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Journal of the Mechanics and Physics of Solids

Volume 61, Issue 3, Pages 701-912 (March 2013)

Iterated linear comparison bounds for viscoplastic porous materials with “ellipsoidal” microstructures

Original Research Article

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The kinetic relation for twin wall motion in NiMnGa—part 2

Original Research Article

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Stress heterogeneities in earthquake rupture experiments with material contrasts

Original Research Article

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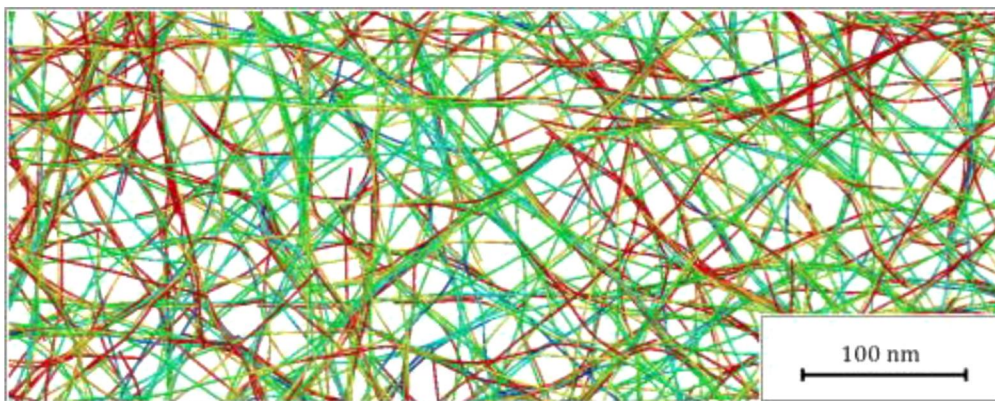
A distinct element method for large scale simulations of carbon nanotube assemblies

Original Research Article

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Igor Ostanin, Roberto Ballarini, David Potyondy, Traian Dumitrică

Graphical abstract



Multi-scale modeling and experimental study of twin inception and

propagation in hexagonal close-packed materials using a crystal plasticity finite element approach—Part I: Average behavior

Original Research Article

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Hamidreza Abdolvand, Mark R. Daymond

Multi-scale modeling and experimental study of twin inception and propagation in hexagonal close-packed materials using a crystal plasticity finite element approach; part II: Local behavior

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Original Research Article

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Original Research Article

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P. Ciarletta, L. Preziosi, G.A. Maugin

A model for a constrained, finitely deforming, elastic solid with rotation gradient dependent strain energy, and its specialization to von Kármán plates and beams

Original Research Article

Pages 873-885

A.R. Srinivasa, J.N. Reddy

Skeleton-and-bubble model of polyether-polyurethane elastic open-cell foams for finite element analysis at large deformations

Original Research Article

Pages 886-911

Tapan Sabuwala, Gustavo Gioia

Highlights

► We formulate a new micromechanical model of elastic open-cell foams. ► The model includes bubbles to represent broken membranes in a foam. ► We integrate the model in a finite element code and carry out 3D simulations. ► Phase transition is the dominant deformation mechanism at large strains. ► Bubbles play a cardinal role at large deformations.