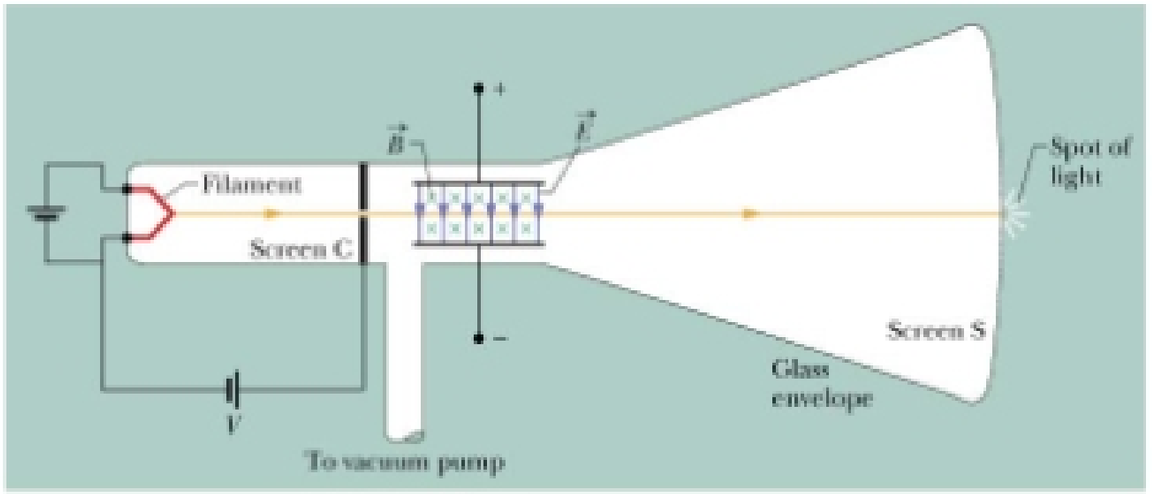
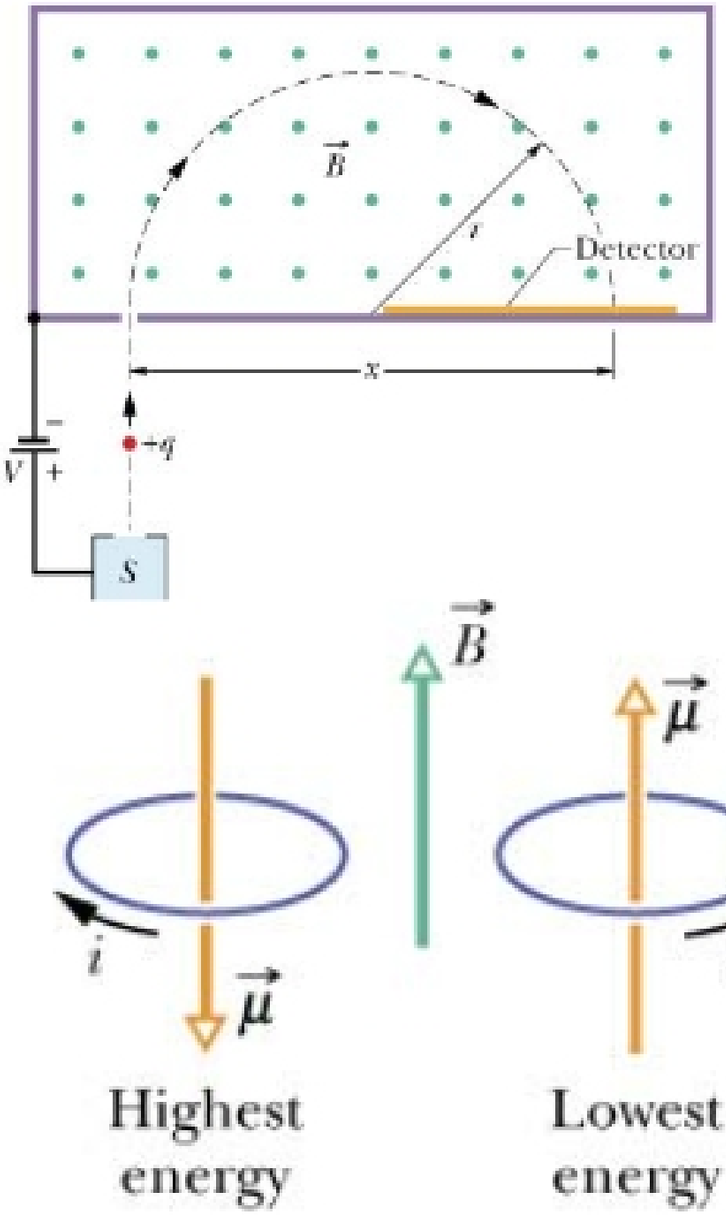
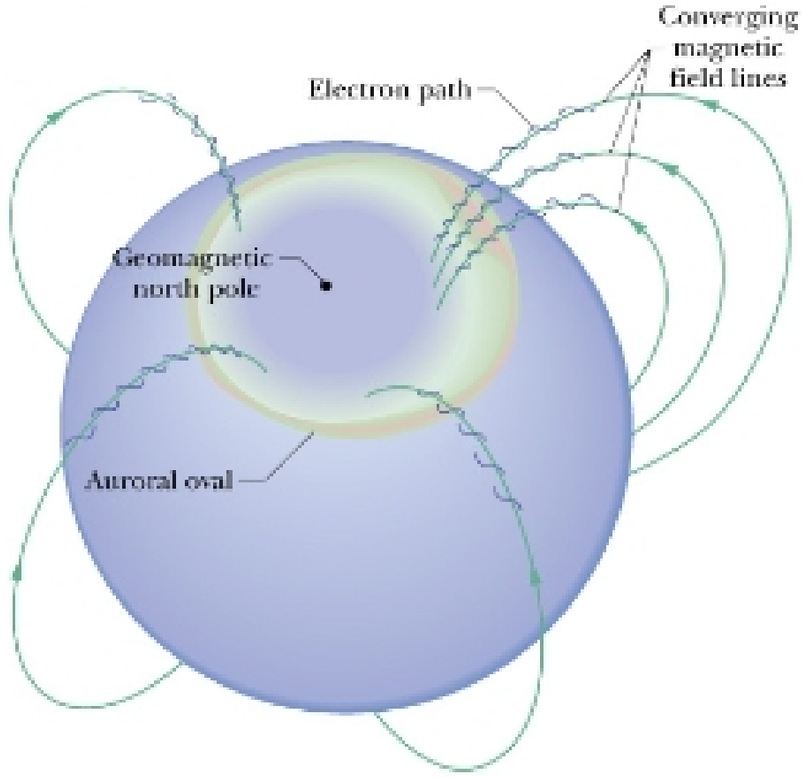
Chapter 19: Magnetic Fields







Magnetic Fields

- Magnetic field (units, field lines)
  - Magnetic field of the earth and other astronomical objects
- Effects of magnetic fields on charges and currents
  - Force on a moving charge
  - Force on a current
  - Torque on a current loop
  - Path followed by particle in magnetic field
- Generating magnetic fields
  - Long wire
  - Current loop
  - Solenoid
- Instruments
  - Mass spectrometers
  - Cyclotrons and synchrotrons

Reading Quiz

➔The magnetic force on a moving charged particle is:

- (1) Perpendicular to the velocity
- (2) Parallel to the velocity
- (3) Parallel to the B field
- (4) Independent of the velocity
- (5) None of the above