

Generators and Torque

$$\varepsilon = \omega A B \sin(\phi)$$

Voltage!

Connect loop to resistance R use $I=V/R$:

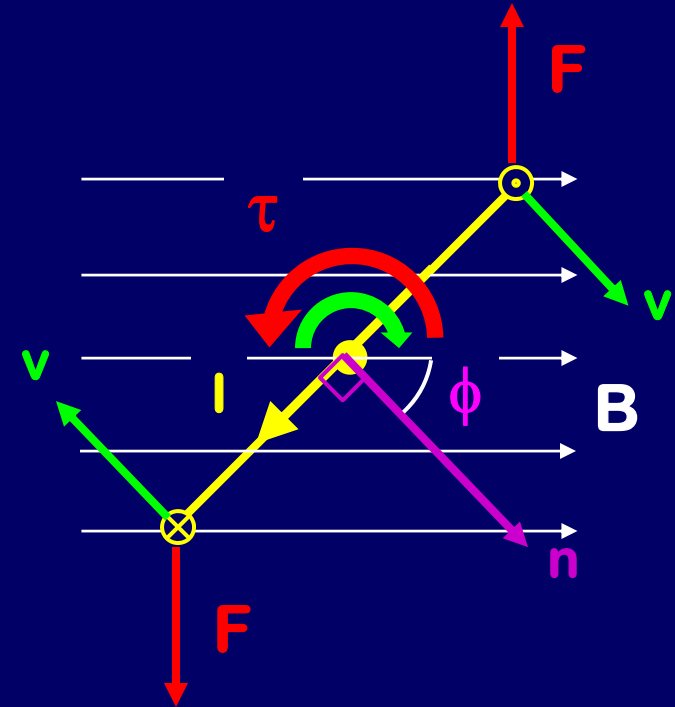
$$I = \omega A B \sin(\phi) / R$$

Recall:

$$\tau = A B I \sin(\phi)$$

$$= \omega A^2 B^2 \sin^2(\phi) / R$$

Direction: use RHR1



Torque, due to current and B field, tries to slow spinning loop down.
Must supply external torque to keep it spinning at constant ω