IEEE I&CPS — ASIA 2026

2026 IEEE IAS Industrial and Commercial Power System Asia

July 11-14, 2026 | Kunming, China

Special Session 02

Flexible Interaction and Efficient Management of Active Distribution Networks

Introduction and Topics

The global transition toward sustainable energy ecosystems has accelerated the integration of high-penetration Distributed Energy Resources (DERs), such as rooftop photovoltaics, energy storage systems, and electric vehicle (EV) charging infrastructures, into modern distribution networks. Especially within industrial and commercial sectors, these decentralized assets are transforming traditional passive grids into active, bidirectional systems. However, the stochastic nature of renewable generation and the dynamic behavior of modern loads introduce significant technical hurdles, including voltage fluctuations, power quality degradation, and increased operational complexity.

To address these challenges, there is an urgent need for innovative frameworks that leverage advanced sensing, data-driven modeling, and intelligent control. This special session aims to bridge the gap between theoretical research and industrial application by focusing on the synergetic interaction between "Source-Grid-Load-Storage." We welcome contributions exploring resilient architecture, flexible resource dispatching, and digital-twin-enhanced management. By fostering cross-disciplinary collaboration, we seek to provide robust solutions for the efficient and secure operation of future distribution systems in the era of intelligence.

Topics including but not limited to:

1. New Distribution System Evolution and Architectural Planning
2. AI and Digital Twin for Distributed Energy Systems
3. Intelligence-Driven Flexible Networking and Active Dispatch
4. Virtual Power Plant Operation and Grid Interaction
5. Distribution Network Resilience and Self-healing Control
6. Transmission-Distribution Synergistic Interaction Theory
7. Integrated Management of Multi-energy Complementarity
8. Multi-dimensional Assessment of Network Hosting Capacity
9. Green Power Trading and Electricity Market Design
10. Distributed Source-Load-Storage Collaborative Control

Special Session Chairs

Assoc. Prof. Fangyuan Si
Beijing Jiaotong University

Assoc. Prof. Fengzhang Luo
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Paper Submission

Submission Method

* View paper submission instruction on website
https://www.ieee-icps.com/sub.html

* Submit your paper through the website or QR code
https://easychair.org/conferences/?conf=ieeeicpsasia2026

Important Dates

Submission Deadline	April 30, 2026
Notification Deadline	May 31, 2026
Early-bird Registration Deadline	June 15, 2026
Author Registration Due	June 15, 2026

Publication

Submissions to IEEE I&CPS 2026 will be peer reviewed on the basis of technical quality, relevance to conference topics, originality, significance, clarity, etc. Accepted papers will be submitted for inclusion into IEEE Xplore subject to meeting IEEE Xplore's scope and quality requirements.

Excellent papers will be recommended for review by **IEEE Trans on Industry Applications** (proportion can reach up to 50%), **Global Energy Interconnection** and **DeCarbon**.

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