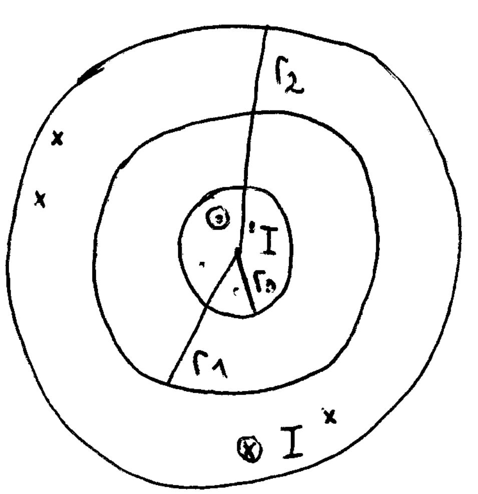
29.)



$H(r) = ?$ ábrázolni

Ampère-féle gerj. tv.

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

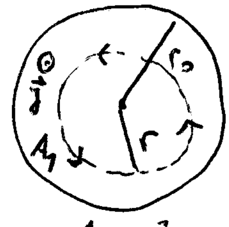
$r \leq r_0$: $\vec{j}$ homogén és kifelé $\quad j_1 = \dfrac{I}{r_0^2 \pi}$

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

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

$$\Downarrow$$

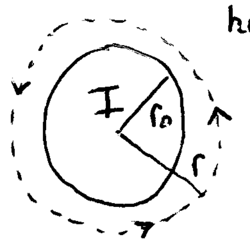
$$H = \dots$$



$A_1 = r_0^2 \pi$

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

ha $r > r_0$

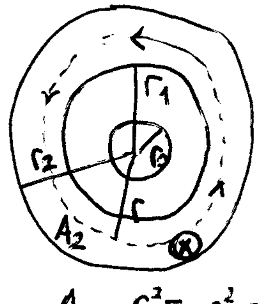


$$\oint_G \vec{H} \cdot d\vec{s} = \int_A \vec{j} \cdot dA$$

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

$r_1 < r \leq r_2$

$\vec{j}$ homogén és befelé



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

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

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

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