

CONCEPTUAL PROBLEMS, Chapter 34

Phys 2401, Dr. Huang

Fill in a **T/F** answer for each statement below:

1. [] Maxwell's equations predicted the existence of electromagnetic (EM) waves that propagate through space at the speed of light.
2. [] The electric and magnetic components of a plane EM wave are always perpendicular to each other.
3. [] Like a sound wave, propagation of EM waves requires air as a medium.
4. [] The fundamental source of EM radiation is accelerating of charged particles.
5. [] The rate of flow of energy crossing a unit area is given by the Poynting vector.
6. [] For an plane EM wave, the energy density of the electric field is larger than that of the magnetic field.