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Measurement of inclusive jet cross sections in pp and PbPb collisions at sNN = 2.76 TeV (Article) [\(Open Access\)](#)

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Abstract

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Inclusive jet spectra from pp and PbPb collisions at a nucleon-nucleon center-of-mass energy of 2.76 TeV, collected with the CMS detector at the CERN Large Hadron Collider, are presented. Jets are reconstructed with three different distance parameters ($R=0.2, 0.3,$ and 0.4) for transverse momentum (p_T) greater than $70\text{ GeV}/c$ and pseudorapidity $|\eta| < 2$. Next-to-leading-order quantum chromodynamic calculations with nonperturbative corrections are found to overpredict jet production cross sections in pp for small distance parameters. The jet nuclear modification factors for PbPb compared to pp collisions, show a steady decrease from peripheral to central events, along with a weak dependence on the jet p_T . They are found to be independent of the distance parameter in the measured kinematic range. ©2017 CERN, for the CMS Collaboration. Published by the American Physical Society under the terms of the Creative Commons Attribution 3.0 License. Further distribution of this work must maintain attribution to the author(s) and the published article's title, journal citation.

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