

Abstract

The ATLAS is one of several particle experiments at the Large Hadron Collider at CERN. Millions of particles are colliding in it every second and it is one of two experiments which have proved the existence of the Higgs boson in 2012. The ATLAS experiment has two main goals. The search for new physics phenomena and precision measurement of the particle interactions.

It consists of a complex system of detectors and read out electronics. The calibration of the whole system is essential for getting correct results and making reasonable conclusions. This thesis is aimed to time calibration of Tile Calorimeter, which is one of calorimeters measuring energy of particles issued from the collision. Time monitoring and correction is performed primarily using laser pulses. In this thesis we described the used laser method which leads to the good time setting.