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A Comprehensive Review on Microgrid-Based Electric Vehicle Charging Control Using Fuzzy Logic

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Abstract: *This review paper provides a comprehensive overview of microgrid-integrated electric vehicle (EV) charging systems controlled using fuzzy logic. With the rising adoption of EVs and renewable energy sources, efficient control mechanisms are essential to ensure optimal charging performance, power stability, and system reliability. The integration of solar, wind, and diesel energy sources with fuzzy logic controllers allows decentralized decision-making under uncertainty. This review discusses system architecture, battery management, fuzzy controller design, simulation results, and future research directions*

Keywords: Microgrid, Fuzzy Logic Controller, Electric Vehicle Charging, SOC Estimation, Renewable Energy, MATLAB Simulation.

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