

DIS2023: XXX International Workshop on Deep-Inelastic Scattering and Related Subjects



Contribution ID: 93

Type: **Parallel talk**

Measurements of W^+/W^- cross-section ratio in pp collisions at STAR

Tuesday, 28 March 2023 17:30 (20 minutes)

While the unpolarized valence quark (d and u) distributions are well determined from DIS and $pp/p\bar{p}$ experiments, their 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 a large Q^2 set by the W mass.

Presented in this talk are the latest updates of W^+ and W^- cross-section ratio measurement via lepton-decay tagging, using the STAR pp collision data at a center-of-mass energy of $\sqrt{s} = 510$ GeV collected in 2017, corresponding to an integrated luminosity of 350 pb^{-1} .

The measurements cover the mid ($|\eta| < 1$) and intermediate rapidities ($1 < \eta < 2$), probing the \bar{d}/\bar{u} ratio within the proton momentum fraction range of $0.06 < x < 0.4$.

Submitted on behalf of a Collaboration?

Yes

Participate in poster competition?

No

Primary authors: NAM, Jae (Temple University); NAM, Jae

Presenters: NAM, Jae (Temple University); NAM, Jae

Session Classification: WG 1

Track Classification: WG1: Structure Functions and Parton Densities