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Spin-resolved conductance of Dirac electrons through multibarrier arrays DIPENDRA DAHAL, Graduate Center and Hunter College of City University of New York, 695 Park Avenue, New York, NY 10065, USA, GODFREY GUMBS, Hunter College of City University of New York, 695 Park Avenue, New York, NY 10065, USA, ANDRII IUROV, Center for High Technology Materials, University of New Mexico, Albuquerque, NM 87106, USA — We use a transfer matrix method to calculate the transmission coefficient of Dirac electrons through an arbitrary number of square potential barrier in gapped monolayer graphene(MLG) and bilayer graphene (BLG). The widths of barriers may not be chosen equal. The shift in the angle of incidence and the width of the barrier required for resonance are investigated numerically for both MLG and BLG. We compare the effects due to energy gap on these two transmission coefficient for each of these two structures (MLG and BLG). We present our results as functions of barrier width, height as well as incoming electron energy as well as band gap and examine the conditions for which perfect reflection or transmission occurs. Our transmission data are further used to calculate conductivity.

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