Special Issue

Aerothermal Interaction between Combustor and Turbine

Message from the Guest Editors

Today, both gas turbines and aero engines face demanding regulatory and ecological challenges, driven by the threatening climate change and the ever-growing environmental awareness. Aiming for always increasing efficiency becomes more and more challenging as well. Therefore, taking into account component interaction during the design process becomes essential when striving for higher component and engine efficiency. This is especially challenging at the combustor-turbine interface, since aerodynamic, chemical, and thermal processes interact, and the flow alters from incompressible combustion to compressible expansion in the turbine. Digitization, novel materials, and analysis methods for combustor and turbine components can increase efficiency and reliability and reduce life cycle costs and development times. This will also enable the development of efficient, low-maintenance, and competitive turbomachines for the future. This Special Issue will deal with analytical and numerical modeling, novel optimization techniques, measurement methods and results and the application of artificial intelligence at the combustor-turbine interface.

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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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