



ИСПИТ ИЗ ОСНОВА ЕЛЕКТРОТЕХНИКЕ 2

08. 10. 2018. - Рјешења

1.

$$B = \frac{\mu_0 I}{ab\pi} \left(a - 2\sqrt{a^2 + b^2} \right).$$

2.

- a) $I_{\min} = 1,71 \text{ A},$
б) $H_{K2} \approx 915,4 \frac{\text{A}}{\text{m}}.$

3.

- a) $\underline{Z}_{ul} = \frac{\underline{U}_1}{\underline{I}_1} = j \frac{\omega L (1 - \omega^2 LC)}{1 - 2\omega^2 LC}.$
б) $\omega_{r1} = 0, \quad \omega_{r2} = 5000 \text{ rad/s}, \quad \omega_{a1} = 2500\sqrt{2} \text{ rad/s}, \quad (\omega_{a2} \rightarrow \infty \Rightarrow \underline{Z}_{ul} \rightarrow \infty),$
в) $\underline{I}_1 = \underline{I}_2 = 0.$

4.

$$U_{V1} \approx 44,7 \text{ V},$$
$$U_{V2} \approx 22,7 \text{ V}.$$

5.

- a) $\underline{E}_B = 10 \text{ kV},$
б) $\underline{S}_Z^{PZ} = \frac{1}{5} (156 - j312) \text{ MVA},$
 $\underline{S}_Z^{PO} = 12(1 - j2) \text{ MVA}.$