

Introduction

Hendrik Mantler

Theory Division, CERN

CERN Theory Group Retreat

Les Houches

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Supersymmetric Higgs:

<http://sushi.hepforge.org>



Download

Version 1.1.1 (27.09.2013) is available here: [Download](#)

[Manual for Version 1.1.1](#)

For linking SusHi to FeynHiggs type `./configure; make predef=FH!`

For linking SusHi to 2HDMC type `./configure; make predef=2HDMC!`

Details

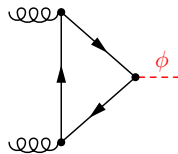
SusHi (Supersymmetric Higgs) is a Fortran code, which calculates Higgs cross sections in gluon fusion and bottom-quark annihilation at hadron colliders in the SM, the 2HDM and the

MSSM. Apart from inclusive cross sections up to NNLO QCD, differential cross sections with respect to the Higgs' transverse momentum and (pseudo)rapidity can be

- Gluon fusion:

- Exclusive cross sections at NLO
- Inclusive cross sections at NNLO QCD for stop (approximation) and top

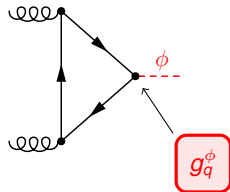
- Bottom quark annihilation:



- Gluon fusion:

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- Inclusive cross sections at NNLO QCD for stop (approximation) and top

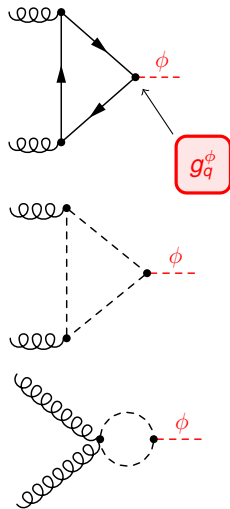
- Bottom quark annihilation:



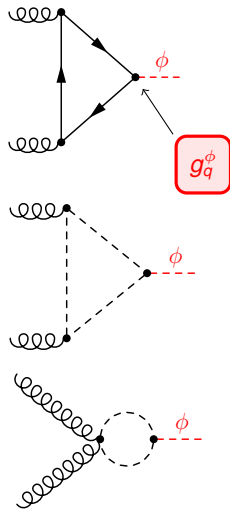
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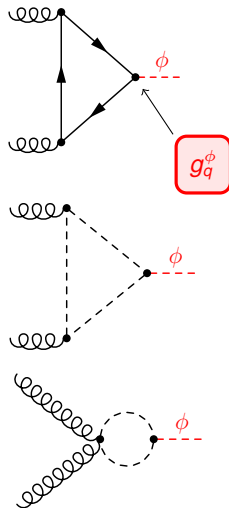
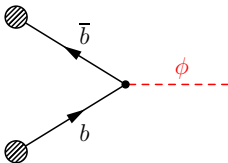
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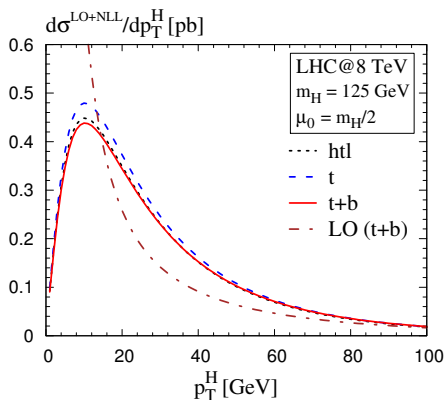
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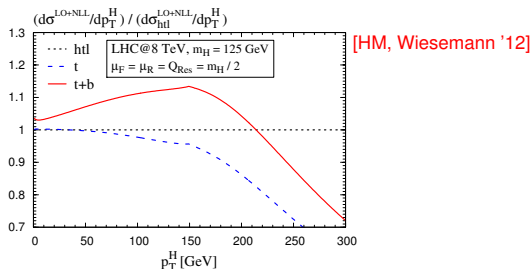
p_T distribution at LO+NLL:

[HM, Wiesemann '12]

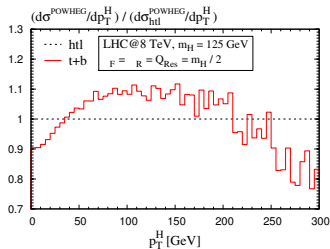
$$\left(\frac{d\sigma}{dp_T}\right)^{LO+NLL} = \frac{d\sigma^{LO}}{dp_T} - \left[\frac{d\sigma^{logs}}{dp_T}\right]_{LO} + \left[\frac{d\sigma^{res}}{dp_T}\right]_{NLL}$$



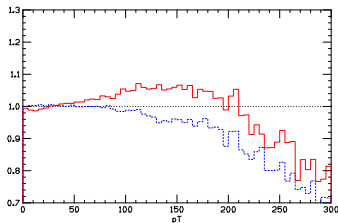
Mass effects:



POWHEG [HM]



MC@NLO [Frederix, Frixione, Maltoni]



- Continue my previous work
- Work on VINCIA (together with Peter Skands)

Thanks for your attention!