Numerical Simulation of Turbulent Combustion

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Message from the Guest Editor

This Special Issue is open to research and review articles of numerical simulations of turbulent combustion, focused on the practical applications and validation of any turbulent combustion modeling, in order to collect contemporary usages of computational fluid dynamics in the field of combustion science and engineering hoping to share between us insights on what the accomplishments, limits, costs, and room to further develop are in the field of turbulent combustion modeling and applications. In this sense, not only successful simulations but also failure stories are welcome to be communicated in this Special Issue.

- validation against canonical turbulent flames
- validation against measurements
- turbulent flames at near-limit conditions
- combustion instability of turbulent flames
- interaction of turbulence and combustion
- turbulent combustion at elevated pressures
- application to IC engines, gas turbines, rocket propulsion, ramjet/scramjets
- deflagration and detonation
- assessment of turbulent combustion models
- application of machine-learning and data-driven approaches for turbulent combustion

Special Issue

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Message from the Editor-in-Chief

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