LNGS SEMINARS

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Electroweak monopoles and the electroweak baryogenesis

Abstract

I will describe particle-like classical solutions in the minimal Standard Model that can be described as electroweak monopoles.
They are hybrids of the regular 't Hooft-Polyakov monopole and the singular Dirac monopole, and are topologically stable.
The monopoles must have been produced non-thermally during the electroweak phase transition driving the phase transition out-of-equilibrium.
Furthermore, their existence provides with a new CP violating phases and new baryon number violating interactions in the Standard Model.
These are favourable conditions for a new scenario of electroweak baryogenesis, which I will also discuss.

September 11, 2018 - h 2:30 pm
LNGS - "B. Pontecorvo" room
http://agenda.infn.it/event/kobakhidze