Nuclear Experiment

# Probing the high momentum component of the deuteron at high Q^2

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The d(e,e'p) cross section at a momentum transfer of 3.5 (GeV/c)^2 was measured over a kinematical range that made it possible to study this reaction for a set of fixed missing momenta as a function of the neutron recoil angle theta_nq and to extract missing momentum distributions for fixed values of theta_nq up to 0.55 GeV/c. In the region of 35 (deg) <= theta_nq <= 45 (deg) recent calculations, which predict that final state interactions are small, agree reasonably well with the experimental data. Therefore these experimental reduced cross sections provide direct access to the high momentum component of the deuteron momentum distribution in exclusive deuteron electro-disintegration.

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