Special Issue

Steady and Unsteady Shock Waves—Expansion Waves Energy Converters

Message from the Guest Editor

The compression and expansion processes of compressible media are the basis of operation of many devices such as heat engines, refrigerators, heat pumps, compressor–expanders in chemical plants, and chemical reactors. Classical compression systems based on multi-stage axial compressors are extremely complex, expensive, and of considerable size. Compressors based on the use of stationary or moving shock waves are simple in design, have small dimensions, and are not as expensive. An equally interesting area of use for moving shock waves are applications of moving detonation waves that occur when shock waves move through a zone containing a combustible mixture. Applications of pulsating or rotating detonation waves are found in rocket engines or flow engine combustion chambers. Developments in 3D printing technology may contribute to the wider use of abnormal compression using both stationary and moving shock waves. This Special Issue aims to bring together and provide a broad presentation of the latest developments in this very extensive but quite specialized area of knowledge.

Guest Editor

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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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