

Collinear dynamics beyond DGLAP

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The DGLAP evolution equations are arguably the most important evolution equations for collider physics applications. However, DGLAP doesn't capture correlations in fragmentation, which e.g. enter in dihadron fragmentation or the study of energy flow within jets. In this talk I present a general non-linear collinear evolution equation, that accounts for these correlations. We have calculated the next-to-leading order evolution kernels and shown that they reproduce DGLAP for single hadron fragmentation. Furthermore, the (so far unknown) next-to-leading order evolution of N-hadron fragmentation functions can be directly obtained from our results. Finally, the full evolution equations are needed for track functions, which can be applied to calculations of track-based observables.

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