New method of digital waveform analysis of signals from segmented Ge detectors SHINTARO GO, SUSUMU SHIMOURA, EIJII IDEGUCHI, SHINSUKE OTA, HIROYUKI MIYA, Center for Nuclear Study(CNS), The University of Tokyo — We study digitized waveforms \( \langle f(t_i) \rangle \) from a segmented Ge detector in CNS GRAPE [1], by means of \( n \)-th “moments”, \( \sum_i t^n f(t_i) / \sum_i f(t_i) \). Nine sets of digitized data of the signal from 3 \( \times \) 3 cathodes were recorded by using ADC with 105 MHz sampling [2]. The purpose of the present study is deducing essential information from about 1K-byte waveform data with a simple algorithm to determine the interaction position of \( \gamma \)-ray. The moments from \( n = 0 \) to 3 are examined. The characteristics of the moments will be discussed as a function of the hit position. In the preliminary analysis, it shows that the root-mean-square \((n=2)\) and the skewness \((n=3)\) vary in wide ranges with changing the hit position.


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