

Asymmetry in Fire Dynamics and Modelling

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Deadline for manuscript
submissions:
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Message from the Guest Editors

Dear Colleagues,

Enormous attention has been paid to fire safety due to the many disastrous accidents reported worldwide. The symmetry is also deeply related with fire dynamics. For a free burning fire from a circular source in still air, the plume characteristic parameters (shape, temperature profile, smoke concentration, etc.) are highly symmetrical. Based on the conservation laws and dimensional analysis, classical fire dynamics models have been established with the help of such symmetry. However, fire plume sometimes will be asymmetric due to the changing in boundary conditions, for example, the wall restriction or the ambient wind. The classical models are not applicable anymore for asymmetric fire plumes, and theoretical analyses based on conservation laws in asymmetrical fire plume are critical for the development of fire dynamics and modelling.

The scope of this Special Issue is to gather original fundamental and applied research concerning experimental, theoretical, computational and case studies that contribute towards the understanding of the asymmetry phenomena in fire dynamics and modelling.

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Message from the Editor-in-Chief

Symmetry is ultimately the most important concept in natural sciences. It is not surprising then that very basic and fundamental research achievements are related to symmetry. For instance, the Nobel Prize in Physics 1979 (Glashow, Salam, Weinberg) was received for a unified symmetry description of electromagnetic and weak interactions, while the Nobel Prize in Physics 2008 (Nambu, Kobayashi, Maskawa) was received for the discovery of the mechanism of spontaneous breaking of symmetry, including CP symmetry. Our journal is named *Symmetry* and it manifests its fundamental role in nature.

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