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Cross sections for neutron-deuteron elastic scattering in the energy range 135-250 MeV[1] J.L. MATTHEWS, M.B. CHTANGEEV, W.A. FRANKLIN, Massachusetts Institute of Technology, T. AKDOGAN, E. ERTAN, Bogazici University, M.A. KOVASH, University of Kentucky, M. YULY, Houghton College — New measurements are reported of the neutron-deuteron elastic scattering cross section at incident neutron energies from 135 to 250 MeV and center-of-mass angles from 80° to 130°. Cross sections for neutron-proton elastic scattering were also measured with the same experimental setup for normalization purposes. The *nd* cross section results are compared with predictions based on Faddeev calculations with and without the inclusion of three-nucleon forces (3NF), and with cross sections previously measured with charged particle and neutron beams at comparable energies. The effect of 3NF is clearly seen in the present work. The data at angles near the minimum in the cross section, where the 3NF contribution is most effective, are in excellent agreement at all energies with the theoretical predictions.

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