

## Study of the (e,e'd) reaction on $^3,^4\text{He}$

### THE HALL A COLLABORATION

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**Abstract:** The (e,e'd) reaction offers an efficient way to study two-nucleon correlations in nuclei. At low momentum transfer ( $q^2 \leq 5 \text{ fm}^{-2}$ ) a  $^4\text{He}(e,e'd)$  experiment was carried out at NIKHEF-K showing a considerably slower fall-off with  $q^2$  compared to the free electron-deuteron cross section. We plan to extend these measurements and similar ones on  $^3\text{He}$  to much higher  $q^2$  at CEBAF in order to study the nuclear response at high momentum transfer. Employing a cryogenic liquid He target ( $150 \text{ mg/cm}^2$ ) it will be possible to cover a fairly large range in  $q^2$ : 6 - 50  $\text{fm}^{-2}$ . Longitudinal-transverse separations and measurements of the recoil-momentum dependence are planned as well.