Special Issue

Optimal Design and Analysis of Advanced Nuclear Reactors

Message from the Guest Editors

Nuclear energy is an efficient and clean type of energy. The nuclear reactor-based energy supply is characterized by high energy density, low carbon emissions, long sustainable operation time and wide use. Reactor technology continues to evolve, with a large number of passive generation III+ and generation IV reactor designs emerging. All designs focus on the reactor's inherent safety improvement, while allowing for a more efficient and flexible energy supply. With the development of experimental measurement and computer simulation technology, more accurate analytical methods provide support for the design and optimization of advanced reactors; thus, the economy and safety of reactors would be enhanced. This Special Issue aims to present and disseminate the most recent advances related to the theory, design, modeling and optimization of all types of advanced nuclear reactors. Topics of interest for publication include, but are not limited to: Thermal-hydraulic characteristics of advanced reactors; Multi-physics coupling in the reactor core; Nuclear reactor systems design; Safety analysis of advanced reactors; Explicable machine learning in nuclear energy.

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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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