Advanced Book Information

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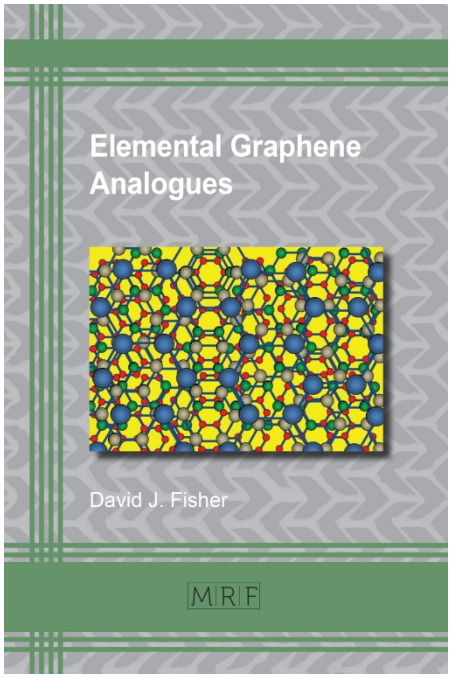
Materials Research
Solid State Physics and Engineering

Elemental Graphene Analogues



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Summary:

One of the greatest revolutions in materials science in recent years has been the literal renaissance of age-old materials in new and unexpected guises and possessing correspondingly astounding properties. There was once a time, for instance, when textbooks declared that only metals could offer any progress in superconduction. Since then, familiar perovskites – and even humble magnesium boride – have been recognised as being so-called 'room-temperature' superconductors. Carbon in particular has benefited from this revolution and has now found application as routinely deposited diamond coatings and as C60 'buckyballs'.

The most recent innovation has been the discovery and preparation of graphene; single-monolayer carbon having a remarkable strength. This success has naturally led researchers to ask whether other materials might also be prepared in an analogous monolayer form and offer similarly amazing properties.

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