Contribution ID: **1203** Type: **Parallel Talk**

Azimuthal correlations in high pT processes with the TMD parton branching method at NLO

Saturday, 9 July 2022 10:15 (15 minutes)

This talk presents results, recently obtained in the papers Eur. Phys. J. C 82 (2022) 36 [arXiv:2112.10465 [hep-ph]] and arXiv:2204.01528 [hep-ph], on azimuthal correlations in di-jet and Z+jet processes at large transverse momenta. The results are computed by matching Parton - Branching (PB) TMD parton distributions and showers with NLO calculations via MCatNLO. It is observed that the different patterns of Z+jet and dijet azimuthal correlations can be used to search for potential factorization-breaking effects in the back-to-back region, which depend on the different color and spin structure of the final states and their interferences with the initial states. The role of theoretical uncertainties is examined by performing variations of the factorization scale, renormalization scale and matching scale. A comparative study of matching scale uncertainties is presented for the cases of PB-TMD and collinear parton showers.

In-person participation

Yes

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