Abstract Submitted
for the HAW09 Meeting of
The American Physical Society

Deconvolution of Bremmstrahlung Spectra from Measurements[1]

T.A. BALINT, G.P. TREES, B.A. DETWILER, J.J. CARROLL, Youngstown State University — The X-ray Effects Laboratory (XEL) at Youngstown State University primarily uses an industrial X-ray bremmstrahlung source for in-house experimentation. This source has a high photon flux, with energies emitted in a non-uniform but smooth and continuous spectrum over a range that can reach a maximum of 450 keV. To quantitatively analyze the results of any irradiation producing nuclear photoactivation, it is necessary to first accurately determine this bremsstrahlung spectrum. This poster explores measurements of the response function for a shielded HPGe detector and how that function is used to determine the actual bremsstrahlung spectrum incident on the detector by a numerical deconvolution.

[1]Supported by DTRA.

James Carroll
Youngstown State University

Date submitted: 31 Jul 2009 Electronic form version 1.4