

Special Issue

Symmetry in Strong-Field Physics

Message from the Guest Editors

In the interaction of a strong femtosecond laser with gaseous or solid targets, many ultrahigh-order nonlinear phenomena can occur. To model the experimentally detected signal, the most reliable method is solving a time-dependent Schrödinger equation (TDSE). Many semi-analytic models were also developed to help people understand the physical process more clearly. Indeed, the output signal is largely governed by the symmetry property of the target. As people obtain more and more knowledge about the connection between the symmetry property of the target and the feature of an ultrafast signal, it becomes easier to predict the characteristics of the output signal. Additionally, the ultrafast output signal could be an effective tool to detect the symmetry property of an unknown target. In particular, to achieve ultrafast time-resolution of monitoring phase transitions with the symmetry property changed, it is critical to study the causal relationship between the symmetry property of the sample and the features of the output signal.

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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.

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