ICEM2020 – Gothenburg, Sweden, August 23-26, 2020

Special Session on

Thermal Analysis of Electrical Machines Operating Under Harsh Conditions

Organized and co-chaired by:
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Call for Papers

Electrical machines are widespread used in industry, where they are frequently operating under stressed environments, and with high ambient temperatures. All these conditions allow a rapid heat concentration, being thus responsible for a huge impact on the machines lifetime. Therefore, it is obvious that the thermal analysis of electrical machines operating under harsh conditions is a very important topic. The proposed special session focuses on the transient and/or steady-state thermal analysis of the various electric machines (induction machines, permanent magnet synchronous machines, synchronous reluctance machines, etc.), when they are operating under harsh operation modes (unbalanced supply voltages, direct on-line starting, faulty operating modes, overloaded regimes, etc.). Simulation studies and/or experimental works, as well as review papers, dealing with thermal analyses based on Lumped Parameter Thermal Networks (LPTN), Finite Element Analysis (FEA), Computational Fluid Dynamics (CFD), Multiphysics, or any other innovative approaches, are welcome in this special session.

Topics of interest include, but are not limited to:

- Thermal analysis (steady-state analysis, transient analysis);
- Electrical machines (induction machines, permanent magnet synchronous machines, synchronous reluctance machines, etc.);
- Multiphase electrical machines;
- Lumped Parameter Thermal Networks;
- Finite Element Method;
- Computational Fluid Dynamics;
- Multiphysics;
- Harsh operation modes (unbalanced supply voltages, direct on-line starting, faulty operating modes, overloaded regimes, etc.).

Submission of papers: deadline follows the deadline for the regular papers.
All the instructions for paper submission are included in the conference website:
http://www.icem.cc/2020