

ASYMPTOTIC STABILITY RESULTS FOR MODELS IN MICROPOLAR VISCOELASTICITY

ABSTRACT. In this talk, we consider two dynamic systems arising in micropolar viscoelasticity where the material structure is assumed to have macroscopic and microscopic levels. For each case, the conservative equations will be linked to each of the dissipative equation by means of a mechanism related to the gradient vector of the displacement (or micro-displacement). As consequence, the coupling is quite weak, and we cannot expect a rapid dynamic toward the equilibrium state. Specifically, under some fairly general hypotheses, we will show results where the solutions do indeed tend toward the equilibrium state in a polynomial way.

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References.

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