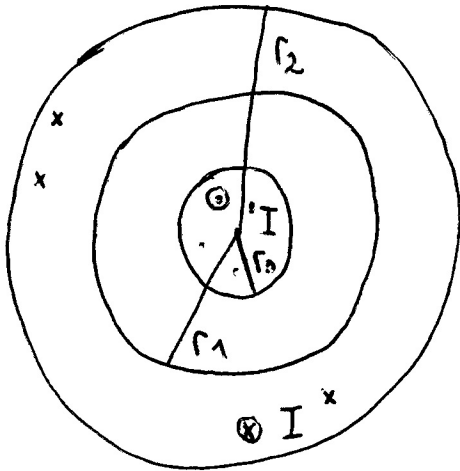


1.)



$H(r) = ?$  ábrázolni

Ampère-féle gerj. tv.

$$\oint_G \vec{H} \cdot d\vec{s} = \sum I_i = \int_A \vec{j} \cdot d\vec{A}$$

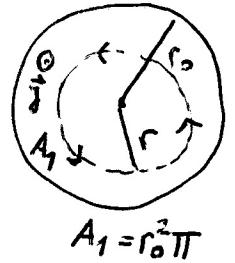
$r \leq r_0$ :  $\vec{j}$  homogén és kifelé  $j_1 = \frac{I}{r_0^2 \pi}$

$$\oint_G \vec{H} \cdot d\vec{s} = \int_A \vec{j} \cdot d\vec{A}$$

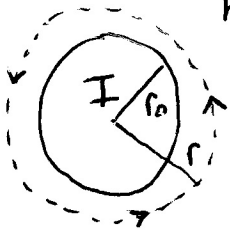
$$H \cdot 2r\pi = \frac{I}{r_0^2 \pi} r^2 \pi$$

$$\Downarrow$$

$$H = \dots$$



$r_0 < r \leq r_1$   $\vec{j} = 0$   
ha  $r > r_0$

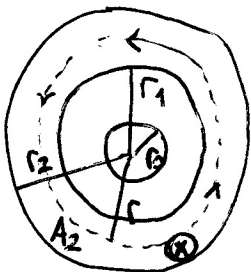


$$\oint_G \vec{H} \cdot d\vec{s} = \int_A \vec{j} \cdot d\vec{A}$$

$$H \cdot 2r\pi = \frac{I}{r_0^2 \pi} r_0^2 \pi = I \rightarrow H = \dots$$

$r_1 < r \leq r_2$

$\vec{j}$  homogén és befelé



$$A_2 = r_2^2 \pi - r_1^2 \pi$$

$$j_2 = \frac{I}{r_2^2 \pi - r_1^2 \pi} = \frac{I}{(r_2^2 - r_1^2) \pi}$$

$$\oint_G \vec{H} \cdot d\vec{s} = \int_A \vec{j} \cdot d\vec{A}$$

$$H \cdot 2r\pi = I - \frac{I}{(r_2^2 - r_1^2) \pi} (r^2 - r_1^2) \pi = \dots$$