SEMPARIS – Séminaires en région parisienne

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Seminar of the theory group of APC

Mardi 2 Octobre 2018, 14 :00
APC, 412 B - Rothko
Domaines : hep-th

Titre : *Hidden symmetries and Goldstone bosons from higher dimensions ?*

Orateur : **Emilian Dudas (CPHT - Ecole Polytechnique)**

Résumé : *Free massless scalars have a shift symmetry. This is usually broken by interactions, such that quantum corrections induce a quadratically divergent mass term. In the Standard Model this leads to the hierarchy problem, the question why the Higgs mass is so much smaller than the Planck mass. We present an example where a large scalar mass term is avoided by coupling the scalar to an infinite tower of massive states, obtained from a six-dimensional theory compactified on a torus with magnetic flux. We show that the shift symmetry of the scalar is preserved in the effective four-dimensional theory despite the presence of gauge and Yukawa interaction terms.*