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Neutron-12C elastic scattering at 96 MeV

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Abstract

Recent neutron elastic scattering differential cross section data for ^{12}C at 96 MeV have been analysed within the framework of the Glauber model, suitably modified to enlarge the angular range of validity. The ground-state pair correlation correction has been considered. The effects of the medium-modified nucleon-nucleon (NN) total cross section and the phase variation of the NN scattering amplitude on the calculated cross sections have also been studied. The neutron differential cross sections have been calculated using the phenomenological target density. We find that our method of analysis gives a better description of experimental data than those with the optical model potential. © 2009 IOP Publishing Ltd.

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