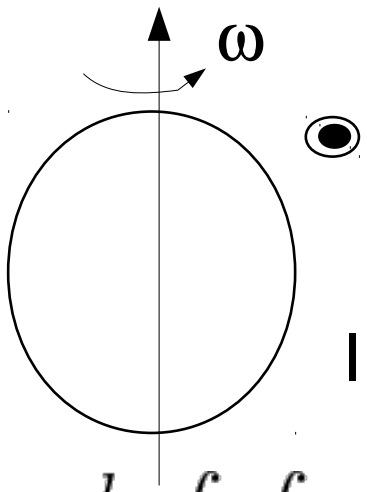
Comentarios problema 5.13



B_0

$$\varepsilon = -\frac{d\phi}{dt} = -\frac{d}{dt}\int\int B_0\hat{z}.\hat{n}dS = \dot{\theta}B_0 sin(\theta)$$

$$U_m = \frac{1}{2}I\frac{\dot{\theta}^2}{2}$$

$$P_d = \varepsilon i$$

$$\varepsilon = iR + L\frac{di}{dt}$$ despreciable

$$\frac{dU_m}{dt} = P_d \qquad 0 \leq \theta \leq 2n\pi$$

$$P_d = \frac{dU_{rot}}{dt} = \frac{1}{2}I_0 2\dot{\theta}\frac{d\dot{\theta}}{dt} = \frac{1}{2}I_0 2\dot{\theta}^2\frac{d\dot{\theta}}{d\theta}$$

$$P_d = i^2R = \varepsilon^2/R = (B_o A\dot{\theta}sin(\theta))^2/R$$

$$\frac{B_o^2A^2sin^2(\theta)}{R} = \frac{1}{2}I_0 2\frac{d\dot{\theta}}{d\theta}$$

$$\int_{\omega_o}^{0} d\dot{\theta} = \int_0^{2n\pi}\frac{B_o^2A^2sin^2(\theta)}{I_oR}d\theta$$