

Abstract Submitted
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A physically founded model of the efficiency curves of coaxial Germanium detectors YUNXIA GUAN, LIANBIN NIU, YAN MA, JIANZHANG XUE, QING KANG, Department of Physics, Chongqing Normal University — A semi-empirical formula for the full energy peak efficiency of coaxial Germanium detectors in the range from 60 to 2614 keV is presented. Both equations are linear with respect to the fitting parameters. They were obtained by combining, and minor adjusting, the terms in the asymptotic expressions for the probabilities of the processes (photoelectric absorption, Compton Scattering and pair production) through which γ -rays interact with matter. Both equations were found to be able to fit very well in wide energy ranges the efficiency curves of coaxial Ge detectors detecting γ -rays from point or plane sources, as well as from cylindrical volume sources.

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