

# **APPLICATION OF ELECTROMAGNETIC INDUCTION USING TRANSISTOR**

**PHYSICS PROJECT**

# ACKNOWLEDGEMENT

Apart from the efforts of me and my teammates, the success of any project depends largely on the encouragement and guidelines of many others. I take this opportunity to express my gratitude to the people who have been instrumental in the successful completion of this project.

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I express my deep sense of gratitude to the luminary The Chairman, Sir Clemence Thottappilly, The Principal Sir Jose Joseph Alumkal and The Vice Principal Ms. Livya P.V who has been continuously motivating and extending their helping hand to us.

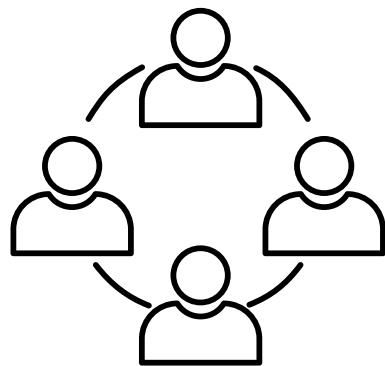
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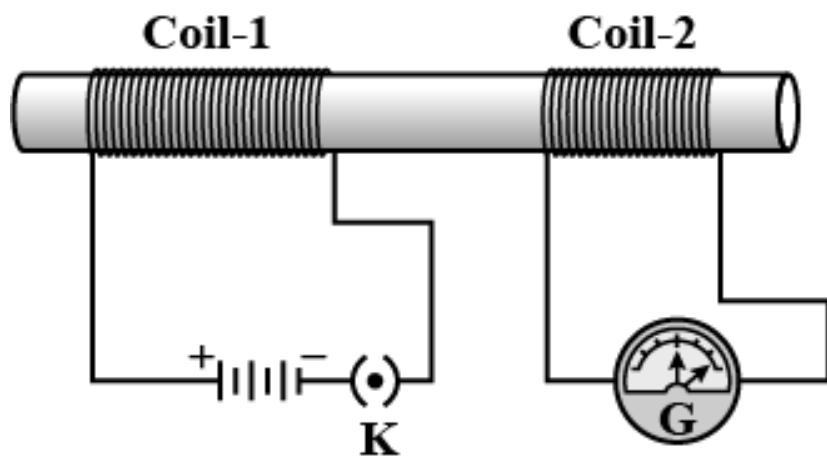


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# AIM

To study the phenomenon of  
**Electromagnetic Induction**



# INTRODUCTION

Electromagnetic induction is the production of a potential difference (voltage) across a conductor when it is exposed to a varying magnetic field.

Electromagnetic induction is when an electromagnetic field causes molecules in another object to flow. Induction can produce electricity (in coils), heat (in ferrous metals), or waves (in a radio transmitter).

Finally, it is referring to the phenomenon where an emf is induced when the magnetic flux linking a conductor change.

# APPARATUS

# THEORY

Wireless electricity, also known as wireless power transfer, is the transmission of electrical energy from one point to another without the use of any physical wires or cables. This is typically accomplished using electromagnetic fields, which can be generated using transistors. Transistors are electronic devices that are used to amplify or switch electronic signals. In the case of wireless electricity, transistors can be used to generate electromagnetic fields, which can then be used to transfer electrical energy from one point to another without the need for physical wires.

To understand how this works, it is first important to understand the basics of electromagnetism. An electromagnet is a type of magnet that is created by running an electric current through a coil of wire. This creates a magnetic field around the coil, which can be used to attract or repel other magnetic objects. By carefully controlling the direction and strength of the electric current, the magnetic field can be manipulated to produce a variety of effects.

In the case of wireless electricity, transistors are used to generate an electromagnetic field that is capable of transmitting electrical energy from one point to another. This is typically done by creating two magnetic fields that are out of phase with each other, which creates a shifting magnetic field that is capable of transmitting electrical energy through the air. This shifting magnetic field is then used to transfer electrical energy from a transmitting device to a receiving device, without the need for any physical wires or cables.

# PROCEDURE

# OBSERVATION

# CONCLUSION

- Do all the connection carefully
- Do not scratch insulated copper wire while making loop
- Do not use digital voltmeter for above demonstration
- Do not use very thick or thin copper wire
- Use only insulated copper wire
- Keep your self safe from high voltage
- Before doing any experiment please consult to your subject teacher or lab assistance

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