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Diphoton isolation studies

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Diphoton production is the main background in searches and studies (performed at the LHC) for a low mass Higgs boson, decaying in a pair of photons. And for this reason, it is desirable to count with the best theoretical tool to describe this background. In this talk we will present a detailed study on the photon isolation prescriptions, together with a “tight isolation accord” in order to compare experimental data and theoretical calculations obtained at the highest possible perturbative order. Finally we’ll show a comparison between theory and the LHC and Tevatron data, and we’ll discuss why the NNLO is necessary in order to understand the phenomenology of this process.

Summary

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