



Laboratory for Elementary Particle
Physics (LEPP)

Theory Seminar

The Maximally Composite Higgs Model



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A light 125 GeV Higgs is still a mystery in particle physics because the Higgs potential is very sensitive to the ultraviolet dynamics due to the quantum correction. In order to stabilize the Higgs potential, some new physics should be introduced at some moderate scale, such as TeV scale, to screen the correction to Higgs from higher energy scale. Among these new physics models, the composite Higgs provides a nice picture to solve it. In this theory, the Higgs is a bound state of some strong dynamics constituents like the pions in QCD, which makes it only sensitive to the confine scale. However, in order to reduce the tuning for achieving the little hierarchy, some mechanisms to reducing the sensitive of Higgs potential to confine scale are needed, such as Holographic Higgs Model or 4D Composite Higgs based on De-Construction. But these models usually suffer from double tuning. Recently we propose a new symmetry called "maximal symmetry" which can keep Higgs potential finite and also ensure that the model has a minimal tuning. In this seminar, I will talk about composite model with maximal symmetry.

Special Place

Wednesday September 6th, 2017

2:00pm

438 Physical Sciences Building