

Abstract Submitted  
for the DFD16 Meeting of  
The American Physical Society

**Viscoelastic Squeeze Flow** NARIMAN ASHRAFI<sup>1</sup>, Department of Mechanical Engineering, Payame Noor University, 19395-3697, Tehran, Iran, MEHDI SHAFABI<sup>2</sup>, Science and Research Branch, Islamic Azad University, Tehran, Iran — The squeeze flow of a nonlinear viscoelastic flow is studied. In particular the flow of an upper-convected Maxwell fluid between two approaching disks of is analyzed. The momentum and continuity equations together with constitutive relations are solved by a low-order method. Both no slip and slip boundary conditions are considered. Next, stress components are evaluated and flow stability is investigated. It is observed that as the disks approach velocity is increased the developed stresses, which are interrelated to velocity gradients through the constitutive relation, are altered exponentially. This analysis is applicable to many industrial instances of such as lubrication as well as natural joints.

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Date submitted: 04 Aug 2016

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