Abstract Submitted
for the MAR05 Meeting of
The American Physical Society

Dielectric Susceptibility Studies of the Glass Transition of Glycerol at High Pressure[1] KYAW WIN, NARAYANAN MENON, University of Massachusetts — We have measured the dielectric susceptibility of glycerol as a function of frequency (0.01Hz-10kHz), temperature (190K-250K) and pressure (0-9kB). The glass transition temperature T_g increases with increasing pressure, however, the thermal fragility, which measures the rate of approach to T_g, is independent of pressure. This result is in contrast to studies based on viscosity measurements which probe a higher frequency range, where it was found that fragility increases with pressure. We have also found that the width of relaxation when plotted as a function of the relaxation frequency is only weakly dependent on pressure within this range.

[1]We acknowledge support from NSF DMR 0305396

Kyaw Win
University of Massachusetts

Date submitted: 02 Dec 2004 Electronic form version 1.4