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Pressure evolution of electrical transport in the 3D topological insulator (Bi,Sb)2(Te,Se)3[1] JASON JEFFRIES, Lawrence Livermore National Laboratory, N.P. BUTCH, National Institute of Standards and Technology, Y.K. VOHRA, Universtiy of Alabama, Birmingham, S.T. WEIR, Lawrence Livermore National Laboratory — The group V-VI compounds—like Bi_2Se_3, Sb_2Te_3, or Bi_2Te_3—have been widely studied in recent years for their bulk topological properties. The high-Z members of this series form with the same crystal structure, and are therefore amenable to isostructural substitution studies. It is possible to tune the Bi-Sb and Te-Se ratios such that the material exhibits insulating behavior, thus providing an excellent platform for understanding how a topological insulator evolves with applied pressure. We report our observations of the pressure-dependent electrical transport and compare that behavior with other binary V-VI compounds under pressure.

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