

## The supercooled liquid at high pressure - the missing link?

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It is widely appreciated that the transport properties (e.g., viscosity, diffusion) of silicate melts are intimately linked to melt structure and the time scales of structural relaxation. These linkages have been explored extensively at low pressure, but our understanding is far more limited for high-pressure conditions relevant to the Earth's deep interior. These shortcomings are partly related to the difficulties making *in situ* measurements at high pressure, and partly because most measurements are made either on quenched glasses or superheated melt. In this talk we examine connections between glass and liquid behavior with a focus on the glass transition at high pressure and anomalous compressibility. New results obtained by X-ray microtomography/ absorption, ultrasonic interferometry, and melt-quench and annealing experiments are used to interrogate the properties of the supercooled liquid. These results together with high temperature viscosity measurements permit more refined interpolation of transport properties within the melting interval of silicate rocks at high pressures.