



Electromagnetism and Symmetry: Review

Guest Editors:

Dr. Mingyang Lu

School of Electrical and Electronic Engineering, University of Manchester, Sackville Street Building, Manchester M13 9PL, UK

Dr. Xiaobai Meng

Faculty of Art, Science and Technology, University of Northampton, Northampton NN1 5PH, UK

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Message from the Guest Editors

Electromagnetic fields and waves play a pivotal role in the industrial repository, especially in the field of electromagnetic (EM) non-destructive testing (NDT).

There exist several variants of EM testing methods, including eddy current testing (ECT), magnetic flux leakage (MFL), remote field testing (RFT), magnetic particle inspection (MPT), alternating current field measurement (ACFM), alternating current potential difference (ACPD), and direct current potential drop (DCPD). Owing to its sensitivity to small discontinuities, EM testing has been widely applied in object recognition, health monitoring, surface fatigue inspection, and measuring the inhomogeneity of metallic properties including electrical conductivity, magnetic permeability, and the thickness of the sample.

We encourage researchers to apply a wide range of electromagnetic methods, and, in particular, to develop theoretical models and applications including the concept of symmetry. This Special Issue welcomes contributions from, but not limited to, the following fields: electromagnetism and symmetry, electromagnetics, computational electromagnetics, and electromagnetic modeling.





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Prof. Dr. Sergei D. Odintsov

1. Institució Catalana de Recerca
i Estudis Avançats (ICREA),
Passeig Luis Companys, 23,
08010 Barcelona, Spain
2. Institute of Space Sciences
(ICE-CSIC), C. Can Magrans s/n,
08193 Barcelona, Spain

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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Symmetry Editorial Office
MDPI, Grosspeteranlage 5
4052 Basel, Switzerland

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