Modern Diagnostics Techniques for Electrical Machines, Power Electronics & Drives

Diagnosis/Prognosis and Condition Monitoring for electrical machines, power electronics, adjustable speed drives and related areas are key elements for modern industrial systems. During the past forty years diagnostics techniques in power electrical engineering have been dedicated to components and many papers have been published on the topic. However, industrial interests have moved towards global systems for which fault detection and predictive maintenance are more difficult to be achieved.

Editors invite original manuscripts presenting recent advances in these fields with special reference to the following topics:

- Electrical machines: Failure detection and location in electrical machines using vibration, audible noise, electrical or mechanical variables, sensors, insulation failures, electrical, mechanical and thermal models
- Power electronics: Diagnostics in power converters using input-output monitoring, thermal and/or electrical measurements on power semiconductors, control supervision, signal processing
- Materials for electrical machines: Insulating and magnetic materials, remaining life models, ageing tests
- Electrical drives: Monitoring and diagnostics for drives using electrical machines (motors and generators), power converters and control systems supervision, computer-based signal processing and data analysis
- Tools for diagnosis/prognosis: Neural networks, fuzzy logic, artificial intelligence, genetic algorithms, expert systems, identification, estimation, observers, signal processing techniques
- Tests for predictive maintenance: Partial discharge analysis and tests, new instruments for diagnostics.

Manuscript Preparation and Submission:

Authors should be aware that Papers will be published in TIE or TII depending on the paper technical content and the space available in both journals. Check carefully the style of the journals described in the guidelines “Information for Authors” in the IEEE-IES web site: http://www.ieee-ies.org/publications.

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