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**An approach based on particle swarm
computation to study the nanoscale DG
MOSFET-based circuits**

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Abstract: The analytical modeling of nanoscale Double-Gate MOSFETs (DG) requires generally several necessary simplifying assumptions to lead to compact expressions of current-voltage characteristics for nanoscale CMOS circuits design. Further, progress in the development, design and optimization of nanoscale devices necessarily require new theory and modeling tools in order to improve the accuracy and the computational time of circuits' simulators.