

Answer on Question #44411, Physics, Electromagnetism

what is magnetic wave.

Solution :

In physics, a **wave** is disturbance or oscillation that travels through matter or space, accompanied by a transfer of energy. **Wave motion** transfers energy from one point to another, often with no permanent displacement of the particles of the medium—that is, with little or no associated mass transport. They consist, instead, of oscillation or vibrations around almost fixed locations. Waves are described by a wave equation which sets out how the disturbance proceeds over time. The mathematical form of this equation varies depending on the type of wave.

A **magnetic field** is the magnetic influence of electric currents and magnetic materials. The magnetic field at any given point is specified by both a *direction* and a *magnitude* (or strength); as such it is a **vector field**. The term is used for two distinct but closely related fields denoted by the symbols **B** and **H**, which are measured in units of tesla and ampere per meter respectively in the **SI**. **B** is most commonly defined in terms of the Lorentz force it exerts on moving electric charges.

So magnetic wave – is a process of propagation of oscillations of vector **B or H**

For example :

So $\bar{B}(t, \bar{r}) = \bar{B}_0 \sin(wt - \bar{k}\bar{r})$, where w, k, \bar{B}_0 some constants