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Sommario/riassunto	The processes of freezing and melting were present at the beginnings of the Earth and continue to dominate the natural and industrial worlds. The solidification of a liquid or the melting of a solid involves a complex interplay of many physical effects. This 2001 book presents in a systematic way the field of continuum solidification theory based on instability phenomena. An understanding of the physics is developed by using examples of increasing complexity with the object of creating a deep physical insight applicable to more complex problems. Applied mathematicians, engineers, physicists, and materials scientists will all find this volume of interest.