

Abstract Submitted  
for the APR13 Meeting of  
The American Physical Society

**Flavor Dependence of the EMC Effect via Inclusive Electron Scattering from  $^{40}\text{Ca}$  and  $^{48}\text{Ca}$**  DAVID GASKELL, Jefferson Lab — The modification of the quark distribution functions in nuclei, the EMC effect, has been a topic of intense experimental and theoretical study since its original observation in 1983. At present there is no uniformly accepted explanation for the origin of the EMC effect and new observables are required to discriminate among the plethora of models put forward. Recent calculations suggest that the up quark distribution in a nucleus is modified differently than the down quark distribution for the case  $N \neq Z$ . A number of techniques have been proposed to measure this flavor dependence of the EMC effect, including semi-inclusive deep inelastic scattering (SIDIS) and parity violating deep inelastic scattering (PVDIS). In this talk, I will examine the possibility of determining the flavor dependence of the EMC effect via inclusive electron scattering from  $^{48}\text{Ca}$  and  $^{40}\text{Ca}$ .

David Gaskell  
Jefferson Lab

Date submitted: 11 Jan 2013

Electronic form version 1.4