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# CONVERSION OF SOUND ENERGY TO ELECTRICAL ENERGY USING PIEZOELECTRIC CRYSTAL

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## Abstract

The need for electricity is growing very rapidly. Energy is the basic necessity for life. We all know energy provides us luxury and comfort. But the electricity produced is not able to satisfy the present demands and it is very difficult to imagine life without electricity. Since there is a constant depletion of energy sources we need to find some non conventional sources of energy to generate electricity. In this Modern World there is lot of noise pollution on roads, airports, in industries etc. There are many opportunities for converting vibrations into electrical power. Vehicular traffic produces intense mechanical disturbances. we can think of converting this sound energy into electricity. Sound is a vibration that propagates as a mechanical wave of pressure and displacement, through some medium (such as air or water). Sometimes sound refers to only those vibrations with frequencies that are within the range of hearing for human. The pressure created by the sound could be used to convert it into electric energy. we know mechanical energy can be converted into electricity. Piezo material converts mechanical strain into electric energy this property of piezo material could be used to make a device which would be able to sustainably convert the sound energy to electric energy. Electricity can be produced by the noise of the vehicles and can be used for lighting the street lights, from conversations, mobile phones can be charged , and the electricity generated can also be used for small household applications.

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**Keywords :** Energy Harvesting, Piezoelectricity, conversion, Piezoelectric crystals, vibrations, Sound energy, Electricity.