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Pair condensation in electron-hole graphene bi-layer RAFI BISTRITZER, HONGKI MIN, JUNG-JUNG SU, ALLAN H. MACDONALD, Department of Physics, University of Texas at Austin — Using self consistent Hartree Fock calculations we show that an electron-hole graphene bi-layer exhibits spontaneous interlayer coherence when the distance between layers is sufficiently small. We describe the unique transport properties of the emergent dipolar superfluid and relate them to the nature of the underlying massless Dirac particles.

Jung-Jung Su
Department of Physics, University of Texas at Austin

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