

## **HADRON PRODUCTION IN NEUTRINO-NUCLEON INTERACTIONS AT HIGH ENERGIES**

M. T. HUSSEIN (1), N. M. Hassan (2) and W. Elharbi (3)  
Physics Department, Faculty of Science, Cairo University

The multi-particle production at high energy neutrino- nucleon collisions are investigated through the analysis of the data of the experiment CERN-WA-025 at neutrino energy less than 260GeV and the experiments FNAL-616 and FNAL-701 at energy range 120-250 GeV. The experimental features of these experiments are used as a base to build a hypothetical model that views the reaction by a Feynman diagram of two vertices. The first of which concerns the weak interaction between the neutrino and the quark constituents of the nucleon. At the second vertex, a strong color field is assumed to play the role of particle production, which depend on the momentum transferred from the first vertex. The wave function of the nucleon quarks are determined using the variation method and relevant boundary conditions are applied to calculate the deep inelastic cross sections of the virtual diagram.