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Nota di contenuto	Frontmatter -- Introduction -- HTS Superconductors -- Cooling and Thermal Insulation Systems -- Rotating AC Machines -- Rotating DC Homopolar Machines -- Synchronous AC Homopolar Machines -- Transformers -- Fault Current Limiters -- Power Cables -- Maglev Transport -- Magnet Applications -- About the Author -- Index.
Sommario/riassunto	The only one-stop reference to design, analysis, and manufacturing concepts for power devices utilizing HTSHigh temperature superconductors (HTS) have been used for building many devices for electric grids worldwide and for large ship propulsion motors for the U. S. Navy. And yet, there has been no single source discussing theory and design issues relating to power applications of HTS-until now. This

book provides design and analysis for various devices and includes examples of devices built over the last decade.Starting with a complete overview of HTS, the subsequent chapters are dedicated to specific devices: cooling and thermal insulation systems; rotating AC and DC machines; transformers; fault current limiters; power cables; and Maglev transport. As applicable, each chapter provides a history of the device, principles, configuration, design and design challenges, prototypes, and manufacturing issues, with each ending with a summary of the material covered. The design analysis and design examples provide critical insight for readers to successfully design their own devices. Original equipment manufacturer (OEM) designers, industry and utilities users, universities and defense services research groups, and senior/postgraduate engineering students and instructors will rely on this resource."HTS technology reduces electric losses and increases the efficiency of power equipment. This book by Swarn Kalsi, a leading expert on the HTS subject, provides a survey of the HTS technology and the design rules, performance analyses, and manufacturing concepts for power application-related devices. It compares conventional and HTS technology approaches for device design and provides significant examples of devices utilizing the HTS technology today. The book is useful for a broad spectrum of professionals worldwide: students, teaching staff, and OEM designers as well as users in industry and electric utilities."-Professor Dr. Rolf Hellinger, Research and Technologies Corporate Technology, Siemens AG.