عنوان مقاله:

Energy band correction due to one dimension tension in phosphorene

محل انتشار:

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نویسندگان:

Ali Izadparast - *Department of Physics, Isfahan University of Technology. Isfahan, Iran*

Peyman Sahebsara - *Department of Physics, Isfahan University of Technology. Isfahan, Iran*

خلاصه مقاله:

Among graphene-like family, phosphorene is a typical semiconducting layered material, which can also be a superconductor in low temperature. Applying pressure or tension on phosphorene lattice results in changing the hopping terms, which change the energy bands of the material. In this research we use the tight-binding Hamiltonian, including relevant hopping terms, to calculate energy bands of normal and under tension phosphorene. Our results show that the energy gap decreases by decreasing / from ۳ to ۲, and finally the gap disappears.

کلمات کلیدی:

phosphorene, Band Structure, electron conductivity, tension, energy band gap