

THE 8TH IEEE CONFERENCE ON ENERGY INTERNET AND ENERGY SYSTEM INTEGRATION

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Special Session 20

Active Distribution Network and Distributed Power Supply

INTRODUCTION AND TOPICS

In recent years, the rapid development of renewable energy and advanced power electronics has led to significant changes in the structure of power systems. One of the most notable trends is the emergence of active distribution networks and distributed power supply. These concepts aim to enhance the efficiency, reliability, and sustainability of the power grid. This conference will explore the key features, challenges, and opportunities associated with active distribution networks and distributed power supply.

Topics:

1. Definition and Characteristics of Active Distribution Networks

- Overview of active distribution networks
- Differences between active distribution networks and traditional distribution networks
- Key components and technologies of active distribution networks

2. Advantages of Distributed Power Supply

- Energy efficiency and conservation
- Reduction of transmission losses
- Enhancement of power system reliability and resilience
- Environmental benefits and support for renewable energy integration

3. Challenges in Active Distribution Network and Distributed Power Supply

- Voltage regulation and power flow control
- Grid stability and security
- Integration of various energy sources and energy storage systems
- Regulatory and market issues

4. Control and Management Strategies for Active Distribution Networks

- Distributed energy resource management systems
- Demand response and load management
- Smart grid technologies and applications
- Optimization algorithms for power flow and voltage control

5. Case Studies and Applications

- Successful implementations of active distribution networks and distributed power supply in different regions
- Lessons learned and best practices
- Future trends and potential developments

6. Policy and Regulatory Frameworks

- Government policies and incentives for active distribution networks and distributed power supply
- Grid codes and standards
- Market mechanisms and business models

In conclusion, active distribution networks and distributed power supply represent a transformative shift in the power industry. By addressing the challenges and leveraging the opportunities presented by these concepts, we can pave the way for a more sustainable, efficient, and reliable energy future.

SPECIAL SESSION CHAIRS



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PUBLICATION & SUBMISSION

Submissions will be reviewed by the conference technical committees, and accepted papers will be published in IEEE EI² 2024 International Conference Proceedings, which will be submitted for inclusion in the **IEEE Xplore Digital Library**, and submitted for indexing by **El compendex** and **Scopus**.



Scan the QR code on the left or open the submission link to submit your paper.

• Submission link: <https://easychair.org/conferences/?conf=ei22024>

Submission Deadline: 31 October, 2024

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