

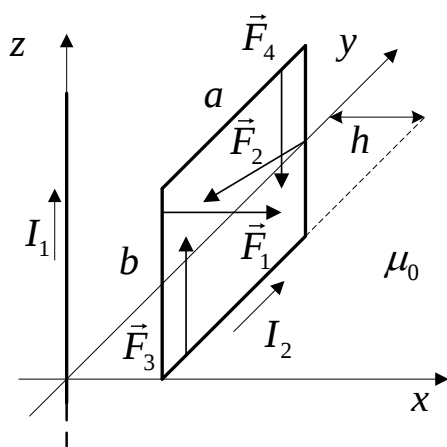
ИСПИТ ИЗ ОСНОВА ЕЛЕКТРОТЕХНИКЕ 2

20. 02. 2017. - Рјешења

1.

$$\vec{F}_1 = \frac{\mu_0 I_1 I_2 b}{2\pi h} \vec{i}, \quad \vec{F}_2 = -\frac{\mu_0 I_1 I_2 h b}{2\pi(a^2 + h^2)} \vec{i} - \frac{\mu_0 I_1 I_2 a b}{2\pi(a^2 + h^2)} \vec{j},$$

$$\vec{F}_3 = \frac{\mu_0 I_1 I_2}{2\pi} \ln \frac{\sqrt{a^2 + h^2}}{h} \vec{k}, \quad \vec{F}_4 = -\frac{\mu_0 I_1 I_2}{2\pi} \ln \frac{\sqrt{a^2 + h^2}}{h} \vec{k}.$$



2.

- a) $I \approx 650 \text{ mA}$,
- б) $q = -2,33 \text{ mC}$,
- в) $W_m \approx 420 \text{ mJ}$.

3.

$$X_L = 10 \Omega.$$

4.

$$P = \frac{U^2}{R}, \quad Q = \left(\frac{2+k}{\omega L(1-k^2)} - \omega C \right) U^2.$$