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Improved Light Cone Model calculation of strangeness asymmetry in the proton[1] GARRETT BUDNIK, JORDAN FOX, SAM TUPPAN, Seattle Univ — We expect strangeness in the proton from the Heisenberg uncertainty principle, which allows for the proton to split into a meson and a baryon, such as a K and a Λ. Our goal is to accurately model the momentum distributions of the strange quarks and anti-strange quarks in the proton. We choose the Light Cone Model because it is a natural explanation for strangeness and for $s(x) \neq \bar{s}(x)$. In the Light Cone Model of Cao and Signal [1], α is a single parameter in the meson-baryon fluctuation functions $f(y)$ and in the s and $\bar{s}$ distributions of the mesons and baryons. These functions are exponentials in which α is related to the spatial extent of the particles. Because the s and $\bar{s}$ are in different environments, we explore an array of values for α which reflect the sizes of the particles and study this effect on our model. We compare our results to global pdfs and experimental data from NuTeV, HERMES and ATLAS.

[1] F. Cao, and A.I. Signal, Phys. Rev. D. 60, 074021, 1999

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