Abstract Submitted
for the MAR16 Meeting of
The American Physical Society

Induced Superconductivity In Bi2Se3 Nanostructures By Anneal Doping Of Palladium[1] JEROME T. MLACK, ATIKUR RAHMAN, NATALIA DRICHKO, NINA MARKOVIC, Johns Hopkins University — Utilizing thermal annealing at temperatures in excess of 100 Celsius we induce superconductivity in Bi2Se3 by palladium doping. Changes in the material structure are analyzed using a combination of AFM, optical microscopy and Raman spectroscopy. The absorption of Pd results in superconductivity in the material with a transition temperature below 1K. The differential conductance as a function of temperature and magnetic field reveals multiple transitions in the material at several applied currents.

[1]This work was supported under the National Science Foundation Grant No.s DGE-1232825 (J.T.M.) and DMR-1106167.

Jerome T. Mlack
University of Pennsylvania

Date submitted: 05 Nov 2015 Electronic form version 1.4