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**ANDRÉ FORTIN**, Université Laval

*An adaptive remeshing method for free surface viscoelastic fluid flow problems*

In this work, we describe an adaptive remeshing method which can be applied to the computation of viscoelastic fluid flow problems involving free surfaces. We first introduce a log-conformation formulation of the constitutive equation and a level set method for the computation of free surfaces.

The methodology is then applied to the deformation of droplets in shear flow and to put in evidence the importance of secondary flows in coextrusion problems.