

\bar{d}/\bar{u} ASYMMETRY AND THE ORIGIN OF THE NUCLEON SEA

Fermilab E866/NuSea Collaboration

(For a complete list of authors, see published paper.)

The Drell-Yan cross section ratios, $\sigma(p+d)/\sigma(p+p)$, measured in Fermilab E866, have led to the first determination of $\bar{d}(x)/\bar{u}(x)$, $\bar{d}(x) - \bar{u}(x)$, and the integral of $\bar{d}(x) - \bar{u}(x)$ for the proton over the range $0.02 \leq x \leq 0.345$. The E866 results are compared with predictions based on parton distribution functions and various theoretical models. The relationship between the E866 results and the NMC measurement of the Gottfried integral is discussed. The agreement between the E866 results and models employing virtual mesons indicates that these non-perturbative processes play an important role in the origin of the \bar{d},\bar{u} asymmetry in the nucleon sea.

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