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Modeling and Design of Electrical Machines and Devices in High Temperature

Guest Editor:

Prof. Dr. Gabriel Vélu
Laboratory of Electrical Engineering Systems and Environment, University of Artois, 62400 Béthune, France

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Message from the Guest Editor

Dear colleagues,

This Special Issue is geared toward the design and modeling of machine windings for high temperature and/or high-power density applications. The issues of electrical insulation and heat transfer are the obstacles on which we propose to focus. Indeed, the increase in operating temperatures or dissipated thermal powers requires an improvement in temperature management. Two axes in response can generally be proposed, either to improve the dissipation and the cooling of the coils or to find new insulators which can withstand these temperature increases. This second route seems more complicated to develop, but is of very clear interest, particularly when machines are on-board and there is therefore limited weight and space.

The objective of this Special Issue is to highlight the work on these two axes with the aim of subsequently promoting strategies for integrating the two techniques simultaneously to allow high-performance design of high-power motors. This work will make it possible to remove a complex scientific barrier in the design of on-board engines.

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Editor-in-Chief

Prof. Dr. Enrico Sciubba
Department of Mechanical and Aerospace Engineering, University of Roma Sapienza, Via Eudossiana 18, 00184 Roma, Italy

Message from the Editor-in-Chief

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Energies Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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