

Abstract Submitted
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S -N-S junction formed by graphene with lead (Pb) contacts IVAN BORZENETS, Duke University, ULAS COSKUN, University of Illinois , GLEB FINKELSTEIN, Duke University — We fabricate lead (Pb) contacts to graphene that allow us to observe supercurrent in the Pb-graphene-Pb structure up to temperatures of $\sim 3\text{K}$. The measured critical current is much smaller than a naive expectation based on calculations for a superconductor-insulator-superconductor (S-I-S) junction. Hysteresis is seen in the switching current despite the fact that the junction is made to be overdamped. The behavior of the Pb-graphene-Pb structure is qualitatively explained by considering it as an S-N-S junction.

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