

CONTRIBUTIONS OF DIRECT PROCESSES
TO THE CROSS-SECTIONS FOR FAST-NEUTRON
SCATTERING BY MANGANESE NUCLEI

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S u m m a r y

The applicability of a variant of the optical-statistical approach to the description of experimental total, elastic, and inelastic cross-sections for neutron scattering by manganese nuclei in the energy range 0.2–12 MeV has been studied for the first time. The variant is based on the spherical optical model (SOM), the coupled-channels method (CCM), the excited-core model (ECM), and modern variants of the statistical model (SM). The results of the adequate description of the experimental data set were used to study the contributions of the direct mechanism and the mechanism of scattering through a compound nucleus to the elastic and inelastic scattering of fast neutrons by manganese nuclei.