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| **Abstract:** |  |
| Abstract— MEDICI is a powerful device simulation program that can be used to simulate the behavior of MOS and other semiconductor devices. The program can be used to predict electrical characteristics for arbitrary bias conditions. In this paper, various characteristics of the conventional bulk MOS device have been simulated using the MEDlCl. Gate and drain characteristics, mobility and carrier concentration profiles, and effects of various device parameters on the threshold voltage of MOSFET are simulated. Finally, a CMOS is constructed and simulated to verify the MOS structure. Also, simulation results of threshold voltages are compared with the calculated results using the conventional bulk MOSFET equation. | |