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Autore	Bansch Eberhard
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Altri autori (Persone)	DeckelnickKlaus GarckeHarald PozziPaola
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Sommario/riassunto	These lecture notes are dedicated to the mathematical modelling, analysis and computation of interfaces and free boundary problems appearing in geometry and in various applications, ranging from crystal growth, tumour growth, biological membranes to porous media, two-phase flows, fluid-structure interactions, and shape optimization. We first give an introduction to classical methods from differential geometry and systematically derive the governing equations from physical principles. Then we will analyse parametric approaches to interface evolution problems and derive numerical methods which will be thoroughly analysed. In addition, implicit descriptions of interfaces such as phase field and level set methods will be analysed. Finally, we will discuss numerical methods for complex interface evolutions and will focus on two phase flow problems as an important example of such evolutions.