Special Section on:

Intelligent Fault Monitoring and Fault-Tolerant Control in Power Electronics, Drives and Renewable Energy Systems

Variable speed AC motor drives and renewable energy systems with power electronic converters have been under development for a long time and are now a mature technology. Nowadays, this technology is widely used in industrial, commercial and also domestic applications and its use is still increasing in electric power systems. Consequently, the reliability of these systems is also an area of great interest for the power electronics community. This is particularly the case for the aerospace, military and automotive industries that are widely introducing variable speed drives in order to improve the system performance and efficiency, as well as in renewable energy systems connected to the grid. In such applications, the continuous operation could be critical and must be insured, despite of failures that may occur in the inverter, motor/generator, control system. Based on the idea of keeping the system operational after an inverter or incipient motor/generator fault detection, the need of diagnostic and fault-tolerant systems and techniques has inspired extensive research in this area in recent years.

The aim of this special session is to discuss recent developments concerning the fault detection and diagnosis methods as well as fault-tolerant control strategies for AC motor drives applied in different industrial processes and renewable energy systems, according to the topics listed below.

Potential authors are encouraged to send papers describing theoretical and practical problems in the field as well as comparative and survey papers.

- ✓ Monitoring and diagnostics of AC motor/generator faults, including converter, motor/generator and sensor faults.

- ✓ Intelligent fault detection and diagnostics in power converters using different methods and techniques, including signal processing and artificial intelligence based methods.

- ✓ Fault-tolerant control methods, including redundant or multiphase topologies of converters and motors.

- ✓ Modern tools for fault diagnosis and fault-tolerant control: neural networks, fuzzy logic, expert systems, estimators and observers, signal processing techniques, sliding-mode and predictive control.

Manuscript Preparation and Submission

Check carefully the style of the journal described in the "Guidelines for Authors" in the journal PED web site:
http://www.ped.pwr.edu.pl/Guidelines-for-authors,311.html

Please submit your manuscript in electronic form through: http://www.ped.pwr.edu.pl/

On the submitting page (after log in), in pop-up menu of manuscript type, select: "Special Section", then upload all your manuscript files following the instructions given on the screen.

Corresponding Guest Editor
Prof. Mariusz Malinowski
Warsaw University of Technology
Institute of Control and Industrial
Electronics
EMAIL:
malin@ee.pw.edu.pl

Guest Editor
Prof. Emil Levi
Liverpool John Moores University
Department of Electronics and
Electrical Engineering
EMAIL:
E.Levi@ljmu.ac.uk

Guest Editor
Prof. Teresa Orlowska-Kowalska
Wroclaw University of Science
and Technology
Department of Electrical Machines,
Drives & Measurements
Wrocław, Poland
EMAIL:
teresa.orlowska-kowalska@pwr.edu.pl

Timetable

Deadline for manuscript submissions:	Information about manuscript acceptance:	Publication date:
October 31, 2017	Spring 2018	Summer 2018