Electron Hole Asymmetry in Graphene Coupled to an SiO2 Substrate ROBERT HIGGINBOTHAM, University of Notre Dame, NAN SUN, GERALD ARNOLD, STEVEN RUGGIERO — The conductance of graphene generally exhibits an asymmetry in the electron and hole branches. We propose a contribution to this asymmetry that is based upon the coupling between the graphene and an SiO2 substrate. Treating the coupling in the tight-binding approximation, we calculate an exact Green’s function for the coupled graphene/SiO2 system.