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Computational Techniques of Nuclear Reactor Physics

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Deadline for manuscript
submissions:

closed (31 August 2021)

Message from the Guest Editor

The peaceful use of nuclear energy technologies contributes to the production of electricity in many countries. Major shifts and trends towards electrification and hydrogen fuel cells present opportunities for future nuclear power increase in the world. As part of these nuclear energy technologies, the reactor physics field interprets neutron behavior and fission reaction distributions inside reactors using computational tools, contributing to the analysis of heat pathways and the diagnosis of the fuel condition over time.

This Special Issue seeks any scientific discoveries about reactor core analysis methods/codes/tools, sensitivity analysis and uncertainty quantification, artificial intelligence applications, and multiphysics analysis. Furthermore, discussions about countermeasures against the problem of spent nuclear fuel saturation, the fourth-generation nuclear power reactor designs, and validation studies against experimental data are always welcome.

We invite papers on innovative technical developments, reviews, case studies, papers from different disciplines, which are relevant to computational code system for nuclear reactor core analysis.



mdpi.com/si/54774

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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