

Special Issue

Advances and Applications in Hybrid Simulation for Future Power and Energy Systems

Message from the Guest Editor

This Special Issue aims to consolidate and showcase state-of-the-art research in hybrid simulation for power and energy systems. We invite original contributions on novel theoretical frameworks, advanced modeling techniques, innovative co-simulation platforms (e.g., CHIL, PHIL), and impactful applications. Topics of interest include, but are not limited to, the modeling and stability of inverter-based resources, the coordinated simulation of electricity, gas, and heat networks, and the application of hybrid simulation in the development of resilient control and protection schemes. The goal is to foster a deeper understanding and accelerate the adoption of these powerful techniques to support the transition to a secure and sustainable future energy infrastructure. Keywords

- hybrid simulation
- hardware-in-the-loop (HIL)
- power system dynamics
- multi-energy systems (MES)
- inverter-based resources (IBRs)

Guest Editor

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Message from the Editor-in-Chief

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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