

Gastvortrag

Advanced Power Electronic Converters for High-Power Energy Conversion

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Power electronic converters play a key role in power systems and can be found in wide range of applications including, but not limited to renewable energy integration, power transmission, microgrids, motor drives, electric vehicles, wireless charges, and medical devices. Therefore, any improvements in the features of the existing power converters can have a broad impact on our daily lives. This seminar presents the main challenges of the existing power conversion systems and provides a number of solutions to address these challenges. Energy saving is one of the important issues in today world. To integrate and optimize the power electronic converters for specific applications is necessary to further increase efficiency and reduce volume and cost. These concepts will be discussed in detail using ongoing research projects at Rockwell Automation and McMaster University as examples. It will focus on the structure of high power converters in industrial motor drives. The challenges will be reviewed and the new power converters that have significant potential for commercialization will be discussed



Dr. Mehdi Narimani is an Assistant Professor at the Department of Electrical and Computer Engineering at McMaster University, Ontario, Canada. Prior joining McMaster University, he was a Power Electronics Engineer at Rockwell Automation Canada. He is a senior member of Institute of Electrical and Electronics Engineers (IEEE). His current research interests include power conversion, high-power converters, modeling and control of power electronics in power systems, and renewable energy systems. Dr. Narimani has authored/

co-authored more than 55 peer reviewed journal and conference proceeding papers, co-authored a Wiley-IEEE Press book entitled "*High-Power Converters and AC Drives*," and holds more than 4 issued US/European patents.