

Abstract Submitted
for the OSF11 Meeting of
The American Physical Society

Partial Kerma Factors for Neutron Scattering from ^{16}O MOHAMMED ISLAM, Ball State University — Success for the use of neutron for radiation therapy and other applications in radiological physics depends on the understanding of the interaction of neutron with elements in the tissue. Study of the mechanisms of energy deposition by neutron interaction with matter is very important to improve the understanding of the neutron dosimetry. Cross section data are the basic inputs for many types of calculations in radiation physics. One important quantity in some radiological applications of neutron is the kerma (kinetic energy released in material.) Differential elastic and inelastic neutron scattering from some elements of biological interests are available at energies 18 – 26 MeV. Optical Model Potentials based on these measured cross sections may be used to calculate various quantities of interest for the neutron dosimetry at higher energies where cross section data may not be available. Kerma values for elastic and inelastic scattering of neutron from ^{16}O are obtained from differential cross sections.

Mohammed Islam
Ball State University

Date submitted: 19 Sep 2011

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