

ANALYSIS OF ELECTROMAGNETIC NUCLEON FORM FACTORS

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Electromagnetic nucleon form factors have been determined from Rosenbluth plots and, independently, by fitting a dispersion ansatz to electron-nucleon scattering cross sections, allowing for a renormalization of the data in both cases. The ρ -exchange contribution was taken from a Frazer-Fulco-type analysis based on new πN data. Pole terms with adjustable parameters were used for the other parts of the spectral functions. Only the Dirac isoscalar and the Pauli isovector spectral function show a pronounced dipole-like bump-dip structure. The bumps belong to ω - and ρ -exchange and the dips presumably to ϕ - and $\omega'(1250)$ -exchange in the first case and to $\rho'(1250)$ -exchange in the second case. The results for vector meson-nucleon coupling constants are compared with predictions from SU(3). Values for the nucleon radii are given which are only weakly model dependent.