⑥ Boundary conditions

The surface boundary conditions at $s=0$ are derived from (1.7) - (1.9)

$$\frac{K_H}{H_0}\frac{\partial u}{\partial s} = \tau_s^{\xi}(\xi,\eta,t) \quad ; \quad \frac{K_H}{H_0}\frac{\partial v}{\partial s} = \tau_s^{\eta}(\xi,\eta,t) \tag{4.24}$$

$$\frac{K_H}{H_0}\frac{\partial T}{\partial s} = \frac{Q_T}{\rho_0 C_p} \tag{4.25}$$

$$\frac{K_H}{H_0}\frac{\partial S}{\partial s} = \frac{E-P}{\rho_0} \tag{4.26}$$

The bottom boundary conditions at $s=-1$ are derived from (1.10) - (1.12)

$$\frac{K_M}{H_0}\frac{\partial u}{\partial s} = \tau_b^{\xi}(\xi,\eta,t) \quad ; \quad \frac{K_M}{H_0}\frac{\partial v}{\partial s} = \tau_b^{\eta}(\xi,\eta,t) \tag{4.27}$$

$$\frac{K_H}{H_0}\frac{\partial T}{\partial s} = 0 \tag{4.28}$$

$$\frac{K_H}{H_0}\frac{\partial S}{\partial s} = 0 \tag{4.29}$$