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Properties of silicene on graphene LOK LEW YAN VOON, The Citadel, RUIPING ZHOU, YAN ZHUANG, Wright State University, CITADEL-WSU COLLABORATION — Silicene, the silicon analog of graphene, was first shown by one of the authors in 2007 to have similar properties to graphene. Three groups have reported the fabrication of silicene on metal in Phys. Rev. Lett. in 2012. In this talk, we will present results on the structure and properties of silicene on graphene obtained from ab initio calculations. A new structure of bilayer silicene on graphene is obtained. The band structure reveals a phenomenon of self-doping. Finally, the application of a transverse electric field and I-V characteristics will be presented.

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