
Contribution ID: **283** Type: **Contributed Talk**

# Extracting the Neutron Structure Function from Global DIS Data with CJ15

*Wednesday, March 25, 2020 2:48 PM (18 minutes)*

The CJ (CTEQ-Jefferson Lab) Collaboration provides a global fit of parton distribution functions (PDFs) with a special emphasis on the large x region. The latest fit (CJ15) implemented deuteron nuclear corrections at the parton level, and included data that were sensitive specifically to the neutron. These nuclear corrections allow for a calculation of the F2 structure functions of the proton, deuteron, and neutron from PDFs. In this work we re-estimated the uncertainties in the DIS F2 data utilized in CJ15, and collected an extended set of existing high-precision, small Q2, large x DIS data from JLab 6 GeV experiments. We employed the CJ15 calculation to remove nuclear effects from deuteron data where the proton was available from the same experiment, and thereby constructed a global data set for the F2 neutron structure function. In this talk, we will present the extracted F2 neutron data sets, as well as applications such as new neutron excess (isoscalar) corrections and a comparison to lattice QCD.

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**Session Classification:** Structure function and parton densities

**Track Classification:** Structure Functions and Parton Densities