

Special Issue

Symmetry and Asymmetry in Nature: From Quantum Physics to the Universe

Message from the Guest Editors

Symmetry and its breaking are important components in the scientific knowledge of nature. Their identification and classification and the description of their manifestation are some of the paths of knowledge in any scientific discipline, from physics, chemistry, and biology up to physiology. The first to try and apply the laws of symmetry to the knowledge of nature were, perhaps, Ancient Greek naturalist philosophers. Plato's philosophy was based on the belief that there is an absolute truth that can be achieved through intelligent thinking. He expounded the Pythagorean doctrine of regular polyhedra, which, thereafter, became known as Platonic solids. Plato associated these bodies with the atom forms of the basic elements of nature. What does this represent but a desire to apply the laws of symmetry to the knowledge of nature? On the other hand, we know that time is a fleeting, elusive phenomenon resulting from the permanent motion of matter in space. The Ancient Greek philosopher Zeno of Elea was devoted to considering this phenomenon and proposed a series of paradoxes, opening its fundamental nature.

Guest Editors

Dr. Valeriy Sbitnev

St. Petersburg B. P. Konstantinov Nuclear Physics Institute, NRC Kurchatov Institute, Leningrad District, Gatchina 188300, Russia

Prof. Dr. Markus Scholle

Institute for Flow in Additively Manufactured Porous Media (ISAPS), Heilbronn University, Max-Planck-Straße 39, D-74081 Heilbronn, Germany

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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
ICREA, 08010 Barcelona and Institute of Space Sciences (IEEC-CSIC),
C. Can Magrans s/n, 08193 Barcelona, Spain

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