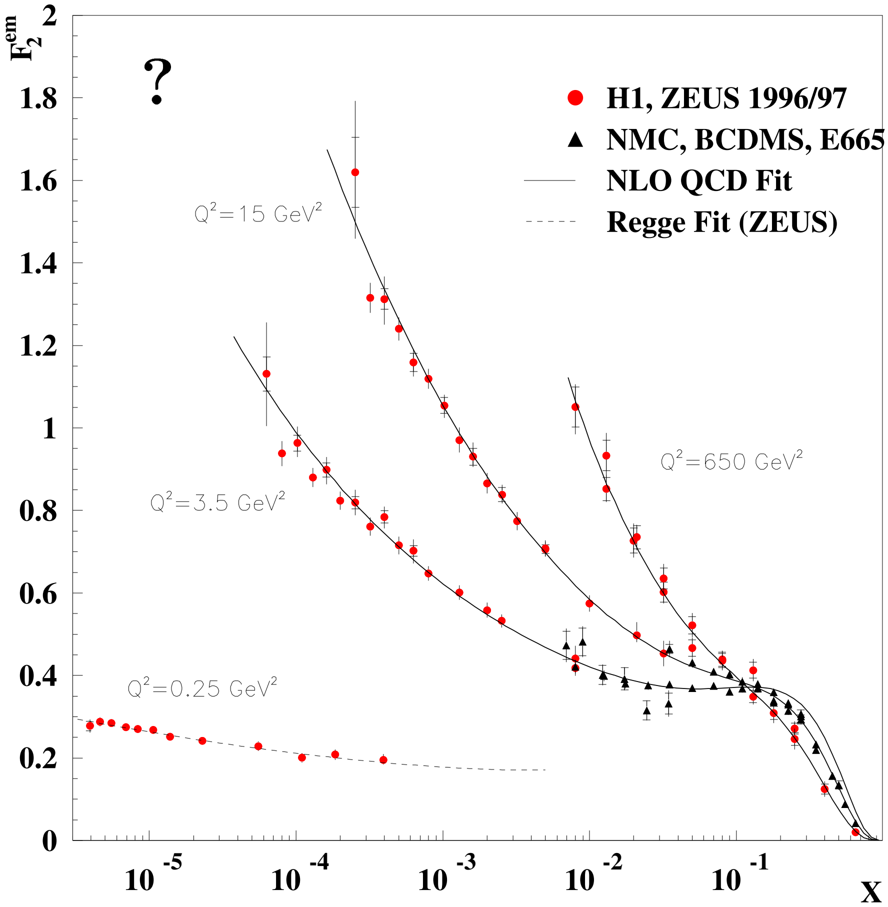
The Rise of F_2 at Low x



The proton structure function $F_2(x, Q^2)$ as measured in fixed-target μp scattering at large x, and in ep scattering at HERA. The solid curves show a fit using the next-to-leading order QCD evolution equations. The dashed curve for the lowest-Q^2 data is a fit using Regge theory. The structure function in the low-x region represents the sea-quark component of the proton. With THERA, the kinematic range will be extended by a further order of magnitude towards lower x. The expected behaviour of F_2 in this new region is hotly debated.