Original Paper

Investigation of the Optimum Trigger Level in Time Interval Measurement

G. G. Hamza

Researcher at the National Institute for Standards (NIS—Egypt), Tersa st., Elharam, Giza, Egypt

G.G. Hamza
Email: gihan_gomah@yahoo.com

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Abstract
Measuring the time interval (TI) with an accuracy in the picoseconds range requires having an accurate measurement system and minimizing the sources of errors contributed by the signal being measured. Trigger level timing error is one of the main sources of error that dramatically affects the measurement accuracy. In this article we study the effect of changing the trigger level on the TI measurement accuracy for sinusoidal signals, introduce a laboratory method for determining the optimum trigger level that leads to the highest measurement accuracy, and make a method validation.

Keywords