Finite element modelling and simulation of phase transformations in shape memory alloy thin films

Mahapatra, D.R. and Melnik, R.V.N.

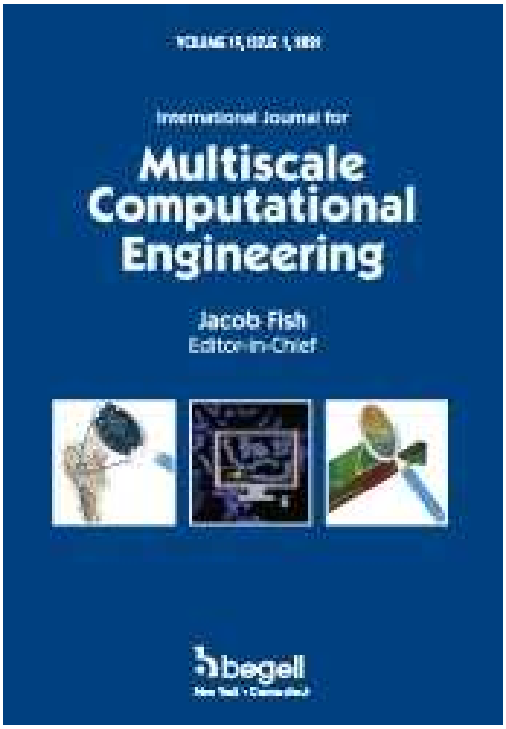
International Journal for Multiscale Computational Engineering, 5 (1), 65--71, 2007.

Abstract:

A unified variational framework and finite element simulations of phase transformation dynamics in a shape memory alloy thin film are reported in this paper. The computational model is based on an approach that combines the lattice-based kinetics involving the order variables and non equilibrium thermodynamics. Algorithmic and computational issues are discussed. Numerical results on phase nucleation under mechanical loading are reported.

==

International Journal for Multiscale Computational Engineering



ISSN Print:1543-1649 | ISSN Online:1940-4352