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Nota di contenuto	1. Introduction -- 2. Multiscale, Hierarchical Structures in Sintering -- 3. Shape Evolution of Particle/Pore Networks -- 4. Crystalline Interfaces -- 5. Atom Diffusion Driven by Surface Tension and Stress -- 6. Surface Motion by Diffusion -- 7. Sintering Mechanics in Particle Scale -- 8. Coarsening and Grain Growth -- 9. Continuum Mechanics of Sintering -- 10. Bridging Macroscopic and Microscopic Sintering Mechanics -- 11. Pressure-Assisted Sintering -- 12. Viscous Sintering -- 13. Simulation of Sintering Process -- Appendix -- Index.
Sommario/riassunto	This book provides cutting-edge knowledge on the theory and modelling of solid-state sintering. It includes new knowledge on 3D microstructural evolution obtained by computer simulations and nano/micro-tomography, as there has been significant progress in the

basic sintering theory in the last 20 years. This book presents the fundamental principles related to sintering phenomena, with a focus on understanding the thermodynamic driving forces. Readers can gain insights by examining how atomic-level interactions lead to micro-scale structural changes, which in turn influence densification and deformation processes at the macro-scale. This book is a completely new and easy-to-understand textbook for graduate students, researchers, and engineers in ceramic technology and powder metallurgy. It aims to help them understand fundamental theories essential for developing new materials and improving processing methods efficiently.