

High-precision efficiency calibration of a Germanium detector

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For high-precision gamma-ray measurements (e.g. $0^+ - 0^+$ beta decay) we are about to calibrate a HPGe detector in efficiency. The aim is to obtain an efficiency curve with an uncertainty at the 0.1% level over a range of energy from 100 keV to 6 MeV. Standard source measurement, online source measurement taken at ISOLDE and several scans of the detector are combined to adjust the geometrical parameters of the detector to match it to MC simulations with the GEANT4 and the CYLTRAN codes. The status of this work will be presented.

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