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Electrospinning and mechanotropic phase separation

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Electrospinning from polymer solutions is widely used for manufacturing of nanofibrous materials. For a long time, the mechanism of electrospinning was related to fast evaporation of solvent from thin liquid jets of polymer solution in high voltage electric field. We suggest for that process another mechanism – phase separation as a result of high speed stretching typical for electrospinning. Under elongation the solution undergoes phase separation and

the solvent reveals on the surface of the fiber without its complete evaporation.

Speaker Biography

Sergey Kotomin is a professor, department of chemistry, Bauman Moscow State Technical University, leading research scientist, A V Topchiev Institute of Petrochemical Synthesis, RAS. Author of 120 scientific publications in the field of physical chemistry and processing of polymers and composites.

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