

$$\frac{D\mathbf{v}}{Dt} = \frac{\partial \mathbf{v}}{\partial t} + \mathbf{v} \cdot \text{grad} \mathbf{v}$$

$$p_{ij} = -p \delta_{ij}$$

$$\frac{D\bar{\mathbf{v}}}{Dt} = \rho^{-1} \text{grad}(p)$$

$$\frac{\partial}{\partial t} \left(\frac{1}{2} \rho \mathbf{v}^2 \right) + \bar{\mathbf{v}} \cdot \text{grad} \left(\frac{1}{2} \rho \mathbf{v}^2 \right)$$