



Karlstad Applied Analysis Seminar (2022)

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Identification of Processes Governing Damage Evolution in Linear-Elastic Continua

Abstract

In the context of damage mechanics, the intimate relation of displacements and damage still remains an open question and is dependant on the specific type of damage evolution, e.g. brittle, fracture, fatigue. In this presentation a parameter identification setting is proposed that aims to reconstruct the aforementioned coupling in the shape of a Nemytskii operator from full-field measurements. Aside from giving a brief introduction to damage mechanics and presenting the main setting for this undertaking, the talk focuses on the analysis part of retrieving all necessary ingredients for a suitable reconstruction method.