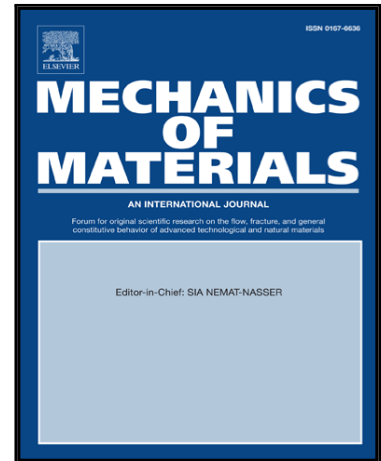


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Predictions of Cyclic Yielding Behavior of Solids Based on a Nonequilibrium Thermodynamic Theory

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Highlights

- Stability of thermodynamic steady state determines the yield behavior of solids.
- Yield criteria of different solids are derived combining with Lyapunov theory.
- Kinetic hardening of solids depends on the evolution of residual stress/strain.
- Yield surface hardening and multi-axial fatigue behavior are well predicted.

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