

## Special Issue

# Innovations in Passive and Active Microwave Circuits for Advanced Communication and Sensing Systems: Exploiting Symmetry for Enhanced Performance

### Message from the Guest Editors

Microwave circuit design, encompassing both passive and active components, is a rapidly evolving field that is crucial in modern telecommunications and radar systems. Among the various aspects driving innovation in this field are symmetry and asymmetry, which significantly influence the performance, stability, and functionality of microwave circuits. The demand for innovative solutions in microwave circuit design has never been greater, and symmetry and asymmetry are becoming more significant with the advancement of next-generation wireless technologies such as 5G and the development of future 6G networks. Additionally, terahertz (THz) technology, bridging the gap between microwave and optical frequencies, offers new opportunities for ultra-high-speed communication systems and advanced sensing applications. This Special Issue aims to address the latest developments and challenges in the design of passive and active microwave circuits and their integration with THz, 5G, and 6G technologies. Particular attention will be given to how symmetry and asymmetry principles can be exploited to enhance the performance, efficiency, and integration of these circuits...

### Guest Editors

Prof. Dr. Jamal Zbitou

Department of Artificial Intelligence and Digitalization, National School of Applied Sciences of Tetouan (ENSATe), Abdelmalek Essaâdi University, Tetouan, Morocco

Dr. Abdelhadi Ennajih

Department of Electrical Engineering, National Higher School of Electricity and Mechanics, Hassan II University, Casablanca, Morocco

### Deadline for manuscript submissions

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Editorial Office  
MDPI, Grosspeteranlage 5  
4052 Basel, Switzerland  
Tel: +41 61 683 77 34  
[symmetry@mdpi.com](mailto:symmetry@mdpi.com)

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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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### 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

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