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**Transport of massless Dirac fermions in graphene layers in presence of electromagnetic potential barriers** SANKALPA GHOSH, MANISH SHARMA, Indian Institute of Technology Delhi — We study the transport of massless Dirac fermions in Graphene layers through electromagnetic potential barriers. The barriers consist of periodically arranged delta function-like magnetic fields superposed with periodic electrostatic potentials. We show that such an arrangement provides a wide range of control on the electron transport through Graphene, and the associated problems can be mapped on certain classes of optical problems. We discuss the related band structure and its effect on transport over a range of magnetic field strengths and barrier widths. We also discuss the typical experimental set up where related properties can be verified.

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