



Contribution ID: 292

Type: Oral

Microscopic analysis of proton-nucleus scattering data at energies from 200 to 1000 MeV

Sunday, 3 December 2023 10:05 (15 minutes)

The cross sections of proton-nucleus scattering at energies from 200 to 1000 MeV are calculated within the microscopic model of folding optical potential. Such potential is determined by the amplitude of scattering of an incident proton on the bound nuclear nucleon which itself depends on three parameters, namely the total nucleon-nucleon scattering cross section, the ratio of real to imaginary parts of the scattering amplitude at forward angles, and also the slope parameter. These “inmedium” scattering amplitude parameters are adjusted to the experimental data on elastic proton-nucleus scattering and compared with the “free” ones known from analysis of proton-nucleon scattering data. Such analysis allows one to estimate effect on nuclear matter on the scattering amplitude.

Attendance Type

In-person

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Session Classification: Session 13

Track Classification: Nuclear Structure, Reactions and Dynamics