

STRUCTURE CHARACTERISTICS OF A  ${}^4\text{He}$   
NUCLEUS WITHIN THE MICROSCOPIC  
APPROACH

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S u m m a r y

A precise study of the energy, radii, and basic structure functions of a  ${}^4\text{He}$  nucleus is carried out using the variational method with optimized Gaussian bases. We consider the Minnesota and AT potentials, as well as a new  $NN$ -potential K1 proposed to achieve a concordance of the main low-energy two-nucleon parameters and the energies of three- and four-nucleon nuclei. The analysis of the structure characteristics of a  ${}^4\text{He}$  nucleus is carried out. To achieve the precise accuracy in calculations, we use the advantages of the representation without isospin.