

Exciting Opportunities with a fixed target program at JLab 25-75 GeV

Fixed target facilities remain an important tool to study hadronic physics. In many cases, they provide the best technique to unravel interesting aspects of QCD dynamics. CEBAF with electron energies ranging from 25 to 75 GeV combined with its existing capabilities of high luminosity and polarization can prove to be the dream machine for today and tomorrow's generations of nuclear physicists. It represents the natural extension of the present 12 GeV upgrade of this machine. In this talk, preliminary studies of semi inclusive deep inelastic (SIDIS) measurements will be presented. The focus will be on measurements of 3D nucleon structure in the sea region with emphasis on the transverse momentum dependent flavor decomposition. SIDIS measurements in the charm sector can be used to study, for the first time, the intrinsic charm distributions. Last but not least, preliminary studies of exclusive production of quarkonia as a probe of gluon angular momentum inside the nucleon will be presented.