Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Tuning the Insulator-Superconductor Transition in Ultrathin Films By Use of the Electric-Field Effect KEVIN A. PARENDO, K. H. SARWA B. TAN, ALLEN M. GOLDMAN, University of Minnesota, School of Physics and Astronomy — A 10 Å thick film of amorphous bismuth has been prepared in an electric-field effect device geometry. Its low temperature electrical properties have been continuously tuned from weakly insulating to fully superconducting by increasing the gate voltage. The systematics of this insulator-superconductor transition will be discussed in the context of a quantum phase transition. This work is supported in part by the National Science Foundation under grant NSF/DMR-0138209.

Kevin A. Parendo
University of Minnesota, School of Physics and Astronomy

Date submitted: 21 Mar 2013 Electronic form version 1.4