

Abstract Submitted  
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**Proximity effect in the 3D topological insulator Bi<sub>2</sub>Te<sub>3</sub>** ZHUO WANG, TIANYU YE, RAMESH MANI, Georgia State University — Topological insulators (TI) are electronic materials with a bulk band gap that is supplemented by protected conducting states on their edges or surfaces in the 2- and 3- dimensional cases, respectively. This study reports the magnetotransport response observed in the 3D topological insulator Bi<sub>2</sub>Te<sub>3</sub> with indium superconducting electrodes, and demonstrates two critical transitions in the magnetoresistive response with decreasing temperatures below T= 3.4K. Here, the first transition is attributed to superconductivity in the In electrodes, as the second transition is attributed to the proximity effect in this hybrid TI/SC structure.

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