Contribution submission to the conference Göttingen 2012

Measurement of the production cross section for heavy quark jets in association with a W boson with the ATLAS detector at the LHC — •Marco Vanadia, Oliver Kortner, and Hubert Kroha — Max Planck Institut für Physik, München

The study of the production of charm and bottom quark jets in association with W bosons in pp collisions at the LHC is an important test of Standard Model predictions, and provide constraints on the parton distribution functions of the proton. These processes also constitute backgrounds for many Standard Model and beyond Standard Model processes, including Higgs and SUSY production.

Data collected by the ATLAS experiment in 2010 were used to measure the cross section for the production of W bosons in association with bottom quarks, applying secondary vertex based b-jet tagging algorithms. The high statistics data collected in 2011 will allow for a cross section measurement for W + charm quark production, using semileptonic decays of the charm quark.

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