

Nonlinear Models in Thermo-Viscoelasticity

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Abstract

In this talk, I present a quasistatic nonlinear model in thermo-viscoelasticity at finite strains within the Kelvin–Voigt rheology, where both the elastic and the viscous stress tensors satisfy the principle of frame indifference. Weak solutions are obtained by means of a staggered time-discretization scheme in which the deformation and the temperature are updated alternately. In particular, we discuss the relevance of frame-indifferent approximation schemes.