Treating inelastic problems with the basic scheme

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Abstract

The purpose of this presentation is two-fold. For a start, we will discuss treating inelastic problems in mechanics by reducing them - after discretization in time - to a sequence of (pseudo-)elastic problems. Thus, it suffices to understand how to solve (non-linearly) elastic problems, plus some book-keeping. Secondly, we will derive the basic scheme for (non-linear, small-strain) elasticity, and uncover it as a particular gradient-descent method. In particular, we may import the rich theory and experience available for gradient descent.

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