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Ballistic transport across domain walls in bilayer graphene[1] XIAOGUANG LI, University of Tennessee-Knoxville, ZHENYU ZHANG, Oak Ridge National Laboratory, University of Tennessee-Knoxville, DI XIAO, Oak Ridge National Laboratory — The transport properties of bilayer graphene across a junction connecting two regions with opposite electric gates are investigated.Using the recursive Green's function method, we study both infinite and nanoribbon graphene with zigzag or armchair edges. We find that the conductance of nanoribbon shows considerably different behavior compared to infinite graphene due to the appearance of edge states. The important role of electron tunneling between two layers is also revealed.

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