

In this thesis, I deal with the measurement of the transverse momentum spectrum of the top quark produced in top-antitop pairs at the LHC at center of mass energy 7 TeV. The analysis is carried out within the ATLAS collaboration. In the single lepton decay channel, I have performed studies on the simulation which were necessary to obtain the final spectrum from real data. I describe basic event selection rules to reduce background events. I study the efficiency of top-antitop pairs reconstruction. I study the unfolding of the measured spectrum which corrects for effects caused by imperfect resolutions. At the end, I show the measured top quark transverse momentum spectrum obtained from my analysis.