

Abstract Submitted
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Toward Mueller-Tang Jets at Next-to-Leading Order FEDERICO

DEGANUTTI, Univ of Kansas — We present recent theoretical progress in the description of the production of two jets separated by a rapidity interval void of radiation. This process is known as Mueller-Tang jets. This process is of high interest, as one might be able to investigate Balitsky-Fadin-Kuraev-Lipatov (BFKL) dynamics which emerges in the high-energy limit of quantum chromodynamics (QCD). In these regimes, the color-singlet exchange is favored over other color representations as they tend to be associated with large amount of radiation as the rapidity difference between the jets increases. On the experimental side, fair agreement has been found between BFKL predictions and Tevatron data. The CMS experiment has presented results at collision energies of 7 and 13 TeV. However, no clear-cut evidence of the BFKL dynamics can be claimed yet. It is possible that this is due to an incomplete theoretical description in existing models for the comparison with data, rather than the validity of the process itself to test BFKL predictions. In this talk, we present progress toward such a task. We recall some of the difficulties encountered along the way, as well as strategies to overcome these.

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