## Resummation, Evolution, Factorization 2021



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## Transverse-momentum resummation for boson plus jet production at hadron colliders

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In this talk I discuss the associated production of a vector or Higgs boson with a jet in hadronic collisions. When the transverse momentum of the boson-jet system is much smaller than its invariant mass, the QCD perturbative expansion is affected by large logarithmic terms that must be resummed to all orders. I discuss the all-order resummation structure of the logarithmically enhanced contributions up to next-to-leading logarithmic accuracy. The presented resummation formalism is fully differential in the kinematic variables of the boson-jet system. Soft-parton radiation produces azimuthal correlations that are fully accounted for in this framework. I present explicit analytical results up to next-to-leading order and next-to-leading logarithmic accuracy, that include the exact dependence on the jet radius. I also elaborate on the presence of non-global logarithms for this observable as well as the absence of clustering logarithms when one uses anti-kt jet-clustering.

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