ABSTRACT

The remarkable collision energies and the high integrated luminosity delivered by the Large Hadron Collider pave a way to study the production of light (anti-)nuclei and exotic states in proton-proton collision. In this thesis, we have studied the "Signal extraction and Efficiency of (anti-)deuteron in pp collisions at $\sqrt{s} = 13\ TeV$ with HM Trigger using TPC data form ALICE detector at CERN. For the identification of (anti-)deutrons, data have been taken from TPC. In TPC, the specific energy loss with respect to rapidity is measured. The (anti-) deuterons are separated from other particles and the raw spectra is extracted. In order to get a real spectra, the signal extraction for each p_T bin is performed using TPC multiplied with the reconstructed efficiency and acceptance. The results for both signal extraction and efficiency are demonstrated.