



IJDM Special Issue on Microstructural Mechanics and Damage Mechanics of Materials

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IJDM Special Issue on Microstructural Mechanics and Damage Mechanics of Materials

Guest Editors: Lizhi Sun and J. Woody Ju

The special issue of *International Journal of Damage Mechanics* on 'Microstructural Mechanics and Damage Mechanics of Materials' is motivated by the Symposium on Recent Advances in Microstructural Mechanics and Damage Mechanics as part of the 2004 International Mechanical Engineering Congress and Exposition (IMECE), held at Anaheim, California, during November 14–19, 2004. The selected papers in this special IJDM journal issue and the next issue encompass a variety of state-of-the-art macromechanical and micromechanical constitutive-damage formulations and computational implementations for multi-phase heterogeneous materials.

We would like to express our gratitude to the authors for contributing their quality work to the special journal issues. All papers have been rigorously peer-reviewed following the standard IJDM review criteria. Furthermore, we express our sincere appreciation to IJDM Chief Editor Professor C.L. Chow for his support of the concept of this special issue.

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LIST OF SEVEN PAPERS FOR THE IJDM SPECIAL ISSUE

1. Y. Wei, C.L. Chow, P. Vianco, and E. Fang, “Isothermal Fatigue Damage Model for Lead-free Solder”.
2. M. Cheng and W. Chen, “Modeling Transverse Behavior of Kevlar KM2 Single Fibers with Deformation-induced Damage”.
3. J.G. Berryman, “Estimates and Rigorous Bounds on Pore-fluid Enhanced Shear Modulus in Poroelastic Media with Hard and Soft Anisotropy”.
4. L. Shen and Z. Chen, “A Numerical Study of the Size and Rate Effects on the Mechanical Response of Single Crystal Diamond and UNCD Films”.
5. R.J. Dorgan and G.Z. Voyiadjis, “A Mixed Finite Element Implementation of a Gradient Enhanced Coupled Damage-plasticity Model”.
6. J.W. Ju, P. Ko and H. Ruan, “Effective Elastoplastic Damage Mechanics for Fiber Reinforced Composites with Evolutionary Complete Fiber Debonding”.
7. G.H. Paulino, H.M. Yin and L.Z. Sun, “Micromechanics-based Interfacial Debonding Model for Damage of Functionally Graded Materials with Particle Interactions.

Papers 1–4 appear in vol. 15/2 and papers 5–7 in vol. 15/3.