

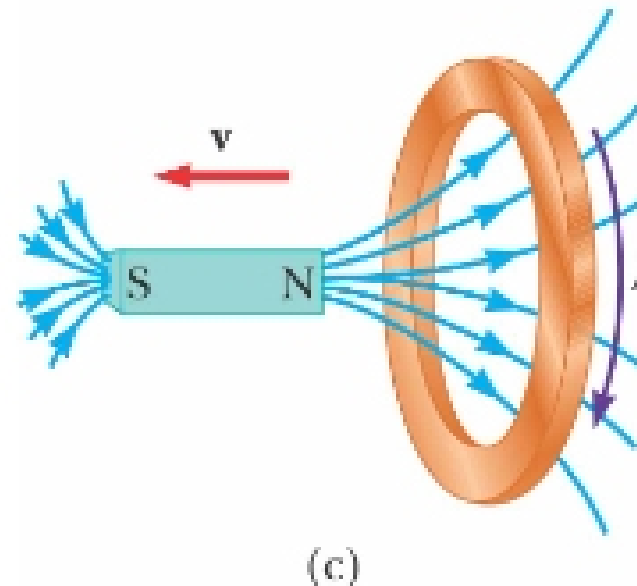
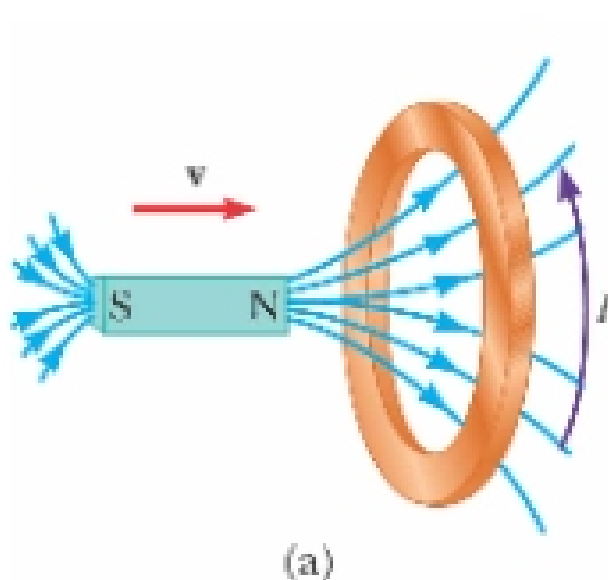
Physics 202, Lecture 16

Today's Topics

- **Reminder of Lenz's and Faraday's Laws**
- **Motional EMF**
- **Electric Generators**

Lenz's Law (Reminder)

- The emf due to change of magnetic flux **tends to** create a current which produces a magnetic field to compensate the change of original magnetic flux.
 - Note: Real current may or may not be generated.
 - Lenz's law is a convenient way to determine the direction of the emf due to magnetic flux change.



Review: Lenz's Law

- Lenz's law in plain words: the induced emf always **tends to** work against the original cause of flux change

Cause of $d\Phi_B/dt$	"Current" due to Induced \mathcal{E} will:
Increasing B	generate B in opposite dir.
Decreasing B	generate B in same dir.
Relative motion	subject to a force in opposite direction of relative motions

Note: "Current" may not actually produced if no circuit)