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Nota di contenuto	Contents ; Preface ; 1 Modeling Dynamic Fracture Using Large-Scale Atomistic Simulations ; 1 Introduction ; 2 Large-scale atomistic modeling of dynamic fracture: A fundamental viewpoint ; 3 Constrained cracks in homogeneous materials: How fast can cracks propagate? 4 Dynamical crack tip instabilities 5 Dynamic crack propagation along interfaces between dissimilar materials: Mother- daughter- and granddaughter cracks ; 6 Summary and conclusion ; Acknowledgments ; References ; 2 Dynamic Crack Initiation Toughness ; 1 Introduction 2 Mode I initiation toughness: Compact compression Specimen and H integral 3 The one-point impact technique ; 4 Specific issues related to the one-point impact technique ; 5 Characteristic experimental results ; 6 On the rate sensitivity of the dynamic initiation toughness 7 Dynamic mode II loading 8 Effects of thermomechanical couplings in fracture ; 9 Discussion and conclusion ; References

; 3 The Dynamics of Rapidly Moving Tensile Cracks in Brittle Amorphous Material
; 1 Introduction
2 A quantitative comparison of the equation of motion with experiment
3 Instability in dynamic fracture ; 4 Crack Front Waves ; 5 Three Dimensional Effects and Crack Front Inertia ; 6 Discussion and conclusions ; References ; 4 Optical Methods for Dynamic Fracture Mechanics
1 Photoelasticity

Sommario/riassunto

Covering a wide variety of topics in dynamic fracture mechanics, this volume presents state-of-the-art experimental techniques and theoretical analysis on dynamic fracture in standard and exotic materials. Written by world renowned researchers, this valuable compendium contains eleven chapters on crack initiation, crack propagation, crack arrest, crack-stress wave interactions, and experimental, analytical and numerical methods in dynamic fracture mechanics.
Contents:

- Modeling Dynamic Fracture Using Large-Scale Atomistic Simulations (H-J Gao & M J Buehler)
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