

Vector bosons measurement at forward rapidity with ALICE

ALICE (A Large Ion Collider Experiment) is designed and optimized to study ultra-relativistic heavy-ion collisions at the LHC, in which a hot and dense, strongly-interacting medium is created. Vector bosons (W and Z) are produced in hard scattering processes and interact weakly with the medium formed in heavy-ion collisions. Thus, they present a suitable reference for processes which are heavily affected by the medium. In proton-nucleus collisions their production can be used to study the modification of parton distribution functions in the nucleus and to test the validity of binary-collision scaling for hard processes. W bosons are studied via the inclusive single muon differential p_T spectrum whereas the Z-boson signal is observed in the invariant mass distribution of unlike-sign muon pairs as a peak around the Z-boson mass. In this presentation the measured cross sections of W and Z bosons and the W-boson yield per centrality interval will be discussed. The cross-sections are compared to theoretical calculations.

I intend to submit my contribution for the proceedings

No

Primary author: SENOSI, Kgotlaesele (University of Cape Town (iThemba LABS))

Presenter: SENOSI, Kgotlaesele (University of Cape Town (iThemba LABS))