

ASYMPTOTIC FEATURES
OF DENSITY DISTRIBUTIONS
AND FORM FACTORS FOR ${}^6\text{Li}$ AND ${}^6\text{He}$
NUCLEI WITHIN THE THREE-PARTICLE MODEL

B.E. Grinyuk, I.V. Simenog

Bogolyubov Institute for Theoretical Physics,
Nat. Acad. of Sci. of Ukraine
(14b, Metrolohichna Str., Kyiv 03143, Ukraine)

S u m m a r y

Asymptotic properties of structure functions for ${}^6\text{Li}$ and ${}^6\text{He}$ nuclei are studied in the framework of the model involving an α -particle and two nucleons. The density distributions of halo nucleons and the α -particle at large distances are studied and compared with analytical asymptotics. A new representation for the form factor, which is useful at low transferred momentum, has been proposed, and the asymptotic behavior of form factors has been analyzed. The results obtained demonstrate that the calculation schemes developed in the framework of the variational method with the use of a Gaussian basis allow the asymptotics of structure functions to be studied in both the coordinate and momentum spaces.