

PROPOSAL TO THE CEBAF PAC9

A Detailed Study of Nuclear Structure Functions $F_2(x_b)$ and $R(x_b)$ in the Valence Quark Region.

Spokespersons

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Hall A Collaboration Proposal

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Abstract

We propose an inclusive electron scattering measurement on different nuclei to investigate the bound nucleon structure functions in the valence quark region ($0.1 < x_b < 0.6$). Precise data would allow one to measure for the first time nuclear medium effects in both structure functions $F_2(x_b)$ and $R(x_b) = \sigma_L(x_b)/\sigma_T(x_b)$ and to disentangle between nucleonic and non nucleonic effects in few-nucleon systems, where microscopic calculations are more reliable.