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| **Title:** | Analytical Surface Potential Model for Pocket Implanted Fully Depleted Thin Film SOI n-MOSFET | | |
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| **Abstract:** |  |
| Abstract— In this paper, a modified structure of the fully depleted thin film SOI n-MOSFET has been proposed by implanting symmetric pockets both at the source and drain sides. Then an analytical surface potential model for this proposed structure has been presented. The model has been simulated in a MATLAB environment for different bias conditions, pocket profile parameters, and device dimensions. Simulation results reveal that the incorporation of pockets in the thin film SOI n-MOSFET can produce surface potential accurately. | |