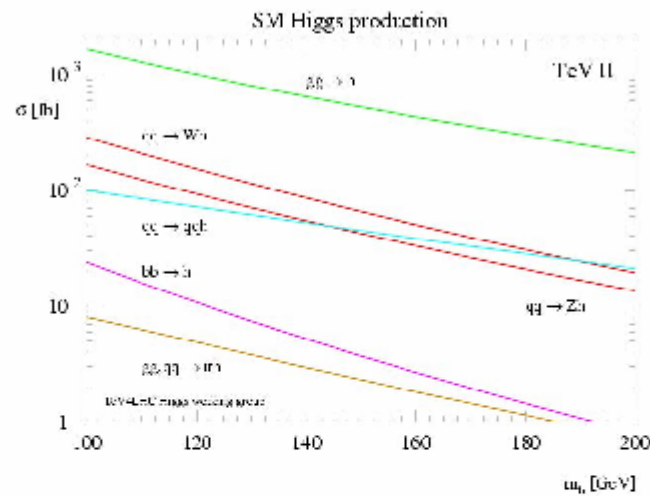


Standard Model Higgs cross sections at hadron colliders

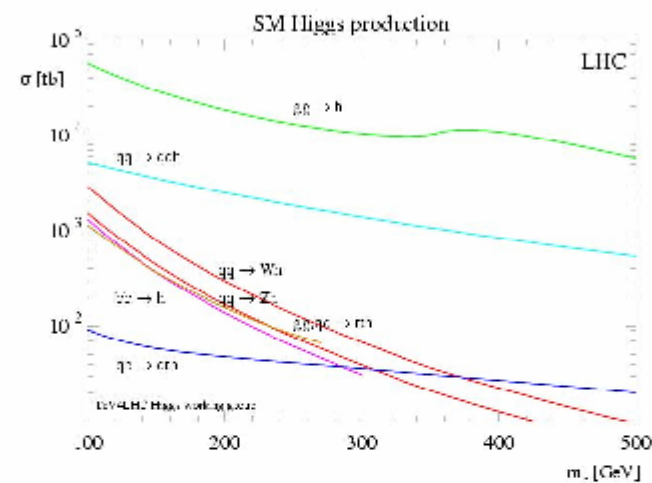
Last Update: 10 December 2004, v0.6

Tevatron Run II



[PS](#) [PDF](#)

LHC



[PS](#) [PDF](#)

- $gg \rightarrow h + X$: gluon fusion
([ggh-tev.dat](#), [ggh-lhc.dat](#))

This process is known at NNLO in QCD (in the large top-mass limit) and at NLO in QCD for arbitrary top mass ([PRL 70:1372,1993](#)). The NNLO results plotted here are from [hep-ph/0306211](#) and include soft-gluon resummation effects at NNLL. MRST2002 at NNLO has been used, with the renormalization and factorization scales set equal to the Higgs-boson mass. The overall residual theoretical uncertainty is estimated to be around 10%. Further information on the NNLO calculations can be found in [hep-ph/0201206](#), [hep-ph/0207004](#) and for differential distributions at NNLO in [hep-ph/0409088](#). NLO EW corrections are also known (for Higgs masses below 2 mW), [hep-ph/0407249](#), and range between 5% and 8% of the lowest order term (not included in the plot).

- $qq \rightarrow qqh + X$: vector boson fusion
([vbf-tev.dat](#), [vbf-lhc.dat](#))

SM Higgs production

