

Microscopic Analysis of ^{11}Li Elastic Scattering from Protons

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A microscopic optical model analysis of the $^{11}\text{Li}+p$ elastic scattering data at incident energies of 62, 68.4, and 75 MeV/nucleon has been performed utilizing the microscopic optical potentials derived by a folding procedure and also by using those inherent in the high-energy approximation. The calculated optical potentials are based on the microscopically obtained neutron and proton density distributions within the large-scale shell model for ^{11}Li . The depths of the real and imaginary parts of the microscopic optical potentials are considered as fitting parameters. The role of the spin-orbit potential is studied.