

Answer on Question #50286-Physics-Electromagnetism

Types of waves.

Answer

Different types of waves exhibit specific characteristics. These characteristics are used to distinguish between wave types. Orientation of particle motion relative to the direction of energy propagation is one way waves are characterized. There are three categories:

Longitudinal waves - Movement of the particles are parallel to the motion of the energy. Sound waves moving through the air are an example of this type of wave.

Transverse waves - movement of the particles are at right angles (perpendicular) to the motion of the energy. Movement of a wave through a solid object like a stretched rope or a trampoline is an example of this type of wave.

Surface waves - particles travel in a circular motion. These waves occur at interfaces. Examples include waves in the ocean and ripples in a cup of water. One consequence of occurring at an interface is that the motion of the particles diminishes with distance from the interface. The further from the interface the smaller the rotation of the particles until as some distance from the surface, there is no more movement or energy propagation.