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   Nota di contenuto   Deformation -- Approximate Yield Criterion for Anisotropic Porous
                       Sheet Metals and its Applications to Failure Prediction of Sheet Metals
                       Under Forming Processes -- A Dilatational Plasticity Theory for
                       Aluminum Sheets -- Internal Hydrogen-induced Embrittlement in Iron
                       Single Crystals -- A Comprehensive Model for Solid State Sintering and
                       Its Application to Silicon Carbide -- Mapping the Elastic-plastic Contact
                       and Adhesion -- The Critical Shear Stress to Transmit A Peierls Screw
                       Dislocation Across A Non-slipping Interface -- Self-organizing
                       Nanophases on a Solid Surface -- Elastic Space Containing A Rigid
                       Ellipsoidal Inclusion Subjected to Translation and Rotation -- Strain
                       Percolation in Metal Deformation -- Diffusive Instabilities in Dilating
                       and Compacting Geomaterials -- Fracture -- Fracture Mechanics of An
                       Interface Crack between a Special Pair of Transversely Isotropic
                       Materials -- Path-independent Integrals Related to The J-integral and
                       Their Evaluations -- On the Extension of The Jr Concept to Significant
                       Crack Growth -- Effect of T-stress on Edge Dislocation Formation at A

Crack Tip Under Mode I Loading -- Elastic-plastic Crack Growth Along Ductile/Ductile Interfaces -- Study of Crack Dynamics Using the Virtual Internal Bond Method -- Crack Tip Plasticity in Copper Single Crystals -- Numerical Simulations of Subcritical Crack Growth by Stress Corrosion in An Elastic Solid -- Energy Release Rate for a Crack with Extrinsic Surface Charge in a Piezoelectric Compact Tension Specimen -- Micromechanics of Failure in Composites -- J-integral Applications to Characterization and Tailoring of Cementitious Materials.

Sommario/riassunto	Modern Solid Mechanics considers phenomena at many levels, ranging from nano size at atomic scale through the continuum level at millimeter size to large structures at the tens of meter scale. The deformation and fracture behavior at these various scales are inextricably related to interdisciplinary methods derived from applied mathematics, physics, chemistry, and engineering mechanics. This book, in honor of James R. Rice, contains articles from his colleagues and former students that bring these sophisticated methods to bear on a wide range of problems. Articles discussing problems of deformation include topics of dislocation mechanics, second particle effects, plastic yield criterion on porous materials, hydrogen embrittlement, solid state sintering, nanophases at surfaces, adhesion and contact mechanics, diffuse instability in geomaterials, and percolation in metal deformation. In the fracture area, the topics include: elastic-plastic crack growth, dynamic fracture, stress intensity and J-integral analysis, stress-corrosion cracking, and fracture in single crystal, piezoelectric, composite and cementitious materials. The book will be a valuable resource for researchers in modern solid mechanics and can be used as reference or supplementary text in mechanical and civil engineering, applied mechanics, materials science, and engineering graduate courses on fracture mechanics, elasticity, plasticity, mechanics of materials or the application of solid mechanics to processing, and reliability of life predictions.