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Title:Graphene for radio frequency electronics

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Abstract:Graphene is emerging as an attractive electronic material for future electronics. With the highest carrier mobility, high saturation velocity, high critical current densities, and single atomic thickness, graphene has great potential for ultra-high speed transistors, with the highest projected cut-off frequency exceeding 1 THz. However, the fabrication of high speed graphene transistors is of significant challenge, since conventional electronic fabrication processes often introduce undesirable defects into graphene lattices. Significant efforts have made to mitigate these challenges. Here we review the opportunities, challenges, as well as the recent advances in the development of high speed graphene transistors and circuits. © 2012 Elsevier Ltd.

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