

Abstract Submitted
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STM-based Interface Studies of Cobalt on Epitaxial Graphene on SiC(0001)-6H¹ ANDREAS SANDIN, ALEX M. PRONSCHINSKE, DANIEL B. DOUGHERTY, J.E. (JACK) ROWE, Physics Department, NC State University, Raleigh, NC — For the Co-graphene interface we found new surface-potential-derived interface states shifted differently on single monolayer and on bilayer graphene. Our graphene growth method is based on the high temperature annealing applied to bulk 6H-SiC(0001)-Si in a UHV Omicron/AFM/STM/ multi-probe system at NC State in the Physics Department. For undoped epitaxial graphene on SiC the intrinsic carrier doping is n-doped due to its interaction with the growth buffer layer of the SiC substrate, and its Dirac point lies ~ 0.4 eV below the Fermi level. Gold overlayers have the effect of moving the Fermi level back down into the valence band so that the Dirac point moves into the unoccupied part of the local density of states.²Our results imply a doping charge increase for Cobalt on graphene which is opposite to that found for gold. 2. Gierz, I.; Riedl, C.; Starke, U.; Ast, C. R.; Kern, K., Atomic Hole Doping of Graphene. *Nano Lett.* **2008**, 8 (12), 4603-4607.

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John Rowe
Physics Department, NC State University, Raleigh, NC

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