

Carlota Andres Casas – HEP Seminar 3/10/2020  
JLAB

Title: JAM19: a simultaneous global analysis of PDFs and FFs

Abstract:

Traditionally parton distribution functions (PDFs) and fragmentation functions (FFs) have been independently obtained from multiple high-energy scattering experiments by means of a technique known as global analysis. In this talk, I will show the first simultaneous Monte Carlo global analysis of both PDFs and FFs, which includes data on inclusive and semi-inclusive deep-inelastic scattering, Drell-Yan lepton-pair production, and single-inclusive  $e^+ e^-$  annihilation. Our study reveals significant correlations between the strange quark PDF and the strange-to-kaon fragmentation function needed to simultaneously describe semi-inclusive K production data and inclusive K spectra in  $e^+ e^-$  annihilation, and suggests a suppression of the strange quark distribution at intermediate  $x$  values.