# "USE OF PELTIER EFFECT IN REFRIGERATION SYSTEM"

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## ABSTRACT

In this automation scenario when everyone is serious about glaciers melting & ozone layer depletion so it's important to do which helps in overcoming this problem. Many type of refrigerator are made using refrigerant which to extent affect our environment. Then it strikes to make a refrigerating system in which there is no use of refrigerant so there is an option of vapour absorption system. Now the problem occurs about its shape refrigeration system with absorption system is heavy & bulky. This leads our project to thermo-electric cooling using concept of See beck effect.

With reference to various research papers published in various scientific journals it has been evident that a lot of work is done in the field of thermoelectric cooling while some of the research papers and books depicts that the efficiency of this themo-electiric refrigeration system is not more. To increase the efficiency of this thermo-electric cooling refrigeration system a Peltier junction is used with fin and a forced convection process to increase the heat dissipation from the outsource of Peltier junction. The total arrangement is studied, fabricated & analyzed. The result hence obtained shows that this refrigeration system is useful in journey period, carrying medicines and making the temp of the food stuff stable at what they were kept. Without any harm to our environment.

### PRINCIPLE

- It works on the principle of the Peltier Effect.
- **Peltier Effect** - The Peltier Effect is the phenomenon that a potential difference applied across a thermocouple causes a temperature difference between the junctions of the different materials in the thermocouple.
- This effect is the opposite of the Seebeck effect.
- The hot junction can be placed outside of an insulated area and the cold junction can be placed inside the region.
- The Peltier effect can be used to cool a region.

**IMAGE OF THE PROJECT**

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