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Reliability analysis in interdependent smart grid systems

Hao Peng, Zhe Kan, Dandan Zhao, Jianmin Han, Jianfeng Lu, Zhaolong Hu

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Highlights:

1. Based on complex network theory, we study the reliability in interdependent smart grid systems.
2. We focus on understanding the structure of smart grid systems and studying the underlying network model, their interactions, and relationships.
3. We show that how cascading failures occur in the interdependent smart grid systems.
4. Based on percolation theory, we also study the effect of cascading failures effect and reveal detailed mathematical analysis of failure propagation in such systems.
5. We analyze the reliability of our proposed model caused by random attacks or failures by calculating the size of giant functioning components in both networks.

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