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Strange Quarks in the Nucleon

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Strange quarks contribute to the ground state structure of protons and neutrons through their presence in the virtual “sea” of quark – antiquark pairs. This talk will present the current status of the value of the strange quark contributions to scalar, axial-vector, and vector nucleon ground state matrix elements. Particular emphasis will be placed on the vector observables, which are parameterized by the strange electric and magnetic form factors. These quantities are measured experimentally using the technique of parity-violating electron scattering. Several new measurements of this type have been reported in the last two years, and there is consistency among the various measurements. For example, the combined results of five experiments at low four-momentum transfer are consistent with the strange quark sea contributing 10% to the magnetic moment of the proton. This result and the other physics implications of the recent measurements will be discussed.