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Fiber Spinning: Materials and Techniques (Second Volume)

Guest Editor:

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Message from the Guest Editor

Dear Colleagues,

Fiber spinning is one of the most complicated processes in the field of polymer processing. It is connected with the preparation of very thin and weak filaments, their collection to threads (yarns), and the final processing to textile or technical fibers and fabrics. Fiber spinning from melts is easier than from polymer solutions because when planning the subsequent processes it is necessary to overcome numerous issues connected with the choice of solvent, solution properties, and the selection of spinning method (wet, dry–wet jet, and dry), including the spinneret geometry, nature of coagulant, washing, orientation, drying procedures, and so on. Using solution spinning liquids of different chemical compositions requires a detailed consideration of their regeneration and recuperation methods. The most popular materials for precursors are cellulose and polyacrylonitrile fibers spun via solutions, as well as dopes that almost always contain additives. For these reasons, the preparation of composite fibers requires knowledge of physical and colloid chemistry, thermodynamics, rheology, chemical technology, mechanics, and other branches of science.

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Message from the Editor-in-Chief

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