

# A Prediction for Less Nuclear Shadowing in $pA$ at High Energies

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## **Abstract**

We predict less nuclear shadowing in  $pA$  collisions than is observed in  $leptonA$  collisions at high energies. In fact, the ratio of the cross section of  $pA$  to  $pp$  ( $R = \sigma_{pA}/(A * \sigma_{pp})$ ) for fixed  $Q^2$  becomes flat at high energies (small  $x$ ). This surprising result differs from the behavior observed in  $leptonA$  collisions where  $R$  decreases at high energies. The difference between these two systems results from the color structure of the  $g$  probe in  $pA$  compared to the  $\gamma^*$  probe in  $leptonA$  which does not have color structure.

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