Abstract

In the first part of this talk I will introduce the field of topology in condensed matter. We will see that systems which are thermodynamically equivalent, i.e., have the same dimension and symmetry, could exhibit very different properties due to their topology. For example, a topological band insulator has a gapped bulk spectrum, just like any band insulator, but it also has in-gap states that can carry current on its physical boundaries. Other topological systems like topological superconductors and Weyl semimetals will be presented and physical consequences of the topology will be introduced.

In the second part of my talk I will survey some recent results on a topological superconductors, higher order topological insulators and driven topological systems.