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Modelling of large deformations of elastoplastic solids using FEM

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Abstract

© Published under licence by IOP Publishing Ltd.The paper is devoted to development of technique for numerical studies of finite elastoplastic deformations. The kinematics of the medium is described by the deformation gradient tensor. Incremental method based on the equation of principle of virtual work is used. The von Mises criterion of plasticity is applied. The constitutive relationships are obtained for the Cauchy stress rate tensor. Computer implementation is based on finite elements method.

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