**Synthesis Techniques for Pseudo-Random Built-In Self-Test Based**  
**on the LFSR**

Abstract:

The structure of test system based on application built-in self-test (BIST) circuitries has been proposed. The main idea is oriented on minimization of hardware overheads and dealt with automatization of BIST-circuitries generation. Test generator based on linear feedback shift register (LFSR) provides two types of testing pseudorandom and deterministic. The proposed modified Berlekamp–Massey algorithm is used for generation the LFSR polynomial coefficients. The experimental results of technique application for some ISCAS’89 benchmark circuits have been shown. The entire design is modelled using Verilog language and simulation is done using Xilinx ISE 12.1 tool and synthesis is done using XST synthesis tool.

**LANGUAGE USED:**

**TOOLS REQUIRED:**

* MODELSIM – Simulation
* XILINX-ISE – Synthesis