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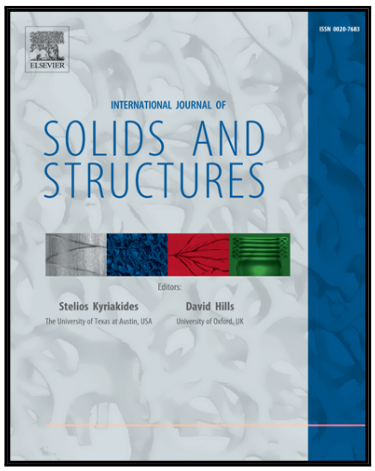

Numerical modeling of time- and temperature-dependent strain-induced crystallization in rubber

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Highlights

- Temperature]dependent SIC is modeled at the microscale via an FE representation.
- Modeling of time]dependent SIC kinetics is addressed.
- SIC is computed for the principal directions of the strain field.
- Induced anisotropy effects in the material's mechanical and thermal response are captured.
- SIC on the microscale is computed from the structural response of a steady state rolling tire.

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