

**THE QWEAK EXPERIMENT AND THE  $N \rightarrow \Delta$  TRANSITION  
MEASUREMENT AT JEFFERSON LAB**

John Leacock

*Department of Physics, Virginia Tech*

Qweak is a parity-violating electron scattering experiment at Jefferson Lab. Qweak will provide the first direct measurement of the weak charge of the proton, test the Standard Model, and be sensitive to new parity-violating particles up to two TeV. In addition to the main Qweak measurement, I will report the status of the  $N \rightarrow \Delta$  measurement required to constrain the inelastic background contribution to the main experiment. This measurement is of the  $N \rightarrow \Delta$  symmetry breaking and will constrain the currently free  $d\Delta$  parameter.