Contribution ID: **88** Type: **not specified**

OPE Methods for the Holomorphic Higgs Portal

Tuesday 6 May 2014 17:30 (15 minutes)

We develop a systematic and general approach to study the effective Higgs Lagrangian in a supersymmetric framework in which the Higgs fields in the visible sector couple weakly to another sector. The extra sector may be strongly coupled in general. It is assumed to be superconformal in the ultraviolet, but develop a mass-gap with supersymmetry breaking in the infrared. The main technique used in our approach is that of the operator product expansion (OPE). By using OPE methods we are able to compute the parameters in the Higgs Lagrangian to quadratic order and make general statements that are applicable to many classes of models. Not only does this approach allow us to understand the traditional problems plaguing simple models from a different perspective, it also reveals new possibilities for solutions of these problems. The methods and results of our work should be useful in constructing a viable and natural model of physics beyond the Standard Model.

Author: Dr KUMAR, Piyush (Yale University)

Presenter: Dr KUMAR, Piyush (Yale University)

Session Classification: BSM Higgs IV