



Tuesday, 20 May 2014 at 16:00 c.t.
Seminar room 0815, 8th floor, physics highrise

Proposal to search for Heavy Neutral Leptons at the CERN-SPS

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Abstract

A new fixed-target experiment at the CERN SPS accelerator is being proposed that will use decays of charm mesons to search for Heavy Neutral Leptons (HNLs) and other hidden, very weakly interacting particles. With the discovery of a light Higgs boson, the Standard Model could be a self-consistent effective field theory up to the Planck scale. In spite of the fact that the Standard Model is consistent with LHC experiments, it cannot be an ultimate theory of nature. It does not explain neutrino masses and oscillations, the baryon asymmetry of the universe, and there is no dark matter candidate. I will discuss the theoretical motivations for such an experiment, its setup and sensitivity.