

Contribution submission to the conference Göttingen 2012

Measurement of the $Z \rightarrow \tau\tau$ cross section in proton proton collisions with the ATLAS experimen — •DANIELE CAPRIOTTI, OLIVER KORTNER, SANDRA KORTNER, and HUBERT KROHA — Max-Planck-Institut für Physik, München, Deutschland

A measurement of the $Z \rightarrow \tau\tau$ cross section is presented with about 1.5 fb^{-1} of data collected during 2011 by the ATLAS detector at the Large Hadron Collider. The selection of a high-purity $Z \rightarrow \tau\tau$ sample, where one of the two τ -leptons decays hadronically and the other one leptonically, is challenging due to the several orders of magnitude larger multi-jet background. The cross section, including determination of the muon efficiencies from data, and the estimation of the multi-jet background with a data driven technique are described.

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