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Title: RESPONSE-FUNCTION MEASUREMENT OF AN NE213 SCINTILLATOR USING THE H-2(D, N)HE-3 REACTION

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Abstract: The response function of a 12.5 cm diameter NE213 scintillator detector has been measured over neutron energies ranging from 4.9 to 16.6 MeV. Beams of monoenergetic neutrons were produced using the H-2(d,n)He-3 reaction. The response function is about 12% lower than previously reported values for a similar detector obtained using a continuous spectrum of neutrons from a Cf-252 fission source. However, the present response function agrees with portions of data sets obtained in published work that used monoenergetic neutron source reactions.