Quark exchange effects on $^3$He and $^3$H charge densities

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Abstract

The exchange of quarks between nucleons bound in a nucleus leads to a definite and evaluable contribution to the nuclear charge density distribution. Although this exchange contribution is a consequence of the nuclear size, it cannot be included by the conventional procedure of folding nucleon charge distributions with the density of point nucleons. For the $A=3$ nuclei investigated here, the effects of quark exchange were found to be of significance for small distances away from the nuclear centre-of-mass.

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