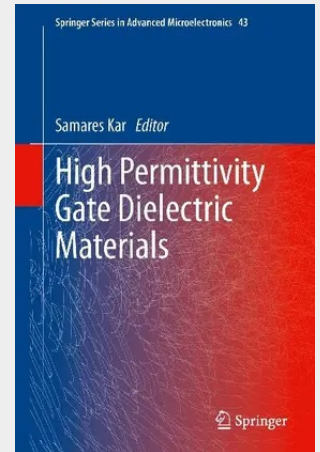


High Permittivity Gate Dielectric Materials

"The book comprehensively covers all the current and the emerging areas of the physics and the technology of high permittivity gate dielectric materials, including, topics such as MOSFET basics and characteristics, hafnium-based gate dielectric materials, Hf-based gate dielectric processing, metal gate electrodes, flat-band and threshold voltage tuning, channel mobility, high-k gate stack degradation and reliability, lanthanide-based high-k gate stack materials, ternary hafnia and lanthania based high-k gate stack films, crystalline high-k oxides, high mobility substrates, and parameter extraction. Each chapter begins with the basics necessary for understanding the topic, followed by a comprehensive review of the literature, and ultimately graduating to the current status of the technology and our scientific understanding and the future prospects."

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