teha mootoritele uuenduskuuri**

**Tiismus, Hans** novaator.err.ee 2023 [3D-printimine töötab teha mootoritele uuenduskuuri](https://digikogu.taltech.ee/et/Item/1a6cde04-f268-42c1-95d7-b9a43dd70046) <https://digikogu.taltech.ee/et/Item/1a6cde04-f268-42c1-95d7-b9a43dd70046> [https://www.ester.ee/record=b5511687\\*est](https://www.ester.ee/record=b5511687*est)

### **Laser additively manufactured magnetic core design and process for electrical machine applications**

**Tiismus, Hans; Kallaste, Ants; Vaimann, Toomas; Lind, Liina; Virro, Indrek; Rassõlkin, Anton; Dedova, Tatjana** Energies 2022 / art. 3665 <https://doi.org/10.3390/en15103665> Journal metrics at Scopus Article at Scopus Journal metrics at WOS Article at WOS

### **Material properties for 3D printing electrical machines**

**Tiismus, Hans** 18th International Symposium "Topical Problems in the Field of Electrical and Power Engineering". Doctoral School of Energy and Geotechnology III : Toila, Estonia, January 14-19, 2019 : [proceedings] 2019 / p. 139-140 [https://www.ester.ee/record=b5183874\\*est](https://www.ester.ee/record=b5183874*est)

### **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

### **Performance evaluation of additive manufacturing based test samples for studies of defects in electrical insulation**

**Shafiq, Muhammad; Taklaja, Paul; Kiitam, Ivar; Tiismus, Hans; Palu, Ivo; Kütt, Lauri** 2021 International Conference on Electrical, Computer and Energy Technologies (ICECET) 2021 / 6 | <https://doi.org/10.1109/ICECET52533.2021.9698476>

### **Performance of additively manufactured prototype transformer core**

**Tiismus, Hans** 20th International Symposium "Topical problems in the field of electrical and power engineering. Doctoral school of energy and geotechnology. III" : Tallinn, Estonia, September 8-10, 2021 2021 / p. 41-42 : ill [https://www.ester.ee/record=b5457278\\*est](https://www.ester.ee/record=b5457278*est)

### **Preliminary analysis of soft magnetic material properties for additive manufacturing of electrical machines**

**Tiismus, Hans; Kallaste, Ants; Rassõlkin, Anton; Vaimann, Toomas** Modern Materials and Manufacturing 2019 : 12th International DAAAM Baltic Conference and 27th International Baltic Conference BALTMATRIB 2019. Selected, peer reviewed papers from the conference Modern Materials and Manufacturing 2019 (MMM 2019), April 24-26, 2019, Tallinn, Estonia 2019 / p. 270-275 : ill <https://www.scientific.net/KEM.799.270> [https://www.ester.ee/record=b5235278\\*est](https://www.ester.ee/record=b5235278*est)  
<https://doi.org/10.4028/www.scientific.net/KEM.799.270> [Conference proceeding at Scopus](#) [Article at Scopus](#)

### **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>

### **Production and properties of additively manufactured electrical machine cores = Kihltisandus meetodil valmistatud elektrimasinate magnetsüdamikud ja nende omadused**

**Tiismus, Hans** 2022 <https://doi.org/10.23658/taltech.49/2022> <https://digikogu.taltech.ee/et/Item/1a6cde04-f268-42c1-95d7-b9a43dd70046>  
[https://www.ester.ee/record=b5511687\\*est](https://www.ester.ee/record=b5511687*est)

### **Prototype induction motor core preparation with laser additive manufacturing**

**Tiismus, Hans** 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. 35-36 : ill [https://www.ester.ee/record=b5504019\\*est](https://www.ester.ee/record=b5504019*est)

### **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; Rassõlkin, 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](#)

### **State of the art of additively manufactured electromagnetic materials for topology optimized electrical machines**

**Tiismus, Hans; Kallaste, Ants; Vaimann, Toomas; Rassõlkin, Anton** Additive manufacturing 2022 / art. 102778, 19 p. : ill <https://doi.org/10.1016/j.addma.2022.102778> [Journal metrics at Scopus](#) [Article at Scopus](#) [Journal metrics at WOS](#) [Article at WOS](#)

### **Teaduspreemia tehnikateaduste alal tööde tsükli "Kihltisandustehnoloogial põhinevad elektrimasinad" eest : Toomas Vaimann, Anton Rassõlkin, Ants Kallaste (kollektiivi juht) ja Hans Tiismus**

**Vaimann, Toomas; Rassõlkin, Anton; Kallaste, Ants; Tiismus, Hans** Eesti Vabariigi preemiad 2022 : teadus. F. J. Wiedemanni keeleauhind. Kultuur. Sport 2022 / lk. 130-145 : ill., fot [https://www.ester.ee/record=b1226072\\*est](https://www.ester.ee/record=b1226072*est)

### **Technologies for additive manufacturing of electrical machines**

**Tiismus, Hans; Kallaste, Ants; Vaimann, Toomas; Rassõlkin, 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>

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

**Sarap, Martin; Kallaste, Ants; Ghahfarokhi, Payam Shams; 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](#)

### **Исследование магнитогидродинамического (МГД)-привода в дозаторном режиме : автореферат ... кандидата технических наук (05.09.03)**

**Lehtla, Tõnu** 1975 [https://www.ester.ee/record=b1322410\\*est](https://www.ester.ee/record=b1322410*est)