

## Compensation of Cable Attenuation in Step Current Generators to Enable the Convolution Method for Calibration of Current Transducers

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**Abstract :** The purpose of this paper is to digitally compensate for the apparent discharge time constant of the coaxial cable so that the current step response is flat and can be used to calibrate current transducers using the convolution method. For proper use of convolution, the step response record length is required to be at least the same as the waveform duration to be evaluated. The current step generator based on the cable discharge is compared to the Blumlein generator. Moreover, the influence of each component of the system on the performance of the step is described, which allows building the appropriate measurement set-up. In the end, the calibration of current viewing resistors dedicated to high current impulse is computed.

**Keywords :** Blumlein generator, cable attenuation, convolution, current step generator

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