

Veza između brzine svetlosti, ϵ i μ u nekoj sredini:

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$$c = \frac{1}{\sqrt{\epsilon \cdot \mu}}$$

c_0 u vazduhu (vakumu)

$$c_0 = 300\,000 \frac{\text{km}}{\text{s}}$$

$$\epsilon_0 = 8,85 \cdot 10^{-12} \text{ F}$$

$$\mu_0 = 4\pi \cdot 10^{-7} \frac{\text{Tm}}{\text{A}}$$

$$= \frac{1}{36\pi} \cdot 10^{-9} \frac{\text{F}}{\text{m}}$$

$$c = \frac{1}{\sqrt{\frac{1}{36\pi} \cdot 10^{-9} \cdot 4\pi \cdot 10^{-7}}} = \frac{1}{\sqrt{\frac{10^{-16}}{9}}} = \frac{1}{\frac{10^{-8}}{3}} =$$

$$= 3 \cdot 10^8 \frac{\text{m}}{\text{s}} = 300 \cdot 10^6 \frac{\text{m}}{\text{s}} = 300\,000 \frac{\text{km}}{\text{s}}$$

$$\mu_r = \frac{\mu}{\mu_0} \Rightarrow \mu = \mu_r \cdot \mu_0$$

↑
relativni magnetni
permeabilitet