BEST: International Journal of Humanities, Arts, Medicine and Sciences (BEST: IJHAMS)
ISSN 2348-0521
Vol. 2, Issue 6, Jun 2014, 21-26

EXPERIMENTAL INVESTIGATION OF GAMMA RADIATION SHIELDING CHARACTERISTICS OF WOOD

E. RAJASEKHAR & R. JEEVAN KUMAR

Molecular Biophysical Laboratory, Department of Physics, Sri Krishna Devaraya University, Anantapuram, Andhra Pradesh, India

ABSTRACT

Gamma radiation shielding characteristics such as linear attenuation coefficient, mass attenuation coefficient, half- value layer etc; of eight types of wood materials were measured using gamma energy range from 0.511MeV to 1.332MeV. Measurements performed using a gamma spectrometer NaI (Tl) scintillation detector. The intensities of the emergent radiation were measured, when each of these woods were placed between a scintillation detector and radioactive source. Results show that Attenuation coefficient decreases with increase of gamma energy, and attenuation coefficient increases with increase of density and shows significant variation for different species. Attenuation coefficient depends on the energy of incident photons and the nature of the wood material.

KEYWORDS: Attenuation Coefficient, Gamma Radiation, NaI (Tl) Detector, Wood