ΠΑΝΕΠΙΣΤΗΜΙΟ ΚΡΗΤΗΣ

ΤΜΗΜΑ ΦΥΣΙΚΗΣ

ΓΕΝΙΚΟ ΣΕΜΙΝΑΡΙΟ ΤΜΗΜΑΤΟΣ ΦΥΣΙΚΗΣ

PHYSICS COLLOQUIUM

Thursday, 28 February 2013

17:00 -18:00

3rd Floor Seminar Room

"Spontaneous symmetry breaking and the Englert-Brout-Higgs mechanism"

Prof. Jean Iliopoulos

Ecole Normale Supérieure, Paris

Abstract

We review the phenomenon of spontaneous symmetry breaking in Classical and Quantum Physics. It is associated with the appearance of massless excitations in the spectrum of states, known as "Goldstone modes". In Relativistic Quantum Physics in the presence of long- range gauge interactions, the phenomenon takes an unexpected new form, the Englert-Brout-Higgs mechanism. We believe that it describes the origin of mass generation in the early Universe. The recent discovery of a new particle at the CERN Large Hadron Collider opens the way for an experimental study of this phenomenon.