



*symmetry*



*Special Issue Reprint*

## Symmetry in Electromagnetism

[www.mdpi.com/books/reprint/2980](http://www.mdpi.com/books/reprint/2980)

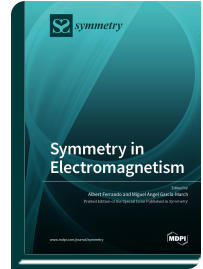
Edited by

Albert Ferrando

Miguel Ángel García-March

ISBN 978-3-03943-124-3 (Hardback)

ISBN 978-3-03943-125-0 (PDF)



Electromagnetism plays a crucial role in basic and applied physics research. The discovery of electromagnetism as the unifying theory for electricity and magnetism represents a cornerstone in modern physics. Symmetry was crucial to the concept of unification: electromagnetism was soon formulated as a gauge theory in which local phase symmetry explained its mathematical formulation. This early connection between symmetry and electromagnetism shows that a symmetry-based approach to many electromagnetic phenomena is recurrent, even today. Moreover, many recent technological advances are based on the control of electromagnetic radiation in nearly all its spectra and scales, the manipulation of matter–radiation interactions with unprecedented levels of sophistication, or new generations of electromagnetic materials. This is a fertile field for applications and for basic understanding in which symmetry, as in the past, bridges apparently unrelated phenomena—from condensed matter to high-energy physics. In this book, we present modern contributions in which symmetry proves its value as a key tool. From dual-symmetry electrodynamics to applications to sustainable smart buildings, or magnetocardiography, we can find a plentiful crop, full of exciting examples of modern approaches to electromagnetism. In all cases, symmetry sheds light on the theoretical and applied works presented in this book.



Order Your Print Copy

You can order print copies at

[www.mdpi.com/books/reprint/2980](http://www.mdpi.com/books/reprint/2980)

MDPI Books offers quality open access book publishing to promote the exchange of ideas and knowledge in a globalized world. MDPI Books encompasses all the benefits of open access – high availability and visibility, as well as wide and rapid dissemination. With MDPI Books, you can complement the digital version of your work with a high quality printed counterpart.



## Open Access

Your scholarly work is accessible worldwide without any restrictions. All authors retain the copyright for their work distributed under the terms of the Creative Commons Attribution License.



## Author Focus

Authors and editors profit from MDPI's over two decades of experience in open access publishing, our customized personal support throughout the entire publication process, and competitive processing charges as well as unique contributor discounts on book purchases.



## High Quality & Rapid Publication

MDPI ensures a thorough review for all published items and provides a fast publication procedure. State-of-the-art research and time-sensitive topics are released with a minimum amount of delay.



## High Visibility

Due to our global network and well-known channel partners, we ensure maximum visibility and broad dissemination. Title information of books is sent to international indexing databases and archives, such as the Directory of Open Access Books (DOAB), and the Verzeichnis Lieferbarer Bücher (VLB).



## Print on Demand and Multiple Formats

MDPI Books are available for purchase and to read online at any time. Our print-on-demand service offers a sustainable, cost-effective and fast way to publish MDPI Books printed versions.