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SOME INSIGHTS INTO MICROMECHANICAL MODELLING

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Abstract

Micromechanical modelling provides a powerful framework for linking material microstructure with macroscopic performance. In this talk, I will share some insights into the principles and applications of micromechanical approaches. Key questions will be considered: What is micromechanical modelling and what purposes does it serve? What types and numbers of parameters are essential? Which intrinsic parameters truly drive fracture, and which arise naturally as consequences of the deformation process? To what extent are the model parameters transferrable across different systems? By addressing these issues, I aim to highlight the potential and the limitations of micromechanical modelling, and to stimulate discussion on its role in advancing predictive tools for assessing material and structural integrity.