Special Issue

Advanced Examinations, Methods, and Tools for the Performance Analysis of Nuclear Fuel Systems

Message from the Guest Editors

Nuclear energy is the backbone of low-carbon electricity generation. Nuclear fuel provides a source of energy via fission reactions, which split uranium or plutonium fissile atoms to produce energy. The sequent energy transfer from nuclear energy to thermal energy creates thermal–mechanical effects, as well as radiation damages to nuclear fuel systems (here intended as nuclear fuel and cladding materials). This Special Issue welcomes contributions that attend to topics including, but not limited to, the following:

- Innovative approaches to experimental examinations applied to nuclear fuel system performance;
- Multiscale experimental examinations applied to nuclear fuel systems (irradiated and as fabricated);
- Multiscale modelling and advanced methods;
- Experimental and modeling verification and validation for nuclear fuel systems;
- Domain-knowledge-informed and scientific-data-driven artificial intelligence, machine learning, and deep learning applied to nuclear fuel system performance analysis.

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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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