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Nota di contenuto	Introduction -- Critical issues in Oxide-Semiconductor Heteroepitaxy -- Predictive Engineering of Semiconductor-Oxide Interfaces -- Crystalline Functional Oxide Growth Methods -- Thin Oxide Film Characterization Methods -- Growing SrTiO3 on Si (001) by Molecular Beam Epitaxy -- Integration of Functional Oxides on SrTiO3/Si Pseudo-Substrates -- Other Epitaxial Oxides on Semiconductors -- Outlook and Parting Thoughts -- Appendices.
Sommario/riassunto	This unique book describes the basic physical principles of the oxide/semiconductor epitaxy and offers a view of the current state of the field. It shows how this technology enables large-scale integration of oxide electronic and photonic devices, and describes possible hybrid semiconductor/oxide systems. The book incorporates both theoretical and experimental advances to explore the heteroepitaxy of tuned

functional oxides and semiconductors to identify material, device and characterization challenges, and to present the incredible potential in the realization of multifunctional devices and monolithic integration of materials and devices. This book also: · Discusses why semiconductor substrates are an excellent integration platform for making hybrid logic/sensor devices · Provides a brief introduction to the methods accessible to non-experts, before going into details of interest to the experts · Includes a detailed glossary that explains the specialized terminology and provides insight into the terminology and how it’s used.