

DESIGN OF LABVIEW PLATFORM TO MEASURE NANOSCALE MOSFETS

ECE Scholarly Paper Presentation

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ABSTRACT

This paper reports the characterization of nanoscale Metal-oxide-semiconductor field effect transistors (MOSFETs) by using a labview measurement platform, which provides a VI (virtual instrument) to precisely control and monitor electrical parameter analyzers / equipments to measure the characteristics of nanoscale MOSFETs. In this work, the designed labview measurement platform will measure the current, voltage, capacitance and temperature of a nanoscale MOSFET. The labview platform will also process and store the measured data.

Labview also known as Laboratory Virtual Instrumentation Engineering Workbench is a standard platform and development environment for a visual programming language which was developed by National instrument in the year 1986. Labview is a dataflow programming language. Execution is determined by the structure of a graphical block diagram (the LV-source code) on which the programmer connects different function-nodes by drawing wires. These wires propagate variables and any node can execute as soon as all its input data become available. Multi-processing and multi-threading hardware is automatically exploited by the built-in scheduler, which multiplexes multiple OS threads over the nodes ready for execution.