

1097-35-357

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We discuss a model of a viscoelastic fluid (Larson's PEC model) which is able to describe thixotropic yield stress behavior in the limit of large relaxation time. This limit naturally introduces a small parameter. We use the methods of matched asymptotics to describe the dynamics of large amplitude oscillatory shear flows. Regimes of fast, slow and yielded dynamics are identified. The relative size of the period of the oscillation to the relaxation time is of crucial importance in determining how these regimes arise during oscillatory shear flow. The fact that yielding occurs on a faster time scale than unyielding is of crucial importance, leading to an intermediate frequency range where the flow always remains yielded, while complete cycles of yielding and unyielding occur at slower frequencies. (Received January 26, 2014)