

LOCAL PERTURBATION OF DENSITY DISTRIBUTIONS IN BORN APPROXIMATION FOR ANALYSIS OF ELECTRON SCATTERING DATA ON LIGHT NUCLEI

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The investigation of distribution of charge density of nuclei by means of electronic scattering have begun from Hofstadter work series [1–2]. Further many important works were made in this field [3–5]. Here I present specific models of charge distribution with symmetrized Fermi distribution in the center of nuclei and small perturbation on periphery used for fitting electron scattering data by Born approximation method. I have chosen the local functions as perturbations (will be discussed in the report). In this work I consider only light even-even nuclei with $N=Z$, so called alpha-particle nuclei.

In my opinion the most interesting result of the paper is decreased level of significance for applied in this work hypotheses for nuclei lighter than O-16. It seems very realistic to use such charge distributions for Mg-24, Si-28, S-32.

Also in my report, I am going to consider reliability of applications of various charge distributions for analysis of electronic scattering data that exist today.

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Author: ERSHOV, K.V. (Petersburg Nuclear Physics Institute named by B.P.Konstantinov of NRC «Kurchatov Institute»; V.G. Khlopin Radium Institute)

Presenter: ERSHOV, K.V. (Petersburg Nuclear Physics Institute named by B.P.Konstantinov of NRC «Kurchatov Institute»; V.G. Khlopin Radium Institute)

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