Special Issue

Fault-Tolerant PM Motors and Drives

Message from the Guest Editors

In short, the generalization of electric motors in all mobility devices, whatever the operating environment, requires machines designed for limiting the risk of failure. As such, like in train motorization, winding can be designed to support short circuits within a phase or between phases. However, more fundamentally, machines must be designed to be able to operate in degraded mode if a default occurs. Any electrical fault must be isolated to avoid other healthy parts of the machine being compromised. The problem becomes even more complex when considering the machine and its power supply converter. If the failure of the controller is not considered for a reconfiguration process, it leads to a total stop of motor function. The proposed topic will focus on studies of electrical machines which are intrinsically tolerant to simple electrical faults, such as short-circuit into a phase, between phases, a phase opening, etc.; or studies of machine–converter associations and their control, allowing for the joint reconfiguration of the power electronics structure and the machine to maintain maximum driving power.

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Message from the Editor-in-Chief

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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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