Special Issue

Symmetry in Gravitational Wave Physics

Message from the Guest Editor

Dear Colleague, In the “Taiji Program in Space” of the Chinese Academy of Sciences, three satellites in the formation of an equilateral triangle constitute a space-based wave observatory, which runs in the orbit around the Sun. The centre of mass of three satellites falls on the Earth’s orbit and the satellite spacing is 3 million kilometres. Each satellite contains two test masses. For free floating motion of the test masses, the satellites will use the drag-free control technology to protect the test masses against non-conservative force disturbances. The laser interferometer and Inertial sensor are the key payloads for gravitational wave detection in space, and the accurate measurement of distance change is extremely demanding, the displacement noise budget of the interferometry system is in the order of 8 pm/Hz1/2 (0.1 mHz–1 Hz), and the residual acceleration noise of the inertial sensor is 3 × 10-15 ms-2/Hz1/2 (0.1 mHz–1 Hz) along the measuring axis.

Guest Editor

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About the Journal

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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