

EXPERIMENTAL INVESTIGATION OF GAMMA RAY SHIELDING CHARACTERISTICS OF WOOD MATERIALS AT DIFFERENT ENERGIES

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ABSTRACT

In the present study different wood materials are collected from various areas in Telangana and Andhra Pradesh states. The experimental linear and mass attenuation coefficients of wood materials have been determined by using NaI (TI) scintillation detector coupled with 8k MCA at gamma ray energies of 59.5keV, 81keV and 661.6keV obtained from Am^{241} , Ba^{133} and Cs^{137} radioactive isotopes respectively. The elemental composition of wood materials finds out by vitro labs Hyderabad. The experimental values of μ/ρ compared with X-Com data base. The highest attenuation coefficient obtained for *Pterocarpus santalum* and lowest value for *sterculia urens* in all energies. It shows that, *Pterocarpus Santalum* a good attenuator because of density and chemical composition presented in these materials.

KEYWORDS: Wood Materials, Different Energies, Scintillation Detector & Attenuation Coefficients