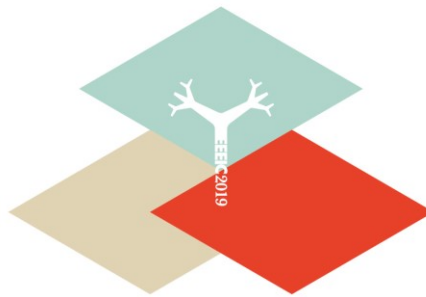




INDUSTRIAL AND COMMERCIAL
POWER SYSTEM
EUROPE



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INTERNATIONAL CONFERENCE
ON ENVIRONMENT
AND ELECTRICAL ENGINEERING

SPECIAL SESSION

RECENT DEVELOPMENT IN MULTILEVEL INVERTERS- DESIGN, MODELLING AND CONTROL STRATEGY

ORGANIZED AND CO-CHAIRD BY:

Dr. P.Sanjeevikumar, Aalborg University, Denmark (1)
Engg. Mahajan Sagar Bhaskar, Qatar University, Qatar (2)
Prof. Frede Blaabjerg, Aalborg University, Demark (3)
Prof. Jens Bo Holm-Nielsen, Aalborg University, Demark (4)
Prof. Dan M. Ionel, University of Kentucky, Kentucky (US) (5)
Prof. Haitham Abu-Rub, Texas A&M University, Qatar (6)
Prof. Atif Iqbal, Qatar University, Qatar (7)

CONTACT EMAIL:

(1)san@et.aau.dk (2)sagar.mahajan@qu.edu.qa (3)fbl@et.aau.dk (4)jhn@et.aau.dk (5)dan.ionel@uky.edu
(6)haitham.abu-rub@qatar.tamu.edu (7)atif.iqbal@qu.edu.qa

OBJECTIVE AND TOPICS

At the present time, it's not easy to incorporate control semiconductor switches directly into the utility grid. Hence, Multilevel Inverter (MLI) technologies are gaining attraction for DC-AC conversion especially for renewable energy grid applications (PV/Wind). The importance of renewable energies is rising considerably due to huge influence of pollution, green house effect and huge usage of fossil fuels in the world. In addition, MLI technologies are promising for medium to high power ac motor drive system e.g Electric Ship Propulsion, traction drives for hybrid/electric vehicular train, multiphase drives, aircraft applications etc. That is why industries and several research groups' primary focus are towards MLI technologies.

Recently, to fulfill the demand of load or utility grid, several MLI configurations are designed in modular way to achieve medium/high voltage, low cost, high efficiency, minimum THD, reduced semiconductor switches (IGBT/MOSFET), using multiple DC sources, and new control PWM strategies. Moreover, reduced filter requirement, redundancy in fault tolerant capabilities are the exceptional future of MLI's. However, MLI's possessed several disadvantages e.g. complex PWM control scheme, more number of semiconductor devices, capacitor voltage unbalancing, large number of drivers, unequal rating of switches, need to upgrade digital processor and implementation industrial issues. This special session is organized to achieve new MLI configurations, Multi-phase configuration of MLI's, new PWM control strategy, Fault tolerant operations etc. This session also focused on development in the performance, features of MLI's for better utilization and fulfills the future demand. The aim of this special session is to convey the ideas of the research group and experts into the common platform, to present recent development in MLI's in terms of design, modeling, and control strategy etc.

Topics

Topics of interest include, but are not limited to:

- ❖ New MLI configuration with minimum switches
- ❖ New PWM, modulation scheme, and advanced control strategy for MLI
- ❖ Compensation of homo-polar components.
- ❖ Redundancy and fault tolerant capabilities.
- ❖ Design, modeling, and control of multiphase MLI's Configuration.
- ❖ New scheme to solve voltage-unbalancing issue.
- ❖ Boost voltage MLI configurations.
- ❖ MLI's for grid integration, renewable energy, power system (SVC, STATCOM, FACTS) applications

All the instructions for paper submission are included in the conference website: <https://www.eeeic.net/eeeic>