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Waves in Viscoelastic Fluids

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Message from the Guest Editor

Considerable attention has been devoted to technological advances related to miniaturization, with particular attention to micro-scale and milli-scale devices, many of which involve the flow of fluids. Research in this field is driven by a wide variety of important applications, such as those in biotechnology, biosensor development, and the design of micro-electro mechanical systems. The discovery of elastic instabilities in viscoelastic microfluidic flows and related theoretical work have raised interest in the possibility that elastic waves may exist in these fluids. The existence of such waves may be important, not only for theoretical reasons, but may also have implications regarding enhanced transport in microflows. However, experimental evidence for these waves is scant. In this topic, we seek theoretical, experimental, and computational contributions that can elucidate the underlying physics of elastic waves in viscoelastic fluids.



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Special Issue



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Message from the Editor-in-Chief

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