

# A coupled isotropic elasto-plastic damage model based on incremental minimization principles

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## **Abstract**

In the present paper, a variational formulation of an isotropic elasto-plastic damage model is proposed. As prototype model, a coupled formulation originally introduced by LEMAITRE is considered. It is governed by non-linear and non-associative evolution equations. The variational approach advocated within the present paper allows to compute all state variables by means of energy minimization. The performance of the proposed framework is illustrated by a comparison between the novel variational method and a standard return-mapping scheme.