



Contribution ID: 335

Type: **not specified**

Deconstruction of 5D Gauge-Higgs Model

Tuesday, August 30, 2011 3:50 PM (25 minutes)

We present a new Little Higgs model, motivated by the deconstruction of a five-dimensional gauge-Higgs model. The approximate global symmetry is $SO(5) \times SO(5)$, breaking to $SO(5)$, with a gauged subgroup of $SU(2) \times SU(2) \times SU(2) \times U(1)$, breaking to $SU(2)_L \times U(1)_Y$. Radiative corrections produce an additional small vacuum misalignment, breaking the electroweak symmetry down to $U(1)_{em}$. Features of this model are: the only uneaten pseudo-Goldstone boson is the Higgs boson; the model contains a custodial symmetry, which ensures that $T=0$ at tree-level; and the potential for the Higgs boson is generated entirely through one-loop radiative corrections; the model predicts a light Higgs boson mass, which is strongly correlated with the masses of the two heavy top quark partners. The electroweak constraints at one-loop order are also considered.

Presenter: YU, Jiang-Hao (Michigan State University)

Session Classification: Parallel Session 6