Abstract Submitted
for the APR15 Meeting of
The American Physical Society

Strangeness asymmetry in the proton[1] MARY ALBERG, Seattle University and University of Washington — Strangeness asymmetry in the proton may arise from fluctuations of the proton into meson-baryon pairs. The leading contributions to proton strangeness are from the $K\Lambda$, $K\Sigma$, $K^*\Lambda$ and $K^*\Sigma$ states. We use a Fock state expansion of the proton in terms of these pairs to represent the strange meson cloud. We determine the strangeness distributions of the proton in a hybrid convolution model, in which the fluctuations are represented either by light-cone wave functions or meson-baryon splitting functions. For the parton distributions of the $s(\bar{s})$ quarks in the bare baryons(mesons) of the Fock states, we use light cone wave functions or our statistical model, which expands the bare hadrons in terms of quark-gluon states. The momentum distributions of the s and $\bar{s}$ quarks in each Fock state differ because they are constituents of different hadrons. We present our results for proton strangeness asymmetry, and compare them to NuTeV and to global parton distributions.

[1]This research has been supported in part by NSF Award 1205686.

Mary Alberg
Seattle University and University of Washington

Date submitted: 08 Jan 2015 Electronic form version 1.4