

Magnetics 1

1. Calculate the relative magnetic permeability for a metal, when the magnetic intensity field has the amplitude 10^4 [$\text{A}\cdot\text{m}^{-1}$] and the magnetic induction field has the amplitude 3.14159 [T] ($\mu_0 = 4\pi\cdot 10^{-7}$ $\text{H}\cdot\text{m}^{-1}$)
 2. Calculate the magnetic potential Ψ of a magnetic dipole for the calculation point positions $\theta = 90^\circ$ and the magnetic dipole moment 4π [$\text{N}\cdot\text{m}/\text{T}$].
 3. A rectangular loop of dimensions 3 cm by 5 cm is placed perpendicular in a uniform magnetic field of magnitude 0.1 T. Find the magnetic flux through the loop.
- HW: Calculate the relative magnetic permeability for a metal, when the magnetic intensity field has the amplitude 10^4 [$\text{A}\cdot\text{m}^{-1}$] and the magnetic induction field has the amplitude 2.4π [T] ($\mu_0 = 4\pi\cdot 10^{-7}$ $\text{H}\cdot\text{m}^{-1}$)