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| **Title:** | A Semi-Analytical Subthreshold Drain Current Deflection Model for the Asymmetric Pocket Implanted Nano Scale n-MOSFET | | |
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| **Abstract:** |  |
| Abstract— This paper introduces the effect of the magnetic field on the subthreshold drain current of pocket implanted n-MOSFET. The pocket implanted n-MOSFET’s surface potential, threshold voltage, electron mobility, and subthreshold drain current models are used to study the effect of the magnetic field on the drain current deflection in the inversion channel. Magnetic field strength is varied from ±200 mT to ±250 mT. Results verify the theoretical derivations This model can be used if short channel n-MOSFETs are used to develop the Magnetic FET Sensor (MFS). This type of sensor has many practical applications. | |