## Rencontres de Moriond EW 2013



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## Robust determination of the scalar boson couplings

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We study the indirect effects of new physics on the phenomenology of the recently discovered state associated to the electroweak symmetry breaking sector. In a model independent framework these effects can be parametrized in terms of an effective Lagrangian at the electroweak scale. In a theory in which the SU(2)\_L x U(1)\_Y gauge symmetry is linearly realized they appear at lowest order as dimension-six operators, containing all the SM fields including the light scalar doublet, with unknown coefficients. We discuss the choice of operator basis which allows us to make better use of all the available data to determine the coefficients of the new operators. We illustrate our present knowledge of those by performing a global 5-parameter fit to the existing data which allows simultaneous determination of the Higgs couplings to gluons, electroweak gauge bosons, bottom quarks, and tau leptons.

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