

Title: Fuzzy Control of Microgrid

Generated on: 2026-04-30 19:42:34

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In this paper, an adaptive virtual inertia control system using a fuzzy system is proposed by setting fuzzy logic rules and affiliation functions to provide adaptive inertia control for the system to ...

Abstract The control and energy management problems of microgrids (MGs) are challenging due to the high level of uncertainties and disturbances such as changes in demands, ...

Abstract: This work proposes the use of fuzzy-logic-based voltage frequency control (VFC) and adaptive inertia to improve the frequency response of a virtual synchronous generator (VSG)-based isolated ...

This controller trains itself online to choose appropriate values for these virtual parameters. The proposed method can be applied o a typical AC microgrid by considering the penetration and impact ...

Bipolar DC microgrids (BDCMGs) are susceptible to voltage imbalance resulting from uneven load distribution between the two poles, thereby affecting and reducing the reliability and ...

This paper presents a hybrid approach that combines a genetic algorithm (GA)-optimized type-2 fuzzy logic controller (T2FLC) with a fractional-order technique for enhanced control of a...

Abstract: This research investigates the integration of fuzzy logic-based control calculations with optimization strategies, counting Molecule Swarm Optimization (PSO), Genetic Algorithm (GA), Ant ...

Therefore, this study introduces a novel Deep-Fuzzy Logic Control (Deep-FLC) framework that combines the predictive power of LSTM models with the adaptability of fuzzy logic ...

A case study has been carried out and the proposed methodology is efficient in the control technique of the microgrid. To reduce the harmonic distortion in the ...

Abstract The increasing penetration of renewable energy sources (RES) in microgrids introduces complex

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stability challenges due to their intermittent and nonlinear behavior. This paper ...

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