



symmetry



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Geometry of Systems with Symmetry

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Deadline for manuscript
submissions:

closed (30 November 2022)

Message from the Guest Editors

Dear Colleagues,

The aim of this Special Issue on the geometry of systems with symmetry is to assemble recent results on the qualitative behavior of the solutions of systems with symmetry. These systems may be Hamiltonian or non-holonomic dynamical systems or quantum mechanical systems which are symmetric and have a notion of symmetry reduction. The reduced spaces may have singularities along with reduced dynamics. An example of such a system is the Routh sphere, which is an axially symmetric sphere, two of whose moments of inertia are equal, but whose center of mass is not at the geometric center of the sphere, which rolls without slipping on the horizontal plane under the influence of a linear gravitational field. Furthermore, the system may have complicated geometric behavior, such as monodromy.



mdpi.com/si/103642

Special Issue



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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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