



Extensional Rheology and Processing of Polymeric Materials

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Message from the Guest Editor

Processing operations are essentially governed by rheological properties. While shear rheology has widely been used for a better understanding and the modeling of processes, extensional properties of polymer melts are very sparsely discussed in these fields. This Special Issue intends to compile and assess the role of elongational flow in processing operations, such as fiber spinning, film blowing, film extrusion, blow molding, thermoforming, and foaming. Experimental results are welcome, as well as quantitative descriptions making use of models and finite element methods.

To attain a broadly-based understanding, different experimental methods should be compared and results on the time and stress dependences of elongational flow should be discussed with respect to the conditions of the various processes. Fundamental experiments with respect to the influence of the molecular structure on the extensional behavior and, in particular, to the role of long-chain branches are seen as a base for a better understanding of the processing performance of various materials.





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