

GAMMA UNFOLDING FOR POLY-BORON (PB), Pb SINGLE SHIELDS AND MULTILAYERS CONTAINING PB SHIELD

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ABSTRACT

Gamma ray transport and shielding properties of Lead (Pb) and some multilayers and their reversed combinations have been investigated using a 3.7×10^4 Bq ^{252}Cf point source. NaI (Tl) scintillation detector has been used for the detection. The unfolded dose spectra of the fission gamma ray spectrum for some specific shield thicknesses were also studied. Three dimensional Monte Carlo computer code MCNP have been used for theoretical calculations to study the characteristics of the above mentioned shielding setups for fission gamma rays. Experimentally obtained values are then compared, effectiveness of the materials are satisfactory. It has been found that the materials (single layer and multilayer) studied are very effective as the shield for gamma rays.

KEYWORDS: *PB Shield, Gamma Unfolding, Poly-Boron*

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