EVALUATION OF THE ^{238}U NEUTRON TOTAL CROSS SECTION*

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ABSTRACT

Experimental energy-averaged neutron total cross sections of ^{238}U were evaluated from 0.044 to 20.0 MeV using rigorous numerical methods. The evaluated results are presented together with the associated uncertainties and correlation matrix. They indicate that this energy-averaged neutron total cross section is known to better than 1% over wide energy regions. There are somewhat larger uncertainties at low energies (e.g., $\lesssim$ 0.2 MeV), near 8 MeV and above 15 MeV. The present evaluation is compared with values given in ENDF/B-V.

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