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**RESEARCH OF THE INFLUENCE OF THE MIXING EFFECT OF STATES IN ODD NUCLEI TO THE CROSS-SECTION OF THE DIRECT INELASTIC SCATTERING OF NUCLEONS**

Developed by authors, the methods of calculation of mixing states of odd nuclei amplitude where among the component of multiplets of the excited states is observed with the same quantum characteristics as well as in the main state and is used for the determination of amplitudes of mixing states in nuclei  $^{23}\text{Na}$ ,  $^{25}\text{Mg}$ ,  $^{27}\text{Al}$ ,  $^{41}\text{K}$ ,  $^{51}\text{V}$ ,  $^{55}\text{Mn}$ ,  $^{59}\text{Co}$ ,  $^{63}\text{Cu}$ ,  $^{65}\text{Cu}$ ,  $^{93}\text{Nb}$ . Quantitative assessment of the influence of the mixing states to calculate cross-section of the direct inelastic scattering of nucleons was obtained.

*Keywords:* mixing states amplitude for odd nuclei, inelastic scattering cross sections, excited core model.