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Waveform calibration of the SND electromagnetic calorimeter

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The Spherical Neutral Detector (SND) is intended for the study electron-positron annihilation processes operating at VEPP-2000 e^+e^- collider, which is located at Novosibirsk, Russia. The main part of the SND detector is a three-layer electromagnetic calorimeter (EMC).

The EMC is equipped with spectrometric channel, which provides measurement of the calorimeter signal arrival time and amplitude with 1 ns and 250 keV resolutions, respectively. It's necessary for providing reliable detection of low-speed anti-neutrons, which are produced in $e^+e^- \rightarrow n\bar{n}$ reaction near threshold.

The algorithm of determination of signal parameters (time, amplitude) is based on invariability of the signal waveform. The waveform calibration procedure using generator signals and Bhabha scattering events is presented here.

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