$$q = \beta y + \left[\nabla^2 + \frac{\partial}{\partial z}\left(\frac{f_0^2}{N^2}\frac{\partial}{\partial z}\right)\right]\psi$$

$$\vec f \times \vec u_g = -\frac{1}{\rho}\nabla_z p$$

$$Bu = \left(\frac{Ro}{Fr}\right)^2$$

$$f = 2\omega\sin\phi$$

$$\mathcal{E}(k) = \mathcal{K}\epsilon^{2/3}k^{-5/3}$$

$$\frac{D\vec v}{Dt} = -\frac{\nabla p}{\rho} + \nu\nabla^2\vec v + \vec F$$

$$c_p = c_v + R$$

$$\sigma \sim \frac{U}{L_d} = \Lambda\frac{f_0}{N}$$

$$Ro = \frac{U}{fL}$$

$$\omega = \bar u k - \frac{\beta k}{\kappa^2}$$

$$L_\nu \sim \left(\frac{\nu^3}{\epsilon}\right)^{1/4}$$

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

$$\mathcal{F} = -\overline{u'v'}\vec j + \frac{f_0}{N^2}\overline{v'b'}\vec k$$

$$B = \frac{\vec v^2}{2} + c_p T + gz = \mathrm{const}$$

$$p = \rho R T$$

$$dI = T\,d\eta - p\,d\alpha + \mu\,dS$$

$$C = \oint \vec v\cdot d\vec l$$

$$(U - c)\left(\tilde\psi_{yy} - k^2\tilde\psi\right) + (\beta - U_{yy})\tilde\psi = 0$$

$$m = (u + \Omega r\cos\vartheta)\,r\cos\vartheta$$

$$\left(\frac{\partial u}{\partial z}\frac{\partial w}{\partial y} - \frac{\partial v}{\partial z}\frac{\partial w}{\partial x}\right) \quad \left(\frac{\partial\rho}{\partial x}\frac{\partial p}{\partial y} - \frac{\partial\rho}{\partial y}\frac{\partial p}{\partial x}\right) \quad \left(\frac{\partial F_y}{\partial x} - \frac{\partial F_x}{\partial y}\right)$$

$$N^2 = -\frac{g}{\tilde\rho}\frac{\partial\tilde\rho}{\partial z}$$

$$\frac{\partial}{\partial t}\left\{\iint \frac{1}{2}\frac{\overline{q'^2}}{\partial_y\bar q}\,dy\,dz - \int\left[\frac{1}{2}\frac{f_0}{N^2}\frac{\overline{b'^2}}{\partial_y\bar b}\right]_0^H dy\right\} = 0$$

$$f = 2\Omega\sin\phi$$

$$\theta = \theta(\psi)$$

$$\theta_0 - \frac{\theta_0\Omega^2 y^4}{2gHa^2}$$

$$\Gamma_d = \frac{g}{c_p}$$

$$\frac{D}{Dt}\left(\frac{\vec\omega_a\cdot\nabla\theta}{\rho}\right) = 0$$

$$\frac{D}{Dt}\oint \vec v\cdot d\vec r$$

$$\frac{de_s}{dT} = \frac{L_c e_s}{R_v T^2}$$

$$\vec F_c = -2\vec\Omega\times\vec v$$

$$f_0(\vec u_1 - \vec u_2) = g'\vec k\times\nabla\eta$$

$$\theta = T\left(\frac{p_0}{p}\right)^\kappa$$

$$\frac{D\theta}{Dt} = \frac{1}{c_p}\left(\frac{\theta}{T}\right)\dot Q$$

$$\vec\omega = \nabla\times\vec v$$

$$\psi' = \mathrm{Re}\,\Psi e^{i(kx+ly+mz-\omega t)}$$

$$\frac{\partial p}{\partial z} = -\rho g$$

$$dQ = c_p\,dT - \alpha\,dp$$

$$\omega^2 = \frac{K^2N^2}{k^2+m^2}$$