

Abstract Submitted
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Damage Fingers in Brittle Transparent Ceramics MICHAEL GRINFELD, TODD BJERKE, DANIEL CASEM, US Army Research Laboratory, PAVEL GRINFELD — New experimental, theoretical, and numerical results related to dynamic failure in brittle transparent solids are presented. Several penetration experiments with transparent glasses and ceramics show that failure fronts have an extremely rough morphology, including appearance of spikes and cracks. The suggested thermodynamic theory allows the appearance of the roughness as a manifestation of morphological instability of failure fronts. The novel theoretical results are based on the thermodynamic paradigm suggested in the references below.

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