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Building Energy Management Technologies and Thermal Modeling

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Message from the Guest Editors

With the increasing prevalence of advanced metering infrastructure, Internet of Things (IoT) and automation technologies, distributed energy resources—especially for buildings—have been significantly driven to operate from passive energy consumers to proactive energy and power prosumers (producers-and-consumers). Building energy and demand management has been proposed for building peak power and energy reduction as well as reliable operation of the electric grid. Within the building sector, multiple systems, e.g., solar energy, HVAC and thermal storage, have been applied and integrated to provide load shifting and demand response (DR). Furthermore, the performance of the above techniques relies heavily on thermal modeling work, which characterizes the properties of the building envelope and facilities.

This Special Issue aims to solicit the latest and original contributions on a wide range of building energy management technologies and thermal modeling, including building and HVAC system simulation, envelope design and modeling, optimal design and control of energy systems in building, innovative building energy management algorithms, etc.



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Special Issue



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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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