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Understanding the electronic, optical, and transport properties of Graphene deposited on GaN with varying surface roughness NICOLE CREANGE, KEVIN HUNTER, JASON HARALDSEN, COSTEL CONSTANTIN, James Madison University — We examine the transport properties of graphene deposited on gallium nitride (GaN). Using density functional theory with local density approximations, we calculate the electric and thermal conductivity properties graphene as with varying GaN distortions. We show that local distortions of graphene due to surface defects of GaN have a significant effect on the electronic and thermal properties of graphene.

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