

In a pedagogical manner, this review highlights the integrated methodologies that simultaneously address sizing and energy management and the potential of emerging technologies, ...

This special issue focuses on recent advances in modeling, numerical analysis, control, and optimization of smart grids with some special emphasis on the mathematical problems ...

Resilience, efficiency, sustainability, flexibility, security, and reliability are key drivers for microgrid developments. These factors motivate the need for integrated models and tools for microgrid ...

By incorporating a novel hybrid optimization technique and addressing the computational challenges of large-scale energy systems, this research provides a practical and scalable framework ...

Mathematical modeling is vigorously explained with a simulation case study. Challenges associated with microgrid implementation are thoroughly analyzed. Future research areas worth ...

This review article summarizes various concerns associated with microgrids" technical and economic aspects and challenges, power flow controllers, microgrids" role in smart grid development, main ...

This work presents a modeling and simulation approach for microgrid systems that uses mathematical programming to represent power flow and capture the system dynamics.

This manuscript presents an innovative mathematical paradigm designed for the optimization of both the structural and operational aspects of a grid-connected microgrid, ...

To fill these gaps, this paper aims at reviewing power grid design and operations models and algorithms based on mathematical programming, considering both deterministic and stochastic ...

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