Wave packet scattering in graphene and the Klein paradox
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— Using the tight binding Hamiltonian for a honeycomb lattice, we develop a computational technique for the construction and time evolution of Gaussian wave packets in graphene. Employing this approach, we study the scattering across barriers and compute reflection and transmission coefficients. Given the nature of energy dispersion in graphene, it is anticipated that electrons with momenta close to the "Dirac points" would suffer perfect transmission for very high barriers. We analyze the effects of wave packet scattering close to the Dirac points in search of the Klein paradox.

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