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Micromechanics, Deformable Media and Damage Mechanics; CHAPTER 9. MICROMECHANICS OF FAILURE AT HIGH STRAIN RATES: THEORY, EXPERIMENTS, AND COMPUTATIONS

1. INTRODUCTION

2. PHYSICALLY BASED ANALYTICAL MODELING OF VOID GROWTH AND VOID COLLAPSE IN SINGLE CRYSTALS; 3. EXPERIMENTS; 4. COMPUTATIONAL MODELING; REFERENCES; CHAPTER 10. SOME ADVANCES IN THE ANALYSIS OF SEMIDEFORMABLE MEDIA; 1. INTRODUCTION; 2. SUMMARY OF THEORY; 3. NUMERICAL EXAMPLES; 4. CONCLUDING REMARKS; REFERENCES; CHAPTER 11. A MODEL FOR PREDICTING DAMAGE DEPENDENT DAMPING IN LAMINATED COMPOSITES; NOTATION; INTRODUCTION; MATHEMATICAL MODEL; DISCUSSION OF RESULTS; CONCLUSIONS; REFERENCES; CHAPTER 12. INTEGRATION IN COMPUTATIONAL PLASTICITY; 1. INTRODUCTION

2. CONSTITUTIVE FORMULATIONS IN PLASTICITY

Sommario/riassunto

Computational structural mechanics (CSM) and computational fluid dynamics (CFD) have emerged in the last two decades as new disciplines combining structural mechanics and fluid dynamics with approximation theory, numerical analysis and computer science. Their use has transformed much of theoretical mechanics and abstract science into practical and essential tools for a multitude of technological developments which affect many facets of our life. This collection of over 40 papers provides an authoritative documentation of major advances in both CSM and CFD, helping to identify future directio
