



**Asymptotic Assumption**

$$u(x, t) = u^{(0)}(x, t) + \epsilon u^{(1)}(x, y, t) + \dots$$

**Macroscopic  $O(\epsilon^0)$**

$$\rho^0 \partial_{tt} u^{(0)} - \nabla \cdot \sigma(u^{(0)}) = 0$$

$$\sigma(u^{(0)})_{ij} = C_{ijkl}^{hom} e_{kl}(u^{(0)})$$

**Microscopic  $O(\epsilon^{-1})$**

$$u^{(1)} = N^{rs}(y, t) e_{kl}(u^{(0)})$$