

ABSTRACT

Report: 22 pages, 4 figures, 11 references.

Purpose: modeling of Bi_2Se_3 structure and density of states and band structure.

The object of study: the topological Bi_2Se_3 insulator.

Methods: density functional theory with the software package of Virtual NanoLab.

Practical value: The results are of practical importance in the manufacture of topological insulators, and their further use in electronics.

The results and their novelty: Bi_2Se_3 structure is a topological insulator, which in volume is an insulator and a conductor on the surface. The results are of practical importance for the development of topological insulators and use in electronics.

