

$$\omega = \dot{\psi} + \dot{\varphi} = \frac{I_0}{I_3} \dot{\varphi} \qquad \omega = \dot{\varphi}$$

$$E = \frac{L^2}{2I_3} \qquad E = \frac{L^2}{2I_0}$$

$$\dot{\psi} \quad \dot{\varphi}_0 \quad \dot{\varphi}$$

$$\dot{\psi}_{max} = \frac{\Delta I}{I_3} \dot{\varphi} \cong 4.3 \dot{\varphi}$$