

The ATLAS experiment is a multi-purpose detector, recording particle collisions at the Large Hadron Collider (LHC) at CERN. It is designed to test the Standard Model of particle physics (SM) and to search for physics beyond the SM.

ATLAS consists of multiple sub-systems, one of which is the Tile Calorimeter (TileCal). TileCal is a hadronic calorimeter covering the central ATLAS region, used for measurements of energy and direction of jets and single hadrons. The time calibration of TileCal is crucial for the correct energy reconstruction, non-collision background removal, and time-of-flight measurements.

Jet measurements are important high-energy tests of quantum chromodynamics, probing the strong coupling constant and proton structure. The presented multi-differential inclusive dijet cross-section measurement uses the full LHC Run 2 dataset of  $139 \text{ fb}^{-1}$  of proton–proton collisions at the center-of-mass energy of 13 TeV. The cross-sections are measured double-differentially using the invariant dijet mass  $m_{jj}$  and either  $y^*$  or  $y_{\text{boost}}$  rapidity variables.