



## **Influencing graphene's conductivity with a conducting surface**

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The present work aims to calculate the longitudinal conductivity of a graphene sheet near a perfectly conducting grounded surface. To describe the interaction between the electrons in graphene in the presence of the conductor, we use the Pseudo-Quantum Electrodynamics formalism. According to Kubo's formula, the conductivity can be obtained by calculating the polarization tensor, but since the conducting surface influences only the photon propagator, we will compute the referred tensor until the 2-loop perturbation order. The results show that the conductivity is influenced by the conducting surface mostly at frequencies near the external momentum, for a Fermi velocity equal to one.