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Sommario/riassunto	This book presents an overview of the science of superconducting materials. It covers the fundamentals and theories of superconductivity. Subjects of special interest involving mechanisms of high temperature superconductors, tunneling, transport properties, magnetic properties, critical states, vortex dynamics, etc. are present in the book. It assists as a fundamental resource on the developed methodologies and techniques involved in the synthesis, processing, and characterization of superconducting materials. The book covers numerous classes of superconducting materials including fullerenes, borides, pnictides or iron-based chalcogen superconductors ides, alloys and cuprate oxides. Their crystal structures and properties are described. Thereafter, the book focuses on the progress of the applications of superconducting

materials into superconducting magnets, fusion reactors, and accelerators and other superconducting magnets. The applications also cover recent progress in superconducting wires, power generators, powerful energy storage devices, sensitive magnetometers, RF and microwave filters, fast fault current limiters, fast digital circuits, transport vehicles, and medical applications.