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Stretch and relax: a viscoelastic filament that displays thixotropic yield stress behavior[1] YURIKO RENARDY, HOLLY GRANT, Virginia Tech — A filament with circular cross-sectional area is stretched by controlling the distance between the ends, and then stopped. The evolution of the filament radius in the presence of gravity and surface tension is studied. The constitutive model is a combination of a Newtonian solvent and the viscoelastic partially extending strand convection model (Larson 1986) with a large relaxation time. Time-dependent solutions show phenomena with thixotropy and yield stress.

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