Centrifugal Spinning

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Centrifugal Spinning is a fibre-forming method in which a polymer solution or melt is ejected from a rotating nozzle or reservoir, and the centrifugal force draws the jet into a thin filament [1]. A regularized thin-fiber model describes how the jet thins and solidifies into a nanofibre [1]. Amylopectin-rich starches spin into fibres whose formation mechanism follows the evolution of the jet in the same system [2]. At high rotation speed, slip of the polymer solution governs the outcome, and poly(ethylene oxide)/poly(vinyl alcohol) composite fibres have been produced on that basis [3]. Polymer concentration and nozzle material both shift the attainable fibre diameter [4]. The process also yields fibrous scaffolds for cell culture, where the open, aligned architecture supports attachment and spreading [5].

rotary jet spinning | nanofiber | jet evolution | fiber morphology | scaffold | polymer solution

References

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