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Interconnectedness in the Tails: Evidence of Risk Contagion in European Electricity Markets

Wednesday, 17 September 2025 14:40 (20 minutes)

This study explores the use of the Network Density Index and the Extreme Downside Correlation(EDC) matrix to detect systemic stress periods and identify inter-country vulnerability clusters in the European electricity market. The analysis reveals a critical stress phase in mid-2022 and shows how extreme event interconnections reflect infrastructure constraints and regional dependencies. These findings suggest practical applications for early warning systems, stress testing, and cross-border risk management strategies, with implications for regulators and transmission system operators.

Special/ Invited session

Classification

Keywords

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Session Classification: Measurement Uncertainty

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