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**Adaptive time stepping in elastoplasticity.** (English) Zbl 1454.74138  
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Summary: Using rate-independent evolutions as a framework for elastoplasticity, an a posteriori bound for the error introduced by time stepping is established. A time adaptive algorithm is devised and tested in comparison to a method with constant time steps. Experiments show that a significant error reduction can be obtained using variable time steps.

**MSC:**

- 74S05 Finite element methods applied to problems in solid mechanics
- 65M15 Error bounds for initial value and initial-boundary value problems involving PDEs
- 74C05 Small-strain, rate-independent theories of plasticity (including rigid-plastic and elasto-plastic materials)

**Keywords:**

plasticity; time discretization; error control; adaptivity

**Full Text:** [DOI](#)

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