

This simple dependence of the 'form factors' is known as 'scaling' and can be considered to be an indication of the fact that such point-like constituents within the proton might indeed exist. Figures 9 and 10 show how well this simple description agrees with the experimental data. It can be seen that the agreement is good but not

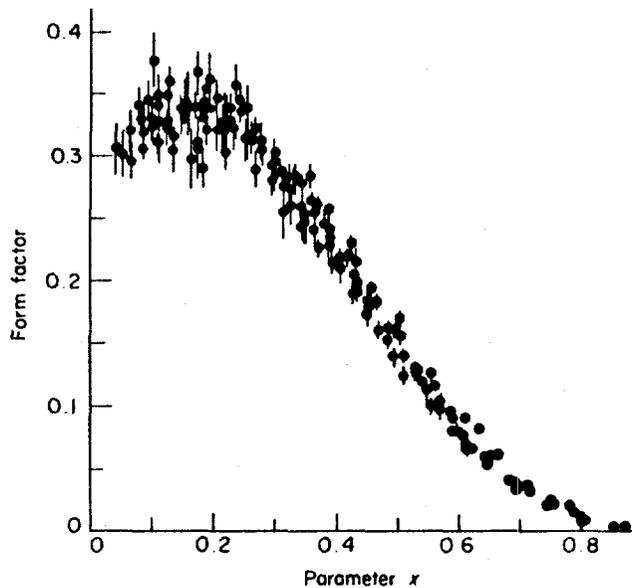


Fig. 9. The experimental evidence for 'scaling' in deep inelastic electron scattering on the proton. The graph shows the form factor plotted as a function of the parameter  $x$  which is the fraction of the momentum carried by the 'parton' struck by the incident electron, as measured in a frame in which the proton is in rapid motion.

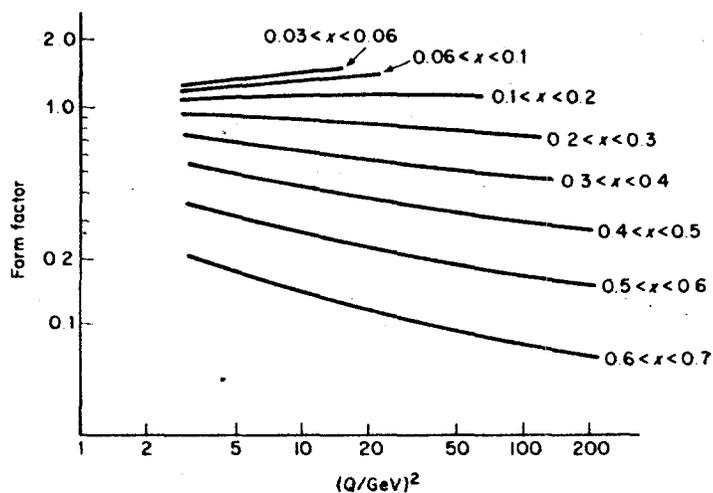


Fig. 10. Deviation from scaling. These graphs show that there is a weak dependence on energy  $Q$  of the form factor in deep inelastic scattering where the character of that weak dependence is different for different values of  $x$ . Interpretation of this type of information gives valuable information on the interaction between quarks within the proton.