

SCATTERING OF FAST-NEUTRONS FROM ELEMENTAL MOLYBDENUM

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ABSTRACT

Differential broad-resolution neutron-scattering cross sections of elemental molybdenum were measured at 10-20 scattering angles distributed between 20 and 160 degrees and at incident-neutron energy intervals of \approx 50-200 keV from 1.5 to 4.0 MeV. Elastically-scattered neutrons were fully resolved from inelastic events. Lumped-level inelastic-neutron-scattering cross sections were determined corresponding to observed excitation energies of; 789 ± 23 , 1095 ± 23 , 1500 ± 34 , 1617 ± 12 , 1787, 1874, 1991, 2063 ± 24 , 2296, 2569 and 2802 keV. An optical-statistical model was deduced from the measured elastic-scattering results. The experimental values were compared with the respective quantities given in ENDF/B-V.