



Contribution ID: 58

Type: **not specified**

W^+W^- pair production in k_t -factorisation in the SM and beyond

Thursday 5 September 2019 13:40 (20 minutes)

In this talk, I will present a summary of our calculations for the production of W^+W^- pairs through leptonic decay channels $W^+W^- \rightarrow l^+\nu_l + l'^-\nu_{l'}$, in the framework of k_t -factorization. The calculations are performed using the TMD-PDFs of KMR, in different kinematic setups and the results are compared against their counterpart collinear predictions (from HERWIG7 event generator) as well as the existing experimental data from the ATLAS and the CMS collaborations for 8 and 13 TeV. A similar attempt has been made for the case of W -boson pair production through the $gg \rightarrow H \rightarrow W^+W^-$ channel, which is of considerable phenomenological interest at the NNLO QCD accuracy, for both the SM and BSM. We particularly target this NNLO sub-process, since its BSM sensitivity is of critical importance. It will be shown that our present SM predictions for the W^+W^- boson pair production signal would provide the necessary and reliable SM base-line for the future BSM studies.

Author: Dr MASOUMINIA, Aidin (IPPP, Durham)

Presenter: Dr MASOUMINIA, Aidin (IPPP, Durham)

Session Classification: Student Talks