

Answer on Question #51474, Physics, Other

When the junctions of two dissimilar metals are maintained at different temperatures an electromotive force is set up in the circuit of which these junctions are part. A pair of junctions of this kind and the effect are known respectively as

Answer:

When a pair of dissimilar metals is joined together for the purpose of measuring temperature, the device formed is called a **thermocouple**. Thermocouples made for instrumentation use metals of high purity for an accurate temperature/voltage relationship (as linear and as predictable as possible).

A temperature difference will cause a voltage to be developed that is temperature dependent. This is known as the **thermoelectric effect** or **Seebeck effect**.

The Seebeck effect is fairly linear; that is, the voltage produced by a heated junction of two wires is directly proportional to the temperature. This means that the temperature of the metal wire junction can be determined by measuring the voltage produced. Thus, the Seebeck effect provides for us an electric method of temperature measurement.