Abstract Submitted
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Observation of *p*-wave superconductivity in epitaxial Bi/Ni bilayers[1] GEJIAN ZHAO, Department of Physics, Arizona State University, XINXIN GONG, Deaprtment of Physics, Fudan University, Shanghai, China, JESSICA GIFFORD, Department of Physics, Arizona State University, HEXIN ZHOU, XIAOFENG JIN, Deaprtment of Physics, Fudan University, Shanghai, China, C. L. CHIEN, Department of Physics and Astronomy, Johns Hopkins University, TINGYONG CHEN, Department of Physics, Arizona State University — In a singlet superconductor, the two electrons within a Cooper pair have opposite spins whereas the two electrons have the same spin orientation in a triplet superconductor. Most superconductors to date are singlet superconductors with an *s*-wave (e.g., Pb, Nb) isotropic gap, except the high T_C cuprates with a *d*-wave gap with nodes. However, *p*-wave triplet superconductivity, although theoretically expected, was rarely observed. He^3 is the only triplet superfluid in nature, and Sr_2RuO_4 has been suspected to be a triplet superconductor. We report the observation of *p*-wave triplet superconductivity in epitaxial Bi/Ni bilayers with T_C up to 4 K in multiple thickness ranges. Using ballistic injection of unpolarized and especially highly spin-polarized electrons with energies within the superconducting gap, Andreev reflection spectroscopy directly accesses the pairing symmetry within the superconducting gap. We obtain conclusive evidence of *p*-wave superconductivity.

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