

Continuum Elastoplasticity - Finite Strain

Simple tension example

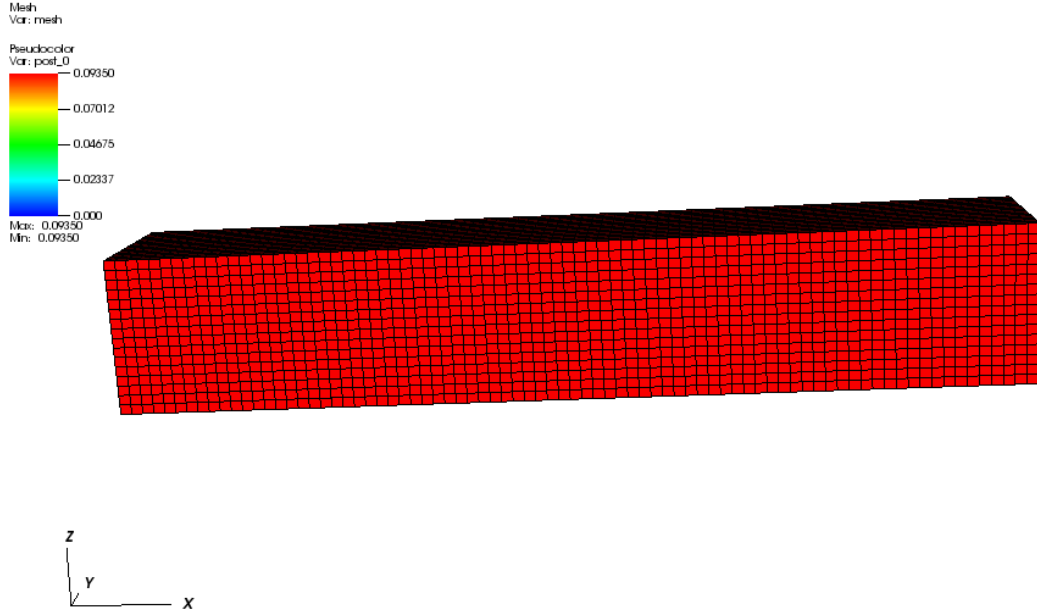


Figure 1: Deformation scaled by $1 \times$.

Domain: $5 \times 1 \times 1$

Mesh: $80 \times 16 \times 16$.

Boundary conditions: $u_1 = 0$ at $x_1 = 0$; $u_2 = 0$ at $x_2 = 0$; $u_3 = 0$ at $x_3 = 0$; $u_1 = 0.5$ at $x_1 = 5$

Parameter	Value
Lamé constant λ	100.6582e9
Lamé constant μ	45.6473e9
Yield stress	33.014025e6
Linear hardening coefficient	2.0259e9
Basis function order	1
Quadrature order	2
Pseudo-time steps	100