

Abstract Submitted
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STM imaging of vortex cores states in superconducting graphene

YU JI, MAOZ OVADIA, Harvard University, JENNIFER HOFFMAN, University of British Columbia, GIL-HO LEE, PHILIP KIM COLLABORATION¹, WENJING FANG COLLABORATION² — Graphene becomes superconducting via the proximity effect when it comes in good contact with a superconductor. In the presence of a magnetic field, superconducting vortices will form and will each contain Andreev bound states. If the normal electrons in the vortices have a Dirac dispersion and they are surface bound states, the zero modes of the Dirac dispersion are then Majorana fermions. We investigate the electronic properties of graphene on superconducting NbN and search for these vortex bound states using our home built low temperature scanning tunneling microscope.

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