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Carbon Nanostructures beyond Graphene

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Carbon based nanostructures have a long history, dating back to the 30ies and 40ies of the 20th century. They got a strong boost with the discovery of the fullerenes and nanotubes, and they were crowned by the research on graphene. The investigations on these nanostructures are of both fundamental and technological interest due to the interesting electronic and physical properties intrinsically associated with their low dimensionality and quantum confinement effects. With the successful synthesis of graphene nanoribbons and functionalization of graphene layers some shortcoming of 2D graphene could be overcome, opening extremely promising applications in the future nanoscale electronic devices. The intrinsic physical and chemical properties of such modified graphene based systems, will be discussed in comparison with graphene. Especially, the electronic, magnetic and mechanical properties of such structures in terms of their functionalization will be discussed on the basis of theoretical investigations.

Apply to be considered for a student ; award (Yes / No)?

No

Level for award;(Hons, MSc, PhD, N/A)?

N/A

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