Special Issue

Advances in Synchrotron and Undulator Radiation Studies

Message from the Guest Editor

Radiation from accelerated charges and the underlying physical symmetries have been attracting researchers' attention for more than 70 years. The synchrotron radiation (SR) was discovered in 1947, following its prediction in 1944. Its beam has strongly asymmetric spatial distribution along the direction of the charge motion and it is highly polarized in the plane of the orbit. The undulator radiation (UR) is based on the physical principles of the SR. Interacting with the electrons, the UR groups them in micro-bunchesseparated by the radiation wavelength, resulting in intense short bursts of coherent UR. This idea, expressed by Ginzburg, gave rise to the development of the theory of the free electron laser (FEL), invented by John Madey in 1971. The SR, UR and FELs have been intensively studied and exploited by researchers. The applications appear in many branches of science, such as medicine, archeology, chemistry, biology and others...

Guest Editor

Prof. Dr. Konstantin Zhukovsky
Department of Theoretical Physics, Moscow State University, Moscow, Russia

Deadline for manuscript submissions

closed (15 March 2024)

Symmetry

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 5.3

mdpi.com/si/115629

Symmetry
Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland
Tel: +41 61 683 77 34
symmetry@mdpi.com

mdpi.com/journal/symmetry

Symmetry

an Open Access Journal by MDPI

Impact Factor 2.2
CiteScore 5.3

mdpi.com/journal/symmetry

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

Prof. Dr. Sergei Odintsov
1. ICREA, 08010 Barcelona, Spain
2. Institute of Space Sciences (IEEC-CSIC), C. Can Magrans s/n, 08193 Barcelona, Spain

Author Benefits

Open Access:

free for readers, with article processing charges (APC) paid by authors or their institutions.

High Visibility:

indexed within SCIE (Web of Science), Scopus, CAPlus / SciFinder, Inspec, Astrophysics Data System, and other databases.

Journal Rank:

JCR - Q2 (Multidisciplinary Sciences) / CiteScore - Q1 (General Mathematics)

MDPI