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MICROMECHANICAL SIMULATIONS OF STRAIN LOCALIZATION IN POLYMER COMPOSITES

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Abstract. In order to predict the mechanical behavior of polymer composites it is essential to understand the mechanisms at the matrix fiber interface. It is of fundamental importance to accurately describe the effects of load transfer as well as damage in the interfacial region and strain localization in the matrix. Here we will show finite element and phase field simulations to describe explicitly onset of strain localization and propagation in crazes and shear bands in polymer composite materials.

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