THE HUTCHINS SCHOOL, AUSTRALIA

Effect of Distance and Temperature on Magnetic Field Strength of a Permanent Magnet.

— Johannes Peters

Purpose of the project:

The purpose of the project was to determine the effect temperature and distance on the magnetic field strength of a magnet. It was hypothesised that: the higher the temperature the lower the magnetic field strength and the larger the distance between magnet and tesla meter the lower the magnetic field strength.

Procedures and Data:

The materials used for the experiment were a magnet, a tesla meter and a ruler. For the purpose of the project a holding device was built to eliminate inconsistency due to a change in orientation of the magnet. The experiment was conducted at three different temperatures with eight different distances measured at each temperature.

Results:

There was a 6.93% decrease in magnetic field strength between 10-40°C and on average a 42.19% decrease in magnetic field strength for each centimetre the magnet was moved away from the tesla meter.

Conclusion:

The experiment supports the fact that magnetic field strength is affected by distance and temperature.