1046-00-941 **Erland M Schulson*** (erland.schulson@dartmouth.edu), Tuck Drive, Hanover, NH 03755. *Sea Ice: Fracture and Frictional Sliding on Small and Large Scales.*

Arctic sea ice, whether as a floating cover or a laboratory specimen, exhibits oriented linear kinematic features when loaded to terminal failure under biaxial compressive stress states. The features mark sliding fractures. They appear, at least in some cases, to be similar to strike-slip faults within Earth's crust. The corresponding failure envelope on both the large and small scales may be described as a truncated Coulombic envelope: its slope is scale-independent, implying that the internal friction coefficient is a scale-invariant property of the material. The size of the envelope is spatially and temporally dependent, increasing with decreasing size and with increasing time. The implication is that brittle failure of the sea ice cover is characterized not by a single envelope, but by a set of nested envelopes. We interpret this behavior in terms of multi-scale fracture and frictional sliding. (Received September 12, 2008)