1001-35-242 **Daniel D. Joseph***, Department of Aerospace Engineering and Mecha, Minneapolis, MN 55455.
Viscous and Viscoelastic Potential Flow.

Recent results will be reviewed and new results presented which establish that in all cases in which potential flow satisfies the equations of motion for viscous (or viscoelastic) fluids, it is neither necessary nor useful to put the viscosity to zero. Stated more severely these results suggest that the inviscid part of potential flow theory may be deleted. (Received August 27, 2004)