

Abstract

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Determination of Full–Energy Peak Efficiency and Single-to-Double Escape Peak Ratio For A closed-end n-type HPGe

In the field of radiation physics, studying and analysis the energy gamma spectra emitted from radioisotopes are very important. Thus the determination of single- and double-escape peak efficiencies is as important as that of the full-energy peak efficiency in prompt gamma-ray activation analysis. The full–energy peak efficiency has been measured experimentally for the National Institute of Standards and technology (NIST) for an n-type HPGe detector using standards point sources, whereas, the single- and double - escape peak efficiencies for that detector have been calculated theoretically. The single–to-double escape peak ratio has been calculated for that detector and the results are compared to those published in literatures for that particular detector.