

PHENOMENOLOGICAL AND SEMIMICROSCOPIC
ANALYSIS OF 50-MeV ALPHA PARTICLES
SCATTERING AND STRUCTURE
OF EVEN TIN ISOTOPES

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S u m m a r y

A phenomenological and semimicroscopic analysis of data derived in experiments on elastic and inelastic scattering of 50-MeV alpha particles resulted from their collisions with $^{112,114,120,124}\text{Sn}$ nuclei has been carried out (with attraction of available data on complete cross sections of reactions) within the framework of the optical potential approach and techniques of distorted waves and coupled channels. For the low-lying 2_1^+ и 3_1^- states, corresponding values of deformation parameters, deformation lengths, and the ratios of neutrons and protons multipolar transition matrix elements are obtained and a comparison between the obtained parameters and published data is carried out for other types of the projectile particles.