Special Issue

Symmetry in High Voltage and Insulation Technology

Message from the Guest Editors

The subject of high voltage and insulation technology aims to provide technical support for the safe and economic operation of power systems in the design of high-performance environmentally friendly insulation materials, state perception of power equipment, and overvoltage suppression. Nowadays, under the complex background of UHV transmission construction, deep integration of cyber-physical systems, large-scale grid connection of renewable energy, and harsh electromagnetic operating environment of power equipment, high-voltage disciplines are facing unprecedented challenges. The corresponding key research areas include, but are not limited to, dielectric insulation properties under extreme conditions or multi-physics, new material sensing technology, multi-information smart device monitoring, high-voltage and high-power DC breaking technology, non-linear behavior mechanisms of discharge plasma, and sub-nanosecond and nanosecond pulse discharge mechanisms. A very important investigation strategy is seeking the symmetry in between the modelling description and the experimental verification for fundamental theories in these areas...

Guest Editors

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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.

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