

$$\frac{\partial u_i}{\partial x_i} = 0$$

$$\begin{aligned} & \frac{\partial u_i}{\partial t} + \frac{\partial}{\partial x_j} (u_j u_i) \\ = & \frac{1}{\rho} \frac{\partial p}{\partial x_i} + \nu \frac{\partial^2 u_i}{\partial x_j \partial x_j} \end{aligned}$$

$$\begin{aligned} & \frac{\partial T}{\partial t} + \frac{\partial}{\partial x_j} (u_j T) \\ & = \alpha \frac{\partial^2 T}{\partial x_j \partial x_j} \end{aligned}$$