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Asymptotic Analysis and Homogenization of PDEs

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Message from the Guest Editors

This Special Issue is devoted to recent studies on asymptotic analysis and the homogenization of several interesting physical problems which arise in the mathematical modelling of real-world phenomena described by partial differential equations with singular dependence on a small parameter. This involves both a classical singular perturbation theory concerning, for instance, the equations with a small parameter at a higher derivative, and also, the homogenization theory, in which the problems usually involve some close space perturbations. The main aim is to understand the dependence of the solutions on small parameters; there are often various interesting phenomena hidden in the behavior of the solutions.

This Special Issue collects papers with the aim to develop novel approaches for the multiscale analysis of complex phenomena and/or to apply asymptotic methods to improve current state-of-the-art research in the study of PDEs.

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Message from the Editor-in-Chief

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