Special Issue

Development of New Methods in Atomic and Molecular Theory

Message from the Guest Editor

Atoms and molecules are often used as precision instruments to study fundamental physics and to search for the “new physics” beyond the standard model. For this purpose, we need calculations of the properties of atoms and molecules that cannot be directly tested experimentally. Therefore, we need to develop reliable and accurate theoretical methods for such systems. Experimental techniques are rapidly developing stimulating fast progress in this field. Precision experiments are now possible for more and more complex systems, including highly charged ions, polyvalent atoms with dense spectra, and complex molecules. This Special Issue is devoted to the new methods of calculating atoms and molecules and to the application of these methods to the most interesting systems for fundamental studies. Please note that all submitted papers must be within the general scope of *Symmetry*.

Guest Editor

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Deadline for manuscript submissions

closed (31 May 2021)

Symmetry

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 5.3

mdpi.com/si/35589

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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

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