

RPG 2025Invited Session
Call for PapersThe 14th International Conference on
Renewable Power Generation

24-26 October 2025 | Shanghai, China

Full Paper Submission Deadline: 05 June 2025 | <https://rpg2025.theiet.org.cn/>

Session Chair:

- Session Chair: Ningning MA, Department of Electrical Engineering, Tsinghua University
- Co-Session Chair: Pengyin LIU, Key Laboratory of Power System Intelligent Dispatch and Control of Ministry of Education, School of Electrical Engineering, Shandong University

Invited Session on:

12 Wideband Oscillation Analysis, Monitoring and Suppression Methods in Converter-Dominated Transmission and Distribution Systems

The rapid transition toward renewable energy has led to an unprecedented integration of power electronic converters into transmission and distribution networks. While these devices offer advantages such as fast and flexible controllability, their unique characteristics-such as multi-time scale dynamics-have introduced wideband oscillations spanning frequencies from a few Hz to several kHz. These oscillations pose significant challenges, including destabilizing power systems and degrading equipment performance. To ensure the stability of converter-dominated transmission and distribution systems, it is critical to explore innovative approaches for modeling, analysis, and suppression of wideband oscillations. This special session focuses on the latest research and practical solutions in this field. We invite contributions on (but not limited to) the following topics:

- Theoretical and practical modeling approaches for wideband oscillations.
- Mechanisms and risk assessment methodologies for wideband oscillations.
- Advanced control strategies and mitigation methods to suppress wideband oscillations.
- Harmonic/Resonance problems of high proportion power electronic equipment in transmission and distribution systems.

Session Chair: Ningning MA, Department of Electrical Engineering, Tsinghua University

Chair's Bio:

Dr. Ningning Ma is an Assistant Researcher at Tsinghua University, where his work focuses on power system stability, wide-area monitoring, and wideband oscillation analyses in power systems with high renewable penetration. He received his Ph.D. from Southwest Jiaotong University and has since led multiple national research initiatives, significantly advancing theories and methodologies in frequency stability, dynamic performance, and control of modern power grids.

Dr. Ma's achievements have been widely recognized. In 2021, he received the Second Prize of the Technological Invention Award from the China Electrotechnical Society. The following year, he was honored with both the First Prize of the Electric Power Science and Technology Award by the China Electricity Council and the Third Prize of the Electric Power Science and Technology Progress Award by the Chinese Society of Electrical Engineering. In 2023, he earned the Best Paper Award at the 12th International Conference on Renewable Power Generation. Most recently, in 2024, he secured the Second Prize of the Electric Power Science and Technology Progress Award from the Chinese Society of Electrical Engineering.

In addition to these distinctions, Dr. Ma has been recognized with multiple Excellent Reviewer Awards, including those from Proceedings of the CSEE and Power System Technology, highlighting his strong commitment to scholarly excellence. His current research aims to advance monitoring, diagnosis, and control strategies to ensure the efficient and stable operation of power grids in the era of clean energy transition.

BENEFITS OF SUBMITTING

- Successful Authors will receive **10% off the Adult Registration Fee** (early bird or standard registration) Please use code **INVITED25** during registration
- Accepted paper will be published in the RPG 2025 conference proceeding
- Accepted paper will be published on **IET Digital Library** and indexed by **IET Inspec, Scopus, IEEE Xplore and Ei Compendex**
- Around 30 papers from the conference will be awarded the Best Conference Paper prize and will be invited to submit an extended version to IET renewable Power Generation Journal (open access journal, APC fee applies)