



an Open Access Journal by MDPI

# **Symmetry in Hadron Physics**

Guest Editor:

## Prof. Dr. Jialun Ping

Department of Physics, Nanjing Normal University, Nanjing 210023, China

Deadline for manuscript submissions: **30 June 2024** 

## Message from the Guest Editor

Dear Colleagues,

With the advance of high-energy physics experiments, new hadron states are continuously reported and experimental data on hadron properties are accumulated. To understand the experimental data, various pictures, conventional three-guark baryons, guark-antiguark mesons, pentaguark states, tetraguark states, guark-gluon hybrid states, glue-ball, etc., are proposed. Just as the study of the atomic spectrum leads to the invention of quantum mechanics, the study of the hadron spectrum will deepen our understanding of quantum chromodynamics (QCD). Because of the nonperturbative property and complexity of QCD, one cannot directly apply QCD to hadron physics. Clearly, symmetry plays a fundamental role in these approaches. In fact, the Gel-Mann-Zweig quark model was based on SU(3) flavor symmetry. Nowadays, various symmetries, chiral symmetry and its breaking, heavy-quark spin symmetry, hidden local symmetry, etc., are proposed and applied in hadron physics.



mdpi.com/si/192186







an Open Access Journal by MDPI

## **Editor-in-Chief**

#### Prof. Dr. Sergei D. Odintsov

 Institució Catalana de Recerca i Estudis Avançats (ICREA), Passeig Luis Companys, 23, 08010 Barcelona, Spain
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.

## **Author Benefits**

**Open Access:** free for readers, with article processing charges (APC) paid by authors or their institutions.

**High Visibility:** indexed within Scopus, SCIE (Web of Science), CAPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

**Journal Rank:** JCR - Q2 (*Multidisciplinary Sciences*) / CiteScore - Q1 (*General Mathematics*); Q1 (*Physics and Astronomy*); Q1 (*Computer Science*)

## **Contact Us**

*Symmetry* Editorial Office MDPI, St. Alban-Anlage 66 4052 Basel, Switzerland Tel: +41 61 683 77 34 www.mdpi.com mdpi.com/journal/symmetry symmetry@mdpi.com X@Symmetry\_MDPI