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Nota di contenuto	Computational Methods for Plasticity; CONTENTS; Preface; Part One Basic concepts; 1 Introduction; 2 Elements of tensor analysis; 3 Elements of continuum mechanics and thermodynamics; 4 The finite element method in quasi-static nonlinear solid mechanics; 5 Overview of the program structure; Part Two Small strains; 6 The mathematical theory of plasticity; 7 Finite elements in small-strain plasticity problems; 8 Computations with other basic plasticity models; 9 Plane stress plasticity; 10 Advanced plasticity models; 11 Viscoplasticity; 12 Damage mechanics; Part Three Large strains 13 Finite strain hyperelasticity 14 Finite strain elastoplasticity; 15 Finite elements for large-strain incompressibility; 16 Anisotropic finite plasticity: Single crystals; Appendices; A Isotropic functions of a

symmetric tensor; B The tensor exponential; C Linearisation of the virtual work; D Array notation for computations with tensors; References; Index

Sommario/riassunto

The subject of computational plasticity encapsulates the numerical methods used for the finite element simulation of the behaviour of a wide range of engineering materials considered to be plastic - i.e. those that undergo a permanent change of shape in response to an applied force. Computational Methods for Plasticity: Theory and Applications describes the theory of the associated numerical methods for the simulation of a wide range of plastic engineering materials; from the simplest infinitesimal plasticity theory to more complex damage mechanics and finite strain crystal plasticity m