



Rheology of Advanced Complex Fluids

Guest Editor:

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Message from the Guest Editor

The deformation and flow of polymeric or structured materials, which are also called complex fluids, is essentially controlled by their molecular chemistry and, consequently, their inherent rheological properties, their so-called material functions. Synthetic or biological structured fluids contain more than one phase, such as solid particles dispersed in a liquid, gas particles in foam, or an emulsion of immiscible liquids. On the other hand, polymeric and biopolymeric fluids have macromolecular structures. In the first case, the rheological behavior is dominated by the interactions of the constituents, while in the second one, intramolecular forces and chain entanglements play a crucial role. The continuous effort to predict and control the rheological response of complex fluids has led to a prolonged collaboration between industry, research institutes, and academia. The current Issue aims to host contributions related to measurements through experimental methods, characterization through advanced rheometric protocols, and the constitutive modeling and flow simulation of such fluids.





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