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Sommario/riassunto	The need for electromechanical energy conversion that takes place in electric motors, generators, and actuators is an important aspect associated with current development. The efficiency and effectiveness of the conversion process depends on both the design of the devices and the materials used in those devices. In this context, this book addresses important aspects of electrical machines, namely their materials, design, and optimization. It is essential for the design process of electrical machines to be carried out through extensive numerical field computations. Thus, the reprint also focuses on the accuracy of these computations, as well as the quality of the material models that are adopted. Another aspect of interest is the modeling of properties such as hysteresis, alternating and rotating losses and demagnetization. In addition, the characterization of materials and their dependence on mechanical quantities such as stresses and temperature are also considered. The reprint also addresses another aspect that needs to be considered for the development of the optimal global system in some applications, which is the case of drives that are associated with electrical machines.