

# A Variational Approach to Modelling Initiation of Fracture in Nonlinear Elasticity

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**ABSTRACT.** In this paper we present an overview of a variational approach to modelling the initiation of fracture in a nonlinearly elastic material. The work is motivated by experiments on polymers in which cracks initiate at cavities that form in the polymer sample under sufficiently severe loading.

**Key words:** Nonlinear elasticity, cavitation, energy momentum, tensor.