



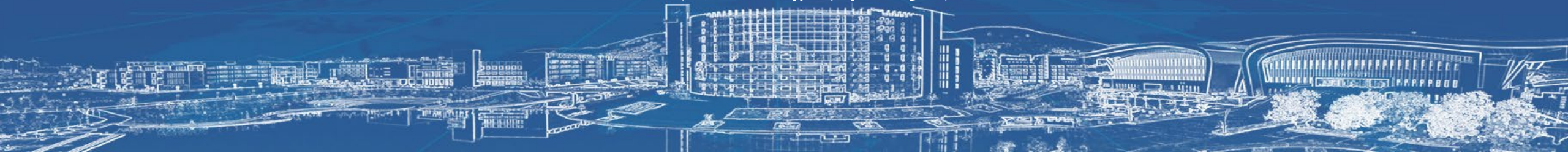
海外专家系列报告——开关磁阻电机关键技术

时间：2023年9月4日

线上报告：#腾讯会议：767-480-924（上午）630-912-358（下午）

线下报告：文昌校区教四楼101

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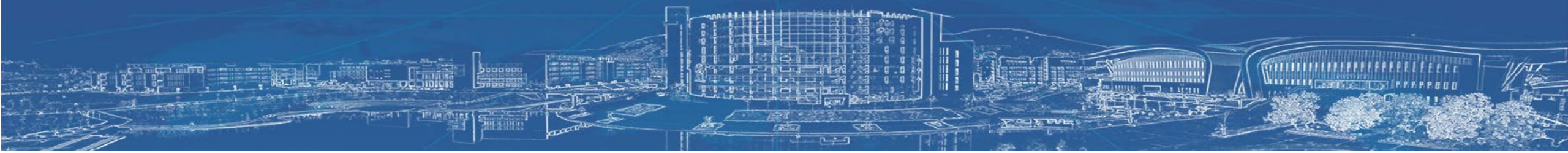
- 学术报告1: Quantitative Evaluation Approach for Switched Reluctance Motors Converters
- 报告人: Mahmoud Gaafar Aswan University
- 时间: 9月4日10:00-11:00
- 报告简介: Through comprehensive study for the power converters that have emerged previously for switched reluctance machine (SRM) drive system, this report proposes an evaluation approach to determine the suitability of these converters for using in SRM-based electric vehicle (EV) drive system. This evaluation reflects the relative differences of these converters in terms of their cost as well as their capability to offer best technical performance for the drive system of EVs. From technical viewpoint, four factors are considered as follow: the converter efficiency, the converter reliability, the capability of the converter to reduce torque ripple, and to increase power productivity. A benchmark consists of number of converter characteristics is identified. The operation of the converters is analyzed to determine, in quantitative way, their fulfillments to these characteristics. Expressions for the evaluation factors are proposed in terms of the converters' characteristics. Accordingly, the converters are relatively scored to reflect their differences in cost as well as in technical impact on the SRM drive system.

- **学术报告2: Basic research on switched reluctance motor drive system for electric vehicles**
- **报告人: Mahmoud Gaafar Aswan University**
- **时间: 9月4日14:00-15:00**
- **报告简介: Through theoretical analysis, nonlinear digital simulation, semi-physical simulation and prototype experimental verification with the China- Egypt cooperation of the solid pre-research base, long-standing close cooperation and harmonious relations of two teams in the project, the new structure of switched reluctance motor and the new topology of power converter. The expected achievements not only have the theoretical innovation and innovation in key technologies, but also it will be with our own intellectual property rights. It also has broad application prospects. The relations between the power load, the magnetic load, thermal load and the number of phases are quantitatively analyzed. In this regard, the stator winding layout, the stator winding connection mode, the main geometric dimensions and parameters of stator/rotor, the main circuit topology of power converter, the connection mode of power converter are considered.**



报告专家简介:

Mahmoud Gaafar , 阿斯旺大学工程学院电气工程系副教授, 分别于2004年和2010年分别获得埃及阿斯旺大学电气工程学士和硕士学位。2017年获日本福岡九州大学电气与电子工程博士学位。2017年加入阿斯旺大学阿斯旺电力电子应用研究中心(APEARC)。研究方向主要包括光伏、电机驱动和电池系统的电力电子转换器的设计和控制。参与了多个与电力电子应用相关的项目。获韩国电力电子研究所颁发的2018年Baek-Hyun奖, IEEE电力电子学会的成员。



海外专家系列报告——开关磁阻电机关键技术



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