

On implicit integration of a general form of rate-independent plasticity

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SUMMARY

An efficient implementation of the plastic flow computation is presented for a general form of rate-independent plasticity model, where neither the yield criterion is restricted to a simple (quadratic) form, nor the elastic tangent modulus is constant. It is demonstrated how the consistent elasto-plastic tangent modulus can be constructed in a systematic manner even in this general case. With the resulting simplifications of the proposed algorithm in the case of classical plasticity model, we recover standard reduction of plastic flow computation to a single scalar equation.
