

Detail of Project under INUP, DIT (Govt. of India) Scheme

Title : Electret based Micro-power Generators for Energy Harvesting Devices.

Funding Agency: D.I.T. under INUP Scheme.

Project Implementation: I.I.T. Bombay.

Duration: 6 Months.

Summary & Objective: Energy harvesting is now attracting much attention targeting at their application to RFIDs, implantable medical equipments and automotive sensors. In order to meet the increasing demand of power consumption of portable devices, micro power generation is also a recent topic of interest. Micro power generation using electrets has been presented in this project due to its large power output at a low frequency range. An electret is a dielectric material with a quasi-permanent charge. We will start from the fabrication of electret. After suitable charging of electret, power generation experiment would be conducted. In this experiment, the electret would be mounted on one electrode which is fixed, can also be called as 'substrate' having suitable structure. Now another electrode, called as 'counter electrode' would be placed on top of substrate. After which if in-plane oscillations are provided, amount of induced charge on the electrode is changed due to change in overlapping area and electric current is generated in the external circuit.