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Inclusive b-jet production measurement on early CMS data

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We describe a measurement of the inclusive b-jet production in pp collisions at $\sqrt{s} = 7$ TeV. The analysis has been done on the first physics data collected by the CMS experiment at the Large Hadron Collider at CERN. To improve the low p_T measurement, the jets are reconstructed with the Particle Flow algorithm. The experimental uncertainties from jet energy corrections, jet energy resolutions and luminosity are reduced by taking a ratio to the inclusive jet production cross section. We're using a simple secondary vertex high purity tagger, which is one of the most reliable b-taggers for this early measurement, for selecting a jet sample with high b-jet purity. To measure the b fractions in the tagged jet data sample, we made a template fit to the secondary vertex mass. Our estimation of the b-tagging efficiency is taken from Monte Carlo simulation. Thus our studies on LO+NLO contributions from flavor creation, flavor excitation and gluon splitting are shown as well.

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