

Probing the Nucleon and Nucleus Structures with Drell-Yan Process Induced by a 120 GeV/c Proton Beam

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To investigate the sea-quark asymmetry of the proton, the SeaQuest experiment at Fermilab uses a proton beam of 120 GeV/c interacting with liquid Hydrogen or Deuterium. Alongside of that the SeaQuest also probes the quark energy loss and EMC effect using targets of Iron, Carbon and Tungsten. Data taking ended in July of 2017, having recorded dimuon events from 1.4×10^{18} protons interacting with various targets. A preliminary result of extracting sea-quark asymmetry will be given in this presentation. Progress in understanding quark energy loss and the nuclear EMC effect will also be presented.

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