Special Issue

Symmetry and Astroparticle Physics

Message from the Guest Editor

The discovery of cosmic rays has opened a door through which we can glimpse at the non-thermal Universe at the highest energies. Though great steps have been taken to realize their nature, the cosmic ray-enigma is still an open and actively studied question. Ultra-high-energy cosmic rays (UHECRs) originating from the high end of the cosmic ray energy spectrum are key particles to reveal efficient particle accelerators in the Universe. Candidates for UHECR acceleration are energetic winds, transient or permanent jets emanating from the immediate environment of compact objects, such as neutron stars and black holes, starburst galaxies, supernovae, gamma-ray bursts, tidal disruption events, galaxy clusters, AGN hotspots, and lobes. In theory, they can provide the necessary conditions to accelerate cosmic rays to ultra-high energies, making these objects potential sources of pionic high-energy neutrinos and gamma-photons...

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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