

Abstract Submitted
for the APR17 Meeting of
The American Physical Society

A New Strangeness Fit to World Parity-Violating Electron Scattering Data¹ BENJAMIN GILBERT, University of Virginia — A global experimental effort to determine the strangeness content of nuclei, including experiments such as G0, SAMPLE, HAPPEX, and A4, have presented results on the precision frontier for parity-violating electron scattering. In particular, the kinematics of these experiments are in the low momentum-transfer region ($Q^2 < 1$), to allow more robust extrapolation to the static ($Q^2 = 0$) properties of the nucleon. The combination of these results into a global fit presents a new opportunity to comment on the globally observed strangeness content in nuclei. The process for constructing this fit faces certain challenges, with electromagnetic form factor model dependence standing out in particular. A novel fit including the most recent data for ^1H , ^2H , and ^4He target parity-violating electron scattering experiments will also be presented, suggesting small but non-zero electromagnetic strangeness contributions.

¹U.S. Department of Energy grant DE-FG02-07ER41522

Benjamin Gilbert
University of Virginia

Date submitted: 23 Sep 2016

Electronic form version 1.4