

Retrieving coupled Yang-Mills-Higgs fields

Speaker: Xi Chen, Fudan University

Abstract: The pure Yang-Mills theory is only able to describe the behavior of massless gauge bosons. But experiments show massive gauge bosons do exist. According to the Higgs mechanism of mass generation, the mass of gauge bosons is acquired through the interactions with Higgs bosons. Therefore, the combined Yang-Mills-Higgs Lagrangian together with its Euler-Lagrange equation is of great scientific significance. We show that one can detect the coupled Yang-Mills-Higgs fields from active local measurements of Yang-Mills-Higgs equations.