

Measurement of Liquid Scintillator Nonlinearity

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Organic liquid scintillator (LS) is a common choice for detectors precisely measuring energy of electron antineutrinos. Accurate knowledge of the relation between scintillation light response and the energy deposited by a particle is essential for determination of the antineutrino energy. The response is not exactly linear. Deviation from the LS linearity is the subject of the presented investigation. The method of measurement is using Compton scattering of gammas of well known energy in the LS and precise measurement of the scattered gamma energy with HPGe detector.

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