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Surperconducting Graphene Nanodevice in Ballistic Regime JOEL I-JAN WANG, Harvard School of Engineering and Applied Sciences, Harvard University/ Department of Physics, Massachusetts Institute of Technology, KENJI WATANABE, TAKASHI TANIGUCHI, National Institute for Materials Science, Japan, PABLO JARILLO-HERRERO, Department of Physics, Massachusetts Institute of Technology — Superconductivity carried by Dirac fermion can be realized through induced superconductivity in graphene. Observation of novel phenomena anticipated by theories requires superconducting graphene devices with low disorder so that the transport is ballistic. In this talk we present the fabrication and characterization of superconducting graphene nanodevices that are built on hexagonal Boron Nitride. The ultra flatness and lack of dangling bond in the boron nitride substrate reduces the disorder in graphene, opening the door to the study of ballistic Dirac fermion in superconducting regime.

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