School of Nano Science

Monthly Colloquium

Topological phases and phase transitions: the Nobel prize in physics 2016

Invited Speaker:

Dr. Abdollah Langari

Sharif University of Technology, Department of Physics
Institute for research in fundamental sciences, School of Physics

Abstract:

The nature of different phases of matter is discussed in terms of Landau-Ginzburg symmetry breaking paradigm. Kosterlitz-Thouless phase transition, which breaks the symmetry-breaking formalism, opens the notion of topological phase transitions and topological phases. An explanation of quantum-Hall effect, which is given by Thouless in terms of topological invariants is presented. The one-dimensional counterpart of topological phases is given by Haldane phase of S=1 Heisenberg chain, which is a symmetry-protected topological phase.

Wednesday, 12 Aban 95 (2 November, 2016), 4-5 pm

Farmaniyeh building, Second floor, room C