Special Issue

Symmetry in Gravity Research

Message from the Guest Editors

Due to objects with extremely large masses existing in our universe, gravity has not only become the dominant factor in the motion of celestial bodies but also the decisive factor in the structure and evolution of celestial bodies. Newton not only explained the law of planetary motion by using the law of gravitation but also successfully predicted and discovered Neptune. In 1905, Einstein put forward the special theory of relativity, which broke through the concept of absolute time and absolute space. General relativity is a theory that describes the gravitational interaction between matter. Its foundation was completed by Albert Einstein in 1915 and officially published in 1916. This theory represents the first time that the gravitational field was regarded as equivalent to the curvature of space–time. In 1916, Einstein predicted the existence of gravitational waves based on general relativity. The existence of gravitational waves is the result of Lorentz invariance of general relativity, because it introduces the concept of finite propagation velocity of interaction...

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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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