

XXVIII International Workshop on Deep Inelastic Scattering and Related Subjects



Contribution ID: 169

Type: **Contributed Talk**

Pion Parton Distributions Using Threshold Resummation

Wednesday, March 25, 2020 3:42 PM (18 minutes)

Following our recent Monte Carlo determination of the pion's PDFs from Drell-Yan (DY) and leading neutron electroproduction data, we extend the analysis by including effects from threshold resummation. At higher orders in the strong coupling, α_S , large logarithmic corrections due to soft gluon emissions become important in the $q\bar{q}$ channel near threshold, which can be summed over all orders of α_S . However, different prescriptions exist for how the threshold resummation is implemented, for instance, using varying levels of approximation in the Minimal Prescription and Borel Summation. We report the results of the first simultaneous fit to the valence, sea, and gluon distributions in the pion taking into account the ambiguities in the resummation calculations.

Primary authors: Mr SATO-GONZALEZ, Nobuo (Jefferson Lab); MELNITCHOUK, Wally (Jefferson Lab); Prof. Ji, Chueng (North Carolina State University); BARRY, Patrick (North Carolina State University)

Presenter: BARRY, Patrick (North Carolina State University)

Session Classification: Structure function and parton densities

Track Classification: Structure Functions and Parton Densities