# INTRODUCTION TO WAVE PHYSICS

Physics is a branch of pure science that studies energy and how they affect matter. The branches of physics tend to study a particular and how that type of energy affects matter. Thus Mechanical physics studies mechanical energy, Electrical physics studies electrical energy and Thermal physics studies heat energy.

Every form of energy can exert force. Some forces act while in contact while others act not in contact but in a vacuum and are called field forces. Usually some force fields travels as waves and some contact forces create waves.

Wave is simply an agent that transfers energy (and its corresponding force) through a medium. We can define wave as a disturbance that travels through a medium transferring energy from one point to another without causing any permanent displacement to the in medium.

Some kinds of energy exist primarily as waves unlike mechanical, electrical and non-radiation

thermal energies. They are propagated and travel as waves. Examples are sound energy and light energy.

Sound waves (or energy) are mechanical waves, as they require a material medium for their propagation. Other mechanical waves are water wave and waves on string or rope.

Light waves (or energy) are electromagnetic waves do not require a material medium for propagation. Other examples are radio waves, X-rays and gamma rays.

Wave physics studies how waves, whether mechanical or electromagnetic, are propagated and affect matter. Optics (or light physics), Acoustics and Electromagnetics are all examples of wave physics.