

Special Issue

Optimization and Control for Power Grid with the Support of HVDC Systems

Message from the Guest Editors

The optimization and smart control of power distribution/transmission grids is mandatory to avoid congestion and bottlenecks and to improve the flexibility and resilience of power systems. In this framework, the well-proven HVDC technology will play an important role, especially in the connection of offshore wind farms as well as for future submarine transcontinental energy interconnections that will gain a crucial geopolitical role. Last but not least, the increasingly wider interest in DC transmission grids represents a timely topic for both academic and industrial research.

The topics of interest in this Special Issue include optimization, digitalization, and control strategies for power grids with particular focus on the support of HVDC systems; intelligent and flexible energy management strategies, concerning the dynamic heterogeneous nature of the grid; the simulation and prediction of the dynamic behavior of grids and their flexibility and resilience; novel solutions or operation strategies to prevent abnormal grid conditions; new technological solutions for transmission optimization; and prediction models for more reliable transmission operation.

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Energies is an international, open access journal in energy engineering and research. The journal publishes original papers, review articles, technical notes, and letters. Authors are encouraged to submit manuscripts which bridge the gaps between research, development and implementation. The journal provides a forum for information on research, innovation, and demonstration in the areas of energy conversion and conservation, the optimal use of energy resources, optimization of energy processes, mitigation of environmental pollutants, and sustainable energy systems.

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