

- (b) It is suggested that the current through the wire, I , varies with the length of wire, l , according to the equation:

$$\frac{1}{I} = \frac{\rho}{EA}l + \frac{r}{E},$$

where, A = cross-sectional area of the wire
 ρ = resistivity of the wire
 r = internal resistance of the power supply.

A graph of $\frac{1}{I}$ against l should give a straight line with a positive intercept on the y axis.

Take a suitable set of results to confirm this relationship, and record these results clearly in a table below.

Remember to include a column for $\frac{1}{I}$.

[5]

Repeat readings are not needed for this experiment.

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