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Probing the Nature of Defects in Graphene by Raman Spectroscopy

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Nano Lett., 2012, 12 (8), pp 3925–3930

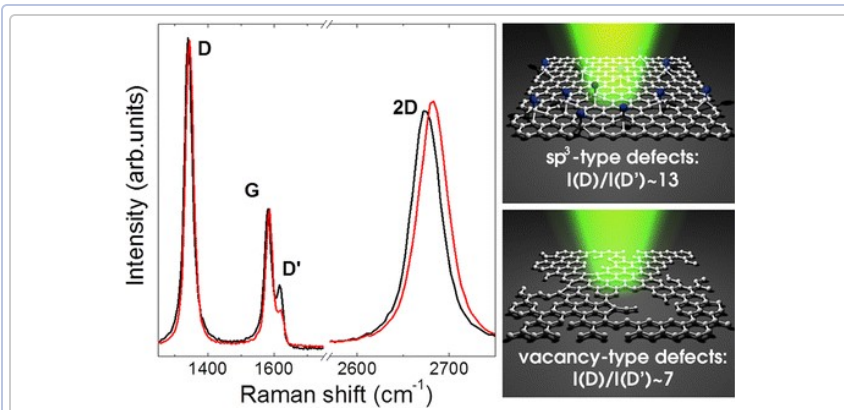
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Abstract



Raman spectroscopy is able to probe disorder in graphene through defect-activated peaks. It is of great interest to link these features to the nature of disorder. Here we present a detailed analysis of the Raman spectra of graphene containing different type of defects. We found that the intensity ratio of the D and D' peak is maximum (~13) for sp³-defects, it decreases for vacancy-like defects (~7), and it reaches a minimum for boundaries in graphite (~3.5). This makes Raman Spectroscopy a powerful tool to fully characterize graphene.

Keywords: conductive AFM; defects; Graphene; Raman spectroscopy

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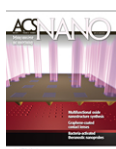
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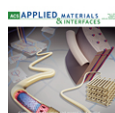


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