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

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**Abstract**

Influence of local and non-local NN potentials on the electric neutron form factor is investigated at $0.44 \leq q^2 \leq 4(\mathrm{fm}^{-2})$. 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 struc- ture. The electric charge form factor for deuteron and the neutron electric form factor at momentum transfer $0.44 \leq q^2 \leq 4(\mathrm{fm}^{-2})$ and from the slop b of $G_{EN}(q^2)$ at $q^2 = 0$ using 16 different NN potentials. We study the rela- tions between the slop 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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