Abstract Submitted
for the HAW14 Meeting of
The American Physical Society

Quasielastic Transverse and Longitudinal Response Functions in the range 0.55 GeV/c$\leq|\vec{q}|\leq$1.0 GeV/c[1] HAMZA ATAC, Temple University, JLAB HALL A E05-110 COLLABORATION — In order to determine the Coulomb sum in nuclei, a precision measurement of inclusive electron scattering cross sections in the quasi-elastic region was performed at Jefferson Lab. Incident electrons with energies ranging from 0.4 GeV to 4 GeV scattered from ^{4}He,^{12}C,^{56}Fe and ^{208}Pb nuclei at four scattering angles $(15^{\circ}, 60^{\circ}, 90^{\circ}, 120^{\circ})$ and scattered energies ranging from 0.1 GeV to 4 GeV. The Rosenbluth separation method is used to extract the transverse and longitudinal response functions at three-momentum transfers in the range 0.55 GeV/c$\leq|\vec{q}|\leq$1.0 GeV/c. The Coulomb Sum is obtained for ^{56}Fe and ^{12}C, and compared to predictions. We will discuss the impact of our results on short range nucleon-nucleon correlations and the possible modification of the nucleon electromagnetic properties in the nuclear medium.

[1]This work is supported by the Department Of Energy through grant DE-FG02-94ER40844

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Date submitted: 01 Jul 2014 Electronic form version 1.4