In-plane Separations and High Momentum Structure in D(e,e'p)

THE HALL A COLLABORATION

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Using the capabilities of CEBAF we plan to considerably extend the present knowledge of the basic D(e,e'p) reaction by studying the momentum distribution at higher momentum transfers and by undertaking separations of the R_L, R_T and R_{LT} response functions. The q_μ dependence of the reaction will be examined by performing longitudinal/transverse (L/T) separations for protons emitted along $\vec{q}$ at q_μ^2=0.23, 0.81, 2.14 and 3.41 GeV^2/c^2 at quasifree kinematics ($p_r = 0$). In addition, by detecting protons away from the direction of $\vec{q}$, the angular distribution of emerging protons will be measured for recoil momenta up to 500 MeV/c at a single 3-momentum transfer of 1.0 GeV/c. From in-plane measurements on either side of $\vec{q}$ plus a backward angle measurement the R_T, R_{LT} and $R_L + R_{TT}$ components can be determined. This should provide additional checks on the model dependence of the reaction.

Date	Description	Beam Hours	Energies	Max. Luminosity
Oct. 31, 1989	^{1,2}H(e,e'p)	554	0.4–4.0 GeV	1.4×10^{38}cm^{-2}sec^{-1}