

**Search for Color Transparency in A (E, E-Prime P)  
at High Momentum Transfer\***

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**Search for Color Transparency in  $A(e, e'p)$  at High  
Momentum Transfer**

Thesis by  
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In Partial Fulfillment of the Requirements  
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*To my family  
and  
Alice*

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## Abstract

Rates for  $A(\epsilon, \epsilon'/p)$  on the nuclei  ${}^2\text{H}$ , C, Fe, and Au have been measured at momentum transfers  $Q^2 = 1, 3, 5,$  and  $6.8(\text{GeV}/c)^2$ . We extract the nuclear transparency  $T$ , a measure of the importance of final state interactions (FSI) between the outgoing proton and the recoil nucleus. Some calculations based on perturbative QCD predict an increase in  $T$  with momentum transfer, a phenomenon known as Color Transparency. No statistically significant rise is seen in the present experiment.

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