Abstract Submitted
for the MAR17 Meeting of
The American Physical Society

Exploring Proximity-Induced Ferromagnetism in Graphene/$Cr_2Ge_2Te_6$ Heterostructures[1] AARON SHARPE, Stanford University, WENMIN YANG, Institute of Physics, Chinese Academy of Science, MENYOUNG LEE, Cornell University, KENJI WATANABE, TAKASHI TANIGUCHI, National Institute of Material Science, Japan, DAVID GOLDHABER-GORDON, Stanford University — Due to its tunability and high electron mobility, graphene is a promising platform for spintronics. While isolated graphene is non-magnetic, ferromagnetism can be induced by controlling its local environment. Through proximity effects, 2D materials are known to inherit order parameters from a substrate when the two are placed in intimate contact. Proximity-induced ferromagnetism has been seen in graphene/yttrium iron garnet (YIG) heterostructures. Several other ferromagnetic insulators could be used instead. Unlike YIG, $Cr_2Ge_2Te_6$ (CGT) is a layered ferromagnetic insulator which makes it an ideal candidate substrate to produce ferromagnetism in graphene while maintaining its high electron mobility. Here we study proximity-induced ferromagnetism in graphene placed on exfoliated flakes of CGT. CGT is unfortunately sensitive to air, a major challenge for making a clean interface. Therefore, we measured graphene/CGT heterostructures fabricated in a controlled environment.

[1]Exploring Proximity-Induced Ferromagnetism in Graphene/Cr2Ge2Te6 Heterostructures

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Date submitted: 11 Nov 2016 Electronic form version 1.4