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High-pressure phases of Bi_2Se_3 C. STEPHEN HELLBERG, Naval Research Lab, JASON R. JEFFRIES, Lawrence Livermore National Lab, IGOR I. MAZIN, STEVE M. YOUNG, Naval Research Lab, NICHOLAS P. BUTCH, NIST Center for Neutron Research, KEVIN KIRSHENBAUM, PAUL S. SYERS, JOHN-PIERRE PAGLIONE, Center for Nanophysics and Advanced Materials, Department of Physics, University of Maryland — We present x-ray diffraction measurements and density functional calculations of Bi_2Se_3 at pressures up to 80 GPa. Four phases are observed as the pressure is increased. The diffraction pattern of each phase agrees well with diffraction patterns computed from structures determined by density functional theory. The electronic structure of the high-pressure phases will be discussed.

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