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NLO corrections to massive vector color octet pair production

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We present the NLO QCD corrections to the pair production of heavy vector color octets in Proton-Proton collisions, as they appear in various new physics models like Universal Extra Dimensions. To this end we construct a two-sided Coloron model exhibiting all relevant features while retaining renormalizability without sensitivity to the unknown UV completion of the models. In this framework, we compute the full order α_s corrections to the parton level cross section.

We describe the technical implementation of the calculation in some detail, with some focus on the treatment of IR divergencies.

Summary

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