

Abstract Submitted
for the DNP20 Meeting of
The American Physical Society

Mapping the tensor-to-scalar transition in the short-range nucleon-nucleon interaction AXEL SCHMIDT, George Washington University, IGOR KOROVER, Nuclear Research Center Negev — The predominance of proton-neutron short-range correlated pairing for nucleons with $\approx 300\text{--}600$ MeV/ c of relative momentum is now well-understood as a consequence of the tensor force in the nucleon-nucleon (NN) interaction. The isospin structure of pairs with even higher relative momenta can reveal new information about the interactions between nucleons at extremely short distance scales. I will present the results of new measurements of the $(e, e'p)$, $(e, e'pp)$, and $(e, e'pn)$ reactions in high- Q^2 , $x_B > 1$ kinematics in the missing momentum range of 300–1000 MeV/ c . The data are well reproduced by theoretical calculations using Generalized Contact Formalism with both chiral and phenomenological NN interaction models. This agreement between the theory and data suggests that all of the measured high missing-momentum protons belong to SRC pairs. Furthermore, the results show clear evidence of a transition from an isospin-dependent tensor- NN interaction at ≈ 400 MeV/ c to an isospin-independent scalar interaction at high-momentum around ≈ 800 MeV/ c .

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Date submitted: 26 Jun 2020

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