

7/15/14 Today we went over the last part of Chapter 20 with the powerpoint. Then we went over some clicker questions. Finally, we took a quiz.

20.4 Electromagnetic Waves

↳ a form is visible light

James Clerk Maxwell showed how the electric and magnetic fields could be viewed as a single electromagnetic field, with the following properties:

A time-varying magnetic field produces a time-varying electric field.

A time-varying electric field produces a time-varying magnetic field.

We have studied the first, but the second is new. We will not study it in detail, but will use its consequences.

- accelerating charge - electromagnetic radiation

radio tower / tv antenna \rightarrow free electrons moving up and down

20.4 Electromagnetic Waves

\rightarrow produces electromagnetic radiation

An accelerating charge produces an electromagnetic wave. The electric and magnetic fields are perpendicular to each other and to the direction of propagation of the wave.

both field

(travel)

