

FAST-NEUTRON SCATTERING CROSS SECTIONS
of ELEMENTAL ZIRCONIUM*

by

A. B. Smith and P. T. Guenther

ABSTRACT

Differential neutron-elastic-scattering cross sections of elemental zirconium are measured from 1.5 to 4.0 MeV at intervals of ≤ 200 keV. Inelastic-neutron-scattering cross sections corresponding to the excitation of levels at observed energies of; 914 ± 25 , 1476 ± 37 , 1787 ± 23 , 2101 ± 26 , 2221 ± 17 , 2363 ± 14 , 2791 ± 15 and 3101 ± 25 keV are determined. The experimental results are interpreted in terms of the optical-statistical model and are compared with corresponding quantities given in ENDF/B-V.

*This work supported by the U.S. Department of Energy.