



Contribution ID: 37

Type: **not specified**

## Analysis of CP conserving Higgs bosons self couplings in $SM \times S(3)$

*Thursday, 6 December 2012 16:35 (25 minutes)*

We carry out a detailed analysis of a minimal  $S_3$ -invariant extension of the Standard Model, with an extended  $S_3$ -Higgs sector. Within this extended  $S(3)$ -Standard Model, we study the trilinear Higgs couplings and its dependence on the details of the model, even when the lightest Higgs boson mass is taken to be a fixed parameter. We study quantitatively the trilinear Higgs couplings, and compare these couplings to the corresponding Standard Model trilinear Higgs coupling in some regions of the parameter space. A precise measurement of the trilinear Higgs self coupling will also make it possible to test this extended  $S(3)$ -Standard Model which has a different trilinear Higgs couplings as compared to the Standard Model. We present analytical expressions for the trilinear Higgs couplings.

**Primary author:** Dr BARRADAS, Enrique (BENEMERITA UNIVERSIDAD AUTONOMA DE PUEBLA)

**Co-authors:** Dr RODRÍGUEZ, EZEQUIEL (UNIVERSIDAD DE SONORA); Dr FELIX, OLGA (BENEMERITA UNIVERSIDAD AUTONOMA DE PUEBLA)

**Presenter:** Dr RODRÍGUEZ, EZEQUIEL (UNIVERSIDAD DE SONORA)

**Session Classification:** P13 –HIGGS THEORY II