Microscopic Optical Potentials for Elastic Nucleon-Nucleus Scattering

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In a series of papers over the last years [1–8] we derived microscopic optical potentials (OPs) for elastic nucleon-nucleus scattering within the framework of chiral effective field theories at the first-order term of the spectator expansion of the Watson multiple-scattering theory and adopting the impulse approximation. Our OPs are derived by folding *ab initio* nuclear densities with a nucleon-nucleon (NN) t matrix computed with a consistent chiral interaction. The results of our OPs are in generally good agreement with the experimental data. An overview of the main achievements of our work will be presented in this contribution.

References

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