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Symmetry in Advances of Constituent Quark Models

Guest Editor:

Prof. Dr. Chunsheng An
School of Physical Science and Technology, Southwest University, Chongqing 400715, China

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Message from the Guest Editor

In the classical quark model, hadrons are assumed to be composed of three quarks (baryons) or a quark–antiquark pair (mesons). However, as the theoretical basis of strong interaction, quantum chromodynamics (QCD), which is a gauge theory based on the fundamental property of the SU(3) color symmetry, does not rule out multiquark states.

In the last two decades, lots of candidates of the exotic hadrons have been observed. These observations have triggered intensive investigations on the structure, production, and decay of exotic hadrons. It has been shown that multiquark components in hadrons should play an important role in hadron properties.

The QCD-inspired constituent quark model, which involves symmetries in hadrons, has been successfully applied to hadronic physics. It is essential to further develop the quark model in order to describe the current hadronic experiments. Consequently, this Special Issue invites contributions on developments and applications of the constituent quark model, especially on studies of the exotic hadrons and multiquark components in hadrons. And it remains open also to contributions from other pertinent areas in hadronic physics.

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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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Contact Us

Symmetry Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

Tel: +41 61 683 77 34
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mdpi.com/journal/symmetry
symmetry@mdpi.com
𝕏@Symmetry_MDPI