Contribution ID: **584** Type: **Parallel session talk**

Dependence of the parton intrinsic transverse momentum on the collision center of mass energy using the Parton Branching Method in Drell-Yan production at NLO

Thursday 18 July 2024 18:15 (15 minutes)

The internal motion of partons has been studied through its impact on very low transverse momentum spectra of Drell Yan pairs created in hadron-hadron collisions at NLO using the Parton Branching (PB) Method which describes the evolution of transverse momentum dependent (TMD) parton distributions. The main focus is on studying the dependence of the intrinsic transverse momentum of partons in the initial state (intrinsic kT) on collision centre of mass energy, $\sqrt{s}$.
While the standard Monte Carlo event generators require parton intrinsic transverse momentum distributions strongly dependent on $\sqrt{s}$, in the PB Method there is no such dependence.
In addition to this, it will be shown that by requiring minimal transverse momentum of the radiated parton at a branching of the order of 1-2 GeV, the $\sqrt{s}$ dependence of the intrinsic-kt in the PB Method will be introduced and will be steeper by increasing the minimal value.

Alternate track

I read the instructions above

Yes

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