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**Electronic properties of graphene-MoS<sub>2</sub> contacts** BRANDON COOK, Oak Ridge National Laboratory, KALMAN VARGA, Vanderbilt University — Single layer MoS<sub>2</sub> is a two-dimensional semiconductor which has attracted interest due to its electronic and optical properties. However, experimental studies of the material are limited by poor contacts. Graphene, a two-dimensional semimetal, is often touted as an ideal contact material. We investigate graphene-MoS<sub>2</sub> contacts with first-principles calculations. The density functional calculations predict the possibility of good charge injection from graphene to the MoS<sub>2</sub>.

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