Meeting: 1005, Newark, Delaware, SS 7A, Special Session on Frontiers on Complex Fluid Flows: Analytic and Computational Methods

1005-76-97   **Michael Renardy*** (`renardym@math.vt.edu`), Department of Mathematics, Virginia Tech, Blacksburg, VA 24061-0123. *Breakup asymptotics of viscoelastic jets.*

The lecture reviews recent progress on the asymptotic analysis of breakup of viscoelastic jets. As in the Newtonian case, the breakup of viscoelastic jets can be described by similarity solutions, but a number of new phenomena are possible, such as breakup over a finite length of the jet and breakup which is driven not by surface tension, but by elastic forces. I shall also discuss the role of inertia and the analysis of the post-breakup retraction. (Received February 01, 2005)