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Special Session on

Topology, Modelling, Control, and Reliable Operation of Energy Conversion Systems Based on Multi-Port Electrical Machines

Organized and co-chaired by:

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Call for Papers

Over the last decade, with merits of high efficiency, compactness and flexible ports, energy conversion systems based on multiple-electrical-port and multiple-mechanical-port machines have attracted widespread attention from academic and industrial fields. This concept has been widely used in many industrial applications, such as wind turbine power generation, ship shaft power generation, ship electric propulsion, electric vehicle, rail transportation, more/all electric aircraft, AC/DC-micro-grids, etc. Due to the continuous demands for highly reliable and cost-effective energy conversion systems, advanced topology, modelling, control, and reliability performance of the multi-port electrical machine and system are becoming emerging needs.

The objective of this special session is to identify, address and disseminate state-of-the-art research works on topology, modelling, control, and reliable operation of energy conversion systems based on multi-port electrical machines. Prospective authors are invited to submit original research papers with novel contributions in the following topics.

Topics of interest include, but are not limited to:

- Novel topologies of machine, converter and system
- New modelling and analysis approaches for machine and system
- Advanced control strategies and efficiency optimization methods
- Condition monitoring for machine and its driver
- Fault diagnosis and tolerance operation of machine and its driver
- Lifetime prediction and reliability assessment
- New applications of multi-port electrical machine and system
- Other related topics

All the papers submitted to this special session should be unambiguously related with the electrical machine field, otherwise they will be considered as out of scope and will be rejected.

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>