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Multi-jet merging in the parton branching method

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Transverse Momentum Dependent parton distributions obtained from the Parton Branching method are combined with leading-order calculations of Drell-Yan production with up to three partons in the final state. A modified version of the MLM merging algorithm is applied in order to remove double counting from the different jet multiplicities. The merging is tested using the differential jet rate plots and the merging uncertainty is estimated by varying the merging scale. Final predictions for the inclusive Z pt distribution are compared to the data as well as to the NLO calculations obtained with the MC@NLO method.

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