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Magneto-transport study of the topological insulator Bi_2Te_3[1] PRAMOD KUMAR, ARUNA RAMANAYAKA, RAMESH MANI, Georgia State University — Topological insulators are electronic materials that have a bulk band gap like an ordinary insulator, but have protected surface or edge states. Many materials have been realized as topological insulators, including the HgTe/CdTe superlattice, $Bi_{1-x}Sb_x$, Bi_2Se_3, Sb_2Te_3 and Bi_2Te_3. Topological insulators are interesting not only because of their fundamental importance but also their great potential for future applications. Here, we examine the magneto-transport properties of exfoliated Bi_2Te_3 specimens prepared from Bi_2Te_3 single crystals using the scotch tape method. Indium and silver paint contacts were applied to the exfoliated specimens and magneto-transport was examined at liquid helium temperatures at moderate magnetic fields. The results of these experiments will be described here within the context of the ongoing interest in topological insulators.

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