

With the growing number and capacity of photovoltaic (PV) installations connected to distribution networks, power quality issues related to voltage regulation are becoming relevant problems for power distribution companies and for PV owners. In many countries, like Italy, this has required the revision of the standards concerning the connection to the public distribution ...

With more and more wind power generation integrated into power grids to replace the conventional turbine-generator (T-G) units, how the subsynchronous resonance (SSR) of conventional T-G units is affected becomes an important technical issue. In this paper, a group of T-G units are interconnected with a series compensated transmission line, and some units are ...

The oscillations in a power system can be categorized into free oscillations and forced oscillations. Many algorithms have been developed to estimate the modes of free oscillations in a power system. Recently, forced oscillations have caught many researchers' attentions. Techniques are proposed to detect forced oscillations and locate their sources. In ...

The concept of demand-side management (DSM) was invented in the late 1970s along with the development of many of the frameworks in use to plan and implement it in the years immediately following. It was originally referred to as demand-side load management. It is generally defined as the planning and implementation of those activities designed to influence ...

Traditional experimental economics methods often consume enormous resources of qualified human participants, and the inconsistency of a participant's decisions among repeated trials prevents investigation from sensitivity analyses. The problem can be solved if computer agents are capable of generating similar behaviors as the given participants in experiments. ...

Power system restoration has attracted more attention and made great progress recently. Research progress of the power system restoration from 2006 to 2016 is reviewed in this paper, including black-start, network reconfiguration and load restoration. Some emerging methods and key techniques are also discussed in the context of the integration of variable ...

The objective of this paper is to model a hybrid power system for buildings, which is technically feasible and economically optimal. With a view to promote renewable energy sources, photovoltaics and wind turbines are integrated with the grid connected building. The system is modeled and the optimal system configuration is estimated with the help of hybrid ...

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clean energy ...

Integration of more renewable energy resources introduces a challenge in frequency control of future power systems. This paper reviews and evaluates the possible challenges and the new control methods of frequency in future power systems. Different types of loads and distributed energy resources (DERs) are reviewed. A model representation of a ...

Journal of Modern Power Systems and Clean Energy - This paper examines the impact of power transmission network topology change on locational marginal price (LMP) in real-time power markets. ...  $(H_{l,n})$  is the element at the  $l$ th row and  $n$ th column of the  $(N_{l}) \times N_b$  generation shift factor matrix ( $\text{varvec}\{H\}$ ). This matrix explains ...

Hybrid high-voltage direct current (HVDC) transmission systems employ a new type of HVDC transmission topology that combines the advantages of the line-commutated converter system and the voltage-source converter system. They can improve the efficiency and reliability of long-distance power transmission. However, realizing alternating-current (AC) grid-fault ride ...

Due to increased penetration of renewable energies, DC links and other emerging technologies, power system operation and planning have to cope with various uncertainties and risks. In order to solve the problems of exceeding short circuit current and multi-infeed DC interaction, a coordinated optimization method is presented in this paper. Firstly, a branch ...

Energy Systems is a peer-reviewed journal focusing on mathematical, control, and economic approaches to energy systems. ... Emphasizes on topics ranging from power systems optimization to electricity risk management and bidding ...

Highly wind power integrated power system requires continuous active power regulation to tackle the power imbalances resulting from the wind power forecast errors. The active power balance is maintained in real-time with the automatic generation control and also from the control room, where regulating power bids are activated manually. In this article, an ...

A Parallel-Type Load Damping Factor Controller for Frequency Regulation in Power Systems with High Penetration of Renewable Energy Sources Abstract: Renewable energy sources (RESs) are rapidly developing and their substitution for traditional power generation poses significant challenges to the frequency regulation in power systems.

The chart shows the evolution of the average number of times documents published in a journal in the past two, three and four years have been cited in the current year. The two years line is equivalent to journal impact factor (TM) ...

JOURNAL OF MODERN POWER SYSTEMS AND CLEAN ENERGY, VOL. 8, NO. 5, September 2020  
supply security [10]. The impacts of interdependencies between electricity and natural gas systems in terms of security of energy supply have been analyzed in [16] via a steady-state gas flow model. A robust security-constrained unit com-

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The reliable and safe operation of power systems is crucial to the economy and homeland security of a nation [1, 2]. However, the operational security of modern power systems is being challenged by the high integration of information technologies [3, 4] fact, to monitor the real-time operation state of a power system, an increasing number of sensors and meters are ...

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operate. However, from the perspective of modeling, it may be too complicated if we consider the temporal behavior of the ambient temperature change and its impact on the risk of cascading failures. Therefore, we consider a simplified sce-

Scope: The scope of the International Journal of Electrical Power & Energy Systems (JEPE) is focused on electrical power generation, transmission, distribution and utilization, from the viewpoints of individual power system elements and their integration, interaction and technological advancement. The scope covers modelling of power system elements, their design, analysis ...

Distributed generation including wind turbine (WT) and photovoltaic panel increased very fast in recent years around the world, challenging the conventional way of probabilistic load flow (PLF) calculation. Reliable and efficient PLF method is required to take into account such changing. This paper studies the maximum entropy probabilistic density function ...

The increasing integration of variable wind generation has aggravated the imbalance between electricity supply and demand. Power-to-hydrogen (P2H) is a promising solution to balance supply and demand in a variable power grid, in which excess wind power is converted into hydrogen via electrolysis and stored for later use. In this study, an energy hub ...

Clean Energy is a new Open Access journal dedicated to being an authoritative source of information related to clean energy technologies. ... reduce the fault rate and minimize reactive current in distributed systems to

increase the power ...

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