

$$p = \mathcal{P} - \mathcal{P}_0$$

$$s = (\rho - \rho_0)/\rho_0$$

$$\underbrace{\Omega \frac{\partial \rho}{\partial t}}_{\text{massi muutus}} = - \underbrace{\int_S \rho \vec{u} d\vec{S}}_{\text{voog pinnast}}$$

$$\underbrace{\rho \Omega \frac{D\vec{u}}{Dt}}_{\text{inertsijoud}} = - \underbrace{\int_S p d\vec{S}}_{\text{rohu resultant}}$$

$$\int_S \rho \vec{u} d\vec{S} \approx \nabla(\rho u) \Omega$$

$$\int_S p d\vec{S} \approx \vec{\nabla} p \Omega$$

$$\frac{\partial \rho}{\partial t} + \vec{\nabla}(\rho \vec{u}) = 0$$

$$\rho \frac{D\vec{u}}{Dt} + \vec{\nabla} p = 0$$

$$\rho = \rho_0(1 + s)$$

$$\partial \rho_0 / \partial t = \partial s / \partial x = 0$$

$$\frac{D\vec{u}}{Dt} = \frac{\partial \vec{u}}{\partial t} + \underbrace{(\vec{u} \cdot \vec{\nabla}) \vec{u}}_{=0}$$

$$\mathcal{P} - \mathcal{P}_0 \approx \mathcal{B}(\rho - \rho_0)/\rho_0$$

$$p \approx \mathcal{B}s$$

$$s \propto p$$

$$\rho_0 \frac{\partial s}{\partial t} + \vec{\nabla} \cdot (\rho_0 \vec{u}) = 0$$

$$\rho_0 \frac{\partial \vec{u}}{\partial t} + \vec{\nabla} p = 0$$

$$c^2 = \mathcal{B}/\rho_0 \quad \frac{\partial}{\partial t}$$

$$\vec{\nabla} \cdot$$

$$\nabla^2 p = \frac{1}{c^2} \frac{\partial^2 p}{\partial t^2}$$