Special Issue

Symmetry in Nonlinear Schrödinger Equations

Message from the Guest Editor

The nonlinear Schrödinger equation (NLSE) is involved in various physical settings. It is a partial differential equation that governs the wave function of a quantum-mechanical system. It is known that NLSE can be solved exactly only for the simplest of systems. Rapid computational methods bring the promise of solving the NLSE for complex systems and have opened extraordinary theoretic and application-based opportunities. In recent years, abundant theories and algorithms have been developed and proposed and applied to solve NLSE practice problems. This Special Issue "Symmetry in Nonlinear Schrödinger Equations" aims to gather and showcase the most recent advances in nonlinear Schrödinger equation (NLSE). We are interested in the whole spectrum of nonlinear Schrödinger equations (NLSEs) and their symmetries applied to relevant problems from all related areas, including numerical simulation and modeling, numerical algorithm, theoretical analysis and applications in practical problems.

Guest Editor

Dr. Jinlian Ren

College of Mathematical Science, Yangzhou University, Yangzhou 225002, China

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Symmetry
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
symmetry@mdpi.com

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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.

Editor-in-Chief

Prof. Dr. Sergei Odintsov
1. ICREA, 08010 Barcelona, Spain
2. Institute of Space Sciences (IEEC-CSIC), C. Can Magrans s/n, 08193 Barcelona, Spain

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