Contribution ID: 8

Type: not specified

## Transverse-momentum resummation for Higgs boson pair production with top-quark mass effects

Monday 7 November 2016 15:40 (30 minutes)

We consider Higgs boson pair production via gluon fusion in hadronic collisions. We report the calculation of the transverse-momentum  $(q_T)$  distribution of the Higgs boson pair with top-quark mass  $(M_t)$  effects fully taken into account. At small values of  $q_T$  we resum the logarithmically-enhanced perturbative QCD contributions up to next-to-leading logarithmic (NLL) accuracy. At intermediate and large values of  $q_T$  we consistently combine resummation with the  $\mathcal{O}(\alpha_S^3)$  fixed-order results. After integration over  $q_T$ , we recover the next-to-leading order (NLO) result for the inclusive cross section with full dependence on  $M_t$ . We present illustrative numerical results at LHC energies, together with an estimate of the corresponding perturbative uncertainties, and we study the impact of the top-quark mass effects.

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Track Classification: Plenary