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

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

$$\omega = \overline{u}k - \frac{\beta k}{K^2}$$

$$B = \frac{u^2}{2} + c_pT + gz = \mathrm{const}$$

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

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

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

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

$$f_0(\vec{u}_1 - \vec{u}_2) = g'\vec{k}\times\nabla\eta$$

$$\frac{\partial v}{\partial y}\Bigg) + \left(\frac{\partial u}{\partial z}\frac{\partial w}{\partial y} - \frac{\partial v}{\partial z}\frac{\partial w}{\partial x}\right) + \frac{1}{\rho^2}\left(\frac{\partial \rho}{\partial x}\frac{\partial p}{\partial y} - \frac{\partial \rho}{\partial y}\frac{\partial p}{\partial x}\right) + \left(\frac{\partial F_y}{\partial x} - \frac{\partial F_x}{\partial y}\right)$$

$$\mathrm{Ek} = \left(\frac{A}{f_0H^2}\right)$$

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

$$\theta = \theta(0) - \frac{\theta_0\Omega^2y^4}{2gHa^2}$$

$$\mathrm{APE} = \frac{R\overline{p_S}^{-\kappa}}{2}\int_0^{p_s} p^{\kappa-1}\left(-g\frac{\partial\theta}{\partial p}\right)\overline{\theta'^2}\,dp$$

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

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

$$\mathrm{Co} = \frac{\omega}{f}$$

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

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

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

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

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

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

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

$$\nabla\cdot\mathcal{F} = \mathcal{D}$$

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

$$p = \rho RT$$