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Tunneling Effect across a Graphene Barrier FELIX MARIN, Retired — We investigate a model of two macroscopic reservoirs which are separated by a graphene sheet. The sheets remain perpendicular to the reservoirs such that electrical conduction in the reservoirs is a three dimensional phenomena while graphene electrical conduction occurs perpendicular to the reservoirs. It means, as usual, that graphene electrical current is a bidimensional phenomena. We discuss the global electrical current as a function of the initial chemical potential of this system. The analysis include variations due to temperature and due to applied potentials to the reservoirs and to the graphene sheet.

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