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Charge distribution in the neutron at short distances SERGEY ABRAHAMYAN, University of Virginia, Yerevan Physics Institute (Armenia), E02-013 COLLABORATION — Elastic form-factors are a fundamental property of the nucleon, and provide critical information on the nucleon's transverse spatial structure. Furthermore, by combining knowledge of the neutron electromagnetic form factors with the corresponding form factors of the proton, it is possible to gain understanding of the flavor structure of the nucleon. In this talk we present final results of the JLab experiment E02-013, comprising four measurements of the ratio of the neutron's electric and magnetic form factors, G_E^n/G_M^n, at four values of the four-momentum transfer $Q^2 = 1.2, 1.7, 2.5$ and 3.4 GeV^2. We note that the result at $1.2\,\mathrm{GeV}^2$ has not been previously reported. In E02-013, a double-polarization asymmetry was measured in the reaction $^3\vec{\mathrm{He}}(\vec{e}, e'\,n)p\,p$ in order to determine the ratio G_E^n/G_M^n. We present key aspects of the experimental approach that was used, as well as essential features of the data analysis such as exclusive quasi-elastic event selection, hadron charge identification and analysis of FSI effects.

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