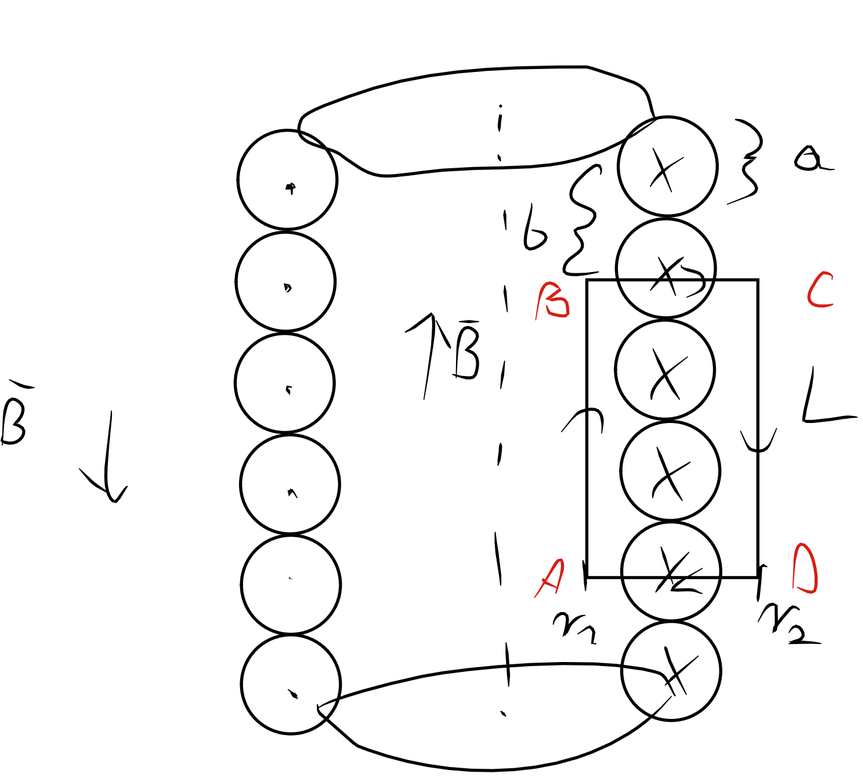

$b = a$, b – odległość między krańcami ≈ 0

$$\mu_0 I_{in} = \int_A^B \bar{B}\cdot d\bar{l} + \int_B^C \bar{B}\cdot d\bar{l} + \int_C^D \bar{B}\cdot d\bar{l} + \int_D^A \bar{B}\cdot d\bar{l}$$

$\downarrow \bar{B}$

$$\mu_0 I \frac{L}{a} = L\,\bar{B}(r_1) - L\,B(r_2)$$

$$\underbrace{\frac{1}{a}\mu_0 I}_{\text{stałe}} = \underbrace{B(r_1)}_{\text{dowolne}} - \underbrace{B(r_2)}_{\text{dowolne}}$$

, więc $B(r_1)$ - stałe

$r_1 < r$ $\quad$ $r_2 > r$

$B(r_2)$ - stałe

$$B(r_2) = B(\infty) = 0$$

$$B(r_1) = \frac{1}{a}\mu_0 I$$

$$B(r) = \frac{\mu_0 I}{2a}$$