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Low energy electronic properties of misoriented sheets of graphene AHMED MAAROUF, GLENN MARTYNA, IBM T.J. Watson Research Center — We study the electronic properties of graphene multilayers in a tight binding framework. We focus on the effect of the relative orientation of the layers on the electronic properties in the neighborhood of the Dirac points. We present numerical calculations, as well as an approximate analytical result that describes the low energy inter-layer coupling as a function of their orientation. The theory is also applied to study the low energy electronic properties of two crossed metallic tubes of general chirality and crossing angle.

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