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Theoretical study of Coulomb drag in graphene[1] DEREK HO, National University of Singapore, SHAFFIQUE ADAM, Yale-NUS College and National University of Singapore — In this theoretical work we examine the problem of Coulomb drag in graphene. We consider the common situation of heterostructures comprising graphene double layers separated by a thin sheet of hexagonal boron nitride in both zero and finite magnetic fields. We study three distinct physical mechanisms, namely the interaction induced energy-transfer between the layers, momentum transfer between the layers and disorder-induced puddles of electrons and holes that shift the system locally away from the double neutrality point. We argue that all three mechanisms are necessary to account for the available experimental data.

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