



River Publishers Series in Energy Management

## Advanced Control and Optimization Paradigms for Energy System Operation and Management

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### Description:

Distributed energy technologies are gaining popularity nowadays; however, due to the highly intermittent characteristics of distributed energy resources, a larger penetration of these resources into the distribution grid network becomes of major concern. The main issue is to cope with the intermittent nature of the renewable sources alongside the requirements for power quality and system stability. Unlike traditional power systems, the control and optimization of complex energy systems becomes difficult in many aspects, such as modelling, integration, operation, coordination and planning etc.

This edited book serves as a resource for the engineers, scientists, academicians, experienced professionals, and researchers working on the energy systems. With eight original chapters, this edited volume is an extensive collection of the state-of-the-art studies intended to integrate current research and innovations for the control, optimization and management of electric energy systems. Readers will find this book inspiring and very useful when conducting their own research in the domain area of energy systems.

### Key features

- An extensive collection of state-of-the-art studies intended to integrate current research and innovations for the control, optimization and management of electric energy systems.
- Emphasis on the optimization techniques to address problems in electrical energy systems.
- Serves as a valuable resource for engineers, scientists, academicians, experienced professionals, and research scholars who are working in the area of energy systems.

**Keywords:** Distributed algorithm, distributed generation, DSTATCOM, economic dispatch problem, economic load dispatch, Harris hawk's optimization algorithm, hybrid renewable energy system, modified harmony search, nature-inspired algorithm, optimization, optimization of distribution systems, optimization problem, particle swarm optimization, power quality

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