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

$$Bu=\left(\frac{Ro}{Fr}\right)^2 \qquad \sigma\sim\frac{U}{L_d}=\Lambda\frac{f_0}{N}$$

$$\frac{D}{Dt}(\zeta+f)=-(\zeta+f)\left(\frac{\partial u}{\partial x}+\frac{\partial v}{\partial y}\right)+\left(\frac{\partial u}{\partial z}\frac{\partial w}{\partial y}-\frac{\partial v}{\partial z}\frac{\partial w}{\partial x}\right.$$

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

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

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

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

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

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