



Contribution ID: 11

Type: **Poster session**

## **New Precise Measurements of Electron Scattering Structure Functions ( $W_2$ and $W_1$ ) on Nucleons and Nuclei**

Inclusive cross section data for electron scattering from nuclei are crucial for validating neutrino scattering models. We present new results on very precise measurements of separated electron scattering structure functions ( $W_2$  and  $R$ ) on H, D, and a variety of nuclear targets. The data covers a wide range of  $W$  and  $Q^2$  from the quasielastic through the resonance region and DIS. As part of the analysis, we have also done fits to the new data and also include all available data on electron-nucleon and electron-nucleus cross sections, including photo-production. The fit typically represents the world's data for a range of nuclei from  $^{12}\text{C}$  to  $^{64}\text{Cu}$  to better than 3% and can be conveniently used as a proxy for data when validating Monte Carlo generators. The nucleon cross section input is constrained by new fits to proton and neutron scattering data. The fit procedure, physics input (such as the fit form assumed for 2-body contributions), and the final results will be discussed along with consistency and relative normalization factors between the data sets.

**Primary authors:** BODEK, Arie (University of Rochester); CHRISTY, Eric (Hampton University); KEPPEL, Cynthia (Thomas Jefferson National Accelerator Facility)

**Presenter:** BODEK, Arie (University of Rochester)

**Session Classification:** Neutrino Physics Session 2

**Track Classification:** Neutrino Physics