

Special Issue

Symmetry in Newtonian and Non-Newtonian Fluids

Message from the Guest Editor

Fluids can be classified into the two main groups of Newtonian and non-Newtonian fluids. The main difference between Newtonian and non-Newtonian fluids is the relationship between the extra stress tensor and the rate of the strain tensor.

This Special Issue advances the state-of-the-art of mathematical methods, theoretical, or experimental studies, or extends the bounds of existing methodologies to new contributions related to the symmetry, asymmetry, and lie symmetries of differential equations proposed as mathematical models in Newtonian and Non-Newtonian fluids to address current challenges. We hope that this Special Issue will provide an overall picture and up-to-date findings to the scientific community that will ultimately benefit the industrial sector regarding its specific market niches and end users. The potential topics include, but are not limited to, the symmetry method, the lie group, homotopy perturbation, homotopy analysis, perturbative series, differential transform, integral transform, numerical simulations and approximate, finite element, volume and difference methods, and other new technologies.

Guest Editor

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About the Journal

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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