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Special Issue Reprint

Miniaturized Transistors

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Edited by
Lado Filipovic
Tibor Grasser

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What is the future of CMOS? Sustaining increased transistor densities along the path of Moore's Law has become increasingly challenging with limited power budgets, interconnect bandwidths, and fabrication capabilities. In the last decade alone, transistors have undergone significant design makeovers; from planar transistors of ten years ago, technological advancements have accelerated to today's FinFETs, which hardly resemble their bulky ancestors. FinFETs could potentially take us to the 5-nm node, but what comes after it? From gate-all-around devices to single electron transistors and two-dimensional semiconductors, a torrent of research is being carried out in order to design the next transistor generation, engineer the optimal materials, improve the fabrication technology, and properly model future devices. We invite insight from investigators and scientists in the field to showcase their work in this Special Issue with research papers, short communications, and review articles that focus on trends in micro- and nanotechnology from fundamental research to applications.

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