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Coulomb blockade effects in graphene nanoribbons¹ FERNANDO SOLS, Universidad Complutense de Madrid, FRANCISCO GUINEA, ICM-
CSIC (Madrid), ANTONIO CASTRO NETO, Boston University — We propose that recent transport experiments revealing the existence of an energy gap in graphene nanoribbons may be understood in terms of Coulomb blockade. Electron interactions play a decisive role at the quantum dots which form due to the presence of necks arising from the roughness of the graphene edge. With the average transmission as the only fitting parameter, our theory shows good agreement with the experimental data.

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