

**Spectrum of Neutrons Emitted from a Thick Beryllium
Target Bombarded with 7 MeV Deuterons***

by

A. Smith and P. Guenther
Applied Physics Division-316
Argonne National Laboratory
9700 South Cass Avenue
Argonne, Illinois 60439
U.S.A.

and

B. Micklich
University of Illinois
Nuclear Engineering Program
214 Nuclear Engineering Laboratory
103 South Goodwin Avenue
Urbana, Illinois 61801
U.S.A.

ABSTRACT

The spectrum of neutrons emitted from a thick beryllium target bombarded with 7 MeV deuterons is measured at 25 reaction angles distributed between 0° and 158° , and over the neutron energy range $\approx < 0.8$ to > 11.0 MeV. The spectrum is determined relative to the standard ^{252}Cf prompt-fission-neutron-spectrum using fast time-of-flight techniques. The results are presented as angle-energy differential distributions and as relative numerical group cross sections suitable for establishing a reference field for applied studies.

* This work supported by the U. S. Department of Energy under contract W-31-109-Eng-38.