



materials



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Advances in Structural, Electrical, and Optical Analysis of Diamond and Diamond-Like Carbon Materials

Guest Editor:

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Message from the Guest Editor

Diamond has a unique suite of properties that make it suitable for applications in a range of fields, including tribology, electronics, thermal management, optics, photonics, electrochemistry, and biomedicine. Most of these applications are now being realised thanks to the developments in synthetic diamond techniques such as chemical vapour deposition (CVD) that have occurred over the past few decades. In addition to natural diamonds, improved synthetic processes now routinely produce single-crystal, polycrystalline, nanocrystalline, and ultra-nanocrystalline diamonds as well as diamond-like carbon (DLC) films.

Further development of synthetic diamond processes and applications relies on a continued understanding of the structure–property relationships of these materials through rigorous characterisation and analysis. In addition to enabling accurate knowledge of materials properties and understanding of how composition and structure influence the type of application and performance, thorough analysis and characterisation play a significant role in ensuring operational reliability as well as aiding the development of new materials and processes.



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Special issue



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Message from the Editor-in-Chief

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