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Mathematical modeling of bioactive arterial wall. (English) Zbl 1424.35203

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Summary: Biological tissues and their artificial substitutes are composed by different fibers and possess complex viscoelastic properties. Here the most popular 3-element and 5-element rheological models of human soft tissues as viscoelastic bodies are considered accounting for the time delay between the load and mechanical respond of the material. The obtained data compared to the experimental curves got on the vessel wall and heart tissues.

MSC:

35K05 Heat equation

76Z05 Physiological flows

Keywords:

active biomaterials; visioelastic fluids; rheology; mathematical modelling

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