

Bounding the trilinear Higgs self coupling by means of precision electroweak measurements

Friday, 12 May 2017 11:30 (45 minutes)

I will talk about the constraints on the trilinear Higgs self-coupling that arise from loop effects in the W boson mass and the Weinberg angle predictions. The contributions to these precision observables arise from two-loop diagrams featuring an anomalous trilinear Higgs self coupling, parametrized by means of a single parameter

k_λ , effectively rescaling the Standard Model coupling. The computation has been carried out in the Unitary Gauge, but I will explicitly show that these contributions are gauge independent. The bounds found on the trilinear Higgs self-coupling are competitive with those coming from Higgs-pair production.

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