

Navier's Equations

$$\frac{E}{2(1+\nu)} \sum_{j=1}^3 \frac{\partial^2 u_i}{\partial x_j \partial x_j} + \frac{E}{2(1+\nu)(1-2\nu)} \sum_{j=1}^3 \frac{\partial^2 u_j}{\partial x_i \partial x_j} + f_i = 0 \quad i = 1, 2, 3$$

u_j ... displacement in x_j direction

f_j ... force/unit volume