

CALL FOR PAPERS

Special Session on Fault tolerant power converters for automotive applications

to be held in the frame of
IECON 2013 - The 39th Annual Conference of the IEEE Industrial Electronics Society
10th - 13th of November 2013, Austria Center, Vienna, Austria



TOPIC OF THE SPECIAL SESSION

Power converters in automotive applications like Hybrid Electric Vehicle (HEV) or Electric Vehicle (EV) used for the power train or auxiliary circuits (per example Battery Management System) have to respond to challenging issues such as low weight and small volume, high efficiency, high power density, low cost and low electromagnetic interference. Moreover, the reliability and continuity of service of power train are nowadays major concerns in automotive applications. Actually, the presence of faults in DC/DC or DC/AC converters of power trains or auxiliary circuits can lead up to malfunctions in the vehicle and thus reduce its performances. In order to maintain an operation during appearance of a failure mode due to power switches, current sensors or temperature, converters must integrate fault tolerance capability in their topologies or controls. Moreover, the fault tolerance capability have to be done without adding any components like bidirectional switches, power switches, additional sensors in order to not increase the volume and weight of the embedded electronics.

In the last few years, many papers have been published in conference proceedings

SPECIAL SESSION ORGANISATION

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The organizers look forward to welcoming you to Vienna, Austria from 10th to 13th November 2013.

Important Dates

Regular Paper submission:	April 01, 2013
Notification of acceptance:	June 15, 2013
Final submission:	August 01, 2013



or directly in reviews like IEEE Transactions on Industrial Electronics.

The objective of this special session is to identify the research activities around this topic in the academic and industrial sectors. Topics of interest include, but are not limited to:

- Fault tolerant topologies for power or auxiliary converters
- Fault detection and diagnosis methods
- Fault sensitive modeling and simulation of power converters of HEV and EV.
- Reliability analysis
- Fault tolerant control strategies
- Stability study under faulty operation mode
- Fault impacts on the sizing of magnetic components
- DSP or FPGA implementation of fault tolerant control strategies
- Real-Time Simulation, Hardware in the Loop (HIL) simulation of fault tolerant converters

SUBMISSION OF PAPERS

The working language of the conference is English. Submit the full paper as PDF following the IEEE layout requirements by using the templates given at the conference web page. Accepted and presented papers will be published in an IEEE Proceedings volume and will be sent to IEEE Xplore. In addition, selected authors are encouraged to submit their papers for publication in the IEEE Transactions on Industrial Electronics or in the IEEE Transactions on Industrial Informatics.

THE CONFERENCE

IECON 2013 is the 39th Annual Conference of the IEEE Industrial Electronics Society, focusing on industrial and manufacturing theory and applications of electronics, controls, communications, instrumentation and computational intelligence. The objectives of the conference are to provide high quality research and professional interactions for the advancement of science, technology, and fellowship.

Papers with new research results are encouraged for submission. IECON 2013

will be held concurrently with the 7th IEEE International Conference on E-Learning in Industrial Electronics (ICE-LIE 2013). Participation in any of these events just requires a single conference registration fee. The world's industry, research, and academia are cordially invited to participate in the wealth of presentations, tutorials, special sessions and social activities, and furthermore, enjoy beautiful Vienna.