Abstract Submitted
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Slowing dynamics of supercooled glycerol in the volume-temperature plane[1] NARAYANAN MENON, K. WIN, University of Massachusetts Amherst — We have measured[2] the dielectric susceptibility of supercooled glycerol from 0.01 Hz to 100 kHz at up to 900 MPa and close to the glass transition temperature. We find that the glass transition temperature and isobaric fragility increase with pressure. We separate the effects on the relaxation frequency of volume and temperature by studying the glass transition in the V-T plane. By introducing a generalized fragility we quantify these effects and show that V and T contribute almost equally to dynamic slowing-down. We exploit a connection between the generalized fragility and a recently discovered scaling exponent to show that these results are likely to hold for other fluids.

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[2]K. Z. Win and N. Menon, cond-mat/0508648

Narayanan Menon
University of Massachusetts Amherst

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