Special Issue

Heat Diffusion: Dynamical Modelling, Control

Message from the Guest Editor

Many industries have heat diffusion systems incorporated in their processes. Due to the delay in reaching the desired temperature and the dificulty of maintaining this value, several control algorithms have been developed in the last decades to produce better systems responses. In the previous century, the most common algorithms used in the control of systems were PID controllers, with their tuning parameters based in the Ziegler–Nichols or Cohen–Coon methods. More recently, several other methodologies have been implemented using genetic algorithms, particle swarm optimization, fuzzy control systems, and other algorithms, which were found to be helpful tools for determining the parameters of the controllers, consequently improving this kind of system. These algorithms introduce concepts based on nature, evolution, or human knowledge to better tune the PID parameters. This Special Issue seeks to gather contributions to the control of heat diffusion systems using these suggestions or other methodologies, such as the incorporation of fractional order controllers.

Guest Editor

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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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