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Anti-proximity Effect in Single Crystal Aluminum Nanowires¹ MEENAKSHI SINGH, JIAN WANG, MINGLIANG TIAN, Department of Physics and Center for Nanoscale Science, Penn State University, THOMAS MALLOUK, Department of Physics, Department of Chemistry and Center for Nanoscale Science, Penn State University, MOSES CHAN, Department of Physics and Center for Nanoscale Science, Penn State University — A novel antiproximity effect in Zn nanowires was reported where it was found that superconductivity of an array of Zn nanowires, 40 nm in diameter, was suppressed by bulk superconducting electrodes. The Zn nanowire array recovered its superconductivity when the bulk electrodes were driven normal by an applied magnetic field. [Tian, M. et al. *Phys. Rev. Lett.* 2005, 95, 076802. Tian, M et al. *Phys. Rev. B* 2006, 74, 014515]. We have confirmed this counterintuitive effect in single-crystal superconducting Aluminum nanowires is found to increase when the bulk measuring electrodes are changed from superconducting to normal.

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