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# Georgi-Machacek Model Beyond Tree Level

*Tuesday, 8 May 2018 15:30 (15 minutes)*

Renormalization for the Georgi-Machacek model is performed based on the on-shell scheme with the use of the minimal subtraction scheme only for the $hhh$ vertex. We explicitly show the gauge dependence in the counterterms of the scalar mixing parameters in the general $R_\xi$ gauge, and that the dependence can be removed by using the pinch technique in physical scattering processes. We then discuss the possible allowed deviations in these one-loop corrected Higgs couplings from the standard model predictions by scanning model parameters under the constraints of perturbative unitarity and vacuum stability as well as those from experimental data.

## Summary

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