

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

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## Special Session 04

### Flexible Resource Optimization for Enhancing the Resilience of New Power Systems

#### INTRODUCTION AND TOPICS

With the introduction of the "dual carbon" targets, new power systems, as the core of energy transition, are facing unprecedented challenges and opportunities. To adapt to this shift, a large number of distributed and flexible resources such as wind power, solar energy, energy storage systems, and demand response technologies are rapidly integrating into the power system framework. These resources not only provide new means for the regulation and optimization of power systems but also place higher demands on system resilience. The resilience of a power system refers to its ability to maintain stable operation and recover quickly when facing various extreme events such as natural disasters, extreme weather, and cyber-attacks. In new power systems, due to their dispersion and uncertainty, enhancing resilience relies more on the effective management of heterogeneous flexible resources.

Flexible resources play a crucial role in enhancing the resilience of new power systems. They can respond to rapid load changes and, in the event of power system disruptions, quickly restore power supply through flexible scheduling and rapid response mechanisms, effectively mitigating the impact of extreme events on the grid. By optimizing the allocation and scheduling of these resources, the resilience of the power system can be significantly enhanced, building a robust defense for stable operation under extreme conditions. We invite papers on a wide range of topics including but not limited to:

- Strategies for enhancing the resilience of new power systems and distribution systems.
- Distribution system planning considering multiple flexible resources.
- Supply-demand interaction and demand response technologies in distribution systems.
- Resilience evaluation and enhancement of power systems under various extreme events.
- Cascading failures in power systems under cyber and physical attacks.
- Modeling and resilience research of cyber-physical-social integrated power systems.
- Output forecasting of distributed power sources under extreme weather disasters.
- Application of mobile energy storage and other resources in power system resilience scenarios.
- Application of artificial intelligence methods in enhancing power system resilience.
- Impact of transportation systems on power system resilience under extreme events.
- Cyber-physical fusion situational awareness technologies for enhancing power system resilience.

#### 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: 15 October, 2024

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