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Fabrication of a ring-shaped graphene device on boron nitride crystal[1] SEONG JANG, EUNSEONG KIM, Center for Supersolid & Quantum Matter Research and Department of Physics, KAIST, Daejeon, 305-701, Republic of Korea — Even though Andreev reflection in graphene [1] intrigued much attention due to its specular aspect which is different from other materials, no experimental result has shown such specular reflection so far. Recently, it is predicted that the period of magneto-resistance oscillation in a ring- shaped graphene can distinguish the type of Andreev reflection in a device [2]. We fabricated a graphene device on boron nitride crystal in order to avoid charge inhomogeneity and low mobility in the device, which allows comparable transport properties to that of suspended graphene [3]. Graphene on BN is a promising design because BN crystal can support a narrow and punched graphene device which easily collapses in suspended structure. We will report how to fabricate this device with electron beam lithography and plasma etching.

[1] C. W. J. Beenakker, Phys. Rev. Lett., 97, 067007 (2006)
[2] J. Schelter et al., Phys. Rev. Lett., 108, 106603 (2012)
[3] C. R. Dean et al., Nat. Nanotechnol., 5, 722-726 (2010)

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