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What have we learned using the CEBAF microscope to study hadronic matter?

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High-energy electrons are a remarkably clean probe of hadronic matter, essentially providing a microscope for examining atomic nuclei and the strong nuclear force. For more than a decade, the Continuous Electron Beam Accelerator Facility (CEBAF) at Jefferson Lab (JLab) has been a leading facility for such investigations, resulting in a number of surprising discoveries and a substantive refinement of our understanding of the nucleon, its underlying quark structure, and the dynamics of the strong interaction. The insights gained from research at JLab cover a broad range of length scales, monitored by the 4-momentum transfer Q^2, in elastic, inelastic, and deeply inelastic scattering regimes. One notable discovery has been the unexpected Q^2 variation of the ratio of the proton elastic form-factors G_E^p / G_M^p, which suggests an important contribution from quark orbital angular momentum to the spin of the nucleon. This finding is further supported by spin-dependent deep-inelastic measurements, which also appear to require significant contributions from quark orbital angular momentum. Another notable achievement is the unambiguous observation of proton-neutron correlations in nuclei, a clear signature of the short-range piece of the nucleon-nucleon potential. This fulfills a long-standing quest in electron scattering and provides crucial input to the description of cold, dense nuclear matter ranging from terrestrial nuclei to neutron stars. Investigations at JLab have also benefitted from unconventional techniques, such as the use of parity-violation to access weak neutral current interactions as a probe of nuclear matter. This approach, which was employed in a sensitive search for contributions of virtual strange quarks to the nucleon charge and magnetic distributions, also yields significant new constraints on physics beyond the Standard Model.