A VARIANTE OF THE OLDROYD-B VISCOELASTIC MODEL APPLIED TO BLOOD FLOW

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ABSTRACT

A variant of the model viscoelastic Oldroyd-B is applied to the blood flow simulations. The viscoelastic extra stress tensor is decomposed into its traceless (deviatoric) and spherical parts, leading to a reformulation of the classical model of Oldroyd-B [1]. The equivalence between the two models is established by comparing the model predictions for simple test cases. The new model is validated using several problems benchmark in 2D, which reproduce difficulties in the simulation flow of blood in blood vessels or medical devices. The structure and the new model of behavior are discussed.

Acknowledgements

References

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