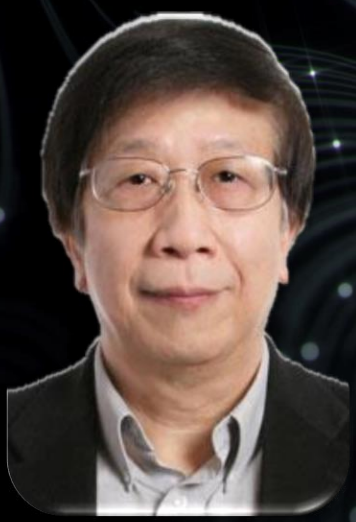
Exploring the Nucleon Sea with Lepton-Pair Production



彭仁傑教授
伊利諾大學香檳分校物理系
中央大學物理系

Prof. Peng, Jen-Chieh
Department of Physics
University of Illinois at Urbana-Champaign and
National Central University

Direct experimental evidence for point-like constituents in the nucleons was first found in the electron deep inelastic scattering (DIS) experiment. The discovery of the valence and sea quark structures in the nucleons inspired the formulation of Quantum Chromodynamics (QCD) as the gauge field theory governing the strong interaction. A surprisingly large asymmetry between the up and down sea quark distributions in the nucleon was observed in DIS and the lepton-pair production experiments. In this talk, I discuss the current status of our knowledge on the flavor structure of the nucleon sea. I will also discuss the progress in identifying the "intrinsic" sea components in the nucleons. Recent results from the Fermilab SeaQuest experiment to extend the measurement of sea-quark flavor structure to large-x region will be presented. Prospect for future studies on nucleon sea will also be discussed.

Date : 2022/12/20 (Tue)
Place : S4-625
Time : 14:00-15:00

中大物理
Department of Physics
National Central University

Colloquium