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Recent advances in physics, material sciences and technology have allowed the rise of new paradigms with bright prospects for digital electronics, going beyond the reach of Moore's law, which details the scaling limit of electronic devices in terms of size and power. This book presents original and innovative topics in the field of beyond CMOS electronics, ranging from steep slope devices and molecular electronics to spintronics, valleytronics, superconductivity and optical chips. Written by globally recognized leading research experts, each chapter of this book will provide an introductory overview of their topic and illustrate the state of the art and future challenges. Aimed not only at students and those new to this field, but also at well-experienced researchers, Beyond-CMOS provides extremely clear and exciting perspectives about the technology of tomorrow, and is thus an effective tool for understanding and developing new ideas, materials and architectures.

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