

## Measurements of $W^{+-}$ boson production in p-Pb collisions at the LHC with ALICE

*Thursday, 4 December 2014 15:30 (20 minutes)*

ALICE (A Large Ion Collider Experiment) is designed and optimized to study ultra-relativistic heavy-ion collisions, where a hot and dense strongly-interacting medium is created.  $W^{\pm}$  bosons are produced in hard scattering processes occurring at the early stage of the collision and, not being affected by the strong interaction, they can be used as a benchmark for medium induced effects. In proton-nucleus collisions the production of  $W^{\pm}$  bosons can be used to test the validity of the binary collision scaling and to study the nuclear modification of Parton Distribution Functions. In ALICE, the production of  $W^{\pm}$  bosons is measured via the contribution of their decays to the inclusive pT-differential yield reconstructed with the muon spectrometer at forward and backward rapidity. This measurement is done separately for  $\mu^{+} \leftarrow +W$  and  $\mu^{-} \leftarrow -W$ . The recent results in p-Pb collisions at  $\sqrt{s_{NN}} = 5.02$  TeV will be presented and the measured cross sections will be compared to pQCD at NLO calculations.

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

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

**Session Classification:** Student Session