Abstract Submitted for the DNP20 Meeting of The American Physical Society

Comparing Quark Distribution Moments Extracted from Experimental Data to Precision Lattice QCD Calculations<sup>1</sup> PETER MONAGHAN, Christopher Newport University — Thanks to advances in Lattice QCD (LQCD), calculations of the moments of quark flavor Parton Distribution Function (PDF) combinations are now available. These precision calculations can be compared to quark distribution moments extracted from experimental data, specifically using the difference between the proton and neutron  $F_2$  structure function moments. Details of the analysis and the resulting comparison with numerous different LQCD calculations will be presented. This work is supported in part by NSF grant PHY-1812369.

<sup>1</sup>This work is part supported by NSF grant PHY-1812369.

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Date submitted: 08 Jul 2020

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