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Phonons in Bi2Te3 and Bi2Se3 Thin Films SHANG-FEN REN, Illinois State University, WEI CHENG, Beijing Normal University — Bi2Te3 and Bi2Se3 are topological insulators with interesting surface properties that have attracted great research attention in recent years. In this research, phonon dispersion curves and phonon density of states of Bi2Te3 and Bi2Se3 thin films with five atomic-layers are calculated by Medea-VASP program, and thermal dynamic functions are also analyzed. Phonon results of these two thin films are compared with each other and are also compared with available bulk measurements. Symmetry broken is found in the Brillouin zone center phonon modes.

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