

Abstract Submitted
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Dual-Differential Cross Section Measurements for Inclusive Jets in pp Collisions at $\sqrt{s} = 5$ TeV with the CMS Detector¹ IAN LAFLOTTE, Rutgers, the State University of New Jersey, JOHN STROLOGAS, University of Ioannina, RAGHAV KUNNAWALKAM ELAYAVALLI, SEVIL SALUR, Rutgers, the State University of New Jersey, OWEN BARON, University of Maryland, CMS COLLABORATION² — Jets, collimated high-energy showers of particles, act as proxies for hard scattered partons in pp, pPb, and PbPb collisions as seen by the CMS detector. Though at minimum, jets related to partonic degrees of freedom, fully reconstructed anti- k_t Particle Flow jets are subject to significant intermediate and final state effects, including but not limited to; radiation, fragmentation, underlying event background, and detector/reconstruction inefficiencies. Such effects can artificially alter rates of jet production across commonly utilized ranges of jet transverse-momentum, rapidity, and radii. A variety of high-energy physics measurements use fully reconstructed jets, thus, parameterizing intermediate and final state effects is paramount to providing a solid foundation for both past and future jet measurements. In this presentation, preliminary measurements of the dual-differential jet production cross section in pp collisions at center-of-mass energy 5 TeV are shown for small radii, anti- k_t Particle Flow jets in a large rapidity window, as observed with the CMS detector. Future extensions featuring a wider range of jet radii and direct comparisons with theoretical NLO and NNLO jet production calculations are planned.

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Ian Laflotte
Rutgers, the State University of New Jersey

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