

NLO-QCD bottom corrections to Higgs boson production in the MSSM

Friday 27 August 2010 14:17 (15 minutes)

We present a calculation of the two-loop bottom-sbottom-gluino contributions to Higgs boson production via gluon fusion in the MSSM. The calculation is based on an asymptotic expansion in the masses of the supersymmetric particles, which are assumed to be much heavier than the bottom quark and the Higgs bosons.

We obtain explicit analytic results that allow for a straightforward identification of the dominant contributions in the NLO bottom corrections. We emphasize the interplay between the calculations of the mass and the production cross section of the Higgs bosons, discussing sensible choices of renormalization scheme for the parameters in the bottom/sbottom sector.

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Session Classification: Phenomenology 27-1 Chair: K. Williams

Track Classification: Pheno