LabNotebook

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1 Objectives

The goal this lab was to recognize the relationships between temperature and conductivity for different types of metals.

2 Setup

Samples were provided by the lab, which were an assortment of many different types of rod. Same as in Lab 1A.

2.1 Materials

Brass, Phosphor Bronze, and Aluminum were the three materials our group chose.

2.2 Tools

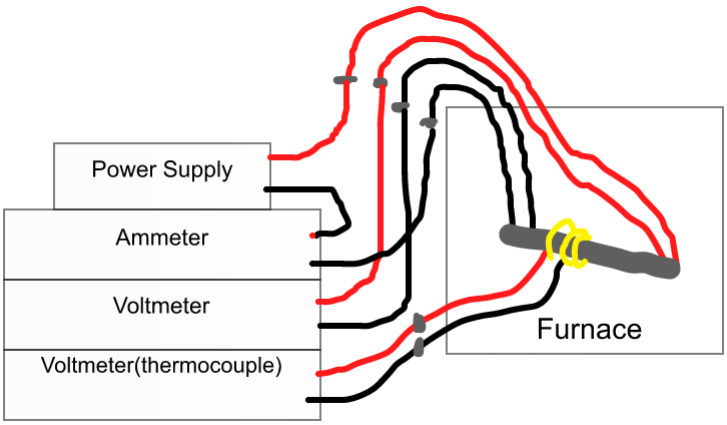
Our group used power sources and multimeters for our measurements, as well as a thermocouple and a furnace.

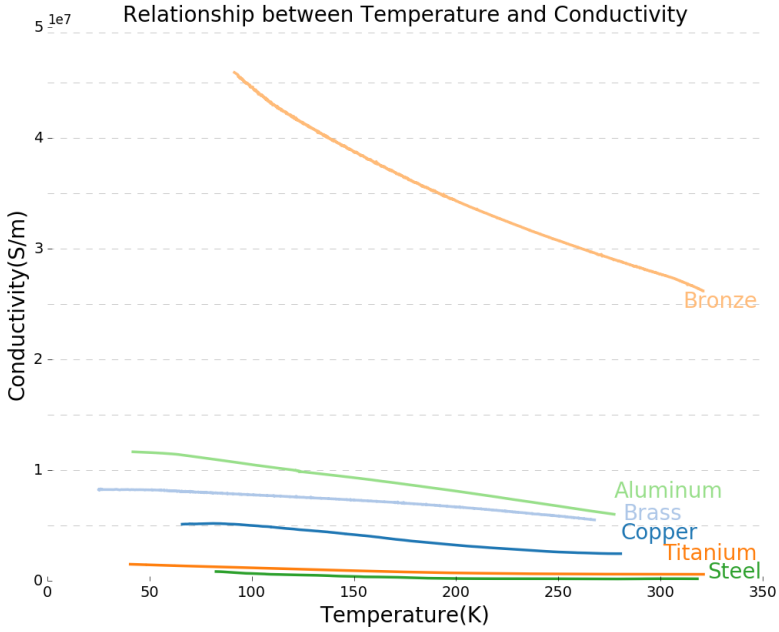
3 Procedure

We added a thermocouple, wrapping it around the sample. This was to measure voltage, which we can convert to temperature. The integrated labview software is able to generate the necessary data, and automatically does all the conversions we need. A diagram of this setup is shown below

4 Results

The data collected made it possible to plot temperature vs conductivity, shown below.





5 Observations

The general relationship we expect, which was the inverse relationship between temperature and conductivity, is seen to hold. We can also see how this varies between different types of materials.