

Sample Calculations for lab 05

Showing complete details with units, do the following calculations.

A wire carries a current $I=0.5$ A in the $+x$ direction and is 0.1 m long. What is the required vector magnetic field in order to produce a force on this wire of $\vec{F}=1N \hat{y}$?

A wire carries $\vec{I}\vec{L}=0.3 \hat{x} Am$. An external magnetic field is given by $\vec{B}=0.3 \hat{x}+0.7 \hat{y}T$. What is the vector force on this wire?