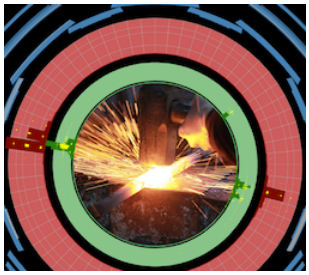

Contribution ID: **190** Type: **parallel talk**

The Di-Boson Menagerie

Monday 9 May 2016 18:15 (15 minutes)

I explore the phenomenology of various models in which scalar fields that decay to pairs of Standard Model Bosons. I consider extending the SM with scalars/pseudo-scalars in singlet and adjoint representation of SM gauge groups. I first find the most general set of dimension 5-7 effective operators which produce the scalar-boson coupling, then specify UV completions, including supersymmetric models. Using these effective operators, I explore present an exploration map for di-boson models by systematically considering scalar event signatures including; gluon-photon , gluon Z ,WZ, tri-boson, di-jet and of course di-photon. I recast several analyses from Run I of the LHC to find constraints on models, and project the discovery potential in various channels for the 14 TeV run of LHC.

Summary

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