

Velocity gradient

$$\tilde{G}_{ij}^t = \partial_j \tilde{u}_i^t$$

SGS

$$\tau_{ij}^{\Delta,t} = -2(C_S \Delta)^2 |\tilde{S}^t| \tilde{S}_{ij}^t$$

Convective term

$$\tilde{u}_j^t (\partial_j \tilde{u}_i^t - \partial_i \tilde{u}_j^t)$$

Poisson solver

$$\partial_j \partial_j \tilde{p}^{*t} = \partial_k \Gamma_k^t$$

Time

intergration

$$t = t + \Delta t$$