IEEE EI² 2024
IEEE EI²
THE 8TH IEEE CONFERENCE ON ENERGY INTERNET AND ENERGY SYSTEM INTEGRATION
NOV. 29 - DEC. 02, 2024 | SHENYANG, CHINA

Panel Session 09

Key Technology of Floating Airborne Wind Power Generation System

INTRODUCTION AND TOPICS

Airborne wind power generation technology is an innovative technology that makes full use of high-altitude massive wind energy resources for power generation, is an active exploration of the global wind energy resources in all fields and dimensions, and is also a new way to solve the global energy crisis. Compared with the land-based high-altitude wind power generation technology, the floating high-altitude wind power generation technology has the advantages of high power generation efficiency, strong power generation stability, large flight height and high available wind energy density, and has broad application prospects. The floating high-altitude wind power generation technology integrates the floating system and the power generation system, involves the intersection of many disciplines, and faces many important technical challenges.

This panel session mainly focuses on the key technologies of floating airborne wind power generation system. The speakers will respectively introduce the prediction and planning utilization of high-altitude wind energy resources, high-efficiency wind energy capture of floating wind power generation, the key technology for energy conversion of floating power generation equipment and high altitude-to-ground energy transmission, the key technology of multi-body dynamic coupling and collaborative design of floating and mooring components, and the key technology of controllable long endurance stay in the air for floating systems.

PANEL SESSION CHAIRS

Prof. Chao Lu Tsinghua University, China luchao@tsinghua.edu.cn

Chao Lu is a professor of Tsinghua University, deputy director of the Department of Electrical Engineering, distinguished professor of "Chang Jiang Scholars Program". He has been engaged in scientific research and teaching work in key equipment and control of AC and DC power grid, power system security and stability analysis, etc. He has presided over a number of scientific research projects and topics such as key funds of the National Natural Science Foundation and National Key Research and Development Program of China. He has published 3 monographs in Chinese and English, published about 200 papers, and obtained more than 70 authorized technical invention patents. He has won more than 10 scientific and technological awards, such as the second prize of National Technological Invention, the first prize of Technological Invention of the Ministry of Education of China, and the first prize of China Electric Power Science and Technology. He is the deputy director of the Energy Internet Committee of the Chinese Society for Electrical Engineering, the deputy director of the Artificial Intelligence Committee of the China Energy Research Society, the executive director of the Beijing Society of Electrical Engineering, the executive editor of IET GTD, and the deputy director of the editorial committee of "Smart Power".

Dr. Di Liu Tsinghua University, China

Di Liu is currently an assistant research fellow in the Department of Electrical Engineering at Tsinghua University. He received the B.S degree in electrical engineering and management in 2013, the M.S degree in electronic and communication engineering in 2015, and the Ph.D. degree in electrical engineering in 2020, all from North China Electric Power University, Beijing, China. He conducted postdoctoral research at Tsinghua University from 2020 to 2024. He has presided over the Youth Fund of the National Natural Science Foundation of China, Central University Funds and participated in many scientific research projects such as national key R&D plans as a core backbone. He has published more than 20 papers.

Dr. Wenmao Liu Tsinghua University, China wenmaoliu@tsinghua.edu.cn

Wenmao Liu is currently an assistant research fellow in the Department of Electrical Engineering at Tsinghua University, mainly engaged in the design and multi-physics research of electric machine. He received the Ph.D. degree in electrical engineering from Beijing Jiaotong University in 2022. He conducted postdoctoral research at Tsinghua University from 2020 to 2024. As a core member, he has participated in more than 10 scientific research projects such as the National Natural Science Foundation and Beijing Nature Foundation, published more than 10 academic papers, obtained nearly 10 authorized technical invention patents, and won 5 science and technology awards such as the second prize of the Science and Technology Award of the Ministry of Education and Beijing.

PAPER SUBMISSION

For panel sessions, please contact panel chairs through email before submission.

ORGANIZATIONS

IEEE PES Power & Energy Society® · 中国电机工程学会 CHINESE SOCIETY FOR ELECTRICAL ENGINEERING · 沈阳工业大学 SHENYANG UNIVERSITY OF TECHNOLOGY · 清華大學 Tsinghua University