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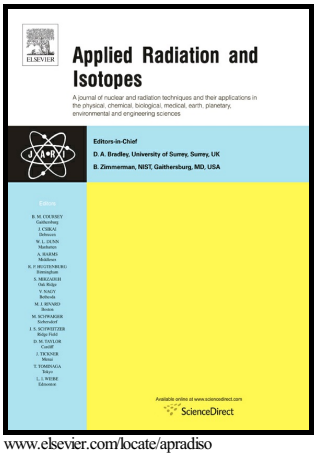

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Evaluation of absolute measurement using a 4π plastic scintillator for the 4πβ–γ coincidence counting method

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Abstract

Absolute measurement by the 4πβ-γ coincidence counting method was conducted by two photomultipliers facing across a plastic scintillator to be focused on β ray counting efficiency. The detector was held with a through-hole-type NaI(Tl) detector. The results include absolutely determined activity and its uncertainty especially about extrapolation. A comparison between the obtained and known activities showed agreement within their uncertainties.

Keywords: absolute activity measurement; 4πβ-γ coincidence counting method; extrapolation; scintillation detector; Co-60; Cs-134; accuracy; uncertainty

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