

Abstract Submitted
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Sub-nanosecond Timing Using 100Mhz Digital Electronics STANLEY PAULASKAS, ROBERT GRZYWACZ, MIGUEL MADURGA, STEPHEN PADGETT, The University of Tennessee at Knoxville — The use of 100Mhz digital electronics to measure time differences of less than one nanosecond are investigated. Numerical algorithms are used to extract time information from the signal. Two different algorithms have been developed to achieve this time resolution. The first algorithm fits a function to the pulse shape. This shape is a folding of the input signal and the response of the electronics. In the second method, an analytical function of the waveform has been extracted. This allows one to use a single point along the leading edge of the waveform to determine the time. Tests have been carried out using a pulser. Results of these tests and applications to scintillator detectors will be presented.

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