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Advances and Trends in PM-Free or Rare-Earth-Free PM Motors

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Deadline for manuscript submissions:
closed (31 January 2024)

Message from the Guest Editors

Dear Colleagues,

In order to meet the requirements of high power density for these non/less rare-earth PM motors, the design challenges might be significantly increased complexity of machine topology and multi-dimensional interdisciplinary constraints, such as electromagnetic, mechanical, thermal insulation, and control strategy. Therefore, the Special Issue aims to collect original research and review articles on different design and control methodologies or solutions for PM-free or rare-earth-free PM motors targeting for EV applications. The topics of interest include but are not limited to the following:

1. Novel PM-free or rare-earth-free PM machine topologies;
2. Anti-demagnetization techniques for traction motors with lower grade magnets;
3. Design and optimization methods for traction motors;
4. Multi-physical analysis of motors with complex structures;
5. New design techniques for traction motors;
6. Control techniques to achieve high flux-weakening capability or overload capability;
7. NVH optimization and torque ripple suppression methods.

Prof. Dr. Yawei Wang
Dr. Tianjie Zou
Guest Editors

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Message from the Editor-in-Chief

Machines is an international, peer reviewed journal on machinery and engineering. It publishes research articles, reviews and communications.

Our aim is to encourage scientists to publish their experimental and theoretical results in as much detail as possible. There is no restriction on the length of the papers. Full experimental and/or methodical details must be provided.

There are, in addition, unique features of this journal: Manuscripts regarding research proposals and research ideas will be particularly welcomed; Electronic files or software regarding the full details of the calculation and experimental procedure - if unable to be published in a normal way can be deposited as supplementary material.

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