

1 Solids 1D examples

The governing equations are:

1. Conservation of linear momentum

$$\frac{d\sigma_{xx}}{dx} + \rho g_x = 0 \quad (1)$$

2. Constitutive Equation for Linear Elastic Isotropic Material

$$\sigma_{xx} = E\epsilon_{xx} \quad (2)$$

3. Kinematics

$$\epsilon_{xx} = \frac{\partial u_x}{\partial x} \quad (3)$$

1.1 Bar with axial force

This subsection is going to be modified by me:

Jacob