

Special Issue

Numerical and Experimental Analysis of Thermal, Electrical and Mechanical Aspects of Carbon-Based Composites

Message from the Guest Editors

Polymers are classically recognized as insulating materials due to their low electrical and thermal conductivity, and therefore, are inappropriate to use in different practical applications. On the contrary, they are highly appreciated for their lightness, cost-effectiveness, ease of processing, corrosion resistance and strength-to-weight ratio. The recent developments in advanced polymers are based on nanotechnology. In particular, the introduction in polymer matrices of carbon-based fillers has been effective at improving the thermal and electrical conductivity of the resulting materials and their mechanical properties. However, despite the promising achievements made thus far, the desired results have still not been fully achieved due to a lot of factors (the aspect ratio of filler, polarization at the interface, and more) which affect the overall final properties of the resulting materials. Future experimental investigation and theoretical and computational studies on carbon-based nanocomposites are encouraged to add to our knowledge and achieve new goals.

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Deadline for manuscript submissions

closed (20 March 2025)



Materials

an Open Access Journal
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Impact Factor 3.2
CiteScore 6.4
Indexed in PubMed



mdpi.com/si/181353

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Message from the Editorial Board

Materials (ISSN 1996-1944) was launched in 2008. The journal covers twenty-five comprehensive topics: biomaterials, energy materials, advanced composites, advanced materials characterization, porous materials, manufacturing processes and systems, advanced nanomaterials and nanotechnology, smart materials, thin films and interfaces, catalytic materials, carbon materials, materials chemistry, materials physics, optics and photonics, corrosion, construction and building materials, materials simulation and design, electronic materials, advanced and functional ceramics and glasses, metals and alloys, soft matter, polymeric materials, quantum materials, mechanics of materials, green materials, general. *Materials* provides a unique opportunity to contribute high quality articles and to take advantage of its large readership.

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