

Worksheet 2.5

$$\rho := 1.7 \cdot 10^{-8}$$

$$\mu := 4 \cdot \pi \cdot 10^{-7}$$

$$l := 15$$

$$r := 0.5 \cdot 10^{-3}$$

$$R_{ss} := \frac{\rho \cdot l}{\pi \cdot r^2} = 0.325$$

$$F_x := \frac{4 \cdot \rho}{\mu \cdot \pi} \cdot \frac{1}{r^2}$$

$$F_x = 6.89 \times 10^4$$

$$i := 1..10000$$

$$f_i := i \cdot 10^3$$

$$R_{ci} := R_{ss} \cdot \sqrt{1 + \frac{f_i}{F_x}}$$

$$R_{skin_i} := \frac{l}{2 \cdot r} \cdot \sqrt{\frac{\mu \cdot \rho \cdot f_i}{\pi}}$$

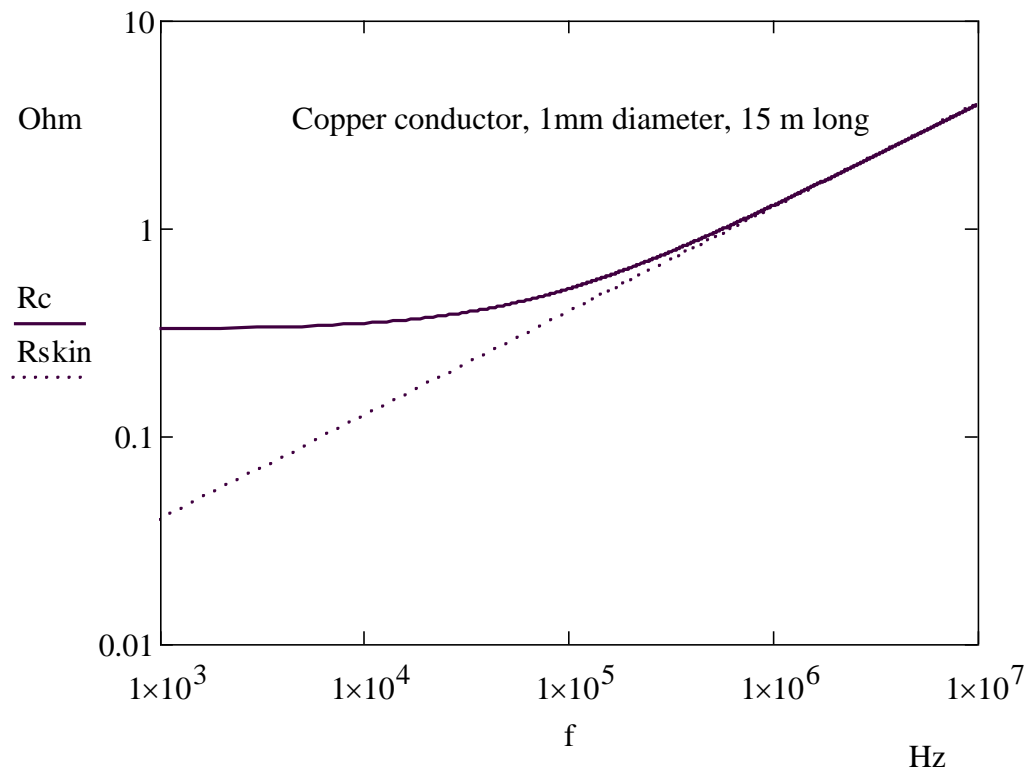


Figure 2.5.3 Relationship between resistance and frequency