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On modeling viscoelasticity at finite strains

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Abstract

We critically observe the modern approaches to formulation of constitutive equations of finite viscoelasticity. We emphasize the limitations of some formulations concerning both mathematical and physical aspects. We discuss a purely Eulerian formulation of finite viscoelasticity and show its applications to simulations of crack propagation. References Volokh KY (2025) On “viscous potentials” and modeling of viscoelastic solids, submitted Volokh (2019) Mechanics of Soft Materials. Springer. Volokh (2024) Modeling Failure and Fracture of Soft Solids and Fluids. Springer.

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