## XXVIII International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 588

Type: Contributed Talk

## Measurements of W and $Z/\gamma^*$ cross sections and their ratios in pp collisions at STAR

Thursday, 15 April 2021 11:30 (20 minutes)

While the unpolarized valence quark (d and u) distributions are well determined from DIS experiments, the sea quark counterparts,  $\bar{d}$  and  $\bar{u}$ , are much less constrained, in particular, near the valence region. Measurements of  $W^+/W^-$  production ratio in pp collider experiments, such as the STAR experiment at RHIC, are sensitive to the  $\bar{d}/\bar{u}$  ratio at leading order at a large  $Q^2$  set by the W mass. This talk will discuss the recently published W and  $Z/\gamma^*$  cross section measurements via lepton-decay tagging, using the STAR pp collision data at a center-of-mass energy of  $\sqrt{s} = 510 \,\text{GeV}$  collected during the years 2011-2013, corresponding to an integrated luminosity of  $350 \,\text{pb}^{-1}$ . A status update will be given on an analysis based on an additional data set at  $\sqrt{s} = 510 \,\text{GeV}$  collected in 2017, corresponding to an integrated luminosity of  $350 \,\text{pb}^{-1}$ .

Primary author: NAM, Jae (Temple University)Presenter: NAM, Jae (Temple University)Session Classification: Structure function and parton densities

Track Classification: Structure Functions and Parton Densities