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**INFLUENCE OF LOCAL AND NON-LOCAL NN POTENTIAL MODELS ON THE
NEUTRON ELECTRIC FORM FACTOR $G_{EN}(Q^2)$ AT
 $0.44 \leq Q^2 \leq 4(\text{F M}^{-2})$**

E.A.SULTAN¹;GH.G.KANDEEL²

¹Faculty Members, Physics Department, Faculty of Science, Sohag University, Egypt

¹Faculty Members, Physics Department, Faculty of Science, Sohag University, Egypt

Abstract

Influence of local and non-local NN potentials on the electric neutron form factor is investigated at $0.44 \leq q^2 \leq 4(\text{fm}^{-2})$. Study of nuclear electric form factors are expected to provide valuable information about the distribution of electric charge within these fundamental particles in their inner structure. The electric charge form factor for deuteron and the neutron electric form factor at momentum transfer $0.44 \leq q^2 \leq 4(\text{fm}^{-2})$ and from the slope b of $G_{EN}(q^2)$ at $q^2 = 0$ using 16 different NN potentials. We study the relations between the slope b and deuteron features, the root mean square radius r_d , the asymptotic D-state amplitude A_D , and the quadrupole moment Q . In addition, the linear relation between b and $A^2(1 + \eta^2)$ is also found for deuteron potential models.

Keywords: Deuteron properties, Neutron, electric form factor, Momentum dependent potential model.

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