

Abstract Submitted
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Universal Breakdown of Elasticity at the Onset of Material Failure CRAIG MALONEY, UCSB Physics / LLNL Chem. & Mat.Sci., ANAËL LEMAÎTRE, UCSB Physics / L.M.D.H. Univ. Paris VI — We show that, in the athermal quasi-static deformation of amorphous materials, the onset of failure is accompanied by universal scalings associated with a *divergence* of elastic constants. A normal mode analysis of the non-affine elastic displacement field allows us to clarify its relation to the zero-frequency mode at the onset of failure and to the crack-like pattern which results from the subsequent relaxation of energy.

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