

Peer Review

Review of: "TransCapAI: An Optimization Framework for Series Capacitor Allocation to Improve Efficiency and Voltage Stability in Transmission Systems using Machine Learning Techniques"

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What is the specific novelty of TransCapAI compared with existing ML-based capacitor allocation and conventional PSO-based FACTS optimization methods?

What is the novelty of TransCapAI compared with existing capacitor-placement methods?

How will you address SSR, dynamic stability, cost, and N-1 contingency constraints?

Why were 60% loss reduction and 40% VSI improvement selected?

What happens if the network topology changes after the surrogate model has been trained?

What happens when the actual operating condition falls outside the load and compensation ranges used for training?

Why does the optimization allocate compensation to almost every line instead of selecting only economically beneficial locations?

Are the identified critical lines consistent with known electrical characteristics such as high power transfer, high reactance, or voltage sensitivity?

Declarations

Potential competing interests: No potential competing interests to declare.