

# XXVIII International Workshop on Deep-Inelastic Scattering and Related Subjects



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## Developing the Parton Branching TMD Evolution: QED interactions

*Thursday, April 15, 2021 10:18 AM (18 minutes)*

We present the first determination of transverse momentum dependent (TMD) photon densities with the Parton Branching (PB) method. The photon distribution is generated perturbatively without intrinsic photon component. The input parameters for quarks and gluons are determined from fits to precision measurements of deep inelastic scattering (DIS) cross sections at HERA. The TMD densities are used to predict the mass and transverse momentum spectra of very high mass Drell-Yan (DY) production from both DY ( $pp \rightarrow l^+l^-$ ) and photon initiated ( $\gamma\gamma \rightarrow l^+l^-$ ) processes at the LHC. The role of strong coupling in low transverse momentum spectrum is also studied.

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**Session Classification:** Structure function and parton densities

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