

This paper proposes a decentralized adjustable robust operation model achieving the coordinated operation between an active distribution network (ADN) and microgrids (MGs). Thanks to the autonomous characteristic and heterogeneity of the individual agents in ADNs with multi-MGs, we develop a tailored alternating direction method of multipliers (ADMM)based fully decentralized ...

electricity delivery networks. Microgrids, smartgrids and active distribution networks require a sound understanding of the basic concepts, generation technologies, impacts, operation, ...

This paper proposes a multi-agent cooperative operation optimization strategy for regional power grids considering the uncertainty of new energy output and the flexibility of electric vehicle (EV) scheduling, which not only improves the economy of the networked microgrids (NMG) scheduling, but also reduces the impact on active distribution network ...

Dear Colleagues, The research and development of smart grids and microgrids that have taken place in recent decades is how some countries have modernized their transmission and distribution networks in order to respond to the challenges and problems that the grid has to face, such as the increasing demand or the higher penetration levels of renewable ...

Active distribution networks and microgrids will be powerful tools for future power systems in their endeavor to integrate more renewable energy sources, increase distributed generation and optimize their operation. In this paper, a method for the coordinated optimal operation scheduling of active distribution networks that are hosting complex ...

To build a smart city, microgrids (MGs) are expected to play an important role and have undergone a rapid development in many countries. A microgrid contains a cluster of interconnected flexible loads and several distributed energy sources with clear boundaries [1], is environmental friendly and is always built near the demand side. With the increasing ...

Due to the increasing microgrid group and shared energy storage integration into active distribution network (ADN), it is necessary to effectively coordinate these complexity energy ...

Active distribution networks and microgrids will be powerful tools for future power systems in their endeavor to integrate more renewable energy sources, increase distributed generation and optimize their operation. In this ...

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This paper presents a novel distributed voltage control strategy to maintain the voltage of active distribution networks containing multiple microgrids. Local voltage regulation characteristics, such as power reserve, adjustment cost, and regulating speed, are identified first. According to a neighbors' voltage regulation characteristics, the microgrid coordinates neighborhood ...

A coordinated and hierarchical operation of active distribution networks with microgrids, specifically when they have distributed energy resources allocated and operated in an optimized way ...

A companion to Embedded Generation (IET, 2000), this book is a timely publication for an evolving industry. Renewable energy, ancillary services and deregulation of the power industry are changing electricity delivery networks. ...

New grid concepts such as active distribution networks with distributed energy resources, or microgrids that can operate in islanded mode, offer opportunities to improve the reliability and ...

Microgrids and Active Distribution Networks offer a potential solution for sustainable, energy-efficient power supply to cater for increasing load growth, supplying power to remote areas ...

Coordinated operation and expansion planning for multiple microgrids and active distribution networks under uncertainties. Author links open overlay panel Rafael S. Pinto a, Clodomiro ... the active distribution network (ADN) concept pertains to the modernization of grid functionalities with high penetration and control of distributed energy ...

The increasing use of distributed energy resources in distribution networks and introduction of microgrids have activated distribution networks. The conventional procedures of power system operation in which transmission and active distribution grids are considered separately are not appropriate for future power systems. It is necessary to consider elements of active distribution ...

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