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ABSTRACT**A Method and Apparatus for Measuring Distance Between a Target and a Receiver in a Ranging System**

A method of measuring distance between a target and a receiver in a ranging system comprises transmitting a first pulse at a first time determined by a sampling clock in a receiver, receiving the first pulse, sampling the first pulse at a predetermined amplitude threshold using the sampling clock and determining the time of arrival of the first pulse in terms of a number of periods of the sampling clock after the first pulse was transmitted. This is repeated for a second pulse and the average times of arrival of the first and second pulses are determined to obtain an averaged estimated time of arrival. The distance between the target and the receiver is determined by multiplying the averaged estimated time of arrival by the speed of propagation of the transmitted pulses. There is also disclosed an apparatus for measuring distance.

[FIG 3]