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UV descriptions of composite Higgs models without elementary scalars

Tuesday 27 May 2014 14:30 (20 minutes)

I will discuss four-dimensional UV descriptions of composite Higgs models without elementary scalars, in which four-fermion interactions are introduced to an underlying gauge theory like the gauged NJL model. When the anomalous dimension of the fermion bilinear is large, these interactions drive the spontaneous global symmetry breaking in the model, with the Higgs identified as a Nambu-Goldstone boson. The UV descriptions support composite top partner operators, also with large anomalous dimensions, thereby providing an explicit realisation of the idea of partial compositeness. As an example I will discuss the UV completion of the composite SO(6)/SO(5) model. Possibility of generalizing to other cosets will be discussed.

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