



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

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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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.





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Editor-in-Chief

Prof. Dr. Sergei D. Odintsov

1. Institució Catalana de Recerca
i Estudis Avançats (ICREA),
Passeig Luis Companys, 23,
08010 Barcelona, Spain
2. Institute of Space Sciences
(ICE-CSIC), C. Can Magrans s/n,
08193 Barcelona, Spain

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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Symmetry Editorial Office
MDPI, St. Alban-Anlage 66
4052 Basel, Switzerland

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