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Tunneling of dressed electrons in bilayer graphene DIPENDRA DAHAL, Hunter College and Graduate Center, CUNY, GODFREY GUMBS, Hunter College, CUNY and Donostia International Physics Center (DIPC), San Sebastian, Spain, ANDRII IUROV, Hunter college, CUNY, DANHONG HUANG, Air Force Research Laboratory — Closed-form analytic expressions have been derived for electron dressed states, resulting from the interaction between Dirac electrons in bilayer graphene and circularly polarized light. The dressed states in bilayer graphene exhibit some novel properties, such as left-right polarization asymmetry, which are absent in monolayer-layer graphene. We have investigated the dressed state tunneling through a square electrostatic potential barrier and present a detailed analysis of the way in which the physics involving the special type of zero-transmission Klein paradox in bilayer graphene is modified in the presence of strong electron-photon coupling. Additionally, we have investigated and compared various electron-tunneling behaviors in the presence of a finite-width magnetic barrier for both monolayer and bilayer graphene.

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