

Main factors/phenomena of PEM fuel cell degradation and AST detection

Prof. Chunchuan XU
Shanghai University of Electric Power

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Time 2 – 3 pm
Venue Room 3598, Academic Building
(near Lifts 27-28), HKUST, ([Location](#))

Abstract

The application of PEM fuel cells in the field of transportation plays a very important role in the process of achieving the goal of carbon neutrality in the future. But the performance, lifetime and cost of fuel cells are still quite different from those of current internal combustion engines. This talk focuses on analyzing the mechanism of the performance degradation of each core component of the fuel cell in actual working conditions, including chemical degradation and physical degradation. It was applied the accelerating stress test (AST) to find the main factors//phenomena that affect the degradation of the fuel cell (Such as, startup/shutdown voltage, current, temperature, humidity, etc.). It will provide new methods and reference data for improving the research and development of fuel cell quality.

About the Speaker

Prof. Xu Obtained a doctorate degree in condensed matter Physics from the Department of Physics of West Virginia University, USA. Then worked as a postdoc in chemical Engineering Department of West Virginia University and Mechanical Engineering Department of University of Michigan for years in the research areas of fuel cells and hydrogen storage. In 2011, He joined the research and development of fuel cell in the Innovation Center of Ford Motor Company for 10 years. He had selected as a national talent in 2019 and come back to China to work in June 2021. He Involved in the work of commercial vehicle fuel cells as well as to improve the performance, lifetime and cost of fuel cells, while leading the R&D team for the development of electrolyzer, with special efforts in the innovative structure of AEM electrolyzer. And he had more than 50 patents and 50 publications.

All are Welcome