

Pion in deep inelastic scattering

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The forward neutron production in the ep collisions at 300 GeV CM measured by the H1 and ZEUS Collaborations at DESY has been used to estimate the total probability for the proton fluctuation into $n\pi^+$ and $p\pi^0$. The probability found is on the order of the 25%. This number is compared with the numbers obtained for the probability of quark fluctuation into π^+ and π^0 from several alternative DIS processes (Gottfried sum rule, polarized structure function) and the axial-vector coupling constant, where the pion fluctuation is believed to play an important role. The probability for this fluctuation is about 36%. The experimental results are discussed in frame of the SU2 quark model.

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