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Abstract for an Invited Paper
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Short-Range Correlations And The Quarks Within¹

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Short-range correlations (SRC) are pairs of strongly interacting nucleons at close proximity. Due to their large spatial overlap and high relative-momentum, the study of SRC pairs is an appealing gateway for probing the strong nuclear interaction at high-densities (i.e. short-distances) and its relation to the underlying quark-gluon substructure of nuclei. In this talk I will present new results from high-energy electron scattering experiments that probe SRC pairs via measurements of exclusive hard breakup reactions. Special emphasis will be given to the effect of SRCs on the behavior of protons in neutron-rich nuclear systems and how it can impact properties of dense nuclear systems such as neutron stars. Pursuing a more fundamental understanding of short-distance interactions, I will present new measurements of the internal quark-gluon sub-structure of nucleons and show how its modification in the nuclear medium relates to SRC pairs and short-ranged nuclear interactions. Last, I will also discuss the development of new effective theories for describing short-ranged correlations, the way in which they relate to experimental observables, and the emerging universality of short-distance and high-momentum physics in nuclear systems.

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