

Homework 22.

Challenging problem:

Upper ends of two vertical metal rods are connected with a metal wire (see Figure below) and form Π -shape frame. Another metal rod (AB) of length $l=0.5\text{cm}$ and mass $m=1\text{g}$ can slide down the frame without friction while maintaining electrical contact with the frame. The entire system is placed in magnetic field $B=0.01\text{T}$, directed perpendicular to the picture frame. Rod AB is sliding down with a constant velocity $v=1\text{m/s}$. Find resistance R of the rod AB (neglect the resistance of the frame).

